AMPG

ACCURATE
MANUFACTURED
PRODUCTS
GROUP

Master Catalog



ISO 9001:2015

CAT.Ver.2025.V01

Visit us online at ampg.com or email sales@ampg.com

8090 Woodland Drive
Indianapolis, IN 46278

p: 317.472.9000
f: 317.472.9010

Page	Description
3	Sex Bolts
79	Shoulder Screws
236	Screws and Bolts
423	Washers and Shims
528	Round Unthreaded Spacers
551	Power Transmission and Gas Spring Accessories
731	Male-Female Hex Thread Adapters
782	Nuts
864	Machine Tool and Workholding Accessories
891	Jig & Fixture Component Hardware
910	Measuring Tool Catalog
963	Architectural Components

AMPG

ACCURATE
MANUFACTURED
PRODUCTS
GROUP



Sex Bolts

- *Mating Fasteners*
- *Barrels & Screws*
- *Chicago Screws*
- *Binding Posts*

CERTIFIED COMPANY ISO 9001:2015 CERTIFIED COMPANY

MADE IN THE USA

CAT.Ver.13

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"Beautiful Parts, Right Now"



Longevity

AMPG is a privately-owned family business started by current management in 1987. With the second generation in the business, already for many years, we are realizing a future of serving our customers, collaborating with our employees, and contributing to a vibrant domestic manufacturing economy.

Philosophy

We are proud to be an American manufacturer dedicated to solving large problems that affect small numbers of customers. We are committed to our team, our products, and our customers.

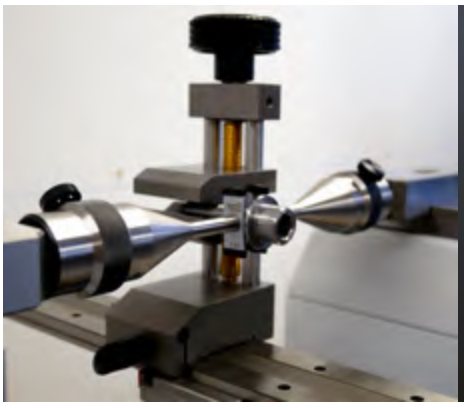
Our continuous capital investments in production equipment, employees, automation, and inspection technologies allows us to design thousands of new items a year, get them into large distributor channels and produce on demand small quantities in a few days.

Stock & Custom...*FAST*

As a precision manufacturer of specialized fasteners, architectural hardware, mechanical components and industrial accessories, AMPG stocks over 50,000 products. We also offer custom manufacturing supported by design, product testing and engineering services. To see the latest and most complete catalog of our over 50,000 different items, visit **www.ampg.com.**

How to Buy Our Products

Visit us **online**, email us at **sales@ampg.com** or give us a call at **317.472.9000** and we can help you with your inquiry. Our stock line of parts ships same day from Indianapolis, Indiana.







Index

Page	Description
i	About AMPG
ii - iii	AMPG Materials
A-1 to A-10	Combo Drive
A-11 to A-20	Button Head Socket Drive
A-21 to A-23	82° Flat Head Socket Drive
A-24 to A-27	Low Profile Head Socket Head Drive
A-28 to A-31	6-Lobe with Pin Tamper Resistant
A-32 to A-34	One-Way Tamper Resistant
A-35 to A-39	Door Hardware
A-40 to A-42	Furniture Hardware (Connector Nuts and Bolts)
A-43 to A-54	Binding Posts (Chicago Screws)
A-55 to A-56	Binding Post Extensions
A-57	Permanent Drive Cap Set
A-58	Plastic Binding Posts
A-59 to A-63	Slotted Truss Head Drive Barrels
A-64	Slotted Oval Head Binding Barrels
A-64	Slotted Flat Head Binding Barrels
A-65	Grommet Nuts
A-66	Phillips Truss Head Barrels
A-66	Hex Head Barrels
A-66	T Head Barrels
A-67 to 68	Spanner Drive

About AMPG



We Make Beautiful Parts, Right Now

AMPG (Accurate Manufactured Products Group) is a privately owned family business started by current management in 1987. Our 2nd generation is well experienced and active in the business and dedicated to keeping AMPG a closely held family firm.

We are Proud to be an American Manufacturer

AMPG is a Make to Stock Manufacturer of over 50,000 unique items. New products are our lifeblood, and we have a long term strategic plan in place to introduce thousands of new products each and every year.

Our 147,200 Sq Ft facility in Indianapolis supports low to medium volume manufacturing runs with over 80 late model and brand new CNC Lathes, Mills, and Thread Rolling equipment. AMPG has an aggressive investment program in the latest and most advanced Production, Automation, and Inspection equipment, as well as software and engineering systems to run our business as efficiently as possible.

ISO Certification to 9001:2015 was attained to anchor the culture of continual improvement both on and off the production floor. ISO 17065 Product Certification will be applied for in 2023, and ISO 17025 will be used to certify our in house Lab also in 2023. The latest in measuring, testing, and monitoring equipment is used to insure product quality and fast lead times. Lean principles guide the manufacturing process using robots, vision systems, and machine monitoring to enable continuous unmanned production around the clock.

Family Owned, Family Operated

AMPG began in Plainview, NY in 1987, and moved to Indianapolis, Indiana in 2004 in order to find the skilled machinists that are the foundation of our success. We are especially proud of our employee retention (as of 2022 all of our core team members will have over 15 years with the company), and the families second generation has over 18 years experience. We have a unique training method that allows us to grow our manufacturing capabilities to match our product and sales plan.

Our dedication to our employees is evidenced by their longevity and the numerous safety and healthiest employer awards we have won over the years.

Product Quality, Appearance and Quick Deliveries are Foundational Goals

AMPG makes and stocks harA-to-find fasteners, components, and fittings. We ship same day from our Indianapolis facility. We offer custom manufacturing capabilities including design, product testing, and engineering services. Our Made-to-Order program produces as little as one part within 7 days.

A Simple Philosophy

Provide a great customer experience by having beautiful, precise, and hard to find products ready to ship today.

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN THE USA

Introduction to Sex Bolts

About Sex Bolts

A female barrel and a male screw are designed to clamp material between the head of the barrel and the head of the screw, or to bridge the gap between two parts, like going through a hollow door.



Other Names for Sex Bolts

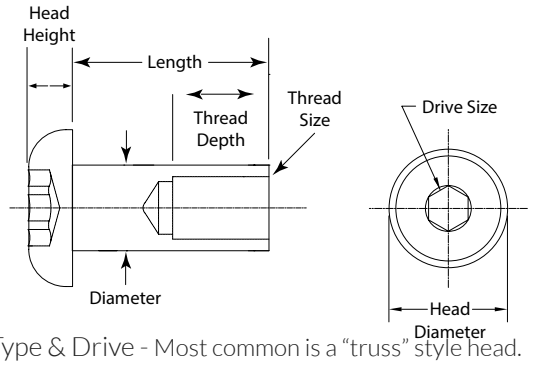
Barrels, Screws, and Posts are known by many names: Mating Fasteners, Architectural Screws, Binding Screws, Binding Bolts, Binding Posts, Chicago Screws, Male & Female Bolts, Post & Screw, Sex Bolts and Threaded Rivets.

Uses For Barrels, Screws, & Posts

- Acrylic fastening
- Air Hoods
- Aquariums
- Automotive aftermarket
- Awnings
- Bathroom Partitions
- Belts
- Bindery — Publishing
- Bleachers
- Boats
- Body Armor
- Bullet Proof Glass — joins the panels
- Buses
- Cabinetry
- Construction
- Display Fixtures
- Doors
- Exhibits
- Fence Systems
- Furniture
- Gates
- Glass Fastening
- Hand Rails
- Helmets
- Hinge Pins
- Hurricane Protection
- HVAC
- Kayaks
- Knives
- Lock Sets
- Lockers
- Museum Exhibits
- Orthopedic Braces
- Panic Bars
- Playground Equipment
- Plexiglass Fastening
- Plumbing
- Power Tool Manufacturing
- Railings for buildings
- Range Hoods
- RV Manufacturing
- Saddlebags on Motorcycles
- Seating
- Sheet Metal Fastening
- Shutters
- Signs
- Spear Guns
- Stage Production and Lighting
- Stadiums
- Store Fixtures
- Taxidermy
- Trains
- Water Fountains
- Windshields

Variations

AMPG has over 30 years experience in manufacturing these mating parts. We can make all sizes and head styles in house. We work in most materials available in bar form. Our specialized machinery and processes allow us to produce small quantity and production quantity runs.



Technical Guide

Sex Bolts have 5 important criteria:

1. Barrel Diameter - These bolts often are going through pre-drilled holes, and need to be able to fit. The barrel diameter should be slightly less than the hole diameter.

2. Barrel Length - This is the length measured from underneath the head to the end of the barrel. For Flat Heads it is Overall Length (O'all Length).

3. Thread Size - What size threads are in the barrel, and how much depth is required.

4. Head Type & Drive - Most common is a "truss" style head. Other common drive styles are; none, slotted, socket and combo drive.

5. Material & Finish - We manufacture in various materials including Aluminum, Brass, Copper, 18-8 and Type 316 Stainless Steel, available in several plating.

AMPG products can potentially expose you to chemicals including lead, nickel and chromium which are known in the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to ***www.P65Warnings.ca.gov****.*

About Our Materials

Aluminum

- Aluminum has the strength of mild steel with one third the weight.
- Resists corrosion in wet environments.
- Lightweight material used for fittings, hardware and fasteners.
- Nonmagnetic.

Brass

- Brass is a softer material approximately two-thirds copper and one-third zinc.
- Provides good resistance to rust and atmospheric corrosion.
- Friction-resistant material used for gears, bearings, fasteners and valves.
- Nonmagnetic.

Copper

- Copper is a versatile, durable material that is used for a variety of applications. Color of copper is popular among artists & architects for its decorative finish.
- Material is electrically conductive with excellent thermal properties, nonmagnetic & resists rust in wet environments.

Stainless Steel 18-8 (303)

- Type 303 stainless offers excellent corrosion resistance.
- Resists chemicals, most dyes, food and nitric acid.
- Corrosion-resistant material used for screws, bushings, nuts and hardware.
- May be mildly magnetic.



Aluminum *Brass* *Stainless Steel* *Steel*

Stainless Steel 316 (316/316L)

- Type 316 stainless offers superior corrosion resistance than Type 303 stainless.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Low-maintenance material used in commercial kitchens and food processing.
- May be mildly magnetic.

**AMPG uses dual certified Type 316/316L stainless material. Meets all 316 stainless properties but has lower carbon content, making it more suitable for welding.*

Stainless Steel 416

- Type 416 stainless can be hardened up to Maximum Rockwell C40 after heat treatment.
- Resists acids, alkalis, fresh water and dry air.
- Non-galling and hardenable material used for fittings, gears, shafts and screws.
- Magnetic.

Low Carbon Steel

- Low Carbon steel is used in many general-purpose applications.
- Material requires a finish to resist rust, such as black oxide treatment or zinc plating.
- Low-strength material used for binding posts, bushings, washers, inserts, fittings, screws and nuts.
- Magnetic.

Some guidelines for choosing between the materials we produce are shown below.

Material Type	Specification	Tensile, psi	Yield, psi	Estimated Shear, psi	Elongation	Brinell Hardness	Rockwell Hardness
Aluminum 6061-T6	ASTM B211	45,000	40,000	22,500	17%	BHN 95	B56
Brass 360	ASTM B16	58,000	45,000	29,000	25%	BHN 143	B78
Copper	—	—	—	—	—	—	—
Stainless Steel 18-8 *(303)*	ASTM A582	90,000	35,000	45,000	50%	BHN 160	B83
Stainless Steel 316 *(316/316L)*	ASTM A276	75,000	30,000	37,500	45%	BHN 160	B83
Stainless Steel 416	Cond A	75,000	40,000	37,500	30%	BHN 155	B82
	ASTM A582 Cond T	123,000	110,000	61,500	11%	BHN 245	C24
Steel 12L14	ASTM A108	78,000	60,000	39,000	15%	BHN 160	B84

Note: Listed Mechanical Properties are obtained from various suppliers and is intended for comparison of materials, only. Values are based on raw material specifications. AMPG assumes no obligation and liability for the accuracy of this information. For critical applications, product testing may be appropriate.

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Combo Drive Barrel and Screws

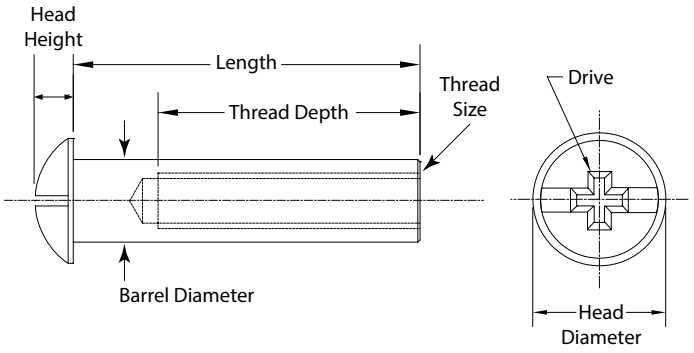
Combo Drive Barrel and Screws are combined to clamp a specific length between the head of the barrel and the head of the mating screw, like through a hollow door. Binding Posts and Screws are often used with round or square metal tube or pipe.

This large selection of Combo Drives has a truss style head which is a wider and lower version of the standard round head and has a versatile combination drive of a combination slot and Phillips. The truss head distributes holding pressure to reduce the likelihood of crushing in thin and softer materials and provides more bearing surface for improved holding power.

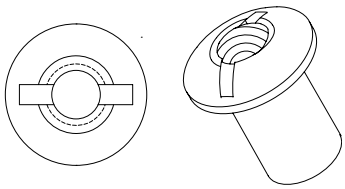
Screws have a class 2A fit.

Materials and finishes offered in:

- Steel | Zinc-Plated Finish, Zinc-Black Finish, Black Oxide Finish
- 18-8 Stainless Steel | Passivated
- 316 Stainless Steel | Passivated, Plain Finish, Black Oxide Finish
- 410 Stainless Steel | Thru Hardened



TappeA-Thru Slotted Head Barrel



Shorter lengths, where the tap comes thru the head, are slotted drive only.

Dimensions and Tolerance Table — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height
3/16	6-32	5/16	5/64
13/64	8-32	3/8	3/32
1/4	10-24	7/16	1/8
5/16	1/4-20	9/16	5/32
3/8	5/16-18	11/16	11/64
1/2	3/8-16	13/16	7/32



Steel, Zinc-Plated



18-8 SS, Passivated



316 SS, Passivated, Plain



316 SS, Black Oxide



410 SS

Combo Drive Barrels & Screw Sets — Inch IMPORT

Steel | Zinc-Plated Finish



Barrel						Screw			Set	
Barrel Diameter	For Material Thickness (min, max)	Barrel Length	Thread Depth	Head Height	Barrel Part Number	Thread Length	Head Height	Screw Part Number	Thread Size	Steel, Zinc Set Part Number
13/64	1/4 to 3/8	1/4	Thru	3/32	Z4435	5/16	1/8	Z4075	8-32	Z4435PAK*
	3/8 to 1/2	3/8	15/64	3/32	Z4437	5/16	1/8	Z4075	8-32	Z4437PAK
	1/2 to 5/8	1/2	3/8	3/32	Z4438	5/16	1/8	Z4075	8-32	Z4438PAK
	3/4 to 7/8	3/4	3/8	3/32	Z4440	5/16	1/8	Z4075	8-32	Z4440PAK
1/4	1/4 to 3/8	1/4	Thru	1/8	Z4404	5/16	1/8	Z4085	10-24	Z4404PAK*
	3/8 to 1/2	3/8	5/16	1/8	Z4406	5/16	1/8	Z4085	10-24	Z4406PAK
1/4	1/2 to 5/8	1/2	3/8	1/8	Z4408	5/16	1/8	Z4085	10-24	Z4408PAK
	5/8 to 3/4	5/8	3/8	1/8	Z4410	5/16	1/8	Z4085	10-24	Z4410PAK
	3/4 to 7/8	3/4	3/8	1/8	Z4412	5/16	1/8	Z4085	10-24	Z4412PAK
	1 to 1-1/8	1	3/8	1/8	Z4416	5/16	1/8	Z4085	10-24	Z4416PAK
1/4	1-1/4 to 1-3/8	1-1/4	3/8	1/8	Z4420	5/16	1/8	Z4085	10-24	Z4420PAK
	1-1/2 to 1-5/8	1-1/2	3/8	1/8	Z4424	5/16	1/8	Z4085	10-24	Z4424PAK
	2 to 2-1/8	2	3/8	1/8	Z4432	5/16	1/8	Z4085	10-24	Z4432PAK
5/16	3/8 to 1/2	3/8	3/16	5/32	Z4445	5/16	5/32	Z4095	1/4-20	Z4445PAK
5/16	1/2 to 5/8	1/2	3/8	5/32	Z4443	5/16	5/32	Z4095	1/4-20	Z4443PAK
	5/8 to 3/4	1/2	3/8	5/32	Z4443	5/16	5/32	Z4050	1/4-20	Z4447PAK
	3/4 to 7/8	3/4	3/8	5/32	Z4444	5/16	5/32	Z4095	1/4-20	Z4444PAK
	7/8 to 1	3/4	3/8	5/32	Z4444	5/16	5/32	Z4051	1/4-20	Z4449PAK
5/16	1 to 1-1/8	1	3/8	5/32	Z4446	5/16	5/32	Z4095	1/4-20	Z4446PAK
5/16	1-1/4 to 1-3/8	1-1/4	1/2	5/32	Z4448	5/16	5/32	Z4095	1/4-20	Z4448PAK
	1-1/2 to 1-5/8	1-1/2	1/2	5/32	Z4450	5/16	5/32	Z4095	1/4-20	Z4450PAK
3/8	1/2 to 5/8	1/2	3/8	11/64	Z4146	5/16	11/64	Z4096	5/16-18	Z4146PAK

*Tapped Thru Head, Slotted Drive

Combo Drive Barrels & Screw Sets — Inch IMPORT

18-8 SS | Passivated



Barrel						Screw			Set		
Barrel Diameter	For Material Thickness (min, max)	Barrel Length	Thread Depth	Head Height	Barrel Part Number	Thread Length	Head Height	Screw Part Number	Head Dia.	Thread Size	18-8 SS Set Barrel & Screw Set
3/16	3/8 to 1/2	3/8	19/64	5/64	Z4105SS	5/16	5/64	Z4074SS	5/16	6-32	Z4105SSPAK
	3/8 to 1/2	3/8	19/64	3/32	Z4125SS	5/16	1/8	Z4075SS	3/8	8-32	Z4125SSPAK
13/64	1/2 to 5/8	1/2	3/8	3/32	Z4126SS	5/16	1/8	Z4075SS	3/8	8-32	Z4126SSPAK
	3/4 to 7/8	3/4	3/8	3/32	Z4128SS	5/16	1/8	Z4075SS	3/8	8-32	Z4128SSPAK
1/4	1/4 to 3/8	1/4	Thru	1/8	Z4404SS	5/16	1/8	Z4085SS	7/16	10-24	Z4404SSPAK*
1/4	3/8 to 1/2	3/8	5/16	1/8	Z4406SS	5/16	1/8	Z4085SS	7/16	10-24	Z4406SSPAK
	1/2 to 5/8	1/2	3/8	1/8	Z4408SS	5/16	1/8	Z4085SS	7/16	10-24	Z4408SSPAK
1/4	5/8 to 3/4	5/8	3/8	1/8	Z4410SS	5/16	1/8	Z4085SS	7/16	10-24	Z4410SSPAK
	3/4 to 7/8	3/4	3/8	1/8	Z4412SS	5/16	1/8	Z4085SS	7/16	10-24	Z4412SSPAK
	1 to 1-1/8	1	3/8	1/8	Z4416SS	5/16	1/8	Z4085SS	7/16	10-24	Z4416SSPAK
	1-1/4 to 1-3/8	1-1/4	3/8	1/8	Z4420SS	5/16	1/8	Z4085SS	7/16	10-24	Z4420SSPAK
1/4	1-1/2 to 1-5/8	1-1/2	3/8	1/8	Z4424SS	5/16	1/8	Z4085SS	7/16	10-24	Z4424SSPAK
	2 to 2-1/8	2	3/8	1/8	Z4432SS	5/16	1/8	Z4085SS	7/16	10-24	Z4432SSPAK
5/16	3/8 to 1/2	3/8	19/64	5/32	Z4135SS	5/16	5/32	Z4095SS	9/16	1/4-20	Z4135SSPAK
	1/2 to 5/8	1/2	3/8	5/32	Z4443SS	5/16	5/32	Z4095SS	9/16	1/4-20	Z4443SSPAK
5/16	5/8 to 3/4	5/8	3/8	5/32	Z4137SS	5/16	5/32	Z4095SS	9/16	1/4-20	Z4137SSPAK
	3/4 to 7/8	3/4	3/8	5/32	Z4444SS	5/16	5/32	Z4095SS	9/16	1/4-20	Z4444SSPAK
	7/8 to 1	7/8	3/8	5/32	Z4139SS	5/16	5/32	Z4095SS	9/16	1/4-20	Z4139SSPAK
	1 to 1-1/8	1	3/8	5/32	Z4446SS	5/16	5/32	Z4095SS	9/16	1/4-20	Z4446SSPAK
5/16	1-1/4 to 1-3/8	1-1/4	3/8	5/32	Z4448SS	5/16	5/32	Z4095SS	9/16	1/4-20	Z4448SSPAK
	1-1/2 to 1-5/8	1-1/2	3/8	5/32	Z4449SS	5/16	5/32	Z4095SS	9/16	1/4-20	Z4449SSPAK
3/8	1/2 to 5/8	1/2	3/8	11/64	Z4146SS	5/16	11/64	Z4096SS	11/16	5/16-18	Z4146SSPAK

*Tapped Thru Head, Slotted Drive

Sex Bolts

For technical drawings and charts, please see page A-1

Combo Drive Barrels & Screw Sets — Inch

IMPORT

316 SS | Passivated



Barrel					Screw		Set				
Barrel Dia.	For Material Thickness (min, max)	Barrel Length	Thread Depth	Barrel Part Number	Thread Length	Screw Part Number	Head Dia.	Head Height	Thread Size	316 SS Set Part Number	316 SS, Blk Ox. Set Part Number
3/16	3/8 to 1/2	3/8	19/64	Z4105-316SS	5/16	Z4074-316SS	5/16	5/64	6-32	Z4105-316SS-PAK	Z4105-316BLK-PAK
13/64	3/8 to 1/2	3/8	19/64	Z4125-316SS	5/16	Z4075-316SS	3/8	3/32	8-32	Z4125-316SS-PAK	Z4125-316BLK-PAK
	3/4 to 7/8	3/4	3/8	Z4128-316SS	5/16	Z4075-316SS	3/8	3/32	8-32	Z4128-316SS-PAK	Z4128-316BLK-PAK
1/4	1/4 to 3/8	1/4	Thru	Z4404-316SS	5/16	Z4085-316SS	7/16	1/8	10-24	Z4404-316SS-PAK*	Z4404-316BLK-PAK*
	3/8 to 1/2	3/8	5/16	Z4406-316SS	5/16	Z4085-316SS	7/16	1/8	10-24	Z4406-316SS-PAK	Z4406-316BLK-PAK
1/4	1/2 to 5/8	1/2	3/8	Z4408-316SS	5/16	Z4085-316SS	7/16	1/8	10-24	Z4408-316SS-PAK	Z4408-316BLK-PAK
	5/8 to 3/4	5/8	3/8	Z4410-316SS	5/16	Z4085-316SS	7/16	1/8	10-24	Z4410-316SS-PAK	Z4410-316BLK-PAK
	3/4 to 7/8	3/4	3/8	Z4412-316SS	5/16	Z4085-316SS	7/16	1/8	10-24	Z4412-316SS-PAK	Z4412-316BLK-PAK
	1 to 1-1/8	1	3/8	Z4416-316SS	5/16	Z4085-316SS	7/16	1/8	10-24	Z4416-316SS-PAK	Z4416-316BLK-PAK
1/4	1-1/4 to 1-3/8	1-1/4	3/8	Z4420-316SS	5/16	Z4085-316SS	7/16	1/8	10-24	Z4420-316SS-PAK	Z4420-316BLK-PAK
	1-1/2 to 1-5/8	1-1/2	3/8	Z4424-316SS	5/16	Z4085-316SS	7/16	1/8	10-24	Z4424-316SS-PAK	Z4424-316BLK-PAK
	2 to 2-1/8	2	3/8	Z4432-316SS	5/16	Z4085-316SS	7/16	1/8	10-24	Z4432-316SS-PAK	Z4432-316BLK-PAK
5/16	3/8 to 1/2	3/8	19/64	Z4135-316SS	5/16	Z4095-316SS	9/16	5/32	1/4-20	Z4135-316SS-PAK	Z4135-316BLK-PAK
5/16	1/2 to 5/8	1/2	3/8	Z4443-316SS	5/16	Z4095-316SS	9/16	5/32	1/4-20	Z4443-316SS-PAK	Z4443-316BLK-PAK
	5/8 to 3/4	5/8	3/8	Z4137-316SS	5/16	Z4095-316SS	9/16	5/32	1/4-20	Z4137-316SS-PAK	Z4137-316BLK-PAK
	3/4 to 7/8	3/4	3/8	Z4444-316SS	5/16	Z4095-316SS	9/16	5/32	1/4-20	Z4444-316SS-PAK	Z4444-316BLK-PAK
	7/8 to 1	7/8	3/8	Z4139-316SS	5/16	Z4095-316SS	9/16	5/32	1/4-20	Z4139-316SS-PAK	Z4139-316BLK-PAK
5/16	1 to 1-1/8	1	3/8	Z4446-316SS	5/16	Z4095-316SS	9/16	5/32	1/4-20	Z4446-316SS-PAK	Z4446-316BLK-PAK
	1-1/4 to 1-3/8	1-1/4	3/8	Z4448-316SS	5/16	Z4095-316SS	9/16	5/32	1/4-20	Z4448-316SS-PAK	Z4448-316BLK-PAK
	1-1/2 to 1-5/8	1-1/2	3/8	Z4449-316SS	5/16	Z4095-316SS	9/16	5/32	1/4-20	Z4449-316SS-PAK	Z4449-316BLK-PAK
3/8	1/2 to 5/8	1/2	3/8	Z4146-316SS	5/16	Z4096-316SS	11/16	11/64	5/16-18	Z4146-316SS-PAK	Z4146-316BLK-PAK

*Tapped Thru Head, Slotted Drive

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN INDIANA

Combo Drive Barrels — Inch

IMPORT

Steel | Zinc-Plated, Black Zinc-Plated Finish, Black Oxide





Barrel Dia.	Barrel Length	Thread Size	Thread Depth	Head Dia.	Head Height	Steel, Zinc Part Number	Steel, Blk Zinc Part Number
3/16	3/8	6-32	15/64	5/16	5/64	Z4105	–
	1/2	6-32	3/8	5/16	5/64	Z4106	–
	5/8	6-32	3/8	5/16	5/64	Z4107	–
	3/4	6-32	3/8	5/16	5/64	Z4108	–
3/16	7/8	6-32	3/8	5/16	5/64	Z4109	–
	1	6-32	3/8	5/16	5/64	Z4110	–
13/64	1/4	8-32	Thru*	3/8	3/32	Z4435	–
	3/8	8-32	15/64	3/8	3/32	Z4437	–
	1/2	8-32	3/8	3/8	3/32	Z4438	–
	5/8	8-32	3/8	3/8	3/32	Z4439	–
13/64	3/4	8-32	3/8	3/8	3/32	Z4440	–
	1	8-32	3/8	3/8	3/32	Z4442	–
1/4	1/4	10-24	Thru*	7/16	1/8	Z4404	–
	5/16	10-32	Thru	3/8	1/8	Z4840	–
1/4	3/8	10-24	5/16	7/16	1/8	Z4406	–
	1/2	10-24	3/8	7/16	1/8	Z4408	Z4408-BLACK
	5/8	10-24	3/8	7/16	1/8	Z4410	Z4410-BLACK
	3/4	10-24	3/8	7/16	1/8	Z4412	Z4412-BLACK
1/4	1	10-24	3/8	7/16	1/8	Z4416	Z4416-BLACK
	1	10-24	3/8	7/16	1/8	Z4416-SLOT**	–
	1-1/4	10-24	3/8	7/16	1/8	Z4420	Z4420-BLACK
	1-1/4	10-24	3/8	7/16	1/8	Z4420-SLOT**	–
	1-1/2	10-24	3/8	7/16	1/8	Z4424	Z4424-BLACK
	2	10-24	3/8	7/16	1/8	Z4432	Z4432-BLACK
5/16	3/8	1/4-20	3/16	9/16	5/32	Z4445	Z4445-BLACK
	1/2	1/4-20	3/8	9/16	5/32	Z4443	Z4443-BLACK
	3/4	1/4-20	3/8	9/16	5/32	Z4444	Z4444-BLACK
	1	1/4-20	3/8	9/16	5/32	Z4446	Z4446-BLACK
5/16	1-1/4	1/4-20	1/2	9/16	5/32	Z4448	Z4448-BLACK
	1-1/2	1/4-20	1/2	9/16	5/32	Z4450	Z4450-BLACK
	2	1/4-20	1/2	9/16	5/32	Z4451	–
3/8	3/8	5/16-18	3/8	11/16	11/64	Z4145	–
	1/2	5/16-18	3/8	11/16	11/64	Z4146	–
	3/4	5/16-18	1/2	11/16	11/64	Z4148	–
	1	5/16-18	1/2	11/16	11/64	Z4150	Z4150-BLACK



*Tapped Thru Head, Slotted Drive
** Slotted Drive

Combo Drive Barrels

Barrel Dia.	Barrel Length	Thread Size	Thread Depth	Head Dia.	Head Height	Steel, Black Oxide Part Number
1/4	1/4	10-24	Thru*	7/16	1/8	Z4404BX
	3/8	10-24	5/16	7/16	1/8	Z4406-BX

Combo Drive Screws — Inch IMPORT

Steel | Zinc Plated



Combo Drive Shoulder Screws

For Female Barrel Dia	Shoulder Diameter	Shoulder Length	Thread Size	Head Dia.	Head Height	Thread Length	Overall Length	Steel, Zinc Part Number
13/64	13/64	1/4	8-32	3/8	3/32	5/16	9/16	Z4000
1/4	1/4	1/4	10-24	7/16	1/8	5/16	9/16	Z4025
5/16	5/16	1/8	1/4-20	9/16	5/32	5/16	7/16	Z4051
5/16	5/16	1/4	1/4-20	9/16	5/32	5/16	9/16	Z4050





Combo Drive Machine Screws

Screw Size	Head Diameter	Head Height	Steel, Zinc Part Number	Steel, Black Zinc Part Number
6-32 x 5/16	5/16	5/64	Z4074	–
8-32 x 5/16	3/8	1/8	Z4075	–
10-24 x 5/16	7/16	1/8	Z4085	Z4085-BLACK
1/4-20 x 5/16	9/16	5/32	Z4095	Z4095-BLACK
5/16-18 x 5/16	11/16	11/64	Z4096	–

410 Stainless Steel | Thru Hardened IMPORT



Combo Drive Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	410 SS Part Number
1/4	1/4	10-24	Thru*	7/16	1/8	Z4404-410H
1/4	3/8	10-24	5/16	7/16	1/8	Z4406-410H
1/4	1/2	10-24	3/8	7/16	1/8	Z4408-410H
	5/8	10-24	3/8	7/16	1/8	Z4410-410H
	3/4	10-24	3/8	7/16	1/8	Z4412-410H
	1	10-24	3/8	7/16	1/8	Z4416-410H
1/4	1-1/4	10-24	3/8	7/16	1/8	Z4420-410H
	1-1/2	10-24	3/8	7/16	1/8	Z4424-410H
	2	10-24	3/8	7/16	1/8	Z4432-410H
5/16	3/8	1/4-20	3/8	9/16	5/32	Z4135-410H
	1/2	1/4-20	3/8	9/16	5/32	Z4443-410H
	5/8	1/4-20	3/8	9/16	5/32	Z4137-410H
	3/4	1/4-20	3/8	9/16	5/32	Z4444-410H
5/16	7/8	1/4-20	3/8	9/16	5/32	Z4139-410H
	1	1/4-20	3/8	9/16	5/32	Z4446-410H
	1-1/4	1/4-20	3/8	9/16	5/32	Z4448-410H
	1-1/2	1/4-20	3/8	9/16	5/32	Z4449-410H



Combo Drive Machine Screws

Screw Size	Head Diameter	Head Height	410 SS Part Number
10-24 x 5/16	7/16	1/8	Z4085-410H
1/4-20 x 5/16	9/16	5/32	Z4095-410H

*Tapped Thru Head, Slotted Drive

Combo Drive Barrels — Inch

IMPORT

18-8 SS | Passivated Finish, Black Oxide



Barrel Dia.	Barrel Length	Thread Size	Thread Depth	Head Dia.	Head Height	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
3/16	3/8	6-32	19/64	5/16	5/16	Z4105SS	–
	1/2	6-32	3/8	5/16	5/16	Z4106SS	–
	5/8	6-32	3/8	5/16	5/16	Z4107SS	–
	3/4	6-32	3/8	5/16	5/16	Z4108SS	–
3/16	7/8	6-32	3/8	5/16	5/16	Z4109SS	–
	1	6-32	3/8	5/16	5/16	Z4110SS	–
13/64	1/4	8-32	Thru*	3/8	3/32	Z4124SS	–
	3/8	8-32	19/64	3/8	3/32	Z4125SS	Z4125SS-BX
	1/2	8-32	3/8	3/8	3/32	Z4126SS	–
	5/8	8-32	3/8	3/8	3/32	Z4127SS	–
13/64	3/4	8-32	3/8	3/8	3/32	Z4128SS	–
	7/8	8-32	3/8	3/8	3/32	Z4129SS	–
	1	8-32	3/8	3/8	3/32	Z4130SS	–
1/4	1/4	10-24	Thru*	7/16	1/8	Z4404SS	–
	3/8	10-24	5/16	7/16	1/8	Z4406SS	Z4406SS-BK
	1/2	10-24	3/8	7/16	1/8	Z4408SS	Z4408SS-BX
	1/2	10-32	3/8	7/16	1/8	Z4408SS-1032	Z4408SS-1032-BX
1/4	5/8	10-24	3/8	7/16	1/8	Z4410SS	Z4410SS-BX
	3/4	10-24	3/8	7/16	1/8	Z4412SS	Z4412SS-BX
	1	10-24	3/8	7/16	1/8	Z4416SS	Z4416SS-BX
	1-1/4	10-24	3/8	7/16	1/8	Z4420SS	Z4420SS-BX
1/4	1-1/2	10-24	3/8	7/16	1/8	Z4424SS	Z4424SS-BX
	2	10-24	3/8	7/16	1/8	Z4432SS	Z4432SS-BX
5/16	3/8	1/4-20	19/64	9/16	5/32	Z4135SS	–
	1/2	1/4-20	3/8	9/16	5/32	Z4443SS	Z4443SS-BX
	5/8	1/4-20	3/8	9/16	5/32	Z4137SS	–
	3/4	1/4-20	3/8	9/16	5/32	Z4444SS	Z4444SS-BX
5/16	7/8	1/4-20	3/8	9/16	5/32	Z4139SS	–
	1	1/4-20	3/8	9/16	5/32	Z4446SS	Z4446SS-BX
	1-1/4	1/4-20	3/8	9/16	5/32	Z4448SS	–
	1-1/2	1/4-20	3/8	9/16	5/32	Z4449SS	Z4449SS-BX
3/8	3/8	5/16-18	3/8	11/16	11/64	Z4145SS	–
	1/2	5/16-18	3/8	11/16	11/64	Z4146SS	–
	5/8	5/16-18	3/8	11/16	11/64	Z4147SS	–

*Tapped Thru Head, Slotted Drive

Combo Drive Barrels — Inch

IMPORT

18-8 SS | Passivated Finish



Barrel Dia.	Barrel Length	Thread Size	Thread Depth	Head Dia.	Head Height	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
	3/4	5/16-18	1/2	11/16	11/64	Z4148SS	–
3/8	7/8	5/16-18	1/2	11/16	11/64	Z4149SS	–
	1	5/16-18	1/2	11/16	11/64	Z4150SS	–
	3/8	3/8-16	5/16	13/16	7/32	Z4165SS	–
1/2	1/2	3/8-16	3/8	13/16	7/32	Z4166SS	–
	5/8	3/8-16	1/2	13/16	7/32	Z4167SS	–
	3/4	3/8-16	1/2	13/16	7/32	Z4168SS	–
	7/8	3/8-16	1/2	13/16	7/32	Z4169SS	–
1/2	1	3/8-16	1/2	13/16	7/32	Z4170SS	–
	1-1/4	3/8-16	1/2	13/16	7/32	Z4171SS	–
	1-1/2	3/8-16	1/2	13/16	7/32	Z4172SS	–
1/2	2	3/8-16	1/2	13/16	7/32	Z4173SS	–



Combo Drive Machine Screws

Screw Size	Head Dia.	Head Height	18-8 SS Part Number
6-32 x 5/16	5/16	5/64	Z4074SS
8-32 x 5/16	3/8	3/32	Z4075SS
10-24 x 5/16	7/16	1/8	Z4085SS
1/4-20 x 5/16	9/16	5/32	Z4095SS
5/16-18 x 5/16	11/16	11/64	Z4096SS
3/8-16 x 5/16	13/16	7/32	Z4097SS



Combo Drive Shoulder Screws

For Female Barrel Dia.	Shoulder Dia.	Shoulder Length	Thread Size	Thread Length	Part Number
13/64	13/64	1/4	8-32	5/16	Z4000SS
1/4	1/4	1/4	10-24	5/16	Z4025SS
5/16	5/16	1/4	1/4-20	5/16	Z4050SS
1/2	1/2	1/4	3/8-16	5/16	Z4060SS

Combo Drive Assortment Kit

18-8 SS Part Number
Z4402-KIT



- (30) 1/4 Barrel Dia x 1/4" Lg. with 10-24 Screws
- (30) 1/4 Barrel Dia x 3/8" Lg. with 10-24 Screws
- (20) 1/4 Barrel Dia x 1/2" Lg. with 10-24 Screws
- (20) 1/4 Barrel Dia x 3/4" Lg. with 10-24 Screws
- (20) 1/4 Barrel Dia x 1" Lg. with 10-24 Screws
- (10) 1/4 Barrel Dia x 1-1/2" Lg. with 10-24 Screws
- (20) 5/16 Barrel Dia x 3/8" Lg. with 1/4-20 Screws
- (10) 5/16 Barrel Dia x 1/2" Lg. with 1/4-20 Screws
- (10) 3/8 Barrel Dia x 1/2" Lg. with 5/16-18 Screws
- (30) 13/64 Barrel Dia x 1/2" Lg. with 8-32 Screws
- (20) 13/64 Barrel Dia x 3/4" Lg. with 8-32 Screws
- (30) 13/64 Barrel Dia x 3/8" Lg. with 8-32 Screws

Combo Drive Barrels — Inch

IMPORT MADE IN THE USA

316 SS | Passivated, Plain, Black Oxide Finish







Additional 316 SS Slotted Barrels located on page A-61.

Barrel Dia.	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	Drive	Import/ USA	316 SS Part Number	316 SS, Black Ox. Part Number
3/16	3/8	6-32	15/64	5/16	5/64	Combo	Import*	Z4105-316SS	Z4105-316BLK
	1/2	6-32	3/8	5/16	5/64	Combo	Import*	Z4106-316SS	Z4106-316BLK
3/16	5/8	6-32	3/8	5/16	5/64	Combo	Import*	Z4107-316SS	Z4107-316BLK
	3/4	6-32	3/8	5/16	5/64	Combo	Import*	Z4108-316SS	Z4108-316BLK
3/16	7/8	6-32	3/8	5/16	5/64	Combo	Import*	Z4109-316SS	Z4109-316BLK
	1	6-32	3/8	5/16	5/64	Combo	Import*	Z4110-316SS	Z4110-316BLK
13/64	1/4	8-32	Thru	3/8	3/32	Slotted	Import*	Z4124-316SS	Z4124-316BLK
13/64	3/8	8-32	19/64	3/8	3/32	Combo	Import*	Z4125-316SS	Z4125-316BLK
	1/2	8-32	3/8	3/8	3/32	Combo	Import*	Z4126-316SS	Z4126-316BLK
13/64	5/8	8-32	3/8	3/8	3/32	Combo	Import*	Z4127-316SS	Z4127-316BLK
	3/4	8-32	3/8	3/8	3/32	Combo	Import*	Z4128-316SS	Z4128-316BLK
	7/8	8-32	3/8	3/8	3/32	Combo	Import*	Z4129-316SS	Z4129-316BLK
13/64	1	8-32	3/8	3/8	3/32	Combo	Import*	Z4130-316SS	Z4130-316BLK
1/4	1/4	10-24	Thru	7/16	1/8	Slotted	Import*	Z4404-316SS	Z4404-316BLK
1/4	3/8	10-24	5/16	7/16	1/8	Combo	Import*	Z4406-316SS	Z4406-316BLK
	1/2	10-24	3/8	7/16	1/8	Combo	Import*	Z4408-316SS	Z4408-316BLK
1/4	5/8	10-24	3/8	7/16	1/8	Combo	Import*	Z4410-316SS	Z4410-316BLK
	3/4	10-24	3/8	7/16	1/8	Combo	Import*	Z4412-316SS	Z4412-316BLK
	7/8	10-24	3/8	7/16	1/8	Combo	Import*	Z4414-316SS	Z4414-316BLK
	1	10-24	3/8	7/16	1/8	Combo	Import*	Z4416-316SS	Z4416-316BLK
1/4	1-1/4	10-24	3/8	7/16	1/8	Combo	Import*	Z4420-316SS	Z4420-316BLK
	1-1/2	10-24	3/8	7/16	1/8	Combo	Import*	Z4424-316SS	Z4424-316BLK
	2	10-24	3/8	7/16	1/8	Combo	Import*	Z4432-316SS	Z4432-316BLK
1/4	1/4	10-32	Thru	7/16	1/8	Slotted	USA	Z4404F-316SS	Z4404F-316BLK
1/4	3/8	10-32	5/16	7/16	1/8	Slotted	USA	Z4406F-316SS	Z4406F-316BLK
	1/2	10-32	3/8	7/16	1/8	Slotted	USA	Z4408F-316SS	Z4408F-316BLK
1/4	5/8	10-32	3/8	7/16	1/8	Slotted	USA	Z4410F-316SS	Z4410F-316BLK
	3/4	10-32	3/8	7/16	1/8	Slotted	USA	Z4412F-316SS	Z4412F-316BLK
	7/8	10-32	3/8	7/16	1/8	Slotted	USA	Z4414F-316SS	Z4414F-316BLK
	1	10-32	3/8	7/16	1/8	Slotted	USA	Z4416F-316SS	Z4416F-316BLK
1/4	1-1/4	10-32	3/8	7/16	1/8	Slotted	USA	Z4420F-316SS	Z4420F-316BLK
	1-1/2	10-32	3/8	7/16	1/8	Slotted	USA	Z4424F-316SS	Z4424F-316BLK
	2	10-32	3/8	7/16	1/8	Slotted	USA	Z4432F-316SS	Z4432F-316BLK
5/16	3/8	1/4-20	19/64	9/16	5/32	Combo	Import*	Z4135-316SS	Z4135-316BLK
	1/2	1/4-20	3/8	9/16	5/32	Combo	Import*	Z4443-316SS	Z4443-316BLK
5/16	5/8	1/4-20	3/8	9/16	5/32	Combo	Import*	Z4137-316SS	Z4137-316BLK
	3/4	1/4-20	3/8	9/16	5/32	Combo	Import*	Z4444-316SS	Z4444-316BLK
	7/8	1/4-20	3/8	9/16	5/32	Combo	Import*	Z4139-316SS	Z4139-316BLK

*Passivated Finish

Chart continued on next page

Combo Drive Barrels — Inch

IMPORT

MADE IN THE USA

316 SS | Passivated, Plain, Black Oxide Finish







Additional 316 SS Slotted Barrels located on page A-61.

Barrel Dia.	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	Drive	Import/ USA	316 SS Part Number	316 SS, Black Ox. Part Number
	1	1/4-20	3/8	9/16	5/32	Combo	Import*	Z4446-316SS	Z4446-316BLK
	1-1/4	1/4-20	3/8	9/16	5/32	Combo	Import*	Z4448-316SS	Z4448-316BLK
5/16	1-1/4	1/4-20	3/8	9/16	5/32	Slotted	USA	Z4448-316SS-SLOT	—
	1-1/2	1/4-20	3/8	9/16	5/32	Combo	Import*	Z4449-316SS	Z4449-316BLK
	2	1/4-20	3/8	9/16	5/32	Combo	Import*	Z4451-316SS	Z4451-316BLK
	3/8	**1/4-28**	19/64	9/16	5/32	Slotted	USA	Z4135F-316SS	Z4135F-316BLK
5/16	1/2	**1/4-28**	3/8	9/16	5/32	Slotted	USA	Z4443F-316SS	Z4443F-316BLK
	5/8	**1/4-28**	3/8	9/16	5/32	Slotted	USA	Z4137F-316SS	Z4137F-316BLK
	3/4	**1/4-28**	3/8	9/16	5/32	Slotted	USA	Z4444F-316SS	Z4444F-316BLK
	7/8	**1/4-28**	3/8	9/16	5/32	Slotted	USA	Z4139F-316SS	Z4139F-316BLK
	1	**1/4-28**	3/8	9/16	5/32	Slotted	USA	Z4446F-316SS	Z4446F-316BLK
5/16	1-1/4	**1/4-28**	3/8	9/16	5/32	Slotted	USA	Z4448F-316SS	Z4448F-316BLK
	1-1/2	**1/4-28**	3/8	9/16	5/32	Slotted	USA	Z4449F-316SS	Z4449F-316BLK
	2	**1/4-28**	3/8	9/16	5/32	Slotted	USA	Z4451F-316SS	Z4451F-316BLK
	3/8	5/16-18	3/8	11/16	11/64	Combo	Import*	Z4145-316SS	Z4145-316BLK
3/8	1/2	5/16-18	3/8	11/16	11/64	Combo	Import*	Z4146-316SS	Z4146-316BLK
	5/8	5/16-18	3/8	11/16	11/64	Combo	Import*	Z4147-316SS	Z4147-316BLK
	3/4	5/16-18	1/2	11/16	11/64	Combo	Import*	Z4148-316SS	Z4148-316BLK
3/8	7/8	5/16-18	1/2	11/16	11/64	Combo	Import*	Z4149-316SS	Z4149-316BLK
	1	5/16-18	1/2	11/16	11/64	Combo	Import*	Z4150-316SS	Z4150-316BLK
	1-1/4	5/16-18	1/2	11/16	11/64	Combo	Import*	Z4151-316SS	Z4151-316BLK
3/8	1-1/2	5/16-18	1/2	11/16	11/64	Combo	Import*	Z4152-316SS	Z4152-316BLK
	2	5/16-18	1/2	11/16	11/64	Combo	Import*	Z4154-316SS	Z4154-316BLK
1/2	3/8	3/8-16	5/16	13/16	7/32	Slotted	USA	Z4165-316SS	Z4165-316BLK
	1/2	3/8-16	3/8	13/16	7/32	Slotted	USA	Z4166-316SS	Z4166-316BLK
	5/8	3/8-16	1/2	13/16	7/32	Slotted	USA	Z4167-316SS	Z4167-316BLK
1/2	3/4	3/8-16	1/2	13/16	7/32	Slotted	USA	Z4168-316SS	Z4168-316BLK
	7/8	3/8-16	1/2	13/16	7/32	Slotted	USA	Z4169-316SS	Z4169-316BLK
	1	3/8-16	1/2	13/16	7/32	Slotted	USA	Z4170-316SS	Z4170-316BLK
	1-1/4	3/8-16	1/2	13/16	7/32	Slotted	USA	Z4171-316SS	Z4171-316BLK
1/2	1-1/2	3/8-16	1/2	13/16	7/32	Slotted	USA	Z4172-316SS	Z4172-316BLK
	2	3/8-16	1/2	13/16	7/32	Slotted	USA	Z4173-316SS	Z4173-316BLK

*Passivated Finish

Combo Drive Machine Screws

IMPORT



Screw Size	Head Diameter	Head Height	316 SS Part Number	316 SS, Black Ox. Part Number
6-32 x 5/16	5/16	5/64	Z4074-316SS	Z4074-316BLK
8-32 x 5/16	3/8	3/32	Z4075-316SS	Z4075-316BLK
10-24 x 5/16	7/16	1/8	Z4085-316SS	Z4085-316BLK
1/4-20 x 5/16	9/16	5/32	Z4095-316SS	Z4095-316BLK
5/16-18 x 5/16	11/16	11/64	Z4096-316SS	Z4096-316BLK

Button Head Socket Drive Posts (Architect Designed)

These Architect designed Hex Drive Binding Barrel and Screw sets provide a contemporary clean look. The combination of an AMPG button head barrel with a button head screw shows off a precise and clean machined finished for the exposed heads. The extra wide heads spread the load across a wider area.

Available in Inch and Metric sizes.

Materials and finishes offered in:

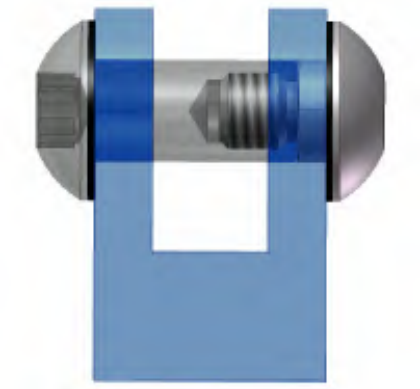
- 18-8 Stainless Steel | Plain Finish, Black Oxide



18-8 SS
Barrel and Screw Set



18-8 SS, Black Oxide
Barrel and Screw Set

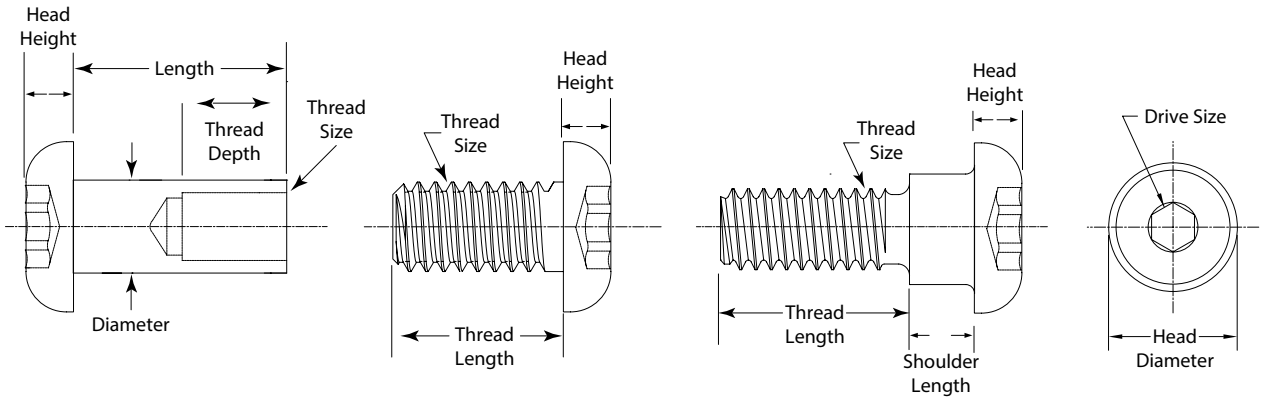


Button Head Dimensions — Inch

Barrel Diameter	Thread Size	Head Dia.	Head Height	Drive Size
1/4	10-24	7/16	1/8	5/32
3/8	1/4-20	21/32	3/16	7/32
1/2	3/8-16	7/8	1/4	5/16
5/8	1/2-13	1	5/16	3/8
3/4	5/8-11	1-1/8	3/8	3/8
7/8	5/8-11	1-1/4	1/2	1/2

Button Head Dimensions — Metric

Barrel Diameter	Thread Size	Head Diameter	Head Height	Drive Size
6mm	M4 x 0.74	10.50	4.00	2.5
10mm	M6 x 1	17.50	5.00	4
12mm	M8 x 1.35	21.00	6.00	5



8090 Woodland Drive
Indianapolis, IN 46278

p: 317.472.9000
f: 317.472.9010

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Sex Bolts

For technical drawings and charts, please see page A-11

18-8 SS

Button Head Socket Drive Barrel and Screw Set — Inch

MADE IN THE USA

18-8 Stainless Steel | Plain



Barrel				Screw			Set					
Barrel Dia.	Barrel Length	Thread Depth	Barrel P/N	Thread Length	Shoulder Length	Screw P/N	For Material Thickness (min, max)	Head Dia.	Head Height	Thread Size	Drive Size	18-8 SS Set Part Number
	3/8	3/16	Z1600 *	1/4	–	Z1838	7/16 to 9/16	7/16	1/8	10-24	5/32	ZG25007-B8*
	1/2	3/8	Z1602	1/4	–	Z1838	1/2 to 5/8	7/16	1/8	10-24	5/32	ZG25008-B8
1/4	5/8	3/8	Z1603	1/4	–	Z1838	5/8 to 3/4	7/16	1/8	10-24	5/32	ZG25010-B8
	1/2	3/8	Z1602	1/4	1/4	Z1768	3/4 to 7/8	7/16	1/8	10-24	5/32	ZG25012-B8
	3/4	3/8	Z1604	1/4	1/4	Z1768	1 to 1-1/8	7/16	1/8	10-24	5/32	ZG25016-B8
	1	3/8	Z1606	1/4	1/4	Z1768	1-1/4 to 1-3/8	7/16	1/8	10-24	5/32	ZG25020-B8
1/4	1-1/4	3/8	Z1608	1/4	1/4	Z1768	1-1/2 to 1-5/8	7/16	1/8	10-24	5/32	ZG25024-B8
	1-1/4	3/8	Z1608	1/2	1/4	Z1769	1-7/8 to 2-1/8	7/16	1/8	10-24	5/32	ZG25030-B9
	1/2	3/8	Z1616	3/8	–	Z1840	1/2 to 3/4	21/32	3/16	1/4-20	7/32	ZG37508-B8
	3/4	3/8	Z1618	3/8	–	Z1840	3/4 to 1	21/32	3/16	1/4-20	7/32	ZG37512-B8
3/8	1	3/8	Z1620	3/8	–	Z1840	1 to 1-1/4	21/32	3/16	1/4-20	7/32	ZG37516-B8
	1	3/8	Z1620	1/2	1/4	Z1624	1-3/8 to 1-5/8	21/32	3/16	1/4-20	7/32	ZG37520-B8
3/8	1	3/8	Z1620	1/2	1/2	Z1770	1-5/8 to 1-7/8	21/32	3/16	1/4-20	7/32	ZG37524-B8
	1/2	3/8	Z1630	1/2	–	Z1842	5/8 to 7/8	7/8	1/4	3/8-16	5/16	ZG50008-B8
	5/8	3/8	Z1631	1/2	–	Z1842	3/4 to 1	7/8	1/4	3/8-16	5/16	ZG50010-B8
1/2	3/4	3/8	Z1632	1/2	–	Z1842	7/8 to 1-1/8	7/8	1/4	3/8-16	5/16	ZG50012-B8
	1	3/8	Z1634	1/2	–	Z1842	1-1/8 to 1-3/8	7/8	1/4	3/8-16	5/16	ZG50016-B8
	1	3/8	Z1634	1/2	1/2	Z1772	1-5/8 to 1-7/8	7/8	1/4	3/8-16	5/16	ZG50024-B8
	1-1/2	3/8	Z1710	1/2	1/2	Z1772	2-1/8 to 2-3/8	7/8	1/4	3/8-16	5/16	ZG50032-B8
1/2	1-3/4	3/8	Z1712	1/2	1/2	Z1772	2-3/8 to 2-5/8	7/8	1/4	3/8-16	5/16	ZG50038-B8
	2	3/8	Z1714	1/2	1/2	Z1772	2-5/8 to 2-7/8	7/8	1/4	3/8-16	5/16	ZG50042-B8
	2-1/2	3/8	Z1716	1/2	1/2	Z1772	3-1/8 to 3-3/8	7/8	1/4	3/8-16	5/16	ZG50050-B8
1/2	3	3/8	Z1718	1/2	1/2	Z1772	3-5/8 to 3-7/8	7/8	1/4	3/8-16	5/16	ZG50058-B8
	1/2	5/16	Z1720	1/2	–	Z1844	11/16 to 15/16	1	5/16	1/2-13	3/8	ZG62511-B8
	3/4	7/16	Z1722	1/2	–	Z1844	13/16 to 1-1/16	1	5/16	1/2-13	3/8	ZG62513-B8
5/8	1/2	5/16	Z1720	1/2	1/2	Z1778	1-3/16 to 1-7/16	1	5/16	1/2-13	3/8	ZG62519-B8
	3/4	7/16	Z1722	1/2	1/2	Z1844	1-5/16 to 1-9/16	1	5/16	1/2-13	3/8	ZG62521-B8
	1	5/8	Z1724	1/2	1/2	Z1778	1-1/2 to 1-3/4	1	5/16	1/2-13	3/8	ZG62524-B8
	1-1/2	5/8	Z1726	1/2	1/2	Z1778	2 to 2-1/4	1	5/16	1/2-13	3/8	ZG62532-B8
5/8	1-3/4	5/8	Z1728	1/2	1/2	Z1778	2-1/4 to 2-1/2	1	5/16	1/2-13	3/8	ZG62536-B8
	2	5/8	Z1800	1/2	1/2	Z1778	2-1/2 to 2-3/4	1	5/16	1/2-13	3/8	ZG62540-B8

*Tapped Thru Head

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN INDIANA

Button Head Socket Drive Barrel and Screw Set — Inch

MADE IN THE USA

18-8 Stainless Steel



Barrel				Screw			Set					
Barrel Dia.	Barrel Length	Thread Depth	Barrel P/N	Thread Length	Shoulder Length	Screw P/N	For Material Thickness (min, max)	Head Dia.	Head Height	Thread Size	Drive Size	18-8 SS Set Part Number
	2-1/2	5/8	Z1802	1/2	1/2	Z1778	3 to 3-1/4	1	5/16	1/2-13	3/8	ZG62548-B8
5/8	3	5/8	Z1804	1/2	1/2	Z1778	3-1/2 to 3-3/4	1	5/16	1/2-13	3/8	ZG62556-B8
	3	5/8	Z1804	1/2	1	Z1780	4 to 4-1/4	1	5/16	1/2-13	3/8	ZG62564-B8
	1/2	5/16	Z1806	1/2	–	Z1846	11/16 to 15/16	1-1/8	3/8	5/8-11	3/8	ZG75011-B8
3/4	3/4	7/16	Z1808	1/2	–	Z1846	13/16 to 1-1/16	1-1/8	3/8	5/8-11	3/8	ZG75013-B8
	1/2	5/16	Z1806	1/2	1/2	Z1784	1-3/16 to 1-7/16	1-1/8	3/8	5/8-11	3/8	ZG75019-B8
	3/4	7/16	Z1808	1/2	1/2	Z1784	1-5/16 to 1-9/16	1-1/8	3/8	5/8-11	3/8	ZG75021-B8
	1	3/4	Z1810	1/2	1/2	Z1784	1-1/2 to 1-3/4	1-1/8	3/8	5/8-11	3/8	ZG75024-B8
3/4	1-1/2	3/4	Z1812	1/2	1/2	Z1784	2 to 2-1/4	1-1/8	3/8	5/8-11	3/8	ZG75032-B8
	1-3/4	3/4	Z1814	1/2	1/2	Z1784	2-1/4 to 2-1/2	1-1/8	3/8	5/8-11	3/8	ZG75036-B8
	2	3/4	Z1816	1/2	1/2	Z1784	2-1/2 to 2-3/4	1-1/8	3/8	5/8-11	3/8	ZG75040-B8
	2-1/2	3/4	Z1818	1/2	1/2	Z1784	3 to 3-1/4	1-1/8	3/8	5/8-11	3/8	ZG75048-B8
3/4	3	3/4	Z1820	1/2	1/2	Z1784	3-1/2 to 3-3/4	1-1/8	3/8	5/8-11	3/8	ZG75056-B8
	3	3/4	Z1820	1/2	1	Z1786	4 to 4-1/4	1-1/8	3/8	5/8-11	3/8	ZG75064-B8
	1/2	1/2	Z1822	1/2	1	Z1848	11/16 to 15/16	1-1/4	3/8	5/8-11	3/8	ZG87511-B8
7/8	3/4	7/16	Z1824	1/2	–	Z1848	13/16 to 1-1/16	1-1/4	3/8	5/8-11	3/8	ZG87513-B8
	1/2	5/16	Z1822	1/2	1/2	Z1790	1-3/16 to 1-7/16	1-1/4	3/8	5/8-11	3/8	ZG87519-B8
	3/4	7/16	Z1824	1/2	1/2	Z1790	1-5/16 to 1-9/16	1-1/4	3/8	5/8-11	3/8	ZG87521-B8
	1	3/4	Z1826	1/2	1/2	Z1790	1-1/2 to 1-3/4	1-1/4	3/8	5/8-11	3/8	ZG87524-B8
7/8	1-1/2	3/4	Z1828	1/2	1/2	Z1790	2 to 2-1/4	1-1/4	3/8	5/8-11	3/8	ZG87532-B8
	1-3/4	3/4	Z1830	1/2	1/2	Z1790	2-1/4 to 2-1/2	1-1/4	3/8	5/8-11	3/8	ZG87536-B8
	2	3/4	Z1832	1/2	1/2	Z1790	2-1/2 to 2-3/4	1-1/4	3/8	5/8-11	3/8	ZG87540-B8
	2-1/2	3/4	Z1834	1/2	1/2	Z1790	3 to 3-1/4	1-1/4	3/8	5/8-11	3/8	ZG87548-B8
7/8	3	3/4	Z1836	1/2	1/2	Z1790	3-1/2 to 3-3/4	1-1/4	3/8	5/8-11	3/8	ZG87556-B8
	3	3/4	Z1836	1/2	1	Z1792	4 to 4-1/4	1-1/4	3/8	5/8-11	3/8	ZG87564-B8

Sex Bolts

For technical drawings and charts, please see page A-11

Button Head Socket Drive Barrel and Screw Set — Inch

18-8 Stainless Steel | Black Oxide



Barrel				Screw			Set					
Barrel Dia.	Barrel Length	Thread Depth	Barrel P/N	Thread Length	Shoulder Length	Screw P/N	For Material Thickness (min, max)	Head Dia.	Head Height	Thread Size	Drive Size	18-8 SS, Black Oxide Set Part Number
	3/8	3/16	Z1600-BX*	1/4	–	Z1838-BX	7/16 to 9/16	7/16	1/8	10-24	5/32	ZG25007-B8-BX*
	1/2	3/8	Z1602-BX	1/4	–	Z1838-BX	1/2 to 5/8	7/16	1/8	10-24	5/32	ZG25008-B8-BX
1/4	5/8	3/8	Z1603-BX	1/4	–	Z1838-BX	5/8 to 3/4	7/16	1/8	10-24	5/32	ZG25010-B8-BX
	1/2	3/8	Z1602-BX	1/4	1/4	Z1768-BX	3/4 to 7/8	7/16	1/8	10-24	5/32	ZG25012-B8-BX
	3/4	3/8	Z1604-BX	1/4	1/4	Z1768-BX	1 to 1-1/8	7/16	1/8	10-24	5/32	ZG25016-B8-BX
	1	3/8	Z1606-BX	1/4	1/4	Z1768-BX	1-1/4 to 1-3/8	7/16	1/8	10-24	5/32	ZG25020-B8-BX
1/4	1-1/4	3/8	Z1608-BX	1/4	1/4	Z1768-BX	1-1/2 to 1-5/8	7/16	1/8	10-24	5/32	ZG25024-B8-BX
	1-1/4	3/8	Z1608-BX	1/2	1/4	Z1769-BX	1-7/8 to 2-1/8	7/16	1/8	10-24	5/32	ZG25030-B9-BX
	1/2	3/8	Z1616-BX	3/8	–	Z1840-BX	1/2 to 3/4	21/32	3/16	1/4-20	7/32	ZG37508-B8-BX
	3/4	3/8	Z1618-BX	3/8	–	Z1840-BX	3/4 to 1	21/32	3/16	1/4-20	7/32	ZG37512-B8-BX
3/8	1	3/8	Z1620-BX	3/8	–	Z1840-BX	1 to 1-1/4	21/32	3/16	1/4-20	7/32	ZG37516-B8-BX
	1	3/8	Z1620-BX	1/2	1/4	Z1624-BX	1-3/8 to 1-5/8	21/32	3/16	1/4-20	7/32	ZG37520-B8-BX
3/8	1	3/8	Z1620-BX	1/2	1/2	Z1770-BX	1-5/8 to 1-7/8	21/32	3/16	1/4-20	7/32	ZG37524-B8-BX
	1/2	3/8	Z1630-BX	1/2	–	Z1842-BX	5/8 to 7/8	7/8	1/4	3/8-16	5/16	ZG50008-B8-BX
	5/8	3/8	Z1631-BX	1/2	–	Z1842-BX	3/4 to 1	7/8	1/4	3/8-16	5/16	ZG50010-B8-BX
1/2	3/4	3/8	Z1632-BX	1/2	–	Z1842-BX	7/8 to 1-1/8	7/8	1/4	3/8-16	5/16	ZG50012-B8-BX
	1	3/8	Z1634-BX	1/2	–	Z1842-BX	1-1/8 to 1-3/8	7/8	1/4	3/8-16	5/16	ZG50016-B8-BX
	1	3/8	Z1634-BX	1/2	1/2	Z1772-BX	1-5/8 to 1-7/8	7/8	1/4	3/8-16	5/16	ZG50024-B8-BX
	1-1/2	3/8	Z1710-BX	1/2	1/2	Z1772-BX	2-1/8 to 2-3/8	7/8	1/4	3/8-16	5/16	ZG50032-B8-BX
1/2	1-3/4	3/8	Z1712-BX	1/2	1/2	Z1772-BX	2-3/8 to 2-5/8	7/8	1/4	3/8-16	5/16	ZG50038-B8-BX
	2	3/8	Z1714-BX	1/2	1/2	Z1772-BX	2-5/8 to 2-7/8	7/8	1/4	3/8-16	5/16	ZG50042-B8-BX
	2-1/2	3/8	Z1716-BX	1/2	1/2	Z1772-BX	3-1/8 to 3-3/8	7/8	1/4	3/8-16	5/16	ZG50050-B8-BX
1/2	3	3/8	Z1718-BX	1/2	1/2	Z1772-BX	3-5/8 to 3-7/8	7/8	1/4	3/8-16	5/16	ZG50058-B8-BX
	1/2	5/16	Z1720-BX	1/2	–	Z1844-BX	11/16 to 15/16	1	5/16	1/2-13	3/8	ZG62511-B8-BX
	3/4	7/16	Z1722-BX	1/2	–	Z1844-BX	13/16 to 1-1/16	1	5/16	1/2-13	3/8	ZG62513-B8-BX
5/8	1/2	5/16	Z1720-BX	1/2	1/2	Z1778-BX	1-3/16 to 1-7/16	1	5/16	1/2-13	3/8	ZG62519-B8-BX
	3/4	7/16	Z1722-BX	1/2	1/2	Z1844-BX	1-5/16 to 1-9/16	1	5/16	1/2-13	3/8	ZG62521-B8-BX
	1	5/8	Z1724-BX	1/2	1/2	Z1778-BX	1-1/2 to 1-3/4	1	5/16	1/2-13	3/8	ZG62524-B8-BX
	1-1/2	5/8	Z1726-BX	1/2	1/2	Z1778-BX	2 to 2-1/4	1	5/16	1/2-13	3/8	ZG62532-B8-BX
5/8	1-3/4	5/8	Z1728-BX	1/2	1/2	Z1778-BX	2-1/4 to 2-1/2	1	5/16	1/2-13	3/8	ZG62536-B8-BX
	2	5/8	Z1800-BX	1/2	1/2	Z1778-BX	2-1/2 to 2-3/4	1	5/16	1/2-13	3/8	ZG62540-B8-BX

*Tapped Thru Head

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN INDIANA

Button Head Socket Drive Barrel and Screw Set — Inch

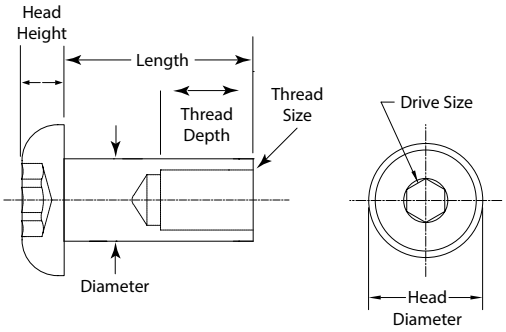
18-8 Stainless Steel | Black Oxide



Barrel				Screw			Set					
Barrel Dia.	Barrel Length	Thread Depth	Barrel P/N	Thread Length	Shoulder Length	Screw P/N	For Material Thickness (min, max)	Head Dia.	Head Height	Thread Size	Drive Size	18-8 SS, Black Oxide Set Part Number
	2-1/2	5/8	Z1802-BX	1/2	1/2	Z1778-BX	3 to 3-1/4	1	5/16	1/2-13	3/8	ZG62548-B8-BX
5/8	3	5/8	Z1804-BX	1/2	1/2	Z1778-BX	3-1/2 to 3-3/4	1	5/16	1/2-13	3/8	ZG62556-B8-BX
	3	5/8	Z1804-BX	1/2	1	Z1780-BX	4 to 4-1/4	1	5/16	1/2-13	3/8	ZG62564-B8-BX
	1/2	5/16	Z1806-BX	1/2	—	Z1846-BX	11/16 to 15/16	1-1/8	3/8	5/8-11	3/8	ZG75011-B8-BX
3/4	3/4	7/16	Z1808-BX	1/2	—	Z1846-BX	13/16 to 1-1/16	1-1/8	3/8	5/8-11	3/8	ZG75013-B8-BX
	1/2	5/16	Z1806-BX	1/2	1/2	Z1784-BX	1-3/16 to 1-7/16	1-1/8	3/8	5/8-11	3/8	ZG75019-B8-BX
	3/4	7/16	Z1808-BX	1/2	1/2	Z1784-BX	1-5/16 to 1-9/16	1-1/8	3/8	5/8-11	3/8	ZG75021-B8-BX
	1	3/4	Z1810-BX	1/2	1/2	Z1784-BX	1-1/2 to 1-3/4	1-1/8	3/8	5/8-11	3/8	ZG75024-B8-BX
3/4	1-1/2	3/4	Z1812-BX	1/2	1/2	Z1784-BX	2 to 2-1/4	1-1/8	3/8	5/8-11	3/8	ZG75032-B8-BX
	1-3/4	3/4	Z1814-BX	1/2	1/2	Z1784-BX	2-1/4 to 2-1/2	1-1/8	3/8	5/8-11	3/8	ZG75036-B8-BX
	2	3/4	Z1816-BX	1/2	1/2	Z1784-BX	2-1/2 to 2-3/4	1-1/8	3/8	5/8-11	3/8	ZG75040-B8-BX
	2-1/2	3/4	Z1818-BX	1/2	1/2	Z1784-BX	3 to 3-1/4	1-1/8	3/8	5/8-11	3/8	ZG75048-B8-BX
3/4	3	3/4	Z1820-BX	1/2	1/2	Z1784-BX	3-1/2 to 3-3/4	1-1/8	3/8	5/8-11	3/8	ZG75056-B8-BX
	3	3/4	Z1820-BX	1/2	1	Z1786-BX	4 to 4-1/4	1-1/8	3/8	5/8-11	3/8	ZG75064-B8-BX
	1/2	1/2	Z1822-BX	1/2	1	Z1848-BX	11/16 to 15/16	1-1/4	3/8	5/8-11	3/8	ZG87511-B8-BX
7/8	3/4	7/16	Z1824-BX	1/2	—	Z1848-BX	13/16 to 1-1/16	1-1/4	3/8	5/8-11	3/8	ZG87513-B8-BX
	1/2	5/16	Z1822-BX	1/2	1/2	Z1790-BX	1-3/16 to 1-7/16	1-1/4	3/8	5/8-11	3/8	ZG87519-B8-BX
	3/4	7/16	Z1824-BX	1/2	1/2	Z1790-BX	1-5/16 to 1-9/16	1-1/4	3/8	5/8-11	3/8	ZG87521-B8-BX
	1	3/4	Z1826-BX	1/2	1/2	Z1790-BX	1-1/2 to 1-3/4	1-1/4	3/8	5/8-11	3/8	ZG87524-B8-BX
7/8	1-1/2	3/4	Z1828-BX	1/2	1/2	Z1790-BX	2 to 2-1/4	1-1/4	3/8	5/8-11	3/8	ZG87532-B8-BX
	1-3/4	3/4	Z1830-BX	1/2	1/2	Z1790-BX	2-1/4 to 2-1/2	1-1/4	3/8	5/8-11	3/8	ZG87536-B8-BX
	2	3/4	Z1832-BX	1/2	1/2	Z1790-BX	2-1/2 to 2-3/4	1-1/4	3/8	5/8-11	3/8	ZG87540-B8-BX
	2-1/2	3/4	Z1834-BX	1/2	1/2	Z1790-BX	3 to 3-1/4	1-1/4	3/8	5/8-11	3/8	ZG87548-B8-BX
7/8	3	3/4	Z1836-BX	1/2	1/2	Z1790-BX	3-1/2 to 3-3/4	1-1/4	3/8	5/8-11	3/8	ZG87556-B8-BX
	3	3/4	Z1836-BX	1/2	1	Z1792-BX	4 to 4-1/4	1-1/4	3/8	5/8-11	3/8	ZG87564-B8-BX

Button Head Socket Drive Female Barrels — Inch

18-8 Stainless Steel | Plain



Female Barrel Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
1/4	10-24	7/16	1/8	5/32
3/8	1/4-20	21/32	3/16	7/32
1/2	3/8-16	7/8	1/4	5/16
5/8	1/2-13	1	5/16	3/8
3/4	5/8-11	1-1/8	3/8	3/8
7/8	5/8-11	1-1/4	3/8	3/8



18-8 SS



18-8 SS, Black Oxide

Barrel Diameter	Length	Thread Depth	18-8 SS Part Number	18-8 SS Black Ox.
1/4	3/8	3/16	Z1600	Z1600-BX
	1/2	3/8	Z1602	Z1602-BX
	5/8	3/8	Z1603	Z1603-BX
	3/4	3/8	Z1604	Z1604-BX
1/4	1	3/8	Z1606	Z1606-BX
	1-1/4	3/8	Z1608	Z1608-BX
3/8	1/2	3/8	Z1616	Z1616-BX
	3/4	3/8	Z1618	Z1618-BX
	1	3/8	Z1620	Z1620-BX
	1-1/16	3/4	Z1621	Z1621-BX
1/2	1/2	3/8	Z1630	Z1630-BX
	5/8	3/8	Z1631	Z1631-BX
	3/4	3/8	Z1632	Z1632-BX
	7/8	3/8	Z1633	Z1633-BX
1/2	1	3/8	Z1634	Z1634-BX
	1-1/2	3/8	Z1710	Z1710-BX
	1-3/4	3/8	Z1712	Z1712-BX
	2	3/8	Z1714	Z1714-BX
	2-1/2	3/8	Z1716	Z1716-BX
1/2	3	3/8	Z1718	Z1718-BX
5/8	1/2	5/16	Z1720	Z1720-BX
	3/4	7/16	Z1722	Z1722-BX

Barrel Diameter	Length	Thread Depth	18-8 SS Part Number	18-8 SS Black Ox.
5/8	1	5/8	Z1724	Z1724-BX
	1-1/2	5/8	Z1726	Z1726-BX
	1-3/4	5/8	Z1728	Z1728-BX
	2	5/8	Z1800	Z1800-BX
5/8	2-1/2	5/8	Z1802	Z1802-BX
	3	5/8	Z1804	Z1804-BX
3/4	1/2	5/16	Z1806	Z1806-BX
	3/4	7/16	Z1808	Z1808-BX
	1	3/4	Z1810	Z1810-BX
	1-1/2	3/4	Z1812	Z1812-BX
3/4	1-3/4	3/4	Z1814	Z1814-BX
	2	3/4	Z1816	Z1816-BX
	2-1/2	3/4	Z1818	Z1818-BX
	3	3/4	Z1820	Z1820-BX
7/8	1/2	5/16	Z1822	Z1822-BX
	3/4	7/16	Z1824	Z1824-BX
	1	3/4	Z1826	Z1826-BX
	1-1/2	3/4	Z1828	Z1828-BX
7/8	1-3/4	3/4	Z1830	Z1830-BX
	2	3/4	Z1832	Z1832-BX
	2-1/2	3/4	Z1834	Z1834-BX
	3	3/4	Z1836	Z1836-BX

Button Head Socket Drive Male Screws — Inch

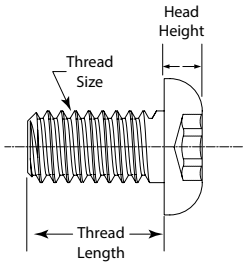
18-8 Stainless Steel | Plain, Black Oxide

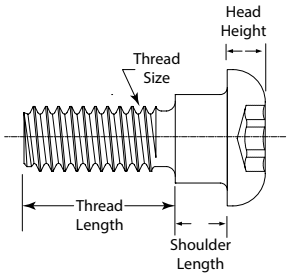


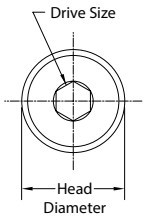
18-8 SS



18-8 SS, Black Oxide





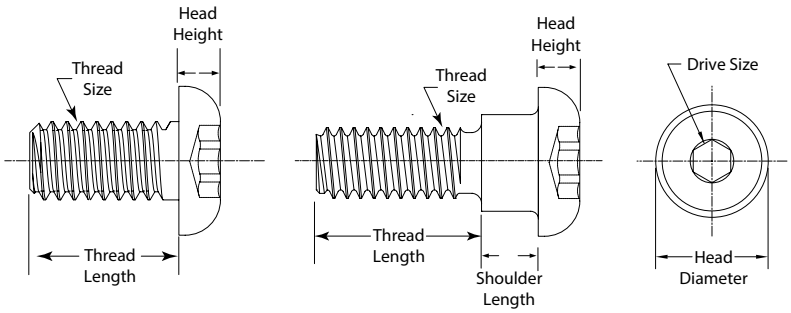


Shoulder Diameter	Length Under Head	Shoulder Length	Thread Length	Thread Size	Head Diameter	Head Height	Drive Size	18-8 SS Part Number	18-8 SS Black Ox. Part Number
1/4	3/8	1/4	1/8	10-24	7/16	1/8	5/32	Z1764	Z1764-BX
	3/16	–	3/16	10-24	7/16	1/8	5/32	Z1835	Z1835-BX
	1/4	–	1/4	10-24	7/16	1/8	5/32	Z1838	Z1838-BX
	7/16	1/4	3/16	10-24	7/16	1/8	5/32	Z1767	Z1767-BX
1/4	1/2	1/4	1/4	10-24	7/16	1/8	5/32	Z1768	Z1768-BX
	11/16	1/2	3/16	10-24	7/16	1/8	5/32	Z1761	Z1761-BX
	1	1/2	1/2	10-24	7/16	1/8	5/32	Z1769	Z1769-BX
3/8	3/8	–	3/8	1/4-20	21/32	3/16	7/32	Z1840	Z1840-BX
	5/8	1/4	3/8	1/4-20	21/32	3/16	7/32	Z1623	Z1623-BX
	3/4	1/4	1/2	1/4-20	21/32	3/16	7/32	Z1624	Z1624-BX
	7/8	1/2	3/8	1/4-20	21/32	3/16	7/32	Z1762	Z1762-BX
3/8	1	1/2	1/2	1/4-20	21/32	3/16	7/32	Z1770	Z1770-BX
1/2	5/16	–	5/16	3/8-16	7/8	1/4	5/16	Z1841	Z1841-BX
	3/8	–	3/8	3/8-16	7/8	1/4	5/16	Z1837	Z1837-BX
	1/2	–	1/2	3/8-16	7/8	1/4	5/16	Z1842	Z1842-BX
	7/8	1/2	3/8	3/8-16	7/8	1/4	5/16	Z1771	Z1771-BX
1/2	1	1/2	1/2	3/8-16	7/8	1/4	5/16	Z1772	Z1772-BX
	1-3/8	1	3/8	3/8-16	7/8	1/4	5/16	Z1773	Z1773-BX
	1-1/2	1	1/2	3/8-16	7/8	1/4	5/16	Z1774	Z1774-BX
	1-7/8	1-1/2	3/8	3/8-16	7/8	1/4	5/16	Z1775	Z1775-BX
1/2	2	1-1/2	1/2	3/8-16	7/8	1/4	5/16	Z1776	Z1776-BX
5/8	5/16	–	5/16	1/2-13	1	5/16	3/8	Z1843	–
	1/2	–	1/2	1/2-13	1	5/16	3/8	Z1844	–
	13/16	1/2	5/16	1/2-13	1	5/16	3/8	Z1777	–
	1	1/2	1/2	1/2-13	1	5/16	3/8	Z1778	Z1778-BX
5/8	1-3/16	1-1/2	5/16	1/2-13	1	5/16	3/8	Z1781	–
	1-5/16	1	5/16	1/2-13	1	5/16	3/8	Z1779	–
	1-1/2	1	1/2	1/2-13	1	5/16	3/8	Z1780	Z1780-BX
	2	1-1/2	1/2	1/2-13	1	5/16	3/8	Z1782	–

Chart continued on next page

Button Head Socket Drive Male Screws — Inch

18-8 Stainless Steel | Plain, Black Oxide





18-8 SS



18-8 SS, Black Oxide

Shoulder Diameter	Length Under Head	Shoulder Length	Thread Length	Thread Size	Head Diameter	Head Height	Drive Size	18-8 SS Part Number	18-8 SS Black Ox. Part Number
3/4	5/16	–	5/16	5/8-11	1-1/8	3/8	3/8	Z1845	Z1845-BX
	1/2	–	1/2	5/8-11	1-1/8	3/8	3/8	Z1846	Z1846-BX
	13/16	1/2	5/16	5/8-11	1-1/8	3/8	3/8	Z1783	Z1783-BX
	1	1/2	1/2	5/8-11	1-1/8	3/8	3/8	Z1784	Z1784-BX
3/4	1-5/16	1	5/16	5/8-11	1-1/8	3/8	3/8	Z1785	Z1785-BX
	1-1/2	1	1/2	5/8-11	1-1/8	3/8	3/8	Z1786	Z1786-BX
	1-13/16	1-1/2	5/16	5/8-11	1-1/8	3/8	3/8	Z1787	Z1787-BX
	2	1-1/2	1/2	5/8-11	1-1/8	3/8	3/8	Z1788	Z1788-BX
7/8	5/16	–	5/16	5/8-11	1-1/4	3/8	3/8	Z1847	Z1847-BX
	1/2	–	1/2	5/8-11	1-1/4	3/8	3/8	Z1848	Z1848-BX
	13/16	1/2	5/16	5/8-11	1-1/4	3/8	3/8	Z1789	Z1789-BX
	1	1/2	1/2	5/8-11	1-1/4	3/8	3/8	Z1790	Z1790-BX
7/8	1-5/16	1	5/16	5/8-11	1-1/4	3/8	3/8	Z1791	Z1791-BX
	1-1/2	1	1/2	5/8-11	1-1/4	3/8	3/8	Z1792	Z1792-BX
	1-13/16	1-1/2	5/16	5/8-11	1-1/4	3/8	3/8	Z1793	Z1793-BX
	2	1-1/2	1/2	5/8-11	1-1/4	3/8	3/8	Z1794	Z1794-BX

Button Head Socket Drive Barrels and Screws — Metric

MADE IN THE USA

18-8 SS | Plain, Black Oxide Finish

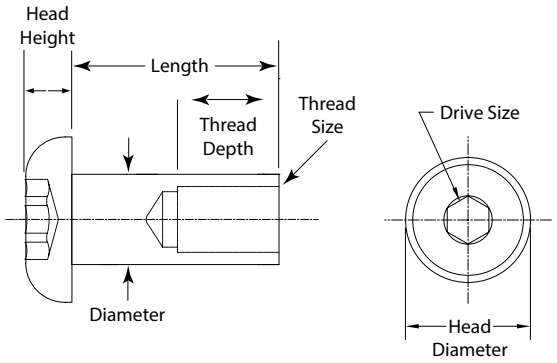


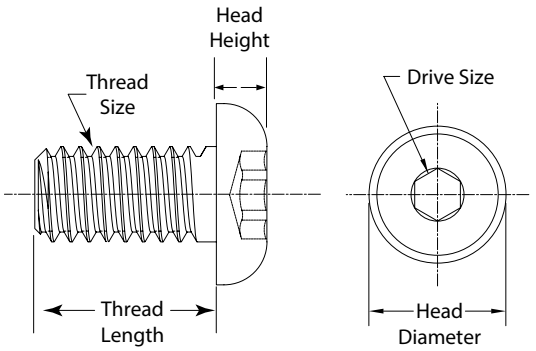
Socket Drive Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	18-8 SS Part Number	18-8 SS Black Ox. Part Number
6 mm	12.00	M4 x 0.7	7.50	Z1602M	Z1602M-BX
6 mm	16.00	M4 x 0.7	7.50	Z1603M	Z1603M-BX
6 mm	20.00	M4 x 0.7	9.50	Z1604M	Z1604M-BX
6 mm	25.00	M4 x 0.7	9.50	Z1606M	Z1606M-BX
6 mm	30.00	M4 x 0.7	9.50	Z1608M	Z1608M-BX
6 mm	40.00	M4 x 0.7	9.50	Z1610M	Z1610M-BX
10 mm	12.00	M6 x 1	7.50	Z1616M	Z1616M-BX
10 mm	16.00	M6 x 1	9.50	Z1617M	Z1617M-BX
10 mm	20.00	M6 x 1	9.50	Z1618M	Z1618M-BX
10 mm	25.00	M6 x 1	9.50	Z1620M	Z1620M-BX
10 mm	30.00	M6 x 1	9.50	Z1622M	Z1622M-BX
10 mm	40.00	M6 x 1	9.50	Z1624M	Z1624M-BX
12 mm	12.00	M8 x 1.25	7.50	Z1630M	Z1630M-BX
12 mm	16.00	M8 x 1.25	7.50	Z1631M	Z1631M-BX
12 mm	20.00	M8 x 1.25	11.50	Z1632M	Z1632M-BX
12 mm	25.00	M8 x 1.25	11.50	Z1634M	Z1634M-BX
12 mm	40.00	M8 x 1.25	11.50	Z1636M	Z1636M-BX
12 mm	50.00	M8 x 1.25	11.50	Z1638M	Z1638M-BX

Button Head Dimensions — Metric

Barrel Diameter	Thread Size	Head Diameter	Head Height	Drive Size
6mm	M4 x 0.7	10.50	4.00	2.5
10mm	M6 x 1	17.50	5.00	4
12mm	M8 x 1.25	21.00	6.00	5







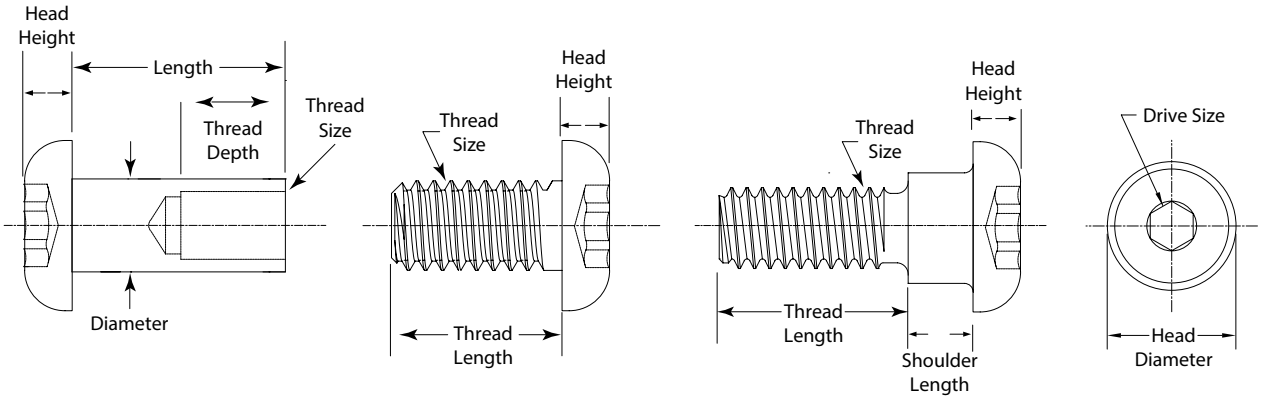
Socket Drive Screws

Screw Size	Head Dia.	Head Height	18-8 SS Part Number	18-8 SS Black Ox. Part Number
M4 x 6	10.50	4.00	Z1838M	Z1838M-BX
M4 x 8	10.50	4.00	Z1839M	Z1839M-BX
M6 x 8	17.50	5.00	Z1840M	Z1840M-BX
M8 x 10	21.00	6.00	Z1843M	Z1843M-BX

Button Head Socket Drive Barrel and Screw Set — Metric

MADE IN THE USA

18-8 SS | Plain Finish





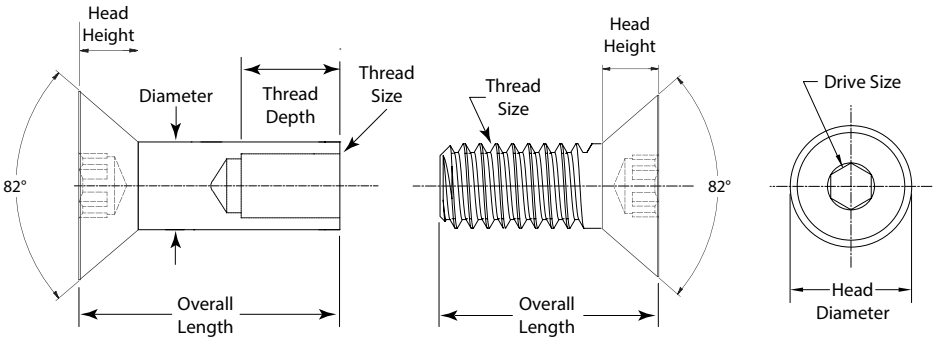
Barrel							Screw				Set
For Material Thickness (min, max)	Thread Size	Length	Diameter	Head Diameter	Head Height	Thread Depth	Length	Head Diameter	Head Height	Drive Size	Barrel & Screw Set (1 barrel & 1 screw)
12 to 14mm	M4 x 0.7	12	6.00	10.50	4.00	7.50	6.00	10.50	4.00	2.5	Z1602MPAK
16 to 18mm	M4 x 0.7	16	6.00	10.50	4.00	7.50	6.00	10.50	4.00	2.5	Z1603MPAK
20 to 22mm	M4 x 0.7	20	6.00	10.50	4.00	9.50	8.00	10.50	4.00	2.5	Z1604MPAK
25 to 27mm	M4 x 0.7	25	6.00	10.50	4.00	9.50	8.00	10.50	4.00	2.5	Z1606MPAK
30 to 32mm	M4 x 0.7	30	6.00	10.50	4.00	9.50	8.00	10.50	4.00	2.5	Z1608MPAK
40 to 42mm	M4 x 0.7	40	6.00	10.50	4.00	9.50	8.00	10.50	4.00	2.5	Z1610MPAK
16 to 18mm	M6 x 1	16	10.00	17.50	5.00	9.50	8.00	17.50	5.00	4	Z1617MPAK
20 to 22mm	M6 x 1	20	10.00	17.50	5.00	9.50	8.00	17.50	5.00	4	Z1618MPAK
25 to 27mm	M6 x 1	25	10.00	17.50	5.00	9.50	8.00	17.50	5.00	4	Z1620MPAK
30 to 32mm	M6 x 1	30	10.00	17.50	5.00	9.50	8.00	17.50	5.00	4	Z1622MPAK
40 to 42mm	M6 x 1	40	10.00	17.50	5.00	9.50	8.00	17.50	5.00	4	Z1624MPAK
20 to 23mm	M8 x 1.25	20	12.00	21.00	6.00	11.50	10.00	21.00	6.00	5	Z1632MPAK
25 to 28mm	M8 x 1.25	25	12.00	21.00	6.00	11.50	10.00	21.00	6.00	5	Z1634MPAK
40 to 43mm	M8 x 1.25	40	12.00	21.00	6.00	11.50	10.00	21.00	6.00	5	Z1636MPAK
50 to 53mm	M8 x 1.25	50	12.00	21.00	6.00	11.50	10.00	21.00	6.00	5	Z1638MPAK

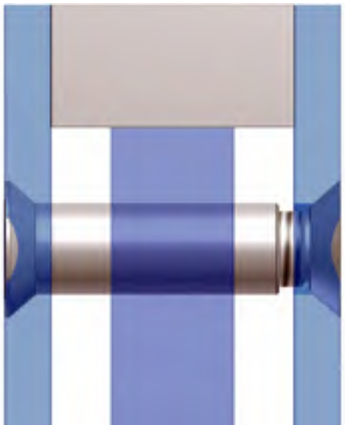
82° Flat Head Socket Drive Posts (Architect Designed)

These Architect designed 82 Degree Flat Head Socket Drive Posts are designed for use with countersunk holes which allows the Post and Screw to sit flush with the surface, without any protrusion or height. The machined heads provide a clean and beautiful appearance. Made in the USA from 303 Stainless Steel bar on our Swiss Lathes they offer an excellent combination of strength, appearance, and corrosion resistance.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain Finish







82° Flat Head Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
1/4	10-24	33/64	11/64	5/32
3/8	1/4-20	3/4	15/64	7/32
1/2	3/8-16	7/8	1/4	5/16
5/8	1/2-13	1	1/4	3/8
3/4	5/8-11	1-1/8	1/4	3/8
7/8	5/8-11	1-1/4	1/4	1/2

82° Flat Head Socket Drive Sets — Inch

MADE IN THE USA

18-8 SS | Plain Finish



82° Flat Head Socket Drive Sets

Barrel					Screw		Set				
Barrel Diameter	For Material Thickness (min, max)	O'all Length	Thread Depth	Barrel Part Number	O'all Screw Size	Screw Part Number	Thread Size	Head Diameter	Head Height	Drive Size	18-8 SS Set Part Number
	11/16 to 3/4	1/2	5/16	Z1642*	3/8	Z1730	10-24	33/64	11/64	5/32	ZG25008-F8*
	15/16 to 1	3/4	3/8	Z1644	3/8	Z1730	10-24	33/64	11/64	5/32	ZG25012-F8
1/4	1-1/4 to 1-1/2	1	3/8	Z1646	5/8	Z1732	10-24	33/64	11/64	5/32	ZG25016-F8
	1-1/2 to 1-3/4	1-1/4	3/8	Z1648	5/8	Z1732	10-24	33/64	11/64	5/32	ZG25020-F8
1/4	1-1/2 to 2	1-1/4	3/8	Z1648	1	Z1734	10-24	33/64	11/64	5/32	ZG25024-F8
	1 to 1-1/8	1/2	3/16	Z1650*	3/4	Z1736	1/4-20	3/4	15/64	7/32	ZG37508-F8*
3/8	1-1/8 to 1-1/4	3/4	3/8	Z1652	3/4	Z1736	1/4-20	3/4	15/64	7/32	ZG37512-F8
	1-3/8 to 1-1/2	1	3/8	Z1654	3/4	Z1736	1/4-20	3/4	15/64	7/32	ZG37516-F8
	1-1/8 to 1-1/4	3/4	3/8	Z1662	1-1/4	Z1738	3/8-16	7/8	1/4	5/16	ZG50012-F8*
1/2	1-3/8 to 1-1/2	1	3/8	Z1664	1-1/4	Z1738	3/8-16	7/8	1/4	5/16	ZG50016-F8
	1-7/8 to 2	1-1/2	3/8	Z1665	1-1/4	Z1738	3/8-16	7/8	1/4	5/16	ZG50024-F8
	2-3/8 to 2-1/2	2	3/8	Z1669	1-1/4	Z1738	3/8-16	7/8	1/4	5/16	ZG50032-F8
1/2	3-3/8 to 3-1/2	3	3/8	Z1671	1-1/4	Z1738	3/8-16	7/8	1/4	5/16	ZG50048-F8
	1-1/8 to 1-1/4	3/4	3/8	Z1674	3/4	Z1744	1/2-13	1	1/4	3/8	ZG62512-F8
5/8	1-3/8 to 1-1/2	1	5/8	Z1676	3/4	Z1744	1/2-13	1	1/4	3/8	ZG62516-F8
	1-7/8 to 2	1-1/2	3/4	Z1678	3/4	Z1744	1/2-13	1	1/4	3/8	ZG62524-F8
	2-1/8 to 2-1/4	1-3/4	3/4	Z1680	3/4	Z1744	1/2-13	1	1/4	3/8	ZG62528-F8
	2-3/8 to 2-1/2	2	3/4	Z1682	3/4	Z1744	1/2-13	1	1/4	3/8	ZG62532-F8
5/8	2-7/8 to 3	2-1/2	3/4	Z1683	3/4	Z1744	1/2-13	1	1/4	3/8	ZG62540-F8
	3-3/8 to 3-1/2	3	3/4	Z1684	3/4	Z1744	1/2-13	1	1/4	3/8	ZG62548-F8
	1-1/8 to 1-1/4	3/4	7/16	Z1701	3/4	Z1756	5/8-11	1-1/4	1/4	1/2	ZG87512-F8
	1-1/8 to 1-1/4	3/4	3/4	Z1702	3/4	Z1756	5/8-11	1-1/4	1/4	1/2	ZG87516-F8
7/8	1-7/8 to 2	1-1/2	3/4	Z1703	3/4	Z1756	5/8-11	1-1/4	1/4	1/2	ZG87524-F8
	2-1/8 to 2-1/4	1-3/4	3/4	Z1704	3/4	Z1756	5/8-11	1-1/4	1/4	1/2	ZG87528-F8
	2-3/8 to 2-1/2	2	3/4	Z1705	3/4	Z1756	5/8-11	1-1/4	1/4	1/2	ZG87532-F8
7/8	2-7/8 to 3	2-1/2	3/4	Z1706	3/4	Z1756	5/8-11	1-1/4	1/4	1/2	ZG87540-F8
	3-3/8 to 3-1/2	3	3/4	Z1707	3/4	Z1756	5/8-11	1-1/4	1/4	1/2	ZG87548-F8

*Thru Hole Allowed

82° Flat Head Socket Drive Posts — Inch

MADE IN THE USA

18-8 SS | Plain Finish

82° Flat Head Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
1/4	10-24	33/64	11/64	5/32
3/8	1/4-20	3/4	15/64	7/32
1/2	3/8-16	7/8	1/4	5/16
5/8	1/2-13	1	1/4	3/8
3/4	5/8-11	1-1/8	1/4	3/8
7/8	5/8-11	1-1/4	1/4	1/2



Socket Drive Barrels

Barrel Diameter	Overall Length	Thread Size	Thread Depth	Part Number
1/4	3/8	10-24	3/16*	Z1640*
	1/2	10-24	5/16*	Z1642*
	3/4	10-24	3/8	Z1644
	1	10-24	3/8	Z1646
1/4	1-1/4	10-24	3/8	Z1648
3/8	1/2	1/4-20	3/16*	Z1650*
	3/4	1/4-20	3/8	Z1652
	1	1/4-20	3/8	Z1654
1/2	1/2	3/8-16	3/16*	Z1660*
	3/4	3/8-16	3/8	Z1662
	1	3/8-16	1/2	Z1664
	1-1/4	3/8-16	1/2	Z1666
1/2	1-1/2	3/8-16	1/2	Z1665
	1-3/4	3/8-16	1/2	Z1667
	2	3/8-16	1/2	Z1669
	2-1/2	3/8-16	1/2	Z1670
1/2	3	3/8-16	1/2	Z1671
5/8	1/2	1/2-13	1/4	Z1672*
	3/4	1/2-13	3/8	Z1674
	1	1/2-13	5/8	Z1676
	1-1/2	1/2-13	3/4	Z1678
5/8	1-3/4	1/2-13	3/4	Z1680
	2	1/2-13	3/4	Z1682
	2-1/2	1/2-13	3/4	Z1683
	3	1/2-13	3/4	Z1684
3/4	1/2	5/8-11	1/4	Z1686*
	3/4	5/8-11	3/8	Z1688
	1	5/8-11	5/8	Z1690
	1-1/2	5/8-11	3/4	Z1692
3/4	1-3/4	5/8-11	3/4	Z1694
	2	5/8-11	3/4	Z1696
	2-1/2	5/8-11	3/4	Z1698
	3	5/8-11	3/4	Z1699
7/8	1/2	5/8-11	1/4*	Z1700*
	3/4	5/8-11	3/8	Z1701
7/8	1	5/8-11	5/8	Z1702
	1-1/2	5/8-11	3/4	Z1703
7/8	1-3/4	5/8-11	3/4	Z1704
	2	5/8-11	3/4	Z1705
	2-1/2	5/8-11	3/4	Z1706
	3	5/8-11	3/4	Z1707

*Thru Hole Allowed



Socket Drive Screws

Thread Size	Overall Length	Thread Length	Head Dia.	Head Height	Drive Size	Part Number
10-24	3/8	5/32	33/64	11/64	5/32	Z1730
	5/8	25/64	33/64	11/64	5/32	Z1732
	1	49/64	33/64	11/64	5/32	Z1734
1/4-20	27/64	3/16	3/4	15/64	7/32	Z1735
	3/4	7/16	3/4	15/64	7/32	Z1736
3/8-16	7/16	3/16	7/8	1/4	5/16	Z1737
	3/4	3/8	7/8	1/4	5/16	Z1738
	1-1/4	7/8	7/8	1/4	5/16	Z1740
	1-3/4	1	7/8	1/4	5/16	Z1742
3/8-16	1-3/4	1-1/2	7/8	1/4	5/16	Z1743
1/2-13	1/2	1/4	1	1/4	3/8	Z1795
	3/4	3/8	1	1/4	3/8	Z1744
	1-1/4	7/8	1	1/4	3/8	Z1746
	1-3/4	1	1	1/4	3/8	Z1748
5/8-11	1/2	1/4	1-1/8	1/4	3/8	Z1749
	3/4	3/8	1-1/8	1/4	3/8	Z1750
	1-1/4	7/8	1-1/8	1/4	3/8	Z1752
	1-3/4	1	1-1/8	1/4	3/8	Z1754
5/8-11	1/2	1/4	1-1/4	1/4	1/2	Z1755
	3/4	3/8	1-1/4	1/4	1/2	Z1756
	1-1/4	7/8	1-1/4	1/4	1/2	Z1758
	1-3/4	1	1-1/4	1/4	1/2	Z1760

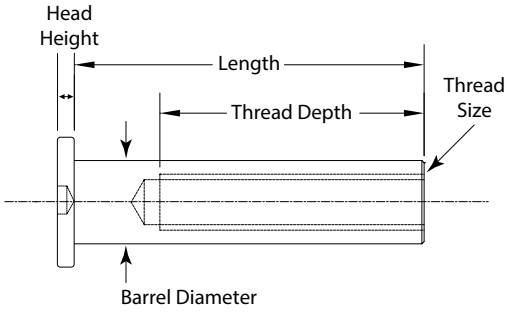
Low Profile Head Socket Drive Posts (Architect Designed)

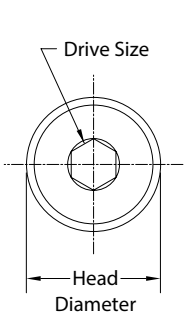
MADE IN THE USA

This line of matched head mating fasteners was developed for an Architect who required specific holding parameters in a low-profile head that would blend into the project design. The heads of these low-profile barrel posts are ideal in applications where material to be fastened is too thin to countersink; not allowing the use of countersunk screws. The large diameter heads of the low-profile barrel posts were engineered to spread the load across a wide surface to provide greater holding power in thinner material applications. When looking for a mating fastener that can be more concealed than button and flat head style fasteners, low-profile head socket drive barrel posts offer a sleek, unobtrusive and polished finish for any design.

Materials and finishes offered in:

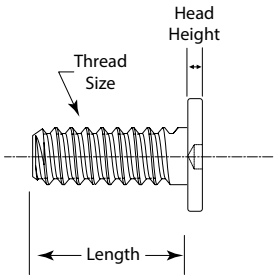
- 316 Stainless Steel | Plain Finish

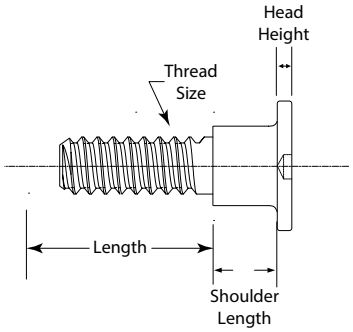


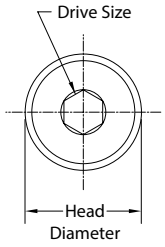




Low Profile Barrel Post









Low Profile Screw

Low Profile Shoulder Screw



Cummins Indy Distribution Headquarters building in Indianapolis using AMPG's low profile sex bolts in its architecture.

Low Profile Head Socket Drive Barrels — Inch

MADE IN THE USA

316 SS | Plain Finish



Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	Drive Size	Part Number
	3/8	10-24	3/16	9/16	3/32	5/32	Z1508
1/4	1/2	10-24	5/16	9/16	3/32	5/32	Z1510
	3/4	10-24	3/8	9/16	3/32	5/32	Z1512
	1	10-24	3/8	9/16	3/32	5/32	Z1514
1/4	1-1/4	10-24	3/8	9/16	3/32	5/32	Z1516
	1/2	1/4-20	Thru	25/32	3/32	7/32	Z1518
3/8	3/4	1/4-20	3/8	25/32	3/32	7/32	Z1520
	1	1/4-20	3/8	25/32	3/32	7/32	Z1522
	1/2	3/8-16	Thru	1	3/32	1/4	Z1524
1/2	3/4	3/8-16	3/8	1	3/32	1/4	Z1526
	1	3/8-16	3/8	1	3/32	1/4	Z1528
	1-1/2	3/8-16	3/8	1	3/32	1/4	Z1530
	1-3/4	3/8-16	3/8	1	3/32	1/4	Z1532
1/2	2	3/8-16	3/8	1	3/32	1/4	Z1534
	2-1/2	3/8-16	3/8	1	3/32	1/4	Z1536
	3	3/8-16	3/8	1	3/32	1/4	Z1538
5/8	3/4	1/2-13	7/16	1-1/8	1/8	3/8	Z1542
	1	1/2-13	5/8	1-1/8	1/8	3/8	Z1544
5/8	1-1/2	1/2-13	5/8	1-1/8	1/8	3/8	Z1546
	1-3/4	1/2-13	5/8	1-1/8	1/8	3/8	Z1548
	2	1/2-13	5/8	1-1/8	1/8	3/8	Z1550
5/8	2-1/2	1/2-13	5/8	1-1/8	1/8	3/8	Z1552
	3	1/2-13	5/8	1-1/8	1/8	3/8	Z1554
3/4	3/4	5/8-11	7/16	1-3/8	1/8	3/8	Z1558
	1	5/8-11	3/4	1-3/8	1/8	3/8	Z1560
3/4	1-1/2	5/8-11	3/4	1-3/8	1/8	3/8	Z1562
	1-3/4	5/8-11	3/4	1-3/8	1/8	3/8	Z1564
	2	5/8-11	3/4	1-3/8	1/8	3/8	Z1566
3/4	2-1/2	5/8-11	3/4	1-3/8	1/8	3/8	Z1568
	3	5/8-11	3/4	1-3/8	1/8	3/8	Z1570
7/8	3/4	5/8-11	7/16	1-1/2	1/8	1/2	Z1574
	1	5/8-11	3/4	1-1/2	1/8	1/2	Z1576
7/8	1-1/2	5/8-11	3/4	1-1/2	1/8	1/2	Z1578
	1-3/4	5/8-11	3/4	1-1/2	1/8	1/2	Z1580
	2	5/8-11	3/4	1-1/2	1/8	1/2	Z1582
7/8	2-1/2	5/8-11	3/4	1-1/2	1/8	1/2	Z1584
	3	5/8-11	3/4	1-1/2	1/8	1/2	Z1586

316 SS

Low Profile Head Socket Drive Screws — Inch

MADE IN THE USA





316 SS | Plain Finish

Shoulder Diameter	Length Under Head	Shoulder Length	Thread Size	Thread Length	Head Diameter	Head Height	Drive Size	Part Number
	3/16	NONE	10-24	3/16	9/16	3/32	5/32	Z1899
	1/4	NONE	10-24	1/4	9/16	3/32	5/32	Z1900
1/4	3/8	NONE	10-24	3/8	9/16	3/32	5/32	Z1901
	1/2	1/4	10-24	1/4	9/16	3/32	5/32	Z1902
1/4	1	1/2	10-24	1/2	9/16	3/32	5/32	Z1904
	3/8	NONE	1/4-20	3/8	25/32	3/32	7/32	Z1906
	5/8	1/4	1/4-20	3/8	25/32	3/32	7/32	Z1907
3/8	3/4	1/4	1/4-20	1/2	25/32	3/32	7/32	Z1908
	7/8	1/2	1/4-20	3/8	25/32	3/32	7/32	Z1909
3/8	1	1/2	1/4-20	1/2	25/32	3/32	7/32	Z1910
	3/8	NONE	3/8-16	3/8	1	3/32	1/4	Z1911
	1/2	NONE	3/8-16	1/2	1	3/32	1/4	Z1912
1/2	7/8	1/2	3/8-16	3/8	1	3/32	1/4	Z1913
	1	1/2	3/8-16	1/2	1	3/32	1/4	Z1914
	1-3/8	1	3/8-16	3/8	1	3/32	1/4	Z1915
	1-1/2	1	3/8-16	1/2	1	3/32	1/4	Z1916
1/2	1-7/8	1-1/2	3/8-16	3/8	1	3/32	1/4	Z1917
	2	1-1/2	3/8-16	1/2	1	3/32	1/4	Z1918
	3/8	NONE	1/2-13	3/8	1-1/8	1/8	3/8	Z1919
	1/2	NONE	1/2-13	1/2	1-1/8	1/8	3/8	Z1920
5/8	7/8	1/2	1/2-13	3/8	1-1/8	1/8	3/8	Z1921
	1	1/2	1/2-13	1/2	1-1/8	1/8	3/8	Z1922
	1-3/8	1	1/2-13	3/8	1-1/8	1/8	3/8	Z1923
	1-1/2	1	1/2-13	1/2	1-1/8	1/8	3/8	Z1924
5/8	1-7/8	1-1/2	1/2-13	3/8	1-1/8	1/8	3/8	Z1925
	2	1-1/2	1/2-13	1/2	1-1/8	1/8	3/8	Z1926
	3/8	NONE	5/8-11	3/8	1-3/8	1/8	3/8	Z1927
	1/2	NONE	5/8-11	1/2	1-3/8	1/8	3/8	Z1928
3/4	7/8	1/2	5/8-11	3/8	1-3/8	1/8	3/8	Z1929
	1	1/2	5/8-11	1/2	1-3/8	1/8	3/8	Z1930
	1-3/8	1	5/8-11	3/8	1-3/8	1/8	3/8	Z1931
	1-1/2	1	5/8-11	1/2	1-3/8	1/8	3/8	Z1932
3/4	1-7/8	1-1/2	5/8-11	3/8	1-3/8	1/8	3/8	Z1933
	2	1-1/2	5/8-11	1/2	1-3/8	1/8	3/8	Z1934
	3/8	NONE	5/8-11	3/8	1-1/2	1/8	3/8	Z1935
	1/2	NONE	5/8-11	1/2	1-1/2	1/8	3/8	Z1936
7/8	7/8	1/2	5/8-11	3/8	1-1/2	1/8	3/8	Z1937
	1	1/2	5/8-11	1/2	1-1/2	1/8	3/8	Z1938
	1-3/8	1	5/8-11	3/8	1-1/2	1/8	3/8	Z1939
	1-1/2	1	5/8-11	1/2	1-1/2	1/8	3/8	Z1940
7/8	1-7/8	1-1/2	5/8-11	3/8	1-1/2	1/8	3/8	Z1941
	2	1-1/2	5/8-11	1/2	1-1/2	1/8	3/8	Z1942

Low Profile Head Socket Drive Sets — Inch

316 SS | Plain Finish



Binding Post Sets

Barrel					Screw			Set				
Barrel Dia	For Material Thickness (min, max)	Barrel Length	Thread Depth	Barrel P/N	Screw Thread	Shoulder Length	Screw P/N	Thread Size	Head Diameter	Head Height	Drive Size	316 SS Set Part Number
	1/2 to 5/8	1/2	5/16	Z1510*	1/4	NONE	Z1900	10-24	9/16	3/32	5/32	ZG25008-LP*
	3/4 to 7/8	1/2	5/16	Z1510*	1/2	1/4	Z1902	10-24	9/16	3/32	5/32	ZG25012-LP*
1/4												
	1 to 1-1/8	3/4	3/8	Z1512	1/2	1/4	Z1902	10-24	9/16	3/32	5/32	ZG25016-LP
	1-1/4 to 1-3/8	1	3/8	Z1514	1/2	1/4	Z1902	10-24	9/16	3/32	5/32	ZG25020-LP
1/4	1-1/2 to 1-5/8	1-1/4	3/8	Z1516	1/2	1/4	Z1902	10-24	9/16	3/32	5/32	ZG25024-LP
	1/2 to 3/4	1/2	3/8	Z1518*	3/8	NONE	Z1906	1/4-20	25/32	3/32	7/32	ZG37508-LP*
	3/4 to 1	3/4	3/8	Z1520	3/8	NONE	Z1906	1/4-20	25/32	3/32	7/32	ZG37512-LP
3/8												
	1 to 1-1/4	1	3/8	Z1522	3/8	NONE	Z1906	1/4-20	25/32	3/32	7/32	ZG37516-LP
	1-3/8 to 1-5/8	1	3/8	Z1522	1/2	1/4	Z1908	1/4-20	25/32	3/32	7/32	ZG37520-LP
3/8	1-5/8 to 1-7/8	1	3/8	Z1522	1	1/2	Z1910	1/4-20	25/32	3/32	7/32	ZG37524-LP
	5/8 to 7/8	1/2	3/8	Z1524*	1/2	NONE	Z1912	3/8-16	1	3/32	1/4	ZG50008-LP*
	1-1/8 to 1-1/4	1	3/8	Z1528	1/2	NONE	Z1912	3/8-16	1	3/32	1/4	ZG50012-LP
1/2												
	1-3/4 to 1-7/8	1-3/4	3/8	Z1532	1/2	NONE	Z1912	3/8-16	1	3/32	1/4	ZG50016-LP
	2-1/4 to 2-3/8	1-3/4	3/8	Z1532	1/2	1/2	Z1914	3/8-16	1	3/32	1/4	ZG50024-LP
1/2	2-1/8 to 2-3/8	2	3/8	Z1534	1/2	1/2	Z1914	3/8-16	1	3/32	1/4	ZG50032-LP

*Tapped Thru Head

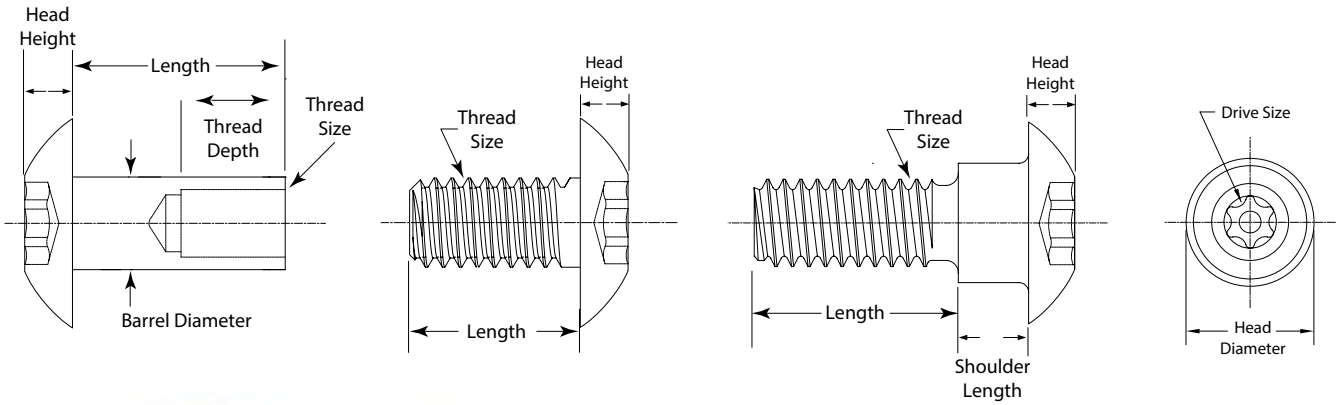
6-Lobe with Pin Tamper Resistant Barrels & Screws

Binding Barrels and Screws are known by many names: Mating Fasteners, Architectural Screws, Binding Screws, Binding Bolts, Binding Posts, Chicago Screws, Male & Female Bolts, Post & Screw, Sex Bolts and Threaded Rivets. A binding barrel and screw are designed to clamp material between the head of the barrel and the head of the screw, or to bridge the gap between two parts, like going through a hollow door.

AMPG has developed a line of tamper-resistant barrels and screws. These mating fasteners consist of a female threaded barrel & a complementary threaded screw. Both the barrel and screw have identical truss heads with 6-Lobe pin-in-head tamper-resistant drives. A truss head distributes holding pressure to reduce the likelihood of crushing thin and softer materials and provides more bearing surface for improved holding power. Barrel lengths are measured from under the head to end of barrel. Male screws are available with or without shoulders. Available in Inch and Metric sizes.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain Finish







6-Lobe with Pin Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
1/4	10-24	7/16	1/8	T20
5/16	1/4-20	9/16	5/32	T27
1/2	3/8-16	7/8	1/4	T40
5/8	1/2-13	1	5/16	T45
3/4	5/8-11	1-1/8	3/8	T45
7/8	3/4-10	1-1/4	1/2	T45

6-Lobe with Pin Dimensions — Metric

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
6.00	M4 x 0.7	10.50	4.00	T20
8.00	M6 x 1	17.50	4.00	T27

6-Lobe with Pin Tamper Resistant Barrels & Screws — Inch

18-8 SS | Passivated (Imported), Plain Finish (USA-made)



6-Lobe with Pin Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Drive Size	Part Number
1/4	3/8	10-24	1/4	T20	Z4406T6S*
	1/2	10-24	1/4	T20	Z4408T6S*
	5/8	10-24	1/4	T20	Z4410T6S*
	3/4	10-24	3/8	T20	Z4412T6S*
1/4	1	10-24	3/8	T20	Z4416T6S*
	1-1/4	10-24	3/8	T20	Z4420T6S*
	1-1/2	10-24	3/8	T20	Z4424T6S*
	2	10-24	3/8	T20	Z4432T6S*
5/16	1/2	1/4-20	3/8	T27	Z4443T6S*
	3/4	1/4-20	1/2	T27	Z4444T6S*
	1	1/4-20	1/2	T27	Z4446T6S*
	1-1/4	1/4-20	3/8	T27	Z4448T6S*
5/16	1-1/2	1/4-20	1/2	T27	Z4449T6S*
1/2	1/2	3/8-16	5/16	T40	Z4900T6S
	3/4	3/8-16	7/16	T40	Z4901T6S
	1	3/8-16	5/8	T40	Z4902T6S
	1-1/2	3/8-16	5/8	T40	Z4903T6S
1/2	2	3/8-16	5/8	T40	Z4904T6S
5/8	1/2	1/2-13	5/16	T40	Z4906T6S
	3/4	1/2-13	7/16	T40	Z4907T6S
	1	1/2-13	5/8	T40	Z4908T6S
	1-1/2	1/2-13	5/8	T40	Z4909T6S
5/8	2	1/2-13	5/8	T40	Z4910T6S
3/4	1/2	5/8-11	5/16	T45	Z4912T6S
	3/4	5/8-11	7/16	T45	Z4913T6S
	1	5/8-11	3/4	T45	Z4914T6S
3/4	1-1/2	5/8-11	3/4	T45	Z4915T6S
	2	5/8-11	3/4	T45	Z4916T6S
7/8	1/2	3/4-10	5/16	T45	Z4918T6S
	3/4	3/4-10	7/16	T45	Z4919T6S
	1	3/4-10	3/4	T45	Z4920T6S
	1-1/2	3/4-10	3/4	T45	Z4921T6S
7/8	2	3/4-10	3/4	T45	Z4922T6S

*Imported, Passivated Finish

6-Lobe with Pin Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
1/4	10-24	7/16	1/8	T20
5/16	1/4-20	9/16	5/32	T27
1/2	3/8-16	7/8	1/4	T40
5/8	1/2-13	1	5/16	T45
3/4	5/8-11	1-1/8	3/8	T45
7/8	3/4-10	1-1/4	1/2	T45



6-Lobe with Pin Screws

Screw Size	Drive Size	Part Number
10-24 x 1/4	T20	Z4580SS*
10-24 x 1/2	T20	Z4582SS*
10-24 x 1	T20	Z4588SS*
1/4-20 x 1/4	T27	Z4591SS*
1/4-20 x 3/8	T27	Z4590SS*
1/4-20 x 1/2	T27	Z4592SS
3/8-16 x 3/4	T40	Z4925SS
3/8-16 x 1-1/2	T40	Z4926SS
1/2-13 x 3/4	T40	Z4928SS
1/2-13 x 1-1/2	T40	Z4929SS
5/8-11 x 3/4	T45	Z4931SS
5/8-11 x 1-1/2	T45	Z4932SS
3/4-10 x 3/4	T45	Z4934SS
3/4-10 x 1-1/2	T45	Z4935SS

Sex Bolts

For technical drawings and charts, please see page A-28

18-8 SS

6-Lobe with Pin Tamper Resistant Barrels & Screws — Inch

MADE IN THE USA

IMPORT

18-8 SS | Passivated (Imported), Plain Finish (USA-made)



6-Lobe with Pin Shoulder Screws

Screw Size	Shoulder Length	Shoulder Diameter	Drive Size	Part Number
10-24 x 1/4	1/8	1/4	T20	Z4581SS*
	1/4	1/4	T20	Z4583SS*
10-24 x 3/8	1/4	1/4	T20	Z4584SS*
	1/4	1/4	T20	Z4585SS*
10-24 x 7/8	1/4	1/4	T20	Z4586SS*
1/4-20 x 1/4	1/4	5/16	T27	Z4593SS*
1/4-20 x 3/8	1/8	5/16	T27	Z4597SS*
	1/4	5/16	T27	Z4594SS*
1/4-20 x 5/8	1/4	5/16	T27	Z4595SS*
1/4-20 x 7/8	1/4	5/16	T27	Z4596SS*
3/8-16 x 3/4	1/4	1/2	T40	Z4938SS
3/8-16 x 1-1/2	1/4	1/2	T40	Z4940SS
1/2-13 x 3/4	1/4	5/8	T40	Z4945SS
1/2-13 x 1-1/2	1/4	5/8	T40	Z4947SS
5/8-11 x 3/4	1/4	3/4	T45	Z4950SS
5/8-11 x 1-1/2	1/4	3/4	T45	Z4952SS
3/4-10 x 3/4	1/4	7/8	T45	Z4955SS
3/4-10 x 1-1/2	1/4	7/8	T45	Z4957SS

*Imported, Passivated Finish

6-Lobe with Pin Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
1/4	10-24	7/16	1/8	T20
5/16	1/4-20	9/16	5/32	T27
1/2	3/8-16	7/8	1/4	T40
5/8	1/2-13	1	5/16	T45
3/4	5/8-11	1-1/8	3/8	T45
7/8	3/4-10	1-1/4	1/2	T45



IMPORT

6-Lobe with Pin Sets

Grip Range	Female Barrel Lg	Barrel P/N	Screw Size	Screw P/N	Set Part Number
3/8 to 1/2	3/8	Z4406T6S	10-24 x 1/4	Z4580SS	Z4406T6S-PAK*
1/2 to 5/8	1/2	Z4408T6S	10-24 x 1/4	Z4580SS	Z4408T6S-PAK*
5/8 to 3/4	5/8	Z4410T6S	10-24 x 1/4	Z4580SS	Z4410T6S-PAK*
3/4 to 7/8	3/4	Z4412T6S	10-24 x 1/4	Z4580SS	Z4412T6S-PAK*
1 to 1-1/8	1	Z4416T6S	10-24 x 1/4	Z4580SS	Z4416T6S-PAK*
1-1/4 to 1-3/8	1-1/4	Z4420T6S	10-24 x 1/4	Z4580SS	Z4420T6S-PAK*
1-1/2 to 1-5/8	1-1/2	Z4424T6S	10-24 x 1/4	Z4580SS	Z4424T6S-PAK*
2 to 2-1/8	2	Z4432T6S	10-24 x 1/4	Z4580SS	Z4432T6S-PAK*
1/2 to 5/8	1/2	Z4443T6S	1/4-20 x 1/4	Z4591SS	Z4443T6S-PAK*
3/4 to 1	3/4	Z4444T6S	1/4-20 x 3/8	Z4590SS	Z4444T6S-PAK*
1 to 1-1/4	1	Z4446T6S	1/4-20 x 3/8	Z4590SS	Z4446T6S-PAK*
5/8 to 3/4	1/2	Z4443T6S	1/4-20 x 3/8	Z4597SS	Z4447T6S-PAK*
1-1/4 to 1-1/2	1-1/4	Z4448T6S	1/4-20 x 3/8	Z4590SS	Z4448T6S-PAK*
7/8 to 1	3/4	Z4444T6S	1/4-20 x 3/8	Z4597SS	Z4449T6S-PAK*
1-1/2 to 1-5/8	1-1/4	Z4448T6S	1/4-20 x 1/4	Z4593SS	Z4450T6S-PAK*

Tamper Resistant Bit & Key — Inch

IMPORT

Steel | Plain Finish

6-Lobe with Pin Key



Drive Size	Part Number
T20	KEYT20
T27	KEYT27
T40	KEYT40
T45	KEYT45

6-Lobe with Pin Bit



Drive Size	Hex Size	Part Number
T20	1/4	BITT20
T27		BITT27
T40		BITT40
T45		BITT45

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN INDIANA

6-Lobe with Pin Tamper Resistant Barrels & Screws — Metric

MADE IN THE USA

IMPORT

18-8 SS | Plain Finish



6-Lobe with Pin Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Drive Size	Part Number
6.00	10.00	M4 x 0.7	7.50	T20	Z1300M
6.00	12.00	M4 x 0.7	7.50	T20	Z1302M
6.00	20.00	M4 x 0.7	9.50	T20	Z1306M
6.00	40.00	M4 x 0.7	9.50	T20	Z1312M
8.00	12.00	M6 x 1	7.50	T27	Z1316M
8.00	20.00	M6 x 1	9.50	T27	Z1320M
8.00	30.00	M6 x 1	9.50	T27	Z1324M



6-Lobe with Pin Sets

Grip Range	Female Barrel Lg	Thread Size	Drive Size	Set Part Number
10 to 12mm	10.00	M4 x 0.7	T20	Z1300MPAK
12 to 14mm	12.00	M4 x 0.7	T20	Z1302MPAK
16 to 18mm	12.00	M4 x 0.7	T20	Z1304MPAK
20 to 22mm	20.00	M4 x 0.7	T20	Z1306MPAK
25 to 27mm	20.00	M4 x 0.7	T20	Z1308MPAK
30 to 32mm	20.00	M4 x 0.7	T20	Z1310MPAK
40 to 42mm	40.00	M4 x 0.7	T20	Z1312MPAK
50 to 52mm	40.00	M4 x 0.7	T20	Z1314MPAK
12 to 14mm	12.00	M6 x 1	T27	Z1316MPAK
16 to 18mm	12.00	M6 x 1	T27	Z1318MPAK
20 to 22mm	20.00	M6 x 1	T27	Z1320MPAK
25 to 27mm	20.00	M6 x 1	T27	Z1322MPAK
30 to 32mm	30.00	M6 x 1	T27	Z1324MPAK
40 to 42mm	30.00	M6 x 1	T27	Z1326MPAK

6-Lobe with Pin Dimensions — Metric

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
6.00	M4 x 0.7	10.50	4.00	T20
8.00	M6 x 1	17.50	4.00	T27

6-Lobe with Pin Screws



Screw Size	Drive Size	Part Number
M4 x 6 x 0.7	T20	Z1560M
M4 x 8 x 0.7	T20	Z1570M
M6 x 6 x 1	T27	Z1580M
M6 x 8 x 1	T27	Z1590M

6-Lobe with Pin Shoulder Screws



Screw Size	Shoulder Length	Shoulder Dia.	Drive Size	Part Number
M4 x 0.7 x 6	4.00	6.00	T20	Z1500M
M4 x 0.7 x 8	5.00	6.00	T20	Z1510M
M4 x 0.7 x 8	10.00	6.00	T20	Z1520M
M6 x 1 x 6	4.00	8.00	T27	Z1530M
M6 x 1 x 8	5.00	8.00	T27	Z1540M
M6 x 1 x 8	10.00	8.00	T27	Z1550M

6-Lobe with Pin Key



Drive Size	Steel Part Number
T20	KEYT20
T27	KEYT27
T40	KEYT40
T45	KEYT45

6-Lobe with Pin Bit

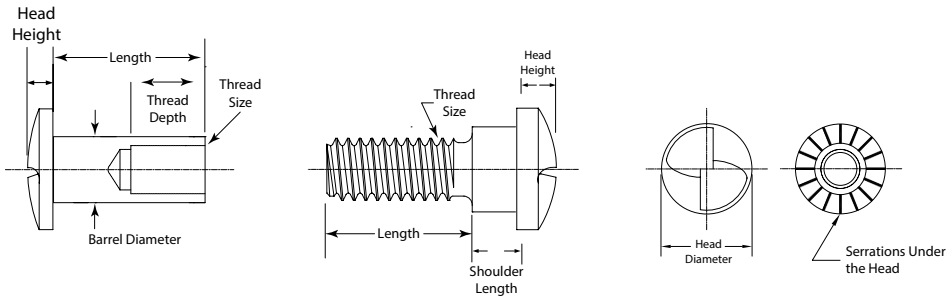


Drive Size	Hex Size	Steel Part Number
T20	1/4	BITT20
T27	1/4	BITT27
T40	1/4	BITT40
T45	1/4	BITT45

One-Way Tamper Resistant Barrels & Screws

These one-way, slotted drive head sets are the standard for "off the shelf" Sex Bolts and mating parts. Standard fastener items for joining bathroom partitions and fixtures, license plate frames, and other secure installations. The slotted drive head is designed to instantly cause cam-out if the driver is turned in the wrong direction. Used for long-lasting applications since they are difficult to remove.

Materials and finishes offered in:
- 18-8 Stainless Steel | Plain Finish

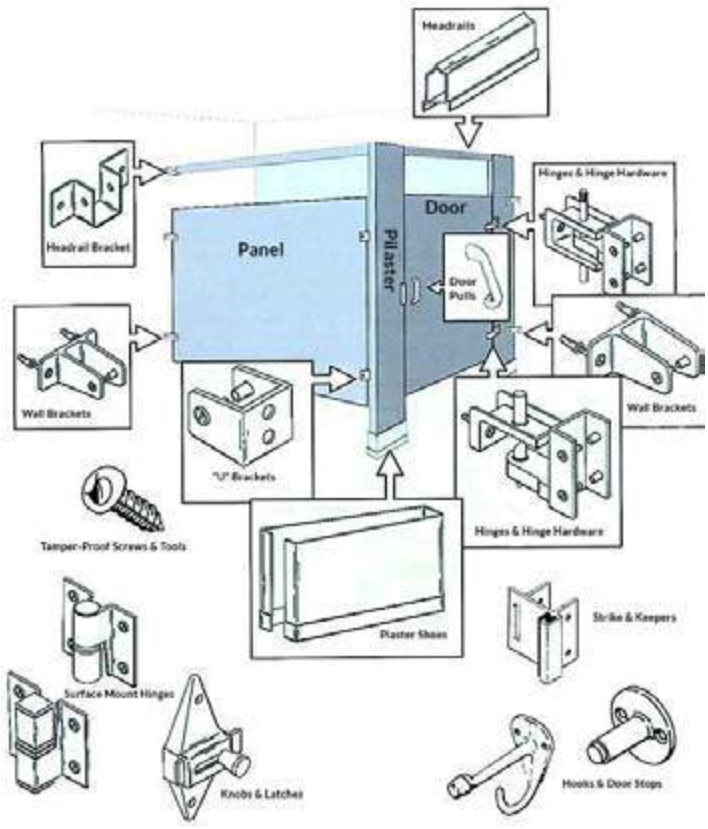


Common Partition Sizes (Inch)

Door Thickness	Part Numbers
1/2	(1) Z4378 and (1) Z4379
1	(1) Z4384 and (1) Z4381
1-1/4	(1) Z4384 and (1) Z4382

One-Way Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
1/4	10-24	7/16	7/64	One-Way







AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN INDIANA

One-Way Tamper Resistant Barrels & Screws — Inch

IMPORT

18-8 SS | Plain Finish, Black Oxide Finish

Tamper Resistant Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
1/4	10-24	7/16	7/64	One-Way







Tamper Resistant Barrels

Barrel Diameter	Barrel Length	Thread Depth	18-8 SS Part Number
1/4	1/4	3/16	Z4376
	5/8	11/32	Z4379
	3/8	3/8	Z4380
	1/2	9/16	Z4377
1/4	3/4	5/8	Z4381
	1	7/8	Z4382

Tamper Resistant Screws

Screw Size	Thread Length	Shoulder Length	Shoulder Diameter	Total Lg Under Head	18-8 SS Part Number	18-8 SS Black Ox. Part Number
10-24 x 1/4	1/4	1/8	1/4	3/8	Z4378	Z4378-BK
10-24 x 3/8	3/8	1/8	1/4	1/2	Z4383	–
10-24 x 7/32	7/32	1/4	1/4	15/32	Z4375	Z4375-BK
10-24 x 11/32	11/32	1/4	1/4	19/32	Z4388	Z4388-BK
10-24 x 1/2	1/2	1/4	1/4	3/4	Z4384	Z4384-BK
10-24 x 5/8	5/8	1/4	1/4	7/8	Z4390	Z4390-BK
10-24 x 11/16	11/16	1/4	1/4	15/16	Z4385	Z4385-BK
10-24 x 15/16	15/16	1/4	1/4	1-3/16	Z4386	Z4386-BK
10-24 x 1-1/16	1-1/16	1/4	1/4	1-5/16	Z4387	Z4387-BK

Tamper Resistant Kit — Inch



MADE IN THE USA

IMPORT

18-8 SS Part Number
Z4401-KIT

- (10) Male and Female 1/2" Grip Range by 1/4 Shoulder Dia.
- (10) Male and Female 3/4" Grip Range by 1/4 Shoulder Dia.
- (10) Male and Female 1" Grip Range by 1/4 Shoulder Dia.
- (10) Male and Female 1-1/4 Grip Range by 1/4 Shoulder Dia.
- (10) 3/16 Combo Barrel Dia x 3/8 Lg with 6-32 x 5/16 Mating Screw
- (10) 13/64 Combo Barrel Dia x 1/2 Lg with 6-32 x 5/16 Mating Screw
- (10) 13/64 Combo Barrel Dia x 1/2 Lg with 8-32 x 5/16 Mating Screw
- (5) 1/4 Combo Barrel Dia x 1 Lg with 10-24 x 5/16 Mating Screw
- (5) 3/8 Combo Barrel Dia x 1/2 Lg with 5/16-18 Threads and 5/16-18 x 5/16 Mating Screw
- (5) 5/16 Barrel x 1-3/16 Lg Binding Barrel and Screw
- (5) 3/8 Barrel x 1-9/16 Lg Architectural Binding Barrel and Screw
- (5) 3/8 Barrel x 2-1/16 Lg Architectural Binding Barrel and Screw

Sex Bolts

For technical drawings and charts, please see page A-32

One-Way Tamper Resistant Barrel & Screw Sets — Inch

IMPORT

18-8 SS | Plain Finish, Black Oxide



Barrel and Screw Sets

Barrel					Screw			Set				
Barrel Dia.	For Material Thickness (min, max)	Barrel Length	Thread Depth	Barrel Part Number	Thread Length	Thread Length (with shoulder)	Screw Part Number	Thread Size	Head Dia.	Head Height	Qty	18-8 SS Set Part Number
1/4	1/2 to 5/8	1/4	7/32	Z4376	7/32	15/32	Z4375	10-24	7/16	7/64	5	Z4376SPAK
	7/8 to 1-1/8	5/8	9/16	Z4377	1/2	3/4	Z4384	10-24	7/16	7/64	5	Z4377SPAK
	1/2 to 5/8	3/8	5/16	Z4379	1/4	3/8	Z4378	10-24	7/16	7/64	10	Z4379PAK
	5/8 to 3/4	3/8	5/16	Z4379	7/32	15/32	Z4375	10-24	7/16	7/64	5	Z4379SPAK
1/4	5/8 to 3/4	1/2	3/8	Z4380	1/4	3/8	Z4378	10-24	7/16	7/64	5	Z4380LPAK
	3/4 to 7/8	1/2	3/8	Z4380	1/2	3/4	Z4384	10-24	7/16	7/64	10	Z4380PAK
	3/4 to 7/8	1/2	3/8	Z4380	7/32	15/32	Z4375	10-24	7/16	7/64	5	Z4380SPAK
	7/8 to 1-1/8	3/4	9/16	Z4381	3/8	1/2	Z4383	10-24	7/16	7/64	5	Z4381LPAK
1/4	1 to 1-3/8	3/4	9/16	Z4381	1/2	3/4	Z4384	10-24	7/16	7/64	10	Z4381PAK
	1-1/8 to 1-3/8	1	9/16	Z4382	3/8	1/2	Z4383	10-24	7/16	7/64	1	Z4382LPAK
	1-1/4 to 1-5/8	1	9/16	Z4382	1/2	3/4	Z4384	10-24	7/16	7/64	10	Z4382PAK
	1-1/4 to 1-3/4	1	9/16	Z4382	11/16	15/16	Z4385	10-24	7/16	7/64	5	Z4393PAK
1/4	1-1/4 to 1-7/8	1	9/16	Z4382	15/16	1-3/16	Z4386	10-24	7/16	7/64	5	Z4394PAK
	1-1/4 to 2	1	9/16	Z4382	1-1/16	1-5/16	Z4387	10-24	7/16	7/64	5	Z4395PAK



Barrel					Screw			Set				
Barrel Dia.	For Material Thickness (min, max)	Barrel Length	Thread Depth	Barrel Part Number	Thread Length	Thread Length (with shoulder)	Screw Part Number	Thread Size	Head Dia.	Head Height	Qty	18-8 SS, Blk Ox. Part Number
1/4	1/2 to 5/8	1/4	7/32	Z4376-BK	7/32	15/32	Z4375-BK	10-24	7/16	7/64	5	Z4376SPAK-B
	3/4 to 7/8	5/8	9/16	Z4377-BK	1/2	3/4	Z4384-BK	10-24	7/16	7/64	5	Z4377PAK-B
	7/8 to 1-1/8	3/8	5/16	Z4379-BK	1/4	3/8	Z4378-BK	10-24	7/16	7/64	10	Z4377SPAK-B
	1/2 to 5/8	3/8	5/16	Z4379-BK	7/32	15/32	Z4375-BK	10-24	7/16	7/64	5	Z4379PAK-B
1/4	5/8 to 3/4	1/2	3/8	Z4380-BK	1/4	3/8	Z4378-BK	10-24	7/16	7/64	5	Z4379SPAK-B
	5/8 to 3/4	1/2	3/8	Z4380-BK	1/2	3/4	Z4384-BK	10-24	7/16	7/64	10	Z4380LPAK-B
	3/4 to 7/8	1/2	3/8	Z4380-BK	7/32	15/32	Z4375-BK	10-24	7/16	7/64	5	Z4380SPAK-B
	7/8 to 1-1/8	3/4	9/16	Z4381-BK	3/8	1/2	Z4383-BK	10-24	7/16	7/64	5	Z4381LPAK-B
1/4	1 to 1-3/8	3/4	9/16	Z4381-BK	1/2	3/4	Z4384-BK	10-24	7/16	7/64	10	Z4381PAK-B
	1-1/8 to 1-3/8	1	9/16	Z4382-BK	3/8	1/2	Z4383-BK	10-24	7/16	7/64	1	Z4382LPAK-B
	1-1/4 to 1-5/8	1	9/16	Z4382-BK	1/2	3/4	Z4384-BK	10-24	7/16	7/64	10	Z4382PAK-B
	1-1/4 to 1-3/4	1	9/16	Z4382-BK	11/16	15/16	Z4385-BK	10-24	7/16	7/64	5	Z4393PAK-B
1/4	1-1/4 to 1-7/8	1	9/16	Z4382-BK	15/16	1-3/16	Z4386-BK	10-24	7/16	7/64	5	Z4394PAK-B
	1-1/4 to 2	1	9/16	Z4382-BK	1-1/16	1-5/16	Z4387-BK	10-24	7/16	7/64	5	Z4395PAK-B

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MADE IN INDIANA

Door Hardware Barrels (Architectural Series)

IMPORT MADE IN THE USA

Architectural Door Hardware Barrels have smooth Truss Heads — no drive. The knurled barrel keeps the barrel from spinning while the flat head screw is tightened from the other side. These parts are secure as there is no way to turn the barrel without a drive in the head.

Door Hardware Barrels have many applications but are most often used to attach door hardware (kickplates, panic bars, door closers, hinges) to doors. When used in a hollow door, they provide strength, security, and easy assembly from the other side.

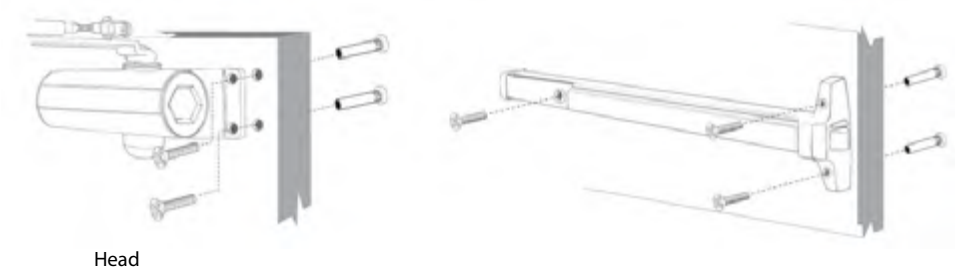
Mating screw is a Phillips flat head (82° countersunk) with material and finish to match the barrel. Priced by the set — (1) female sex bolt and (1) male Phillips flat head screw — or you can order only the female bolt.

Materials and finishes offered in:

- Aluminum | Plain Finish
- Steel | Plain Finish, Brass Plated, Zinc Plated, Chrome Plated
- 18-8 Stainless Steel | Plain Finish
- 316 Stainless Steel | Plain Finish
- Brass | Plain Finish, Dark Bronze Plated, and Chrome Plated

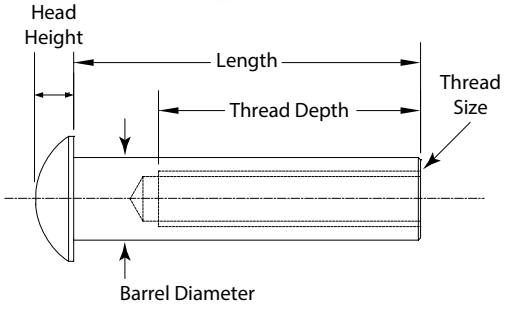
Door Hardware Dimensions — Inch

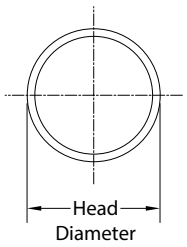
Barrel Dia.	Thread Size	Head Dia.	Head Height
1/4	8-32	1/2	1/8
5/16	10-32, 12-24	1/2	1/8
3/8	1/4-20	9/16	5/32
1/2	5/16-18, 3/8-16	3/4	3/16
5/8	1/2-13	1	1/4

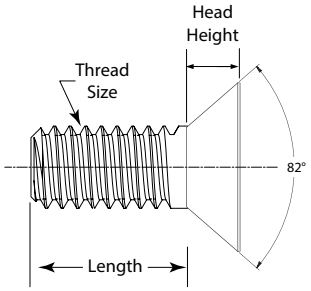


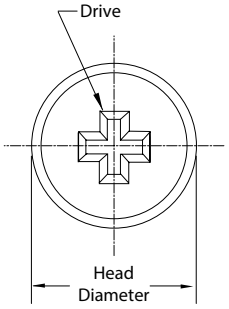
Common Door Sizes (Inch)

Door Thickness	Binding Barrel Length
1-3/8	1-3/16
1-3/4	1-9/16
2-1/4	2-1/16











Aluminum



Steel



18-8 SS



316 SS



Brass

Sex Bolts

For technical drawings and charts, please see page A-35

Aluminum, Steel

Door Hardware Barrels & Sets — Inch

MADE IN THE USA

Aluminum | Plain Finish

Door Hardware Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height
1/4	8-32	1/2	1/8
5/16	10-32, 12-24	1/2	1/8
3/8	1/4-20	9/16	5/32
1/2	5/16-18, 3/8-16	3/4	3/16
5/8	1/2-13	1	1/4



Door Hardware Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Aluminum Part Number
3/8	1-9/16	1/4-20	1	Z5218-1A
	1-11/16	1/4-20	3/4	Z5250-1



Door Hardware Sets

Barrel Diameter	Grip Range	Barrel Length	Thread Depth	Mating Screw	Aluminum Part Number
3/8	1-9/16	1-9/16	1	1/4-20 x 1	Z5218
	1-11/16	1-11/16	3/4	1/4-20 x 3/4	Z5250

Door Hardware Barrels & Sets — Inch

IMPORT

Steel | Plain Finish



Steel, Plain Finish



Steel, Zinc Plating



Steel, Chrome Plating



Steel, Brass Plating

Door Hardware Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Steel, Plain Part Number	Steel, Zinc Part Number	Steel, Chrome Part Number	Steel, Brass Part Number
	1-3/16		3/4	Z5214	–	–	–
3/8	1-7/8	1/4-20	3/4	–	Z5201	–	–
	1-9/16		1	Z5215-1A	Z5215-1E	Z5216-1E	Z5217-1E



Steel, Zinc Plating



Steel, Chrome Plating



Steel, Brass Plating

Door Hardware Sets

Grip Range (min to max)	Barrel Length	Mating Screw	Steel, Zinc Set Part Number	Steel, Chrome Set Part Number	Steel, Brass Set Part Number
1-3/4 - 2-3/16	1-9/16	1/4-20 x 1	Z5215	–	–
2-1/16 - 2-11/16	1-9/16	1/4-20 x 1-1/2	–	Z5216	
2-1/16 - 2-11/16	1-9/16	1/4-20 x 1-1/2	–	–	Z5217

Door Hardware Barrels & Sets — Inch

MADE IN THE USA

18-8 SS | Plain Finish

Door Hardware Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height
1/4	8-32	1/2	1/8
5/16	10-32, 12-24	1/2	1/8
3/8	1/4-20	9/16	5/32
1/2	5/16-18, 3/8-16	3/4	3/16
5/8	1/2-13	1	1/4



Door Hardware Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	18-8 SS Part Number
1/4	1-3/16	8-32	5/8	Z4876-1
	1-9/16	8-32	5/8	Z4886-1
	2	8-32	5/8	Z4889-1
	3	8-32	5/8	Z4890-1
5/16	1-3/16	10-32	3/4	Z5025-1
	1-9/16	10-32	3/4	Z5125-1
	2	10-32	3/4	Z5126-1
	3	10-32	3/4	Z5127-1
5/16	1-3/16	12-24	3/4	Z5128-1
	1-9/16	12-24	3/4	Z5129-1
	2-1/16	12-24	3/4	Z5130-1
3/8	3/4	1/4-20	1/2	Z5220-1
	1	1/4-20	5/8	Z5221-1
3/8	1-3/16	1/4-20	3/4	Z5222
	1-9/16	1/4-20	3/4	Z5225-1
	2-1/16	1/4-20	3/4	Z5325-1
	3	1/4-20	3/4	Z5326-1
3/8	4	1/4-20	3/4	Z5327-1
1/2	1-9/16	5/16-18	3/4	Z5234-1
	1-3/4	3/8-16	3/4	Z5235-1
	2-1/16	5/16-18	3/4	Z5425-1
	3	5/16-18	3/4	Z5426-1



Door Hardware Sets

Barrel Diameter	Grip Range (min to max)	Barrel Length	Mating Screw	18-8 SS Set Part Number
1/4	1-7/16 - 1-13/16	1-3/16	8-32 x 7/8	Z4876
	1-13/16 - 2-3/16	1-9/16	8-32 x 7/8	Z4886
	2-1/4 - 2-5/8	2	8-32 x 7/8	Z4889
	3-1/4 - 3-5/8	3	8-32 x 7/8	Z4890
5/16	1-7/16 - 1-29/32	1-3/16	10-32 x 1	Z5025
	1-13/16 - 2-9/32	1-9/16	10-32 x 1	Z5125
	2-1/4 - 2-23/32	2	10-32 x 1	Z5126
	3-1/4 - 3-23/32	3	10-32 x 1	Z5127
5/16	1-7/16 - 1-7/8	1-3/16	12-24 x 1	Z5128
	1-13/16 - 2-1/4	1-9/16	12-24 x 1	Z5129
	2-5/16 - 2-3/4	2-1/16	12-24 x 1	Z5130
3/8	3/4	3/4	1/4-20 x 1	Z5140
	1-3/16	1-3/16	1/4-20 x 1	Z5142
3/8	1-1/4 - 1-3/8	3/4	1/4-20 x 1	Z5220
	1-1/4 - 1-1/2	1	1/4-20 x 7/8	Z5221
	1-7/16 - 1-13/16	1-3/16	1/4-20 x 1	Z5142
	1-13/16 - 2-3/16	1-9/16	1/4-20 x 1	Z5225
3/8	2-5/16 - 2-11/16	2-1/16	1/4-20 x 1	Z5325
	3-3/4 - 4-1/8	3	1/4-20 x 1-1/2	Z5326
	4-3/4 - 5-1/8	4	1/4-20 x 1-1/2	Z5327
1/2	1-13/16 - 2-3/32	1-9/16	5/16-18 x 1	Z5234
	2 - 2-3/16	1-3/4	3/8-16 x 1	Z5235
	2-13/16 - 3-3/32	2-1/16	5/16-18 x 1-1/2	Z5425
	3-3/4 - 4-3/32	3	5/16-18 x 1-1/2	Z5426

Door Hardware Barrels & Sets — Inch

316 SS | Plain Finish

Door Hardware Dimensions — Inch

Barrel Dia.	Thread Size	Head Dia.	Head Height
1/4	8-32	1/2	1/8
5/16	10-32, 12-24	1/2	1/8
3/8	1/4-20	9/16	5/32
1/2	5/16-18, 3/8-16	3/4	3/16
5/8	1/2-13	1	1/4



Door Hardware Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	316 SS Part Number
1/4	1-3/16	8-32	5/8	Z4877
	1-9/16	8-32	5/8	Z4885
	2	8-32	5/8	Z4893
	3	8-32	5/8	Z4894
5/16	1-3/16	10-32	3/4	Z5024
	1-9/16	10-32	3/4	Z5124
	2	10-32	3/4	Z5131
	3	10-32	3/4	Z5132
3/8	3/4	1/4-20	1/2	Z5219
3/8	1	1/4-20	5/8	Z5223
3/8	1-3/16	1/4-20	3/4	Z5224
	1-9/16	1/4-20	3/4	Z5197-1
	2-1/16	1/4-20	3/4	Z5198-1
	3	1/4-20	3/4	Z5199-1
1/2	2-1/16	5/16-18	3/4	Z5206-1
	3	5/16-18	3/4	Z5207-1
5/8	3	1/2-13	1	Z5209-1



Door Hardware Sets

Barrel Diameter	Grip Range (min to max)	Barrel Length	Mating Screw	316 SS Set Part Number
1/4	1-5/16 to 1-11/16	1-3/16	8-32 x 3/4	Z5180
	1-11/16 to 2-1/16	1-9/16	8-32 x 3/4	Z5181
	2-1/8 to 2-1/2	2	8-32 x 3/4	Z5182
	3-1/8 to 3-1/2	3	8-32 x 3/4	Z5183
5/16	1-7/16 to 1-29/32	1-3/16	10-32 x 1	Z5190
	1-13/16 to 2-9/32	1-9/16	10-32 x 1	Z5191
	2-1/4 to 2-23/32	2	10-32 x 1	Z5192
	3-1/4 to 3-23/32	3	10-32 x 1	Z5193
3/8	15/16 to 1-1/16	3/4	1/4-20 x 1/2	Z5194
	1-13/64 to 1-1/8	1	1/4-20 x 1/2	Z5195
3/8	1-15/16 to 2-5/16	1-3/16	1/4-20 x 1-1/2	Z5196
	2-5/16 to 2-11/16	1-9/16	1/4-20 x 1-1/2	Z5197
	2-13/16 to 3-3/16	2-1/16	1/4-20 x 1-1/2	Z5198
	3-3/4 to 4-1/8	3	1/4-20 x 1-1/2	Z5199
1/2	2-5/16 to 2-19/32	2-1/16	5/16-18 x 1	Z5206
	3-1/4 to 3-17/32	3	5/16-18 x 1	Z5207

Door Hardware Barrels & Sets — Inch

MADE IN THE USA

Brass | Plain Finish



Brass, Plain



Brass, Chrome Plating



Brass, Bronze Plating

Door Hardware Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Brass, Plain Part Number	Brass, Chrome Part Number	Brass, Bronze Part Number
1/4	1-3/16	8-32	5/8	Z4870-1A	Z4870-1E	Z4874-1E
	1-9/16	8-32	5/8	Z4880-1A	Z4880-1E	Z4884-1E
	2	8-32	5/8	Z4887-1A	Z4887-1E	–
	3	8-32	5/8	Z4888-1A	Z4888-1E	–
5/16	1-3/16	10-32	3/4	Z5000-1A	Z5000-1E	Z5010-1E
	1-9/16	10-32	3/4	Z5100-1A	Z5100-1E	Z5110-1E
	2	10-32	3/4	Z5105-1A	Z5102-1E	–
	3	10-32	3/4	Z5103-1A	Z5103-1E	–
5/16	1-3/16	12-24	3/4	Z5115-1A	Z5115-1E	Z5117-1E
	1-9/16	12-24	3/4	Z5120-1A	Z5120-1E	Z5122-1E
	2-1/16	12-24	3/4	Z5315-1A	Z5315-1E	Z5317-1E
3/8	3/4	1/4-20	1/2	Z5155-1A	Z5155-1E	–
	1	1/4-20	5/8	Z5156-1	Z5151-1	–
	1-3/16	1/4-20	3/4	Z5157-1A	Z5157-1E	–
	1-9/16	1/4-20	1-1/4	Z5200-1A	Z5200-1E	Z5210-1E
3/8	2-1/16	1/4-20	1-1/4	Z5300-1A	Z5300-1E	Z5310-1E
	3	1/4-20	3/4	Z5301-1A	Z5301-1E	–
1/2	2-1/16	5/16-18	1-1/4	Z5400-1A	Z5400-1E	Z5410-1E
	3	5/16-18	3/4	Z5401-1A	Z5401-1E	–



Brass, Plain



Brass, Chrome Plating



Brass, Bronze Plating

Door Hardware Sets

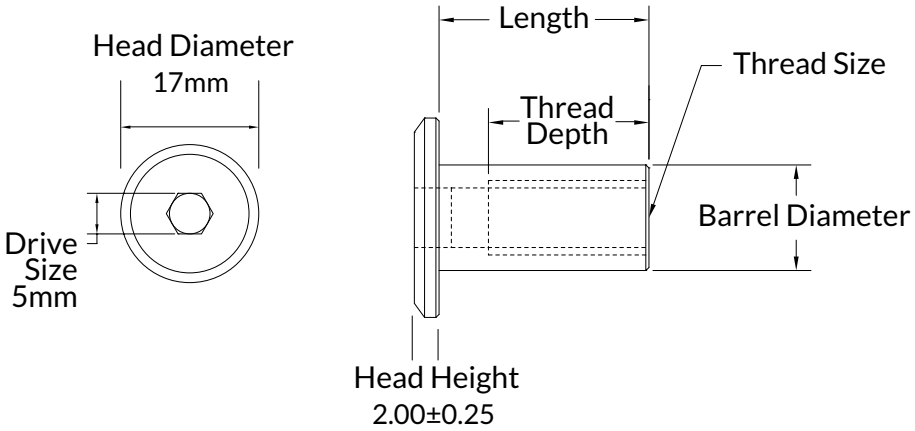
Barrel Diameter	Grip Range (min to max)	Barrel Length	Mating Screw	Brass, Plain Set Part Number	Brass, Chrome Set Part Number	Brass, Bronze Set Part Number
1/4	1-9/16 to 1-15/16	1-3/16	8-32 x 1	Z4872	Z4870	Z4874
	1-15/16 to 2-5/16	1-9/16	8-32 x 1	Z4882	Z4880	Z4884
	2-3/8 to 2-3/4	2	8-32 x 1	Z4891	Z4887	–
	3-3/8 to 3-3/4	3	8-32 x 1	Z4892	Z4888	–
5/16	1-7/16 to 1-29/32	1-3/16	10-32 x 1	Z5005	Z5000	Z5010
	1-13/16 to 2-9/32	1-9/16	10-32 x 1	Z5105	Z5100	Z5110
	2-1/4 to 2-23/32	2	10-32 x 1	Z5101	Z5102	–
	3-1/4 to 3-11/16	3	10-32 x 1	Z5104	Z5103	–
5/16	1-7/16 to 1-7/8	1-3/16	12-24 x 1	Z5116	Z5115	Z5117
	1-13/16 to 2-1/4	1-9/16	12-24 x 1	Z5121	Z5120	Z5122
	2-5/16 to 2-3/4	2-1/16	12-24 x 1	Z5316	Z5315	Z5317
3/8	15/16 to 1-1/16	3/4	1/4-20 x 1/2	Z5155	Z5150	–
	1-13/64 to 1-21/64	1	1/4-20 x 1/2	Z5156	Z5151	–
3/8	1-15/16 to 2-5/16	1-3/16	1/4-20 x 1-1/2	Z5157	Z5152	–
	1-13/16 to 2-11/16	1-9/16	1/4-20 x 1-1/2	Z5205	Z5200	Z5210
	2-5/16 to 3-3/16	2-1/16	1/4-20 x 1-1/2	Z5305	Z5300	Z5310
	3-3/4 to 4-1/8	3	1/4-20 x 1-1/2	Z5302	Z5301	–
1/2	2-5/16 to 3-3/32	2-1/16	5/16-18 x 1-1/2	Z5405	Z5400	Z5410
	3-3/4 to 4-3/32	3	5/16-18 x 1-1/2	Z5402	Z5401	–

Furniture Hardware (Connector Nuts and Bolts) IMPORT

Furniture Nuts and Bolts are used for joining any two parts or pieces together, with a finished appearance. Most commonly used to join panels together, such as cabinets, bookcases, and other furniture fixtures. The hex drive allows maximum leverage and force to be applied to the connection. These fasteners have a low profile and beveled edges on the exposed head, presenting a decorative and finished look.

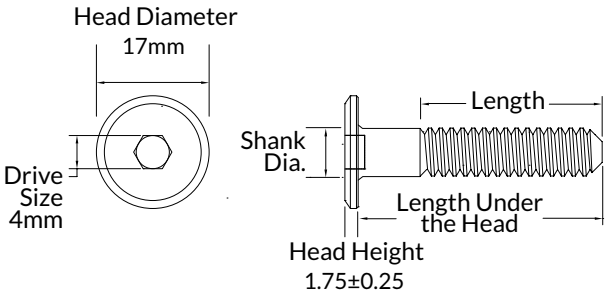
Materials and finishes offered in:
- Steel | Plain Finish, Brass, Black Oxide, Bronze, Nickel and Zinc Plating

Barrel

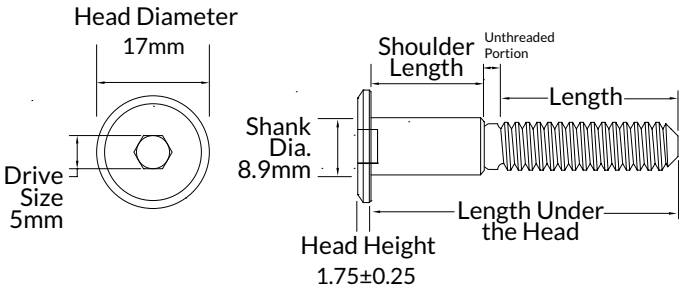


Screws

No Shoulder



With Shoulder



Furniture Post Shoulder Screws have an unthreaded portion under the shoulder.

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ISO 9001:2015
MADE IN INDIANA

Furniture Barrels (Connector Nuts) — Inch/Metric


Steel, Plain


Steel, Brass


Steel, Black Oxide


Steel, Dark Bronze


Steel, Nickel


Steel, Zinc

Thread Size	Barrel Length	Thread Depth	Barrel Diameter	Steel, Plain Part Number	Steel, Brass Part Number	Steel, Bk-Oxide Part Number	Steel, Bronze Part Number	Steel, Nickel Part Number	Steel, Zinc Part Number
1/4-20	12mm (.472)	8mm (.315)	9mm (.354)	Z4452-A	Z4452-BR	Z4452-BX	Z4452-BZ	Z4452-NI	Z4452-ZN
1/4-20	17mm (.699)	13mm (.512)	9mm (.354)	Z4456-A	Z4456-BR	Z4456-BX	Z4456-BZ	Z4456-NI	Z4456-ZN
5/16-18	17mm (.699)	13mm (.512)	11mm (.433)	Z4460-A	Z4460-BR	Z4460-BX	Z4460-BZ	Z4460-NI	Z4460-ZN

Furniture Shoulder Screws — Inch/Metric

Note: Furniture Shoulder Screws have an unthreaded portion under the shoulder. See product line drawing on page A-40.


Steel, Plain


Steel, Brass


Steel, Black Oxide


Steel, Dark Bronze


Steel, Nickel


Steel, Zinc

Thread Size	Lg. Under Head	Thread Length	Shoulder Length	12mm Nut Grip Range	17mm Nut Grip Range	Steel, Plain Part Number	Steel, Brass Part Number	Steel, Bk-Ox. Part Number	Steel, Bronze Part Number	Steel, Nickel Part Number	Steel, Zinc Part Number
1/4-20	23mm (.906)	13mm (.512)	10mm (.394)	27 - 31mm	27 - 34mm	Z4467-A	Z4467-BR	Z4467-BX	Z4467-BZ	Z4467-NI	Z4467-ZN
	30mm (1.181)	20mm (.787)	10mm (.394)	34 - 38mm	34 - 41mm	Z4468-A	Z4468-BR	Z4468-BX	Z4468-BZ	Z4468-NI	Z4468-ZN
	35mm (1.378)	25mm (.984)	10mm (.394)	39 - 43mm	39 - 46mm	Z4469-A	Z4469-BR	Z4469-BX	Z4469-BZ	Z4469-NI	Z4469-ZN
	40mm (1.575)	30mm (1.181)	10mm (.394)	44 - 48mm	44 - 51mm	Z4470-A	Z4470-BR	Z4470-BX	Z4470-BZ	Z4470-NI	Z4470-ZN
1/4-20	45mm (1.772)	35mm (1.378)	10mm (.394)	49 - 53mm	49 - 56mm	Z4471-A	Z4471-BR	Z4471-BX	Z4471-BZ	Z4471-NI	Z4471-ZN
	50mm (1.969)	32mm (1.259)	18mm (.709)	54 -5 8mm	54 - 61mm	Z4472-A	Z4472-BR	Z4472-BX	Z4472-BZ	Z4472-NI	Z4472-ZN
	60mm (2.362)	35mm (1.378)	18mm (.709)	64 - 68mm	64 - 71mm	Z4473-A	Z4473-BR	Z4473-BX	Z4473-BZ	Z4473-NI	Z4473-ZN
	70mm (2.756)	35mm (1.378)	18mm (.709)	74 - 78mm	74 - 81mm	Z4474-A	Z4474-BR	Z4474-BX	Z4474-BZ	Z4474-NI	Z4474-ZN
1/4-20	80mm (3.150)	35mm (1.378)	18mm (.709)	84 - 88mm	84 - 91mm	Z4475-A	Z4475-BR	Z4475-BX	Z4475-BZ	Z4475-NI	Z4475-ZN
	90mm (3.543)	35mm (1.378)	18mm (.709)	94 - 98mm	94 - 101mm	Z4476-A	Z4476-BR	Z4476-BX	Z4476-BZ	Z4476-NI	Z4476-ZN
	100mm (3.937)	35mm (1.378)	18mm (.709)	104 - 108mm	104 - 111mm	Z4477-A	Z4477-BR	Z4477-BX	Z4477-BZ	Z4477-NI	Z4477-ZN

Sex Bolts

For technical drawings and charts, please see page A-40

Furniture Screws (No Shoulder) — Inch/Metric

IMPORT



Steel, Plain



Steel, Brass



Steel, Black Oxide



Steel, Dark Bronze



Steel, Nickel



Steel, Zinc

Thread Size	Lg. Under Head	Thread Length	12mm Nut Grip Range (min to max)	17mm Nut Grip Range (min to max)	Steel, Plain Part Number	Steel, Brass Part Number	Steel, Bk-Oxide Part Number	Steel, Bronze Part Number	Steel, Nickel Part Number	Steel, Zinc Part Number
1/4-20	20mm (.787)	17mm	24 - 28mm	24 - 31mm	Z4478-A	Z4478-BR	Z4478-BX	Z4478-BZ	Z4478-NI	Z4478-ZN
	23mm (.906)	13mm	27 - 31mm	27 - 34mm	Z4479-A	Z4479-BR	Z4479-BX	Z4479-BZ	Z4479-NI	Z4479-ZN
	25mm (.984)	22mm	29 - 33mm	29 - 36mm	Z4480-A	Z4480-BR	Z4480-BX	Z4480-BZ	Z4480-NI	Z4480-ZN
	30mm (1.184)	20mm	34 - 38mm	34 - 41mm	Z4481-A	Z4481-BR	Z4481-BX	Z4481-BZ	Z4481-NI	Z4481-ZN
1/4-20	35mm (1.378)	30mm	39 - 43mm	39 - 46mm	Z4482-A	Z4482-BR	Z4482-BX	Z4482-BZ	Z4482-NI	Z4482-ZN
	40mm (1.575)	30mm	44 - 48mm	44 - 51mm	Z4483-A	Z4483-BR	Z4483-BX	Z4483-BZ	Z4483-NI	Z4483-ZN
	45mm (1.772)	30mm	49 - 53mm	49 - 56mm	Z4484-A	Z4484-BR	Z4484-BX	Z4484-BZ	Z4484-NI	Z4484-ZN
	50mm (1.969)	40mm	54 - 58mm	54 - 61mm	Z4485-A	Z4485-BR	Z4485-BX	Z4485-BZ	Z4485-NI	Z4485-ZN
1/4-20	60mm (2.362)	40mm	64 - 68mm	64 - 71mm	Z4486-A	Z4486-BR	Z4486-BX	Z4486-BZ	Z4486-NI	Z4486-ZN
	70mm (2.756)	40mm	74 - 78mm	74 - 81mm	Z4487-A	Z4487-BR	Z4487-BX	Z4487-BZ	Z4487-NI	Z4487-ZN
	80mm (3.150)	40mm	84 - 88mm	84 - 91mm	Z4488-A	Z4488-BR	Z4488-BX	Z4488-BZ	Z4488-NI	Z4488-ZN
	90mm (3.543)	40mm	94 - 98mm	94 - 101mm	Z4489-A	Z4489-BR	Z4489-BX	Z4489-BZ	Z4489-NI	Z4489-ZN
1/4-20	100mm (3.937)	40mm	104 - 108mm	104 - 111mm	Z4490-A	Z4490-BR	Z4490-BX	Z4490-BZ	Z4490-NI	Z4490-ZN
	110mm (4.331)	40mm	114 - 118mm	114 - 121mm	Z4491-A	Z4491-BR	Z4491-BX	Z4491-BZ	Z4491-NI	Z4491-ZN
	120mm (4.724)	40mm	124 - 128mm	124 - 131mm	Z4492-A	Z4492-BR	Z4492-BX	Z4492-BZ	Z4492-NI	Z4492-ZN
5/16-18	40mm (1.575)	30mm	—	44 - 51mm	Z4493-A	Z4493-BR	Z4493-BX	Z4493-BZ	Z4493-NI	Z4493-ZN
	50mm (1.969)	30mm	—	54 - 61mm	Z4494-A	Z4494-BR	Z4494-BX	Z4494-BZ	Z4494-NI	Z4494-ZN
	60mm (2.362)	40mm	—	64 - 71mm	Z4495-A	Z4495-BR	Z4495-BX	Z4495-BZ	Z4495-NI	Z4495-ZN
	70mm (2.756)	40mm	—	74 - 81mm	Z4496-A	Z4496-BR	Z4496-BX	Z4496-BZ	Z4496-NI	Z4496-ZN
5/16-18	80mm (3.150)	40mm	—	84 - 91mm	Z4497-A	Z4497-BR	Z4497-BX	Z4497-BZ	Z4497-NI	Z4497-ZN
	100mm (3.937)	40mm	—	104 - 111mm	Z4498-A	Z4498-BR	Z4498-BX	Z4498-BZ	Z4498-NI	Z4498-ZN

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN INDIANA

Binding Posts & Screws (Chicago Screws)

Binding Posts and Screws are known by many names: Mating Fasteners, Architectural Screws, Binding Screws, Binding Bolts, Binding Barrels, Chicago Screws, Male & Female Bolts, Sex Bolts and Threaded Rivets. A binding post and screw are designed to clamp material between the head of the barrel and the head of the screw, or to bridge the gap between two parts, like going through a hollow door. In addition to the standard printing industry binding applications, binding posts provide a clean, flush, and secure fastener for many other applications. Use extensions for additional lengths.

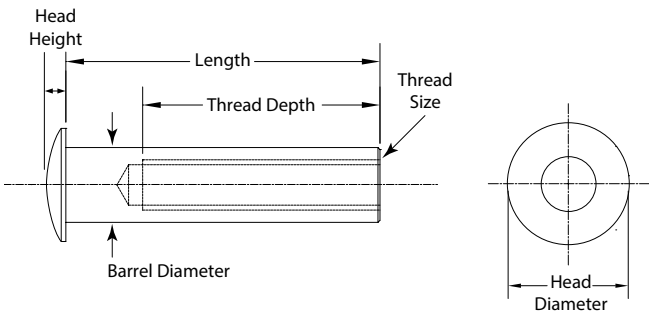
Materials and finishes offered in:

- Aluminum | Plain Finish, Black Anodized Finish
- Steel | Zinc-Plated Finish, Black Oxide Finish
- 18-8 Stainless Steel | Plain Finish, Black Oxide Finish
- 316 Stainless Steel | Plain Finish
- Brass | Plain Finish
- Copper | Plain Finish
- Plastic | Black Color, White Color

Dimensions and Tolerance Table — Inch

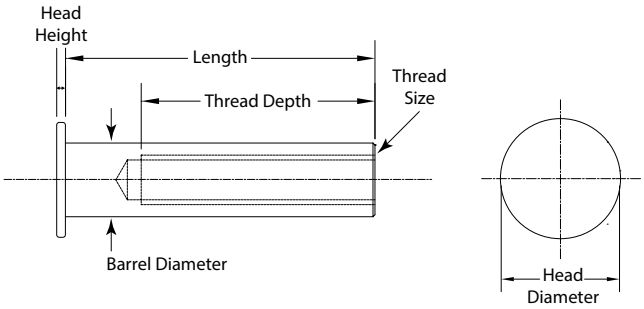
Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss
13/64	8-32	13/32	.031	Rivet

Truss Head Barrel



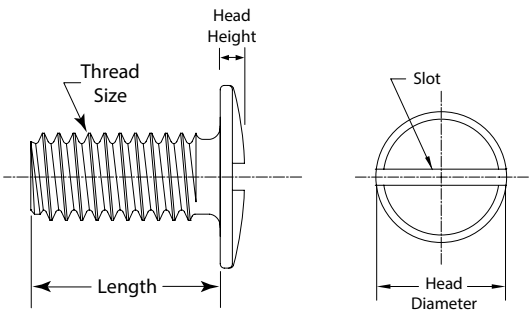


Rivet Head Barrel





Slotted Truss Head Screw





8090 Woodland Drive
Indianapolis, IN 46278

p: 317.472.9000
f: 317.472.9010

Learn more at www.ampg.com
Get a quote at sales@ampg.com

Sex Bolts

For technical drawings and charts, please see page A-43

Binding Posts & Screws — Inch

IMPORT

Aluminum | Plain Finish

Use extensions for additional lengths, see pages D53-D54.


Truss Head


Rivet Head

Binding Posts

Barrel Length	Thread Depth	Thread Size	Aluminum Truss Head Part Number	Aluminum Rivet Head Part Number
1/8	Tapped Thru*	8-32	Z4302X	–
3/16	Tapped Thru*	8-32	Z4303	–
1/4	Tapped Thru*	8-32	Z4304	–
3/8	Tapped Thru*	8-32	Z4306X	–
1/2	Tapped Thru*	8-32	Z4308T	–
1/4	3/16	8-32	Z4304T	Z4304C
3/8	1/4	8-32	Z4306T	Z4306C
1/2	3/8	8-32	Z4308X	Z4308
5/8	3/8	8-32	Z4310X	Z4310
3/4	3/8	8-32	Z4312X	Z4312
7/8	3/8	8-32	Z4314X	–
1	3/8	8-32	Z4316X	Z4316
1-1/4	3/8	8-32	Z4320X	Z4320
1-1/2	3/8	8-32	Z4324X	Z4324
1-3/4	3/8	8-32	Z4328X	Z4328
2	3/8	8-32	Z4332X	Z4332
2-1/4	3/8	8-32	Z4336X	Z4336
2-1/2	3/8	8-32	Z4344X	Z4344
2-3/4	3/8	8-32	Z4346X	Z4346
3	3/8	8-32	Z4348X	Z4348
3-1/4	3/8	8-32	Z4350	–
3-1/2	3/8	8-32	Z4358X	–
4	3/8	8-32	Z4364X	–
4-1/2	3/8	8-32	Z4366X	–
5	3/8	8-32	Z4368X	–
5-1/2	3/8	8-32	Z4369X	–
6	3/8	8-32	Z4396X	–

Binding Post Assortment Kit



Aluminum Part Number
Z4195

- 240 total pieces
- (120) 8-32 x 3/8" screw
- (40) 13/64 x 1/2" post
- (30) 13/64 x 3/4" post
- (26) 13/64 x 1-1/4" post
- (14) 13/64 x 2" post
- (10 13/64 x 3" post

*Tapped Thru Head

Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss
13/64	8-32	13/32	.031	Rivet



Screws for Binding Posts

Screw Size	Head Height	Head Dia.	Aluminum Part Number
8-32 x 3/16	.050 - .070	13/32	Z4302
8-32 x 1/4	.050 - .070	13/32	Z4301
8-32 x 5/16	.050 - .070	13/32	Z4300516
8-32 x 3/8	.050 - .070	13/32	Z4300



Binding Post Sets

Barrel Length	Barrel P/N	Barrel Head	Screw P/N	Grip Range	Alum. Set Part Number
1/8	Z4302X	Truss	Z4302	1/8 to 3/16	Z4302XPAK*
3/16	Z4303	Truss	Z4302	3/16 to 1/4	Z4303PAK*
1/4	Z4304C	Rivet	Z4302	1/4 to 3/8	Z4304CPAK
1/4	Z4304	Truss	Z4302	1/4 to 3/8	Z4304PAK*
3/8	Z4306C	Rivet	Z4301	3/8 to 1/2	Z4306CPAK
1/2	Z4308	Rivet	Z4301	1/2 to 5/8	Z4308PAK
5/8	Z4310	Rivet	Z4301	5/8 to 3/4	Z4310PAK
3/4	Z4312	Rivet	Z4301	3/4 to 7/8	Z4312PAK
7/8	Z4314X	Truss	Z4301	7/8 to 1	Z4314XPAK
1	Z4316	Rivet	Z4301	1 to 1-1/8	Z4316PAK
1-1/4	Z4320	Rivet	Z4301	1-1/4 to 1-3/8	Z4320PAK
1-1/2	Z4324	Rivet	Z4301	1-1/2 to 1-5/8	Z4324PAK
1-3/4	Z4328	Rivet	Z4301	1-3/4 to 1-7/8	Z4328PAK
2	Z4332	Rivet	Z4301	2 to 2-1/8	Z4332PAK
2-1/4	Z4336	Rivet	Z4301	2-1/4 to 2-3/8	Z4336PAK
2-1/2	Z4344	Rivet	Z4301	2-1/2 to 2-5/8	Z4344PAK
2-3/4	Z4346	Rivet	Z4301	2-3/4 to 2-7/8	Z4346PAK
3	Z4348	Rivet	Z4301	3 to 3-1/8	Z4348PAK
3-1/2	Z4358X	Truss	Z4301	3-1/2 to 3-5/8	Z4358XPAK
4	Z4364X	Truss	Z4301	4 to 4-1/8	Z4364XPAK
4-1/2	Z4366X	Truss	Z4301	4-1/2 to 4-5/8	Z4366XPAK
5	Z4368X	Truss	Z4301	5 to 5-1/8	Z4368XPAK
6	Z4396X	Truss	Z4301	6 to 6-1/8	Z4396XPAK

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ISO 9001:2015

MADE IN INDIANA

Binding Posts & Screws — Inch

MADE IN THE USA

IMPORT

Aluminum | Black Anodized Finish

Use extensions for additional lengths, see pages D55-D56.

Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss



Binding Posts

Length	Thread Size	Thread Depth	Aluminum Part Number
1/8	8-32	Tapped Thru*	Z4302-BK-USA
3/16	8-32	Tapped Thru*	Z4303-BK-USA
1/4	8-32	Tapped Thru*	Z4304-BK-USA
3/8	8-32	Tapped Thru*	Z4306-BK-USA
3/8	8-32	1/4	Z4306C-BK
1/2	8-32	3/8	Z4308X-BK-USA
5/8	8-32	3/8	Z4310X-BK-USA
3/4	8-32	3/8	Z4312X-BK-USA
7/8	8-32	3/8	Z4314X-BK-USA
1	8-32	3/8	Z4316X-BK-USA
1-1/4	8-32	3/8	Z4320X-BK-USA
1-1/2	8-32	3/8	Z4324X-BK-USA
1-3/4	8-32	3/8	Z4328X-BK-USA
2	8-32	3/8	Z4332X-BK-USA
2-1/2	8-32	3/8	Z4344X-BK-USA
2-3/4	8-32	3/8	Z4346X-BK
3	8-32	3/8	Z4348X-BK-USA
4	8-32	3/8	Z4364X-BK-USA
4-1/2	8-32	3/8	Z4366X-BK
5	8-32	3/8	Z4368X-BK-USA
6	8-32	3/8	Z4396X-BK-USA

*Tapped Thru Head



Screws for Binding Posts

Screw Size	Head Height	Head Dia.	Aluminum Part Number
8-32 x 3/16	.050 - .070	13/32	Z4302S-BK-USA
8-32 x 1/4	.050 - .070	13/32	Z4301-BK
8-32 x 3/8	.050 - .070	13/32	Z4300-BK-USA



Binding Post Sets

Barrel Lg.	Barrel P/N	Screw P/N	Grip Range	Alum. Set Part Number
1/8	Z4302-BK-USA	Z4302S-BK-USA	1/8 to 3/16	Z4374150-USA*
3/16	Z4303-BK-USA	Z4302S-BK-USA	3/16 to 1/4	Z4374151-USA*
1/4	Z4304-BK-USA	Z4300-BK-USA	1/4 to 3/8	Z4374100-USA*
3/8	Z4306-BK-USA	Z4300-BK-USA	3/8 to 5/8	Z4374102-USA*
1/2	Z4308X-BK-USA	Z4300-BK-USA	1/2 to 3/4	Z4374103-USA
5/8	Z4310X-BK-USA	Z4300-BK-USA	5/8 to 3/4	Z4374152-USA
3/4	Z4312X-BK-USA	Z4300-BK-USA	3/4 to 1	Z4374153-USA
7/8	Z4314X-BK-USA	Z4300-BK-USA	7/8 to 1	Z4374154-USA
1	Z4316X-BK-USA	Z4300-BK-USA	1 to 1-1/4	Z4374155-USA
1-1/4	Z4320X-BK-USA	Z4300-BK-USA	1-1/4 to 1-1/2	Z4374156-USA
1-1/2	Z4324X-BK-USA	Z4300-BK-USA	1-1/2 to 1-3/4	Z4374157-USA
1-3/4	Z4328X-BK-USA	Z4300-BK-USA	1-3/4 to 2	Z4374158-USA
2	Z4332X-BK-USA	Z4300-BK-USA	2 to 2-1/4	Z4374159-USA
2-1/2	Z4344X-BK-USA	Z4300-BK-USA	2-1/2 to 2-3/4	Z4374160-USA
3	Z4348X-BK-USA	Z4300-BK-USA	3 to 3-1/4	Z4374161-USA
4	Z4364X-BK-USA	Z4300-BK-USA	4 to 4-1/4	Z4374162-USA
5	Z4368X-BK-USA	Z4300-BK-USA	5 to 5-1/4	Z4374163-USA
6	Z4396X-BK-USA	Z4300-BK-USA	6 to 6-1/4	Z4374164-USA

Sex Bolts

For technical drawings and charts, please see page A-43

Binding Posts & Screws — Inch

Steel | Zinc Plated, Black Oxide

Use extensions for additional lengths, see pages D55-D56.

Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss



Binding Posts

Length	Thread Size	Thread Depth	Steel, Zinc Plated Part Number	Steel, Black Oxide Part Number
1/8	8-32	Tapped Thru*	Z4302X-STL-USA	Z4302X-STL-BLK-USA
3/16	8-32	Tapped Thru*	Z4303-STL-USA	Z4303-STL-BLK-USA
1/4	8-32	Tapped Thru*	Z4304-STL-USA	Z4304-BLK-USA
3/8	8-32	1/4	Z4306C-STL-USA	Z4306C-STL-BLK-USA
1/2	8-32	3/8	Z4308-STL-USA	Z4308-STL-BLK-USA
5/8	8-32	3/8	Z4310-STL-USA	Z4310-STL-BLK-USA
3/4	8-32	3/8	Z4312-STL-USA	Z4312-STL-BLK-USA
1	8-32	3/8	Z4316-STL-USA	Z4316-STL-BLK-USA
1-1/4	8-32	3/8	Z4320-STL-USA	Z4320-STL-BLK-USA
1-1/2	8-32	3/8	Z4324-STL-USA	Z4324-STL-BLK-USA
1-3/4	8-32	3/8	Z4328-STL-USA	Z4328-STL-BLK-USA
2	8-32	3/8	Z4332-STL-USA	Z4332-STL-BLK-USA
2-1/4	8-32	3/8	Z4336X-STL-USA	Z4336X-STL-BLK-USA
2-1/2	8-32	3/8	Z4344X-STL-USA	Z4344X-STL-BLK-USA
2-3/4	8-32	3/8	Z4346X-STL-USA	Z4346X-STL-BLK-USA
3	8-32	3/8	Z4348X-STL-USA	Z4348X-BLK-USA
3-1/2	8-32	3/8	Z4356X-STL-USA	Z4356X-STL-BLK-USA
4	8-32	3/8	Z4364X-STL-USA	Z4364X-STL-BLK-USA
4-1/2	8-32	3/8	Z4366X-STL-USA	Z4366X-STL-BLK-USA
5	8-32	3/8	Z4368X-STL-USA	Z4368X-STL-BLK-USA
6	8-32	3/8	Z4369X-STL-USA	Z4369X-STL-BLK-USA



Screws for Binding Posts

Screw Size	Head Height	Head Dia.	Steel, Zinc Part Number	Steel, Black Oxide Part Number
8-32 x 3/16	.050 - .070	13/32	Z4302-STL-USA	Z4302-BLK-USA
8-32 x 3/8	.050 - .070	13/32	Z4300-STL-USA	Z4300-BLK-USA

Binding Post Assortment Kit



- 240 total pieces
- (120) 8-32 x 3/8" screw
- (40) 13/64 x 1/2" post
- (30) 13/64 x 3/4" post
- (26) 13/64 x 1-1/4" post
- (14) 13/64 x 2" post
- (10 13/64 x 3" post

Steel, Zinc Part Number
Z4198

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MADE IN INDIANA

Binding Posts & Screws — Inch

IMPORT

Steel | Zinc Plated

Use extensions for additional lengths, see pages D55-D56.

Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss



Binding Post Sets

Barrel				Screw		Set
Grip Range	Length	Thread Depth	Barrel Steel, Zinc Part Number	Length	Screw Part Number	Steel, Zinc Plated Barrel & Screw Set
1/8 to 3/16	1/8	Tapped thru*	Z4302X-STL-USA	3/16	Z4302-STL-USA	Z4302XPAK-STL-USA
3/16 to 1/4	3/16	Tapped thru*	Z4303-STL-USA	3/16	Z4302-STL-USA	Z4303PAK-STL-USA
1/4 to 3/8	1/4	Tapped thru*	Z4304-STL-USA	3/16	Z4302-STL-USA	Z4304PAK-STL-USA
3/8 to 7/16	3/8	1/4	Z4306C-STL-USA	3/16	Z4302-STL-USA	Z4306CPAK-STL-USA
1/2 to 3/4	1/2	3/8	Z4308-STL-USA	3/8	Z4300-STL-USA	Z4308PAK-STL-USA
5/8 to 7/8	5/8	3/8	Z4310-STL-USA	3/8	Z4300-STL-USA	Z4310PAK-STL-USA
3/4 to 1	3/4	3/8	Z4312-STL-USA	3/8	Z4300-STL-USA	Z4312PAK-STL-USA
1 to 1-1/4	1	3/8	Z4316-STL-USA	3/8	Z4300-STL-USA	Z4316PAK-STL-USA
1-1/4 to 1-1/2	1-1/4	3/8	Z4320-STL-USA	3/8	Z4300-STL-USA	Z4320PAK-STL-USA
1-1/2 to 1-3/4	1-1/2	3/8	Z4324-STL-USA	3/8	Z4300-STL-USA	Z4324PAK-STL-USA
1-3/4 to 2	1-3/4	3/8	Z4328-STL-USA	3/8	Z4300-STL-USA	Z4328PAK-STL-USA
2 to 2-1/4	2	3/8	Z4332-STL-USA	3/8	Z4300-STL-USA	Z4332PAK-STL-USA
2-1/4 to 2-1/2	2-1/4	3/8	Z4336X-STL-USA	3/8	Z4300-STL-USA	Z4374191-USA-1
2-1/2 to 2-3/4	2-1/2	3/8	Z4344X-STL-USA	3/8	Z4300-STL-USA	Z4374192-USA-1
2-3/4 to 3	2-3/4	3/8	Z4346X-STL-USA	3/8	Z4300-STL-USA	Z4374193-USA-1
3 to 3-1/4	3	3/8	Z4348X-STL-USA	3/8	Z4300-STL-USA	Z4374194-USA-1
3-1/2 to 3-3/4	3-1/2	3/8	Z4356X-STL-USA	3/8	Z4300-STL-USA	Z4374195-USA-1
4 to 4-1/4	4	3/8	Z4364X-STL-USA	3/8	Z4300-STL-USA	Z4374196-USA-1
4-1/2 to 4-3/4	4-1/2	3/8	Z4366X-STL-USA	3/8	Z4300-STL-USA	Z4374197-USA-1
5 to 5-1/4	5	3/8	Z4368X-STL-USA	3/8	Z4300-STL-USA	Z4374198-USA-1
6 to 6-1/4	6	3/8	Z4369X-STL-USA	3/8	Z4300-STL-USA	Z4374199-USA-1

Sex Bolts

For technical drawings and charts, please see page A-43

Binding Posts & Screws — Inch

MADE IN THE USA

Steel | Black Oxide

Use extensions for additional lengths, see pages D55-D56.

Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss



Binding Post Sets

Barrel				Screw		Set				
Length	Dia.	Thread Depth	Barrel Part Number	Length	Screw Part Number	For Material Thickness (min, max)	Head Dia.	Head Height	Thread Size	Steel, Black Oxide Barrel & Screw Set
1/8	13/64	Tapped thru	Z4302X-STL-BLK-USA	3/8	Z4302-STL-BLK-USA	1/8 to 3/16	13/32	1/16	8-32	Z4302XPAK-STL-BLK-USA
3/16	13/64	Tapped thru	Z4303-STL-BLK-USA	3/8	Z4302-STL-BLK-USA	3/16 to 1/4	13/32	1/16	8-32	Z4303PAK-STL-BLK-USA
1/4	13/64	Tapped thru	Z4304-BLK-USA	3/8	Z4302-BLK-USA	1/4 to 3/8	13/32	1/16	8-32	Z4304PAK-STL-BLK-USA
3/8	13/64	1/4	Z4306C-STL-BLK-USA	3/8	Z4302-BLK-USA	3/8 to 7/16	13/32	1/16	8-32	Z4306CPAK-STL-BLK-USA
1/2	13/64	3/8	Z4308-STL-BLK-USA	3/8	Z4300-BLK-USA	1/2 to 3/4	13/32	1/16	8-32	Z4308PAK-STL-BLK-USA
5/8	13/64	3/8	Z4310-STL-BLK-USA	3/8	Z4300-BLK-USA	5/8 to 7/8	13/32	1/16	8-32	Z4310PAK-STL-BLK-USA
3/4	13/64	3/8	Z4312-STL-BLK-USA	3/8	Z4300-BLK-USA	3/4 to 1	13/32	1/16	8-32	Z4312PAK-STL-BLK-USA
1	13/64	3/8	Z4316-STL-BLK-USA	3/8	Z4300-BLK-USA	1 to 1-1/4	13/32	1/16	8-32	Z4316PAK-STL-BLK-USA
1-1/4	13/64	3/8	Z4320-STL-BLK-USA	3/8	Z4300-BLK-USA	1-1/4 to 1-1/2	13/32	1/16	8-32	Z4320PAK-STL-BLK-USA
1-1/2	13/64	3/8	Z4324-STL-BLK-USA	3/8	Z4300-BLK-USA	1-1/2 to 1-3/4	13/32	1/16	8-32	Z4324PAK-STL-BLK-USA
1-3/4	13/64	3/8	Z4328-STL-BLK-USA	3/8	Z4300-BLK-USA	1-3/4 to 2	13/32	1/16	8-32	Z4328PAK-STL-BLK-USA
2	13/64	3/8	Z4332-STL-BLK-USA	3/8	Z4300-BLK-USA	2 to 2-1/4	13/32	1/16	8-32	Z4332PAK-STL-BLK-USA
2-1/4	13/64	3/8	Z4336X-STL-BLK-USA	3/8	Z4300-BLK-USA	2-1/4 to 2-1/2	13/32	1/16	8-32	Z4374191-BLK-USA-1
2-1/2	13/64	3/8	Z4344X-STL-BLK-USA	3/8	Z4300-BLK-USA	2-1/2 to 2-3/4	13/32	1/16	8-32	Z4374192-BLK-USA-1
2-3/4	13/64	3/8	Z4346X-STL-BLK-USA	3/8	Z4300-BLK-USA	2-3/4 to 3	13/32	1/16	8-32	Z4374193-BLK-USA-1
3	13/64	3/8	Z4348X-BLK-USA	3/8	Z4300-BLK-USA	3 to 3-1/4	13/32	1/16	8-32	Z4374194-BLK-USA-1
3-1/2	13/64	3/8	Z4356X-STL-BLK-USA	3/8	Z4300-BLK-USA	3-1/2 to 3-3/4	13/32	1/16	8-32	Z4374195-BLK-USA-1
4	13/64	3/8	Z4364X-STL-BLK-USA	3/8	Z4300-BLK-USA	4 to 4-1/4	13/32	1/16	8-32	Z4374196-BLK-USA-1
4-1/2	13/64	3/8	Z4366X-STL-BLK-USA	3/8	Z4300-BLK-USA	4-1/2 to 4-3/4	13/32	1/16	8-32	Z4374197-BLK-USA-1
5	13/64	3/8	Z4368X-STL-BLK-USA	3/8	Z4300-BLK-USA	5 to 5-1/4	13/32	1/16	8-32	Z4374198-BLK-USA-1
6	13/64	3/8	Z4369X-STL-BLK-USA	3/8	Z4300-BLK-USA	6 to 6-1/4	13/32	1/16	8-32	Z4374199-BLK-USA-1

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN INDIANA

Binding Posts & Screws — Inch

MADE IN THE USA

18-8 Stainless Steel | Plain Finish, Black Oxide

Use extensions for additional lengths, see pages D55-D56.

Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss



Binding Posts

Barrel Length	Thread Size	Thread Depth	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
1/8	8-32	Tapped Thru	Z4302X-SS-USA	Z4302X-SS-BK-USA
3/16	8-32	Tapped Thru	Z4303-SS-USA	Z4303-SS-BK-USA
1/4	8-32	Tapped Thru	Z4304-SS-USA	Z4304-SS-BK-USA
1/4	8-32	5/32	Z4304C-SS-USA	—
3/8	8-32	1/4	Z4306C-SS-USA	Z4306C-SS-BK-USA
1/2	8-32	5/16	Z4308-SS-USA	Z4308-SS-BK-USA
5/8	8-32	3/8	Z4310-SS-USA	Z4310-SS-BK-USA
3/4	8-32	3/8	Z4312-SS-USA	Z4312-SS-BK-USA
7/8	8-32	3/8	Z4314X-SS-USA	Z4314X-SS-BK-USA
1	8-32	3/8	Z4316-SS-USA	Z4316-SS-BK-USA
1-1/4	8-32	3/8	Z4320-SS-USA	Z4320-SS-BK-USA
1-1/2	8-32	3/8	Z4324-SS-USA	Z4324-SS-BK-USA
1-3/4	8-32	3/8	Z4328-SS-USA	Z4328-SS-BK-USA
2	8-32	3/8	Z4332X-SS-USA	Z4332X-SS-BK-USA
2-1/4	8-32	3/8	Z4336X-SS-USA	Z4336X-SS-BK-USA
2-1/2	8-32	3/8	Z4344X-SS-USA	Z4344X-SS-BK-USA
2-3/4	8-32	3/8	Z4346X-SS-USA	Z4346X-SS-BK-USA
3	8-32	3/8	Z4348X-SS-USA	Z4348X-SS-BK-USA
3-1/2	8-32	3/8	Z4358X-SS-USA	Z4358X-SS-BK-USA
4	8-32	3/8	Z4364X-SS-USA	Z4364X-SS-BK-USA
4-1/2	8-32	3/8	Z4366X-SS-USA	Z4366X-SS-BK-USA
5	8-32	3/8	Z4368X-SS-USA	Z4368X-SS-BK-USA
6	8-32	3/8	Z4396X-SS-USA	Z4396X-SS-BK-USA



Screws for Binding Posts

Screw Size	Head Height	Head Dia.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
8-32 x 3/16	.050 - .070	13/32	Z4302-SS-USA	Z4302-SS-BK-USA
8-32 x 1/4	.050 - .070	13/32	Z4301-SS-USA	Z4301-SS-BK-USA
8-32 x 3/8	.050 - .070	13/32	Z4300-SS-USA	Z4300-SS-BK-USA

Binding Post Assortment Kit



- 240 total pieces
- (120) 8-32 x 3/8" screw
- (40) 13/64 x 1/2" post
- (30) 13/64 x 3/4" post
- (26) 13/64 x 1-1/4" post
- (14) 13/64 x 2" post
- (10 13/64 x 3" post

18-8 SS Part Number
Z4196

Binding Posts & Screws Sets — Inch

MADE IN THE USA

18-8 Stainless Steel | Plain Finish, Black Oxide

Use extensions for additional lengths, see pages D55-D56.

Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss



Binding Post Sets

Barrel				Screw				Set	
Lg.	Thread Depth	18-8 SS. Barrel Part Number	18-8 SS Black Ox. Barrel Part Number	Lg.	18-8 SS Screw Part Number	18-8 SS, Black Ox. Screw Part Number	For Material Thickness (min, max)	18-8 SS Set Part Number	18-8 SS Black Ox. Set Part Number
1/8	Thru	Z4302X-SS-USA	Z4302X-SS-BK-USA	3/16	Z4302-SS-USA	Z4302-SS-BK-USA	1/8 to 3/16	Z4374050-USA	Z4374050-USA-BLACKOX-1
3/16	Thru	Z4303-SS-USA	Z4303-SS-BK-USA	3/16	Z4302-SS-USA	Z4302-SS-BK-USA	3/16 to 1/4	Z4374051-USA	Z4374051-USA-BLACKOX-1
1/4	Thru	Z4304-SS-USA	Z4304-SS-BK-USA	1/4	Z4301-SS-USA	Z4301-SS-BK-USA	1/4 to 3/8	Z4374052-USA	Z4374052-USA-BLACKOX-1
3/8	1/4	Z4306C-SS-USA	Z4306C-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	3/8 to 7/16	Z4374053-USA	Z4374053-USA-BLACKOX-1
1/2	5/16	Z4308-SS-USA	Z4308-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	1/2 to 3/4	Z4374054-USA	Z4374054-USA-BLACKOX-1
5/8	3/8	Z4310-SS-USA	Z4310-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	5/8 to 7/8	Z4374055-USA	Z4374055-USA-BLACKOX-1
3/4	3/8	Z4312-SS-USA	Z4312-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	3/4 to 1	Z4374056-USA	Z4374056-USA-BLACKOX-1
1	3/8	Z4316-SS-USA	Z4316-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	1 to 1-1/4	Z4374057-USA	Z4374057-USA-BLACKOX-1
1-1/4	3/8	Z4320-SS-USA	Z4320-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	1-1/4 to 1-1/2	Z4374058-USA	Z4374058-USA-BLACKOX-1
1-1/2	3/8	Z4324-SS-USA	Z4324-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	1-1/2 to 1-3/4	Z4374059-USA	Z4374059-USA-BLACKOX-1
1-3/4	3/8	Z4328-SS-USA	Z4328-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	1-3/4 to 2	Z4374060-USA	Z4374060-USA-BLACKOX-1
2	3/8	Z4332X-SS-USA	Z4332X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	2 to 2-1/4	Z4374105-USA	Z4374105-USA-BLACKOX-1
2-1/4	3/8	Z4336X-SS-USA	Z4336X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	2-1/4 to 2-1/2	Z4374106-USA	Z4374106-USA-BLACKOX-1
2-1/2	3/8	Z4344X-SS-USA	Z4344X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	2-1/2 to 2-3/4	Z4374107-USA	Z4374107-USA-BLACKOX-1
2-3/4	3/8	Z4346X-SS-USA	Z4346X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	2-3/4 to 3	Z4374108-USA	Z4374108-USA-BLACKOX-1
3	3/8	Z4348X-SS-USA	Z4348X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	3 to 3-1/4	Z4374109-USA	Z4374109-USA-BLACKOX-1
3-1/2	3/8	Z4356X-SS-USA	Z4356X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	3-1/2 to 3-3/4	Z4374110-USA	Z4374110-USA-BLACKOX-1
4	3/8	Z4364X-SS-USA	Z4364X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	4 to 4-1/4	Z4374111-USA	Z4374111-USA-BLACKOX-1
4-1/2	3/8	Z4372X-SS-USA	Z4372X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	4-1/2 to 4-3/4	Z4374112-USA	Z4374112-USA-BLACKOX-1
5	3/8	Z4380X-SS-USA	Z4380X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	5 to 5-1/4	Z4374113-USA	Z4374113-USA-BLACKOX-1
6	3/8	Z4396X-SS-USA	Z4396X-SS-BK-USA	3/8	Z4300-SS-USA	Z4300-SS-BK-USA	6 to 6-1/4	Z4374114-USA	Z4374114-USA-BLACKOX-1

Binding Posts & Screws — Inch

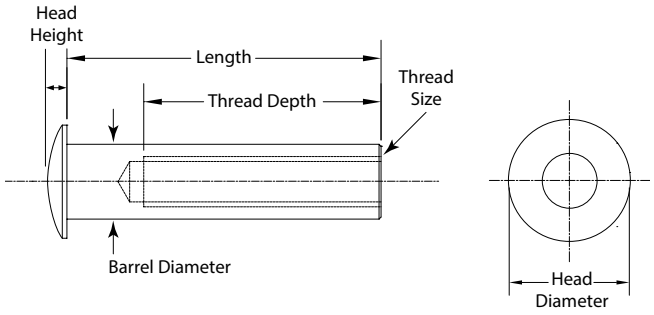
316 Stainless Steel | Plain Finish

Use extensions for additional lengths, see pages D55-D56.

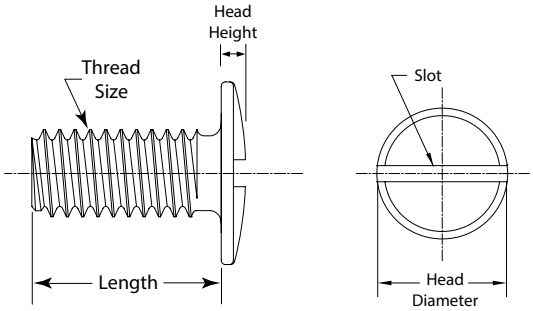
Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss

Truss Head Barrel



Slotted Truss Head Screw







Binding Posts

Barrel Length	Thread Size	Thread Depth	316 SS Part Number
1/8	8-32	Tapped Thru	Z4302X-316-USA
3/16	8-32	Tapped Thru	Z4303-316-USA
1/4	8-32	Tapped Thru	Z4304-316-USA
3/8	8-32	1/4	Z4306C-316-USA
1/2	8-32	5/16	Z4308-316-USA
5/8	8-32	3/8	Z4310-316-USA
3/4	8-32	3/8	Z4312-316-USA
1	8-32	3/8	Z4316-316-USA
1-1/4	8-32	3/8	Z4320-316-USA
1-1/2	8-32	3/8	Z4324-316-USA
1-3/4	8-32	3/8	Z4328-316-USA
2	8-32	3/8	Z4332X-316-USA
2-1/4	8-32	3/8	Z4336X-316-USA
2-1/2	8-32	3/8	Z4344X-316-USA
2-3/4	8-32	3/8	Z4346X-316-USA
3	8-32	3/8	Z4348X-316-USA
3-1/2	8-32	3/8	Z4356X-316-USA
4	8-32	3/8	Z4364X-316-USA
4-1/2	8-32	3/8	Z4372X-316-USA
5	8-32	3/8	Z4368X-316-USA
6	8-32	3/8	Z4396X-316-USA

Screws for Binding Posts

Screw Size	Head Height	Head Dia.	316 SS Part Number
8-32 x 3/16	.050 - .070	13/32	Z4302-316-USA
8-32 x 1/4	.050 - .070	13/32	Z4301-316-USA
8-32 x 3/8	.050 - .070	13/32	Z4300-316-USA

Binding Post & Screws — Inch

316 Stainless Steel | Plain Finish

Use extensions for additional lengths, see pages D55-D56.

Dimensions and Tolerance Table — Inch				
Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss



Binding Post Sets

Barrel				Screw		Set			
Length	Dia.	Thread Depth	Barrel Part Number	Length	Screw Part Number	For Material Thickness (min, max)	Head Dia.	Head Height	316 SS Barrel & Screw Set
1/8	13/64	Thru	Z4302X-316-USA	3/16	Z4302-316-USA	1/8 to 3/16	13/32	1/16	Z4374170-USA-1*
3/16	13/64	Thru	Z4303-316-USA	3/16	Z4302-316-USA	3/16 to 1/4	13/32	1/16	Z4374171-USA-1*
1/4	13/64	Thru	Z4304-316-USA	1/4	Z4301-316-USA	1/4 to 3/8	13/32	1/16	Z4374172-USA-1*
3/8	13/64	1/4	Z4306C-316-USA	3/8	Z4300-316-USA	3/8 to 7/16	13/32	1/16	Z4374173-USA-1
1/2	13/64	5/16	Z4308-316-USA	3/8	Z4300-316-USA	1/2 to 3/4	13/32	1/16	Z4374174-USA-1
5/8	13/64	3/8	Z4310-316-USA	3/8	Z4300-316-USA	5/8 to 7/8	13/32	1/16	Z4374175-USA-1
3/4	13/64	3/8	Z4312-316-USA	3/8	Z4300-316-USA	3/4 to 1	13/32	1/16	Z4374176-USA-1
1	13/64	3/8	Z4316-316-USA	3/8	Z4300-316-USA	1 to 1-1/4	13/32	1/16	Z4374177-USA-1
1-1/4	13/64	3/8	Z4320-316-USA	3/8	Z4300-316-USA	1-1/4 to 1-1/2	13/32	1/16	Z4374178-USA-1
1-1/2	13/64	3/8	Z4324-316-USA	3/8	Z4300-316-USA	1-1/2 to 1-3/4	13/32	1/16	Z4374179-USA-1
1-3/4	13/64	3/8	Z4328-316-USA	3/8	Z4300-316-USA	1-3/4 to 2	13/32	1/16	Z4374180-USA-1
2	13/64	3/8	Z4332X-316-USA	3/8	Z4300-316-USA	2 to 2-1/4	13/32	1/16	Z4374181-USA-1
2-1/4	13/64	3/8	Z4336X-316-USA	3/8	Z4300-316-USA	2-1/4 to 2-1/2	13/32	1/16	Z4374182-USA-1
2-1/2	13/64	3/8	Z4344X-316-USA	3/8	Z4300-316-USA	2-1/2 to 2-3/4	13/32	1/16	Z4374183-USA-1
2-3/4	13/64	3/8	Z4346X-316-USA	3/8	Z4300-316-USA	2-3/4 to 3	13/32	1/16	Z4374184-USA-1
3	13/64	3/8	Z4348X-316-USA	3/8	Z4300-316-USA	3 to 3-1/4	13/32	1/16	Z4374185-USA-1
3-1/2	13/64	3/8	Z4356X-316-USA	3/8	Z4300-316-USA	3-1/2 to 3-3/4	13/32	1/16	Z4374186-USA-1
4	13/64	3/8	Z4364X-316-USA	3/8	Z4300-316-USA	4 to 4-1/4	13/32	1/16	Z4374187-USA-1
4-1/2	13/64	3/8	Z4372X-316-USA	3/8	Z4300-316-USA	4-1/2 to 4-3/4	13/32	1/16	Z4374188-USA-1
5	13/64	3/8	Z4368X-316-USA	3/8	Z4300-316-USA	5 to 5-1/4	13/32	1/16	Z4374189-USA-1
6	13/64	3/8	Z4396X-316-USA	3/8	Z4300-316-USA	6 to 6-1/4	13/32	1/16	Z4374190-USA-1

*Open Barrel

Binding Posts & Screws — Inch

MADE IN THE USA

Brass | Plain

Use extensions for additional lengths, see pages D55-D56.

Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss



Binding Posts

Length	Thread Size	Thread Depth	Brass Part Number
1/8	8-32	Tapped Thru*	Z4302X-BR-USA
3/16	8-32	Tapped Thru*	Z4303-BR-USA
1/4	8-32	Tapped Thru*	Z4304-BR-USA
3/8	8-32	Tapped Thru*	Z4306X-BR-USA
1/4	8-32	5/32	Z4304C-BR-USA
3/8	8-32	1/4	Z4306-BR-USA
1/2	8-32	5/16	Z4308-BR-USA
5/8	8-32	3/8	Z4310-BR-USA
3/4	8-32	3/8	Z4312-BR-USA
7/8	8-32	3/8	Z4314X-BR-USA
1	8-32	3/8	Z4316-BR-USA
1-1/4	8-32	3/8	Z4320X-BR-USA
1-1/2	8-32	3/8	Z4324X-BR-USA
1-3/4	8-32	3/8	Z4328X-BR-USA
2	8-32	3/8	Z4332X-BR-USA
2-1/4	8-32	3/8	Z4336X-BR-USA
2-1/2	8-32	3/8	Z4344X-BR-USA
2-3/4	8-32	3/8	Z4346X-BR-USA
3	8-32	3/8	Z4348X-BR-USA
3-1/2	8-32	3/8	Z4358X-BR-USA
4	8-32	3/8	Z4364X-BR-USA
4-1/2	8-32	3/8	Z4366X-BR-USA
5	8-32	3/8	Z4368X-BR-USA
6	8-32	3/8	Z4396X-BR-USA



Binding Post Sets

Grip Range	Barrel Length	Barrel P/N	Screw P/N	Brass Set Part Number
1/8 to 3/16	1/8	Z4302X-BR-USA	Z4301-BR-USA	Z4374000-USA*
3/16 to 1/4	3/16	Z4303-BR-USA	Z4301-BR-USA	Z4374001-USA*
1/4 to 3/8	1/4	Z4304-BR-USA	Z4301-BR-USA	Z4374002-USA*
3/8 to 5/8	3/8	Z4306-BR-USA	Z4300-BR-USA	Z4374003-USA
1/2 to 3/4	1/2	Z4308-BR-USA	Z4300-BR-USA	Z4374004-USA
5/8 to 7/8	5/8	Z4310-BR-USA	Z4300-BR-USA	Z4374120-USA
3/4 to 1	3/4	Z4312-BR-USA	Z4300-BR-USA	Z4374005-USA
7/8 to 1	7/8	Z4314X-BR-USA	Z4300-BR-USA	Z4374121-USA
1 to 1-1/4	1	Z4316-BR-USA	Z4300-BR-USA	Z4374006-USA
1-1/4 to 1-1/2	1-1/4	Z4320X-BR-USA	Z4300-BR-USA	Z4374122-USA
1-1/2 to 1-3/4	1-1/2	Z4324X-BR-USA	Z4300-BR-USA	Z4374123-USA
1-3/4 to 2	1-3/4	Z4328X-BR-USA	Z4300-BR-USA	Z4374124-USA
2 to 2-1/4	2	Z4332X-BR-USA	Z4300-BR-USA	Z4374125-USA
2-1/4 to 2-1/2	2-1/4	Z4336X-BR-USA	Z4300-BR-USA	Z4374126-USA
2-1/2 to 2-3/4	2-1/2	Z4344X-BR-USA	Z4300-BR-USA	Z4374127-USA
2-3/4 to 3	2-3/4	Z4346X-BR-USA	Z4300-BR-USA	Z4374128-USA
3 to 3-1/4	3	Z4348X-BR-USA	Z4300-BR-USA	Z4374129-USA
3-1/2 to 3-3/4	3-1/2	Z4358X-BR-USA	Z4300-BR-USA	Z4374130-USA
4 to 4-1/4	4	Z4364X-BR-USA	Z4300-BR-USA	Z4374131-USA
4-1/2 to 4-3/4	4-1/2	Z4366X-BR-USA	Z4300-BR-USA	Z4374132-USA
5 to 5-1/4	5	Z4368X-BR-USA	Z4300-BR-USA	Z4374133-USA
6 to 6-1/4	6	Z4396X-BR-USA	Z4300-BR-USA	Z4374134-USA



Screws for Binding Posts

Screw Size	Head Height	Head Dia.	Brass Part Number
8-32 x 1/4	.050 - .070	13/32	Z4301-BR-USA
8-32 x 5/16	.050 - .070	13/32	Z4300-BR-USA

*Tapped Thru Head

Binding Post Assortment Kit

Brass Part Number
Z4197

IMPORT



- 240 total pieces
- (120) 8-32 x 3/8" screw
- (40) 13/64 x 1/2" post
- (30) 13/64 x 3/4" post
- (26) 13/64 x 1-1/4" post
- (14) 13/64 x 2" post
- (10 13/64 x 3" post

Sex Bolts

For technical drawings and charts, please see page A-43

Copper

Binding Posts & Screws — Inch

MADE IN THE USA

Copper | Plain Finish

Use extensions for additional lengths, see pages D55-D56.

Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Head Diameter	Barrel Head Height	Head Style
13/64	8-32	13/32	.050 - .070	Truss



Binding Posts

Length	Thread Size	Thread Depth	Copper Part Number
1/4	8-32	Thru*	Z4304-CU-USA
3/8	8-32	1/4	Z4306C-CU-USA
1/2	8-32	5/16	Z4308-CU-USA
5/8	8-32	3/8	Z4310-CU-USA
3/4	8-32	3/8	Z4312-CU-USA
1	8-32	3/8	Z4316-CU-USA
1-1/4	8-32	3/8	Z4320-CU-USA
1-1/2	8-32	3/8	Z4324-CU-USA
1-3/4	8-32	3/8	Z4328-CU-USA
2	8-32	3/8	Z4332-CU-USA
2-1/4	8-32	3/8	Z4336X-CU-USA
2-1/2	8-32	3/8	Z4344X-CU-USA
2-3/4	8-32	3/8	Z4346X-CU-USA
3	8-32	3/8	Z4348X-CU-USA
3-1/2	8-32	3/8	Z4358X-CU-USA
4	8-32	3/8	Z4364X-CU-USA
4-1/2	8-32	3/8	Z4366X-CU-USA
5	8-32	3/8	Z4368X-CU-USA
6	8-32	3/8	Z4396X-CU-USA

*Tapped Thru Head



Screws for Binding Posts

Screw Size	Head Height	Head Diameter	Copper Part Number
8-32 x 3/16	.040 - .070	13/32	Z4302-CU-USA
8-32 x 1/4	.040 - .070	13/32	Z4301-CU-USA
8-32 x 3/8	.040 - .070	13/32	Z4300-CU-USA



Binding Post Sets

Grip Range	Barrel Length	Barrel Part Number	Screw Part Number	Copper Barrel & Screw Set
1/4 to 3/8	1/4	Z4304-CU-USA*	Z4302-CU-USA	Z4374140-USA-1*
3/8 to 1/2	3/8	Z4306C-CU-USA	Z4300-CU-USA	Z4374141-USA-1
1/2 to 3/4	1/2	Z4308-CU-USA	Z4300-CU-USA	Z4374142-USA-1
5/8 to 7/8	5/8	Z4310-CU-USA	Z4300-CU-USA	Z4374143-USA-1
3/4 to 1	3/4	Z4312-CU-USA	Z4300-CU-USA	Z4374144-USA-1
1 to 1-1/4	1	Z4316-CU-USA	Z4300-CU-USA	Z4374145-USA-1
1-1/4 to 1-1/2	1-1/4	Z4320-CU-USA	Z4300-CU-USA	Z4374146-USA-1
1-1/2 to 1-3/4	1-1/2	Z4324-CU-USA	Z4300-CU-USA	Z4374147-USA-1
1-3/4 to 2	1-3/4	Z4328-CU-USA	Z4300-CU-USA	Z4374148-USA-1
2 to 2-1/4	2	Z4332-CU-USA	Z4300-CU-USA	Z4374149-USA-1
2-1/4 to 2-1/2	2-1/4	Z4336X-CU-USA	Z4300-CU-USA	Z4375001-USA-1
2-1/2 to 2-3/4	2-1/2	Z4344X-CU-USA	Z4300-CU-USA	Z4375002-USA-1
2-3/4 to 3	2-3/4	Z4346X-CU-USA	Z4300-CU-USA	Z4375003-USA-1
3 to 3-1/4	3	Z4348X-CU-USA	Z4300-CU-USA	Z4375004-USA-1
3-1/2 to 3-3/4	3-1/2	Z4358X-CU-USA	Z4300-CU-USA	Z4375005-USA-1
4 to 4-1/4	4	Z4364X-CU-USA	Z4300-CU-USA	Z4375006-USA-1
4-1/2 to 4-3/4	4-1/2	Z4366X-CU-USA	Z4300-CU-USA	Z4375007-USA-1
5 to 5-1/4	5	Z4368X-CU-USA	Z4300-CU-USA	Z4375008-USA-1
6 to 6-3/8	6	Z4396X-CU-USA	Z4300-CU-USA	Z4375009-USA-1

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015 CERTIFIED COMPANY

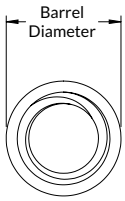
MADE IN INDIANA

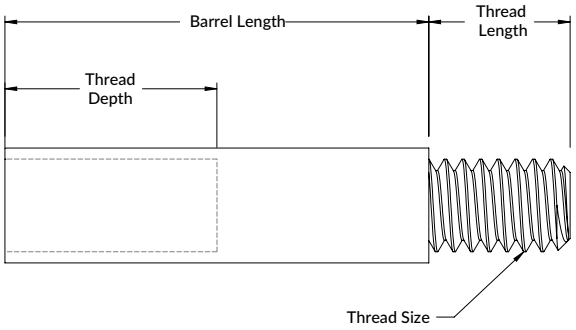
Binding Post Extensions — Inch

AMPG's Binding Post Extension can be used to extend the length of any binding post. Thread size is 8-32 UNC with 13/64 Barrel Diameter.

Materials and finishes offered in:

- Aluminum | Plain Finish, Black Anodized
- Steel | Zinc-Plated Finish
- 18-8 Stainless Steel | Black Oxide, Plain Finish
- 316 Stainless Steel | Plain Finish
- Brass | Plain Finish





Dimensions and Tolerance Table — Inch

Thread Size	Barrel Dia.	Thread Type	Thread Direction
8-32	13/64	UNC	Right

Aluminum | Plain Finish, Black Anodized
Steel | Zinc-Plated Finish







Barrel Length	Thread Depth	Thread Length	Aluminum Part Number	Aluminum, Black Anodized Part Number
1/4	3/16	1/8	Z4370	Z4370-ALBLK-USA
5/16	3/16	1/8	Z4280-USA	Z4280-ALBLK-USA
3/8	1/4	3/16	Z4281-USA	Z4281-ALBLK-USA
1/2	3/8	1/4	Z4371	Z4371-ALBLK-USA
5/8	3/8	1/4	Z4282-USA	Z4282-ALBLK-USA
3/4	3/8	1/4	Z4372	Z4372-ALBLK-USA
7/8	3/8	1/4	Z4283-USA	Z4283-ALBLK-USA
1	3/8	1/4	Z4373	Z4373-ALBLK-USA
1-1/8	3/8	1/4	Z4284-USA	Z4284-ALBLK-USA
1-1/4	3/8	1/4	Z4285-USA	Z4285-ALBLK-USA
1-3/8	3/8	1/4	Z4286-USA	Z4286-ALBLK-USA
1-1/2	1/2	1/4	Z4287-USA	Z4287-ALBLK-USA
1-5/8	1/2	1/4	Z4288-USA	Z4288-ALBLK-USA
1-3/4	1/2	1/4	Z4289-USA	Z4289-ALBLK-USA
1-7/8	1/2	1/4	Z4290-USA	Z4290-ALBLK-USA
2	1/2	1/4	Z4291-USA	Z4291-ALBLK-USA

Barrel Length	Thread Depth	Thread Lg.	AMPG Steel, Zinc Part Number
1/4	3/16	1/8	Z4370-STLZC-USA
5/16	3/16	1/8	Z4280-STLZC-USA
3/8	1/4	3/16	Z4281-STLZC-USA
1/2	3/8	1/4	Z4371-STLZC-USA
5/8	3/8	1/4	Z4282-STLZC-USA
3/4	3/8	1/4	Z4372-STLZC-USA
7/8	3/8	1/4	Z4283-STLZC-USA
1	3/8	1/4	Z4373-STLZC-USA
1-1/8	3/8	1/4	Z4284-STLZC-USA
1-1/4	3/8	1/4	Z4285-STLZC-USA
1-3/8	3/8	1/4	Z4286-STLZC-USA
1-1/2	1/2	1/4	Z4287-STLZC-USA
1-5/8	1/2	1/4	Z4288-STLZC-USA
1-3/4	1/2	1/4	Z4289-STLZC-USA
1-7/8	1/2	1/4	Z4290-STLZC-USA
2	1/2	1/4	Z4291-STLZC-USA

Binding Post Extensions — Inch

MADE IN THE USA

18-8 SS | Plain Finish, Black Oxide
316 | Plain Finish



Barrel Length	Thread Depth	Thread Lg.	AMPG 18-8 SS Part Number	AMPG 18-8 SS, Black Oxide Part Number
1/4	3/16	1/8	Z4370-SS-USA	Z4370-SS-BLK-USA
5/16	3/16	1/8	Z4280-SS-USA	Z4280-SS-BLK-USA
3/8	1/4	3/16	Z4281-SS-USA	Z4281-SS-BLK-USA
1/2	3/8	1/4	Z4371-SS-USA	Z4371-SS-BLK-USA
5/8	3/8	1/4	Z4282-SS-USA	Z4282-SS-BLK-USA
3/4	3/8	1/4	Z4372-SS-USA	Z4372-SS-BLK-USA
7/8	3/8	1/4	Z4283-SS-USA	Z4283-SS-BLK-USA
1	3/8	1/4	Z4373-SS-USA	Z4373-SS-BLK-USA
1-1/8	3/8	1/4	Z4284-SS-USA	Z4284-SS-BLK-USA
1-1/4	3/8	1/4	Z4285-SS-USA	Z4285-SS-BLK-USA
1-3/8	3/8	1/4	Z4286-SS-USA	Z4286-SS-BLK-USA
1-1/2	1/2	1/4	Z4287-SS-USA	Z4287-SS-BLK-USA
1-5/8	1/2	1/4	Z4288-SS-USA	Z4288-SS-BLK-USA
1-3/4	1/2	1/4	Z4289-SS-USA	Z4289-SS-BLK-USA
1-7/8	1/2	1/4	Z4290-SS-USA	Z4290-SS-BLK-USA
2	1/2	1/4	Z4291-SS-USA	Z4291-SS-BLK-USA

Dimensions and Tolerance Table

Barrel Dia.	Thread Size	Thread Type	Thread Direction
13/64	8-32	UNC	Right



Barrel Length	Thread Depth	Thread Lg.	AMPG 316 SS Part Number
1/4	3/16	1/8	Z4370-316-USA
5/16	3/16	1/8	Z4280-316-USA
3/8	1/4	3/16	Z4281-316-USA
1/2	3/8	1/4	Z4371-316-USA
5/8	3/8	1/4	Z4282-316-USA
3/4	3/8	1/4	Z4372-316-USA
7/8	3/8	1/4	Z4283-316-USA
1	3/8	1/4	Z4373-316-USA
1-1/8	3/8	1/4	Z4284-316-USA
1-1/4	3/8	1/4	Z4285-316-USA
1-3/8	3/8	1/4	Z4286-316-USA
1-1/2	1/2	1/4	Z4287-316-USA
1-5/8	1/2	1/4	Z4288-316-USA
1-3/4	1/2	1/4	Z4289-316-USA
1-7/8	1/2	1/4	Z4290-316-USA
2	1/2	1/4	Z4291-316-USA

Brass | Plain Finish



Barrel Length	Thread Depth	Thread Lg.	AMPG Brass Part Number
1/4	3/16	1/8	Z4370-BRASS-USA
5/16	3/16	1/8	Z4280-BRASS-USA
3/8	1/4	3/16	Z4281-BRASS-USA
1/2	3/8	1/4	Z4371-BRASS-USA
5/8	3/8	1/4	Z4282-BRASS-USA
3/4	3/8	1/4	Z4372-BRASS-USA
7/8	3/8	1/4	Z4283-BRASS-USA
1	3/8	1/4	Z4373-BRASS-USA
1-1/8	3/8	1/4	Z4284-BRASS-USA
1-1/4	3/8	1/4	Z4285-BRASS-USA
1-3/8	3/8	1/4	Z4286-BRASS-USA
1-1/2	1/2	1/4	Z4287-BRASS-USA
1-5/8	1/2	1/4	Z4288-BRASS-USA
1-3/4	1/2	1/4	Z4289-BRASS-USA
1-7/8	1/2	1/4	Z4290-BRASS-USA
2	1/2	1/4	Z4291-BRASS-USA

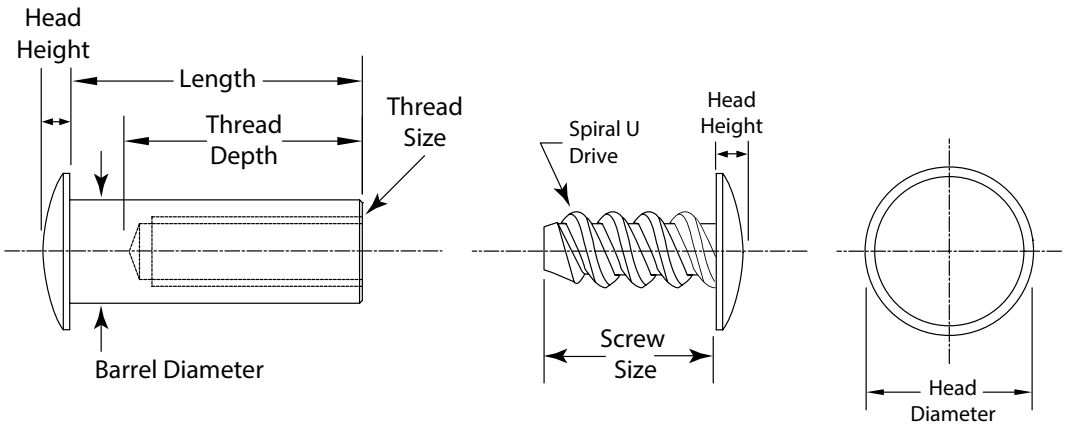
Permanent Drive Cap Set — Inch

IMPORT

Aluminum female barrel with permanent drive screw in steel with Nickel Plating. There is no slot as these are tapped in and cannot be unscrewed for a secure installation. Screw thread type is a spiral U Drive for permanent installation.

Materials and finishes offered in:

- Aluminum | Plain Finish



Dimensions and Tolerance Table — Inch

Barrel Diameter	Barrel Thread Size	Barrel Head Diameter	Screw Head Diameter	Barrel Head Height	Screw Head Height		Drive
13/64	13/64	13/32	3/8	1/16	13/32	3/8	None



Permanent Drive Cap Set

Female Barrel Lg	Grip Range	Thread Depth	Barrel Part Number	Screw Part Number	Quantity	Set Part Number
3/8	3/8	Thru	Z4306X	Z4684	50	Z4306XCAP*
1/2	1/2	3/8	Z4308	Z4684	50	Z4308CAP
5/8	5/8	3/8	Z4310	Z4684	50	Z4310CAP
3/4	3/4	3/8	Z4312	Z4684	50	Z4312CAP
7/8	7/8	3/8	Z4314X	Z4684	50	Z4314XCAP
1	1	3/8	Z4316X	Z4684	25	Z4316XCAP
1-1/4	1-1/4	3/8	Z4320	Z4684	25	Z4320CAP
1-1/2	1-1/2	3/8	Z4324	Z4684	25	Z4324CAP
1-3/4	1-3/4	3/8	Z4328	Z4684	25	Z4328CAP
2	2	3/8	Z4332	Z4684	25	Z4332CAP

*Tapped Thru Head



Permanent Drive Cap Screws

Screw Size	Part Number
3/8	Z4684

Binding Posts & Screws — Inch

IMPORT

LIMITED SUPPLY

Plastic | Black Finish, White Finish

*This line has a limited supply and items will be discontinued after they are out of stock



Binding Posts

Barrel Length	Barrel Dia.	Head Height	Thread Size	Black Plastic Part Number	White Plastic Part Number
1/4	.240	.100	No Threads	Z4200	Z4209
3/8	.240	.100	No Threads	Z4201	Z4210
1/2	.240	.100	No Threads	Z4202	Z4211
3/4	.240	.100	No Threads	Z4203	Z4212
7/8	.240	.100	No Threads	Z4204	—
1	.240	.100	No Threads	Z4205	—
1-1/4	.240	.100	No Threads	Z4206	—
1-1/2	.240	.100	No Threads	Z4207	—
2	.240	.100	No Threads	Z4208	—



Binding Posts | Friction Fit

Length	Head Dia.	Thread Size	Plastic Part Number
1/2	25/64	No Threads	Z4670
5/8	25/64	No Threads	Z4671
3/4	25/64	No Threads	Z4672
1	25/64	No Threads	Z4673
1-1/4	25/64	No Threads	Z4674
1-1/2	25/64	No Threads	Z4675
1-3/4	25/64	No Threads	Z4676
2	25/64	No Threads	Z4677
2-1/4	25/64	No Threads	Z4678
2-1/2	27/64	No Threads	Z4679
3-1/4	27/64	No Threads	Z4680
4	27/64	No Threads	Z4681



Screws for Binding Posts

Screw Size	Head Dia.	Head Height	Black Plastic Part Number	White Plastic Part Number
10-24 x 3/16	3/8	.100	Z4219	Z4218



Removable Slotted Binding Head Screw

Head Height	Plastic Part Number
7/64	Z4683



Permanent Unslotted Flat Head Screw

Head Height	Plastic Part Number
.075	Z4682



Binding Post Sets

Barrel Length	Grip Range	Barrel Dia.	Thread Size	Barrel Part Number	Screw Part Number	Black Plastic Set Part Number
1/2	1/2	15/64	10-24	Z4202	Z4219	Z4202SET
3/4	3/4	15/64	10-24	Z4203	Z4219	Z4203SET
1	1	15/64	10-24	Z4205	Z4219	Z4205SET
1-1/4	1-1/4	15/64	10-24	Z4206	Z4219	Z4206SET
1-1/2	1-1/2	15/64	10-24	Z4207	Z4219	Z4207SET
2	2	15/64	10-24	Z4208	Z4219	Z4208SET

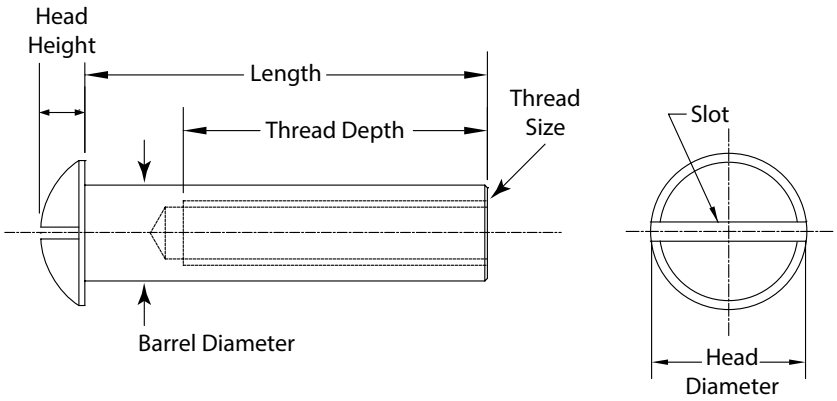
Slotted Truss Head Drive Barrels — Inch

When combining a slotted barrel with a screw, this mating fastener sometimes referred to as a threaded rivet and a rivet nut, is designed to clamp material between the head of the barrel and the head of the screw, or to bridge the gap between two parts, like going through a hollow panel.

A slotted barrel has a truss style head which is a wider and lower version of a round head. A truss head distributes holding pressure to reduce the likelihood of crushing thin and softer materials and provides more bearing surface for improved holding power. Barrel length is measured from under the head. Under the head/flange is smooth.

Materials and finishes offered in:

- Aluminium | Plain Finish
- Steel | Zinc Plated, Brass Plated, Black Oxide,
- 18-8 Stainless Steel | Plain Finish
- 316 Stainless Steel | Plain Finish, Black Oxide
- Brass | Plain Finish, Chrome Plated



Aluminum | Plain Finish



Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	Aluminum Part Number
3/8	1/4	1/4-20	3/16	9/16	1/8	Z4842
	7/8	1/4-20	9/16	9/16	1/8	Z4844

Sex Bolts

For technical drawings and charts, please see page A-59

Brass, Steel, Aluminum

Slotted Truss Head Barrels — Inch

MADE IN THE USA

Steel | Zinc Plated, Brass Plated and Black Oxide



Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	Steel, Zinc Part Number
13/64	3/8	8-32	1/4	7/16	9/64	Z4560-ZN
1/4	1/4	8-32	.200	3/8	1/8	Z4500
	1/2	8-32	1/4	3/8	1/8	Z4505
	3/4	8-32	1/2	3/8	1/8	Z4510
	1	8-32	1/2	3/8	1/8	Z4520
5/16	5/8	1/4-20	1/2	1/2	9/64	Z4552
	3/4	10-32	1/2	7/16	9/64	Z4535
3/8	3/4	1/4-20	1/2	9/16	5/32	Z4541
	1	1/4-20	1/2	9/16	5/32	Z4542
	1-9/16	1/4-20	3/4	9/16	3/16	Z4570



Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	Steel, Brass Part Number	Steel, Black Oxide Part Number
13/64	3/8	8-32	1/4	7/16	9/64	Z4560-BR	Z4560-BX

18-8 SS | Plain Finish



Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	18-8 SS Part Number
1/4	1/4	8-32	.200	3/8	1/8	Z4700
	1/2	8-32	1/4	3/8	1/8	Z4705
	3/4	8-32	1/2	3/8	1/8	Z4710
	1	8-32	1/2	3/8	1/8	Z4715
5/16	3/4	10-32	1/4	7/16	9/64	Z4725
	1/2	10-32	1/2	7/16	9/64	Z4720
3/8	1/2	1/4-20	1/4	9/16	5/32	Z4730
	19/32	1/4-20	1/2	9/16	5/32	Z4731
	3/4	1/4-20	1/2	9/16	5/32	Z4732
	1	1/4-20	1/2	9/16	5/32	Z4734

Slotted Truss Head Barrels — Inch

MADE IN THE USA

316 SS | Plain, Black Oxide Plating



Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	316 SS Part Number	316 SS, Black Ox. Part Number
1/4	1/4	10-32	Thru	7/16	1/8	Z4404F-316SS	Z4404F-316BLK
	3/8	10-32	5/16	7/16	1/8	Z4406F-316SS	Z4406F-316BLK
	1/2	10-32	3/8	7/16	1/8	Z4408F-316SS	Z4408F-316BLK
	5/8	10-32	3/8	7/16	1/8	Z4410F-316SS	Z4410F-316BLK
1/4	3/4	10-32	3/8	7/16	1/8	Z4412F-316SS	Z4412F-316BLK
	7/8	10-32	3/8	7/16	1/8	Z4414F-316SS	Z4414F-316BLK
	1	10-32	3/8	7/16	1/8	Z4416F-316SS	Z4416F-316BLK
	1-1/4	10-32	3/8	7/16	1/8	Z4420F-316SS	Z4420F-316BLK
1/4	1-1/2	10-32	3/8	7/16	1/8	Z4424F-316SS	Z4424F-316BLK
	2	10-32	3/8	7/16	1/8	Z4432F-316SS	Z4432F-316BLK
5/16	3/8	1/4-28	13/64	9/16	5/32	Z4135F-316SS	Z4135F-316BLK
	1/2	1/4-28	3/8	9/16	5/32	Z4443F-316SS	Z4443F-316BLK
	5/8	1/4-28	1/2	9/16	5/32	Z4137F-316SS	Z4137F-316BLK
	3/4	1/4-28	3/8	9/16	5/32	Z4444F-316SS	Z4444F-316BLK
5/16	7/8	1/4-28	1/2	9/16	5/32	Z4139F-316SS	Z4139F-316BLK
	1	1/4-28	3/8	9/16	5/32	Z4446F-316SS	Z4446F-316BLK
	1-1/4	1/4-28	3/8	9/16	5/32	Z4448F-316SS	Z4448F-316BLK
	1-1/2	1/4-28	3/8	9/16	5/32	Z4449F-316SS	Z4449F-316BLK
5/16	2	1/4-28	3/8	9/16	5/32	Z4451F-316SS	Z4451F-316BLK
1/2	3/8	3/8-16	5/16	13/16	7/32	Z4165-316SS	Z4165-316BLK
	1/2	3/8-16	3/8	13/16	7/32	Z4166-316SS	Z4166-316BLK
	5/8	3/8-16	1/2	13/16	7/32	Z4167-316SS	Z4167-316BLK
	3/4	3/8-16	1/2	13/16	7/32	Z4168-316SS	Z4168-316BLK
1/2	7/8	3/8-16	1/2	13/16	7/32	Z4169-316SS	Z4169-316BLK
	1	3/8-16	1/2	13/16	7/32	Z4170-316SS	Z4170-316BLK
	1-1/4	3/8-16	1/2	13/16	7/32	Z4171-316SS	Z4171-316BLK
	1-1/2	3/8-16	1/2	13/16	7/32	Z4172-316SS	Z4172-316BLK
1/2	2	3/8-16	1/2	13/16	7/32	Z4173-316SS	Z4173-316BLK

Brass | Plain, Chrome Plating



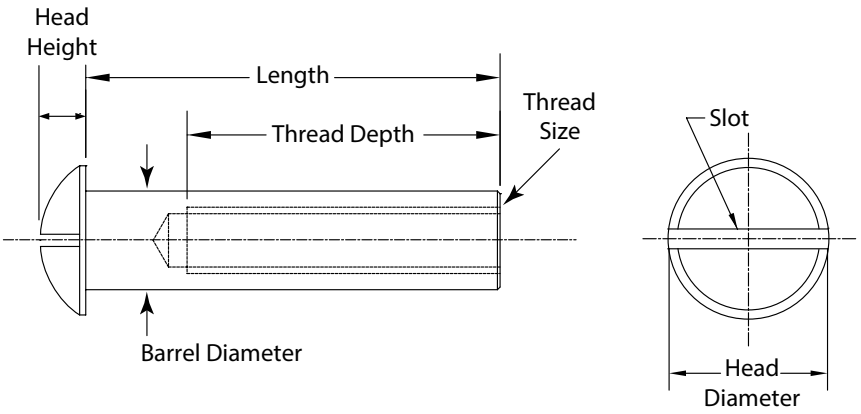
Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	Brass, Plain Part Number	Brass, Chrome Part Number
1/4	1/4	8-32	.200	3/8	1/8	Z4605	Z4600
	1/2	8-32	1/4	3/8	1/8	Z4615	Z4610
	5/8	10-24	1/4	3/8	1/8	Z4616	–
	3/4	8-32	1/2	3/8	1/8	Z4625	Z4620
	1	8-32	1/2	3/8	1/8	Z4635	Z4630
5/16	1/2	10-32	1/4	7/16	9/64	Z4645	Z4640
	3/4	10-32	1/2	7/16	9/64	Z4655	Z4650

Slotted Truss Head Barrels — Metric

When combining a slotted barrel with a screw, this mating fastener sometimes referred to as a threaded rivet and a rivet nut, is designed to clamp material between the head of the barrel and the head of the screw, or to bridge the gap between two parts, like going through a hollow panel.

A slotted barrel has a truss style head which is a wider and lower version of a round head. A truss head distributes holding pressure to reduce the likelihood of crushing thin and softer materials and provides more bearing surface for improved holding power. Barrel length is measured from under the head. Under the head/flange is smooth.

Materials and finishes offered in:
- 18-8 Stainless Steel | Plain Finish
- 316 Stainless Steel | Plain Finish, Black Oxide





Slotted Truss Head Drive Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	18-8 SS Part Number
6.00	6.00	M4 x 0.7	4.00	10.50	3.00	Z4700M
6.00	12.00	M4 x 0.7	7.50	10.50	3.00	Z4705M
6.00	20.00	M4 x 0.7	11.50	10.50	3.00	Z4710M
6.00	25.00	M4 x 0.7	11.50	10.50	3.00	Z4715M
8.00	12.00	M6 x 1	7.50	14.00	4.00	Z4720M
8.00	20.00	M6 x 1	11.50	14.00	4.00	Z4725M
10.00	12.00	M6 x 1	7.50	17.50	5.00	Z4730M
10.00	16.00	M6 x 1	9.50	17.50	5.00	Z4731M
10.00	20.00	M6 x 1	9.50	17.50	5.00	Z4732M
10.00	25.00	M6 x 1	9.50	17.50	5.00	Z4734M

Slotted Drive Barrels — Metric

316 SS | Black Oxide, Plain



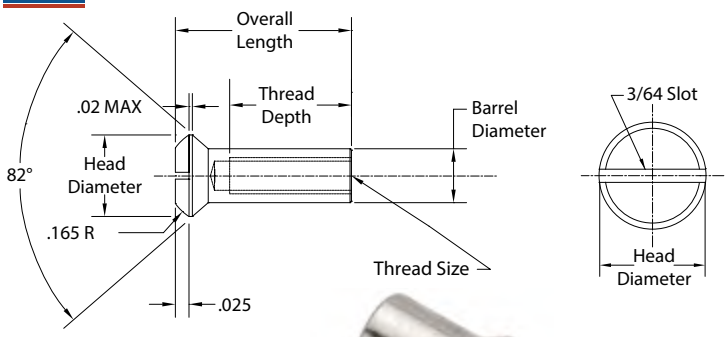
Slotted Truss Head Drive Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	316 SS Part Number	316 Black Ox. Part Number
5.00	6.00	M4 x 0.7	5.50	10.00	3.00	Z41M4X6-316	Z41M4X6-316BLK
5.00	8.00	M4 x 0.7	5.50	10.00	3.00	Z41M4X8-316	Z41M4X8-316BLK
5.00	10.00	M4 x 0.7	6.00	10.00	3.00	Z41M4X10-316	Z41M4X10-316BLK
5.00	12.00	M4 x 0.7	8.50	10.00	3.00	Z41M4X12-316	Z41M4X12-316BLK
5.00	16.00	M4 x 0.7	9.50	10.00	3.00	Z41M4X16-316	Z41M4X16-316BLK
5.00	20.00	M4 x 0.7	9.50	10.00	3.00	Z41M4X20-316	Z41M4X20-316BLK
5.00	22.00	M4 x 0.7	9.50	10.00	3.00	Z41M4X22-316	Z41M4X22-316BLK
5.00	25.00	M4 x 0.7	9.50	10.00	3.00	Z41M4X25-316	Z41M4X25-316BLK
6.50	6.00	M5 x 0.8	5.50	12.00	4 .00	Z41M5X6-316	Z41M5X6-316BLK
6.50	8.00	M5 x 0.8	5.50	12.00	4.00	Z41M5X8-316	Z41M5X8-316BLK
6.50	10.00	M5 x 0.8	7.50	12.00	4.00	Z41M5X10-316	Z41M5X10-316BLK
6.50	12.00	M5 x 0.8	8.50	12.00	4.00	Z41M5X12-316	Z41M5X12-316BLK
6.50	16.00	M5 x 0.8	9.50	12.00	4.00	Z41M5X16-316	Z41M5X16-316BLK
6.50	20.00	M5 x 0.8	9.50	12.00	4.00	Z41M5X20-316	Z41M5X20-316BLK
6.50	22.00	M5 x 0.8	9.50	12.00	4.00	Z41M5X22-316	Z41M5X22-316BLK
6.50	25.00	M5 x 0.8	9.50	12.00	4.00	Z41M5X25-316	Z41M5X25-316BLK
6.50	30.00	M5 x 0.8	9.50	12.00	4.00	Z41M5X30-316	Z41M5X30-316BLK
6.50	40.00	M5 x 0.8	9.50	12.00	4.00	Z41M5X40-316	Z41M5X40-316BLK
6.50	50.00	M5 x 0.8	9.50	12.00	4.00	Z41M5X50-316	Z41M5X50-316BLK
7.50	10.00	M6 x 1	7.50	14.00	4.20	Z41M6X10-316	Z41M6X10-316BLK
7.50	12.00	M6 x 1	8.50	14.00	4.20	Z41M6X12-316	Z41M6X12-316BLK
7.50	16.00	M6 x 1	9.50	14.00	4.20	Z41M6X16-316	Z41M6X16-316BLK
7.50	20.00	M6 x 1	9.50	14.00	4.20	Z41M6X20-316	Z41M6X20-316BLK
7.50	22.00	M6 x 1	9.50	14.00	4.20	Z41M6X22-316	Z41M6X22-316BLK
7.50	25.00	M6 x 1	9.50	14.00	4.20	Z41M6X25-316	Z41M6X25-316BLK
7.50	30.00	M6 x 1	9.50	14.00	4.20	Z41M6X30-316	Z41M6X30-316BLK
7.50	40.00	M6 x 1	9.50	14.00	4.20	Z41M6X40-316	Z41M6X40-316BLK
7.50	50.00	M6 x 1	9.50	14.00	4.20	Z41M6X50-316	Z41M6X50-316BLK
10.00	10.00	M8 x 1.25	9.50	17.50	4.40	Z41M8X10-316	Z41M8X10-316BLK
10.00	12.00	M8 x 1.25	9.50	17.50	4.40	Z41M8X12-316	Z41M8X12-316BLK
10.00	16.00	M8 x 1.25	9.50	17.50	4.40	Z41M8X16-316	Z41M8X16-316BLK
10.00	20.00	M8 x 1.25	12.50	17.50	4.40	Z41M8X20-316	Z41M8X20-316BLK
10.00	22.00	M8 x 1.25	12.50	17.50	4.40	Z41M8X22-316	Z41M8X22-316BLK
10.00	25.00	M8 x 1.25	12.50	17.50	4.40	Z41M8X25-316	Z41M8X25-316BLK
10.00	30.00	M8 x 1.25	12.50	17.50	4.40	Z41M8X30-316	Z41M8X30-316BLK
10.00	40.00	M8 x 1.25	12.50	17.50	4.40	Z41M8X40-316	Z41M8X40-316BLK
10.00	50.00	M8 x 1.25	12.50	17.50	4.40	Z41M8X50-316	Z41M8X50-316BLK

Slotted Oval Head Barrels — Inch

Slotted Oval Head Barrels are measured from over the head to the end of the barrel and have a standard 82° countersunk head.

Materials and finishes offered in:
- Steel | Nickel Plated
- Brass | Nickel Plated







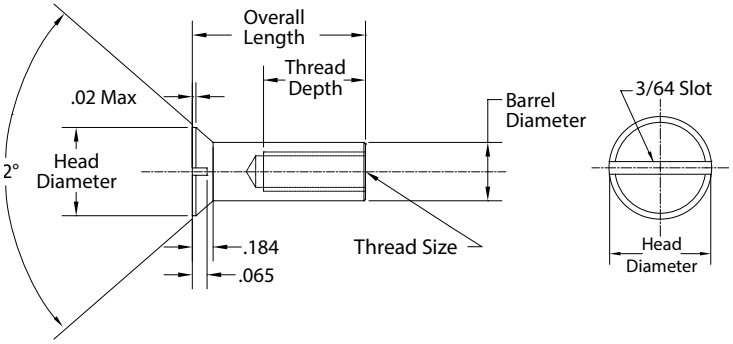
Barrel Diameter	O'all Length	Thread Size	Thread Depth	Head Dia.	Steel, Nickel Part Number
1/4	41/64	10-32	1/4	3/8	Z4816

Barrel Diameter	O'all Length	Thread Size	Thread Depth	Head Diameter	Brass, Nickel Part Number
3/16	19/64	6-32	.200	1/4	Z4800
	25/64	6-32	.200	9/32	Z4802
	17/32	6-32	5/16	1/4	Z4804
	43/64	6-32	3/8	3/8	Z4810
3/16	5/8	6-32	5/16	1/4	Z4806
1/4	7/16	8-32	1/4	23/64	Z4812
	7/16	10-32	.275	11/32	Z4814

Slotted Flat Head Barrels — Inch

Slotted Flat Head Barrels are measured from over the head to the end of the barrel and have a standard 82° countersunk head.

Materials and finishes offered in:
- 18-8 SS, Plain Finish
- Brass, Plain Finish
- Steel, Zinc Plated





Tapped Thru Head



Closed Head

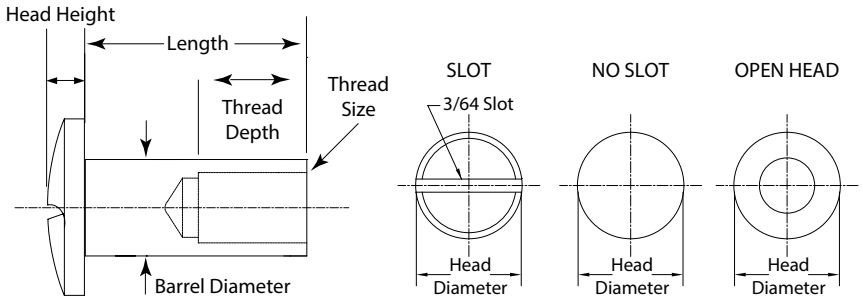
Barrel Diameter	Overall Length	Thread Size	Thread Depth	Head Diameter	Material, Finish	Part Number
13/64	27/64	8-32	Thru	5/16	Steel, Zinc	Z4830
	1/2	8-32	Thru	5/16	Brass, Plain	Z4832
	3/4	8-32	Thru	5/16	Brass, Plain	Z4834
5/16	7/16	10-32	Thru	1/2	18-8 Stainless	Z5026
	3/4	10-32	Thru	1/2	18-8 Stainless	Z5028
	1	10-32	Thru	1/2	18-8 Stainless	Z5030
.425	3/4	5/16-18	Thru	.715	18-8 Stainless	Z5035
	1	5/16-18	.600	.715	18-8 Stainless	Z5040

Steel,
18-8 SS

Grommet Nuts — Inch

For hinge installations — available with slot for ease of installation, or without any slot for security installations. Used on full surface, half surface and half mortise hinges, prison hinges and heavy-duty institutional hinges. Also used for installing door closers, panic bars, exit devices kick plates, push plates, and all types of surface mounted door hardware.

Materials and finishes offered in:
- Steel | Zinc Plated, Brass Plated
- 18-8 Stainless Steel | Plain Finish





Slotted Grommet Nuts

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Dia.	Steel, Zinc Part Number	Steel, Brass Part Number	18-8 SS Part Number
5/16	1/2	10-32	1/4	7/16	Z4530	Z4518	Z4720
5/16	1/2	12-24	1/4	7/16	Z4511	Z4513	Z4516
3/8	1/2	1/4-20	1/4	9/16	Z4540	Z4514	Z4730
1/2	1/2	3/8-16	1/4	3/4	Z4512	Z4515	Z4517



No Slot Grommet Nuts

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Dia.	Steel, Zinc Part Number	Steel, Brass Part Number	18-8 SS Part Number
5/16	1/2	10-32	1/4	7/16	Z4521	Z4525	Z4529
5/16	1/2	12-24	1/4	7/16	Z4522	Z4526	Z4531
3/8	1/2	1/4-20	1/4	9/16	Z4523	Z4527	Z4532
1/2	1/2	3/8-16	1/4	3/4	Z4524	Z4528	Z4533



Open Head, Fully Threaded Grommet Nuts

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Dia.	Steel, Zinc Part Number	Steel, Brass Part Number	18-8 SS Part Number
5/16	1/2	10-32	1/4	7/16	Z4750	Z4760	Z4770
5/16	1/2	12-24	1/4	7/16	Z4751	Z4761	Z4771
3/8	1/2	1/4-20	1/4	9/16	Z4752	Z4762	Z4772
1/2	1/2	3/8-16	1/4	3/4	Z4753	Z4763	Z4773

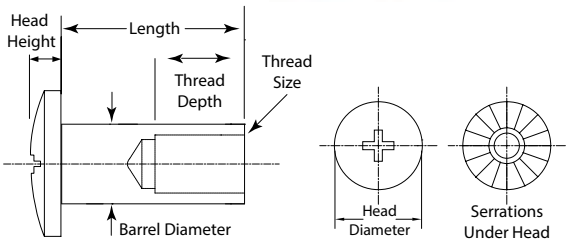
Phillips Truss Head Barrels — Inch

IMPORT

These female barrels have a Phillips Truss Head, no knurl under the head, no mating screw. These barrels have serrations under the head.

Materials and finishes offered in:
- Steel | Chrome Plated
- 18-8 Stainless Steel | Plain Finish





Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	Steel, Chrome Part Number
1/4	1/2	10-24	3/8	13/32	1/8	Z4850

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Head Diameter	Head Height	18-8 SS Part Number
3/16	3/8	6-32	1/4	3/8	3/32	Z4740
7/32	3/8	8-32	1/4	7/16	3/32	Z4741
1/4	1/2	10-24	3/8	9/16	9/64	Z4742
5/16	5/8	1/4-20	7/16	11/16	3/16	Z4743
3/8	3/4	5/16-18	5/8	3/4	7/32	Z4744
7/16	3/4	3/8-16	5/8	15/16	7/32	Z4745
7/16	3/4	3/8-16	5/8	13/16	7/32	Z4746

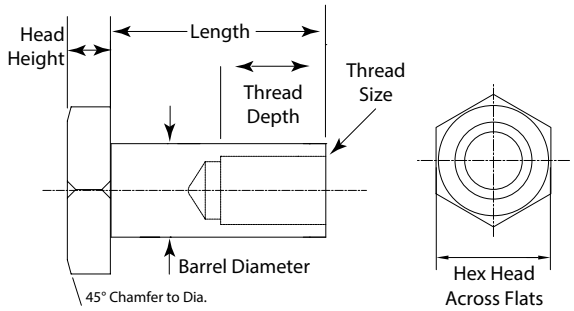
Hex Head Barrels — Inch

MADE IN THE USA

These sex bolts have hex heads, no knurl under the head, no mating screw.



Materials and finishes offered in:
- 18-8 Stainless Steel | Plain Finish



Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Across Flats	Head Height	18-8 SS Part Number
	1/2	10-24	5/16	1/2	3/16	Z4180-SS
5/16	3/4	10-24	3/8	1/2	3/16	Z4181-SS
	1	10-24	3/8	1/2	3/16	Z4182-SS
	1/2	1/4-20	5/16	5/8	13/64	Z4185-SS
3/8	3/4	1/4-20	3/8	5/8	13/64	Z4186-SS
	1	1/4-20	3/8	5/8	13/64	Z4187-SS
	1/2	3/8-16	5/16	3/4	1/4	Z4190-SS
1/2	3/4	3/8-16	3/8	3/4	1/4	Z4191-SS
	1	3/8-16	3/8	3/4	1/4	Z4192-SS

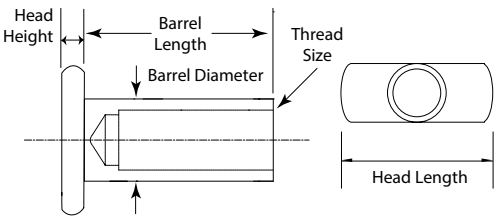
T Head Barrels — Inch

IMPORT

Special "T Slot" style head is used in commerical railing systems.



Materials and finishes offered in:
- Aluminum | Plain Finish



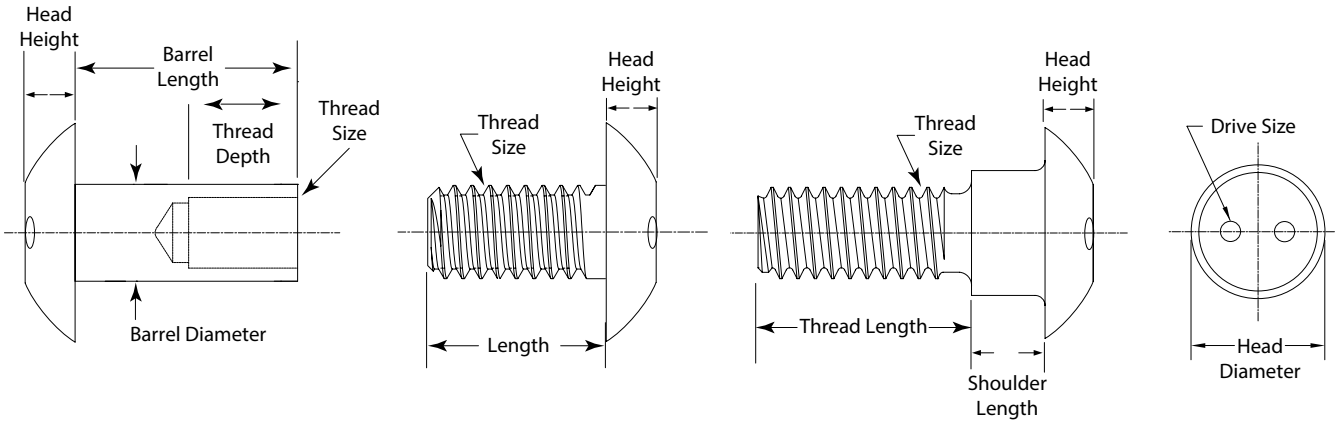
Barrel Length	Thread Size	Head Length	Head Width	Head Height	Part Number
3/8	8-32	.406	.210	1/16	Z4660
1/2	8-32	.406	.210	1/16	Z4661
5/8	8-32	.406	.210	1/16	Z4662
3/4	8-32	.406	.210	1/16	Z4663

Spanner Drive Barrels & Screws — Metric

AMPG has developed a metric line of Tamper-Resistant Binding Barrel and Screw Sets. These mating fasteners consist of a barrel with an internal thread and a complementary threaded screw. Both the barrel and screw have identical truss heads with drilled spanner drives, also known as snake-eye spanner drives. A truss head distributes holding pressure to reduce the likelihood of crushing thin and softer materials and provides more bearing surface for improved holding power. Barrel lengths are measured from under the head to end of barrel. Thread fit is Class 6H for barrels; Class 6g for screws.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain Finish



Spanner Drive Dimensions — Metric

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
6	M4 x 0.7	10.50	4.00	#14
8	M6 x 1	17.50	4.00	#14



Spanner Drive Barrels — Metric

18-8 SS | Plain Finish



Spanner Drive Barrels

Barrel Diameter	Barrel Length	Thread Size	Thread Depth	Drive* Size	Part Number
6.00	10.00	M4 x 0.7	7.50	#14	Z1700SDM
	12.00	M4 x 0.7	7.50	#14	Z1702SDM
6.00	20.00	M4 x 0.7	9.50	#14	Z1706SDM
	40.00	M4 x 0.7	9.50	#14	Z1712SDM
8.00	12.00	M6 x 1	7.50	#14	Z1716SDM
8.00	20.00	M6 x 1	9.50	#14	Z1720SDM
	30.00	M6 x 1	9.50	#14	Z1724SDM



Spanner Drive Sets

Grip Range	Barrel Length	Thread Size	Screw Length	Shoulder Screw Lg.	Set Part Number
10 to 12mm	10.00	M4 x 0.7	6.00	—	Z1700SDMPAK
12 to 14mm	12.00	M4 x 0.7	6.00	—	Z1702SDMPAK
16 to 18mm	12.00	M4 x 0.7	6.00	4.00	Z1704SDMPAK
20 to 22mm	20.00	M4 x 0.7	8.00	—	Z1706SDMPAK
25 to 27mm	20.00	M4 x 0.7	8.00	5.00	Z1708SDMPAK
30 to 32mm	20.00	M4 x 0.7	8.00	10.00	Z1710SDMPAK
40 to 42mm	40.00	M4 x 0.7	8.00	—	Z1712SDMPAK
50 to 52mm	40.00	M4 x 0.7	8.00	10.00	Z1714SDMPAK
12 to 14mm	12.00	M6 x 1	6.00	—	Z1716SDMPAK
16 to 18mm	12.00	M6 x 1	6.00	4.00	Z1718SDMPAK
20 to 22mm	20.00	M6 x 1	8.00	—	Z1720SDMPAK
25 to 27mm	20.00	M6 x 1	8.00	5.00	Z1722SDMPAK
30 to 32mm	30.00	M6 x 1	8.00	—	Z1724SDMPAK
40 to 42mm	30.00	M6 x 1	8.00	10.00	Z1726SDMPAK

Spanner Drive Dimensions — Metric

Barrel Dia.	Thread Size	Head Dia.	Head Height	Drive Size
6	M4 x 0.7	10.50	4.00	#14
8	M6 x 1	17.50	4.00	#14



Spanner Drive Screws

Thread Size	Length	Drive* Size	Part Number
M4 x 0.7	6.00	#14	Z1952SDM
M4 x 0.7	8.00	#14	Z1954SDM
M6 x 1	6.00	#14	Z1956SDM
M6 x 1	8.00	#14	Z1958SDM



Spanner Drive Shoulder Screws

Thread Size	Thread Length	Shoulder Length	Drive* Size	Part Number
M4 x 0.7	6.00	4.00	#14	Z1900SDM
M4 x 0.7	8.00	5.00	#14	Z1910SDM
M4 x 0.7	8.00	10.00	#14	Z1920SDM
M6 x 1	6.00	4.00	#14	Z1930SDM
M6 x 1	8.00	5.00	#14	Z1940SDM
M6 x 1	8.00	10.00	#14	Z1950SDM

**Drilled Spanner #14 designed for Head Diameters of .414" to .687 (10.5mm - 17.5mm). Hole Ctr.-to-Ctr.is .250" (6.35mm).*

Longevity

Since 1995, Accurate Manufactured Products Group (AMPG) has been a stocking manufacturer of precision components, harA-to-find fasteners and industrial products.

Strategic Location

AMPG's 147,200 square foot facility is located in the Heart of the Midwest which gives us access to high-quality machinists/employees as well as being strategically located for fast delivery.

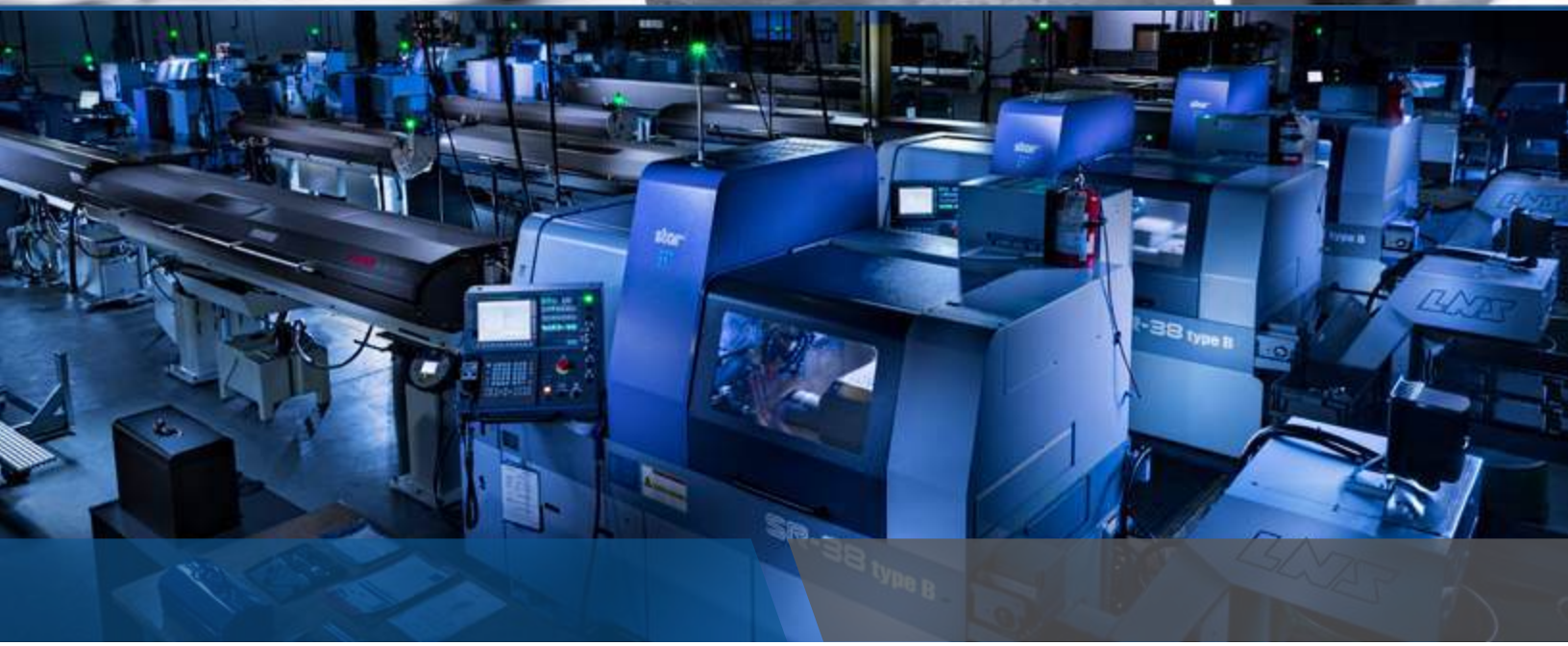
Advanced Equipment

Our manufacturing facility operates 24/7, producing precision parts on state-of-the-art CNC Swiss Lathes. Parts are made from high quality materials with a superior machined finish.

Superior Quality

Our advanced electronic Quality Control systems are employed on the manufacturing floor to catch trends before bad parts are produced.





Visit us online at ampg.com or email sales@ampg.com

8090 Woodland Drive
Indianapolis, IN 46278

p: 317.472.9000
f: 317.472.9010

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

MADE IN THE USA

Visit us online at ampg.com or email sales@ampg.com

8090 Woodland Drive
Indianapolis, IN 46278

p: 317.472.9000
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AMPG

ACCURATE
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PRODUCTS
GROUP

Shoulder Screws



ISO 9001:2015

MADE IN THE USA

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Indianapolis, IN 46278

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f: 317.472.9010

"Beautiful Parts, Right Now"



Longevity

AMPG is a privately-owned family business started by current management in 1987. With the second generation in the business, already for many years, we are realizing a future of serving our customers, collaborating with our employees, and contributing to a vibrant domestic manufacturing economy.

Philosophy

We are proud to be an American manufacturer dedicated to solving large problems that affect small numbers of customers. We are committed to our team, our products, and our customers.

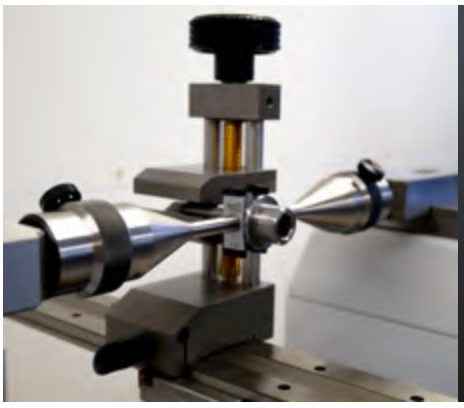
Our continuous capital investments in production equipment, employees, automation, and inspection technologies allows us to design thousands of new items a year, get them into large distributor channels and produce on demand small quantities in a few days.

Stock & Custom...*FAST*

As a precision manufacturer of specialized fasteners, architectural hardware, mechanical components and industrial accessories, AMPG stocks over 50,000 products. We also offer custom manufacturing supported by design, product testing and engineering services. To see the latest and most complete catalog of our over 50,000 different items, visit **www.ampg.com.**

How to Buy Our Products

Visit us **online**, email us at **sales@ampg.com** or give us a call at **317.472.9000** and we can help you with your inquiry. Our stock line of parts ships same day from Indianapolis, Indiana.







Index

Page	Description
i	About AMPG
ii - iii	AMPG Materials
	ASME Tolerance
B-2 to B-50	Knurled Head
	B-2 to B-13 Inch 18-8 SS, 316 SS
	B-14 to B-22 Metric 18-8 SS, 316 SS
	B-23 to B-30 Inch Alloy Steel
	B-31 to B-35 Metric Alloy Steel
	B-36 to B-47 Inch 17-4PH SS, 316 H5 SS, Aluminum, Nickel (Monel) and Grade 2 Titanium
	B-48 to B-50 Metric 17-4PH SS, 316 H5 SS, Aluminum, Nickel (Monel) and Grade 2 Titanium
B-51 to B-59	Shortened Thread Knurled Head
	B-51 to B-54 Inch 18-8 SS, 316SS
	B-55 to B-56 Inch Alloy Steel
	B-57 to B-58 Metric 18-8 SS, 316 SS
	B-59 Metric Alloy Steel
B-60 to B-62	Self-Locker Knurled Head — 18-SS, 316 SS
B-63	Left Hand Threaded Knurled Head — 18-8 SS
B-64 to B-74	Oversized Thread Knurled Head
	B-64 to B-71 Inch 18-8 SS,316 SS, Alloy Steel
	B-72 to B-78 Metric 18-8 SS,316 SS, Alloy Steel
B-79 to B-82	Oversized Extended Thread Knurled Head
	B-79 to B-82 Inch 18-8 SS
	B-76 to B-84 Metric 18-8 SS
B-85 to B-88	Low Profile Knurled Head — Alloy
B-89 to B-90	Ultra Low Profile Knurled Head — Alloy
B-91 to B-92	Flat 82° Head — 18-8 SS
B-93	External Wrenching Hex Head — 18-8 SS, Gr2 Steel
B-94	Double Drive Knurled Head — 18-8 SS
B-95	Shoulder Nuts for Studs and Bolts — 18-8 SS
B-96 to B-97	How to Order Custom Shoulder Screws
B-98	Lengthening and Shortening Shim Washers — 18-8 SS
	Tight Tolerance
B-99 to B-124	Smooth Head — 18-8 SS, 316 SS, 416 SS, A286, Alloy, Brass
B-125 to B-127	Extended Thread Smooth Head — 18-8 SS, 316 SS
B-128 to B-130	Mil Spec Smooth Head — 18-8 SS
B-131 to B-142	Low Profile Smooth Head — Hex Drive — 18-8 SS, 316 SS, Alloy, Brass
B-143 to B-149	Ultra Low Profile Smooth Head — 316 SS

About AMPG



We Make Beautiful Parts, Right Now

AMPG (Accurate Manufactured Products Group) is a privately owned family business started by current management in 1987. Our 2nd generation is well experienced and active in the business and dedicated to keeping AMPG a closely held family firm.

We are Proud to be an American Manufacturer

AMPG is a Make to Stock Manufacturer of over 50,000 unique items. New products are our lifeblood, and we have a long term strategic plan in place to introduce thousands of new products each and every year.

Our 147,000 Sq Ft facility in Indianapolis supports low to medium volume manufacturing runs with over 70 late model and brand new CNC Lathes, Mills, and Thread Rolling equipment. AMPG has an aggressive investment program in the latest and most advanced Production, Automation, and Inspection equipment, as well as software and engineering systems to run our business as efficiently as possible.

ISO Certification to 9001:2015 was attained to anchor the culture of continual improvement both on and off the production floor. ISO 17065 Product Certification will be applied for in 2023, and ISO 17025 will be used to certify our in house Lab also in 2023. The latest in measuring, testing, and monitoring equipment is used to insure product quality and fast lead times. Lean principles guide the manufacturing process using robots, vision systems, and machine monitoring to enable continuous unmanned production around the clock.

Family Owned, Family Operated

AMPG began in Plainview, NY in 1987, and moved to Indianapolis, Indiana in 2004 in order to find the skilled machinists that are the foundation of our success. We are especially proud of our employee retention (as of 2022 all of our core team members will have over 15 years with the company), and the families second generation has over 18 years experience. We have a unique training method that allows us to grow our manufacturing capabilities to match our product and sales plan.

Our dedication to our employees is evidenced by their longevity and the numerous safety and healthiest employer awards we have won over the years.

Product Quality, Appearance and Quick Deliveries are Foundational Goals

AMPG makes and stocks hard-to-find fasteners, components, and fittings. We ship same day from our Indianapolis facility. We offer custom manufacturing capabilities including design, product testing, and engineering services. Our Made-to-Order program produces as little as one part within 7 days.

A Simple Philosophy

Provide a great customer experience by having beautiful, precise, and hard to find products ready to ship today.

"All AMPG Shoulder Screws are Precision Made"

AMPG has assembled the most complete line of nonferrous shoulder screws manufactured in North America. Each shoulder bolt is made in one operation on state of the art Swiss Lathes. AMPG begins with precision ground DFARS compliant material. A finished part is made in one operation without the need for secondary broaching, slotting or thread rolling which can lead to many inconsistencies. AMPG's process ensures shoulder diameter concentricity and tight tolerances. Each part is then carefully cleaned and packaged.

AMPG manufactures two types of precision shoulder screws, Knurled Head and Smooth Head. Both types have shoulders that are held to a precise diameter. This dimension determines the type of component the shoulder can accommodate.

Knurled head shoulder screws are made to ASME shoulder tolerance and have been the industry standard suitable for use in machinery, and other critical mechanical applications. Smooth head, also known as precision-grade shoulder screws, have tighter shoulder tolerances making them ideal for use with ball bearings and other precision components.

Ordering Shoulder Screws: Shoulder screws are specified by shoulder diameter and shoulder length. For instance, a 5/16 x 3/8-inch shoulder screw has a shoulder diameter of 5/16-inch and shoulder length of 3/8 inch. This differs from other screws and bolts, where this size represents the screws thread size and a thread length.

Some guidelines for choosing between the materials we produce are shown below.

Material Type	Specification	Tensile, psi	Yield, psi	Estimated Shear, psi	Elongation	Brinell Hardness	Rockwell Hardness
Aluminum 6061-T6	ASTM B211	45,000	40,000	22,500	17%	BHN 95	B56
Brass 360	ASTM B16	58,000	45,000	29,000	25%	BHN 143	B78
Nickel Alloy 405 *(Monel)*	ASTM B164	85,000	60,000	42,500	24%	BHN 163	B85
Stainless Steel 18-8 *(303)*	ASTM A582	90,000	35,000	45,000	50%	BHN 160	B83
Stainless Steel 316 *(316/316L)*	ASTM A276	75,000	30,000	37,500	45%	BHN 160	B83
Stainless Steel High Five® *(316 H5)*	ASTM A276	125,000	100,000	62,500	26%	BHN 250	C25
Stainless Steel 416	Cond A ASTM A582 Cond T	75,000 123,000	40,000 110,000	37,500 61,500	30% 11%	BHN 155 BHN 245	B82 C24
Stainless Steel 17-4 PH	Cond A ASTM A564 TYPE 630	160,000	145,000	80,000	15%	BHN 332	C36
Stainless Steel A286	ASTM A638 GR 660	160,000	120,000	80,000	27%	BHN 248	C24
Steel 12L14	ASTM A108	78,000	60,000	39,000	15%	BHN 160	B84
Steel Alloy C4140/41L40 *(Alloy)*	ASTM A108 Cold ASTM A108 Thru Hard	105,000 140,000	85,000 n/a	52,500 70,000	15% n/a	BHN 187 BHN 300	B91 C32
Steel Grade 2	ASTM A307 Equivalent	60,000	36,000	30,000	18%	BHN160	B70
Titanium Grade 2	ASTM B348 GR 2	75,000	55,000	37,500	20%	BHN 163	B85
Titanium Grade 5 *(6AL-4V)*	ASTM B348 GR 5	140,000	125,000	70,000	18%	BHN 296	C32

Note: Listed Mechanical Properties are obtained from various suppliers and is intended for comparison of materials, only. Values are based on raw material specifications. AMPG assumes no obligation and liability for the accuracy of this information. For critical applications, product testing may be appropriate.

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About Our Materials

Aluminum

- Aluminum has the strength of mild steel with one third the weight.
- Resists corrosion in wet environments.
- Lightweight material used for fittings, hardware and fasteners.
- Nonmagnetic.

Brass

- Brass is a softer material approximately two-thirds copper and one-third zinc.
- Provides good resistance to rust and atmospheric corrosion.
- Friction-resistant material used for gears, bearings, fasteners and valves.
- Nonmagnetic.

Nickel Alloy 405 (Monel)

- Nickel (Monel) aka nickel-copper alloy is a higher-strength material.
- Excellent resistance in corrosive environments: sea water, some acids, alkalies.
- Marine industry material used for propellers, heat exchangers and valves.
- May be mildly magnetic.

Stainless Steel 18-8 (303)

- Type 303 stainless offers excellent corrosion resistance.
- Resists chemicals, most dyes, food and nitric acid.
- Corrosion-resistant material used for screws, bushings, nuts and hardware.
- May be mildly magnetic.

Stainless Steel 316 (316/316L)

- Type 316 stainless offers superior corrosion resistance than Type 303 stainless.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Low-maintenance material used in commercial kitchens and food processing.
- May be mildly magnetic.

**AMPG uses dual certified Type 316/316L stainless material. Meets all 316 stainless properties but has lower carbon content, making it more suitable for welding.*

Stainless Steel High Five® (316H5)

- High Five® Stainless is AMPG's higher strength grade of 316 stainless steel.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Corrosion-resistance material with strength equivalent to Grade 5 steel materials.
- May be mildly magnetic.

Stainless Steel 416

- Type 416 stainless can be hardened up to Maximum Rockwell C40 after heat treatment.
- Resists acids, alkalis, fresh water and dry air.
- Non-galling and hardenable material used for fittings, gears, shafts and screws.
- Magnetic.



Aluminum *Brass* *Stainless Steel* *Steel*

Stainless Steel 17-4 PH

- Type 17-4 PH stainless maintains excellent corrosion resistance and strength at high temperatures.
- Resists chemicals, most dyes, food and nitric acid.
- High-strength material used for fittings, valves, bolts and shafts.
- Mildly magnetic.

Stainless Steel A286

- Type A286 stainless maintains superior corrosion resistance and strength at high temperatures, exceeding 17-4 PH performance.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- High-strength material used for fittings, valves, bolts and shafts. Used in high heat/stress applications such as jet engines, gas turbines, and super-charges.
- Nonmagnetic.

Steel Carbon 12L14

- 12L14 steel is used in many general-purpose applications.
- Material requires a finish to resist rust, such as black-oxide treatment or zinc plating.
- Low-strength material used for bushings, washers, inserts, fittings, screws and nuts.
- Magnetic.

Steel Alloy 4140/41L40 (Alloy Steel)

- Alloy 4140 is a "primary" material used high strength fasteners and components.
- Material requires a finish to resist rust, such as black-oxide treatment or zinc plating.
- High-strength material that exceed Grade 8 used for socket screws, studs and components, only after heat treatment.
- Magnetic.

Titanium Gr 2

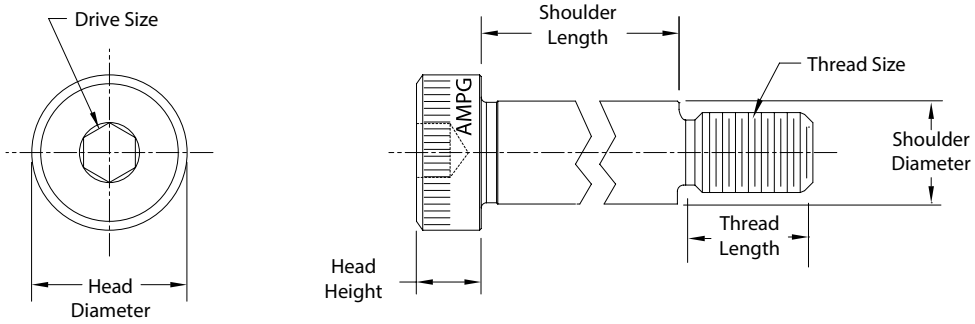
- Titanium Grade 2 is best known for being strong, lightweight and corrosion resistant.
- Resists chlorides, hypochlorites, chlorates, perchlorates and chlorine dioxide.
- Lightweight material used for chemical-processing equipment, heat exchangers and fasteners.
- Nonmagnetic.

Titanium Gr 5 (6AL-4V)

- Titanium Grade 5 is two times stronger than Grade 2, and four times stronger than 316 stainless at nearly half the weight.
- Resists chlorides, hypochlorites, chlorates, perchlorates and chlorine dioxide.
- Lightweight material used for higher-strength fasteners, racing components and marine hardware.
- Nonmagnetic.

Knurled Head Shoulder Screws — Inch

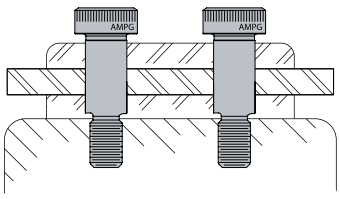
Also known as stripper bolts, they're commonly used as a stationary guide for stripper plates, as a pivot point for moving parts, and as a shaft for rolling parts. Shoulder screws have an unthreaded shoulder made with an undersized tolerance to fit most machinery and equipment. The unthreaded shoulder is held to a precise diameter and length. Screws are machined with a precision hex socket for maximum wrenching strength, knurled heads for sure finger grip, and an undercut portion between the thread and shoulder, allowing a close fit. The shoulder diameter tolerance is -.002 to -.004 inches and the shoulder length tolerance is ±.005 inches. ASME tolerance shoulder screws have a Class 3A thread fit. *Heads are knurled, stamped, or both to provide finger grip. Black oxide plating is available for 18-8 and 316 ASME Shoulder Screws. Black Oxide plating enhances appearance and cuts down on light reflection and glare.



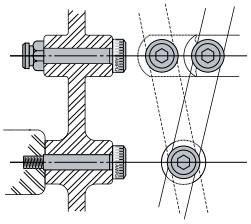
Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
3/32	.091 to .089	5/32	3/32	5/64	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
1/8	.123 to .121	1/4	1/8	5/64	
5/32	.154 to .152	9/32	1/8	3/32	
3/16	.185 to .183	5/16	5/32	3/32	
7/32	.216 to .214	5/16	5/32	3/32	
1/4	.248 to .246	3/8	3/16	1/8	Head Mark and Knurl
5/16	.310 to .308	7/16	7/32	5/32	
3/8	.373 to .371	9/16	1/4	3/16	
1/2	.498 to .496	3/4	5/16	1/4	
5/8	.623 to .621	7/8	3/8	5/16	Head Mark and Knurl
3/4	.748 to .746	1	1/2	3/8	
7/8	.873 to .871	1-5/16	5/8	1/2	
1	.998 to .996	1-5/16	5/8	1/2	
1-1/4	1.248 to 1.246	1-3/4	3/4	5/8	Head Mark and Knurl
1-1/2	1.498 to 1.496	2-1/8	1	7/8	

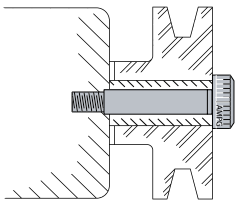
Head appearance may be knurled and/or head marked. 18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



Shoulder Screw as a Guide



Shoulder Screw as a Pivot Point



Shoulder Screw as a Shaft



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

ASME Tolerance Knurled Head — Inch

18-8 and 316 Stainless Steels — Hex Drive

- Shoulder diameters of 1/8, 5/32, 3/16 and 7/32 meet our internal specification AMPG 2012 ZS.01.
- Shoulder diameters of 1/4 and larger meet or exceed ANSI/ASME B18.3.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 and 316 stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR60133S164-.13



STR60118S348-.13

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/32 x .130	1-64 x 1/8	STR60133S164-.13	STR60233S164-.13
3/32 x .160		STR60133S164-.16	STR60233S164-.16
3/32 x 1/16	2-56 x 1/8	STR60133C01	STR60233C01
3/32 x 3/32		STR60133C01.5	STR60233C01.5
3/32 x 1/8		STR60133C02	STR60233C02
3/32 x 5/32		STR60133C02.5	STR60233C02.5
3/32 x 1/4	1-64 x 1/8	STR60133S164-.25	STR60233S164-.25
3/32 x 3/16	2-56 x 1/8	STR60133C03	STR60233C03
3/32 x 7/32		STR60133C03.5	STR60233C03.5
3/32 x 1/4		STR60133C04	STR60233C04
3/32 x 9/32		STR60133C04.5	STR60233C04.5
3/32 x .310	1-64 x 1/8	STR60133S164-.31	STR60233S164-.31
3/32 x 5/16	2-56 x 1/8	STR60133C05	STR60233C05
3/32 x 3/8		STR60133C06	STR60233C06
3/32 x 7/16		STR60133C07	STR60233C07
3/32 x 1/2		STR60133C08	STR60233C08
3/32 x 5/8	2-56 x 1/8	STR60133C10	STR60233C10
3/32 x 3/4		STR60133C12	STR60233C12
3/32 x 7/8		STR60133C14	STR60233C14
3/32 x 1		STR60133C16	STR60233C16
3/32 x 1-1/4	2-56 x 1/8	STR60133C20	STR60233C20
3/32 x 1-1/2		STR60133C24	STR60233C24



Black Oxide

18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/8 x .130	3-48 x 5/32	STR60118S348-.13	STR60218S348-.13
1/8 x .160		STR60118S348-.16	STR60218S348-.16
1/8 x 1/8	4-40 x 5/32	STR60118C02	STR60218C02
1/8 x 5/32		STR60118C02.5	STR60218C02.5
1/8 x 3/16		STR60118C03	STR60218C03
1/8 x 7/32		STR60118C03.5	STR60218C03.5
1/8 x 1/4	3-48 x 5/32	STR60118S348-.25	STR60218S348-.25
1/8 x .310		STR60118S348-.31	STR60218S348-.31
1/8 x 1/4	4-40 x 5/32	STR60118C04	STR60218C04
1/8 x 9/32		STR60118C04.5	STR60218C04.5
1/8 x 5/16		STR60118C05	STR60218C05
1/8 x 11/32		STR60118C05.5	STR60218C05.5
1/8 x .380	3-48 x 5/32	STR60118S348-.38	STR60218S348-.38
1/8 x 3/8	4-40 x 5/32	STR60118C06	STR60218C06
1/8 x 13/32		STR60118C06.5	STR60218C06.5
1/8 x 7/16		STR60118C07	STR60218C07
1/8 x 15/32		STR60118C07.5	STR60218C07.5
1/8 x 1/2	3-48 x 5/32	STR60118S348-.50	STR60218S348-.50
1/8 x 1/2	4-40 x 5/32	STR60118C08	STR60218C08
1/8 x 9/16		STR60118C09	STR60218C09
1/8 x 5/8		STR60118C10	STR60218C10
1/8 x 11/16		STR60118C11	STR60218C11
1/8 x 3/4	3-48 x 5/32	STR60118S348-.75	STR60218S348-.75
1/8 x 3/4	4-40 x 5/32	STR60118C12	STR60218C12
1/8 x 13/16		STR60118C13	STR60218C13
1/8 x 7/8		STR60118C14	STR60218C14
1/8 x 15/16		STR60118C15	STR60218C15
1/8 x 1	3-48 x 5/32	STR60118S348-1.00	STR60218S348-1.00
1/8 x 1-1/4		STR60118S348-1.25	STR60218S348-1.25

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR60118C16

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/8 x 1	4-40 x 5/32	STR60118C16	STR60218C16
1/8 x 1-1/8		STR60118C18	STR60218C18
1/8 x 1-1/4		STR60118C20	STR60218C20
1/8 x 1-3/8		STR60118C22	STR60218C22
1/8 x 1-1/2	3-48 x 5/32	STR60118S348-1.50	STR60218S348-1.50
1/8 x 1-1/2	4-40 x 5/32	STR60118C24	STR60218C24
1/8 x 1-5/8		STR60118C26	STR60218C26
1/8 x 1-3/4		STR60118C28	STR60218C28
1/8 x 1-7/8		STR60118C30	STR60218C30
1/8 x 2	4-40 x 5/32	STR60118C32	STR60218C32
1/8 x 2-1/4		STR60118C36	STR60218C36
1/8 x 2-1/2		STR60118C40	STR60218C40
1/8 x 3		STR60118C48	STR60218C48



STR60153S540-.13

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/32 x .130	5-40 x 3/16	STR60153S540-.13	STR60253S540-.13
5/32 x .160		STR60153S540-.16	STR60253S540-.16
5/32 x .190		STR60153S540-.19	STR60253S540-.19
5/32 x 1/8	6-32 x 3/16	STR60153C02	STR60253C02
5/32 x 5/32		STR60153C02.5	STR60253C02.5
5/32 x 3/16		STR60153C03	STR60253C03
5/32 x 7/32		STR60153C03.5	STR60253C03.5
5/32 x 1/4	5-40 x 3/16	STR60153S540-.25	STR60253S540-.25
5/32 x .310		STR60153S540-.31	STR60253S540-.31
5/32 x 1/4	6-32 x 3/16	STR60153C04	STR60253C04
5/32 x 9/32		STR60153C04.5	STR60253C04.5
5/32 x 5/16		STR60153C05	STR60253C05
5/32 x 11/32		STR60153C05.5	STR60253C05.5
5/32 x .380	5-40 x 3/16	STR60153S540-.38	STR60253S540-.38



STR60153C06

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/32 x 3/8	6-32 x 3/16	STR60153C06	STR60253C06
5/32 x 13/32		STR60153C06.5	STR60253C06.5
5/32 x 7/16		STR60153C07	STR60253C07
5/32 x 15/32		STR60153C07.5	STR60253C07.5
5/32 x 1/2	5-40 x 3/16	STR60153S540-.50	STR60253S540-.50
5/32 x 1/2	6-32 x 3/16	STR60153C08	STR60253C08
5/32 x 9/16		STR60153C09	STR60253C09
5/32 x 5/8		STR60153C10	STR60253C10
5/32 x 11/16		STR60153C11	STR60253C11
5/32 x 3/4	5-40 x 3/16	STR60153S540-.75	STR60253S540-.75
5/32 x 3/4	6-32 x 3/16	STR60153C12	STR60253C12
5/32 x 13/16		STR60153C13	STR60253C13
5/32 x 7/8		STR60153C14	STR60253C14
5/32 x 15/16		STR60153C15	STR60253C15
5/32 x 1	5-40 x 3/16	STR60153S540-1.00	STR60253S540-1.00
5/32 x 1	6-32 x 3/16	STR60153C16	STR60253C16
5/32 x 1-1/8		STR60153C18	STR60253C18
5/32 x 1-1/4		STR60153C20	STR60253C20
5/32 x 1-3/8		STR60153C22	STR60253C22
5/32 x 1-1/2	6-32 x 3/16	STR60153C24	STR60253C24
5/32 x 1-5/8		STR60153C26	STR60253C26
5/32 x 1-3/4		STR60153C28	STR60253C28
5/32 x 1-7/8		STR60153C30	STR60253C30
5/32 x 2	6-32 x 3/16	STR60153C32	STR60253C32



STR60131S632-.13

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/16 x .130	6-32 x 3/16	STR60131S632-.13	STR60231S632-.13
3/16 x .190		STR60131S632-.19	STR60231S632-.19
3/16 x 1/8	8-32 x 3/16	STR60131C02	STR60231C02
3/16 x 5/32		STR60131C02.5	STR60231C02.5
3/16 x 3/16		STR60131C03	STR60231C03
3/16 x 7/32		STR60131C03.5	STR60231C03.5
3/16 x 1/4	6-32 x 3/16	STR60131S632-.25	STR60231S632-.25

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR60131S632-.31



STR60173S632-.13

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/16 x .310	6-32 x 3/16	STR60131S632-.31	STR60231S632-.31
3/16 x 1/4	8-32 x 3/16	STR60131C04	STR60231C04
3/16 x 9/32		STR60131C04.5	STR60231C04.5
3/16 x 5/16		STR60131C05	STR60231C05
3/16 x 11/32		STR60131C05.5	STR60231C05.5
3/6 x .380	6-32 x 3/16	STR60131S632-.38	STR60231S632-.38
3/16 x 3/8	8-32 x 3/16	STR60131C06	STR60231C06
3/16 x 13/32		STR60131C06.5	STR60231C06.5
3/16 x 7/16		STR60131C07	STR60231C07
3/16 x 15/32		STR60131C07.5	STR60231C07.5
3/16 x 1/2	6-32 x 3/16	STR60131S632-.50	STR60231S632-.50
3/16 x 1/2	8-32 x 3/16	STR60131C08	STR60231C08
3/16 x 9/16		STR60131C09	STR60231C09
3/16 x 5/8		STR60131C10	STR60231C10
3/16 x 11/16		STR60131C11	STR60231C11
3/16 x 3/4	6-32 x 3/16	STR60131S632-.750	STR60231S632-.750
3/16 x 3/4	8-32 x 3/16	STR60131C12	STR60231C12
3/16 x 13/16		STR60131C13	STR60231C13
3/16 x 7/8		STR60131C14	STR60231C14
3/16 x 15/16		STR60131C15	STR60231C15
3/16 x 1	6-32 x 3/16	STR60131S632-1.00	STR60231S632-1.00
3/16 x 1-1/2		STR60131S632-1.50	STR60231S632-1.50
3/16 x 1	8-32 x 3/16	STR60131C16	STR60231C16
3/16 x 1-1/8		STR60131C18	STR60231C18
3/16 x 1-1/4		STR60131C20	STR60231C20
3/16 x 1-3/8		STR60131C22	STR60231C22
3/16 x 1-1/2	8-32 x 3/16	STR60131C24	STR60231C24
3/16 x 1-5/8		STR60131C26	STR60231C26
3/16 x 1-3/4		STR60131C28	STR60231C28
3/16 x 1-7/8		STR60131C30	STR60231C30
3/16 x 2	6-32 x 3/16	STR60131L632-2.00	STR60231L632-2.00
3/16 x 2	8-32 x 3/16	STR60131C32	STR60231C32
3/16 x 2-1/4		STR60131C36	STR60231C36
3/16 x 2-1/2		STR60131C40	STR60231C40
3/16 x 3		STR60131C48	STR60231C48

7/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
7/32 x .130	6-32 x 3/16	STR60173S632-.13	STR60273S632-.13
7/32 x 1/8	8-32 x 3/16	STR60173C02	STR60273C02
7/32 x 5/32		STR60173C02.5	STR60273C02.5
7/32 x 3/16		STR60173C03	STR60273C03
7/32 x 7/32		STR60173C03.5	STR60273C03.5
7/32 x 1/4	6-32 x 3/16	STR60173S632-.25	STR60273S632-.25
7/32 x 1/4	8-32 x 3/16	STR60173C04	STR60273C04
7/32 x 9/32		STR60173C04.5	STR60273C04.5
7/32 x 5/16		STR60173C05	STR60273C05
7/32 x 11/32		STR60173C05.5	STR60273C05.5
7/32 x .380	6-32 x 3/16	STR60173S632-.38	STR60273S632-.38
7/32 x 3/8	8-32 x 3/16	STR60173C06	STR60273C06
7/32 x 13/32		STR60173C06.5	STR60273C06.5
7/32 x 7/16		STR60173C07	STR60273C07
7/32 x 15/32		STR60173C07.5	STR60273C07.5
7/32 x 1/2	6-32 x 3/16	STR60173S632-.50	STR60273S632-.50
7/32 x 1/2	8-32 x 3/16	STR60173C08	STR60273C08
7/32 x 9/16		STR60173C09	STR60273C09
7/32 x 5/8		STR60173C10	STR60273C10
7/32 x 3/4	6-32 x 3/16	STR60173S632-.75	STR60273S632-.75
7/32 x 11/16	8-32 x 3/16	STR60173C11	STR60273C11
7/32 x 3/4		STR60173C12	STR60273C12
7/32 x 13/16		STR60173C13	STR60273C13
7/32 x 7/8		STR60173C14	STR60273C14
7/32 x 1	6-32 x 3/16	STR60173S632-1.00	STR60273S632-1.00
7/32 x 15/16	8-32 x 3/16	STR60173C15	STR60273C15
7/32 x 1		STR60173C16	STR60273C16
7/32 x 1-1/8		STR60173C18	STR60273C18
7/32 x 1-1/4		STR60173C20	STR60273C20
7/32 x 1-1/2	6-32 x 3/16	STR60173S632-1.50	STR60273S632-1.50
7/32 x 1-3/8	8-32 x 3/16	STR60173C22	STR60273C22
7/32 x 1-1/2		STR60173C24	STR60273C24
7/32 x 1-5/8		STR60173C26	STR60273C26

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR60173C28

7/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
7/32 x 1-3/4	8-32 x 3/16	STR60173C28	STR60273C28
7/32 x 1-7/8		STR60173C30	STR60273C30
7/32 x 2	6-32 x 3/16	STR60173L632-2.00	STR60273L632-2.00
7/32 x 2	8-32 x 3/16	STR60173C32	STR60273C32
7/32 x 2-1/4		STR60173C36	STR60273C36
7/32 x 2-1/2		STR60173C40	STR60273C40



STR60114S832-.13

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/4 x .130	8-32 x 3/8	STR60114S832-.13	STR60214S832-.13
1/4 x .190		STR60114S832-.19	STR60214S832-.19
1/4 x 1/8	10-24 x 3/8	STR60114C02	STR60214C02
1/4 x 5/32		STR60114C02.5	STR60214C02.5
1/4 x 3/16		STR60114C03	STR60214C03
1/4 x 7/32		STR60114C03.5	STR60214C03.5
1/4 x 1/8	10-32 x 1/4	STR60114F02	STR60214F02
1/4 x 5/32		STR60114F02.5	STR60214F02.5
1/4 x 3/16		STR60114F03	STR60214F03
1/4 x 7/32		STR60114F03.5	STR60214F03.5
1/4 x 1/4	8-32 x 3/8	STR60114S832-.25	STR60214S832-.25
1/4 x .310		STR60114S832-.31	STR60214S832-.31
1/4 x 1/4	10-24 x 3/8	STR60114C04	STR60214C04
1/4 x 9/32		STR60114C04.5	STR60214C04.5
1/4 x 5/16		STR60114C05	STR60214C05
1/4 x 11/32		STR60114C05.5	STR60214C05.5
1/4 x 1/4	10-32 x 1/4	STR60114F04	STR60214F04
1/4 x 9/32		STR60114F04.5	STR60214F04.5
1/4 x 5/16		STR60114F05	STR60214F05
1/4 x 11/32		STR60114F05.5	STR60214F05.5



STR60214S832-.38

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/4 x .380	8-32 x 3/8	STR60114S832-.38	STR60214S832-.38
1/4 x 3/8	10-24 x 3/8	STR60114C06	STR60214C06
1/4 x 13/32		STR60114C06.5	STR60214C06.5
1/4 x 7/16		STR60114C07	STR60214C07
1/4 x 15/32		STR60114C07.5	STR60214C07.5
1/4 x 3/8	10-32 x 1/4	STR60114F06	STR60214F06
1/4 x 13/32		STR60114F06.5	STR60214F06.5
1/4 x 7/16		STR60114F07	STR60214F07
1/4 x 15/32		STR60114F07.5	STR60214F07.5
1/4 x 1/2	8-32 x 3/8	STR60114S832-.50	STR60214S832-.50
1/4 x 1/2	10-24 x 3/8	STR60114C08	STR60214C08
1/4 x 9/16		STR60114C09	STR60214C09
1/4 x 5/8		STR60114C10	STR60214C10
1/4 x 11/16		STR60114C11	STR60214C11
1/4 x 1/2	10-32 x 1/4	STR60114F08	STR60214F08
1/4 x 9/16		STR60114F09	STR60214F09
1/4 x 5/8		STR60114F10	STR60214F10
1/4 x 11/16		STR60114F11	STR60214F11
1/4 x 3/4	8-32 x 3/8	STR60114S832-.75	STR60214S832-.75
1/4 x .880		STR60114S832-.88	STR60214S832-.88
1/4 x 3/4	10-24 x 3/8	STR60114C12	STR60214C12
1/4 x 13/16		STR60114C13	STR60214C13
1/4 x 7/8		STR60114C14	STR60214C14
1/4 x 15/16		STR60114C15	STR60214C15
1/4 x 3/4	10-32 x 1/4	STR60114F12	STR60214F12
1/4 x 13/16		STR60114F13	STR60214F13
1/4 x 7/8		STR60114F14	STR60214F14
1/4 x 15/16		STR60114F15	STR60214F15
1/4 x 1	8-32 x 3/8	STR60114S832-1.00	STR60214S832-1.00
1/4 x 1	10-24 x 3/8	STR60114C16	STR60214C16
1/4 x 1-1/8		STR60114C18	STR60214C18
1/4 x 1-1/4		STR60114C20	STR60214C20
1/4 x 1-3/8		STR60114C22	STR60214C22
1/4 x 1	10-32 x 1/4	STR60114F16	STR60214F16

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-2

18-8 SS, 316 SS, Black Oxide

ASME Tolerance Knurled Head — Inch



STR60114F18



STR60151S1024-.13

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/4 x 1-1/8	10-32 x 1/4	STR60114F18	STR60214F18
1/4 x 1-1/4		STR60114F20	STR60214F20
1/4 x 1-3/8		STR60114F22	STR60214F22
1/4 x 1-1/2		STR60114F24	STR60214F24
1/4 x 1-1/2	10-24 x 3/8	STR60114C24	STR60214C24
1/4 x 1-5/8		STR60114C26	STR60214C26
1/4 x 1-3/4		STR60114C28	STR60214C28
1/4 x 1-7/8		STR60114C30	STR60214C30
1/4 x 1-1/2	8-32 x 3/8	STR60114S832-1.50	STR60214S832-1.50
1/4 x 1-5/8	10-32 x 1/4	STR60114F26	STR60214F26
1/4 x 1-3/4		STR60114F28	STR60214F28
1/4 x 1-7/8		STR60114F30	STR60214F30
1/4 x 2		STR60114F32	STR60214F32
1/4 x 2-1/8		STR60114F34	STR60214F34
1/4 x 2	8-32 x 3/8	STR60114L832-2.00	STR60214L832-2.00
1/4 x 2	10-24 x 3/8	STR60114C32	STR60214C32
1/4 x 2-1/8		STR60114C34	STR60214C34
1/4 x 2-1/4		STR60114C36	STR60214C36
1/4 x 2-1/2		STR60114C40	STR60214C40
1/4 x 2-3/4	10-24 x 3/8	STR60114C44	STR60214C44
1/4 x 2-1/8	10-32 x 1/4	STR60114F34	STR60214F34
1/4 x 2-1/4		STR60114F36	STR60214F36
1/4 x 2-1/2		STR60114F40	STR60214F40
1/4 x 2-3/4		STR60114F44	STR60214F44
1/4 x 3	10-32 x 1/4	STR60114F48	STR60214F48
1/4 x 3	10-24 x 3/8	STR60114C48	STR60214C48
1/4 x 3-1/4		STR60114C52	STR60214C52
1/4 x 3-1/2		STR60114C56	STR60214C56
1/4 x 3-3/4		STR60114C60	STR60214C60
1/4 x 4	10-24 x 3/8	STR60114C64	STR60214C64
1/4 x 4-1/2		STR60114C72	STR60214C72
1/4 x 5		STR60114C80	STR60214C80
1/4 x 5-1/2		STR60114C88	STR60214C88
1/4 x 6	10-24 x 3/8	STR60114C96	STR60214C96

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/16 x .130	10-24 x 7/16	STR60151S1024-.13	STR60251S1024-.13
5/16 x 1/8	1/4-28 x 5/16	STR60151F02	STR60251F02
5/16 x 1/8	1/4-20 x 7/16	STR60151C02	STR60251C02
5/16 x 5/32		STR60151C02.5	STR60251C02.5
5/16 x 3/16		STR60151C03	STR60251C03
5/16 x 7/32		STR60151C03.5	STR60251C03.5
5/16 x 1/4	10-24 x 7/16	STR60151S1024-.25	STR60251S1024-.25
5/16 x .310		STR60151S1024-.31	STR60251S1024-.31
5/16 x 1/4	1/4-28 x 5/16	STR60151F04	STR60251F04
5/16 x 5/16		STR60151F05	STR60251F05
5/16 x 1/4	1/4-20 x 7/16	STR60151C04	STR60251C04
5/16 x 9/32		STR60151C04.5	STR60251C04.5
5/16 x 5/16		STR60151C05	STR60251C05
5/16 x 11/32		STR60151C05.5	STR60251C05.5
5/16 x .380	10-24 x 7/16	STR60151S1024-.38	STR60251S1024-.38
5/16 x 3/8	1/4-28 x 5/16	STR60151F06	STR60251F06
5/16 x 3/8	1/4-20 x 7/16	STR60151C06	STR60251C06
5/16 x 13/32		STR60151C06.5	STR60251C06.5
5/16 x 7/16		STR60151C07	STR60251C07
5/16 x 15/32		STR60151C07.5	STR60251C07.5
5/16 x 1/2	10-24 x 7/16	STR60151S1024-.50	STR60251S1024-.50
5/16 x 1/2	1/4-28 x 5/16	STR60151F08	STR60251F08
5/16 x 1/2	1/4-20 x 7/16	STR60151C08	STR60251C08
5/16 x 9/16		STR60151C09	STR60251C09
5/16 x 5/8		STR60151C10	STR60251C10
5/16 x 11/16		STR60151C11	STR60251C11
5/16 x 3/4	10-24 x 7/16	STR60151S1024-.75	STR60251S1024-.75
5/16 x 3/4	1/4-28 x 5/16	STR60151F12	STR60251F12

Chart continued on next page

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

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MADE IN THE USA

ASME Tolerance Knurled Head — Inch



STR60151C12



STR60138C02-1420

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/16 x 3/4	1/4-20 x 7/16	STR60151C12	STR60251C12
5/16 x 13/16		STR60151C13	STR60251C13
5/16 x 7/8		STR60151C14	STR60251C14
5/16 x 15/16		STR60151C15	STR60251C15
5/16 x 1	10-24 x 7/16	STR60151S1024-1.00	STR60251S1024-1.00
5/16 x 1	1/4-28 x 5/16	STR60151F16	STR60251F16
5/16 x 1-1/4		STR60151F20	STR60251F20
5/16 x 1	1/4-20 x 7/16	STR60151C16	STR60251C16
5/16 x 1-1/8		STR60151C18	STR60251C18
5/16 x 1-1/4		STR60151C20	STR60251C20
5/16 x 1-3/8		STR60151C22	STR60251C22
5/16 x 1-1/2	1/4-28 x 5/16	STR60151F24	STR60251F24
5/16 x 1-3/4		STR60151F28	STR60251F28
5/16 x 1-1/2	1/4-20 x 7/16	STR60151C24	STR60251C24
5/16 x 1-5/8		STR60151C26	STR60251C26
5/16 x 1-3/4		STR60151C28	STR60251C28
5/16 x 1-7/8		STR60151C30	STR60251C30
5/16 x 2	1/4-28 x 5/16	STR60151F32	STR60251F32
5/16 x 2-1/2		STR60151F40	STR60251F40
5/16 x 2	1/4-20 x 7/16	STR60151C32	STR60251C32
5/16 x 2-1/8		STR60151C34	STR60251C34
5/16 x 2-1/4		STR60151C36	STR60251C36
5/16 x 2-1/2		STR60151C40	STR60251C40
5/16 x 3	1/4-28 x 5/16	STR60151F48	STR60251F48
5/16 x 2-3/4	1/4-20 x 7/16	STR60151C44	STR60251C44
5/16 x 3		STR60151C48	STR60251C48
5/16 x 3-1/4		STR60151C52	STR60251C52
5/16 x 3-1/2		STR60151C56	STR60251C56
5/16 x 3-3/4	1/4-20 x 7/16	STR60151C60	STR60251C60
5/16 x 4		STR60151C64	STR60251C64
5/16 x 4-1/2		STR60151C72	STR60251C72
5/16 x 5		STR60151C80	STR60251C80
5/16 x 5-1/2	1/4-20 x 7/16	STR60151C88	STR60251C88
5/16 x 6		STR60151C96	STR60251C96

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/8 x 1/8	1/4-20 x 3/4	STR60138C02-1420	STR60238C02-1420
3/8 x 3/16		STR60138C03-1420	STR60238C03-1420
3/8 x 7/32		STR60138C03.5-1420	STR60238C03.5-1420
3/8 x 1/4		STR60138C04-1420	STR60238C04-1420
3/8 x 1/8	1/4-28 x 3/8	STR60138F02-1428	STR60238F02-1428
3/8 x 3/16		STR60138F03-1428	STR60238F03-1428
3/8 x 1/4		STR60138F04-1428	STR60238F04-1428
3/8 x 5/16		STR60138F05-1428	STR60238F05-1428
3/8 x 1/8	5/16-24 x 3/8	STR60138F02	STR60238F02
3/8 x 3/16		STR60138F03	STR60238F03
3/8 x 1/4		STR60138F04	STR60238F04
3/8 x 1/8	5/16-18 x 1/2	STR60138C02	STR60238C02
3/8 x 3/16		STR60138C03	STR60238C03
3/8 x 7/32		STR60138C03.5	STR60238C03.5
3/8 x 1/4		STR60138C04	STR60238C04
3/8 x 9/32	1/4-20 x 3/4	STR60138C04.5-1420	STR60238C04.5-1420
3/8 x 9/32	5/16-18 x 1/2	STR60138C04.5	STR60238C04.5
3/8 x 5/16		STR60138C05	STR60238C05
3/8 x 11/32		STR60138C05.5	STR60238C05.5
3/8 x 3/8		STR60138C06	STR60238C06
3/8 x 5/16	5/16-24 x 3/8	STR60138F05	STR60238F05
3/8 x 3/8		STR60138F06	STR60238F06
3/8 x 13/32	5/16-18 x 1/2	STR60138C06.5	STR60238C06.5
3/8 x 5/16	1/4-20 x 3/4	STR60138C05-1420	STR60238C05-1420
3/8 x 11/32		STR60138C05.5-1420	STR60238C05.5-1420
3/8 x 3/8		STR60138C06-1420	STR60238C06-1420
3/8 x 13/32		STR60138C06.5-1420	STR60238C06.5-1420
3/8 x 3/8	1/4-28 x 3/8	STR60138F06-1428	STR60238F06-1428
3/8 x 1/2		STR60138F08-1428	STR60238F08-1428
3/8 x 3/4		STR60138F12-1428	STR60238F12-1428
3/8 x 1		STR60138F16-1428	STR60238F16-1428
3/8 x 1/2	5/16-24 x 3/8	STR60138F08	STR60238F08
3/8 x 7/16	5/16-18 x 1/2	STR60138C07	STR60238C07
3/8 x 15/32		STR60138C07.5	STR60238C07.5
3/8 x 1/2		STR60138C08	STR60238C08
3/8 x 9/16		STR60138C09	STR60238C09

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR60138C10

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/8 x 7/16	1/4-20 x 3/4	STR60138C07-1420	STR60238C07-1420
3/8 x 15/32		STR60138C07.5-1420	STR60238C07.5-1420
3/8 x 1/2		STR60138C08-1420	STR60238C08-1420
3/8 x 9/16		STR60138C09-1420	STR60238C09-1420
3/8 x 5/8	5/16-18 x 1/2	STR60138C10	STR60238C10
3/8 x 11/16		STR60138C11	STR60238C11
3/8 x 3/4		STR60138C12	STR60238C12
3/8 x 13/16		STR60138C13	STR60238C13
3/8 x 5/8	1/4-20 x 3/4	STR60138C10-1420	STR60238C10-1420
3/8 x 11/16		STR60138C11-1420	STR60238C11-1420
3/8 x 3/4		STR60138C12-1420	STR60238C12-1420
3/8 x 13/16		STR60138C13-1420	STR60238C13-1420
3/8 x 3/4	5/16-24 x 3/8	STR60138F12	STR60251F12
3/8 x 7/8	5/16-18 x 1/2	STR60138C14	STR60238C14
3/8 x 15/16		STR60138C15	STR60238C15
3/8 x 1		STR60138C16	STR60238C16
3/8 x 1-1/8		STR60138C18	STR60238C18
3/8 x 7/8	1/4-20 x 3/4	STR60138C14-1420	STR60238C14-1420
3/8 x 15/16		STR60138C15-1420	STR60238C15-1420
3/8 x 1		STR60138C16-1420	STR60238C16-1420
3/8 x 1-1/8		STR60138C18-1420	STR60238C18-1420
3/8 x 1	5/16-24 x 3/8	STR60138F16	STR60238F16
3/8 x 1-1/4		STR60138F20	STR60238F20
3/8 x 1-1/2		STR60138F24	STR60238F24
3/8 x 1-3/4		STR60138F28	STR60238F28
3/8 x 1-1/4	5/16-18 x 1/2	STR60138C20	STR60238C20
3/8 x 1-3/8		STR60138C22	STR60238C22
3/8 x 1-1/2		STR60138C24	STR60238C24
3/8 x 1-5/8		STR60138C26	STR60238C26
3/8 x 1-1/4	1/4-20 x 3/4	STR60138C20-1420	STR60238C20-1420
3/8 x 1-3/8		STR60138C22-1420	STR60238C22-1420
3/8 x 1-1/2		STR60138C24-1420	STR60238C24-1420
3/8 x 1-5/8		STR60138C26-1420	STR60238C26-1420
3/8 x 1-1/4	1/4-28 x 3/8	STR60138F20-1428	STR60238F20-1428
3/8 x 1-1/2		STR60138F24-1428	STR60238F24-1428
3/8 x 1-3/4		STR60138F28-1428	STR60238F28-1428
3/8 x 2		STR60138F32-1428	STR60238F32-1428
3/8 x 2	5/16-24 x 3/8	STR60138F32	STR60238F32



STR60138C30

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/8 x 1-3/4	5/16-18 x 1/2	STR60138C28	STR60238C28
3/8 x 1-7/8		STR60138C30	STR60238C30
3/8 x 2		STR60138C32	STR60238C32
3/8 x 2-1/8		STR60138C34	STR60238C34
3/8 x 1-3/4	1/4-20 x 3/4	STR60138C28-1420	STR60238C28-1420
3/8 x 1-7/8		STR60138C30-1420	STR60238C30-1420
3/8 x 2		STR60138C32-1420	STR60238C32-1420
3/8 x 2-1/4		STR60138C36-1420	STR60238C36-1420
3/8 x 2-1/4	5/16-18 x 1/2	STR60138C36	STR60238C36
3/8 x 2-1/2		STR60138C40	STR60238C40
3/8 x 2-3/4		STR60138C44	STR60238C44
3/8 x 3		STR60138C48	STR60238C48
3/8 x 2-1/2	5/16-24 x 3/8	STR60138F40	STR60238F40
3/8 x 3		STR60138F48	STR60238F48
3/8 x 2-1/2	1/4-20 x 3/4	STR60138C40-1420	STR60238C40-1420
3/8 x 2-3/4		STR60138C44-1420	STR60238C44-1420
3/8 x 3		STR60138C48-1420	STR60238C48-1420
3/8 x 2-1/2	1/4-28 x 3/8	STR60138F40-1428	STR60238F40-1428
3/8 x 3		STR60138F48-1428	STR60238F48-1428
3/8 x 3-1/4	5/16-18 x 1/2	STR60138C52	STR60238C52
3/8 x 3-1/2		STR60138C56	STR60238C56
3/8 x 3-3/4		STR60138C60	STR60238C60
3/8 x 4		STR60138C64	STR60238C64
3/8 x 4-1/4	5/16-18 x 1/2	STR60138C68	STR60238C68
3/8 x 4-1/2		STR60138C72	STR60238C72
3/8 x 4-3/4		STR60138C76	STR60238C76
3/8 x 5		STR60138C80	STR60238C80
3/8 x 5-1/2	5/16-18 x 1/2	STR60138C88	STR60238C88
3/8 x 6		STR60138C96	STR60238C96
3/8 x 6-1/2		STR60138C104	STR60238C104
3/8 x 7		STR60138C112	STR60238C112
3/8 x 7-1/2		STR60138C120	STR60238C120
3/8 x 8	5/16-18 x 1/2	STR60138C128	STR60238C128

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR60112S51618-.25



STR60112C24

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/2 x 1/4	5/16-18 x 5/8	STR60112S51618-.25	STR60212S51618-.25
1/2 x .310		STR60112S51618-.31	STR60212S51618-.31
1/2 x .380		STR60112S51618-.38	STR60212S51618-.38
1/2 x 1/4	3/8-24 x 1/2	STR60112F04	STR60212F04
1/2 x 5/16		STR60112F05	STR60212F05
1/2 x 3/8		STR60112F06	STR60212F06
1/2 x 1/4	3/8-16 x 5/8	STR60112C04	STR60212C04
1/2 x 5/16		STR60112C05	STR60212C05
1/2 x 3/8		STR60112C06	STR60212C06
1/2 x 7/16		STR60112C07	STR60212C07
1/2 x 1/2	5/16-18 x 5/8	STR60112S51618-.50	STR60212S51618-.50
1/2 x 3/4		STR60112S51618-.75	STR60212S51618-.75
1/2 x 1/2	3/8-24 x 1/2	STR60112F08	STR60212F08
1/2 x 3/4		STR60112F12	STR60212F12
1/2 x 1/2	3/8-16 x 5/8	STR60112C08	STR60212C08
1/2 x 5/8		STR60112C10	STR60212C10
1/2 x 3/4		STR60112C12	STR60212C12
1/2 x 7/8		STR60112C14	STR60212C14
1/2 x 1	5/16-18 x 5/8	STR60112S51618-1.00	STR60212S51618-1.00
1/2 x 1-1/4		STR60112S51618-1.25	STR60212S51618-1.25
1/2 x 1	3/8-24 x 1/2	STR60112F16	STR60212F16
1/2 x 1-1/4		STR60112F20	STR60212F20
1/2 x 1	3/8-16 x 5/8	STR60112C16	STR60212C16
1/2 x 1-1/8		STR60112C18	STR60212C18
1/2 x 1-1/4		STR60112C20	STR60212C20
1/2 x 1-3/8		STR60112C22	STR60212C22
1/2 x 1-1/2	5/16-18 x 5/8	STR60112S51618-1.50	STR60212S51618-1.50
1/2 x 1-3/4		STR60112S51618-1.75	STR60212S51618-1.75
1/2 x 1-1/2	3/8-24 x 1/2	STR60112F24	STR60212F24
1/2 x 1-3/4		STR60112F28	STR60212F28

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/2 x 1-1/2	3/8-16 x 5/8	STR60112C24	STR60212C24
1/2 x 1-5/8		STR60112C26	STR60212C26
1/2 x 1-3/4		STR60112C28	STR60212C28
1/2 x 1-7/8		STR60112C30	STR60212C30
1/2 x 2	5/16-18 x 5/8	STR60112L51618-2.00	STR60212L51618-2.00
1/2 x 2-1/2		STR60112L51618-2.50	STR60212L51618-2.50
1/2 x 2	3/8-24 x 1/2	STR60112F32	STR60212F32
1/2 x 2-1/2		STR60112F40	STR60212F40
1/2 x 2	3/8-16 x 5/8	STR60112C32	STR60212C32
1/2 x 2-1/8		STR60112C34	STR60212C34
1/2 x 2-1/4		STR60112C36	STR60212C36
1/2 x 2-1/2		STR60112C40	STR60212C40
1/2 x 3	5/16-18 x 5/8	STR60112L51618-3.00	STR60212L51618-3.00
1/2 x 3	3/8-24 x 1/2	STR60112F48	STR60212F48
1/2 x 2-3/4	3/8-16 x 5/8	STR60112C44	STR60212C44
1/2 x 3		STR60112C48	STR60212C48
1/2 x 3-1/4		STR60112C52	STR60212C52
1/2 x 3-1/2		STR60112C56	STR60212C56
1/2 x 3-3/4	3/8-16 x 5/8	STR60112C60	STR60212C60
1/2 x 4		STR60112C64	STR60212C64
1/2 x 4-1/4		STR60112C68	STR60212C68
1/2 x 4-1/2		STR60112C72	STR60212C72
1/2 x 4-3/4	3/8-16 x 5/8	STR60112C76	STR60212C76
1/2 x 5		STR60112C80	STR60212C80
1/2 x 5-1/2		STR60112C88	STR60212C88
1/2 x 6		STR60112C96	STR60212C96
1/2 x 6-1/2	3/8-16 x 5/8	STR60112C104	STR60212C104
1/2 x 7		STR60112C112	STR60212C112
1/2 x 7-1/2		STR60112C120	STR60212C120
1/2 x 8		STR60112C128	STR60212C128

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-2

18-8 SS, 316 SS, Black Oxide

ASME Tolerance Knurled Head — Inch



STR60158S3816-.25



STR60158L3816-2.00

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/8 x 1/4		STR60158S3816-.25	STR60258S3816-.25
5/8 x .310	3/8-16 x 1/4	STR60158S3816-.31	STR60258S3816-.31
5/8 x .380		STR60158S3816-.38	STR60258S3816-.38
5/8 x 1/4	1/2-13 x 3/4	STR60158C04	STR60258C04
5/8 x 5/16		STR60158C05	STR60258C05
5/8 x 3/8	1/2-13 x 3/4	STR60158C06	STR60258C06
5/8 x 7/16		STR60158C07	STR60258C07
5/8 x 1/2	3/8-16 x 1/4	STR60158S3816-.50	STR60258S3816-.50
5/8 x 3/4		STR60158S3816-.75	STR60258S3816-.75
5/8 x 1/2		STR60158C08	STR60258C08
5/8 x 5/8	1/2-13 x 3/4	STR60158C10	STR60258C10
5/8 x 3/4		STR60158C12	STR60258C12
5/8 x 7/8		STR60158C14	STR60258C14
5/8 x 1	3/8-16 x 1/4	STR60158S3816-1.00	STR60258S3816-1.00
5/8 x 1-1/4		STR60158S3816-1.25	STR60258S3816-1.25
5/8 x 1		STR60158C16	STR60258C16
5/8 x 1-1/8	1/2-13 x 3/4	STR60158C18	STR60258C18
5/8 x 1-1/4		STR60158C20	STR60258C20
5/8 x 1-3/8		STR60158C22	STR60258C22
5/8 x 1-1/2	3/8-16 x 1/4	STR60158S3816-1.50	STR60258S3816-1.50
5/8 x 1-1/2		STR60158C24	STR60258C24
5/8 x 1-5/8	1/2-13 x 3/4	STR60158C26	STR60258C26
5/8 x 1-3/4		STR60158C28	STR60258C28
5/8 x 1-7/8		STR60158C30	STR60258C30

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/8 x 2	3/8-16 x 1/4	STR60158L3816-2.00	STR60258L3816-2.00
5/8 x 2-1/2		STR60158L3816-2.50	STR60258L3816-2.50
5/8 x 2		STR60158C32	STR60258C32
5/8 x 2-1/8	1/2-13 x 3/4	STR60158C34	STR60258C34
5/8 x 2-1/4		STR60158C36	STR60258C36
5/8 x 2-1/2		STR60158C40	STR60258C40
5/8 x 3	3/8-16 x 1/4	STR60158L3816-3.00	STR60258L3816-3.00
5/8 x 2-3/4		STR60158C44	STR60258C44
5/8 x 3	1/2-13 x 3/4	STR60158C48	STR60258C48
5/8 x 3-1/4		STR60158C52	STR60258C52
5/8 x 3-1/2		STR60158C56	STR60258C56
5/8 x 3-3/4		STR60158C60	STR60258C60
5/8 x 4	1/2-13 x 3/4	STR60158C64	STR60258C64
5/8 x 4-1/4		STR60158C68	STR60258C68
5/8 x 4-1/2		STR60158C72	STR60258C72
5/8 x 4-3/4		STR60158C76	STR60258C76
5/8 x 5	1/2-13 x 3/4	STR60158C80	STR60258C80
5/8 x 5-1/2		STR60158C88	STR60258C88
5/8 x 6		STR60158C96	STR60258C96
5/8 x 6-1/2		STR60158C104	STR60258C104
5/8 x 7	1/2-13 x 3/4	STR60158C112	STR60258C112
5/8 x 7-1/2		STR60158C120	STR60258C120
5/8 x 8		STR60158C128	STR60258C128

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR60134S1213-.50



STR60134C60

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/4 x 1/2	1/2-13 x 7/8	STR60134S1213-.50	STR60234S1213-.50
3/4 x 3/8	5/8-11 x 7/8	STR60134C06	STR60234C06
3/4 x 7/16		STR60134C07	STR60234C07
3/4 x 1/2		STR60134C08	STR60234C08
3/4 x 5/8		STR60134C10	STR60234C10
3/4 x 3/4	1/2-13 x 7/8	STR60134S1213-.75	STR60234S1213-.75
3/4 x 3/4	5/8-11 x 7/8	STR60134C12	STR60234C12
3/4 x 7/8		STR60134C14	STR60234C14
3/4 x 1	1/2-13 x 7/8	STR60134S1213-1.00	STR60234S1213-1.00
3/4 x 1-1/4		STR60134S1213-1.25	STR60234S1213-1.25
3/4 x 1	5/8-11 x 7/8	STR60134C16	STR60234C16
3/4 x 1-1/8		STR60134C18	STR60234C18
3/4 x 1-1/4		STR60134C20	STR60234C20
3/4 x 1-3/8		STR60134C22	STR60234C22
3/4 x 1-1/2	1/2-13 x 7/8	STR60134S1213-1.50	STR60234S1213-1.50
3/4 x 1-1/2	5/8-11 x 7/8	STR60134C24	STR60234C24
3/4 x 1-5/8		STR60134C26	STR60234C26
3/4 x 1-3/4		STR60134C28	STR60234C28
3/4 x 1-7/8		STR60134C30	STR60234C30
3/4 x 2	1/2-13 x 7/8	STR60134L1213-2.00	STR60234L1213-2.00
3/4 x 2-1/2		STR60134L1213-2.50	STR60234L1213-2.50
3/4 x 2	5/8-11 x 7/8	STR60134C32	STR60234C32
3/4 x 2-1/8		STR60134C34	STR60234C34
3/4 x 2-1/4		STR60134C36	STR60234C36
3/4 x 2-1/2		STR60134C40	STR60234C40
3/4 x 3	1/2-13 x 7/8	STR60134L1213-3.00	STR60234L1213-3.00
3/4 x 2-3/4	5/8-11 x 7/8	STR60134C44	STR60234C44
3/4 x 3		STR60134C48	STR60234C48
3/4 x 3-1/4		STR60134C52	STR60234C52
3/4 x 3-1/2		STR60134C56	STR60234C56

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/4 x 3-3/4	5/8-11 x 7/8	STR60134C60	STR60234C60
3/4 x 4		STR60134C64	STR60234C64
3/4 x 4-1/4		STR60134C68	STR60234C68
3/4 x 4-1/2		STR60134C72	STR60234C72
3/4 x 4-3/4	5/8-11 x 7/8	STR60134C76	STR60234C76
3/4 x 5		STR60134C80	STR60234C80
3/4 x 5-1/2		STR60134C88	STR60234C88
3/4 x 6		STR60134C96	STR60234C96
3/4 x 6-1/2	5/8-11 x 7/8	STR60134C104	STR60234C104
3/4 x 7		STR60134C112	STR60234C112
3/4 x 7-1/2		STR60134C120	STR60234C120
3/4 x 8		STR60134C128	STR60234C128



STR60178C16

7/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
7/8x 1	3/4-10 x 1	STR60178C16	STR60278C16
7/8x 1-1/2		STR60178C24	STR60278C24
7/8x 1-3/4		STR60178C28	STR60278C28
7/8x 2		STR60178C32	STR60278C32
7/8x 2-1/2	3/4-10 x 1	STR60178C40	STR60278C40
7/8x 3		STR60178C48	STR60278C48
7/8x 3-1/2		STR60178C56	STR60278C56
7/8x 4		STR60178C64	STR60278C64
7/8x 5	3/4-10 x 1	STR60178C80	STR60278C80
7/8x 6		STR60178C96	STR60278C96

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR60101C08



STR601012C16

1 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1 x 1/2	3/4-10 x 1	STR60101C08	STR60201C08
1 x 5/8		STR60101C10	STR60201C10
1 x 3/4		STR60101C12	STR60201C12
1 x 1		STR60101C16	STR60201C16
1 x 1-1/4	3/4-10 x 1	STR60101C20	STR60201C20
1 x 1-1/2		STR60101C24	STR60201C24
1 x 1-3/4		STR60101C28	STR60201C28
1 x 2		STR60101C32	STR60201C32
1 x 2-1/4	3/4-10 x 1	STR60101C36	STR60201C36
1 x 2-1/2		STR60101C40	STR60201C40
1 x 2-3/4		STR60101C44	STR60201C44
1 x 3		STR60101C48	STR60201C48
1 x 3-1/4	3/4-10 x 1	STR60101C52	STR60201C52
1 x 3-1/2		STR60101C56	STR60201C56
1 x 3-3/4		STR60101C60	STR60201C60
1 x 4		STR60101C64	STR60201C64
1 x 4-1/4	3/4-10 x 1	STR60101C68	STR60201C68
1 x 4-1/2		STR60101C72	STR60201C72
1 x 4-3/4		STR60101C76	STR60201C76
1 x 5		STR60101C80	STR60201C80
1 x 5-1/2	3/4-10 x 1	STR60101C88	STR60201C88
1 x 6		STR60101C96	STR60201C96
1 x 6-1/2		STR60101C104	STR60201C104
1 x 7		STR60101C112	STR60201C112
1 x 7-1/2	3/4-10 x 1	STR60101C120	STR60201C120
1 x 8		STR60101C128	STR60201C128



Black Oxide

18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

1-1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1-1/4 x 1	7/8-9 x 1-1/8	STR601012C16	STR602012C16
1-1/4 x 1-1/4		STR601012C20	STR602012C20
1-1/4 x 1-1/2		STR601012C24	STR602012C24
1-1/4 x 1-3/4		STR601012C28	STR602012C28
1-1/4 x 2	7/8-9 x 1-1/8	STR601012C32	STR602012C32
1-1/4 x 2-1/2		STR601012C40	STR602012C40
1-1/4 x 3		STR601012C48	STR602012C48
1-1/4 x 3-1/2		STR601012C56	STR602012C56
1-1/4 x 4	7/8-9 x 1-1/8	STR601012C64	STR602012C64
1-1/4 x 5		STR601012C80	STR602012C80
1-1/4 x 6		STR601012C96	STR602012C96



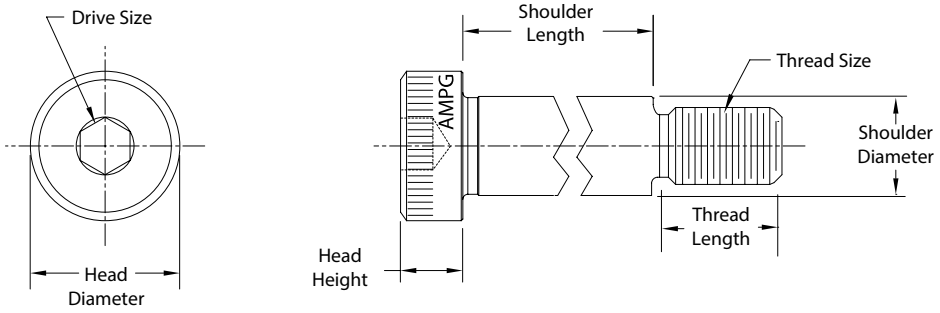
STR601015C16

1-1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1-1/2 x 1	1-1/8-7 x 1-1/2	STR601015C16	STR602015C16
1-1/2 x 1-1/4		STR601015C20	STR602015C20
1-1/2 x 1-1/2		STR601015C24	STR602015C24
1-1/2 x 1-3/4		STR601015C28	STR602015C28
1-1/2 x 2	1-1/8-7 x 1-1/2	STR601015C32	STR602015C32
1-1/2 x 2-1/2		STR601015C40	STR602015C40
1-1/2 x 3		STR601015C48	STR602015C48
1-1/2 x 3-1/2		STR601015C56	STR602015C56
1-1/2 x 4	1-1/8-7 x 1-1/2	STR601015C64	STR602015C64
1-1/2 x 5		STR601015C80	STR602015C80
1-1/2 x 6		STR601015C96	STR602015C96

ASME Tolerance Knurled Head — Metric

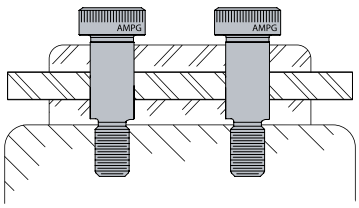
Also known as stripper bolts, they're commonly used as a stationary guide for stripper plates, as a pivot point for moving parts, and as a shaft for rolling parts. Screws are machined with a precision hex socket for maximum wrenching strength, knurled heads for sure finger grip, and an undercut portion between the thread and shoulder, allowing a close fit. AMPG shoulder screws meet or exceed general industrial acceptance for nonferrous screws and ANSI/ASME B18.3 dimensional specifications. Shoulder screws have an unthreaded shoulder made with an undersized tolerance to fit most machinery and equipment. The unthreaded shoulder is held to a precise diameter and length. Minimum to maximum shoulder diameter is listed in table. Shoulder length tolerance is +.25 to -.00mm. Screws have a Class 5g6g thread fit. *Heads are knurled, stamped, or both to provide finger grip. Black oxide plating is available for 18-8 and 316 ASME Shoulder Screws. Black Oxide plating enhances appearance and cuts down on light reflection and glare.



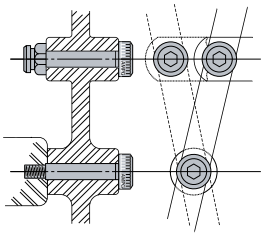
Dimensions and Tolerance Table — Metric, mm

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
2	1.99 to 1.96	5.00	2.00	1.5	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
3	2.99 to 2.96	5.00	2.00	1.5	
4	3.99 to 3.96	6.00	3.00	2	
5	4.99 to 4.96	9.00	4.00	2.5	
6	5.99 to 5.96	10.00	4.50	3	Head Mark Only
6.5	6.49 to 6.45	10.00	5.00	3	
8	7.99 to 7.95	13.00	5.50	4	Head Mark and Knurl
10	9.99 to 9.95	16.00	7.00	5	
12	11.98 to 11.94	18.00	9.00	6	
13	12.98 to 12.94	19.00	10.00	6	
16	15.98 to 15.94	24.00	11.00	8	Head Mark and Knurl
20	19.98 to 19.92	30.00	14.00	10	
24	23.98 to 23.92	36.00	16.00	12	
30	29.98 to 29.92	45.00	20.00	14	
36	35.98 to 35.92	54.00	22.00	17	

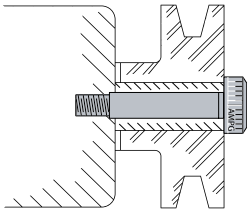
Head appearance may be knurled and/or head marked. 18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



Shoulder Screw as a Guide



Shoulder Screw as a Pivot Point



Shoulder Screw as a Shaft



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

ASME Tolerance Knurled Head — Metric

18-8 (A2) and 316 (A4) Stainless Steels — Hex Drive

- Shoulder diameters of 2, 3, 4, 5, 6, 6.5, 12, 30 and 36mm meet our internal specification AMPG 2013 ZS.02.
- Shoulder diameters of 8,10, 13, 16, 20 and 24mm meet or exceed ANSI/ASME B18.3.3M, ISO 7379.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 *(A2)* and 316 *(A4)* stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR601M2X4

2mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
2 x 4	M1.6 x 0.35 x 3	STR601M2X4	STR602M2X4
2 x 5		STR601M2X5	STR602M2X5
2 x 6		STR601M2X6	STR602M2X6
2 x 8		STR601M2X8	STR602M2X8
2 x 10	M1.6 x 0.35 x 3	STR601M2X10	STR602M2X10
2 x 12		STR601M2X12	STR602M2X12
2 x 14		STR601M2X14	STR602M2X14
2 x 16		STR601M2X16	STR602M2X16
2 x 18	M1.6 x 0.35 x 3	STR601M2X18	STR602M2X18
2 x 20		STR601M2X20	STR602M2X20
2 x 25		STR601M2X25	STR602M2X25
2 x 30		STR601M2X30	STR602M2X30



Black Oxide

18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*



STR6013SM1.6-4.00

3mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3 x 4	M1.6 x 0.35 x 4	STR6013SM1.6-4.00	STR6023SM1.6-4.00
3 x 5		STR6013SM1.6-5.00	STR6023SM1.6-5.00
3 x 6		STR6013SM1.6-6.00	STR6023SM1.6-6.00
3 x 8		STR6013SM1.6-8.00	STR6023SM1.6-8.00
3 x 3	M2 x 0.4 x 3.8	STR601M3X3	STR602M3X3
3 x 4		STR601M3X4	STR602M3X4
3 x 5		STR601M3X5	STR602M3X5
3 x 6		STR601M3X6	STR602M3X6
3 x 10	M1.6 x 0.35 x 4	STR6013SM1.6-10.00	STR6023SM1.6-10.00
3 x 7	M2 x 0.4 x 3.8	STR601M3X7	STR602M3X7
3 x 8		STR601M3X8	STR602M3X8
3 x 9		STR601M3X9	STR602M3X9
3 x 10		STR601M3X10	STR602M3X10
3 x 11	M2 x 0.4 x 3.8	STR601M3X11	—
3 x 12		STR601M3X12	STR602M3X12
3 x 14		STR601M3X14	STR602M3X14
3 x 15		—	STR602M3X15
3 x 16	M2 x 0.4 x 3.8	STR601M3X16	STR602M3X16
3 x 18		STR601M3X18	STR602M3X18
3 x 20		STR601M3X20	STR602M3X20
3 x 22		STR601M3X22	STR602M3X22
3 x 25	M2 x 0.4 x 3.8	STR601M3X25	STR602M3X25
3 x 30		STR601M3X30	STR602M3X30
3 x 35		STR601M3X35	STR602M3X35
3 x 40		STR601M3X40	STR602M3X40
3 x 45	M2 x 0.4 x 3.8	STR601M3X45	STR602M3X45
3 x 50		STR601M3X50	STR602M3X50

Chart continued on next page

ASME Tolerance Knurled Head — Metric



STR601M5x2



STR6014SM2-4.00

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
4 x 4	M2 x 0.4 x 5	STR6014SM2-4.00	STR6024SM2-4.00
4 x 5		STR6014SM2-5.00	STR6024SM2-5.00
4 x 6		STR6014SM2-6.00	STR6024SM2-6.00
4 x 8		STR6014SM2-8.00	STR6024SM2-8.00
4 x 3	M3 x 0.5 x 4.5	STR601M4X3	STR602M4X3
4 x 4		STR601M4X4	STR602M4X4
4 x 5		STR601M4X5	STR602M4X5
4 x 6		STR601M4X6	STR602M4X6
4 x 10	M2 x 0.4 x 5	STR6014SM2-10.00	STR6024SM2-10.00
4 x 7	M3 x 0.5 x 4.5	STR601M4X7	STR602M4X7
4 x 8		STR601M4X8	STR602M4X8
4 x 9		STR601M4X9	STR602M4X9
4 x 10		STR601M4X10	STR602M4X10
4 x 12	M3 x 0.5 x 4.5	STR601M4X12	STR602M4X12
4 x 14		STR601M4X14	STR602M4X14
4 x 15		STR601M4X15	STR602M4X15
4 x 16		STR601M4X16	STR602M4X16
4 x 18	M3 x 0.5 x 4.5	STR601M4X18	STR602M4X18
4 x 20		STR601M4X20	STR602M4X20
4 x 22		STR601M4X22	STR602M4X22
4 x 25		STR601M4X25	STR602M4X25
4 x 28	M3 x 0.5 x 4.5	STR601M4X28	STR602M4X28
4 x 30		STR601M4X30	STR602M4X30
4 x 35		STR601M4X35	STR602M4X35
4 x 40		STR601M4X40	STR602M4X40
4 x 45	M3 x 0.5 x 4.5	STR601M4X45	STR602M4X45
4 x 50		STR601M4X50	STR602M4X50

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5 x 2	M4 x 0.7 x 4.5	STR601M5X2	STR602M5X2
5 x 4	M3 x 0.5 x 5	STR6015SM3-4.00	STR6025SM3-4.00
5 x 5		STR6015SM3-5.00	STR6025SM3-5.00
5 x 6		STR6015SM3-6.00	STR6025SM3-6.00
5 x 7		STR6015SM3-7.00	STR6025SM3-7.00
5 x 4	M4 x 0.7 x 4.5	STR601M5X4	STR602M5X4
5 x 5		STR601M5X5	STR602M5X5
5 x 6		STR601M5X6	STR602M5X6
5 x 7		STR601M5X7	STR602M5X7
5 x 8	M3 x 0.5 x 5	STR6015SM3-8.00	STR6025SM3-8.00
5 x 10		STR6015SM3-10.00	STR6025SM3-10.00
5 x 8	M4 x 0.7 x 4.5	STR601M5X8	STR602M5X8
5 x 9		STR601M5X9	STR602M5X9
5 x 10		STR601M5X10	STR602M5X10
5 x 11		STR601M5X11	STR602M5X11
5 x 12	M4 x 0.7 x 4.5	STR601M5X12	STR602M5X12
5 x 13		STR601M5X13	STR602M5X13
5 x 14		STR601M5X14	STR602M5X14
5 x 15		STR601M5X15	STR602M5X15
5 x 17	M3 x 0.5 x 5	STR6015SM3-17.00	STR6025SM3-17.00
5 x 16	M4 x 0.7 x 4.5	STR601M5X16	STR602M5X16
5 x 17		STR601M5X17	STR602M5X17
5 x 18		STR601M5X18	STR602M5X18
5 x 19		STR601M5X19	STR602M5X19
5 x 20	M3 x 0.5 x 5	STR6015SM3-20.00	STR6025SM3-20.00
5 x 20	M4 x 0.7 x 4.5	STR601M5X20	STR602M5X20
5 x 22		STR601M5X22	STR602M5X22
5 x 25		STR601M5X25	STR602M5X25
5 x 30		STR601M5X30	STR602M5X30
5 x 35	M4 x 0.7 x 4.5	STR601M5X35	STR602M5X35
5 x 40		STR601M5X40	STR602M5X40
5 x 45		STR601M5X45	STR602M5X45
5 x 50		STR601M5X50	STR602M5X50
5 x 60	M4 x 0.7 x 4.5	STR601M5X60	STR602M5X60
5 x 70		STR601M5X70	STR602M5X70

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-14

18-8 SS (A2)
316 SS (A4)
Black Oxide

ASME Tolerance Knurled Head — Metric



STR6016SM4-4.00

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
6 x 4	M4 x 0.7 x 10	STR6016SM4-4.00	STR6026SM4-4.00
6 x 5		STR6016SM4-5.00	STR6026SM4-5.00
6 x 6		STR6016SM4-6.00	STR6026SM4-6.00
6 x 7		STR6016SM4-7.00	STR6026SM4-7.00
6 x 4	M5 x 0.8 x 9.5	STR601M6X4	STR602M6X4
6 x 5		STR601M6X5	STR602M6X5
6 x 6		STR601M6X6	STR602M6X6
6 x 7		STR601M6X7	STR602M6X7
6 x 8	M4 x 0.7 x 10	STR6016SM4-8.00	STR6026SM4-8.00
6 x 10		STR6016SM4-10.00	STR6026SM4-10.00
6 x 12		STR6016SM4-12.00	STR6026SM4-12.00
6 x 14		STR6016SM4-14.00	STR6026SM4-14.00
6 x 8	M5 x 0.8 x 9.5	STR601M6X8	STR602M6X8
6 x 10		STR601M6X10	STR602M6X10
6 x 11		STR601M6X11	STR602M6X11
6 x 12		STR601M6X12	STR602M6X12
6 x 15	M4 x 0.7 x 10	STR6016SM4-15.00	STR6026SM4-15.00
6 x 16		STR6016SM4-16.00	STR6026SM4-16.00
6 x 13	M5 x 0.8 x 9.5	STR601M6X13	STR602M6X13
6 x 14		STR601M6X14	STR602M6X14
6 x 15		STR601M6X15	STR602M6X15
6 x 16		STR601M6X16	STR602M6X16
6 x 19	M4 x 0.7 x 10	STR6016SM4-19.00	STR6026SM4-19.00
6 x 20		STR6016SM4-20.00	STR6026SM4-20.00
6 x 17	M5 x 0.8 x 9.5	STR601M6X17	STR602M6X17
6 x 18		STR601M6X18	STR602M6X18
6 x 19		STR601M6X19	STR602M6X19
6 x 20		STR601M6X20	STR602M6X20
6 x 25	M4 x 0.7 x 10	STR6016SM4-25.00	STR6026SM4-25.00
6 x 22	M5 x 0.8 x 9.5	STR601M6X22	STR602M6X22
6 x 25		STR601M6X25	STR602M6X25
6 x 30		STR601M6X30	STR602M6X30
6 x 35		STR601M6X35	STR602M6X35



STR601M6X40

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
6 x 40	M5 x 0.8 x 9.5	STR601M6X40	STR602M6X40
6 x 45		STR601M6X45	STR602M6X45
6 x 50		STR601M6X50	STR602M6X50
6 x 52		STR601M6X52	STR602M6X52
6 x 60	M5 x 0.8 x 9.5	STR601M6X60	STR602M6X60
6 x 70		STR601M6X70	STR602M6X70
6 x 80		STR601M6X80	STR602M6X80
6 x 90		STR601M6X90	STR602M6X90
6 x 100	M5 x 0.8 x 9.5	STR601M6X100	STR602M6X100
6 x 110		STR601M6X110	STR602M6X110



STR601M6.5X6

6.5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
6.5 x 6	M5 x 0.8 x 10	STR601M6.5X6	STR602M6.5X6
6.5 x 8		STR601M6.5X8	STR602M6.5X8
6.5 x 10		STR601M6.5X10	STR602M6.5X10
6.5 x 12		STR601M6.5X12	STR602M6.5X12
6.5 x 16	M5 x 0.8 x 10	STR601M6.5X16	STR602M6.5X16
6.5 x 20		STR601M6.5X20	STR602M6.5X20
6.5 x 25		STR601M6.5X25	STR602M6.5X25
6.5 x 30		STR601M6.5X30	STR602M6.5X30
6.5 x 35	M5 x 0.8 x 10	STR601M6.5X35	STR602M6.5X35
6.5 x 40		STR601M6.5X40	STR602M6.5X40
6.5 x 50		STR601M6.5X50	STR602M6.5X50



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

Chart continued on next page

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

ASME Tolerance Knurled Head — Metric



STR6018SM5-4.00



STR601M8X22

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
8 x 4	M5 x 0.8 x 11	STR6018SM5-4.00	STR6028SM5-4.00
8 x 5		STR6018SM5-5.00	STR6028SM5-5.00
8 x 6		STR6018SM5-6.00	STR6028SM5-6.00
8 x 8		STR6018SM5-8.00	STR6028SM5-8.00
8 x 4	M6 x 1 x 11	STR601M8X4	STR602M8X4
8 x 5		STR601M8X5	STR602M8X5
8 x 6		STR601M8X6	STR602M8X6
8 x 8		STR601M8X8	STR602M8X8
8 x 10	M5 x 0.8 x 11	STR6018SM5-10.00	STR6028SM5-10.00
8 x 12		STR6018SM5-12.00	STR6028SM5-12.00
8 x 9	M6 x 1 x 11	STR601M8X9	STR602M8X9
8 x 10		STR601M8X10	STR602M8X10
8 x 11		STR601M8X11	STR602M8X11
8 x 12		STR601M8X12	STR602M8X12
8 x 15	M5 x 0.8 x 11	STR6018SM5-15.00	STR6028SM5-15.00
8 x 16		STR6018SM5-16.00	STR6028SM5-16.00
8 x 13	M6 x 1 x 11	STR601M8X13	STR602M8X13
8 x 14		STR601M8X14	STR602M8X14
8 x 15		STR601M8X15	STR602M8X15
8 x 16		STR601M8X16	STR602M8X16
8 x 20	M5 x 0.8 x 11	STR6018SM5-20.00	STR6028SM5-20.00
8 x 17	M6 x 1 x 11	STR601M8X17	STR602M8X17
8 x 18		STR601M8X18	STR602M8X18
8 x 19		STR601M8X19	STR602M8X19
8 x 20		STR601M8X20	STR602M8X20
8 x 25	M5 x 0.8 x 11	STR6018SM5-25.00	STR6028SM5-25.00

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
8 x 22	M6 x 1 x 11	STR601M8X22	STR602M8X22
8 x 25		STR601M8X25	STR602M8X25
8 x 28		STR601M8X28	STR602M8X28
8 x 30		STR601M8X30	STR602M8X30
8 x 35	M6 x 1 x 11	STR601M8X35	STR602M8X35
8 x 40		STR601M8X40	STR602M8X40
8 x 45		STR601M8X45	STR602M8X45
8 x 50		STR601M8X50	STR602M8X50
8 x 55	M6 x 1 x 11	STR601M8X55	STR602M8X55
8 x 60		STR601M8X60	STR602M8X60
8 x 65		STR601M8X65	STR602M8X65
8 x 70		STR601M8X70	STR602M8X70
8 x 75	M6 x 1 x 11	STR601M8X75	STR602M8X75
8 x 80		STR601M8X80	STR602M8X80
8 x 90		STR601M8X90	STR602M8X90
8 x 100		STR601M8X100	STR602M8X100
8 x 120	M5 x 0.8 x 11	STR601M8X120	–
8 x 110	M6 x 1 x 11	STR601M8X110	STR602M8X110
8 x 120		STR601M8X120	STR602M8X120
8 x 125		STR601M8X125	STR602M8X125
8 x 130		STR601M8X130	STR602M8X130
8 x 140	M6 x 1 x 11	STR601M8X140	STR602M8X140



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

*Add "-**BX**" to the end of the part number.*

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-14

18-8 SS (A2)
316 SS (A4)
Black Oxide

ASME Tolerance Knurled Head — Metric



STR60110SM6-4.00



STR60110SM6-15.00

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
10 x 4	M6 x 1 x 13	STR60110SM6-4.00	STR60210SM6-4.00
10 x 6		STR60110SM6-6.00	STR60210SM6-6.00
10 x 8		STR60110SM6-8.00	STR60210SM6-8.00
10 x 10		STR60110SM6-10.00	STR60210SM6-10.00
10 x 4	M8 x 1.25 x 13	STR601M10X4	STR602M10X4
10 x 6		STR601M10X6	STR602M10X6
10 x 8		STR601M10X8	STR602M10X8
10 x 9		STR601M10X9	STR602M10X9
10 x 10	M8 x 1.25 x 13	STR601M10X10	STR602M10X10
10 x 11		STR601M10X11	STR602M10X11
10 x 12		STR601M10X12	STR602M10X12
10 x 13		STR601M10X13	STR602M10X13
10 x 15	M6 x 1 x 13	STR60110SM6-15.00	STR60210SM6-15.00
10 x 16		STR60110SM6-16.00	STR60210SM6-16.00
10 x 14	M8 x 1.25 x 13	STR601M10X14	STR602M10X14
10 x 15		STR601M10X15	STR602M10X15
10 x 16		STR601M10X16	STR602M10X16
10 x 17		STR601M10X17	STR602M10X17
10 x 20	M6 x 1 x 13	STR60110SM6-20.00	STR60210SM6-20.00
10 x 18	M8 x 1.25 x 13	STR601M10X18	STR602M10X18
10 x 19		STR601M10X19	STR602M10X19
10 x 20		STR601M10X20	STR602M10X20
10 x 22		STR601M10X22	STR602M10X22

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
10 x 25	M6 x 1 x 13	STR60110SM6-25.00	STR60210SM6-25.00
10 x 30		STR60110SM6-30.00	STR60210SM6-30.00
10 x 40		STR60110SM6-40.00	STR60210SM6-40.00
10 x 25	M8 x 1.25 x 13	STR601M10X25	STR602M10X25
10 x 30		STR601M10X30	STR602M10X30
10 x 35		STR601M10X35	STR602M10X35
10 x 40		STR601M10X40	STR602M10X40
10 x 50	M6 x 1 x 13	STR60110LM6-50.00	STR60210LM6-50.00
10 x 45	M8 x 1.25 x 13	STR601M10X45	STR602M10X45
10 x 50		STR601M10X50	STR602M10X50
10 x 55		STR601M10X55	STR602M10X55
10 x 60		STR601M10X60	STR602M10X60
10 x 65	M8 x 1.25 x 13	STR601M10X65	STR602M10X65
10 x 70		STR601M10X70	STR602M10X70
10 x 75		STR601M10X75	STR602M10X75
10 x 80		STR601M10X80	STR602M10X80
10 x 90	M8 x 1.25 x 13	STR601M10X90	STR602M10X90
10 x 100		STR601M10X100	STR602M10X100
10 x 110		STR601M10X110	STR602M10X110
10 x 120		STR601M10X120	STR602M10X120
10 x 130	M8 x 1.25 x 13	STR601M10X130	STR602M10X130
10 x 140		STR601M10X140	STR602M10X140
10 x 150		STR601M10X150	STR602M10X150

Chart continued on next page

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN THE USA

ASME Tolerance Knurled Head — Metric



STR60112SM8-6.00

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
12 x 6	M8 x 1.25 x 16	STR60112SM8-6.00	STR60212SM8-6.00
12 x 8		STR60112SM8-8.00	STR60212SM8-8.00
12 x 10		STR60112SM8-10.00	STR60212SM8-10.00
12 x 6	M10 x 1.5 x 16	STR601M12X6	STR602M12X6
12 x 8		STR601M12X8	STR602M12X8
12 x 9		STR601M12X9	STR602M12X9
12 x 10		STR601M12X10	STR602M12X10
12 x 12	M8 x 1.25 x 16	STR60112SM8-12.00	STR60212SM8-12.00
12 x 14		STR60112SM8-14.00	STR60212SM8-14.00
12 x 11	M10 x 1.5 x 16	STR601M12X11	STR602M12X11
12 x 12		STR601M12X12	STR602M12X12
12 x 13		STR601M12X13	STR602M12X13
12 x 14		STR601M12X14	STR602M12X14
12 x 15	M8 x 1.25 x 16	STR60112SM8-15.00	STR60212SM8-15.00
12 x 16		STR60112SM8-16.00	STR60212SM8-16.00
12 x 15	M10 x 1.5 x 16	STR601M12X15	STR602M12X15
12 x 16		STR601M12X16	STR602M12X16
12 x 17		STR601M12X17	STR602M12X17
12 x 18		STR601M12X18	STR602M12X18
12 x 20	M8 x 1.25 x 16	STR60112SM8-20.00	STR60212SM8-20.00
12 x 25		STR60112SM8-25.00	STR60212SM8-25.00
12 x 19	M10 x 1.5 x 16	STR601M12X19	STR602M12X19
12 x 20		STR601M12X20	STR602M12X20
12 x 22		STR601M12X22	STR602M12X22
12 x 25		STR601M12X25	STR602M12X25
12 x 30	M8 x 1.25 x 16	STR60112SM8-30.00	STR60212SM8-30.00
12 x 40		STR60112SM8-40.00	STR60212SM8-40.00
12 x 30	M10 x 1.5 x 16	STR601M12X30	STR602M12X30
12 x 35		STR601M12X35	STR602M12X35
12 x 40		STR601M12X40	STR602M12X40
12 x 45		STR601M12X45	STR602M12X45
12 x 50	M8 x 1.25 x 16	STR60112LM8-50.00	STR60212LM8-50.00
12 x 55		STR60112LM8-55.00	STR60212LM8-55.00
12 x 60		STR60112LM8-60.00	STR60212LM8-60.00



STR601M12X50

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
12 x 50	M10 x 1.5 x 16	STR601M12X50	STR602M12X50
12 x 55		STR601M12X55	STR602M12X55
12 x 60		STR601M12X60	STR602M12X60
12 x 65		STR601M12X65	STR602M12X65
12 x 70	M8 x 1.25 x 16	STR60112LM8-70.00	STR60212LM8-70.00
12 x 70	M10 x 1.5 x 16	STR601M12X70	STR602M12X70
12 x 75		STR601M12X75	STR602M12X75
12 x 80		STR601M12X80	STR602M12X80
12 x 90		STR601M12X90	STR602M12X90
12 x 100	M10 x 1.5 x 16	STR601M12X100	STR602M12X100
12 x 110		STR601M12X110	STR602M12X110
12 x 120		STR601M12X120	STR602M12X120
12 x 130		STR601M12X130	STR602M12X130
12 x 140	M10 x 1.5 x 16	STR601M12X140	STR602M12X140
12 x 150		STR601M12X150	STR602M12X150
12 x 160		STR601M12X160	STR602M12X160
12 x 170		STR601M12X170	STR602M12X170
12 x 180	M10 x 1.5 x 16	STR601M12X180	STR602M12X180



STR601M13X8

13mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
13 x 8	M10 x 1.5 x 16	STR601M13X8	STR602M13X8
13 x 10		STR601M13X10	STR602M13X10
13 x 12		STR601M13X12	STR602M13X12
13 x 16		STR601M13X16	STR602M13X16
13 x 20	M10 x 1.5 x 16	STR601M13X20	STR602M13X20
13 x 25		STR601M13X25	STR602M13X25
13 x 30		STR601M13X30	STR602M13X30
13 x 35		STR601M13X35	STR602M13X35
13 x 40	M10 x 1.5 x 16	STR601M13X40	STR602M13X40
13 x 50		STR601M13X50	STR602M13X50

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-14

18-8 SS (A2)
316 SS (A4)
Black Oxide

ASME Tolerance Knurled Head — Metric



STR60116SM10-14.00



STR60120SM12-14.00

16mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
16 x 14	M10 x 1.5 x 18	STR60116SM10-14.00	STR60216SM10-14.00
16 x 16		STR60116SM10-16.00	STR60216SM10-16.00
16 x 10	M12 x 1.75 x 18	STR601M16X10	STR602M16X10
16 x 12		STR601M16X12	STR602M16X12
16 x 14		STR601M16X14	STR602M16X14
16 x 16		STR601M16X16	STR602M16X16
16 x 20	M10 x 1.5 x 18	STR60116SM10-20.00	STR60216SM10-20.00
16 x 25		STR60116SM10-25.00	STR60216SM10-25.00
16 x 30		STR60116SM10-30.00	STR60216SM10-30.00
16 x 20	M12 x 1.75 x 18	STR601M16X20	STR602M16X20
16 x 22		STR601M16X22	STR602M16X22
16 x 25		STR601M16X25	STR602M16X25
16 x 30		STR601M16X30	STR602M16X30
16 x 40	M10 x 1.5 x 18	STR60116SM10-40.00	STR60216SM10-40.00
16 x 50		STR60116LM10-50.00	STR60216LM10-50.00
16 x 35	M12 x 1.75 x 18	STR601M16X35	STR602M16X35
16 x 40		STR601M16X40	STR602M16X40
16 x 45		STR601M16X45	STR602M16X45
16 x 50		STR601M16X50	STR602M16X50
16 x 55	M12 x 1.75 x 18	STR601M16X55	STR602M16X55
16 x 60		STR601M16X60	STR602M16X60
16 x 70		STR601M16X70	STR602M16X70
16 x 80		STR601M16X80	STR602M16X80
16 x 90	M12 x 1.75 x 18	STR601M16X90	STR602M16X90
16 x 100		STR601M16X100	STR602M16X100
16 x 110		STR601M16X110	STR602M16X110
16 x 120		STR601M16X120	STR602M16X120
16 x 130	M12 x 1.75 x 18	STR601M16X130	STR602M16X130
16 x 140		STR601M16X140	STR602M16X140
16 x 150		STR601M16X150	STR602M16X150
16 x 160		STR601M16X160	STR602M16X160
16 x 170	M12 x 1.75 x 18	STR601M16X170	STR602M16X170
16 x 180		STR601M16X180	STR602M16X180
16 x 190		STR601M16X190	STR602M16X190

20mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
20 x 14	M12 x 1.75 x 22	STR60120SM12-14.00	STR60220SM12-14.00
20 x 20		STR60120SM12-20.00	STR60220SM12-20.00
20 x 12	M16 x 2 x 22	STR601M20X12	STR602M20X12
20 x 14		STR601M20X14	STR602M20X14
20 x 16		STR601M20X16	STR602M20X16
20 x 20		STR601M20X20	STR602M20X20
20 x 25	M12 x 1.75 x 22	STR60120SM12-25.00	STR60220SM12-25.00
20 x 30		STR60120SM12-30.00	STR60220SM12-30.00
20 x 40		STR60120SM12-40.00	STR60220SM12-40.00
20 x 25	M16 x 2 x 22	STR601M20X25	STR602M20X25
20 x 30		STR601M20X30	STR602M20X30
20 x 35		STR601M20X35	STR602M20X35
20 x 40		STR601M20X40	STR602M20X40
20 x 50	M12 x 1.75 x 22	STR60120LM12-50.00	STR60220LM12-50.00
20 x 45	M16 x 2 x 22	STR601M20X45	STR602M20X45
20 x 50		STR601M20X50	STR602M20X50
20 x 55		STR601M20X55	STR602M20X55
20 x 60		STR601M20X60	STR602M20X60
20 x 70	M16 x 2 x 22	STR601M20X70	STR602M20X70
20 x 80		STR601M20X80	STR602M20X80
20 x 90		STR601M20X90	STR602M20X90
20 x 100		STR601M20X100	STR602M20X100
20 x 110	M16 x 2 x 22	STR601M20X110	STR602M20X110
20 x 120		STR601M20X120	STR602M20X120
20 x 130		STR601M20X130	STR602M20X130
20 x 140		STR601M20X140	STR602M20X140
20 x 150	M16 x 2 x 22	STR601M20X150	STR602M20X150
20 x 160		STR601M20X160	STR602M20X160
20 x 170		STR601M20X170	STR602M20X170
20 x 180		STR601M20X180	STR602M20X180
20 x 190	M16 x 2 x 22	STR601M20X190	STR602M20X190



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

Chart continued on next page

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
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ASME Tolerance Knurled Head — Metric



STR601M24X12



STR601M30X50

24mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
24 x 12	M20 x 2.5 x 27	STR601M24X12	STR602M24X12
24 x 16		STR601M24X16	STR602M24X16
24 x 20		STR601M24X20	STR602M24X20
24 x 25		STR601M24X25	STR602M24X25
24 x 30	M20 x 2.5 x 27	STR601M24X30	STR602M24X30
24 x 35		STR601M24X35	STR602M24X35
24 x 40		STR601M24X40	STR602M24X40
24 x 45		STR601M24X45	STR602M24X45
24 x 50		STR601M24X50	STR602M24X50
24 x 55	M20 x 2.5 x 27	STR601M24X55	STR602M24X55
24 x 60		STR601M24X60	STR602M24X60
24 x 70		STR601M24X70	STR602M24X70
24 x 80		STR601M24X80	STR602M24X80
24 x 90	M20 x 2.5 x 27	STR601M24X90	STR602M24X90
24 x 100		STR601M24X100	STR602M24X100
24 x 110		STR601M24X110	STR602M24X110
24 x 120		STR601M24X120	STR602M24X120
24 x 130	M20 x 2.5 x 27	STR601M24X130	STR602M24X130
24 x 140		STR601M24X140	STR602M24X140
24 x 150		STR601M24X150	STR602M24X150
24 x 160		STR601M24X160	STR602M24X160
24 x 170	M20 x 2.5 x 27	STR601M24X170	STR602M24X170
24 x 180		STR601M24X180	STR602M24X180
24 x 190		STR601M24X190	STR602M24X190

30mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
30 x 50	M27 x 3 x 35	STR601M30X50	STR602M30X50
30 x 60		STR601M30X60	STR602M30X60
30 x 70		STR601M30X70	STR602M30X70
30 x 80		STR601M30X80	STR602M30X80
30 x 90	M27 x 3 x 35	STR601M30X90	STR602M30X90
30 x 100		STR601M30X100	STR602M30X100
30 x 120		STR601M30X120	STR602M30X120
30 x 130		STR601M30X130	STR602M30X130
30 x 140	M27 x 3 x 35	STR601M30X140	STR602M30X140
30 x 150		STR601M30X150	STR602M30X150



STR601M36X50

36mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
36 x 50	M33 x 3.5 x 40	STR601M36X50	STR602M36X50
36 x 60		STR601M36X60	STR602M36X60
36 x 70		STR601M36X70	STR602M36X70
36 x 80		STR601M36X80	STR602M36X80
36 x 90	M33 x 3.5 x 40	STR601M36X90	STR602M36X90
36 x 100		STR601M36X100	STR602M36X100
36 x 120		STR601M36X120	STR602M36X120
36 x 130	M33 x 3.5 x 40	STR601M36X130	STR602M36X130
36 x 140		STR601M36X140	STR602M36X140
36 x 150		STR601M36X150	STR602M36X150



Black Oxide

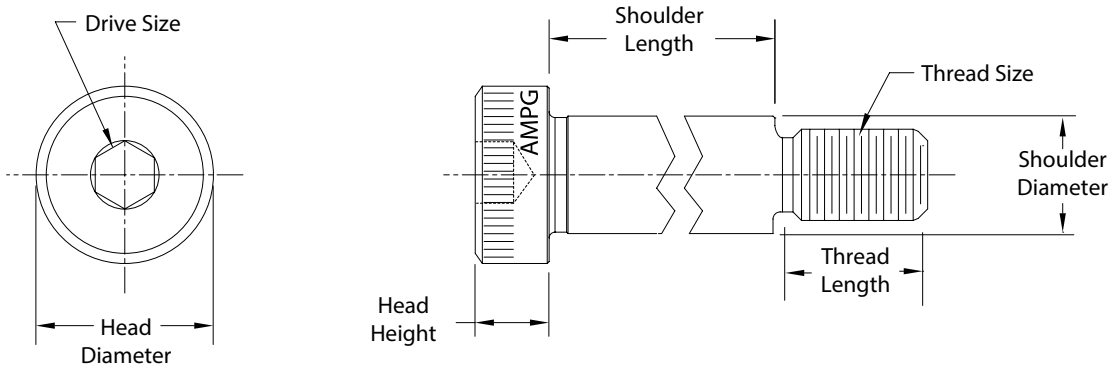
18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

ASME Tolerance Knurled Head — Inch

Alloy Steel — Hex Drive

AMPG shoulder screws meet or exceed general industrial acceptance for nonferrous screws and ANSI/ASME B18.3 dimensional specifications. Shoulder screws have an unthreaded shoulder made with an undersized tolerance to fit most machinery and equipment. The unthreaded shoulder is held to a precise diameter and length. These components are suitable for use in many industrial and machinery applications. Alloy Steel Screw material exceeds Grade 8 steel in strength and has a black-oxide finish. The diameter tolerance is -.002 to -.004 inches and the shoulder length tolerance is ±.005 inches. Screws have a Class 3A thread fit. *Heads are knurled, stamped, or both to provide finger grip. Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
3/32	.092 to .090	3/16	1/8	5/64	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
1/8	.123 to .121	1/4	1/8	5/64	
5/32	.154 to .152	9/32	1/8	3/32	
3/16	.185 to .183	5/16	5/32	3/32	
7/32	.216 to .214	5/16	5/32	3/32	
1/4	.248 to .246	3/8	3/16	1/8	Head Mark and Knurl
5/16	.310 to .308	7/16	7/32	5/32	
3/8	.373 to .371	9/16	1/4	3/16	
1/2	.498 to .496	3/4	5/16	1/4	
5/8	.623 to .621	7/8	3/8	5/16	Head Mark and Knurl
3/4	.748 to .746	1	1/2	3/8	
7/8	.873 to .871	1-1/4	9/16	1/4	
1	.998 to .996	1-5/16	5/8	1/2	
1-1/4	1.248 to 1.246	1-3/4	3/4	5/8	Head Mark and Knurl
1-1/2	1.498 to 1.496	2-1/8	1	7/8	
1-3/4	1.748 to 1.746	2-3/8	1-1/8	1	
2	1.998 to 1.996	2-3/4	1-1/4	1-1/4	

Head appearance may be knurled and/or head marked.

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

ASME Tolerance Knurled Head — Inch

Alloy Steel — Hex Drive

- Steel Alloy Shoulder Screws meet our internal specification AMPG 2018 ZS.04.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Certified test reports are available for both the corrosion resistance and physical properties.
- Black oxide finish offers mild resistance from rust.



STR70033C02

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
3/32 x 1/8	2-56 x 1/8	STR70033C02
3/32 x 5/32		STR70033C02.5
3/32 x 3/16		STR70033C03
3/32 x 7/32		STR70033C03.5
3/32 x 1/4		STR70033C04
3/32 x 9/32		STR70033C04.5
3/32 x 5/16		STR70033C05
3/32 x 11/32		STR70033C05.5
3/32 x 3/8		STR70033C06
3/32 x 13/32		STR70033C06.5
3/32 x 7/16		STR70033C07
3/32 x 15/32		STR70033C07.5
3/32 x 1/2		STR70033C08
3/32 x 17/32		STR70033C08.5
3/32 x 9/16		STR70033C09
3/32 x 19/32		STR70033C09.5
3/32 x 5/8		STR70033C10
3/32 x 11/16		STR70033C11
3/32 x 3/4		STR70033C12
3/32 x 13/16		STR70033C13
3/32 x 7/8		STR70033C14
3/32 x 15/16		STR70033C15
3/32 x 1		STR70033C16
3/32 x 1-1/4		STR70033C20
3/32 x 1-1/2	2-56 x 1/8	STR70033C24



STR70018C01

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
1/8 x 1/16	4-40 x 5/32	STR70018C01
1/8 x 3/32		STR70018C01.5
1/8 x 1/8		STR70018C02
1/8 x 5/32		STR70018C02.5
1/8 x 3/16		STR70018C03
1/8 x 7/32		STR70018C03.5
1/8 x 1/4		STR70018C04
1/8 x 9/32		STR70018C04.5
1/8 x 5/16		STR70018C05
1/8 x 11/32		STR70018C05.5
1/8 x 3/8		STR70018C06
1/8 x 13/32		STR70018C06.5
1/8 x 7/16		STR70018C07
1/8 x 15/32		STR70018C07.5
1/8 x 1/2		STR70018C08
1/8 x 9/16		STR70018C09
1/8 x 5/8		STR70018C10
1/8 x 11/16		STR70018C11
1/8 x 3/4		STR70018C12
1/8 x 13/16		STR70018C13
1/8 x 7/8		STR70018C14
1/8 x 15/16	4-40 x 5/32	STR70018C15
1/8 x 1		STR70018C16



STR70053C01

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
5/32 x 1/16	6-32 x 3/16	STR70053C01
5/32 x 3/32		STR70053C01.5
5/32 x 1/8		STR70053C02
5/32 x 5/32		STR70053C02.5
5/32 x 3/16		STR70053C03
5/32 x 7/32		STR70053C03.5
5/32 x 1/4		STR70053C04
5/32 x 9/32		STR70053C04.5
5/32 x 5/16		STR70053C05
5/32 x 11/32		STR70053C05.5
5/32 x 3/8		STR70053C06
5/32 x 13/32		STR70053C06.5
5/32 x 7/16		STR70053C07
5/32 x 15/32		STR70053C07.5
5/32 x 1/2		STR70053C08
5/32 x 9/16		STR70053C09
5/32 x 5/8		STR70053C10
5/32 x 11/16		STR70053C11
5/32 x 3/4		STR70053C12
5/32 x 13/16		STR70053C13
5/32 x 7/8		STR70053C14
5/32 x 15/16	6-32 x 3/16	STR70053C15
5/32 x 1		STR70053C16

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70031C02

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
3/16 x 1/8	8-32 x 3/16	STR70031C02
3/16 x 5/32		STR70031C02.5
3/16 x 3/16		STR70031C03
3/16 x 7/32		STR70031C03.5
3/16 x 1/4	8-32 x 3/16	STR70031C04
3/16 x 9/32		STR70031C04.5
3/16 x 5/16		STR70031C05
3/16 x 11/32		STR70031C05.5
3/16 x 3/8	8-32 x 3/16	STR70031C06
3/16 x 13/32		STR70031C06.5
3/16 x 7/16		STR70031C07
3/16 x 15/32		STR70031C07.5
3/16 x 1/2	8-32 x 3/16	STR70031C08
3/16 x 9/16		STR70031C09
3/16 x 5/8		STR70031C10
3/16 x 11/16		STR70031C11
3/16 x 3/4	8-32 x 3/16	STR70031C12
3/16 x 13/16		STR70031C13
3/16 x 7/8		STR70031C14
3/16 x 15/16		STR70031C15
3/16 x 1	8-32 x 3/16	STR70031C16
3/16 x 1-1/8		STR70031C18
3/16 x 1-1/4		STR70031C20
3/16 x 1-3/8		STR70031C22
3/16 x 1-1/2	8-32 x 3/16	STR70031C24
3/16 x 1-5/8		STR70031C26
3/16 x 1-3/4		STR70031C28
3/16 x 1-7/8		STR70031C30
3/16 x 2	8-32 x 3/16	STR70031C32



STR70073C02

7/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
7/32 x 1/8	8-32 x 3/16	STR70073C02
7/32 x 5/32		STR70073C02.5
7/32 x 3/16		STR70073C03
7/32 x 7/32		STR70073C03.5
7/32 x 1/4	8-32 x 3/16	STR70073C04
7/32 x 9/32		STR70073C04.5
7/32 x 5/16		STR70073C05
7/32 x 11/32		STR70073C05.5
7/32 x 3/8	8-32 x 3/16	STR70073C06
7/32 x 13/32		STR70073C06.5
7/32 x 7/16		STR70073C07
7/32 x 15/32		STR70073C07.5
7/32 x 1/2	8-32 x 3/16	STR70073C08
7/32 x 9/16		STR70073C09
7/32 x 5/8		STR70073C10
7/32 x 11/16		STR70073C11
7/32 x 3/4	8-32 x 3/16	STR70073C12
7/32 x 13/16		STR70073C13
7/32 x 7/8		STR70073C14
7/32 x 15/16		STR70073C15
7/32 x 1	8-32 x 3/16	STR70073C16



STR70014C02

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
1/4 x 1/8	10-24 x 3/8	STR70014C02
1/4 x 5/32		STR70014C02.5
1/4 x 3/16		STR70014C03
1/4 x 7/32		STR70014C03.5
1/4 x 1/4	10-24 x 3/8	STR70014C04
1/4 x 1/4	10-32 x 1/4	STR70014F04
1/4 x 9/32	10-24 x 3/8	STR70014C04.5
1/4 x 5/16		STR70014C05
1/4 x 11/32		STR70014C05.5
1/4 x 3/8	10-24 x 3/8	STR70014C06
1/4 x 13/32		STR70014C06.5
1/4 x 7/16		STR70014C07
1/4 x 15/32		STR70014C07.5
1/4 x 1/2	10-24 x 3/8	STR70014C08
1/4 x 1/2	10-32 x 1/4	STR70014F08
1/4 x 9/16	10-24 x 3/8	STR70014C09
1/4 x 5/8		STR70014C10
1/4 x 11/16		STR70014C11
1/4 x 3/4	10-24 x 3/8	STR70014C12
1/4 x 3/4	10-32 x 1/4	STR70014F12
1/4 x 13/16	10-24 x 3/8	STR70014C13
1/4 x 7/8		STR70014C14
1/4 x 15/16		STR70014C15
1/4 x 1	10-24 x 3/8	STR70014C16

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70014F16

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
1/4 x 1	10-32 x 1/4	STR70014F16
1/4 x 1-1/8	10-24 x 3/8	STR70014C18
1/4 x 1-1/4		STR70014C20
1/4 x 1-3/8		STR70014C22
1/4 x 1-1/2		STR70014C24
1/4 x 1-5/8		STR70014C26
1/4 x 1-3/4		STR70014C28
1/4 x 1-7/8		STR70014C30
1/4 x 2		STR70014C32
1/4 x 2-1/8	10-24 x 3/8	STR70014C34
1/4 x 2-1/4		STR70014C36
1/4 x 2-1/2		STR70014C40
1/4 x 2-3/4		STR70014C44
1/4 x 3	10-24 x 3/8	STR70014C48
1/4 x 3-1/4		STR70014C52
1/4 x 3-1/2		STR70014C56
1/4 x 3-3/4		STR70014C60
1/4 x 4	10-24 x 3/8	STR70014C64
1/4 x 4-1/2		STR70014C72
1/4 x 5		STR70014C80
1/4 x 5-1/2		STR70014C88
1/4 x 6	10-24 x 3/8	STR70014C96



STR70051C02

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
5/16 x 1/8	1/4-20 x 7/16	STR70051C02
5/16 x 5/32		STR70051C02.5
5/16 x 3/16		STR70051C03
5/16 x 7/32		STR70051C03.5
5/16 x 1/4	1/4-20 x 7/16	STR70051C04
5/16 x 9/32		STR70051C04.5
5/16 x 5/16		STR70051C05
5/16 x 11/32		STR70051C05.5
5/16 x 3/8	1/4-20 x 7/16	STR70051C06
5/16 x 13/32		STR70051C06.5
5/16 x 7/16		STR70051C07
5/16 x 15/32		STR70051C07.5
5/16 x 1/2	1/4-20 x 7/16	STR70051C08
5/16 x 9/16		STR70051C09
5/16 x 5/8		STR70051C10
5/16 x 11/16		STR70051C11
5/16 x 3/4	1/4-20 x 7/16	STR70051C12
5/16 x 13/16		STR70051C13
5/16 x 7/8		STR70051C14
5/16 x 15/16		STR70051C15
5/16 x 1	1/4-20 x 7/16	STR70051C16
5/16 x 1-1/8		STR70051C18



STR70051C20

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
5/16 x 1-1/4	1/4-20 x 7/16	STR70051C20
5/16 x 1-3/8		STR70051C22
5/16 x 1-1/2		STR70051C24
5/16 x 1-5/8		STR70051C26
5/16 x 1-3/4	1/4-20 x 7/16	STR70051C28
5/16 x 1-7/8		STR70051C30
5/16 x 2		STR70051C32
5/16 x 2-1/8		STR70051C34
5/16 x 2-1/4	1/4-20 x 7/16	STR70051C36
5/16 x 2-1/2		STR70051C40
5/16 x 2-3/4		STR70051C44
5/16 x 3		STR70051C48
5/16 x 3-1/4	1/4-20 x 7/16	STR70051C52
5/16 x 3-1/2		STR70051C56
5/16 x 3-3/4		STR70051C60
5/16 x 4		STR70051C64
5/16 x 4-1/2	1/4-20 x 7/16	STR70051C72
5/16 x 5		STR70051C80
5/16 x 5-1/2		STR70051C88
5/16 x 6		STR70051C96

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70038C02

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
3/8 x 1/8	5/16-18 x 1/2	STR70038C02
3/8 x 5/32		STR70038C02.5
3/8 x 3/16		STR70038C03
3/8 x 7/32		STR70038C03.5
3/8 x 1/4	5/16-18 x 1/2	STR70038C04
3/8 x 9/32		STR70038C04.5
3/8 x 5/16		STR70038C05
3/8 x 11/32		STR70038C05.5
3/8 x 3/8	5/16-18 x 1/2	STR70038C06
3/8 x 13/32		STR70038C06.5
3/8 x 7/16		STR70038C07
3/8 x 15/32		STR70038C07.5
3/8 x 1/2	5/16-18 x 1/2	STR70038C08
3/8 x 9/16		STR70038C09
3/8 x 5/8		STR70038C10
3/8 x 11/16	5/16-18 x 1/2	STR70038C11
3/8 x 3/4		STR70038C12
3/8 x 13/16		STR70038C13
3/8 x 7/8		STR70038C14
3/8 x 15/16	5/16-18 x 1/2	STR70038C15
3/8 x 1		STR70038C16
3/8 x 1-1/8		STR70038C18
3/8 x 1-1/4		STR70038C20



STR70038C22

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
3/8 x 1-3/8	5/16-18 x 1/2	STR70038C22
3/8 x 1-1/2		STR70038C24
3/8 x 1-5/8		STR70038C26
3/8 x 1-3/4		STR70038C28
3/8 x 1-7/8	5/16-18 x 1/2	STR70038C30
3/8 x 2		STR70038C32
3/8 x 2-1/8		STR70038C34
3/8 x 2-1/4		STR70038C36
3/8 x 2-1/2	5/16-18 x 1/2	STR70038C40
3/8 x 2-3/4		STR70038C44
3/8 x 3		STR70038C48
3/8 x 3-1/4		STR70038C52
3/8 x 3-1/2	5/16-18 x 1/2	STR70038C56
3/8 x 3-3/4		STR70038C60
3/8 x 4		STR70038C64
3/8 x 4-1/4		STR70038C68
3/8 x 4-1/2	5/16-18 x 1/2	STR70038C72
3/8 x 4-3/4		STR70038C76
3/8 x 5		STR70038C80
3/8 x 5-1/2		STR70038C88
3/8 x 6	5/16-18 x 1/2	STR70038C96
3/8 x 6-1/2		STR70038C104
3/8 x 7		STR70038C112



STR70012C02

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
1/2 x 1/8	3/8-16 x 5/8	STR70012C02
1/2 x 5/32		STR70012C02.5
1/2 x 3/16		STR70012C03
1/2 x 7/32		STR70012C03.5
1/2 x 1/4	3/8-16 x 5/8	STR70012C04
1/2 x 9/32		STR70012C04.5
1/2 x 5/16		STR70012C05
1/2 x 11/32		STR70012C05.5
1/2 x 3/8	3/8-16 x 5/8	STR70012C06
1/2 x 13/32		STR70012C06.5
1/2 x 7/16		STR70012C07
1/2 x 15/32		STR70012C07.5
1/2 x 1/2	3/8-16 x 5/8	STR70012C08
1/2 x 9/16		STR70012C09
1/2 x 5/8		STR70012C10
1/2 x 11/16		STR70012C11
1/2 x 3/4	3/8-16 x 5/8	STR70012C12
1/2 x 13/16		STR70012C13
1/2 x 7/8		STR70012C14
1/2 x 15/16		STR70012C15
1/2 x 1	3/8-16 x 5/8	STR70012C16
1/2 x 1-1/8		STR70012C18
1/2 x 1-1/4		STR70012C20
1/2 x 1-3/8		STR70012C22
1/2 x 1-1/2	3/8-16 x 5/8	STR70012C24
1/2 x 1-5/8		STR70012C26
1/2 x 1-3/4		STR70012C28
1/2 x 1-7/8		STR70012C30
1/2 x 2	3/8-16 x 5/8	STR70012C32
1/2 x 2-1/8		STR70012C34
1/2 x 2-1/4		STR70012C36
1/2 x 2-3/8		STR70012C38
1/2 x 2-1/2	3/8-16 x 5/8	STR70012C40
1/2 x 2-5/8		STR70012C42

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70012C44

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
1/2 x 2-3/4	3/8-16 x 5/8	STR70012C44
1/2 x 3		STR70012C48
1/2 x 3-1/4		STR70012C52
1/2 x 3-1/2		STR70012C56
1/2 x 3-3/4	3/8-16 x 5/8	STR70012C60
1/2 x 3-7/8		STR70012C62
1/2 x 4		STR70012C64
1/2 x 4-1/4		STR70012C68
1/2 x 4-1/2	3/8-16 x 5/8	STR70012C72
1/2 x 4-3/4		STR70012C76
1/2 x 5		STR70012C80
1/2 x 5-1/2		STR70012C88
1/2 x 6	3/8-16 x 5/8	STR70012C96
1/2 x 6-1/2		STR70012C104
1/2 x 7		STR70012C112
1/2 x 8		STR70012C128



STR70058C03

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
5/8 x 3/16	1/2-13 x 3/4	STR70058C03
5/8 x 7/32		STR70058C03.5
5/8 x 1/4		STR70058C04
5/8 x 9/32		STR70058C04.5
5/8 x 5/16	1/2-13 x 3/4	STR70058C05
5/8 x 11/32		STR70058C05.5
5/8 x 3/8		STR70058C06
5/8 x 13/32		STR70058C06.5
5/8 x 7/16	1/2-13 x 3/4	STR70058C07
5/8 x 15/32		STR70058C07.5
5/8 x 1/2		STR70058C08



STR70058C09

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
5/8 x 9/16	1/2-13 x 3/4	STR70058C09
5/8 x 5/8		STR70058C10
5/8 x 11/16		STR70058C11
5/8 x 3/4		STR70058C12
5/8 x 13/16	1/2-13 x 3/4	STR70058C13
5/8 x 7/8		STR70058C14
5/8 x 15/16		STR70058C15
5/8 x 1		STR70058C16
5/8 x 1-1/8	1/2-13 x 3/4	STR70058C18
5/8 x 1-1/4		STR70058C20
5/8 x 1-3/8		STR70058C22
5/8 x 1-1/2		STR70058C24
5/8 x 1-5/8	1/2-13 x 3/4	STR70058C26
5/8 x 1-3/4		STR70058C28
5/8 x 1-7/8		STR70058C30
5/8 x 2		STR70058C32
5/8 x 2-1/8		STR70058C34
5/8 x 2-1/4	1/2-13 x 3/4	STR70058C36
5/8 x 2-1/2		STR70058C40
5/8 x 2-3/4		STR70058C44
5/8 x 3		STR70058C48
5/8 x 3-1/4	1/2-13 x 3/4	STR70058C52
5/8 x 3-1/2		STR70058C56
5/8 x 3-3/4		STR70058C60
5/8 x 4		STR70058C64
5/8 x 4-1/4	1/2-13 x 3/4	STR70058C68
5/8 x 4-1/2		STR70058C72
5/8 x 4-3/4		STR70058C76
5/8 x 5		STR70058C80
5/8 x 5-1/2	1/2-13 x 3/4	STR70058C88
5/8 x 6		STR70058C96
5/8 x 6-1/2		STR70058C104
5/8 x 7		STR70058C112



STR70034C04

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
3/4 x 1/4	5/8-11 x 7/8	STR70034C04
3/4 x 9/32		STR70034C04.5
3/4 x 5/16		STR70034C05
3/4 x 11/32		STR70034C05.5
3/4 x 3/8	5/8-11 x 7/8	STR70034C06
3/4 x 13/32		STR70034C06.5
3/4 x 7/16		STR70034C07
3/4 x 15/32		STR70034C07.5
3/4 x 1/2	5/8-11 x 7/8	STR70034C08
3/4 x 9/16		STR70034C09
3/4 x 5/8		STR70034C10
3/4 x 11/16		STR70034C11
3/4 x 3/4	5/8-11 x 7/8	STR70034C12
3/4 x 13/16		STR70034C13
3/4 x 7/8		STR70034C14
3/4 x 15/16		STR70034C15
3/4 x 1	5/8-11 x 7/8	STR70034C16
3/4 x 1-1/8		STR70034C18
3/4 x 1-1/4		STR70034C20
3/4 x 1-3/8		STR70034C22
3/4 x 1-1/2	5/8-11 x 7/8	STR70034C24
3/4 x 1-5/8		STR70034C26
3/4 x 1-3/4		STR70034C28
3/4 x 1-7/8		STR70034C30
3/4 x 2	5/8-11 x 7/8	STR70034C32
3/4 x 2-1/8		STR70034C34

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70034C36

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
3/4 x 2-1/4	5/8-11 x 7/8	STR70034C36
3/8 x 2-3/8		STR70034C38
3/4 x 2-1/2		STR70034C40
3/4 x 2-5/8		STR70034C42
3/4 x 2-3/4	5/8-11 x 7/8	STR70034C44
3/4 x 3		STR70034C48
3/4 x 3-1/4		STR70034C52
3/4 x 3-1/2		STR70034C56
3/4 x 3-3/4	5/8-11 x 7/8	STR70034C60
3/4 x 4		STR70034C64
3/4 x 4-1/4		STR70034C68
3/4 x 4-1/2		STR70034C72
3/4 x 4-3/4	5/8-11 x 7/8	STR70034C76
3/4 x 5		STR70034C80
3/4 x 5-1/2		STR70034C88
3/4 x 6		STR70034C96
3/4 x 6-1/2	5/8-11 x 7/8	STR70034C104
3/4 x 7		STR70034C112
3/4 x 7-1/2		STR70034C120
3/4 x 8		STR70034C128



STR70078C04

7/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
7/8 x 1/4	3/4-10 x 1	STR70078C04
7/8 x 9/32		STR70078C04.5
7/8 x 5/16		STR70078C05
7/8 x 11/32		STR70078C05.5
7/8 x 3/8	3/4-10 x 1	STR70078C06
7/8 x 13/32		STR70078C06.5
7/8 x 7/16		STR70078C07
7/8 x 15/32		STR70078C07.5
7/8 x 1/2	3/4-10 x 1	STR70078C08
7/8 x 9/16		STR70078C09
7/8 x 5/8		STR70078C10
7/8 x 11/16		STR70078C11
7/8 x 3/4	3/4-10 x 1	STR70078C12
7/8 x 13/16		STR70078C13
7/8 x 7/8		STR70078C14
7/8 x 15/16		STR70078C15
7/8 x 1	3/4-10 x 1	STR70078C16
7/8 x 1-1/2		STR70078C24
7/8 x 1-3/4		STR70078C28
7/8 x 2		STR70078C32
7/8 x 2-1/2	3/4-10 x 1	STR70078C40
7/8 x 3		STR70078C48
7/8 x 3-1/2		STR70078C56
7/8 x 4		STR70078C64
7/8 x 4-1/2	3/4-10 x 1	STR70078C72
7/8 x 5		STR70078C80
7/8 x 5-1/2		STR70078C88
7/8 x 6		STR70078C96



STR7001C04

1 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
1 x 1/4	3/4-10 x 1	STR70001C04
1 x 9/32		STR70001C04.5
1 x 5/16		STR70001C05
1 x 11/32		STR70001C05.5
1 x 3/8	3/4-10 x 1	STR70001C06
1 x 13/32		STR70001C06.5
1 x 7/16		STR70001C07
1 x 15/32		STR70001C07.5
1 x 1/2	3/4-10 x 1	STR70001C08
1 x 9/16		STR70001C09
1 x 5/8		STR70001C10
1 x 11/16		STR70001C11
1 x 3/4	3/4-10 x 1	STR70001C12
1 x 13/16		STR70001C13
1 x 7/8		STR70001C14
1 x 15/16		STR70001C15
1 x 1	3/4-10 x 1	STR70001C16
1 x 1-1/2		STR70001C24
1 x 1-3/4		STR70001C28
1 x 2		STR70001C32
1 x 2-1/2	3/4-10 x 1	STR70001C40
1 x 3		STR70001C48
1 x 3-1/2		STR70001C56
1 x 4		STR70001C64
1 x 4-1/2	3/4-10 x 1	STR70001C72
1 x 5		STR70001C80
1 x 5-1/2		STR70001C88
1 x 6		STR70001C96
1 x 6-1/2	3/4-10 x 1	STR70001C104
1 x 7		STR70001C112

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR700012C24

1-1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
1-1/4 x 1-1/2	7/8-9 x 1-1/8	STR700012C24
1-1/4 x 1-3/4		STR700012C28
1-1/4 x 2		STR700012C32
1-1/4 x 2-1/2		STR700012C40
1-1/4 x 3	7/8-9 x 1-1/8	STR700012C48
1-1/4 x 3-1/2		STR700012C56
1-1/4 x 4		STR700012C64
1-1/4 x 5		STR700012C80
1-1/4 x 6	7/8-9 x 1-1/8	STR700012C96



STR700015C16

1-1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
1-1/2 x 1	1-1/8-7 x 1-1/2	STR700015C16
1-1/2 x 1-1/2		STR700015C24
1-1/2 x 1-3/4		STR700015C28
1-1/2 x 2		STR700015C32
1-1/2 x 2-1/2	1-1/8-7 x 1-1/2	STR700015C40
1-1/2 x 3		STR700015C48
1-1/2 x 3-1/2		STR700015C56
1-1/2 x 4		STR700015C64
1-1/2 x 5	1-1/8-7 x 1-1/2	STR700015C80
1-1/2 x 6		STR700015C96



STR700017C16

1-3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
1-3/4 x 1	1-1/4-7 x 1-3/4	STR700017C16
1-3/4 x 1-1/2		STR700017C24
1-3/4 x 2		STR700017C32
1-3/4 x 2-1/4		STR700017C36
1-3/4 x 2-1/2	1-1/4-7 x 1-3/4	STR700017C40
1-3/4 x 2-3/4		STR700017C44
1-3/4 x 3		STR700017C48
1-3/4 x 3-1/2		STR700017C56
1-3/4 x 4	1-1/4-7 x 1-3/4	STR700017C64
1-3/4 x 4-1/2		STR700017C72
1-3/4 x 5		STR700017C80
1-3/4 x 5-1/2		STR700017C88
1-3/4 x 6	1-1/4-7 x 1-3/4	STR700017C96



STR70002C16

2 Shoulder Diameter

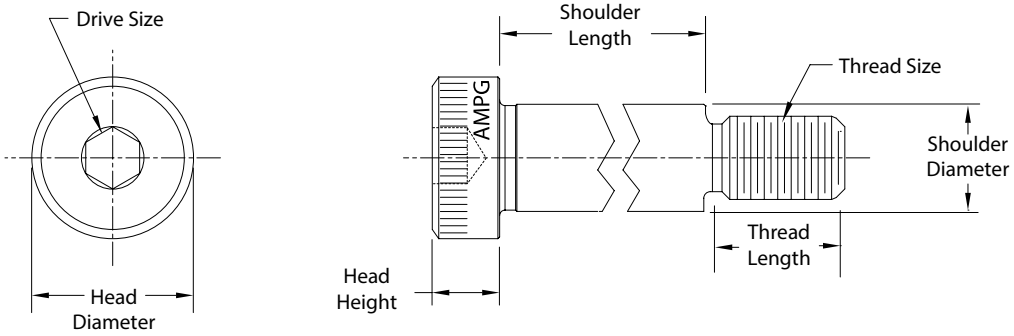
Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
2 x 1	1-1/2-6 x 2	STR70002C16
2 x 1-1/2		STR70002C24
2 x 2		STR70002C32
2 x 2-1/4		STR70002C36
2 x 2-1/2	1-1/2-6 x 2	STR70002C40
2 x 2-3/4		STR70002C44
2 x 3		STR70002C48
2 x 3-1/2		STR70002C56
2 x 4	1-1/2-6 x 2	STR70002C64
2 x 4-1/2		STR70002C72
2 x 5		STR70002C80
2 x 5-1/2		STR70002C88
2 x 6	1-1/2-6 x 2	STR70002C96

Chart continued on next page

ASME Tolerance Knurled Head — Metric

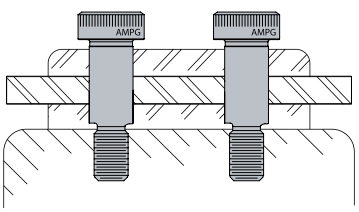
Alloy Steel — Hex Drive

Also known as stripper bolts, they're commonly used as a stationary guide for stripper plates, as a pivot point for moving parts, and as a shaft for rolling parts. Screws are machined with a precision hex socket for maximum wrenching strength, knurled heads for sure finger grip, and an undercut portion between the thread and shoulder, allowing a close fit. AMPG shoulder screws meet or exceed general industrial acceptance for nonferrous screws and ANSI/ASME B18.3 dimensional specifications. Shoulder screws have an unthreaded shoulder made with an undersized tolerance to fit most machinery and equipment. The unthreaded shoulder is held to a precise diameter and length. Minimum to maximum shoulder diameter is listed in table. Shoulder length tolerance is +.25 to -.00mm. Screws have a Class 5g6g thread fit. *Heads are knurled, stamped, or both to provide finger grip. Black Oxide plating enhances appearance and cuts down on light reflection and glare.

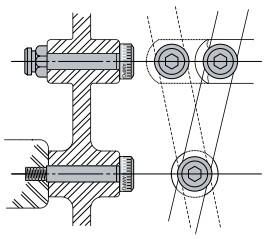


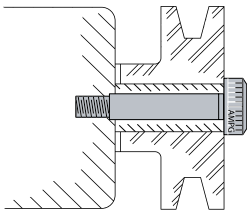
Dimensions and Tolerance Table — Metric, mm

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
2	1.99 to 1.96	5.00	2.00	1.5	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
3	2.99 to 2.96	5.00	2.00	1.5	
4	3.99 to 3.96	6.00	3.00	2	
5	4.99 to 4.96	9.00	4.00	2.5	
6	5.99 to 5.96	10.00	4.50	3	Head Mark Only
6.5	6.49 to 6.45	10.00	5.00	3	
8	7.99 to 7.96	13.00	5.50	4	Head Mark and Knurl
10	9.99 to 9.96	16.00	7.00	5	
12	11.99 to 11.94	18.00	9.00	6	
13	12.98 to 12.94	19.00	10.00	6	
16	15.98 to 15.94	24.00	11.00	8	Head Mark and Knurl
20	19.98 to 19.92	30.00	14.00	10	
24	23.98 to 23.92	36.00	16.00	12	



Shoulder Screw as a Guide


Shoulder Screw as a Pivot Point



Shoulder Screw as a Shaft

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

ASME Tolerance Knurled Head — Metric

Alloy Steel — Hex Drive

- Shoulder diameters of 2, 3 and 12mm meet our internal specification AMPG 2013 ZS.02.
- Shoulder diameters of 4, 5, 6, 6.5, 8,10, 12, 13, 16, 20 and 24mm meet or exceed ANSI/ASME B18.3.3M, ISO 7379.
- Certified test reports are available for both the corrosion resistance and physical properties.
- Black oxide finish offers mild resistance from rust.



STR700M2X4

2mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
2 x 4	M1.6 x 0.35 x 3	STR700M2X4
2 x 5		STR700M2X5
2 x 6		STR700M2X6
2 x 8		STR700M2X8
2 x 10	M1.6 x 0.35 x 3	STR700M2X10
2 x 12		STR700M2X12
2 x 14		STR700M2X14
2 x 16		STR700M2X16
2 x 18	M1.6 x 0.35 x 3	STR700M2X18
2 x 20		STR700M2X20
2 x 25		STR700M2X25
2 x 30		STR700M2X30



STR700M3X3

3mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
3 x 3	M2 x 0.4 x 4	STR700M3X3
3 x 4		STR700M3X4
3 x 6		STR700M3X6
3 x 8		STR700M3X8
3 x 10	M2 x 0.4 x 4	STR700M3X10
3 x 12		STR700M3X12
3 x 16		STR700M3X16
3 x 20		STR700M3X20
3 x 25	M2 x 0.4 x 4	STR700M3X25
3 x 30		STR700M3X30



STR700M4X4

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
4 x 4	M3 x 0.5 x 3.8	STR700M4X4
4 x 6		STR700M4X6
4 x 8		STR700M4X8
4 x 10		STR700M4X10
4 x 12	M3 x 0.5 x 3.8	STR700M4X12
4 x 15		STR700M4X15
4 x 16		STR700M4X16
4 x 18		STR700M4X18
4 x 20	M3 x 0.5 x 3.8	STR700M4X20
4 x 25		STR700M4X25
4 x 30		STR700M4X30



STR700M5X4

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
5 x 4	M4 x 0.7 x 9	STR700M5X4
5 x 6		STR700M5X6
5 x 8		STR700M5X8
5 x 10		STR700M5X10
5 x 12	M4 x 0.7 x 9	STR700M5X12
5 x 15	M4 x 0.7 x 4.5	STR700M5X15
5 x 16	M4 x 0.7 x 9	STR700M5X16
5 x 18	M4 x 0.7 x 4.5	STR700M5X18
5 x 20	M4 x 0.7 x 9	STR700M5X20
5 x 25		STR700M5X25
5 x 30		STR700M5X30
5 x 35	M4 x 0.7 x 4.5	STR700M5X35
5 x 40		STR700M5X40
5 x 50		STR700M5X50
5 x 60		STR700M5X60

Chart continued on next page

ASME Tolerance Knurled Head — Metric

Alloy Steel — Hex Drive



STR700M6X4

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
6 x 4	M5 x 0.8 x 9.5	STR700M6X4
6 x 6		STR700M6X6
6 x 8		STR700M6X8
6 x 10		STR700M6X10
6 x 12	M5 x 0.8 x 9.5	STR700M6X12
6 x 14		STR700M6X14
6 x 15		STR700M6X15
6 x 16		STR700M6X16
6 x 18	M5 x 0.8 x 9.5	STR700M6X18
6 x 20		STR700M6X20
6 x 25		STR700M6X25
6 x 30		STR700M6X30
6 x 35	M5 x 0.8 x 9.5	STR700M6X35
6 x 40		STR700M6X40
6 x 45		STR700M6X45
6 x 50		STR700M6X50
6 x 60	M5 x 0.8 x 9.5	STR700M6X60
6 x 70		STR700M6X70
6 x 80		STR700M6X80



STR700M6.5X6

6.5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
6.5 x 6	M5 x 0.8 x 9.5	STR700M6.5X6
6.5 x 8		STR700M6.5X8
6.5 x 10		STR700M6.5X10
6.5 x 12		STR700M6.5X12
6.5 x 16	M5 x 0.8 x 9.5	STR700M6.5X16
6.5 x 20		STR700M6.5X20
6.5 x 25		STR700M6.5X25
6.5 x 30		STR700M6.5X30
6.5 x 35	M5 x 0.8 x 9.5	STR700M6.5X35
6.5 x 40		STR700M6.5X40
6.5 x 50		STR700M6.5X50



STR601M8X6

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
8 x 6	M6 x 1 x 11	STR700M8X6
8 x 8		STR700M8X8
8 x 10		STR700M8X10
8 x 12		STR700M8X12
8 x 14	M6 x 1 x 11	STR700M8X14
8 x 15		STR700M8X15
8 x 16		STR700M8X16
8 x 18		STR700M8X18
8 x 20	M6 x 1 x 11	STR700M8X20
8 x 25		STR700M8X25
8 x 30		STR700M8X30
8 x 35		STR700M8X35
8 x 40	M6 x 1 x 11	STR700M8X40
8 x 45		STR700M8X45
8 x 50		STR700M8X50
8 x 55		STR700M8X55
8 x 60	M6 x 1 x 11	STR700M8X60
8 x 65		STR700M8X65
8 x 70		STR700M8X70
8 x 75		STR700M8X75
8 x 80	M6 x 1 x 11	STR700M8X80
8 x 90		STR700M8X90
8 x 100		STR700M8X100
8 x 110		STR700M8X110

ASME Tolerance Knurled Head — Metric



STR700M10X6

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
10 x 6	M8 x 1.25 x 13	STR700M10X6
10 x 8		STR700M10X8
10 x 10		STR700M10X10
10 x 12		STR700M10X12
10 x 14	M8 x 1.25 x 13	STR700M10X14
10 x 15		STR700M10X15
10 x 16		STR700M10X16
10 x 18		STR700M10X18
10 x 20	M8 x 1.25 x 13	STR700M10X20
10 x 25		STR700M10X25
10 x 30		STR700M10X30
10 x 35		STR700M10X35
10 x 40	M8 x 1.25 x 13	STR700M10X40
10 x 45		STR700M10X45
10 x 50		STR700M10X50
10 x 55		STR700M10X55
10 x 60	M8 x 1.25 x 13	STR700M10X60
10 x 65		STR700M10X65
10 x 70		STR700M10X70
10 x 75		STR700M10X75
10 x 80	M8 x 1.25 x 13	STR700M10X80
10 x 90		STR700M10X90
10 x 100		STR700M10X100
10 x 110		STR700M10X110
10 x 120	M8 x 1.25 x 13	STR700M10X120
10 x 130		STR700M10X130
10 x 140		STR700M10X140
10 x 150		STR700M10X150



STR700M12X6

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
12 x 6	M10 x 1.5x 16	STR700M12X6
12 x 8		STR700M12X8
12 x 10		STR700M12X10
12 x 12		STR700M12X12
12 x 14	M10 x 1.5x 16	STR700M12X14
12 x 15		STR700M12X15
12 x 16		STR700M12X16
12 x 18		STR700M12X18
12 x 20	M10 x 1.5x 16	STR700M12X20
12 x 25		STR700M12X25
12 x 30		STR700M12X30
12 x 35		STR700M12X35
12 x 40	M10 x 1.5x 16	STR700M12X40
12 x 45		STR700M12X45
12 x 50		STR700M12X50
12 x 55		STR700M12X55
12 x 60	M10 x 1.5x 16	STR700M12X60
12 x 65		STR700M12X65
12 x 70		STR700M12X70
12 x 75		STR700M12X75
12 x 80	M10 x 1.5x 16	STR700M12X80
12 x 90		STR700M12X90
12 x 100		STR700M12X100
12 x 110		STR700M12X110
12 x 120	M10 x 1.5x 16	STR700M12X120



STR700M13X8

13mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
13 x 8	M10 x 1.5 x 16	STR700M13X8
13 x 10		STR700M13X10
13 x 12		STR700M13X12
13 x 16		STR700M13X16
13 x 20	M10 x 1.5 x 16	STR700M13X20
13 x 25		STR700M13X25
13 x 30		STR700M13X30
13 x 35		STR700M13X35
13 x 40	M10 x 1.5 x 16	STR700M13X40
13 x 50		STR700M13X50

Chart continued on next page

ASME Tolerance Knurled Head — Metric

Alloy Steel — Hex Drive



STR700M16X10

16mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
16 x 10	M12 x 1.75x 18	STR700M16X10
16 x 12		STR700M16X12
16 x 14		STR700M16X14
16 x 16		STR700M16X16
16 x 20	M12 x 1.75x 18	STR700M16X20
16 x 25		STR700M16X25
16 x 30		STR700M16X30
16 x 35		STR700M16X35
16 x 40	M12 x 1.75x 18	STR700M16X40
16 x 45		STR700M16X45
16 x 50		STR700M16X50
16 x 55		STR700M16X55
16 x 60	M12 x 1.75x 18	STR700M16X60
16 x 70		STR700M16X70
16 x 80		STR700M16X80
16 x 90		STR700M16X90
16 x 100	M12 x 1.75x 18	STR700M16X100
16 x 120		STR700M16X120
16 x 140		STR700M16X140



STR700M20X20

20mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
20 x 20	M16 x 2 x 22	STR700M20X20
20 x 25		STR700M20X25
20 x 30		STR700M20X30
20 x 35		STR700M20X35
20 x 40	M16 x 2 x 22	STR700M20X40
20 x 45		STR700M20X45
20 x 50		STR700M20X50
20 x 55		STR700M20X55
20 x 60	M16 x 2 x 22	STR700M20X60
20 x 70		STR700M20X70
20 x 80		STR700M20X80
20 x 90		STR700M20X90
20 x 100	M16 x 2 x 22	STR700M20X100
20 x 120		STR700M20X120



STR700M24X40

24mm Shoulder Diameter

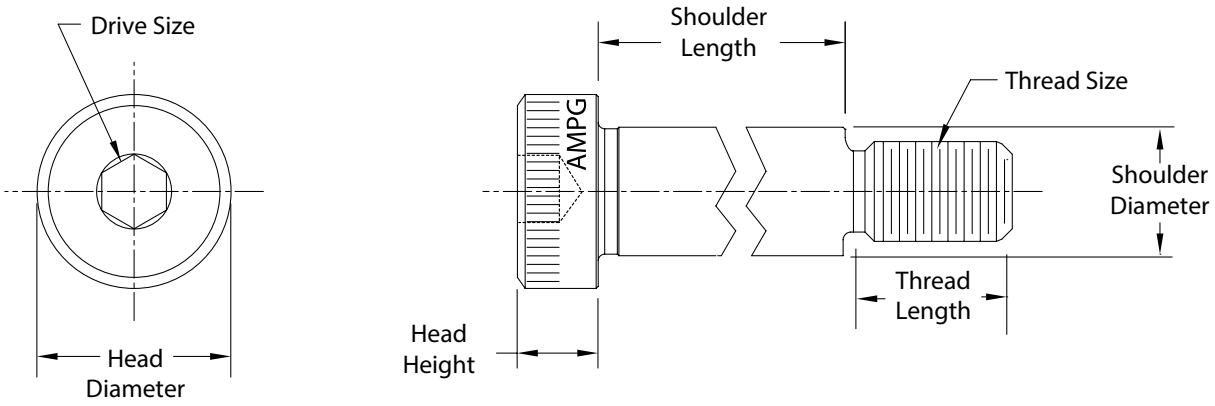
Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
24 x 40	M20 x 2.5 x 27	STR700M24X40
24 x 45		STR700M24X45
24 x 50		STR700M24X50
24 x 55		STR700M24X55
24 x 60	M20 x 2.5 x 27	STR700M24X60
24 x 80		STR700M24X80
24 x 90		STR700M24X90
24 x 100		STR700M24X100
24 x 120	M20 x 2.5 x 27	STR700M24X120

ASME Tolerance Knurled Head — Inch

17-4 PH SS, 316 H5 SS, Aluminum, Monel, and Grade 2 Titanium — Hex Drive

Shoulder screws have an unthreaded shoulder made with an undersized tolerance to fit most machinery and equipment. The unthreaded shoulder is held to a precise diameter and length. Screws are machined with a precision hex socket for maximum wrenching strength, knurled heads for sure finger grip, and an undercut portion between the thread and shoulder, allowing a close fit. AMPG shoulder screws meet or exceed general industrial acceptance for shoulder screws made to ANSI/ASME B18.3 dimensional specifications. The diameter tolerance is -.002 to -.004 inches and the shoulder length tolerance is ±.005 inches. ASME tolerance shoulder screws have a Class 3A thread fit. *Heads are knurled, stamped, or both to provide finger grip.

Exotic materials offer exceptional properties for applications in corrosive, high-temperature and chemical-rich environments. Please see 'About Our Materials', page iii for detailed material information.



Dimensions and Tolerance Table — Inch					
Shoulder Diameter	**Shoulder Diameter** Max to Min.	**Head Diameter**	**Head Height**	**Drive Size**	***Head Appearance**
1/8	.123 to .121	1/4	1/8	5/64	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
5/32	.154 to .152	9/32	1/8	3/32	
3/16	.185 to .183	5/16	5/32	3/32	
7/32	.216 to .214	5/16	5/32	3/32	
1/4	.248 to .246	3/8	3/16	1/8	Head Mark and Knurl
5/16	.310 to .308	7/16	7/32	5/32	
3/8	.373 to .371	9/16	1/4	3/16	
1/2	.498 to .496	3/4	5/16	1/4	
5/8	.623 to .621	7/8	3/8	5/16	Head Mark and Knurl
3/4	.748 to .746	1	1/2	3/8	
1	.998 to .996	1-5/16	5/8	1/2	
1-1/4	1.248 to 1.246	1-3/4	3/4	5/8	
1-1/2	1.498 to 1.496	2-1/8	1	7/8	

Head appearance may be knurled and/or head marked.

ASME Tolerance Knurled Head — Inch

17-4 PH SS, 316H5 SS, Aluminum, Nickel (Monel), and Grade 2 Titanium — Hex Drive

- Shoulder diameters of 1/8, 5/32, 3/16 and 7/32 meet our internal specification AMPG 2012 ZS.01.
- Shoulder diameters of 1/4 and larger meet or exceed ANSI/ASME B18.3.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Largest line of shoulder screws offered in high performance materials: 17-4 PH SS, 316 High Five SS, Aluminum, Nickel (Monel) and Grade 2 Titanium.



STR70518C02

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
1/8 x 1/8	4-40 x 5/32	STR74418C02	STR61618C02	STR72018C02	STR71018C02	STR70518C02
1/8 x 5/32		STR74418C02.5	—	STR72018C02.5	STR71018C02.5	STR70518C02.5
1/8 x 3/16		STR74418C03	STR61618C03	STR72018C03	STR71018C03	STR70518C03
1/8 x 7/32		STR74418C03.5	—	STR72018C03.5	STR71018C03.5	STR70518C03.5
1/8 x 1/4	4-40 x 5/32	STR74418C04	STR61618C04	STR72018C04	STR71018C04	STR70518C04
1/8 x 9/32		STR74418C04.5	—	STR72018C04.5	STR71018C04.5	STR70518C04.5
1/8 x 5/16		STR74418C05	STR61618C05	STR72018C05	STR71018C05	STR70518C05
1/8 x 11/32		STR74418C05.5	—	STR72018C05.5	STR71018C05.5	STR70518C05.5
1/8 x 3/8	4-40 x 5/32	STR74418C06	STR61618C06	STR72018C06	STR71018C06	STR70518C06
1/8 x 13/32		STR74418C06.5	—	STR72018C06.5	STR71018C06.5	STR70518C06.5
1/8 x 7/16		STR74418C07	STR61618C07	STR72018C07	STR71018C07	STR70518C07
1/8 x 15/32		STR74418C07.5	—	STR72018C07.5	STR71018C07.5	STR70518C07.5
1/8 x 1/2	4-40 x 5/32	STR74418C08	STR61618C08	STR72018C08	STR71018C08	STR70518C08
1/8 x 9/16		STR74418C09	STR61618C09	STR72018C09	STR71018C09	STR70518C09
1/8 x 5/8		STR74418C10	STR61618C10	STR72018C10	STR71018C10	STR70518C10
1/8 x 3/4		STR74418C12	STR61618C12	STR72018C12	STR71018C12	STR70518C12
1/8 x 1	4-40 x 5/32	STR74418C16	—	STR72018C16	STR71018C16	STR70518C16
1/8 x 1-1/4		STR74418C20	—	STR72018C20	STR71018C20	STR70518C20
1/8 x 1-1/2		STR74418C24	—	STR72018C24	STR71018C24	STR70518C24

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70553C02

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
5/32 x 1/8	6-32 x 3/16	STR74453C02	STR61653C02	STR72053C02	STR71053C02	STR70553C02
5/32 x 5/32		STR74453C02.5	—	STR72053C02.5	STR71053C02.5	STR70553C02.5
5/32 x 3/16		STR74453C03	STR61653C03	STR72053C03	STR71053C03	STR70553C03
5/32 x 7/32		STR74453C03.5	—	STR72053C03.5	STR71053C03.5	STR70553C03.5
5/32 x 1/4	6-32 x 3/16	STR74453C04	STR61653C04	STR72053C04	STR71053C04	STR70553C04
5/32 x 9/32		STR74453C04.5	—	STR72053C04.5	STR71053C04.5	STR70553C04.5
5/32 x 5/16		STR74453C05	—	STR72053C05	STR71053C05	STR70553C05
5/32 x 11/32		STR74453C05.5	—	STR72053C05.5	STR71053C05.5	STR70553C05.5
5/32 x 3/8	6-32 x 3/16	STR74453C06	STR61653C06	STR72053C06	STR71053C06	STR70553C06
5/32 x 13/32		STR74453C06.5	—	STR72053C06.5	STR71053C06.5	STR70553C06.5
5/32 x 7/16		STR74453C07	STR61653C07	STR72053C07	STR71053C07	STR70553C07
5/32 x 15/32		STR74453C07.5	—	STR72053C07.5	STR71053C07.5	STR70553C07.5
5/32 x 1/2	6-32 x 3/16	STR74453C08	STR61653C08	STR72053C08	STR71053C08	STR70553C08
5/32 x 9/16		STR74453C09	STR61653C09	STR72053C09	STR71053C09	STR70553C09
5/32 x 5/8		STR74453C10	STR61653C10	STR72053C10	STR71053C10	STR70553C10
5/32 x 3/4		STR74453C12	STR61653C12	STR72053C12	STR71053C12	STR70553C12
5/32 x 1	6-32 x 3/16	STR74453C16	STR61653C16	STR72053C16	STR71053C16	STR70553C16



STR70531C02

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
3/16 x 1/8	8-32 x 3/16	STR74431C02	STR61631C02	STR72031C02	STR71031C02	STR70531C02
3/16 x 5/32		STR74431C02.5	STR61631C02.5	STR72031C02.5	STR71031C02.5	STR70531C02.5
3/16 x 3/16		STR74431C03	STR61631C03	STR72031C03	STR71031C03	STR70531C03
3/16 x 7/32		STR74431C03.5	STR61631C03.5	STR72031C03.5	STR71031C03.5	STR70531C03.5
3/16 x 1/4	8-32 x 3/16	STR74431C04	STR61631C04	STR72031C04	STR71031C04	STR70531C04
3/16 x 9/32		STR74431C04.5	STR61631C04.5	STR72031C04.5	STR71031C04.5	STR70531C04.5
3/16 x 5/16		STR74431C05	STR61631C05	STR72031C05	STR71031C05	STR70531C05
3/16 x 11/32		STR74431C05.5	—	STR72031C05.5	STR71031C05.5	STR70531C05.5
3/16 x 3/8	8-32 x 3/16	STR74431C06	STR61631C06	STR72031C06	STR71031C06	STR70531C06
3/16 x 13/32		STR74431C06.5	—	STR72031C06.5	STR71031C06.5	STR70531C06.5
3/16 x 7/16		STR74431C07	STR61631C07	STR72031C07	STR71031C07	STR70531C07
3/16 x 15/32		STR74431C07.5	—	STR72031C07.5	STR71031C07.5	STR70531C07.5

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70531C08

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
3/16 x 1/2	8-32 x 3/16	STR74431C08	STR61631C08	STR72031C08	STR71031C08	STR70531C08
3/16 x 9/16		STR74431C09	STR61631C09	STR72031C09	STR71031C09	STR70531C09
3/16 x 5/8		STR74431C10	STR61631C10	STR72031C10	STR71031C10	STR70531C10
3/16 x 3/4		STR74431C12	STR61631C12	STR72031C12	STR71031C12	STR70531C12
3/16 x 7/8	8-32 x 3/16	STR74431C14	–	STR72031C14	STR71031C14	STR70531C14
3/16 x 1		STR74431C16	STR61631C16	STR72031C16	STR71031C16	STR70531C16
3/16 x 1-1/8		STR74431C18	–	STR72031C18	STR71031C18	STR70531C18
3/16 x 1-1/4		STR74431C20	–	STR72031C20	STR71031C20	STR70531C20
3/16 x 1-3/8	8-32 x 3/16	STR74431C22	–	STR72031C22	STR71031C22	STR70531C22
3/16 x 1-1/2		STR74431C24	–	STR72031C24	STR71031C24	STR70531C24
3/16 x 1-5/8		STR74431C26	–	STR72031C26	STR71031C26	STR70531C26
3/16 x 1-3/4		STR74431C28	–	STR72031C28	STR71031C28	STR70531C28
3/16 x 2	8-32 x 3/16	STR74431C32	–	STR72031C32	STR71031C32	STR70531C32



STR70573C02

7/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
7/32 x 1/8	8-32 x 3/16	STR74473C02	–	STR72073C02	STR71073C02	STR70573C02
7/32 x 5/32		STR74473C02.5	–	STR72073C02.5	STR71073C02.5	STR70573C02.5
7/32 x 3/16		STR74473C03	–	STR72073C03	STR71073C03	STR70573C03
7/32 x 7/32		STR74473C03.5	–	STR72073C03.5	STR71073C03.5	STR70573C03.5
7/32 x 1/4	8-32 x 3/16	STR74473C04	–	STR72073C04	STR71073C04	STR70573C04
7/32 x 9/32		STR74473C04.5	–	STR72073C04.5	STR71073C04.5	STR70573C04.5
7/32 x 5/16		STR74473C05	–	STR72073C05	STR71073C05	STR70573C05
7/32 x 11/32		STR74473C05.5	–	STR72073C05.5	STR71073C05.5	STR70573C05.5
7/32 x 3/8	8-32 x 3/16	STR74473C06	–	STR72073C06	STR71073C06	STR70573C06
7/32 x 13/32		STR74473C06.5	–	STR72073C06.5	STR71073C06.5	STR70573C06.5
7/32 x 7/16		STR74473C07	–	STR72073C07	STR71073C07	STR70573C07
7/32 x 15/32		STR74473C07.5	–	STR72073C07.5	STR71073C07.5	STR70573C07.5
7/32 x 1/2	8-32 x 3/16	STR74473C08	–	STR72073C08	STR71073C08	STR70573C08
7/32 x 5/8		STR74473C10	–	STR72073C10	STR71073C10	STR70573C10
7/32 x 3/4		STR74473C12	–	STR72073C12	STR71073C12	STR70573C12

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70573C14

7/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
7/32 x 7/8	8-32 x 3/16	STR74473C14	—	STR72073C14	STR71073C14	STR70573C14
7/32 x 1		STR74473C16	—	STR72073C16	STR71073C16	STR70573C16
7/32 x 1-1/8		STR74473C18	—	STR72073C18	STR71073C18	STR70573C18
7/32 x 1-1/4		STR74473C20	—	STR72073C20	STR71073C20	STR70573C20
7/32 x 1-3/8	8-32 x 3/16	STR74473C22	—	STR72073C22	STR71073C22	STR70573C22
7/32 x 1-1/2		STR74473C24	—	STR72073C24	STR71073C24	STR70573C24
7/32 x 1-5/8		STR74473C26	—	STR72073C26	STR71073C26	STR70573C26
7/32 x 1-3/4		STR74473C28	—	STR72073C28	STR71073C28	STR70573C28
7/32 x 2	8-32 x 3/16	STR74473C32	—	STR72073C32	STR71073C32	STR70573C32



STR70514C02

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
1/4 x 1/8	10-24 x 3/8	STR74414C02	STR61614C02	STR72014C02	STR71014C02	STR70514C02
1/4 x 5/32		STR74414C02.5	—	STR72014C02.5	STR71014C02.5	STR70514C02.5
1/4 x 3/16		STR74414C03	—	STR72014C03	STR71014C03	STR70514C03
1/4 x 7/32		STR74414C03.5	—	STR72014C03.5	STR71014C03.5	STR70514C03.5
1/4 x 1/4	10-24 x 3/8	STR74414C04	STR61614C04	STR72014C04	STR71014C04	STR70514C04
1/4 x 9/32		STR74414C04.5	—	STR72014C04.5	STR71014C04.5	STR70514C04.5
1/4 x 5/16		STR74414C05	—	STR72014C05	STR71014C05	STR70514C05
1/4 x 11/32		STR74414C05.5	—	STR72014C05.5	STR71014C05.5	STR70514C05.5
1/4 x 3/8	10-24 x 3/8	STR74414C06	STR61614C06	STR72014C06	STR71014C06	STR70514C06
1/4 x 13/32		STR74414C06.5	—	STR72014C06.5	STR71014C06.5	STR70514C06.5
1/4 x 7/16		STR74414C07	STR61614C07	STR72014C07	STR71014C07	STR70514C07
1/4 x 15/32		STR74414C07.5	—	STR72014C07.5	STR71014C07.5	STR70514C07.5
1/4 x 1/2	10-24 x 3/8	STR74414C08	STR61614C08	STR72014C08	STR71014C08	STR70514C08
1/4 x 9/16		STR74414C09	STR61614C09	STR72014C09	STR71014C09	STR70514C09
1/4 x 5/8		STR74414C10	STR61614C10	STR72014C10	STR71014C10	STR70514C10
1/4 x 3/4		STR74414C12	STR61614C12	STR72014C12	STR71014C12	STR70514C12
1/4 x 1	10-24 x 3/8	STR74414C16	STR61614C16	STR72014C16	STR71014C16	STR70514C16
1/4 x 1-1/8		STR74414C18	STR61614C18	STR72014C18	STR71014C18	STR70514C18
1/4 x 1-1/4		STR74414C20	STR61614C20	STR72014C20	STR71014C20	STR70514C20

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70514C22

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
1/4 x 1-3/8	10-24 x 3/8	STR74414C22	STR61614C22	STR72014C22	STR71014C22	STR70514C22
1/4 x 1-1/2		STR74414C24	STR61614C24	STR72014C24	STR71014C24	STR70514C24
1/4 x 1-5/8		STR74414C26	—	STR72014C26	STR71014C26	STR70514C26
1/4 x 1-3/4		STR74414C28	—	STR72014C28	STR71014C28	STR70514C28
1/4 x 2	10-24 x 3/8	STR74414C32	STR61614C32	STR72014C32	STR71014C32	STR70514C32
1/4 x 2-1/4		STR74414C36	—	STR72014C36	STR71014C36	STR70514C36
1/4 x 2-1/2		STR74414C40	—	STR72014C40	STR71014C40	STR70514C40
1/4 x 2-3/4		STR74414C44	—	STR72014C44	STR71014C44	STR70514C44
1/4 x 3	10-24 x 3/8	STR74414C48	—	STR72014C48	STR71014C48	STR70514C48
1/4 x 3-1/2		STR74414C56	—	STR72014C56	STR71014C56	STR70514C56
1/4 x 4		STR74414C64	—	STR72014C64	STR71014C64	STR70514C64
1/4 x 4-1/2		STR74414C72	—	STR72014C72	STR71014C72	STR70514C72
1/4 x 5	10-24 x 3/8	STR74414C80	—	STR72014C80	STR71014C80	STR70514C80



STR70551C02

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
5/16 x 1/8	1/4-20 x 7/16	STR74451C02	STR61651C02	STR72051C02	STR71051C02	STR70551C02
5/16 x 3/16		STR74451C03	STR61651C03	STR72051C03	STR71051C03	STR70551C03
5/16 x 1/4		STR74451C04	STR61651C04	STR72051C04	STR71051C04	STR70551C04
5/16 x 5/16		STR74451C05	STR61651C05	STR72051C05	STR71051C05	STR70551C05
5/16 x 3/8	1/4-20 x 7/16	STR74451C06	STR61651C06	STR72051C06	STR71051C06	STR70551C06
5/16 x 7/16		STR74451C07	STR61651C07	STR72051C07	STR71051C07	STR70551C07
5/16 x 1/2		STR74451C08	STR61651C08	STR72051C08	STR71051C08	STR70551C08
5/16 x 9/16		STR74451C09	STR61651C09	STR72051C09	STR71051C09	STR70551C09
5/16 x 5/8	1/4-20 x 7/16	STR74451C10	STR61651C10	STR72051C10	STR71051C10	STR70551C10
5/16 x 3/4		STR74451C12	STR61651C12	STR72051C12	STR71051C12	STR70551C12
5/16 x 7/8		STR74451C14	STR61651C14	STR72051C14	STR71051C14	STR70551C14
5/16 x 1		STR74451C16	STR61651C16	STR72051C16	STR71051C16	STR70551C16
5/16 x 1-1/8	1/4-20 x 7/16	STR74451C18	STR61651C18	STR72051C18	STR71051C18	STR70551C18
5/16 x 1-1/4		STR74451C20	STR61651C20	STR72051C20	STR71051C20	STR70551C20
5/16 x 1-3/8		STR74451C22	STR61651C22	STR72051C22	STR71051C22	STR70551C22

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70551C24

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
5/16 x 1-1/2	1/4-20 x 7/16	STR74451C24	STR61651C24	STR72051C24	STR71051C24	STR70551C24
5/16 x 1-5/8		STR74451C26	STR61651C26	STR72051C26	STR71051C26	STR70551C26
5/16 x 1-3/4		STR74451C28	—	STR72051C28	STR71051C28	STR70551C28
5/16 x 2		STR74451C32	STR61651C32	STR72051C32	STR71051C32	STR70551C32
5/16 x 2-1/4	1/4-20 x 7/16	STR74451C36	—	STR72051C36	STR71051C36	STR70551C36
5/16 x 2-1/2		STR74451C40	—	STR72051C40	STR71051C40	STR70551C40
5/16 x 2-3/4		STR74451C44	—	STR72051C44	STR71051C44	STR70551C44
5/16 x 3		STR74451C48	—	STR72051C48	STR71051C48	STR70551C48
5/16 x 3-1/2	1/4-20 x 7/16	STR74451C56	—	STR72051C56	STR71051C56	STR70551C56
5/16 x 4		STR74451C64	—	STR72051C64	STR71051C64	STR70551C64
5/16 x 4-1/2		STR74451C72	—	STR72051C72	STR71051C72	STR70551C72
5/16 x 5		STR74451C80	—	STR72051C80	STR71051C80	STR70551C80
5/16 x 5-1/2	1/4-20 x 7/16	STR74451C88	—	STR72051C88	STR71051C88	STR70551C88
5/16 x 6		STR74451C96	—	STR72051C96	STR71051C96	STR70551C96



STR70538C03

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
3/8 x 3/16	5/16-18 x 1/2	STR74438C03	STR61638C03	STR72038C03	STR71038C03	STR70538C03
3/8 x 1/4		STR74438C04	STR61638C04	STR72038C04	STR71038C04	STR70538C04
3/8 x 5/16		STR74438C05	STR61638C05	STR72038C05	STR71038C05	STR70538C05
3/8 x 3/8		STR74438C06	STR61638C06	STR72038C06	STR71038C06	STR70538C06
3/8 x 7/16	5/16-18 x 1/2	STR74438C07	STR61638C07	STR72038C07	STR71038C07	STR70538C07
3/8 x 1/2		STR74438C08	STR61638C08	STR72038C08	STR71038C08	STR70538C08
3/8 x 5/8		STR74438C10	STR61638C10	STR72038C10	STR71038C10	STR70538C10
3/8 x 3/4		STR74438C12	STR61638C12	STR72038C12	STR71038C12	STR70538C12
3/8 x 7/8	5/16-18 x 1/2	STR74438C14	STR61638C14	STR72038C14	STR71038C14	STR70538C14
3/8 x 1		STR74438C16	STR61638C16	STR72038C16	STR71038C16	STR70538C16
3/8 x 1-1/8		STR74438C18	STR61638C18	STR72038C18	STR71038C18	STR70538C18
3/8 x 1-1/4		STR74438C20	STR61638C20	STR72038C20	STR71038C20	STR70538C20
3/8 x 1-3/8	5/16-18 x 1/2	STR74438C22	STR61638C22	STR72038C22	STR71038C22	STR70538C22
3/8 x 1-1/2		STR74438C24	STR61638C24	STR72038C24	STR71038C24	STR70538C24

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70538C28

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
3/8 x 1-3/4	5/16-18 x 1/2	STR74438C28	STR61638C28	STR72038C28	STR71038C28	STR70538C28
3/8 x 2		STR74438C32	STR61638C32	STR72038C32	STR71038C32	STR70538C32
3/8 x 2-1/4		STR74438C36	–	STR72038C36	STR71038C36	STR70538C36
3/8 x 2-1/2		STR74438C40	–	STR72038C40	STR71038C40	STR70538C40
3/8 x 2-3/4	5/16-18 x 1/2	STR74438C44	–	STR72038C44	STR71038C44	STR70538C44
3/8 x 3		STR74438C48	–	STR72038C48	STR71038C48	STR70538C48
3/8 x 3-1/4		STR74438C52	–	STR72038C52	STR71038C52	STR70538C52
3/8 x 3-1/2		STR74438C56	–	STR72038C56	STR71038C56	STR70538C56
3/8 x 3-3/4	5/16-18 x 1/2	STR74438C60	–	STR72038C60	STR71038C60	STR70538C60
3/8 x 4		STR74438C64	–	STR72038C64	STR71038C64	STR70538C64
3/8 x 4-1/2		STR74438C72	–	STR72038C72	STR71038C72	STR70538C72
3/8 x 5		STR74438C80	–	STR72038C80	STR71038C80	STR70538C80
3/8 x 5-1/2	5/16-18 x 1/2	STR74438C88	–	STR72038C88	STR71038C88	STR70538C88
3/8 x 6		STR74438C96	–	STR72038C96	STR71038C96	STR70538C96
3/8 x 6-1/2		STR74438C104	–	STR72038C104	STR71038C104	STR70538C104
3/8 x 7		STR74438C112	–	STR72038C112	STR71038C112	STR70538C112
3/8 x 7-1/2	5/16-18 x 1/2	STR74438C120	–	STR72038C120	STR71038C120	STR70538C120
3/8 x 8		STR74438C128	–	STR72038C128	STR71038C128	STR70538C128



STR70512C04

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
1/2 x 1/4	3/8-16 x 5/8	STR74412C04	STR61612C04	STR72012C04	STR71012C04	STR70512C04
1/2 x 5/16		STR74412C05	STR61612C05	STR72012C05	STR71012C05	STR70512C05
1/2 x 3/8		STR74412C06	STR61612C06	STR72012C06	STR71012C06	STR70512C06
1/2 x 7/16		STR74412C07	STR61612C07	STR72012C07	STR71012C07	STR70512C07
1/2 x 1/2	3/8-16 x 5/8	STR74412C08	STR61612C08	STR72012C08	STR71012C08	STR70512C08
1/2 x 5/8		STR74412C10	STR61612C10	STR72012C10	STR71012C10	STR70512C10
1/2 x 3/4		STR74412C12	STR61612C12	STR72012C12	STR71012C12	STR70512C12
1/2 x 7/8		STR74412C14	STR61612C14	STR72012C14	STR71012C14	STR70512C14
1/2 x 1	3/8-16 x 5/8	STR74412C16	STR61612C16	STR72012C16	STR71012C16	STR70512C16
1/2 x 1-1/4		STR74412C20	STR61612C20	STR72012C20	STR71012C20	STR70512C20
1/2 x 1-1/2		STR74412C24	STR61612C24	STR72012C24	STR71012C24	STR70512C24

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70512C28

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
1/2 x 1-3/4	3/8-16 x 5/8	STR74412C28	STR61612C28	STR72012C28	STR71012C28	STR70512C28
1/2 x 2		STR74412C32	STR61612C32	STR72012C32	STR71012C32	STR70512C32
1/2 x 2-1/4		STR74412C36	STR61612C36	STR72012C36	STR71012C36	STR70512C36
1/2 x 2-1/2		STR74412C40	STR61612C40	STR72012C40	STR71012C40	STR70512C40
1/2 x 2-3/4	3/8-16 x 5/8	STR74412C44	–	STR72012C44	STR71012C44	STR70512C44
1/2 x 3		STR74412C48	–	STR72012C48	STR71012C48	STR70512C48
1/2 x 3-1/4		STR74412C52	–	STR72012C52	STR71012C52	STR70512C52
1/2 x 3-1/2		STR74412C56	–	STR72012C56	STR71012C56	STR70512C56
1/2 x 3-3/4	3/8-16 x 5/8	STR74412C60	–	STR72012C60	STR71012C60	STR70512C60
1/2 x 4		STR74412C64	–	STR72012C64	STR71012C64	STR70512C64
1/2 x 4-1/4		STR74412C68	–	STR72012C68	STR71012C68	STR70512C68
1/2 x 4-1/2		STR74412C72	–	STR72012C72	STR71012C72	STR70512C72
1/2 x 4-3/4	3/8-16 x 5/8	STR74412C76	–	STR72012C76	STR71012C76	STR70512C76
1/2 x 5		STR74412C80	–	STR72012C80	STR71012C80	STR70512C80
1/2 x 5-1/2		STR74412C88	–	STR72012C88	STR71012C88	STR70512C88
1/2 x 6		STR74412C96	–	STR72012C96	STR71012C96	STR70512C96
1/2 x 6-1/2	3/8-16 x 5/8	STR74412C104	–	STR72012C104	STR71012C104	STR70512C104
1/2 x 7		STR74412C112	–	STR72012C112	STR71012C112	STR70512C112
1/2 x 7-1/2		STR74412C120	–	STR72012C120	STR71012C120	STR70512C120
1/2 x 8		STR74412C128	–	STR72012C128	STR71012C128	STR70512C128



STR70558C04

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
5/8 x 1/4	1/2-13 x 3/4	STR74458C04	STR61658C04	STR72058C04	STR71058C04	STR70558C04
5/8 x 1/2		STR74458C08	STR61658C08	STR72058C08	STR71058C08	STR70558C08
5/8 x 5/8		STR74458C10	–	STR72058C10	STR71058C10	STR70558C10
5/8 x 3/4		STR74458C12	STR61658C12	STR72058C12	STR71058C12	STR70558C12
5/8 x 1	1/2-13 x 3/4	STR74458C16	STR61658C16	STR72058C16	STR71058C16	STR70558C16
5/8 x 1-1/4		STR74458C20	STR61658C20	STR72058C20	STR71058C20	STR70558C20
5/8 x 1-1/2		STR74458C24	STR61658C24	STR72058C24	STR71058C24	STR70558C24
5/8 x 1-3/4		STR74458C28	–	STR72058C28	STR71058C28	STR70558C28
5/8 x 2	1/2-13 x 3/4	STR74458C32	–	STR72058C32	STR71058C32	STR70558C32

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70558C36

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
5/8 x 2-1/4	1/2-13 x 3/4	STR74458C36	–	STR72058C36	STR71058C36	STR70558C36
5/8 x 2-1/2		STR74458C40	–	STR72058C40	STR71058C40	STR70558C40
5/8 x 2-3/4		STR74458C44	–	STR72058C44	STR71058C44	STR70558C44
5/8 x 3		STR74458C48	–	STR72058C48	STR71058C48	STR70558C48
5/8 x 3-1/4	1/2-13 x 3/4	STR74458C52	–	STR72058C52	STR71058C52	STR70558C52
5/8 x 3-1/2		STR74458C56	–	STR72058C56	STR71058C56	STR70558C56
5/8 x 3-3/4		STR74458C60	–	STR72058C60	STR71058C60	STR70558C60
5/8 x 4		STR74458C64	–	STR72058C64	STR71058C64	STR70558C64
5/8 x 4-1/4	1/2-13 x 3/4	STR74458C68	–	STR72058C68	STR71058C68	STR70558C68
5/8 x 4-1/2		STR74458C72	–	STR72058C72	STR71058C72	STR70558C72
5/8 x 4-3/4		STR74458C76	–	STR72058C76	STR71058C76	STR70558C76
5/8 x 5		STR74458C80	–	STR72058C80	STR71058C80	STR70558C80
5/8 x 5-1/2	1/2-13 x 3/4	STR74458C88	–	STR72058C88	STR71058C88	STR70558C88
5/8 x 6		STR74458C96	–	STR72058C96	STR71058C96	STR70558C96
5/8 x 6-1/2		STR74458C104	–	STR72058C104	STR71058C104	STR70558C104
5/8 x 7		STR74458C112	–	STR72058C112	STR71058C112	STR70558C112
5/8 x 7-1/2	1/2-13 x 3/4	STR74458C120	–	STR72058C120	STR71058C120	STR70558C120
5/8 x 8		STR74458C128	–	STR72058C128	STR71058C128	STR70558C128



STR70534C08

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
3/4 x 1/2	5/8-11 x 7/8	STR74434C08	STR72034C08	STR71034C08	STR70534C08
3/4 x 5/8		STR74434C10	STR72034C10	STR71034C10	STR70534C10
3/4 x 3/4		STR74434C12	STR72034C12	STR71034C12	STR70534C12
3/4 x 1		STR74434C16	STR72034C16	STR71034C16	STR70534C16
3/4 x 1-1/4	5/8-11 x 7/8	STR74434C20	STR72034C20	STR71034C20	STR70534C20
3/4 x 1-1/2		STR74434C24	STR72034C24	STR71034C24	STR70534C24
3/4 x 1-3/4		STR74434C28	STR72034C28	STR71034C28	STR70534C28
3/4 x 2		STR74434C32	STR72034C32	STR71034C32	STR70534C32
3/4 x 2-1/4	5/8-11 x 7/8	STR74434C36	STR72034C36	STR71034C36	STR70534C36
3/4 x 2-1/2		STR74434C40	STR72034C40	STR71034C40	STR70534C40
3/4 x 2-3/4		STR74434C44	STR72034C44	STR71034C44	STR70534C44

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR70534C48

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
3/4 x 3	5/8-11 x 7/8	STR74434C48	STR72034C48	STR71034C48	STR70534C48
3/4 x 3-1/4		STR74434C52	STR72034C52	STR71034C52	STR70534C52
3/4 x 3-1/2		STR74434C56	STR72034C56	STR71034C56	STR70534C56
3/4 x 3-3/4		STR74434C60	STR72034C60	STR71034C60	STR70534C60
3/4 x 4	5/8-11 x 7/8	STR74434C64	STR72034C64	STR71034C64	STR70534C64
3/4 x 4-1/4		STR74434C68	STR72034C68	STR71034C68	STR70534C68
3/4 x 4-1/2		STR74434C72	STR72034C72	STR71034C72	STR70534C72
3/4 x 4-3/4		STR74434C76	STR72034C76	STR71034C76	STR70534C76
3/4 x 5	5/8-11 x 7/8	STR74434C80	STR72034C80	STR71034C80	STR70534C80
3/4 x 5-1/2		STR74434C88	STR72034C88	STR71034C88	STR70534C88
3/4 x 6		STR74434C96	STR72034C96	STR71034C96	STR70534C96
3/4 x 6-1/2		STR74434C104	STR72034C104	STR71034C104	STR70534C104
3/4 x 7	5/8-11 x 7/8	STR74434C112	STR72034C112	STR71034C112	STR70534C112
3/4 x 7-1/2		STR74434C120	STR72034C120	STR71034C120	STR70534C120
3/4 x 8		STR74434C128	STR72034C128	STR71034C128	STR70534C128



STR70501C16

1 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
1 x 1	3/4-10 x 1	STR74401C16	STR72001C16	STR71001C16	STR70501C16
1 x 1-1/4		STR74401C20	STR72001C20	STR71001C20	STR70501C20
1 x 1-1/2		STR74401C24	STR72001C24	STR71001C24	STR70501C24
1 x 1-3/4		STR74401C28	STR72001C28	STR71001C28	STR70501C28
1 x 2	3/4-10 x 1	STR74401C32	STR72001C32	STR71001C32	STR70501C32
1 x 2-1/4		STR74401C36	STR72001C36	STR71001C36	STR70501C36
1 x 2-1/2		STR74401C40	STR72001C40	STR71001C40	STR70501C40
1 x 2-3/4		STR74401C44	STR72001C44	STR71001C44	STR70501C44
1 x 3	3/4-10 x 1	STR74401C48	STR72001C48	STR71001C48	STR70501C48
1 x 3-1/2		STR74401C56	STR72001C56	STR71001C56	STR70501C56
1 x 4		STR74401C64	STR72001C64	STR71001C64	STR70501C64
1 x 4-1/2		STR74401C72	STR72001C72	STR71001C72	STR70501C72
1 x 5	3/4-10 x 1	STR74401C80	STR72001C80	STR71001C80	STR70501C80
1 x 5-1/2		STR74401C88	STR72001C88	STR71001C88	STR70501C88
1 x 6		STR74401C96	STR72001C96	STR71001C96	STR70501C96
1 x 6-1/2		STR74401C104	STR72001C104	STR71001C104	STR70501C104
1 x 7	3/4-10 x 1	STR74401C112	STR72001C112	STR71001C112	STR70501C112
1 x 7-1/2		STR74401C120	STR72001C120	STR71001C120	STR70501C120
1 x 8		STR74401C128	STR72001C128	STR71001C128	STR70501C128

Chart continued on next page

ASME Tolerance Knurled Head — Inch



STR705012C16

1-1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
1-1/4 x 1	7/8-9 x 1-1/8	STR744012C16	STR720012C16	STR710012C16	STR705012C16
1-1/4 x 1-1/4		STR744012C20	STR720012C20	STR710012C20	STR705012C20
1-1/4 x 1-1/2		STR744012C24	STR720012C24	STR710012C24	STR705012C24
1-1/4 x 1-3/4		STR744012C28	STR720012C28	STR710012C28	STR705012C28
1-1/4 x 2		STR744012C32	STR720012C32	STR710012C32	STR705012C32
1-1/4 x 2-1/2		STR744012C40	STR720012C40	STR710012C40	STR705012C40
1-1/4 x 3		STR744012C48	STR720012C48	STR710012C48	STR705012C48
1-1/4 x 3-1/2		STR744012C56	STR720012C56	STR710012C56	STR705012C56
1-1/4 x 4	7/8-9 x 1-1/8	STR744012C64	STR720012C64	STR710012C64	STR705012C64



STR705015C16

1-1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
1-1/2 x 1	1-1/8-7 x 1-1/2	STR744015C16	STR720015C16	STR710015C16	STR705015C16
1-1/2 x 1-1/4		STR744015C20	STR720015C20	STR710015C20	STR705015C20
1-1/2 x 1-1/2		STR744015C24	STR720015C24	STR710015C24	STR705015C24
1-1/2 x 1-3/4		STR744015C28	STR720015C28	STR710015C28	STR705015C28
1-1/2 x 2		STR744015C32	STR720015C32	STR710015C32	STR705015C32
1-1/2 x 2-1/2		STR744015C40	STR720015C40	STR710015C40	STR705015C40
1-1/2 x 3		STR744015C48	STR720015C48	STR710015C48	STR705015C48

ASME Tolerance Knurled Head — Metric

17-4 PH SS, 316H5 SS, Aluminum, Nickel (Monel), and Grade 2 Titanium — Hex Drive

- Shoulder diameters of 4, 5 and 12mm meet our internal specification AMPG 2013 ZS.02.
- Shoulder diameters of 8 and 10mm meet or exceed ANSI/ASME B18.3.3M, ISO 7379.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Largest line of shoulder screws offered in high performance materials: 17-4 PH SS, High Five SS, Aluminum, Nickel (Monel) and Grade 2 Titanium.



STR705M4X4

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
4 x 4	M3 x 0.5 x 4.5	STR744M4X4	STR616M4X4	STR720M4X4	STR710M4X4	STR705M4X4
4 x 5		STR744M4X5	STR616M4X5	STR720M4X5	STR710M4X5	STR705M4X5
4 x 6		STR744M4X6	STR616M4X6	STR720M4X6	STR710M4X6	STR705M4X6
4 x 8		STR744M4X8	STR616M4X8	STR720M4X8	STR710M4X8	STR705M4X8
4 x 10	M3 x 0.5 x 4.5	STR744M4X10	STR616M4X10	STR720M4X10	STR710M4X10	STR705M4X10



STR705M5X4

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
5 x 4	M4 x 0.7 x 4.5	STR744M5X4	STR616M5X4	STR720M5X4	STR710M5X4	STR705M5X4
5 x 5		STR744M5X5	STR616M5X5	STR720M5X5	STR710M5X5	STR705M5X5
5 x 6		STR744M5X6	STR616M5X6	STR720M5X6	STR710M5X6	STR705M5X6
5 x 8		STR744M5X8	STR616M5X8	STR720M5X8	STR710M5X8	STR705M5X8
5 x 10	M4 x 0.7 x 4.5	STR744M5X10	STR616M5X10	STR720M5X10	STR710M5X10	STR705M5X10
5 x 12		STR744M5X12	STR616M5X12	STR720M5X12	STR710M5X12	STR705M5X12
5 x 16		STR744M5X16	STR616M5X16	STR720M5X16	STR710M5X16	STR705M5X16
5 x 20		STR744M5X20	STR616M5X20	STR720M5X20	STR710M5X20	STR705M5X20
5 x 25	M4 x 0.7 x 4.5	STR744M5X25	STR616M5X25	STR720M5X25	STR710M5X25	STR705M5X25
5 x 30		STR744M5X30	STR616M5X30	STR720M5X30	STR710M5X30	STR705M5X30

Chart continued on next page

ASME Tolerance Knurled Head — Metric



STR705M6X4

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
6 x 4		STR744M6X4	STR616M6X4	STR720M6X4	STR710M6X4	STR705M6X4
6 x 5	M5 x 0.8 x 9.5	STR744M6X5	STR616M6X5	STR720M6X5	STR710M6X5	STR705M6X5
6 x 6		STR744M6X6	STR616M6X6	STR720M6X6	STR710M6X6	STR705M6X6
6 x 8		STR744M6X8	STR616M6X8	STR720M6X8	STR710M6X8	STR705M6X8
6 x 10		STR744M6X10	STR616M6X10	STR720M6X10	STR710M6X10	STR705M6X10
6 x 12	M5 x 0.8 x 9.5	STR744M6X12	STR616M6X12	STR720M6X12	STR710M6X12	STR705M6X12
6 x 16		STR744M6X16	STR616M6X16	STR720M6X16	STR710M6X16	STR705M6X16
6 x 20		STR744M6X20	STR616M6X20	STR720M6X20	STR710M6X20	STR705M6X20
6 x 25	M5 x 0.8 x 9.5	STR744M6X25	STR616M6X25	STR720M6X25	STR710M6X25	STR705M6X25
6 x 30		STR744M6X30	STR616M6X30	STR720M6X30	STR710M6X30	STR705M6X30



STR705M8X8

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
8 x 8		STR744M8X8	STR616M8X8	STR720M8X8	STR710M8X8	STR705M8X8
8 x 10	M6 x 1 x 11	STR744M8X10	STR616M8X10	STR720M8X10	STR710M8X10	STR705M8X10
8 x 12		STR744M8X12	STR616M8X12	STR720M8X12	STR710M8X12	STR705M8X12
8 x 16		STR744M8X16	STR616M8X16	STR720M8X16	STR710M8X16	STR705M8X16
8 x 20		STR744M8X20	STR616M8X20	STR720M8X20	STR710M8X20	STR705M8X20
8 x 25	M6 x 1 x 11	STR744M8X25	STR616M8X25	STR720M8X25	STR710M8X25	STR705M8X25
8 x 30		STR744M8X30	STR616M8X30	STR720M8X30	STR710M8X30	STR705M8X30
8 x 40		STR744M8X40	STR616M8X40	STR720M8X40	STR710M8X40	STR705M8X40
8 x 50	M6 x 1 x 11	STR744M8X50	STR616M8X50	STR720M8X50	STR710M8X50	STR705M8X50

Chart continued on next page

ASME Tolerance Knurled Head — Metric



STR705M10X8

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
10 x 8	M8 x 1.25 x 13	STR744M10X8	STR616M10X8	STR720M10X8	STR710M10X8	STR705M10X8
10 x 10		STR744M10X10	STR616M10X10	STR720M10X10	STR710M10X10	STR705M10X10
10 x 12		STR744M10X12	STR616M10X12	STR720M10X12	STR710M10X12	STR705M10X12
10 x 16		STR744M10X16	STR616M10X16	STR720M10X16	STR710M10X16	STR705M10X16
10 x 20	M8 x 1.25 x 13	STR744M10X20	STR616M10X20	STR720M10X20	STR710M10X20	STR705M10X20
10 x 25		STR744M10X25	STR616M10X25	STR720M10X25	STR710M10X25	STR705M10X25
10 x 30		STR744M10X30	STR616M10X30	STR720M10X30	STR710M10X30	STR705M10X30
10 x 40		STR744M10X40	STR616M10X40	STR720M10X40	STR710M10X40	STR705M10X40
10 x 50	M8 x 1.25 x 13	STR744M10X50	STR616M10X50	STR720M10X50	STR710M10X50	STR705M10X50



STR705M12X8

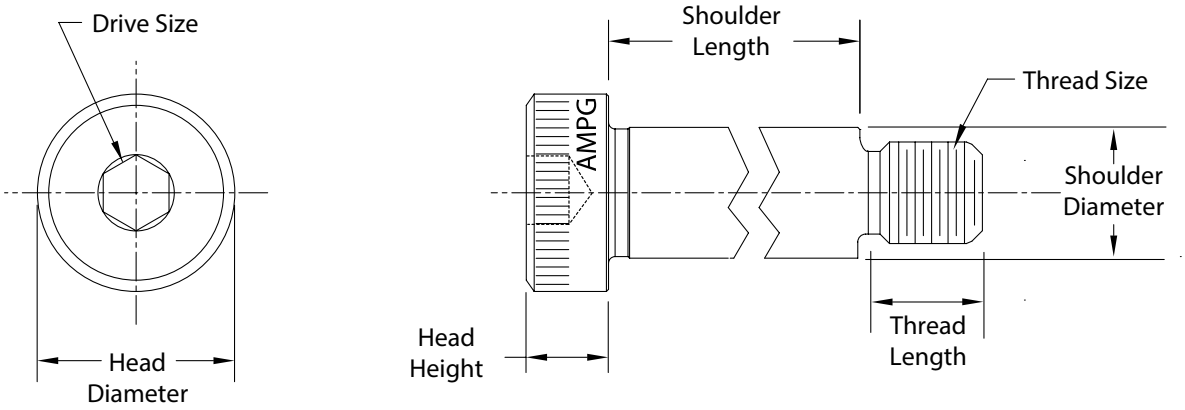
12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	17-4 PH SS Part Number	316H5 SS Part Number	Aluminum Part Number	Nickel (Monel) Part Number	Titanium Gr2 Part Number
12 x 8	M10 x 1.5 x 16	STR744M12X8	STR616M12X8	STR720M12X8	STR710M12X8	STR705M12X8
12 x 10		STR744M12X10	STR616M12X10	STR720M12X10	STR710M12X10	STR705M12X10
12 x 12		STR744M12X12	STR616M12X12	STR720M12X12	STR710M12X12	STR705M12X12
12 x 16		STR744M12X16	STR616M12X16	STR720M12X16	STR710M12X16	STR705M12X16
12 x 20	M10 x 1.5 x 16	STR744M12X20	STR616M12X20	STR720M12X20	STR710M12X20	STR705M12X20
12 x 25		STR744M12X25	STR616M12X25	STR720M12X25	STR710M12X25	STR705M12X25
12 x 30		STR744M12X30	STR616M12X30	STR720M12X30	STR710M12X30	STR705M12X30
12 x 40		STR744M12X40	STR616M12X40	STR720M12X40	STR710M12X40	STR705M12X40
12 x 50	M10 x 1.5 x 16	STR744M12X50	STR616M12X50	STR720M12X50	STR710M12X50	STR705M12X50

Shortened Thread Knurled Head — Inch

18-8, 316 Stainless Steel and Alloy Steel — Hex Drive

These speciality shoulder screws have thread lengths that are shorter than our standard knurled head shoulder screws. Nonstandard inch shoulder screws with thread lengths to fit shortened internal thread depth applications. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Shoulder length tolerance is ±.005 inches. Alloy Steel Screw material exceeds Grade 8 steel in strength and has a black-oxide finish. These totally black alloy steel parts are unique from AMPG — they are being made with pre-heated alloy rods that avoid the need to grind the screws shoulder. Screws have a Class 3A thread fit. *Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
1/4	.248 to .246	3/8	3/16	1/8	Head Mark and Knurl
5/16	.310 to .308	7/16	7/32	5/32	
3/8	.373 to .371	9/16	1/4	3/16	
1/2	.498 to .496	3/4	5/16	1/4	
5/8	.623 to .621	7/8	3/8	5/16	Head Mark and Knurl
3/4	.748 to .746	1	1/2	3/8	
1	.998 to .996	1-5/16	5/8	1/2	

Head appearance may be knurled and/or head marked.

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

Shortened Thread Knurled Head — Inch

18-8 and 316 Stainless Steel — Hex Drive

- Stainless Steel Shortened Thread Shoulder Screws meet our internal specification AMPG 2018 ST.04.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Certified test reports are available for both the corrosion resistance and physical properties.



STR6014F04-SHORT



STR60151F04-SHORT

1/4 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/4 x 1/4	10-32 x 5/32	STR60114F04-SHORT	STR60214F04-SHORT
1/4 x 5/16		STR60114F05-SHORT	STR60214F05-SHORT
1/4 x 3/8		STR60114F06-SHORT	STR60214F06-SHORT
1/4 x 7/16		STR60114F07-SHORT	STR60214F07-SHORT
1/4 x 1/2	10-32 x 5/32	STR60114F08-SHORT	STR60214F08-SHORT
1/4 x 9/16		STR60114F09-SHORT	STR60214F09-SHORT
1/4 x 5/8		STR60114F10-SHORT	STR60214F10-SHORT
1/4 x 11/16		STR60114F11-SHORT	STR60214F11-SHORT
1/4 x 3/4	10-32 x 5/32	STR60114F12-SHORT	STR60214F12-SHORT
1/4 x 13/16		STR60114F13-SHORT	STR60214F13-SHORT
1/4 x 7/8		STR60114F14-SHORT	STR60214F14-SHORT
1/4 x 15/16		STR60114F15-SHORT	STR60214F15-SHORT
1/4 x 1	10-32 x 5/32	STR60114F16-SHORT	STR60214F16-SHORT
1/4 x 1-1/8		STR60114F18-SHORT	STR60214F18-SHORT
1/4 x 1-1/4		STR60114F20-SHORT	STR60214F20-SHORT
1/4 x 1-3/8		STR60114F22-SHORT	STR60214F22-SHORT
1/4 x 1-1/2	10-32 x 5/32	STR60114F24-SHORT	STR60214F24-SHORT
1/4 x 1-5/8		STR60114F26-SHORT	STR60214F26-SHORT
1/4 x 1-3/4		STR60114F28-SHORT	STR60214F28-SHORT
1/4 x 1-7/8		STR60114F30-SHORT	STR60214F30-SHORT
1/4 x 2	10-32 x 5/32	STR60114F32-SHORT	STR60214F32-SHORT

5/16 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/16 x 1/4	1/4-28 x 11/64	STR60151F04-SHORT	STR60251F04-SHORT
5/16 x 5/16		STR60151F05-SHORT	STR60251F05-SHORT
5/16 x 3/8		STR60151F06-SHORT	STR60251F06-SHORT
5/16 x 7/16		STR60151F07-SHORT	STR60251F07-SHORT
5/16 x 1/2	1/4-28 x 11/64	STR60151F08-SHORT	STR60251F08-SHORT
5/16 x 9/16		STR60151F09-SHORT	STR60251F09-SHORT
5/16 x 5/8		STR60151F10-SHORT	STR60251F10-SHORT
5/16 x 11/16		STR60151F11-SHORT	STR60251F11-SHORT
5/16 x 3/4	1/4-28 x 11/64	STR60151F12-SHORT	STR60251F12-SHORT
5/16 x 13/16		STR60151F13-SHORT	STR60251F13-SHORT
5/16 x 7/8		STR60151F14-SHORT	STR60251F14-SHORT
5/16 x 15/16		STR60151F15-SHORT	STR60251F15-SHORT
5/16 x 1	1/4-28 x 11/64	STR60151F16-SHORT	STR60251F16-SHORT
5/16 x 1-1/8		STR60151F18-SHORT	STR60251F18-SHORT
5/16 x 1-1/4		STR60151F20-SHORT	STR60251F20-SHORT
5/16 x 1-3/8		STR60151F22-SHORT	STR60251F22-SHORT
5/16 x 1-1/2	1/4-28 x 11/64	STR60151F24-SHORT	STR60251F24-SHORT
5/16 x 1-5/8		STR60151F26-SHORT	STR60251F26-SHORT
5/16 x 1-3/4		STR60151F28-SHORT	STR60251F28-SHORT
5/16 x 1-7/8		STR60151F30-SHORT	STR60251F30-SHORT
5/16 x 2	1/4-28 x 11/64	STR60151F32-SHORT	STR60251F32-SHORT



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

Chart continued on next page

Shortened Thread Knurled Head — Inch



STR60138F04-SHORT



STR60112F04-SHORT

3/8 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/8 x 1/4	5/16-24 x 3/16	STR60138F04-SHORT	STR60238F04-SHORT
3/8 x 5/16		STR60138F05-SHORT	STR60238F05-SHORT
3/8 x 3/8		STR60138F06-SHORT	STR60238F06-SHORT
3/8 x 7/16		STR60138F07-SHORT	STR60238F07-SHORT
3/8 x 1/2	5/16-24 x 3/16	STR60138F08-SHORT	STR60238F08-SHORT
3/8 x 9/16		STR60138F09-SHORT	STR60238F09-SHORT
3/8 x 5/8		STR60138F10-SHORT	STR60238F10-SHORT
3/8 x 11/16		STR60138F11-SHORT	STR60238F11-SHORT
3/8 x 3/4	5/16-24 x 3/16	STR60138F12-SHORT	STR60238F12-SHORT
3/8 x 13/16		STR60138F13-SHORT	STR60238F13-SHORT
3/8 x 7/8		STR60138F14-SHORT	STR60238F14-SHORT
3/8 x 15/16		STR60138F15-SHORT	STR60238F15-SHORT
3/8 x 1	5/16-24 x 3/16	STR60138F16-SHORT	STR60238F16-SHORT
3/8 x 1-1/8		STR60138F18-SHORT	STR60238F18-SHORT
3/8 x 1-1/4		STR60138F20-SHORT	STR60238F20-SHORT
3/8 x 1-3/8		STR60138F22-SHORT	STR60238F22-SHORT
3/8 x 1-1/2	5/16-24 x 3/16	STR60138F24-SHORT	STR60238F24-SHORT
3/8 x 1-5/8		STR60138F26-SHORT	STR60238F26-SHORT
3/8 x 1-3/4		STR60138F28-SHORT	STR60238F28-SHORT
3/8 x 1-7/8		STR60138F30-SHORT	STR60238F30-SHORT
3/8 x 2	5/16-24 x 3/16	STR60138F32-SHORT	STR60238F32-SHORT

1/2 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/2 x 1/4	3/8-24 x 13/64	STR60112F04-SHORT	STR60212F04-SHORT
1/2 x 5/16		STR60112F05-SHORT	STR60212F05-SHORT
1/2 x 3/8		STR60112F06-SHORT	STR60212F06-SHORT
1/2 x 7/16		STR60112F07-SHORT	STR60212F07-SHORT
1/2 x 1/2	3/8-24 x 13/64	STR60112F08-SHORT	STR60212F08-SHORT
1/2 x 9/16		STR60112F09-SHORT	STR60212F09-SHORT
1/2 x 5/8		STR60112F10-SHORT	STR60212F10-SHORT
1/2 x 11/16		STR60112F11-SHORT	STR60212F11-SHORT
1/2 x 3/4	3/8-24 x 13/64	STR60112F12-SHORT	STR60212F12-SHORT
1/2 x 13/16		STR60112F13-SHORT	STR60212F13-SHORT
1/2 x 7/8		STR60112F14-SHORT	STR60212F14-SHORT
1/2 x 15/16		STR60112F15-SHORT	STR60212F15-SHORT
1/2 x 1	3/8-24 x 13/64	STR60112F16-SHORT	STR60212F16-SHORT
1/2 x 1-1/8		STR60112F18-SHORT	STR60212F18-SHORT
1/2 x 1-1/4		STR60112F20-SHORT	STR60212F20-SHORT
1/2 x 1-3/8		STR60112F22-SHORT	STR60212F22-SHORT
1/2 x 1-1/2	3/8-24 x 13/64	STR60112F24-SHORT	STR60212F24-SHORT
1/2 x 1-5/8		STR60112F26-SHORT	STR60212F26-SHORT
1/2 x 1-3/4		STR60112F28-SHORT	STR60212F28-SHORT
1/2 x 1-7/8		STR60112F30-SHORT	STR60212F30-SHORT
1/2 x 2	3/8-24 x 13/64	STR60112F32-SHORT	STR60212F32-SHORT



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

Chart continued on next page

Shortened Thread Knurled Head — Inch



STR60158F05-SHORT

5/8 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/8 x 5/16	1/2-20 x 3/8	STR60158F05-SHORT	STR60258F05-SHORT
5/8 x 3/8		STR60158F06-SHORT	STR60258F06-SHORT
5/8 x 7/16		STR60158F07-SHORT	STR60258F07-SHORT
5/8 x 1/2		STR60158F08-SHORT	STR60258F08-SHORT
5/8 x 5/8	1/2-20 x 3/8	STR60158F10-SHORT	STR60258F10-SHORT
5/8 x 3/4		STR60158F12-SHORT	STR60258F12-SHORT
5/8 x 7/8		STR60158F14-SHORT	STR60258F14-SHORT
5/8 x 1		STR60158F16-SHORT	STR60258F16-SHORT
5/8 x 1-1/8	1/2-20 x 3/8	STR60158F18-SHORT	STR60258F18-SHORT
5/8 x 1-1/4		STR60158F20-SHORT	STR60258F20-SHORT
5/8 x 1-3/8		STR60158F22-SHORT	STR60258F22-SHORT
5/8 x 1-1/2		STR60158F24-SHORT	STR60258F24-SHORT
5/8 x 1-5/8	1/2-20 x 3/8	STR60158F26-SHORT	STR60258F26-SHORT
5/8 x 1-3/4		STR60158F28-SHORT	STR60258F28-SHORT
5/8 x 1-7/8		STR60158F30-SHORT	STR60258F30-SHORT
5/8 x 2		STR60158F32-SHORT	STR60258F32-SHORT



STR60134F06-SHORT

3/4 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3x4 x 3/8	5/8-18 x 7/16	STR60134F06-SHORT	STR60234F06-SHORT
3x4 x 7/16		STR60134F07-SHORT	STR60234F07-SHORT
3x4 x 1/2		STR60134F08-SHORT	STR60234F08-SHORT
3x4 x 5/8		STR60134F10-SHORT	STR60234F10-SHORT
3x4 x 3/4	5/8-18 x 7/16	STR60134F12-SHORT	STR60234F12-SHORT
3x4 x 7/8		STR60134F14-SHORT	STR60234F14-SHORT
3x4 x 1		STR60134F16-SHORT	STR60234F16-SHORT
3x4 x 1-1/8		STR60134F18-SHORT	STR60234F18-SHORT
3x4 x 1-1/4	5/8-18 x 7/16	STR60134F20-SHORT	STR60234F20-SHORT
3x4 x 1-3/8		STR60134F22-SHORT	STR60234F22-SHORT
3x4 x 1-1/2		STR60134F24-SHORT	STR60234F24-SHORT
3x4 x 1-5/8		STR60134F26-SHORT	STR60234F26-SHORT
3x4 x 1-3/4	5/8-18 x 7/16	STR60134F28-SHORT	STR60234F28-SHORT
3x4 x 1-7/8		STR60134F30-SHORT	STR60234F30-SHORT
3x4 x 2		STR60134F32-SHORT	STR60234F32-SHORT



STR60101F16-SHORT

1 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1 x 1	3/4-16 x 1/2	STR60101F16-SHORT	STR60201F16-SHORT
1 x 1-1/2		STR60101F24-SHORT	STR60201F24-SHORT
1 x 1-3/4		STR60101F28-SHORT	STR60201F28-SHORT
1 x 2		STR60101F32-SHORT	STR60201F32-SHORT
1 x 2-1/2	3/4-16 x 1/2	STR60101F40-SHORT	STR60201F40-SHORT
1 x 3		STR60101F48-SHORT	STR60201F48-SHORT
1 x 3-1/2		STR60101F56-SHORT	STR60201F56-SHORT
1 x 4		STR60101F64-SHORT	STR60201F64-SHORT



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

Shortened Thread Knurled Head — Inch

Alloy Steel — Hex Drive

- Steel Alloy Shoulder Screws meet our internal specification AMPG 2018 ST.04.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Certified test reports are available for both the corrosion resistance and physical properties.
- Black oxide finish offers mild resistance from rust.



STR70014F04-SHORT



STR70051F04-SHORT



STR70038F04-SHORT

1/4 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
1/4 x 1/4	10-32 x 5/32	STR70014F04-SHORT
1/4 x 5/16		STR70014F05-SHORT
1/4 x 3/8		STR70014F06-SHORT
1/4 x 7/16		STR70014F07-SHORT
1/4 x 1/2	10-32 x 5/32	STR70014F08-SHORT
1/4 x 9/16		STR70014F09-SHORT
1/4 x 5/8		STR70014F10-SHORT
1/4 x 11/16		STR70014F11-SHORT
1/4 x 3/4	10-32 x 5/32	STR70014F12-SHORT
1/4 x 13/16		STR70014F13-SHORT
1/4 x 7/8		STR70014F14-SHORT
1/4 x 15/16		STR70014F15-SHORT
1/4 x 1	10-32 x 5/32	STR70014F16-SHORT
1/4 x 1-1/8		STR70014F18-SHORT
1/4 x 1-1/4		STR70014F20-SHORT
1/4 x 1-3/8		STR70014F22-SHORT
1/4 x 1-1/2	10-32 x 5/32	STR70014F24-SHORT
1/4 x 1-5/8		STR70014F26-SHORT
1/4 x 1-3/4		STR70014F28-SHORT
1/4 x 1-7/8		STR70014F30-SHORT
1/4 x 2	10-32 x 5/32	STR70014F32-SHORT

5/16 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
5/16 x 1/4	1/4-28 x 11/64	STR70051F04-SHORT
5/16 x 5/16		STR70051F05-SHORT
5/16 x 3/8		STR70051F06-SHORT
5/16 x 7/16		STR70051F07-SHORT
5/16 x 1/2	1/4-28 x 11/64	STR70051F08-SHORT
5/16 x 9/16		STR70051F09-SHORT
5/16 x 5/8		STR70051F10-SHORT
5/16 x 11/16		STR70051F11-SHORT
5/16 x 3/4	1/4-28 x 11/64	STR70051F12-SHORT
5/16 x 13/16		STR70051F13-SHORT
5/16 x 7/8		STR70051F14-SHORT
5/16 x 15/16		STR70051F15-SHORT
5/16 x 1	1/4-28 x 11/64	STR70051F16-SHORT
5/16 x 1-1/8		STR70051F18-SHORT
5/16 x 1-1/4		STR70051F20-SHORT
5/16 x 1-3/8		STR70051F22-SHORT
5/16 x 1-1/2	1/4-28 x 11/64	STR70051F24-SHORT
5/16 x 1-5/8		STR70051F26-SHORT
5/16 x 1-3/4		STR70051F28-SHORT
5/16 x 1-7/8		STR70051F30-SHORT
5/16 x 2	1/4-28 x 11/64	STR70051F32-SHORT

3/8 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
3/8 x 1/4	5/16-24 x 3/16	STR70038F04-SHORT
3/8 x 5/16		STR70038F05-SHORT
3/8 x 3/8		STR70038F06-SHORT
3/8 x 7/16		STR70038F07-SHORT
3/8 x 1/2	5/16-24 x 3/16	STR70038F08-SHORT
3/8 x 9/16		STR70038F09-SHORT
3/8 x 5/8		STR70038F10-SHORT
3/8 x 11/16		STR70038F11-SHORT
3/8 x 3/4	5/16-24 x 3/16	STR70038F12-SHORT
3/8 x 13/16		STR70038F13-SHORT
3/8 x 7/8		STR70038F14-SHORT
3/8 x 15/16		STR70038F15-SHORT
3/8 x 1	5/16-24 x 3/16	STR70038F16-SHORT
3/8 x 1-1/8		STR70038F18-SHORT
3/8 x 1-1/4		STR70038F20-SHORT
3/8 x 1-3/8		STR70038F22-SHORT
3/8 x 1-1/2	5/16-24 x 3/16	STR70038F24-SHORT
3/8 x 1-5/8		STR70038F26-SHORT
3/8 x 1-3/4		STR70038F28-SHORT
3/8 x 1-7/8		STR70038F30-SHORT
3/8 x 2	5/16-24 x 3/16	STR70038F32-SHORT

Chart continued on next page

Shortened Thread Knurled Head — Inch



STR70012F04-SHORT

1/2 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
1/2 x 1/4	3/8-24 x 13/64	STR70012F04-SHORT
1/2 x 5/16		STR70012F05-SHORT
1/2 x 3/8		STR70012F06-SHORT
1/2 x 7/16		STR70012F07-SHORT
1/2 x 1/2	3/8-24 x 13/64	STR70012F08-SHORT
1/2 x 9/16		STR70012F09-SHORT
1/2 x 5/8		STR70012F10-SHORT
1/2 x 11/16		STR70012F11-SHORT
1/2 x 3/4	3/8-24 x 13/64	STR70012F12-SHORT
1/2 x 13/16		STR70012F13-SHORT
1/2 x 7/8		STR70012F14-SHORT
1/2 x 15/16		STR70012F15-SHORT
1/2 x 1	3/8-24 x 13/64	STR70012F16-SHORT
1/2 x 1-1/8		STR70012F18-SHORT
1/2 x 1-1/4		STR70012F20-SHORT
1/2 x 1-3/8		STR70012F22-SHORT
1/2 x 1-1/2	3/8-24 x 13/64	STR70012F24-SHORT
1/2 x 1-5/8		STR70012F26-SHORT
1/2 x 1-3/4		STR70012F28-SHORT
1/2 x 1-7/8		STR70012F30-SHORT
1/2 x 2	3/8-24 x 13/64	STR70012F32-SHORT



STR70058F05-SHORT

5/8 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
5/8 x 5/16	1/2-20 x 3/8	STR70058F05-SHORT
5/8 x 3/8		STR70058F06-SHORT
5/8 x 7/16		STR70058F07-SHORT
5/8 x 1/2		STR70058F08-SHORT
5/8 x 5/8	1/2-20 x 3/8	STR70058F10-SHORT
5/8 x 3/4		STR70058F12-SHORT
5/8 x 7/8		STR70058F14-SHORT
5/8 x 1		STR70058F16-SHORT
5/8 x 1-1/8	1/2-20 x 3/8	STR70058F18-SHORT
5/8 x 1-1/4		STR70058F20-SHORT
5/8 x 1-3/8		STR70058F22-SHORT
5/8 x 1-1/2		STR70058F24-SHORT
5/8 x 1-5/8	1/2-20 x 3/8	STR70058F26-SHORT
5/8 x 1-3/4		STR70058F28-SHORT
5/8 x 1-7/8		STR70058F30-SHORT
5/8 x 2		STR70058F32-SHORT



STR70034F06-SHORT

3/4 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
3/4 x 3/8	5/8-18 x 7/16	STR70034F06-SHORT
3/4 x 7/16		STR70034F07-SHORT
3/4 x 1/2		STR70034F08-SHORT
3/4 x 5/8		STR70034F10-SHORT
3/4 x 3/4	5/8-18 x 7/16	STR70034F12-SHORT
3/4 x 7/8		STR70034F14-SHORT
3/4 x 1		STR70034F16-SHORT
3/4 x 1-1/8		STR70034F18-SHORT
3/4 x 1-1/4	5/8-18 x 7/16	STR70034F20-SHORT
3/4 x 1-3/8		STR70034F22-SHORT
3/4 x 1-1/2		STR70034F24-SHORT
3/4 x 1-5/8		STR70034F26-SHORT
3/4 x 1-3/4	5/8-18 x 7/16	STR70034F28-SHORT
3/4 x 1-7/8		STR70034F30-SHORT
3/4 x 2		STR70034F32-SHORT



STR70001F16-SHORT

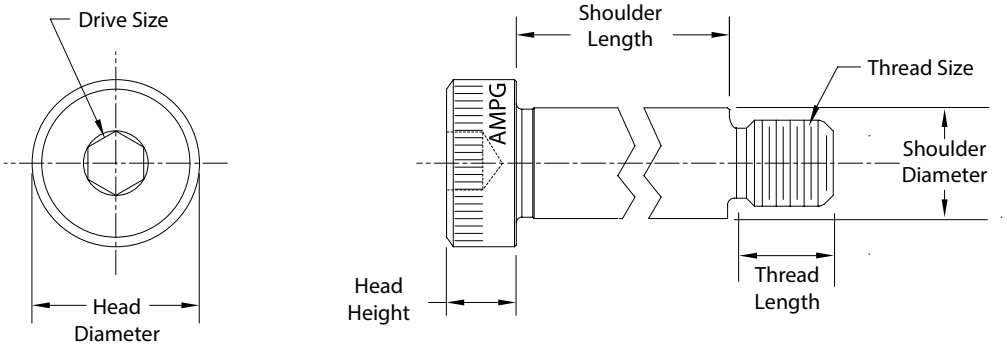
1 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
1 x 1	3/4-16 x 1/2	STR70001F16-SHORT
1 x 1-1/2		STR70001F24-SHORT
1 x 1-3/4		STR70001F28-SHORT
1 x 2		STR70001F32-SHORT
1 x 2-1/2	3/4-16 x 1/2	STR70001F40-SHORT
1 x 3		STR70001F48-SHORT
1 x 3-1/2		STR70001F56-SHORT
1 x 4		STR70001F64-SHORT

Shortened Thread Knurled Head — Metric

18-8 (A2), 316 (A4) Stainless Steels and Alloy Steel — Hex Drive

These speciality shoulder screws have thread lengths that are shorter than our standard knurled head shoulder screws. Nonstandard metric shoulder screws with thread lengths to fit shortened internal thread depth applications. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Shoulder length tolerance is +.25mm/-.0mm. Screws have a Class 5g6g thread fit. Alloy Steel Screw material exceeds Grade 8 steel in strength and has a black-oxide finish. These totally black alloy steel parts are unique from AMPG — they are being made with pre-heated alloy rods that avoid the need to grind the screws shoulder. Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Metric, mm

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
3	2.99 to 2.92	5.00	2.00	2	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
4	3.99 to 3.92	6.00	3.00	2	
5	4.99 to 4.92	9.00	4.00	2.5	
6	5.99 to 5.92	10.00	4.50	3	Head Mark Only
8	7.99 to 7.92	13.00	5.50	4	Head Mark and Knurl
10	9.99 to 9.92	16.00	7.00	5	
12	11.99 to 11.92	18.00	9.00	6	
16	15.99 to 15.92	24.00	11.00	8	

Head appearance may be knurled and/or head marked. 18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



STR601M3X4-SHORT



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

Add "-BX" to the end of the part number.

3mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3 x 4	M2 x 0.4 x 2.5	STR601M3X4-SHORT	STR602M3X4-SHORT
3 x 5		STR601M3X5-SHORT	STR602M3X5-SHORT
3 x 6		STR601M3X6-SHORT	STR602M3X6-SHORT
3 x 8		STR601M3X8-SHORT	STR602M3X8-SHORT
3 x 10	M2 x 0.4 x 2.5	STR601M3X10-SHORT	STR602M3X10-SHORT

Chart continued on next page

Shortened Thread Knurled Head — Metric

18-8 and 316 Stainless Steels — Hex Drive

- Shoulder diameters of 3, 4 and 6 meet our internal specification AMPG 2013 ZS.02.
- Nonstandard metric shoulder screws with thread lengths to fit shortened internal thread depth applications.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 (A2) and 316 (A4) stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR601M4X4-SHORT

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
4 x 4	M3 x 0.5 x 3.8	STR601M4X4-SHORT	STR602M4X4-SHORT
4 x 5		STR601M4X5-SHORT	STR602M4X5-SHORT
4 x 6		STR601M4X6-SHORT	STR602M4X6-SHORT
4 x 8		STR601M4X8-SHORT	STR602M4X8-SHORT
4 x 10	M3 x 0.5 x 3.8	STR601M4X10-SHORT	STR602M4X10-SHORT
4 x 12		STR601M4X12-SHORT	STR602M4X12-SHORT
4 x 14		STR601M4X14-SHORT	STR602M4X14-SHORT
4 x 16	M3 x 0.5 x 3.8	STR601M4X16-SHORT	STR602M4X16-SHORT
4 x 18		STR601M4X18-SHORT	STR602M4X18-SHORT
4 x 20		STR601M4X20-SHORT	STR602M4X20-SHORT
4 x 25		STR601M4X25-SHORT	STR602M4X25-SHORT
4 x 30	M3 x 0.5 x 3.8	STR601M4X30-SHORT	STR602M4X30-SHORT
4 x 35		STR601M4X35-SHORT	STR602M4X35-SHORT
4 x 40		STR601M4X40-SHORT	STR602M4X40-SHORT
4 x 45		STR601M4X45-SHORT	STR602M4X45-SHORT
4 x 50	M3 x 0.5 x 3.8	STR601M4X50-SHORT	STR602M4X50-SHORT



Black Oxide
18-8 SS and 316 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*



STR601M5X4-SHORT

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5 x 4	M4 x 0.7x 4.5	STR601M5X4-SHORT	STR602M5X4-SHORT
5 x 5		STR601M5X5-SHORT	STR602M5X5-SHORT
5 x 6		STR601M5X6-SHORT	STR602M5X6-SHORT
5 x 8		STR601M5X8-SHORT	STR602M5X8-SHORT
5 x 10	M4 x 0.7x 4.5	STR601M5X10-SHORT	STR602M5X10-SHORT
5 x 12		STR601M5X12-SHORT	STR602M5X12-SHORT
5 x 16		STR601M5X16-SHORT	STR602M5X16-SHORT
5 x 20		STR601M5X20-SHORT	STR602M5X20-SHORT
5 x 25	M4 x 0.7x 4.5	STR601M5X25-SHORT	STR602M5X25-SHORT
5 x 30		STR601M5X30-SHORT	STR602M5X30-SHORT



STR601M6X4-SHORT

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
6 x 4	M5 x 0.8 x 8	STR601M6X4-SHORT	STR602M6X4-SHORT
6 x 5		STR601M6X5-SHORT	STR602M6X5-SHORT
6 x 6		STR601M6X6-SHORT	STR602M6X6-SHORT
6 x 7		STR601M6X7-SHORT	STR602M6X7-SHORT
6 x 8	M5 x 0.8 x 8	STR601M6X8-SHORT	STR602M6X8-SHORT
6 x 10		STR601M6X10-SHORT	STR602M6X10-SHORT
6 x 12		STR601M6X12-SHORT	STR602M6X12-SHORT
6 x 16		STR601M6X16-SHORT	STR602M6X16-SHORT
6 x 20	M5 x 0.8 x 8	STR601M6X20-SHORT	STR602M6X20-SHORT
6 x 25		STR601M6X25-SHORT	STR602M6X25-SHORT
6 x 30		STR601M6X30-SHORT	STR602M6X30-SHORT
6 x 40		STR601M6X40-SHORT	STR602M6X40-SHORT
6 x 50	M5 x 0.8 x 8	STR601M6X50-SHORT	STR602M6X50-SHORT
6 x 70		STR601M6X70-SHORT	STR602M6X70-SHORT

Chart continued on next page

Shortened Thread Knurled Head — Metric

Alloy Steel — Hex Drive



STR700M6X4-SHORT



STR700M8X06-SHORT



STR700M10X06-SHORT

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
6 x 4	M5 x 0.8 x 5	STR700M6X4-SHORT
6 x 5		STR700M6X5-SHORT
6 x 6		STR700M6X6-SHORT
6 x 7		STR700M6X8-SHORT
6 x 8		STR700M6X10-SHORT
6 x 10		STR700M6X12-SHORT
6 x 12		STR700M6X16-SHORT
6 x 16		STR700M6X20-SHORT
6 x 20		STR700M6X25-SHORT
6 x 25		STR700M6X30-SHORT
6 x 30		STR700M6X40-SHORT
6 x 40		STR700M6X50-SHORT

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
8 x 6	M6 x 1 x 6.5	STR700M8X06-SHORT
8 x 8		STR700M8X08-SHORT
8 x 10		STR700M8X10-SHORT
8 x 12		STR700M8X12-SHORT
8 x 16		STR700M8X16-SHORT
8 x 20		STR700M8X20-SHORT
8 x 25		STR700M8X25-SHORT
8 x 30		STR700M8X30-SHORT
8 x 40		STR700M8X40-SHORT
8 x 50		STR700M8X50-SHORT

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
10 x 6	M8 x 1.25 x 8	STR700M10X06-SHORT
10 x 8		STR700M10X08-SHORT
10 x 10		STR700M10X10-SHORT
10 x 12		STR700M10X12-SHORT
10 x 16		STR700M10X16-SHORT
10 x 20		STR700M10X20-SHORT
10 x 25		STR700M10X25-SHORT
10 x 30		STR700M10X30-SHORT
10 x 40		STR700M10X40-SHORT
10 x 50		STR700M10X50-SHORT



STR700M12X06-SHORT

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
12 x 6	M10 x 1.5 x 9	STR700M12X06-SHORT
12 x 8		STR700M12X08-SHORT
12 x 10		STR700M12X10-SHORT
12 x 12		STR700M12X12-SHORT
12 x 16		STR700M12X16-SHORT
12 x 20		STR700M12X20-SHORT
12 x 25		STR700M12X25-SHORT
12 x 30		STR700M12X30-SHORT
12 x 40		STR700M12X40-SHORT
12 x 50		STR700M12X50-SHORT



STR700M16X08-SHORT

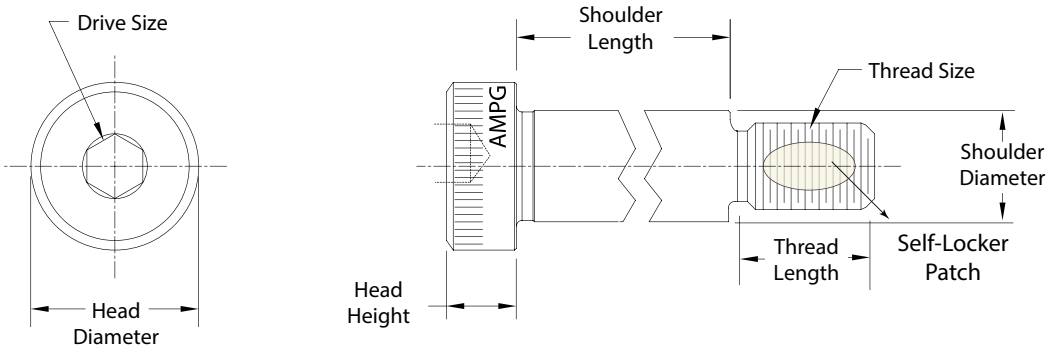
16mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Alloy Steel Part Number
16 x 8	M12 x 1.75 x 12	STR700M16X08-SHORT
16 x 10		STR700M16X10-SHORT
16 x 12		STR700M16X12-SHORT
16 x 16		STR700M16X16-SHORT
16 x 20		STR700M16X20-SHORT
16 x 25		STR700M16X25-SHORT
16 x 30		STR700M16X30-SHORT
16 x 40		STR700M16X40-SHORT
16 x 50	M12 x 1.75 x 12	STR700M16X50-SHORT

Self-Locker Knurled Head — Inch

Shoulder screws with AMPG Self-Locker adhesive securely lock against loosening from vibration. The pre-applied patch is a micro-encapsulated adhesive designed for threaded fasteners. Self-Locker stays dry-to-the-touch until the shearing action of engaging threads causes the capsules to break allowing the adhesive to cure. Sometimes referred to as a thread-locking and nylon-locking patch, self-locker adhesive on threads can be reused repeatedly without damage to threads. The patch resists heat and cold and withstands temperatures from -70°F to +250° F. Color is light yellow. AMPG Self-Locker is comparable to Loctite® Dry Lock 203 and Hernon® Self-Locker 523.

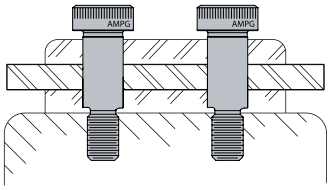
The diameter tolerance is -.002 to -.004 inches and the shoulder length tolerance is ±.005 inches. ASME tolerance shoulder screws have a Class 3A thread fit. *Heads are knurled, stamped, or both to provide finger grip.



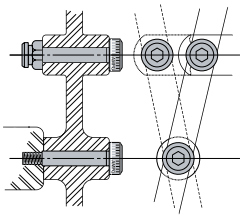
Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
1/8	.123 to .121	1/4	1/8	5/64	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
5/32	.154 to .152	9/32	1/8	3/32	
3/16	.185 to .183	5/16	5/32	3/32	
1/4	.248 to .246	3/8	3/16	1/8	Head Mark and Knurl
5/16	.310 to .308	7/16	7/32	5/32	
3/8	.373 to .371	9/16	1/4	3/16	
1/2	.498 to .496	3/4	5/16	1/4	
5/8	.623 to .621	7/8	3/8	5/16	Head Mark and Knurl
3/4	.748 to .746	1	1/2	3/8	

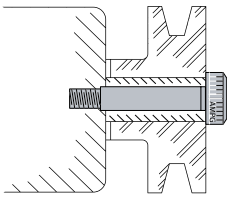
Head appearance may be knurled and/or head marked.
18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



Shoulder Screw as a Guide



Shoulder Screw as a Pivot Point



Shoulder Screw as a Shaft



To extend the shoulder length of a screw, spin a lengthening shim over the threads until it rests under the shoulder. To reduce the shoulder length of a screw, slide a shortening shim over the shoulder until it rests to underside of the head.

Self-Locker Knurled Head — Inch

18-8 and 316 Stainless Steels with Self-Locker Patch — Hex Drive

- Shoulder diameters of 1/8, 5/32 and 3/16 meet our internal specification AMPG 2012 ZS.02.
- Shoulder diameters of 1/4 and larger meet or exceed ANSI/ASME B18.3.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 and 316 stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR60118C02-PATCH

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/8 x 1/8	4-40 x 5/32	STR60118C02-PATCH	STR60218C02-PATCH
1/8 x 3/16		STR60118C03-PATCH	STR60218C03-PATCH
1/8 x 1/4		STR60118C04-PATCH	STR60218C04-PATCH
1/8 x 5/16		STR60118C05-PATCH	STR60218C05-PATCH
1/8 x 3/8	4-40 x 5/32	STR60118C06-PATCH	STR60218C06-PATCH
1/8 x 1/2		STR60118C08-PATCH	STR60218C08-PATCH
1/8 x 3/4		STR60118C12-PATCH	STR60218C12-PATCH
1/8 x 1		STR60118C16-PATCH	STR60218C16-PATCH



STR60153C02-PATCH

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/32 x 1/8	6-32 x 3/16	STR60153C02-PATCH	STR60253C02-PATCH
5/32 x 3/16		STR60153C03-PATCH	STR60253C03-PATCH
5/32 x 1/4		STR60153C04-PATCH	STR60253C04-PATCH
5/32 x 5/16		STR60153C05-PATCH	STR60253C05-PATCH
5/32 x 3/8	6-32 x 3/16	STR60153C06-PATCH	STR60253C06-PATCH
5/32 x 1/2		STR60153C08-PATCH	STR60253C08-PATCH
5/32 x 3/4		STR60153C12-PATCH	STR60253C12-PATCH
5/32 x 1		STR60153C16-PATCH	STR60253C16-PATCH



STR60131C02-PATCH

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/16 x 1/8	8-32 x 3/16	STR60131C02-PATCH	STR60231C02-PATCH
3/16 x 3/16		STR60131C03-PATCH	STR60231C03-PATCH
3/16 x 1/4		STR60131C04-PATCH	STR60231C04-PATCH
3/16 x 5/16		STR60131C05-PATCH	STR60231C05-PATCH
3/16 x 3/8	8-32 x 3/16	STR60131C06-PATCH	STR60231C06-PATCH
3/16 x 1/2		STR60131C08-PATCH	STR60231C08-PATCH
3/16 x 5/8		STR60131C10-PATCH	STR60231C10-PATCH
3/16 x 3/4		STR60131C12-PATCH	STR60231C12-PATCH
3/16 x 1	8-32 x 3/16	STR60131C16-PATCH	STR60231C16-PATCH



STR60114C02-PATCH

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/4 x 1/8	10-24 x 3/8	STR60114C02-PATCH	STR60214C02-PATCH
1/4 x 1/4		STR60114C04-PATCH	STR60214C04-PATCH
1/4 x 3/8		STR60114C06-PATCH	STR60214C06-PATCH
1/4 x 1/2		STR60114C08-PATCH	STR60214C08-PATCH
1/4 x 5/8	10-24 x 3/8	STR60114C10-PATCH	STR60214C10-PATCH
1/4 x 3/4		STR60114C12-PATCH	STR60214C12-PATCH
1/4 x 1		STR60114C16-PATCH	STR60214C16-PATCH
1/4 x 1-1/4		STR60114C20-PATCH	STR60214C20-PATCH
1/4 x 1-1/2	10-24 x 3/8	STR60114C24-PATCH	STR60214C24-PATCH
1/4 x 1-3/4		STR60114C28-PATCH	STR60214C28-PATCH
1/4 x 2		STR60114C32-PATCH	STR60214C32-PATCH

Chart continued on next page

Self-Locker Knurled Head — Inch



STR60151C02-PATCH

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/16 x 1/8	1/4-20 x 7/16	STR60151C02-PATCH	STR60251C02-PATCH
5/16 x 1/4		STR60151C04-PATCH	STR60251C04-PATCH
5/16 x 3/8		STR60151C06-PATCH	STR60251C06-PATCH
5/16 x 1/2		STR60151C08-PATCH	STR60251C08-PATCH
5/16 x 5/8	1/4-20 x 7/16	STR60151C10-PATCH	STR60251C10-PATCH
5/16 x 3/4		STR60151C12-PATCH	STR60251C12-PATCH
5/16 x 1		STR60151C16-PATCH	STR60251C16-PATCH
5/16 x 1-1/4		STR60151C20-PATCH	STR60251C20-PATCH
5/16 x 1-1/2	1/4-20 x 7/16	STR60151C24-PATCH	STR60251C24-PATCH
5/16 x 1-3/4		STR60151C28-PATCH	STR60251C28-PATCH
5/16 x 2		STR60151C32-PATCH	STR60251C32-PATCH



STR60112C04-PATCH

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/2 x 1/4	3/8-16 x 5/8	STR60112C04-PATCH	STR60212C04-PATCH
1/2 x 3/8		STR60112C06-PATCH	STR60212C06-PATCH
1/2 x 1/2		STR60112C08-PATCH	STR60212C08-PATCH
1/2 x 5/8		STR60112C10-PATCH	STR60212C10-PATCH
1/2 x 3/4	3/8-16 x 5/8	STR60112C12-PATCH	STR60212C12-PATCH
1/2 x 1		STR60112C16-PATCH	STR60212C16-PATCH
1/2 x 1-1/4		STR60112C20-PATCH	STR60212C20-PATCH
1/2 x 1-1/2		STR60112C24-PATCH	STR60212C24-PATCH
1/2 x 1-3/4	3/8-16 x 5/8	STR60112C28-PATCH	STR60212C28-PATCH
1/2 x 2		STR60112C32-PATCH	STR60212C32-PATCH
1/2 x 2-1/2		STR60112C40-PATCH	STR60212C40-PATCH



STR60138C04-PATCH

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/8 x 1/4	5/16-18 x 1/2	STR60138C04-PATCH	STR60238C04-PATCH
3/8 x 3/8		STR60138C06-PATCH	STR60238C06-PATCH
3/8 x 1/2		STR60138C08-PATCH	STR60238C08-PATCH
3/8 x 5/8		STR60138C10-PATCH	STR60238C10-PATCH
3/8 x 3/4	5/16-18 x 1/2	STR60138C12-PATCH	STR60238C12-PATCH
3/8 x 1		STR60138C16-PATCH	STR60238C16-PATCH
3/8 x 1-1/4		STR60138C20-PATCH	STR60238C20-PATCH
3/8 x 1-1/2		STR60138C24-PATCH	STR60238C24-PATCH
3/8 x 1-3/4	5/16-18 x 1/2	STR60138C28-PATCH	STR60238C28-PATCH
3/8 x 2		STR60138C32-PATCH	STR60238C32-PATCH



STR60158C08-PATCH

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/8 x 1/2	1/2-13 x 3/4	STR60158C08-PATCH	STR60258C08-PATCH
5/8 x 5/8		STR60158C10-PATCH	STR60258C10-PATCH
5/8 x 3/4		STR60158C12-PATCH	STR60258C12-PATCH
5/8 x 1		STR60158C16-PATCH	STR60258C16-PATCH
5/8 x 1-1/4	1/2-13 x 3/4	STR60158C20-PATCH	STR60258C20-PATCH
5/8 x 1-1/2		STR60158C24-PATCH	STR60258C24-PATCH
5/8 x 2		STR60158C32-PATCH	STR60258C32-PATCH



STR60134C16-PATCH

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/4 x 1	5/8-11 x 7/8	STR60134C16-PATCH	STR60234C16-PATCH
3/4 x 1-1/2		STR60134C24-PATCH	STR60234C24-PATCH
3/4 x 2		STR60134C32-PATCH	STR60234C32-PATCH

Left Hand Threaded Knurled Head — Inch

18-8 Stainless Steel — Hex Drive

Tighten these shoulder screws by turning them to the left; once fastened, they resist loosening from counterclockwise motion and vibration. These fasteners are made in the USA with DFARS compliant material. Shoulder diameters of 1/8, 5/32 and 3/16 meet our internal specification AMPG 2013 LH.01. Shoulder diameters of 1/4 and larger meet or exceed ANSI/ASME B18.3. The diameter tolerance is -.002 to -.004 inches and the shoulder length tolerance is ±.005 inches. Screws have a Class 3A thread fit. Heads are knurled, stamped, or both to provide finger grip.



STR78818C02



STR78853C02



STR78831C02

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
1/8 x 1/8	4-40 x 5/32	STR78818C02
1/8 x 3/16		STR78818C03
1/8 x 1/4		STR78818C04
1/8 x 3/8		STR78818C06
1/8 x 1/2	4-40 x 5/32	STR78818C08

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
5/32 x 1/8	6-32 x 3/16	STR78853C02
5/32 x 3/16		STR78853C03
5/32 x 1/4		STR78853C04
5/32 x 3/8		STR78853C06
5/32 x 1/2	6-32 x 3/16	STR78853C08

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
3/16 x 1/8	8-32 x 3/16	STR78831C02
3/16 x 3/16		STR78831C03
3/16 x 1/4		STR78831C04
3/16 x 3/8		STR78831C06
3/16 x 1/2		STR78831C08
3/16 x 3/4	8-32 x 3/16	STR78831C12
3/16 x 1		STR78831C16



STR78814C04



STR78851C04



STR78838C08

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
1/4 x 1/4	10-24 x 3/8	STR78814C04
1/4 x 3/8		STR78814C06
1/4 x 1/2		STR78814C08
1/4 x 5/8		STR78814C10
1/4 x 3/4	10-24 x 3/8	STR78814C12
1/4 x 1		STR78814C16

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
5/16 x 1/4	1/4-20 x 7/16	STR78851C04
5/16 x 3/8		STR78851C06
5/16 x 1/2		STR78851C08
5/16 x 5/8		STR78851C10
5/16 x 3/4	1/4-20 x 7/16	STR78851C12
5/16 x 1		STR78851C16

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
3/8 x 1/2	5/16-18 x 1/2	STR78838C08
3/8 x 3/4		STR78838C12
3/8 x 1		STR78838C16
3/8 x 1-1/2		STR78838C24
3/8 x 2	5/16-18 x 1/2	STR78838C32





STR78812C08

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
1/2 x 1/2	3/8-16 x 5/8	STR78812C08
1/2 x 3/4		STR78812C12
1/2 x 1		STR78812C16
1/2 x 1-1/2		STR78812C24
1/2 x 2	3/8-16 x 5/8	STR78812C32

Black Oxide

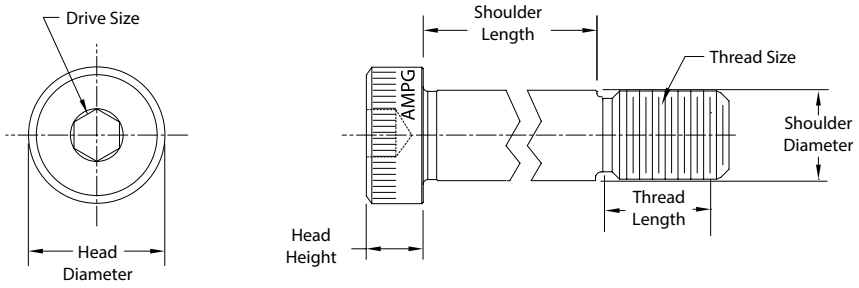
18-8 SS is available with black oxide plating option.

*Add "**-BX**" to the end of the part number.*

Oversized Thread Knurled Head — Inch

18-8 Stainless Steel, 316 Stainless Steel, and Alloy Steel — Hex Drive

These screws are also known as Same-Sized Thread Shoulder Screws. With threads the same size as the shoulder, these screws offer higher strength properties than standard sized shoulder screws. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Dimensions are based on shoulder diameter and meet or exceed ANSI/ASME B18.3. The diameter tolerance is -.002 to -.004 inches and the shoulder length tolerance is ±.005 inches. 18-8 and 316 stainless steel screws have a Class 2A thread fit. Alloy screws have a Class 3A thread fit and has a black-oxide finish. *Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
1/8	.123 to.121	1/4	1/8	5/64	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
3/16	.185 to .183	5/16	5/32	3/32	
1/4	.248 to .246	3/8	3/16	1/8	Head Mark and Knurl
5/16	.310 to .308	7/16	7/32	5/32	
3/8	.373 to .371	9/16	1/4	3/16	
1/2	.498 to .496	3/4	5/16	1/4	
5/8	.623 to .621	7/8	3/8	5/16	Head Mark and Knurl
3/4	.748 to .746	1	1/2	3/8	
1	.998 to .996	1-5/16	5/8	1/2	

Head appearance may be knurled and/or head marked. 18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



STR60118C02-OST

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
1/8 x 1/8	5-40 x 5/32	STR60118C02-OST	STR60118C02-OST-BX	—	—
1/8 x 3/16		STR60118C03-OST	STR60118C03-OST-BX	STR60218C03-OST	STR70018C03-OST
1/8 x 1/4		STR60118C04-OST	STR60118C04-OST-BX	STR60218C04-OST	STR70018C04-OST
1/8 x 5/16		STR60118C05-OST	STR60118C05-OST-BX	—	—
1/8 x 3/8	5-40 x 5/32	STR60118C06-OST	STR60118C06-OST-BX	STR60218C06-OST	STR70018C06-OST
1/8 x 1/2		STR60118C08-OST	STR60118C08-OST-BX	STR60218C08-OST	STR70018C08-OST
1/8 x 5/8		STR60118C10-OST	STR60118C10-OST-BX	STR60218C10-OST	STR70018C10-OST
1/8 x 3/4		STR60118C12-OST	STR60118C12-OST-BX	STR60218C12-OST	STR70018C12-OST
1/8 x 1	5-40 x 5/32	STR60118C16-OST	STR60118C16-OST-BX	STR60218C16-OST	STR70018C16-OST

Oversized Thread Knurled Head — Inch

18-8 Stainless Steel, 316 Stainless Steel, and Alloy — Hex Drive

- Shoulder diameters of 1/4, 5/16, 3/8 and 1/2 meet our internal specification AMPG 2013 OT.01.
- All dimensions are based on shoulder diameter and meet or exceed ANSI/ASME B18.3.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 and 316 stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR60131C02-OST

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
3/16 x 1/8	10-24 x 3/16	STR60131C02-OST	STR60131C02-OST-BX	–	–
3/16 x 3/16		STR60131C03-OST	STR60131C03-OST-BX	STR60231C03-OST	STR70031C03-OST
3/16 x 1/4		STR60131C04-OST	STR60131C04-OST-BX	STR60231C04-OST	STR70031C04-OST
3/16 x 5/16		STR60131C05-OST	STR60131C05-OST-BX	–	–
3/16 x 1/8	10-32 x 3/16	STR60131F02-OST	STR60131F02-OST-BX	–	–
3/16 x 3/16		STR60131F03-OST	STR60131F03-OST-BX	STR60231F03-OST	–
3/16 x 1/4		STR60131F04-OST	STR60131F04-OST-BX	STR60231F04-OST	–
3/16 x 5/16		STR60131F05-OST	STR60131F05-OST-BX	–	–
3/16 x 3/8	10-24 x 3/16	STR60131C06-OST	STR60131C06-OST-BX	STR60231C06-OST	STR70031C06-OST
3/16 x 1/2		STR60131C08-OST	STR60131C08-OST-BX	STR60231C08-OST	STR70031C08-OST
3/16 x 5/8		STR60131C10-OST	STR60131C10-OST-BX	STR60231C10-OST	STR70031C10-OST
3/16 x 3/4		STR60131C12-OST	STR60131C12-OST-BX	STR60231C12-OST	STR70031C12-OST
3/16 x 3/8	10-32 x 3/16	STR60131F06-OST	STR60131F06-OST-BX	STR60231F06-OST	–
3/16 x 1/2		STR60131F08-OST	STR60131F08-OST-BX	STR60231F08-OST	–
3/16 x 5/8		STR60131F10-OST	STR60131F10-OST-BX	STR60231F10-OST	–
3/16 x 3/4		STR60131F12-OST	STR60131F12-OST-BX	STR60231F12-OST	–
3/16 x 1	10-24 x 3/16	STR60131C16-OST	STR60131C16-OST-BX	STR60231C16-OST	STR70031C16-OST
3/16 x 1-1/4		STR60131C20-OST	STR60131C20-OST-BX	–	–
3/16 x 1-1/2		STR60131C24-OST	STR60131C24-OST-BX	STR60231C24-OST	STR70031C24-OST
3/16 x 1-3/4		STR60131C28-OST	STR60131C28-OST-BX	–	–
3/16 x 1	10-32 x 3/16	STR60131F16-OST	STR60131F16-OST-BX	STR60231F16-OST	–
3/16 x 1-1/4		STR60131F20-OST	STR60131F20-OST-BX	–	–
3/16 x 1-1/2		STR60131F24-OST	STR60131F24-OST-BX	–	–
3/16 x 1-3/4		STR60131F28-OST	STR60131F28-OST-BX	–	–
3/16 x 2	10-24 x 3/16	STR60131C32-OST	STR60131C32-OST-BX	STR60231C32-OST	STR70031C32-OST
3/16 x 2-1/2		STR60131C40-OST	STR60131C40-OST-BX	–	–
3/16 x 2	10-32 x 3/16	STR60131F32-OST	STR60131F32-OST-BX	–	–
3/16 x 2-1/2		STR60131F40-OST	STR60131F40-OST-BX	–	–

**Alloy Steel screws have a Class 3A thread fit.*

Chart continued on next page

Oversized Thread Knurled Head — Inch



STR60114C02-OST

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
1/4 x 1/8	1/4-20 x 3/8	STR60114C02-OST	STR60114C02-OST-BX	STR60214C02-OST	STR70014C02-OST
1/4 x 1/4		STR60114C04-OST	STR60114C04-OST-BX	STR60214C04-OST	STR70014C04-OST
1/4 x 5/16		STR60114C05-OST	STR60114C05-OST-BX	—	STR70014C05-OST
1/4 x 3/8		STR60114C06-OST	STR60114C06-OST-BX	STR60214C06-OST	STR70014C06-OST
1/4 x 1/8	1/4-28 x 3/8	STR60114F02-OST	STR60114F02-OST-BX	—	—
1/4 x 1/4		STR60114F04-OST	STR60114F04-OST-BX	—	—
1/4 x 5/16		STR60114F05-OST	STR60114F05-OST-BX	—	—
1/4 x 3/8		STR60114F06-OST	STR60114F06-OST-BX	—	—
1/4 x 1/2	1/4-20 x 3/8	STR60114C08-OST	STR60114C08-OST-BX	STR60214C08-OST	STR70014C08-OST
1/4 x 5/8		STR60114C10-OST	STR60114C10-OST-BX	STR60214C10-OST	STR70014C10-OST
1/4 x 3/4		STR60114C12-OST	STR60114C12-OST-BX	STR60214C12-OST	STR70014C12-OST
1/4 x 1		STR60114C16-OST	STR60114C16-OST-BX	STR60214C16-OST	STR70014C16-OST
1/4 x 1/2	1/4-28 x 3/8	STR60114F08-OST	STR60114F08-OST-BX	—	—
1/4 x 5/8		STR60114F10-OST	STR60114F10-OST-BX	—	—
1/4 x 3/4		STR60114F12-OST	STR60114F12-OST-BX	—	—
1/4 x 1		STR60114F16-OST	STR60114F16-OST-BX	—	—
1/4 x 1-1/4	1/4-20 x 3/8	STR60114C20-OST	STR60114C20-OST-BX	STR60214C20-OST	STR70014C20-OST
1/4 x 1-1/2		STR60114C24-OST	STR60114C24-OST-BX	STR60214C24-OST	STR70014C24-OST
1/4 x 1-3/4		STR60114C28-OST	STR60114C28-OST-BX	STR60214C28-OST	STR70014C28-OST
1/4 x 2		STR60114C32-OST	STR60114C32-OST-BX	STR60214C32-OST	STR70014C32-OST
1/4 x 1-1/4	1/4-28 x 3/8	STR60114F20-OST	STR60114F20-OST-BX	—	—
1/4 x 1-1/2		STR60114F24-OST	STR60114F24-OST-BX	—	—
1/4 x 1-3/4		STR60114F28-OST	STR60114F28-OST-BX	—	—
1/4 x 2		STR60114F32-OST	STR60114F32-OST-BX	—	—
1/4 x 2-1/4	1/4-20 x 3/8	STR60114C36-OST	STR60114C36-OST-BX	—	—
1/4 x 2-1/2		STR60114C40-OST	STR60114C40-OST-BX	STR60214C40-OST	STR70014C40-OST
1/4 x 2-3/4		STR60114C44-OST	STR60114C44-OST-BX	—	—
1/4 x 3		STR60114C48-OST	STR60114C48-OST-BX	STR60214C48-OST	STR70014C48-OST
1/4 x 3-1/2	1/4-20 x 3/8	STR60114C56-OST	STR60114C56-OST-BX	STR60214C56-OST	STR70014C56-OST
1/4 x 4		STR60114C64-OST	STR60114C64-OST-BX	STR60214C64-OST	STR70014C64-OST

**Alloy Steel screws have a Class 3A thread fit.*

Chart continued on next page

Oversized Thread Knurled Head — Inch



STR60151C04-OST

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
5/16 x 1/4	5/16-18 x 7/16	STR60151C04-OST	STR60151C04-OST-BX	STR60251C04-OST	STR70051C04-OST
5/16 x 3/8		STR60151C06-OST	STR60151C06-OST-BX	STR60251C06-OST	STR70051C06-OST
5/16 x 1/2		STR60151C08-OST	STR60151C08-OST-BX	STR60251C08-OST	STR70051C08-OST
5/16 x 5/8		STR60151C10-OST	STR60151C10-OST-BX	STR60251C10-OST	STR70051C10-OST
5/16 x 1/4	5/16-24 x 7/16	STR60151F04-OST	STR60151F04-OST-BX	–	–
5/16 x 3/8		STR60151F06-OST	STR60151F06-OST-BX	–	–
5/16 x 1/2		STR60151F08-OST	STR60151F08-OST-BX	–	–
5/16 x 5/8		STR60151F10-OST	STR60151F10-OST-BX	–	–
5/16 x 3/4	5/16-18 x 7/16	STR60151C12-OST	STR60151C12-OST-BX	STR60251C12-OST	STR70051C12-OST
5/16 x 1		STR60151C16-OST	STR60151C16-OST-BX	STR60251C16-OST	STR70051C16-OST
5/16 x 1-1/4		STR60151C20-OST	STR60151C20-OST-BX	STR60251C20-OST	STR70051C20-OST
5/16 x 1-1/2		STR60151C24-OST	STR60151C24-OST-BX	STR60251C24-OST	STR70051C24-OST
5/16 x 3/4	5/16-24 x 7/16	STR60151F12-OST	STR60151F12-OST-BX	–	–
5/16 x 1		STR60151F16-OST	STR60151F16-OST-BX	–	–
5/16 x 1-1/4		STR60151F20-OST	STR60151F20-OST-BX	–	–
5/16 x 1-1/2		STR60151F24-OST	STR60151F24-OST-BX	–	–
5/16 x 1-3/4	5/16-18 x 7/16	STR60151C28-OST	STR60151C28-OST-BX	STR60251C28-OST	STR70051C28-OST
5/16 x 2		STR60151C32-OST	STR60151C32-OST-BX	STR60251C32-OST	STR70051C32-OST
5/16 x 1-3/4	5/16-24 x 7/16	STR60151F28-OST	STR60151F28-OST-BX	–	–
5/16 x 2		STR60151F32-OST	STR60151F32-OST-BX	–	–
5/16 x 2-1/4	5/16-18 x 7/16	STR60151C36-OST	STR60151C36-OST-BX	–	–
5/16 x 2-1/2		STR60151C40-OST	STR60151C40-OST-BX	STR60251C40-OST	STR70051C40-OST
5/16 x 2-3/4		STR60151C44-OST	STR60151C44-OST-BX	–	–
5/16 x 3		STR60151C48-OST	STR60151C48-OST-BX	STR60251C48-OST	STR70051C48-OST
5/16 x 3-1/2	5/16-18 x 7/16	STR60151C56-OST	STR60151C56-OST-BX	STR60251C56-OST	STR70051C56-OST
5/16 x 4		STR60151C64-OST	STR60151C64-OST-BX	STR60251C64-OST	STR70051C64-OST
5/16 x 4-1/2		STR60151C72-OST	STR60151C72-OST-BX	STR60251C72-OST	STR70051C72-OST
5/16 x 5		STR60151C80-OST	STR60151C80-OST-BX	STR60251C80-OST	STR70051C80-OST
5/16 x 6	5/16-18 x 7/16	STR60151C96-OST	STR60151C96-OST-BX	STR60251C96-OST	STR70051C96-OST

**Alloy Steel screws have a Class 3A thread fit.*

Chart continued on next page

Oversized Thread Knurled Head — Inch



STR60138C02-OST

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
3/8 x 1/8	3/8-16 x 1/2	STR60138C02-OST	STR60138C02-OST-BX	—	—
3/8 x 1/4		STR60138C04-OST	STR60138C04-OST-BX	STR60238C04-OST	STR70038C04-OST
3/8 x 5/16		STR60138C05-OST	STR60138C05-OST-BX	—	—
3/8 x 3/8		STR60138C06-OST	STR60138C06-OST-BX	STR60238C06-OST	STR70038C06-OST
3/8 x 1/8	3/8-24 x 1/2	STR60138F02-OST	STR60138F02-OST-BX	—	—
3/8 x 1/4		STR60138F04-OST	STR60138F04-OST-BX	—	—
3/8 x 5/16		STR60138F05-OST	STR60138F05-OST-BX	—	—
3/8 x 3/8		STR60138F06-OST	STR60138F06-OST-BX	—	—
3/8 x 1/2	3/8-16 x 1/2	STR60138C08-OST	STR60138C08-OST-BX	STR60238C08-OST	STR70038C08-OST
3/8 x 5/8		STR60138C10-OST	STR60138C10-OST-BX	STR60238C10-OST	STR70038C10-OST
3/8 x 3/4		STR60138C12-OST	STR60138C12-OST-BX	STR60238C12-OST	STR70038C12-OST
3/8 x 1		STR60138C16-OST	STR60138C16-OST-BX	STR60238C16-OST	STR70038C16-OST
3/8 x 1/2	3/8-24 x 1/2	STR60138F08-OST	STR60138F08-OST-BX	—	—
3/8 x 5/8		STR60138F10-OST	STR60138F10-OST-BX	—	—
3/8 x 3/4		STR60138F12-OST	STR60138F12-OST-BX	—	—
3/8 x 1		STR60138F16-OST	STR60138F16-OST-BX	—	—
3/8 x 1-1/4	3/8-16 x 1/2	STR60138C20-OST	STR60138C20-OST-BX	STR60238C20-OST	STR70038C20-OST
3/8 x 1-1/2		STR60138C24-OST	STR60138C24-OST-BX	STR60238C24-OST	STR70038C24-OST
3/8 x 1-3/4		STR60138C28-OST	STR60138C28-OST-BX	STR60238C28-OST	STR70038C28-OST
3/8 x 2		STR60138C32-OST	STR60138C32-OST-BX	STR60238C32-OST	STR70038C32-OST
3/8 x 1-1/4	3/8-24 x 1/2	STR60138F20-OST	STR60138F20-OST-BX	—	—
3/8 x 1-1/2		STR60138F24-OST	STR60138F24-OST-BX	—	—
3/8 x 1-3/4		STR60138F28-OST	STR60138F28-OST-BX		
3/8 x 2		STR60138F32-OST	STR60138F32-OST-BX		
3/8 x 2-1/4	3/8-16 x 1/2	STR60138C36-OST	STR60138C36-OST-BX	—	—
3/8 x 2-1/2		STR60138C40-OST	STR60138C40-OST-BX	STR60238C40-OST	STR70038C40-OST
3/8 x 2-3/4		STR60138C44-OST	STR60138C44-OST-BX	—	—
3/8 x 3		STR60138C48-OST	STR60138C48-OST-BX	STR60238C48-OST	STR70038C48-OST
3/8 x 3-1/2	3/8-16 x 1/2	STR60138C56-OST	STR60138C56-OST-BX	STR60238C56-OST	STR70038C56-OST
3/8 x 4		STR60138C64-OST	STR60138C64-OST-BX	STR60238C64-OST	STR70038C64-OST
3/8 x 4-1/2		STR60138C72-OST	STR60138C72-OST-BX	STR60238C72-OST	STR70038C72-OST
3/8 x 5		STR60138C80-OST	STR60138C80-OST-BX	STR60238C80-OST	STR70038C80-OST
3/8 x 6	3/8-16 x 1/2	STR60138C96-OST	STR60138C96-OST-BX	STR60238C96-OST	STR70038C96-OST

**Alloy Steel screws have a Class 3A thread fit.*

Chart continued on next page

Oversized Thread Knurled Head — Inch



STR60112C04-OST

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
1/2 x 1/4	1/2-13 x 5/8	STR60112C04-OST	STR60112C04-OST-BX	STR60212C04-OST	STR70012C04-OST
1/2 x 5/16		STR60112C05-OST	STR60112C05-OST-BX	–	–
1/2 x 3/8		STR60112C06-OST	STR60112C06-OST-BX	STR60212C06-OST	STR70012C06-OST
1/2 x 1/2		STR60112C08-OST	STR60112C08-OST-BX	STR60212C08-OST	STR70012C08-OST
1/2 x 5/8	1/2-13 x 5/8	STR60112C10-OST	STR60112C10-OST-BX	STR60212C10-OST	STR70012C10-OST
1/2 x 3/4		STR60112C12-OST	STR60112C12-OST-BX	STR60212C12-OST	STR70012C12-OST
1/2 x 1		STR60112C16-OST	STR60112C16-OST-BX	STR60212C16-OST	STR70012C16-OST
1/2 x 1-1/4		STR60112C20-OST	STR60112C20-OST-BX	STR60212C20-OST	STR70012C20-OST
1/2 x 1-1/2	1/2-13 x 5/8	STR60112C24-OST	STR60112C24-OST-BX	STR60212C24-OST	STR70012C24-OST
1/2 x 1-3/4		STR60112C28-OST	STR60112C28-OST-BX	STR60212C28-OST	STR70012C28-OST
1/2 x 2		STR60112C32-OST	STR60112C32-OST-BX	STR60212C32-OST	STR70012C32-OST
1/2 x 2-1/4		STR60112C36-OST	STR60112C36-OST-BX	–	–
1/2 x 2-1/2	1/2-13 x 5/8	STR60112C40-OST	STR60112C40-OST-BX	STR60212C40-OST	STR70012C40-OST
1/2 x 2-3/4		STR60112C44-OST	STR60112C44-OST-BX	–	–
1/2 x 3		STR60112C48-OST	STR60112C48-OST-BX	STR60212C48-OST	STR70012C48-OST
1/2 x 3-1/2		STR60112C56-OST	STR60112C56-OST-BX	STR60212C56-OST	STR70012C56-OST
1/2 x 4	1/2-13 x 5/8	STR60112C64-OST	STR60112C64-OST-BX	STR60212C64-OST	STR70012C64-OST
1/2 x 4-1/2		STR60112C72-OST	STR60112C72-OST-BX	STR60212C72-OST	STR70012C72-OST
1/2 x 5		STR60112C80-OST	STR60112C80-OST-BX	STR60212C80-OST	STR70012C80-OST
1/2 x 5-1/2		STR60112C88-OST	STR60112C88-OST-BX	STR60212C88-OST	STR70012C88-OST
1/2 x 6	1/2-13 x 5/8	STR60112C96-OST	STR60112C96-OST-BX	STR60212C96-OST	STR70012C96-OST

**Alloy Steel screws have a Class 3A thread fit.*

Chart continued on next page

Oversized Thread Knurled Head — Inch



STR60158C05-OST

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
5/8 x 5/16		STR60158C05-OST	STR60158C05-OST-BX	—	—
5/8 x 3/8		STR60158C06-OST	STR60158C06-OST-BX	STR60258C06-OST	STR70058C06-OST
5/8 x 1/2	5/8-11 x 3/4	STR60158C08-OST	STR60158C08-OST-BX	STR60258C08-OST	STR70058C08-OST
5/8 x 5/8		STR60158C10-OST	STR60158C10-OST-BX	—	—
5/8 x 3/4		STR60158C12-OST	STR60158C12-OST-BX	STR60258C12-OST	STR70058C12-OST
5/8 x 7/8		STR60158C14-OST	STR60158C14-OST-BX	—	—
5/8 x 1	5/8-11 x 3/4	STR60158C16-OST	STR60158C16-OST-BX	STR60258C16-OST	STR70058C16-OST
5/8 x 1-1/4		STR60158C20-OST	STR60158C20-OST-BX	STR60258C20-OST	STR70058C20-OST
5/8 x 1-3/8		STR60158C22-OST	STR60158C22-OST-BX	—	—
5/8 x 1-1/2		STR60158C24-OST	STR60158C24-OST-BX	STR60258C24-OST	STR70058C24-OST
5/8 x 1-3/4	5/8-11 x 3/4	STR60158C28-OST	STR60158C28-OST-BX	—	—
5/8 x 2		STR60158C32-OST	STR60158C32-OST-BX	STR60258C32-OST	—
5/8 x 2-1/4		STR60158C36-OST	STR60158C36-OST-BX	—	—
5/8 x 2-1/2		STR60158C40-OST	STR60158C40-OST-BX	STR60258C40-OST	—
5/8 x 2-3/4	5/8-11 x 3/4	STR60158C44-OST	STR60158C44-OST-BX	STR60258C44-OST	—
5/8 x 3		STR60158C48-OST	STR60158C48-OST-BX	STR60258C48-OST	—
5/8 x 3-1/2		STR60158C56-OST	STR60158C56-OST-BX	STR60258C56-OST	—
5/8 x 4		STR60158C64-OST	STR60158C64-OST-BX	STR60258C64-OST	—
5/8 x 4-1/2	5/8-11 x 3/4	STR60158C72-OST	STR60158C72-OST-BX	STR60258C72-OST	—
5/8 x 5		STR60158C80-OST	STR60158C80-OST-BX	STR60258C80-OST	—
5/8 x 5-1/2		STR60158C88-OST	STR60158C88-OST-BX	STR60258C88-OST	—
5/8 x 6	5/8-11 x 3/4	STR60158C96-OST	STR60158C96-OST-BX	STR60258C96-OST	—

Chart continued on next page

Oversized Thread Knurled Head — Inch



STR60134C08-OST

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
3/4 x 1/2	3/4-10 x 7/8	STR60134C08-OST	STR60134C08-OST-BX	STR60234C08-OST	STR70034C08-OST
3/4 x 5/8		STR60134C10-OST	STR60134C10-OST-BX	STR60234C10-OST	STR70034C10-OST
3/4 x 3/4		STR60134C12-OST	STR60134C12-OST-BX	STR60234C12-OST	STR70034C12-OST
3/4 x 1		STR60134C16-OST	STR60134C16-OST-BX	STR60234C16-OST	STR70034C16-OST
3/4 x 1-1/4	3/4-10 x 7/8	STR60134C20-OST	STR60134C20-OST-BX	–	–
3/4 x 1-1/2		STR60134C24-OST	STR60134C24-OST-BX	STR60234C24-OST	STR70034C24-OST
3/4 x 1-3/4		STR60134C28-OST	STR60134C28-OST-BX	STR60234C28-OST	–
3/4 x 2		STR60134C32-OST	STR60134C32-OST-BX	STR60234C32-OST	STR70034C32-OST
3/4 x 2-1/4	3/4-10 x 7/8	STR60134C36-OST	STR60134C36-OST-BX	STR60234C36-OST	–
3/4 x 2-1/2		STR60134C40-OST	STR60134C40-OST-BX	STR60234C40-OST	STR70034C40-OST
3/4 x 2-3/4		STR60134C44-OST	STR60134C44-OST-BX	–	–
3/4 x 3		STR60134C48-OST	STR60134C48-OST-BX	STR60234C48-OST	STR70034C48-OST
3/4 x 3-1/2	3/4-10 x 7/8	STR60134C56-OST	STR60134C56-OST-BX	STR60234C56-OST	STR70034C56-OST
3/4 x 4		STR60134C64-OST	STR60134C64-OST-BX	STR60234C64-OST	STR70034C64-OST
3/4 x 4-1/2		STR60134C72-OST	STR60134C72-OST-BX	STR60234C72-OST	STR70034C72-OST
3/4 x 5		STR60134C80-OST	STR60134C80-OST-BX	STR60234C80-OST	STR70034C80-OST
3/4 x 5-1/2	3/4-10 x 7/8	STR60134C88-OST	STR60134C88-OST-BX	–	–
3/4 x 6		STR60134C96-OST	STR60134C96-OST-BX	STR60234C96-OST	STR70034C96-OST



STR60101C16-OST

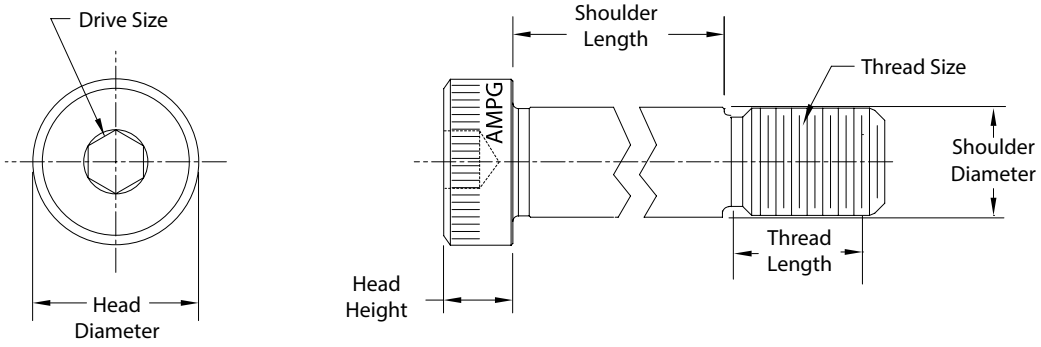
1 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
1 x 1	1-8 x 1	STR60101C16-OST	STR60101C16-OST-BX	STR60201C16-OST	STR70001C16-OST
1 x 1-1/2		STR60101C24-OST	STR60101C24-OST-BX	STR60201C24-OST	STR70001C24-OST
1 x 1-3/4		STR60101C28-OST	STR60101C28-OST-BX	–	–
1 x 2		STR60101C32-OST	STR60101C32-OST-BX	STR60201C32-OST	STR70001C32-OST
1 x 2-1/2	1-8 x 1	STR60101C40-OST	STR60101C40-OST-BX	STR60201C40-OST	STR70001C40-OST
1 x 3		STR60101C48-OST	STR60101C48-OST-BX	STR60201C48-OST	STR70001C48-OST
1 x 3-1/2		STR60101C56-OST	STR60101C56-OST-BX	–	–
1 x 4		STR60101C64-OST	STR60101C64-OST-BX	–	–
1 x 5	1-8 x 1	STR60101C80-OST	STR60101C80-OST-BX	–	–
1 x 6		STR60101C96-OST	STR60101C96-OST-BX	–	–

Oversized Thread Knurled Head — Metric

18-8 Stainless Steel (A2), 316 Stainless Steel (A4), and Alloy Steel

These shoulder screws are also known as Same-Sized Thread Shoulder Screws. With threads the same size as the shoulder, these screws offer higher strength properties than standard sized shoulder screws. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Dimensions are based on shoulder diameter and meet or exceed ANSI/ASME B18.3. The diameter tolerance is -.01mm to -.04mm and the shoulder length tolerance is +.25mm to -.0mm. Screws have a Class 5g6g thread fit. Alloy Steel screws have a Class 6g thread fit and has a black-oxide finish. *Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Metric, mm					
Shoulder Diameter	**Shoulder Diameter** Max. to Min.	**Head Diameter**	**Head Height**	**Drive Size**	***Head Appearance**
3	2.99 to 2.96	5.00	2.00	2	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
4	3.99 to 3.96	6.00	3.00	2	
5	4.99 to 4.96	9.00	4.00	2.5	
6	5.99 to 5.96	10.00	4.50	3	Head Mark Only
8	7.99 to 7.96	13.00	5.50	4	
10	9.99 to 9.96	16.00	7.00	5	
12	11.99 to 11.96	18.00	9.00	6	Head Mark and Knurl
16	15.99 to 15.96	24.00	11.00	8	
20	19.99 to 19.96	30.00	14.00	10	

Head appearance may be knurled and/or head marked. 18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.

Oversized Thread Knurled Head — Metric

18-8 Stainless Steel (A2), 316 Stainless Steel (A4), and Alloy Steel — Hex Drive

- Shoulder diameters of 6, 8, 10 and 12mm meet our internal specification AMPG 2013 OT.02.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 *(A2)* and 316 *(A4)* stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR601M3X4-OST

3mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number
3 x 4	M3 x 0.5 x 4	STR601M3X4-OST	STR601M3X4-OST-B
3 x 5		STR601M3X5-OST	STR601M3X5-OST-B
3 x 6		STR601M3X6-OST	STR601M3X6-OST-B
3 x 7		STR601M3X7-OST	STR601M3X7-OST-B
3 x 8	M3 x 0.5 x 4	STR601M3X8-OST	STR601M3X8-OST-B
3 x 9		STR601M3X9-OST	STR601M3X9-OST-B
3 x 10		STR601M3X10-OST	STR601M3X10-OST-B
3 x 11		STR601M3X11-OST	STR601M3X11-OST-B
3 x 12	M3 x 0.5 x 4	STR601M3X12-OST	STR601M3X12-OST-B
3 x 13		STR601M3X13-OST	STR601M3X13-OST-B
3 x 14		STR601M3X14-OST	STR601M3X14-OST-B
3 x 15		STR601M3X15-OST	STR601M3X15-OST-B
3 x 16	M3 x 0.5 x 4	STR601M3X16-OST	STR601M3X16-OST-B
3 x 17		STR601M3X17-OST	STR601M3X17-OST-B
3 x 18	M3 x 0.5 x 4	STR601M3X18-OST	STR601M3X18-OST-B
3 x 19		STR601M3X19-OST	STR601M3X19-OST-B
3 x 20		STR601M3X20-OST	STR601M3X20-OST-B
3 x 21		STR601M3X21-OST	STR601M3X21-OST-B
3 x 22	M3 x 0.5 x 4	STR601M3X22-OST	STR601M3X22-OST-B
3 x 23		STR601M3X23-OST	STR601M3X23-OST-B
3 x 24		STR601M3X24-OST	STR601M3X24-OST-B
3 x 25		STR601M3X25-OST	STR601M3X25-OST-B
3 x 30	M3 x 0.5 x 4	STR601M3X30-OST	STR601M3X30-OST-B
3 x 35		STR601M3X35-OST	STR601M3X35-OST-B
3 x 40		STR601M3X40-OST	STR601M3X40-OST-B
3 x 45		STR601M3X45-OST	STR601M3X45-OST-B
3 x 50	M3 x 0.5 x 4	STR601M3X50-OST	STR601M3X50-OST-B
3 x 55		STR601M3X55-OST	STR601M3X55-OST-B



STR601M4X4-OST

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number
4 x 4	M4 x 0.7 x 4.5	STR601M4X4-OST	STR601M4X4-OST-B	STR602M4X4-OST
4 x 5		STR601M4X5-OST	STR601M4X5-OST-B	STR602M4X5-OST
4 x 6		STR601M4X6-OST	STR601M4X6-OST-B	STR602M4X6-OST
4 x 7		STR601M4X7-OST	STR601M4X7-OST-B	—
4 x 8	M4 x 0.7 x 4.5	STR601M4X8-OST	STR601M4X8-OST-B	STR602M4X8-OST
4 x 9		STR601M4X9-OST	STR601M4X9-OST-B	—
4 x 10		STR601M4X10-OST	STR601M4X10-OST-B	STR602M4X10-OST
4 x 12		STR601M4X12-OST	STR601M4X12-OST-B	STR602M4X12-OST
4 x 14	M4 x 0.7 x 4.5	STR601M4X14-OST	STR601M4X14-OST-B	—

Chart continued on next page

Oversized Thread Knurled Head — Metric



STR601M4X16-OST

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number
4 x 16	M4 x 0.7 x 4.5	STR601M4X16-OST	STR601M4X16-OST-B	STR602M4X16-OST
4 x 18		STR601M4X18-OST	STR601M4X18-OST-B	—
4 x 20		STR601M4X20-OST	STR601M4X20-OST-B	—
4 x 25		STR601M4X25-OST	STR601M4X25-OST-B	—
4 x 30	M4 x 0.7 x 4.5	STR601M4X30-OST	STR601M4X30-OST-B	—
4 x 35		STR601M4X35-OST	STR601M4X35-OST-B	—
4 x 40		STR601M4X40-OST	STR601M4X40-OST-B	—
4 x 45		STR601M4X45-OST	STR601M4X45-OST-B	—
4 x 50	M4 x 0.7 x 4.5	STR601M4X50-OST	STR601M4X50-OST-B	—
4 x 60		STR601M4X60-OST	STR601M4X60-OST-B	—
4 x 70		STR601M4X70-OST	STR601M4X70-OST-B	—



STR601M5X4-OST

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number
5 x 4	M5 x 0.8 x 9.5	STR601M5X4-OST	STR601M5X4-OST-B	STR602M5X4-OST
5 x 5		STR601M5X5-OST	STR601M5X5-OST-B	STR602M5X5-OST
5 x 6		STR601M5X6-OST	STR601M5X6-OST-B	STR602M5X6-OST
5 x 8		STR601M5X8-OST	STR601M5X8-OST-B	STR602M5X8-OST
5 x 10	M5 x 0.8 x 9.5	STR601M5X10-OST	STR601M5X10-OST-B	STR602M5X10-OST
5 x 12		STR601M5X12-OST	STR601M5X12-OST-B	STR602M5X12-OST
5 x 14		STR601M5X14-OST	STR601M5X14-OST-B	—
5 x 16		STR601M5X16-OST	STR601M5X16-OST-B	STR602M5X16-OST
5 x 18	M5 x 0.8 x 9.5	STR601M5X18-OST	STR601M5X18-OST-B	—
5 x 20		STR601M5X20-OST	STR601M5X20-OST-B	—
5 x 25		STR601M5X25-OST	STR601M5X25-OST-B	—
5 x 30		STR601M5X30-OST	STR601M5X30-OST-B	—
5 x 35	M5 x 0.8 x 9.5	STR601M5X35-OST	STR601M5X35-OST-B	—
5 x 40		STR601M5X40-OST	STR601M5X40-OST-B	—
5 x 45		STR601M5X45-OST	STR601M5X45-OST-B	—
5 x 50		STR601M5X50-OST	STR601M5X50-OST-B	—

**Alloy Steel screws have a Class 6g thread fit.*

Chart continued on next page

Oversized Thread Knurled Head — Metric



STR601M6X4-OST

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
6 x 4	M6 x 1 x 11	STR601M6X4-OST	STR601M6X4-OST-B	—	—
6 x 5		STR601M6X5-OST	STR601M6X5-OST-B	—	—
6 x 6		STR601M6X6-OST	STR601M6X6-OST-B	STR602M6X6-OST	STR700M6X6-OST
6 x 8		STR601M6X8-OST	STR601M6X8-OST-B	STR602M6X8-OST	STR700M6X8-OST
6 x 10	M6 x 1 x 11	STR601M6X10-OST	STR601M6X10-OST-B	STR602M6X10-OST	STR700M6X10-OST
6 x 12		STR601M6X12-OST	STR601M6X12-OST-B	STR602M6X12-OST	STR700M6X12-OST
6 x 14		STR601M6X14-OST	STR601M6X14-OST-B	—	—
6 x 16		STR601M6X16-OST	STR601M6X16-OST-B	STR602M6X16-OST	STR700M6X16-OST
6 x 18	M6 x 1 x 11	STR601M6X18-OST	STR601M6X18-OST-B	—	—
6 x 20		STR601M6X20-OST	STR601M6X20-OST-B	STR602M6X20-OST	STR700M6X20-OST
6 x 25		STR601M6X25-OST	STR601M6X25-OST-B	STR602M6X25-OST	STR700M6X25-OST
6 x 30		STR601M6X30-OST	STR601M6X30-OST-B	STR602M6X30-OST	STR700M6X30-OST
6 x 35	M6 x 1 x 11	STR601M6X35-OST	STR601M6X35-OST-B	STR602M6X35-OST	—
6 x 40		STR601M6X40-OST	STR601M6X40-OST-B	STR602M6X40-OST	—
6 x 45		STR601M6X45-OST	STR601M6X45-OST-B	STR602M6X45-OST	—
6 x 50		STR601M6X50-OST	STR601M6X50-OST-B	STR602M6X50-OST	—
6 x 60	M6 x 1 x 11	STR601M6X60-OST	STR601M6X60-OST-B	—	—
6 x 70		STR601M6X70-OST	STR601M6X70-OST-B	—	—



STR601M8X4-OST

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
8 x 4	M8 x 1.25 x 13	STR601M8X4-OST	STR601M8X4-OST-B	—	—
8 x 5		STR601M8X5-OST	STR601M8X5-OST-B	—	—
8 x 6		STR601M8X6-OST	STR601M8X6-OST-B	STR602M8X6-OST	STR700M8X6-OST
8 x 8		STR601M8X8-OST	STR601M8X8-OST-B	STR602M8X8-OST	STR700M8X8-OST
8 x 10	M8 x 1.25 x 13	STR601M8X10-OST	STR601M8X10-OST-B	STR602M8X10-OST	STR700M8X10-OST
8 x 12		STR601M8X12-OST	STR601M8X12-OST-B	STR602M8X12-OST	STR700M8X12-OST
8 x 14		STR601M8X14-OST	STR601M8X14-OST-B	—	—
8 x 16		STR601M8X16-OST	STR601M8X16-OST-B	STR602M8X16-OST	STR700M8X16-OST
8 x 18	M8 x 1.25 x 13	STR601M8X18-OST	STR601M8X18-OST-B	—	—
8 x 20		STR601M8X20-OST	STR601M8X20-OST-B	STR602M8X20-OST	STR700M8X20-OST
8 x 25		STR601M8X25-OST	STR601M8X25-OST-B	STR602M8X25-OST	STR700M8X25-OST

Chart continued on next page

Oversized Thread Knurled Head — Metric



STR601M8X30-OST

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
8 x 30	M8 x 1.25 x 13	STR601M8X30-OST	STR601M8X30-OST-B	STR602M8X30-OST	STR700M8X30-OST
8 x 35		STR601M8X35-OST	STR601M8X35-OST-B	STR602M8X35-OST	—
8 x 40		STR601M8X40-OST	STR601M8X40-OST-B	STR602M8X40-OST	—
8 x 45		STR601M8X45-OST	STR601M8X45-OST-B	STR602M8X45-OST	—
8 x 50	M8 x 1.25 x 13	STR601M8X50-OST	STR601M8X50-OST-B	STR602M8X50-OST	—
8 x 60		STR601M8X60-OST	STR601M8X60-OST-B	—	—
8 x 70		STR601M8X70-OST	STR601M8X70-OST-B	—	—



STR601M10X4-OST

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
10 x 4	M10 x 1.5 x 16	STR601M10X4-OST	STR601M10X4-OST-B	—	—
10 x 6		STR601M10X6-OST	STR601M10X6-OST-B	STR602M10X6-OST	STR700M10X6-OST
10 x 8		STR601M10X8-OST	STR601M10X8-OST-B	STR602M10X8-OST	STR700M10X8-OST
10 x 10		STR601M10X10-OST	STR601M10X10-OST-B	STR602M10X10-OST	STR700M10X10-OST
10 x 12	M10 x 1.5 x 16	STR601M10X12-OST	STR601M10X12-OST-B	STR602M10X12-OST	STR700M10X12-OST
10 x 14		STR601M10X14-OST	STR601M10X14-OST-B	—	—
10 x 16		STR601M10X16-OST	STR601M10X16-OST-B	STR602M10X16-OST	STR700M10X16-OST
10 x 18		STR601M10X18-OST	STR601M10X18-OST-B	—	—
10 x 20	M10 x 1.5 x 16	STR601M10X20-OST	STR601M10X20-OST-B	STR602M10X20-OST	STR700M10X20-OST
10 x 25		STR601M10X25-OST	STR601M10X25-OST-B	STR602M10X25-OST	STR700M10X25-OST
10 x 30		STR601M10X30-OST	STR601M10X30-OST-B	STR602M10X30-OST	STR700M10X30-OST
10 x 35		STR601M10X35-OST	STR601M10X35-OST-B	STR602M10X35-OST	—
10 x 40	M10 x 1.5 x 16	STR601M10X40-OST	STR601M10X40-OST-B	STR602M10X40-OST	—
10 x 45		STR601M10X45-OST	STR601M10X45-OST-B	STR602M10X45-OST	—
10 x 50		STR601M10X50-OST	STR601M10X50-OST-B	STR602M10X50-OST	—
10 x 60		STR601M10X60-OST	STR601M10X60-OST-B	—	—
10 x 70	M10 x 1.5 x 16	STR601M10X70-OST	STR601M10X70-OST-B	—	—
10 x 80		STR601M10X80-OST	STR601M10X80-OST-B	—	—
10 x 90		STR601M10X90-OST	STR601M10X90-OST-B	—	—
10 x 100		STR601M10X100-OST	STR601M10X100-OST-B	—	—

**Alloy Steel screws have a Class 6g thread fit.*

Chart continued on next page

Oversized Thread Knurled Head — Metric



STR601M12X6-OST

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	Alloy Steel* Part Number
12 x 6	M12 x 1.75 x 18	STR601M12X6-OST	STR601M12X6-OST-B	STR602M12X6-OST	STR700M12X6-OST
12 x 8		STR601M12X8-OST	STR601M12X8-OST-B	STR602M12X8-OST	STR700M12X8-OST
12 x 10		STR601M12X10-OST	STR601M12X10-OST-B	STR602M12X10-OST	STR700M12X10-OST
12 x 12		STR601M12X12-OST	STR601M12X12-OST-B	STR602M12X12-OST	STR700M12X12-OST
12 x 16	M12 x 1.75 x 18	STR601M12X16-OST	STR601M12X16-OST-B	STR602M12X16-OST	STR700M12X16-OST
12 x 20		STR601M12X20-OST	STR601M12X20-OST-B	STR602M12X20-OST	STR700M12X20-OST
12 x 25		STR601M12X25-OST	STR601M12X25-OST-B	STR602M12X25-OST	STR700M12X25-OST
12 x 30		STR601M12X30-OST	STR601M12X30-OST-B	STR602M12X30-OST	STR700M12X30-OST
12 x 35	M12 x 1.75 x 18	STR601M12X35-OST	STR601M12X35-OST-B	STR602M12X35-OST	—
12 x 40		STR601M12X40-OST	STR601M12X40-OST-B	STR602M12X40-OST	—
12 x 45		STR601M12X45-OST	STR601M12X45-OST-B	STR602M12X45-OST	—
12 x 50		STR601M12X50-OST	STR601M12X50-OST-B	STR602M12X50-OST	—
12 x 60	M12 x 1.75 x 18	STR601M12X60-OST	STR601M12X60-OST-B	—	—
12 x 70		STR601M12X70-OST	STR601M12X70-OST-B	—	—
12 x 80		STR601M12X80-OST	STR601M12X80-OST-B	—	—
12 x 90		STR601M12X90-OST	STR601M12X90-OST-B	—	—
12 x 100	M12 x 1.75 x 18	STR601M12X100-OST	STR601M12X100-OST-B	—	—
12 x 110		STR601M12X110-OST	STR601M12X110-OST-B	—	—
12 x 120		STR601M12X120-OST	STR601M12X120-OST-B	—	—
12 x 130		STR601M12X130-OST	STR601M12X130-OST-B	—	—
12 x 140	M12 x 1.75 x 18	STR601M12X140-OST	STR601M12X140-OST-B	—	—

**Alloy Steel screws have a Class 6g thread fit.*

Chart continued on next page

Oversized Thread Knurled Head — Metric



STR601M16X7-OST



STR601M20X15-OST

16mm Shoulder Diameter

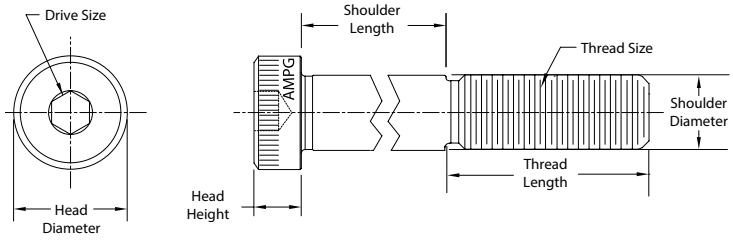
Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number
16 x 7		STR601M16X7-OST	STR601M16X7-OST-B
16 x 20		STR601M16X20-OST	STR601M16X20-OST-B
	M16 x 2 x 22		
16 x 25		STR601M16X25-OST	STR601M16X25-OST-B
16 x 30		STR601M16X30-OST	STR601M16X30-OST-B
16 x 35		STR601M16X35-OST	STR601M16X35-OST-B
16 x 40		STR601M16X40-OST	STR601M16X40-OST-B
	M16 x 2 x 22		
16 x 45		STR601M16X45-OST	STR601M16X45-OST-B
16 x 50		STR601M16X50-OST	STR601M16X50-OST-B
16 x 60		STR601M16X60-OST	STR601M16X60-OST-B
16 x 70		STR601M16X70-OST	STR601M16X70-OST-B
	M16 x 2 x 22		
16 x 80		STR601M16X80-OST	STR601M16X80-OST-B
16 x 90		STR601M16X90-OST	STR601M16X90-OST-B
16 x 100		STR601M16X100-OST	STR601M16X100-OST-B
16 x 110	M16 x 2 x 22	STR601M16X110-OST	STR601M16X110-OST-B
16 x 120		STR601M16X120-OST	STR601M16X120-OST-B

20mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number
20 x 15		STR601M20X15-OST	STR601M20X15-OST-B
20 x 20		STR601M20X20-OST	STR601M20X20-OST-B
	M20 x 2.5 x 27		
20 x 25		STR601M20X25-OST	STR601M20X25-OST-B
20 x 30		STR601M20X30-OST	STR601M20X30-OST-B
20 x 35		STR601M20X35-OST	STR601M20X35-OST-B
20 x 40		STR601M20X40-OST	STR601M20X40-OST-B
	M20 x 2.5 x 27		
20 x 45		STR601M20X45-OST	STR601M20X45-OST-B
20 x 50		STR601M20X50-OST	STR601M20X50-OST-B
20 x 55		STR601M20X55-OST	STR601M20X55-OST-B
20 x 60		STR601M20X60-OST	STR601M20X60-OST-B
	M20 x 2.5 x 27		
20 x 70		STR601M20X70-OST	STR601M20X70-OST-B
20 x 80		STR601M20X80-OST	STR601M20X80-OST-B
20 x 90		STR601M20X90-OST	STR601M20X90-OST-B
20 x 100		STR601M20X100-OST	STR601M20X100-OST-B
	M20 x 2.5 x 27		
20 x 120		STR601M20X120-OST	STR601M20X120-OST-B
20 x 130		STR601M20X130-OST	STR601M20X130-OST-B
20 x 140		STR601M20X140-OST	STR601M20X140-OST-B
	M20 x 2.5 x 27		
20 x 150		STR601M20X150-OST	STR601M20X150-OST-B

Oversized Extended Thread Knurled Head — Inch

These specialty Oversized Shoulder Screws have thread lengths that are twice as long as standard Oversized Thread Shoulder Screws. Longer thread lengths are provided to facilitate fastening of materials using a hex nut and washer while still offering the higher strength properties with the oversized thread. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Dimensions are based on shoulder diameter and meet or exceed ANSI/ASME B18.3. The diameter tolerance is -.002 to -.004 inches and the shoulder length tolerance is ±.005 inches. 18-8 stainless steel screws have a Class 2A thread fit. *Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Inch

Shoulder Dia.	Shoulder Dia. Max. to Min.	Head Dia.	Head Height	Drive Size	*Head Appearance
1/8	.123 to .121	1/4	1/8	5/64	Knurl Only
3/16	.185 to .183	5/16	5/32	3/32	
1/4	.248 to .246	3/8	3/16	1/8	Head Mark and Knurl
5/16	.310 to .308	7/16	7/32	5/32	
3/8	.373 to .371	9/16	1/4	3/16	
1/2	.498 to .496	3/4	5/16	1/4	
5/8	.623 to .621	7/8	3/8	5/16	Head Mark and Knurl
3/4	.748 to .746	1	1/2	3/8	
1	.998 to .996	1-5/16	5/8	1/2	

Head appearance may be knurled and/or head marked. 18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



STR60118C03-OSTX

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
1/8 x 3/16	5-40 x 5/16	STR60118C03-OSTX	STR60118C03-OSTX-BX
1/8 x 1/4		STR60118C04-OSTX	STR60118C04-OSTX-BX
1/8 x 5/16		STR60118C05-OSTX	STR60118C05-OSTX-BX
1/8 x 3/8		STR60118C06-OSTX	STR60118C06-OSTX-BX
1/8 x 1/2	5-40 x 5/16	STR60118C08-OSTX	STR60118C08-OSTX-BX
1/8 x 5/8		STR60118C10-OSTX	STR60118C10-OSTX-BX
1/8 x 3/4		STR60118C12-OSTX	STR60118C12-OSTX-BX
1/8 x 1		STR60118C16-OSTX	STR60118C16-OSTX-BX



STR60131C03-OSTX

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
3/16 x 3/16	10-24 x 3/8	STR60131C03-OSTX	STR60131C03-OSTX-BX
3/16 x 1/4		STR60131C04-OSTX	STR60131C04-OSTX-BX
3/16 x 5/16		STR60131C05-OSTX	STR60131C05-OSTX-BX
3/16 x 3/8		STR60131C06-OSTX	STR60131C06-OSTX-BX
3/16 x 1/2	10-24 x 3/8	STR60131C08-OSTX	STR60131C08-OSTX-BX
3/16 x 5/8		STR60131C10-OSTX	STR60131C10-OSTX-BX
3/16 x 3/4		STR60131C12-OSTX	STR60131C12-OSTX-BX
3/16 x 1		STR60131C16-OSTX	STR60131C16-OSTX-BX
3/16 x 1-1/4	10-24 x 3/8	STR60131C20-OSTX	STR60131C20-OSTX-BX
3/16 x 1-1/2		STR60131C24-OSTX	STR60131C24-OSTX-BX
3/16 x 1-3/4		STR60131C28-OSTX	STR60131C28-OSTX-BX
3/16 x 2		STR60131C32-OSTX	STR60131C32-OSTX-BX

Chart continued on next page

Oversized Extended Thread Knurled Head — Inch

18-8 Stainless Steel — Hex Drive

- Shoulder diameters of 1/4, 5/16, 3/8 and 1/2 meet our internal specification AMPG 2013 OT.01.
- All dimensions are based on shoulder diameter and meet or exceed ANSI/ASME B18.3.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR60114C04-OSTX

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
1/4 x 1/4	1/4-20 x 3/4	STR60114C04-OSTX	STR60114C04-OSTX-BX
1/4 x 5/16		STR60114C05-OSTX	STR60114C05-OSTX-BX
1/4 x 3/8		STR60114C06-OSTX	STR60114C06-OSTX-BX
1/4 x 1/2		STR60114C08-OSTX	STR60114C08-OSTX-BX
1/4 x 5/8	1/4-20 x 3/4	STR60114C10-OSTX	STR60114C10-OSTX-BX
1/4 x 3/4		STR60114C12-OSTX	STR60114C12-OSTX-BX
1/4 x 1		STR60114C16-OSTX	STR60114C16-OSTX-BX
1/4 x 1-1/4		STR60114C20-OSTX	STR60114C20-OSTX-BX
1/4 x 1-1/2	1/4-20 x 3/4	STR60114C24-OSTX	STR60114C24-OSTX-BX
1/4 x 1-3/4		STR60114C28-OSTX	STR60114C28-OSTX-BX
1/4 x 2		STR60114C32-OSTX	STR60114C32-OSTX-BX
1/4 x 2-1/4		STR60114C36-OSTX	STR60114C36-OSTX-BX
1/4 x 2-1/2	1/4-20 x 3/4	STR60114C40-OSTX	STR60114C40-OSTX-BX
1/4 x 2-3/4		STR60114C44-OSTX	STR60114C44-OSTX-BX
1/4 x 3		STR60114C48-OSTX	STR60114C48-OSTX-BX
1/4 x 3-1/2		STR60114C56-OSTX	STR60114C56-OSTX-BX
1/4 x 4	1/4-20 x 3/4	STR60114C64-OSTX	STR60114C64-OSTX-BX



STR60151C04-OSTX

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
5/16 x 1/4	5/16-18 x 7/8	STR60151C04-OSTX	STR60151C04-OSTX-BX
5/16 x 3/8		STR60151C06-OSTX	STR60151C06-OSTX-BX
5/16 x 1/2		STR60151C08-OSTX	STR60151C08-OSTX-BX
5/16 x 5/8		STR60151C10-OSTX	STR60151C10-OSTX-BX
5/16 x 3/4	5/16-18 x 7/8	STR60151C12-OSTX	STR60151C12-OSTX-BX
5/16 x 1		STR60151C16-OSTX	STR60151C16-OSTX-BX
5/16 x 1-1/4		STR60151C20-OSTX	STR60151C20-OSTX-BX
5/16 x 1-1/2		STR60151C24-OSTX	STR60151C24-OSTX-BX
5/16 x 1-3/4	5/16-18 x 7/8	STR60151C28-OSTX	STR60151C28-OSTX-BX
5/16 x 2		STR60151C32-OSTX	STR60151C32-OSTX-BX
5/16 x 2-1/4		STR60151C36-OSTX	STR60151C36-OSTX-BX
5/16 x 2-1/2		STR60151C40-OSTX	STR60151C40-OSTX-BX
5/16 x 2-3/4	5/16-18 x 7/8	STR60151C44-OSTX	STR60151C44-OSTX-BX
5/16 x 3		STR60151C48-OSTX	STR60151C48-OSTX-BX
5/16 x 3-1/2		STR60151C56-OSTX	STR60151C56-OSTX-BX
5/16 x 4		STR60151C64-OSTX	STR60151C64-OSTX-BX
5/16 x 4-1/2	5/16-18 x 7/8	STR60151C72-OSTX	STR60151C72-OSTX-BX
5/16 x 5		STR60151C80-OSTX	STR60151C80-OSTX-BX

Chart continued on next page

Oversized Extended Thread Knurled Head — Inch



STR60138C04-OSTX



STR60112C04-OSTX

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
3/8 x 1/4	3/8-16 x 1	STR60138C04-OSTX	STR60138C04-OSTX-BX
3/8 x 5/16		STR60138C05-OSTX	STR60138C05-OSTX-BX
3/8 x 3/8		STR60138C06-OSTX	STR60138C06-OSTX-BX
3/8 x 1/2		STR60138C08-OSTX	STR60138C08-OSTX-BX
3/8 x 5/8	3/8-16 x 1	STR60138C10-OSTX	STR60138C10-OSTX-BX
3/8 x 3/4		STR60138C12-OSTX	STR60138C12-OSTX-BX
3/8 x 1		STR60138C16-OSTX	STR60138C16-OSTX-BX
3/8 x 1-1/4		STR60138C20-OSTX	STR60138C20-OSTX-BX
3/8 x 1-1/2	3/8-16 x 1	STR60138C24-OSTX	STR60138C24-OSTX-BX
3/8 x 1-3/4		STR60138C28-OSTX	STR60138C28-OSTX-BX
3/8 x 2		STR60138C32-OSTX	STR60138C32-OSTX-BX
3/8 x 2-1/4	3/8-16 x 1	STR60138C36-OSTX	STR60138C36-OSTX-BX
3/8 x 2-1/2		STR60138C40-OSTX	STR60138C40-OSTX-BX
3/8 x 2-3/4		STR60138C44-OSTX	STR60138C44-OSTX-BX
3/8 x 3	3/8-16 x 1	STR60138C48-OSTX	STR60138C48-OSTX-BX
3/8 x 3-1/2		STR60138C56-OSTX	STR60138C56-OSTX-BX
3/8 x 4		STR60138C64-OSTX	STR60138C64-OSTX-BX
3/8 x 4-1/2		STR60138C72-OSTX	STR60138C72-OSTX-BX
3/8 x 5	3/8-16 x 1	STR60138C80-OSTX	STR60138C80-OSTX-BX

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
1/2 x 1/4	1/2-13 x 1-1/4	STR60112C04-OSTX	STR60112C04-OSTX-BX
1/2 x 5/16		STR60112C05-OSTX	STR60112C05-OSTX-BX
1/2 x 3/8		STR60112C06-OSTX	STR60112C06-OSTX-BX
1/2 x 1/2		STR60112C08-OSTX	STR60112C08-OSTX-BX
1/2 x 5/8	1/2-13 x 1-1/4	STR60112C10-OSTX	STR60112C10-OSTX-BX
1/2 x 3/4		STR60112C12-OSTX	STR60112C12-OSTX-BX
1/2 x 1		STR60112C16-OSTX	STR60112C16-OSTX-BX
1/2 x 1-1/4		STR60112C20-OSTX	STR60112C20-OSTX-BX
1/2 x 1-1/2	1/2-13 x 1-1/4	STR60112C24-OSTX	STR60112C24-OSTX-BX
1/2 x 1-3/4		STR60112C28-OSTX	STR60112C28-OSTX-BX
1/2 x 2		STR60112C32-OSTX	STR60112C32-OSTX-BX
1/2 x 2-1/4		STR60112C36-OSTX	STR60112C36-OSTX-BX
1/2 x 2-1/2	1/2-13 x 1-1/4	STR60112C40-OSTX	STR60112C40-OSTX-BX
1/2 x 2-3/4		STR60112C44-OSTX	STR60112C44-OSTX-BX
1/2 x 3		STR60112C48-OSTX	STR60112C48-OSTX-BX
1/2 x 3-1/2		STR60112C56-OSTX	STR60112C56-OSTX-BX
1/2 x 4	1/2-13 x 1-1/4	STR60112C64-OSTX	STR60112C64-OSTX-BX
1/2 x 4-1/2		STR60112C72-OSTX	STR60112C72-OSTX-BX
1/2 x 5		STR60112C80-OSTX	STR60112C80-OSTX-BX
1/2 x 5-1/2		STR60112C88-OSTX	STR60112C88-OSTX-BX
1/2 x 6	1/2-13 x 1-1/4	STR60112C96-OSTX	STR60112C96-OSTX-BX

Chart continued on next page

Oversized Extended Thread Knurled Head — Inch



STR60158C05-OSTX

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
5/8 x 5/16	5/8-11 x 1-1/2	STR60158C05-OSTX	STR60158C05-OSTX-BX
5/8 x 3/8		STR60158C06-OSTX	STR60158C06-OSTX-BX
5/8 x 1/2		STR60158C08-OSTX	STR60158C08-OSTX-BX
5/8 x 5/8		STR60158C10-OSTX	STR60158C10-OSTX-BX
5/8 x 3/4	5/8-11 x 1-1/2	STR60158C12-OSTX	STR60158C12-OSTX-BX
5/8 x 7/8		STR60158C14-OSTX	STR60158C14-OSTX-BX
5/8 x 1		STR60158C16-OSTX	STR60158C16-OSTX-BX
5/8 x 1-1/4		STR60158C20-OSTX	STR60158C20-OSTX-BX
5/8 x 1-3/8	5/8-11 x 1-1/2	STR60158C22-OSTX	STR60158C22-OSTX-BX
5/8 x 1-1/2		STR60158C24-OSTX	STR60158C24-OSTX-BX
5/8 x 1-3/4		STR60158C28-OSTX	STR60158C28-OSTX-BX
5/8 x 2		STR60158C32-OSTX	STR60158C32-OSTX-BX
5/8 x 2-1/4	5/8-11 x 1-1/2	STR60158C36-OSTX	STR60158C36-OSTX-BX
5/8 x 2-1/2		STR60158C40-OSTX	STR60158C40-OSTX-BX
5/8 x 2-3/4		STR60158C44-OSTX	STR60158C44-OSTX-BX
5/8 x 3		STR60158C48-OSTX	STR60158C48-OSTX-BX
5/8 x 3-1/2	5/8-11 x 1-1/2	STR60158C56-OSTX	STR60158C56-OSTX-BX
5/8 x 4		STR60158C64-OSTX	STR60158C64-OSTX-BX
5/8 x 4-1/2		STR60158C72-OSTX	STR60158C72-OSTX-BX
5/8 x 5		STR60158C80-OSTX	STR60158C80-OSTX-BX
5/8 x 5-1/2	5/8-11 x 1-1/2	STR60158C88-OSTX	STR60158C88-OSTX-BX
5/8 x 6		STR60158C96-OSTX	STR60158C96-OSTX-BX



STR60134C08-OSTX

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
3/4 x 1/2	3/4-10 x 1-3/4	STR60134C08-OSTX	STR60134C08-OSTX-BX
3/4 x 5/8		STR60134C10-OSTX	STR60134C10-OSTX-BX
3/4 x 3/4		STR60134C12-OSTX	STR60134C12-OSTX-BX
3/4 x 1		STR60134C16-OSTX	STR60134C16-OSTX-BX
3/4 x 1-1/4	3/4-10 x 1-3/4	STR60134C20-OSTX	STR60134C20-OSTX-BX
3/4 x 1-1/2		STR60134C24-OSTX	STR60134C24-OSTX-BX
3/4 x 1-3/4		STR60134C28-OSTX	STR60134C28-OSTX-BX
3/4 x 2		STR60134C32-OSTX	STR60134C32-OSTX-BX
3/4 x 2-1/4	3/4-10 x 1-3/4	STR60134C36-OSTX	STR60134C36-OSTX-BX
3/4 x 2-1/2		STR60134C40-OSTX	STR60134C40-OSTX-BX
3/4 x 2-3/4		STR60134C44-OSTX	STR60134C44-OSTX-BX
3/4 x 3		STR60134C48-OSTX	STR60134C48-OSTX-BX
3/4 x 3-1/2	3/4-10 x 1-3/4	STR60134C56-OSTX	STR60134C56-OSTX-BX
3/4 x 4		STR60134C64-OSTX	STR60134C64-OSTX-BX
3/4 x 4-1/2		STR60134C72-OSTX	STR60134C72-OSTX-BX
3/4 x 5		STR60134C80-OSTX	STR60134C80-OSTX-BX
3/4 x 5-1/2	3/4-10 x 1-3/4	STR60134C88-OSTX	STR60134C88-OSTX-BX
3/4 x 6		STR60134C96-OSTX	STR60134C96-OSTX-BX



STR60101C16-OSTX

1 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	18-8 SS, Black Oxide Part Number
1 x 1	1-8 x 2	STR60101C16-OSTX	STR60101C16-OSTX-BX
1 x 1-1/2		STR60101C24-OSTX	STR60101C24-OSTX-BX
1 x 1-3/4		STR60101C28-OSTX	STR60101C28-OSTX-BX
1 x 2		STR60101C32-OSTX	STR60101C32-OSTX-BX
1 x 2-1/2	1-8 x 2	STR60101C40-OSTX	STR60101C40-OSTX-BX
1 x 3		STR60101C48-OSTX	STR60101C48-OSTX-BX
1 x 3-1/2		STR60101C56-OSTX	STR60101C56-OSTX-BX
1 x 4		STR60101C64-OSTX	STR60101C64-OSTX-BX
1 x 5	1-8 x 2	STR60101C80-OSTX	STR60101C80-OSTX-BX
1 x 6		STR60101C96-OSTX	STR60101C96-OSTX-BX

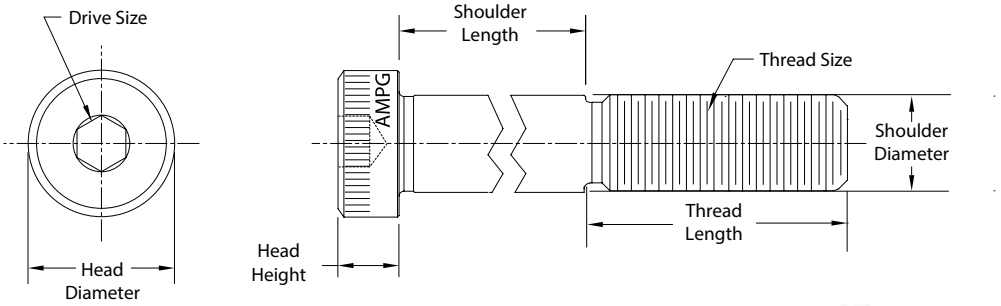
Oversized Extended Thread Knurled Head — Metric

These specialty Oversized Shoulder Screws have thread lengths that are twice as long as standard Oversized Thread Shoulder Screws. Longer thread lengths are provided to facilitate fastening of materials using a hex nut and washer while still offering the higher strength properties with the oversized thread. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. The diameter tolerance is -.01mm to -.04mm and the shoulder length tolerance is +.25mm to -.0mm. Screws have a Class 5g6g thread fit. *Heads are knurled, stamped, or both to provide finger grip.

Dimensions and Tolerance Table — Metric, mm

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
3	2.99 to 2.96	5.00	2.00	2	Knurl Only *(Screws produced prior to 2/1/2021 may have finger-grip AMPG Mark only)*
4	3.99 to 3.96	6.00	3.00	2	
5	4.99 to 4.96	9.00	4.00	2.5	
6	5.99 to 5.96	10.00	4.50	3	Head Mark Only
8	7.99 to 7.96	13.00	5.50	4	Head Mark and Knurl
10	9.99 to 9.96	16.00	7.00	5	
12	11.99 to 11.96	18.00	9.00	6	

Head appearance may be knurled and/or head marked. 18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.





STR601M3X4-OSTX



STR601M4X4-OSTX



STR601M5X4-OSTX

3mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
3 x 4	M3 x 0.5 x 8	STR601M3X4-OSTX
3 x 5		STR601M3X5-OSTX
3 x 6		STR601M3X6-OSTX
3 x 8		STR601M3X8-OSTX
3 x 10	M3 x 0.5 x 8	STR601M3X10-OSTX
3 x 12		STR601M3X12-OSTX
3 x 16		STR601M3X16-OSTX

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
4 x 4	M4 x 0.7 x 9	STR601M4X4-OSTX
4 x 5		STR601M4X5-OSTX
4 x 6		STR601M4X6-OSTX
4 x 8		STR601M4X8-OSTX
4 x 10	M4 x 0.7 x 9	STR601M4X10-OSTX
4 x 12		STR601M4X12-OSTX
4 x 16		STR601M4X16-OSTX
4 x 20		STR601M4X20-OSTX
4 x 25	M4 x 0.7 x 9	STR601M4X25-OSTX
4 x 30		STR601M4X30-OSTX

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
5 x 4	M5 x 0.8 x 18	STR601M5X4-OSTX
5 x 5		STR601M5X5-OSTX
5 x 6		STR601M5X6-OSTX
5 x 8		STR601M5X8-OSTX
5 x 10	M5 x 0.8 x 18	STR601M5X10-OSTX
5 x 12		STR601M5X12-OSTX
5 x 16		STR601M5X16-OSTX
5 x 20		STR601M5X20-OSTX
5 x 25	M5 x 0.8 x 18	STR601M5X25-OSTX
5 x 30		STR601M5X30-OSTX

Chart continued on next page

Oversized Extended Thread Knurled Head — Metric

18-8 Stainless Steel (A2), 316 Stainless Steel (A4), and Alloy Steel — Hex Drive

- Shoulder diameters of 6, 8, 10 and 12mm meet our internal specification AMPG 2013 OT.02.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 (A2) and 316 (A4) stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR601M6X4-OSTX

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
6 x 4	M6 x 1 x 22	STR601M6X4-OSTX
6 x 5		STR601M6X5-OSTX
6 x 6		STR601M6X6-OSTX
6 x 8		STR601M6X8-OSTX
6 x 10	M6 x 1 x 22	STR601M6X10-OSTX
6 x 12		STR601M6X12-OSTX
6 x 16		STR601M6X16-OSTX
6 x 20		STR601M6X20-OSTX
6 x 25	M6 x 1 x 22	STR601M6X25-OSTX
6 x 30		STR601M6X30-OSTX
6 x 35		STR601M6X35-OSTX
6 x 40		STR601M6X40-OSTX
6 x 45	M6 x 1 x 22	STR601M6X45-OSTX
6 x 50		STR601M6X50-OSTX



STR601M8X6-OSTX

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
8 x 6	M8 x 1.25 x 25	STR601M8X6-OSTX
8 x 8		STR601M8X8-OSTX
8 x 10		STR601M8X10-OSTX
8 x 12		STR601M8X12-OSTX
8 x 16	M8 x 1.25 x 25	STR601M8X16-OSTX
8 x 20		STR601M8X20-OSTX
8 x 25		STR601M8X25-OSTX
8 x 30		STR601M8X30-OSTX
8 x 35	M8 x 1.25 x 25	STR601M8X35-OSTX
8 x 40		STR601M8X40-OSTX
8 x 45		STR601M8X45-OSTX
8 x 50		STR601M8X50-OSTX



STR601M10X6-OSTX

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
10 x 6	M10 x 1.5 x 30	STR601M10X6-OSTX
10 x 8		STR601M10X8-OSTX
10 x 10		STR601M10X10-OSTX
10 x 12		STR601M10X12-OSTX
10 x 16	M10 x 1.5 x 30	STR601M10X16-OSTX
10 x 20		STR601M10X20-OSTX
10 x 25		STR601M10X25-OSTX
10 x 30		STR601M10X30-OSTX
10 x 35	M10 x 1.5 x 30	STR601M10X35-OSTX
10 x 40		STR601M10X40-OSTX
10 x 45		STR601M10X45-OSTX
10 x 50		STR601M10X50-OSTX



STR601M12X6-OSTX

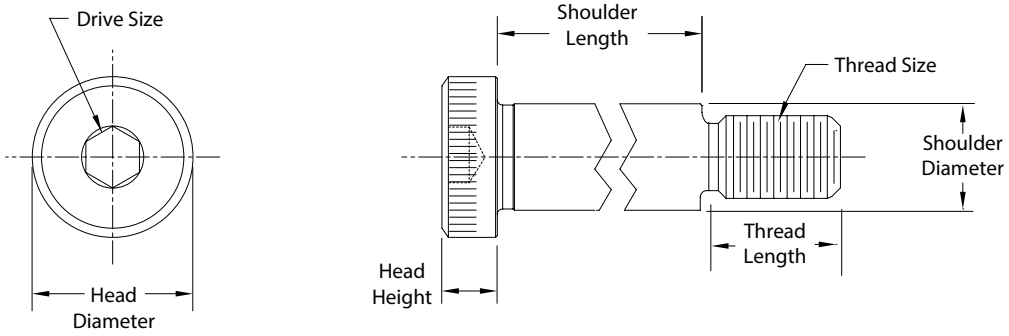
12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
12 x 6	M12 x 1.75 x 35	STR601M12X6-OSTX
12 x 8		STR601M12X8-OSTX
12 x 10		STR601M12X10-OSTX
12 x 12		STR601M12X12-OSTX
12 x 16	M12 x 1.75 x 35	STR601M12X16-OSTX
12 x 20		STR601M12X20-OSTX
12 x 25		STR601M12X25-OSTX
12 x 30		STR601M12X30-OSTX
12 x 35	M12 x 1.75 x 35	STR601M12X35-OSTX
12 x 40		STR601M12X40-OSTX
12 x 45		STR601M12X45-OSTX
12 x 50		STR601M12X50-OST
12 x 60	M12 x 1.75 x 35	STR601M12X60-OSTX

Low Profile Knurled Head Shoulder Screw — Inch

Alloy Steel — Black Oxide — Hex Drive

These speciality shoulder screws have 2/3 the head height of a standard shoulder screw. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Shoulder length tolerance is ±.005 inches. Alloy Steel Screw material exceeds Grade 8 steel in strength and has a black-oxide finish. Screws have a Class 3A thread fit. *Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
1/4	.248 to .246	3/8	1/8	1/8	Knurl Only
5/16	.310 to .308	7/16	9/64	5/32	
3/8	.373 to .371	9/16	11/64	3/16	
1/2	.498 to .496	3/4	13/64	1/4	

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ISO 9001:2015 CERTIFIED COMPANY
MADE IN THE USA

Low Profile Knurled Head Shoulder Screw — Inch

Alloy Steel — Black Oxide — Hex Drive

- Steel Alloy Shoulder Screws meet our internal specification AMPG 2018 LOW.04.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Certified test reports are available for both the corrosion resistance and physical properties.
- Black oxide finish offers mild resistance from rust.



STR70014C04-LOW

1/4 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
1/4 x 1/4	10-24 x 3/8	STR70014C04-LOW
1/4 x 3/8		STR70014C06-LOW
1/4 x 1/2		STR70014C08-LOW
1/4 x 5/8		STR70014C10-LOW
1/4 x 3/4	10-24 x 3/8	STR70014C12-LOW
1/4 x 1		STR70014C16-LOW
1/4 x 1-1/4		STR70014C20-LOW
1/4 x 1-1/2		STR70014C24-LOW



STR70051C04-LOW

5/16 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
5/16 x 1/4	1/4-20 x 7/16	STR70051C04-LOW
5/16 x 3/8		STR70051C06-LOW
5/16 x 1/2		STR70051C08-LOW
5/16 x 5/8		STR70051C10-LOW
5/16 x 3/4	1/4-20 x 7/16	STR70051C12-LOW
5/16 x 1		STR70051C16-LOW
5/16 x 1-1/4		STR70051C20-LOW
5/16 x 1-1/2		STR70051C24-LOW



STR70038C04-LOW

3/8 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
3/8 x 1/4	5/16-18 x 1/2	STR70038C04-LOW
3/8 x 3/8		STR70038C06-LOW
3/8 x 1/2		STR70038C08-LOW
3/8 x 5/8		STR70038C10-LOW
3/8 x 3/4	5/16-18 x 1/2	STR70038C12-LOW
3/8 x 1		STR70038C16-LOW
3/8 x 1-1/4		STR70038C20-LOW
3/8 x 1-1/2		STR70038C24-LOW



STR70012C06-LOW

1/2 Shoulder Diameter

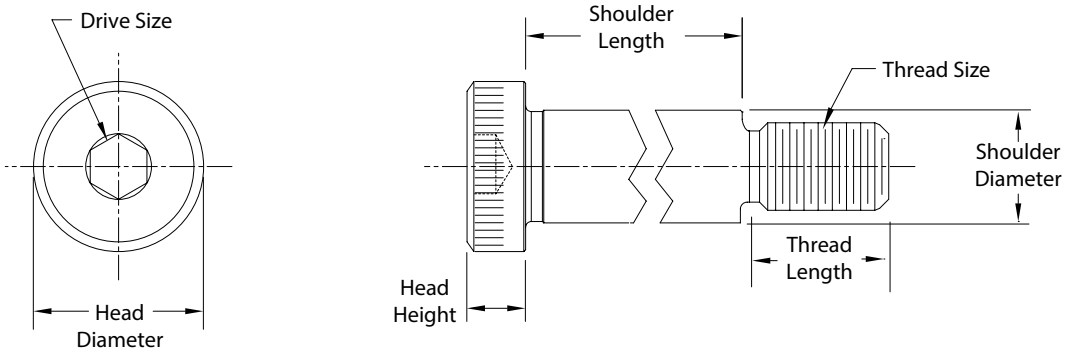
Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
1/2 x 3/8	3/8-16 x 5/8	STR70012C06-LOW
1/2 x 1/2		STR70012C08-LOW
1/2 x 5/8		STR70012C10-LOW
1/2 x 3/4		STR70012C12-LOW
1/2 x 1	3/8-16 x 5/8	STR70012C16-LOW
1/2 x 1-1/4		STR70012C20-LOW
1/2 x 1-1/2		STR70012C24-LOW
1/2 x 2		STR70012C32-LOW

Chart continued on next page

Low Profile Knurled Head Shoulder Screw — Metric

Alloy Steel — Black Oxide — Hex Drive

These speciality shoulder screws have 2/3 the head height of a standard shoulder screw. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Shoulder length tolerance is +.25mm/-.0mm. Alloy Steel Screw material exceeds Grade 8 steel in strength and has a black-oxide finish. Screws have a Class 5g6g thread fit. *Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Metric, mm

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	*Head Appearance
6	5.99 to 5.96	10.00	3.00	3	Knurl Only
8	7.99 to 7.96	13.00	3.50	4	
10	9.99 to 9.96	16.00	4.50	5	
12	11.99 to 11.96	18.00	6.00	6	

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MADE IN THE USA

Low Profile Knurled Head Shoulder Screw — Metric

Alloy Steel — Black Oxide — Hex Drive

- Steel Alloy Shoulder Screws meet our internal specification AMPG 2018 LOW.05.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Certified test reports are available for both the corrosion resistance and physical properties.
- Black oxide finish offers mild resistance from rust.



STR700M6X8-LOW

6mm Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
6 x 8	M5 x 0.8 x 10	STR700M6X8-LOW
6 x 10		STR700M6X10-LOW
6 x 12		STR700M6X12-LOW
6 x 16		STR700M6X16-LOW
6 x 20	M5 x 0.8 x 10	STR700M6X20-LOW
6 x 25		STR700M6X25-LOW
6 x 30		STR700M6X30-LOW



STR700M8X6-LOW

8mm Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
8 x 6	M6 x 1 x 11	STR700M8X6-LOW
8 x 8		STR700M8X8-LOW
8 x 10		STR700M8X10-LOW
8 x 12		STR700M8X12-LOW
8 x 16	M6 x 1 x 11	STR700M8X16-LOW
8 x 20		STR700M8X20-LOW
8 x 25		STR700M8X25-LOW
8 x 30		STR700M8X30-LOW



STR700M10X10-LOW

10mm Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
10 x 10	M8 x 1.25 x 13	STR700M10X10-LOW
10 x 12		STR700M10X12-LOW
10 x 16		STR700M10X16-LOW
10 x 20		STR700M10X20-LOW
10 x 25	M8 x 1.25 x 13	STR700M10X25-LOW
10 x 30		STR700M10X30-LOW
10 x 45		STR700M10X45-LOW



STR700M12X12-LOW

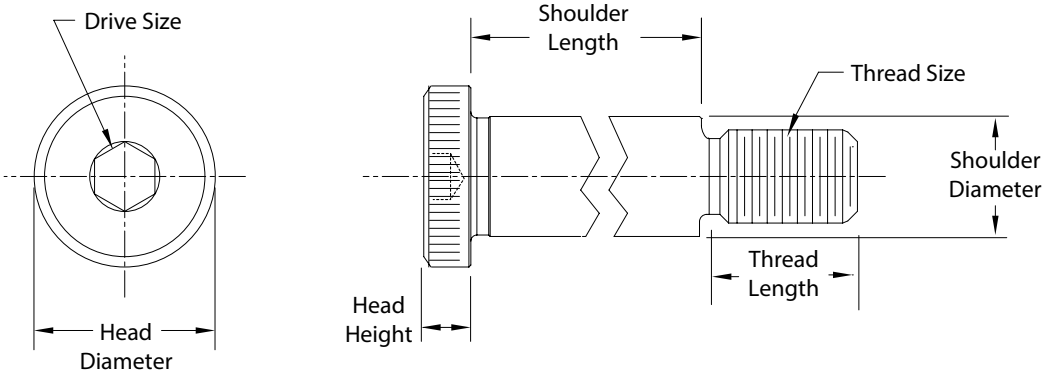
12mm Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
12 x 12	M10 x 1.5 x 16	STR700M12X12-LOW
12 x 16		STR700M12X16-LOW
12 x 20		STR700M12X20-LOW
12 x 25		STR700M12X25-LOW
12 x 30	M10 x 1.5 x 16	STR700M12X30-LOW

Ultra Low Profile Knurled Head Shoulder Screw — Inch

Alloy Steel — Black Oxide — Hex Drive

These speciality shoulder screws have 1/3 the head height of a standard shoulder screw. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Shoulder length tolerance is ±.005 inches. Alloy Steel Screw material exceeds Grade 8 steel in strength and has a black-oxide finish. Screws have a Class 3A thread fit. Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Inch					
Shoulder Diameter	**Shoulder Diameter** Max. to Min.	**Head Diameter**	**Head Height**	**Drive Size**	***Head Appearance**
1/4	.248 to .246	3/8	1/16	1/8	Knurl Only
5/16	.310 to .308	7/16	5/64	5/32	
3/8	.373 to .371	9/16	5/64	3/16	
1/2	.498 to .496	3/4	7/64	1/4	

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MADE IN THE USA

Ultra Low Profile Knurled Head Shoulder Screw — Inch

Alloy Steel — Black Oxide — Hex Drive

- Steel Alloy Shoulder Screws meet our internal specification AMPG 2018 ULT.04.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Certified test reports are available for both the corrosion resistance and physical properties.
- Black oxide finish offers mild resistance from rust.



STR70014C04-ULTRA

1/4 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
1/4 x 1/4	10-24 x 3/8	STR70014C04-ULTRA
1/4 x 3/8		STR70014C06-ULTRA
1/4 x 1/2		STR70014C08-ULTRA
1/4 x 5/8		STR70014C10-ULTRA
1/4 x 3/4	10-24 x 3/8	STR70014C12-ULTRA
1/4 x 1		STR70014C16-ULTRA
1/4 x 1-1/4		STR70014C20-ULTRA
1/4 x 1-1/2		STR70014C24-ULTRA



STR70051C04-ULTRA

5/16 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
5/16 x 1/4	1/4-20 x 7/16	STR70051C04-ULTRA
5/16 x 3/8		STR70051C06-ULTRA
5/16 x 1/2		STR70051C08-ULTRA
5/16 x 5/8		STR70051C10-ULTRA
5/16 x 3/4	1/4-20 x 7/16	STR70051C12-ULTRA
5/16 x 1		STR70051C16-ULTRA
5/16 x 1-1/4		STR70051C20-ULTRA
5/16 x 1-1/2		STR70051C24-ULTRA



STR70038C03-ULTRA

3/8 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
3/8 x 3/16	5/16-18 x 1/2	STR70038C03-ULTRA
3/8 x 1/4		STR70038C04-ULTRA
3/8 x 3/8		STR70038C06-ULTRA
3/8 x 1/2		STR70038C08-ULTRA
3/8 x 5/8	5/16-18 x 1/2	STR70038C10-ULTRA
3/8 x 3/4		STR70038C12-ULTRA
3/8 x 1		STR70038C16-ULTRA
3/8 x 1-1/4		STR70038C20-ULTRA
3/8 x 1-1/2		STR70038C24-ULTRA



STR70012C06-ULTRA

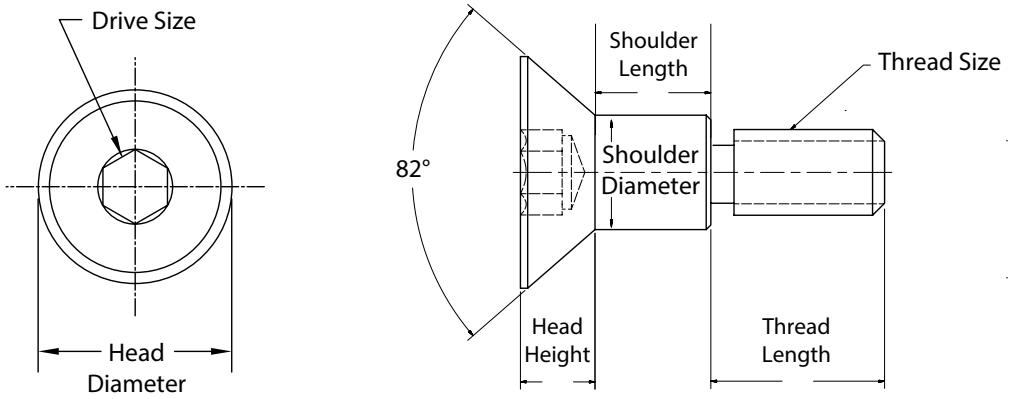
1/2 Shoulder Diameter

Shoulder Length	Thread Size x Lg.	Alloy Steel Part Number
1/2 x 3/8	3/8-16 x 5/8	STR70012C06-ULTRA
1/2 x 1/2		STR70012C08-ULTRA
1/2 x 5/8		STR70012C10-ULTRA
1/2 x 3/4		STR70012C12-ULTRA
1/2 x 1	3/8-16 x 5/8	STR70012C16-ULTRA
1/2 x 1-1/4		STR70012C20-ULTRA
1/2 x 1-1/2		STR70012C24-ULTRA
1/2 x 2		STR70012C32-ULTRA

Flat 82° Head — Inch

18-8 Stainless Steel — Hex Drive

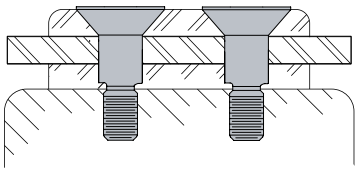
Flat head screws are angled under the head to sit flush within countersunk holes. Head angle is 82°. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Shoulder length tolerance is ± .005 inches. Screws have a Class 3A thread fit. Length is measured from top of head.



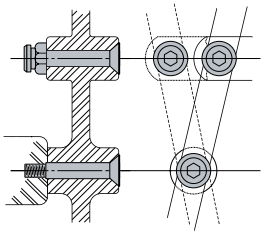
Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Undercut Dia. x Lg.	Drive Size
1/4	.248 to .246	1/2	11/64	.133 x .050	5/32
5/16	.310 to .308	5/8	13/64	.184 x .060	3/16
3/8	.373 to .371	3/4	15/64	.238 x .080	7/32
1/2	.498 to .496	15/16	17/64	.292 x .080	5/16

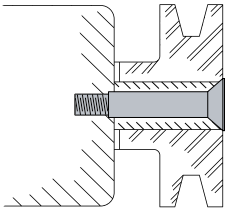
18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



Shoulder Screw as a Guide



Shoulder Screw as a Pivot Point



Shoulder Screw as a Shaft



To extend the shoulder length of a screw, spin a lengthening shim over the threads until it rests under the shoulder.

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ISO 9001:2015 CERTIFIED COMPANY

MADE IN THE USA

Flat 82° Head — Inch

18-8 Stainless Steel — Hex Drive

- Shoulder diameters of 1/4, 5/16, 3/8 and 1/2 meet our internal specification AMPG 2017 CS.01.
- All dimensions are based on shoulder diameter and meet or exceed ANSI/ASME B18.3.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR63014C04

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
1/4 x 1/4	10-24 x 3/8	STR63014C04
1/4 x 3/8		STR63014C06
1/4 x 1/2		STR63014C08
1/4 x 5/8		STR63014C10
1/4 x 3/4	10-24 x 3/8	STR63014C12
1/4 x 1		STR63014C16
1/4 x 1-1/4		STR63014C20
1/4 x 1-1/2		STR63014C24
1/4 x 2	10-24 x 3/8	STR63014C32



STR63051C04

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
5/16 x 1/4	1/4-20 x 7/16	STR63051C04
5/16 x 3/8		STR63051C06
5/16 x 1/2		STR63051C08
5/16 x 5/8		STR63051C10
5/16 x 3/4	1/4-20 x 7/16	STR63051C12
5/16 x 1		STR63051C16
5/16 x 1-1/4		STR63051C20
5/16 x 1-1/2		STR63051C24
5/16 x 2	1/4-20 x 7/16	STR63051C32



STR63038C04

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
3/8 x 1/4	5/16-18 x 1/2	STR63038C04
3/8 x 3/8		STR63038C06
3/8 x 1/2		STR63038C08
3/8 x 5/8		STR63038C10
3/8 x 3/4	5/16-18 x 1/2	STR63038C12
3/8 x 1		STR63038C16
3/8 x 1-1/4		STR63038C20
3/8 x 1-1/2		STR63038C24
3/8 x 2	5/16-18 x 1/2	STR63038C32



STR63012C04

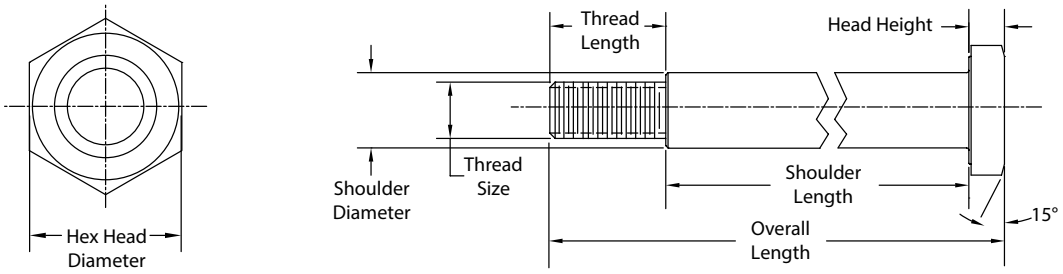
1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
1/2 x 1/4	3/8-16 x 5/8	STR63012C04
1/2 x 3/8		STR63012C06
1/2 x 1/2		STR63012C08
1/2 x 5/8		STR63012C10
1/2 x 3/4	3/8-16 x 5/8	STR63012C12
1/2 x 1		STR63012C16
1/2 x 1-1/4		STR63012C20
1/2 x 1-1/2		STR63012C24
1/2 x 2	3/8-16 x 5/8	STR63012C32

External Wrenching Hex Head — Inch

18-8 SS and Zinc-Plated Steel — Hex Head

Also known as lawn mower bolts for their use as the wheel axle for lawn mowers. These can be used for the same basic applications as our stripper bolts, but with a hex head for wrenching. Produced on our Swiss CNC lathes (not headed or forged) these screws are made in the USA from DFARS compliant materials and lot traceable. Available in corrosion resistant stainless steel and zinc-plated grade 2 steel. The shoulder diameter tolerance is +0 to -.004 inches and the shoulder length tolerance is ±.005 inches. These screws have a Class 2A thread fit.



Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Hex Head Across Flats	Head Height
3/8	.375 to .371	5/8	3/16
1/2	.500 to .496	3/4	1/4

18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



Z0800SS



Z0710SS

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Zinc-Plated Steel Part Number
3/8 x 1-5/16	1/4-20 x 3/4	Z0800SS	Z0800
3/8 x 1-3/8		Z0801SS	Z0801
3/8 x 1-7/16		Z0802SS	Z0802
3/8 x 1-1/2		Z0803SS	Z0803
3/8 x 1-9/16	1/4-20 x 3/4	Z0804SS	Z0804
3/8 x 1-5/8		Z0805SS	Z0805
3/8 x 1-3/4		Z0806SS	Z0806
3/8 x 1-7/8		Z0807SS	Z0807
3/8 x 2	1/4-20 x 3/4	Z0808SS	Z0808
3/8 x 2-1/8		Z0809SS	Z0809
3/8 x 2-1/4		Z0810SS	Z0810
3/8 x 2-1/2		Z0811SS	Z0811

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Zinc-Plated Steel Part Number
1/2 x 1-5/16	3/8-16 x 3/4	Z0710SS	Z0710
1/2 x 1-3/8		Z0711SS	Z0711
1/2 x 1-7/16		Z0712SS	Z0712
1/2 x 1-1/2		Z0713SS	Z0713
1/2 x 1-9/16	3/8-16 x 3/4	Z0714SS	Z0714
1/2 x 1-5/8		Z0715SS	Z0715
1/2 x 1-3/4		Z0716SS	Z0716
1/2 x 1-7/8		Z0717SS	Z0717
1/2 x 2	3/8-16 x 3/4	Z0718SS	Z0718
1/2 x 2-1/8		Z0719SS	Z0719
1/2 x 2-1/4		Z0721SS	Z0721
1/2 x 2-1/2		Z0725SS	Z0725

Double Drive Knurled Head — Inch

18-8 Stainless Steel — Hex Drive

- Shoulder diameters of 3/16, 1/4, 5/16 and 3/8 meet our internal specification AMPG 2013 DD.01. Dimensions based on ANSI/ASME B18.3.
- Screws have an additional internal hex socket drive at the threaded end of the screw with a Class 3A fit. Tighten and loosen from either end of the screw.
- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR60131C02-DD

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
3/16 x 1/8	8-32 x 3/16	STR60131C02-DD
3/16 x 3/16		STR60131C03-DD
3/16 x 1/4		STR60131C04-DD
3/16 x 5/16		STR60131C05-DD
3/16 x 3/8	8-32 x 3/16	STR60131C06-DD
3/16 x 1/2		STR60131C08-DD
3/16 x 5/8		STR60131C10-DD
3/16 x 3/4		STR60131C12-DD
3/16 x 1	8-32 x 3/16	STR60131C16-DD



STR60151C04-DD

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
5/16 x 1/4	1/4-20 x 7/16	STR60151C04-DD
5/16 x 3/8		STR60151C06-DD
5/16 x 1/2		STR60151C08-DD
5/16 x 3/4		STR60151C12-DD
5/16 x 1	1/4-20 x 7/16	STR60151C16-DD

Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Drive Size Both Ends
3/16	.185 to .183	.05
1/4	.248 to .246	3/32
5/16	.310 to .308	1/8
3/8	.373 to .371	1/8

18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar. Parts are knurled, or stamped, or both for Head Appearance.



STR60114C04-DD

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
1/4 x 1/4	10-24 x 3/8	STR60114C04-DD
1/4 x 3/8		STR60114C06-DD
1/4 x 1/2		STR60114C08-DD
1/4 x 5/8		STR60114C10-DD
1/4 x 3/4	10-24 x 3/8	STR60114C12-DD
1/4 x 1		STR60114C16-DD



STR60138C08-DD

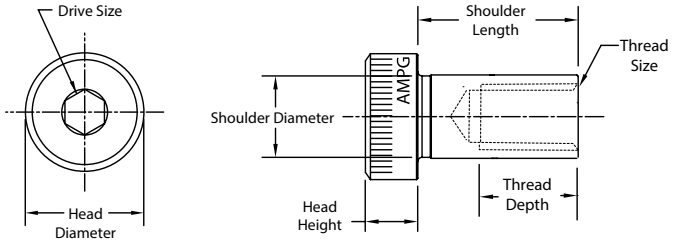
3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number
3/8 x 1/2	5/16-18 x 1/2	STR60138C08-DD
3/8 x 3/4		STR60138C12-DD
3/8 x 1		STR60138C16-DD

Shoulder Nuts for Studs and Bolts — Inch

18-8 Stainless Steel — Hex Drive

Internal threads allow you to screw these shoulders onto a stud and bolt. They're commonly used as a bearing pin, axle, or pivot point where a tapped hole is not available. They have a knurled head. The unthreaded shoulder is held to a precise diameter and length. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Shoulder diameters of 1/4, 5/16, 3/8 and 1/2 meet our internal specification AMPG 2013 TAP.01. The diameter tolerance is -.002 to -.004 inches. The shoulder length tolerance is ±.005 inches. Screws have a Class 2B thread fit and are partially threaded. Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	Head Appearance
1/4	.248 to .246	3/8	3/16	1/8	Head Mark and Knurl
5/16	.310 to .308	7/16	7/32	5/32	
3/8	.373 to .371	9/16	1/4	3/16	
1/2	.498 to .496	3/4	5/16	1/4	

Head appearance may be knurled and/or head marked.
18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



STR60114C08-TAP

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Thread Depth	18-8 SS Part Number
1/4 x 1/2	4-40 x 1/4	STR60114C08-TAP
1/4 x 3/4		STR60114C12-TAP
1/4 x 1		STR60114C16-TAP
1/4 x 1-1/4		STR60114C20-TAP
1/4 x 1-1/2	4-40 x 1/4	STR60114C24-TAP
1/4 x 2		STR60114C32-TAP



STR60138C08-TAP

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Thread Depth	18-8 SS Part Number
3/8 x 1/2	8-32 x 1/4	STR60138C08-TAP
3/8 x 3/4		STR60138C12-TAP
3/8 x 1		STR60138C16-TAP
3/8 x 1-1/4		STR60138C20-TAP
3/8 x 1-1/2	8-32 x 1/4	STR60138C24-TAP
3/8 x 2		STR60138C32-TAP



STR60151C08-TAP

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Thread Depth	18-8 SS Part Number
5/16 x 1/2	6-32 x 1/4	STR60151C08-TAP
5/16 x 3/4		STR60151C12-TAP
5/16 x 1		STR60151C16-TAP
5/16 x 1-1/4		STR60151C20-TAP
5/16 x 1-1/2	6-32 x 1/4	STR60151C24-TAP
5/16 x 2		STR60151C32-TAP



STR60112C08-TAP

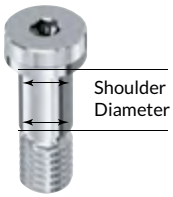
1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Thread Depth	18-8 SS Part Number
1/2 x 1/2	10-32 x 1/4	STR60112C08-TAP
1/2 x 3/4		STR60112C12-TAP
1/2 x 1		STR60112C16-TAP
1/2 x 1-1/4		STR60112C20-TAP
1/2 x 1-1/2	10-32 x 1/4	STR60112C24-TAP
1/2 x 2		STR60112C32-TAP

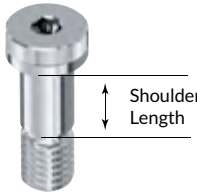
How to Order Custom Shoulder Screws — Inch

- All parts are USA made in Indiana from DFARS compliant bar stock.
- Thread Class is 3A and Shoulder Length Tolerance is ±.005.
- Certification is available, if chemical and physical certification is required on the material.

1 Choose shoulder diameter from the table below.



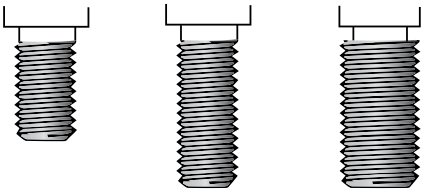
2 Specify shoulder length, measured from under the head in to the end of the shoulder. Order in .010" increments.



3 Select Hex or Slotted Drive.



4 Select 1 of 3 thread sizes available per shoulder diameter.



5 Select from the following materials:

Material	Part # Code
18-8 Stainless	188
316 Stainless	316
17-4 Stainless	174
416 Stainless	416

Material	Part # Code
A286 Stainless	286
Aluminum 6061	061
Brass 360	360
Gr 2 Titanium	Ti2

Material	Part # Code
Gr 5 Titanium	Ti5
High Five Stainless	616
Monel 405	405

Made-To Order Dimensions — Inch						Thread Sizes		
Shoulder Diameter	Shoulder Length	Head Diameter	Head Height	Drive Size	Thread Length	Reduced Threads	ANSI/ ASME	Same Size
3/32	1/8 - 6 Inch *(order in .010 increments)*	5/32	3/32	5/64	1/8	1-64	2-56	3-48
1/8		1/4	1/8	5/64	5/32	3-48	4-40	5-40
5/32		9/32	1/8	3/32	3/16	5-40	6-32	-
3/16		5/16	5/32	3/32	3/16	6-32	8-32	10-24
7/32	1/8 - 6 Inch *(order in .010 increments)*	5/16	5/32	3/32	3/16	6-32	8-32	10-24
1/4		3/8	3/16	1/8	3/8	8-32	10-24	1/4-20
5/16		7/16	7/32	5/32	7/16	10-24	1/4-20	5/16-18
3/8		9/16	1/4	3/16	1/2	1/4-20	5/16-18	3/8-16
1/2	1/4 - 6 Inch *(order in .010 increments)*	3/4	5/16	1/4	5/8	5/16-18	3/8-16	1/2-13
5/8		7/8	3/8	5/16	3/4	3/8-16	1/2-13	5/8-11
3/4	1/2 - 6 Inch *(order in .010 increments)*	1	3/8	3/8	7/8	1/2-13	5/8-11	3/4-10
7/8		1-5/16	5/8	1/2	1	5/8-11	3/4-10	7/8-9
1		1-5/16	5/8	1/2	1	5/8-11	3/4-10	1-8

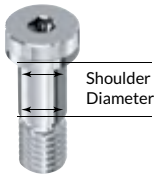
Shoulder screws with different specifications are available. Please email us for more information at sales@ampg.com.

How to Order Custom Shoulder Screws — Metric

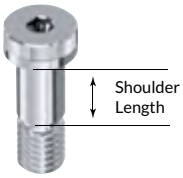
Custom order stainless steel shoulder screws. Metric shoulder tolerance: diameter is -.072mm to -.010mm; length is +/- .050mm. Shoulder screws thread Class 5g6g.

Select Material, Shoulder Diameter, Shoulder Length and Thread Size. Certification is available upon request.

1 Choose shoulder diameter from the table below.



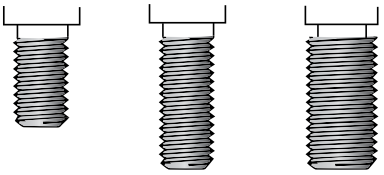
2 Specify shoulder length, measured from under the head to the end of the shoulder. Order in 0.25mm increments.



3 Select Hex, or Slotted Drive.



4 Select 1 of 3 thread sizes available per shoulder diameter.



5 Select from the following materials:

Material	Part # Code
18-8 Stainless	STR601
316 Stainless	STR602

Made-To Order Dimensions — Metric						Threads		
Shoulder Diameter	Shoulder Length	Head Diameter	Head Height	Drive Size	Thread Length	Reduced Threads	Standard	Same Size
3		5.00	2.00	2mm	4.00	M1.6 x 0.35	M2 x 0.4	M3 x 0.5
4	4.00 - 150.00 *(order in .25mm increments)*	6.00	3.00	2mm	5.00	M2 x 0.4	M3 x 0.5	M4 x 0.7
5		9.00	4.00	2.5mm	5.00	M3 x 0.5	M4 x 0.7	M5 x 0.8
6		10.00	4.50	3mm	10.00	M4 x 0.7	M5 x 0.8	M6 x 1
8	4.00- 150.00 *(order in .25mm increments)*	13.00	5.50	4mm	11.00	M5 x 0.8	M6 x 1	M8 x 1.25
10		16.00	7.00	5mm	13.00	M6 x 1	M8 x 1.25	M10 x 1.5
12	6.00 - 150.00 *(order in .25mm increments)*	18.00	9.00	6mm	16.00	M8 x 1.25	M10 x 1.5	M12 x 1.75
16		24.00	11.00	8mm	18.00	M10 x 1.5	M12 x 1.75	M16 x 2
20	13.00 - 150.00 *(order in .25mm increments)*	30.00	14.00	10mm	22.00	M12 x 1.75	M16 x 2	M20 x 2.5
24		36.00	16.00	12mm	27.00	M16 x 2	M20 x 2.5	M24 x 3

For custom metric shoulder screws that differ from table specifications, please email us more information at sales@ampg.com

Lengthening and Shortening Shim Washers — Inch

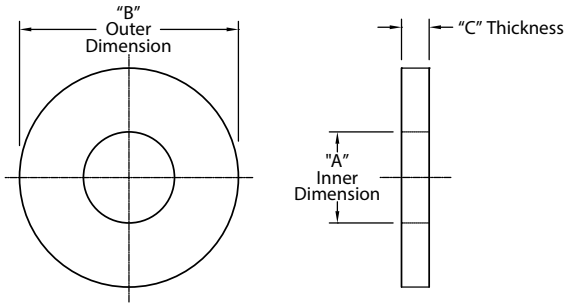
Lengthening Shim Washers — 18-8 Stainless Steel

Add these washers over the threads of our stainless steel shoulder screws, and you extend the shoulder, making the shoulder longer for more bearing surface. OD matches shoulder diameter. 25 shims per pack.

Shortening Shim Washers — 18-8 Stainless Steel

Slip these washers over the shoulder of our stainless steel shoulder screws, and you reduce the shoulder length, making the shoulder shorter for more clearance under the head. OD matches head diameter of the shoulder screw. 25 shims per pack.







Z9888-005



Z9895-005

Lengthening Shim Washer

Fits Shoulder Size	Fits Thread Size	"A" ID	"B" OD	"C" Thickness	Part Number
				.0045 - .0055	Z9888-005
1/4	#10	.171 - .182	.239 - .243	.014 - .018	Z9888-016
				.027 - .033	Z9888-032
				.0045 - .0055	Z9889-005
5/16	1/4	.234 - .245	.301 - .305	.014 - .018	Z9889-016
				.027 - .033	Z9889-030
				.0045 - .0055	Z9890-005
3/8	5/16	.289 - .300	.363 - .367	.014 - .018	Z9890-016
				.027 - .033	Z9890-030
				.0045 - .0055	Z9891-005
1/2	3/8	.352 - .363	.489 - .493	.014 - .018	Z9891-016
				.027 - .033	Z9891-030
5/8	1/2	.473 - .484	.614 - .618	.014 - .018	Z9892-016
				.027 - .033	Z9892-030

Shortening Shim Washer

Fits Shoulder Size	"A" ID	"B" OD	"C" Thickness	Part Number
			.0045 - .0055	Z9895-005
1/4	.251 - .262	.373 - .377	.014 - .018	Z9895-016
			.027 - .033	Z9895-030
			.0045 - .0055	Z9896-005
5/16	.314 - .325	.436 - .440	.014 - .018	Z9896-016
			.027 - .033	Z9896-030
			.0045 - .0055	Z9897-005
3/8	.376 - .387	.561 - .565	.014 - .018	Z9897-016
			.027 - .033	Z9897-030
			.0045 - .0055	Z9898-005
1/2	.501 - .512	.748 - .752	.014 - .018	Z9898-016
			.027 - .033	Z9898-030
5/8	.626 - .637	.873 - .877	.014 - .018	Z9899-016
			.027 - .033	Z9899-030
3/4	.751 - .762	.998 - 1.002	.014 - .018	Z9899-116
			.027 - .033	Z9899-130

Tight Tolerance Smooth Head — Inch & Metric

Tight Tolerance Smooth Head shoulder screws are available with Standard Profile Head Heights, pages B-100 to B-130, Low Profile Head Heights, pages B-131 to B-142 and Ultra Low Profile Head Heights, pages B-143 to B-149.

The head height of a Low Profile screw is 2/3 the height of a standard profile screw, whereas an Ultra Low Profile screw is 1/3 the height of a standard profile screw.



Smooth Head



Low Profile Smooth Head



Ultra Low Smooth Head

Dimensions and Tolerance Table — Inch

Shoulder Diameter	Head Diameter	Standard Profile Head Height	Low Profile Head Height	Ultra Low Profile Head Height
3/32	3/16	1/8	1/16	1/32
1/8	1/4	1/8	3/32	3/64
5/32	9/32	1/8	5/64	3/64
3/16	5/16	5/32	7/64	3/64
1/4	3/8	3/16	1/8	1/16
5/16	7/16	7/32	1/8	—
3/8	9/16	1/4	3/32	—
1/2	3/4	5/16	—	—
5/8	7/8	3/8	—	—
3/4	1	1/2	—	—
1	1-5/16	5/8	—	—

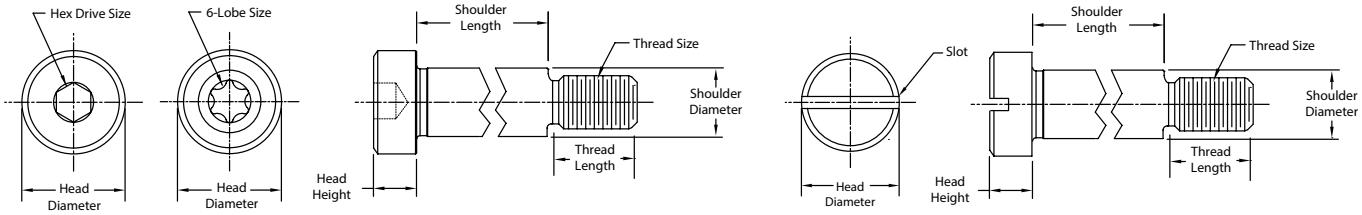
Dimensions and Tolerance Table — Metric, mm

Shoulder Diameter	Head Diameter	Standard Profile Head Height	Low Profile Head Height	Ultra Low Profile Head Height
3	5.00	2.00	—	—
4	6.00	3.00	2.00	1.30
5	8.00	4.00	2.50	1.30
6	10.00	5.00	3.00	1.70
8	12.00	6.00	3.50	2.00
10	12.00 or 14.00	6.00 or 7.00	4.50	—
12	20.00	8.00	6.00	—

Tight Tolerance Smooth Head — Inch

AMPG's Tight Tolerance Smooth Head Shoulder Screws are also known as Smooth Head Screws and Precision Grade Shoulder Screws. Smooth Head screws are used as fasteners joining two pieces of an assembly where maintaining alignment is critical. These screws have an unthreaded shoulder made with an undersized tolerance to fit bearings, linear motion bushings, and other precision components. Some product applications are: imaging equipment, surgical tools, measuring devices, laboratory instruments, enclosures, and optical fixtures. Screws are machined with hex socket, slotted and 6-lobe drives on precise unmarked smooth heads, with an undercut portion between the thread and shoulder to allow a close fit. The shoulder diameter tolerance is held to +0 to -.001 inches and the shoulder length tolerance is +.002 to -0 inches. Tight tolerance screws have a Class 2A thread fit for inch.

Note : Alloy Steel Screws have a black-oxide finish to offer mild resistance to rust.

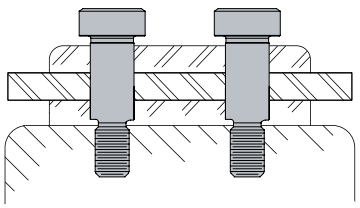


Hex Drive Smooth Head Shoulder Screws start on page B-101.
Slotted Drive Smooth Head Shoulder Screws start on page B-115.
6-lobe Drive Smooth Head Shoulder Screws start on page B-124.

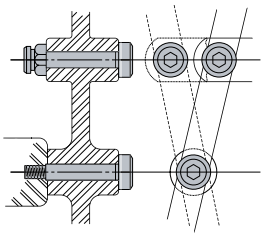
Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Hex Drive Size	6-lobe Drive Size
3/32	.093 to .092	3/16	1/8	5/64	—
1/8	.125 to .124	1/4	1/8	5/64	T10
5/32	.156 to .155	9/32	1/8	3/32	—
3/16	.187 to .186	5/16	5/32	3/32	T25
1/4	.250 to .249	3/8	3/16	1/8	T30
5/16	.312 to .311	7/16	7/32	5/32	—
3/8	.375 to .374	9/16	1/4	3/16	—
1/2	.500 to .499	3/4	5/16	1/4	—
5/8	.625 to .624	7/8	3/8	5/16	—
3/4	.750 to .749	1	1/2	3/8	—
1	1.000 to .999	1-5/16	5/8	1/2	—

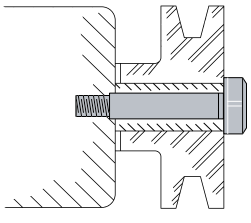
18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



Shoulder Screws as a Guide



Shoulder Screws as a Pivot Point



Shoulder Screws as a Shaft

Tight Tolerance Smooth Head — Inch

18-8, 316, 416, A286 Stainless Steels and Alloy Steel — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2006 ZR.01.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



ZR0796-303H

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
3/32 x 1/16	2-56 x 1/8	ZR0796-303H	ZR0796-316H	ZR0796-416H	ZR0796-286H	ZR0796-414H
3/32 x 3/32		ZR0798-303H	ZR0798-316H	ZR0798-416H	ZR0798-286H	ZR0798-414H
3/32 x 1/8		ZR0800-303H	ZR0800-316H	ZR0800-416H	ZR0800-286H	ZR0800-414H
3/32 x 5/32		ZR0802-303H	ZR0802-316H	ZR0802-416H	ZR0802-286H	ZR0802-414H
3/32 x 3/16	2-56 x 1/8	ZR0804-303H	ZR0804-316H	ZR0804-416H	ZR0804-286H	ZR0804-414H
3/32 x 7/32		ZR0806-303H	ZR0806-316H	ZR0806-416H	ZR0806-286H	ZR0806-414H
3/32 x 1/4		ZR0808-303H	ZR0808-316H	ZR0808-416H	ZR0808-286H	ZR0808-414H
3/32 x 5/16		ZR0812-303H	ZR0812-316H	ZR0812-416H	ZR0812-286H	ZR0812-414H
3/32 x 3/8	2-56 x 1/8	ZR0816-303H	ZR0816-316H	ZR0816-416H	ZR0816-286H	ZR0816-414H
3/32 x 7/16		ZR0820-303H	ZR0820-316H	ZR0820-416H	ZR0820-286H	ZR0820-414H
3/32 x 1/2		ZR0824-303H	ZR0824-316H	ZR0824-416H	ZR0824-286H	ZR0824-414H
3/32 x 5/8		ZR0828-303H	ZR0828-316H	ZR0828-416H	ZR0828-286H	ZR0828-414H
3/32 x 3/4	2-56 x 1/8	ZR0832-303H	ZR0832-316H	ZR0832-416H	ZR0832-286H	ZR0832-414H
3/32 x 1		ZR0836-303H	ZR0836-316H	ZR0836-416H	ZR0836-286H	ZR0836-414H



ZR0996-303H

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/8 x 1/16	4-40 x 5/32	ZR0996-303H	ZR0996-316H	ZR0996-416H	ZR0996-286H	ZR0996-414H
1/8 x 3/32		ZR0998-303H	ZR0998-316H	ZR0998-416H	ZR0998-286H	ZR0998-414H
1/8 x 1/8		ZR1000-303H	ZR1000-316H	ZR1000-416H	ZR1000-286H	ZR1000-414H
1/8 x 5/32		ZR1002-303H	ZR1002-316H	ZR1002-416H	ZR1002-286H	ZR1002-414H
1/8 x 3/16	4-40 x 5/32	ZR1004-303H	ZR1004-316H	ZR1004-416H	ZR1004-286H	ZR1004-414H
1/8 x 7/32		ZR1006-303H	ZR1006-316H	ZR1006-416H	ZR1006-286H	ZR1006-414H
1/8 x 1/4		ZR1008-303H	ZR1008-316H	ZR1008-416H	ZR1008-286H	ZR1008-414H
1/8 x 9/32		ZR1010-303H	ZR1010-316H	ZR1010-416H	ZR1010-286H	ZR1010-414H
1/8 x 5/16	4-40 x 5/32	ZR1012-303H	ZR1012-316H	ZR1012-416H	ZR1012-286H	ZR1012-414H
1/8 x 11/32		ZR1014-303H	ZR1014-316H	ZR1014-416H	ZR1014-286H	ZR1014-414H
1/8 x 3/8		ZR1016-303H	ZR1016-316H	ZR1016-416H	ZR1016-286H	ZR1016-414H
1/8 x 13/32		ZR1018-303H	ZR1018-316H	ZR1018-416H	ZR1018-286H	ZR1018-414H

Chart continued on next page

Tight Tolerance Smooth Head — Inch



ZR1020-303H

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/8 x 7/16	4-40 x 5/32	ZR1020-303H	ZR1020-316H	ZR1020-416H	ZR1020-286H	ZR1020-414H
1/8 x 15/32		ZR1022-303H	ZR1022-316H	ZR1022-416H	ZR1022-286H	ZR1022-414H
1/8 x 1/2		ZR1024-303H	ZR1024-316H	ZR1024-416H	ZR1024-286H	ZR1024-414H
1/8 x 9/16		ZR1026-303H	ZR1026-316H	ZR1026-416H	ZR1026-286H	ZR1026-414H
1/8 x 5/8	4-40 x 5/32	ZR1028-303H	ZR1028-316H	ZR1028-416H	ZR1028-286H	ZR1028-414H
1/8 x 11/16		ZR1030-303H	ZR1030-316H	ZR1030-416H	ZR1030-286H	ZR1030-414H
1/8 x 3/4		ZR1032-303H	ZR1032-316H	ZR1032-416H	ZR1032-286H	ZR1032-414H
1/8 x 7/8		ZR1034-303H	ZR1034-316H	ZR1034-416H	ZR1034-286H	ZR1034-414H
1/8 x 1	4-40 x 5/32	ZR1036-303H	ZR1036-316H	ZR1036-416H	ZR1036-286H	ZR1036-414H



ZR1096-303H

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
5/32 x 1/16	6-32 x 3/16	ZR1096-303H	ZR1096-316H	ZR1096-416H	ZR1096-286H	ZR1096-414H
5/32 x 3/32		ZR1098-303H	ZR1098-316H	ZR1098-416H	ZR1098-286H	ZR1098-414H
5/32 x 1/8		ZR1100-303H	ZR1100-316H	ZR1100-416H	ZR1100-286H	ZR1100-414H
5/32 x 5/32		ZR1102-303H	ZR1102-316H	ZR1102-416H	ZR1102-286H	ZR1102-414H
5/32 x 3/16	6-32 x 3/16	ZR1104-303H	ZR1104-316H	ZR1104-416H	ZR1104-286H	ZR1104-414H
5/32 x 7/32		ZR1106-303H	ZR1106-316H	ZR1106-416H	ZR1106-286H	ZR1106-414H
5/32 x 1/4		ZR1108-303H	ZR1108-316H	ZR1108-416H	ZR1108-286H	ZR1108-414H
5/32 x 9/32		ZR1110-303H	ZR1110-316H	ZR1110-416H	ZR1110-286H	ZR1110-414H
5/32 x 5/16	6-32 x 3/16	ZR1112-303H	ZR1112-316H	ZR1112-416H	ZR1112-286H	ZR1112-414H
5/32 x 11/32		ZR1114-303H	ZR1114-316H	ZR1114-416H	ZR1114-286H	ZR1114-414H
5/32 x 3/8		ZR1116-303H	ZR1116-316H	ZR1116-416H	ZR1116-286H	ZR1116-414H
5/32 x 13/32		ZR1118-303H	ZR1118-316H	ZR1118-416H	ZR1118-286H	ZR1118-414H
5/32 x 7/16	6-32 x 3/16	ZR1120-303H	ZR1120-316H	ZR1120-416H	ZR1120-286H	ZR1120-414H
5/32 x 15/32		ZR1122-303H	ZR1122-316H	ZR1122-416H	ZR1122-286H	ZR1122-414H
5/32 x 1/2		ZR1124-303H	ZR1124-316H	ZR1124-416H	ZR1124-286H	ZR1124-414H
5/32 x 9/16		ZR1126-303H	ZR1126-316H	ZR1126-416H	ZR1126-286H	ZR1126-414H
5/32 x 5/8	6-32 x 3/16	ZR1128-303H	ZR1128-316H	ZR1128-416H	ZR1128-286H	ZR1128-414H
5/32 x 11/16		ZR1130-303H	ZR1130-316H	ZR1130-416H	ZR1130-286H	ZR1130-414H
5/32 x 3/4		ZR1132-303H	ZR1132-316H	ZR1132-416H	ZR1132-286H	ZR1132-414H
5/32 x 7/8		ZR1134-303H	ZR1134-316H	ZR1134-416H	ZR1134-286H	ZR1134-414H
5/32 x 1	6-32 x 3/16	ZR1136-303H	ZR1136-316H	ZR1136-416H	ZR1136-286H	ZR1136-414H

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-100

18-8 SS, 316 SS, 416 SS, A286, Alloy

Tight Tolerance Smooth Head — Inch



ZR1196-303H

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
3/16 x 1/16	8-32 x 3/16	ZR1196-303H	ZR1196-316H	ZR1196-416H	ZR1196-286H	ZR1196-414H
3/16 x 3/32		ZR1198-303H	ZR1198-316H	ZR1198-416H	ZR1198-286H	ZR1198-414H
3/16 x 1/8		ZR1200-303H	ZR1200-316H	ZR1200-416H	ZR1200-286H	ZR1200-414H
3/16 x 5/32		ZR1202-303H	ZR1202-316H	ZR1202-416H	ZR1202-286H	ZR1202-414H
3/16 x 3/16	8-32 x 3/16	ZR1204-303H	ZR1204-316H	ZR1204-416H	ZR1204-286H	ZR1204-414H
3/16 x 7/32		ZR1206-303H	ZR1206-316H	ZR1206-416H	ZR1206-286H	ZR1206-414H
3/16 x 1/4		ZR1208-303H	ZR1208-316H	ZR1208-416H	ZR1208-286H	ZR1208-414H
3/16 x 9/32		ZR1210-303H	ZR1210-316H	ZR1210-416H	ZR1210-286H	ZR1210-414H
3/16 x 5/16	8-32 x 3/16	ZR1212-303H	ZR1212-316H	ZR1212-416H	ZR1212-286H	ZR1212-414H
3/16 x 11/32		ZR1214-303H	ZR1214-316H	ZR1214-416H	ZR1214-286H	ZR1214-414H
3/16 x 3/8		ZR1216-303H	ZR1216-316H	ZR1216-416H	ZR1216-286H	ZR1216-414H
3/16 x 7/16		ZR1218-303H	ZR1218-316H	ZR1218-416H	ZR1218-286H	ZR1218-414H
3/16 x 1/2	8-32 x 3/16	ZR1220-303H	ZR1220-316H	ZR1220-416H	ZR1220-286H	ZR1220-414H
3/16 x 9/16		ZR1222-303H	ZR1222-316H	ZR1222-416H	ZR1222-286H	ZR1222-414H
3/16 x 5/8		ZR1224-303H	ZR1224-316H	ZR1224-416H	ZR1224-286H	ZR1224-414H
3/16 x 11/16		ZR1226-303H	ZR1226-316H	ZR1226-416H	ZR1226-286H	ZR1226-414H
3/16 x 3/4	8-32 x 3/16	ZR1228-303H	ZR1228-316H	ZR1228-416H	ZR1228-286H	ZR1228-414H
3/16 x 7/8		ZR1230-303H	ZR1230-316H	ZR1230-416H	ZR1230-286H	ZR1230-414H
3/16 x 1		ZR1232-303H	ZR1232-316H	ZR1232-416H	ZR1232-286H	ZR1232-414H
3/16 x 1-1/8		ZR1234-303H	ZR1234-316H	ZR1234-416H	ZR1234-286H	ZR1234-414H
3/16 x 1-1/4	8-32 x 3/16	ZR1236-303H	ZR1236-316H	ZR1236-416H	ZR1236-286H	ZR1236-414H
3/16 x 1-3/8		ZR1238-303H	ZR1238-316H	ZR1238-416H	ZR1238-286H	ZR1238-414H
3/16 x 1-1/2		ZR1240-303H	ZR1240-316H	ZR1240-416H	ZR1240-286H	ZR1240-414H
3/16 x 1-5/8		ZR1242-303H	ZR1242-316H	ZR1242-416H	ZR1242-286H	ZR1242-414H
3/16 x 1-3/4	8-32 x 3/16	ZR1244-303H	ZR1244-316H	ZR1244-416H	ZR1244-286H	ZR1244-414H
3/16 x 2		ZR1246-303H	ZR1246-316H	ZR1246-416H	ZR1246-286H	ZR1246-414H
3/16 x 2-1/2		ZR1250-303H	ZR1250-316H	ZR1250-416H	ZR1250-286H	ZR1250-414H



ZR1346-303H

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/4 x 1/16	10-32 x 1/4	ZR1346-303H	ZR1346-316H	ZR1346-416H	ZR1346-286H	ZR1346-414H
1/4 x 3/32		ZR1348-303H	ZR1348-316H	ZR1348-416H	ZR1348-286H	ZR1348-414H
1/4 x 1/8	10-24 x 3/8	ZR1300-303H	ZR1300-316H	ZR1300-416H	ZR1300-286H	ZR1300-414H
1/4 x 1/8	10-32 x 1/4	ZR1350-303H	ZR1350-316H	ZR1350-416H	ZR1350-286H	ZR1350-414H
1/4 x 5/32		ZR1352-303H	ZR1352-316H	ZR1352-416H	ZR1352-286H	ZR1352-414H
1/4 x 3/16	10-24 x 3/8	ZR1304-303H	ZR1304-316H	ZR1304-416H	ZR1304-286H	ZR1304-414H
1/4 x 3/16	10-32 x 1/4	ZR1354-303H	ZR1354-316H	ZR1354-416H	ZR1354-286H	ZR1354-414H
1/4 x 7/32		ZR1356-303H	ZR1356-316H	ZR1356-416H	ZR1356-286H	ZR1356-414H
1/4 x 1/4	10-24 x 3/8	ZR1308-303H	ZR1308-316H	ZR1308-416H	ZR1308-286H	ZR1308-414H

Chart continued on next page

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN THE USA

Tight Tolerance Smooth Head — Inch



ZR1358-303H

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/4 x 1/4	10-32 x 1/4	ZR1358-303H	ZR1358-316H	ZR1358-416H	ZR1358-286H	ZR1358-414H
1/4 x 9/32		ZR1360-303H	ZR1360-316H	ZR1360-416H	ZR1360-286H	ZR1360-414H
1/4 x 5/16	10-24 x 3/8	ZR1312-303H	ZR1312-316H	ZR1312-416H	ZR1312-286H	ZR1312-414H
1/4 x 5/16	10-32 x 1/4	ZR1362-303H	ZR1362-316H	ZR1362-416H	ZR1362-286H	ZR1362-414H
1/4 x 11/32		ZR1364-303H	ZR1364-316H	ZR1364-416H	ZR1364-286H	ZR1364-414H
1/4 x 3/8	10-24 x 3/8	ZR1316-303H	ZR1316-316H	ZR1316-416H	ZR1316-286H	ZR1316-414H
1/4 x 3/8	10-32 x 1/4	ZR1366-303H	ZR1366-316H	ZR1366-416H	ZR1366-286H	ZR1366-414H
1/4 x 7/16		ZR1368-303H	ZR1368-316H	ZR1368-416H	ZR1368-286H	ZR1368-414H
1/4 x 7/16	10-24 x 3/8	ZR1318-303H	ZR1318-316H	ZR1318-416H	ZR1318-286H	ZR1318-414H
1/4 x 1/2		ZR1320-303H	ZR1320-316H	ZR1320-416H	ZR1320-286H	ZR1320-414H
1/4 x 1/2	10-32 x 1/4	ZR1370-303H	ZR1370-316H	ZR1370-416H	ZR1370-286H	ZR1370-414H
1/4 x 9/16		ZR1372-303H	ZR1372-316H	ZR1372-416H	ZR1372-286H	ZR1372-414H
1/4 x 5/8	10-24 x 3/8	ZR1324-303H	ZR1324-316H	ZR1324-416H	ZR1324-286H	ZR1324-414H
1/4 x 5/8	10-32 x 1/4	ZR1374-303H	ZR1374-316H	ZR1374-416H	ZR1374-286H	ZR1374-414H
1/4 x 11/16		ZR1376-303H	ZR1376-316H	ZR1376-416H	ZR1376-286H	ZR1376-414H
1/4 x 3/4	10-24 x 3/8	ZR1328-303H	ZR1328-316H	ZR1328-416H	ZR1328-286H	ZR1328-414H
1/4 x 3/4	10-32 x 1/4	ZR1378-303H	ZR1378-316H	ZR1378-416H	ZR1378-286H	ZR1378-414H
1/4 x 7/8	10-24 x 3/8	ZR1330-303H	ZR1330-316H	ZR1330-416H	ZR1330-286H	ZR1330-414H
1/4 x 7/8	10-32 x 1/4	ZR1380-303H	ZR1380-316H	ZR1380-416H	ZR1380-286H	ZR1380-414H
1/4 x 1	10-24 x 3/8	ZR1332-303H	ZR1332-316H	ZR1332-416H	ZR1332-286H	ZR1332-414H
1/4 x 1	10-32 x 1/4	ZR1382-303H	ZR1382-316H	ZR1382-416H	ZR1382-286H	ZR1382-414H
1/4 x 1-1/8		ZR1384-303H	ZR1384-316H	ZR1384-416H	ZR1384-286H	ZR1384-414H
1/4 x 1-1/4	10-24 x 3/8	ZR1336-303H	ZR1336-316H	ZR1336-416H	ZR1336-286H	ZR1336-414H
1/4 x 1-1/4	10-32 x 1/4	ZR1386-303H	ZR1386-316H	ZR1386-416H	ZR1386-286H	ZR1386-414H
1/4 x 1-3/8		ZR1388-303H	ZR1388-316H	ZR1388-416H	ZR1388-286H	ZR1388-414H
1/4 x 1-1/2	10-24 x 3/8	ZR1340-303H	ZR1340-316H	ZR1340-416H	ZR1340-286H	ZR1340-414H
1/4 x 1-1/2	10-32 x 1/4	ZR1390-303H	ZR1390-316H	ZR1390-416H	ZR1390-286H	ZR1390-414H
1/4 x 1-5/8		ZR1392-303H	ZR1392-316H	ZR1392-416H	ZR1392-286H	ZR1392-414H
1/4 x 1-3/4		ZR1394-303H	ZR1394-316H	ZR1394-416H	ZR1394-286H	ZR1394-414H
1/4 x 2		ZR1396-303H	ZR1396-316H	ZR1396-416H	ZR1396-286H	ZR1396-414H



ZR1398-303H

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
5/16 x 1/8	1/4-20 x 7/16	ZR1398-303H	ZR1398-316H	ZR1398-416H	ZR1398-286H	ZR1398-414H
5/16 x 1/4		ZR1400-303H	ZR1400-316H	ZR1400-416H	ZR1400-286H	ZR1400-414H
5/16 x 5/16		ZR1404-303H	ZR1404-316H	ZR1404-416H	ZR1404-286H	ZR1404-414H
5/16 x 3/8		ZR1408-303H	ZR1408-316H	ZR1408-416H	ZR1408-286H	ZR1408-414H
5/16 x 1/2	1/4-20 x 7/16	ZR1412-303H	ZR1412-316H	ZR1412-416H	ZR1412-286H	ZR1412-414H
5/16 x 5/8		ZR1416-303H	ZR1416-316H	ZR1416-416H	ZR1416-286H	ZR1416-414H

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-100

18-8 SS, 316 SS, 416 SS, A286, Alloy

Tight Tolerance Smooth Head — Inch



ZR1420-303H

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
5/16 x 3/4	1/4-20 x 7/16	ZR1420-303H	ZR1420-316H	ZR1420-416H	ZR1420-286H	ZR1420-414H
5/16 x 7/8		ZR1422-303H	ZR1422-316H	ZR1422-416H	ZR1422-286H	ZR1422-414H
5/16 x 1		ZR1424-303H	ZR1424-316H	ZR1424-416H	ZR1424-286H	ZR1424-414H
5/16 x 1-1/4		ZR1428-303H	ZR1428-316H	ZR1428-416H	ZR1428-286H	ZR1428-414H
5/16 x 1-1/2	1/4-20 x 7/16	ZR1432-303H	ZR1432-316H	ZR1432-416H	ZR1432-286H	ZR1432-414H



ZR1513-303H

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
3/8 x 1/8	5/16-18 x 1/2	ZR1513-303H	ZR1513-316H	ZR1513-416H	ZR1513-286H	ZR1513-414H
3/8 x 3/16		ZR1514-303H	ZR1514-316H	ZR1514-416H	ZR1514-286H	ZR1514-414H
3/8 x 1/4		ZR1515-303H	ZR1515-316H	ZR1515-416H	ZR1515-286H	ZR1515-414H
3/8 x 5/16	1/4-20 x 7/16	ZR1500-303H	ZR1500-316H	ZR1500-416H	ZR1500-286H	ZR1500-414H
3/8 x 5/16	5/16-18 x 1/2	ZR1516-303H	ZR1516-316H	ZR1516-416H	ZR1516-286H	ZR1516-414H
3/8 x 3/8	1/4-20 x 7/16	ZR1504-303H	ZR1504-316H	ZR1504-416H	ZR1504-286H	ZR1504-414H
3/8 x 3/8	5/16-18 x 1/2	ZR1520-303H	ZR1520-316H	ZR1520-416H	ZR1520-286H	ZR1520-414H
3/8 x 1/2	1/4-20 x 7/16	ZR1508-303H	ZR1508-316H	ZR1508-416H	ZR1508-286H	ZR1508-414H
3/8 x 1/2	5/16-18 x 1/2	ZR1524-303H	ZR1524-316H	ZR1524-416H	ZR1524-286H	ZR1524-414H
3/8 x 5/8	1/4-20 x 7/16	ZR1512-303H	ZR1512-316H	ZR1512-416H	ZR1512-286H	ZR1512-414H
3/8 x 5/8	5/16-18 x 1/2	ZR1528-303H	ZR1528-316H	ZR1528-416H	ZR1528-286H	ZR1528-414H
3/8 x 3/4		ZR1532-303H	ZR1532-316H	ZR1532-416H	ZR1532-286H	ZR1532-414H
3/8 x 7/8		ZR1534-303H	ZR1534-316H	ZR1534-416H	ZR1534-286H	ZR1534-414H
3/8 x 1		ZR1536-303H	ZR1536-316H	ZR1536-416H	ZR1536-286H	ZR1536-414H
3/8 x 1-1/4	5/16-18 x 1/2	ZR1540-303H	ZR1540-316H	ZR1540-416H	ZR1540-286H	ZR1540-414H
3/8 x 1-1/2		ZR1544-303H	ZR1544-316H	ZR1544-416H	ZR1544-286H	ZR1544-414H
3/8 x 2		ZR1546-303H	ZR1546-316H	ZR1546-416H	ZR1546-286H	ZR1546-414H



ZR1600-303H

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/2 x 1/2	3/8-16 x 5/8	ZR1600-303H	ZR1600-316H	ZR1600-416H	ZR1600-286H	ZR1600-414H
1/2 x 5/8		ZR1604-303H	ZR1604-316H	ZR1604-416H	ZR1604-286H	ZR1604-414H
1/2 x 3/4		ZR1608-303H	ZR1608-316H	ZR1608-416H	ZR1608-286H	ZR1608-414H
1/2 x 1		ZR1612-303H	ZR1612-316H	ZR1612-416H	ZR1612-286H	ZR1612-414H
1/2 x 1-1/4	3/8-16 x 5/8	ZR1616-303H	ZR1616-316H	ZR1616-416H	ZR1616-286H	ZR1616-414H
1/2 x 1-1/2		ZR1620-303H	ZR1620-316H	ZR1620-416H	ZR1620-286H	ZR1620-414H
1/2 x 2		ZR1624-303H	ZR1624-316H	ZR1624-416H	ZR1624-286H	ZR1624-414H

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

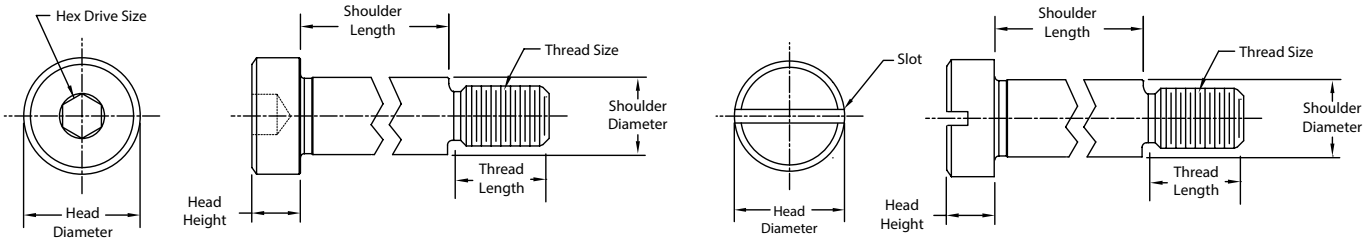
ISO 9001:2015

MADE IN THE USA

Tight Tolerance Smooth Head — Metric

These are manufactured in our Indiana facility for mechanical and electronic applications. Screws have shoulders that are held to precise diameter. All product is turned (not headed or forged) on our advanced Swiss Lathes, and we produce the finest looking parts available today. Each bolt is manufactured in one complete operation, which produces a tightly controlled, consistent, and concentric product. Extra care is taken in our cleaning and packaging processes to protect the product after it is manufactured, so they arrive at your door looking like jewelry. Shoulder length tolerance is +.05mm to -0mm. Screws have a Class 6g thread fit.

Note : Alloy Steel Screws have a black-oxide finish to offer mild resistance to rust.



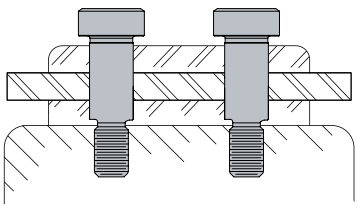
Hex Drive Smooth Head Shoulder Screws start on page B-107.
Slotted Drive Smooth Head Shoulder Screws start on page B-115.

Dimensions and Tolerance Table — Metric

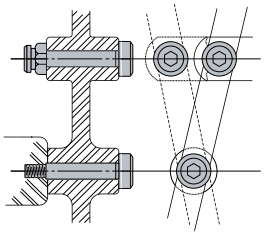
Shoulder Diameter	Thread Size	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Hex Drive Size
3	M2 x 0.4	3.00 to 2.97	5.00	2.00	1.5
4	M3 x 0.5	4.00 to 3.97	6.00	3.00	2
5	M4 x 0.7	5.00 to 4.97	8.00	4.00	2.5
6	M5 x 0.8	6.00 to 5.97	10.00	5.00	3
8	M6 x 1	8.00 to 7.97	12.00*	6.00	4
10	M6 x 1	10.00 to 9.97	12.00**	6.00	4
10	M8 x 1.25	10.00 to 9.97	14.00**	7.00	5
12	M10 x 1.5	12.00 to 11.97	20.00	8.00***	6

18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.

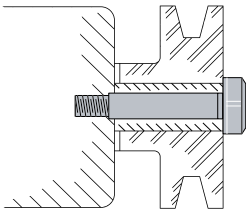
**Head diameter is 13.00 for 316 stainless steel screws.*
***Head diameter is 16.00 for 316 stainless steel screws.*
****Head height is 9.00 for 316 stainless steel screws.*



Shoulder Screws as a Guide



Shoulder Screws as a Pivot Point



Shoulder Screws as a Shaft

Tight Tolerance Smooth Head — Metric

18-8 (A2), 316 (A4), 416, A286 Stainless Steels and Alloy Steel — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2006 ZR.02.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



ZR1680-303H

3mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
3 x 2	M2 x 0.4 x 4	ZR1680-303H	ZR1680-316H	ZR1680-416H	ZR1680-286H	ZR1680-414H
3 x 3		ZR1681-303H	ZR1681-316H	ZR1681-416H	ZR1681-286H	ZR1681-414H
3 x 4		ZR1682-303H	ZR1682-316H	ZR1682-416H	ZR1682-286H	ZR1682-414H
3 x 5		ZR1683-303H	ZR1683-316H	ZR1683-416H	ZR1683-286H	ZR1683-414H
3 x 6	M2 x 0.4 x 4	ZR1684-303H	ZR1684-316H	ZR1684-416H	ZR1684-286H	ZR1684-414H
3 x 7		ZR1685-303H	ZR1685-316H	ZR1685-416H	ZR1685-286H	ZR1685-414H
3 x 8		ZR1688-303H	ZR1688-316H	ZR1688-416H	ZR1688-286H	ZR1688-414H
3 x 10		ZR1686-303H	ZR1686-316H	ZR1686-416H	ZR1686-286H	ZR1686-414H
3 x 12	M2 x 0.4 x 4	ZR1687-303H	ZR1687-316H	ZR1687-416H	ZR1687-286H	ZR1687-414H
3 x 14		ZR1689-303H	ZR1689-316H	ZR1689-416H	ZR1689-286H	ZR1689-414H
3 x 16		ZR1691-303H	ZR1691-316H	ZR1691-416H	ZR1691-286H	ZR1691-414H
3 x 18		ZR1693-303H	ZR1693-316H	ZR1693-416H	ZR1693-286H	ZR1693-414H
3 x 20	M2 x 0.4 x 4	ZR1694-303H	ZR1694-316H	ZR1694-416H	ZR1694-286H	ZR1694-414H
3 x 25		ZR1695-303H	ZR1695-316H	ZR1695-416H	ZR1695-286H	ZR1695-414H



ZR1697-303H

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
4 x 2	M3 x 0.5 x 4	ZR1697-303H	ZR1697-316H	ZR1697-416H	ZR1697-286H	ZR1697-414H
4 x 3		ZR1698-303H	ZR1698-316H	ZR1698-416H	ZR1698-286H	ZR1698-414H
4 x 4		ZR1700-303H	ZR1700-316H	ZR1700-416H	ZR1700-286H	ZR1700-414H
4 x 5		ZR1704-303H	ZR1704-316H	ZR1704-416H	ZR1704-286H	ZR1704-414H
4 x 6	M3 x 0.5 x 4	ZR1708-303H	ZR1708-316H	ZR1708-416H	ZR1708-286H	ZR1708-414H
4 x 7		ZR1699-303H	ZR1699-316H	ZR1699-416H	ZR1699-286H	ZR1699-414H
4 x 8		ZR1712-303H	ZR1712-316H	ZR1712-416H	ZR1712-286H	ZR1712-414H
4 x 10		ZR1716-303H	ZR1716-316H	ZR1716-416H	ZR1716-286H	ZR1716-414H
4 x 12	M3 x 0.5 x 4	ZR1718-303H	ZR1718-316H	ZR1718-416H	ZR1718-286H	ZR1718-414H
4 x 14		ZR1721-303H	ZR1721-316H	ZR1721-416H	ZR1721-286H	ZR1721-414H
4 x 16		ZR1719-303H	ZR1719-316H	ZR1719-416H	ZR1719-286H	ZR1719-414H
4 x 18		ZR1722-303H	ZR1722-316H	ZR1722-416H	ZR1722-286H	ZR1722-414H
4 x 20	M3 x 0.5 x 4	ZR1723-303H	ZR1723-316H	ZR1723-416H	ZR1723-286H	ZR1723-414H
4 x 25		ZR1720-303H	ZR1720-316H	ZR1720-416H	ZR1720-286H	ZR1720-414H
4 x 30		ZR1724-303H	ZR1724-316H	ZR1724-416H	ZR1724-286H	ZR1724-414H
4 x 35		ZR1725-303H	ZR1725-316H	ZR1725-416H	ZR1725-286H	ZR1725-414H

Chart continued on next page

Tight Tolerance Smooth Head — Metric



ZR1730-303H

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
4 x 40		ZR1730-303H	ZR1730-316H	ZR1730-416H	ZR1730-286H	ZR1730-414H
4 x 45	M3 x 0.5 x 4	ZR1732-303H	ZR1732-316H	ZR1732-416H	ZR1732-286H	ZR1732-414H
4 x 50		ZR1734-303H	ZR1734-316H	ZR1734-416H	ZR1734-286H	ZR1734-414H



ZR1748-303H

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
5 x 2		ZR1748-303H	ZR1748-316H	ZR1748-416H	ZR1748-286H	ZR1748-414H
5 x 3	M4 x 0.7 x 5	ZR1749-303H	ZR1749-316H	ZR1749-416H	ZR1749-286H	ZR1749-414H
5 x 4		ZR1750-303H	ZR1750-316H	ZR1750-416H	ZR1750-286H	ZR1750-414H
5 x 5		ZR1754-303H	ZR1754-316H	ZR1754-416H	ZR1754-286H	ZR1754-414H
5 x 6		ZR1758-303H	ZR1758-316H	ZR1758-416H	ZR1758-286H	ZR1758-414H
5 x 7	M4 x 0.7 x 5	ZR1760-303H	ZR1760-316H	ZR1760-416H	ZR1760-286H	ZR1760-414H
5 x 8		ZR1762-303H	ZR1762-316H	ZR1762-416H	ZR1762-286H	ZR1762-414H
5 x 10		ZR1766-303H	ZR1766-316H	ZR1766-416H	ZR1766-286H	ZR1766-414H
5 x 12		ZR1770-303H	ZR1770-316H	ZR1770-416H	ZR1770-286H	ZR1770-414H
5 x 14	M4 x 0.7 x 5	ZR1774-303H	ZR1774-316H	ZR1774-416H	ZR1774-286H	ZR1774-414H
5 x 16		ZR1778-303H	ZR1778-316H	ZR1778-416H	ZR1778-286H	ZR1778-414H
5 x 18		ZR1779-303H	ZR1779-316H	ZR1779-416H	ZR1779-286H	ZR1779-414H
5 x 20		ZR1782-303H	ZR1782-316H	ZR1782-416H	ZR1782-286H	ZR1782-414H
5 x 25	M4 x 0.7 x 5	ZR1786-303H	ZR1786-316H	ZR1786-416H	ZR1786-286H	ZR1786-414H
5 x 30		ZR1790-303H	ZR1790-316H	ZR1790-416H	ZR1790-286H	ZR1790-414H
5 x 35		ZR1791-303H	ZR1791-316H	ZR1791-416H	ZR1791-286H	ZR1791-414H
5 x 40		ZR1793-303H	ZR1793-316H	ZR1793-416H	ZR1793-286H	ZR1793-414H
5 x 45	M4 x 0.7 x 5	ZR1795-303H	ZR1795-316H	ZR1795-416H	ZR1795-286H	ZR1795-414H
5 x 50		ZR1799-303H	ZR1799-316H	ZR1799-416H	ZR1799-286H	ZR1799-414H



ZR1702-303H

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
6 x 2		ZR1702-303H	ZR1702-316H	ZR1702-416H	ZR1702-286H	ZR1702-414H
6 x 3	M5 x 0.8 x 6	ZR1798-303H	ZR1798-316H	ZR1798-416H	ZR1798-286H	ZR1798-414H
6 x 4		ZR1800-303H	ZR1800-316H	ZR1800-416H	ZR1800-286H	ZR1800-414H
6 x 5		ZR1804-303H	ZR1804-316H	ZR1804-416H	ZR1804-286H	ZR1804-414H
6 x 6	M5 x 0.8 x 6	ZR1808-303H	ZR1808-316H	ZR1808-416H	ZR1808-286H	ZR1808-414H

Chart continued on next page

Tight Tolerance Smooth Head — Metric



ZR1809-303H

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
6 x 7	M5 x 0.8 x 6	ZR1809-303H	ZR1809-316H	ZR1809-416H	ZR1809-286H	ZR1809-414H
6 x 8		ZR1812-303H	ZR1812-316H	ZR1812-416H	ZR1812-286H	ZR1812-414H
6 x 10		ZR1816-303H	ZR1816-316H	ZR1816-416H	ZR1816-286H	ZR1816-414H
6 x 12		ZR1820-303H	ZR1820-316H	ZR1820-416H	ZR1820-286H	ZR1820-414H
6 x 14	M5 x 0.8 x 6	ZR1824-303H	ZR1824-316H	ZR1824-416H	ZR1824-286H	ZR1824-414H
6 x 16		ZR1828-303H	ZR1828-316H	ZR1828-416H	ZR1828-286H	ZR1828-414H
6 x 18		ZR1829-303H	ZR1829-316H	ZR1829-416H	ZR1829-286H	ZR1829-414H
6 x 20		ZR1832-303H	ZR1832-316H	ZR1832-416H	ZR1832-286H	ZR1832-414H
6 x 25	M5 x 0.8 x 6	ZR1836-303H	ZR1836-316H	ZR1836-416H	ZR1836-286H	ZR1836-414H
6 x 30		ZR1840-303H	ZR1840-316H	ZR1840-416H	ZR1840-286H	ZR1840-414H
6 x 35		ZR1842-303H	ZR1842-316H	ZR1842-416H	ZR1842-286H	ZR1842-414H
6 x 40		ZR1844-303H	ZR1844-316H	ZR1844-416H	ZR1844-286H	ZR1844-414H
6 x 45	M5 x 0.8 x 6	ZR1846-303H	ZR1846-316H	ZR1846-416H	ZR1846-286H	ZR1846-414H
6 x 50		ZR1848-303H	ZR1848-316H	ZR1848-416H	ZR1848-286H	ZR1848-414H
6 x 55		ZR1850-303H	ZR1850-316H	ZR1850-416H	ZR1850-286H	ZR1850-414H
6 x 60		ZR1852-303H	ZR1852-316H	ZR1852-416H	ZR1852-286H	ZR1852-414H
6 x 65	M5 x 0.8 x 6	ZR1854-303H	ZR1854-316H	ZR1854-416H	ZR1854-286H	ZR1854-414H



ZR1901-303H

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
8 x 4	M6 x 1 x 11	ZR1901-303H	ZR1901-316H	ZR1901-416H	ZR1901-286H	ZR1901-414H
8 x 5		ZR1902-303H	ZR1902-316H	ZR1902-416H	ZR1902-286H	ZR1902-414H
8 x 6		ZR1900-303H	ZR1900-316H	ZR1900-416H	ZR1900-286H	ZR1900-414H
8 x 7		ZR1903-303H	ZR1903-316H	ZR1903-416H	ZR1903-286H	ZR1903-414H
8 x 8	M6 x 1 x 11	ZR1904-303H	ZR1904-316H	ZR1904-416H	ZR1904-286H	ZR1904-414H
8 x 10		ZR1908-303H	ZR1908-316H	ZR1908-416H	ZR1908-286H	ZR1908-414H
8 x 12		ZR1912-303H	ZR1912-316H	ZR1912-416H	ZR1912-286H	ZR1912-414H
8 x 14		ZR1914-303H	ZR1914-316H	ZR1914-416H	ZR1914-286H	ZR1914-414H
8 x 16	M6 x 1 x 11	ZR1916-303H	ZR1916-316H	ZR1916-416H	ZR1916-286H	ZR1916-414H
8 x 18		ZR1918-303H	ZR1918-316H	ZR1918-416H	ZR1918-286H	ZR1918-414H
8 x 20		ZR1920-303H	ZR1920-316H	ZR1920-416H	ZR1920-286H	ZR1920-414H
8 x 25		ZR1921-303H	ZR1921-316H	ZR1921-416H	ZR1921-286H	ZR1921-414H
8 x 30	M6 x 1 x 11	ZR1922-303H	ZR1922-316H	ZR1922-416H	ZR1922-286H	ZR1922-414H
8 x 35		ZR1935-303H	ZR1935-316H	ZR1935-416H	ZR1935-286H	ZR1935-414H
8 x 40		ZR1924-303H	ZR1924-316H	ZR1924-416H	ZR1924-286H	ZR1924-414H
8 x 45		ZR1926-303H	ZR1926-316H	ZR1926-416H	ZR1926-286H	ZR1926-414H
8 x 50	M6 x 1 x 11	ZR1928-303H	ZR1928-316H	ZR1928-416H	ZR1928-286H	ZR1928-414H

Chart continued on next page

Tight Tolerance Smooth Head — Metric



ZR1950-303H

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
10 x 8	M6 x 1 x 11	ZR1950-303H	ZR1950-316H	ZR1950-416H	ZR1950-286H	ZR1950-414H
10 x 8	M8 x 1.25 x 12	ZR1966-303H	ZR1966-316H	ZR1966-416H	ZR1966-286H	ZR1966-414H
10 x 10	M6 x 1 x 11	ZR1954-303H	ZR1954-316H	ZR1954-416H	ZR1954-286H	ZR1954-414H
10 x 10	M8 x 1.25 x 12	ZR1970-303H	ZR1970-316H	ZR1970-416H	ZR1970-286H	ZR1970-414H
10 x 12	M6 x 1 x 11	ZR1958-303H	ZR1958-316H	ZR1958-416H	ZR1958-286H	ZR1958-414H
10 x 12	M8 x 1.25 x 12	ZR1974-303H	ZR1974-316H	ZR1974-416H	ZR1974-286H	ZR1974-414H
10 x 14		ZR1968-303H	ZR1968-316H	ZR1968-416H	ZR1968-286H	ZR1968-414H
10 x 16	M6 x 1 x 11	ZR1962-303H	ZR1962-316H	ZR1962-416H	ZR1962-286H	ZR1962-414H
10 x 16	M8 x 1.25 x 12	ZR1978-303H	ZR1978-316H	ZR1978-416H	ZR1978-286H	ZR1978-414H
10 x 18		ZR1969-303H	ZR1969-316H	ZR1969-416H	ZR1969-286H	ZR1969-414H
10 x 20		ZR1971-303H	ZR1971-316H	ZR1971-416H	ZR1971-286H	ZR1971-414H
10 x 25		ZR1972-303H	ZR1972-316H	ZR1972-416H	ZR1972-286H	ZR1972-414H
10 x 30	M8 x 1.25 x 12	ZR1973-303H	ZR1973-316H	ZR1973-416H	ZR1973-286H	ZR1973-414H
10 x 35		ZR1975-303H	ZR1975-316H	ZR1975-416H	ZR1975-286H	ZR1975-414H
10 x 40		ZR1976-303H	ZR1976-316H	ZR1976-416H	ZR1976-286H	ZR1976-414H
10 x 45		ZR1977-303H	ZR1977-316H	ZR1977-416H	ZR1977-286H	ZR1977-414H
10 x 50	M8 x 1.25 x 12	ZR1979-303H	ZR1979-316H	ZR1979-416H	ZR1979-286H	ZR1979-414H



ZR1981-303H

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
12 x 8	M10 x 1.5 x 16	ZR1981-303H	ZR1981-316H	ZR1981-416H	ZR1981-286H	ZR1981-414H
12 x 10		ZR1983-303H	ZR1983-316H	ZR1983-416H	ZR1983-286H	ZR1983-414H
12 x 12		ZR1980-303H	ZR1980-316H	ZR1980-416H	ZR1980-286H	ZR1980-414H
12 x 14		ZR1982-303H	ZR1982-316H	ZR1982-416H	ZR1982-286H	ZR1982-414H
12 x 16	M10 x 1.5 x 16	ZR1984-303H	ZR1984-316H	ZR1984-416H	ZR1984-286H	ZR1984-414H
12 x 18		ZR1986-303H	ZR1986-316H	ZR1986-416H	ZR1986-286H	ZR1986-414H
12 x 20		ZR1988-303H	ZR1988-316H	ZR1988-416H	ZR1988-286H	ZR1988-414H
12 x 25		ZR1992-303H	ZR1992-316H	ZR1992-416H	ZR1992-286H	ZR1992-414H
12 x 30	M10 x 1.5 x 16	ZR1993-303H	ZR1993-316H	ZR1993-416H	ZR1993-286H	ZR1993-414H
12 x 35		ZR1994-303H	ZR1994-316H	ZR1994-416H	ZR1994-286H	ZR1994-414H
12 x 40		ZR1996-303H	ZR1996-316H	ZR1996-416H	ZR1996-286H	ZR1996-414H
12 x 45		ZR1998-303H	ZR1998-316H	ZR1998-416H	ZR1998-286H	ZR1998-414H
12 x 50	M10 x 1.5 x 16	ZR1999-303H	ZR1999-316H	ZR1999-416H	ZR1999-286H	ZR1999-414H

Friction Resistant Smooth Head — Inch

Brass — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2006 BR.01.
- Brass material adheres to environmental regulations established by European Union RoHS directive. Current RoHS exemption allows alloying element containing up to 4% lead by weight.



STR55018C02

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
1/8 x 1/8	4-40 x 5/32	STR55018C02
1/8 x 3/16		STR55018C03
1/8 x 1/4		STR55018C04
1/8 x 5/16		STR55018C05
1/8 x 3/8	4-40 x 5/32	STR55018C06
1/8 x 7/16		STR55018C07
1/8 x 1/2		STR55018C08
1/8 x 3/4		STR55018C12
1/8 x 1	4-40 x 5/32	STR55018C16
1/8 x 1-1/4		STR55018C20
1/8 x 1-1/2		STR55018C24
1/8 x 1-3/4		STR55018C28
1/8 x 2	4-40 x 5/32	STR55018C32



STR55031C02

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/16 x 1/8	8-32 x 3/16	STR55031C02
3/16 x 3/16		STR55031C03
3/16 x 1/4		STR55031C04
3/16 x 5/16		STR55031C05
3/16 x 3/8	8-32 x 3/16	STR55031C06
3/16 x 7/16		STR55031C07
3/16 x 1/2		STR55031C08
3/16 x 5/8		STR55031C10
3/16 x 3/4	8-32 x 3/16	STR55031C12
3/16 x 1		STR55031C16
3/16 x 1-1/4		STR55031C20
3/16 x 1-1/2		STR55031C24
3/16 x 1-3/4	8-32 x 3/16	STR55031C28
3/16 x 2		STR55031C32
3/16 x 2-1/2		STR55031C40



STR55053C02

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
5/32 x 1/8	6-32 x 3/16	STR55053C02
5/32 x 3/16		STR55053C03
5/32 x 1/4		STR55053C04
5/32 x 5/16		STR55053C05
5/32 x 3/8	6-32 x 3/16	STR55053C06
5/32 x 7/16		STR55053C07
5/32 x 1/2		STR55053C08
5/32 x 3/4		STR55053C12
5/32 x 1	6-32 x 3/16	STR55053C16
5/32 x 1-1/4		STR55053C20
5/32 x 1-1/2		STR55053C24
5/32 x 1-3/4		STR55053C28
5/32 x 2	6-32 x 3/16	STR55053C32



STR55014C02

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
1/4 x 1/8	10-24 x 1/4	STR55014C02
1/4 x 3/16		STR55014C03
1/4 x 1/4		STR55014C04
1/4 x 5/16		STR55014C05
1/4 x 1/8	10-32 x 1/4	STR55014F02
1/4 x 3/16		STR55014F03
1/4 x 1/4		STR55014F04
1/4 x 5/16		STR55014F05
1/4 x 3/8	10-24 x 1/4	STR55014C06
1/4 x 7/16		STR55014C07
1/4 x 1/2		STR55014C08
1/4 x 5/8		STR55014C10
1/4 x 3/8	10-32 x 1/4	STR55014F06

Chart continued on next page

Friction Resistant Smooth Head — Inch



STR55014F07

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
1/4 x 7/16	10-32 x 1/4	STR55014F07
1/4 x 1/2		STR55014F08
1/4 x 5/8		STR55014F10
1/4 x 3/4	10-24 x 1/4	STR55014C12
1/4 x 7/8		STR55014C14
1/4 x 1		STR55014C16
1/4 x 1-1/4		STR55014C20
1/4 x 3/4	10-32 x 1/4	STR55014F12
1/4 x 7/8		STR55014F14
1/4 x 1		STR55014F16
1/4 x 1-1/4		STR55014F20
1/4 x 1-1/2	10-24 x 1/4	STR55014C24
1/4 x 1-3/4		STR55014C28
1/4 x 2		STR55014C32
1/4 x 1-1/2	10-32 x 1/4	STR55014F24
1/4 x 1-3/4		STR55014F28
1/4 x 2		STR55014F32



STR55038C08

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/8 x 1/2	5/16-18 x 1/2	STR55038C08
3/8 x 5/8		STR55038C10
3/8 x 3/4		STR55038C12
3/8 x 7/8		STR55038C14
3/8 x 1/2	1/4-20 x 1/2	STR55038C08-1420
3/8 x 5/8		STR55038C10-1420
3/8 x 3/4		STR55038C12-1420
3/8 x 7/8		STR55038C14-1420
3/8 x 1	5/16-18 x 1/2	STR55038C16
3/8 x 1-1/4		STR55038C20
3/8 x 1-1/2		STR55038C24



STR55051C04

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
5/16 x 1/4	1/4-20 x 7/16	STR55051C04
5/16 x 5/16		STR55051C05
5/16 x 3/8		STR55051C06
5/16 x 7/16		STR55051C07
5/16 x 1/2	1/4-20 x 7/16	STR55051C08
5/16 x 5/8		STR55051C10
5/16 x 3/4		STR55051C12
5/16 x 7/8		STR55051C14
5/16 x 1	1/4-20 x 7/16	STR55051C16
5/16 x 1-1/4		STR55051C20
5/16 x 1-1/2		STR55051C24
5/16 x 1-3/4		STR55051C28
5/16 x 2	1/4-20 x 7/16	STR55051C32



STR55038C28

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/8 x 1-3/4	5/16-18 x 1/2	STR55038C28
3/8 x 1	1/4-20 x 1/2	STR55038C16-1420
3/8 x 1-1/4		STR55038C20-1420
3/8 x 1-1/2		STR55038C24-1420
3/8 x 1-3/4		STR55038C28-1420
3/8 x 2	5/16-18 x 1/2	STR55038C32
3/8 x 2-1/2		STR55038C40
3/8 x 3		STR55038C48
3/8 x 3-1/2		STR55038C56
3/8 x 2	1/4-20 x 1/2	STR55038C32-1420
3/8 x 2-1/2		STR55038C40-1420
3/8 x 3		STR55038C48-1420
3/8 x 3-1/2		STR55038C56-1420
3/8 x 4	5/16-18 x 1/2	STR55038C64
3/8 x 4	1/4-20 x 1/2	STR55038C64-1420

Chart continued on next page

Friction Resistant Smooth Head — Inch



STR55012C08

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
1/2 x 1/2	3/8-16 x 5/8	STR55012C08
1/2 x 5/8		STR55012C10
1/2 x 3/4		STR55012C12
1/2 x 7/8		STR55012C14
1/2 x 1	3/8-16 x 5/8	STR55012C16
1/2 x 1-1/4		STR55012C20
1/2 x 1-1/2		STR55012C24
1/2 x 1-3/4		STR55012C28
1/2 x 2	3/8-16 x 5/8	STR55012C32
1/2 x 2-1/2		STR55012C40
1/2 x 3		STR55012C48
1/2 x 3-1/2		STR55012C56
1/2 x 4	3/8-16 x 5/8	STR55012C64



STR55034C08

3/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/4 x 1/2	5/8-11 x 7/8	STR55034C08
3/4 x 5/8		STR55034C10
3/4 x 3/4		STR55034C12
3/4 x 7/8		STR55034C14
3/4 x 1	5/8-11 x 7/8	STR55034C16
3/4 x 1-1/4		STR55034C20
3/4 x 1-1/2		STR55034C24
3/4 x 1-3/4		STR55034C28
3/4 x 2	5/8-11 x 7/8	STR55034C32
3/4 x 2-1/2		STR55034C40
3/4 x 3		STR55034C48
3/4 x 3-1/2		STR55034C56
3/4 x 4	5/8-11 x 7/8	STR55034C64



STR55058C08

5/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
5/8 x 1/2	1/2-13 x 3/4	STR55058C08
5/8 x 5/8		STR55058C10
5/8 x 3/4		STR55058C12
5/8 x 7/8		STR55058C14
5/8 x 1	1/2-13 x 3/4	STR55058C16
5/8 x 1-1/4		STR55058C20
5/8 x 1-1/2		STR55058C24
5/8 x 1-3/4		STR55058C28
5/8 x 2	1/2-13 x 3/4	STR55058C32
5/8 x 2-1/2		STR55058C40
5/8 x 3		STR55058C48
5/8 x 3-1/2		STR55058C56
5/8 x 4	1/2-13 x 3/4	STR55058C64



STR55001C08

1 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
1 x 1/2	3/4-10 x 1	STR55001C08
1 x 5/8		STR55001C10
1 x 3/4		STR55001C12
1 x 7/8		STR55001C14
1 x 1	3/4-10 x 1	STR55001C16
1 x 1-1/4		STR55001C20
1 x 1-1/2		STR55001C24
1 x 1-3/4		STR55001C28
1 x 2	3/4-10 x 1	STR55001C32
1 x 2-1/2		STR55001C40
1 x 3		STR55001C48
1 x 3-1/2		STR55001C56
1 x 4	3/4-10 x 1	STR55001C64

Friction Resistant Smooth Head — Metric

Brass — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2012 BR.02.
- Brass material adheres to environmental regulations established by European Union RoHS directive. Current RoHS exemption allows alloying element containing up to 4% lead by weight.



STR550M4X4

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
4 x 4	M3 x 0.5 x 4	STR550M4X4
4 x 5		STR550M4X5
4 x 6		STR550M4X6
4 x 8		STR550M4X8
4 x 10	M3 x 0.5 x 4	STR550M4X10
4 x 25		STR550M4X25



STR550M5X4

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
5 x 4	M4 x 0.7 x 5	STR550M5X4
5 x 5		STR550M5X5
5 x 6		STR550M5X6
5 x 8		STR550M5X8
5 x 10	M4 x 0.7 x 5	STR550M5X10
5 x 12		STR550M5X12
5 x 14		STR550M5X14
5 x 16		STR550M5X16
5 x 20	M4 x 0.7 x 5	STR550M5X20
5 x 25		STR550M5X25
5 x 30		STR550M5X30



STR550M6X4

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
6 x 4	M5 x 0.8 x 6	STR550M6X4
6 x 5		STR550M6X5
6 x 6		STR550M6X6
6 x 8		STR550M6X8
6 x 10	M5 x 0.8 x 6	STR550M6X10
6 x 12		STR550M6X12
6 x 14		STR550M6X14
6 x 16		STR550M6X16
6 x 20	M5 x 0.8 x 6	STR550M6X20
6 x 25		STR550M6X25
6 x 30		STR550M6X30



STR550M8X6

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
8 x 6	M6 x 1 x 11	STR550M8X6
8 x 8		STR550M8X8
8 x 10		STR550M8X10
8 x 12		STR550M8X12
8 x 16	M6 x 1 x 11	STR550M8X16
8 x 20		STR550M8X20



STR550M10X8

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
10 x 8	M8 x 1.25 x 12	STR550M10X8
10 x 10		STR550M10X10
10 x 12		STR550M10X12
10 x 16		STR550M10X16
10 x 20	M8 x 1.25 x 12	STR550M10X20



STR550M12X12

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
12 x 12	M10 x 1.5 x 16	STR550M12X12
12 x 16		STR550M12X16
12 x 20		STR550M12X20
12 x 25		STR550M12X25

Tight Tolerance Smooth Head — Inch

18-8, 316, 416, A286 Stainless Steels and Alloy Steel — Slotted Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2010 ZR.01.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



ZR0796-303S

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
3/32 x 1/16	2-56 x 1/8	ZR0796-303S	ZR0796-316S	ZR0796-416S	ZR0796-286S	ZR0796-414S
3/32 x 3/32		ZR0798-303S	ZR0798-316S	ZR0798-416S	ZR0798-286S	ZR0798-414S
3/32 x 1/8		ZR0800-303S	ZR0800-316S	ZR0800-416S	ZR0800-286S	ZR0800-414S
3/32 x 5/32		ZR0802-303S	ZR0802-316S	ZR0802-416S	ZR0802-286S	ZR0802-414S
3/32 x 3/16	2-56 x 1/8	ZR0804-303S	ZR0804-316S	ZR0804-416S	ZR0804-286S	ZR0804-414S
3/32 x 7/32		ZR0806-303S	ZR0806-316S	ZR0806-416S	ZR0806-286S	ZR0806-414S
3/32 x 1/4		ZR0808-303S	ZR0808-316S	ZR0808-416S	ZR0808-286S	ZR0808-414S
3/32 x 5/16		ZR0812-303S	ZR0812-316S	ZR0812-416S	ZR0812-286S	ZR0812-414S
3/32 x 3/8	2-56 x 1/8	ZR0816-303S	ZR0816-316S	ZR0816-416S	ZR0816-286S	ZR0816-414S
3/32 x 7/16		ZR0820-303S	ZR0820-316S	ZR0820-416S	ZR0820-286S	ZR0820-414S
3/32 x 1/2		ZR0824-303S	ZR0824-316S	ZR0824-416S	ZR0824-286S	ZR0824-414S
3/32 x 5/8		ZR0828-303S	ZR0828-316S	ZR0828-416S	ZR0828-286S	ZR0828-414S
3/32 x 3/4	2-56 x 1/8	ZR0832-303S	ZR0832-316S	ZR0832-416S	ZR0832-286S	ZR0832-414S
3/32 x 1		ZR0836-303S	ZR0836-316S	ZR0836-414S	ZR0836-286S	ZR0836-414S



ZR0996-303S

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/8 x 1/16	4-40 x 5/32	ZR0996-303S	ZR0996-316S	ZR0996-416S	ZR0996-286S	ZR0996-414S
1/8 x 3/32		ZR0998-303S	ZR0998-316S	ZR0998-416S	ZR0998-286S	ZR0998-414S
1/8 x 1/8		ZR1000-303S	ZR1000-316S	ZR1000-416S	ZR1000-286S	ZR1000-414S
1/8 x 5/32		ZR1002-303S	ZR1002-316S	ZR1002-416S	ZR1002-286S	ZR1002-414S
1/8 x 3/16	4-40 x 5/32	ZR1004-303S	ZR1004-316S	ZR1004-416S	ZR1004-286S	ZR1004-414S
1/8 x 7/32		ZR1006-303S	ZR1006-316S	ZR1006-416S	ZR1006-286S	ZR1006-414S
1/8 x 1/4		ZR1008-303S	ZR1008-316S	ZR1008-416S	ZR1008-286S	ZR1008-414S
1/8 x 9/32		ZR1010-303S	ZR1010-316S	ZR1010-416S	ZR1010-286S	ZR1010-414S
1/8 x 5/16	4-40 x 5/32	ZR1012-303S	ZR1012-316S	ZR1012-416S	ZR1012-286S	ZR1012-414S
1/8 x 11/32		ZR1014-303S	ZR1014-316S	ZR1014-416S	ZR1014-286S	ZR1014-414S
1/8 x 3/8		ZR1016-303S	ZR1016-316S	ZR1016-416S	ZR1016-286S	ZR1016-414S
1/8 x 13/32		ZR1018-303S	ZR1018-316S	ZR1018-416S	ZR1018-286S	ZR1018-414S
1/8 x 7/16	4-40 x 5/32	ZR1020-303S	ZR1020-316S	ZR1020-416S	ZR1020-286S	ZR1020-414S

Chart continued on next page

Tight Tolerance Smooth Head — Inch



ZR1022-303S

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/8 x 15/32	4-40 x 5/32	ZR1022-303S	ZR1022-316S	ZR1022-416S	ZR1022-286S	ZR1022-414S
1/8 x 1/2		ZR1024-303S	ZR1024-316S	ZR1024-416S	ZR1024-286S	ZR1024-414S
1/8 x 9/16		ZR1026-303S	ZR1026-316S	ZR1026-416S	ZR1026-286S	ZR1026-414S
1/8 x 5/8		ZR1028-303S	ZR1028-316S	ZR1028-416S	ZR1028-286S	ZR1028-414S
1/8 x 11/16	4-40 x 5/32	ZR1030-303S	ZR1030-316S	ZR1030-416S	ZR1030-286S	ZR1030-414S
1/8 x 3/4		ZR1032-303S	ZR1032-316S	ZR1032-416S	ZR1032-286S	ZR1032-414S
1/8 x 7/8		ZR1034-303S	ZR1034-316S	ZR1034-416S	ZR1034-286S	ZR1034-414S
1/8 x 1		ZR1036-303S	ZR1036-316S	ZR1036-416S	ZR1036-286S	ZR1036-414S



ZR1096-303S

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
5/32 x 1/16	6-32 x 3/16	ZR1096-303S	ZR1096-316S	ZR1096-416S	ZR1096-286S	ZR1096-414S
5/32 x 3/32		ZR1098-303S	ZR1098-316S	ZR1098-416S	ZR1098-286S	ZR1098-414S
5/32 x 1/8		ZR1100-303S	ZR1100-316S	ZR1100-416S	ZR1100-286S	ZR1100-414S
5/32 x 5/32		ZR1102-303S	ZR1102-316S	ZR1102-416S	ZR1102-286S	ZR1102-414S
5/32 x 3/16	6-32 x 3/16	ZR1104-303S	ZR1104-316S	ZR1104-416S	ZR1104-286S	ZR1104-414S
5/32 x 7/32		ZR1106-303S	ZR1106-316S	ZR1106-416S	ZR1106-286S	ZR1106-414S
5/32 x 1/4		ZR1108-303S	ZR1108-316S	ZR1108-416S	ZR1108-286S	ZR1108-414S
5/32 x 9/32		ZR1110-303S	ZR1110-316S	ZR1110-416S	ZR1110-286S	ZR1110-414S
5/32 x 5/16	6-32 x 3/16	ZR1112-303S	ZR1112-316S	ZR1112-416S	ZR1112-286S	ZR1112-414S
5/32 x 11/32		ZR1114-303S	ZR1114-316S	ZR1114-416S	ZR1114-286S	ZR1114-414S
5/32 x 3/8		ZR1116-303S	ZR1116-316S	ZR1116-416S	ZR1116-286S	ZR1116-414S
5/32 x 13/32		ZR1118-303S	ZR1118-316S	ZR1118-416S	ZR1118-286S	ZR1118-414S
5/32 x 7/16	6-32 x 3/16	ZR1120-303S	ZR1120-316S	ZR1120-416S	ZR1120-286S	ZR1120-414S
5/32 x 15/32		ZR1122-303S	ZR1122-316S	ZR1122-416S	ZR1122-286S	ZR1122-414S
5/32 x 1/2		ZR1124-303S	ZR1124-316S	ZR1124-416S	ZR1124-286S	ZR1124-414S
5/32 x 9/16		ZR1126-303S	ZR1126-316S	ZR1126-416S	ZR1126-286S	ZR1126-414S
5/32 x 5/8	6-32 x 3/16	ZR1128-303S	ZR1128-316S	ZR1128-416S	ZR1128-286S	ZR1128-414S
5/32 x 11/16		ZR1130-303S	ZR1130-316S	ZR1130-416S	ZR1130-286S	ZR1130-414S
5/32 x 3/4		ZR1132-303S	ZR1132-316S	ZR1132-416S	ZR1132-286S	ZR1132-414S
5/32 x 7/8		ZR1134-303S	ZR1134-316S	ZR1134-416S	ZR1134-286S	ZR1134-414S
5/32 x 1	6-32 x 3/16	ZR1136-303S	ZR1136-316S	ZR1136-416S	ZR1136-286S	ZR1136-414S

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-100

18-8 SS, 316 SS, 416 SS, A286, Alloy

Tight Tolerance Smooth Head — Inch



ZR1196-303S

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
3/16 x 1/16	8-32 x 3/16	ZR1196-303S	ZR1196-316S	ZR1196-416S	ZR1196-286S	ZR1196-414S
3/16 x 3/32		ZR1198-303S	ZR1198-316S	ZR1198-416S	ZR1198-286S	ZR1198-414S
3/16 x 1/8		ZR1200-303S	ZR1200-316S	ZR1200-416S	ZR1200-286S	ZR1200-414S
3/16 x 5/32		ZR1202-303S	ZR1202-316S	ZR1202-416S	ZR1202-286S	ZR1202-414S
3/16 x 3/16	8-32 x 3/16	ZR1204-303S	ZR1204-316S	ZR1204-416S	ZR1204-286S	ZR1204-414S
3/16 x 7/32		ZR1206-303S	ZR1206-316S	ZR1206-416S	ZR1206-286S	ZR1206-414S
3/16 x 1/4		ZR1208-303S	ZR1208-316S	ZR1208-416S	ZR1208-286S	ZR1208-414S
3/16 x 9/32		ZR1210-303S	ZR1210-316S	ZR1210-416S	ZR1210-286S	ZR1210-414S
3/16 x 5/16	8-32 x 3/16	ZR1212-303S	ZR1212-316S	ZR1212-416S	ZR1212-286S	ZR1212-414S
3/16 x 11/32		ZR1214-303S	ZR1214-316S	ZR1214-416S	ZR1214-286S	ZR1214-414S
3/16 x 3/8		ZR1216-303S	ZR1216-316S	ZR1216-416S	ZR1216-286S	ZR1216-414S
3/16 x 7/16		ZR1218-303S	ZR1218-316S	ZR1218-416S	ZR1218-286S	ZR1218-414S
3/16 x 1/2	8-32 x 3/16	ZR1220-303S	ZR1220-316S	ZR1220-416S	ZR1220-286S	ZR1220-414S
3/16 x 9/16		ZR1222-303S	ZR1222-316S	ZR1222-416S	ZR1222-286S	ZR1222-414S
3/16 x 5/8		ZR1224-303S	ZR1224-316S	ZR1224-416S	ZR1224-286S	ZR1224-414S
3/16 x 11/16		ZR1226-303S	ZR1226-316S	ZR1226-416S	ZR1226-286S	ZR1226-414S
3/16 x 3/4	8-32 x 3/16	ZR1228-303S	ZR1228-316S	ZR1228-416S	ZR1228-286S	ZR1228-414S
3/16 x 7/8		ZR1230-303S	ZR1230-316S	ZR1230-416S	ZR1230-286S	ZR1230-414S
3/16 x 1		ZR1232-303S	ZR1232-316S	ZR1232-416S	ZR1232-286S	ZR1232-414S
3/16 x 1-1/8		ZR1234-303S	ZR1234-316S	ZR1234-416S	ZR1234-286S	ZR1234-414S
3/16 x 1-1/4	8-32 x 3/16	ZR1236-303S	ZR1236-316S	ZR1236-416S	ZR1236-286S	ZR1236-414S
3/16 x 1-3/8		ZR1238-303S	ZR1238-316S	ZR1238-416S	ZR1238-286S	ZR1238-414S
3/16 x 1-1/2		ZR1240-303S	ZR1240-316S	ZR1240-416S	ZR1240-286S	ZR1240-414S
3/16 x 1-5/8		ZR1242-303S	ZR1242-316S	ZR1242-416S	ZR1242-286S	ZR1242-414S
3/16 x 1-3/4	8-32 x 3/16	ZR1244-303S	ZR1244-316S	ZR1244-416S	ZR1244-286S	ZR1244-414S
3/16 x 2		ZR1246-303S	ZR1246-316S	ZR1246-416S	ZR1246-286S	ZR1246-414S
3/16 x 2-1/2		ZR1250-303S	ZR1250-316S	ZR1250-416S	ZR1250-286S	ZR1250-414S



ZR1346-303S

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/4 x 1/16	10-32 x 1/4	ZR1346-303S	ZR1346-316S	ZR1346-416S	ZR1346-286S	ZR1346-414S
1/4 x 3/32		ZR1348-303S	ZR1348-316S	ZR1348-416S	ZR1348-286S	ZR1348-414S
1/4 x 1/8	10-24 x 3/8	ZR1300-303S	ZR1300-316S	ZR1300-416S	ZR1300-286S	ZR1300-414S
1/4 x 1/8	10-32 x 1/4	ZR1350-303S	ZR1350-316S	ZR1350-416S	ZR1350-286S	ZR1350-414S
1/4 x 5/32		ZR1352-303S	ZR1352-316S	ZR1352-416S	ZR1352-286S	ZR1352-414S
1/4 x 3/16	10-24 x 3/8	ZR1304-303S	ZR1304-316S	ZR1304-416S	ZR1304-286S	ZR1304-414S
1/4 x 3/16	10-32 x 1/4	ZR1354-303S	ZR1354-316S	ZR1354-416S	ZR1354-286S	ZR1354-414S
1/4 x 7/32		ZR1356-303S	ZR1356-316S	ZR1356-416S	ZR1356-286S	ZR1356-414S
1/4 x 1/4	10-24 x 3/8	ZR1308-303S	ZR1308-316S	ZR1308-416S	ZR1308-286S	ZR1308-414S

Chart continued on next page

Tight Tolerance Smooth Head — Inch



ZR1358-303S

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/4 x 1/4	10-32 x 1/4	ZR1358-303S	ZR1358-316S	ZR1358-416S	ZR1358-286S	ZR1358-414S
1/4 x 9/32		ZR1360-303S	ZR1360-316S	ZR1360-416S	ZR1360-286S	ZR1360-414S
1/4 x 5/16	10-24 x 3/8	ZR1312-303S	ZR1312-316S	ZR1312-416S	ZR1312-286S	ZR1312-414S
1/4 x 5/16	10-32 x 1/4	ZR1362-303S	ZR1362-316S	ZR1362-416S	ZR1362-286S	ZR1362-414S
1/4 x 11/32		ZR1364-303S	ZR1364-316S	ZR1364-416S	ZR1364-286S	ZR1364-414S
1/4 x 3/8	10-24 x 3/8	ZR1316-303S	ZR1316-316S	ZR1316-416S	ZR1316-286S	ZR1316-414S
1/4 x 3/8	10-32 x 1/4	ZR1366-303S	ZR1366-316S	ZR1366-416S	ZR1366-286S	ZR1366-414S
1/4 x 7/16		ZR1368-303S	ZR1368-316S	ZR1368-416S	ZR1368-286S	ZR1368-414S
1/4 x 1/2	10-24 x 3/8	ZR1320-303S	ZR1320-316S	ZR1320-416S	ZR1320-286S	ZR1320-414S
1/4 x 1/2	10-32 x 1/4	ZR1370-303S	ZR1370-316S	ZR1370-416S	ZR1370-286S	ZR1370-414S
1/4 x 9/16		ZR1372-303S	ZR1372-316S	ZR1372-416S	ZR1372-286S	ZR1372-414S
1/4 x 5/8	10-24 x 3/8	ZR1324-303S	ZR1324-316S	ZR1324-416S	ZR1324-286S	ZR1324-414S
1/4 x 5/8	10-32 x 1/4	ZR1374-303S	ZR1374-316S	ZR1374-416S	ZR1374-286S	ZR1374-414S
1/4 x 11/16		ZR1376-303S	ZR1376-316S	ZR1376-416S	ZR1376-286S	ZR1376-414S
1/4 x 3/4	10-24 x 3/8	ZR1328-303S	ZR1328-316S	ZR1328-416S	ZR1328-286S	ZR1328-414S
1/4 x 3/4	10-32 x 1/4	ZR1378-303S	ZR1378-316S	ZR1378-416S	ZR1378-286S	ZR1378-414S
1/4 x 7/8		ZR1380-303S	ZR1380-316S	ZR1380-416S	ZR1380-286S	ZR1380-414S
1/4 x 1	10-24 x 3/8	ZR1332-303S	ZR1332-316S	ZR1332-416S	ZR1332-286S	ZR1332-414S
1/4 x 1	10-32 x 1/4	ZR1382-303S	ZR1382-316S	ZR1382-416S	ZR1382-286S	ZR1382-414S
1/4 x 1-1/8		ZR1384-303S	ZR1384-316S	ZR1384-416S	ZR1384-286S	ZR1384-414S
1/4 x 1-1/4	10-24 x 3/8	ZR1336-303S	ZR1336-316S	ZR1336-416S	ZR1336-286S	ZR1336-414S
1/4 x 1-1/4	10-32 x 1/4	ZR1386-303S	ZR1386-316S	ZR1386-416S	ZR1386-286S	ZR1386-414S
1/4 x 1-3/8		ZR1388-303S	ZR1388-316S	ZR1388-416S	ZR1388-286S	ZR1388-414S
1/4 x 1-1/2	10-24 x 3/8	ZR1340-303S	ZR1340-316S	ZR1340-416S	ZR1340-286S	ZR1340-414S
1/4 x 1-1/2	10-32 x 1/4	ZR1390-303S	ZR1390-316S	ZR1390-416S	ZR1390-286S	ZR1390-414S
1/4 x 1-5/8		ZR1392-303S	ZR1392-316S	ZR1392-416S	ZR1392-286S	ZR1392-414S
1/4 x 1-3/4		ZR1394-303S	ZR1394-316S	ZR1394-416S	ZR1394-286S	ZR1394-414S
1/4 x 2		ZR1396-303S	ZR1396-316S	ZR1396-416S	ZR1396-286S	ZR1396-414S



ZR1398-303S

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
5/16 x 1/8	1/4-20 x 7/16	ZR1398-303S	ZR1398-316S	ZR1398-416S	ZR1398-286S	ZR1398-414S
5/16 x 1/4		ZR1400-303S	ZR1400-316S	ZR1400-416S	ZR1400-286S	ZR1400-414S
5/16 x 5/16		ZR1404-303S	ZR1404-316S	ZR1404-416S	ZR1404-286S	ZR1404-414S
5/16 x 3/8		ZR1408-303S	ZR1408-316S	ZR1408-416S	ZR1408-286S	ZR1408-414S
5/16 x 1/2	1/4-20 x 7/16	ZR1412-303S	ZR1412-316S	ZR1412-416S	ZR1412-286S	ZR1412-414S
5/16 x 5/8		ZR1416-303S	ZR1416-316S	ZR1416-416S	ZR1416-286S	ZR1416-414S
5/16 x 3/4		ZR1420-303S	ZR1420-316S	ZR1420-416S	ZR1420-286S	ZR1420-414S
5/16 x 7/8		ZR1422-303S	ZR1422-316S	ZR1422-416S	ZR1422-286S	ZR1422-414S

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-100

18-8 SS, 316 SS, 416 SS, A286, Alloy

Tight Tolerance Smooth Head — Inch



ZR1424-303S

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
5/16 x 1		ZR1424-303S	ZR1424-316S	ZR1424-416S	ZR1424-286S	ZR1424-414S
5/16 x 1-1/4	1/4-20 x 7/16	ZR1428-303S	ZR1428-316S	ZR1428-416S	ZR1428-286S	ZR1428-414S
5/16 x 1-1/2		ZR1432-303S	ZR1432-316S	ZR1432-416S	ZR1432-286S	ZR1432-414S



ZR1513-303S

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
3/8 x 1/8		ZR1513-303S	ZR1513-316S	ZR1513-416S	ZR1513-286S	ZR1513-414S
3/8 x 3/16	5/16-18 x 1/2	ZR1514-303S	ZR1514-316S	ZR1514-416S	ZR1514-286S	ZR1514-414S
3/8 x 1/4		ZR1515-303S	ZR1515-316S	ZR1515-416S	ZR1515-286S	ZR1515-414S
3/8 x 5/16	1/4-20 x 7/16	ZR1500-303S	ZR1500-316S	ZR1500-416S	ZR1500-286S	ZR1500-414S
3/8 x 5/16	5/16-18 x 1/2	ZR1516-303S	ZR1516-316S	ZR1516-416S	ZR1516-286S	ZR1516-414S
3/8 x 3/8	1/4-20 x 7/16	ZR1504-303S	ZR1504-316S	ZR1504-416S	ZR1504-286S	ZR1504-414S
3/8 x 3/8	5/16-18 x 1/2	ZR1520-303S	ZR1520-316S	ZR1520-416S	ZR1520-286S	ZR1520-414S
3/8 x 1/2	1/4-20 x 7/16	ZR1508-303S	ZR1508-316S	ZR1508-416S	ZR1508-286S	ZR1508-414S
3/8 x 1/2	5/16-18 x 1/2	ZR1524-303S	ZR1524-316S	ZR1524-416S	ZR1524-286S	ZR1524-414S
3/8 x 5/8	1/4-20 x 7/16	ZR1512-303S	ZR1512-316S	ZR1512-416S	ZR1512-286S	ZR1512-414S
3/8 x 5/8	5/16-18 x 1/2	ZR1528-303S	ZR1528-316S	ZR1528-416S	ZR1528-286S	ZR1528-414S
3/8 x 3/4		ZR1532-303S	ZR1532-316S	ZR1532-416S	ZR1532-286S	ZR1532-414S
3/8 x 7/8		ZR1534-303S	ZR1534-316S	ZR1534-416S	ZR1534-286S	ZR1534-414S
3/8 x 1		ZR1536-303S	ZR1536-316S	ZR1536-416S	ZR1536-286S	ZR1536-414S
3/8 x 1-1/4		ZR1540-303S	ZR1540-316S	ZR1540-416S	ZR1540-286S	ZR1540-414S
3/8 x 1-1/2	5/16-18 x 1/2	ZR1544-303S	ZR1544-316S	ZR1544-416S	ZR1544-286S	ZR1544-414S
3/8 x 2		ZR1546-303S	ZR1546-316S	ZR1546-416S	ZR1546-286S	ZR1546-414S



ZR1600-303S

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
1/2 x 1/2		ZR1600-303S	ZR1600-316S	ZR1600-416S	ZR1600-286S	ZR1600-414S
1/2 x 5/8	3/8-16 x 5/8	ZR1604-303S	ZR1604-316S	ZR1604-416S	ZR1604-286S	ZR1604-414S
1/2 x 3/4		ZR1608-303S	ZR1608-316S	ZR1608-416S	ZR1608-286S	ZR1608-414S
1/2 x 1		ZR1612-303S	ZR1612-316S	ZR1612-416S	ZR1612-286S	ZR1612-414S
1/2 x 1-1/4		ZR1616-303S	ZR1616-316S	ZR1616-416S	ZR1616-286S	ZR1616-414S
1/2 x 1-1/2	3/8-16 x 5/8	ZR1620-303S	ZR1620-316S	ZR1620-416S	ZR1620-286S	ZR1620-414S
1/2 x 2		ZR1624-303S	ZR1624-316S	ZR1624-416S	ZR1624-286S	ZR1624-414S

Chart continued on next page

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN THE USA

Tight Tolerance Smooth Head — Metric

18-8 (A2), 316 (A4), 416, A286 Stainless Steels and Alloy Steel — Slotted Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2006 ZR.02.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



ZR1680-303S

3mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
3 x 2	M2 x 0.4 x 4	ZR1680-303S	ZR1680-316S	ZR1680-416S	ZR1680-286S	ZR1680-414S
3 x 3		ZR1681-303S	ZR1681-316S	ZR1681-416S	ZR1681-286S	ZR1681-414S
3 x 4		ZR1682-303S	ZR1682-316S	ZR1682-416S	ZR1682-286S	ZR1682-414S
3 x 5		ZR1683-303S	ZR1683-316S	ZR1683-416S	ZR1683-286S	ZR1683-414S
3 x 6	M2 x 0.4 x 4	ZR1684-303S	ZR1684-316S	ZR1684-416S	ZR1684-286S	ZR1684-414S
3 x 7		ZR1685-303S	ZR1685-316S	ZR1685-416S	ZR1685-286S	ZR1685-414S
3 x 8		ZR1688-303S	ZR1688-316S	ZR1688-416S	ZR1688-286S	ZR1688-414S
3 x 10		ZR1686-303S	ZR1686-316S	ZR1686-416S	ZR1686-286S	ZR1686-414S
3 x 12	M2 x 0.4 x 4	ZR1687-303S	ZR1687-316S	ZR1687-416S	ZR1687-286S	ZR1687-414S
3 x 14		ZR1689-303S	ZR1689-316S	ZR1689-416S	ZR1689-286S	ZR1689-414S
3 x 16		ZR1691-303S	ZR1691-316S	ZR1691-416S	ZR1691-286S	ZR1691-414S
3 x 18		ZR1693-303S	ZR1693-316S	ZR1693-416S	ZR1693-286S	ZR1693-414S
3 x 20	M2 x 0.4 x 4	ZR1694-303S	ZR1694-316S	ZR1694-416S	ZR1694-286S	ZR1694-414S
3 x 25		ZR1695-303S	ZR1695-316S	ZR1695-416S	ZR1695-286S	ZR1695-414S



ZR1697-303S

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
4 x 2	M3 x 0.5 x 4	ZR1697-303S	ZR1697-316S	ZR1697-416S	ZR1697-286S	ZR1697-414S
4 x 3		ZR1698-303S	ZR1698-316S	ZR1698-416S	ZR1698-286S	ZR1698-414S
4 x 4		ZR1700-303S	ZR1700-316S	ZR1700-416S	ZR1700-286S	ZR1700-414S
4 x 5		ZR1704-303S	ZR1704-316S	ZR1704-416S	ZR1704-286S	ZR1704-414S
4 x 6	M3 x 0.5 x 4	ZR1708-303S	ZR1708-316S	ZR1708-416S	ZR1708-286S	ZR1708-414S
4 x 7		ZR1699-303S	ZR1699-316S	ZR1699-416S	ZR1699-286S	ZR1699-414S
4 x 8		ZR1712-303S	ZR1712-316S	ZR1712-416S	ZR1712-286S	ZR1712-414S
4 x 10		ZR1716-303S	ZR1716-316S	ZR1716-416S	ZR1716-286S	ZR1716-414S
4 x 12	M3 x 0.5 x 4	ZR1718-303S	ZR1718-316S	ZR1718-416S	ZR1718-286S	ZR1718-414S
4 x 14		ZR1721-303S	ZR1721-316S	ZR1721-416S	ZR1721-286S	ZR1721-414S
4 x 16		ZR1719-303S	ZR1719-316S	ZR1719-416S	ZR1719-286S	ZR1719-414S
4 x 18		ZR1722-303S	ZR1722-316S	ZR1722-416S	ZR1722-286S	ZR1722-414S

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-106

18-8 SS, 316 SS, 416 SS, A286, Alloy

Tight Tolerance Smooth Head — Metric



ZR1723-303S

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
4 x 20	M3 x 0.5 x 4	ZR1723-303S	ZR1723-316S	ZR1723-416S	ZR1723-286S	ZR1723-414S
4 x 25		ZR1720-303S	ZR1720-316S	ZR1720-416S	ZR1720-286S	ZR1720-414S
4 x 30		ZR1724-303S	ZR1724-316S	ZR1724-416S	ZR1724-286S	ZR1724-414S
4 x 35		ZR1725-303S	ZR1725-316S	ZR1725-416S	ZR1725-286S	ZR1725-414S
4 x 40	M3 x 0.5 x 4	ZR1730-303S	ZR1730-316S	ZR1730-416S	ZR1730-286S	ZR1730-414S
4 x 45		ZR1732-303S	ZR1732-316S	ZR1732-416S	ZR1732-286S	ZR1732-414S
4 x 50		ZR1734-303S	ZR1734-316S	ZR1734-416S	ZR1734-286S	ZR1734-414S



ZR1748-303S

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
5 x 2	M4 x 0.7 x 5	ZR1748-303S	ZR1748-316S	ZR1748-416S	ZR1748-286S	ZR1748-414S
5 x 3		ZR1749-303S	ZR1749-316S	ZR1749-416S	ZR1749-286S	ZR1749-414S
5 x 4		ZR1750-303S	ZR1750-316S	ZR1750-416S	ZR1750-286S	ZR1750-414S
5 x 5		ZR1754-303S	ZR1754-316S	ZR1754-416S	ZR1754-286S	ZR1754-414S
5 x 6	M4 x 0.7 x 5	ZR1758-303S	ZR1758-316S	ZR1758-416S	ZR1758-286S	ZR1758-414S
5 x 7		ZR1760-303S	ZR1760-316S	ZR1760-416S	ZR1760-286S	ZR1760-414S
5 x 8		ZR1762-303S	ZR1762-316S	ZR1762-416S	ZR1762-286S	ZR1762-414S
5 x 10		ZR1766-303S	ZR1766-316S	ZR1766-416S	ZR1766-286S	ZR1766-414S
5 x 12	M4 x 0.7 x 5	ZR1770-303S	ZR1770-316S	ZR1770-416S	ZR1770-286S	ZR1770-414S
5 x 14		ZR1774-303S	ZR1774-316S	ZR1774-416S	ZR1774-286S	ZR1774-414S
5 x 16		ZR1778-303S	ZR1778-316S	ZR1778-416S	ZR1778-286S	ZR1778-414S
5 x 18		ZR1779-303S	ZR1779-316S	ZR1779-416S	ZR1779-286S	ZR1779-414S
5 x 20	M4 x 0.7 x 5	ZR1782-303S	ZR1782-316S	ZR1782-416S	ZR1782-286S	ZR1782-414S
5 x 25		ZR1786-303S	ZR1786-316S	ZR1786-416S	ZR1786-286S	ZR1786-414S
5 x 30		ZR1790-303S	ZR1790-316S	ZR1790-416S	ZR1790-286S	ZR1790-414S
5 x 35		ZR1791-303S	ZR1791-316S	ZR1791-416S	ZR1791-286S	ZR1791-414S
5 x 40	M4 x 0.7 x 5	ZR1793-303S	ZR1793-316S	ZR1793-416S	ZR1793-286S	ZR1793-414S
5 x 45		ZR1795-303S	ZR1795-316S	ZR1795-416S	ZR1795-286S	ZR1795-414S
5 x 50		ZR1799-303S	ZR1799-316S	ZR1799-416S	ZR1799-286S	ZR1799-414S



ZR1702-303S

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
6 x 2	M5 x 0.8 x 6	ZR1702-303S	ZR1702-316S	ZR1702-416S	ZR1702-286S	ZR1702-414S
6 x 3		ZR1798-303S	ZR1798-316S	ZR1798-416S	ZR1798-286S	ZR1798-414S
6 x 4		ZR1800-303S	ZR1800-316S	ZR1800-416S	ZR1800-286S	ZR1800-414S
6 x 5		ZR1804-303S	ZR1804-316S	ZR1804-416S	ZR1804-286S	ZR1804-414S

Chart continued on next page

Tight Tolerance Smooth Head — Metric



ZR1808-303S

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
6 x 6	M5 x 0.8 x 6	ZR1808-303S	ZR1808-316S	ZR1808-416S	ZR1808-286S	ZR1808-414S
6 x 7		ZR1809-303S	ZR1809-316S	ZR1809-416S	ZR1809-286S	ZR1809-414S
6 x 8		ZR1812-303S	ZR1812-316S	ZR1812-416S	ZR1812-286S	ZR1812-414S
6 x 10		ZR1816-303S	ZR1816-316S	ZR1816-416S	ZR1816-286S	ZR1816-414S
6 x 12	M5 x 0.8 x 6	ZR1820-303S	ZR1820-316S	ZR1820-416S	ZR1820-286S	ZR1820-414S
6 x 14		ZR1824-303S	ZR1824-316S	ZR1824-416S	ZR1824-286S	ZR1824-414S
6 x 16		ZR1828-303S	ZR1828-316S	ZR1828-416S	ZR1828-286S	ZR1828-414S
6 x 18		ZR1829-303S	ZR1829-316S	ZR1829-416S	ZR1829-286S	ZR1829-414S
6 x 20	M5 x 0.8 x 6	ZR1832-303S	ZR1832-316S	ZR1832-416S	ZR1832-286S	ZR1832-414S
6 x 25		ZR1836-303S	ZR1836-316S	ZR1836-416S	ZR1836-286S	ZR1836-414S
6 x 30		ZR1840-303S	ZR1840-316S	ZR1840-416S	ZR1840-286S	ZR1840-414S
6 x 35		ZR1842-303S	ZR1842-316S	ZR1842-416S	ZR1842-286S	ZR1842-414S
6 x 40	M5 x 0.8 x 6	ZR1844-303S	ZR1844-316S	ZR1844-416S	ZR1844-286S	ZR1844-414S
6 x 45		ZR1846-303S	ZR1846-316S	ZR1846-416S	ZR1846-286S	ZR1846-414S
6 x 50		ZR1848-303S	ZR1848-316S	ZR1848-416S	ZR1848-286S	ZR1848-414S
6 x 55		ZR1850-303S	ZR1850-316S	ZR1850-416S	ZR1850-286S	ZR1850-414S
6 x 60	M5 x 0.8 x 6	ZR1852-303S	ZR1852-316S	ZR1852-416S	ZR1852-286S	ZR1852-414S
6 x 65		ZR1854-303S	ZR1854-316S	ZR1854-416S	ZR1854-286S	ZR1854-414S



ZR1901-303S

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
8 x 4	M6 x 1 x 11	ZR1901-303S	ZR1901-316S	ZR1901-416S	ZR1901-286S	ZR1901-414S
8 x 5		ZR1902-303S	ZR1902-316S	ZR1902-416S	ZR1902-286S	ZR1902-414S
8 x 6		ZR1900-303S	ZR1900-316S	ZR1900-416S	ZR1900-286S	ZR1900-414S
8 x 7		ZR1903-303S	ZR1903-316S	ZR1903-416S	ZR1903-286S	ZR1903-414S
8 x 8	M6 x 1 x 11	ZR1904-303S	ZR1904-316S	ZR1904-416S	ZR1904-286S	ZR1904-414S
8 x 10		ZR1908-303S	ZR1908-316S	ZR1908-416S	ZR1908-286S	ZR1908-414S
8 x 12		ZR1912-303S	ZR1912-316S	ZR1912-416S	ZR1912-286S	ZR1912-414S
8 x 14		ZR1914-303S	ZR1914-316S	ZR1914-416S	ZR1914-286S	ZR1914-414S
8 x 16	M6 x 1 x 11	ZR1916-303S	ZR1916-316S	ZR1916-416S	ZR1916-286S	ZR1916-414S
8 x 18		ZR1918-303S	ZR1918-316S	ZR1918-416S	ZR1918-286S	ZR1918-414S
8 x 20		ZR1920-303S	ZR1920-316S	ZR1920-416S	ZR1920-286S	ZR1920-414S
8 x 25		ZR1921-303S	ZR1921-316S	ZR1921-416S	ZR1921-286S	ZR1921-414S
8 x 30	M6 x 1 x 11	ZR1922-303S	ZR1922-316S	ZR1922-416S	ZR1922-286S	ZR1922-414S
8 x 35		ZR1935-303S	ZR1935-316S	ZR1935-416S	ZR1935-286S	ZR1935-414S
8 x 40		ZR1924-303S	ZR1924-316S	ZR1924-416S	ZR1924-286S	ZR1924-414S
8 x 45		ZR1926-303S	ZR1926-316S	ZR1926-416S	ZR1926-286S	ZR1926-414S
8 x 50	M6 x 1 x 11	ZR1928-303S	ZR1928-316S	ZR1928-416S	ZR1928-286S	ZR1928-414S

Chart continued on next page

Tight Tolerance Smooth Head — Metric



ZR1950-303S

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
10 x 8	M6 x 1 x 11	ZR1950-303S	ZR1950-316S	ZR1950-416S	ZR1950-286S	ZR1950-414S
10 x 8	M8 x 1.25 x 12	ZR1966-303S	ZR1966-316S	ZR1966-416S	ZR1966-286S	ZR1966-414S
10 x 10	M6 x 1 x 11	ZR1954-303S	ZR1954-316S	ZR1954-416S	ZR1954-286S	ZR1954-414S
10 x 10	M8 x 1.25 x 12	ZR1970-303S	ZR1970-316S	ZR1970-416S	ZR1970-286S	ZR1970-414S
10 x 12	M6 x 1 x 11	ZR1958-303S	ZR1958-316S	ZR1958-416S	ZR1958-286S	ZR1958-414S
10 x 12	M8 x 1.25 x 12	ZR1974-303S	ZR1974-316S	ZR1974-416S	ZR1974-286S	ZR1974-414S
10 x 14		ZR1968-303S	ZR1968-316S	ZR1968-416S	ZR1968-286S	ZR1968-414S
10 x 16	M6 x 1 x 11	ZR1962-303S	ZR1962-316S	ZR1962-416S	ZR1962-286S	ZR1962-414S
10 x 16	M8 x 1.25 x 12	ZR1978-303S	ZR1978-316S	ZR1978-416S	ZR1978-286S	ZR1978-414S
10 x 18		ZR1969-303S	ZR1969-316S	ZR1969-416S	ZR1969-286S	ZR1969-414S
10 x 20		ZR1971-303S	ZR1971-316S	ZR1971-416S	ZR1971-286S	ZR1971-414S
10 x 25		ZR1972-303S	ZR1972-316S	ZR1972-416S	ZR1972-286S	ZR1972-414S
10 x 30	M8 x 1.25 x 12	ZR1973-303S	ZR1973-316S	ZR1973-416S	ZR1973-286S	ZR1973-414S
10 x 35		ZR1975-303S	ZR1975-316S	ZR1975-416S	ZR1975-286S	ZR1975-414S
10 x 40		ZR1976-303S	ZR1976-316S	ZR1976-416S	ZR1976-286S	ZR1976-414S
10 x 45		ZR1977-303S	ZR1977-316S	ZR1977-416S	ZR1977-286S	ZR1977-414S
10 x 50	M8 x 1.25 x 12	ZR1979-303S	ZR1979-316S	ZR1979-416S	ZR1979-286S	ZR1979-414S



ZR1981-303S

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	416 SS Part Number	A286 SS Part Number	Alloy Steel Part Number
12 x 8	M10 x 1.5 x 16	ZR1981-303S	ZR1981-316S	ZR1981-416S	ZR1981-286S	ZR1981-414S
12 x 10		ZR1983-303S	ZR1983-316S	ZR1983-416S	ZR1983-286S	ZR1983-414S
12 x 12		ZR1980-303S	ZR1980-316S	ZR1980-416S	ZR1980-286S	ZR1980-414S
12 x 14		ZR1982-303S	ZR1982-316S	ZR1982-416S	ZR1982-286S	ZR1982-414S
12 x 16	M10 x 1.5 x 16	ZR1984-303S	ZR1984-316S	ZR1984-416S	ZR1984-286S	ZR1984-414S
12 x 18		ZR1986-303S	ZR1986-316S	ZR1986-416S	ZR1986-286S	ZR1986-414S
12 x 20		ZR1988-303S	ZR1988-316S	ZR1988-416S	ZR1988-286S	ZR1988-414S
12 x 25		ZR1992-303S	ZR1992-316S	ZR1992-416S	ZR1992-286S	ZR1992-414S
12 x 30	M10 x 1.5 x 16	ZR1993-303S	ZR1993-316S	ZR1993-416S	ZR1993-286S	ZR1993-414S
12 x 35		ZR1994-303S	ZR1994-316S	ZR1994-416S	ZR1994-286S	ZR1994-414S
12 x 40		ZR1996-303S	ZR1996-316S	ZR1996-416S	ZR1996-286S	ZR1996-414S
12 x 45		ZR1998-303S	ZR1998-316S	ZR1998-416S	ZR1998-286S	ZR1998-414S
12 x 50	M10 x 1.5 x 16	ZR1999-303S	ZR1999-316S	ZR1999-416S	ZR1999-286S	ZR1999-414S

Tight Tolerance Smooth Head — Inch

18-8 and 316 Stainless Steels — 6-lobe Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2006 ZR.01.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.

Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Shoulder Length Tolerance	Head Diameter	Head Height	Drive Size
1/8	.125 to .124	+.002 to -0	1/4	1/8	T10
3/16	.187 to .186	+.002 to -0	5/16	5/32	T25
1/4	.250 to .249	+.002 to -0	3/8	3/16	T30



STR55218C02

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/8 x 1/8	4-40 x 5/32	STR55218C02	STR55318C02
1/8 x 3/16		STR55218C03	STR55318C03
1/8 x 1/4		STR55218C04	STR55318C04
1/8 x 5/16		STR55218C05	STR55318C05
1/8 x 3/8	4-40 x 5/32	STR55218C06	STR55318C06
1/8 x 1/2		STR55218C08	STR55318C08



STR55214F02

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/4 x 1/8	10-32 x 1/4	STR55214F02	STR55314F02
1/4 x 3/16		STR55214F03	STR55314F03
1/4 x 1/4		STR55214F04	STR55314F04
1/4 x 5/16		STR55214F05	STR55314F05
1/4 x 3/8	10-32 x 1/4	STR55214F06	STR55314F06
1/4 x 1/2		STR55214F08	STR55314F08
1/4 x 5/8		STR55214F10	STR55314F10
1/4 x 3/4		STR55214F12	STR55314F12
1/4 x 1	10-32 x 1/4	STR55214F16	STR55314F16



STR55231C02

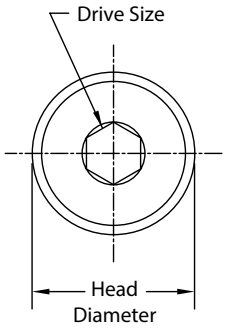
3/16 Shoulder Diameter

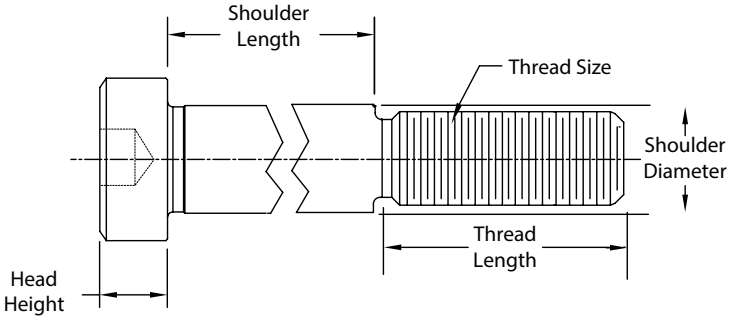
Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/16 x 1/8	8-32 x 3/16	STR55231C02	STR55331C02
3/16 x 3/16		STR55231C03	STR55331C03
3/16 x 1/4		STR55231C04	STR55331C04
3/16 x 5/16		STR55231C05	STR55331C05
3/16 x 3/8	8-32 x 3/16	STR55231C06	STR55331C06
3/16 x 1/2		STR55231C08	STR55331C08
3/16 x 5/8		STR55231C10	STR55331C10
3/16 x 3/4		STR55231C12	STR55331C12
3/16 x 1	8-32 x 3/16	STR55231C16	STR55331C16

Extended Thread Smooth Head — Inch

These specialty shoulder screws have thread lengths that are twice as long as standard smooth head shoulder screws. Longer thread lengths are provided to facilitate fastening of materials using a hex nut and washer. Screws have the same thread fit as standard nuts and other than additional thread length, these screws are dimensionally the same as other smooth head shoulder screws.

Screws are machined with hex socket drive, unmarked smooth heads, and an undercut portion between the thread and shoulder, allowing a close fit. The shoulder tolerance is held to +0 to -.001 inches and the shoulder diameter is held to +.002 to -0 inches. Screws have a Class 2A thread fit.

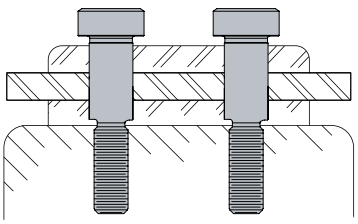




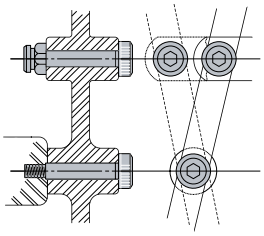
Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size
1/8	.125 to .124	1/4	1/8	5/64
5/32	.156 to .155	9/32	1/8	3/32
3/16	.187 to .186	5/16	5/32	3/32
1/4	.250 to .249	3/8	3/16	1/8
5/16	.312 to .311	7/16	7/32	5/32
3/8	.375 to .374	9/16	1/4	3/16
1/2	.500 to .499	3/4	5/16	1/4

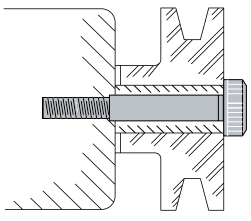
18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



Shoulder Screws as a Guide



Shoulder Screws as a Pivot Point



Shoulder Screws as a Shaft

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

Extended Thread Smooth Head — Inch

18-8 and 316 Stainless Steels — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
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- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR60118C02-EXT

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/8 x 1/8	4-40 x 5/16	STR60118C02-EXT	STR60218C02-EXT
1/8 x 3/16		STR60118C03-EXT	STR60218C03-EXT
1/8 x 1/4		STR60118C04-EXT	STR60218C04-EXT
1/8 x 5/16		STR60118C05-EXT	STR60218C05-EXT
1/8 x 3/8	4-40 x 5/16	STR60118C06-EXT	STR60218C06-EXT
1/8 x 1/2		STR60118C08-EXT	STR60218C08-EXT
1/8 x 5/8		STR60118C10-EXT	STR60218C10-EXT
1/8 x 3/4		STR60118C12-EXT	STR60218C12-EXT
1/8 x 1	4-40 x 5/16	STR60118C16-EXT	STR60218C16-EXT



STR60153C02-EXT

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/32 x 1/8	6-32 x 3/8	STR60153C02-EXT	STR60253C02-EXT
5/32 x 3/16		STR60153C03-EXT	STR60253C03-EXT
5/32 x 1/4		STR60153C04-EXT	STR60253C04-EXT
5/32 x 5/16		STR60153C05-EXT	STR60253C05-EXT
5/32 x 3/8	6-32 x 3/8	STR60153C06-EXT	STR60253C06-EXT
5/32 x 1/2		STR60153C08-EXT	STR60253C08-EXT
5/32 x 5/8		STR60153C10-EXT	STR60253C10-EXT
5/32 x 3/4		STR60153C12-EXT	STR60253C12-EXT
5/32 x 1	6-32 x 3/8	STR60153C16-EXT	STR60253C16-EXT



STR60131C02-EXT

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/16 x 1/8	8-32 x 3/8	STR60131C02-EXT	STR60231C02-EXT
3/16 x 3/16		STR60131C03-EXT	STR60231C03-EXT
3/16 x 1/4		STR60131C04-EXT	STR60231C04-EXT
3/16 x 5/16		STR60131C05-EXT	STR60231C05-EXT
3/16 x 3/8	8-32 x 3/8	STR60131C06-EXT	STR60231C06-EXT
3/16 x 1/2		STR60131C08-EXT	STR60231C08-EXT
3/16 x 5/8		STR60131C10-EXT	STR60231C10-EXT
3/16 x 3/4		STR60131C12-EXT	STR60231C12-EXT
3/16 x 1	8-32 x 3/8	STR60131C16-EXT	STR60231C16-EXT
3/16 x 1-1/4		STR60131C20-EXT	STR60231C20-EXT
3/16 x 1-1/2		STR60131C24-EXT	STR60231C24-EXT



STR60114C02-EXT

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/4 x 1/8	10-24 x 3/4	STR60114C02-EXT	STR60214C02-EXT
1/4 x 3/16		STR60114C03-EXT	STR60214C03-EXT
1/4 x 1/4		STR60114C04-EXT	STR60214C04-EXT
1/4 x 5/16		STR60114C05-EXT	STR60214C05-EXT
1/4 x 3/8	10-24 x 3/4	STR60114C06-EXT	STR60214C06-EXT
1/4 x 1/2		STR60114C08-EXT	STR60214C08-EXT
1/4 x 5/8		STR60114C10-EXT	STR60214C10-EXT
1/4 x 3/4		STR60114C12-EXT	STR60214C12-EXT
1/4 x 1	10-24 x 3/4	STR60114C16-EXT	STR60214C16-EXT
1/4 x 1-1/4		STR60114C20-EXT	STR60214C20-EXT
1/4 x 1-1/2		STR60114C24-EXT	STR60214C24-EXT
1/4 x 1-3/4		STR60114C28-EXT	STR60214C28-EXT
1/4 x 2	10-24 x 3/4	STR60114C32-EXT	STR60214C32-EXT

Chart continued on next page

Extended Thread Smooth Head — Inch



STR60151C04-EXT



STR60138C04-EXT

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5/16 x 1/4	1/4-20 x 7/8	STR60151C04-EXT	STR60251C04-EXT
5/16 x 5/16		STR60151C05-EXT	STR60251C05-EXT
5/16 x 3/8		STR60151C06-EXT	STR60251C06-EXT
5/16 x 1/2		STR60151C08-EXT	STR60251C08-EXT
5/16 x 5/8		STR60151C10-EXT	STR60251C10-EXT
5/16 x 3/4		STR60151C12-EXT	STR60251C12-EXT
5/16 x 1		STR60151C16-EXT	STR60251C16-EXT
5/16 x 1-1/4		STR60151C20-EXT	STR60251C20-EXT
5/16 x 1-1/2	1/4-20 x 7/8	STR60151C24-EXT	STR60251C24-EXT
5/16 x 1-3/4		STR60151C28-EXT	STR60251C28-EXT
5/16 x 2		STR60151C32-EXT	STR60251C32-EXT

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
3/8 x 1/4	5/16-18 x 1	STR60138C04-EXT	STR60238C04-EXT
3/8 x 3/8		STR60138C06-EXT	STR60238C06-EXT
3/8 x 1/2		STR60138C08-EXT	STR60238C08-EXT
3/8 x 5/8		STR60138C10-EXT	STR60238C10-EXT
3/8 x 3/4		STR60138C12-EXT	STR60238C12-EXT
3/8 x 1		STR60138C16-EXT	STR60238C16-EXT
3/8 x 1-1/4		STR60138C20-EXT	STR60238C20-EXT
3/8 x 1-1/2		STR60138C24-EXT	STR60238C24-EXT
3/8 x 1-3/4	5/16-18 x 1	STR60138C28-EXT	STR60238C28-EXT
3/8 x 2		STR60138C32-EXT	STR60238C32-EXT
3/8 x 2-1/4		STR60138C36-EXT	STR60238C36-EXT
3/8 x 2-1/2		STR60138C40-EXT	STR60238C40-EXT

1/2 Shoulder Diameter

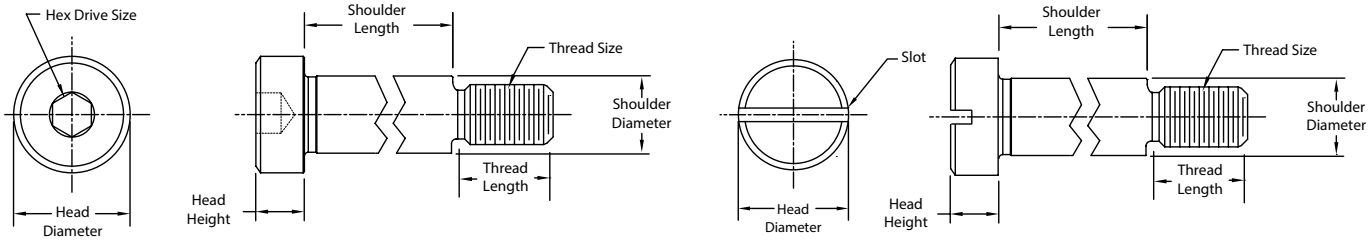
Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
1/2 x 3/8	3/8-16 x 1-1/4	STR60112C06-EXT	STR60212C06-EXT
1/2 x 1/2		STR60112C08-EXT	STR60212C08-EXT
1/2 x 5/8		STR60112C10-EXT	STR60212C10-EXT
1/2 x 3/4		STR60112C12-EXT	STR60212C12-EXT
1/2 x 1	3/8-16 x 1-1/4	STR60112C16-EXT	STR60212C16-EXT
1/2 x 1-1/4		STR60112C20-EXT	STR60212C20-EXT
1/2 x 1-1/2		STR60112C24-EXT	STR60212C24-EXT
1/2 x 1-3/4		STR60112C28-EXT	STR60212C28-EXT
1/2 x 2	3/8-16 x 1-1/4	STR60112C32-EXT	STR60212C32-EXT
1/2 x 2-1/4		STR60112C36-EXT	STR60212C36-EXT
1/2 x 2-1/2		STR60112C40-EXT	STR60212C40-EXT



STR60112C06-EXT

Mil Spec Smooth Head — Inch

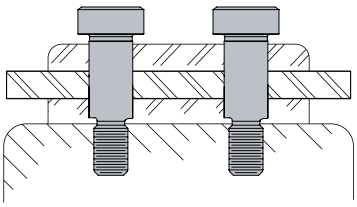
Precision shoulder screws were originally developed for use as the mechanical component in linear motion assemblies, and used to anchor bearings, gears, pulleys, etc. Precision shoulder screws manufactured in the USA to MS51575 for slotted shoulder screws, and MS51576 for socket drive shoulder screws. The military specification allows a wide range of head dimensions, according to the manufacturer's design. We have chosen to produce heads that are in the middle of the allowable range. You can find smaller heads in our "Low Profile" section. Passivated per QQ-P-35. Screws have a shoulder diameter tolerance of +0 to -.001 inch and a shoulder length tolerance of +.003 to -0 inches. Screws have a Class 2A thread fit.



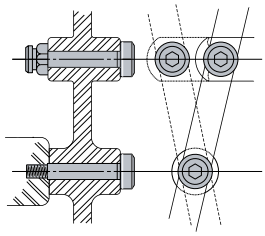
Hex Smooth Head Shoulder Screws located on page B-129.
Slotted Smooth Head Shoulder Screws located on page B-130.

Dimensions and Tolerance Table — Inch

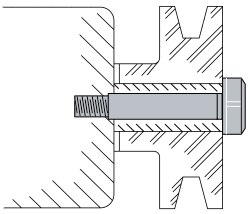
Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size (Hex)
1/8	.125 to .124	1/4	1/8	5/64
3/16	.187 to .186	5/16	5/32	3/32
1/4	.250 to .249	3/8	3/16	1/8
5/16	.312 to .311	1/2	7/32	5/32
3/8	.375 to .374	9/16	1/4	3/16
1/2	.500 to .499	3/4	5/16	1/4



Shoulder Screws as a Guide



Shoulder Screws as a Pivot Point



Shoulder Screws as a Shaft

Mil Spec Smooth Head — Inch

18-8 SS — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and MS5176.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.
- Passivated per QQ-P-35.



ZR1000-MILH

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
1/8 x 1/8	4-40 x 5/32	ZR1000-MILH	MS51576-1
1/8 x 3/16		ZR1004-MILH	MS51576-2
1/8 x 1/4		ZR1008-MILH	MS51576-3
1/8 x 5/16		ZR1012-MILH	MS51576-4
1/8 x 3/8	4-40 x 5/32	ZR1016-MILH	MS51576-5



ZR1354-MILH

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
1/4 x 3/16	10-32 x 1/4	ZR1354-MILH	MS51576-16
1/4 x 1/4		ZR1358-MILH	MS51576-17
1/4 x 5/16		ZR1362-MILH	MS51576-18
1/4 x 3/8		ZR1366-MILH	MS51576-19
1/4 x 1/2	10-32 x 1/4	ZR1370-MILH	MS51576-20
1/4 x 5/8		ZR1374-MILH	MS51576-21
1/4 x 3/4		ZR1378-MILH	MS51576-22
1/4 x 1		ZR1382-MILH	MS51576-23
1/4 x 1-1/4	10-32 x 1/4	ZR1386-MILH	MS51576-24
1/4 x 1-1/2		ZR1390-MILH	MS51576-25



ZR1528-MILH

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
3/8 x 5/8	5/16-18 x 1/2	ZR1528-MILH	MS51576-32



ZR1200-MILH

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
3/16 x 1/8	8-32 x 3/16	ZR1200-MILH	MS51576-6
3/16 x 3/16		ZR1204-MILH	MS51576-7
3/16 x 1/4		ZR1208-MILH	MS51576-8
3/16 x 5/16		ZR1212-MILH	MS51576-9
3/16 x 3/8	8-32 x 3/16	ZR1216-MILH	MS51576-10
3/16 x 1/2		ZR1220-MILH	MS51576-11
3/16 x 5/8		ZR1224-MILH	MS51576-12
3/16 x 3/4		ZR1228-MILH	MS51576-13
3/16 x 1	8-32 x 3/16	ZR1232-MILH	MS51576-14
3/16 x 1-1/4		ZR1236-MILH	MS51576-15



ZR1412-MILH

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
5/16 x 1/2	14-20 x 7/16	ZR1412-MILH	MS51576-26
5/16 x 5/8		ZR1416-MILH	MS51576-27
5/16 x 3/4		ZR1420-MILH	MS51576-28
5/16 x 1		ZR1424-MILH	MS51576-29
5/16 x 1-1/4	14-20 x 7/16	ZR1428-MILH	MS51576-30
5/16 x 1-1/2		ZR1432-MILH	MS51576-31



ZR1604-MILH

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
1/2 x 5/8	3/8-16 x 5/8	ZR1604-MILH	MS51576-37
1/2 x 3/4		ZR1608-MILH	MS51576-38
1/2 x 1		ZR1612-MILH	MS51576-39
1/2 x 1-1/4		ZR1616-MILH	MS51576-40
1/2 x 1-1/2	3/8-16 x 5/8	ZR1620-MILH	MS51576-41

Chart continued on next page

Mil Spec Smooth Head — Inch

18-8 SS — Slotted Drive



ZR1000-MILS

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
1/8 x 1/8	4-40 x 5/32	ZR1000-MILS	MS51575-1
1/8 x 3/16		ZR1004-MILS	MS51575-2
1/8 x 1/4		ZR1008-MILS	MS51575-3
1/8 x 5/16		ZR1012-MILS	MS51575-4
1/8 x 3/8	4-40 x 5/32	ZR1016-MILS	MS51575-5



ZR1350-MILS

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
1/4 x 1/8	10-32 x 1/4	ZR1350-MILS	MS51575-16
1/4 x 3/16		ZR1354-MILS	MS51575-17
1/4 x 1/4		ZR1358-MILS	MS51575-18
1/4 x 5/16		ZR1362-MILS	MS51575-19
1/4 x 3/8	10-32 x 1/4	ZR1366-MILS	MS51575-20
1/4 x 1/2		ZR1370-MILS	MS51575-21
1/4 x 5/8		ZR1374-MILS	MS51575-22
1/4 x 3/4		ZR1378-MILS	MS51575-23
1/4 x 1	10-32 x 1/4	ZR1382-MILS	MS51575-24
1/4 x 1-1/4		ZR1386-MILS	MS51575-25
1/4 x 1-1/2		ZR1390-MILS	MS51575-26



ZR1200-MILS

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
3/16 x 1/8	8-32 x 3/16	ZR1200-MILS	MS51575-6
3/16 x 3/16		ZR1204-MILS	MS51575-7
3/16 x 1/4		ZR1208-MILS	MS51575-8
3/16 x 5/16		ZR1212-MILS	MS51575-9
3/16 x 3/8	8-32 x 3/16	ZR1216-MILS	MS51575-10
3/16 x 1/2		ZR1220-MILS	MS51575-11
3/16 x 5/8		ZR1224-MILS	MS51575-12
3/16 x 3/4		ZR1228-MILS	MS51575-13
3/16 x 1	8-32 x 3/16	ZR1232-MILS	MS51575-14
3/16 x 1-1/4		ZR1236-MILS	MS51575-15



ZR1400-MILS

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
5/16 x 1/4	14-20 x 7/16	ZR1400-MILS	MS51575-27
5/16 x 5/16		ZR1404-MILS	MS51575-28



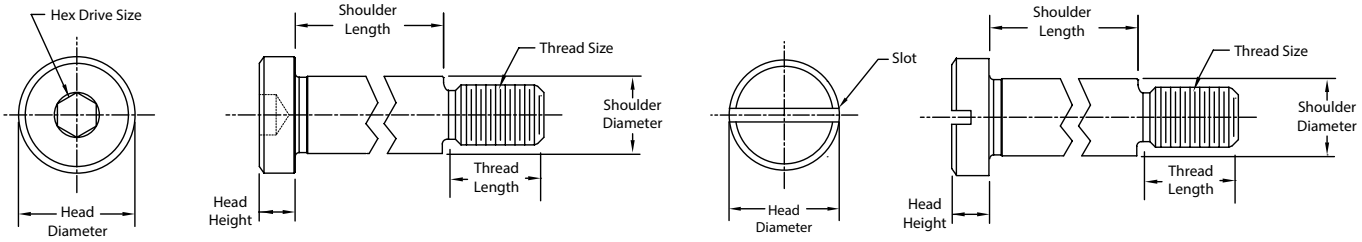
ZR1600-MILS

1/2 Shoulder Diameter

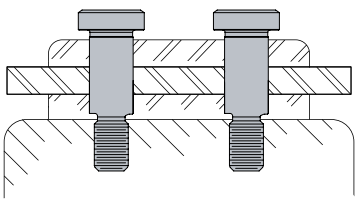
Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	Mil Spec Number
1/2 x 1/2	3/8-16 x 5/8	ZR1600-MILS	MS51575-29

Low Profile Smooth Head — Inch

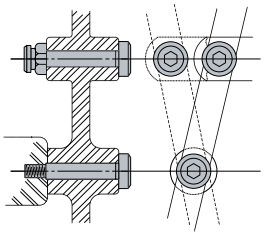
The shallow head makes these screws the right size to hold components in tight spaces. Low Profile screws are 2/3 the head height of standard head height shoulder screws. The shoulder diameters are held to the same precise tolerance as other smooth head screws, at +0 to -.001 inches and the shoulder length tolerance is +.002 to -0 inches. All screws have a Class 2A thread fit.



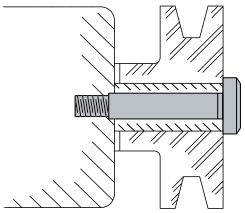
Dimensions and Tolerance Table — Inch				
Shoulder Diameter	**Shoulder Diameter** Max. to Min.	**Head Diameter**	**Head Height**	**Drive Size** (Hex)
3/32	.094 to .093	3/16	1/16	5/64
1/8	.125 to .124	1/4	3/32	5/64
5/32	.156 to .155	9/32	5/64	3/32
3/16	.187 to .186	5/16	7/64	3/32
1/4	.250 to .249	3/8	1/8	1/8
5/16	.312 to .311	7/16	1/8	5/32
3/8	.375 to .374	9/16	3/32	3/16



Shoulder Screws as a Guide



Shoulder Screws as a Pivot Point



Shoulder Screws as a Shaft

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

Low Profile Smooth Head — Inch

18-8 SS, 316 SS, and Alloy Steel — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2013 LP.01.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/32 x 1/16	2-56 x 1/8	STR40132C01H	STR40232C01H	STR41432C01H
3/32 x 3/32		STR40132C01.5H	STR40232C01.5H	STR41432C01.5H
3/32 x 1/8		STR40132C02H	STR40232C02H	STR41432C02H
3/32 x 5/32		STR40132C02.5H	STR40232C02.5H	STR41432C02.5H
3/32 x 3/16	2-56 x 1/8	STR40132C03H	STR40232C03H	STR41432C03H
3/32 x 1/4		STR40132C04H	STR40232C04H	STR41432C04H
3/32 x 5/16		STR40132C05H	STR40232C05H	STR41432C05H
3/32 x 3/8		STR40132C06H	STR40232C06H	STR41432C06H



STR40132C01H

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
1/8 x 1/16	4-40 x 5/32	STR40118C01H	STR40218C01H	STR41418C01H
1/8 x 3/32		STR40118C1.5H	STR40218C1.5H	STR41418C1.5H
1/8 x 1/8		STR40118C02H	STR40218C02H	STR41418C02H
1/8 x 5/32		STR40118C02.5H	STR40218C02.5H	STR41418C02.5H
1/8 x 3/16	4-40 x 5/32	STR40118C03H	STR40218C03H	STR41418C03H
1/8 x 1/4		STR40118C04H	STR40218C04H	STR41418C04H
1/8 x 5/16		STR40118C05H	STR40218C05H	STR41418C05H
1/8 x 3/8		STR40118C06H	STR40218C06H	STR41418C06H
1/8 x 1/2	4-40 x 5/32	STR40118C08H	STR40218C08H	STR41418C08H



STR40118C01H

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
5/32 x 1/8	6-32 x 3/16	STR40153C02H	STR40253C02H	STR41453C02H
5/32 x 3/16		STR40153C03H	STR40253C03H	STR41453C03H
5/32 x 1/4		STR40153C04H	STR40253C04H	STR41453C04H
5/32 x 5/16		STR40153C05H	STR40253C05H	STR41453C05H
5/32 x 3/8	6-32 x 3/16	STR40153C06H	STR40253C06H	STR41453C06H



STR40153C02H

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/16 x 1/8	8-32 x 3/16	STR40131C02H	STR40231C02H	STR41431C02H
3/16 x 3/16		STR40131C03H	STR40231C03H	STR41431C03H
3/16 x 1/4		STR40131C04H	STR40231C04H	STR41431C04H
3/16 x 5/16		STR40131C05H	STR40231C05H	STR41431C05H



STR40131C02H

Chart continued on next page

Low Profile Smooth Head — Inch

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/16 x 3/8	8-32 x 3/16	STR40131C06H	STR40231C06H	STR41431C06H
3/16 x 1/2		STR40131C08H	STR40231C08H	STR41431C08H
3/16 x 5/8		STR40131C10H	STR40231C10H	STR41431C10H
3/16 x 3/4		STR40131C12H	STR40231C12H	STR41431C12H
3/16 x 1	8-32 x 3/16	STR40131C16H	STR40231C16H	STR41431C16H



STR40131C06H

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
1/4 x 1/8	10-32 x 1/4	STR40114C02H	STR40214C02H	STR41414C02H
1/4 x 3/16		STR40114C03H	STR40214C03H	STR41414C03H
1/4 x 1/4		STR40114C04H	STR40214C04H	STR41414C04H
1/4 x 5/16		STR40114C05H	STR40214C05H	STR41414C05H
1/4 x 3/8	10-24 x 3/8	STR40114C06-1024H	STR40214C06-1024H	STR41414C06-1024H
1/4 x 3/8	10-32 x 1/4	STR40114C06H	STR40214C06H	STR41414C06H
1/4 x 1/2		STR40114C08H	STR40214C08H	STR41414C08H
1/4 x 1/2	10-24 x 3/8	STR40114C08-1024H	STR40214C08-1024H	STR41414C08-1024H
1/4 x 5/8	10-32 x 1/4	STR40114C10H	STR40214C10H	STR41414C10H
1/4 x 3/4		STR40114C12H	STR40214C12H	STR41414C12H
1/4 x 1		STR40114C16H	STR40214C16H	STR41414C16H



STR40114C02H

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
5/16 x 1/8	1/4-20 x 3/8	STR40151C02H	STR40251C02H	STR41451C02H
5/16 x 1/4		STR40151C04H	STR40251C04H	STR41451C04H
5/16 x 3/8		STR40151C06H	STR40251C06H	STR41451C06H
5/16 x 1/2		STR40151C08H	STR40251C08H	STR41451C08H
5/16 x 5/8	1/4-20 x 3/8	STR40151C10H	STR40251C10H	STR41451C10H
5/16 x 3/4		STR40151C12H	STR40251C12H	STR41451C12H
5/16 x 1		STR40151C16H	STR40251C16H	STR41451C16H



STR40151C02H

3/8 Shoulder Diameter

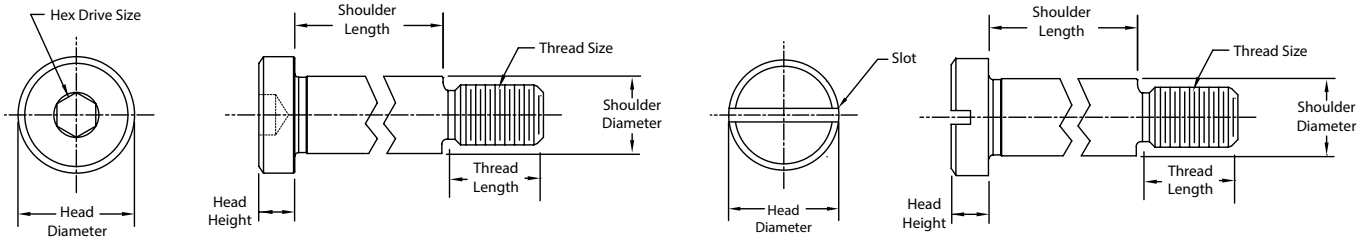
Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/8 x 1/4	5/16-18 x 3/8	STR40138C04H	STR40238C04H	STR41438C04H
3/8 x 3/8		STR40138C06H	STR40238C06H	STR41438C06H
3/8 x 1/2		STR40138C08H	STR40238C08H	STR41438C08H
3/8 x 5/8		STR40138C10H	STR40238C10H	STR41438C10H
3/8 x 3/4	5/16-18 x 3/8	STR40138C12H	STR40238C12H	STR41438C12H
3/8 x 1		STR40138C16H	STR40238C16H	STR41438C16H



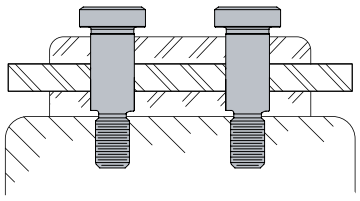
STR40138C04H

Low Profile Smooth Head — Metric

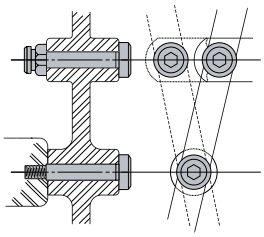
The shallow head makes these screws the right size to hold components in tight spaces. Low Profile screws are 2/3 the head height of standard head height shoulder screws. Shoulder diameters are held to the same precise tolerance as other smooth head screws, at +0mm to -.025mm. Shoulder length tolerance is +.05mm to -0mm. All screws have a Class 6g thread fit.



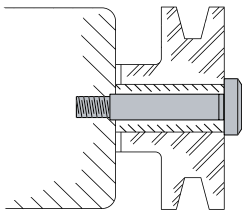
Dimensions and Tolerance Table — Metric				
Shoulder Diameter	**Shoulder Diameter** Max. to Min.	**Head Diameter**	**Head Height**	**Drive Size** (Hex)
4	4.00 to 3.97	6.00	2.00	2
5	5.00 to 4.97	8.00	2.50	2.5
6	6.00 to 5.97	10.00	3.00	3
8	8.00 to 7.97	12.00	3.50	4
10	10.00 to 9.97	14.00	4.50	5
12	12.00 to 11.97	20.00	6.00	6



Shoulder Screws as a Guide



Shoulder Screws as a Pivot Point



Shoulder Screws as a Shaft

Low Profile Smooth Head — Metric

18-8 (A2) and 316 (A4) Stainless Steels — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2013 LP.02.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR401M4X2

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
4 x 2	M3 x 0.5 x 4	STR401M4X2	—
4 x 4		STR401M4X4	STR402M4X4
4 x 5		STR401M4X5	STR402M4X5
4 x 6		STR401M4X6	STR402M4X6
4 x 8	M3 x 0.5 x 4	STR401M4X8	STR402M4X8
4 x 10		STR401M4X10	STR402M4X10
4 x 12		STR401M4X12	STR402M4X12
4 x 16		STR401M4X16	STR402M4X16
4 x 20	M3 x 0.5 x 4	STR401M4X20	STR402M4X20



STR401M6X3-ST

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
6 x 3	M5 x 0.8 x 6	STR401M6X3-ST	STR402M6X3-ST
6 x 4		STR401M6X4-ST	STR402M6X4-ST
6 x 5		STR401M6X5-ST	STR402M6X5-ST
6 x 6		STR401M6X6-ST	STR402M6X6-ST
6 x 8		STR401M6X8-ST	STR402M6X8-ST
6 x 4	M5 x 0.8 x 9.5	STR401M6X4-LT	STR402M6X4-LT
6 x 5		STR401M6X5-LT	STR402M6X5-LT
6 x 6		STR401M6X6-LT	STR402M6X6-LT
6 x 8		STR401M6X8-LT	STR402M6X8-LT
6 x 10	M5 x 0.8 x 6	STR401M6X10-ST	STR402M6X10-ST
6 x 12		STR401M6X12-ST	STR402M6X12-ST
6 x 16		STR401M6X16-ST	STR402M6X16-ST
6 x 20		STR401M6X20-ST	STR402M6X20-ST
6 x 10	M5 x 0.8 x 9.5	STR401M6X10-LT	STR402M6X10-LT
6 x 12		STR401M6X12-LT	STR402M6X12-LT
6 x 16		STR401M6X16-LT	STR402M6X16-LT
6 x 20		STR401M6X20-LT	STR402M6X20-LT



STR401M5X4-ST

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5 x 4	M4 x 0.7 x 5	STR401M5X4-ST	STR402M5X4-ST
5 x 5		STR401M5X5-ST	STR402M5X5-ST
5 x 6		STR401M5X6-ST	STR402M5X6-ST
5 x 8		STR401M5X8-ST	STR402M5X8-ST
5 x 4	M4 x 0.7 x 8.3	STR401M5X4-LT	STR402M5X4-LT
5 x 5		STR401M5X5-LT	STR402M5X5-LT
5 x 6		STR401M5X6-LT	STR402M5X6-LT
5 x 8		STR401M5X8-LT	STR402M5X8-LT
5 x 10	M4 x 0.7 x 5	STR401M5X10-ST	STR402M5X10-ST
5 x 12		STR401M5X12-ST	STR402M5X12-ST
5 x 16		STR401M5X16-ST	STR402M5X16-ST
5 x 20		STR401M5X20-ST	STR402M5X20-ST
5 x 10	M4 x 0.7 x 8.3	STR401M5X10-LT	STR402M5X10-LT
5 x 12		STR401M5X12-LT	STR402M5X12-LT
5 x 16		STR401M5X16-LT	STR402M5X16-LT
5 x 20		STR401M5X20-LT	STR402M5X20-LT
5 x 25	M4 x 0.7 x 5	STR401M5X25-ST	STR402M5X25-ST
5 x 30		STR401M5X30-ST	STR402M5X30-ST
5 x 25	M4 x 0.7 x 8.3	STR401M5X25-LT	STR402M5X25-LT
5 x 30		STR401M5X30-LT	STR402M5X30-LT

Chart continued on next page

Low Profile Smooth Head — Metric



STR401M6X25-LT

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
6 x 25	M5 x 0.8 x 6	STR401M6X25-ST	STR402M6X25-ST
6 x 30		STR401M6X30-ST	STR402M6X30-ST
6 x 35		STR401M6X35-ST	STR402M6X35-ST
6 x 40		STR401M6X40-ST	STR402M6X40-ST
6 x 25	M5 x 0.8 x 9.5	STR401M6X25-LT	STR402M6X25-LT
6 x 30		STR401M6X30-LT	STR402M6X30-LT
6 x 35		STR401M6X35-LT	STR402M6X35-LT
6 x 40		STR401M6X40-LT	STR402M6X40-LT



STR401M8X6

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
8 x 6	M6 x 1 x 11	STR401M8X6	STR402M8X6
8 x 8		STR401M8X8	STR402M8X8
8 x 10		STR401M8X10	STR402M8X10
8 x 12		STR401M8X12	STR402M8X12
8 x 16	M6 x 1 x 11	STR401M8X16	STR402M8X16
8 x 20		STR401M8X20	STR402M8X20
8 x 25		STR401M8X25	STR402M8X25
8 x 30		STR401M8X30	STR402M8X30
8 x 35	M6 x 1 x 11	STR401M8X35	STR402M8X35
8 x 40		STR401M8X40	STR402M8X40



STR401M10X8

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
10 x 8	M8 x 1.25 x 13	STR401M10X8	STR402M10X8
10 x 10		STR401M10X10	STR402M10X10
10 x 12		STR401M10X12	STR402M10X12
10 x 16		STR401M10X16	STR402M10X16
10 x 20	M8 x 1.25 x 13	STR401M10X20	STR402M10X20
10 x 25		STR401M10X25	STR402M10X25
10 x 30		STR401M10X30	STR402M10X30
10 x 35		STR401M10X35	STR402M10X35
10 x 40	M8 x 1.25 x 13	STR401M10X40	STR402M10X40



STR401M12X8

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
12 x 8	M10 x 1.5 x 16	STR401M12X8	STR402M12X8
12 x 10		STR401M12X10	STR402M12X10
12 x 12		STR401M12X12	STR402M12X12
12 x 16		STR401M12X16	STR402M12X16
12 x 20	M10 x 1.5 x 16	STR401M12X20	STR402M12X20
12 x 25		STR401M12X25	STR402M12X25
12 x 30		STR401M12X30	STR402M12X30
12 x 35		STR401M12X35	STR402M12X35
12 x 40	M10 x 1.5 x 16	STR401M12X40	STR402M12X40

Friction Resistant Low Profile Smooth Head — Inch

Brass — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2006 BR.01.
- Brass material adheres to environmental regulations established by European Union RoHS directive. Current RoHS exemption allows alloying element containing up to 4% lead by weight.



STR40632C01H

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/32 x 1/16	2-56 x 1/8	STR40632C01H
3/32 x 3/32		STR40632C01.5H
3/32 x 1/8		STR40632C02H
3/32 x 5/32		STR40632C02.5H
3/32 x 3/16	2-56 x 1/8	STR40632C03H
3/32 x 1/4		STR40632C04H
3/32 x 5/16		STR40632C05H
3/32 x 3/8		STR40632C06H



STR40631C02H

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/16 x 1/8	8-32 x 3/16	STR40631C02H
3/16 x 3/16		STR40631C03H
3/16 x 1/4		STR40631C04H
3/16 x 5/16		STR40631C05H
3/16 x 3/8	8-32 x 3/16	STR40631C06H
3/16 x 1/2		STR40631C08H
3/16 x 5/8		STR40631C10H
3/16 x 3/4		STR40631C12H
3/16 x 1	8-32 x 3/16	STR40631C16H



STR40618C01H

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
1/8 x 1/16	4-40 x 5/32	STR40618C01H
1/8 x 3/32		STR40618C01.5H
1/8 x 1/8		STR40618C02H
1/8 x 5/32		STR40618C02.5H
1/8 x 3/16	4-40 x 5/32	STR40618C03H
1/8 x 1/4		STR40618C04H
1/8 x 5/16		STR40618C05H
1/8 x 3/8		STR40618C06H
1/8 x 1/2	4-40 x 5/32	STR40618C08H



STR40614C02H

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
1/4 x 1/8	10-32 x 1/4	STR40614C02H
1/4 x 3/16		STR40614C03H
1/4 x 1/4		STR40614C04H
1/4 x 5/16		STR40614C05H
1/4 x 3/8	10-32 x 1/4	STR40614C06H
1/4 x 1/2		STR40614C08H
1/4 x 5/8		STR40614C10H
1/4 x 3/4		STR40614C12H
1/4 x 1	10-32 x 1/4	STR40614C16H



STR40653C02H

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
5/32 x 1/8	6-32 x 3/16	STR40653C02H
5/32 x 3/16		STR40653C03H
5/32 x 1/4		STR40653C04H
5/32 x 5/16		STR40653C05H
5/32 x 3/8	6-32 x 3/16	STR40653C06H



STR40651C02H

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
5/16 x 1/8	1/4-20 x 3/8	STR40651C02H
5/16 x 1/4		STR40651C04H
5/16 x 3/8		STR40651C06H
5/16 x 1/2		STR40651C08H
5/16 x 5/8	1/4-20 x 3/8	STR40651C10H
5/16 x 3/4		STR40651C12H
5/16 x 1		STR40651C16H



STR40638C04H

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/8 x 1/4	5/16-18 x 3/8	STR40638C04H
3/8 x 3/8		STR40638C06H
3/8 x 1/2		STR40638C08H
3/8 x 5/8		STR40638C10H
3/8 x 3/4	5/16-18 x 3/8	STR40638C12H
3/8 x 1		STR40638C16H

Low Profile Smooth Head — Inch

18-8 & 316 Stainless Steels, and Alloy Steel — Slotted Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2013 LP.01.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/32 x 1/16	2-56 x 1/8	STR40132C01	STR40232C01	STR41432C01
3/32 x 3/32		STR40132C01.5	STR40232C01.5	STR41432C01.5
3/32 x 1/8		STR40132C02	STR40232C02	STR41432C02
3/32 x 5/32		STR40132C02.5	STR40232C02.5	STR41432C02.5
3/32 x 3/16	2-56 x 1/8	STR40132C03	STR40232C03	STR41432C03
3/32 x 1/4		STR40132C04	STR40232C04	STR41432C04
3/32 x 5/16		STR40132C05	STR40232C05	STR41432C05
3/32 x 3/8		STR40132C06	STR40232C06	STR41432C06



STR40132C01

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
1/8 x 1/16	4-40 x 5/32	STR40118C01	STR40218C01	STR41418C01
1/8 x 3/32		STR40118C1.5	STR40218C1.5	STR41418C1.5
1/8 x 1/8		STR40118C02	STR40218C02	STR41418C02
1/8 x 5/32		STR40118C02.5	STR40218C02.5	STR41418C02.5
1/8 x 3/16	4-40 x 5/32	STR40118C03	STR40218C03	STR41418C03
1/8 x 1/4		STR40118C04	STR40218C04	STR41418C04
1/8 x 5/16		STR40118C05	STR40218C05	STR41418C05
1/8 x 3/8		STR40118C06	STR40218C06	STR41418C06
1/8 x 1/2	4-40 x 5/32	STR40118C08	STR40218C08	STR41418C08



STR40118C01

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
5/32 x 1/8	6-32 x 3/16	STR40153C02	STR40253C02	STR41453C02
5/32 x 3/16		STR40153C03	STR40253C03	STR41453C03
5/32 x 1/4		STR40153C04	STR40253C04	STR41453C04
5/32 x 5/16		STR40153C05	STR40253C05	STR41453C05
5/32 x 3/8	6-32 x 3/16	STR40153C06	STR40253C06	STR41453C06



STR40153C02

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/16 x 1/8	8-32 x 3/16	STR40131C02	STR40231C02	STR41431C02
3/16 x 3/16		STR40131C03	STR40231C03	STR41431C03
3/16 x 1/4		STR40131C04	STR40231C04	STR41431C04



STR40131C02

Chart continued on next page

Low Profile Smooth Head — Inch

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/16 x 5/16	8-32 x 3/16	STR40131C05	STR40231C05	STR41431C05
3/16 x 3/8		STR40131C06	STR40231C06	STR41431C06
3/16 x 1/2		STR40131C08	STR40231C08	STR41431C08
3/16 x 5/8		STR40131C10	STR40231C10	STR41431C10
3/16 x 3/4	8-32 x 3/16	STR40131C12	STR40231C12	STR41431C12
3/16 x 1		STR40131C16	STR40231C16	STR41431C16



STR40131C05

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
1/4 x 1/8	10-32 x 1/4	STR40114C02	STR40214C02	STR41414C02
1/4 x 3/16		STR40114C03	STR40214C03	STR41414C03
1/4 x 1/4		STR40114C04	STR40214C04	STR41414C04
1/4 x 5/16		STR40114C05	STR40214C05	STR41414C05
1/4 x 3/8	10-24 x 3/8	STR40114C06-1024	STR40214C06-1024	STR41414C06-1024
1/4 x 3/8	10-32 x 1/4	STR40114C06	STR40214C06	STR41414C06
1/4 x 1/2	10-24 x 3/8	STR40114C08-1024	STR40214C08-1024	STR41414C08-1024
1/4 x 1/2	10-32 x 1/4	STR40114C08	STR40214C08	STR41414C08
1/4 x 5/8		STR40114C10	STR40214C10	STR41414C10
1/4 x 3/4		STR40114C12	STR40214C12	STR41414C12
1/4 x 1		STR40114C16	STR40214C16	STR41414C16



STR40114C02

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
5/16 x 1/8	1/4-20 x 3/8	STR40151C02	STR40251C02	STR41451C02
5/16 x 1/4		STR40151C04	STR40251C04	STR41451C04
5/16 x 3/8		STR40151C06	STR40251C06	STR41451C06
5/16 x 1/2		STR40151C08	STR40251C08	STR41451C08
5/16 x 5/8	1/4-20 x 3/8	STR40151C10	STR40251C10	STR41451C10
5/16 x 3/4		STR40151C12	STR40251C12	STR41451C12
5/16 x 1		STR40151C16	STR40251C16	STR41451C16



STR40151C02

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/8 x 1/4	5/16-18 x 3/8	STR40138C04	STR40238C04	STR41438C04
3/8 x 3/8		STR40138C06	STR40238C06	STR41438C06
3/8 x 1/2		STR40138C08	STR40238C08	STR41438C08
3/8 x 5/8		STR40138C10	STR40238C10	STR41438C10
3/8 x 3/4	5/16-18 x 3/8	STR40138C12	STR40238C12	STR41438C12
3/8 x 1		STR40138C16	STR40238C16	STR41438C16



STR40138C04

Low Profile Smooth Head — Metric

18-8 (A2) and 316 (A4) Stainless Steel — Slotted Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2013 LP.02.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR401M4X4S

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
4 x 4	M3 x 0.5 x 4	STR401M4X4S	STR402M4X4S
4 x 5		STR401M4X5S	STR402M4X5S
4 x 6		STR401M4X6S	STR402M4X6S
4 x 8		STR401M4X8S	STR402M4X8S
4 x 10	M3 x 0.5 x 4	STR401M4X10S	STR402M4X10S
4 x 12		STR401M4X12S	STR402M4X12S
4 x 16		STR401M4X16S	STR402M4X16S
4 x 20		STR401M4X20S	STR402M4X20S



STR401M6X4S-ST

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
6 x 4	M5 x 0.8 x 6	STR401M6X4S-ST	STR402M6X4S-ST
6 x 5		STR401M6X5S-ST	STR402M6X5S-ST
6 x 6		STR401M6X6S-ST	STR402M6X6S-ST
6 x 8		STR401M6X8S-ST	STR402M6X8S-ST
6 x 4	M5 x 0.8 x 9.5	STR401M6X4S-LT	STR402M6X4S-LT
6 x 5		STR401M6X5S-LT	STR402M6X5S-LT
6 x 6		STR401M6X6S-LT	STR402M6X6S-LT
6 x 8		STR401M6X8S-LT	STR402M6X8S-LT
6 x 10	M5 x 0.8 x 6	STR401M6X10S-ST	STR402M6X10S-ST
6 x 12		STR401M6X12S-ST	STR402M6X12S-ST
6 x 16		STR401M6X16S-ST	STR402M6X16S-ST
6 x 20		STR401M6X20S-ST	STR402M6X20S-ST
6 x 10	M5 x 0.8 x 9.5	STR401M6X10S-LT	STR402M6X10S-LT
6 x 12		STR401M6X12S-LT	STR402M6X12S-LT
6 x 16		STR401M6X16S-LT	STR402M6X16S-LT
6 x 20		STR401M6X20S-LT	STR402M6X20S-LT



STR401M5X4S-ST

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
5 x 4	M4 x 0.7 x 5	STR401M5X4S-ST	STR402M5X4S-ST
5 x 5		STR401M5X5S-ST	STR402M5X5S-ST
5 x 6		STR401M5X6S-ST	STR402M5X6S-ST
5 x 8		STR401M5X8S-ST	STR402M5X8S-ST
5 x 4	M4 x 0.7 x 8.3	STR401M5X4S-LT	STR402M5X4S-LT
5 x 5		STR401M5X5S-LT	STR402M5X5S-LT
5 x 6		STR401M5X6S-LT	STR402M5X6S-LT
5 x 8		STR401M5X8S-LT	STR402M5X8S-LT
5 x 10	M4 x 0.7 x 5	STR401M5X10S-ST	STR402M5X10S-ST
5 x 12		STR401M5X12S-ST	STR402M5X12S-ST
5 x 16		STR401M5X16S-ST	STR402M5X16S-ST
5 x 20		STR401M5X20S-ST	STR402M5X20S-ST
5 x 10	M4 x 0.7 x 8.3	STR401M5X10S-LT	STR402M5X10S-LT
5 x 12		STR401M5X12S-LT	STR402M5X12S-LT
5 x 16		STR401M5X16S-LT	STR402M5X16S-LT
5 x 20		STR401M5X20S-LT	STR402M5X20S-LT
5 x 25	M4 x 0.7 x 5	STR401M5X25S-ST	STR402M5X25S-ST
5 x 30		STR401M5X30S-ST	STR402M5X30S-ST
5 x 25	M4 x 0.7 x 8.3	STR401M5X25S-LT	STR402M5X25S-LT
5 x 30		STR401M5X30S-LT	STR402M5X30S-LT

Chart continued on next page

Low Profile Smooth Head — Metric



STR401M6X25S-LT

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
6 x 25	M5 x 0.8 x 6	STR401M6X25S-ST	STR402M6X25S-ST
6 x 30		STR401M6X30S-ST	STR402M6X30S-ST
6 x 35		STR401M6X35S-ST	STR402M6X35S-ST
6 x 40		STR401M6X40S-ST	STR402M6X40S-ST
6 x 25	M5 x 0.8 x 9.5	STR401M6X25S-LT	STR402M6X25S-LT
6 x 30		STR401M6X30S-LT	STR402M6X30S-LT
6 x 35		STR401M6X35S-LT	STR402M6X35S-LT
6 x 40		STR401M6X40S-LT	STR402M6X40S-LT



STR401M8X6S

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
8 x 6	M6 x 1 x 11	STR401M8X6S	STR402M8X6S
8 x 8		STR401M8X8S	STR402M8X8S
8 x 10		STR401M8X10S	STR402M8X10S
8 x 12		STR401M8X12S	STR402M8X12S
8 x 16	M6 x 1 x 11	STR401M8X16S	STR402M8X16S
8 x 20		STR401M8X20S	STR402M8X20S
8 x 25		STR401M8X25S	STR402M8X25S
8 x 30		STR401M8X30S	STR402M8X30S
8 x 35	M6 x 1 x 11	STR401M8X35S	STR402M8X35S
8 x 40		STR401M8X40S	STR402M8X40S



STR401M10X8S

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
10 x 8	M8 x 1.25 x 13	STR401M10X8S	STR402M10X8S
10 x 10		STR401M10X10S	STR402M10X10S
10 x 12		STR401M10X12S	STR402M10X12S
10 x 16		STR401M10X16S	STR402M10X16S
10 x 20	M8 x 1.25 x 13	STR401M10X20S	STR402M10X20S
10 x 25		STR401M10X25S	STR402M10X25S
10 x 30		STR401M10X30S	STR402M10X30S
10 x 35		STR401M10X35S	STR402M10X35S
10 x 40	M8 x 1.25 x 13	STR401M10X40S	STR402M10X40S



STR401M12X8S

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	18-8 SS Part Number	316 SS Part Number
12 x 8	M10 x 1.5 x 16	STR401M12X8S	STR402M12X8S
12 x 10		STR401M12X10S	STR402M12X10S
12 x 12		STR401M12X12S	STR402M12X12S
12 x 16		STR401M12X16S	STR402M12X16S
12 x 20	M10 x 1.5 x 16	STR401M12X20S	STR402M12X20S
12 x 25		STR401M12X25S	STR402M12X25S
12 x 30		STR401M12X30S	STR402M12X30S
12 x 35		STR401M12X35S	STR402M12X35S
12 x 40	M10 x 1.5 x 16	STR401M12X40S	STR402M12X40S

Friction Resistant Low Profile Smooth Head — Inch

Brass — Slotted Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2006 BR.01.
- Brass material adheres to environmental regulations established by European Union RoHS directive. Current RoHS exemption allows alloying element containing up to 4% lead by weight.



STR40632C01

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/32 x 1/16	2-56 x 1/8	STR40632C01
3/32 x 3/32		STR40632C01.5
3/32 x 1/8		STR40632C02
3/32 x 5/32		STR40632C02.5
3/32 x 3/16	2-56 x 1/8	STR40632C03
3/32 x 1/4		STR40632C04
3/32 x 5/16		STR40632C05
3/32 x 3/8		STR40632C06



STR40618C01

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
1/8 x 1/16	4-40 x 5/32	STR40618C01
1/8 x 3/32		STR40618C01.5
1/8 x 1/8		STR40618C02
1/8 x 5/32		STR40618C02.5
1/8 x 3/16	4-40 x 5/32	STR40618C03
1/8 x 1/4		STR40618C04
1/8 x 5/16		STR40618C05
1/8 x 3/8		STR40618C06
1/8 x 1/2	4-40 x 5/32	STR40618C08



STR40653C02

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
5/32 x 1/8	6-32 x 3/16	STR40653C02
5/32 x 3/16		STR40653C03
5/32 x 1/4		STR40653C04
5/32 x 5/16		STR40653C05
5/32 x 3/8	6-32 x 3/16	STR40653C06



STR40651C02

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
5/16 x 1/8	1/4-20 x 3/8	STR40651C02
5/16 x 1/4		STR40651C04
5/16 x 3/8		STR40651C06
5/16 x 1/2		STR40651C08
5/16 x 5/8	1/4-20 x 3/8	STR40651C10
5/16 x 3/4		STR40651C12
5/16 x 1		STR40651C16



STR40631C02

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/16 x 1/8	8-32 x 3/16	STR40631C02
3/16 x 3/16		STR40631C03
3/16 x 1/4		STR40631C04
3/16 x 5/16		STR40631C05
3/16 x 3/8	8-32 x 3/16	STR40631C06
3/16 x 1/2		STR40631C08
3/16 x 5/8		STR40631C10
3/16 x 3/4		STR40631C12
3/16 x 1	8-32 x 3/16	STR40631C16



STR40614C02

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
1/4 x 1/8	10-32 x 1/4	STR40614C02
1/4 x 3/16		STR40614C03
1/4 x 1/4		STR40614C04
1/4 x 5/16		STR40614C05
1/4 x 3/8	10-32 x 1/4	STR40614C06
1/4 x 1/2		STR40614C08
1/4 x 5/8		STR40614C10
1/4 x 3/4		STR40614C12
1/4 x 1	10-32 x 1/4	STR40614C16



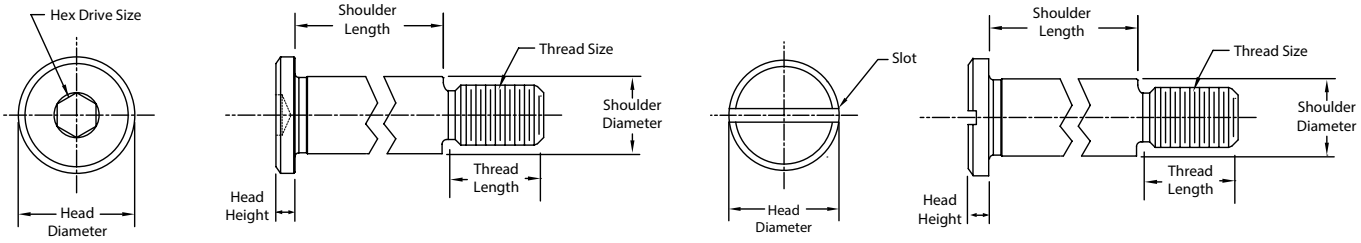
STR40638C04

3/8 Shoulder Diameter

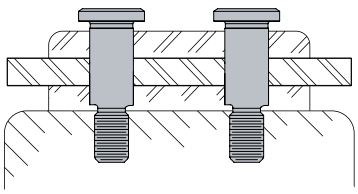
Shoulder Dia. x Lg.	Thread Size x Lg.	Brass Part Number
3/8 x 1/4	5/16-18 x 3/8	STR40638C04
3/8 x 3/8		STR40638C06
3/8 x 1/2		STR40638C08
3/8 x 5/8		STR40638C10
3/8 x 3/4	5/16-18 x 3/8	STR40638C12
3/8 x 1		STR40638C16

Ultra Low Profile Smooth Head — Inch

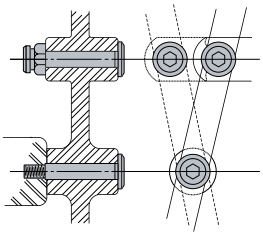
The shallow head makes these screws the right size to hold components in tight spaces. Ultra Low Profile screws are 1/3 the head height of standard head height shoulder screws. Shoulder diameters are held to the same precise tolerance as other smooth head screws, at +0 to -.001 inches. Shoulder length tolerance is +.002 to -0 inches. All screws have a Class 2A thread fit.



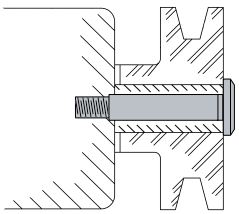
Dimensions and Tolerance Table — Inch				
Shoulder Diameter	**Shoulder Diameter** Max. to Min.	**Head Diameter**	**Head Height**	**Drive Size** (Hex)
3/32	.094 to .093	3/16	1/32	5/64
1/8	.125 to .124	1/4	3/64	5/64
5/32	.156 to .155	9/32	3/64	3/32
3/16	.187 to .186	5/16	3/64	3/32
1/4	.250 to .249	3/8	1/16	1/8



Shoulder Screws as a Guide



Shoulder Screws as a Pivot Point



Shoulder Screws as a Shaft

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

Ultra Low Smooth Head — Inch

316 Stainless Steel — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2013 UL.01.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR40232C02HUL

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
3/32 x 1/8	2-56 x 1/8	STR40232C02HUL
3/32 x 3/16		STR40232C03HUL
3/32 x 1/4		STR40232C04HUL
3/32 x 5/16		STR40232C05HUL
3/32 x 3/8	2-56 x 1/8	STR40232C06HUL



STR40253C02HUL

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
5/32 x 1/8	6-32 x 3/16	STR40253C02HUL
5/32 x 3/16		STR40253C03HUL
5/32 x 1/4		STR40253C04HUL
5/32 x 5/16		STR40253C05HUL
5/32 x 3/8	6-32 x 3/16	STR40253C06HUL
5/32 x 1/2		STR40253C08HUL



STR40214F04HUL

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
1/4 x 1/4	10-32 x 1/4	STR40214F04HUL
1/4 x 5/16		STR40214F05HUL
1/4 x 3/8		STR40214F06HUL
1/4 x 1/2		STR40214F08HUL
1/4 x 5/8	10-32 x 1/4	STR40214F10HUL
1/4 x 3/4		STR40214F12HUL
1/4 x 1		STR40214F16HUL



STR40218C02HUL

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
1/8 x 1/8	4-40 x 5/32	STR40218C02HUL
1/8 x 3/16		STR40218C03HUL
1/8 x 1/4		STR40218C04HUL
1/8 x 5/16		STR40218C05HUL
1/8 x 3/8	4-40 x 5/32	STR40218C06HUL
1/8 x 1/2		STR40218C08HUL



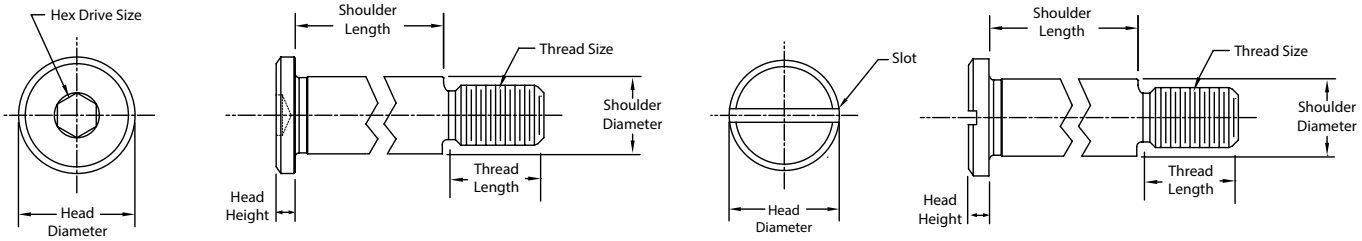
STR40231C02HUL

3/16 Shoulder Diameter

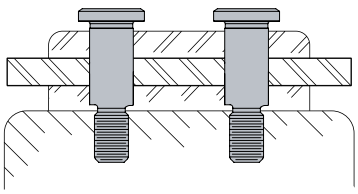
Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
3/16 x 1/8	8-32 x 3/16	STR40231C02HUL
3/16 x 3/16		STR40231C03HUL
3/16 x 1/4		STR40231C04HUL
3/16 x 5/16		STR40231C05HUL
3/16 x 3/8	8-32 x 3/16	STR40231C06HUL
3/16 x 1/2		STR40231C08HUL
3/16 x 5/8		STR40231C10HUL
3/16 x 3/4		STR40231C12HUL
3/16 x 1	8-32 x 3/16	STR40231C16HUL

Ultra Low Profile Smooth Head Shoulder Screw — Metric

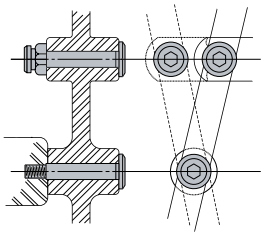
The shallow head makes these screws the right size to hold components in tight spaces. Ultra Low Profile screws are 1/3 the head height of standard head height shoulder screws. Shoulder diameters are held to the same precise tolerance as other smooth head screws, at +0 to -.025mm. Shoulder length tolerance is +.05 to -0mm. All screws have a Class 6g thread fit.



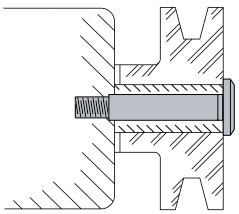
Dimensions and Tolerance Table — Metric				
Shoulder Diameter	**Shoulder Diameter** Max. to Min.	**Head Diameter**	**Head Height**	**Drive Size** (Hex)
4	4.00 to 3.97	6.00	1.30	2
5	5.00 to 4.97	8.00	1.30	2.5
6	6.00 to 5.97	10.00	1.70	3
8	8.00 to 7.97	12.00	2.00	4
10	10.00 to 9.97	16.00	2.50	5
12	12.00 to 11.97	18.00	3.30	6



Shoulder Screws as a Guide



Shoulder Screws as a Pivot Point



Shoulder Screws as a Shaft

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

Ultra Low Smooth Head — Metric

316 (A4) Stainless Steel — Hex Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2013 UL.02.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR402M4X4HUL

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
4 x 4	M3 x 0.5 x 4	STR402M4X4HUL
4 x 5		STR402M4X5HUL
4 x 6		STR402M4X6HUL
4 x 8		STR402M4X8HUL
4 x 10		STR402M4X10HUL
4 x 12		STR402M4X12HUL
4 x 14		STR402M4X14HUL
4 x 16		STR402M4X16HUL
4 x 18		STR402M4X18HUL
4 x 20		STR402M4X20HUL
4 x 25		STR402M4X25HUL
4 x 30		STR402M4X30HUL
4 x 35		STR402M4X35HUL
4 x 40		STR402M4X40HUL
4 x 45		STR402M4X45HUL



STR402M5X4HUL

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
5 x 4	M4 x 0.7 x 5	STR402M5X4HUL
5 x 5		STR402M5X5HUL
5 x 6		STR402M5X6HUL
5 x 8		STR402M5X8HUL
5 x 10		STR402M5X10HUL
5 x 12		STR402M5X12HUL
5 x 14		STR402M5X14HUL
5 x 16		STR402M5X16HUL
5 x 18		STR402M5X18HUL
5 x 20		STR402M5X20HUL
5 x 25		STR402M5X25HUL
5 x 30		STR402M5X30HUL
5 x 35		STR402M5X35HUL
5 x 40		STR402M5X40HUL
5 x 45		STR402M5X45HUL
5 x 50		STR402M5X50HUL

Chart continued on next page

Shoulder Screws

For technical drawings and charts, please see page B-145

Ultra Low Smooth Head — Metric

316 (A4) Stainless Steel — Hex Drive



STR402M6X4HUL

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
6 x 4	M5 x 0.8 x 6	STR402M6X4HUL
6 x 5		STR402M6X5HUL
6 x 6		STR402M6X6HUL
6 x 8		STR402M6X8HUL
6 x 10	M5 x 0.8 x 6	STR402M6X10HUL
6 x 12		STR402M6X12HUL
6 x 14		STR402M6X14HUL
6 x 16		STR402M6X16HUL
6 x 18	M5 x 0.8 x 6	STR402M6X18HUL
6 x 20		STR402M6X20HUL
6 x 25		STR402M6X25HUL
6 x 30		STR402M6X30HUL
6 x 35	M5 x 0.8 x 6	STR402M6X35HUL
6 x 40		STR402M6X40HUL
6 x 45		STR402M6X45HUL
6 x 50		STR402M6X50HUL
6 x 55	M5 x 0.8 x 6	STR402M6X55HUL
6 x 60		STR402M6X60HUL



STR402M8X6HUL

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
8 x 6	M6 x 1 x 11	STR402M8X6HUL
8 x 8		STR402M8X8HUL
8 x 10		STR402M8X10HUL
8 x 12		STR402M8X12HUL
8 x 16	M6 x 1 x 11	STR402M8X16HUL
8 x 20		STR402M8X20HUL
8 x 25		STR402M8X25HUL
8 x 30		STR402M8X30HUL
8 x 35	M6 x 1 x 11	STR402M8X35HUL
8 x 40		STR402M8X40HUL
8 x 45		STR402M8X45HUL
8 x 50		STR402M8X50HUL
8 x 55	M6 x 1 x 11	STR402M8X55HUL
8 x 60		STR402M8X60HUL



STR402M10X8HUL

10mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
10 x 8	M8 x 1.25 x 13	STR402M10X8HUL
10 x 10		STR402M10X10HUL
10 x 12		STR402M10X12HUL
10 x 16		STR402M10X16HUL
10 x 20	M8 x 1.25 x 13	STR402M10X20HUL
10 x 25		STR402M10X25HUL
10 x 30		STR402M10X30HUL
10 x 35		STR402M10X35HUL
10 x 40	M8 x 1.25 x 13	STR402M10X40HUL
10 x 45		STR402M10X45HUL
10 x 50		STR402M10X50HUL
10 x 55		STR402M10X55HUL
10 x 60	M8 x 1.25 x 13	STR402M10X60HUL



STR402M12X8HUL

12mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
12 x 8	M10 x 1.5 x 16	STR402M12X8HUL
12 x 10		STR402M12X10HUL
12 x 12		STR402M12X12HUL
12 x 16		STR402M12X16HUL
12 x 20	M10 x 1.5 x 16	STR402M12X20HUL
12 x 25		STR402M12X25HUL
12 x 30		STR402M12X30HUL
12 x 35		STR402M12X35HUL
12 x 40	M10 x 1.5 x 16	STR402M12X40HUL
12 x 45		STR402M12X45HUL
12 x 50		STR402M12X50HUL
12 x 55		STR402M12X55HUL
12 x 60	M10 x 1.5 x 16	STR402M12X60HUL

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN THE USA

Ultra Low Smooth Head — Inch

316 Stainless Steel — Slotted Drive

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2013 UL.01.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR40232C02UL

3/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
3/32 x 1/8	2-56 x 1/8	STR40232C02UL
3/32 x 3/16		STR40232C03UL
3/32 x 1/4		STR40232C04UL
3/32 x 5/16		STR40232C05UL
3/32 x 3/8	2-56 x 1/8	STR40232C06UL



STR40253C02UL

5/32 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
5/32 x 1/8	6-32 x 3/16	STR40253C02UL
5/32 x 3/16		STR40253C03UL
5/32 x 1/4		STR40253C04UL
5/32 x 5/16		STR40253C05UL
5/32 x 3/8	6-32 x 3/16	STR40253C06UL
5/32 x 1/2		STR40253C08UL



STR40214F04UL

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
1/4 x 1/4	10-32 x 1/4	STR40214F04UL
1/4 x 5/16		STR40214F05UL
1/4 x 3/8		STR40214F06UL
1/4 x 1/2		STR40214F08UL
1/4 x 5/8	10-32 x 1/4	STR40214F10UL
1/4 x 3/4		STR40214F12UL
1/4 x 1		STR40214F16UL



STR40218C02UL

1/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
1/8 x 1/8	4-40 x 5/32	STR40218C02UL
1/8 x 3/16		STR40218C03UL
1/8 x 1/4		STR40218C04UL
1/8 x 5/16		STR40218C05UL
1/8 x 3/8	4-40 x 5/32	STR40218C06UL
1/8 x 1/2		STR40218C08UL



STR40231C02UL

3/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
3/16 x 1/8	8-32 x 3/16	STR40231C02UL
3/16 x 3/16		STR40231C03UL
3/16 x 1/4		STR40231C04UL
3/16 x 5/16		STR40231C05UL
3/16 x 3/8	8-32 x 3/16	STR40231C06UL
3/16 x 1/2		STR40231C08UL
3/16 x 5/8		STR40231C10UL
3/16 x 3/4		STR40231C12UL
3/16 x 1	8-32 x 3/16	STR40231C16UL

Ultra Low Smooth Head — Metric

316 Stainless Steel — Slotted Drive

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- All shoulder diameters meet or exceed accepted industry standards and AMPG's internal specification AMPG 2013 UL.02.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.



STR402M4X4UL

4mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
4 x 4	M3 x 0.5 x 4	STR402M4X4UL
4 x 5		STR402M4X5HL
4 x 6		STR402M4X6UL
4 x 8		STR402M4X8UL
4 x 10	M3 x 0.5 x 4	STR402M4X10UL



STR402M5X4UL

5mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
5 x 4	M4 x 0.7 x 5	STR402M5X4UL
5 x 5		STR402M5X5UL
5 x 6		STR402M5X6UL
5 x 8		STR402M5X8UL
5 x 10	M4 x 0.7 x 5	STR402M5X10UL
5 x 12		STR402M5X12UL
5 x 16		STR402M5X16UL
5 x 20		STR402M5X20UL



STR402M6X4UL

6mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
6 x 4	M5 x 0.8 x 6	STR402M6X4UL
6 x 5		STR402M6X5UL
6 x 6		STR402M6X6UL
6 x 8		STR402M6X8UL
6 x 10	M5 x 0.8 x 6	STR402M6X10UL
6 x 12		STR402M6X12UL
6 x 16		STR402M6X16UL
6 x 20		STR402M6X20UL



STR402M8X6UL

8mm Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Lg.	316 SS Part Number
8 x 6	M6 x 1 x 11	STR402M8X6UL
8 x 8		STR402M8X8UL
8 x 10		STR402M8X10UL
8 x 12		STR402M8X12UL
8 x 16	M6 x 1 x 11	STR402M8X16UL
8 x 20		STR402M8X20UL

/ FRACTIONS · DECIMALS mm MILLIMETERS

FRACTIONS	DECIMALS	MM
1/64	0.0156	0.397
1/32	0.0313	0.794
3/64	0.0469	1.191
1/16	0.0625	1.588
5/64	0.0781	1.984
3/32	0.0938	2.381
7/64	0.1094	2.778
1/8	0.1250	3.175
9/64	0.1406	3.572
5/32	0.1563	3.969
11/64	0.1719	4.366
3/16	0.1875	4.763
13/64	0.2031	5.159
7/32	0.2188	5.556
15/64	0.2344	5.953
1/4	0.2500	6.350
17/64	0.2656	6.747
9/32	0.2813	7.144
19/64	0.2969	7.541
5/16	0.3125	7.938
21/64	0.3281	8.334
11/32	0.3438	8.731
23/64	0.3594	9.128
3/8	0.3750	9.525
25/64	0.3906	9.922
13/32	0.4063	10.319
27/64	0.4219	10.716
7/16	0.4375	11.113
29/64	0.4531	11.509
15/32	0.4688	11.906
31/64	0.4844	12.303
1/2	0.5000	12.700

FRACTIONS	DECIMALS	MM
33/64	0.5156	13.097
17/32	0.5313	13.494
35/64	0.5469	13.891
9/16	0.5625	14.288
37/64	0.5781	14.684
19/32	0.5938	15.081
39/64	0.6094	15.478
5/8	0.6250	15.875
41/64	0.6406	16.272
21/32	0.6563	16.669
43/64	0.6719	17.066
11/16	0.6875	17.463
45/64	0.7031	17.859
23/32	0.7188	18.256
47/64	0.7344	18.653
3/4	0.7500	19.050
49/64	0.7656	19.447
25/32	0.7813	19.844
51/64	0.7969	20.241
13/16	0.8125	20.638
53/64	0.8281	21.034
27/32	0.8438	21.431
55/64	0.8594	21.828
7/8	0.8750	22.225
57/64	0.8906	22.622
29/32	0.9063	23.019
59/64	0.9219	23.416
15/16	0.9375	23.813
61/64	0.9531	24.209
31/32	0.9688	24.606
63/64	0.9844	25.003
1	1.0000	25.400

AMPG

Visit us online and search our catalog at **ampg.com.**

8090 Woodland Drive
Indianapolis, IN 46278

p: 317.472.9000
f: 317.472.9010

Longevity

Since 1995, Accurate Manufactured Products Group (AMPG) has been a stocking manufacturer of precision components, hard-to-find fasteners and industrial products.

Strategic Location

AMPG's 121,600 square foot facility is located in the Heart of the Midwest which gives us access to high-quality machinists/employees as well as being strategically located for fast delivery.

Advanced Equipment

Our manufacturing facility operates 24/7, producing precision parts on state-of-the-art CNC Swiss Lathes. Parts are made from high quality materials with a superior machined finish.

Superior Quality

Our advanced electronic Quality Control systems are employed on the manufacturing floor to catch trends before bad parts are produced.





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f: 317.472.9010

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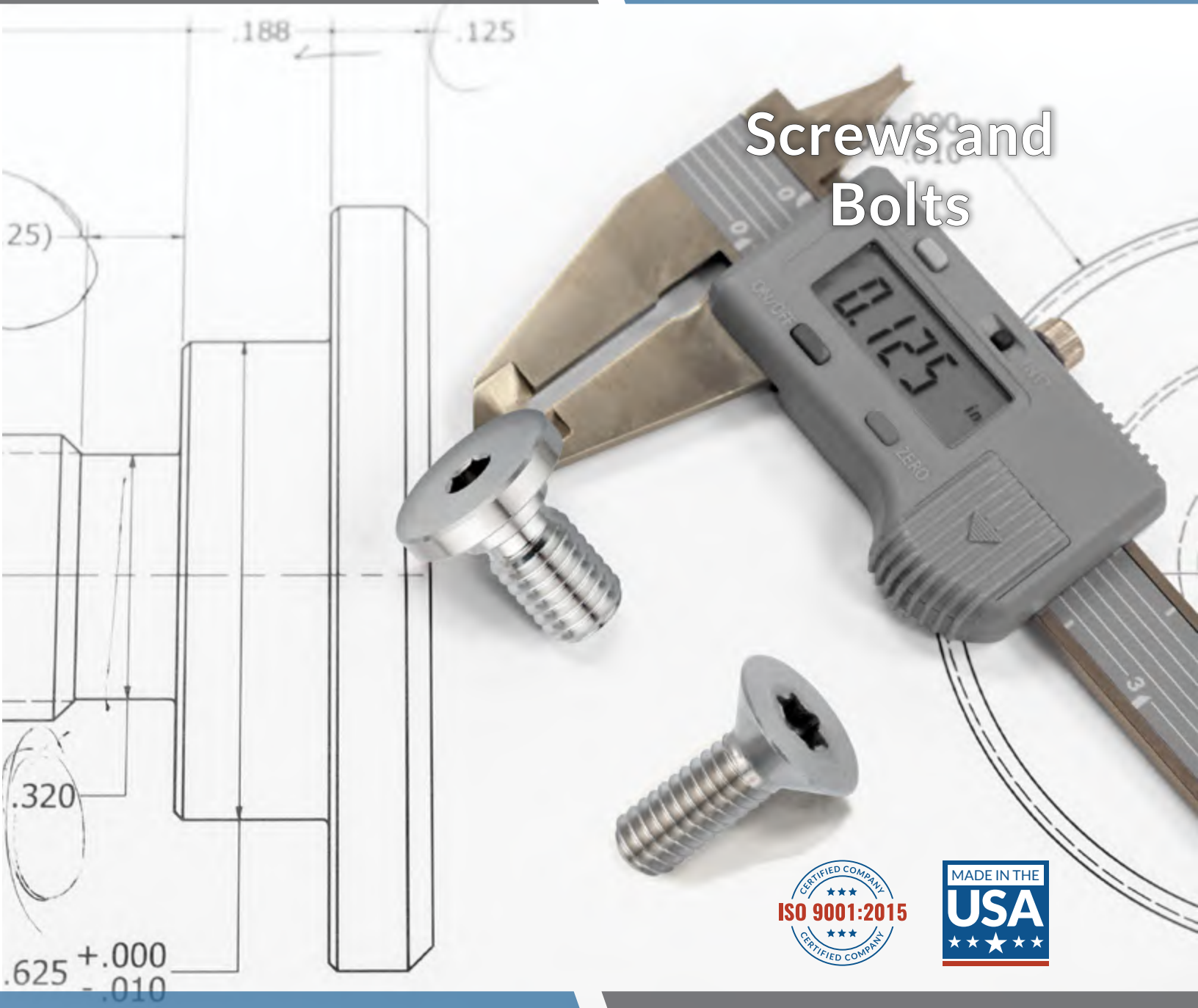
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AMPG

ACCURATE
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Screws and Bolts



ISO 9001:2015

MADE IN THE USA

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Indianapolis, IN 46278

p: 317.472.9000
f: 317.472.9010

"Beautiful Parts, Right Now"



Longevity

AMPG is a privately-owned family business started by current management in 1987. With the second generation in the business, already for many years, we are realizing a future of serving our customers, collaborating with our employees, and contributing to a vibrant domestic manufacturing economy.

Philosophy

We are proud to be an American manufacturer dedicated to solving large problems that affect small numbers of customers. We are committed to our team, our products, and our customers.

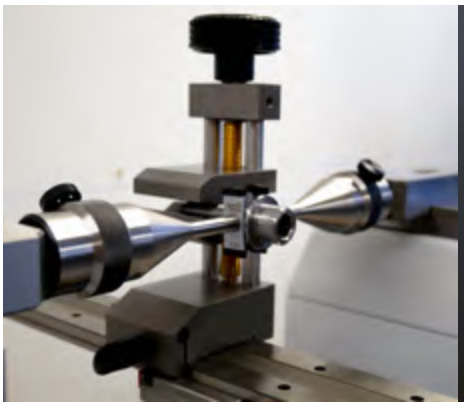
Our continuous capital investments in production equipment, employees, automation, and inspection technologies allows us to design thousands of new items a year, get them into large distributor channels and produce on demand small quantities in a few days.

Stock & Custom...*FAST*

As a precision manufacturer of specialized fasteners, architectural hardware, mechanical components and industrial accessories, AMPG stocks over 50,000 products. We also offer custom manufacturing supported by design, product testing and engineering services. To see the latest and most complete catalog of our over 50,000 different items, visit **www.ampg.com.**

How to Buy Our Products

Visit us **online**, email us at **sales@ampg.com** or give us a call at **317.472.9000** and we can help you with your inquiry. Our stock line of parts ships same day from Indianapolis, Indiana.







Index

Page	Description
i	About AMPG
ii - iii	AMPG Materials
C-1 to C-10	Socket Head Cap Screws
C-11 to C-13	Extra Long Length Socket Head Cap Screws
C-14 to C-22	Low Head Socket Head Cap Screws
C-23 to C-36	Ultra Low Head Socket Screws
C-37 to 41	Ultra Low Head Cap Screws
C-42	Extra Tall Socket Head Cap Screws
C-43	Square Drive Socket Head Cap Screws
C-44 to C-61	Captive Panel Screws
C-62 to C-63	82° Flat Head Socket Screws, Right and Left Hand Threads
C-64 to C-68	90° Flat Head Socket Screws
C-69 to C-70	82° Flat Head 6-Lobe Drive Screws
C-71 to C-75	100° Flat Head Socket Screws
C-76 to C-78	Wide Head Slotted Machine Screws
C-79 to C-80	Flanged Button Head Machine Screws
C-84 to C-83	Wide Flange Head Machine Screws
C-84 to C-88	External 6-Lobe Flange Screws
C-89 to C-119	Hex Head Cap Screws
C-120 to C-125	Flange Head Socket Cap Screws (Prairie Bolt™)
C-126 to C-154	Flange Hex Head Cap Screws (Prairie Bolt™)
C-155 to C-162	Button Socket Head Cap Screws
C-163 to C-164	6-Lobe Drive Button Head Machine Screws
C-165 to C-166	Left Hand Button Head Machine Screws
C-167	Fine Thread Button Head Machine Screws
C-168	Knurled Low Head Thumb Screws
C-169	Extra Length Thumb Screws
C-170	Dog Point Low Head Thumb Screws
C-171	Shoulder Knurled Thumb Screws with High Heads
C-172	Knurled Low Head Thumb Screws with Shoulders
C-173	Knurled-Type Thumb Screws with High Heads
C-173	Quarterturn Screws (Latch Bolts)
C-174	Knurled Narrow Head Thumb Screws
C-175	DIN 922 Pan Head Slot Screws with Full Dog Point
C-176	DIN 925 Flat Head Slot Screws with Full Dog Point
C-177	Non-Sparking Locking Bolts for Drum Ring
C-177	Hanger Bolts
C-177	Combo Phillips Pan Head Machine Screws with Pilot Points
C-178	Slotted Pan Head Machine Screws
C-179	T Slot Bolts

About AMPG



We Make Beautiful Parts, Right Now

AMPG (Accurate Manufactured Products Group) is a privately owned family business started by current management in 1987. Our 2nd generation is well experienced and active in the business and dedicated to keeping AMPG a closely held family firm.

We are Proud to be an American Manufacturer

AMPG is a Make to Stock Manufacturer of over 50,000 unique items. New products are our lifeblood, and we have a long term strategic plan in place to introduce thousands of new products each and every year.

Our 147,000 Sq Ft facility in Indianapolis supports low to medium volume manufacturing runs with over 70 late model and brand new CNC Lathes, Mills, and Thread Rolling equipment. AMPG has an aggressive investment program in the latest and most advanced Production, Automation, and Inspection equipment, as well as software and engineering systems to run our business as efficiently as possible.

ISO Certification to 9001:2015 was attained to anchor the culture of continual improvement both on and off the production floor. ISO 17065 Product Certification will be applied for in 2023, and ISO 17025 will be used to certify our in house Lab also in 2023. The latest in measuring, testing, and monitoring equipment is used to insure product quality and fast lead times. Lean principles guide the manufacturing process using robots, vision systems, and machine monitoring to enable continuous unmanned production around the clock.

Family Owned, Family Operated

AMPG began in Plainview, NY in 1987, and moved to Indianapolis, Indiana in 2004 in order to find the skilled machinists that are the foundation of our success. We are especially proud of our employee retention (as of 2022 all of our core team members will have over 15 years with the company), and the families second generation has over 18 years experience. We have a unique training method that allows us to grow our manufacturing capabilities to match our product and sales plan.

Our dedication to our employees is evidenced by their longevity and the numerous safety and healthiest employer awards we have won over the years.

Product Quality, Appearance and Quick Deliveries are Foundational Goals

AMPG makes and stocks hard-to-find fasteners, components, and fittings. We ship same day from our Indianapolis facility. We offer custom manufacturing capabilities including design, product testing, and engineering services. Our Made-to-Order program produces as little as one part within 7 days.

A Simple Philosophy

Provide a great customer experience by having beautiful, precise, and hard to find products ready to ship today.

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN THE USA

“All AMPG Screws and Bolts are Precision Made”

AMPG manufactures a wide variety of bolts and screws. For shoulder screws/shoulder bolts and screws compatible with binding barrels, please select ‘Shoulder Screws’, ‘Binding Machine Screws’ or ‘Binding Shoulder Screws’ product categories. AMPG manufactures a wide range of bolt & screw types and styles to choose. All AMPG manufactured products are made from DFARs compliant materials and are lot traceable to assure fastener quality. Our parts are precision machined from bar stock on programable Swiss CNC Lathes.

A Bolt or a Screw?

A simple question one would assume but for starters sometimes a screw is called a bolt and vice versa. The answer to this question has been controversial and varies between experts and organizations. Following are some basic definitions to help you search for bolt & screw products.

Machinery’s Handbook 26th Edition, © 2000 by Industrial Press Inc.

Differentiation between Bolt and Screw. – A bolt is an externally threaded fastener designed for insertion through holes in assembled parts and is normally intended to be tightened or released by torquing a nut. A screw is an externally threaded fastener capable of being inserted into holes in assembled parts, of mating with a preformed internal thread or forming its own thread and of being tightened or released by torquing the head. An externally threaded fastener which is prevented from being turned during assembly, and which can be tightened or released only by torquing a nut is a bolt. *(Example: round head bolts, track bolts, plow bolts.)*

An externally threaded fastener that has a thread form which prohibits assembly with a nut having a straight thread of multiple pitch length is a screw. *(Example: wood screws, tapping screws.)*

Some guidelines for choosing between the materials we produce are shown below.

Material Type	Specification	Tensile, psi	Yield, psi	Estimated Shear, psi	Elongation	Brinell Hardness	Rockwell Hardness
Aluminum 6061-T6	ASTM B211	45,000	40,000	22,500	17%	BHN 95	B56
Brass 360	ASTM B16	58,000	45,000	29,000	25%	BHN 143	B78
Nickel Alloy 405 *(Monel)*	ASTM B164	85,000	60,000	42,500	24%	BHN 163	B85
Stainless Steel 18-8 *(303)*	ASTM A582	90,000	35,000	45,000	50%	BHN 160	B83
Stainless Steel 316 *(316/316L)*	ASTM A276	75,000	30,000	37,500	45%	BHN 160	B83
Stainless Steel High Five® *(316 H5)*	ASTM A276	125,000	100,000	62,500	26%	BHN 250	C25
Stainless Steel 17-4 PH	Cond A ASTM A564 TYPE 630	160,000	145,000	80,000	15%	BHN 332	C36
Stainless Steel A286	ASTM A638 GR 660	160,000	120,000	80,000	27%	BHN 248	C24
Steel 12L14	ASTM A108	78,000	60,000	39,000	15%	BHN 160	B84
Steel Alloy C4140/41L40 *(Alloy)*	ASTM A108 Cold ASTM A108 Thru Hard	105,000 140,000	85,000 n/a	52,500 70,000	15% n/a	BHN 187 BHN 300	B91 C32
Steel Grade 2	ASTM A307 Equivalent	60,000	36,000	30,000	18%	BHN160	B70
Titanium Grade 2	ASTM B348 GR 2	75,000	55,000	37,500	20%	BHN 163	B85
Titanium Grade 5 *(6AL-4V)*	ASTM B348 GR 5	140,000	125,000	70,000	18%	BHN 296	C32

Note: Listed Mechanical Properties are obtained from various suppliers and is intended for comparison of materials, only. Values are based on raw material specifications. AMPG assumes no obligation and liability for the accuracy of this information. For critical applications, product testing may be appropriate.

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About Our Materials

Aluminum

- Aluminum has the strength of mild steel with one third the weight.
- Resists corrosion in wet environments.
- Lightweight material used for fittings, hardware and fasteners.
- Nonmagnetic.

Brass

- Brass is a softer material approximately two-thirds copper and one-third zinc.
- Provides good resistance to rust and atmospheric corrosion.
- Friction-resistant material used for gears, bearings, fasteners and valves.
- Nonmagnetic.

Nickel Alloy 405 (Monel)

- Nickel (Monel) aka nickel-copper alloy is a higher-strength material.
- Excellent resistance in corrosive environments: sea water, some acids, alkalies.
- Marine industry material used for propellers, heat exchangers and valves.
- May be mildly magnetic.

Stainless Steel 18-8 (303)

- Type 303 stainless offers excellent corrosion resistance.
- Resists chemicals, most dyes, food and nitric acid.
- Corrosion-resistant material used for screws, bushings, nuts and hardware.
- May be mildly magnetic.

Stainless Steel 316 (316/316L)

- Type 316 stainless offers superior corrosion resistance than Type 303 stainless.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Low-maintenance material used in commercial kitchens and food processing.
- May be mildly magnetic.

AMPG uses dual certified Type 316/316L stainless material. Meets all 316 stainless properties but has lower carbon content, making it more suitable for welding.

Stainless Steel High Five® (316H5)

- High Five® Stainless is AMPG's higher strength grade of 316 stainless steel.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Corrosion-resistance material with strength equivalent to Grade 5 steel materials.
- May be mildly magnetic.

Stainless Steel 416

- Type 416 stainless can be hardened up to Maximum Rockwell C40 after heat treatment.
- Resists acids, alkalis, fresh water and dry air.
- Non-galling and hardenable material used for fittings, gears, shafts and screws.
- Magnetic.



Aluminum *Brass* *Stainless Steel* *Steel*

Stainless Steel 17-4 PH

- Type 17-4 PH stainless maintains excellent corrosion resistance and strength at high temperatures.
- Resists chemicals, most dyes, food and nitric acid.
- High-strength material used for fittings, valves, bolts and shafts.
- Mildly magnetic.

Stainless Steel A286

- Type A286 stainless maintains superior corrosion resistance and strength at high temperatures, exceeding 17-4 PH performance.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- High-strength material used for fittings, valves, bolts and shafts. Used in high heat/stress applications such as jet engines, gas turbines, and super-charges.
- Nonmagnetic.

Steel Alloy 4140/41L40 (Alloy Steel)

- Alloy 4140 is a "primary" material used high strength fasteners and components.
- Material requires a finish to resist rust, such as black-oxide treatment or zinc plating.
- High-strength material that exceed Grade 8 used for socket screws, studs and components, only after heat treatment.
- Magnetic.

Titanium Gr 2

- Titanium Grade 2 is best known for being strong, lightweight and corrosion resistant.
- Resists chlorides, hypochlorites, chlorates, perchlorates and chlorine dioxide.
- Lightweight material used for chemical-processing equipment, heat exchangers and fasteners.
- Nonmagnetic.

Titanium Gr 5 (6AL-4V)

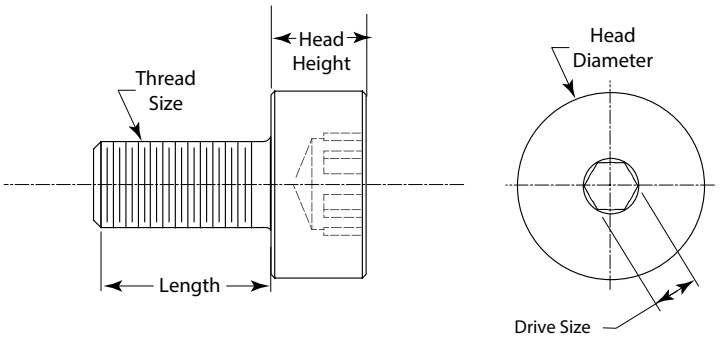
- Titanium Grade 5 is two times stronger than Grade 2, and four times stronger than 316 stainless at nearly half the weight.
- Resists chlorides, hypochlorites, chlorates, perchlorates and chlorine dioxide.
- Lightweight material used for higher-strength fasteners, racing components and marine hardware.
- Nonmagnetic.

Socket Head Cap Screws — Inch

17-4 PH SS, High Five SS (AMPG 316 H5),
Aluminum, Brass, Monel, Grade 2 Titanium, Grade 5 Titanium

Product Information

Socket heads are the standard for high-strength fastening. They can be installed in a counterbored hole or above the surface. 17-4 PH stainless steel maintains excellent corrosion resistance and strength at high temperatures. AMPG 316 H5 offers comparable strength and corrosion resistant properties as Bumax 88. AMPG is using a special grade of Type 316 Stainless Steel to manufacture the only domestic line of products that have the superior corrosion resistance of 316 stainless and the strength equivalent to Grade 5 steel materials. Our brass socket heads are excellent conductors of electricity. Brass screws are nonmagnetic and corrosion resistant. Monel (Nickel Copper)—Screws are more corrosion resistant than Type 316 and Bumax 88 stainless steel and resistant to salt water and some acids. Titanium screws have high strength-to-weight ratio and excellent corrosion resistance. Screws have a Class 3A thread fit. Length is measured under the head. All screws meet or exceed ASME B18.3-2003.




17-4 PH SS


316 H5 SS


Aluminum


Brass


Monel


Titanium Grade 2


Titanium Grade 5

Dimensions Table — Inch			
Thread Size	**Head Diameter**	**Head Height**	**Drive Size**
0-80	.096	.060	.050
2-56	.140	.086	5/64
4-40	.183	.112	3/32
6-32	.226	.138	7/64
8-32	.270	.164	9/64
10-32	.312	.190	5/32
1/4-20	.375	.250	3/16
5/16-18	.468	.312	1/4
3/8-16	.562	.375	5/16
1/2-13	.750	.500	3/8

Socket Head Cap Screws — Inch

17-4 PH SS, High Five SS (AMPG 316 H5)



17-4 PH SS



316 H5 SS

2-56 Thread Size

Length	17-4 PH SS Part Number
1/8	ZS74402C02
3/16	ZS74402C03
1/4	ZS74402C04
5/16	ZS74402C05
3/8	ZS74402C06
1/2	ZS74402C08
3/16	ZS74404C03

4-40 Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
1/4	ZS74404C04	ZSS61604C04
5/16	ZS74404C05	ZSS61604C05
3/8	ZS74404C06	ZSS61604C06
1/2	ZS74404C08	ZSS61604C08
5/8	ZS74404C10	—
3/4	ZS74404C12	—

6-32 Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
1/4	ZS74406C04	ZSS61606C04
5/16	ZS74406C05	—
3/8	ZS74406C06	ZSS61606C06
1/2	ZS74406C08	ZSS61606C08
5/8	ZS74406C10	ZSS61606C10
3/4	ZS74406C12	ZSS61606C12
1	ZS74406C16	—

8-32 Thread Size

Length	17-4 PH SS Part Number	316 H5Part Number
1/4	ZS74408C04	—
3/8	ZS74408C06	ZSS61608C06
1/2	ZS74408C08	ZSS61608C08
5/8	ZS74408C10	ZSS61608C10
3/4	ZS74408C12	ZSS61608C12
1	ZS74408C16	ZSS61608C16
1-1/4	ZS74408C20	—

10-32 Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
1/4	ZS74410F04	—
3/8	—	ZSS61610F06
1/2	—	ZSS61610F08
5/8	—	ZSS61610F10
3/4	—	ZSS61610F12
1	—	ZSS61610F16
1-1/4	ZS74410F20	—
1-1/2	ZS74410F24	—

1/4-20 Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
3/8	ZS74414C06	—
1/2	ZS74414C08	ZSS61614C08
5/8	ZS74414C10	ZSS61614C10
3/4	ZS74414C12	ZSS61614C12
7/8	ZS74414C14	ZSS61614C14
1	ZS74414C16	ZSS61614C16
1-1/4	ZS74414C20	ZSS61614C20
1-1/2*	ZS74414C24	ZSS61614C24
1-3/4*	ZS74414C28	ZSS61614C28
2*	ZS74414C32	ZSS61614C32

*Partially threaded, 1" minimum

Chart continued on next page

Socket Head Cap Screws — Inch

17-4 PH SS, High Five SS (AMPG 316 H5)



17-4 PH SS



316 H5 SS

5/16-18 Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
1/2	ZS74451C08	ZSS61651C08
5/8	ZS74451C10	ZSS61651C10
3/4	ZS74451C12	ZSS61651C12
7/8	ZS74451C14	ZSS61651C14
1	ZS74451C16	ZSS61651C16
1-1/4	ZS74451C20	ZSS61651C20
1-1/2*	ZS74451C24	ZSS61651C24
2	ZS74451C32	–
2-1/2**	ZS74451C40	–

*Partially threaded, 1-1/8" minimum

**Partially threaded, 2" minimum

3/8-16 Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
3/4	ZS74438C12	ZSS61638C12
7/8	ZS74438C14	ZSS61638C14
1	ZS74438C16	ZSS61638C16
1-1/4	ZS74438C20	ZSS61638C20
1-1/2	ZS74438C24	ZSS61638C24
2	ZS74438C32	ZSS61638C32
2-1/2	ZS74438C40	–
3	ZS74438C48	–

1/2-13 Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
1	ZS74412C16	ZSS61612C16
1-1/4	ZS74412C20	ZSS61612C20
1-1/2	ZS74412C24	ZSS61612C24
2	ZS74412C32	ZSS61612C32
2-3/4	ZS74412C44	–
3	ZS74412C48	–

Socket Head Cap Screws — Inch

Aluminum | Plain



2-56 Thread Size

Length	Aluminum Part Number
1/8	ZS72002C02
3/16	ZS72002C03
1/4	ZS72002C04
5/16	ZS72002C05
3/8	ZS72002C06
1/2	ZS72002C08
3/16	ZS72004C03

4-40 Thread Size

Length	Aluminum Part Number
1/4	ZS72004C04
5/16	ZS72004C05
3/8	ZS72004C06
1/2	ZS72004C08
5/8	ZS72004C10
3/4	ZS72004C12

6-32 Thread Size

Length	Aluminum Part Number
1/4	ZS72006C04
5/16	ZS72006C05
3/8	ZS72006C06
1/2	ZS72006C08
5/8	ZS72006C10
3/4	ZS72006C12
1	ZS72006C16

8-32 Thread Size

Length	Aluminum Part Number
1/4	ZS72008C04
3/8	ZS72008C06
1/2	ZS72008C08
5/8	ZS72008C10
3/4	ZS72008C12
1	ZS72008C16
1-1/4	ZS72008C20

10-32 Thread Size

Length	Aluminum Part Number
1/4	ZS72010F04
3/8	ZS72010F06
1/2	ZS72010F08
5/8	ZS72010F10
3/4	ZS72010F12
1	ZS72010F16
1-1/4	ZS72010F20
1-1/2	ZS72010F24

1/4-20 Thread Size

Length	Aluminum Part Number
3/8	ZS72014C06
1/2	ZS72014C08
5/8	ZS72014C10
3/4	ZS72014C12
7/8	ZS72014C14
1	ZS72014C16
1-1/4	ZS72014C20
1-1/2	ZS72014C24
1-3/4	ZS72014C28
2	ZS72014C32

5/16-18 Thread Size

Length	Aluminum Part Number
1/2	ZS72051C08
5/8	ZS72051C10
3/4	ZS72051C12
1	ZS72051C16
1-1/4	ZS72051C20
1-1/2	ZS72051C24
2	ZS72051C32

3/8-16 Thread Size

Length	Aluminum Part Number
3/4	ZS72038C12
1	ZS72038C16
1-1/4	ZS72038C20
1-1/2	ZS72038C24

Socket Head Cap Screws — Inch

Brass | Plain



Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Size
0-80	.096	.060	.050
2-56	.140	.086	5/64
4-40	.183	.112	3/32
10-32	.312	.190	5/32
3/8-16	9/16	3/8	5/16
1/2-13	3/4	1/2	3/8

0-80 Thread Size

Length	Brass Part Number
1/8	ZS55000C02
3/16	ZS55000C03
1/4	ZS55000C04

2-56 Thread Size

Length	Brass Part Number
1/2	ZS55002C08

4-40 Thread Size

Length	Brass Part Number
3/4	ZS55004C12
1	ZS55004C16

10-32 Thread Size

Length	Brass Part Number
1/4	ZS55010F04
5/16	ZS55010F05

3/8-16 Thread Size

Length	Brass Part Number
3	ZS55038C48

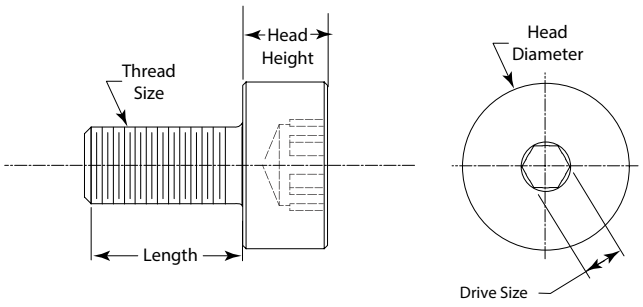
1/2-13 Thread Size

Length	Brass Part Number
1	ZS55012C16
1-1/4	ZS55012C20
1-1/2	ZS55012C24
2	ZS55012C32

Socket Head Cap Screws — Inch

Monel | Plain





Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Size
2-56	.140	.086	5/64
4-40	.183	.112	3/32
6-32	.226	.138	7/64
8-32	.270	.164	9/64
10-32	.312	.190	5/32
1/4-20	.375	.250	3/16

2-56 Thread Size

Length	Monel Part Number
3/16	ZS71002C03
1/4	ZS71002C04
5/16	ZS71002C05
1/2	ZS71002C08

4-40 Thread Size

Length	Monel Part Number
1/4	ZS71004C04
5/16	ZS71004C05
3/8	ZS71004C06
1/2	ZS71004C08

6-32 Thread Size

Length	Monel Part Number
3/8	ZS71006C06
1/2	ZS71006C08
5/8	ZS71006C10
3/4	ZS71006C12

8-32 Thread Size

Length	Monel Part Number
3/8	ZS71008C06
1/2	ZS71008C08
5/8	ZS71008C10
3/4	ZS71008C12
1	ZS71008C16

10-32 Thread Size

Length	Monel Part Number
1/2	ZS71010F08
5/8	ZS71010F10
3/4	ZS71010F12
1	ZS71010F16

1/4-20 Thread Size

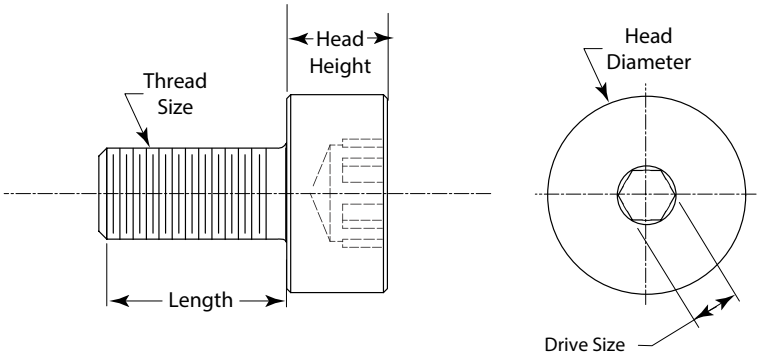
Length	Monel Part Number
3/8	ZS71014C06
1/2	ZS71014C08
5/8	ZS71014C10
3/4	ZS71014C12
1	ZS71014C16
1-1/4	ZS71014C20

Socket Head Cap Screws — Inch

Grade 2 Titanium | Plain
Grade 5 Titanium | Plain

Product Information

Socket heads are the standard for high-strength fastening. They can be installed in a counterbored hole or above the surface. Titanium Grade 2 is best known for being strong, lightweight, and corrosion resistant. Titanium Grade 5 is two times stronger than Grade 2, and four times stronger than 316 stainless at nearly half the weight. This material resists chlorides, hypochlorites, chlorates, perchlorates and chlorine dioxide. Screws may be mildy magnetic and have a Class 3A thread fit. Length is measured under the head. All screws meet or exceed ASME B18.3.





Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Size
2-56	.140	.086	5/64
4-40	.183	.112	3/32
6-32	.226	.138	7/64
8-32	.270	.164	9/64
10-32	.312	.190	5/32
1/4-20	.375	.250	3/16
5/16-18	.468	.312	1/4
3/8-16	.562	.375	5/16
1/2-13	.750	.500	3/8

2-56 Thread Size

Length	Ti2 Part Number	Ti5 Part Number
1/8	ZS70502C02	ZS75502C02
3/16	ZS70502C03	ZS75502C03
1/4	ZS70502C04	ZS75502C04
5/16	ZS70502C05	ZS75502C05
3/8	ZS70502C06	ZS75502C06
1/2	ZS70502C08	ZS75502C08

4-40 Thread Size

Length	Ti2 Part Number	Ti5 Part Number
3/16	ZS70504C03	ZS75504C03
1/4	ZS70504C04	ZS75504C04
5/16	ZS70504C05	ZS75504C05
3/8	ZS70504C06	ZS75504C06
1/2	ZS70504C08	ZS75504C08
5/8	ZS70504C10	ZS75504C10
3/4	ZS70504C12	ZS75504C12
1*	ZS70504C16	ZS75504C16

6-32 Thread Size

Length	Ti2 Part Number	Ti5 Part Number
1/4	ZS70506C04	ZS75506C04
5/16	ZS70506C05	ZS75506C05
3/8	ZS70506C06	ZS75506C06
1/2	ZS70506C08	ZS75506C08
5/8	ZS70506C10	ZS75506C10
3/4	ZS70506C12	ZS75506C12
1	ZS70506C16	ZS75506C16

*Partially threaded, 7/8" minimum

Socket Head Cap Screws — Inch

Grade 2 Titanium | Plain
Grade 5 Titanium | Plain



Titanium Grade 2



Titanium Grade 5

8-32 Thread Size

Length	Ti2 Part Number	Ti5 Part Number
1/4	ZS70508C04	ZS75508C04
3/8	ZS70508C06	ZS75508C06
1/2	ZS70508C08	ZS75508C08
5/8	ZS70508C10	ZS75508C10
3/4	ZS70508C12	ZS75508C12
1	ZS70508C16	ZS75508C16
1-1/4	ZS70508C20	ZS75508C20

10-32 Thread Size

Length	Ti2 Part Number	Ti5 Part Number
1/4	ZS70510F04	ZS75510F04
3/8	ZS70510F06	ZS75510F06
1/2	ZS70510F08	ZS75510F08
5/8	ZS70510F10	ZS75510F10
3/4	ZS70510F12	ZS75510F12
1	ZS70510F16	ZS75510F16
1-1/4*	ZS70510F20	ZS75510F20
1-1/2*	ZS70510F24	ZS75510F24

*Partially threaded, 7/8" minimum

1/4-20 Thread Size

Length	Ti2 Part Number	Ti5 Part Number
3/8	ZS70514C06	ZS75514C06
1/2	ZS70514C08	ZS75514C08
5/8	ZS70514C10	ZS75514C10
3/4	ZS70514C12	ZS75514C12
7/8	ZS70514C14	ZS75514C14
1	ZS70514C16	ZS75514C16
1-1/4*	ZS70514C20	ZS75514C20
1-1/2*	ZS70514C24	ZS75514C24
2*	ZS70514C32	ZS75514C32

*Partially threaded, 7/8" minimum

5/16-18 Thread Size

Length	Ti2 Part Number	Ti5 Part Number
1/2	ZS70551C08	ZS75551C08
5/8	ZS70551C10	ZS75551C10
3/4	ZS70551C12	ZS75551C12
7/8	ZS70551C14	ZS75551C14
1	ZS70551C16	ZS75551C16
1-1/4	ZS70551C20	ZS75551C20
1-1/2*	ZS70551C24	ZS75551C24
2*	ZS70551C32	ZS75551C32

*Partially threaded, 1" minimum

3/8-16 Thread Size

Length	Ti2 Part Number	Ti5 Part Number
3/4	ZS70538C12	ZS75538C12
7/8	ZS70538C14	ZS75538C14
1	ZS70538C16	ZS75538C16
1-1/4	ZS70538C20	ZS75538C20
1-1/2	ZS70538C24	ZS75538C24

1/2-13 Thread Size

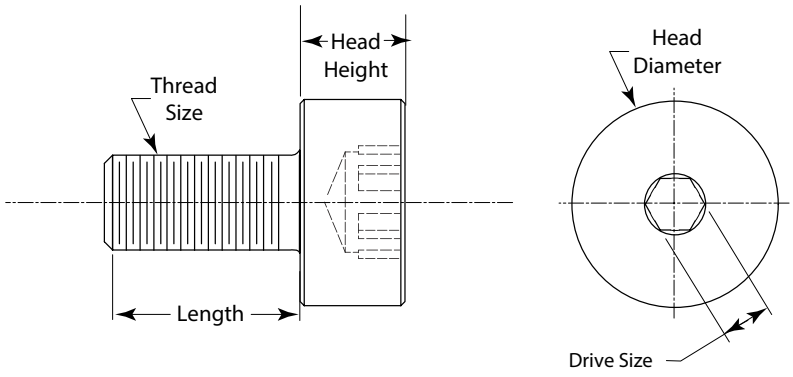
Length	Ti2 Part Number	Ti5 Part Number
1	ZS70512C16	ZS75512C16
1-1/4	ZS70512C20	ZS75512C20
1-1/2	ZS70512C24	ZS75512C24
2	ZS70512C32	ZS75512C32
3	ZS70512C48	ZS75512C48

Socket Cap Screws — Metric

17-4 PH SS, High Five SS (AMPG 316 H5), Titanium Grade 2, Titanium Grade 5, Brass

Product Information

Socket heads are the standard for high-strength fastening. They can be installed in a counterbored hole or above the surface. AMPG 316 H5 offers comparable strength and corrosion resistant properties as Bumax 88. AMPG is using a special grade of Type 316 Stainless Steel to manufacture the only domestic line of products that have the superior corrosion resistance of 316 stainless and the strength equivalent to Grade 5 steel materials. Use these fasteners in chemical, food, and marine applications. Maybe mildy magnetic. Screws have a Class 6g thread fit. Length is measured from under the head.





Dimensions Table — Metric, mm

Thread Size	Head Diameter	Head Height	Drive Size
M2 x 0.4mm	3.80	2.00	1.5
M2.5 x 0.45mm	4.50	2.50	2
M3 x 0.5mm	5.50	3.00	2.5
M4 x 0.7mm	7.00	4.00	3
M5 x 0.8mm	8.50	5.00	4
M6 x 1mm	10.00	6.00	5
M8 x 1.25mm	13.00	8.00	6
M10 x 1.5mm	16.00	10.00	8
M12 x 1.75mm	18.00	12.00	10

Socket Head Cap Screws — Metric

17-4 PH SS | Plain
High Five SS (AMPG 316 H5) | Plain



M2 x 0.4mm Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
6	ZS744M2X6	ZSS616M2X6
8	ZS744M2X8	ZSS616M2X8

M3 x 0.5mm Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
6	ZS744M3X6	ZSS616M3X6
8	ZS744M3X8	ZSS616M3X8
10	ZS744M3X10	ZSS616M3X10
12	ZS744M3X12	ZSS616M3X12
14	ZS744M3X14	ZSS616M3X14
16	ZS744M3X16	ZSS616M3X16

M4 x 0.7mm Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
8	ZS744M4X8	ZSS616M4X8
10	ZS744M4X10	ZSS616M4X10
12	ZS744M4X12	ZSS616M4X12
14	ZS744M4X14	ZSS616M4X14
16	ZS744M4X16	ZSS616M4X16
20	ZS744M4X20	ZSS616M4X20
25	ZS744M4X25	ZSS616M4X25
30*	ZS744M4X30	ZSS616M4X30

*Partially threaded, 20mm minimum

M5 x 0.8mm Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
10	ZS744M5X10	ZSS616M5X10
12	ZS744M5X12	ZSS616M5X12
14	ZS744M5X14	ZSS616M5X14
16	ZS744M5X16	ZSS616M5X16
20	ZS744M5X20	ZSS616M5X20
25	ZS744M5X25	ZSS616M5X25

M6 x 1mm Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
10	ZS744M6X10	ZSS616M6X10
12	ZS744M6X12	ZSS616M6X12
14	ZS744M6X14	ZSS616M6X14
16	ZS744M6X16	ZSS616M6X16
18	—	ZSS616M6X18
20	ZS744M6X20	ZSS616M6X20
25	ZS744M6X25	ZSS616M6X25
30	ZS744M6X30	ZSS616M6X30
35*	ZS744M6X35	ZSS616M6X35
40*	ZS744M6X40	ZSS616M6X40

*Partially threaded, 24mm minimum

M8 x 1.25mm Thread Size

Length	17-4 PH SS Part Number	316 H5 Part Number
12	—	ZSS616M8X12
16	—	ZSS616M8X16
18	—	ZSS616M8X18
20	ZS744M8X20	ZSS616M8X20
25	ZS744M8X25	ZSS616M8X25
30	ZS744M8X30	ZSS616M8X30

M10 x 1.5mm Thread Size

Length	316 H5 Part Number
18	ZSS616M10X18
20	ZSS616M10X20
25	ZSS616M10X25
30	ZSS616M10X30

M12 x 1.75mm Thread Size

Length	316 H5 Part Number
25	ZSS616M12X25
30	ZSS616M12X30
40	ZSS616M12X40
50	ZSS616M12X50

Socket Head Cap Screws — Metric

Grade 2 Titanium | Plain
Grade 5 Titanium | Plain


Titanium Grade 2


Titanium Grade 5

M2.5 x 0.45mm Thread Size

Length	Ti2 Part Number	Ti5 Part Number
4	ZS705M2.5X4	ZS755M2.5X4
5	ZS705M2.5X5	ZS755M2.5X5
6	ZS705M2.5X6	ZS755M2.5X6
8	ZS705M2.5X8	ZS755M2.5X8
10	ZS705M2.5X10	ZS755M2.5X10
12	ZS705M2.5X12	ZS755M2.5X12

M3 x 0.5mm Thread Size

Length	Ti2 Part Number	Ti5 Part Number
5	ZS705M3X5	ZS755M3X5
6	ZS705M3X6	ZS755M3X6
8	ZS705M3X8	ZS755M3X8
10	ZS705M3X10	ZS755M3X10
12	ZS705M3X12	ZS755M3X12
16	ZS705M3X16	ZS755M3X16
18	ZS705M3X18	ZS755M3X18
20	ZS705M3X20	ZS755M3X20

M4 x 0.7mm Thread Size

Length	Ti2 Part Number	Ti5 Part Number
6	ZS705M4X6	ZS755M4X6
10	ZS705M4X10	ZS755M4X10
12	ZS705M4X12	ZS755M4X12
16	ZS705M4X16	ZS755M4X16
18	ZS705M4X18	ZS755M4X18
20	ZS705M4X20	ZS755M4X20
25	ZS705M4X25	ZS755M4X25

M6 x 1mm Thread Size

Length	Ti2 Part Number	Ti5 Part Number
10	ZS705M6X10	ZS755M6X10
12	ZS705M6X12	ZS755M6X12
16	ZS705M6X16	ZS755M6X16
18	ZS705M6X18	ZS755M6X18
22	ZS705M6X22	ZS755M6X22
20	ZS705M6X20	ZS755M6X20
25	ZS705M6X25	ZS755M6X25
30	ZS705M6X30	ZS755M6X30
40*	ZS705M6X40	ZS755M6X40

*Partially threaded, 24mm minimum

M8 x 1.25mm Thread Size

Length	Ti2 Part Number	Ti5 Part Number
12	ZS705M8X12	ZS755M8X12
16	ZS705M8X16	ZS755M8X16
18	ZS705M8X18	ZS755M8X18
22	ZS705M8X22	ZS755M8X22
20	ZS705M8X20	ZS755M8X20
25	ZS705M8X25	ZS755M8X25
30	ZS705M8X30	ZS755M8X30
35	ZS705M8X35	ZS755M8X35

M5 x 0.8mm Thread Size

Length	Ti2 Part Number	Ti5 Part Number
6	ZS705M5X6	ZS755M5X6
10	ZS705M5X10	ZS755M5X10
12	ZS705M5X12	ZS755M5X12
16	ZS705M5X16	ZS755M5X16
18	ZS705M5X18	ZS755M5X18
20	ZS705M5X20	ZS755M5X20
25	ZS705M5X25	ZS755M5X25
30*	ZS705M5X30	ZS755M5X30

*Partially threaded, 22mm minimum

M10 x 1.5mm Thread Size

Length	Ti2 Part Number	Ti5 Part Number
18	ZS705M10X18	ZS755M10X18
22	ZS705M10X22	ZS755M10X22
20	ZS705M10X20	ZS755M10X20
25	ZS705M10X25	ZS755M10X25
30	ZS705M10X30	ZS755M10X30

M12 x 1.75mm Thread Size

Length	Ti2 Part Number	Ti5 Part Number
20	ZS705M12X20	ZS755M12X20
25	ZS705M12X25	ZS755M12X25
30	ZS705M12X30	ZS755M12X30
40	ZS705M12X40	ZS755M12X40
50	ZS705M12X50	ZS755M12X50

Socket Head Cap Screws — Metric

Brass | Plain



M2 x 0.4mm Thread Size

Length	Brass Part Number
6	ZS550M2X6
8	ZS550M2X8

M3 x 0.5mm Thread Size

Length	Brass Part Number
5	ZS550M3X5
6	ZS550M3X6
8	ZS550M3X8
10	ZS550M3X10
12	ZS550M3X12
16	ZS550M3X16
20	ZS550M3X20

M4 x 0.7mm Thread Size

Length	Brass Part Number
8	ZS550M4X8
10	ZS550M4X10
12	ZS550M4X12
14	ZS550M4X14
16	ZS550M4X16
20	ZS550M4X20
25	ZS550M4X25

M5 x 0.8mm Thread Size

Length	Brass Part Number
10	ZS550M5X10
12	ZS550M5X12
16	ZS550M5X16
20	ZS550M5X20
25	ZS550M5X25

M6 x 1mm Thread Size

Length	Brass Part Number
10	ZS550M6X10
12	ZS550M6X12
14	ZS550M6X14
16	ZS550M6X16
20	ZS550M6X20
25	ZS550M6X25
30	ZS550M6X30
35	ZS550M6X35

M8 x 1.25mm Thread Size

Length	Brass Part Number
16	ZS550M8X16
20	ZS550M8X20
25	ZS550M8X25
30	ZS550M8X30

Extra-Long Length Socket Head Cap Screws — Inch

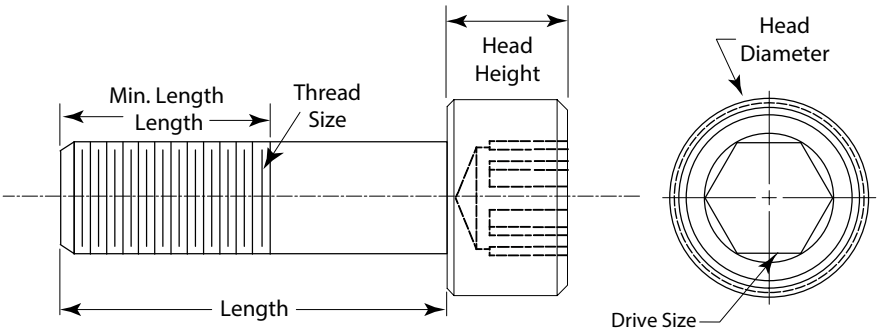
18-8 SS | Plain
316 SS | Plain

Product Information

AMPG® Precision Machined Socket Head Cap Screws are dimensionally more precise. On state of the art CNC Swiss Lathes, parts are made without any extra-handling or other machining operations. This ensures concentricity, tight tolerances, and products easily recognized for their uniformity & function.

Socket head cap screws have heavy heads with a hex socket drive. All screws have a Class 3A thread fit. Screw length is measured from under the head and are Partially Threaded. Screws meet ASME B18.3 specifications.

Note: Longer lengths are available on special order. We can produce ultra long lengths up to 60" (1524mm) with our Swiss Lathes. Please contact sales@ampg.com.





Dimensions Table — Inch

Thread Size	Minimum Thread Length	Head Diameter	Head Height	Drive Size
1/4-20 **1/4-28**	1	.375	.250	3/16
5/16-18 **5/16-24**	1-1/8	.468	.312	1/4
3/8-16	1-1/4	.562	.375	5/16
7/16-14 **7/16-20**	1-3/8	.656	.437	3/8
1/2-13 **1/2-20**	1-1/2	.750	.500	3/8
9/16-12 **9/16-18**	1-1/2	.843	.562	7/16
5/8-11 **5/8-18**	1-3/4	.937	.625	1/2

Extra-Long Length Socket Head Cap Screws — Inch

18-8 SS | Plain
316 SS | Plain



1/4-20 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60114C72	ZS60214C72
5	ZS60114C80	ZS60214C80
5-1/2	ZS60114C88	ZS60214C88
6	ZS60114C96	ZS60214C96
6-1/2	ZS60114C104	ZS60214C104
7	ZS60114C112	ZS60214C112
7-1/2	ZS60114C120	ZS60214C120
8	ZS60114C128	ZS60214C128

1/4-28 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60114F72	ZS60214F72
5	ZS60114F80	ZS60214F80
5-1/2	ZS60114F88	ZS60214F88
6	ZS60114F96	ZS60214F96
6-1/2	ZS60114F104	ZS60214F104
7	ZS60114F112	ZS60214F112
7-1/2	ZS60114F120	ZS60214F120
8	ZS60114F128	ZS60214F128

5/16-18 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60151C72	ZS60251C72
5	ZS60151C80	ZS60251C80
5-1/2	ZS60151C88	ZS60251C88
6	ZS60151C96	ZS60251C96
6-1/2	ZS60151C104	ZS60251C104
7	ZS60151C112	ZS60251C112
7-1/2	ZS60151C120	ZS60251C120
8	ZS60151C128	ZS60251C128

5/16-24 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60151F72	ZS60251F72
5	ZS60151F80	ZS60251F80
5-1/2	ZS60151F88	ZS60251F88
6	ZS60151F96	ZS60251F96
6-1/2	ZS60151F104	ZS60251F104
7	ZS60151F112	ZS60251F112
7-1/2	ZS60151F120	ZS60251F120
8	ZS60151F128	ZS60251F128

3/8-16 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60138C72	ZS60238C72
5	ZS60138C80	ZS60238C80
5-1/2	ZS60138C88	ZS60238C88
6	ZS60138C96	ZS60238C96
6-1/2	ZS60138C104	ZS60238C104
7	ZS60138C112	ZS60238C112
7-1/2	ZS60138C120	ZS60238C120
8	ZS60138C128	ZS60238C128

3/8-24 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60138F72	ZS60238F72
5	ZS60138F80	ZS60238F80
5-1/2	ZS60138F88	ZS60238F88
6	ZS60138F96	ZS60238F96
6-1/2	ZS60138F104	ZS60238F104
7	ZS60138F112	ZS60238F112
7-1/2	ZS60138F120	ZS60238F120
8	ZS60138F128	ZS60238F128

Chart continued on next page

Extra-Long Length Socket Head Cap Screws — Inch

18-8 SS | Plain
316 SS | Plain



7/16-14 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60171C72	ZS60271C72
5	ZS60171C80	ZS60271C80
5-1/2	ZS60171C88	ZS60271C88
6	ZS60171C96	ZS60271C96
6-1/2	ZS60171C104	ZS60271C104
7	ZS60171C112	ZS60271C112
7-1/2	ZS60171C120	ZS60271C120
8	ZS60171C128	ZS60271C128

1/2-13 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60112C72	ZS60212C72
5	ZS60112C80	ZS60212C80
5-1/2	ZS60112C88	ZS60212C88
6	ZS60112C96	ZS60212C96
6-1/2	ZS60112C104	ZS60212C104
7	ZS60112C112	ZS60212C112
7-1/2	ZS60112C120	ZS60212C120
8	ZS60112C128	ZS60212C128

5/8-11 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60158C72	ZS60258C72
5	ZS60158C80	ZS60258C80
5-1/2	ZS60158C88	ZS60258C88
6	ZS60158C96	ZS60258C96
6-1/2	ZS60158C104	ZS60258C104
7	ZS60158C112	ZS60258C112
7-1/2	ZS60158C120	ZS60258C120
8	ZS60158C128	ZS60258C128

7/16-20 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
2-1/2	ZS60171F40	ZS60271F40
3	ZS60171F48	ZS60271F48
3-1/2	ZS60171F56	ZS60271F56
4	ZS60171F64	ZS60271F64

9/16-18 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
2-1/2	ZS60191F40	ZS60291F40
3	ZS60191F48	ZS60291F48
3-1/2	ZS60191F56	ZS60291F56
4	ZS60191F64	ZS60291F64

5/8-18 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60158F72	ZS60258F72
5	ZS60158F80	ZS60258F80
5-1/2	ZS60158F88	ZS60258F88
6	ZS60158F96	ZS60258F96
6-1/2	ZS60158F104	ZS60258F104
7	ZS60158F112	ZS60258F112
7-1/2	ZS60158F120	ZS60258F120
8	ZS60158F128	ZS60258F128

1/2-20 Thread Size

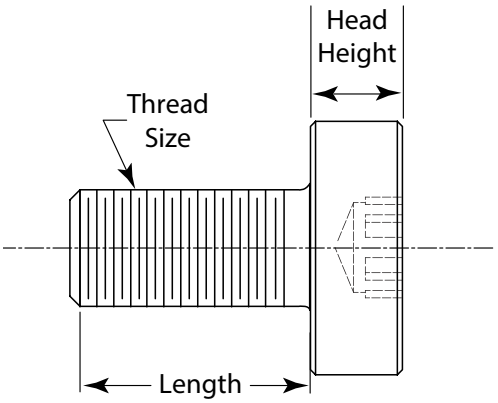
Length	18-8 SS Part Number	316 SS Part Number
4-1/2	ZS60112F72	ZS60212F72
5	ZS60112F80	ZS60212F80
5-1/2	ZS60112F88	ZS60212F88
6	ZS60112F96	ZS60212F96
6-1/2	ZS60112F104	ZS60212F104
7	ZS60112F112	ZS60212F112
7-1/2	ZS60112F120	ZS60212F120
8	ZS60112F128	ZS60212F128

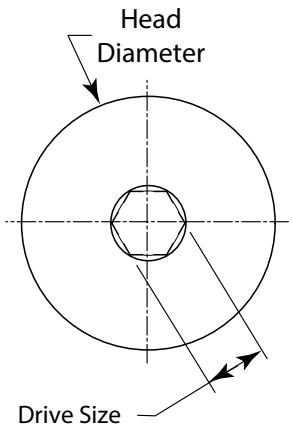
Low Head Socket Head Cap Screws — Inch

18-8 SS, 316 SS, Alloy Steel, 17-4 PH SS, Aluminum, Titanium Grade 2

Product Information

These Low Head Socket Head Cap Screws are excellent for tight areas as the low profile head is 30% lower than standard socket heads. Choose from Type 316 stainless steel for superior corrosion resistance, 17-4 precipitation hardened stainless steel alloy which combines the high strength of alloy steel with the corrosion resistance of stainless steel, Alumimum that provides the strength of mild steel with a third of the weight along with resistance to atmospheric corrosion, and Titanium used mostly for it's strength and resistant chemical enviroments. Alloy Steel screws have a black oxide plating that enhances appearances and cut down on light reflections and glare. All screws have a Class 3A thread fit. Screw length is measured from under the head. Note: The reduced head height and smaller socket size for low head screws are not recommended for high strength applications.





Dimensions Table — Inch			
Thread Size	**Head Diameter max. to min.**	**Head Height max. to min.**	**Drive Size**
2-56	.145 - .140	.043 - .040	.050
4-40	.183 - .178	.059 - .053	.050
6-32	.226 - .221	.072 - .066	1/16
8-32	.270 - .265	.085 - .079	5/64
10-24	.312 - .307	.098 - .092	3/32
10-32	.312 - .307	.098 - .092	3/32
1/4-20	.375 - .369	.127 - .121	1/8
1/4-28	.375 - .369	.127 - .121	1/8
7/16-14	.625 - .618	.223 - .213	7/32
5/16-18	.437 - .431	.158 - .125	5/32
5/16-24	.437 - .431	.158 - .125	5/32
3/8-16	.562 - .556	.192 - .182	3/16
3/8-24	.562 - .556	.192 - .182	3/16
1/2-13	.750 - .743	.254 - .244	1/4


18-8 SS


316 SS


Alloy Steel, Black Oxide


17-4 PH SS


Aluminum


Titanium

Low Head Socket Head Cap Screws — Inch

18-8 SS, 316 SS, 17-4 PH SS, Aluminum, Titanium Grade 2



2-56 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/16	Full Thread	ZL60102C03	ZL60202C03	ZL70002C03
1/4		ZL60102C04	ZL60202C04	ZL70002C04
5/16		ZL60102C05	ZL60202C05	ZL70002C05
3/8		ZL60102C06	ZL60202C06	ZL70002C06
1/2	Full Thread	ZL60102C08	ZL60202C08	ZL70002C08

4-40 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/16	Full Thread	ZL60104C03	ZL60204C03	ZL70004C03
1/4		ZL60104C04	ZL60204C04	ZL70004C04
5/16		ZL60104C05	ZL60204C05	ZL70004C05
3/8		ZL60104C06	ZL60204C06	ZL70004C06
7/16	Full Thread	ZL60104C07	ZL60204C07	ZL70004C07
1/2		ZL60104C08	ZL60204C08	ZL70004C08
5/8		ZL60104C10	ZL60204C10	ZL70004C10
3/4		ZL60104C12	ZL60204C12	ZL70004C12
7/8		ZL60104C14	ZL60204C14	ZL70004C14
1	Full Thread	ZL60104C16	ZL60204C16	ZL70004C16

6-32 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number	17-4 PH SS Part Number	Aluminum Part Number	Titanium Part Number
3/16	Full Thread	ZL60106C03	ZL60206C03	ZL70006C03	—	—	—
1/4		ZL60106C04	ZL60206C04	ZL70006C04	ZL74406C04	ZL72006C04	ZL70506C04
5/16		ZL60106C05	ZL60206C05	ZL70006C05	—	—	—
3/8		ZL60106C06	ZL60206C06	ZL70006C06	ZL74406C06	ZL72006C06	ZL70506C06
7/16	Full Thread	ZL60106C07	ZL60206C07	ZL70006C07	—	—	—
1/2		ZL60106C08	ZL60206C08	ZL70006C08	ZL74406C08	ZL72006C08	ZL70506C08
5/8		ZL60106C10	ZL60206C10	ZL70006C10	—	—	—
3/4		ZL60106C12	ZL60206C12	ZL70006C12	ZL74406C12	ZL72006C12	ZL70506C12
1	Full Thread	ZL60106C16	ZL60206C16	ZL70006C16	—	—	—
1-1/4	Partial Thread .750" min.	ZL60106C20	ZL60206C20	ZL70006C20	—	—	—
1-3/8		ZL60106C22	ZL60206C22	ZL70006C22	—	—	—
1-1/2		ZL60106C24	ZL60206C24	ZL70006C24	—	—	—

Low Head Socket Head Cap Screws — Inch

18-8 SS, 316 SS, 17-4 PH SS, Aluminum, Titanium Grade 2



8-32 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number	17-4 PH SS Part Number	Aluminum Part Number	Titanium Part Number
3/16	Full Thread	ZL60108C03	ZL60208C03	ZL70008C03	—	—	—
1/4		ZL60108C04	ZL60208C04	ZL70008C04	ZL74408C04	ZL72008C04	ZL70508C04
5/16		ZL60108C05	ZL60208C05	ZL70008C05	—	—	—
3/8		ZL60108C06	ZL60208C06	ZL70008C06	ZL74408C06	ZL72008C06	ZL70508C06
7/16	Full Thread	ZL60108C07	ZL60208C07	ZL70008C07	—	—	—
1/2		ZL60108C08	ZL60208C08	ZL70008C08	ZL74408C08	ZL72008C08	ZL70508C08
5/8		ZL60108C10	ZL60208C10	ZL70008C10	—	—	—
3/4		ZL60108C12	ZL60208C12	ZL70008C12	ZL74408C12	ZL72008C12	ZL70508C12
7/8	Full Thread	ZL60108C14	ZL60208C14	ZL70008C14	—	—	—
1		ZL60108C16	ZL60208C16	ZL70008C16	—	—	—
1-1/4	Partial Thread .875" min.	ZL60108C20	ZL60208C20	ZL70008C20	—	—	—
1-3/8		ZL60108C22	ZL60208C22	ZL70008C22	—	—	—
1-1/2		ZL60108C24	ZL60208C24	ZL70008C24	—	—	—
1-5/8		ZL60108C26	ZL60208C26	ZL70008C26	—	—	—
1-3/4	Partial Thread .875" min.	ZL60108C28	ZL60208C28	ZL70008C28	—	—	—

10-24 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
1/4	Full Thread	ZL60110C04	ZL60210C04	ZL70010C04
5/16		ZL60110C05	ZL60210C05	ZL70010C05
3/8		ZL60110C06	ZL60210C06	ZL70010C06
7/16		ZL60110C07	ZL60210C07	ZL70010C07
1/2	Full Thread	ZL60110C08	ZL60210C08	ZL70010C08
9/16		ZL60110C09	ZL60210C09	ZL70010C09
5/8		ZL60110C10	ZL60210C10	ZL70010C10
3/4		ZL60110C12	ZL60210C12	ZL70010C12
7/8	Full Thread	ZL60110C14	ZL60210C14	ZL70010C14
1		ZL60110C16	ZL60210C16	ZL70010C16
1-1/4	Partial Thread .875" min.	ZL60110C20	ZL60210C20	ZL70010C20
1-3/8		ZL60110C22	ZL60210C22	ZL70010C22
1-1/2		ZL60110C24	ZL60210C24	ZL70010C24
1-5/8		ZL60110C26	ZL60210C26	ZL70010C26
1-3/4	Partial Thread .875" min.	ZL60110C28	ZL60210C28	ZL70010C28
2		ZL60110C32	ZL60210C32	ZL70010C32

Chart continued on next page

Low Head Socket Head Cap Screws — Inch

18-8 SS, 316 SS, 17-4 PH SS, Aluminum, Titanium Grade 2



10-32 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number	17-4 PH SS Part Number	Aluminum Part Number	Titanium Part Number
1/4	Full Thread	ZL60110F04	ZL60210F04	ZL70010F04	—	—	—
5/16		ZL60110F05	ZL60210F05	ZL70010F05	—	—	—
3/8		ZL60110F06	ZL60210F06	ZL70010F06	ZL74410F06	ZL72010F06	ZL70510F06
7/16		ZL60110F07	ZL60210F07	ZL70010F07	—	—	—
1/2	Full Thread	ZL60110F08	ZL60210F08	ZL70010F08	ZL74410F08	ZL72010F08	ZL70510F08
9/16		ZL60110F09	ZL60210F09	ZL70010F09	—	—	—
5/8		ZL60110F10	ZL60210F10	ZL70010F10	—	—	—
3/4		ZL60110F12	ZL60210F12	ZL70010F12	ZL74410F12	ZL72010F12	ZL70510F12
7/8	Full Thread	ZL60114F14	ZL60214F14	ZL70014F14	—	—	—
1		ZL60110F16	ZL60210F16	ZL70010F16	ZL74410F16	ZL72010F16	ZL70510F16
1-1/4	Partial Thread .875" min.	ZL60110F20	ZL60210F20	ZL70010F20	—	—	—
1-3/8		ZL60110F22	ZL60210F22	ZL70010F22	—	—	—
1-1/2		ZL60110F24	ZL60210F24	ZL70010F24	—	—	—
1-5/8		ZL60110F26	ZL60210F26	ZL70010F26	—	—	—
1-3/4	Partial Thread .875" min.	ZL60110F28	ZL60210F28	ZL70010F28	—	—	—
2		ZL60110F32	ZL60210F32	ZL70010F32	—	—	—

1/4-20 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number	17-4 PH SS Part Number	Aluminum Part Number	Titanium Part Number
1/4	Full Thread	ZL60114C04	ZL60214C04	ZL70014C04	—	—	—
3/8		ZL60114C06	ZL60214C06	ZL70014C06	ZL74414C06	ZL72014C06	ZL70514C06
7/16		ZL60114C07	ZL60214C07	ZL70014C07	—	—	—
1/2		ZL60114C08	ZL60214C08	ZL70014C08	ZL74414C08	ZL72014C08	ZL70514C08
9/16	Full Thread	ZL60114C09	ZL60214C09	ZL70014C09	—	—	—
5/8		ZL60114C10	ZL60214C10	ZL70014C10	—	—	—
3/4		ZL60114C12	ZL60214C12	ZL70014C12	ZL74414C12	ZL72014C12	ZL70514C12
7/8		ZL60114C14	ZL60214C14	ZL70014C14	—	—	—
1	Full Thread	ZL60114C16	ZL60214C16	ZL70014C16	ZL74414C16	ZL72014C16	ZL70514C16
1-3/16		ZL60114C19	ZL60214C19	ZL70014C19	—	—	—
1-1/4		ZL60114C20	ZL60214C20	ZL70014C20	—	—	—
1-5/16		ZL60114C21	ZL60214C21	ZL70014C21	—	—	—
1-3/8	Full Thread	ZL60114C22	ZL60214C22	ZL70014C22	—	—	—
1-1/2	Partial Thread 1" min.	ZL60114C24	ZL60214C24	ZL70014C24	—	—	—
1-3/4		ZL60114C28	ZL60214C28	ZL70014C28	—	—	—
2		ZL60114C32	ZL60214C32	ZL70014C32	—	—	—
2-1/4		ZL60114C36	ZL60214C36	ZL70014C36	—	—	—
2-1/2	Partial Thread 1" min.	ZL60114C40	ZL60214C40	ZL70014C40	—	—	—
3		ZL60114C48	ZL60214C48	ZL70014C48	—	—	—

Low Head Socket Head Cap Screws — Inch

18-8 SS, 316 SS, 17-4 PH SS, Aluminum, Titanium Grade 2



1/4-28 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
1/4	Full Thread	ZL60114F04	ZL60214F04	ZL70014F04
3/8		ZL60114F06	ZL60214F06	ZL70014F06
7/16		ZL60114F07	ZL60214F07	ZL70014F07
1/2		ZL60114F08	ZL60214F08	ZL70014F08
9/16	Full Thread	ZL60114F09	ZL60214F09	ZL70014F09
5/8		ZL60114F10	ZL60214F10	ZL70014F10
3/4		ZL60114F12	ZL60214F12	ZL70014F12
7/8		ZL60114F14	ZL60214F14	ZL70014F14
1	Full Thread	ZL60114F16	ZL60214F16	ZL70014F16
1-3/16		ZL60114F19	ZL60214F19	ZL70014F19
1-1/4		ZL60114F20	ZL60214F20	ZL70014F20
1-5/16		ZL60114F21	ZL60214F21	ZL70014F21
1-3/8	Full Thread	ZL60114F22	ZL60214F22	ZL70014F22
1-1/2	Partial Thread 1" min.	ZL60114F24	ZL60214F24	ZL70014F24
1-3/4		ZL60114F28	ZL60214F28	ZL70014F28
2		ZL60114F32	ZL60214F32	ZL70014F32
2-1/4		ZL60114F36	ZL60214F36	ZL70014F36
2-1/2		ZL60114F40	ZL60214F40	ZL70014F40

5/16-18 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number	17-4 PH SS Part Number	Aluminum Part Number	Titanium Part Number
1/4	Full Thread	ZL60151C04	ZL60251C04	ZL70051C04	—	—	—
5/16		ZL60151C05	ZL60251C05	ZL70051C05	—	—	—
3/8		ZL60151C06	ZL60251C06	ZL70051C06	—	—	—
1/2		ZL60151C08	ZL60251C08	ZL70051C08	ZL74451C08	ZL72051C08	ZL70551C08
5/8	Full Thread	ZL60151C10	ZL60251C10	ZL70051C10	—	—	—
3/4		ZL60151C12	ZL60251C12	ZL70051C12	ZL74451C12	ZL72051C12	ZL70551C12
1		ZL60151C16	ZL60251C16	ZL70051C16	ZL74451C16	ZL72051C16	ZL70551C16
1 1/4		ZL60151C20	ZL60251C20	ZL70051C20	ZL74451C20	ZL72051C20	ZL70551C20
1-1/2	Full Thread	ZL60151C24	ZL60251C24	ZL70051C24	ZL74451C24	ZL72051C24	ZL70551C24
1-3/4	Partial Thread 1.125" min.	ZL60151C28	ZL60251C28	ZL70051C28	—	—	—
2		ZL60151C32	ZL60251C32	ZL70051C32	—	—	—
2-1/2		ZL60151C40	ZL60251C40	ZL70051C40	—	—	—

Chart continued on next page

Low Head Socket Head Cap Screws — Inch

18-8 SS, 316 SS, 17-4 PH SS, Aluminum, Titanium Grade 2



5/16-24 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
1/2	Full Thread	ZL60151F08	ZL60251F08	ZL70051F08
3/4		ZL60151F12	ZL60251F12	ZL70051F12
1		ZL60151F16	ZL60251F16	ZL70051F16

3/8-16 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number	17-4 PH SS Part Number	Aluminum Part Number	Titanium Part Number
1/4	Full Thread	ZL60138C04	ZL60238C04	ZL70038C04	—	—	—
5/16		ZL60138C05	ZL60238C05	ZL70038C05	—	—	—
3/8		ZL60138C06	ZL60238C06	ZL70038C06	—	—	—
1/2		ZL60138C08	ZL60238C08	ZL70038C08	ZL74438C08	ZL72038C08	ZL70538C08
5/8	Full Thread	ZL60138C10	ZL60238C10	ZL70038C10	—	—	—
3/4		ZL60138C12	ZL60238C12	ZL70038C12	—	—	—
7/8		ZL60138C14	ZL60238C14	ZL70038C14	ZL74438C12	ZL72038C12	ZL70538C12
1		ZL60138C16	ZL60238C16	ZL70038C16	ZL74438C16	ZL72038C16	ZL70538C16
1-1/4	Full Thread	ZL60138C20	ZL60238C20	ZL70038C20	—	—	—
1-1/2		ZL60138C24	ZL60238C24	ZL70038C24	ZL74438C24	ZL72038C24	ZL70538C24
1-3/4		ZL60138C28	ZL60238C28	ZL70038C28	—	—	—
2	Partial Thread 1.25" min.	ZL60138C32	ZL60238C32	ZL70038C32	ZL74438C32	ZL72038C32	ZL70538C32
2-1/2		ZL60138C40	ZL60238C40	ZL70038C40	—	—	—
3		ZL60138C48	ZL60238C48	ZL70038C48	—	—	—

3/8-24 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/4	Full Thread	ZL60138F12	ZL60238F12	ZL70038F12
1		ZL60138F16	ZL60238F16	ZL70038F16

7/16-14 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3/8	Full Thread	ZL60171C06	ZL60271C06	ZL70071C06
1/2		ZL60171C08	ZL60271C08	ZL70071C08
5/8		ZL60171C10	ZL60271C10	ZL70071C10
3/4		ZL60171C12	ZL60271C12	ZL70071C12
1		ZL60171C16	ZL60271C16	ZL70071C16

1/2-13 Thread Size

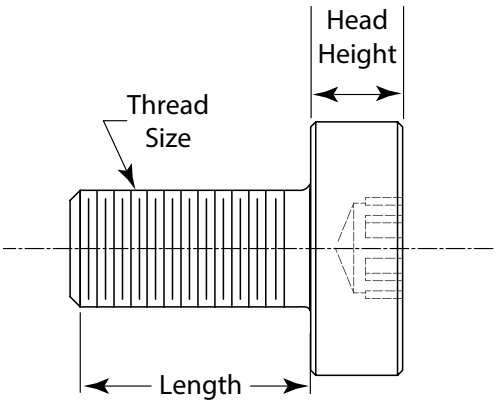
Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
1/2	Full Thread	ZL60112C08	ZL60212C08	ZL70012C08
3/4		ZL60112C12	ZL60212C12	ZL70012C12
7/8		ZL60112C16	ZL60212C14	ZL70012C16
1		ZL60112C20	ZL60212C16	ZL70012C20
1-1/4	Full Thread	ZL60112C24	ZL60212C20	ZL70012C24
1-1/2		ZL60112C28	ZL60212C24	ZL70012C28
2		ZL60112C32	ZL60212C32	ZL70012C32
2-1/2		ZL60112C40	ZL60212C40	ZL70012C40
3	Partial Thread 1.250 " min.	ZL60112C48	ZL60212C48	ZL70012C48

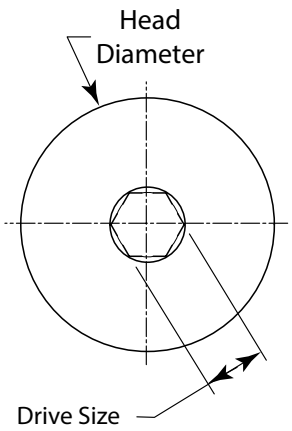
Low Head Socket Head Cap Screws — Metric

18-8 SS, 316 SS, Alloy Steel | Black Oxide

Product Information

These Low Head Socket Head Cap Screws are excellent for tight areas as the low profile head is 30% lower than standard socket heads. Alloy Steel screws have a black oxide plating that enhances appearances and cut down on light reflections and glare. All screws have a Class 6g thread fit. Screw length is measured from under the head. Note: The reduced head height and smaller socket size for low head screws are not recommended for high strength applications.





Dimensions Table — Metric

Thread Size	Head Diameter	Head Height	Drive Size
M2 × 0.4	3.80	1.35	1.3
M3 × 0.5	5.50	2.00	2
M4 × 0.7	7.00	2.80	2.5
M5 × 0.8	8.50	3.50	3
M6 × 1	10.00	4.00	4
M8 × 1.25	13.00	5.00	5
M10 × 1.5	16.00	6.00	7
M12 × 1.75	18.00	7.00	8


18-8 SS


316 SS


Alloy Steel, Black Oxide

M2 x 0.4 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
4	Full Thread	ZL601M2X4	ZL602M2X4	ZL700M2X4
5		ZL601M2X5	ZL602M2X5	ZL700M2X5
6		ZL601M2X6	ZL602M2X6	ZL700M2X6
8		ZL601M2X8	ZL602M2X8	ZL700M2X8
10		ZL601M2X10	ZL602M2X10	ZL700M2X10

M3 x 0.5 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
3	Full Thread	ZL601M3X3	ZL602M3X3	ZL700M3X3
4		ZL601M3X4	ZL602M3X4	ZL700M3X4
5		ZL601M3X5	ZL602M3X5	ZL700M3X5
6		ZL601M3X6	ZL602M3X6	ZL700M3X6
8	Full Thread	ZL601M3X8	ZL602M3X8	ZL700M3X8
10		ZL601M3X10	ZL602M3X10	ZL700M3X10
12		ZL601M3X12	ZL602M3X12	ZL700M3X12
14		ZL601M3X14	ZL602M3X14	ZL700M3X14
16	Full Thread	ZL601M3X16	ZL602M3X16	ZL700M3X16
20	Partial Thread 12mm min.	ZL601M3X20	ZL602M3X20	ZL700M3X20
25		ZL601M3X25	ZL602M3X25	ZL700M3X25
30		ZL601M3X30	ZL602M3X30	ZL700M3X30

Chart continued on next page

Low Head Socket Head Cap Screws — Metric

18-8 SS, 316 SS, Alloy Steel | Black Oxide



M4 x 0.7 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
4	Full Thread	ZL601M4X4	ZL602M4X4	ZL700M4X4
5		ZL601M4X5	ZL602M4X5	ZL700M4X5
6		ZL601M4X6	ZL602M4X6	ZL700M4X6
8		ZL601M4X8	ZL602M4X8	ZL700M4X8
10	Full Thread	ZL601M4X10	ZL602M4X10	ZL700M4X10
12		ZL601M4X12	ZL602M4X12	ZL700M4X12
14		ZL601M4X14	ZL602M4X14	ZL700M4X14
16		ZL601M4X16	ZL602M4X16	ZL700M4X16
20	Full Thread	ZL601M4X20	ZL602M4X20	ZL700M4X20
25	Partial Thread 14mm min.	ZL601M4X25	ZL602M4X25	ZL700M4X25
30		ZL601M4X30	ZL602M4X30	ZL700M4X30
35		ZL601M4X35	ZL602M4X35	ZL700M4X35
40		ZL601M4X40	ZL602M4X40	ZL700M4X40
50		ZL601M4X50	ZL602M4X50	ZL700M4X50

M5 x 0.8 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
5	Full Thread	ZL601M5X5	ZL602M5X5	ZL700M5X5
6		ZL601M5X6	ZL602M5X6	ZL700M5X6
8		ZL601M5X8	ZL602M5X8	ZL700M5X8
10		ZL601M5X10	ZL602M5X10	ZL700M5X10
12	Full Thread	ZL601M5X12	ZL602M5X12	ZL700M5X12
14		ZL601M5X14	ZL602M5X14	ZL700M5X14
16		ZL601M5X16	ZL602M5X16	ZL700M5X16
20		ZL601M5X20	ZL602M5X20	ZL700M5X20
25	Full Thread	ZL601M5X25	ZL602M5X25	ZL700M5X25
30	Partial Thread 16mm min.	ZL601M5X30	ZL602M5X30	ZL700M5X30
35		ZL601M5X35	ZL602M5X35	ZL700M5X35
40		ZL601M5X40	ZL602M5X40	ZL700M5X40
50		ZL601M5X50	ZL602M5X50	ZL700M5X50
60		ZL601M5X60	ZL602M5X60	ZL700M5X60

M6 x 1 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
6	Full Thread	ZL601M6X6	ZL602M6X6	ZL700M6X6
8		ZL601M6X8	ZL602M6X8	ZL700M6X8
10		ZL601M6X10	ZL602M6X10	ZL700M6X10
12		ZL601M6X12	ZL602M6X12	ZL700M6X12
14	Full Thread	ZL601M6X14	ZL602M6X14	ZL700M6X14
16		ZL601M6X16	ZL602M6X16	ZL700M6X16
18		ZL601M6X18	ZL602M6X18	ZL700M6X18
20		ZL601M6X20	ZL602M6X20	ZL700M6X20
22	Full Thread	ZL601M6X22	ZL602M6X22	ZL700M6X22
25		ZL601M6X25	ZL602M6X25	ZL700M6X25
30	Partial Thread 18mm min.	ZL601M6X30	ZL602M6X30	ZL700M6X30
35		ZL601M6X35	ZL602M6X35	ZL700M6X35
40		ZL601M6X40	ZL602M6X40	ZL700M6X40
45		ZL601M6X45	ZL602M6X45	ZL700M6X45
50	Partial Thread 18mm min.	ZL601M6X50	ZL602M6X50	ZL700M6X50
60		ZL601M6X60	ZL602M6X60	ZL700M6X60
70		ZL601M6X70	ZL602M6X70	ZL700M6X70

Chart continued on next page

Low Head Socket Head Cap Screws — Metric

18-8 SS, 316 SS, Alloy Steel | Black Oxide



M8 x 1.25 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
8	Full Thread	ZL601M8X8	ZL602M8X8	ZL700M8X8
10		ZL601M8X10	ZL602M8X10	ZL700M8X10
12		ZL601M8X12	ZL602M8X12	ZL700M8X12
14		ZL601M8X14	ZL602M8X14	ZL700M8X14
16	Full Thread	ZL601M8X16	ZL602M8X16	ZL700M8X16
18		ZL601M8X18	ZL602M8X18	ZL700M8X18
20		ZL601M8X20	ZL602M8X20	ZL700M8X20
22		ZL601M8X22	ZL602M8X22	ZL700M8X22
25	Full Thread	ZL601M8X25	ZL602M8X25	ZL700M8X25
30		ZL601M8X30	ZL602M8X30	ZL700M8X30
35	Partial Thread 22mm min.	ZL601M8X35	ZL602M8X35	ZL700M8X35
40		ZL601M8X40	ZL602M8X40	ZL700M8X40
45		ZL601M8X45	ZL602M8X45	ZL700M8X45
50		ZL601M8X50	ZL602M8X50	ZL700M8X50
60	Partial Thread 22mm min.	ZL601M8X60	ZL602M8X60	ZL700M8X60
70		ZL601M8X70	ZL602M8X70	ZL700M8X70

M10 x 1.5 Thread Size

Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
16	Full Thread	ZL601M10X16	ZL602M10X16	ZL700M10X16
20		ZL601M10X20	ZL602M10X20	ZL700M10X20
25		ZL601M10X25	ZL602M10X25	ZL700M10X25
30		ZL601M10X30	ZL602M10X30	ZL700M10X30
35	Full Thread	ZL601M10X35	ZL602M10X35	ZL700M10X35
40	Partial Thread 26mm min.	ZL601M10X40	ZL602M10X40	ZL700M10X40
45		ZL601M10X45	ZL602M10X45	ZL700M10X45
50		ZL601M10X50	ZL602M10X50	ZL700M10X50
55		ZL601M10X55	ZL602M10X55	ZL700M10X55
60	Partial Thread 26mm min.	ZL601M10X60	ZL602M10X60	ZL700M10X60
80		ZL601M10X80	ZL602M10X80	ZL700M10X80

M12 x 1.75 Thread Size

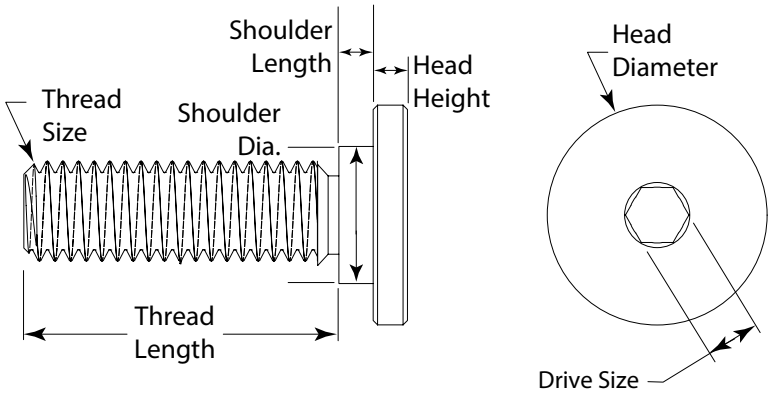
Length	Threading	18-8 SS Part Number	316 SS Part Number	Alloy Steel Part Number
20	Full Thread	ZL601M12X20	ZL602M12X20	ZL700M12X20
25		ZL601M12X25	ZL602M12X25	ZL700M12X25
30		ZL601M12X30	ZL602M12X30	ZL700M12X30
35		ZL601M12X35	ZL602M12X35	ZL700M12X35
40	Partial Thread 30mm min.	ZL601M12X40	ZL602M12X40	ZL700M12X40
45		ZL601M12X45	ZL602M12X45	ZL700M12X45
50		ZL601M12X50	ZL602M12X50	ZL700M12X50
60		ZL601M12X60	ZL602M12X60	ZL700M12X60

Ultra Low Head Socket Cap Screws — Inch

18-8 SS, 316 SS, Brass

Product Information

Excellent for tight areas and fastening applications which will not accept a countersunk flat head screw. Ultra Low Head screws have reduced head heights about 1/3 less than the height of standard low head socket cap screws. A lower profile head reduces the chance of anything snagging on the head. In addition, all screw sizes are made with extra-wide heads that offer 33% more bearing surface and holding power than standard low head screws. The larger diameter head improves holding power especially when fastening lower strength materials. Screws have a Class 3A Thread Fit. All screws are fully threaded. Length is measured from under the shoulder. Low head screws are not recommended for high strength applications.



Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Shoulder Dia.	Shoulder Lg.	Socket Drive Size
2-56	9/64	1/32	.094	.031	3/64
4-40	3/16	3/64	.139	.046	1/16
6-32	7/32	3/64	.139	.046	1/16
8-32	11/32	1/16	.188	.063	5/64
10-24	13/32	1/16	.250	.063	3/32
10-32	13/32	1/16	.250	.063	3/32
1/4-20	1/2	5/64	.313	.078	1/8
1/4-28	1/2	5/64	.313	.078	1/8
5/16-18	37/64	7/64	.375	.109	5/32
5/16-24	37/64	7/64	.375	.109	5/32
3/8-16	3/4	1/8	.438	.125	3/16
3/8-24	3/4	1/8	.438	.125	3/16
7/16-14	3/4	5/32	.500	.156	1/4
1/2-13	1	.165	.563	.165	1/4



18-8 SS



316 SS



Brass

Ultra Low Head Socket Cap Screws — Inch

18-8 SS, 316 SS



2-56 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
3/16	Coarse	ZUL60102C03	ZUL60202C03
1/4	Coarse	ZUL60102C04	ZUL60202C04
5/16	Coarse	ZUL60102C05	ZUL60202C05
3/8	Coarse	ZUL60102C06	ZUL60202C06
7/16	Coarse	ZUL60102C07	ZUL60202C07
1/2	Coarse	ZUL60102C08	ZUL60202C08

4-40 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
3/16	Coarse	ZUL60104C03	ZUL60204C03
1/4	Coarse	ZUL60104C04	ZUL60204C04
5/16	Coarse	ZUL60104C05	ZUL60204C05
3/8	Coarse	ZUL60104C06	ZUL60204C06
7/16	Coarse	ZUL60104C07	ZUL60204C07
1/2	Coarse	ZUL60104C08	ZUL60204C08
5/8	Coarse	ZUL60104C10	ZUL60204C10
3/4	Coarse	ZUL60104C12	ZUL60204C12
7/8	Coarse	ZUL60104C14	ZUL60204C14
1	Coarse	ZUL60104C16	ZUL60204C16

6-32 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
3/16	Coarse	ZUL60106C03	ZUL60206C03
1/4	Coarse	ZUL60106C04	ZUL60206C04
5/16	Coarse	ZUL60106C05	ZUL60206C05
3/8	Coarse	ZUL60106C06	ZUL60206C06
7/16	Coarse	ZUL60106C07	ZUL60206C07
1/2	Coarse	ZUL60106C08	ZUL60206C08
5/8	Coarse	ZUL60106C10	ZUL60206C10
3/4	Coarse	ZUL60106C12	ZUL60206C12
7/8	Coarse	ZUL60106C14	ZUL60206C14
1	Coarse	ZUL60106C16	ZUL60206C16
1-1/4	Coarse	ZUL60106C20	ZUL60206C20
1-3/8	Coarse	ZUL60106C22	ZUL60206C22
1-1/2	Coarse	ZUL60106C24	ZUL60206C24

8-32 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
3/16	Coarse	ZUL60108C03	ZUL60208C03
1/4	Coarse	ZUL60108C04	ZUL60208C04
5/16	Coarse	ZUL60108C05	ZUL60208C05
3/8	Coarse	ZUL60108C06	ZUL60208C06
7/16	Coarse	ZUL60108C07	ZUL60208C07
1/2	Coarse	ZUL60108C08	ZUL60208C08
5/8	Coarse	ZUL60108C10	ZUL60208C10
3/4	Coarse	ZUL60108C12	ZUL60208C12
7/8	Coarse	ZUL60108C14	ZUL60208C14
1	Coarse	ZUL60108C16	ZUL60208C16
1-1/4	Coarse	ZUL60108C20	ZUL60208C20
1-3/8	Coarse	ZUL60108C22	ZUL60208C22
1-1/2	Coarse	ZUL60108C24	ZUL60208C24
1-5/8	Coarse	ZUL60108C26	ZUL60208C26
1-3/4	Coarse	ZUL60108C28	ZUL60208C28

10-24 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
1/4	Coarse	ZUL60110C04	ZUL60210C04
5/16	Coarse	ZUL60110C05	ZUL60210C05
3/8	Coarse	ZUL60110C06	ZUL60210C06
7/16	Coarse	ZUL60110C07	ZUL60210C07
1/2	Coarse	ZUL60110C08	ZUL60210C08
9/16	Coarse	ZUL60110C09	ZUL60210C09
5/8	Coarse	ZUL60110C10	ZUL60210C10
3/4	Coarse	ZUL60110C12	ZUL60210C12
7/8	Coarse	ZUL60110C14	ZUL60210C14
1	Coarse	ZUL60110C16	ZUL60210C16
1-1/4	Coarse	ZUL60110C20	ZUL60210C20
1-3/8	Coarse	ZUL60110C22	ZUL60210C22
1-1/2	Coarse	ZUL60110C24	ZUL60210C24
1-3/4	Coarse	ZUL60110C28	ZUL60210C28
2	Coarse	ZUL60110C32	ZUL60210C32

Chart continued on next page

Ultra Low Head Socket Cap Screws — Inch

18-8 SS, 316 SS



10-32 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
1/4	Fine	ZUL60110F04	ZUL60210F04
5/16	Fine	ZUL60110F05	ZUL60210F05
3/8	Fine	ZUL60110F06	ZUL60210F06
7/16	Fine	ZUL60110F07	ZUL60210F07
1/2	Fine	ZUL60110F08	ZUL60210F08
9/16	Fine	ZUL60110F09	ZUL60210F09
5/8	Fine	ZUL60110F10	ZUL60210F10
3/4	Fine	ZUL60110F12	ZUL60210F12
7/8	Fine	ZUL60110F14	ZUL60210F14
1	Fine	ZUL60110F16	ZUL60210F16
1-1/4	Fine	ZUL60110F20	ZUL60210F20
1-3/8	Fine	ZUL60110F22	ZUL60210F22
1-1/2	Fine	ZUL60110F24	ZUL60210F24
1-3/4	Fine	ZUL60110F28	ZUL60210F28
2	Fine	ZUL60110F32	ZUL60210F32

1/4-20 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
1/4	Coarse	ZUL60114C04	ZUL60214C04
3/8	Coarse	ZUL60114C06	ZUL60214C06
7/16	Coarse	ZUL60114C07	ZUL60214C07
1/2	Coarse	ZUL60114C08	ZUL60214C08
9/16	Coarse	ZUL60114C09	ZUL60214C09
5/8	Coarse	ZUL60114C10	ZUL60214C10
3/4	Coarse	ZUL60114C12	ZUL60214C12
7/8	Coarse	ZUL60114C14	ZUL60214C14
1	Coarse	ZUL60114C16	ZUL60214C16
1-3/16	Coarse	ZUL60114C19	ZUL60214C19
1-1/4	Coarse	ZUL60114C20	ZUL60214C20
1-3/8	Coarse	ZUL60114C22	ZUL60214C22
1-1/2	Coarse	ZUL60114C24	ZUL60214C24
1-3/4	Coarse	ZUL60114C28	ZUL60214C28
2	Coarse	ZUL60114C32	ZUL60214C32
2-1/4	Coarse	ZUL60114C36	ZUL60214C36
2-1/2	Coarse	ZUL60114C40	ZUL60214C40
3	Coarse	ZUL60114C48	ZUL60214C48

1/4-28 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
1/4	Fine	ZUL60114F04	ZUL60214F04
3/8	Fine	ZUL60114F06	ZUL60214F06
7/16	Fine	ZUL60114F07	ZUL60214F07
1/2	Fine	ZUL60114F08	ZUL60214F08
9/16	Fine	ZUL60114F09	ZUL60214F09
5/8	Fine	ZUL60114F10	ZUL60214F10
3/4	Fine	ZUL60114F12	ZUL60214F12
7/8	Fine	ZUL60114F14	ZUL60214F14
1	Fine	ZUL60114F16	ZUL60214F16
1-1/4	Fine	ZUL60114F20	ZUL60214F20
1-3/8	Fine	ZUL60114F22	ZUL60214F22
1-1/2	Fine	ZUL60114F24	ZUL60214F24
1-3/4	Fine	ZUL60114F28	ZUL60214F28
2	Fine	ZUL60114F32	ZUL60214F32
2-1/4	Fine	ZUL60114F36	ZUL60214F36
2-1/2	Fine	ZUL60114F40	ZUL60214F40
3	Fine	ZUL60114F48	ZUL60214F48

5/16-18 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
1/4	Coarse	ZUL60151C04	ZUL60251C04
5/16	Coarse	ZUL60151C05	ZUL60251C05
3/8	Coarse	ZUL60151C06	ZUL60251C06
1/2	Coarse	ZUL60151C08	ZUL60251C08
5/8	Coarse	ZUL60151C10	ZUL60251C10
3/4	Coarse	ZUL60151C12	ZUL60251C12
7/8	Coarse	ZUL60151C14	ZUL60251C14
1	Coarse	ZUL60151C16	ZUL60251C16
1-1/4	Coarse	ZUL60151C20	ZUL60251C20
1-1/2	Coarse	ZUL60151C24	ZUL60251C24
1-3/4	Coarse	ZUL60151C28	ZUL60251C28
2	Coarse	ZUL60151C32	ZUL60251C32
2-1/2	Coarse	ZUL60151C40	ZUL60251C40
3	Coarse	ZUL60151C48	ZUL60251C48

Chart continued on next page

Ultra Low Head Socket Cap Screws — Inch

18-8 SS, 316 SS



5/16-24 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
3/8	Fine	ZUL60151F06	ZUL60251F06
1/2	Fine	ZUL60151F08	ZUL60251F08
3/4	Fine	ZUL60151F12	ZUL60251F12
1	Fine	ZUL60151F16	ZUL60251F16
1-1/4	Fine	ZUL60151F20	ZUL60251F20
1-1/2	Fine	ZUL60151F24	ZUL60251F24

3/8-16 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
1/4	Coarse	ZUL60138C04	ZUL60238C04
5/16	Coarse	ZUL60138C05	ZUL60238C05
3/8	Coarse	ZUL60138C06	ZUL60238C06
1/2	Coarse	ZUL60138C08	ZUL60238C08
5/8	Coarse	ZUL60138C10	ZUL60238C10
3/4	Coarse	ZUL60138C12	ZUL60238C12
7/8	Coarse	ZUL60138C14	ZUL60238C14
1	Coarse	ZUL60138C16	ZUL60238C16
1-1/4	Coarse	ZUL60138C20	ZUL60238C20
1-1/2	Coarse	ZUL60138C24	ZUL60238C24
1-3/4	Coarse	ZUL60138C28	ZUL60238C28
2	Coarse	ZUL60138C32	ZUL60238C32
2-1/2	Coarse	ZUL60138C40	ZUL60238C40
3	Coarse	ZUL60138C48	ZUL60238C48

3/8-24 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
1/2	Fine	ZUL60138F8	ZUL60238F08
3/4	Fine	ZUL60138F12	ZUL60238F12
7/8	Fine	ZUL60138F14	ZUL60238F14
1	Fine	ZUL60138F16	ZUL60238F16

7/16-14 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
1/2	Coarse	ZUL60171C08	ZUL60271C08
5/8	Coarse	ZUL60171C10	ZUL60271C10
3/4	Coarse	ZUL60171C12	ZUL60271C12
1	Coarse	ZUL60171C16	ZUL60271C16

1/2-13 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
1/2	Coarse	ZUL60112C08	ZUL60212C08
3/4	Coarse	ZUL60112C12	ZUL60212C12
1	Coarse	ZUL60112C16	ZUL60212C16
1-1/4	Coarse	ZUL60112C20	ZUL60212C20
1-1/2	Coarse	ZUL60112C24	ZUL60212C24
1-3/4	Coarse	ZUL60112C28	ZUL60212C28
2	Coarse	ZUL60112C32	ZUL60212C32
2-1/2	Coarse	ZUL60112C40	ZUL60212C40
3	Coarse	ZUL60112C48	ZUL60212C48

Ultra Low Head Socket Cap Screws — Inch

Brass



1/4-20 Thread Size

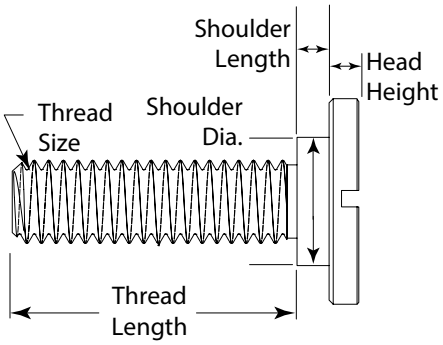
Length	Thread Spacing	Brass Part Number
1/2	Coarse	ZUL55014C08

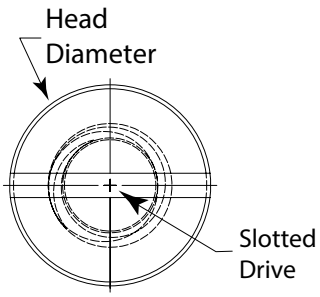
Ultra Low Head Slotted Cap Screws — Inch

316 SS

Product Information

Excellent for tight areas and fastening applications which will not accept a countersunk flat head screw. Ultra Low Head screws have reduced head heights about 1/3 less than the height of standard low head slotted cap screws. A lower profile head reduces the chance of anything snagging on the head. In addition, all screw sizes are made with extra-wide heads that offer 33% more bearing surface and holding power than standard low head screws. The larger diameter head improves holding power especially when fastening lower strength materials. Screws have a Class 3A Thread Fit. All screws are fully threaded. Length is measured from under the shoulder. Low head screws are not recommended for high strength applications.







316 SS

Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Shoulder Dia.	Shoulder Lg.
6-32	.226	.046	.139	.046
8-32	.270	.055	.166	.055
10-24	13/32	1/16	.250	.063
10-32	13/32	1/16	.250	.063
1/4-20	1/2	5/64	.313	.078
5/16-18	37/64	7/64	.375	.109
3/8-16	3/4	1/8	.438	.125
1/2-13	1	.165	.563	.165

Ultra Low Head Slotted Cap Screws — Inch

316 SS | Plain



6-32 Thread Size

Length	Thread Spacing	316 SS Part Number
1/4	Coarse	ZUL60406C04
3/8	Coarse	ZUL60406C06
1/2	Coarse	ZUL60406C08
5/8	Coarse	ZUL60406C10
3/4	Coarse	ZUL60406C12
1	Coarse	ZUL60406C16

10-32 Thread Size

Length	Thread Spacing	316 SS Part Number
1/4	Fine	ZUL60410F04
3/8	Fine	ZUL60410F06
1/2	Fine	ZUL60410F08
5/8	Fine	ZUL60410F10
3/4	Fine	ZUL60410F12
1	Fine	ZUL60410F16

5/16-18 Thread Size

Length	Thread Spacing	316 SS Part Number
3/8	Coarse	ZUL60451C06
1/2	Coarse	ZUL60451C08
3/4	Coarse	ZUL60451C12
1	Coarse	ZUL60451C16
1-1/4	Coarse	ZUL60451C20
1-1/2	Coarse	ZUL60451C24
1-3/4	Coarse	ZUL60451C28
2	Coarse	ZUL60451C32
2-1/2	Coarse	ZUL60451C40

8-32 Thread Size

Length	Thread Spacing	316 SS Part Number
1/4	Coarse	ZUL60408C04
5/16	Coarse	ZUL60408C05
3/8	Coarse	ZUL60408C06
1/2	Coarse	ZUL60408C08
5/8	Coarse	ZUL60408C10
3/4	Coarse	ZUL60408C12
1	Coarse	ZUL60408C16

1/4-20 Thread Size

Length	Thread Spacing	316 SS Part Number
1/4	Coarse	ZUL60414C04
3/8	Coarse	ZUL60414C06
1/2	Coarse	ZUL60414C08
5/8	Coarse	ZUL60414C10
3/4	Coarse	ZUL60414C12
7/8	Coarse	ZUL60414C14
1	Coarse	ZUL60414C16
1-1/4	Coarse	ZUL60414C20
1-1/2	Coarse	ZUL60414C24
1-3/4	Coarse	ZUL60414C28
2	Coarse	ZUL60414C32

3/8-16 Thread Size

Length	Thread Spacing	316 SS Part Number
3/8	Coarse	ZUL60438C06
1/2	Coarse	ZUL60438C08
3/4	Coarse	ZUL60438C12
1	Coarse	ZUL60438C16
1-1/4	Coarse	ZUL60438C20
1-1/2	Coarse	ZUL60438C24
1-3/4	Coarse	ZUL60438C28
2	Coarse	ZUL60438C32
2-1/2	Coarse	ZUL60438C40

10-24 Thread Size

Length	Thread Spacing	316 SS Part Number
3/8	Coarse	ZUL60410C06
1/2	Coarse	ZUL60410C08
5/8	Coarse	ZUL60410C10
3/4	Coarse	ZUL60410C12
1	Coarse	ZUL60410C16

1/2-13 Thread Size

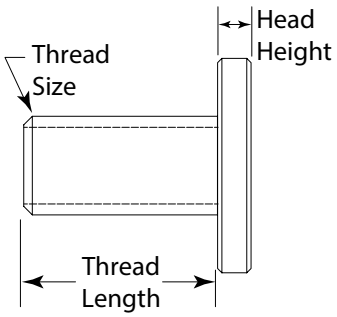
Length	Thread Spacing	316 SS Part Number
1/2	Coarse	ZUL60412C08
3/4	Coarse	ZUL60412C12
1	Coarse	ZUL60412C16
1-1/2	Coarse	ZUL60412C24
2	Coarse	ZUL60412C32
2-1/2	Coarse	ZUL60412C40
3	Coarse	ZUL60412C48

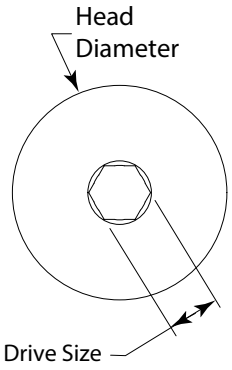
Ultra Low Head Socket Cap Screws (no shoulder) — Inch

Alloy Steel | Black Oxide

Product Information

Excellent for tight areas and fastening applications which will not accept a countersunk flat head screw. Alloy Steel Ultra Low Head screws have reduced head heights about 1/3 less than the height of standard low head socket cap screws. A lower profile head reduces the chance of anything snagging on the head. In addition, all screw sizes are made with extra-wide heads that offer 33% more bearing surface and holding power than standard low head screws. The larger diameter head improves holding power especially when fastening lower strength materials. Screws have a Class 3A Thread Fit. All alloy steel screws are fully threaded and have no shoulder. Length is measured from under the head. Low head screws are not recommended for high strength applications.







Alloy Steel, Black Oxide

Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Socket Drive Size
2-56	9/64	1/32	.050
4-40	.183	.046	1/16
6-32	.226	.046	1/16
8-32	.270	.055	5/64
10-24	.312	.063	3/32
10-32	5/16	1/16	3/32
1/4-20	3/8	5/64	1/8
1/4-28	3/8	5/64	1/8
5/16-18	7/16	7/64	5/32
5/16-24	7/16	7/64	5/32
3/8-16	9/16	1/8	3/16
3/8-24	9/16	1/8	3/16
7/16-14	21/32	.146	1/4
1/2-13	3/4	.167	1/4

Ultra Low Head Socket Cap Screws (no shoulder) — Inch

Alloy Steel | Black Oxide



2-56 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
3/16	Coarse	ZUL70002C03
1/4	Coarse	ZUL70002C04
5/16	Coarse	ZUL70002C05
3/8	Coarse	ZUL70002C06
7/16	Coarse	ZUL70002C07
1/2	Coarse	ZUL70002C08

4-40 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
3/16	Coarse	ZUL70004C03
1/4	Coarse	ZUL70004C04
5/16	Coarse	ZUL70004C05
3/8	Coarse	ZUL70004C06
7/16	Coarse	ZUL70004C07
1/2	Coarse	ZUL70004C08
5/8	Coarse	ZUL70004C10
3/4	Coarse	ZUL70004C12
7/8	Coarse	ZUL70004C14
1	Coarse	ZUL70004C16

6-32 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
3/16	Coarse	ZUL70006C03
1/4	Coarse	ZUL70006C04
5/16	Coarse	ZUL70006C05
3/8	Coarse	ZUL70006C06
7/16	Coarse	ZUL70006C07
1/2	Coarse	ZUL70006C08
5/8	Coarse	ZUL70006C10
3/4	Coarse	ZUL70006C12
7/8	Coarse	ZUL70006C14
1	Coarse	ZUL70006C16
1-1/4	Coarse	ZUL70006C20
1-3/8	Coarse	ZUL70006C22
1-1/2	Coarse	ZUL70006C24

8-32 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
3/16	Coarse	ZUL70008C03
1/4	Coarse	ZUL70008C04
5/16	Coarse	ZUL70008C05
3/8	Coarse	ZUL70008C06
7/16	Coarse	ZUL70008C07
1/2	Coarse	ZUL70008C08
5/8	Coarse	ZUL70008C10
3/4	Coarse	ZUL70008C12
7/8	Coarse	ZUL70008C14
1	Coarse	ZUL70008C16
1-1/4	Coarse	ZUL70008C20
1-3/8	Coarse	ZUL70008C22
1-1/2	Coarse	ZUL70008C24
1-5/8	Coarse	ZUL70008C26
1-3/4	Coarse	ZUL70008C28

10-24 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
1/4	Coarse	ZUL70010C04
5/16	Coarse	ZUL70010C05
3/8	Coarse	ZUL70010C06
7/16	Coarse	ZUL70010C07
1/2	Coarse	ZUL70010C08
9/16	Coarse	ZUL70010C09
5/8	Coarse	ZUL70010C10
3/4	Coarse	ZUL70010C12
7/8	Coarse	ZUL70010C14
1	Coarse	ZUL70010C16
1-1/4	Coarse	ZUL70010C20
1-3/8	Coarse	ZUL70010C22
1-1/2	Coarse	ZUL70010C24
1-3/4	Coarse	ZUL70010C28
1-5/8	Coarse	ZUL70010C26
2	Coarse	ZUL70010C32

Chart continued on next page

Ultra Low Head Socket Cap Screws (no shoulder) — Inch

Alloy Steel | Black Oxide



10-32 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
1/4	Fine	ZUL70010F04
5/16	Fine	ZUL70010F05
3/8	Fine	ZUL70010F06
7/16	Fine	ZUL70010F07
1/2	Fine	ZUL70010F08
9/16	Fine	ZUL70010F09
5/8	Fine	ZUL70010F10
3/4	Fine	ZUL70010F12
7/8	Fine	ZUL70010F14
1	Fine	ZUL70010F16
1-1/4	Fine	ZUL70010F20
1-3/8	Fine	ZUL70010F22
1-1/2	Fine	ZUL70010F24
1-5/8	Fine	ZUL70010F26
1-3/4	Fine	ZUL70010F28
2	Fine	ZUL70010F32

1/4-20 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
1/4	Coarse	ZUL70014C04
3/8	Coarse	ZUL70014C06
7/16	Coarse	ZUL70014C07
1/2	Coarse	ZUL70014C08
9/16	Coarse	ZUL70014C09
5/8	Coarse	ZUL70014C10
3/4	Coarse	ZUL70014C12
7/8	Coarse	ZUL70014C14
1	Coarse	ZUL70014C16
1-3/16	Coarse	ZUL70014C19
1-1/4	Coarse	ZUL70014C20
1-5/16	Coarse	ZUL70014C21
1-3/8	Coarse	ZUL70014C22
1-1/2	Coarse	ZUL70014C24
1-3/4	Coarse	ZUL70014C28
2	Coarse	ZUL70014C32
2-1/4	Coarse	ZUL70014C36
2-1/2	Coarse	ZUL70014C40
3	Coarse	ZUL70014C48

1/4-28 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
1/4	Fine	ZUL70014F04
3/8	Fine	ZUL70014F06
7/16	Fine	ZUL70014F07
1/2	Fine	ZUL70014F08
9/16	Fine	ZUL70014F09
5/8	Fine	ZUL70014F10
3/4	Fine	ZUL70014F12
7/8	Fine	ZUL70014F14
1	Fine	ZUL70014F16
1-3/16	Fine	ZUL70014F19
1-1/4	Fine	ZUL70014F20
1-5/16	Fine	ZUL70014F21
1-3/8	Fine	ZUL70014F22
1-1/2	Fine	ZUL70014F24
1-3/4	Fine	ZUL70014F28
2	Fine	ZUL70014F32
2-1/4	Fine	ZUL70014F36
2-1/2	Fine	ZUL70014F40
3	Fine	ZUL70014F48

5/16-18 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
1/4	Coarse	ZUL70051C04
5/16	Coarse	ZUL70051C05
3/8	Coarse	ZUL70051C06
1/2	Coarse	ZUL70051C08
5/8	Coarse	ZUL70051C10
3/4	Coarse	ZUL70051C12
7/8	Coarse	ZUL70051C14
1	Coarse	ZUL70051C16
1-1/4	Coarse	ZUL70051C20
1-1/2	Coarse	ZUL70051C24
1-3/4	Coarse	ZUL70051C28
2	Coarse	ZUL70051C32
2-1/2	Coarse	ZUL70051C40
3	Coarse	ZUL70051C48

Ultra Low Head Socket Cap Screws (no shoulder) — Inch

Alloy Steel | Black Oxide



5/16-24 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
3/8	Fine	ZUL70051F06
1/2	Fine	ZUL70051F08
3/4	Fine	ZUL70051F12
1	Fine	ZUL70051F16
1-1/4	Fine	ZUL70051F20
1-1/2	Fine	ZUL70051F24

3/8-16 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
1/4	Coarse	ZUL70038C04
5/16	Coarse	ZUL70038C05
3/8	Coarse	ZUL70038C06
1/2	Coarse	ZUL70038C08
5/8	Coarse	ZUL70038C10
3/4	Coarse	ZUL70038C12
7/8	Coarse	ZUL70038C14
1	Coarse	ZUL70038C16
1-1/4	Coarse	ZUL70038C20
1-1/2	Coarse	ZUL70038C24
1-3/4	Coarse	ZUL70038C28
2	Coarse	ZUL70038C32
2-1/2	Coarse	ZUL70038C40
3	Coarse	ZUL70038C48

3/8-24 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
1/2	Fine	ZUL70038F08
3/4	Fine	ZUL70038F12
7/8	Fine	ZUL70038F14
1	Fine	ZUL70038F16

7/16-14 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
3/8	Coarse	ZUL70071C06
1/2	Coarse	ZUL70071C08
5/8	Coarse	ZUL70071C10
3/4	Coarse	ZUL70071C12
1	Coarse	ZUL70071C16

1/2-13 Thread Size

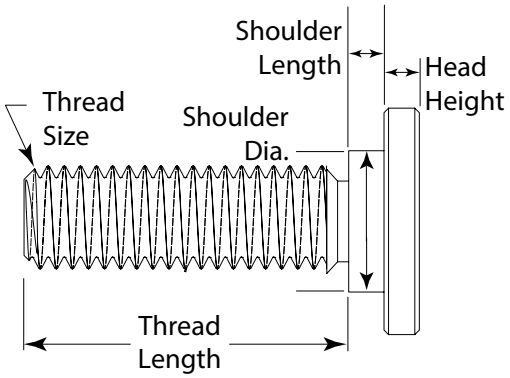
Length	Thread Spacing	Alloy Steel Part Number
1/2	Coarse	ZUL70012C08
3/4	Coarse	ZUL70012C12
1	Coarse	ZUL70012C16
1-1/4	Coarse	ZUL70012C20
1-1/2	Coarse	ZUL70012C24
1-3/4	Coarse	ZUL70012C28
2	Coarse	ZUL70012C32
2-1/2	Coarse	ZUL70012C40
3	Coarse	ZUL70012C48

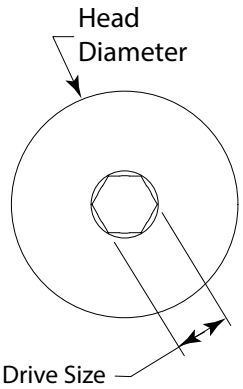
Ultra Low Head Socket Cap Screws — Metric

18-8 SS (A2), 316 SS (A4)

Product Information

Excellent for tight areas and fastening applications which will not accept a countersunk flat head screw. Ultra Low Head screws have reduced head heights about 1/3 less than the height of standard low head socket cap screws. A lower profile head reduces the chance of anything snagging on the head. In addition, all screw sizes are made with extra-wide heads that offer 33% more bearing surface and holding power than standard low head screws. The larger diameter head improves holding power especially when fastening lower strength materials. Screws have a Class 6g Thread Fit. All screws are fully threaded. Length is measured from under the shoulder. Low head screws are not recommended for high strength applications.







Dimensions Table — Metric					
Thread Size	**Head Diameter**	**Head Height**	**Shoulder Dia.**	**Shoulder Lg.**	**Drive Size**
M2 × 0.4mm	4.50	0.80	2.80	0.80	1.5
M2.5 × 0.45mm	4.50	0.80	2.80	0.80	1.5
M3 x 0.5mm	5.50	1.00	3.80	1.00	2
M3.5 × 0.6mm	6.00	1.00	4.00	1.00	2
M4 x 0.7mm	7.00	1.30	4.50	1.30	2.5
M5 x 0.8mm	8.50	1.70	5.20	1.70	3
M6 x 1mm	10.00	2.00	6.30	2.00	4
M7 x 1mm	12.00	2.70	8.50	2.70	4.5
M8 x 1.25mm	13.00	2.70	8.50	2.70	5
M10 x 1.5mm	16.00	3.30	11.00	3.30	7
M12 × 1.75mm	18.00	4.00	13.00	4.00	6
M14 × 2mm	21.00	4.50	14.50	4.50	6

Ultra Low Head Socket Cap Screws — Metric

18-8 SS (A2), 316 SS (A4)



M2 × 0.4 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
3	Coarse	ZUL601M2X3	ZUL602M2X3
4	Coarse	ZUL601M2X4	ZUL602M2X4
5	Coarse	ZUL601M2X5	ZUL602M2X5
6	Coarse	ZUL601M2X6	ZUL602M2X6
8	Coarse	ZUL601M2X8	ZUL602M2X8
10	Coarse	ZUL601M2X10	ZUL602M2X10
12	Coarse	ZUL601M2X12	ZUL602M2X12

M2.5 × 0.45 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
3	Coarse	ZUL601M2.5X3	ZUL602M2.5X3
4	Coarse	ZUL601M2.5X4	ZUL602M2.5X4
5	Coarse	ZUL601M2.5X5	ZUL602M2.5X5
6	Coarse	ZUL601M2.5X6	ZUL602M2.5X6
8	Coarse	ZUL601M2.5X8	ZUL602M2.5X8
10	Coarse	ZUL601M2.5X10	ZUL602M2.5X10
12	Coarse	ZUL601M2.5X12	ZUL602M2.5X12
14	Coarse	ZUL601M2.5X14	ZUL602M2.5X14
15	Coarse	ZUL601M2.5X15	ZUL602M2.5X15

M3 × 0.5 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
3	Coarse	ZUL601M3X3	ZUL602M3X3
4	Coarse	ZUL601M3X4	ZUL602M3X4
5	Coarse	ZUL601M3X5	ZUL602M3X5
6	Coarse	ZUL601M3X6	ZUL602M3X6
7	Coarse	ZUL601M3X7	ZUL602M3X7
8	Coarse	ZUL601M3X8	ZUL602M3X8
10	Coarse	ZUL601M3X10	ZUL602M3X10
12	Coarse	ZUL601M3X12	ZUL602M3X12
14	Coarse	ZUL601M3X14	ZUL602M3X14
16	Coarse	ZUL601M3X16	ZUL602M3X16
20	Coarse	ZUL601M3X20	ZUL602M3X20
25	Coarse	ZUL601M3X25	ZUL602M3X25

M3.5 × 0.6 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
5	Coarse	ZUL601M3.5X5	ZUL602M3.5X5
6	Coarse	ZUL601M3.5X6	ZUL602M3.5X6
8	Coarse	ZUL601M3.5X8	ZUL602M3.5X8
10	Coarse	ZUL601M3.5X10	ZUL602M3.5X10
12	Coarse	ZUL601M3.5X12	ZUL602M3.5X12
14	Coarse	ZUL601M3.5X14	ZUL602M3.5X14
16	Coarse	ZUL601M3.5X16	ZUL602M3.5X16
20	Coarse	ZUL601M3.5X20	ZUL602M3.5X20
25	Coarse	ZUL601M3.5X25	ZUL602M3.5X25

M4 × 0.7 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
4	Coarse	ZUL601M4X4	ZUL602M4X4
5	Coarse	ZUL601M4X5	ZUL602M4X5
6	Coarse	ZUL601M4X6	ZUL602M4X6
8	Coarse	ZUL601M4X8	ZUL602M4X8
10	Coarse	ZUL601M4X10	ZUL602M4X10
12	Coarse	ZUL601M4X12	ZUL602M4X12
14	Coarse	ZUL601M4X14	ZUL602M4X14
16	Coarse	ZUL601M4X16	ZUL602M4X16
18	Coarse	ZUL601M4X18	ZUL602M4X18
20	Coarse	ZUL601M4X20	ZUL602M4X20
25	Coarse	ZUL601M4X25	ZUL602M4X25
30	Coarse	ZUL601M4X30	ZUL602M4X30
35	Coarse	ZUL601M4X35	ZUL602M4X35
40	Coarse	ZUL601M4X40	ZUL602M4X40
50	Coarse	ZUL601M4X50	ZUL602M4X50

Chart continued on next page

Ultra Low Head Socket Cap Screws — Metric

18-8 SS (A2), 316 SS (A4)



M5 × 0.8 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
5	Coarse	ZUL601M5X5	ZUL602M5X5
6	Coarse	ZUL601M5X6	ZUL602M5X6
8	Coarse	ZUL601M5X8	ZUL602M5X8
10	Coarse	ZUL601M5X10	ZUL602M5X10
12	Coarse	ZUL601M5X12	ZUL602M5X12
14	Coarse	ZUL601M5X14	ZUL602M5X14
16	Coarse	ZUL601M5X16	ZUL602M5X16
18	Coarse	ZUL601M5X18	ZUL602M5X18
20	Coarse	ZUL601M5X20	ZUL602M5X20
25	Coarse	ZUL601M5X25	ZUL602M5X25
30	Coarse	ZUL601M5X30	ZUL602M5X30
35	Coarse	ZUL601M5X35	ZUL602M5X35
40	Coarse	ZUL601M5X40	ZUL602M5X40
50	Coarse	ZUL601M5X50	ZUL602M5X50

M6 × 1 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
6	Coarse	ZUL601M6X6	ZUL602M6X6
8	Coarse	ZUL601M6X8	ZUL602M6X8
10	Coarse	ZUL601M6X10	ZUL602M6X10
12	Coarse	ZUL601M6X12	ZUL602M6X12
14	Coarse	ZUL601M6X14	ZUL602M6X14
16	Coarse	ZUL601M6X16	ZUL602M6X16
18	Coarse	ZUL601M6X18	ZUL602M6X18
20	Coarse	ZUL601M6X20	ZUL602M6X20
25	Coarse	ZUL601M6X25	ZUL602M6X25
30	Coarse	ZUL601M6X30	ZUL602M6X30
35	Coarse	ZUL601M6X35	ZUL602M6X35
40	Coarse	ZUL601M6X40	ZUL602M6X40
45	Coarse	ZUL601M6X45	ZUL602M6X45
50	Coarse	ZUL601M6X50	ZUL602M6X50
60	Coarse	ZUL601M6X60	ZUL602M6X60

M7 x 1 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
10	Coarse	ZUL601M7X10	ZUL602M7X10
12	Coarse	ZUL601M7X12	ZUL602M7X12
14	Coarse	ZUL601M7X14	ZUL602M7X14
16	Coarse	ZUL601M7X16	ZUL602M7X16
18	Coarse	ZUL601M7X18	ZUL602M7X18
20	Coarse	ZUL601M7X20	ZUL602M7X20
25	Coarse	ZUL601M7X25	ZUL602M7X25

M8 × 1.25 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
6	Coarse	ZUL601M8X6	ZUL602M8X6
8	Coarse	ZUL601M8X8	ZUL602M8X8
10	Coarse	ZUL601M8X10	ZUL602M8X10
12	Coarse	ZUL601M8X12	ZUL602M8X12
14	Coarse	ZUL601M8X14	ZUL602M8X14
16	Coarse	ZUL601M8X16	ZUL602M8X16
18	Coarse	ZUL601M8X18	ZUL602M8X18
20	Coarse	ZUL601M8X20	ZUL602M8X20
22	Coarse	ZUL601M8X22	ZUL602M8X22
25	Coarse	ZUL601M8X25	ZUL602M8X25
30	Coarse	ZUL601M8X30	ZUL602M8X30
35	Coarse	ZUL601M8X35	ZUL602M8X35
40	Coarse	ZUL601M8X40	ZUL602M8X40
45	Coarse	ZUL601M8X45	ZUL602M8X45
50	Coarse	ZUL601M8X50	ZUL602M8X50
55	Coarse	ZUL601M8X55	ZUL602M8X55
60	Coarse	ZUL601M8X60	ZUL602M8X60
70	Coarse	ZUL601M8X70	ZUL602M8X70

Chart continued on next page

Ultra Low Head Socket Cap Screws — Metric

18-8 SS (A2), 316 SS (A4)



M10 × 1.5 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
10	Coarse	ZUL601M10X10	ZUL602M10X10
12	Coarse	ZUL601M10X12	ZUL602M10X12
14	Coarse	ZUL601M10X14	ZUL602M10X14
16	Coarse	ZUL601M10X16	ZUL602M10X16
20	Coarse	ZUL601M10X20	ZUL602M10X20
25	Coarse	ZUL601M10X25	ZUL602M10X25
30	Coarse	ZUL601M10X30	ZUL602M10X30
35	Coarse	ZUL601M10X35	ZUL602M10X35
40	Coarse	ZUL601M10X40	ZUL602M10X40
45	Coarse	ZUL601M10X45	ZUL602M10X45
50	Coarse	ZUL601M10X50	ZUL602M10X50
55	Coarse	ZUL601M10X55	ZUL602M10X55
60	Coarse	ZUL601M10X60	ZUL602M10X60
70	Coarse	ZUL601M10X70	ZUL602M10X70

M12 × 1.75 Thread Size

Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
10	Coarse	ZUL601M12X10	ZUL602M12X10
12	Coarse	ZUL601M12X12	ZUL602M12X12
14	Coarse	ZUL601M12X14	ZUL602M12X14
20	Coarse	ZUL601M12X20	ZUL602M12X20
25	Coarse	ZUL601M12X25	ZUL602M12X25
30	Coarse	ZUL601M12X30	ZUL602M12X30
35	Coarse	ZUL601M12X35	ZUL602M12X35
40	Coarse	ZUL601M12X40	ZUL602M12X40
45	Coarse	ZUL601M12X45	ZUL602M12X45
50	Coarse	ZUL601M12X50	ZUL602M12X50
60	Coarse	ZUL601M12X60	ZUL602M12X60

M14 × 2 Thread Size

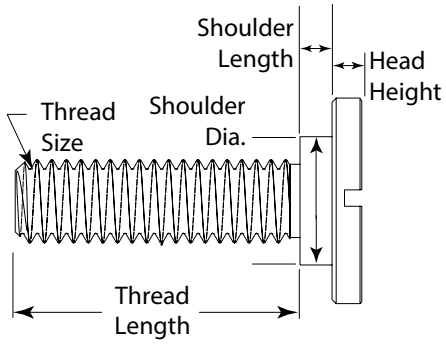
Length	Thread Spacing	18-8 SS Part Number	316 SS Part Number
12	Coarse	ZUL601M14X12	ZUL602M14X12
14	Coarse	ZUL601M14X14	ZUL602M14X14
20	Coarse	ZUL601M14X20	ZUL602M14X20
25	Coarse	ZUL601M14X25	ZUL602M14X25
30	Coarse	ZUL601M14X30	ZUL602M14X30
40	Coarse	ZUL601M14X40	ZUL602M14X40
50	Coarse	ZUL601M14X50	ZUL602M14X50

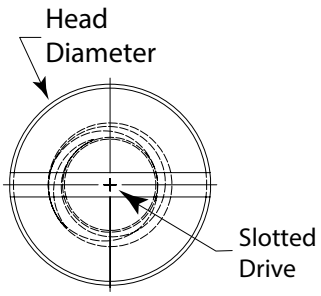
Ultra Low Head Slotted Cap Screws — Metric

316 SS (A4)

Product Information

Excellent for tight areas and fastening applications which will not accept a countersunk flat head screw. Ultra Low Head screws have reduced head heights about 1/3 less than the height of standard low head slotted cap screws. A lower profile head reduces the chance of anything snagging on the head. In addition, all screw sizes are made with extra-wide heads that offer 33% more bearing surface and holding power than standard low head screws. The larger diameter head improves holding power especially when fastening lower strength materials. Screws have a Class 6g Thread Fit. All screws are fully threaded. Length is measured from under the shoulder. Low head screws are not recommended for high strength applications.







316 SS

Dimensions Table — Metric

Thread Size	Head Diameter	Head Height	Shoulder Dia.	Shoulder Lg.	Drive Size
M3 x 0.5mm	5.50	1.00	3.80	1.00	2
M4 x 0.7mm	7.00	1.30	4.50	1.30	2.5
M5 x 0.8mm	8.50	1.70	5.20	1.70	3
M6 x 1mm	10.00	2.00	6.30	2.00	4
M8 x 1.25mm	13.00	2.70	8.50	2.70	5
M10 x 1.5mm	16.00	3.30	11.00	3.30	7

Ultra Low Head Slotted Cap Screws — Metric

316 SS (A4)



M3 × 0.5 Thread Size

Length	Thread Spacing	316 SS Part Number
5	Coarse	ZUL604M3X5
6	Coarse	ZUL604M3X6
8	Coarse	ZUL604M3X8
10	Coarse	ZUL604M3X10
12	Coarse	ZUL604M3X12
16	Coarse	ZUL604M3X16

M4 × 0.7 Thread Size

Length	Thread Spacing	316 SS Part Number
6	Coarse	ZUL604M4X6
8	Coarse	ZUL604M4X8
10	Coarse	ZUL604M4X10
12	Coarse	ZUL604M4X12
16	Coarse	ZUL604M4X16
20	Coarse	ZUL604M4X20
25	Coarse	ZUL604M4X25
30	Coarse	ZUL604M4X30
40	Coarse	ZUL604M4X40

M5 × 0.8 Thread Size

Length	Thread Spacing	316 SS Part Number
6	Coarse	ZUL604M5X6
8	Coarse	ZUL604M5X8
10	Coarse	ZUL604M5X10
12	Coarse	ZUL604M5X12
16	Coarse	ZUL604M5X16
20	Coarse	ZUL604M5X20
25	Coarse	ZUL604M5X25
30	Coarse	ZUL604M5X30
40	Coarse	ZUL604M5X40
50	Coarse	ZUL604M5X50

M6 × 1 Thread Size

Length	Thread Spacing	316 SS Part Number
8	Coarse	ZUL604M6X8
10	Coarse	ZUL604M6X10
12	Coarse	ZUL604M6X12
16	Coarse	ZUL604M6X16
20	Coarse	ZUL604M6X20
25	Coarse	ZUL604M6X25
30	Coarse	ZUL604M6X30
40	Coarse	ZUL604M6X40
50	Coarse	ZUL604M6X50

M8 × 1.25 Thread Size

Length	Thread Spacing	316 SS Part Number
10	Coarse	ZUL604M8X10
12	Coarse	ZUL604M8X12
16	Coarse	ZUL604M8X16
20	Coarse	ZUL604M8X20
25	Coarse	ZUL604M8X25
30	Coarse	ZUL604M8X30
40	Coarse	ZUL604M8X40
50	Coarse	ZUL604M8X50
60	Coarse	ZUL604M8X60

M10 × 1.5 Thread Size

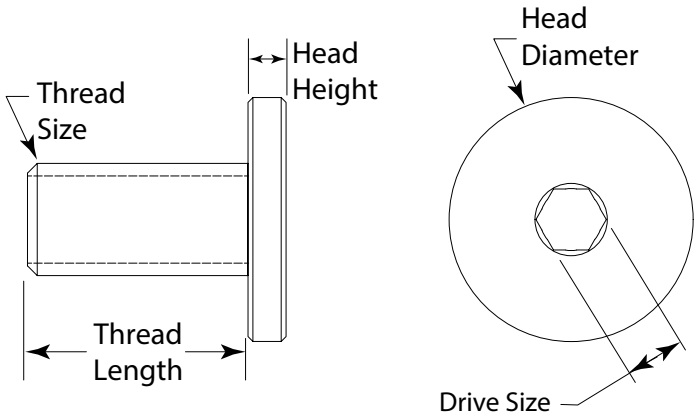
Length	Thread Spacing	316 SS Part Number
12	Coarse	ZUL604M10X12
16	Coarse	ZUL604M10X16
20	Coarse	ZUL604M10X20
25	Coarse	ZUL604M10X25
30	Coarse	ZUL604M10X30
40	Coarse	ZUL604M10X40
50	Coarse	ZUL604M10X50
60	Coarse	ZUL604M10X60

Ultra Low Head Socket Cap Screws (no shoulder) — Metric

Alloy Steel | Black Oxide

Product Information

Excellent for tight areas and fastening applications which will not accept a countersunk flat head screw. Alloy Steel Ultra Low Head screws have reduced head heights about 1/3 less than the height of standard low head socket cap screws. A lower profile head reduces the chance of anything snagging on the head. In addition, all screw sizes are made with extra-wide heads that offer 33% more bearing surface and holding power than standard low head screws. The larger diameter head improves holding power especially when fastening lower strength materials. Screws have a Class 6g Thread Fit. All screws are fully threaded and do not have a shoulder. Length is measured from under the head. Low head screws are not recommended for high strength applications.





Alloy Steel, Black Oxide

Dimensions Table — Metric

Thread Size	Head Diameter	Head Height	Drive Size
M2 × 0.4mm	4.50	0.80	1.5
M2.5 × 0.45mm	4.50	0.80	1.5
M3 x 0.5mm	5.50	1.00	2
M3.5 × 0.6mm	6.00	1.00	2
M4 x 0.7mm	7.00	1.30	2.5
M5 x 0.8mm	8.50	1.70	3
M6 x 1mm	10.00	2.00	4
M7 x 1mm	12.00	2.70	4.5
M8 x 1.25mm	13.00	2.70	5
M10 x 1.5mm	16.00	3.30	7
M12 × 1.75mm	18.00	4.00	6
M14 × 2mm	21.00	4.50	6

Ultra Low Head Socket Cap Screws (no shoulder) — Metric

Alloy Steel | Black Oxide



M2 × 0.4 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
3	Coarse	ZUL700M2X3
4	Coarse	ZUL700M2X4
5	Coarse	ZUL700M2X5
6	Coarse	ZUL700M2X6
8	Coarse	ZUL700M2X8
10	Coarse	ZUL700M2X10
12	Coarse	ZUL700M2X12

M2.5 × 0.45 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
3	Coarse	ZUL700M2.5X3
4	Coarse	ZUL700M2.5X4
5	Coarse	ZUL700M2.5X5
6	Coarse	ZUL700M2.5X6
8	Coarse	ZUL700M2.5X8
10	Coarse	ZUL700M2.5X10
12	Coarse	ZUL700M2.5X12
14	Coarse	ZUL700M2.5X14
15	Coarse	ZUL700M2.5X15

M3 × 0.5 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
3	Coarse	ZUL700M3X3
4	Coarse	ZUL700M3X4
5	Coarse	ZUL700M3X5
6	Coarse	ZUL700M3X6
7	Coarse	ZUL700M3X7
8	Coarse	ZUL700M3X8
10	Coarse	ZUL700M3X10
12	Coarse	ZUL700M3X12
14	Coarse	ZUL700M3X14
16	Coarse	ZUL700M3X16
20	Coarse	ZUL700M3X20
25	Coarse	ZUL700M3X25

M3.5 × 0.6 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
5	Coarse	ZUL700M3.5X5
6	Coarse	ZUL700M3.5X6
8	Coarse	ZUL700M3.5X8
10	Coarse	ZUL700M3.5X10
12	Coarse	ZUL700M3.5X12
14	Coarse	ZUL700M3.5X14
16	Coarse	ZUL700M3.5X16
20	Coarse	ZUL700M3.5X20
25	Coarse	ZUL700M3.5X25

M4 × 0.7 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
4	Coarse	ZUL700M4X4
5	Coarse	ZUL700M4X5
6	Coarse	ZUL700M4X6
8	Coarse	ZUL700M4X8
10	Coarse	ZUL700M4X10
12	Coarse	ZUL700M4X12
14	Coarse	ZUL700M4X14
16	Coarse	ZUL700M4X16
18	Coarse	ZUL700M4X18
20	Coarse	ZUL700M4X20
25	Coarse	ZUL700M4X25
30	Coarse	ZUL700M4X30
35	Coarse	ZUL700M4X35
40	Coarse	ZUL700M4X40
50	Coarse	ZUL700M4X50

M5 × 0.8 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
5	Coarse	ZUL700M5X5
6	Coarse	ZUL700M5X6
8	Coarse	ZUL700M5X8
10	Coarse	ZUL700M5X10
12	Coarse	ZUL700M5X12
14	Coarse	ZUL700M5X14
16	Coarse	ZUL700M5X16
18	Coarse	ZUL700M5X18
20	Coarse	ZUL700M5X20
25	Coarse	ZUL700M5X25
30	Coarse	ZUL700M5X30
35	Coarse	ZUL700M5X35
40	Coarse	ZUL700M5X40
50	Coarse	ZUL700M5X50

M6 × 1 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
6	Coarse	ZUL700M6X6
8	Coarse	ZUL700M6X8
10	Coarse	ZUL700M6X10
12	Coarse	ZUL700M6X12
14	Coarse	ZUL700M6X14
16	Coarse	ZUL700M6X16
18	Coarse	ZUL700M6X18
20	Coarse	ZUL700M6X20
25	Coarse	ZUL700M6X25
30	Coarse	ZUL700M6X30
35	Coarse	ZUL700M6X35
40	Coarse	ZUL700M6X40
45	Coarse	ZUL700M6X45
50	Coarse	ZUL700M6X50
60	Coarse	ZUL700M6X60

Chart continued on next page

Ultra Low Head Socket Cap Screws (no shoulder) — Metric

Alloy Steel | Black Oxide



M7 x 1 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
10	Coarse	ZUL700M7X10
12	Coarse	ZUL700M7X12
14	Coarse	ZUL700M7X14
16	Coarse	ZUL700M7X16
18	Coarse	ZUL700M7X18
20	Coarse	ZUL700M7X20
25	Coarse	ZUL700M7X25

M8 × 1.25 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
6	Coarse	ZUL700M8X6
8	Coarse	ZUL700M8X8
10	Coarse	ZUL700M8X10
12	Coarse	ZUL700M8X12
14	Coarse	ZUL700M8X14
16	Coarse	ZUL700M8X16
18	Coarse	ZUL700M8X18
20	Coarse	ZUL700M8X20
22	Coarse	ZUL700M8X22
25	Coarse	ZUL700M8X25
30	Coarse	ZUL700M8X30
35	Coarse	ZUL700M8X35
40	Coarse	ZUL700M8X40
45	Coarse	ZUL700M8X45
50	Coarse	ZUL700M8X50
55	Coarse	ZUL700M8X55
60	Coarse	ZUL700M8X60
70	Coarse	ZUL700M8X70

M10 × 1.5 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
10	Coarse	ZUL700M10X10
12	Coarse	ZUL700M10X12
14	Coarse	ZUL700M10X14
16	Coarse	ZUL700M10X16
20	Coarse	ZUL700M10X20
25	Coarse	ZUL700M10X25
30	Coarse	ZUL700M10X30
35	Coarse	ZUL700M10X35
40	Coarse	ZUL700M10X40
45	Coarse	ZUL700M10X45
50	Coarse	ZUL700M10X50
55	Coarse	ZUL700M10X55
60	Coarse	ZUL700M10X60
70	Coarse	ZUL700M10X70

M12 × 1.75 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
10	Coarse	ZUL700M12X10
12	Coarse	ZUL700M12X12
14	Coarse	ZUL700M12X14
20	Coarse	ZUL700M12X20
25	Coarse	ZUL700M12X25
30	Coarse	ZUL700M12X30
35	Coarse	ZUL700M12X35
40	Coarse	ZUL700M12X40
45	Coarse	ZUL700M12X45
50	Coarse	ZUL700M12X50
60	Coarse	ZUL700M12X60

M14 × 2 Thread Size

Length	Thread Spacing	Alloy Steel Part Number
12	Coarse	ZUL700M14X12
14	Coarse	ZUL700M14X14
20	Coarse	ZUL700M14X20
25	Coarse	ZUL700M14X25
30	Coarse	ZUL700M14X30
40	Coarse	ZUL700M14X40
50	Coarse	ZUL700M14X50

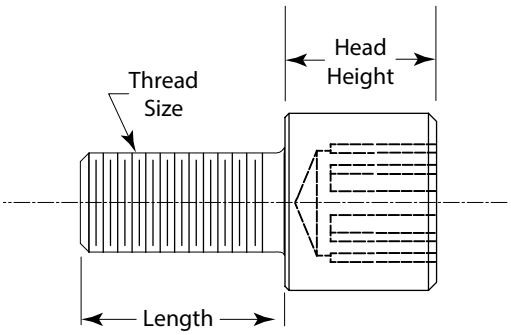
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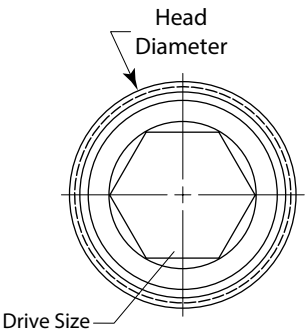
Extra Tall Socket Head Cap Screws — Inch

18-8 SS | Plain

Product Information

Extra Tall Head Screws have deep, accurate hex socket drives to facilitate tightening and removing screws in tight-fit applications. A higher head can help with locating a screw in spots where they are hard-to-reach in assembly. With a higher head height, we increased the socket drive depth over 45% as compared to a standard socket screw. The deeper drive allows for more wrench engagement and improved drive torque. Screws are made with 50% higher head heights than similar sized 1960 series socket head cap screws. Thread Class fit is 3A and screws are fully threaded. Length is measured from under head.





Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Depth (min.)	Drive Size
2-56	.140	.129	.057	5/64
4-40	.183	.168	.076	3/32
6-32	.226	.207	.093	7/64
8-32	.270	.246	.116	9/64
10-32	.312	.285	.134	5/32
1/4-20	.375	.375	.180	3/16
5/16-18	.469	.469	.225	1/4
3/8-16	.563	.563	.270	5/16



2-56 Thread Size

Length	18-8 SS Part Number
1/4	ZSE60102C04

4-40 Thread Size

Length	18-8 SS Part Number
1/4	ZSE60140C04
5/16	ZSE60140C05
3/8	ZSE60140C06
1/2	ZSE60140C08

6-32 Thread Size

Length	18-8 SS Part Number
1/4	ZSE60106C04
3/8	ZSE60106C06
1/2	ZSE60106C08
5/8	ZSE60106C10
3/4	ZSE60106C12

8-32 Thread Size

Length	18-8 SS Part Number
3/8	ZSE60108C06
1/2	ZSE60108C08
5/8	ZSE60108C10
3/4	ZSE60108C12
1	ZSE60108C16

10-32 Thread Size

Length	18-8 SS Part Number
3/8	ZSE60110F06
1/2	ZSE60110F08
5/8	ZSE60110F10
3/4	ZSE60110F12
1	ZSE60110F16

1/4-20 Thread Size

Length	18-8 SS Part Number
3/8	ZSE60114C06
1/2	ZSE60114C08
5/8	ZSE60114C10
3/4	ZSE60114C12
7/8	ZSE60114C14
1	ZSE60114C16
1 1/4	ZSE60114C20
1 1/2	ZSE60114C24
2	ZSE60114C32

5/16-18 Thread Size

Length	18-8 SS Part Number
3/4	ZSE60151C12
1	ZSE60151C16

3/8-16 Thread Size

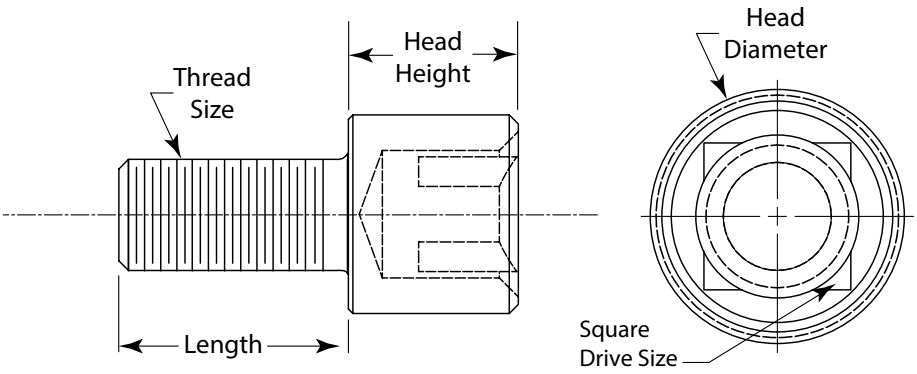
Length	18-8 SS Part Number
1	ZSE60381C16

Square Drive Socket Head Cap Screws — Inch

18-8 SS | Plain

Product Information

Hex socket screws are typically installed with an insertion tool with a separate hex socket bit. Square drive screws eliminates using a socket bit and the risk of a bit dropping into an assembly. The ball-locking fit of square drive screws prevent losing a screw during installation. The deeper drive allows for more wrench engagement and improved drive torque, especially in tight-fit applications. The increased head height of the screw can facilitate installation in hard-to- reach locations. Thread Class fit is 3A and depending on size, screws are fully threaded; longer lengths maybe partially threaded. Length is measured from under the head. Square Drive Screws meet our internal specification AMPG 2017 ZSQ.01.





Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Depth (min.)	Drive Size
1/4-20	.438	.375	.250	1/4
5/16-18	.469	.469	.250	1/4
3/8-16	.625	.563	.375	3/8
1/2-13	.750	.750	.375	3/8



1/4-20 Thread Size

Length	18-8 SS Part Number
3/8	ZSQ60114C06
1/2	ZSQ60114C08
5/8	ZSQ60114C10
3/4	ZSQ60114C12
7/8	ZSQ60114C14
1	ZSQ60114C16
1-1/4	ZSQ60114C20
1-1/2*	ZSQ60114C24
2*	ZSQ60114C32

*Partially threaded, 1" minimum

5/16-18 Thread Size

Length	18-8 SS Part Number
3/4	ZSQ60151C12
1	ZSQ60151C16
1-1/4	ZSQ60151C20
1-1/2*	ZSQ60151C24
1-3/4*	ZSQ60151C28
2*	ZSQ60151C32

*Partially threaded, 1-1/8" minimum

3/8-16 Thread Size

Length	18-8 SS Part Number
3/4	ZSQ60138C12
1	ZSQ60138C16
1-1/4	ZSQ60138C20
1-1/2*	ZSQ60138C24
1-3/4*	ZSQ60138C28
2*	ZSQ60138C32

*Partially threaded, 1-1/4" minimum

1/2-13 Thread Size

Length	18-8 SS Part Number
1	ZSQ60112C16
1-1/4	ZSQ60112C20
1-1/2	ZSQ60112C24

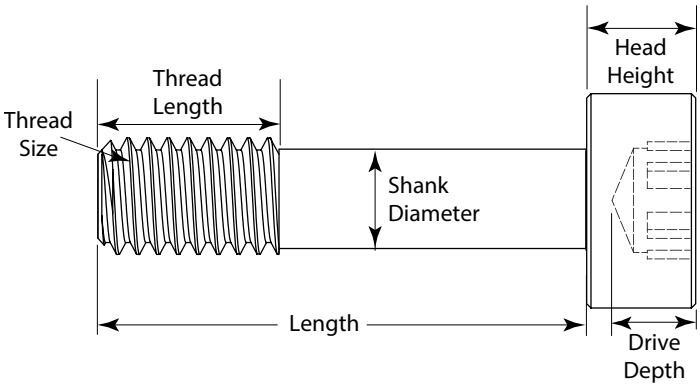
Socket Head Captive Panel Screws — Inch

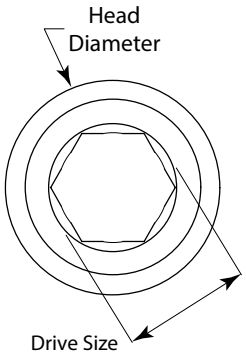
316 SS — Hex Drive

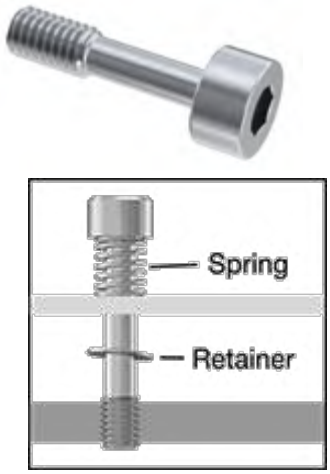
Product Information

This screw is an adaptation of ASME B18.3, ASME B18.3M, DIN 912 / ISO 4762 with a unthreaded reduced shank diameter. Designed to self-retain in a panel to prevent the loss of screws — a lost screw could cause catastrophic damage to a production line. Socket head allows for easy finger installation. Also used with equipment where speedy removal and reinstallation of panels is required. Install through a hole and thread on a retainer (sold separately) to keep these screws secure. Use an optional spring (sold separately) to provide even compression against panels. Screws, retainers, and springs are made from marine grade 316 stainless steel. Screws may be mildly magnetic. Length is measured from under the head. Thread Class is 3A.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 316 SS hex drive screws meet ASTM A276.
- Made from stainless steel, these screws have good chemical resistance and maybe mildly magnetic.







Dimensions Table — Inch

Thread Size	Thread Length (±.010)	Shank Dia. (±.005)	Head Dia, (max, min)	Head Height (max, min)	Drive Depth (min)	Drive Size
2-56	1/8	.061	.140 - .134	.086 - .083	.038	5/64
4-40	5/32	.078	.183 - .176	.112 - .108	.051	3/32
6-32	3/16	.095	.226 - .218	.138 - .134	.064	7/64
8-32	3/16	.120	.270 - .262	.164 - .159	.077	9/64
10-24	1/4	.130	.312 - .303	.190 - .185	.090	5/32
10-32	1/4	.130	.312 - .303	.190 - .185	.090	5/32
1/4-20	1/4	.175	.375- .365	.250 - .244	.120	3/16
1/4-28	1/4	.175	.375- .365	.250 - .244	.120	3/16
5/16-18	3/8	.230	.469 - .457	.312 - .306	.151	1/4
3/8-16	3/8	.280	.563 - .550	.375 - .368	.182	5/16
1/2-13	3/8	.400	.750 - .735	.500 - .492	.245	3/8

Socket Head Captive Panel Screws — Inch

316 SS — Hex Drive



2-56 Thread Size

Length	316 SS Part Number
1/4	ZCS60202C04
5/16	ZCS60202C05
3/8	ZCS60202C06
1/2	ZCS60202C08

4-40 Thread Size

Length	316 SS Part Number
1/4	ZCS60204C04
5/16	ZCS60204C05
3/8	ZCS60204C06
7/16	ZCS60204C07
1/2	ZCS60204C08
9/16	ZCS60204C09
5/8	ZCS60204C10
3/4	ZCS60204C12
7/8	ZCS60204C14
1	ZCS60204C16

6-32 Thread Size

Length	316 SS Part Number
5/16	ZCS60206C05
3/8	ZCS60206C06
7/16	ZCS60206C07
1/2	ZCS60206C08
9/16	ZCS60206C09
5/8	ZCS60206C10
3/4	ZCS60206C12
7/8	ZCS60206C14
1	ZCS60206C16
1-1/8	ZCS60206C18
1-1/4	ZCS60206C20

8-32 Thread Size

Length	316 SS Part Number
3/8	ZCS60208C06
7/16	ZCS60208C07
1/2	ZCS60208C08
9/16	ZCS60208C09
5/8	ZCS60208C10
3/4	ZCS60208C12
7/8	ZCS60208C14
1	ZCS60208C16
1-1/8	ZCS60208C18
1-1/4	ZCS60208C20

10-24 Thread Size

Length	316 SS Part Number
3/8	ZCS60210C06
7/16	ZCS60210C07
1/2	ZCS60210C08
9/16	ZCS60210C09
5/8	ZCS60210C10
3/4	ZCS60210C12
7/8	ZCS60210C14
1	ZCS60210C16
1-1/4	ZCS60210C20
1-3/8	ZCS60210C22
1-1/2	ZCS60210C24
1-3/4	ZCS60210C28

Socket Head Captive Panel Screws — Inch

316 SS — Hex Drive



10-32 Thread Size

Length	316 SS Part Number
3/8	ZCS60210F06
7/16	ZCS60210F07
1/2	ZCS60210F08
9/16	ZCS60210F09
5/8	ZCS60210F10
3/4	ZCS60210F12
7/8	ZCS60210F14
1	ZCS60210F16
1-1/4	ZCS60210F20
1-3/8	ZCS60210F22
1-1/2	ZCS60210F24
1-3/4	ZCS60210F28

1/4-20 Thread Size

Length	316 SS Part Number
1/2	ZCS60214C08
5/8	ZCS60214C10
3/4	ZCS60214C12
7/8	ZCS60214C14
1	ZCS60214C16
1-1/4	ZCS60214C20
1-1/2	ZCS60214C24
1-3/4	ZCS60214C28
2	ZCS60214C32

1/4-28 Thread Size

Length	316 SS Part Number
1/2	ZCS60214F08
5/8	ZCS60214F10
3/4	ZCS60214F12
7/8	ZCS60214F14
1	ZCS60214F16
1-1/4	ZCS60214F20
1-1/2	ZCS60214F24
1-3/4	ZCS60214F28
2	ZCS60214F32

5/16-18 Thread Size

Length	316 SS Part Number
1/2	ZCS60251C08
5/8	ZCS60251C10
3/4	ZCS60251C12
7/8	ZCS60251C14
1	ZCS60251C16
1-1/4	ZCS60251C20
1-1/2	ZCS60251C24
1-3/4	ZCS60251C28
2	ZCS60251C32

3/8-16 Thread Size

Length	316 SS Part Number
1/2	ZCS60238C08
5/8	ZCS60238C10
3/4	ZCS60238C12
7/8	ZCS60238C14
1	ZCS60238C16
1-1/4	ZCS60238C20
1-1/2	ZCS60238C24
1-3/4	ZCS60238C28
2	ZCS60238C32

1/2-13 Thread Size

Length	316 SS Part Number
1	ZCS60212C16
1-1/4	ZCS60212C20
1-1/2	ZCS60212C24
1-3/4	ZCS60212C28
2	ZCS60212C32

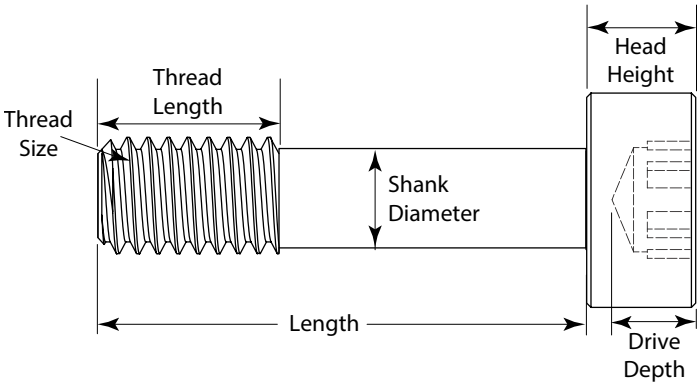
Socket Head Captive Panel Screws — Metric

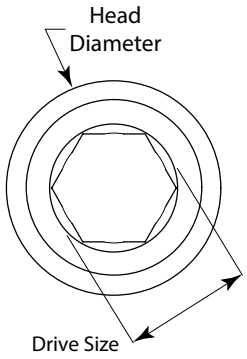
316 SS — Hex Drive

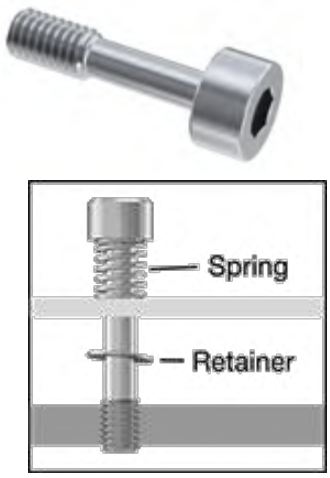
Product Information

This screw is an adaptation of ASME B18.3, ASME B18.3M, DIN 912 / ISO 4762 with a unthreaded reduced shank diameter. Designed to self-retain in a panel to prevent the loss of screws — a lost screw could cause catastrophic damage to a production line. Socket head allows for easy finger installation. Also used with equipment where speedy removal and reinstallation of panels is required. Install through a hole and thread on a retainer (sold separately) to keep these screws secure. Use an optional spring (sold separately) to provide even compression against panels. Screws, retainers, and springs are made from marine grade 316 stainless steel. Screws may be mildly magnetic. Length is measured from under the head. Thread Class is 6g.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 316 SS hex drive screws meet ASTM A276.
- Made from stainless steel, these screws have good chemical resistance and maybe mildly magnetic.







Dimensions Table — Metric

Thread Size	Thread Length (±.010)	Shank Dia. (±.005)	Head Dia, (max, min)	Head Height (max, min)	Drive Depth (min)	Drive Size
M2 × 0.4	3.00	1.40	3.80 - 3.65	2.00 - 1.91	1.00	1.5
M2.5 × 0.45	3.50	1.80	4.50 - 4.33	2.50 - 2.40	1.25	2
M3 × 0.5	4.00	2.20	5.50 - 5.32	3.00 - 2.89	1.50	2.5
M3.5 x 0.6	4.00	2.60	6.00 - 5.80	3.50 - 3.40	1.50	2.5
M4 x 0.7	4.00	3.00	7.00 - 6.80	4.00 - 3.88	2.00	3
M5 × 0.8	4.00	3.80	8.50 - 8.27	5.00 - 4.86	2.50	4
M6 × 1	6.00	4.50	10.00 - 9.74	6.00 - 5.85	3.00	5
M8 × 1.25	8.00	6.20	13.00 - 12.70	8.00 - 7.83	4.00	6
M10 × 1.5	8.00	8.00	16.00 - 15.67	10.00 - 9.81	5.00	8
M12 x 1.75	10.00	9.50	17.63 - 12.00	12.00 - 11.79	6.00	10

Socket Head Captive Panel Screws — Metric

316 SS — Hex Drive



M2 × 0.4 Thread Size

Length	316 SS Part Number
8	ZCS602M2X8
10	ZCS602M2X10
12	ZCS602M2X12

M2.5 × 0.45 Thread Size

Length	316 SS Part Number
6	ZCS602M2.5X6
8	ZCS602M2.5X8
10	ZCS602M2.5X10
12	ZCS602M2.5X12
14	ZCS602M2.5X14
16	ZCS602M2.5X16
18	ZCS602M2.5X18
20	ZCS602M2.5X20
22	ZCS602M2.5X22
25	ZCS602M2.5X25

M3 × 0.5 Thread Size

Length	316 SS Part Number
6	ZCS602M3X6
8	ZCS602M3X8
10	ZCS602M3X10
12	ZCS602M3X12
14	ZCS602M3X14
16	ZCS602M3X16
18	ZCS602M3X18
20	ZCS602M3X20
22	ZCS602M3X22
25	ZCS602M3X25
30	ZCS602M3X30

M3.5 x 0.6 Thread Size

Length	316 SS Part Number
8	ZCS602M3.5X8
10	ZCS602M3.5X10
12	ZCS602M3.5X12
16	ZCS602M3.5X16
18	ZCS602M3.5X18
20	ZCS602M3.5X20
22	ZCS602M3.5X22
25	ZCS602M3.5X25
30	ZCS602M3.5X30
35	ZCS602M3.5X35

M4 x 0.7 Thread Size

Length	316 SS Part Number
8	ZCS602M4X8
10	ZCS602M4X10
12	ZCS602M4X12
16	ZCS602M4X16
18	ZCS602M4X18
20	ZCS602M4X20
22	ZCS602M4X22
25	ZCS602M4X25
30	ZCS602M4X30
35	ZCS602M4X35

Socket Head Captive Panel Screws — Metric

316 SS — Hex Drive



M5 × 0.8 Thread Size

Length	316 SS Part Number
8	ZCS602M5X8
10	ZCS602M5X10
12	ZCS602M5X12
16	ZCS602M5X16
20	ZCS602M5X20
22	ZCS602M5X22
25	ZCS602M5X25
30	ZCS602M5X30
35	ZCS602M5X35
40	ZCS602M5X40
45	ZCS602M5X45
50	ZCS602M5X50

M6 × 1 Thread Size

Length	316 SS Part Number
10	ZCS602M6X10
12	ZCS602M6X12
16	ZCS602M6X16
20	ZCS602M6X20
25	ZCS602M6X25
30	ZCS602M6X30
35	ZCS602M6X35
40	ZCS602M6X40
45	ZCS602M6X45
50	ZCS602M6X50

M8 × 1.25 Thread Size

Length	316 SS Part Number
16	ZCS602M8X16
20	ZCS602M8X20
25	ZCS602M8X25
30	ZCS602M8X30
35	ZCS602M8X35
40	ZCS602M8X40
45	ZCS602M8X45
50	ZCS602M8X50

M10 × 1.5 Thread Size

Length	316 SS Part Number
16	ZCS602M10X16
20	ZCS602M10X20
25	ZCS602M10X25
30	ZCS602M10X30
35	ZCS602M10X35
40	ZCS602M10X40
45	ZCS602M10X45
50	ZCS602M10X50

M12 x 1.75 Thread Size

Length	316 SS Part Number
25	ZCS602M12X25
30	ZCS602M12X30
35	ZCS602M12X35
40	ZCS602M12X40
45	ZCS602M12X45
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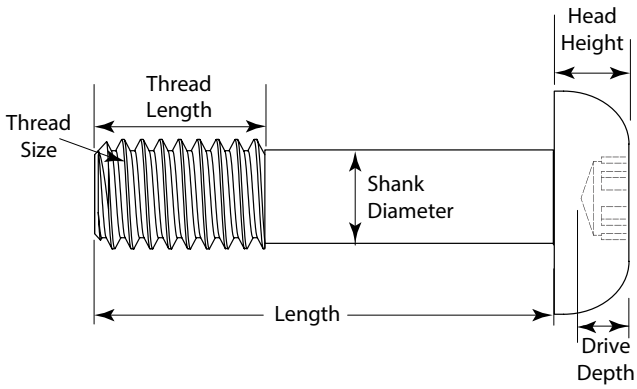
Button Head Captive Panel Screws — Inch

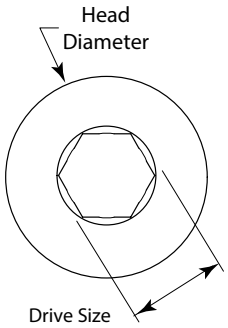
316 SS — Hex Drive

Product Information

This screw is an adaptation of ASME B18.3, ASME B18.3.4M, ISO 7380 with a unthreaded reduced shank diameter. Designed to self-retain in a panel to prevent the loss of screws — a lost screw could cause catastrophic damage to a production line. Button head screws have a rounded, low-profile head, well suited for use within confined spaces. Also used with equipment where speedy removal and reinstallation of panels is required. Install through a hole and thread on a retainer (sold separately) to keep these screws secure. Use an optional spring (sold separately) to provide even compression against panels. Screws, retainers, and springs are made from marine grade 316 stainless steel. Screws may be mildly magnetic. Length is measured from under the head. Thread Class is 3A.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 316 SS hex drive screws meet ASTM A276.
- Made from stainless steel, these screws have good chemical resistance and maybe mildly magnetic.







Dimensions Table — Inch

Thread Size	Thread Length (±.010)	Shank Dia. (±.005)	Head Dia, (max, min)	Head Height (max, min)	Drive Depth (min)	Drive Size
2-56	1/8	.061	.164 - .154	.046 - .038	.028	.050
4-40	5/32	.078	.213 - .201	.059 - .051	.035	1/16
6-32	3/16	.095	.262 - .250	.073 - .063	.044	5/64
8-32	3/16	.120	.312 - .298	.087 - .077	.052	3/32
10-24	1/4	.130	.361 - .347	.101 - .091	.070	1/8
10-32	1/4	.130	.361 - .347	.101 - .091	.070	1/8
1/4-20	1/4	.175	.437 - .419	.132 - .122	.087	5/32
1/4-28	1/4	.175	.437 - .419	.132 - .122	.087	5/32
5/16-18	3/8	.230	.547 - .527	.166 - .152	.105	3/16
3/8-16	3/8	.280	.656 - .636	.199 - .185	.122	7/32
1/2-13	3/8	.400	.875 - .851	.265 - .245	.175	5/16

Button Head Captive Panel Screws — Inch

316 SS — Hex Drive



2-56 Thread Size

Length	316 SS Part Number
1/4	ZCB60202C04
5/16	ZCB60202C05
3/8	ZCB60202C06
1/2	ZCB60202C08

4-40 Thread Size

Length	316 SS Part Number
1/4	ZCB60204C04
5/16	ZCB60204C05
3/8	ZCB60204C06
7/16	ZCB60204C07
1/2	ZCB60204C08
9/16	ZCB60204C09
5/8	ZCB60204C10
3/4	ZCB60204C12
7/8	ZCB60204C14
1	ZCB60204C16

6-32 Thread Size

Length	316 SS Part Number
5/16	ZCB60206C05
3/8	ZCB60206C06
7/16	ZCB60206C07
1/2	ZCB60206C08
9/16	ZCB60206C09
5/8	ZCB60206C10
3/4	ZCB60206C12
7/8	ZCB60206C14
1	ZCB60206C16
1-1/8	ZCB60206C18
1-1/4	ZCB60206C20

8-32 Thread Size

Length	316 SS Part Number
3/8	ZCB60208C06
7/16	ZCB60208C07
1/2	ZCB60208C08
9/16	ZCB60208C09
5/8	ZCB60208C10
3/4	ZCB60208C12
7/8	ZCB60208C14
1	ZCB60208C16
1-1/8	ZCB60208C18
1-1/4	ZCB60208C20

10-24 Thread Size

Length	316 SS Part Number
3/8	ZCB60210C06
7/16	ZCB60210C07
1/2	ZCB60210C08
9/16	ZCB60210C09
5/8	ZCB60210C10
3/4	ZCB60210C12
7/8	ZCB60210C14
1	ZCB60210C16
1-1/4	ZCB60210C20
1-3/8	ZCB60210C22
1-1/2	ZCB60210C24
1-3/4	ZCB60210C28

Button Head Captive Panel Screws — Inch

316 SS — Hex Drive



10-32 Thread Size

Length	316 SS Part Number
3/8	ZCB60210F06
7/16	ZCB60210F07
1/2	ZCB60210F08
9/16	ZCB60210F09
5/8	ZCB60210F10
3/4	ZCB60210F12
7/8	ZCB60210F14
1	ZCB60210F16
1-1/4	ZCB60210F20
1-3/8	ZCB60210F22
1-1/2	ZCB60210F24
1-3/4	ZCB60210F28

1/4-20 Thread Size

Length	316 SS Part Number
1/2	ZCB60214C08
5/8	ZCB60214C10
3/4	ZCB60214C12
7/8	ZCB60214C14
1	ZCB60214C16
1-1/4	ZCB60214C20
1-1/2	ZCB60214C24
1-3/4	ZCB60214C28
2	ZCB60214C32

1/4-28 Thread Size

Length	316 SS Part Number
1/2	ZCB60214F08
5/8	ZCB60214F10
3/4	ZCB60214F12
7/8	ZCB60214F14
1	ZCB60214F16
1-1/4	ZCB60214F20
1-1/2	ZCB60214F24
1-3/4	ZCB60214F28
2	ZCB60214F32

5/16-18 Thread Size

Length	316 SS Part Number
1/2	ZCB60251C08
5/8	ZCB60251C10
3/4	ZCB60251C12
7/8	ZCB60251C14
1	ZCB60251C16
1-1/4	ZCB60251C20
1-1/2	ZCB60251C24
1-3/4	ZCB60251C28
2	ZCB60251C32

3/8-16 Thread Size

Length	316 SS Part Number
1/2	ZCB60238C08
5/8	ZCB60238C10
3/4	ZCB60238C12
7/8	ZCB60238C14
1	ZCB60238C16
1-1/4	ZCB60238C20
1-1/2	ZCB60238C24
1-3/4	ZCB60238C28
2	ZCB60238C32

1/2-13 Thread Size

Length	316 SS Part Number
1	ZCB60212C16
1-1/4	ZCB60212C20
1-1/2	ZCB60212C24
1-3/4	ZCB60212C28
2	ZCB60212C32

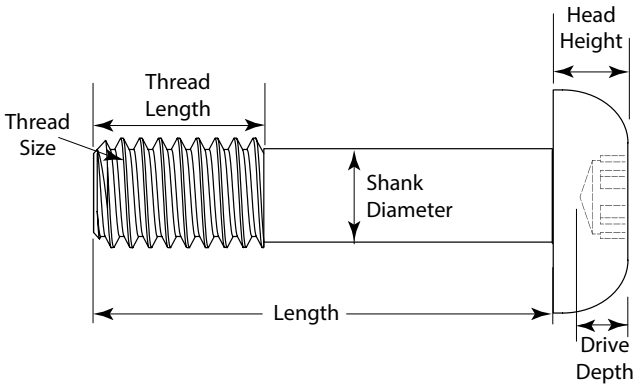
Button Socket Head Captive Panel Screws — Metric

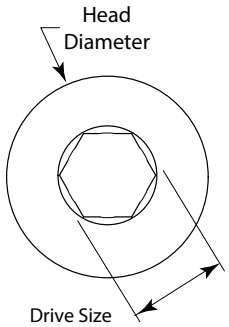
316 SS — Hex Drive

Product Information

This screw is an adaptation of ASME B18.3, ASME B18.3.4M, ISO 7380 with a unthreaded reduced shank diameter. Designed to self-retain in a panel to prevent the loss of screws — a lost screw could cause catastrophic damage to a production line. Button head screws have a rounded, low-profile head, well suited for use within confined spaces. Also used with equipment where speedy removal and reinstallation of panels is required. Install through a hole and thread on a retainer (sold separately) to keep these screws secure. Use an optional spring (sold separately) to provide even compression against panels. Screws, retainers, and springs are made from marine grade 316 stainless steel. Screws may be mildly magnetic. Length is measured from under the head. Thread Class is 6g.

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- 316 SS hex drive screws meet ASTM A276.
- Made from stainless steel, these screws have good chemical resistance and maybe mildly magnetic.







Dimensions Table — Metric

Thread Size	Thread Length (±.010)	Shank Dia. (±.005)	Head Dia, (max, min)	Head Height (max, min)	Drive Depth (min)	Drive Size
M2 × 0.4	3.00	1.40	3.50 - 3.30	1.30 - 1.11	0.80	1.27
M2.5 × 0.45	3.50	1.80	4.50 - 4.20	1.50 - 1.28	1.00	1.5
M3 × 0.5	4.00	2.20	5.70 - 5.40	1.65 - 1.40	1.04	2
M3.5 x 0.6	4.00	2.60	6.60 - 6.30	1.90 - 1.64	1.04	2
M4 x 0.7	4.00	3.00	7.60 - 7.24	2.20 - 1.95	1.30	2.5
M5 × 0.8	4.00	3.80	9.50 - 9.14	2.75 - 2.50	1.56	3
M6 × 1	6.00	4.50	10.50 - 10.07	3.30 - 3.00	2.08	4
M8 × 1.25	8.00	6.20	14.00 - 13.57	4.40 - 4.10	2.60	5
M10 × 1.5	8.00	8.00	17.50 - 17.07	5.50 - 5.20	3.12	6
M12 x 1.75	10.00	9.50	21.00 - 20.48	6.60 - 6.24	4.16	8

Button Socket Head Captive Panel Screws — Metric

316 SS — Hex Drive



M2 × 0.4 Thread Size

Length	316 SS Part Number
8	ZCB602M2X8
10	ZCB602M2X10
12	ZCB602M2X12

M2.5 × 0.45 Thread Size

Length	316 SS Part Number
6	ZCB602M2.5X6
8	ZCB602M2.5X8
10	ZCB602M2.5X10
12	ZCB602M2.5X12
14	ZCB602M2.5X14
16	ZCB602M2.5X16
18	ZCB602M2.5X18
20	ZCB602M2.5X20
22	ZCB602M2.5X22
25	ZCB602M2.5X25

M3 × 0.5 Thread Size

Length	316 SS Part Number
6	ZCB602M3X6
8	ZCB602M3X8
10	ZCB602M3X10
12	ZCB602M3X12
14	ZCB602M3X14
16	ZCB602M3X16
18	ZCB602M3X18
20	ZCB602M3X20
22	ZCB602M3X22
25	ZCB602M3X25
30	ZCB602M3X30

M3.5 x 0.6 Thread Size

Length	316 SS Part Number
8	ZCB602M3.5X8
10	ZCB602M3.5X10
12	ZCB602M3.5X12
16	ZCB602M3.5X16
18	ZCB602M3.5X18
20	ZCB602M3.5X20
22	ZCB602M3.5X22
25	ZCB602M3.5X25
30	ZCB602M3.5X30
35	ZCB602M3.5X35

M4 x 0.7 Thread Size

Length	316 SS Part Number
8	ZCB602M4X8
10	ZCB602M4X10
12	ZCB602M4X12
16	ZCB602M4X16
18	ZCB602M4X18
20	ZCB602M4X20
22	ZCB602M4X22
25	ZCB602M4X25
30	ZCB602M4X30
35	ZCB602M4X35

Button Socket Head Captive Panel Screws — Metric

316 SS — Hex Drive



M5 × 0.8 Thread Size

Length	316 SS Part Number
8	ZCB602M5X8
10	ZCB602M5X10
12	ZCB602M5X12
16	ZCB602M5X16
20	ZCB602M5X20
22	ZCB602M5X22
25	ZCB602M5X25
30	ZCB602M5X30
35	ZCB602M5X35
40	ZCB602M5X40
45	ZCB602M5X45
50	ZCB602M5X50

M6 × 1 Thread Size

Length	316 SS Part Number
10	ZCB602M6X10
12	ZCB602M6X12
16	ZCB602M6X16
20	ZCB602M6X20
25	ZCB602M6X25
30	ZCB602M6X30
35	ZCB602M6X35
40	ZCB602M6X40
45	ZCB602M6X45
50	ZCB602M6X50

M8 × 1.25 Thread Size

Length	316 SS Part Number
16	ZCB602M8X16
20	ZCB602M8X20
25	ZCB602M8X25
30	ZCB602M8X30
35	ZCB602M8X35
40	ZCB602M8X40
45	ZCB602M8X45
50	ZCB602M8X50

M10 × 1.5 Thread Size

Length	316 SS Part Number
16	ZCB602M10X16
20	ZCB602M10X20
25	ZCB602M10X25
30	ZCB602M10X30
35	ZCB602M10X35
40	ZCB602M10X40
45	ZCB602M10X45
50	ZCB602M10X50

M12 x 1.75 Thread Size

Length	316 SS Part Number
25	ZCB602M12X25
30	ZCB602M12X30
35	ZCB602M12X35
40	ZCB602M12X40
45	ZCB602M12X45
50	ZCB602M12X50

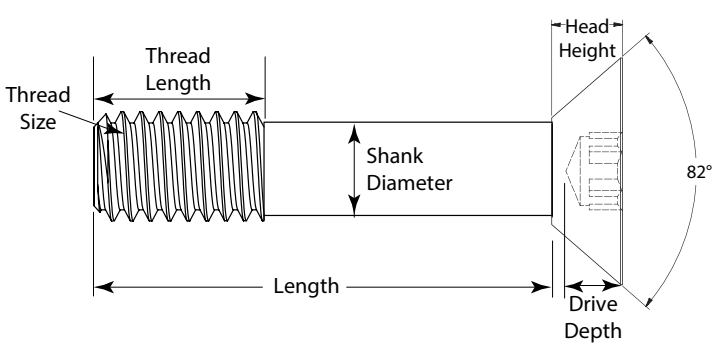
82° Flat Socket Head Captive Panel Screws — Inch

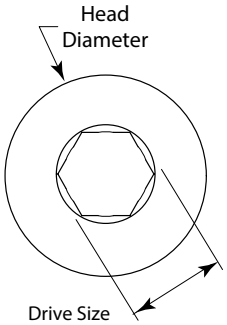
316 SS — Hex Drive

Product Information

This screw is an adaptation of ASME B18.3, ASME B18.3.5M, ISO 7991 with a unthreaded reduced shank diameter. Designed to self-retain in a panel to prevent the loss of screws — a lost screw could cause catastrophic damage to a production line. The 82° flat head is angled under the head to sit flush within countersunk holes. Also used with equipment where speedy removal and reinstallation of panels is required. Install through a hole and thread on a retainer (sold separately) to keep these screws secure. Use an optional spring (sold separately) to provide even compression against panels. Screws, retainers, and springs are made from marine grade 316 stainless steel. Screws may be mildly magnetic. Length is measured from the top of the head. Thread Class is 3A.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 316 SS hex drive screws meet ASTM A276.
- Made from stainless steel, these screws have good chemical resistance and maybe mildly magnetic.







Dimensions Table — Inch

Thread Size	Thread Length (±.010)	Shank Dia. (±.005)	Head Dia, (max, min)	Head Height (ref.)	Drive Depth (min)	Drive Size
2-56	1/8	.061	.197 - .168	.064	.038	.050
4-40	5/32	.078	.255 - .218	.083	.055	1/16
6-32	3/16	.095	.307- .263	.097	.066	5/64
8-32	3/16	.120	.359 - .311	.112	.076	3/32
10-24	1/4	.130	.411 - .359	.127	.087	1/8
10-32	1/4	.130	.411 - .359	.127	.087	1/8
1/4-20	1/4	.175	.531 - .480	.161	.111	5/32
1/4-28	1/4	.175	.531 - .480	.161	.111	5/32
5/16-18	3/8	.230	.656 - .600	.198	.135	3/16
3/8-16	3/8	.280	.781 - .720	.234	.159	7/32
1/2-13	3/8	.400	.938 - .872	.251	.172	5/16

82° Flat Socket Head Captive Panel Screws — Inch

316 SS — Hex Drive



2-56 Thread Size

Length	316 SS Part Number
1/4	ZCF60202C04
5/16	ZCF60202C05
3/8	ZCF60202C06
1/2	ZCF60202C08

4-40 Thread Size

Length	316 SS Part Number
1/4	ZCF60204C04
5/16	ZCF60204C05
3/8	ZCF60204C06
7/16	ZCF60204C07
1/2	ZCF60204C08
9/16	ZCF60204C09
5/8	ZCF60204C10
3/4	ZCF60204C12
7/8	ZCF60204C14
1	ZCF60204C16

6-32 Thread Size

Length	316 SS Part Number
5/16	ZCF60206C05
3/8	ZCF60206C06
7/16	ZCF60206C07
1/2	ZCF60206C08
9/16	ZCF60206C09
5/8	ZCF60206C10
3/4	ZCF60206C12
7/8	ZCF60206C14
1	ZCF60206C16
1-1/8	ZCF60206C18
1-1/4	ZCF60206C20

8-32 Thread Size

Length	316 SS Part Number
3/8	ZCF60208C06
7/16	ZCF60208C07
1/2	ZCF60208C08
9/16	ZCF60208C09
5/8	ZCF60208C10
3/4	ZCF60208C12
7/8	ZCF60208C14
1	ZCF60208C16
1-1/8	ZCF60208C18
1-1/4	ZCF60208C20

10-24 Thread Size

Length	316 SS Part Number
3/8	ZCF60210C06
7/16	ZCF60210C07
1/2	ZCF60210C08
9/16	ZCF60210C09
5/8	ZCF60210C10
3/4	ZCF60210C12
7/8	ZCF60210C14
1	ZCF60210C16
1-1/4	ZCF60210C20
1-3/8	ZCF60210C22
1-1/2	ZCF60210C24
1-3/4	ZCF60210C28

82° Flat Socket Head Captive Panel Screws — Inch

316 SS — Hex Drive



10-32 Thread Size

Length	316 SS Part Number
3/8	ZCF60210F06
7/16	ZCF60210F07
1/2	ZCF60210F08
9/16	ZCF60210F09
5/8	ZCF60210F10
3/4	ZCF60210F12
7/8	ZCF60210F14
1	ZCF60210F16
1-1/4	ZCF60210F20
1-3/8	ZCF60210F22
1-1/2	ZCF60210F24
1-3/4	ZCF60210F28

1/4-20 Thread Size

Length	316 SS Part Number
1/2	ZCF60214C08
5/8	ZCF60214C10
3/4	ZCF60214C12
7/8	ZCF60214C14
1	ZCF60214C16
1-1/4	ZCF60214C20
1-1/2	ZCF60214C24
1-3/4	ZCF60214C28
2	ZCF60214C32

1/4-28 Thread Size

Length	316 SS Part Number
1/2	ZCF60214F08
5/8	ZCF60214F10
3/4	ZCF60214F12
7/8	ZCF60214F14
1	ZCF60214F16
1-1/4	ZCF60214F20
1-1/2	ZCF60214F24
1-3/4	ZCF60214F28
2	ZCF60214F32

5/16-18 Thread Size

Length	316 SS Part Number
1/2	ZCF60251C08
5/8	ZCF60251C10
3/4	ZCF60251C12
7/8	ZCF60251C14
1	ZCF60251C16
1-1/4	ZCF60251C20
1-1/2	ZCF60251C24
1-3/4	ZCF60251C28
2	ZCF60251C32

3/8-16 Thread Size

Length	316 SS Part Number
1/2	ZCF60238C08
5/8	ZCF60238C10
3/4	ZCF60238C12
7/8	ZCF60238C14
1	ZCF60238C16
1-1/4	ZCF60238C20
1-1/2	ZCF60238C24
1-3/4	ZCF60238C28
2	ZCF60238C32

1/2-13 Thread Size

Length	316 SS Part Number
1	ZCF60212C16
1-1/4	ZCF60212C20
1-1/2	ZCF60212C24
1-3/4	ZCF60212C28
2	ZCF60212C32

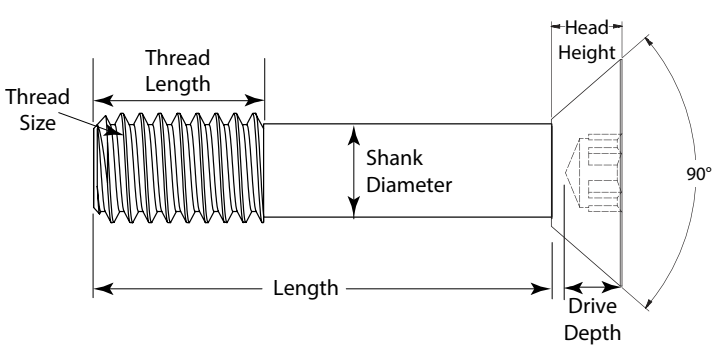
90° Flat Socket Head Captive Panel Screws — Metric

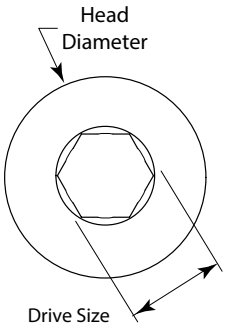
316 SS — Hex Drive

Product Information

This screw is an adaptation of ASME B18.3, ASME B18.3.5M, ISO 7991 with a unthreaded reduced shank diameter. Designed to self-retain in a panel to prevent the loss of screws — a lost screw could cause catastrophic damage to a production line. The 90° flat head is angled under the head to sit flush within countersunk holes. Also used with equipment where speedy removal and reinstallation of panels is required. Install through a hole and thread on a retainer (sold separately) to keep these screws secure. Use an optional spring (sold separately) to provide even compression against panels. Screws, retainers, and springs are made from marine grade 316 stainless steel. Screws may be mildly magnetic. Length is measured from the top of the head. Thread Class is 6g.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 316 SS hex drive screws meet ASTM A276.
- Made from stainless steel, these screws have good chemical resistance and maybe mildly magnetic.







Dimensions Table — Metric

Thread Size	Thread Length (±.010)	Shank Dia. (±.005)	Head Dia, (max, min)	Head Height (ref.)	Drive Depth (min)	Drive Size
M2 × 0.4	3.00	1.40	4.00 - 3.70	1.20	0.75	1.3
M2.5 × 0.45	3.50	1.80	5.00 - 4.70	1.50	0.80	1.5
M3 × 0.5	4.00	2.20	6.00 - 5.70	1.70	0.95	2
M3.5 x 0.6	4.00	2.60	6.50 - 6.20	2.10	0.95	2
M4 x 0.7	4.00	3.00	8.00 - 7.64	2.30	1.55	2.5
M5 × 0.8	4.00	3.80	10.00 - 9.64	2.80	2.05	3
M6 × 1	6.00	4.50	12.00 - 11.57	3.30	2.25	4
M8 × 1.25	8.00	6.20	16.00 - 15.57	4.40	3.20	5
M10 × 1.5	8.00	8.00	20.00 - 19.48	5.50	4.10	6
M12 x 1.75	10.00	9.50	24.00 - 23.48	6.50	4.30	8

90° Flat Socket Head Captive Panel Screws — Metric

316 SS — Hex Drive



M2 × 0.4 Thread Size

Length	316 SS Part Number
8	ZCF602M2X8
10	ZCF602M2X10
12	ZCF602M2X12

M2.5 × 0.45 Thread Size

Length	316 SS Part Number
6	ZCF602M2.5X6
8	ZCF602M2.5X8
10	ZCF602M2.5X10
12	ZCF602M2.5X12
14	ZCF602M2.5X14
16	ZCF602M2.5X16
18	ZCF602M2.5X18
20	ZCF602M2.5X20
22	ZCF602M2.5X22
25	ZCF602M2.5X25

M3 × 0.5 Thread Size

Length	316 SS Part Number
6	ZCF602M3X6
8	ZCF602M3X8
10	ZCF602M3X10
12	ZCF602M3X12
14	ZCF602M3X14
16	ZCF602M3X16
18	ZCF602M3X18
20	ZCF602M3X20
22	ZCF602M3X22
25	ZCF602M3X25
30	ZCF602M3X30

M3.5 x 0.6 Thread Size

Length	316 SS Part Number
8	ZCF602M3.5X8
10	ZCF602M3.5X10
12	ZCF602M3.5X12
16	ZCF602M3.5X16
18	ZCF602M3.5X18
20	ZCF602M3.5X20
22	ZCF602M3.5X22
25	ZCF602M3.5X25
30	ZCF602M3.5X30
35	ZCF602M3.5X35

M4 x 0.7 Thread Size

Length	316 SS Part Number
8	ZCF602M4X8
10	ZCF602M4X10
12	ZCF602M4X12
16	ZCF602M4X16
18	ZCF602M4X18
20	ZCF602M4X20
22	ZCF602M4X22
25	ZCF602M4X25
30	ZCF602M4X30
35	ZCF602M4X35

90° Flat Socket Head Captive Panel Screws — Metric

316 SS — Hex Drive



M5 × 0.8 Thread Size

Length	316 SS Part Number
8	ZCF602M5X8
10	ZCF602M5X10
12	ZCF602M5X12
16	ZCF602M5X16
20	ZCF602M5X20
22	ZCF602M5X22
25	ZCF602M5X25
30	ZCF602M5X30
35	ZCF602M5X35
40	ZCF602M5X40
45	ZCF602M5X45
50	ZCF602M5X50

M6 × 1 Thread Size

Length	316 SS Part Number
10	ZCF602M6X10
12	ZCF602M6X12
16	ZCF602M6X16
20	ZCF602M6X20
25	ZCF602M6X25
30	ZCF602M6X30
35	ZCF602M6X35
40	ZCF602M6X40
45	ZCF602M6X45
50	ZCF602M6X50

M8 × 1.25 Thread Size

Length	316 SS Part Number
16	ZCF602M8X16
20	ZCF602M8X20
25	ZCF602M8X25
30	ZCF602M8X30
35	ZCF602M8X35
40	ZCF602M8X40
45	ZCF602M8X45
50	ZCF602M8X50

M10 × 1.5 Thread Size

Length	316 SS Part Number
16	ZCF602M10X16
20	ZCF602M10X20
25	ZCF602M10X25
30	ZCF602M10X30
35	ZCF602M10X35
40	ZCF602M10X40
45	ZCF602M10X45
50	ZCF602M10X50

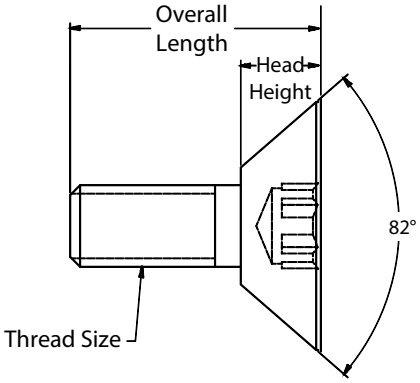
M12 x 1.75 Thread Size

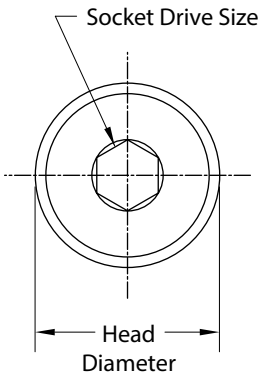
Length	316 SS Part Number
25	ZCF602M12X25
30	ZCF602M12X30
35	ZCF602M12X35
40	ZCF602M12X40
45	ZCF602M12X45
50	ZCF602M12X50

82° Flat Head Socket Screws — Inch

Product Information

Designed for light fastening jobs where you need a flush surface. Screws are beveled 82°. All screws have a Class 3A thread fit. Screw length is measured from top of the head. Note : Flat head screws are not designed for higher strength applications.







Aluminum



17-4 PH SS



Titanium Grade 2

82° Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Size
4-40	.255	.083	1/16
6-32	.307	.097	5/64
8-32	.359	.112	3/32
10-32	.411	.127	1/8
1/4-20	.531	.161	5/32
5/16-18	.656	.198	3/16

6-32 Thread Size

Length	Aluminum Part Number	17-4 PH SS Part Number	Titanium Part Number
3/8	ZF72006C06	ZF74406C06	ZF70506C06
1/2	ZF72006C08	ZF74406C08	ZF70506C08
3/4	ZF72006C12	ZF74406C12	ZF70506C12

10-32 Thread Size

Length	Aluminum Part Number	17-4 PH SS Part Number	Titanium Part Number
1/2	ZF72010F08	ZF74410F08	ZF70510F08
3/4	ZF72010F12	ZF74410F12	ZF70510F12
1	ZF72010F16	ZF74410F16	ZF70510F16

8-32 Thread Size

Length	Aluminum Part Number	17-4 PH SS Part Number	Titanium Part Number
3/8	ZF72008C06	ZF74408C06	ZF70508C06
1/2	ZF72008C08	ZF74408C08	ZF70508C08
3/4	ZF72008C12	ZF74408C12	ZF70508C12

1/4-20 Thread Size

Length	Aluminum Part Number	17-4 PH SS Part Number	Titanium Part Number
1/2	ZF72014C08	ZF74414C08	ZF70514C08
3/4	ZF72014C12	ZF74414C12	ZF70514C12
1	ZF72014C16	ZF74414C16	ZF70514C16
1-1/4	ZF72014C20	ZF74414C20	ZF70514C20
1-1/2	ZF72014C24	ZF74414C24	ZF70514C24

82° Flat Head Socket Screw — Inch

18-8 SS | Passivated

Product Information

Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes. Flat head screws have a standard 82° bevel. Passivated stainless steel screws provide added protection against oxidation and corrosion. Class 3A thread fit. Length is measured from the top of the head.

Left Hand Threads



4-40 Thread Size

Length	Thread Direction	18-8 SS Part Number
1/4	Left Hand	ZFLH60104C04
1/2	Left Hand	ZFLH60104C08

6-32 Thread Size

Length	Thread Direction	18-8 SS Part Number
1/4	Left Hand	ZFLH60106C04
1/2	Left Hand	ZFLH60106C08

8-32 Thread Size

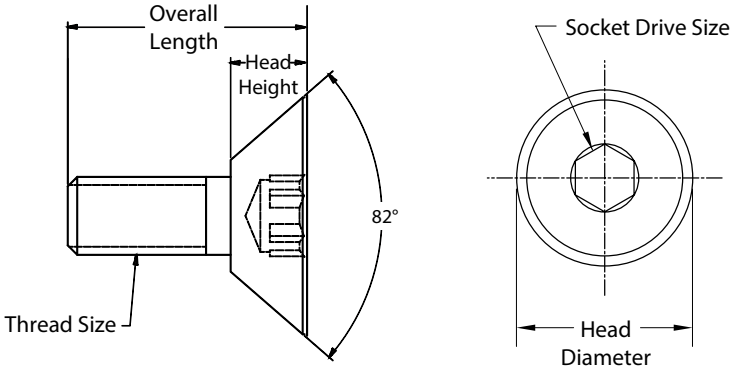
Length	Thread Direction	18-8 SS Part Number
1/2	Left Hand	ZFLH60108C08
3/4	Left Hand	ZFLH60108C12

10-32 Thread Size

Length	Thread Direction	18-8 SS Part Number
1/2	Left Hand	ZFLH60110F08
3/4	Left Hand	ZFLH60110F12

1/4-20 Thread Size

Length	Thread Direction	18-8 SS Part Number
1/2	Left Hand	ZFLH60114C08
1	Left Hand	ZFLH60114C16



Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Size
4-40	.255	.083	1/16
6-32	.307	.097	5/64
8-32	.359	.112	3/32
10-32	.411	.127	1/8
1/4-20	.531	.161	5/32
5/16-18	.656	.198	3/16
1/2-13	.938	.251	5/16

Special Sizes

Thread Size x Lg.	Thread Direction	18-8 SS Part Number
6-32 x 3*	Right Hand	ZF60106C48
1/4-20 x 1/4**	Right Hand	ZF60114C04
5/16-18 x 3/8	Right Hand	ZF60151C06
1/2-13 x 5/8	Right Hand	ZF60112C10

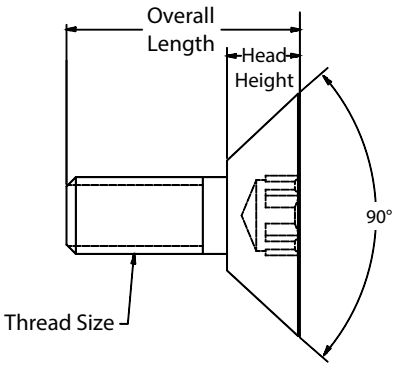
** Minimum thread of 3/4 inch*
*** .107 Undercut*

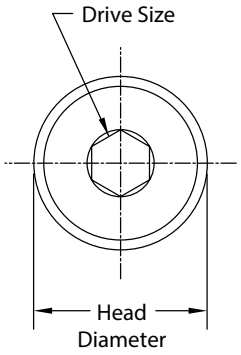
90° Flat Head Socket Screws — Metric

18-8 SS (A2) | Passivated

Product Information

Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes. Metric flat head screws have a standard 90° bevel. Passivated stainless steel screws provide added protection against oxidation and corrosion. Class 6g thread fit. Length is measured from the top of the head.







Dimensions Table — Metric

Thread Size	Head Diameter	Head Height	Drive Size
M3.5 x 0.6mm	7.00	2.00	2
M4.5 x 0.75mm	9.00	2.50	2.5
M6 x 1mm	12.00	3.30	4
M7 x 1mm	14.00	3.85	4.5
M8 x 1.25mm	16.00	4.40	5
M9 x 1.25mm	18.00	5.00	5.5
M10 x 1.5mm	20.00	5.50	6
M11 x 1.5mm	22.00	6.00	6

M3.5 x 0.60 Thread Size

Length	18-8 SS Part Number
6	ZF601M3.5X6
8	ZF601M3.5X8
10	ZF601M3.5X10

M4.5 x 0.75 Thread Size

Length	18-8 SS Part Number
8	ZF601M4.5X8
10	ZF601M4.5X10
12	ZF601M4.5X12
16	ZF601M4.5X16
20	ZF601M4.5X20

M6 x 1.00 Thread Size

Length	18-8 SS Part Number
6	ZF601M6X6
12	ZF601M6X12
16	ZF601M6X16
20	ZF601M6X20
25	ZF601M6X25
30	ZF601M6X30

M7 x 1.00 Thread Size

Length	18-8 SS Part Number
16	ZF601M7X16
20	ZF601M7X20
25	ZF601M7X25
30	ZF601M7X30
35	ZF601M7X35

M8 x 1.25 Thread Size

Length	18-8 SS Part Number
8	ZF601M8X8

M9 x 1.25 Thread Size

Length	18-8 SS Part Number
20	ZF601M9X20
25	ZF601M9X25
30	ZF601M9X30

M10 x 1.50 Thread Size

Length	18-8 SS Part Number
12	ZF601M10X12

M11 x 1.50 Thread Size

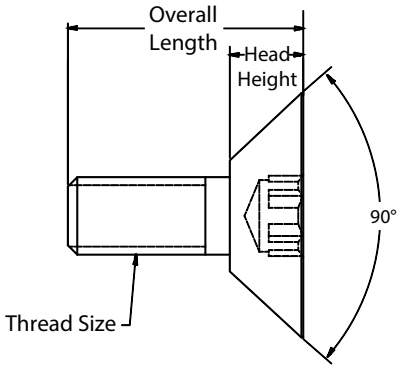
Length	18-8 SS Part Number
20	ZF601M11X20
25	ZF601M11X25
30	ZF601M11X30

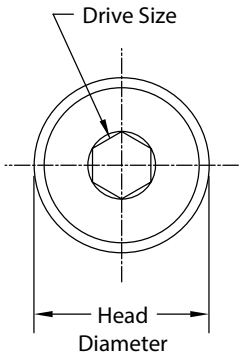
90° Flat Head Left Hand Socket Screws — Metric

18-8 SS (A2) | Passivated

Product Information

Prevent loosening in parts subject to counterclockwise motion. These screws tighten when turned to the left. Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes. Metric flat head screws have a standard 90° bevel. Passivated stainless steel screws provide added protection against oxidation and corrosion. Class 6g thread fit. Length is measured from the top of the head. Screws meet AMPG's internal specifications AMPG 2017 ZF.02.







Dimensions Table — Metric

Thread Size	Head Diameter	Head Height	Drive Size
M3 x 0.5mm	6.00	1.70	2
M4 x 0.7mm	8.00	2.30	2.5
M5 x 0.8mm	10.00	2.80	3
M6 x 1mm	12.00	3.30	4
M8 x 1.25mm	16.00	4.40	5

M3 x 0.5mm Thread Size

Length	18-8 SS Part Number
6	ZFLH601M3X6
10	ZFLH601M3X10

M4 x 0.7mm Thread Size

Length	18-8 SS Part Number
8	ZFLH601M4X8
12	ZFLH601M4X12

M8 x 1.25mm Thread Size

Length	18-8 SS Part Number
16	ZFLH601M8X16
25	ZFLH601M8X25

M5 x 0.8mm Thread Size

Length	18-8 SS Part Number
10	ZFLH601M5X10
16	ZFLH601M5X16

M6 x 1mm Thread Size

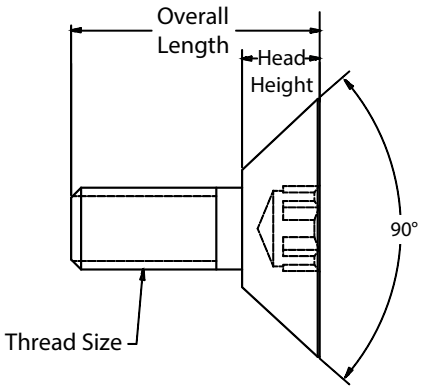
Length	18-8 SS Part Number
12	ZFLH601M6X12
20	ZFLH601M6X20

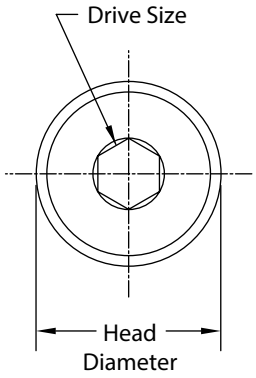
90° Flat Head Socket Screws — Metric

316 SS (A4) | Passivated

Product Information

These metric screws have fine threads with special thread pitches. Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes. Metric flat head screws have a standard 90° bevel. Passivated stainless steel screws provide added protection against oxidation and corrosion. Class 6g thread fit. Length is measured from the top of the head. 316 SS (A4) hex drive screws meet DIN 7991 specifications.







Dimensions Table — Metric, mm

Thread Size	Head Diameter	Head Height	Drive Size
M3 x 0.35mm	6.00	1.70	2
M4 x 0.5mm	8.00	2.30	2.5
M5 x 0.5mm	10.00	2.80	3
M6 x 0.75mm	12.00	3.30	4
M8 x 1mm	16.00	4.40	5

M3 x 0.35mm Thread Size

Length	316 SS Part Number
6	ZF602M3X6F
8	ZF602M3X8F
10	ZF602M3X10F

M4 x 0.5mm Thread Size

Length	316 SS Part Number
6	ZF602M4X6F
8	ZF602M4X8F
10	ZF602M4X10F

M5 x 0.5mm Thread Size

Length	316 SS Part Number
10	ZF602M5X10F
12	ZF602M5X12F
16	ZF602M5X16F

M6 x 0.7mm Thread Size

Length	316 SS Part Number
12	ZF602M6X12F
16	ZF602M6X16F
20	ZF602M6X20F

M8 x 1mm Thread Size

Length	316 SS Part Number
16	ZF602M8X16F
20	ZF602M8X20F
25	ZF602M8X25F

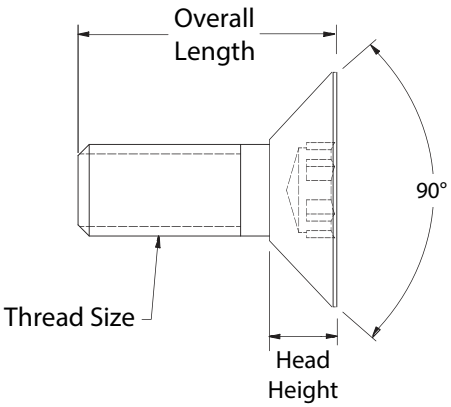
Low 90° Flat Head Socket Screws — Metric

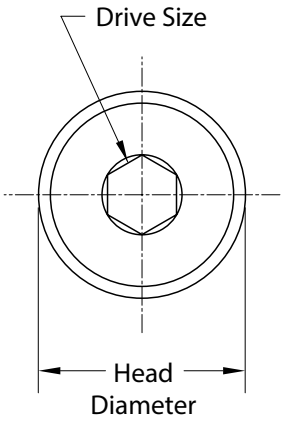
316 SS (A4) — Hex Drive

Product Information

Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes. These shallow head flat head screws have a standard 90° bevel with a lower head height. Passivated stainless steel screws provide added protection against oxidation and corrosion. Class 6g thread fit. Length is measured from the top of the head.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 316 SS screws meet ASTM A276.
- All stainless steel screws adhere to environmental regulations established by European Union RoHS directive.
- Black oxide gives a dark black oxide surface finish.







Dimensions Table — Metric, mm

Thread Size	Head Diameter	Head Height	Drive Size
M3 x 0.5mm	6.00	1.30	2
M4 x 0.7mm	8.00	1.60	2.5
M5 x 0.8mm	10.00	1.90	3
M6 x 1	12.00	2.20	4
M8 x 1.25mm	16.00	2.80	5
M10 x 1.5mm	20.00	3.60	6
M12 x 1.75mm	24.00	4.30	8

Low 90° Flat Head Socket Screws — Metric

316 SS (A4) — Hex Drive





M3 x 0.5mm Thread Size

Length	316 SS Part Number	316 SS, Black Ox. Part Number
4	ZF602M3X4-LOW	ZF602M3X4-LOW-BX
5	ZF602M3X5-LOW	ZF602M3X5-LOW-BX
6	ZF602M3X6-LOW	ZF602M3X6-LOW-BX
8	ZF602M3X8-LOW	ZF602M3X8-LOW-BX
10	ZF602M3X10-LOW	ZF602M3X10-LOW-BX
12	ZF602M3X12-LOW	ZF602M3X12-LOW-BX

M4 x 0.7mm Thread Size

Length	316 SS Part Number	316 SS, Black Ox. Part Number
5	ZF602M4X5-LOW	ZF602M4X5-LOW-BX
6	ZF602M4X6-LOW	ZF602M4X6-LOW-BX
8	ZF602M4X8-LOW	ZF602M4X8-LOW-BX
10	ZF602M4X10-LOW	ZF602M4X10-LOW-BX
12	ZF602M4X12-LOW	ZF602M4X12-LOW-BX
16	ZF602M4X16-LOW	ZF602M4X16-LOW-BX

M5 x 0.8mm Thread Size

Length	316 SS Part Number	316 SS, Black Ox. Part Number
6	ZF602M5X6-LOW	ZF602M5X6-LOW-BX
8	ZF602M5X8-LOW	ZF602M5X8-LOW-BX
10	ZF602M5X10-LOW	ZF602M5X10-LOW-BX
12	ZF602M5X12-LOW	ZF602M5X12-LOW-BX
16	ZF602M5X16-LOW	ZF602M5X16-LOW-BX
20	ZF602M5X20-LOW	ZF602M5X20-LOW-BX

M6 x 1mm Thread Size

Length	316 SS Part Number	316 SS, Black Ox. Part Number
8	ZF602M6X8-LOW	ZF602M6X8-LOW-BX
10	ZF602M6X10-LOW	ZF602M6X10-LOW-BX
12	ZF602M6X12-LOW	ZF602M6X12-LOW-BX
16	ZF602M6X16-LOW	ZF602M6X16-LOW-BX
20	ZF602M6X20-LOW	ZF602M6X20-LOW-BX
25	ZF602M6X25-LOW	ZF602M6X25-LOW-BX
30	ZF602M6X30-LOW	ZF602M6X30-LOW-BX

M8x 1.25mm Thread Size

Length	316 SS Part Number	316 SS, Black Ox. Part Number
10	ZF602M8X10-LOW	ZF602M8X10-LOW-BX
12	ZF602M8X12-LOW	ZF602M8X12-LOW-BX
16	ZF602M8X16-LOW	ZF602M8X16-LOW-BX
20	ZF602M8X20-LOW	ZF602M8X20-LOW-BX
25	ZF602M8X25-LOW	ZF602M8X25-LOW-BX
30	ZF602M8X30-LOW	ZF602M8X30-LOW-BX

M10 x 1.5mm Thread Size

Length	316 SS Part Number	316 SS, Black Ox. Part Number
12	ZF602M10X12-LOW	ZF602M10X12-LOW-BX
16	ZF602M10X16-LOW	ZF602M10X16-LOW-BX
20	ZF602M10X20-LOW	ZF602M10X20-LOW-BX
25	ZF602M10X25-LOW	ZF602M10X25-LOW-BX
30	ZF602M10X30-LOW	ZF602M10X30-LOW-BX

M12 x 1.7mm Thread Size

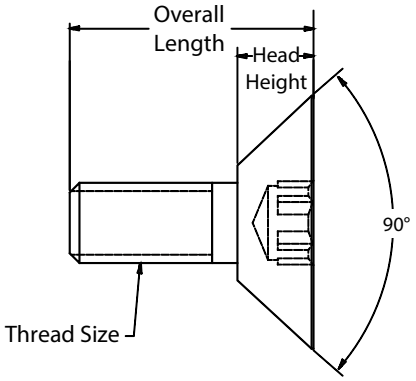
Length	316 SS Part Number	316 SS, Black Ox. Part Number
20	ZF602M12X20-LOW	ZF602M12X20-LOW-BX
25	ZF602M12X25-LOW	ZF602M12X25-LOW-BX
30	ZF602M12X30-LOW	ZF602M12X30-LOW-BX

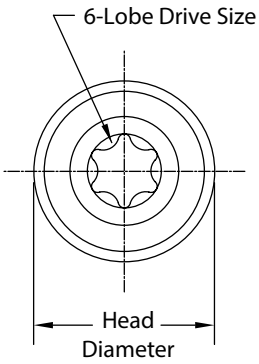
82° Flat Head 6-Lobe Drive Screws — Inch

A286 SS | Plain

Product Information

Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes. Flat head screws have a standard 82° bevel. Class 3A thread fit. Length is measured from the top of the head.







Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Size
4-40	.255	.083	T8
6-32	.307	.097	T15
8-32	.359	.112	T20
10-32	.411	.127	T25
1/4-20	.531	.161	T30

4-40 Thread Size

Length	A286 Part Number
3/16	ZFT28604C03
1/4	ZFT28604C04
3/8	ZFT28604C06
1/2	ZFT28604C08

6-32 Thread Size

Length	A286 Part Number
1/4	ZFT28606C04
3/8	ZFT28606C06
1/2	ZFT28606C08
3/4	ZFT28606C12

8-32 Thread Size

Length	A286 Part Number
1/4	ZFT28608C04
3/8	ZFT28608C06
1/2	ZFT28608C08
3/4	ZFT28608C12

10-32 Thread Size

Length	A286 Part Number
3/8	ZFT28610F06
1/2	ZFT28610F08
3/4	ZFT28610F12
1	ZFT28610F16

1/4-20 Thread Size

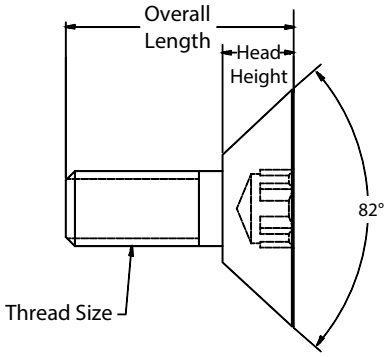
Length	A286 Part Number
1/2	ZFT28614C08
3/4	ZFT28614C12
1	ZFT28614C16
1-1/2	ZFT28614C24

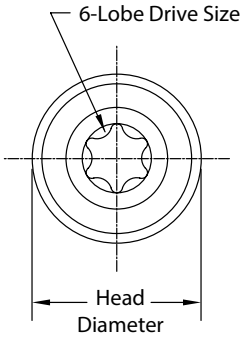
82° Flat Head 6-Lobe Drive Screws — Metric

A286 SS | Plain

Product Information

Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes. Metric flat head screws have a standard 90° bevel. Class 6g thread fit. Length is measured from the top of the head. A286 6-lobe screws meet AMPG's internal specifications of AMPG 2017.ZFT.01.







Dimensions Table — Metric, mm			
Thread Size	**Head Diameter**	**Head Height**	**Drive Size**
M3 x 0.5mm	6.40	2.10	T8
M4 x 0.7mm	9.10	2.80	T20
M5 x 0.8mm	10.20	3.20	T25
M6 x 1mm	13.40	4.10	T30
M8 x 1.25mm	16.50	5.00	T40

M3 x 0.5mm Thread Size

Length	A286 SS Part Number
5	ZFT286M3X5
6	ZFT286M3X6
8	ZFT286M3X8
10	ZFT286M3X10
12	ZFT286M3X12

M4x 0.7mm Thread Size

Length	A286 SS Part Number
6	ZFT286M4X6
8	ZFT286M4X8
10	ZFT286M4X10
12	ZFT286M4X12
16	ZFT286M4X16

M5 x 0.8mm Thread Size

Length	A286 SS Part Number
8	ZFT286M5X8
10	ZFT286M5X10
12	ZFT286M5X12
16	ZFT286M5X16
20	ZFT286M5X20

M6 x 1mm Thread Size

Length	A286 SS Part Number
12	ZFT286M6X12
16	ZFT286M6X16
20	ZFT286M6X20
25	ZFT286M6X25
30	ZFT286M6X30

M8 x 1.25mm Thread Size

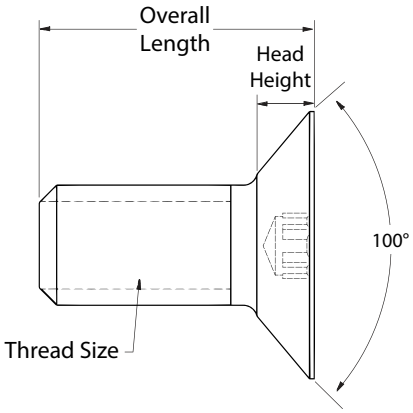
Length	A286 SS Part Number
16	ZFT286M8X16
20	ZFT286M8X20
25	ZFT286M8X25
30	ZFT286M8X30

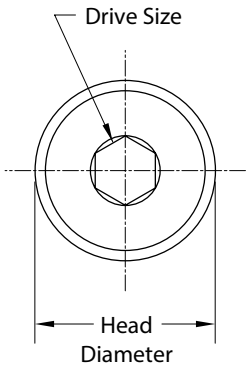
100° Flat Head Socket Screws — Inch

18-8 SS | Plain
316 SS | Passivated, Black Oxide
17-4 PH SS | Plain

Product Information

Screws are beveled 100° which provides a larger bearing surface to distribute holding force. These screws perform better than standard 82° flat head screws especially in softer materials. Flat head screws are designed for light-duty fastening applications. They're angled under the head to sit flush within countersunk holes. Class 3A thread fit for Inch sizes and Class 6g thread fit for Metric. Length is measured from the top of the head.





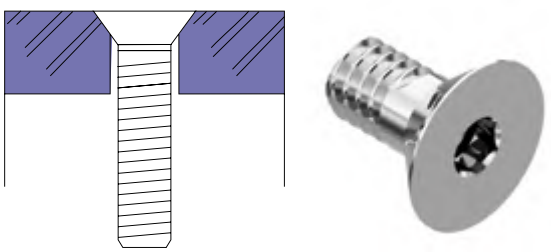


Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Size
4-40	.255	.059	1/16
6-32	.307	.066	5/64
8-32	.359	.076	5/64
10-24	.411	.084	3/32
10-32	.411	.084	3/32
1/4-20	.531	.105	1/8
5/16-18	.656	.127	5/32
3/8-16	.781	.157	7/32
1/2-13	.937	.181	5/16
5/8-11	1.188	.210	3/8
3/4-10	1.188	.258	1/2

Dimensions Table — Metric

Thread Size	Head Diameter	Head Height	Drive Size
M3 x 0.5mm	6.00	1.30	2
M4 x 0.7mm	8.00	1.60	2.5
M5 x 0.8mm	10.00	1.90	3
M6 x 1mm	12.00	2.20	4
M8 x 1.25mm	16.00	2.80	5
M10 × 1.5mm	20.00	3.5	6
M12 × 1.75mm	50.00	4.2	8



100° Flat Head Socket Screws — Inch

18-8 SS | Plain
316 SS | Passivated, Black Oxide
17-4 PH SS | Plain






4-40 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
3/16	ZHF60104C03	ZHF60204C03	ZHF60204C03-BX	ZHF74404C03
1/4	ZHF60104C04	ZHF60204C04	ZHF60204C04-BX	ZHF74404C04
5/16	ZHF60104C05	ZHF60204C05	ZHF60204C05-BX	ZHF74404C05
3/8	ZHF60104C06	ZHF60204C06	ZHF60204C06-BX	ZHF74404C06
1/2	ZHF60104C08	ZHF60204C08	ZHF60204C08-BX	ZHF74404C08

6-32 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
1/4	ZHF60106C04	ZHF60206C04	ZHF60206C04-BX	ZHF74406C04
5/16	ZHF60106C05	ZHF60206C05	ZHF60206C05-BX	ZHF74406C05
3/8	ZHF60106C06	ZHF60206C06	ZHF60206C06-BX	ZHF74406C06
1/2	ZHF60106C08	ZHF60206C08	ZHF60206C08-BX	ZHF74406C08
5/8	ZHF60106C10	ZHF60206C10	ZHF60206C10-BX	ZHF74406C10
3/4	ZHF60106C12	ZHF60206C12	ZHF60206C12-BX	ZHF74406C12
1	ZHF60106C16	ZHF60206C16	ZHF60206C16-BX	ZHF74406C16

8-32 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
1/4	ZHF60108C04	ZHF60208C04	ZHF60208C04-BX	ZHF74408C04
5/16	ZHF60108C05	ZHF60208C05	ZHF60208C05-BX	ZHF74408C05
3/8	ZHF60108C06	ZHF60208C06	ZHF60208C06-BX	ZHF74408C06
1/2	ZHF60108C08	ZHF60208C08	ZHF60208C08-BX	ZHF74408C08
5/8	ZHF60108C10	ZHF60208C10	ZHF60208C10-BX	ZHF74408C10
3/4	ZHF60108C12	ZHF60208C12	ZHF60208C12-BX	ZHF74408C12
1	ZHF60108C16	ZHF60208C16	ZHF60208C16-BX	ZHF74408C16

10-24 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
3/8	ZHF60110C06	ZHF60210C06	ZHF60210C06-BX	ZHF74410C06
1/2	ZHF60110C08	ZHF60210C08	ZHF60210C08-BX	ZHF74410C08
5/8	ZHF60110C10	ZHF60210C10	ZHF60210C10-BX	ZHF74410C10
3/4	ZHF60110C12	ZHF60210C12	ZHF60210C12-BX	ZHF74410C12
1	ZHF60110C16	ZHF60210C16	ZHF60210C16-BX	ZHF74410C16
1-1/2	ZHF60110C24	ZHF60210C24	ZHF60210C24-BX	ZHF74410C24

Chart continued on next page

100° Flat Head Socket Screws — Inch

18-8 SS | Plain, 316 SS | Passivated, Black Oxide, 17-4 PH SS | Plain



10-32 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
3/8	ZHF60110F06	ZHF60210F06	ZHF60210F06-BX	ZHF74410F06
1/2	ZHF60110F08	ZHF60210F08	ZHF60210F08-BX	ZHF74410F08
5/8	ZHF60110F10	ZHF60210F10	ZHF60210F10-BX	ZHF74410F10
3/4	ZHF60110F12	ZHF60210F12	ZHF60210F12-BX	ZHF74410F12
1	ZHF60110F16	ZHF60210F16	ZHF60210F16-BX	ZHF74410F16
1-1/2	ZHF60110F24	ZHF60210F24	ZHF60210F24-BX	ZHF74410F24

1/4-20 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
3/8	ZHF60114C06	ZHF60214C06	ZHF60214C06-BX	ZHF74414C06
1/2	ZHF60114C08	ZHF60214C08	ZHF60214C08-BX	ZHF74414C08
5/8	ZHF60114C10	ZHF60214C10	ZHF60214C10-BX	ZHF74414C10
3/4	ZHF60114C12	ZHF60214C12	ZHF60214C12-BX	ZHF74414C12
7/8	ZHF60114C14	ZHF60214C14	ZHF60214C14-BX	ZHF74414C14
1	ZHF60114C16	ZHF60214C16	ZHF60214C16-BX	ZHF74414C16
1-1/4	ZHF60114C20	ZHF60214C20	ZHF60214C20-BX	ZHF74414C20
1-1/2	ZHF60114C24	ZHF60214C24	ZHF60214C24-BX	ZHF74414C24
1-3/4	ZHF60114C28	ZHF60214C28	ZHF60214C28-BX	ZHF74414C28
2	ZHF60114C32	ZHF60214C32	ZHF60214C32-BX	ZHF74414C32

5/16-18 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
5/8	ZHF60151C10	ZHF60251C10	ZHF60251C10-BX	ZHF74451C10
3/4	ZHF60151C12	ZHF60251C12	ZHF60251C12-BX	ZHF74451C12
1	ZHF60151C16	ZHF60251C16	ZHF60251C16-BX	ZHF74451C16
1-1/4	ZHF60151C20	ZHF60251C20	ZHF60251C20-BX	ZHF74451C20
1-1/2	ZHF60151C24	ZHF60251C24	ZHF60251C24-BX	ZHF74451C24
1-3/4	ZHF60151C28	ZHF60251C28	ZHF60251C28-BX	ZHF74451C28
2	ZHF60151C32	ZHF60251C32	ZHF60251C32-BX	ZHF74451C32

Chart continued on next page

100° Flat Head Socket Screws — Inch

18-8 SS | Plain, 316 SS | Passivated, Black Oxide, 17-4 PH SS | Plain



3/8-16 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
3/4	ZHF60138C12	ZHF60238C12	ZHF60238C12-BX	ZHF74438C12
1	ZHF60138C16	ZHF60238C16	ZHF60238C16-BX	ZHF74438C16
1-1/4	ZHF60138C20	ZHF60238C20	ZHF60238C20-BX	ZHF74438C20
1-1/2	ZHF60138C24	ZHF60238C24	ZHF60238C24-BX	ZHF74438C24
1-3/4	ZHF60138C28	ZHF60238C28	ZHF60238C28-BX	ZHF74438C28
2	ZHF60138C32	ZHF60238C32	ZHF60238C32-BX	ZHF74438C32
2-1/2	ZHF60138C40	ZHF60238C40	ZHF60238C40-BX	ZHF74438C40
3	ZHF60138C48	ZHF60238C48	ZHF60238C48-BX	ZHF74438C48

1/2-13 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
1	ZHF60112C16	ZHF60212C16	ZHF60212C16-BX	ZHF74412C16
1-1/4	ZHF60112C20	ZHF60212C20	ZHF60212C20-BX	ZHF74412C20
1-1/2	ZHF60112C24	ZHF60212C24	ZHF60212C24-BX	ZHF74412C24
2	ZHF60112C32	ZHF60212C32	ZHF60212C32-BX	ZHF74412C32

5/8-11 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
1-1/2	ZHF60158C24	ZHF60258C24	ZHF60258C24-BX	ZHF74458C24
2	ZHF60158C32	ZHF60258C32	ZHF60258C32-BX	ZHF74458C32
2-1/2	ZHF60158C40	ZHF60258C40	ZHF60258C40-BX	ZHF74458C40
3	ZHF60158C48	ZHF60258C48	ZHF60258C48-BX	ZHF74458C48

3/4-10 Thread Size

Length	18-8 SS Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	17-4 PH Part Number
1-1/2	ZHF60134C24	ZHF60234C24	ZHF60234C24-BX	ZHF74434C24
2	ZHF60134C32	ZHF60234C32	ZHF60234C32-BX	ZHF74434C32
2-1/2	ZHF60134C40	ZHF60234C40	ZHF60234C40-BX	ZHF74434C40
3	ZHF60134C48	ZHF60234C48	ZHF60234C48-BX	ZHF74434C48

100° Flat Head Socket Screws — Metric

316 SS (A4) | Passivated, Black Oxide — Hex Drive



316 SS

316 SS, Black Oxide

Dimensions Table — Metric

Thread Size	Head Diameter	Head Height	Drive Size
M3 x 0.5mm	6.00	1.30	2
M4 x 0.7mm	8.00	1.60	2.5
M5 x 0.8mm	10.00	1.90	3
M6 x 1mm	12.00	2.20	4
M8 x 1.25mm	16.00	2.80	5
M10 × 1.5mm	20.00	3.5	6
M12 × 1.75mm	50.00	4.2	8

M3 x 0.5mm Thread Size

Length	316 SS Part Number	316 SS, Bl Ox. Part Number
5	ZHF602M3X5	ZHF602M3X5-BX
6	ZHF602M3X6	ZHF602M3X6-BX
8	ZHF602M3X8	ZHF602M3X8-BX
10	ZHF602M3X10	ZHF602M3X10-BX
12	ZHF602M3X12	ZHF602M3X12-BX

M4 x 0.7mm Thread Size

Length	316 SS Part Number	316 SS, Bl Ox. Part Number
6	ZHF602M4X6	ZHF602M4X6-BX
8	ZHF602M4X8	ZHF602M4X8-BX
10	ZHF602M4X10	ZHF602M4X10-BX
12	ZHF602M4X12	ZHF602M4X12-BX
16	ZHF602M4X16	ZHF602M4X16-BX

M5 x 0.8mm Thread Size

Length	316 SS Part Number	316 SS, Bl Ox. Part Number
8	ZHF602M5X8	ZHF602M5X8-BX
10	ZHF602M5X10	ZHF602M5X10-BX
12	ZHF602M5X12	ZHF602M5X12-BX
16	ZHF602M5X16	ZHF602M5X16-BX
20	ZHF602M5X20	ZHF602M5X20-BX

M6 x 1mm Thread Size

Length	316 SS Part Number	316 SS, Bl Ox. Part Number
12	ZHF602M6X12	ZHF602M6X12-BX
16	ZHF602M6X16	ZHF602M6X16-BX
20	ZHF602M6X20	ZHF602M6X20-BX
25	ZHF602M6X25	ZHF602M6X25-BX
30	ZHF602M6X30	ZHF602M6X30-BX

M8 x 1.25mm Thread Size

Length	316 SS Part Number	316 SS, Bl Ox. Part Number
16	ZHF602M8X16	ZHF602M8X16-BX
20	ZHF602M8X20	ZHF602M8X20-BX
25	ZHF602M8X25	ZHF602M8X25-BX
30	ZHF602M8X30	ZHF602M8X30-BX

M10 x 1.5mm Thread Size

Length	316 SS Part Number	316 SS, Bl Ox. Part Number
12	ZHF602M10X12	ZHF602M10X12-BX
16	ZHF602M10X16	ZHF602M10X16-BX
20	ZHF602M10X20	ZHF602M10X20-BX
25	ZHF602M10X25	ZHF602M10X25-BX
30	ZHF602M10X30	ZHF602M10X30-BX
35	ZHF602M10X35	ZHF602M10X35-BX
40	ZHF602M10X40	ZHF602M10X40-BX
50	ZHF602M10X50	ZHF602M10X50-BX
60	ZHF602M10X60	ZHF602M10X60-BX
70	ZHF602M10X70	ZHF602M10X70-BX

M12 × 1.75mm Thread Size

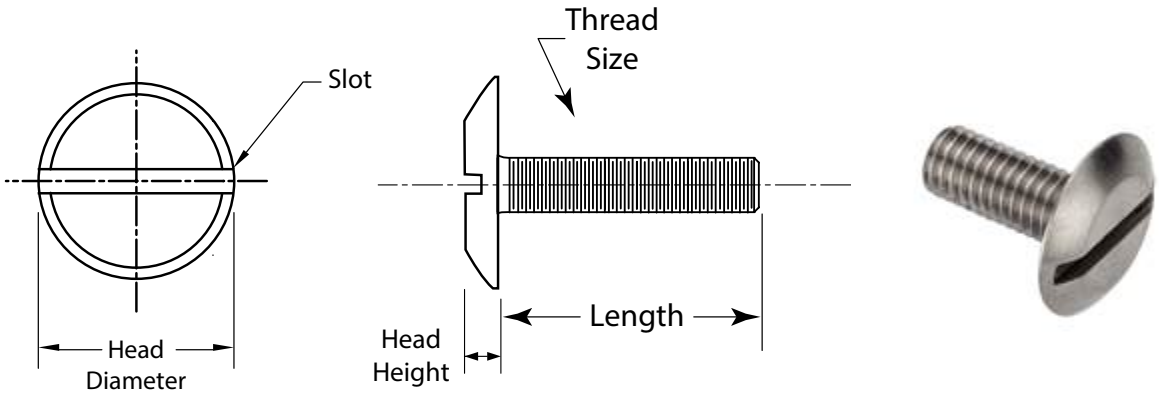
Length	316 SS Part Number	316 SS, Bl Ox. Part Number
20	ZHF602M12X20	ZHF602M12X20-BX
25	ZHF602M12X25	ZHF602M12X25-BX
30	ZHF602M12X30	ZHF602M12X30-BX
35	ZHF602M12X35	ZHF602M12X35-BX
40	ZHF602M12X40	ZHF602M12X40-BX
50	ZHF602M12X50	ZHF602M12X50-BX

Wide Head Slotted Machine Screws — Inch

18-8 SS | Passivated
316 SS | Passivated

Product Information

Fit these screws into spaces where head height is important and other wide head screws won't fit. Also known as shutter screws, they have an ultra-wide truss head to distribute the load over a large area for excellent holding pressure. Stainless steel screws are chemical resistant and may be mildly magnetic. All are passivated for added protection against oxidation and corrosion. Thread fit is 2A. Length is measured from under the head. 18-8 SS & 316 SS slotted drive screws meet AMPG's internal specifications AMPG 2016 ZW.01.



Dimensions Table — Inch		
Thread Size	**Head Diameter** (Max. to Min.)	**Head Height** (Max. to Min)
4-40	.505 - .495	.078 - .068
6-32	.505 - .495	.078 - .068
8-32	.505 - .495	.078 - .068
10-24	.505 - .495	.078 - .068
10-32	.505 - .495	.078 - .068
1/4-20	.755 - .745	.110 - .100
5/16-18	.755 - .745	.110 - .100

Wide Head Machine Screws — Inch

MADE IN THE USA

18-8 SS | Passivated
316 SS | Passivated



4-40 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
1/4	ZW1104	ZW3104
3/8	ZW1106	ZW3106
1/2	ZW1108	ZW3108
3/4	ZW1110	ZW3110

6-32 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
1/4	ZW1121	ZW3121
3/8	ZW1123	ZW3123
1/2	ZW1125	ZW3125
3/4	ZW1127	ZW3127
1	ZW1129	ZW3129

8-32 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
1/4	ZW1132	ZW3132
3/8	ZW1134	ZW3134
1/2	ZW1136	ZW3136
3/4	ZW1138	ZW3138
1	ZW1140	ZW3140

10-24 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
1/4	ZW1151	ZW3151
3/8	ZW1153	ZW3153
1/2	ZW1155	ZW3155
3/4	ZW1157	ZW3157
1	ZW1159	ZW3159

10-32 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
1/4	ZW1172	ZW3172
3/8	ZW1174	ZW3174
1/2	ZW1176	ZW3176
3/4	ZW1178	ZW3178
1	ZW1180	ZW3180

1/4-20 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
3/8	ZW1211	ZW3211
1/2	ZW1213	ZW3213
3/4	ZW1217	ZW3217
1	ZW1219	ZW3219
1-1/4	ZW1221	ZW3221
1-1/2	ZW1223	ZW3223
1-3/4	ZW1225	ZW3225
2	ZW1227	ZW3227
2-1/2	ZW1229	ZW3229
3	ZW1231	ZW3231

5/16-18 Thread Size

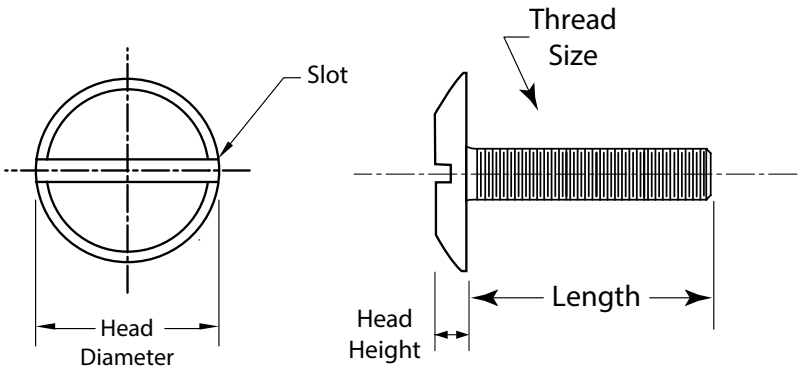
Length	18-8 SS Part Number	316 SS Part Number
3/4	ZW1244	ZW3244
1	ZW1246	ZW3246

Wide Head Machine Screws — Metric

18-8 SS (A2) | Passivated
316 SS (A4) | Passivated

Product Information

Fit these screws into spaces where head height is important and other wide head screws won't fit. Also known as shutter screws, they have an ultra-wide truss head to distribute the load over a large area for excellent holding pressure. Stainless steel screws are chemical resistant and may be mildly magnetic. All are passivated for added protection against oxidation and corrosion. Thread fit is 6g. Length is measured from under the head. Passivated stainless steel screws provide added protection against oxidation and corrosion.





Dimensions Table — Metric, mm		
Thread Size	**Head Diameter** (Max. to Min.)	**Head Height** (Max. to Min)
M3 x 0.5mm	12.80 - 12.50	1.98 - 1.70
M4 x 0.7mm	12.80 - 12.50	1.98 - 1.70
M5 x 0.8mm	12.80 - 12.50	1.98 - 1.70
M6 x 1mm	19.20 - 18.90	2.80 - 2.50

M3 x 0.5mm Thread Size

Length	18-8 SS Part Number	316 SS Part Number
5	ZWM3X5	ZW602M3X5
6	ZWM3X6	ZW602M3X6
8	ZWM3X8	ZW602M3X8
10	ZWM3X10	ZW602M3X10
12	ZWM3X12	ZW602M3X12

M4 x 0.7mm Thread Size

Length	18-8 SS Part Number	316 SS Part Number
6	ZWM4X6	ZW602M4X6
8	ZWM4X8	ZW602M4X8
10	ZWM4X10	ZW602M4X10
12	ZWM4X12	ZW602M4X12
16	ZWM4X16	ZW602M4X16

M5 x 0.8mm Thread Size

Length	18-8 SS Part Number	316 SS Part Number
8	ZWM5X8	ZW602M5X8
10	ZWM5X10	ZW602M5X10
12	ZWM5X12	ZW602M5X12
16	ZWM5X16	ZW602M5X16
20	ZWM5X20	ZW602M5X20

M6 x 1mm Thread Size

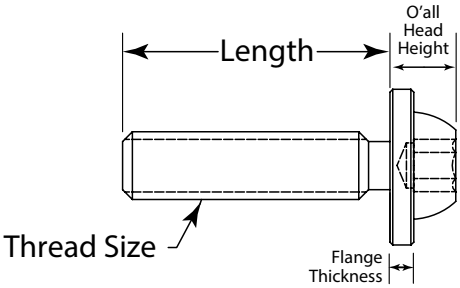
Length	18-8 SS Part Number	316 SS Part Number
10	ZWM6X10	ZW602M6X10
12	ZWM6X12	ZW602M6X12
16	ZWM6X16	ZW602M6X16
20	ZWM6X20	ZW602M6X20
25	ZWM6X25	ZW602M6X25

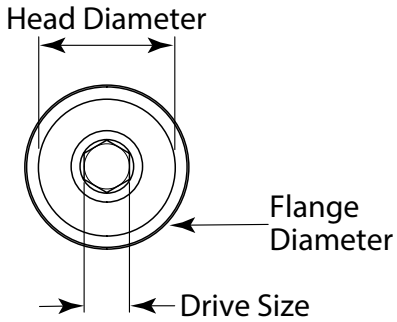
Flanged Button Head Machine Screw — Inch

316 SS | Plain

Product Information

These flange head screws have at least 25% more bearing surface than standard button head machine screws. Each screw is precisely manufactured in one complete operation. The extra-large flange helps to prevent crushing when fastening thin and softer materials. More corrosion resistant than 18-8 stainless steel screws, these 316 stainless steel screws have excellent resistance to chemicals and salt water. Inch screws have a Class 2A thread fit and are fully threaded. Length is measured from under the flange.







Dimensions Table — Inch

Thread Size	Flange Diameter (Max. to Min.)	Flange Thickness	O'all Head Height	Drive Size
4-40	.344 - .329	.030	.082	1/16
6-32	.406 - .391	.040	.098	5/64
8-32	.484 - .469	.040	.117	3/32
10-24	.500 - .485	.050	.125	1/8
10-32	.500 - .485	.050	.125	1/8
1/4-20	.656 - .641	.050	.156	5/32

4-40 Thread Size

Length	316 SS Part Number
1/4	ZFB106
3/8	ZFB108
1/2	ZFB110
3/4	ZFB113

6-32 Thread Size

Length	316 SS Part Number
3/8	ZFB126
1/2	ZFB128
5/8	ZFB130
3/4	ZFB131
1	ZFB133

8-32 Thread Size

Length	316 SS Part Number
3/8	ZFB176
1/2	ZFB178
5/8	ZFB180
3/4	ZFB181
1	ZFB183

10-24 Thread Size

Length	316 SS Part Number
3/8	ZFB226
1/2	ZFB228
5/8	ZFB230
3/4	ZFB231
1	ZFB233

10-32 Thread Size

Length	316 SS Part Number
3/8	ZFB276
1/2	ZFB278
5/8	ZFB280
3/4	ZFB281
1	ZFB283

1/4-20 Thread Size

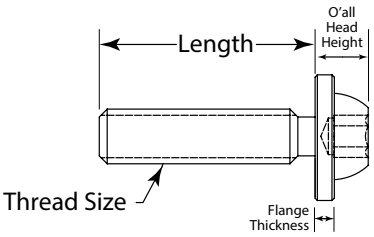
Length	316 SS Part Number
1/2	ZFB388
3/4	ZFB391
1	ZFB393
1-1/4	ZFB395
1-1/2	ZFB397

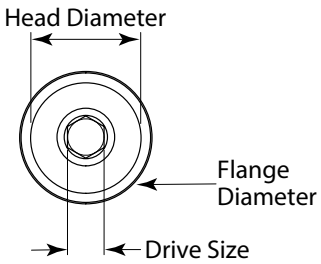
Flanged Button Head Machine Screw — Metric

316 SS (A4) | Plain, Black Oxide

Product Information

These flange head screws have at least 25% more bearing surface than standard button head machine screws. Each screw is precisely manufactured in one complete operation. The extra-large flange helps to prevent crushing when fastening thin and softer materials. More corrosion resistant than 18-8 stainless steel screws, these 316 stainless steel screws have excellent resistance to chemicals and salt water. Inch screws have a Class 6g thread fit and are fully threaded. Length is measured from under the flange.





Dimensions Table — Metric

Thread Size	Flange Diameter (Max. to Min.)	Flange Thickness	O'all Head Height	Drive Size
M3.5 x 0.6mm	8.50 - 8.20	.70	2.10	2
M3 x 0.5mm	8.50 - 8.20	.70	2.10	2
M4 x 0.7mm	12.20 - 11.90	1.00	3.00	2.5
M5 x 0.8mm	12.80 - 12.50	1.20	3.20	3
M6 x 1mm	16.70 - 16.20	1.20	3.90	4
M8 x 1.25	21.40	1.60	5.20	5



M3.5 x 0.6mm Thread Size

Length	316 SS Part Number	316 SS, Black Oxide Part Number
6	ZFBM3.5X6	ZFBM3.5X6-BX
8	ZFBM3.5X8	ZFBM3.5X8-BX
10	ZFBM3.5X10	ZFBM3.5X10-BX
12	ZFBM3.5X12	ZFBM3.5X12-BX
14	ZFBM3.5X14	ZFBM3.5X14-BX
16	ZFBM3.5X16	ZFBM3.5X16-BX
20	ZFBM3.5X20	ZFBM3.5X20-BX
25	ZFBM3.5X25	ZFBM3.5X25-BX

M3 x 0.5mm Thread Size

Length	316 SS Part Number	316 SS, Black Oxide Part Number
6	ZFB3X6	ZFB3X6-BX
8	ZFB3X8	ZFB3X8-BX
10	ZFB3X10	ZFB3X10-BX

M4 x 0.7mm Thread Size

Length	316 SS Part Number	316 SS, Black Oxide Part Number
8	ZFB4X8	ZFB4X8-BX
10	ZFB4X10	ZFB4X10-BX
12	ZFB4X12	ZFB4X12-BX
14	ZFB4X14	ZFB4X14-BX
16	ZFB4X16	ZFB4X16-BX
20	ZFB4X20	ZFB4X20-BX
25	ZFB4X25	ZFB4X25-BX

M5 x 0.8mm Thread Size

Length	316 SS Part Number	316 SS, Black Oxide Part Number
6	ZFB5X6	ZFB5X6-BX
8	ZFB5X8	ZFB5X8-BX
10	ZFB5X10	ZFB5X10-BX
12	ZFB5X12	ZFB5X12-BX
16	ZFB5X16	ZFB5X16-BX
20	ZFB5X20	ZFB5X20-BX
25	ZFB5X25	ZFB5X25-BX

M6 x 1mm Thread Size

Length	316 SS Part Number	316 SS, Black Oxide Part Number
12	ZFB6X12	ZFB6X12-BX
14	ZFB6X14	ZFB6X14BX
16	ZFB6X16	ZFB6X16-BX
20	ZFB6X20	ZFB6X20-BX
25	ZFB6X25	ZFB6X25-BX
30	ZFB6X30	ZFB6X30-BX
40	ZFB6X40	ZFB6X40-BX

M8 x 1.25mm Thread Size

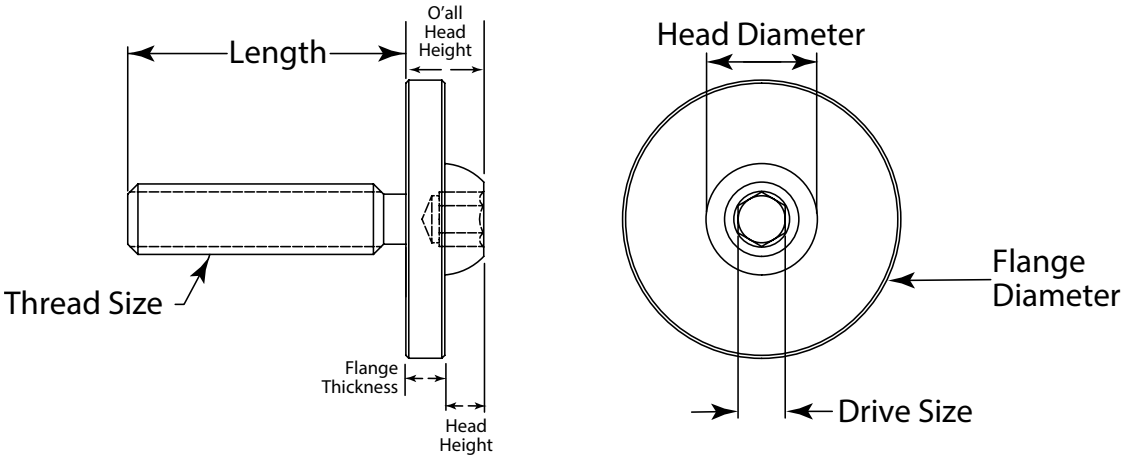
Length	316 SS Part Number	316 SS, Black Oxide Part Number
20	ZFB8X20	ZFB8X20-BX
25	ZFB8X25	ZFB8X25-BX
30	ZFB8X30	ZFB8X30-BX
40	ZFB8X40	ZFB8X40-BX

Wide Flange Head Machine Screws — Inch

18-8 SS | Plain
Aluminum | Plain

Product Information

The flange is wider and thicker than other flanged screws, to distribute pressure over a larger surface. Very well adapted for use with thin and soft materials. These ultra-wide flanged button head screws have a built-in washer, to prevent the crushing of thin aluminum and soft plastics, etc. Each screw is precisely manufactured in one complete operation. Screws have a Class 2A thread fit and a low profile button head with a hex socket drive. Head height includes the flange. Length is measured from under the flange.





Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Flange Thickness	O'all Head Height	Flange Diameter	Drive Size
4-40	.190	.075	.105	.180	.505	1/16
6-32	.200	.085	.105	.190	.550	5/64
8-32	.250	.085	.105	.190	.650	3/32
10-24	.300	.105	.105	.210	.750	1/8
10-32	.300	.105	.105	.210	.750	1/8
1/4-20	.380	.105	.105	.210	.800	5/32
5/16-18	.380	.105	.105	.210	1.00	3/16

Dimensions Table — Metric, mm

Thread Size	Head Diameter	Head Height	Flange Thickness	O'all Head Height	Flange Diameter	Drive Size
M3 x 0.5mm	5.00	1.90	2.70	4.60	12.80	2
M4 x 0.7mm	6.40	2.15	2.70	4.85	16.50	2.5
M5 x 0.8mm	7.60	2.60	2.70	5.30	19.10	3
M6 x 1mm	9.70	2.60	2.70	5.30	20.30	4

Wide Flange Head Machine Screws — Inch

18-8 SS | Plain
Aluminum | Plain



4-40 Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
3/16	ZF0090SS	ZF0090
1/4	ZF0091SS	ZF0091
3/8	ZF0094SS	ZF0094
1/2	ZF0096SS	ZF0096
3/4	ZF0098SS	ZF0098

6-32 Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
1/4	ZF0104SS	ZF0104
3/8	ZF0106SS	ZF0106
1/2	ZF0108SS	ZF0108
3/4	ZF0110SS	ZF0110
1	ZF0112SS	ZF0112

8-32 Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
1/4	ZF0118SS	ZF0118
3/8	ZF0120SS	ZF0120
1/2	ZF0124SS	ZF0124
3/4	ZF0128SS	ZF0128
1	ZF0129SS	ZF0129

10-24 Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
1/4	ZF0177SS	ZF0177
3/8	ZF0179SS	ZF0179
1/2	ZF0130SS	ZF0130
3/4	ZF0132SS	ZF0132
1	ZF0134SS	ZF0134

10-32 Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
1/4	ZF0138SS	ZF0138
3/8	ZF0139SS	ZF0139
1/2	ZF0140SS	ZF0140
3/4	ZF0142SS	ZF0142
1	ZF0144SS	ZF0144

1/4-20 Thread Size

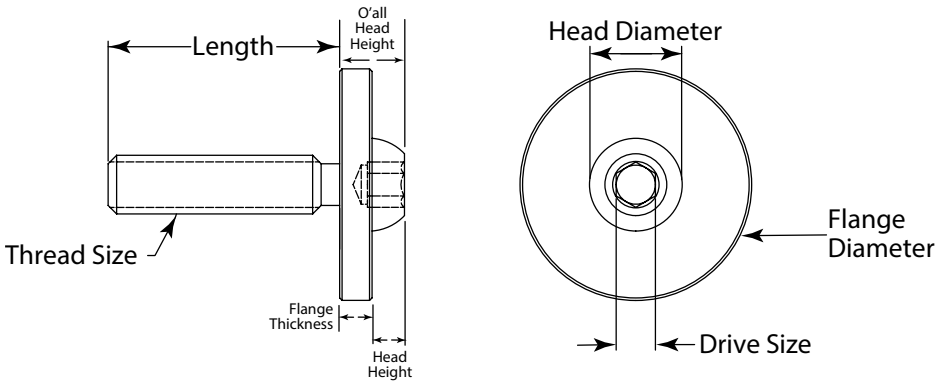
Length	18-8 SS Part Number	Aluminum Part Number
3/8	ZF0146SS	ZF0146
1/2	ZF0150SS	ZF0150
3/4	ZF0152SS	ZF0152
1	ZF0154SS	ZF0154
1-1/2	ZF0156SS	ZF0156

5/16-18 Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
1/2	—	ZF0160
3/4	—	ZF0162
1	—	ZF0164
1-1/2	—	ZF0166

Wide Flange Head Machine Screws — Metric

18-8 SS | Plain
Aluminum | Plain





Dimensions Table — Metric, mm

Thread Size	Head Diameter	Head Height	Flange Thickness	O'all Head Height	Flange Diameter	Drive Size
M3 x 0.5mm	5.00	1.90	2.70	4.60	12.80	2
M4 x 0.7mm	6.40	2.15	2.70	4.85	16.50	2.5
M5 x 0.8mm	7.60	2.60	2.70	5.30	19.10	3
M6 x 1mm	9.70	2.60	2.70	5.30	20.30	4

M3 x 0.5mm Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
5	ZF0M3X5SS	ZF0M3X5
6	ZF0M3X6SS	ZF0M3X6
8	ZF0M3X8SS	ZF0M3X8
10	ZF0M3X10SS	ZF0M3X10
12	ZF0M3X12SS	ZF0M3X12

M4 x 0.7mm Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
6	ZF0M4X6SS	ZF0M4X6
8	ZF0M4X8SS	ZF0M4X8
10	ZF0M4X10SS	ZF0M4X10
12	ZF0M4X12SS	ZF0M4X12
16	ZF0M4X16SS	ZF0M4X16

M5 x 0.8mm Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
8	ZF0M5X8SS	ZF0M5X8
10	ZF0M5X10SS	ZF0M5X10
12	ZF0M5X12SS	ZF0M5X12
16	ZF0M5X16SS	ZF0M5X16
20	ZF0M5X20SS	ZF0M5X20

M6 x 1mm Thread Size

Length	18-8 SS Part Number	Aluminum Part Number
10	ZF0M6X10SS	ZF0M6X10
12	ZF0M6X12SS	ZF0M6X12
16	ZF0M6X16SS	ZF0M6X16
20	ZF0M6X20SS	ZF0M6X20
25	ZF0M6X25SS	ZF0M6X25

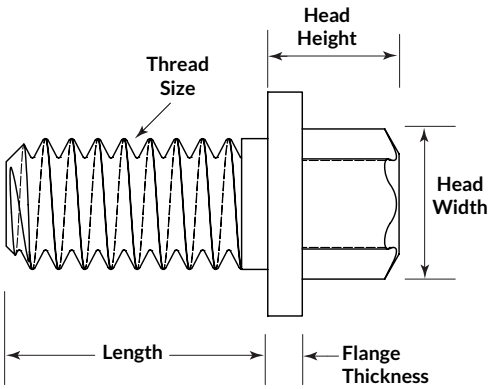
Low-Profile External 6-Lobe Flange Screws — Inch

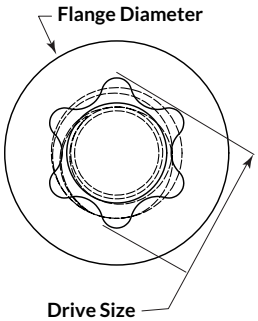
18-8 & 316 H5 SS — External 6-Lobe Drive

Product Information

Also known as External 6-Lobe flange head screws or External Star flange head screws, these fasteners are designed to minimize head height, making them ideal for compact workspaces. Their low-profile drive configuration and flange size allow for installation in tight areas. The underside of the flange distributes force over a larger surface area, eliminating the need for a separate washer. This drive system is perfect for applications demanding high strength and torque in a low-profile head. These fully threaded screws, with head height including flange thickness, ensures high torque transfer without damaging the fastener. These screws feature a Class 2A thread fit.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Corrosion-Resistant 18-8 SS has a Tensile strength of 90,000 psi, Rockwell hardness of B83 and Material spec ASTM A582.
- High-Strength, Superior Corrosion-Resistant 316H5 SS has a Tensile strength of 125,000 psi, Rockwell hardness of C25 and Material spec ASTM A276.
- Made from stainless steel, these screws have good chemical resistance and maybe mildly magnetic.







Dimensions Table — Inch

Thread Size	Head Width (Across Lobe, Nominal)	Head Height (Max. to Min.)	Flange Dia Max (Nominal)	Flange Thickness (Max. to Min.)	Drive Size
6-32	.146	.137 - .127	.270	.047 - .037	E4
8-32	.181	.177 - .167	.310	.051 - .041	E5
10-32	.219	.217 - .207	.350	.067 - .057	E6
1/4-20	.287	.256 - .246	.428	.071 - .061	E8
5/16-18	.362	.323 - .313	.541	.098 - .089	E10
3/8-16	.431	.394 - .384	.663	.126 - .116	E12
1/2-13	.572	.512 - .502	.802	.159 - .149	E16
1/2-20	.572	.512 - .502	.802	.159 - .149	E16
9/16-12	.646	.551 - .541	.863	.165 - .154	E18
5/8-11	.715	.630 - .620	.988	.201 - .189	E20
3/4-10	.860	.788 - .778	1.224	.256 - .244	E24

Low-Profile External 6-Lobe Flange Screws — Inch

18-8 & 316 H5 SS — External 6-Lobe Drive



6-32 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
1/2	ZPE60106C08	ZPE61606C08
3/4	ZPE60106C12	ZPE61606C12

8-32 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
1/2	ZPE60108C08	ZPE61608C08
3/4	ZPE60108C12	ZPE61608C12
1	ZPE60108C16	ZPE61608C16

10-32 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
3/8	ZPE60110FX08	ZPE61610FX08
1/2	ZPE60110FX12	ZPE61610FX12
3/4	ZPE60110FX16	ZPE61610FX16
1	ZPE60110FX24	ZPE61610FX24

1/4-20 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
3/8	ZPE60114C06	ZPE61614C06
1/2	ZPE60114C08	ZPE61614C08
5/8	ZPE60114C10	ZPE61614C10
3/4	ZPE60114C12	ZPE61614C12
1	ZPE60114C16	ZPE61614C16
1-1/4	ZPE60114C20	ZPE61614C20
1-1/2	ZPE60114C24	ZPE61614C24
1-3/4	ZPE60114C28	ZPE61614C28
2	ZPE60114C32	ZPE61614C32
2-1/2	ZPE60114C40	ZPE61614C40
3	ZPE60114C48	ZPE61614C48
3-1/2	ZPE60114C56	ZPE61614C56
4	ZPE60114C64	ZPE61614C64

5/16-18 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
1/2	ZPE60151C08	ZPE61651C08
5/8	ZPE60151C10	ZPE61651C10
3/4	ZPE60151C12	ZPE61651C12
1	ZPE60151C16	ZPE61651C16
1-1/4	ZPE60151C20	ZPE61651C20
1-1/2	ZPE60151C24	ZPE61651C24
1-3/4	ZPE60151C28	ZPE61651C28
2	ZPE60151C32	ZPE61651C32
2-1/2	ZPE60151C40	ZPE61651C40
3	ZPE60151C48	ZPE61651C48
3-1/2	ZPE60151C56	ZPE61651C56
4	ZPE60151C64	ZPE61651C64

3/8-16 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
1/2	ZPE60138C08	ZPE61638C08
5/8	ZPE60138C10	ZPE61638C10
3/4	ZPE60138C12	ZPE61638C12
1	ZPE60138C16	ZPE61638C16
1-1/4	ZPE60138C20	ZPE61638C20
1-1/2	ZPE60138C24	ZPE61638C24
1-3/4	ZPE60138C28	ZPE61638C28
2	ZPE60138C32	ZPE61638C32
2-1/2	ZPE60138C40	ZPE61638C40
3	ZPE60138C48	ZPE61638C48
3-1/2	ZPE60138C56	ZPE61638C56
4	ZPE60138C64	ZPE61638C64

Chart continued on next page

Low-Profile External 6-Lobe Flange Screws — Inch

18-8 & 316 H5 SS — External 6-Lobe Drive



1/2-13 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
1/2	ZPE60112C08	ZPE61612C08
3/4	ZPE60112C12	ZPE61612C12
1	ZPE60112C16	ZPE61612C16
1-1/4	ZPE60112C20	ZPE61612C20
1-1/2	ZPE60112C24	ZPE61612C24
1-3/4	ZPE60112C28	ZPE61612C28
2	ZPE60112C32	ZPE61612C32
2-1/2	ZPE60112C40	ZPE61612C40
3	ZPE60112C48	ZPE61612C48
3-1/2	ZPE60112C56	ZPE61612C56
4	ZPE60112C64	ZPE61612C64

1/2-20 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
1/2	ZPE60112FX08	ZPE61612FX08
3/4	ZPE60112FX12	ZPE61612FX12
1	ZPE60112FX16	ZPE61612FX16
1-1/2	ZPE60112FX24	ZPE61612FX24
2	ZPE60112FX32	ZPE61612FX32
2-1/2	ZPE60112FX40	ZPE61612FX40
3	ZPE60112FX48	ZPE61612FX48
3-1/2	ZPE60112FX56	ZPE61612FX56
4	ZPE60112FX64	ZPE61612FX64

9/16-12 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
1	ZPE60191C16	ZPE61691C16
1-1/2	ZPE60191C24	ZPE61691C24
2	ZPE60191C32	ZPE61691C32
2-1/2	ZPE60191C40	ZPE61691C40
3	ZPE60191C48	ZPE61691C48
3-1/2	ZPE60191C56	ZPE61691C56
4	ZPE60191C64	ZPE61691C64

5/8-11 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
1	ZPE60158C16	ZPE61658C16
1-1/2	ZPE60158C24	ZPE61658C24
2	ZPE60158C32	ZPE61658C32
2-1/2	ZPE60158C40	ZPE61658C40
3	ZPE60158C48	ZPE61658C48
3-1/2	ZPE60158C56	ZPE61658C56
4	ZPE60158C64	ZPE61658C64

3/4-10 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
1	ZPE60134C16	ZPE61634C16
1-1/2	ZPE60134C24	ZPE61634C24
2	ZPE60134C32	ZPE61634C32
2-1/2	ZPE60134C40	ZPE61634C40
3	ZPE60134C48	ZPE61634C48
3-1/2	ZPE60134C56	ZPE61634C56
4	ZPE60134C64	ZPE61634C64

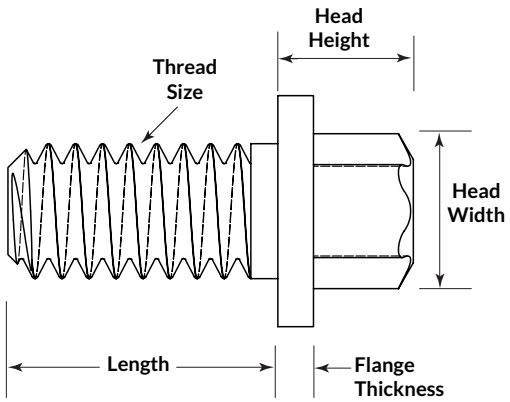
Low-Profile External 6-Lobe Flange Screws — Metric

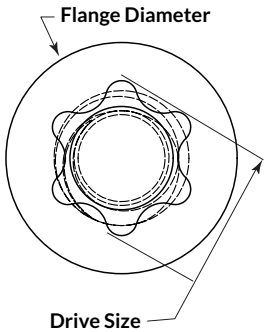
18-8 & 316 H5 SS — External 6-Lobe Drive

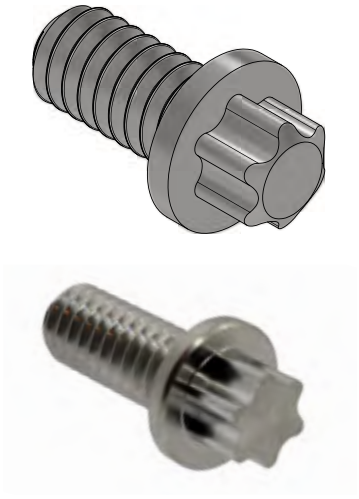
Product Information

Also known as External 6-Lobe flange head screws or External Star flange head screws, these fasteners are designed to minimize head height, making them ideal for compact workspaces. Their low-profile drive configuration and flange size allow for installation in tight areas. The underside of the flange distributes force over a larger surface area, eliminating the need for a separate washer. This drive system is perfect for applications demanding high strength and torque in a low-profile head. These fully threaded screws, with head height including flange thickness, ensures high torque transfer without damaging the fastener. These screws feature a Class 6g thread fit.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Screws meet specifications of DIN 34800-2022.
- Corrosion-Resistant 18-8 SS has a Tensile strength of 90,000 psi, Rockwell hardness of B83 and Material spec ASTM A582.
- High-Strength, Superior Corrosion-Resistant 316H5 SS has a Tensile strength of 125,000 psi, Rockwell hardness of C25 and Material spec ASTM A276.
- Made from stainless steel, these screws have good chemical resistance and maybe mildly magnetic.







Dimensions Table — Metric

Thread Size	Head Width (Across Lobe, Nominal)	Head Height (Max. to Min.)	Flange Dia Max (Nominal)	Flange Thickness (Max. to Min.)	Drive Size
M4 x 0.7	4.60	4.50 - 4.25	7.88	1.30 - 1.05	E5
M5 x 0.8	5.55	5.50 - 5.25	8.88	1.70 - 1.45	E6
M6 x 1	7.30	6.50 - 6.25	10.88	1.80 - 1.55	E8
M8 x 1.25	9.20	8.20 - 7.95	13.73	2.50 - 2.25	E10
M10 x 1.5	10.95	10.00 - 9.75	16.83	3.20 - 2.95	E12
M12 x 1.75	12.65	12.00 - 11.75	18.83	3.90 - 3.60	E14

Low-Profile External 6-Lobe Flange Screws — Metric

18-8 & 316 H5 SS — External 6-Lobe Drive



M4 x 0.7 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
8	ZPE601M4CX8	ZPE616M4CX8
12	ZPE601M4CX12	ZPE616M4CX12
25	ZPE601M4CX25	ZPE616M4CX25

M5 x 0.8 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
8	ZPE601M5CX8	ZPE616M5CX8
12	ZPE601M5CX12	ZPE616M5CX12
20	ZPE601M5CX20	ZPE616M5CX20
25	ZPE601M5CX25	ZPE616M5CX25

M6 x 1 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
10	ZPE601M6CX10	ZPE616M6CX10
12	ZPE601M6CX12	ZPE616M6CX12
16	ZPE601M6CX16	ZPE616M6CX16
20	ZPE601M6CX20	ZPE616M6CX20
25	ZPE601M6CX25	ZPE616M6CX25
30	ZPE601M6CX30	ZPE616M6CX30
35	ZPE601M6CX35	ZPE616M6CX35
40	ZPE601M6CX40	ZPE616M6CX40
50	ZPE601M6CX50	ZPE616M6CX50
75	ZPE601M6CX75	ZPE616M6CX75
100	ZPE601M6CX100	ZPE616M6CX100

M8x 1.25 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
12	ZPE601M8CX12	ZPE616M8CX12
16	ZPE601M8CX16	ZPE616M8CX16
20	ZPE601M8CX20	ZPE616M8CX20
25	ZPE601M8CX25	ZPE616M8CX25
30	ZPE601M8CX30	ZPE616M8CX30
35	ZPE601M8CX35	ZPE616M8CX35
40	ZPE601M8CX40	ZPE616M8CX40
50	ZPE601M8CX50	ZPE616M8CX50
75	ZPE601M8CX75	ZPE616M8CX75
100	ZPE601M8CX100	ZPE616M8CX100

M10 x 1.5 Thread Size

Length	18-8 SS Part Number	316 H5 SS Part Number
12	ZPE601M10CX12	ZPE616M10CX12
16	ZPE601M10CX16	ZPE616M10CX16
20	ZPE601M10CX20	ZPE616M10CX20
25	ZPE601M10CX25	ZPE616M10CX25
30	ZPE601M10CX30	ZPE616M10CX30
35	ZPE601M10CX35	ZPE616M10CX35
40	ZPE601M10CX40	ZPE616M10CX40
50	ZPE601M10CX50	ZPE616M10CX50
75	ZPE601M10CX75	ZPE616M10CX75
100	ZPE601M10CX100	ZPE616M10CX100

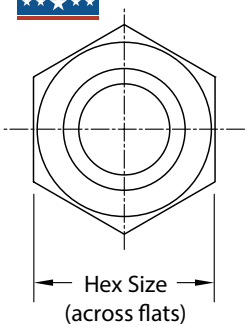
M12 x 1.75 Thread Size

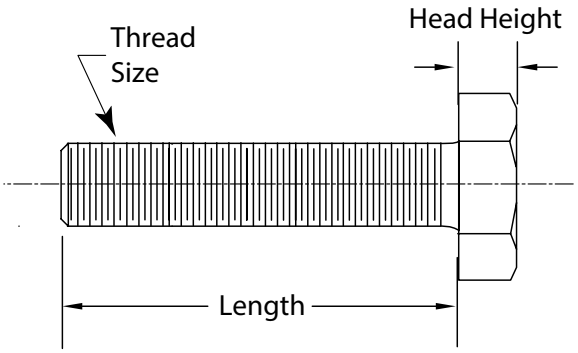
Length	18-8 SS Part Number	316 H5 SS Part Number
12	ZPE601M12CX12	ZPE616M12CX12
20	ZPE601M12CX20	ZPE616M12CX20
25	ZPE601M12CX25	ZPE616M12CX25
30	ZPE601M12CX30	ZPE616M12CX30
35	ZPE601M12CX35	ZPE616M12CX35
40	ZPE601M12CX40	ZPE616M12CX40
45	ZPE601M12CX45	ZPE616M12CX45
50	ZPE601M12CX50	ZPE616M12CX50
65	ZPE601M12CX65	ZPE616M12CX65
75	ZPE601M12CX75	ZPE616M12CX75
90	ZPE601M12CX90	ZPE616M12CX90
100	ZPE601M12CX100	ZPE616M12CX100

Hex Head Cap Screws — Inch

MADE IN THE USA

18-8 SS | Plain | Black Oxide
316 SS | Plain | Black Oxide
Brass | Plain
17-4 PH SS | Plain
316 H5 SS | Plain
Aluminum | Plain | Black Anodized





Product Information

A hex head bolt is a type of bolt characterized by its six-sided head, which is specifically designed to be tightened or loosened with a wrench or socket. These versatile bolts are widely used in a variety of applications, particularly in situations where strong clamping forces are essential. Their robust design and ease of installation make them a popular choice for everything from construction and automotive uses to machinery and general fastening needs. Fully threaded hex head screws can be screwed all the way into a threaded or tapped hole. Partially threaded hex head screws have an unthreaded portion under the head that adds strength but prevents them from being screwed all the way into a threaded hole. Screws have a Class 2A thread fit. These screws meet ASME B18.6.3-2013 and ASME B18.2.1 depending on the material.


18-8 SS


18-8 SS, Black Oxide


316 SS


316 SS, Black Oxide


Brass


17-4 PH SS


316 H5 SS


Aluminum


Aluminum, Black Anodized

Dimensions Table — Inch

Thread Size	Hex Size Across Flats	Head Height
4-40	3/16	1/16
6-32	1/4	3/32
8-32	1/4	7/64
10-24	5/16	1/8
10-32	5/16	1/8
12-24	5/16	5/32
1/4-20	7/16	5/32
1/4-28	7/16	5/32
5/16-18	1/2	13/64
5/16-24	1/2	13/64
3/8-16	9/16	15/64
3/8-24	9/16	15/64
7/16-14	5/8	9/32
7/16-20	5/8	9/32
1/2-13	3/4	5/16
1/2-20	3/4	5/16
9/16-12	13/16	23/64
9/16-18	13/16	23/64
5/8-11	15/16	25/64
5/8-18	15/16	25/64
3/4-10	1-1/8	15/32
3/4-16	1-1/8	15/32
7/8-9	1-5/16	35/64
7/8-14	1-5/16	35/64
1-8	1-1/2	39/64
1-14	1-1/2	39/64
1 1/8-7	1-11/16	11/16
1 1/4-7	1-7/8	25/32
1 3/8-6	2-1/16	27/32
1 1/2-6	2-1/4	15/16

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



4-40 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/16	Full	ZH60104C03	ZH60104C03-BX
1/4	Full	ZH60104C04	ZH60104C04-BX
5/16	Full	ZH60104C05	ZH60104C05-BX
3/8	Full	ZH60104C06	ZH60104C06-BX
1/2	Full	ZH60104C08	ZH60104C08-BX
5/8	Full	ZH60104C10	ZH60104C10-BX
3/4	Full	ZH60104C12	ZH60104C12-BX
1	Full	ZH60104C16	ZH60104C16-BX

6-32 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/4	Full	ZH60106C04	ZH60106C04-BX
5/16	Full	ZH60106C05	ZH60106C05-BX
3/8	Full	ZH60106C06	ZH60106C06-BX
1/2	Full	ZH60106C08	ZH60106C08-BX
5/8	Full	ZH60106C10	ZH60106C10-BX
3/4	Full	ZH60106C12	ZH60106C12-BX
1	Full	ZH60106C16	ZH60106C16-BX
1-1/4	Full	ZH60106C20	ZH60106C20-BX
1-1/2	Full	ZH60106C24	ZH60106C24-BX

8-32 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/4	Full	ZH60108C04	ZH60108C04-BX
5/16	Full	ZH60108C05	ZH60108C05-BX
3/8	Full	ZH60108C06	ZH60108C06-BX
1/2	Full	ZH60108C08	ZH60108C08-BX
5/8	Full	ZH60108C10	ZH60108C10-BX
3/4	Full	ZH60108C12	ZH60108C12-BX
7/8	Full	ZH60108C14	ZH60108C14-BX
1	Full	ZH60108C16	ZH60108C16-BX
1-1/4	Full	ZH60108C20	ZH60108C20-BX
1-1/2	Full	ZH60108C24	ZH60108C24-BX
2	Full	ZH60108C32	ZH60108C32-BX

10-24 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/4	Full	ZH60110C04	ZH60110C04-BX
5/16	Full	ZH60110C05	ZH60110C05-BX
3/8	Full	ZH60110C06	ZH60110C06-BX
1/2	Full	ZH60110C08	ZH60110C08-BX
5/8	Full	ZH60110C10	ZH60110C10-BX
3/4	Full	ZH60110C12	ZH60110C12-BX
7/8	Full	ZH60110C14	ZH60110C14-BX
1	Full	ZH60110C16	ZH60110C16-BX
1-1/4	Full	ZH60110C20	ZH60110C20-BX
1-1/2	Full	ZH60110C24	ZH60110C24-BX
2	Full	ZH60110C32	ZH60110C32-BX
2-1/2	1.5 min	ZH60110C40-1.5	ZH60110C40-1.5-BX
3	1.5 min	ZH60110C48-1.5	ZH60110C48-1.5-BX

10-32 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/4	Full	ZH60110F04	ZH60110F04-BX
5/16	Full	ZH60110F05	ZH60110F05-BX
3/8	Full	ZH60110F06	ZH60110F06-BX
1/2	Full	ZH60110F08	ZH60110F08-BX
5/8	Full	ZH60110F10	ZH60110F10-BX
3/4	Full	ZH60110F12	ZH60110F12-BX
7/8	Full	ZH60110F14	ZH60110F14-BX
1	Full	ZH60110F16	ZH60110F16-BX
1-1/4	Full	ZH60110F20	ZH60110F20-BX
1-1/2	Full	ZH60110F24	ZH60110F24-BX
1-3/4	Full	ZS61510F28	ZS61510F28-BX
2	Full	ZH60110F32	ZH60110F32-BX
2-1/2	1-1/2	ZH60110F40-1.5	ZH60110F40-1.5-BX
3	1-1/2	ZH60110F48-1.5	ZH60110F48-1.5-BX

12-24 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/2	Full	ZH60112C08	ZH60112C08-BX
5/8	Full	ZH60112C10	ZH60112C10-BX
3/4	Full	ZH60112C12	ZH60112C12-BX
1	Full	ZH60112C16	ZH60112C16-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide





1/4-20 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/8	Full	ZH60114C06	ZH60114C06-BX
7/16	Full	ZH60114C07	ZH60114C07-BX
1/2	Full	ZH60114C08	ZH60114C08-BX
9/16	Full	ZH60114C09	ZH60114C09-BX
5/8	Full	ZH60114C10	ZH60114C10-BX
3/4	Full	ZH60114C12	ZH60114C12-BX
7/8	Full	ZH60114C14	ZH60114C14-BX
1	Full	ZH60114C16	ZH60114C16-BX
1-1/8	Full	ZH60114C18	ZH60114C18-BX
1-1/4	Full	ZH60114C20	ZH60114C20-BX
1-1/4	3/4 Min	ZH60114C20-0.75	ZH60114C20-0.75-BX
1-3/8	Full	ZH60114C22	ZH60114C22-BX
1-3/8	3/4 Min	ZH60114C22-0.75	ZH60114C22-0.75-BX
1-1/2	Full	ZH60114C24	ZH60114C24-BX
1-1/2	3/4 Min	ZH60114C24-0.75	ZH60114C24-0.75-BX
1-5/8	Full	ZH60114C26	ZH60114C26-BX
1-5/8	3/4 Min	ZH60114C26-0.75	ZH60114C26-0.75-BX
1-3/4	Full	ZH60114C28	ZH60114C28-BX
1-3/4	3/4 Min	ZH60114C28-0.75	ZH60114C28-0.75-BX
1-7/8	Full	ZH60114C30	ZH60114C30-BX
2	Full	ZH60114C32	ZH60114C32-BX
2	3/4 Min	ZH60114C32-0.75	ZH60114C32-0.75-BX
2-1/4	Full	ZH60114C36	ZH60114C36-BX
2-1/4	3/4 Min	ZH60114C36-0.75	ZH60114C36-0.75-BX
2-3/8	3/4 Min	ZH60114C38-0.75	ZH60114C38-0.75-BX
2-1/2	Full	ZH60114C40	ZH60114C40-BX
2-1/2	3/4 Min	ZH60114C40-0.75	ZH60114C40-0.75-BX
2-3/4	Full	ZH60114C44	ZH60114C44-BX
2-3/4	3/4 Min	ZH60114C44-0.75	ZH60114C44-0.75-BX
3	Full	ZH60114C48	ZH60114C48-BX
3	3/4 Min	ZH60114C48-0.75	ZH60114C48-0.75-BX
3-1/4	Full	ZH60114C52	ZH60114C52-BX
3-1/4	3/4 Min	ZH60114C52-0.75	ZH60114C52-0.75-BX

1/4-20 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3-1/2	Full	ZH60114C56	ZH60114C56-BX
3-1/2	3/4 Min	ZH60114C56-0.75	ZH60114C56-0.75-BX
3-3/4	Full	ZH60114C60	ZH60114C60-BX
3-3/4	3/4 Min	ZH60114C60-0.75	ZH60114C60-0.75-BX
4	Full	ZH60114C64	ZH60114C64-BX
4	3/4 Min	ZH60114C64-0.75	ZH60114C64-0.75-BX
4-1/4	Full	ZH60114C68	ZH60114C68-BX
4-1/4	3/4 Min	ZH60114C68-0.75	ZH60114C68-0.75-BX
4-3/8	3/4 Min	ZH60114C70-0.75	ZH60114C70-0.75-BX
4-1/2	Full	ZH60114C72	ZH60114C72-BX
4-1/2	3/4 Min	ZH60114C72-0.75	ZH60114C72-0.75-BX
4-3/4	Full	ZH60114C76	ZH60114C76-BX
4-3/4	3/4 Min	ZH60114C76-0.75	ZH60114C76-0.75-BX
4-7/8	3/4 Min	ZH60114C78-0.75	ZH60114C78-0.75-BX
5	Full	ZH60114C80	ZH60114C80-BX
5	3/4 Min	ZH60114C80-0.75	ZH60114C80-0.75-BX
5-1/2	Full	ZH60114C88	ZH60114C88-BX
5-1/2	3/4 Min	ZH60114C88-0.75	ZH60114C88-0.75-BX
6	3/4 Min	ZH60114C96-0.75	ZH60114C96-0.75-BX
6-1/2	1 Min	ZH60114C104-1	ZH60114C104-1-BX
7	1 Min	ZH60114C112-1	ZH60114C112-1-BX
7-1/2	1 Min	ZH60114C120-1	ZH60114C120-1-BX
8	1 Min	ZH60114C128-1	ZH60114C128-1-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



1/4-28 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/8	Full	ZH60114F06	ZH60114F06-BX
1/2	Full	ZH60114F08	ZH60114F08-BX
5/8	Full	ZH60114F10	ZH60114F10-BX
3/4	Full	ZH60114F12	ZH60114F12-BX
7/8	Full	ZH60114F14	ZH60114F14-BX
1	Full	ZH60114F16	ZH60114F16-BX
1-1/8	Full	ZH60114F18	ZH60114F18-BX
1-1/4	Full	ZH60114F20	ZH60114F20-BX
1-1/4	3/4 Min	ZH60114F20-0.75	ZH60114F20-0.75-BX
1-3/8	Full	ZH60114F22	ZH60114F22-BX
1-1/2	Full	ZH60114F24	ZH60114F24-BX
1-1/2	3/4 Min	ZH60114F24-0.75	ZH60114F24-0.75-BX
1-3/4	Full	ZH60114F28	ZH60114F28-BX
1-3/4	3/4 Min	ZH60114F28-0.75	ZH60114F28-0.75-BX
2	Full	ZH60114F32	ZH60114F32-BX
2	3/4 Min	ZH60114F32-0.75	ZH60114F32-0.75-BX
2-1/4	Full	ZH60114F36	ZH60114F36-BX
2-1/4	3/4 Min	ZH60114F36-0.75	ZH60114F36-0.75-BX
2-1/2	Full	ZH60114F40	ZH60114F40-BX
2-1/2	3/4 Min	ZH60114F40-0.75	ZH60114F40-0.75-BX
2-3/4	Full	ZH60114F44	ZH60114F44-BX
2-3/4	3/4 Min	ZH60114F44-0.75	ZH60114F44-0.75-BX
3	Full	ZH60114F48	ZH60114F48-BX
3	3/4 Min	ZH60114F48-0.75	ZH60114F48-0.75-BX
3-1/4	3/4 Min	ZH60114F52-0.75	ZH60114F52-0.75-BX
3-1/2	Full	ZH60114F56	ZH60114F56-BX
3-1/2	3/4 Min	ZH60114F56-0.75	ZH60114F56-0.75-BX
3-3/4	3/4 Min	ZH60114F60-0.75	ZH60114F60-0.75-BX
4	Full	ZH60114F64	ZH60114F64-BX
4	3/4 Min	ZH60114F64-0.75	ZH60114F64-0.75-BX
4-1/2	3/4 Min	ZH60114F72-0.75	ZH60114F72-0.75-BX
5	3/4 Min	ZH60114F80-0.75	ZH60114F80-0.75-BX
5-1/2	3/4 Min	ZH60114F88-0.75	ZH60114F88-0.75-BX
6	3/4 Min	ZH60114F96-0.75	ZH60114F96-0.75-BX

5/16-18 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/8	Full	ZH60151C06	ZH60151C06-BX
1/2	Full	ZH60151C08	ZH60151C08-BX
9/16	Full	ZH60151C09	ZH60151C09-BX
5/8	Full	ZH60151C10	ZH60151C10-BX
3/4	Full	ZH60151C12	ZH60151C12-BX
7/8	Full	ZH60151C14	ZH60151C14-BX
1	Full	ZH60151C16	ZH60151C16-BX
1-1/8	Full	ZH60151C18	ZH60151C18-BX
1-1/4	Full	ZH60151C20	ZH60151C20-BX
1-3/8	7/8 Min	ZH60151C22-0.875	ZH60151C22-0.875-BX
1-1/2	Full	ZH60151C24	ZH60151C24-BX
1-1/2	7/8 Min	ZH60151C24-0.875	ZH60151C24-0.875-BX
1-5/8	Full	ZH60151C26	ZH60151C26-BX
1-5/8	7/8 Min	ZH60151C26-0.875	ZH60151C26-0.875-BX
1-3/4	Full	ZH60151C28	ZH60151C28-BX
1-3/4	7/8 Min	ZH60151C28-0.875	ZH60151C28-0.875-BX
1-7/8	Full	ZH60151C30	ZH60151C30-BX
1-7/8	7/8 Min	ZH60151C30-0.875	ZH60151C30-0.875-BX
2	Full	ZH60151C32	ZH60151C32-BX
2	7/8 Min	ZH60151C32-0.875	ZH60151C32-0.875-BX
2-1/4	Full	ZH60151C36	ZH60151C36-BX
2-1/4	7/8 Min	ZH60151C36-0.875	ZH60151C36-0.875-BX
2-1/2	Full	ZH60151C40	ZH60151C40-BX
2-1/2	7/8 Min	ZH60151C40-0.875	ZH60151C40-0.875-BX
2-3/4	Full	ZH60151C44	ZH60151C44-BX
2-3/4	7/8 Min	ZH60151C44-0.875	ZH60151C44-0.875-BX
3	Full	ZH60151C48	ZH60151C48-BX
3	7/8 Min	ZH60151C48-0.875	ZH60151C48-0.875-BX
3-1/4	Full	ZH60151C52	ZH60151C52-BX
3-1/4	7/8 Min	ZH60151C52-0.875	ZH60151C52-0.875-BX
3-1/2	Full	ZH60151C56	ZH60151C56-BX
3-1/2	7/8 Min	ZH60151C56-0.875	ZH60151C56-0.875-BX
3-3/4	Full	ZH60151C60	ZH60151C60-BX
3-3/4	7/8 Min	ZH60151C60-0.875	ZH60151C60-0.875-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



5/16-18 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
4	Full	ZH60151C64	ZH60151C64-BX
4	7/8 Min	ZH60151C64-0.875	ZH60151C64-0.875-BX
4-1/4	7/8 Min	ZH60151C68-0.875	ZH60151C68-0.875-BX
4-1/2	Full	ZH60151C72	ZH60151C72-BX
4-1/2	7/8 Min	ZH60151C72-0.875	ZH60151C72-0.875-BX
4-3/4	7/8 Min	ZH60151C76-0.875	ZH60151C76-0.875-BX
5	Full	ZH60151C80	ZH60151C80-BX
5	7/8 Min	ZH60151C80-0.875	ZH60151C80-0.875-BX
5-1/4	7/8 Min	ZH60151C84-0.875	ZH60151C84-0.875-BX
5-1/2	Full	ZH60151C88	ZH60151C88-BX
5-1/2	7/8 Min	ZH60151C88-0.875	ZH60151C88-0.875-BX
6	7/8 Min	ZH60151C96-0.875	ZH60151C96-0.875-BX
6-1/2	1-1/8 Min	ZH60151C104-1.125	ZH60151C104-1.125-BX
7	1-1/8 Min	ZH60151C112-1.125	ZH60151C112-1.125-BX
7-1/2	1-1/8 Min	ZH60151C120-1.125	ZH60151C120-1.125-BX
8	1-1/8 Min	ZH60151C128-1.125	ZH60151C128-1.125-BX

5/16-24 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
2-1/2	Full	ZH60151F40	ZH60151F40-BX
2-1/2	7/8 Min	ZH60151F40-0.875	ZH60151F40-0.875-BX
2-3/4	7/8 Min	ZH60151F44-0.875	ZH60151F44-0.875-BX
3	Full	ZH60151F48	ZH60151F48-BX
3	7/8 Min	ZH60151F48-0.875	ZH60151F48-0.875-BX
3-1/4	7/8 Min	ZH60151F52-0.875	ZH60151F52-0.875-BX
3-1/2	Full	ZH60151F56	ZH60151F56-BX
3-1/2	7/8 Min	ZH60151F56-0.875	ZH60151F56-0.875-BX
3-3/4	7/8 Min	ZH60151F60-0.875	ZH60151F60-0.875-BX
4	Full	ZH60151F64	ZH60151F64-BX
4	7/8 Min	ZH60151F64-0.875	ZH60151F64-0.875-BX
4-1/2	7/8 Min	ZH60151F72-0.875	ZH60151F72-0.875-BX
5	7/8 Min	ZH60151F80-0.875	ZH60151F80-0.875-BX
5-1/2	7/8 Min	ZH60151F88-0.875	ZH60151F88-0.875-BX
6	7/8 Min	ZH60151F96-0.875	ZH60151F96-0.875-BX

5/16-24 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/2	Full	ZH60151F08	ZH60151F08-BX
5/8	Full	ZH60151F10	ZH60151F10-BX
3/4	Full	ZH60151F12	ZH60151F12-BX
7/8	Full	ZH60151F14	ZH60151F14-BX
1	Full	ZH60151F16	ZH60151F16-BX
1-1/8	Full	ZH60151F18	ZH60151F18-BX
1-1/4	Full	ZH60151F20	ZH60151F20-BX
1-1/4	7/8 Min	ZH60151F20-0.875	ZH60151F20-0.875-BX
1-3/8	7/8 Min	ZH60151F22-0.875	ZH60151F22-0.875-BX
1-1/2	Full	ZH60151F24	ZH60151F24-BX
1-1/2	7/8 Min	ZH60151F24-0.875	ZH60151F24-0.875-BX
1-3/4	Full	ZH60151F28	ZH60151F28-BX
1-3/4	7/8 Min	ZH60151F28-0.875	ZH60151F28-0.875-BX
2	Full	ZH60151F32	ZH60151F32-BX
2	7/8 Min	ZH60151F32-0.875	ZH60151F32-0.875-BX
2-1/4	7/8 Min	ZH60151F36-0.875	ZH60151F36-0.875-BX

3/8-16 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/8	Full	ZH60138C06	ZH60138C06-BX
1/2	Full	ZH60138C08	ZH60138C08-BX
5/8	Full	ZH60138C10	ZH60138C10-BX
3/4	Full	ZH60138C12	ZH60138C12-BX
7/8	Full	ZH60138C14	ZH60138C14-BX
1	Full	ZH60138C16	ZH60138C16-BX
1-1/8	Full	ZH60138C18	ZH60138C18-BX
1-1/4	Full	ZH60138C20	ZH60138C20-BX
1-3/8	Full	ZH60138C22	ZH60138C22-BX
1-1/2	Full	ZH60138C24	ZH60138C24-BX
1-1/2	1 Min	ZH60138C24-1	ZH60138C24-1-BX
1-5/8	Full	ZH60138C26	ZH60138C26-BX
1-5/8	1 Min	ZH60138C26-1	ZH60138C26-1-BX
1-3/4	Full	ZH60138C28	ZH60138C28-BX
1-3/4	1 Min	ZH60138C28-1	ZH60138C28-1-BX
1-7/8	Full	ZH60138C30	ZH60138C30-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



3/8-16 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
2	Full	ZH60138C32	ZH60138C32-BX
2	1 Min	ZH60138C32-1	ZH60138C32-1-BX
2-1/4	Full	ZH60138C36	ZH60138C36-BX
2-1/4	1 Min	ZH60138C36-1	ZH60138C36-1-BX
2-1/2	Full	ZH60138C40	ZH60138C40-BX
2-1/2	1 Min	ZH60138C40-1	ZH60138C40-1-BX
2-3/4	Full	ZH60138C44	ZH60138C44-BX
2-3/4	1 Min	ZH60138C44-1	ZH60138C44-1-BX
3	Full	ZH60138C48	ZH60138C48-BX
3	1 Min	ZH60138C48-1	ZH60138C48-1-BX
3-1/4	Full	ZH60138C52	ZH60138C52-BX
3-1/4	1 Min	ZH60138C52-1	ZH60138C52-1-BX
3-1/2	Full	ZH60138C56	ZH60138C56-BX
3-1/2	1 Min	ZH60138C56-1	ZH60138C56-1-BX
3-3/4	Full	ZH60138C60	ZH60138C60-BX
3-3/4	1 Min	ZH60138C60-1	ZH60138C60-1-BX
4	Full	ZH60138C64	ZH60138C64-BX
4	1 Min	ZH60138C64-1	ZH60138C64-1-BX
4-1/4	Full	ZH60138C68	ZH60138C68-BX
4-1/4	1 Min	ZH60138C68-1	ZH60138C68-1-BX
4-1/2	Full	ZH60138C72	ZH60138C72-BX
4-1/2	1 Min	ZH60138C72-1	ZH60138C72-1-BX
4-3/4	Full	ZH60138C76	ZH60138C76-BX
4-3/4	1 Min	ZH60138C76-1	ZH60138C76-1-BX
5	Full	ZH60138C80	ZH60138C80-BX
5	1 Min	ZH60138C80-1	ZH60138C80-1-BX
5-1/4	1 Min	ZH60138C84-1	ZH60138C84-1-BX
5-1/2	Full	ZH60138C88	ZH60138C88-BX
5-1/2	1 Min	ZH60138C88-1	ZH60138C88-1-BX
5-3/4	1 Min	ZH60138C92-1	ZH60138C92-1-BX
6	1 Min	ZH60138C96-1	ZH60138C96-1-BX
6-1/2	1-1/4 Min	ZH60138C104-1.25	ZH60138C104-1.25-BX
7	1-1/4 Min	ZH60138C112-1.25	ZH60138C112-1.25-BX
7-1/2	1-1/4 Min	ZH60138C120-1.25	ZH60138C120-1.25-BX
8	1-1/4 Min	ZH60138C128-1.25	ZH60138C128-1.25-BX

3/8-16 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
8-1/2	1-1/4 Min	ZH60138C136-1.25	ZH60138C136-1.25-BX
9	1-1/4 Min	ZH60138C144-1.25	ZH60138C144-1.25-BX
9-1/2	1-1/4 Min	ZH60138C152-1.25	ZH60138C152-1.25-BX
10	1-1/4 Min	ZH60138C160-1.25	ZH60138C160-1.25-BX
10-1/2	1-1/4 Min	ZH60138C168-1.25	ZH60138C168-1.25-BX
11	1-1/4 Min	ZH60138C176-1.25	ZH60138C176-1.25-BX
12	1-1/4 Min	ZH60138C192-1.25	ZH60138C192-1.25-BX
13	1-1/4 Min	ZH60138C208-1.25	ZH60138C208-1.25-BX
14	1-1/4 Min	ZH60138C224-1.25	ZH60138C224-1.25-BX
16	1-1/4 Min	ZH60138C256-1.25	ZH60138C256-1.25-BX
18	1-1/4 Min	ZH60138C288-1.25	ZH60138C288-1.25-BX
20	1-1/4 Min	ZH60138C320-1.25	ZH60138C320-1.25-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide





3/8-24 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/2	Full	ZH60138F08	ZH60138F08-BX
5/8	Full	ZH60138F10	ZH60138F10-BX
3/4	Full	ZH60138F12	ZH60138F12-BX
7/8	Full	ZH60138F14	ZH60138F14-BX
1	Full	ZH60138F16	ZH60138F16-BX
1-1/8	Full	ZH60138F18	ZH60138F18-BX
1-1/4	Full	ZH60138F20	ZH60138F20-BX
1-1/2	Full	ZH60138F24	ZH60138F24-BX
1-1/2	1 Min	ZH60138F24-1	ZH60138F24-1-BX
1-3/4	Full	ZH60138F28	ZH60138F28-BX
1-3/4	1 Min	ZH60138F28-1	ZH60138F28-1-BX
2	Full	ZH60138F32	ZH60138F32-BX
2	1 Min	ZH60138F32-1	ZH60138F32-1-BX
2-1/4	Full	ZH60138F36	ZH60138F36-BX
2-1/4	1 Min	ZH60138F36-1	ZH60138F36-1-BX
2-1/2	Full	ZH60138F40	ZH60138F40-BX
2-1/2	1 Min	ZH60138F40-1	ZH60138F40-1-BX
2-3/4	Full	ZH60138F44	ZH60138F44-BX
2-3/4	1 Min	ZH60138F44-1	ZH60138F44-1-BX
3	Full	ZH60138F48	ZH60138F48-BX
3	1 Min	ZH60138F48-1	ZH60138F48-1-BX
3-1/4	1 Min	ZH60138F52-1	ZH60138F52-1-BX
3-1/2	Full	ZH60138F56	ZH60138F56-BX
3-1/2	1 Min	ZH60138F56-1	ZH60138F56-1-BX
3-3/4	1 Min	ZH60138F60-1	ZH60138F60-1-BX
4	Full	ZH60138F64	ZH60138F64-BX
4	1 Min	ZH60138F64-1	ZH60138F64-1-BX
4-1/4	1 Min	ZH60138F68-1	ZH60138F68-1-BX
4-1/2	1 Min	ZH60138F72-1	ZH60138F72-1-BX
5	1 Min	ZH60138F80-1	ZH60138F80-1-BX
5-1/2	1 Min	ZH60138F88-1	ZH60138F88-1-BX
6	1 Min	ZH60138F96-1	ZH60138F96-1-BX
6-1/2	1-1/4 Min	ZH60138F104-1.25	ZH60138F104-1.25-BX

7/16-14 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/4	Full	ZH60171C12	ZH60171C12-BX
7/8	Full	ZH60171C14	ZH60171C14-BX
1	Full	ZH60171C16	ZH60171C16-BX
1-1/8	Full	ZH60171C18	ZH60171C18-BX
1-1/4	Full	ZH60171C20	ZH60171C20-BX
1-3/8	Full	ZH60171C22	ZH60171C22-BX
1-1/2	Full	ZH60171C24	ZH60171C24-BX
1-3/4	Full	ZH60171C28	ZH60171C28-BX
2	Full	ZH60171C32	ZH60171C32-BX
2-1/4	Full	ZH60171C36	ZH60171C36-BX
2-1/2	Full	ZH60171C40	ZH60171C40-BX
2-3/4	Full	ZH60171C44	ZH60171C44-BX
3	Full	ZH60171C48	ZH60171C48-BX
3-1/4	Full	ZH60171C52	ZH60171C52-BX
3-1/2	1-1/8 Min	ZH60171C56-1.125	ZH60171C56-1.125-BX
3-3/4	1-1/8 Min	ZH60171C60-1.125	ZH60171C60-1.125-BX
4	1-1/8 Min	ZH60171C64-1.125	ZH60171C64-1.125-BX
4-1/2	1-1/8 Min	ZH60171C72-1.125	ZH60171C72-1.125-BX
5	1-1/8 Min	ZH60171C80-1.125	ZH60171C80-1.125-BX
5-1/2	1-1/8 Min	ZH60171C88-1.125	ZH60171C88-1.125-BX
6	1-1/8 Min	ZH60171C96-1.125	ZH60171C96-1.125-BX
6-1/2	1-3/8 Min	ZH60171C104-1.375	ZH60171C104-1.375-BX
7	1-3/8 Min	ZH60171C14-1.375	ZH60171C14-1.375-BX
8	1-3/8 Min	ZH60171C128-1.375	ZH60171C128-1.375-BX
10	1-3/8 Min	ZH60171C160-1.375	ZH60171C160-1.375-BX
12	1-3/8 Min	ZH60171C192-1.375	ZH60171C192-1.375-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



7/16-20 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/4	Full	ZH60171F12	ZH60171F12-BX
7/8	Full	ZH60171F14	ZH60171F14-BX
1	Full	ZH60171F16	ZH60171F16-BX
1-1/8	Full	ZH60171F18	ZH60171F18-BX
1-1/4	Full	ZH60171F20	ZH60171F20-BX
1-1/2	Full	ZH60171F24	ZH60171F24-BX
1-3/4	1-1/4 Min	ZH60171F28-1.125	ZH60171F28-1.125-BX
2	Full	ZH60171F32	ZH60171F32-BX
2	1-1/4 Min	ZH60171F32-1.125	ZH60171F32-1.125-BX
2-1/4	1-1/4 Min	ZH60171F36-1.125	ZH60171F36-1.125-BX
2-1/2	Full	ZH60171F40	ZH60171F40-BX
2-1/2	1-1/4 Min	ZH60171F40-1.125	ZH60171F40-1.125-BX
2-3/4	1-1/4 Min	ZH60171F44-1.125	ZH60171F44-1.125-BX
3	Full	ZH60171F48	ZH60171F48-BX
3	1-1/4 Min	ZH60171F48-1.125	ZH60171F48-1.125-BX
3-1/4	1-1/4 Min	ZH60171F52-1.125	ZH60171F52-1.125-BX
3-1/2	Full	ZH60171F56	ZH60171F56-BX
3-1/2	1-1/4 Min	ZH60171F56-1.125	ZH60171F56-1.125-BX
3-3/4	1-1/4 Min	ZH60171F60-1.125	ZH60171F60-1.125-BX
4	Full	ZH60171F64	ZH60171F64-BX
4	1-1/4 Min	ZH60171F64-1.125	ZH60171F64-1.125-BX
4-1/2	1-1/4 Min	ZH60171F72-1.125	ZH60171F72-1.125-BX
5	1-1/4 Min	ZH60171F80-1.125	ZH60171F80-1.125-BX
5-1/2	1-1/4 Min	ZH60171F88-1.125	ZH60171F88-1.125-BX
6	1-1/4 Min	ZH60171F96-1.125	ZH60171F96-1.125-BX

1/2-13 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/2	Full	ZH60112C08	ZH60112C08-BX
5/8	Full	ZH60112C10	ZH60112C10-BX
3/4	Full	ZH60112C12	ZH60112C12-BX
7/8	Full	ZH60112C14	ZH60112C14-BX
1	Full	ZH60112C16	ZH60112C16-BX
1-1/8	Full	ZH60112C18	ZH60112C18-BX
1-1/4	Full	ZH60112C20	ZH60112C20-BX
1-3/8	Full	ZH60112C22	ZH60112C22-BX
1-3/8	1-1/4 Min	ZH60112C22-1.25	ZH60112C22-1.25-BX
1-1/2	Full	ZH60112C24	ZH60112C24-BX
1-5/8	1-1/4 Min	ZH60112C26-1.25	ZH60112C26-1.25-BX
1-3/4	Full	ZH60112C28	ZH60112C28-BX
1-3/4	1-1/4 Min	ZH60112C28-1.25	ZH60112C28-1.25-BX
1-7/8	1-1/4 Min	ZH60112C30-1.25	ZH60112C30-1.25-BX
2	Full	ZH60112C32	ZH60112C32-BX
2	1-1/4 Min	ZH60112C32-1.25	ZH60112C32-1.25-BX
2-1/4	Full	ZH60112C36	ZH60112C36-BX
2-1/4	1-1/4 Min	ZH60112C36-1.25	ZH60112C36-1.25-BX
2-1/2	Full	ZH60112C40	ZH60112C40-BX
2-1/2	1-1/4 Min	ZH60112C40-1.25	ZH60112C40-1.25-BX
2-3/4	Full	ZH60112C44	ZH60112C44-BX
2-3/4	1-1/4 Min	ZH60112C44-1.25	ZH60112C44-1.25-BX
3	Full	ZH60112C48	ZH60112C48-BX
3	1-1/4 Min	ZH60112C48-1.25	ZH60112C48-1.25-BX
3-1/4	Full	ZH60112C52	ZH60112C52-BX
3-1/4	1-1/4 Min	ZH60112C52-1.25	ZH60112C52-1.25-BX
3-1/2	Full	ZH60112C56	ZH60112C56-BX
3-1/2	1-1/4 Min	ZH60112C56-1.25	ZH60112C56-1.25-BX
3-3/4	Full	ZH60112C60	ZH60112C60-BX
3-3/4	1-1/4 Min	ZH60112C60-1.25	ZH60112C60-1.25-BX
4	Full	ZH60112C64	ZH60112C64-BX
4	1-1/4 Min	ZH60112C64-1.25	ZH60112C64-1.25-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



1/2-13 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
4-1/4	1-1/4 Min	ZH60112C68-1.25	ZH60112C68-1.25-BX
4-1/2	Full	ZH60112C72	ZH60112C72-BX
4-1/2	1-1/4 Min	ZH60112C72-1.25	ZH60112C72-1.25-BX
4-3/4	Full	ZH60112C76	ZH60112C76-BX
4-3/4	1-1/4 Min	ZH60112C76-1.25	ZH60112C76-1.25-BX
5	Full	ZH60112C80	ZH60112C80-BX
5	1-1/4 Min	ZH60112C80-1.25	ZH60112C80-1.25-BX
5-1/4	1-1/4 Min	ZH60112C84-1.25	ZH60112C84-1.25-BX
5-1/2	Full	ZH60112C88	ZH60112C88-BX
5-1/2	1-1/4 Min	ZH60112C88-1.25	ZH60112C88-1.25-BX
5-3/4	1-1/4 Min	ZH60112C92-1.25	ZH60112C92-1.25-BX
6	1-1/4 Min	ZH60112C96-1.25	ZH60112C96-1.25-BX
6-1/2	1-1/2 Min	ZH60112C104-1.5	ZH60112C104-1.5-BX
7	1-1/2 Min	ZH60112C112-1.5	ZH60112C112-1.5-BX
7-1/2	1-1/2 Min	ZH60112C120-1.5	ZH60112C120-1.5-BX
8	1-1/2 Min	ZH60112C128-1.5	ZH60112C128-1.5-BX
8-1/2	1-1/2 Min	ZH60112C136-1.5	ZH60112C136-1.5-BX
9	1-1/2 Min	ZH60112C144-1.5	ZH60112C144-1.5-BX
9-1/2	1-1/2 Min	ZH60112C152-1.5	ZH60112C152-1.5-BX
10	1-1/2 Min	ZH60112C160-1.5	ZH60112C160-1.5-BX
10-1/2	1-1/2 Min	ZH60112C168-1.5	ZH60112C168-1.5-BX
11	1-1/2 Min	ZH60112C176-1.5	ZH60112C176-1.5-BX
11-1/2	1-1/2 Min	ZH60112C184-1.5	ZH60112C184-1.5-BX
12	1-1/2 Min	ZH60112C192-1.5	ZH60112C192-1.5-BX
12-1/2	1-1/2 Min	ZH60112C200-1.5	ZH60112C200-1.5-BX
13	1-1/2 Min	ZH60112C208-1.5	ZH60112C208-1.5-BX
13-1/2	1-1/2 Min	ZH60112C216-1.5	ZH60112C216-1.5-BX
14	1-1/2 Min	ZH60112C224-1.5	ZH60112C224-1.5-BX
14-1/2	1-1/2 Min	ZH60112C232-1.5	ZH60112C232-1.5-BX
15	1-1/2 Min	ZH60112C240-1.5	ZH60112C240-1.5-BX
16	1-1/2 Min	ZH60112C256-1.5	ZH60112C256-1.5-BX
18	1-1/2 Min	ZH60112C288-1.5	ZH60112C288-1.5-BX
20	1-1/2 Min	ZH60112C320-1.5	ZH60112C320-1.5-BX

1/2-20 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/2	Full	ZH60112F08	ZH60112F08-BX
5/8	Full	ZH60112F10	ZH60112F10-BX
3/4	Full	ZH60112F12	ZH60112F12-BX
1	Full	ZH60112F16	ZH60112F16-BX
1-1/4	Full	ZH60112F20	ZH60112F20-BX
1-1/2	Full	ZH60112F24	ZH60112F24-BX
1-3/4	Full	ZH60112F28	ZH60112F28-BX
2	Full	ZH60112F32	ZH60112F32-BX
2	1-1/4 Min	ZH60112F32-1.25	ZH60112F32-1.25-BX
2-1/4	Full	ZH60112F36	ZH60112F36-BX
2-1/4	1-1/4 Min	ZH60112F36-1.25	ZH60112F36-1.25-BX
2-1/2	Full	ZH60112F40	ZH60112F40-BX
2-1/2	1-1/4 Min	ZH60112F40-1.25	ZH60112F40-1.25-BX
2-3/4	Full	ZH60112F44	ZH60112F44-BX
2-3/4	1-1/4 Min	ZH60112F44-1.25	ZH60112F44-1.25-BX
3	Full	ZH60112F48	ZH60112F48-BX
3	1-1/4 Min	ZH60112F48-1.25	ZH60112F48-1.25-BX
3-1/2	Full	ZH60112F56	ZH60112F56-BX
3-1/2	1-1/4 Min	ZH60112F56-1.25	ZH60112F56-1.25-BX
3-3/4	1-1/4 Min	ZH60112F60-1.25	ZH60112F60-1.25-BX
4	Full	ZH60112F64	ZH60112F64-BX
4	1-1/4 Min	ZH60112F64-1.25	ZH60112F64-1.25-BX
4-1/4	1-1/4 Min	ZH60112F68-1.25	ZH60112F68-1.25-BX
4-1/2	Full	ZH60112F72	ZH60112F72-BX
4-1/2	1-1/4 Min	ZH60112F72-1.25	ZH60112F72-1.25-BX
4-3/4	1-1/4 Min	ZH60112F76-1.25	ZH60112F76-1.25-BX
5	Full	ZH60112F80	ZH60112F80-BX
5	1-1/4 Min	ZH60112F80-1.25	ZH60112F80-1.25-BX
5-1/2	1-1/4 Min	ZH60112F88-1.25	ZH60112F88-1.25-BX
6	1-1/4 Min	ZH60112F96-1.25	ZH60112F96-1.25-BX
6-1/2	1-1/2 Min	ZH60112F104-1.5	ZH60112F104-1.5-BX
7	1-1/2 Min	ZH60112F112-1.5	ZH60112F112-1.5-BX
7-1/2	1-1/2 Min	ZH60112F120-1.5	ZH60112F120-1.5-BX
8	1-1/2 Min	ZH60112F128-1.5	ZH60112F128-1.5-BX
10	1-1/2 Min	ZH60112F160-1.5	ZH60112F160-1.5-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



9/16-12 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/4	Full	ZH60191C12	ZH60191C12-BX
1	Full	ZH60191C16	ZH60191C16-BX
1-1/4	Full	ZH60191C20	ZH60191C20-BX
1-1/2	Full	ZH60191C24	ZH60191C24-BX
1-3/4	Full	ZH60191C28	ZH60191C28-BX
2	Full	ZH60191C32	ZH60191C32-BX
2-1/4	1-3/8 Min	ZH60191C36-1.375	ZH60191C36-1.375-BX
2-1/2	1-3/8 Min	ZH60191C40-1.375	ZH60191C40-1.375-BX
2-3/4	1-3/8 Min	ZH60191C44-1.375	ZH60191C44-1.375-BX
3	1-3/8 Min	ZH60191C48-1.375	ZH60191C48-1.375-BX
3-1/2	1-3/8 Min	ZH60191C56-1.375	ZH60191C56-1.375-BX
4	1-3/8 Min	ZH60191C64-1.375	ZH60191C64-1.375-BX
5	1-3/8 Min	ZH60191C80-1.375	ZH60191C80-1.375-BX
5-1/2	1-3/8 Min	ZH60191C88-1.375	ZH60191C88-1.375-BX
6	1-3/8 Min	ZH60191C96-1.375	ZH60191C96-1.375-BX

9/16-18 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1	Full	ZH60191F16	ZH60191F16-BX
1-1/4	Full	ZH60191F20	ZH60191F20-BX
1-1/2	Full	ZH60191F24	ZH60191F24-BX
1-3/4	Full	ZH60191F28	ZH60191F28-BX
2	Full	ZH60191F32	ZH60191F32-BX
2-1/4	1-3/8 Min	ZH60191F36-1.375	ZH60191F36-1.375-BX
2-1/2	1-3/8 Min	ZH60191F40-1.375	ZH60191F40-1.375-BX
2-3/4	1-3/8 Min	ZH60191F44-1.375	ZH60191F44-1.375-BX
3	1-3/8 Min	ZH60191F48-1.375	ZH60191F48-1.375-BX
3-1/2	1-3/8 Min	ZH60191F56-1.375	ZH60191F56-1.375-BX
4	1-3/8 Min	ZH60191F64-1.375	ZH60191F64-1.375-BX
4-1/2	1-3/8 Min	ZH60191F72-1.375	ZH60191F72-1.375-BX
5	1-3/8 Min	ZH60191F80-1.375	ZH60191F80-1.375-BX
5-1/2	1-3/8 Min	ZH60191F88-1.375	ZH60191F88-1.375-BX

5/8-11 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/4	Full	ZH60158C12	ZH60158C12-BX
7/8	Full	ZH60158C14	ZH60158C14-BX
1	Full	ZH60158C16	ZH60158C16-BX
1-1/4	Full	ZH60158C20	ZH60158C20-BX
1-1/2	Full	ZH60158C24	ZH60158C24-BX
1-3/4	Full	ZH60158C28	ZH60158C28-BX
2	Full	ZH60158C32	ZH60158C32-BX
2-1/4	Full	ZH60158C36	ZH60158C36-BX
2-1/4	1-1/2 Min	ZH60158C36-1.5	ZH60158C36-1.5-BX
2-1/2	Full	ZH60158C40	ZH60158C40-BX
2-1/2	1-1/2 Min	ZH60158C40-1.5	ZH60158C40-1.5-BX
2-3/4	Full	ZH60158C44	ZH60158C44-BX
2-3/4	1-1/2 Min	ZH60158C44-1.5	ZH60158C44-1.5-BX
3	Full	ZH60158C48	ZH60158C48-BX
3	1-1/2 Min	ZH60158C48-1.5	ZH60158C48-1.5-BX
3-1/4	Full	ZH60158C52	ZH60158C52-BX
3-1/4	1-1/2 Min	ZH60158C52-1.5	ZH60158C52-1.5-BX
3-1/2	Full	ZH60158C56	ZH60158C56-BX
3-1/2	1-1/2 Min	ZH60158C56-1.5	ZH60158C56-1.5-BX
3-3/4	Full	ZH60158C60	ZH60158C60-BX
3-3/4	1-1/2 Min	ZH60158C60-1.5	ZH60158C60-1.5-BX
4	Full	ZH60158C64	ZH60158C64-BX
4	1-1/2 Min	ZH60158C64-1.5	ZH60158C64-1.5-BX
4-1/4	1-1/2 Min	ZH60158C68-1.5	ZH60158C68-1.5-BX
4-1/2	Full	ZH60158C72	ZH60158C72-BX
4-1/2	1-1/2 Min	ZH60158C72-1.5	ZH60158C72-1.5-BX
4-3/4	1-1/2 Min	ZH60158C76-1.5	ZH60158C76-1.5-BX
5	Full	ZH60158C80	ZH60158C80-BX
5	Full	ZH60158C80-1.5	ZH60158C80-1.5-BX
5-1/4	1-1/2 Min	ZH60158C84-1.5	ZH60158C84-1.5-BX
5-1/2	Full	ZH60158C88	ZH60158C88-BX
5-1/2	1-1/2 Min	ZH60158C88-1.5	ZH60158C88-1.5-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide





5/8-11 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
6	1-1/2 Min	ZH60158C96-1.5	ZH60158C96-1.5-BX
6-1/2	1-3/4 Min	ZH60158C104-1.75	ZH60158C104-1.75-BX
7	1-3/4 Min	ZH60158C112-1.75	ZH60158C112-1.75-BX
7-1/2	1-3/4 Min	ZH60158C120-1.75	ZH60158C120-1.75-BX
8	1-3/4 Min	ZH60158C128-1.75	ZH60158C128-1.75-BX
9	1-3/4 Min	ZH60158C144-1.75	ZH60158C144-1.75-BX
9-1/2	1-3/4 Min	ZH60158C152-1.75	ZH60158C152-1.75-BX
10	1-3/4 Min	ZH60158C160-1.75	ZH60158C160-1.75-BX
10-1/2	1-3/4 Min	ZH60158C168-1.75	ZH60158C168-1.75-BX
11	1-3/4 Min	ZH60158C176-1.75	ZH60158C176-1.75-BX
11-1/2	1-3/4 Min	ZH60158C184-1.75	ZH60158C184-1.75-BX
12	1-3/4 Min	ZH60158C192-1.75	ZH60158C192-1.75-BX
12-1/2	1-3/4 Min	ZH60158C200-1.75	ZH60158C200-1.75-BX
13	1-3/4 Min	ZH60158C208-1.75	ZH60158C208-1.75-BX
14	1-3/4 Min	ZH60158C224-1.75	ZH60158C224-1.75-BX
15	1-3/4 Min	ZH60158C240-1.75	ZH60158C240-1.75-BX
16	1-3/4 Min	ZH60158C256-1.75	ZH60158C256-1.75-BX
18	1-3/4 Min	ZH60158C288-1.75	ZH60158C288-1.75-BX
20	1-3/4 Min	ZH60158C320-1.75	ZH60158C320-1.75-BX

5/8-18 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
3/4	Full	ZH60158F12	ZH60158F12-BX
1	Full	ZH60158F16	ZH60158F16-BX
1-1/4	Full	ZH60158F20	ZH60158F20-BX
1-1/2	Full	ZH60158F24	ZH60158F24-BX
1-3/4	Full	ZH60158F28	ZH60158F28-BX
2	Full	ZH60158F32	ZH60158F32-BX
2-1/4	Full	ZH60158F36	ZH60158F36-BX
2-1/2	Full	ZH60158F40	ZH60158F40-BX
2-1/2	1-1/2 Min	ZH60158F40-1.5	ZH60158F40-1.5-BX
2-3/4	1-1/2 Min	ZH60158F44-1.5	ZH60158F44-1.5-BX
3	Full	ZH60158F48	ZH60158F48-BX
3	1-1/2 Min	ZH60158F48-1.5	ZH60158F48-1.5-BX
3-1/4	1-1/2 Min	ZH60158F52-1.5	ZH60158F52-1.5-BX
3-1/2	Full	ZH60158F56	ZH60158F56-BX
3-1/2	1-1/2 Min	ZH60158F56-1.5	ZH60158F56-1.5-BX
3-3/4	1-1/2 Min	ZH60158F60-1.5	ZH60158F60-1.5-BX
4	Full	ZH60158F64	ZH60158F64-BX
4	1-1/2 Min	ZH60158F64-1.5	ZH60158F64-1.5-BX
4-1/2	Full	ZH60158F72	ZH60158F72-BX
4-1/2	1-1/2 Min	ZH60158F72-1.5	ZH60158F72-1.5-BX
5	Full	ZH60158F80	ZH60158F80-BX
5	1-1/2 Min	ZH60158F80-1.5	ZH60158F80-1.5-BX
5-1/2	1-1/2 Min	ZH60158F88-1.5	ZH60158F88-1.5-BX
6	1-1/2 Min	ZH60158F96-1.5	ZH60158F96-1.5-BX
6-1/2	1-3/4 Min	ZH60158F104-1.75	ZH60158F104-1.75-BX
7	1-3/4 Min	ZH60158F112-1.75	ZH60158F112-1.75-BX
7-1/2	1-3/4 Min	ZH60158F120-1.75	ZH60158F120-1.75-BX
8	1-3/4 Min	ZH60158F128-1.75	ZH60158F128-1.75-BX
10	1-3/4 Min	ZH60158F160-1.75	ZH60158F160-1.75-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



3/4-10 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1	Full	ZH60134C16	ZH60134C16-BX
1-1/4	Full	ZH60134C20	ZH60134C20-BX
1-1/2	Full	ZH60134C24	ZH60134C24-BX
1-3/4	Full	ZH60134C28	ZH60134C28-BX
2	Full	ZH60134C32	ZH60134C32-BX
2	1-3/4 Min	ZH60134C32-1.75	ZH60134C32-1.75-BX
2-1/4	Full	ZH60134C36	ZH60134C36-BX
2-1/2	Full	ZH60134C40	ZH60134C40-BX
2-3/4	Full	ZH60134C44	ZH60134C44-BX
2-3/4	1-3/4 Min	ZH60134C44-1.75	ZH60134C44-1.75-BX
3	Full	ZH60134C48	ZH60134C48-BX
3	1-3/4 Min	ZH60134C48-1.75	ZH60134C48-1.75-BX
3/4-10	Full	ZH60134C52	ZH60134C52-BX
3/4-10	1-3/4 Min	ZH60134C52-1.75	ZH60134C52-1.75-BX
3-1/2	Full	ZH60134C56	ZH60134C56-BX
3-1/2	1-3/4 Min	ZH60134C56-1.75	ZH60134C56-1.75-BX
3-3/4	1-3/4 Min	ZH60134C60-1.75	ZH60134C60-1.75-BX
4	Full	ZH60134C64	ZH60134C64-BX
4	1-3/4 Min	ZH60134C64-1.75	ZH60134C64-1.75-BX
4-1/4	1-3/4 Min	ZH60134C68-1.75	ZH60134C68-1.75-BX
4-1/2	Full	ZH60134C72	ZH60134C72-BX
4-1/2	1-3/4 Min	ZH60134C72-1.75	ZH60134C72-1.75-BX
5	Full	ZH60134C80	ZH60134C80-BX
5	1-3/4 Min	ZH60134C80-1.75	ZH60134C80-1.75-BX
5-1/2	Full	ZH60134C88	ZH60134C88-BX
5-1/2	1-3/4 Min	ZH60134C88-1.75	ZH60134C88-1.75-BX
6	1-3/4 Min	ZH60134C96-1.75	ZH60134C96-1.75-BX
6-1/2	2 Min	ZH60134C104-2	ZH60134C104-2-BX
7	2 Min	ZH60134C112-2	ZH60134C112-2-BX
7-1/2	2 Min	ZH60134C120-2	ZH60134C120-2-BX
8	2 Min	ZH60134C128-2	ZH60134C128-2-BX
9	2 Min	ZH60134C144-2	ZH60134C144-2-BX

3/4-10 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
10	2 Min	ZH60134C160-2	ZH60134C160-2-BX
10-1/2	2 Min	ZH60134C168-2	ZH60134C168-2-BX
11	2 Min	ZH60134C176-2	ZH60134C176-2-BX
11-1/2	2 Min	ZH60134C184-2	ZH60134C184-2-BX
12	2 Min	ZH60134C192-2	ZH60134C192-2-BX
12-1/2	2 Min	ZH60134C200-2	ZH60134C200-2-BX
13	2 Min	ZH60134C208-2	ZH60134C208-2-BX
13-1/2	2 Min	ZH60134C216-2	ZH60134C216-2-BX
14	2 Min	ZH60134C224-2	ZH60134C224-2-BX
15	2 Min	ZH60134C240-2	ZH60134C240-2-BX
16	2 Min	ZH60134C256-2	ZH60134C256-2-BX
18	2 Min	ZH60134C288-2	ZH60134C288-2-BX
20	2 Min	ZH60134C320-2	ZH60134C320-2-BX

3/4-16 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1-1/4	Full	ZH60134F20	ZH60134F20-BX
1-1/2	Full	ZH60134F24	ZH60134F24-BX
1-3/4	Full	ZH60134F28	ZH60134F28-BX
2	Full	ZH60134F32	ZH60134F32-BX
2-1/4	Full	ZH60134F36	ZH60134F36-BX
2-1/2	Full	ZH60134F40	ZH60134F40-BX
2-3/4	1-3/4 Min	ZH60134F44-1.75	ZH60134F44-1.75-BX
3	Full	ZH60134F48	ZH60134F48-BX
3	1-3/4 Min	ZH60134F48-1.75	ZH60134F48-1.75-BX
3-1/4	Full	ZH60134F52	ZH60134F52-BX
3-1/2	1-3/4 Min	ZH60134F56-1.75	ZH60134F56-1.75-BX
4	Full	ZH60134F64	ZH60134F64-BX
4	1-3/4 Min	ZH60134F64-1.75	ZH60134F64-1.75-BX
4-1/2	1-3/4 Min	ZH60134F72-1.75	ZH60134F72-1.75-BX
5	1-3/4 Min	ZH60134F80-1.75	ZH60134F80-1.75-BX
5-1/2	1-3/4 Min	ZH60134F88-1.75	ZH60134F88-1.75-BX
6	1-3/4 Min	ZH60134F96-1.75	ZH60134F96-1.75-BX
6-1/2	2 Min	ZH60134F104-2	ZH60134F104-2-BX
7	2 Min	ZH60134F112-2	ZH60134F112-2-BX
8	2 Min	ZH60134F128-2	ZH60134F128-2-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide





7/8-9 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1	Full	ZH60178C16	ZH60178C16-BX
1-1/4	Full	ZH60178C20	ZH60178C20-BX
1-1/2	Full	ZH60178C24	ZH60178C24-BX
1-3/4	Full	ZH60178C28	ZH60178C28-BX
2	Full	ZH60178C32	ZH60178C32-BX
2-1/4	Full	ZH60178C36	ZH60178C36-BX
2-1/2	Full	ZH60178C40	ZH60178C40-BX
2-3/4	Full	ZH60178C44	ZH60178C44-BX
3	Full	ZH60178C48	ZH60178C48-BX
3	2 Min	ZH60178C48-2	ZH60178C48-2-BX
3-1/4	2 Min	ZH60178C52-2	ZH60178C52-2-BX
3-1/2	Full	ZH60178C56	ZH60178C56-BX
3-1/2	2 Min	ZH60178C56-2	ZH60178C56-2-BX
3-3/4	2 Min	ZH60178C60-2	ZH60178C60-2-BX
4	Full	ZH60178C64	ZH60178C64-BX
4	2 Min	ZH60178C64-2	ZH60178C64-2-BX
4-1/4	2 Min	ZH60178C68-2	ZH60178C68-2-BX
4-1/2	Full	ZH60178C72	ZH60178C72-BX
4-1/2	2 Min	ZH60178C72-2	ZH60178C72-2-BX
4-3/4	2 Min	ZH60178C76-2	ZH60178C76-2-BX
5	Full	ZH60178C80	ZH60178C80-BX
5	2 Min	ZH60178C80-2	ZH60178C80-2-BX
5-1/2	2 Min	ZH60178C88-2	ZH60178C88-2-BX
6	2 Min	ZH60178C96-2	ZH60178C96-2-BX
6-1/2	2-1/4 Min	ZH60178C104-2.25	ZH60178C104-2.25-BX
7	2-1/4 Min	ZH60178C112-2.25	ZH60178C112-2.25-BX
8	2-1/4 Min	ZH60178C128-2.25	ZH60178C128-2.25-BX
8-1/2	2-1/4 Min	ZH60178C136-2.25	ZH60178C136-2.25-BX
9	2-1/4 Min	ZH60178C144-2.25	ZH60178C144-2.25-BX
9-1/2	2-1/4 Min	ZH60178C152-2.25	ZH60178C152-2.25-BX
10	2-1/4 Min	ZH60178C160-2.25	ZH60178C160-2.25-BX
11	2-1/4 Min	ZH60178C176-2.25	ZH60178C176-2.25-BX
12	2-1/4 Min	ZH60178C192-2.25	ZH60178C192-2.25-BX
12-1/2	2-1/4 Min	ZH60178C200-2.25	ZH60178C200-2.25-BX

7/8-14 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1-1/2	Full	ZH60178F24	ZH60178F24-BX
1-3/4	Full	ZH60178F28	ZH60178F28-BX
2	Full	ZH60178F32	ZH60178F32-BX
2-1/2	Full	ZH60178F40	ZH60178F40-BX
3	2 Min	ZH60178F48-2	ZH60178F48-2-BX
3-1/2	2 Min	ZH60178F56-2	ZH60178F56-2-BX
4	2 Min	ZH60178F64-2	ZH60178F64-2-BX
4-1/2	2 Min	ZH60178F72-2	ZH60178F72-2-BX
5-1/2	2 Min	ZH60178F88-2	ZH60178F88-2-BX
6	2 Min	ZH60178F96-2	ZH60178F96-2-BX

1-8 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1-1/2	Full	ZH60101C24	ZH60101C24-BX
1-3/4	Full	ZH60101C28	ZH60101C28-BX
2	Full	ZH60101C32	ZH60101C32-BX
2-1/4	Full	ZH60101C36	ZH60101C36-BX
2-1/2	Full	ZH60101C40	ZH60101C40-BX
2-3/4	Full	ZH60101C44	ZH60101C44-BX
3	Full	ZH60101C48	ZH60101C48-BX
3-1/4	2-1/4 Min	ZH60101C52-2.25	ZH60101C52-2.25-BX
3-1/2	Full	ZH60101C56	ZH60101C56-BX
3-1/2	2-1/4 Min	ZH60101C56-2.25	ZH60101C56-2.25-BX
3-3/4	2-1/4 Min	ZH60101C60-2.25	ZH60101C60-2.25-BX
4	Full	ZH60101C64	ZH60101C64-BX
4	2-1/4 Min	ZH60101C64-2.25	ZH60101C64-2.25-BX
4-1/4	2-1/4 Min	ZH60101C68-2.25	ZH60101C68-2.25-BX
4-1/2	Full	ZH60101C72	ZH60101C72-BX
4-1/2	2-1/4 Min	ZH60101C72-2.25	ZH60101C72-2.25-BX
4-3/4	2-1/4 Min	ZH60101C76-2.25	ZH60101C76-2.25-BX
5	Full	ZH60101C80	ZH60101C80-BX
5	2-1/4 Min	ZH60101C80-2.25	ZH60101C80-2.25-BX
5-1/2	Full	ZH60101C88	ZH60101C88-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



1-8 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
5-1/2	2-1/4 Min	ZH60101C88-2.25	ZH60101C88-2.25-BX
6	2-1/4 Min	ZH60101C96-2.25	ZH60101C96-2.25-BX
6-1/2	2-1/2 Min	ZH60101C104-2.5	ZH60101C104-2.5-BX
7	2-1/2 Min	ZH60101C112-2.5	ZH60101C112-2.5-BX
7-1/2	2-1/2 Min	ZH60101C120-2.5	ZH60101C120-2.5-BX
8	2-1/2 Min	ZH60101C128-2.5	ZH60101C128-2.5-BX
8-1/2	2-1/2 Min	ZH60101C136-2.5	ZH60101C136-2.5-BX
9	2-1/2 Min	ZH60101C144-2.5	ZH60101C144-2.5-BX
9-1/2	2-1/2 Min	ZH60101C152-2.5	ZH60101C152-2.5-BX
10	2-1/2 Min	ZH60101C160-2.5	ZH60101C160-2.5-BX
10-1/2	2-1/2 Min	ZH60101C168-2.5	ZH60101C168-2.5-BX
11	2-1/2 Min	ZH60101C176-2.5	ZH60101C176-2.5-BX
12	2-1/2 Min	ZH60101C192-2.5	ZH60101C192-2.5-BX
15	2-1/2 Min	ZH60101C240-2.5	ZH60101C240-2.5-BX
18	2-1/2 Min	ZH60101C288-2.5	ZH60101C288-2.5-BX
20	2-1/2 Min	ZH60101C320-2.5	ZH60101C320-2.5-BX

1 1/8-7 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/8-7 x 2	Full	ZH6010011C32	ZH6010011C32-BX
1/8-7 x 2-1/2	Full	ZH6010011C40	ZH6010011C40-BX
1/8-7 x 2-3/4	Full	ZH6010011C44	ZH6010011C44-BX
1/8-7 x 3	Full	ZH6010011C48	ZH6010011C48-BX
1/8-7 x 3-1/2	Full	ZH6010011C56	ZH6010011C56-BX
1/8-7 x 4	2-1/2 Min	ZH6010011C64-2.5	ZH6010011C64-2.5-BX
1/8-7 x 4-1/2	2-1/2 Min	ZH6010011C72-2.5	ZH6010011C72-2.5-BX
1/8-7 x 5	2-1/2 Min	ZH6010011C80-2.5	ZH6010011C80-2.5-BX
1/8-7 x 5-1/2	2-1/2 Min	ZH6010011C88-2.5	ZH6010011C88-2.5-BX
1/8-7 x 6	2-1/2 Min	ZH6010011C96-2.5	ZH6010011C96-2.5-BX
1/8-7 x 7	2-3/4 Min	ZH6010011C112-2.75	ZH6010011C112-2.75-BX
1/8-7 x 7-1/2	2-3/4 Min	ZH6010011C120-2.75	ZH6010011C120-2.75-BX
1/8-7 x 8	2-3/4 Min	ZH6010011C128-2.75	ZH6010011C128-2.75-BX
1/8-7 x 9	2-3/4 Min	ZH6010011C144-2.75	ZH6010011C144-2.75-BX
1/8-7 x 12	2-3/4 Min	ZH6010011C192-2.75	ZH6010011C192-2.75-BX
1/8-7 x 14	2-3/4 Min	ZH6010011C224-2.75	ZH6010011C224-2.75-BX
1/8-7 x 16	2-3/4 Min	ZH6010011C256-2.75	ZH6010011C256-2.75-BX

1-14 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1-1/2	Full	ZH60101F24	ZH60101F24-BX
2	Full	ZH60101F32	ZH60101F32-BX
2-1/4	Full	ZH60101F36	ZH60101F36-BX
2-1/2	Full	ZH60101F40	ZH60101F40-BX
2-3/4	2-1/4 Min	ZH60101F44-2.25	ZH60101F44-2.25-BX
3	2-1/4 Min	ZH60101F48-2.25	ZH60101F48-2.25-BX
3-1/2	2-1/4 Min	ZH60101F56-2.25	ZH60101F56-2.25-BX
4	2-1/4 Min	ZH60101F64-2.25	ZH60101F64-2.25-BX
5	2-1/4 Min	ZH60101F80-2.25	ZH60101F80-2.25-BX

1 1/4-7 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/4-7 x 2-1/2	Full	ZH6010014C40	ZH6010014C40-BX
1/4-7 x 2-3/4	Full	ZH6010014C44	ZH6010014C44-BX
1/4-7 x 3	Full	ZH6010014C48	ZH6010014C48-BX
1/4-7 x 3-1/4	Full	ZH6010014C52	ZH6010014C52-BX
1/4-7 x 3-1/2	2-3/4 Min	ZH6010014C56-2.75	ZH6010014C56-2.75-BX
1/4-7 x 4	2-3/4 Min	ZH6010014C64-2.75	ZH6010014C64-2.75-BX
1/4-7 x 4-1/2	2-3/4 Min	ZH6010014C72-2.75	ZH6010014C72-2.75-BX
1/4-7 x 5	2-3/4 Min	ZH6010014C80-2.75	ZH6010014C80-2.75-BX
1/4-7 x 5-1/2	2-3/4 Min	ZH6010014C88-2.75	ZH6010014C88-2.75-BX
1/4-7 x 6	2-3/4 Min	ZH6010014C96-2.75	ZH6010014C96-2.75-BX
1/4-7 x 6-1/4	3 Min	ZH6010014C100-3	ZH6010014C100-3-BX

Hex Head Cap Screws — Inch

18-8 SS | Plain | Black Oxide



1 1/4-7 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1/4-7 x 6-1/2	3 Min	ZH6010014C104-3	ZH6010014C104-3-BX
1/4-7 x 7	3 Min	ZH6010014C112-3	ZH6010014C112-3-BX
1/4-7 x 8	3 Min	ZH6010014C128-3	ZH6010014C128-3-BX
1/4-7 x 8-1/2	3 Min	ZH6010014C136-3	ZH6010014C136-3-BX
1/4-7 x 9	3 Min	ZH6010014C144-3	ZH6010014C144-3-BX
1/4-7 x 10	3 Min	ZH6010014C160-3	ZH6010014C160-3-BX
1/4-7 x 10-1/2	3 Min	ZH6010014C168-3	ZH6010014C168-3-BX
1/4-7 x 12	3 Min	ZH6010014C192-3	ZH6010014C192-3-BX
1/4-7 x 18	3 Min	ZH6010014C288-3	ZH6010014C288-3-BX
1/4-7 x 20	3 Min	ZH6010014C320-3	ZH6010014C320-3-BX

1 3/8-6 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1 3/8-6 x 3-1/2	Full	ZH6010013C56	ZH6010013C56-BX
1 3/8-6 x 4	3 Min	ZH6010013C64-3	ZH6010013C64-3-BX
1 3/8-6 x 5	3 Min	ZH6010013C80-3	ZH6010013C80-3-BX
1 3/8-6 x 6	3 Min	ZH6010013C96-3	ZH6010013C96-3-BX

1 1/2-6 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number	18-8 SS, Bl Ox Part Number
1 1/2-6 x 3	Full	ZH6010013C48	ZH6010013C48-BX
1 1/2-6 x 3-1/2	Full	ZH6010013C56	ZH6010013C56-BX
4	3-1/4 Min	ZH6010013C64-3.25	ZH6010013C64-3.25-BX
4-1/2	3-1/4 Min	ZH6010013C72-3.25	ZH6010013C72-3.25-BX
5	3-1/4 Min	ZH6010013C80-3.25	ZH6010013C80-3.25-BX
5-1/2	3-1/4 Min	ZH6010013C88-3.25	ZH6010013C88-3.25-BX
6	3-1/4 Min	ZH6010013C96-3.25	ZH6010013C96-3.25-BX
6-1/2	3-1/4 Min	ZH6010013C104-3.5	ZH6010013C104-3.5-BX
7	3-1/4 Min	ZH6010013C112-3.5	ZH6010013C112-3.5-BX
7-1/2	3-1/4 Min	ZH6010013C120-3.5	ZH6010013C120-3.5-BX
8	3-1/4 Min	ZH6010013C128-3.5	ZH6010013C128-3.5-BX
9	3-1/4 Min	ZH6010013C144-3.5	ZH6010013C144-3.5-BX
11	3-1/4 Min	ZH6010013C176-3.5	ZH6010013C176-3.5-BX
18	3-1/4 Min	ZH6010013C288-3.5	ZH6010013C288-3.5-BX
20	3-1/4 Min	ZH6010013C320-3.5	ZH6010013C320-3.5-BX

Hex Head Cap Screws — Inch

316 SS | Plain | Black Oxide



Dimensions Table — Inch

Thread Size	Hex Size Across Flats	Head Height
1/4-20	7/16	5/32
5/16-18	1/2	13/64
3/8-16	9/16	15/64
1/2-13	3/4	5/16
5/8-11	15/16	25/64
3/4-10	1-1/8	15/32

1/4-20 Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox Part Number
1/2	Full	ZH60214C08	ZH60214C08-BX
5/8	Full	ZH60214C10	ZH60214C10-BX
3/4	Full	ZH60214C12	ZH60214C12-BX
1	Full	ZH60214C16	ZH60214C16-BX
1-1/4	Full	ZH60214C20	ZH60214C20-BX
1-1/2	Full	ZH60214C24	ZH60214C24-BX
2	Full	ZH60214C32	ZH60214C32-BX
2-1/2	Full	ZH60214C40	ZH60214C40-BX

5/16-18 Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox Part Number
3/4	Full	ZH60251C12	ZH60251C12-BX
1	Full	ZH60251C16	ZH60251C16-BX
1-1/4	Full	ZH60251C20	ZH60251C20-BX
1-1/2	Full	ZH60251C24	ZH60251C24-BX
2	Full	ZH60251C32	ZH60251C32-BX
3	Full	ZH60251C48	ZH60251C48-BX
6-1/2	1-1/8 Min	ZS61251C104	ZS61251C104-BX

3/8-16 Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox Part Number
3/4	Full	ZH60238C12	ZH60238C12-BX
1	Full	ZH60238C16	ZH60238C16-BX
1-1/4	Full	ZH60238C20	ZH60238C20-BX
1-1/2	Full	ZH60238C24	ZH60238C24-BX
1-3/4	Full	ZH60238C28	ZH60238C28-BX
2	Full	ZH60238C32	ZH60238C32-BX
2-1/2	Full	ZH60238C40	ZH60238C40-BX
3	Full	ZH60238C48	ZH60238C48-BX
3-1/2	Full	ZH60238C56	ZH60238C56-BX
4	Full	ZH60238C64	ZH60238C64-BX

1/2-13 Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox Part Number
1	Full	ZH60212C16	ZH60212C16-BX
1-1/4	Full	ZH60212C20	ZH60212C20-BX
1-1/2	Full	ZH60212C24	ZH60212C24-BX
1-3/4	Full	ZH60212C28	ZH60212C28-BX
2	Full	ZH60212C32	ZH60212C32-BX
2-1/2	Full	ZH60212C40	ZH60212C40-BX
3	Full	ZH60212C48	ZH60212C48-BX
4	Full	ZH60212C64	ZH60212C64-BX

5/8-11 Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox Part Number
1-1/2	Full	ZH60258C24	ZH60258C24-BX
2	Full	ZH60258C32	ZH60258C32-BX
2-1/2	Full	ZH60258C40	ZH60258C40-BX
3	Full	ZH60258C48	ZH60258C48-BX

3/4-10 Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox Part Number
1-1/2	Full	ZH60258C24	ZH60258C24-BX
2	Full	ZH60258C32	ZH60258C32-BX
2-1/2	Full	ZH60258C40	ZH60258C40-BX
3	Full	ZH60258C48	ZH60258C48-BX
3-1/2	Full	ZH60234C56	ZH60234C56-BX
4	Full	ZH60234C64	ZH60234C64-BX

Hex Head Cap Screws — Inch

MADE IN THE USA

Brass | Plain



Dimensions Table — Inch

Thread Size	Hex Size Across Flats	Head Height
8-32	1/4	7/64
10-24	5/16	1/8
10-32	5/16	1/8
1/4-20	7/16	5/32
1/4-28	7/16	5/32
5/16-18	1/2	13/64
3/8-16	9/16	15/64
3/8-24	9/16	15/64
1/2-13	3/4	5/16
3/4-10	1-1/8	15/32

8-32 Thread Size

Length	Full or Partial Threads	Brass Part Number
3/8	Full	ZH40608C06
1/2	Full	ZH40608C08
5/8	Full	ZH40608C10
3/4	Full	ZH40608C12
1	Full	ZH40608C16
1 1/4	Full	ZH40608C20
1 1/2	Full	ZH40608C24

10-24 Thread Size

Length	Full or Partial Threads	Brass Part Number
3/8	Full	ZH40610C06
1/2	Full	ZH40610C08
5/8	Full	ZH40610C10
3/4	Full	ZH40610C12
1	Full	ZH40610C16
1 1/4	Full	ZH40610C20
1 1/2	Full	ZH40610C24

10-32 Thread Size

Length	Full or Partial Threads	Brass Part Number
3/8	Full	ZH40610F06
1/2	Full	ZH40610F08
5/8	Full	ZH40610F10
3/4	Full	ZH40610F12
1	Full	ZH40610F16
1 1/4	Full	ZH40610F20
1 1/2	Full	ZH40610F24

1/4-20 Thread Size

Length	Full or Partial Threads	Brass Part Number
3 1/2	3/4 Min	ZH40614C56
4	3/4 Min	ZH40614C64
4 1/2	3/4 Min	ZH40614C72
5	3/4 Min	ZH40614C80

1/4-28 Thread Size

Length	Full or Partial Threads	Brass Part Number
5/8	Full	ZH40614F10
1 1/4	3/4 Min	ZH40614F20
2	3/4 Min	ZH40614F32

5/16-18 Thread Size

Length	Full or Partial Threads	Brass Part Number
3 1/2	7/8 Min	ZH40651C56
4 1/2	7/8 Min	ZH40651C72
5	7/8 Min	ZH40651C80
6	7/8 Min	ZH40651C96

5/16-24 Thread Size

Length	Full or Partial Threads	Brass Part Number
3/4	Full	ZH40651F12
1	Full	ZH40651F16
1 1/4	Full	ZH40651F20
1 1/2	7/8 Min	ZH40651F24
2	7/8 Min	ZH40651F32

3/8-16 Thread Size

Length	Full or Partial Threads	Brass Part Number
4 1/2	1 Min	ZH40638C72
5	1 Min	ZH40638C80
5 1/2	1 Min	ZH40638C88
6	1 Min	ZH40638C96

3/8-24 Thread Size

Length	Full or Partial Threads	Brass Part Number
3/4	Full	ZH40638F12
1	Full	ZH40638F16
1 1/4	Full	ZH40638F20
1 1/2	1 Min	ZH40638F24
1 3/4	1 Min	ZH40638F28
2	1 Min	ZH40638F32
2 1/2	1 Min	ZH40638F40
3	1 Min	ZH40638F48

1/2-13 Thread Size

Length	Full or Partial Threads	Brass Part Number
5 1/2	1-1/4	ZH40612C88
6	1-1/4	ZH40612C96
6 1/2	1-1/2 Min	ZH40612C104
7	1-1/2 Min	ZH40612C112
8	1-1/2 Min	ZH40612C128

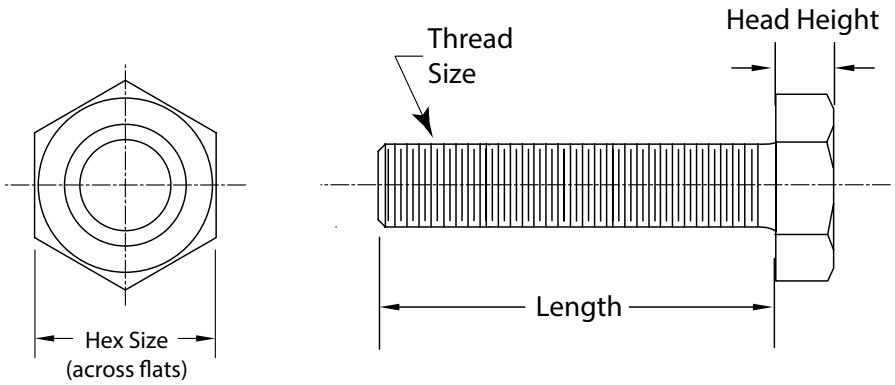
3/4-10 Thread Size

Length	Full or Partial Threads	Brass Part Number
3 1/2	1-3/4 Min	ZH40634C56

Hex Head Cap Screws — Inch

17-4 PH SS | Plain





Dimensions Table — Inch

Thread Size	Head Diameter	Head Height
1/4-20	7/16	5/32
5/16-18	1/2	13/64
3/8-16	9/16	15/64
1/2-13	3/4	5/16

1/4-20 Thread Size

Length	Full or Partial Threads	17-4 PH SS Part Number
1/2	Full	ZH74414C08
3/4	Full	ZH74414C12
1	3/4 min	ZH74414C16
1-1/4	3/4 min	ZH74414C20
1-1/2	3/4 min	ZH74414C24
2	3/4 min	ZH74414C32

5/16-18 Thread Size

Length	Full or Partial Threads	17-4 PH SS Part Number
3/4	Full	ZH74451C12
1	Full	ZH74451C16
1-1/4	7/8 min	ZH74451C20
1-1/2	7/8 min	ZH74451C24
2	1-1/8 min	ZH74451C32

3/8-16 Thread Size

Length	Full or Partial Threads	17-4 PH SS Part Number
3/4	Full	ZH74438C12
1	Full	ZH74438C16
1-1/4	1 min	ZH74438C20
1-1/2	1 min	ZH74438C24
1-3/4	1 min	ZH74438C28
2	1 min	ZH74438C32
2-1/4	1 min	ZH74438C36
2-1/2	1 min	ZH74438C40
3	1 min	ZH74438C48

1/2-13 Thread Size

Length	Full or Partial Threads	17-4 PH SS Part Number
1	Full	ZH74412C16
1-1/4	Full	ZH74412C20
1-1/2	Full	ZH74412C24
1-3/4	1-1/4 min	ZH74412C28
2	1-1/4 min	ZH74412C32
2-1/2	1-1/4 min	ZH74412C40
3	1-1/4 min	ZH74412C48
3-1/2	1-1/4 min	ZH74412C56
4	1-1/4 min	ZH74412C64

Hex Head Cap Screws — Inch

316 H5 SS | Plain



Fully Threaded



Partially Threaded

Dimensions Table — Inch

Thread Size	Hex Size Across Flats	Head Height
4-40	3/16	1/16
6-32	1/4	3/32
8-32	1/4	7/64
10-32	5/16	1/8
1/4-20	7/16	5/32
5/16-18	1/2	13/64
3/8-16	9/16	15/64
1/2-13	3/4	5/16

4-40 Thread Size

Length	Full or Partial Threads	316 H5 Part Number
1/4	Full	ZS61604C04
5/16	Full	ZS61604C05
3/8	Full	ZS61604C06
1/2	Full	ZS61604C08

6-32 Thread Size

Length	Full or Partial Threads	316 H5 Part Number
1/4	Full	ZS61606C04
3/8	Full	ZS61606C06
1/2	Full	ZS61606C08
5/8	Full	ZS61606C10
3/4	Full	ZS61606C12

8-32 Thread Size

Length	Full or Partial Threads	316 H5 Part Number
3/8	Full	ZS61608C06
1/2	Full	ZS61608C08
5/8	Full	ZS61608C10
3/4	Full	ZS61608C12
1	Full	ZS61608C16

10-32 Thread Size

Length	Full or Partial Threads	316 H5 Part Number
3/8	Full	ZS61610F06
5/8	Full	ZS61610F10
3/4	Full	ZS61610F12
1	Full	ZS61610F16

1/4-20 Thread Size

Length	Full or Partial Threads	316 H5 Part Number
1/2	Full	ZS61614C08
3/4	Full	ZS61614C12
1	3/4 min	ZS61614C16
1-1/4	3/4 min	ZS61614C20
1-1/2	3/4 min	ZS61614C24
1-3/4	3/4 min	ZS61614C28
2	3/4 min	ZS61614C32

5/16-18 Thread Size

Length	Full or Partial Threads	316 H5 Part Number
3/4	Full	ZS61651C12
1	Full	ZS61651C16
1-1/4	7/8 min	ZS61651C20
1-1/2	7/8 min	ZS61651C24
2	1-1/8 min	ZS61651C32

3/8-16 Thread Size

Length	Full or Partial Threads	316 H5 Part Number
3/4	Full	ZS61638C12
1	Full	ZS61638C16
1-1/2	1 min	ZS61638C24
1-3/4	1 min	ZS61638C28
2	1 min	ZS61638C32
2-1/2	1 min	ZS61638C40
3	1 min	ZS61638C48

1/2-13 Thread Size

Length	Full or Partial Threads	316 H5 Part Number
1	Full	ZS61612C16
1-1/4	Full	ZS61612C20
1-1/2	Full	ZS61612C24
1-3/4	1-1/4	ZS61612C28
2	1-1/4	ZS61612C32
2-1/2	1-1/4	ZS61612C40
3	1-1/4	ZS61612C48
3-1/2	1-1/4	ZS61612C56
4	1-1/4	ZS61612C64

Hex Head Cap Screws (fully threaded) — Inch

MADE IN THE USA

Aluminum | Plain | Black Anodized



Dimensions Table — Inch

Thread Size	Hex Size Across Flats	Head Height
6-32	1/4	3/32
8-32	1/4	7/64
10-24	5/16	1/8
10-32	5/16	1/8
12-24	5/16	5/32
1/4-20	7/16	5/32
1/4-28	7/16	5/32
5/16-18	1/2	13/64
3/8-16	9/16	15/64
3/8-24	9/16	15/64
1/2-13	3/4	5/16
3/4-10	1-1/8	15/32

6-32 Thread Size

Length	Aluminum Part Number
3/8	ZH72106C06
1/2	ZH72106C08
5/8	ZH72106C10
3/4	ZH72106C12
1	ZH72106C16
1-1/4	ZH72106C20
1-1/2	ZH72106C24

10-32 Thread Size

Length	Aluminum Part Number
3/8	ZH72110F06
1/2	ZH72110F08
5/8	ZH72110F10
3/4	ZH72110F12
1	ZH72110F16
1-1/4	ZH72110F20
1-1/2	ZH72110F24

8-32 Thread Size

Length	Aluminum Part Number
3/8	ZH72108C06
1/2	ZH72108C08
5/8	ZH72108C10
3/4	ZH72108C12
1	ZH72108C16
1-1/4	ZH72108C20
1-1/2	ZH72108C24

12-24 Thread Size

Length	Aluminum Part Number
3/8	ZH72112C06
1/2	ZH72112C08
3/4	ZH72112C12
1	ZH72112C16
1-1/4	ZH72112C20
1-1/2	ZH72112C24

1/4-28 Thread Size

Length	Aluminum Part Number
1/2	ZH72114F08
5/8	ZH72114F10
3/4	ZH72114F12
1	ZH72114F16
1-1/4	ZH72114F20
1-1/2	ZH72114F24
2	ZH72114F32
2-1/2	ZH72114F40

10-24 Thread Size

Length	Aluminum Part Number
3/8	ZH72110C06
1/2	ZH72110C08
5/8	ZH72110C10
3/4	ZH72110C12
1	ZH72110C16
1-1/4	ZH72110C20
1-1/2	ZH72110C24

1/4-20 Thread Size

Length	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
1/2	ZH72114C08	ZH72114C08-BK
5/8	ZH72114C10	ZH72114C10-BK
3/4	ZH72114C12	ZH72114C12-BK
1	ZH72114C16	ZH72114C16-BK
1-1/4	ZH72114C20	ZH72114C20-BK
1-1/2	ZH72114C24	ZH72114C24-BK
2	ZH72114C32	ZH72114C32-BK
2-1/2	ZH72114C40	ZH72114C40-BK
3-1/2	ZH72114C56	–
4-1/2	ZH72114C72	–
5	ZH72114C80	–
5-1/2	ZH72114C88	–
6	ZH72114C96	–

5/16-18 Thread Size

Length	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
3/4	ZH72151C12	ZH72151C12-BK
1	ZH72151C16	ZH72151C16-BK
1-1/4	ZH72151C20	ZH72151C20-BK
1-1/2	ZH72151C24	ZH72151C24-BK
2	ZH72151C32	ZH72151C32-BK
3	ZH72151C48	ZH72151C48-BK
3-1/2	ZH72151C56	–
4	ZH72151C64	–
4-1/2	ZH72151C72	–
5	ZH72151C80	–
5-1/2	ZH72151C88	–
6	ZH72151C96	–

Hex Head Cap Screws (fully threaded) — Inch

Aluminum | Plain | Black Anodized





5/16-24 Thread Size

Length	Aluminum Part Number
3/4	ZH72151F12
1	ZH72151F16
1-1/4	ZH72151F20
1-1/2	ZH72151F24
2	ZH72151F32
3	ZH72151F48

3/8-16 Thread Size

Length	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
3/4	ZH72138C12	ZH72138C12-BK
1	ZH72138C16	ZH72138C16-BK
1-1/4	ZH72138C20	ZH72138C20-BK
1-1/2	ZH72138C24	ZH72138C24-BK
1-3/4	ZH72138C28	ZH72138C28-BK
2	ZH72138C32	ZH72138C32-BK
2-1/2	ZH72138C40	ZH72138C40-BK
3	ZH72138C48	ZH72138C48-BK
3-1/2	ZH72138C56	ZH72138C56-BK
4	ZH72138C64	ZH72138C64-BK
4-1/2	ZH72138C72	—
5-1/2	ZH72138C88	—
6	ZH72138C96	—

3/8-24 Thread Size

Length	Aluminum Part Number
3/4	ZH72138F12
1	ZH72138F16
1-1/4	ZH72138F20
1-1/2	ZH72138F24
1-3/4	ZH72138F28
2	ZH72138F32
2-1/2	ZH72138F40
3	ZH72138F48
3-1/2	ZH72138F56
4	ZH72138F64

1/2-13 Thread Size

Length	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
1	ZH72112C16	ZH72112C16-BK
1-1/4	ZH72112C20	ZH72112C20-BK
1-1/2	ZH72112C24	ZH72112C24-BK
1-3/4	ZH72112C28	ZH72112C28-BK
2	ZH72112C32	ZH72112C32-BK
2-1/2	ZH72112C40	ZH72112C40-BK
3	ZH72112C48	ZH72112C48-BK
4	ZH72112C64	ZH72112C64-BK
5-1/2	ZH72112C88	—
6-1/2	ZH72112C104	—
7	ZH72112C112	—
8	ZH72112C128	—

5/8-11 Thread Size

Length	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
1-1/2	ZH72158C24	ZH72158C24-BK
2	ZH72158C32	ZH72158C32-BK
2-1/2	ZH72158C40	ZH72158C40-BK
3	ZH72158C48	ZH72158C48-BK

3/4-10 Thread Size

Length	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
2	ZH72134C32	ZH72134C32-BK
2-1/2	ZH72134C40	ZH72134C40-BK
3	ZH72134C48	ZH72134C48-BK
3-1/2	ZH72134C56	ZH72134C56-BK
4	ZH72134C64	ZH72134C64-BK
4-1/2	ZH72134C72	—
5	ZH72134C80	—
5-1/2	ZH72134C88	—
6	ZH72134C96	—

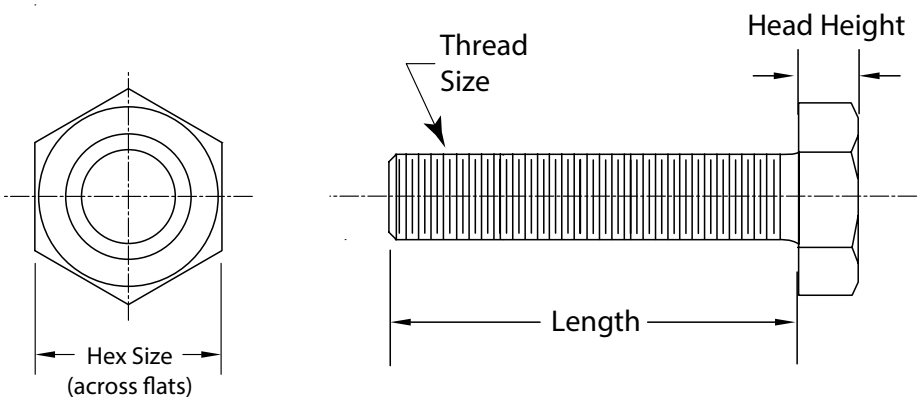
Hex Head Cap Screws — Metric

18-8 SS | Plain
316 SS | Plain | Black Oxide
316 H5 SS | Plain
Aluminum | Plain | Black Anodized
Brass | Plain
17-4 PH SS | Plain

Product Information

A hex head bolt is a type of bolt characterized by its six-sided head, which is specifically designed to be tightened or loosened with a wrench or socket. These versatile bolts are widely used in a variety of applications, particularly in situations where strong clamping forces are essential. Their robust design and ease of installation make them a popular choice for everything from construction and automotive uses to machinery and general fastening needs. Fully threaded hex head screws can be screwed all the way into a threaded or tapped hole. Partially threaded hex head screws have an unthreaded portion under the head that adds strength but prevents them from being screwed all the way into a threaded hole. Meets ISO 4014, DIN 931.





Dimensions Table — Metric		
Thread Size	**Hex Size**	**Head Height**
M2 x 0.4mm	5.50	2.00
M3 x 0.5mm	5.50	2.80
M4 x 0.7mm	7.00	2.80
M5 x 0.8mm	8.00	3.50
M6 x 1mm	10.00	4.00
M8 x 1mm	13.00	5.30
M8 x 1.25mm	13.00	5.30
M10 x 1.25mm	17.00	6.40
M10 x 1.5mm	17.00	6.40
M12 x 1.75mm	19.00	7.50
M14 x 2mm	22.00	8.80
M16 x 2mm	24.00	10.00
M18 x 2.5mm	27.00	11.50
M20 x 2.5mm	30.00	12.50
M22 x 2.5mm	32.00	14.00
M24 x 3mm	36.00	15.00

Hex Head Cap Screws — Metric

18-8 SS | Plain



M3 x 0.5 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
6	Full	ZH601M3C6
8	Full	ZH601M3C8
10	Full	ZH601M3C10
12	Full	ZH601M3C12
14	Full	ZH601M3C14
16	Full	ZH601M3C16
18	Full	ZH601M3C18
20	Full	ZH601M3C20
25	Full	ZH601M3C25
30	Full	ZH601M3C30
35	Full	ZH601M3C35
40	Full	ZH601M3C40
45	Full	ZH601M3C45
50	Full	ZH601M3C50

M4 x 0.7 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
6	Full	ZH601M4C6
8	Full	ZH601M4C8
10	Full	ZH601M4C10
12	Full	ZH601M4C12
16	Full	ZH601M4C16
18	Full	ZH601M4C18
20	Full	ZH601M4C20
25	Full	ZH601M4C25
30	Full	ZH601M4C30
35	Full	ZH601M4C35
40	Full	ZH601M4C40
45	Full	ZH601M4C45
50	Full	ZH601M4C50
60	Full	ZH601M4C60
70	Full	ZH601M4C70

M5 x 0.8 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
6	Full	ZH601M5C6
8	Full	ZH601M5C8
30	16 Min	ZH601M5C30-16
35	16 Min	ZH601M5C35-16
40	16 Min	ZH601M5C40-16
45	16 Min	ZH601M5C45-16
50	16 Min	ZH601M5C50-16
55	16 Min	ZH601M5C55-16
60	16 Min	ZH601M5C60-16
65	16 Min	ZH601M5C65-16
70	16 Min	ZH601M5C70-16
75	16 Min	ZH601M5C75-16
80	16 Min	ZH601M5C80-16

M6 x 1 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
30	18 Min	ZH601M6C30-18
35	18 Min	ZH601M6C35-18
45	18 Min	ZH601M6C45-18
55	18 Min	ZH601M6C55-18
60	18 Min	ZH601M6C60-18
65	18 Min	ZH601M6C65-18
75	Full	ZH601M6C75
12	Full	ZH601M6F12
16	Full	ZH601M6F16
20	Full	ZH601M6F20
25	Full	ZH601M6F25
30	Full	ZH601M6F30
40	Full	ZH601M6F40

M8 x 1 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
16	Full	ZH601M8F16
20	Full	ZH601M8F20
25	Full	ZH601M8F25
30	Full	ZH601M8F30
35	Full	ZH601M8F35
40	Full	ZH601M8F40
50	Full	ZH601M8F50

M8 x 1.25 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
8	Full	ZH601M8C8
15	Full	ZS615M8X15
30	22 Min	ZH601M8C30-22
35	22 Min	ZH601M8C35-22
65	22 Min	ZH601M8C65-22
75	22 Min	ZH601M8C75-22
85	22 Min	ZH601M8C85-22
110	Full	ZH601M8C110
110	22 Min	ZH601M8C110-22
120	Full	ZH601M8C120
120	22 Min	ZH601M8C120-22
130	Full	ZH601M8C130
130	28 Min	ZH601M8C130-28
140	Full	ZH601M8C140
140	28 Min	ZH601M8C140-28
150	Full	ZH601M8C150
150	28 Min	ZH601M8C150-28
160	28 Min	ZH601M8C160-28
170	28 Min	ZH601M8C170-28
180	28 Min	ZH601M8C180-28
190	28 Min	ZH601M8C190-28
200	28 Min	ZH601M8C200-28

Hex Head Cap Screws — Metric
18-8 SS | Plain



M10 x 1.25 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
20	Full	ZH601M10F20
25	Full	ZH601M10F25
30	Full	ZH601M10F30
35	Full	ZH601M10F35
40	Full	ZH601M10F40

M10 x 1.5 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
35	26 Min	ZH601M10C35-26
45	26 Min	ZH601M10C45-26
55	26 Min	ZH601M10C55-26
60	26 Min	ZH601M10C60-26
65	26 Min	ZH601M10C65-26
75	26 Min	ZH601M10C75-26
85	26 Min	ZH601M10C85-26
110	Full	ZH601M10C110
110	26 Min	ZH601M10C110-26
120	Full	ZH601M10C120
120	26 Min	ZH601M10C120-26
130	Full	ZH601M10C130
130	32 Min	ZH601M10C130-32
140	Full	ZH601M10C140
140	32 Min	ZH601M10C140-32
150	32 Min	ZH601M10C150-32
160	32 Min	ZH601M10C160-32
170	32 Min	ZH601M10C170-32
180	32 Min	ZH601M10C180-32
190	32 Min	ZH601M10C190-32
200	32 Min	ZH601M10C200-32

M12 x 1.75 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
12	Full	ZH601M12C12
18	Full	ZH601M12C18
40	30 Min	ZH601M12C40-30
45	30 Min	ZH601M12C45-30
50	30 Min	ZH601M12C50-30
55	30 Min	ZH601M12C55-30
60	30 Min	ZH601M12C60-30
65	30 Min	ZH601M12C65-30
75	Full	ZH601M12C75
75	30 Min	ZH601M12C75-30
80*	Full	ZS615M12X80
140	36 Min	ZH601M12C140-36
150	36 Min	ZH601M12C150-36
160	36 Min	ZH601M12C160-36
170	36 Min	ZH601M12C170-36
180	36 Min	ZH601M12C180-36
190	36 Min	ZH601M12C190-36
200	36 Min	ZH601M12C200-36

**18 mm Head Width*

M14 x 2 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
20	Full	ZH601M14C20
25	Full	ZH601M14C25
30	Full	ZH601M14C30
35	Full	ZH601M14C35
40	Full	ZH601M14C40
45	Full	ZH601M14C45
50	Full	ZH601M14C50
50	34 Min	ZH601M14C50-34
55	Full	ZH601M14C55
60	Full	ZH601M14C60
60	34 Min	ZH601M14C60-34
65	Full	ZH601M14C65
65	34 Min	ZH601M14C65-34

Hex Head Cap Screws — Metric

18-8 SS | Plain



M14 x 2 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
70	Full	ZH601M14C70
70	34 Min	ZH601M14C70-34
75	Full	ZH601M14C75
80	Full	ZH601M14C80
80	34 Min	ZH601M14C80-34
90	Full	ZH601M14C90
90	34 Min	ZH601M14C90-34
100	Full	ZH601M14C100
100	34 Min	ZH601M14C100-34
110	Full	ZH601M14C110
110	34 Min	ZH601M14C110-34
120	Full	ZH601M14C120
120	34 Min	ZH601M14C120-34
130	40 Min	ZH601M14C130-40
140	40 Min	ZH601M14C140-40
150	40 Min	ZH601M14C150-40
160	40 Min	ZH601M14C160-40
170	40 Min	ZH601M14C170-40
180	40 Min	ZH601M14C180-40
190	40 Min	ZH601M14C190-40
200	40 Min	ZH601M14C200-40

M16 x 2 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
20	Full	ZH601M16C20
45	38 Min	ZH601M16C45-38
50	38 Min	ZH601M16C50-38
55	38 Min	ZH601M16C55-38
60	38 Min	ZH601M16C60-38
70	38 Min	ZH601M16C70-38
75	38 Min	ZH601M16C75-38
80	38 Min	ZH601M16C80-38
90	Full	ZH601M16C90

M16 x 2 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
90	38 Min	ZH601M16C90-38
100	Full	ZH601M16C100
100	38 Min	ZH601M16C100-38
110	38 Min	ZH601M16C110-38
120	Full	ZH601M16C120
120	38 Min	ZH601M16C120-38
130	Full	ZH601M16C130
130	44 Min	ZH601M16C130-44
140	Full	ZH601M16C140
140	44 Min	ZH601M16C140-44
160	44 Min	ZH601M16C160-44
170	44 Min	ZH601M16C170-44
180	44 Min	ZH601M16C180-44
190	44 Min	ZH601M16C190-44
200	44 Min	ZH601M16C200-44

M18 x 2.5 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
30	Full	ZH601M18C30
35	Full	ZH601M18C35
40	Full	ZH601M18C40
45	Full	ZH601M18C45
50	Full	ZH601M18C50
55	Full	ZH601M18C55
60	Full	ZH601M18C60
60	42 Min	ZH601M18C60-42
65	Full	ZH601M18C65
70	Full	ZH601M18C70
70	42 Min	ZH601M18C70-42
75	Full	ZH601M18C75
80	Full	ZH601M18C80
80	42 Min	ZH601M18C80-42
90	Full	ZH601M18C90
90	42 Min	ZH601M18C90-42

Hex Head Cap Screws — Metric

18-8 SS | Plain



M18 x 2.5 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
100	Full	ZH601M18C100
100	42 Min	ZH601M18C100-42
110	42 Min	ZH601M18C110-42
120	Full	ZH601M18C120
120	42 Min	ZH601M18C120-42
130	Full	ZH601M18C130
130	48 Min	ZH601M18C130-48
150	48 Min	ZH601M18C150-48
170	48 Min	ZH601M18C170-48
180	48 Min	ZH601M18C180-48
200	48 Min	ZH601M18C200-48

M20 x 2.5 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
30	Full	ZH601M20C30
35	Full	ZH601M20C35
40	Full	ZH601M20C40
45	Full	ZH601M20C45
50	Full	ZH601M20C50
55	Full	ZH601M20C55
60	Full	ZH601M20C60
60	46 Min	ZH601M20C60-46
65	Full	ZH601M20C65
65	46 Min	ZH601M20C65-46
70	Full	ZH601M20C70
70	46 Min	ZH601M20C70-46
75	Full	ZH601M20C75
80	Full	ZH601M20C80
80	46 Min	ZH601M20C80-46
90	Full	ZH601M20C90
90	46 Min	ZH601M20C90-46

M20 x 2.5 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
100	Full	ZH601M20C100
100	46 Min	ZH601M20C100-46
110	Full	ZH601M20C110
120	Full	ZH601M20C120
120	46 Min	ZH601M20C120-46
130	Full	ZH601M20C130
130	52 Min	ZH601M20C130-52
140	Full	ZH601M20C140
140	52 Min	ZH601M20C140-52
150	52 Min	ZH601M20C150-52
160	52 Min	ZH601M20C160-52
170	52 Min	ZH601M20C170-52
180	52 Min	ZH601M20C180-52
190	52 Min	ZH601M20C190-52
200	52 Min	ZH601M20C200-52

M22 x 2.5 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
50	Full	ZH601M22C50
60	Full	ZH601M22C60
75	Full	ZH601M22C75
80	Full	ZH601M22C80
80	50 Min	ZH601M22C80-50
100	Full	ZH601M22C100
100	50 Min	ZH601M22C100-50
110	50 Min	ZH601M22C110-50
120	50 Min	ZH601M22C120-50
130	56 Min	ZH601M22C130-56
140	56 Min	ZH601M22C140-56
150	56 Min	ZH601M22C150-56
170	56 Min	ZH601M22C170-56
180	56 Min	ZH601M22C180-56
200	56 Min	ZH601M22C200-56

M24 x 3 Thread Size

Length	Full or Partial Threads	18-8 SS Part Number
40	Full	ZH601M24C40
50	Full	ZH601M24C50
55	Full	ZH601M24C55
60	Full	ZH601M24C60
65	Full	ZH601M24C65
70	Full	ZH601M24C70
75	Full	ZH601M24C75
75	54 Min	ZH601M24C75-54
80	Full	ZH601M24C80
80	54 Min	ZH601M24C80-54
85	Full	ZH601M24C85
90	Full	ZH601M24C90
90	54 Min	ZH601M24C90-54
100	Full	ZH601M24C100
100	54 Min	ZH601M24C100-54
110	Full	ZH601M24C110
110	54 Min	ZH601M24C110-54
120	Full	ZH601M24C120
120	54 Min	ZH601M24C120-54
130	Full	ZH601M24C130
140	Full	ZH601M24C140
150	60 Min	ZH601M24C150-60
160	60 Min	ZH601M24C160-60
170	60 Min	ZH601M24C170-60
180	60 Min	ZH601M24C180-60
190	60 Min	ZH601M24C190-60
200	60 Min	ZH601M24C200-60

Hex Head Cap Screws — Metric

316 SS | Plain | Black Oxide



M6 x 1mm Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox. Part Number
12	Full	ZH602M6CX12	ZH602M6CX12-BX
16	Full	ZH602M6CX16	ZH602M6CX16-BX
20	Full	ZH602M6CX20	ZH602M6CX20-BX
25	Full	ZH602M6CX25	ZH602M6CX25-BX
30	Full	ZH602M6CX30	ZH602M6CX30-BX
40	Full	ZH602M6CX40	ZH602M6CX40-BX

M8 x 1mm Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox. Part Number
16	Full	ZH602M8FX16	ZH602M8FX16-BX
20	Full	ZH602M8FX20	ZH602M8FX20-BX
25	Full	ZH602M8FX25	ZH602M8FX25-BX
30	Full	ZH602M8FX30	ZH602M8FX30-BX
35	Full	ZH602M8FX35	ZH602M8FX35-BX
40	Full	ZH602M8FX40	ZH602M8FX40-BX
45	Full	ZH602M8FX45	ZH602M8FX45-BX
50	Full	ZH602M8FX50	ZH602M8FX50-BX
60	Full	ZH602M8FX60	ZH602M8FX60-BX

M8 x 1.25mm Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox. Part Number
16	Full	ZH602M8CX16	ZH602M8CX16-BX
20	Full	ZH602M8CX20	ZH602M8CX20-BX
25	Full	ZH602M8CX25	ZH602M8CX25-BX
30	Full	ZH602M8CX30	ZH602M8CX30-BX
35	Full	ZH602M8CX35	ZH602M8CX35-BX
40	Full	ZH602M8CX40	ZH602M8CX40-BX
45	Full	ZH602M8CX45	ZH602M8CX45-BX
50	Full	ZH602M8CX50	ZH602M8CX50-BX
60	Full	ZH602M8CX60	ZH602M8CX60-BX

Dimensions Table — Metric

Thread Size	Head Diameter	Head Height
M6 x 1mm	10.00	4.00
M8 x 1mm	13.00	5.30
M8 x 1.25mm	13.00	5.30
M10 x 1.25mm	17.00	6.40
M10 x 1.5mm	17.00	6.40
M12 x 1.75mm	19.00	7.50

M10 x 1.25mm Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox. Part Number
20	Full	ZH602M10FX20	ZH602M10FX20-BX
25	Full	ZH602M10FX25	ZH602M10FX25-BX
35	Full	ZH602M10FX35	ZH602M10FX35-BX
40	Full	ZH602M10FX40	ZH602M10FX40-BX
45	Full	ZH602M10FX45	ZH602M10FX45-BX
50	Full	ZH602M10FX50	ZH602M10FX50-BX
60	Full	ZH602M10FX60	ZH602M10FX60-BX

M10 x 1.5mm Thread Size

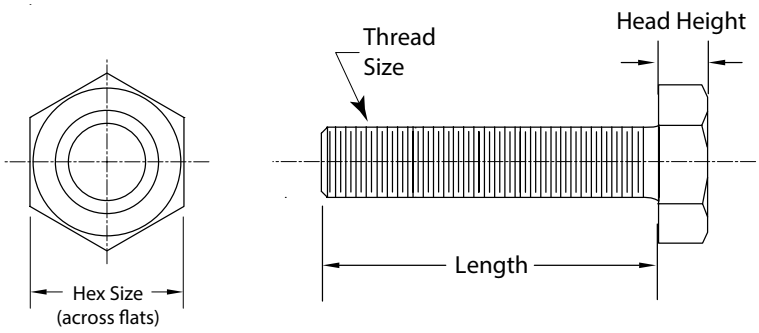
Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox. Part Number
20	Full	ZH602M10CX20	ZH602M10CX20-BX
25	Full	ZH602M10CX25	ZH602M10CX25-BX
30	Full	ZH602M10CX30	ZH602M10CX30-BX
35	Full	ZH602M10CX35	ZH602M10CX35-BX
40	Full	ZH602M10CX40	ZH602M10CX40-BX
45	Full	ZH602M10CX45	ZH602M10CX45-BX
50	Full	ZH602M10CX50	ZH602M10CX50-BX
60	Full	ZH602M10CX60	ZH602M10CX60-BX

M12 x 1.75mm Thread Size

Length	Full or Partial Threads	316 SS Part Number	316 SS, Bl Ox. Part Number
25	Full	ZH602M12CX25	ZH602M12CX25-BX
30	Full	ZH602M12CX30	ZH602M12CX30-BX
35	Full	ZH602M12CX35	ZH602M12CX35-BX
40	Full	ZH602M12CX40	ZH602M12CX40-BX
50	Full	ZH602M12CX50	ZH602M12CX50-BX
60	Full	ZH602M12CX60	ZH602M12CX60-BX

Hex Head Cap Screws — Metric

316 H5 SS | Plain





Dimensions Table — Metric

Thread Size	Head Diameter	Head Height
M2 x 0.4mm	5.50	2.00
M3 x 0.5mm	5.50	2.00
M4 x 0.7mm	7.00	2.80
M5 x 0.8mm	8.00	3.50
M6 x 1mm	10.00	4.00
M8 x 1.25mm	13.00	5.30
M10 x 1.5mm	16.00	6.40
M12 x 1.75mm	18.00	7.50

M2 x 0.4mm Thread Size

Length	Full or Partial Threads	316 H5 SS Part Number
6	Full	ZS616M2X6
8	Full	ZS616M2X8

M3 x 0.5mm Thread Size

Length	Full or Partial Threads	316 H5 SS Part Number
6	Full	ZS616M3X6
8	Full	ZS616M3X8
10	Full	ZS616M3X10
12	Full	ZS616M3X12
14	Full	ZS616M3X14
16	Full	ZS616M3X16

M4 x 0.7mm Thread Size

Length	Full or Partial Threads	316 H5 SS Part Number
8	Full	ZS616M4X8
10	Full	ZS616M4X10
12	Full	ZS616M4X12
14	Full	ZS616M4X14
16	Full	ZS616M4X16
20	Full	ZS616M4X20
25	Full	ZS616M4X25
30	Full	ZS616M4X30

M5 x 0.8mm Thread Size

Length	Full or Partial Threads	316 H5 SS Part Number
10	Full	ZS616M5X10
12	Full	ZS616M5X12
14	Full	ZS616M5X14
16	Full	ZS616M5X16
20	Full	ZS616M5X20
25	Full	ZS616M5X25

M6 x 1mm Thread Size

Length	Full or Partial Threads	316 H5 Part Number
10	Full	ZS616M6X10
12	Full	ZS616M6X12
14	Full	ZS616M6X14
16	Full	ZS616M6X16
20	Full	ZS616M6X20
25	Full	ZS616M6X25
30	Full	ZS616M6X30
35	Full	ZS616M6X35
40	22 Min	ZS616M6X40

M8 x 1.25mm Thread Size

Length	Full or Partial Threads	316 H5 Part Number
16	Full	ZS616M8X16
20	Full	ZS616M8X20
25	Full	ZS616M8X25
30	Full	ZS616M8X30
35	Full	ZS616M8X35
40	Full	ZS616M8X40
50	Full	ZS616M8X50

M10 x 1.5mm Thread Size

Length	Full or Partial Threads	316 H5 Part Number
25	Full	ZS616M10X25
30	Full	ZS616M10X30
35	Full	ZS616M10X35
40	Full	ZS616M10X40
50	Full	ZS616M10X50

M12 x 1.75mm Thread Size

Length	Full or Partial Threads	316 H5 Part Number
30	Full	ZS616M12X30
35	Full	ZS616M12X35
40	Full	ZS616M12X40
50	Full	ZS616M12X50

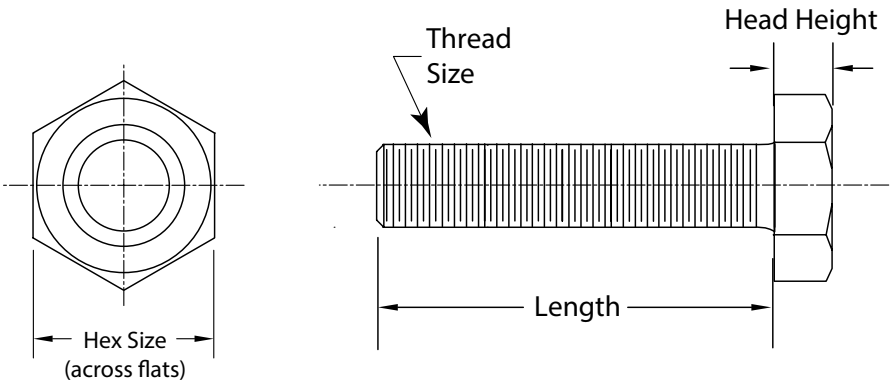
Hex Head Cap Screws (fully threaded) — Metric

Aluminum | Plain | Black Anodized



Product Information

These fully threaded hex head screws can be screwed all the way into a threaded or tapped hole. Aluminum 6061 -T6 screws are lightweight, resist corrosion in wet environments and nonmagnetic. Screws have a Class 6g thread fit. These screws meet ISO 4017-1979 / DIN 933 - 1987.



Dimensions Table — Metric

Thread Size	Hex Size	Head Height
M6 x 1mm	10.00	4.00
M8 x 1mm	13.00	5.30
M8 x 1.25mm	13.00	5.30
M10 x 1.5mm	17.00	6.40
M10 x 1.5mm	17.00	6.40
M12 x 1.75mm	19.00	7.50

M6 x 1mm Thread Size

Lg.	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
12	ZH721M6C12	ZH721M6C12-BK
16	ZH721M6C16	ZH721M6C16-BK
20	ZH721M6C20	ZH721M6C20-BK
25	ZH721M6C25	ZH721M6C25-BK
30	ZH721M6C30	ZH721M6C30-BK
40	ZH721M6C40	ZH721M6C40-BK

M8 x 1mm Thread Size

Lg.	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
16	ZH721M8F16	ZH721M8F16-BK
20	ZH721M8F20	ZH721M8F20-BK
25	ZH721M8F25	ZH721M8F25-BK
30	ZH721M8F30	ZH721M8F30-BK
35	ZH721M8F35	ZH721M8F35-BK
40	ZH721M8F40	ZH721M8F40-BK
45	ZH721M8F45	ZH721M8F45-BK
50	ZH721M8F50	ZH721M8F50-BK
60	ZH721M8F60	ZH721M8F60-BK

M8 x 1.25mm Thread Size

Lg.	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
16	ZH721M8C16	ZH721M8C16-BK
20	ZH721M8C20	ZH721M8C20-BK
25	ZH721M8C25	ZH721M8C25-BK
30	ZH721M8C30	ZH721M8C30-BK
35	ZH721M8C35	ZH721M8C35-BK
40	ZH721M8C40	ZH721M8C40-BK
45	ZH721M8C45	ZH721M8C45-BK
50	ZH721M8C50	ZH721M8C50-BK
60	ZH721M8C60	ZH721M8C60-BK

M10 x 1.25mm Thread Size

Lg.	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
20	ZH721M10F20	ZH721M10F20-BK
25	ZH721M10F25	ZH721M10F25-BK
35	ZH721M10F35	ZH721M10F35-BK
40	ZH721M10F40	ZH721M10F40-BK
45	ZH721M10F45	ZH721M10F45-BK
50	ZH721M10F50	ZH721M10F50-BK
60	ZH721M10F60	ZH721M10F60-BK

M10 x 1.5mm Thread Size

Lg.	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
20	ZH721M10C20	ZH721M10C20-BK
25	ZH721M10C25	ZH721M10C25-BK
30	ZH721M10C30	ZH721M10C30-BK
35	ZH721M10C35	ZH721M10C35-BK
40	ZH721M10C40	ZH721M10C40-BK
45	ZH721M10C45	ZH721M10C45-BK
50	ZH721M10C50	ZH721M10C50-BK
60	ZH721M10C60	ZH721M10C60-BK

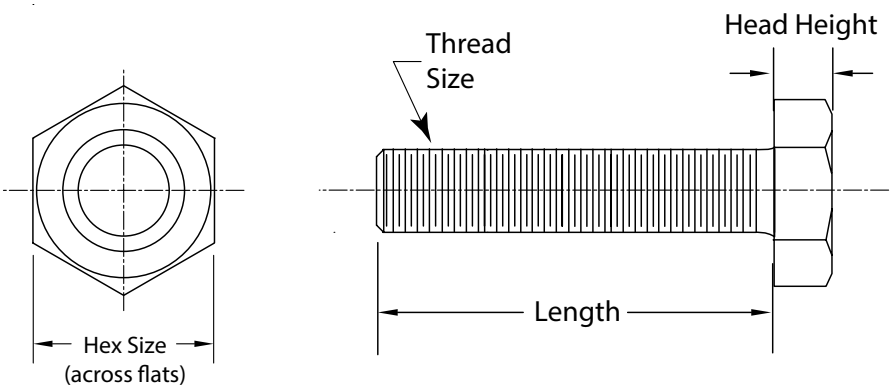
M12 x 1.75mm Thread Size

Lg.	Aluminum Part Number	Aluminum, Bl. Anodized Part Number
25	ZH721M12C25	ZH721M12C25-BK
30	ZH721M12C30	ZH721M12C30-BK
35	ZH721M12C35	ZH721M12C35-BK
40	ZH721M12C40	ZH721M12C40-BK
50	ZH721M12C50	ZH721M12C50-BK
60	ZH721M12C60	ZH721M12C60-BK

Hex Head Cap Screws — Metric

Brass | Plain





Dimensions Table — Metric

Thread Size	Head Diameter	Head Height
M4 x 0.7mm	7.00	2.80
M8 x 1mm	13.00	5.30
M8 x 1.25mm	13.00	5.30
M10 x 1.25mm	17.00	6.40
M10 x 1.5mm	17.00	6.40
M12 x 1.75mm	19.00	7.50

M4 x 0.7 Thread Size

Length	Full or Partial Threads	Brass Part Number
8	Full	ZH406M4CX8
10	Full	ZH406M4CX10
12	Full	ZH406M4CX12
16	Full	ZH406M4CX16
20	Full	ZH406M4CX20
25	Full	ZH406M4CX25
30	Full	ZH406M4CX30

M8 x 1 Thread Size

Length	Full or Partial Threads	Brass Part Number
16	Full	ZH406M8FX16
20	Full	ZH406M8FX20
25	Full	ZH406M8FX25
30	Full	ZH406M8FX30

M8 x 1.25 Thread Size

Length	Full or Partial Threads	Brass Part Number
45	Full	ZH406M8CX45
60	Full	ZH406M8CX60

M10 x 1.25 Thread Size

Length	Full or Partial Threads	Brass Part Number
20	Full	ZH406M10FX20
25	Full	ZH406M10FX25
35	Full	ZH406M10FX35
40	Full	ZH406M10FX40

M10 x 1.5 Thread Size

Length	Full or Partial Threads	Brass Part Number
45	Full	ZH406M10CX45
60	Full	ZH406M10CX60

M12 x 1.75 Thread Size

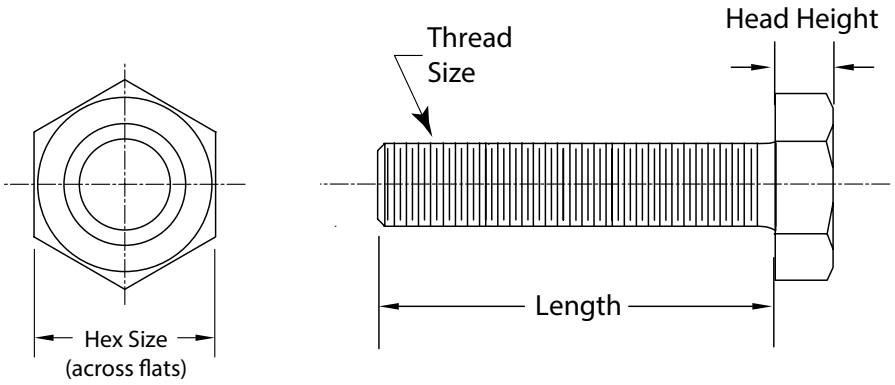
Length	Full or Partial Threads	Brass Part Number
30	Full	ZH406M12CX30
35	Full	ZH406M12CX35

Hex Head Cap Screws — Metric

17-4 PH SS | Plain

Product Information

Fully threaded hex head screws can be screwed all the way into a threaded or tapped hole. Partially threaded hex head screws have an unthreaded portion under the head that adds strength but prevents them from being screwed all the way into a threaded hole. 17-4 PH stainless steel maintains excellent corrosion resistance and strength at high temperatures. Screws have a Class 6g thread fit. These screws meet ISO 4017-1979 / DIN 933 - 1987.





Dimensions Table — Metric

Thread Size	Hex Size	Head Height
M6 x 1mm	10.00	4.00
M8 x 1.25mm	13.00	5.30
M10 x 1.5mm	16.00	6.40
M12 x 1.75mm	18.00	7.50

M6 x 1mm Thread Size

Length	Full or Partial Threads	17-4 PH SS Part Number
10	Full	ZH744M6X10
12	Full	ZH744M6X12
14	Full	ZH744M6X14
16	Full	ZH744M6X16
20	Full	ZH744M6X20
25	Full	ZH744M6X25
30	Full	ZH744M6X30
35	Full	ZH744M6X35
40	24mm Min	ZH744M6X40

M8 x 1.25mm Thread Size

Length	Full or Partial Threads	17-4 PH SS Part Number
16	Full	ZH744M8X16
20	Full	ZH744M8X20
25	Full	ZH744M8X25
30	Full	ZH744M8X30
35	Full	ZH744M8X35
40	Full	ZH744M8X40
50	Full	ZH744M8X50

M10 x 1.5mm Thread Size

Length	Full or Partial Threads	17-4 PH SS Part Number
25	Full	ZH744M10X25
30	Full	ZH744M10X30
35	Full	ZH744M10X35
40	Full	ZH744M10X40
50	Full	ZH744M10X50

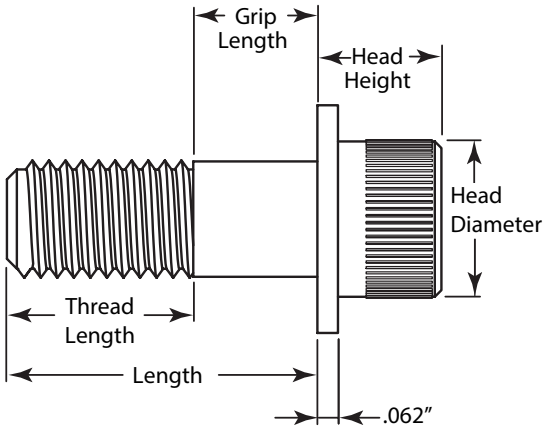
M12 x 1.75mm Thread Size

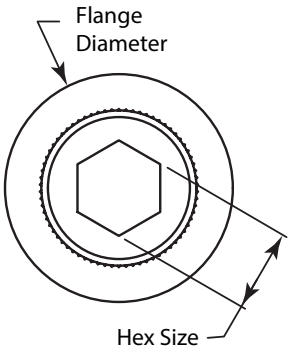
Length	Full or Partial Threads	17-4 PH SS Part Number
30	Full	ZH744M12X30
35	Full	ZH744M12X35
40	Full	ZH744M12X40
50	Full	ZH744M12X50

Flange Head Socket Cap Screw — Inch (Prairie Bolt™)

Product Information

When a bolt is used in an application that is primarily tension, both the head and nut should be heavy enough to handle tension loads. The heavy heads of a Prairie Bolt™ are designed with a flange which increases surface contact, improves holding power, and distributes loads over a larger area than standard hex head and socket head cap screws. The flange head's built-in washer prevents crushing thinner materials and is also a good choice for fastening aluminum, copper and composites. The head height includes the 1/16" flange thickness. Class 3A thread fit. Available in socket head or hex head styles.







18-8 SS



316 SS



17-4 PH SS



Aluminum

Dimensions Table — Inch							
Thread Size	**Head Diameter**	**O'all Head Height**	**Flange Thickness**	**Flange Diameter**	**Thread Length**	**Unthreaded Shank Dia.**	**Drive Size**
8-32	17/64	15/64	1/16	3/8	3/16	.163 - .160	9/64
10-32	5/16	1/4	1/16	7/16	3/8	.189 - .186	5/32
1/4-20	3/8	5/16	1/16	9/16	7/16	.249 - .246	3/16
5/16-18	15/32	3/8	1/16	11/16	1/2	.312 - .309	1/4
3/8-16	9/16	7/16	1/16	13/16	5/8	.374 - .371	5/16
1/2-13	3/4	9/16	1/16	1-1/16	3/4	.499 - .495	3/8

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

Flange Head Socket Cap Screw — Inch

18-8 SS | Plain



Grip Lengths	8-32 Thread Part Number	10-32 Thread Part Number	1/4-20 Thread Part Number	5/16-18 Thread Part Number	3/8-16 Thread Part Number	1/2-13 Thread Part Number
1/8	ZPS60108C02	ZPS60110F02	ZPS60114C02	ZPS60151C02	ZPS60138C02	ZPS60112C02
1/4	ZPS60108C04	ZPS60110F04	ZPS60114C04	ZPS60151C04	ZPS60138C04	ZPS60112C04
3/8	ZPS60108C06	ZPS60110F06	ZPS60114C06	ZPS60151C06	ZPS60138C06	ZPS60112C06
1/2	ZPS60108C08	ZPS60110F08	ZPS60114C08	ZPS60151C08	ZPS60138C08	ZPS60112C08
5/8	ZPS60108C10	ZPS60110F10	ZPS60114C10	ZPS60151C10	ZPS60138C10	ZPS60112C10
3/4	ZPS60108C12	ZPS60110F12	ZPS60114C12	ZPS60151C12	ZPS60138C12	ZPS60112C12
7/8	ZPS60108C14	ZPS60110F14	ZPS60114C14	ZPS60151C14	ZPS60138C14	ZPS60112C14
1	ZPS60108C16	ZPS60110F16	ZPS60114C16	ZPS60151C16	ZPS60138C16	ZPS60112C16
1-1/8	ZPS60108C18	ZPS60110F18	ZPS60114C18	ZPS60151C18	ZPS60138C18	ZPS60112C18
1-1/4	ZPS60108C20	ZPS60110F20	ZPS60114C20	ZPS60151C20	ZPS60138C20	ZPS60112C20
1-3/8	ZPS60108C22	ZPS60110F22	ZPS60114C22	ZPS60151C22	ZPS60138C22	ZPS60112C22
1-1/2	ZPS60108C24	ZPS60110F24	ZPS60114C24	ZPS60151C24	ZPS60138C24	ZPS60112C24
1-5/8	ZPS60108C26	ZPS60110F26	ZPS60114C26	ZPS60151C26	ZPS60138C26	ZPS60112C26
1-3/4	ZPS60108C28	ZPS60110F28	ZPS60114C28	ZPS60151C28	ZPS60138C28	ZPS60112C28
1-7/8	ZPS60108C30	ZPS60110F30	ZPS60114C30	ZPS60151C30	ZPS60138C30	ZPS60112C30
2	ZPS60108C32	ZPS60110F32	ZPS60114C32	ZPS60151C32	ZPS60138C32	ZPS60112C32
2-1/8	ZPS60108C34	ZPS60110F34	ZPS60114C34	ZPS60151C34	ZPS60138C34	ZPS60112C34
2-1/4	ZPS60108C36	ZPS60110F36	ZPS60114C36	ZPS60151C36	ZPS60138C36	ZPS60112C36
2-3/8	ZPS60108C38	ZPS60110F38	ZPS60114C38	ZPS60151C38	ZPS60138C38	ZPS60112C38
2-1/2	ZPS60108C40	ZPS60110F40	ZPS60114C40	ZPS60151C40	ZPS60138C40	ZPS60112C40
2-5/8	ZPS60108C42	ZPS60110F42	ZPS60114C42	ZPS60151C42	ZPS60138C42	ZPS60112C42
2-3/4	ZPS60108C44	ZPS60110F44	ZPS60114C44	ZPS60151C44	ZPS60138C44	ZPS60112C44
2-7/8	ZPS60108C46	ZPS60110F46	ZPS60114C46	ZPS60151C46	ZPS60138C46	ZPS60112C46
3	ZPS60108C48	ZPS60110F48	ZPS60114C48	ZPS60151C48	ZPS60138C48	ZPS60112C48
3-1/8	ZPS60108C50	ZPS60110F50	ZPS60114C50	ZPS60151C50	ZPS60138C50	ZPS60112C50
3-1/4	ZPS60108C52	ZPS60110F52	ZPS60114C52	ZPS60151C52	ZPS60138C52	ZPS60112C52
3-3/8	ZPS60108C54	ZPS60110F54	ZPS60114C54	ZPS60151C54	ZPS60138C54	ZPS60112C54
3-1/2	ZPS60108C56	ZPS60110F56	ZPS60114C56	ZPS60151C56	ZPS60138C56	ZPS60112C56
3-5/8	ZPS60108C58	ZPS60110F58	ZPS60114C58	ZPS60151C58	ZPS60138C58	ZPS60112C58
3-3/4	ZPS60108C60	ZPS60110F60	ZPS60114C60	ZPS60151C60	ZPS60138C60	ZPS60112C60
3-7/8	ZPS60108C62	ZPS60110F62	ZPS60114C62	ZPS60151C62	ZPS60138C62	ZPS60112C62
4	ZPS60108C64	ZPS60110F64	ZPS60114C64	ZPS60151C64	ZPS60138C64	ZPS60112C64

Flange Head Socket Cap Screw — Inch

316 SS | Plain



Grip Lengths	8-32 Thread Part Number	10-32 Thread Part Number	1/4-20 Thread Part Number	5/16-18 Thread Part Number	3/8-16 Thread Part Number	1/2-13 Thread Part Number
1/8	ZPS60208C02	ZPS60210F02	ZPS60214C02	ZPS60251C02	ZPS60238C02	ZPS60212C02
1/4	ZPS60208C04	ZPS60210F04	ZPS60214C04	ZPS60251C04	ZPS60238C04	ZPS60212C04
3/8	ZPS60208C06	ZPS60210F06	ZPS60214C06	ZPS60251C06	ZPS60238C06	ZPS60212C06
1/2	ZPS60208C08	ZPS60210F08	ZPS60214C08	ZPS60251C08	ZPS60238C08	ZPS60212C08
5/8	ZPS60208C10	ZPS60210F10	ZPS60214C10	ZPS60251C10	ZPS60238C10	ZPS60212C10
3/4	ZPS60208C12	ZPS60210F12	ZPS60214C12	ZPS60251C12	ZPS60238C12	ZPS60212C12
7/8	ZPS60208C14	ZPS60210F14	ZPS60214C14	ZPS60251C14	ZPS60238C14	ZPS60212C14
1	ZPS60208C16	ZPS60210F16	ZPS60214C16	ZPS60251C16	ZPS60238C16	ZPS60212C16
1-1/8	ZPS60208C18	ZPS60210F18	ZPS60214C18	ZPS60251C18	ZPS60238C18	ZPS60212C18
1-1/4	ZPS60208C20	ZPS60210F20	ZPS60214C20	ZPS60251C20	ZPS60238C20	ZPS60212C20
1-3/8	ZPS60208C22	ZPS60210F22	ZPS60214C22	ZPS60251C22	ZPS60238C22	ZPS60212C22
1-1/2	ZPS60208C24	ZPS60210F24	ZPS60214C24	ZPS60251C24	ZPS60238C24	ZPS60212C24
1-5/8	ZPS60208C26	ZPS60210F26	ZPS60214C26	ZPS60251C26	ZPS60238C26	ZPS60212C26
1-3/4	ZPS60208C28	ZPS60210F28	ZPS60214C28	ZPS60251C28	ZPS60238C28	ZPS60212C28
1-7/8	ZPS60208C30	ZPS60210F30	ZPS60214C30	ZPS60251C30	ZPS60238C30	ZPS60212C30
2	ZPS60208C32	ZPS60210F32	ZPS60214C32	ZPS60251C32	ZPS60238C32	ZPS60212C32
2-1/8	ZPS60208C34	ZPS60210F34	ZPS60214C34	ZPS60251C34	ZPS60238C34	ZPS60212C34
2-1/4	ZPS60208C36	ZPS60210F36	ZPS60214C36	ZPS60251C36	ZPS60238C36	ZPS60212C36
2-3/8	ZPS60208C38	ZPS60210F38	ZPS60214C38	ZPS60251C38	ZPS60238C38	ZPS60212C38
2-1/2	ZPS60208C40	ZPS60210F40	ZPS60214C40	ZPS60251C40	ZPS60238C40	ZPS60212C40
2-5/8	ZPS60208C42	ZPS60210F42	ZPS60214C42	ZPS60251C42	ZPS60238C42	ZPS60212C42
2-3/4	ZPS60208C44	ZPS60210F44	ZPS60214C44	ZPS60251C44	ZPS60238C44	ZPS60212C44
2-7/8	ZPS60208C46	ZPS60210F46	ZPS60214C46	ZPS60251C46	ZPS60238C46	ZPS60212C46
3	ZPS60208C48	ZPS60210F48	ZPS60214C48	ZPS60251C48	ZPS60238C48	ZPS60212C48
3-1/8	ZPS60208C50	ZPS60210F50	ZPS60214C50	ZPS60251C50	ZPS60238C50	ZPS60212C50
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3-1/2	ZPS60208C56	ZPS60210F56	ZPS60214C56	ZPS60251C56	ZPS60238C56	ZPS60212C56
3-5/8	ZPS60208C58	ZPS60210F58	ZPS60214C58	ZPS60251C58	ZPS60238C58	ZPS60212C58
3-3/4	ZPS60208C60	ZPS60210F60	ZPS60214C60	ZPS60251C60	ZPS60238C60	ZPS60212C60
3-7/8	ZPS60208C62	ZPS60210F62	ZPS60214C62	ZPS60251C62	ZPS60238C62	ZPS60212C62
4	ZPS60208C64	ZPS60210F64	ZPS60214C64	ZPS60251C64	ZPS60238C64	ZPS60212C64

Flange Head Socket Cap Screw — Inch

17-4 PH SS | Plain



Grip Lengths	8-32 Thread Part Number	10-32 Thread Part Number	1/4-20 Thread Part Number	5/16-18 Thread Part Number	3/8-16 Thread Part Number	1/2-13 Thread Part Number
1/8	ZPS44008C02	ZPS44010F02	ZPS44014C02	ZPS44051C02	ZPS44038C02	ZPS44012C02
1/4	ZPS44008C04	ZPS44010F04	ZPS44014C04	ZPS44051C04	ZPS44038C04	ZPS44012C04
3/8	ZPS44008C06	ZPS44010F06	ZPS44014C06	ZPS44051C06	ZPS44038C06	ZPS44012C06
1/2	ZPS44008C08	ZPS44010F08	ZPS44014C08	ZPS44051C08	ZPS44038C08	ZPS44012C08
5/8	ZPS44008C10	ZPS44010F10	ZPS44014C10	ZPS44051C10	ZPS44038C10	ZPS44012C10
3/4	ZPS44008C12	ZPS44010F12	ZPS44014C12	ZPS44051C12	ZPS44038C12	ZPS44012C12
7/8	ZPS44008C14	ZPS44010F14	ZPS44014C14	ZPS44051C14	ZPS44038C14	ZPS44012C14
1	ZPS44008C16	ZPS44010F16	ZPS44014C16	ZPS44051C16	ZPS44038C16	ZPS44012C16
1-1/8	ZPS44008C18	ZPS44010F18	ZPS44014C18	ZPS44051C18	ZPS44038C18	ZPS44012C18
1-1/4	ZPS44008C20	ZPS44010F20	ZPS44014C20	ZPS44051C20	ZPS44038C20	ZPS44012C20
1-3/8	ZPS44008C22	ZPS44010F22	ZPS44014C22	ZPS44051C22	ZPS44038C22	ZPS44012C22
1-1/2	ZPS44008C24	ZPS44010F24	ZPS44014C24	ZPS44051C24	ZPS44038C24	ZPS44012C24
1-5/8	ZPS44008C26	ZPS44010F26	ZPS44014C26	ZPS44051C26	ZPS44038C26	ZPS44012C26
1-3/4	ZPS44008C28	ZPS44010F28	ZPS44014C28	ZPS44051C28	ZPS44038C28	ZPS44012C28
1-7/8	ZPS44008C30	ZPS44010F30	ZPS44014C30	ZPS44051C30	ZPS44038C30	ZPS44012C30
2	ZPS44008C32	ZPS44010F32	ZPS44014C32	ZPS44051C32	ZPS44038C32	ZPS44012C32
2-1/8	ZPS44008C34	ZPS44010F34	ZPS44014C34	ZPS44051C34	ZPS44038C34	ZPS44012C34
2-1/4	ZPS44008C36	ZPS44010F36	ZPS44014C36	ZPS44051C36	ZPS44038C36	ZPS44012C36
2-3/8	ZPS44008C38	ZPS44010F38	ZPS44014C38	ZPS44051C38	ZPS44038C38	ZPS44012C38
2-1/2	ZPS44008C40	ZPS44010F40	ZPS44014C40	ZPS44051C40	ZPS44038C40	ZPS44012C40
2-5/8	ZPS44008C42	ZPS44010F42	ZPS44014C42	ZPS44051C42	ZPS44038C42	ZPS44012C42
2-3/4	ZPS44008C44	ZPS44010F44	ZPS44014C44	ZPS44051C44	ZPS44038C44	ZPS44012C44
2-7/8	ZPS44008C46	ZPS44010F46	ZPS44014C46	ZPS44051C46	ZPS44038C46	ZPS44012C46
3	ZPS44008C48	ZPS44010F48	ZPS44014C48	ZPS44051C48	ZPS44038C48	ZPS44012C48
3-1/8	ZPS44008C50	ZPS44010F50	ZPS44014C50	ZPS44051C50	ZPS44038C50	ZPS44012C50
3-1/4	ZPS44008C52	ZPS44010F52	ZPS44014C52	ZPS44051C52	ZPS44038C52	ZPS44012C52
3-3/8	ZPS44008C54	ZPS44010F54	ZPS44014C54	ZPS44051C54	ZPS44038C54	ZPS44012C54
3-1/2	ZPS44008C56	ZPS44010F56	ZPS44014C56	ZPS44051C56	ZPS44038C56	ZPS44012C56
3-5/8	ZPS44008C58	ZPS44010F58	ZPS44014C58	ZPS44051C58	ZPS44038C58	ZPS44012C58
3-3/4	ZPS44008C60	ZPS44010F60	ZPS44014C60	ZPS44051C60	ZPS44038C60	ZPS44012C60
3-7/8	ZPS44008C62	ZPS44010F62	ZPS44014C62	ZPS44051C62	ZPS44038C62	ZPS44012C62
4	ZPS44008C64	ZPS44010F64	ZPS44014C64	ZPS44051C64	ZPS44038C64	ZPS44012C64

Flange Head Socket Cap Screw — Inch

Aluminum | Plain



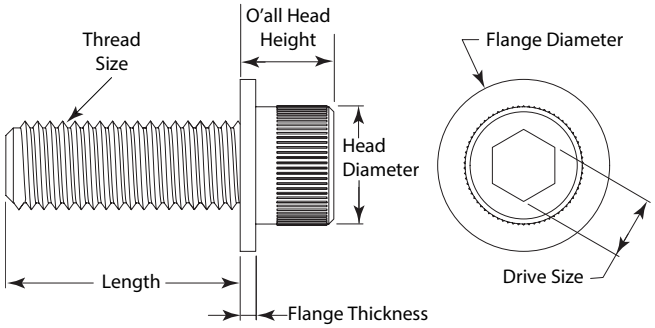
Grip Lengths	8-32 Thread Part Number	10-32 Thread Part Number	1/4-20 Thread Part Number	5/16-18 Thread Part Number	3/8-16 Thread Part Number	1/2-13 Thread Part Number
1/8	ZPS72008C02	ZPS72010F02	ZPS72014C02	ZPS72051C02	ZPS72038C02	ZPS72012C02
1/4	ZPS72008C04	ZPS72010F04	ZPS72014C04	ZPS72051C04	ZPS72038C04	ZPS72012C04
3/8	ZPS72008C06	ZPS72010F06	ZPS72014C06	ZPS72051C06	ZPS72038C06	ZPS72012C06
1/2	ZPS72008C08	ZPS72010F08	ZPS72014C08	ZPS72051C08	ZPS72038C08	ZPS72012C08
5/8	ZPS72008C10	ZPS72010F10	ZPS72014C10	ZPS72051C10	ZPS72038C10	ZPS72012C10
3/4	ZPS72008C12	ZPS72010F12	ZPS72014C12	ZPS72051C12	ZPS72038C12	ZPS72012C12
7/8	ZPS72008C14	ZPS72010F14	ZPS72014C14	ZPS72051C14	ZPS72038C14	ZPS72012C14
1	ZPS72008C16	ZPS72010F16	ZPS72014C16	ZPS72051C16	ZPS72038C16	ZPS72012C16
1-1/8	ZPS72008C18	ZPS72010F18	ZPS72014C18	ZPS72051C18	ZPS72038C18	ZPS72012C18
1-1/4	ZPS72008C20	ZPS72010F20	ZPS72014C20	ZPS72051C20	ZPS72038C20	ZPS72012C20
1-3/8	ZPS72008C22	ZPS72010F22	ZPS72014C22	ZPS72051C22	ZPS72038C22	ZPS72012C22
1-1/2	ZPS72008C24	ZPS72010F24	ZPS72014C24	ZPS72051C24	ZPS72038C24	ZPS72012C24
1-5/8	ZPS72008C26	ZPS72010F26	ZPS72014C26	ZPS72051C26	ZPS72038C26	ZPS72012C26
1-3/4	ZPS72008C28	ZPS72010F28	ZPS72014C28	ZPS72051C28	ZPS72038C28	ZPS72012C28
1-7/8	ZPS72008C30	ZPS72010F30	ZPS72014C30	ZPS72051C30	ZPS72038C30	ZPS72012C30
2	ZPS72008C32	ZPS72010F32	ZPS72014C32	ZPS72051C32	ZPS72038C32	ZPS72012C32
2-1/8	ZPS72008C34	ZPS72010F34	ZPS72014C34	ZPS72051C34	ZPS72038C34	ZPS72012C34
2-1/4	ZPS72008C36	ZPS72010F36	ZPS72014C36	ZPS72051C36	ZPS72038C36	ZPS72012C36
2-3/8	ZPS72008C38	ZPS72010F38	ZPS72014C38	ZPS72051C38	ZPS72038C38	ZPS72012C38
2-1/2	ZPS72008C40	ZPS72010F40	ZPS72014C40	ZPS72051C40	ZPS72038C40	ZPS72012C40
2-5/8	ZPS72008C42	ZPS72010F42	ZPS72014C42	ZPS72051C42	ZPS72038C42	ZPS72012C42
2-3/4	ZPS72008C44	ZPS72010F44	ZPS72014C44	ZPS72051C44	ZPS72038C44	ZPS72012C44
2-7/8	ZPS72008C46	ZPS72010F46	ZPS72014C46	ZPS72051C46	ZPS72038C46	ZPS72012C46
3	ZPS72008C48	ZPS72010F48	ZPS72014C48	ZPS72051C48	ZPS72038C48	ZPS72012C48
3-1/8	ZPS72008C50	ZPS72010F50	ZPS72014C50	ZPS72051C50	ZPS72038C50	ZPS72012C50
3-1/4	ZPS72008C52	ZPS72010F52	ZPS72014C52	ZPS72051C52	ZPS72038C52	ZPS72012C52
3-3/8	ZPS72008C54	ZPS72010F54	ZPS72014C54	ZPS72051C54	ZPS72038C54	ZPS72012C54
3-1/2	ZPS72008C56	ZPS72010F56	ZPS72014C56	ZPS72051C56	ZPS72038C56	ZPS72012C56
3-5/8	ZPS72008C58	ZPS72010F58	ZPS72014C58	ZPS72051C58	ZPS72038C58	ZPS72012C58
3-3/4	ZPS72008C60	ZPS72010F60	ZPS72014C60	ZPS72051C60	ZPS72038C60	ZPS72012C60
3-7/8	ZPS72008C62	ZPS72010F62	ZPS72014C62	ZPS72051C62	ZPS72038C62	ZPS72012C62
4	ZPS72008C64	ZPS72010F64	ZPS72014C64	ZPS72051C64	ZPS72038C64	ZPS72012C64

Flange Head Socket Cap Screws, Fully Threaded — Inch

4140 Alloy Steel | Black Oxide

Product Information

Like a bult-in washer, the flange head distributes holding pressure, so screws are less likely to come loose. This built-in washer prevents crushing thinner materials or marring harder surfaces. All screws are made from alloy steel and have a black finish. They are fully threaded and have a Class 3A thread fit. Flange Thickness is 1/16". Head height is measured from the bottom of the angle to the top of the head. Screw length is measured from under the flange. The head height includes the 1/16" flange thickness. Class 3A thread fit and are fully threaded. 4140 Alloy Steel Flange Head Socket Cap Screws meets internal specification AMPG 2013FSC.04.





Dimensions Table — Inch

Thread Size	Head Diameter	Flange Thickness	O'all Head Height	Flange Diameter	Drive Size
4-40	.183	1/16	.172	.250	3/32
6-32	.226	1/16	.203	5/16	7/64
8-32	.270	1/16	.234	3/8	9/64
10-32	.312	1/16	.250	7/16	5/32
1/4-20	.375	1/16	.313	9/16	3/16
3/8-16	.562	1/16	.813	13/16	5/16
1/2-13	.750	1/16	.563	1-1/16	3/8

4-40 Thread Size

Length	4140 Alloy Steel Part Number
1/4	ZPS41404C04
3/8	ZPS41404C06
1/2	ZPS41404C08

6-32 Thread Size

Length	4140 Alloy Steel Part Number
1/4	ZPS41406C04
3/8	ZPS41406C06
1/2	ZPS41406C08

8-32 Thread Size

Length	4140 Alloy Steel Part Number
3/8	ZPS41408C06
1/2	ZPS41408C08
5/8	ZPS41408C10
3/4	ZPS41408C12
1	ZPS41408C16

10-32 Thread Size

Length	4140 Alloy Steel Part Number
3/8	ZPS41410F06
1/2	ZPS41410F08
3/4	ZPS41410F12
1	ZPS41410F16

1/4-20 Thread Size

Length	4140 Alloy Steel Part Number
3/8	ZPS41414C06
1/2	ZPS41414C08
3/4	ZPS41414C12
1	ZPS41414C16
1-1/4	ZPS41414C20
1-1/2	ZPS41414C24

1/2-13 Thread Size

Length	4140 Alloy Steel Part Number
3/4	ZPS41412C12
1	ZPS41412C16
1-1/4	ZPS41412C20
1-1/2	ZPS41412C24

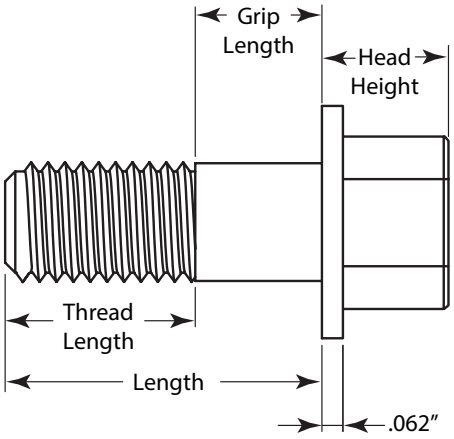
3/8-16 Thread Size

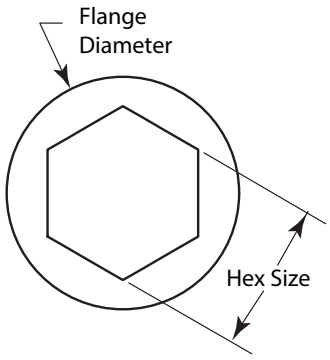
Length	4140 Alloy Steel Part Number
3/4	ZPS41438C12
1	ZPS41438C16
1-1/4	ZPS41438C20
1-1/2	ZPS41438C24

Flange Hex Head Cap Screw — Inch (Prairie Bolt™)

Product Information

When a bolt is used in an application that is primarily tension, both the head and nut should be heavy enough to handle tension loads. The heavy heads of a Prairie Bolt™ are designed with a flange which increases surface contact, improves holding power, and distributes loads over a larger area than standard hex head and socket head cap screws. The flange head's built-in washer prevents crushing thinner materials and is also a good choice for fastening aluminum, copper and composites. The head height includes the 1/16" flange thickness. Class 2A thread fit. Available in socket head or hex head styles.






18-8 SS


316 SS


17-4 PH SS


Aluminum

Dimensions Table — Inch

Thread Size	Hex Size	O'all Head Height	Flange Diameter	Flange Thickness	Thread Length	Unthreaded Shank Dia.
8-32	1/4	7/32	15/32	1/16	3/16	.163 - .160
10-32	5/16	15/64	1/2	1/16	3/8	.189 - .186
1/4-20	3/8	9/32	9/16	1/16	7/16	.249 - .246
5/16-18	1/2	21/64	11/16	1/16	1/2	.312 - .309
3/8-16	9/16	25/64	13/16	1/16	5/8	.374 - .371
1/2-13	3/4	33/64	1-5/64	1/16	3/4	.499 - .495

Flange Hex Head Cap Screw — Inch

18-8 SS | Plain



Grip Lengths	8-32 Thread Part Number	10-32 Thread Part Number	1/4-20 Thread Part Number	5/16-18 Thread Part Number	3/8-16 Thread Part Number	1/2-13 Thread Part Number
1/8	ZPH60108C02	ZPH60110F-02	ZPH60114C02	ZPH60151C02	ZPH60138C02	ZPH60112C02
1/4	ZPH60108C04	ZPH60110F-04	ZPH60114C04	ZPH60151C04	ZPH60138C04	ZPH60112C04
3/8	ZPH60108C06	ZPH60110F-06	ZPH60114C06	ZPH60151C06	ZPH60138C06	ZPH60112C06
1/2	ZPH60108C08	ZPH60110F-08	ZPH60114C08	ZPH60151C08	ZPH60138C08	ZPH60112C08
5/8	ZPH60108C10	ZPH60110F-10	ZPH60114C10	ZPH60151C10	ZPH60138C10	ZPH60112C10
3/4	ZPH60108C12	ZPH60110F-12	ZPH60114C12	ZPH60151C12	ZPH60138C12	ZPH60112C12
7/8	ZPH60108C14	ZPH60110F-14	ZPH60114C14	ZPH60151C14	ZPH60138C14	ZPH60112C14
1	ZPH60108C16	ZPH60110F-16	ZPH60114C16	ZPH60151C16	ZPH60138C16	ZPH60112C16
1-1/8	ZPH60108C18	ZPH60110F-18	ZPH60114C18	ZPH60151C18	ZPH60138C18	ZPH60112C18
1-1/4	ZPH60108C20	ZPH60110F-20	ZPH60114C20	ZPH60151C20	ZPH60138C20	ZPH60112C20
1-3/8	ZPH60108C22	ZPH60110F-22	ZPH60114C22	ZPH60151C22	ZPH60138C22	ZPH60112C22
1-1/2	ZPH60108C24	ZPH60110F-24	ZPH60114C24	ZPH60151C24	ZPH60138C24	ZPH60112C24
1-5/8	ZPH60108C26	ZPH60110F-26	ZPH60114C26	ZPH60151C26	ZPH60138C26	ZPH60112C26
1-3/4	ZPH60108C28	ZPH60110F-28	ZPH60114C28	ZPH60151C28	ZPH60138C28	ZPH60112C28
1-7/8	ZPH60108C30	ZPH60110F-30	ZPH60114C30	ZPH60151C30	ZPH60138C30	ZPH60112C30
2	ZPH60108C32	ZPH60110F-32	ZPH60114C32	ZPH60151C32	ZPH60138C32	ZPH60112C32
2-1/8	ZPH60108C34	ZPH60110F-34	ZPH60114C34	ZPH60151C34	ZPH60138C34	ZPH60112C34
2-1/4	ZPH60108C36	ZPH60110F-36	ZPH60114C36	ZPH60151C36	ZPH60138C36	ZPH60112C36
2-3/8	ZPH60108C38	ZPH60110F-38	ZPH60114C38	ZPH60151C38	ZPH60138C38	ZPH60112C38
2-1/2	ZPH60108C40	ZPH60110F-40	ZPH60114C40	ZPH60151C40	ZPH60138C40	ZPH60112C40
2-5/8	ZPH60108C42	ZPH60110F-42	ZPH60114C42	ZPH60151C42	ZPH60138C42	ZPH60112C42
2-3/4	ZPH60108C44	ZPH60110F-44	ZPH60114C44	ZPH60151C44	ZPH60138C44	ZPH60112C44
2-7/8	ZPH60108C46	ZPH60110F-46	ZPH60114C46	ZPH60151C46	ZPH60138C46	ZPH60112C46
3	ZPH60108C48	ZPH60110F-48	ZPH60114C48	ZPH60151C48	ZPH60138C48	ZPH60112C48
3-1/8	ZPH60108C50	ZPH60110F-50	ZPH60114C50	ZPH60151C50	ZPH60138C50	ZPH60112C50
3-1/4	ZPH60108C52	ZPH60110F-52	ZPH60114C52	ZPH60151C52	ZPH60138C52	ZPH60112C52
3-3/8	ZPH60108C54	ZPH60110F-54	ZPH60114C54	ZPH60151C54	ZPH60138C54	ZPH60112C54
3-1/2	ZPH60108C56	ZPH60110F-56	ZPH60114C56	ZPH60151C56	ZPH60138C56	ZPH60112C56
3-5/8	ZPH60108C58	ZPH60110F-58	ZPH60114C58	ZPH60151C58	ZPH60138C58	ZPH60112C58
3-3/4	ZPH60108C60	ZPH60110F-60	ZPH60114C60	ZPH60151C60	ZPH60138C60	ZPH60112C60
3-7/8	ZPH60108C62	ZPH60110F-62	ZPH60114C62	ZPH60151C62	ZPH60138C62	ZPH60112C62
4	ZPH60108C64	ZPH60110F-64	ZPH60114C64	ZPH60151C64	ZPH60138C64	ZPH60112C64

Flange Hex Head Cap Screw — Inch

316 SS | Plain



Grip Lengths	8-32 Thread Part Number	10-32 Thread Part Number	1/4-20 Thread Part Number	5/16-18 Thread Part Number	3/8-16 Thread Part Number	1/2-13 Thread Part Number
1/8	ZPH60208C02	ZPH60210F02	ZPH60214C02	ZPH60251C02	ZPH60238C02	ZPH60212C02
1/4	ZPH60208C04	ZPH60210F04	ZPH60214C04	ZPH60251C04	ZPH60238C04	ZPH60212C04
3/8	ZPH60208C06	ZPH60210F06	ZPH60214C06	ZPH60251C06	ZPH60238C06	ZPH60212C06
1/2	ZPH60208C08	ZPH60210F08	ZPH60214C08	ZPH60251C08	ZPH60238C08	ZPH60212C08
5/8	ZPH60208C10	ZPH60210F10	ZPH60214C10	ZPH60251C10	ZPH60238C10	ZPH60212C10
3/4	ZPH60208C12	ZPH60210F12	ZPH60214C12	ZPH60251C12	ZPH60238C12	ZPH60212C12
7/8	ZPH60208C14	ZPH60210F14	ZPH60214C14	ZPH60251C14	ZPH60238C14	ZPH60212C14
1	ZPH60208C16	ZPH60210F16	ZPH60214C16	ZPH60251C16	ZPH60238C16	ZPH60212C16
1-1/8	ZPH60208C18	ZPH60210F18	ZPH60214C18	ZPH60251C18	ZPH60238C18	ZPH60212C18
1-1/4	ZPH60208C20	ZPH60210F20	ZPH60214C20	ZPH60251C20	ZPH60238C20	ZPH60212C20
1-3/8	ZPH60208C22	ZPH60210F22	ZPH60214C22	ZPH60251C22	ZPH60238C22	ZPH60212C22
1-1/2	ZPH60208C24	ZPH60210F24	ZPH60214C24	ZPH60251C24	ZPH60238C24	ZPH60212C24
1-5/8	ZPH60208C26	ZPH60210F26	ZPH60214C26	ZPH60251C26	ZPH60238C26	ZPH60212C26
1-3/4	ZPH60208C28	ZPH60210F28	ZPH60214C28	ZPH60251C28	ZPH60238C28	ZPH60212C28
1-7/8	ZPH60208C30	ZPH60210F30	ZPH60214C30	ZPH60251C30	ZPH60238C30	ZPH60212C30
2	ZPH60208C32	ZPH60210F32	ZPH60214C32	ZPH60251C32	ZPH60238C32	ZPH60212C32
2-1/8	ZPH60208C34	ZPH60210F34	ZPH60214C34	ZPH60251C34	ZPH60238C34	ZPH60212C34
2-1/4	ZPH60208C36	ZPH60210F36	ZPH60214C36	ZPH60251C36	ZPH60238C36	ZPH60212C36
2-3/8	ZPH60208C38	ZPH60210F38	ZPH60214C38	ZPH60251C38	ZPH60238C38	ZPH60212C38
2-1/2	ZPH60208C40	ZPH60210F40	ZPH60214C40	ZPH60251C40	ZPH60238C40	ZPH60212C40
2-5/8	ZPH60208C42	ZPH60210F42	ZPH60214C42	ZPH60251C42	ZPH60238C42	ZPH60212C42
2-3/4	ZPH60208C44	ZPH60210F44	ZPH60214C44	ZPH60251C44	ZPH60238C44	ZPH60212C44
2-7/8	ZPH60208C46	ZPH60210F46	ZPH60214C46	ZPH60251C46	ZPH60238C46	ZPH60212C46
3	ZPH60208C48	ZPH60210F48	ZPH60214C48	ZPH60251C48	ZPH60238C48	ZPH60212C48
3-1/8	ZPH60208C50	ZPH60210F50	ZPH60214C50	ZPH60251C50	ZPH60238C50	ZPH60212C50
3-1/4	ZPH60208C52	ZPH60210F52	ZPH60214C52	ZPH60251C52	ZPH60238C52	ZPH60212C52
3-3/8	ZPH60208C54	ZPH60210F54	ZPH60214C54	ZPH60251C54	ZPH60238C54	ZPH60212C54
3-1/2	ZPH60208C56	ZPH60210F56	ZPH60214C56	ZPH60251C56	ZPH60238C56	ZPH60212C56
3-5/8	ZPH60208C58	ZPH60210F58	ZPH60214C58	ZPH60251C58	ZPH60238C58	ZPH60212C58
3-3/4	ZPH60208C60	ZPH60210F60	ZPH60214C60	ZPH60251C60	ZPH60238C60	ZPH60212C60
3-7/8	ZPH60208C62	ZPH60210F62	ZPH60214C62	ZPH60251C62	ZPH60238C62	ZPH60212C62
4	ZPH60208C64	ZPH60210F64	ZPH60214C64	ZPH60251C64	ZPH60238C64	ZPH60212C64

Flange Hex Head Cap Screw — Inch

17-4 PH SS | Plain



Grip Lengths	8-32 Thread Part Number	10-32 Thread Part Number	1/4-20 Thread Part Number	5/16-18 Thread Part Number	3/8-16 Thread Part Number	1/2-13 Thread Part Number
1/8	ZPH44008C02	ZPH44010F02	ZPH44014C02	ZPH44051C02	ZPH44038C02	ZPH44012C02
1/4	ZPH44008C04	ZPH44010F04	ZPH44014C04	ZPH44051C04	ZPH44038C04	ZPH44012C04
3/8	ZPH44008C06	ZPH44010F06	ZPH44014C06	ZPH44051C06	ZPH44038C06	ZPH44012C06
1/2	ZPH44008C08	ZPH44010F08	ZPH44014C08	ZPH44051C08	ZPH44038C08	ZPH44012C08
5/8	ZPH44008C10	ZPH44010F10	ZPH44014C10	ZPH44051C10	ZPH44038C10	ZPH44012C10
3/4	ZPH44008C12	ZPH44010F12	ZPH44014C12	ZPH44051C12	ZPH44038C12	ZPH44012C12
7/8	ZPH44008C14	ZPH44010F14	ZPH44014C14	ZPH44051C14	ZPH44038C14	ZPH44012C14
1	ZPH44008C16	ZPH44010F16	ZPH44014C16	ZPH44051C16	ZPH44038C16	ZPH44012C16
1-1/8	ZPH44008C18	ZPH44010F18	ZPH44014C18	ZPH44051C18	ZPH44038C18	ZPH44012C18
1-1/4	ZPH44008C20	ZPH44010F20	ZPH44014C20	ZPH44051C20	ZPH44038C20	ZPH44012C20
1-3/8	ZPH44008C22	ZPH44010F22	ZPH44014C22	ZPH44051C22	ZPH44038C22	ZPH44012C22
1-1/2	ZPH44008C24	ZPH44010F24	ZPH44014C24	ZPH44051C24	ZPH44038C24	ZPH44012C24
1-5/8	ZPH44008C26	ZPH44010F26	ZPH44014C26	ZPH44051C26	ZPH44038C26	ZPH44012C26
1-3/4	ZPH44008C28	ZPH44010F28	ZPH44014C28	ZPH44051C28	ZPH44038C28	ZPH44012C28
1-7/8	ZPH44008C30	ZPH44010F30	ZPH44014C30	ZPH44051C30	ZPH44038C30	ZPH44012C30
2	ZPH44008C32	ZPH44010F32	ZPH44014C32	ZPH44051C32	ZPH44038C32	ZPH44012C32
2-1/8	ZPH44008C34	ZPH44010F34	ZPH44014C34	ZPH44051C34	ZPH44038C34	ZPH44012C34
2-1/4	ZPH44008C36	ZPH44010F36	ZPH44014C36	ZPH44051C36	ZPH44038C36	ZPH44012C36
2-3/8	ZPH44008C38	ZPH44010F38	ZPH44014C38	ZPH44051C38	ZPH44038C38	ZPH44012C38
2-1/2	ZPH44008C40	ZPH44010F40	ZPH44014C40	ZPH44051C40	ZPH44038C40	ZPH44012C40
2-5/8	ZPH44008C42	ZPH44010F42	ZPH44014C42	ZPH44051C42	ZPH44038C42	ZPH44012C42
2-3/4	ZPH44008C44	ZPH44010F44	ZPH44014C44	ZPH44051C44	ZPH44038C44	ZPH44012C44
2-7/8	ZPH44008C46	ZPH44010F46	ZPH44014C46	ZPH44051C46	ZPH44038C46	ZPH44012C46
3	ZPH44008C48	ZPH44010F48	ZPH44014C48	ZPH44051C48	ZPH44038C48	ZPH44012C48
3-1/8	ZPH44008C50	ZPH44010F50	ZPH44014C50	ZPH44051C50	ZPH44038C50	ZPH44012C50
3-1/4	ZPH44008C52	ZPH44010F52	ZPH44014C52	ZPH44051C52	ZPH44038C52	ZPH44012C52
3-3/8	ZPH44008C54	ZPH44010F54	ZPH44014C54	ZPH44051C54	ZPH44038C54	ZPH44012C54
3-1/2	ZPH44008C56	ZPH44010F56	ZPH44014C56	ZPH44051C56	ZPH44038C56	ZPH44012C56
3-5/8	ZPH44008C58	ZPH44010F58	ZPH44014C58	ZPH44051C58	ZPH44038C58	ZPH44012C58
3-3/4	ZPH44008C60	ZPH44010F60	ZPH44014C60	ZPH44051C60	ZPH44038C60	ZPH44012C60
3-7/8	ZPH44008C62	ZPH44010F62	ZPH44014C62	ZPH44051C62	ZPH44038C62	ZPH44012C62
4	ZPH44008C64	ZPH44010F64	ZPH44014C64	ZPH44051C64	ZPH44038C64	ZPH44012C64

Flange Hex Head Cap Screw — Inch

Aluminum | Plain

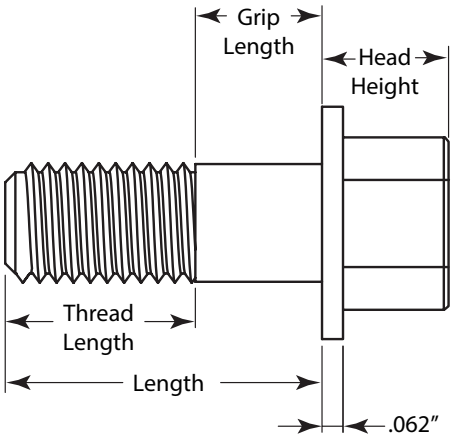


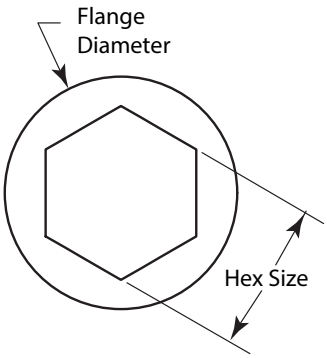
Grip Lengths	8-32 Thread Part Number	10-32 Thread Part Number	1/4-20 Thread Part Number	5/16-18 Thread Part Number	3/8-16 Thread Part Number	1/2-13 Thread Part Number
1/8	ZPH72008C02	ZPH72010F02	ZPH72014C02	ZPH72051C02	ZPH72038C02	ZPH72012C02
1/4	ZPH72008C04	ZPH72010F04	ZPH72014C04	ZPH72051C04	ZPH72038C04	ZPH72012C04
3/8	ZPH72008C06	ZPH72010F06	ZPH72014C06	ZPH72051C06	ZPH72038C06	ZPH72012C06
1/2	ZPH72008C08	ZPH72010F08	ZPH72014C08	ZPH72051C08	ZPH72038C08	ZPH72012C08
5/8	ZPH72008C10	ZPH72010F10	ZPH72014C10	ZPH72051C10	ZPH72038C10	ZPH72012C10
3/4	ZPH72008C12	ZPH72010F12	ZPH72014C12	ZPH72051C12	ZPH72038C12	ZPH72012C12
7/8	ZPH72008C14	ZPH72010F14	ZPH72014C14	ZPH72051C14	ZPH72038C14	ZPH72012C14
1	ZPH72008C16	ZPH72010F16	ZPH72014C16	ZPH72051C16	ZPH72038C16	ZPH72012C16
1-1/8	ZPH72008C18	ZPH72010F18	ZPH72014C18	ZPH72051C18	ZPH72038C18	ZPH72012C18
1-1/4	ZPH72008C20	ZPH72010F20	ZPH72014C20	ZPH72051C20	ZPH72038C20	ZPH72012C20
1-3/8	ZPH72008C22	ZPH72010F22	ZPH72014C22	ZPH72051C22	ZPH72038C22	ZPH72012C22
1-1/2	ZPH72008C24	ZPH72010F24	ZPH72014C24	ZPH72051C24	ZPH72038C24	ZPH72012C24
1-5/8	ZPH72008C26	ZPH72010F26	ZPH72014C26	ZPH72051C26	ZPH72038C26	ZPH72012C26
1-3/4	ZPH72008C28	ZPH72010F28	ZPH72014C28	ZPH72051C28	ZPH72038C28	ZPH72012C28
1-7/8	ZPH72008C30	ZPH72010F30	ZPH72014C30	ZPH72051C30	ZPH72038C30	ZPH72012C30
2	ZPH72008C32	ZPH72010F32	ZPH72014C32	ZPH72051C32	ZPH72038C32	ZPH72012C32
2-1/8	ZPH72008C34	ZPH72010F34	ZPH72014C34	ZPH72051C34	ZPH72038C34	ZPH72012C34
2-1/4	ZPH72008C36	ZPH72010F36	ZPH72014C36	ZPH72051C36	ZPH72038C36	ZPH72012C36
2-3/8	ZPH72008C38	ZPH72010F38	ZPH72014C38	ZPH72051C38	ZPH72038C38	ZPH72012C38
2-1/2	ZPH72008C40	ZPH72010F40	ZPH72014C40	ZPH72051C40	ZPH72038C40	ZPH72012C40
2-5/8	ZPH72008C42	ZPH72010F42	ZPH72014C42	ZPH72051C42	ZPH72038C42	ZPH72012C42
2-3/4	ZPH72008C44	ZPH72010F44	ZPH72014C44	ZPH72051C44	ZPH72038C44	ZPH72012C44
2-7/8	ZPH72008C46	ZPH72010F46	ZPH72014C46	ZPH72051C46	ZPH72038C46	ZPH72012C46
3	ZPH72008C48	ZPH72010F48	ZPH72014C48	ZPH72051C48	ZPH72038C48	ZPH72012C48
3-1/8	ZPH72008C50	ZPH72010F50	ZPH72014C50	ZPH72051C50	ZPH72038C50	ZPH72012C50
3-1/4	ZPH72008C52	ZPH72010F52	ZPH72014C52	ZPH72051C52	ZPH72038C52	ZPH72012C52
3-3/8	ZPH72008C54	ZPH72010F54	ZPH72014C54	ZPH72051C54	ZPH72038C54	ZPH72012C54
3-1/2	ZPH72008C56	ZPH72010F56	ZPH72014C56	ZPH72051C56	ZPH72038C56	ZPH72012C56
3-5/8	ZPH72008C58	ZPH72010F58	ZPH72014C58	ZPH72051C58	ZPH72038C58	ZPH72012C58
3-3/4	ZPH72008C60	ZPH72010F60	ZPH72014C60	ZPH72051C60	ZPH72038C60	ZPH72012C60
3-7/8	ZPH72008C62	ZPH72010F62	ZPH72014C62	ZPH72051C62	ZPH72038C62	ZPH72012C62
4	ZPH72008C64	ZPH72010F64	ZPH72014C64	ZPH72051C64	ZPH72038C64	ZPH72012C64

Flange Hex Head Cap Screw — Inch

Product Information

When a bolt is used in an application that is primarily tension, both the head and nut should be heavy enough to handle tension loads. The heavy heads of a Prairie Bolt™ are designed with a flange which increases surface contact, improves holding power, and distributes loads over a larger area than standard hex head and socket head cap screws. The flange head's built-in washer prevents crushing thinner materials and is also a good choice for fastening aluminum, copper and composites. The head height includes the 1/16" flange thickness. Class 2A thread fit. Available in socket head or hex head styles.






18-8 SS


316 SS


17-4 PH SS


Aluminum

Dimensions Table — Inch

Thread Size	Hex Size	O'all Head Height	Flange Diameter	Flange Thickness	Thread Length	Unthreaded Shank Dia.
8-32	1/4	7/32	15/32	1/16	3/16	.163 - .160
10-32	5/16	15/64	1/2	1/16	3/8	.189 - .186
1/4-20	3/8	9/32	9/16	1/16	7/16	.249 - .246
5/16-18	1/2	21/64	11/16	1/16	1/2	.312 - .309
3/8-16	9/16	25/64	13/16	1/16	5/8	.374 - .371
1/2-13	3/4	33/64	1-5/64	1/16	3/4	.499 - .495

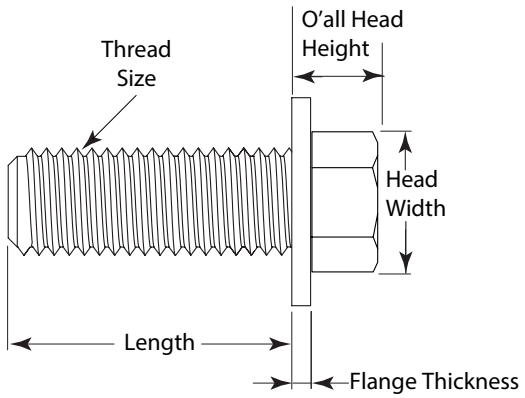
Flanged Hex Head Cap Screws — Inch

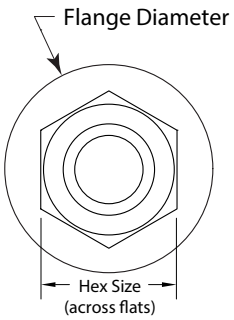
Aluminum, Brass

Product Information

Fully threaded hex head screws can be screwed all the way into a threaded or tapped hole. Partially threaded hex head screws have an unthreaded portion under the head that adds strength but prevents them from being screwed all the way into a threaded hole. The flange acts as a built-in washer, distributing the load over a larger area. This helps prevent the screw from pulling through the material or damaging the surface. Screws have a Class 2A thread fit.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Flanged Hex Head Cap Screws meet IFI 111 standards.
- Aluminum screws meet material specifications ASTM B211/B211M.
- Brass screws meet material specifications ASTM B16.







Dimensions Table — Inch

Thread Size	Flange Diameter (Nominal)	Head Width (Nominal)	O'all Head Height (Nominal)
1/4-20	9/16	3/8	9/32
5/16-18	11/16	1/2	21/64
3/8-16	13/16	9/16	25/64
1/2-13	1-5/64	3/4	33/64
5/8-11	1-21/64	15/16	5/8
3/4-10	1-19/32	1-1/8	47/64

Flanged Hex Head Cap Screws — Inch

Aluminum, Brass



1/4-20 Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
1/2	Fully Threaded	—	ZFH72114C08	ZFH72114C08-BK	ZFH40614C08
5/8	Fully Threaded	—	ZFH72114C10	ZFH72114C10-BK	ZFH40614C10
3/4	Fully Threaded	—	ZFH72114C12	ZFH72114C12-BK	ZFH40614C12
1	Fully Threaded	—	ZFH72114C16	ZFH72114C16-BK	ZFH40614C16
1 1/4	Fully Threaded	—	ZFH72114C20	ZFH72114C20-BK	ZFH40614C20
1 1/2	Partially Threaded	3/4	ZFH72114C24	ZFH72114C24-BK	ZFH40614C24
2	Partially Threaded	3/4	ZFH72114C32	ZFH72114C32-BK	ZFH40614C32
2 1/2	Partially Threaded	3/4	ZFH72114C40	ZFH72114C40-BK	ZFH40614C40

5/16-18 Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
3/4	Fully Threaded	—	ZFH72151C12	ZFH72151C12-BK	ZFH40651C12
1	Fully Threaded	—	ZFH72151C16	ZFH72151C16-BK	ZFH40651C16
1 1/4	Fully Threaded	—	ZFH72151C20	ZFH72151C20-BK	ZFH40651C20
1 1/2	Partially Threaded	7/8	ZFH72151C24	ZFH72151C24-BK	ZFH40651C24
2	Partially Threaded	7/8	ZFH72151C32	ZFH72151C32-BK	ZFH40651C32
3	Partially Threaded	7/8	ZFH72151C48	ZFH72151C48-BK	ZFH40651C48

Flanged Hex Head Cap Screws — Inch

Aluminum, Brass



3/8-16 Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
3/4	Fully Threaded	—	ZFH72138C12	ZFH72138C12-BK	ZFH40638C12
1	Fully Threaded	—	ZFH72138C16	ZFH72138C16-BK	ZFH40638C16
1 1/4	Fully Threaded	—	ZFH72138C20	ZFH72138C20-BK	ZFH40638C20
1 1/2	Fully Threaded	—	ZFH72138C24	ZFH72138C24-BK	ZFH40638C24
1 3/4	Partially Threaded	1	ZFH72138C28	ZFH72138C28-BK	ZFH40638C28
2	Partially Threaded	1	ZFH72138C32	ZFH72138C32-BK	ZFH40638C32
2 1/2	Partially Threaded	1	ZFH72138C40	ZFH72138C40-BK	ZFH40638C40
3	Partially Threaded	1	ZFH72138C48	ZFH72138C48-BK	ZFH40638C48
3 1/2	Partially Threaded	1	ZFH72138C56	ZFH72138C56-BK	ZFH40638C56
4	Partially Threaded	1	ZFH72138C64	ZFH72138C64-BK	ZFH40638C64

1/2-13 Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
1	Fully Threaded	—	ZFH72112C16	ZFH72112C16-BK	ZFH40612C16
1 1/4	Fully Threaded	—	ZFH72112C20	ZFH72112C20-BK	ZFH40612C20
1 1/2	Fully Threaded	—	ZFH72112C24	ZFH72112C24-BK	ZFH40612C24
1 3/4	Fully Threaded	—	ZFH72112C28	ZFH72112C28-BK	ZFH40612C28
2	Partially Threaded	1-1/4	ZFH72112C32	ZFH72112C32-BK	ZFH40612C32
2 1/2	Partially Threaded	1-1/4	ZFH72112C40	ZFH72112C40-BK	ZFH40612C40
3	Partially Threaded	1-1/4	ZFH72112C48	ZFH72112C48-BK	ZFH40612C48
4	Partially Threaded	1-1/4	ZFH72112C64	ZFH72112C64-BK	ZFH40612C64

Flanged Hex Head Cap Screws — Inch

Aluminum, Brass



5/8-11 Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
1 1/2	Fully Threaded	—	ZFH72158C24	ZFH72158C24-BK	ZFH40658C24
2	Fully Threaded	—	ZFH72158C32	ZFH72158C32-BK	ZFH40658C32
2 1/2	Fully Threaded	—	ZFH72158C40	ZFH72158C40-BK	ZFH40658C40
3	Partially Threaded	1-1/2	ZFH72158C48	ZFH72158C48-BK	ZFH40658C48
3 1/2	Partially Threaded	1-1/2	ZFH72158C56	ZFH72158C56-BK	ZFH40658C56
4	Partially Threaded	1-1/2	ZFH72158C64	ZFH72158C64-BK	ZFH40658C64

3/4-10 Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
2	Fully Threaded	—	ZFH72134C32	ZFH72134C32-BK	ZFH40634C32
2 1/2	Fully Threaded	—	ZFH72134C40	ZFH72134C40-BK	ZFH40634C40
3	Partially Threaded	1-3/4	ZFH72134C48	ZFH72134C48-BK	ZFH40634C48
3 1/2	Partially Threaded	1-3/4	ZFH72134C56	ZFH72134C56-BK	ZFH40634C56
4	Partially Threaded	1-3/4	ZFH72134C64	ZFH72134C64-BK	ZFH40634C64

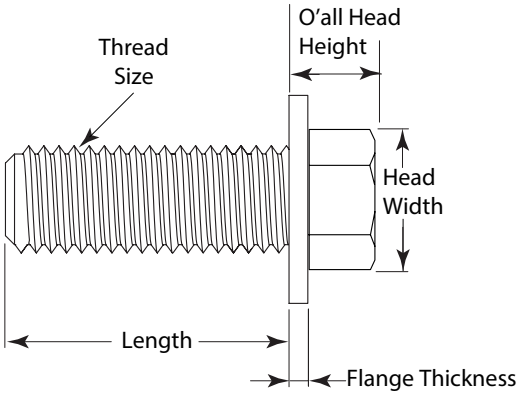
Flanged Hex Head Cap Screws — Metric

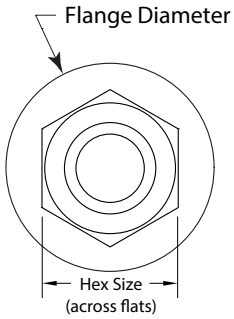
Aluminum, Brass

Product Information

Fully threaded hex head screws can be screwed all the way into a threaded or tapped hole. Partially threaded hex head screws have an unthreaded portion under the head that adds strength but prevents them from being screwed all the way into a threaded hole. The flange acts as a built-in washer, distributing the load over a larger area. This helps prevent the screw from pulling through the material or damaging the surface. Screws have a Class 6g thread fit.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Flanged Hex Head Cap Screws meet IFI 111 standards.
- Aluminum screws meet material specifications ASTM B211/B211M.
- Brass screws meet material specifications ASTM B16.







Dimensions Table — Metric

Thread Size	Flange Diameter (Nominal)	Head Width (Nominal)	O'all Head Height (Nominal)
M6 x 1	14.20	10.00	6.60
M8 x 1.25	18.00	13.00	8.10
M10 x 1.5	22.30	15.00	9.20
M12 x 1.75	26.60	16.00	11.50

Flanged Hex Head Cap Screws — Metric

Aluminum, Brass



M6 x 1 Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
12 mm	Fully Threaded	—	ZFH721M6CX12	ZFH721M6CX12-BK	ZFH406M6CX12
16 mm	Fully Threaded	—	ZFH721M6CX16	ZFH721M6CX16-BK	ZFH406M6CX16
20 mm	Fully Threaded	—	ZFH721M6CX20	ZFH721M6CX20-BK	ZFH406M6CX20
25 mm	Fully Threaded	—	ZFH721M6CX25	ZFH721M6CX25-BK	ZFH406M6CX25
30 mm	Fully Threaded	—	ZFH721M6CX30	ZFH721M6CX30-BK	ZFH406M6CX30
40 mm	Fully Threaded	—	ZFH721M6CX40	ZFH721M6CX40-BK	ZFH406M6CX40

M8 x 1.25Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
16 mm	Fully Threaded	—	ZFH721M8CX16	ZFH721M8CX16-BK	ZFH406M8CX16
20 mm	Fully Threaded	—	ZFH721M8CX20	ZFH721M8CX20-BK	ZFH406M8CX20
25 mm	Fully Threaded	—	ZFH721M8CX25	ZFH721M8CX25-BK	ZFH406M8CX25
30 mm	Fully Threaded	—	ZFH721M8CX30	ZFH721M8CX30-BK	ZFH406M8CX30
35 mm	Fully Threaded	—	ZFH721M8CX35	ZFH721M8CX35-BK	ZFH406M8CX35
40 mm	Fully Threaded	—	ZFH721M8CX40	ZFH721M8CX40-BK	ZFH406M8CX40
45 mm	Fully Threaded	—	ZFH721M8CX45	ZFH721M8CX45-BK	ZFH406M8CX45
50 mm	Fully Threaded	—	ZFH721M8CX50	ZFH721M8CX50-BK	ZFH406M8CX50
60 mm	Fully Threaded	—	ZFH721M8CX60	ZFH721M8CX60-BK	ZFH406M8CX60

Flanged Hex Head Cap Screws — Metric

Aluminum, Brass



M10 x 1.5 Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
20 mm	Fully Threaded	—	ZFH721M10CX20	ZFH721M10CX20-BK	ZFH406M10CX20
25 mm	Fully Threaded	—	ZFH721M10CX25	ZFH721M10CX25-BK	ZFH406M10CX25
30 mm	Fully Threaded	—	ZFH721M10CX30	ZFH721M10CX30-BK	ZFH406M10CX30
35 mm	Fully Threaded	—	ZFH721M10CX35	ZFH721M10CX35-BK	ZFH406M10CX35
40 mm	Fully Threaded	—	ZFH721M10CX40	ZFH721M10CX40-BK	ZFH406M10CX40
45 mm	Fully Threaded	—	ZFH721M10CX45	ZFH721M10CX45-BK	ZFH406M10CX45
50 mm	Fully Threaded	—	ZFH721M10CX50	ZFH721M10CX50-BK	ZFH406M10CX50
60 mm	Fully Threaded	—	ZFH721M10CX60	ZFH721M10CX60-BK	ZFH406M10CX60

M12 x 1.75 Thread Size

Length	Full/Partial Threads	Min. Thread Lg	Aluminum Part Number	Aluminum, Black Anodized Part Number	Brass Part Number
25 mm	Fully Threaded	—	ZFH721M12CX25	ZFH721M12CX25-BK	ZFH406M12CX25
30 mm	Fully Threaded	—	ZFH721M12CX30	ZFH721M12CX30-BK	ZFH406M12CX30
35 mm	Fully Threaded	—	ZFH721M12CX35	ZFH721M12CX35-BK	ZFH406M12CX35
40 mm	Fully Threaded	—	ZFH721M12CX40	ZFH721M12CX40-BK	ZFH406M12CX40
50 mm	Fully Threaded	—	ZFH721M12CX50	ZFH721M12CX50-BK	ZFH406M12CX50
60 mm	Fully Threaded	—	ZFH721M12CX60	ZFH721M12CX60-BK	ZFH406M12CX60

18-8 SS
316 SS

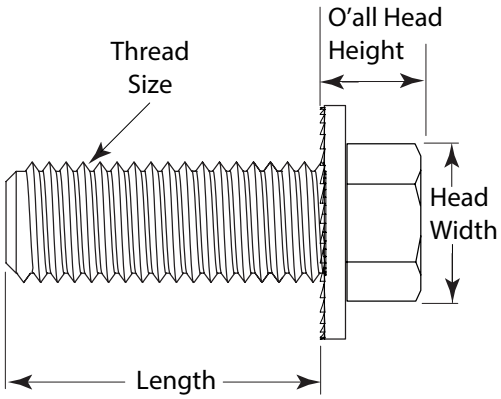
Serrated-Flange Hex Screws — Inch

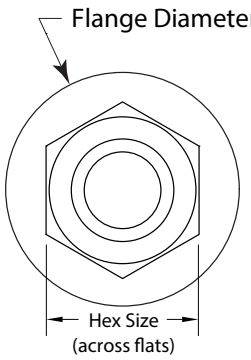
18-8 SS, 316 SS

Product Information

Serrated Flange Hex Screws, also known as Whiz-Lock Bolts (trade name). They are unslotted hex head flange screws that have serrations under the flange, or on the bearing surface. The flange head has a built-in flange that acts as an integrated washer with serrations. Serrations provide additional grip and facilitate loosening due to vibration. The one-piece construction provides more strength than a regular hex screw and serrations eliminate the need for lock washers or lock nuts. Length is measured from under the Flange. Head Height includes flange thickness. These high-performance fasteners are made from 18-8 and 316 stainless steel. 18-8 stainless steel has excellent corrosion resistance and may be mildly magnetic. The 316 stainless steel is our most corrosion resistant stainless steel that withstands solvents and pitting caused by chloride and sulfur. May be mildly magnetic. Screws have a 2A Thread Fit.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- IFI 111 and DIN 6921 standards allow for serrations on a hex flange screw.
- 18-8 stainless steel material meets ASTM A582.
- 316 stainless steel material meets ASTM A276.
- Stainless steel hex screws can receive a dark black-oxide surface finish.







Dimensions Table — Inch

Thread Size	Serrated Flange Diameter (Nominal)	Head Width (Nominal)	O'all Head Height (Nominal)
4-40	5/16	1/4	3/32
6-32	5/16 (1/4- 3/8), 23/64 (1/2 & up)	1/4	3/32
8-32	3/8	1/4	3/16
10-24	7/16	5/16	7/32
10-32	7/16	5/16	7/32
12-24	1/2	5/16	7/32
1/4-20	9/16	3/8	9/32
1/4-28	9/16	3/8	9/32
5/16-18	11/16	1/2	21/64

Dimensions Table — Inch

Thread Size	Serrated Flange Diameter (Nominal)	Head Width (Nominal)	O'all Head Height (Nominal)
5/16-24	11/16	1/2	21/64
3/8-16	13/16	9/16	25/64
3/8-24	13/16	9/16	25/64
7/16-14	15/16	5/8	15/32
7/16-20	15/16	5/8	15/32
1/2-13	1-5/64	3/4	33/64
1/2-20	1-5/64	3/4	33/64
5/8-11	1-21/64	15/16	5/8
3/4-10	1-19/32	1-1/8	47/64
7/8-9	1-19/32	1-1/8	47/64

Serrated-Flange Hex Screws — Inch

18-8 SS, 316 SS



4-40 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
1/2	Full	ZFHS60104C08	ZFHS60104C08-BX	ZFHS60204C08	ZFHS60204C08-BX

6-32 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
1/4	Full	ZFHS60106C04	ZFHS60106C04-BX	ZFHS60206C04	ZFHS60206C04-BX
3/8	Full	ZFHS60106C06	ZFHS60106C06-BX	ZFHS60206C06	ZFHS60206C06-BX
1/2	Full	ZFHS60106C08	ZFHS60106C08-BX	ZFHS60206C08	ZFHS60206C08-BX
5/8	Full	ZFHS60106C10	ZFHS60106C10-BX	ZFHS60206C10	ZFHS60206C10-BX
3/4	Full	ZFHS60106C12	ZFHS60106C12-BX	ZFHS60206C12	ZFHS60206C12-BX
1	Full	ZFHS60106C16	ZFHS60106C16-BX	ZFHS60206C16	ZFHS60206C16-BX

8-32 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
1/4	Full	ZFHS60108C04	ZFHS60108C04-BX	ZFHS60208C04	ZFHS60208C04-BX
5/16	Full	ZFHS60108C05	ZFHS60108C05-BX	ZFHS60208C05	ZFHS60208C05-BX
3/8	Full	ZFHS60108C06	ZFHS60108C06-BX	ZFHS60208C06	ZFHS60208C06-BX
1/2	Full	ZFHS60108C08	ZFHS60108C08-BX	ZFHS60208C08	ZFHS60208C08-BX
5/8	Full	ZFHS60108C10	ZFHS60108C10-BX	ZFHS60208C10	ZFHS60208C10-BX
3/4	Full	ZFHS60108C12	ZFHS60108C12-BX	ZFHS60208C12	ZFHS60208C12-BX
7/8	Full	ZFHS60108C14	ZFHS60108C14-BX	ZFHS60208C14	ZFHS60208C14-BX
1	Full	ZFHS60108C16	ZFHS60108C16-BX	ZFHS60208C16	ZFHS60208C16-BX
1-1/4	Full	ZFHS60108C20	ZFHS60108C20-BX	ZFHS60208C20	ZFHS60208C20-BX
1-1/2	Full	ZFHS60108C24	ZFHS60108C24-BX	ZFHS60208C24	ZFHS60208C24-BX
2	Full	ZFHS60108C32	ZFHS60108C32-BX	ZFHS60208C32	ZFHS60208C32-BX

10-24 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
3/8	Full	ZFHS60110C06	ZFHS60110C06-BX	ZFHS60210C06	ZFHS60210C06-BX
1/2	Full	ZFHS60110C08	ZFHS60110C08-BX	ZFHS60210C08	ZFHS60210C08-BX
5/8	Full	ZFHS60110C10	ZFHS60110C10-BX	ZFHS60210C10	ZFHS60210C10-BX
3/4	Full	ZFHS60110C12	ZFHS60110C12-BX	ZFHS60210C12	ZFHS60210C12-BX
1	Full	ZFHS60110C16	ZFHS60110C16-BX	ZFHS60210C16	ZFHS60210C16-BX
1-1/4	Full	ZFHS60110C20	ZFHS60110C20-BX	ZFHS60210C20	ZFHS60210C20-BX
1-1/2	Full	ZFHS60110C24	ZFHS60110C24-BX	ZFHS60210C24	ZFHS60210C24-BX
2	Full	ZFHS60110C32	ZFHS60110C32-BX	ZFHS60210C32	ZFHS60210C32-BX
2-1/2	1-1/2 Min.	ZFHS60110C40-1.5	ZFHS60110C40-1.5-BX	ZFHS60210C40-1.5	ZFHS60210C40-1.5-BX

Serrated-Flange Hex Screws — Inch
18-8 SS, 316 SS



10-32 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
1/4	Full	ZFHS60110F04	ZFHS60110F04-BX	ZFHS60210F04	ZFHS60210F04-BX
3/8	Full	ZFHS60110F06	ZFHS60110F06-BX	ZFHS60210F06	ZFHS60210F06-BX
1/2	Full	ZFHS60110F08	ZFHS60110F08-BX	ZFHS60210F08	ZFHS60210F08-BX
5/8	Full	ZFHS60110F10	ZFHS60110F10-BX	ZFHS60210F10	ZFHS60210F10-BX
3/4	Full	ZFHS60110F12	ZFHS60110F12-BX	ZFHS60210F12	ZFHS60210F12-BX
7/8	Full	ZFHS60110F14	ZFHS60110F14-BX	ZFHS60210F14	ZFHS60210F14-BX
1	Full	ZFHS60110F16	ZFHS60110F16-BX	ZFHS60210F16	ZFHS60210F16-BX
1-1/4	Full	ZFHS60110F20	ZFHS60110F20-BX	ZFHS60210F20	ZFHS60210F20-BX
1-1/2	Full	ZFHS60110F24	ZFHS60110F24-BX	ZFHS60210F24	ZFHS60210F24-BX
1-3/4	Full	ZFHS60110F28	ZFHS60110F28-BX	ZFHS60210F28	ZFHS60210F28-BX
2	Full	ZFHS60110F32	ZFHS60110F32-BX	ZFHS60210F32	ZFHS60210F32-BX
2-1/2	1-1/2 Min	ZFHS60110F40-1.5	ZFHS60110F40-1.5-BX	ZFHS60210F40-1.5	ZFHS60210F40-1.5-BX
3	1-1/2 Min	ZFHS60110F48-1.5	ZFHS60110F48-1.5-BX	ZFHS60210F48-1.5	ZFHS60210F48-1.5-BX

12-24 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
1/2	Full	ZFHS601#12C08	ZFHS601#12C08-BX	ZFHS602#12C08	ZFHS602#12C08-BX
5/8	Full	ZFHS601#12C10	ZFHS601#12C10-BX	ZFHS602#12C10	ZFHS60212C10-BX
3/4	Full	ZFHS601#12C12	ZFHS601#12C12-BX	ZFHS602#12C12	ZFHS602#12C12-BX
1	Full	ZFHS601#12C16	ZFHS601#12C16-BX	ZFHS602#12C16	ZFHS602#12C16-BX
1-1/4	Full	ZFHS601#12C20	ZFHS601#12C20-BX	ZFHS602#12C20	ZFHS602#12C20-BX
1-1/2	Full	ZFHS601#12C24	ZFHS601#12C24-BX	ZFHS602#12C24	ZFHS602#12C24-BX
2	Full	ZFHS601#12C32	ZFHS601#12C32-BX	ZFHS602#12C32	ZFHS602#12C32-BX

Serrated-Flange Hex Screws — Inch

18-8 SS, 316 SS



1/4-20 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
3/8	Full	ZFHS60114C06	ZFHS60114C06-BX	ZFHS60214C06	ZFHS60214C06-BX
1/2	Full	ZFHS60114C08	ZFHS60114C08-BX	ZFHS60214C08	ZFHS60214C08-BX
5/8	Full	ZFHS60114C10	ZFHS60114C10-BX	ZFHS60214C10	ZFHS60214C10-BX
3/4	Full	ZFHS60114C12	ZFHS60114C12-BX	ZFHS60214C12	ZFHS60214C12-BX
7/8	Full	ZFHS60114C14	ZFHS60114C14-BX	ZFHS60214C14	ZFHS60214C14-BX
1	Full	ZFHS60114C16	ZFHS60114C16-BX	ZFHS60214C16	ZFHS60214C16-BX
1-1/8	Full	ZFHS60114C18	ZFHS60114C18-BX	ZFHS60214C18	ZFHS60214C18-BX
1-1/4	Full	ZFHS60114C20	ZFHS60114C20-BX	ZFHS60214C20	ZFHS60214C20-BX
1-1/4	3/4 Min	ZFHS60114C20-.75	ZFHS60114C20-.75-BX	ZFHS60214C20-.75	ZFHS60214C20-.75-BX
1-1/2	Full	ZFHS60114C24	ZFHS60114C24-BX	ZFHS60214C24	ZFHS60214C24-BX
1-1/2	3/4 Min	ZFHS60114C24-.75	ZFHS60114C24-.75-BX	ZFHS60214C24-.75	ZFHS60214C24-.75-BX
1-3/4	Full	ZFHS60114C28	ZFHS60114C28-BX	ZFHS60214C28	ZFHS60214C28-BX
1-3/4	3/4 Min	ZFHS60114C28-.75	ZFHS60114C28-.75-BX	ZFHS60214C28-.75	ZFHS60214C28-.75-BX
2	Full	ZFHS60114C32	ZFHS60114C32-BX	ZFHS60214C32	ZFHS60214C32-BX
2	3/4 Min	ZFHS60114C32-.75	ZFHS60114C32-.75-BX	ZFHS60214C32-.75	ZFHS60214C32-.75-BX
2-1/4	Full	ZFHS60114C36	ZFHS60114C36-BX	ZFHS60214C36	ZFHS60214C36-BX
2-1/4	3/4 Min	ZFHS60114C36-.75	ZFHS60114C36-.75-BX	ZFHS60214C36-.75	ZFHS60214C36-.75-BX
2-1/2	Full	ZFHS60114C40	ZFHS60114C40-BX	ZFHS60214C40	ZFHS60214C40-BX
2-1/2	3/4 Min	ZFHS60114C40-.75	ZFHS60114C40-.75-BX	ZFHS60214C40-.75	ZFHS60214C40-.75-BX
2-3/4	3/4 Min	ZFHS60114C44-.75	ZFHS60114C44-.75-BX	ZFHS60214C44-.75	ZFHS60214C44-.75-BX
3	Full	ZFHS60114C48	ZFHS60114C48-BX	ZFHS60214C48	ZFHS60214C48-BX
3	3/4 Min	ZFHS60114C48-.75	ZFHS60114C48-.75-BX	ZFHS60214C48-.75	ZFHS60214C48-.75-BX
3-1/2	3/4 Min	ZFHS60114C56-.75	ZFHS60114C56-.75-BX	ZFHS60214C56-.75	ZFHS60214C56-.75-BX
4	Full	ZFHS60114C64	ZFHS60114C64-BX	ZFHS60214C64	ZFHS60214C64-BX

1/4-28 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
1/2	Full	ZFHS60114F08	ZFHS60114F08-BX	ZFHS60214F08	ZFHS60214F08-BX
5/8	Full	ZFHS60114F10	ZFHS60114F10-BX	ZFHS60214F10	ZFHS60214F10-BX
3/4	Full	ZFHS60114F12	ZFHS60114F12-BX	ZFHS60214F12	ZFHS60214F12-BX
1	Full	ZFHS60114F16	ZFHS60114F16-BX	ZFHS60214F16	ZFHS60214F16-BX

Serrated-Flange Hex Screws — Inch

18-8 SS, 316 SS



5/16-18 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
3/8	Full	ZFHS60151C06	ZFHS60151C06-BX	ZFHS60251C06	ZFHS60251C06-BX
1/2	Full	ZFHS60151C08	ZFHS60151C08-BX	ZFHS60251C08	ZFHS60251C08-BX
5/8	Full	ZFHS60151C10	ZFHS60151C10-BX	ZFHS60251C10	ZFHS60251C10-BX
3/4	Full	ZFHS60151C12	ZFHS60151C12-BX	ZFHS60251C12	ZFHS60251C12-BX
7/8	Full	ZFHS60151C14	ZFHS60151C14-BX	ZFHS60251C14	ZFHS60251C14-BX
1	Full	ZFHS60151C16	ZFHS60151C16-BX	ZFHS60251C16	ZFHS60251C16-BX
1-1/8	Full	ZFHS60151C18	ZFHS60151C18-BX	ZFHS60251C18	ZFHS60251C18-BX
1-1/4	Full	ZFHS60151C20	ZFHS60151C20-BX	ZFHS60251C20	ZFHS60251C20-BX
1-1/2	Full	ZFHS60151C24	ZFHS60151C24-BX	ZFHS60251C24	ZFHS60251C24-BX
1-1/2	7/8 Min	ZFHS60151C24-.88	ZFHS60151C24-.88-BX	ZFHS60251C24-.88	ZFHS60251C24-.88-BX
1-3/4	Full	ZFHS60151C28	ZFHS60151C28-BX	ZFHS60251C28	ZFHS60251C28-BX
1-3/4	7/8 Min	ZFHS60151C28-.88	ZFHS60151C28-.88-BX	ZFHS60251C28-.88	ZFHS60251C28-.88-BX
2	Full	ZFHS60151C32	ZFHS60151C32-BX	ZFHS60251C32	ZFHS60251C32-BX
2	7/8 Min	ZFHS60151C32-.88	ZFHS60151C32-.88-BX	ZFHS60251C32-.88	ZFHS60251C32-.88-BX
2-1/4	7/8 Min	ZFHS60151C36-.88	ZFHS60151C36-.88-BX	ZFHS60251C36-.88	ZFHS60251C36-.88-BX
2-1/2	Full	ZFHS60151C40	ZFHS60151C40-BX	ZFHS60251C40	ZFHS60251C40-BX
2-1/2	7/8 Min	ZFHS60151C40-.88	ZFHS60151C40-.88-BX	ZFHS60251C40-.88	ZFHS60251C40-.88-BX
3	Full	ZFHS60151C48	ZFHS60151C48-BX	ZFHS60251C48	ZFHS60251C48-BX
3	7/8 Min	ZFHS60151C48-.88	ZFHS60151C48-.88-BX	ZFHS60251C48-.88	ZFHS60251C48-.88-BX

5/16-24 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
3/4	Full	ZFHS60151F12	ZFHS60151F12-BX	ZFHS60251F12	ZFHS60251F12-BX
1	Full	ZFHS60151F16	ZFHS60151F16-BX	ZFHS60251F16	ZFHS60251F16-BX
1-1/4	Full	ZFHS60151F20	ZFHS60151F20-BX	ZFHS60251F20	ZFHS60251F20-BX
1-1/2	Full	ZFHS60151F24	ZFHS60151F24-BX	ZFHS60251F24	ZFHS60251F24-BX

3/8-16 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
3/8	Full	ZFHS60138C06	ZFHS60138C06-BX	ZFHS60238C06	ZFHS60238C06-BX
1/2	Full	ZFHS60138C08	ZFHS60138C08-BX	ZFHS60238C08	ZFHS60238C08-BX
5/8	Full	ZFHS60138C10	ZFHS60138C10-BX	ZFHS60238C10	ZFHS60238C10-BX
3/4	Full	ZFHS60138C12	ZFHS60138C12-BX	ZFHS60238C12	ZFHS60238C12-BX
7/8	Full	ZFHS60138C14	ZFHS60138C14-BX	ZFHS60238C14	ZFHS60238C14-BX
1	Full	ZFHS60138C16	ZFHS60138C16-BX	ZFHS60238C16	ZFHS60238C16-BX

Serrated-Flange Hex Screws — Inch

18-8 SS, 316 SS

3/8-16 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
1-1/8	Full	ZFHS60138C18	ZFHS60138C18-BX	ZFHS60238C18	ZFHS60238C18-BX
1-1/4	Full	ZFHS60138C20	ZFHS60138C20-BX	ZFHS60238C20	ZFHS60238C20-BX
1-3/8	Full	ZFHS60138C22	ZFHS60138C22-BX	ZFHS60238C22	ZFHS60238C22-BX
1-1/2	Full	ZFHS60138C24	ZFHS60138C24-BX	ZFHS60238C24	ZFHS60238C24-BX
1-1/2	1 Min	ZFHS60138C24-1.00	ZFHS60138C24-1.00-BX	ZFHS60238C24-1.00	ZFHS60238C24-1.00-BX
1-5/8	Full	ZFHS60138C26	ZFHS60138C26-BX	ZFHS60238C26	ZFHS60238C26-BX
1-3/4	Full	ZFHS60138C28	ZFHS60138C28-BX	ZFHS60238C28	ZFHS60238C28-BX
1-3/4	1 Min	ZFHS60138C28-1.00	ZFHS60138C28-1.00-BX	ZFHS60238C28-1.00	ZFHS60238C28-1.00-BX
2	Full	ZFHS60138C32	ZFHS60138C32-BX	ZFHS60238C32	ZFHS60238C32-BX
2	1 Min	ZFHS60138C32-1.00	ZFHS60138C32-1.00-BX	ZFHS60238C32-1.00	ZFHS60238C32-1.00-BX
2-1/4	Full	ZFHS60138C36	ZFHS60138C36-BX	ZFHS60238C36	ZFHS60238C36-BX
2-1/4	1 Min	ZFHS60138C36-1.00	ZFHS60138C36-1.00-BX	ZFHS60238C36-1.00	ZFHS60238C36-1.00-BX
2-1/2	Full	ZFHS60138C40	ZFHS60138C40-BX	ZFHS60238C40	ZFHS60238C40-BX
2-1/2	1 Min	ZFHS60138C40-1.00	ZFHS60138C40-1.00-BX	ZFHS60238C40-1.00	ZFHS60238C40-1.00-BX
2-3/4	Full	ZFHS60138C44	ZFHS60138C44-BX	ZFHS60238C44	ZFHS60238C44-BX
2-3/4	1 Min	ZFHS60138C44-1.00	ZFHS60138C44-1.00-BX	ZFHS60238C44-1.00	ZFHS60238C44-1.00-BX
3	Full	ZFHS60138C48	ZFHS60138C48-BX	ZFHS60238C48	ZFHS60238C48-BX
3	1 Min	ZFHS60138C48-1.00	ZFHS60138C48-1.00-BX	ZFHS60238C48-1.00	ZFHS60238C48-1.00-BX
3-1/4	Full	ZFHS60138C52	ZFHS60138C52-BX	ZFHS60238C52	ZFHS60238C52-BX
3-1/4	1 Min	ZFHS60138C52-1.00	ZFHS60138C52-1.00-BX	ZFHS60238C52-1.00	ZFHS60238C52-1.00-BX
3-1/2	Full	ZFHS60138C56	ZFHS60138C56-BX	ZFHS60238C56	ZFHS60238C56-BX
3-1/2	1 Min	ZFHS60138C56-1.00	ZFHS60138C56-1.00-BX	ZFHS60238C56-1.00	ZFHS60238C56-1.00-BX
3-3/4	Full	ZFHS60138C60	ZFHS60138C60-BX	ZFHS60238C60	ZFHS60238C60-BX
3-3/4	1 Min	ZFHS60138C60-1.00	ZFHS60138C60-1.00-BX	ZFHS60238C60-1.00	ZFHS60238C60-1.00-BX
4	Full	ZFHS60138C64	ZFHS60138C64-BX	ZFHS60238C64	ZFHS60238C64-BX
4	1 Min	ZFHS60138C64-1.00	ZFHS60138C64-1.00-BX	ZFHS60238C64-1.00	ZFHS60238C64-1.00-BX
4-1/4	1 Min	ZFHS60138C68-1.00	ZFHS60138C68-1.00-BX	ZFHS60238C68-1.00	ZFHS60238C68-1.00-BX
4-1/2	Full	ZFHS60138C72	ZFHS60138C72-BX	ZFHS60238C72	ZFHS60238C72-BX
4-1/2	1 Min	ZFHS60138C72-1.00	ZFHS60138C72-1.00-BX	ZFHS60238C72-1.00	ZFHS60238C72-1.00-BX
5	Full	ZFHS60138C80	ZFHS60138C80-BX	ZFHS60238C80	ZFHS60238C80-BX
5	1 Min	ZFHS60138C80-1.00	ZFHS60138C80-1.00-BX	ZFHS60238C80-1.00	ZFHS60238C80-1.00-BX
5-1/2	1 Min	ZFHS60138C88-1.00	ZFHS60138C88-1.00-BX	ZFHS60238C88-1.00	ZFHS60238C88-1.00-BX
6	Full	ZFHS60138C96	ZFHS60138C96-BX	ZFHS60238C96	ZFHS60238C96-BX
6	1 Min	ZFHS60138C96-1.00	ZFHS60138C96-1.00-BX	ZFHS60238C96-1.00	ZFHS60238C96-1.00-BX
6-1/2	1 Min	ZFHS60138C104-1.00	ZFHS60138C104-1.00-BX	ZFHS60238C104-1.00	ZFHS60238C104-1.00-BX
7	Full	ZFHS60138C112	ZFHS60138C112-BX	ZFHS60238C112	ZFHS60238C112-BX
7	1 Min	ZFHS60138C112-1.00	ZFHS60138C112-1.00-BX	ZFHS60238C112-1.00	ZFHS60238C112-1.00-BX
7-1/2	1 Min	ZFHS60138C120-1.00	ZFHS60138C120-1.00-BX	ZFHS60238C120-1.00	ZFHS60238C120-1.00-BX
8	1 Min	ZFHS60138C128-1.00	ZFHS60138C128-1.00-BX	ZFHS60238C128-1.00	ZFHS60238C128-1.00-BX

Serrated-Flange Hex Screws — Inch

18-8 SS, 316 SS



3/8-24 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
3/4	Full	ZFHS60138F12	ZFHS60138F12-BX	ZFHS60238F12	ZFHS60238F12-BX
1	Full	ZFHS60138F16	ZFHS60138F16-BX	ZFHS60238F16	ZFHS60238F16-BX
1-1/4	Full	ZFHS60138F20	ZFHS60138F20-BX	ZFHS60238F20	ZFHS60238F20-BX
1-1/2	Full	ZFHS60138F24	ZFHS60138F24-BX	ZFHS60238F24	ZFHS60238F24-BX
2	Full	ZFHS60138F32	ZFHS60138F32-BX	ZFHS60238F32	ZFHS60238F32-BX

7/16-14 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox.Part Number
3/4	Full	ZFHS60171C12	ZFHS60171C12-BX	ZFHS60271C12	ZFHS60271C12-BX
1	Full	ZFHS60171C16	ZFHS60171C16-BX	ZFHS60271C16	ZFHS60271C16-BX
1-1/4	Full	ZFHS60171C20	ZFHS60171C20-BX	ZFHS60271C20	ZFHS60271C20-BX
1-1/2	Full	ZFHS60171C24	ZFHS60171C24-BX	ZFHS60271C24	ZFHS60271C24-BX
1-3/4	Full	ZFHS60171C28	ZFHS60171C28-BX	ZFHS60271C28	ZFHS60271C28-BX
2	Full	ZFHS60171C32	ZFHS60171C32-BX	ZFHS60271C32	ZFHS60271C32-BX
2	1-1/8 Min	ZFHS60171C32-1.13	ZFHS60171C32-1.13-BX	ZFHS60271C32-1.13	ZFHS60271C32-1.13-BX

7/16-20 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
3/4	Full	ZFHS60171F12	ZFHS60171F12-BX	ZFHS60271F12	ZFHS60271F12-BX
1	Full	ZFHS60171F16	ZFHS60171F16-BX	ZFHS60271F16	ZFHS60271F16-BX

1/2-13 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
3/4	Full	ZFHS60112C12	ZFHS60112C12-BX	ZFHS60212C12	ZFHS60212C12-BX
1	Full	ZFHS60112C16	ZFHS60112C16-BX	ZFHS60212C16	ZFHS60212C16-BX
1-1/4	Full	ZFHS60112C20	ZFHS60112C20-BX	ZFHS60212C20	ZFHS60212C20-BX
1-1/2	Full	ZFHS60112C24	ZFHS60112C24-BX	ZFHS60212C24	ZFHS60212C24-BX
1-3/4	Full	ZFHS60112C28	ZFHS60112C28-BX	ZFHS60212C28	ZFHS60212C28-BX
1-3/4	1-1/4 Min	ZFHS60112C28-1.25	ZFHS60112C28-1.25-BX	ZFHS60212C28-1.25	ZFHS60212C28-1.25-BX
2	Full	ZFHS60112C32	ZFHS60112C32-BX	ZFHS60212C32	ZFHS60212C32-BX
2	1-1/4 Min	ZFHS60112C32-1.25	ZFHS60112C32-1.25-BX	ZFHS60212C32-1.25	ZFHS60212C32-1.25-BX

Serrated-Flange Hex Screws — Inch

18-8 SS, 316 SS



1/2-13 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
2-1/4	Full	ZFHS60112C36	ZFHS60112C36-BX	ZFHS60212C36	ZFHS60212C36-BX
2-1/4	1-1/4 Min	ZFHS60112C36-1.25	ZFHS60112C36-1.25-BX	ZFHS60212C36-1.25	ZFHS60212C36-1.25-BX
2-1/2	Full	ZFHS60112C40	ZFHS60112C40-BX	ZFHS60212C40	ZFHS60212C40-BX
2-1/2	1-1/4 Min	ZFHS60112C40-1.25	ZFHS60112C40-1.25-BX	ZFHS60212C40-1.25	ZFHS60212C40-1.25-BX
3	Full	ZFHS60112C48	ZFHS60112C48-BX	ZFHS60212C48	ZFHS60212C48-BX
3	1-1/4 Min	ZFHS60112C48-1.25	ZFHS60112C48-1.25-BX	ZFHS60212C48-1.25	ZFHS60212C48-1.25-BX
3-1/2	Full	ZFHS60112C56	ZFHS60112C56-BX	ZFHS60212C56	ZFHS60212C56-BX
3-1/2	1-1/4 Min	ZFHS60112C56-1.25	ZFHS60112C56-1.25-BX	ZFHS60212C56-1.25	ZFHS60212C56-1.25-BX
4	Full	ZFHS60112C64	ZFHS60112C64-BX	ZFHS60212C64	ZFHS60212C64-BX
4	1-1/4 Min	ZFHS60112C64-1.25	ZFHS60112C64-1.25-BX	ZFHS60212C64-1.25	ZFHS60212C64-1.25-BX
4-1/2	1-1/4 Min	ZFHS60112C72-1.25	ZFHS60112C72-1.25-BX	ZFHS60212C72-1.25	ZFHS60212C72-1.25-BX
5	1-1/4 Min	ZFHS60112C80-1.25	ZFHS60112C80-1.25-BX	ZFHS60212C80-1.25	ZFHS60212C80-1.25-BX
5-1/2	1-1/4 Min	ZFHS60112C88-1.25	ZFHS60112C88-1.25-BX	ZFHS60212C88-1.25	ZFHS60212C88-1.25-BX
6	1-1/4 Min	ZFHS60112C96-1.25	ZFHS60112C96-1.25-BX	ZFHS60212C96-1.25	ZFHS60212C96-1.25-BX

1/2-20 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
1/2	Full	ZFHS60112F08	ZFHS60112F08-BX	ZFHS60212F08	ZFHS60212F08-BX
1	Full	ZFHS60112F16	ZFHS60112F16-BX	ZFHS60212F16	ZFHS60212F16-BX
1-1/4	Full	ZFHS60112F20	ZFHS60112F20-BX	ZFHS60212F20	ZFHS60212F20-BX
1-1/2	Full	ZFHS60112F24	ZFHS60112F24-BX	ZFHS60212F24	ZFHS60212F24-BX
1-3/4	Full	ZFHS60112F28	ZFHS60112F28-BX	ZFHS60212F28	ZFHS60212F28-BX
2	Full	ZFHS60112F32	ZFHS60112F32-BX	ZFHS60212F32	ZFHS60212F32-BX
3	Full	ZFHS60112F48	ZFHS60112F48-BX	ZFHS60212F48	ZFHS60212F48-BX

Serrated-Flange Hex Screws — Inch

18-8 SS, 316 SS



5/8-11 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
3/4	Full	ZFHS60158C12	ZFHS60158C12-BX	ZFHS60258C12	ZFHS60258C12-BX
1	Full	ZFHS60158C16	ZFHS60158C16-BX	ZFHS60258C16	ZFHS60258C16-BX
1-1/4	Full	ZFHS60158C20	ZFHS60158C20-BX	ZFHS60258C20	ZFHS60258C20-BX
1-1/2	Full	ZFHS60158C24	ZFHS60158C24-BX	ZFHS60258C24	ZFHS60258C24-BX
1-3/4	Full	ZFHS60158C28	ZFHS60158C28-BX	ZFHS60258C28	ZFHS60258C28-BX
2	Full	ZFHS60158C32	ZFHS60158C32-BX	ZFHS60258C32	ZFHS60258C32-BX
2-1/4	Full	ZFHS60158C36	ZFHS60158C36-BX	ZFHS60258C36	ZFHS60258C36-BX
2-1/4	1-1/2 Min	ZFHS60158C36-1.50	ZFHS60158C36-1.50-BX	ZFHS60258C36-1.50	ZFHS60258C36-1.50-BX
2-1/2	Full	ZFHS60158C40	ZFHS60158C40-BX	ZFHS60258C40	ZFHS60258C40-BX
2-1/2	1-1/2 Min	ZFHS60158C40-1.50	ZFHS60158C40-1.50-BX	ZFHS60258C40-1.50	ZFHS60258C40-1.50-BX
2-3/4	Full	ZFHS60158C44	ZFHS60158C44-BX	ZFHS60258C44	ZFHS60258C44-BX
2-3/4	1-1/2 Min	ZFHS60158C44-1.50	ZFHS60158C44-1.50-BX	ZFHS60258C44-1.50	ZFHS60258C44-1.50-BX
3	Full	ZFHS60158C48	ZFHS60158C48-BX	ZFHS60258C48	ZFHS60258C48-BX
3	1-1/2 Min	ZFHS60158C48-1.50	ZFHS60158C48-1.50-BX	ZFHS60258C48-1.50	ZFHS60258C48-1.50-BX
3-1/4	Full	ZFHS60158C52	ZFHS60158C52-BX	ZFHS60258C52	ZFHS60258C52-BX
3-1/4	1-1/2 Min	ZFHS60158C52-1.50	ZFHS60158C52-1.50-BX	ZFHS60258C52-1.50	ZFHS60258C52-1.50-BX
3-1/2	Full	ZFHS60158C56	ZFHS60158C56-BX	ZFHS60258C56	ZFHS60258C56-BX
3-1/2	1-1/2 Min	ZFHS60158C56-1.50	ZFHS60158C56-1.50-BX	ZFHS60258C56-1.50	ZFHS60258C56-1.50-BX
4	Full	ZFHS60158C64	ZFHS60158C64-BX	ZFHS60258C64	ZFHS60258C64-BX
4	1-1/2 Min	ZFHS60158C64-1.50	ZFHS60158C64-1.50-BX	ZFHS60258C64-1.50	ZFHS60258C64-1.50-BX
4-1/2	1-1/2 Min	ZFHS60158C72-1.50	ZFHS60158C72-1.50-BX	ZFHS60258C72-1.50	ZFHS60258C72-1.50-BX
5	Full	ZFHS60158C80	ZFHS60158C80-BX	ZFHS60258C80	ZFHS60258C80-BX
5	1-1/2 Min	ZFHS60158C80-1.50	ZFHS60158C80-1.50-BX	ZFHS60258C80-1.50	ZFHS60258C80-1.50-BX
5-1/2	1-1/2 Min	ZFHS60158C88-1.50	ZFHS60158C88-1.50-BX	ZFHS60258C88-1.50	ZFHS60258C88-1.50-BX
6	Full	ZFHS60158C96	ZFHS60158C96-BX	ZFHS60258C96	ZFHS60258C96-BX
6	1-1/2 Min	ZFHS60158C96-1.50	ZFHS60158C96-1.50-BX	ZFHS60258C96-1.50	ZFHS60258C96-1.50-BX

Serrated-Flange Hex Screws — Inch

18-8 SS, 316 SS



3/4-10 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
1	Full	ZFHS60134C16	ZFHS60134C16-BX	ZFHS60234C16	ZFHS60234C16-BX
1-1/4	Full	ZFHS60134C20	ZFHS60134C20-BX	ZFHS60234C20	ZFHS60234C20-BX
1-1/2	Full	ZFHS60134C24	ZFHS60134C24-BX	ZFHS60234C24	ZFHS60234C24-BX
1-3/4	Full	ZFHS60134C28	ZFHS60134C28-BX	ZFHS60234C28	ZFHS60234C28-BX
2	Full	ZFHS60134C32	ZFHS60134C32-BX	ZFHS60234C32	ZFHS60234C32-BX
2	1-3/4 Min	ZFHS60134C32-1.75	ZFHS60134C32-1.75-BX	ZFHS60234C32-1.75	ZFHS60234C32-1.75-BX
2-1/4	Full	ZFHS60134C36	ZFHS60134C36-BX	ZFHS60234C36	ZFHS60234C36-BX
2-1/2	Full	ZFHS60134C40	ZFHS60134C40-BX	ZFHS60234C40	ZFHS60234C40-BX
2-3/4	1-3/4 Min	ZFHS60134C44-1.75	ZFHS60134C44-1.75-BX	ZFHS60234C44-1.75	ZFHS60234C44-1.75-BX
3	Full	ZFHS60134C48	ZFHS60134C48-BX	ZFHS60234C48	ZFHS60234C48-BX
3	1-3/4 Min	ZFHS60134C48-1.75	ZFHS60134C48-1.75-BX	ZFHS60234C48-1.75	ZFHS60234C48-1.75-BX
3-1/4	1-3/4 Min	ZFHS60134C52-1.75	ZFHS60134C52-1.75-BX	ZFHS60234C52-1.75	ZFHS60234C52-1.75-BX
3-1/2	Full	ZFHS60134C56	ZFHS60134C56-BX	ZFHS60234C56	ZFHS60234C56-BX

7/8-9 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
2-1/2	Full	ZFHS60178C40	ZFHS60178C40-BX	ZFHS60278C40	ZFHS60278C40-BX

18-8 SS
316 SS

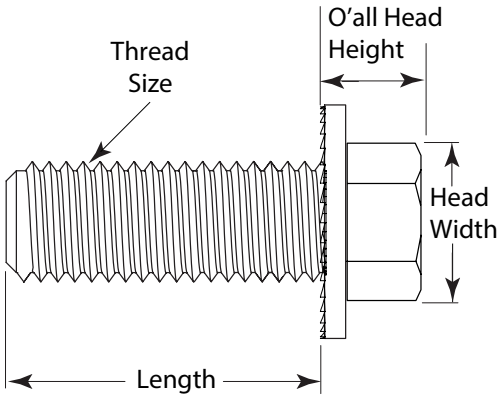
Serrated-Flange Hex Screws — Metric

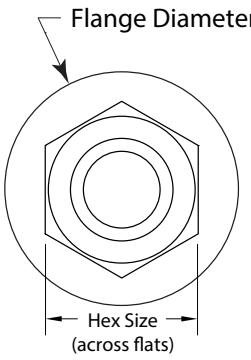
18-8 SS, 316 SS

Product Information

Serrated Flange Hex Screws, also known as Whiz-Lock Bolts (trade name). They are unslotted hex head flange screws that have serrations under the flange, or on the bearing surface. The flange head has a built-in flange that acts as an integrated washer with serrations. Serrations provide additional grip and facilitate loosening due to vibration. The one-piece construction provides more strength than a regular hex screw and serrations eliminate the need for lock washers or lock nuts. Length is measured from under the Flange. Head Height includes flange thickness. These high-performance fasteners are made from 18-8 and 316 stainless steel. 18-8 stainless steel has excellent corrosion resistance and may be mildly magnetic. The 316 stainless steel is our most corrosion resistant stainless steel that withstands solvents and pitting caused by chloride and sulfur. May be mildly magnetic. Screws have a 6g Thread Fit.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- IFI 111 and DIN 6921 standards allow for serrations on a hex flange screw.
- 18-8 stainless steel material meets ASTM A582.
- 316 stainless steel material meets ASTM A276.
- Stainless steel hex screws can receive a dark black-oxide surface finish.







Dimensions Table — Metric

Thread Size	Serrated Flange Diameter (Nominal)	Head Width (Nominal)	O'all Head Height (Nominal)
M3 x 0.5	8.00	5.50	3.60
M4 x 0.7	10.50	7.00	4.50
M5 x 0.8	11.80	8.00	5.40
M6 x 1	14.20	10.00	6.60
M8 x 1	18.00	13.00	8.10
M8 x 1.25	18.00	13.00	8.10
M10 x 1.5	22.30	15.00	9.20
M12 x 1.75	26.60	16.00	11.50
M16 x 2	35.00	21.00	14.40

18-8 SS
316 SS

Serrated-Flange Hex Screws — Metric

18-8 SS, 316 SS



M3 x 0.5 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
6	Full	ZFHS601M3C6	ZFHS601M3C6-BX	ZFHS602M3C6	ZFHS602M3C6-BX
8	Full	ZFHS601M3C8	ZFHS601M3C8-BX	ZFHS602M3C8	ZFHS602M3C8-BX
10	Full	ZFHS601M3C10	ZFHS601M3C10-BX	ZFHS602M3C10	ZFHS602M3C10-BX
25	Full	ZFHS601M3C25	ZFHS601M3C25-BX	ZFHS602M3C25	ZFHS602M3C25-BX

M4 x 0.7 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
6	Full	ZFHS601M4C6	ZFHS601M4C6-BX	ZFHS602M4C6	ZFHS602M4C6-BX
8	Full	ZFHS601M4C8	ZFHS601M4C8-BX	ZFHS602M4C8	ZFHS602M4C8-BX
10	Full	ZFHS601M4C10	ZFHS601M4C10-BX	ZFHS602M4C10	ZFHS602M4C10-BX
12	Full	ZFHS601M4C12	ZFHS601M4C12-BX	ZFHS602M4C12	ZFHS602M4C12-BX
16	Full	ZFHS601M4C16	ZFHS601M4C16-BX	ZFHS602M4C16	ZFHS602M4C16-BX
18	Full	ZFHS601M4C18	ZFHS601M4C18-BX	ZFHS602M4C18	ZFHS602M4C18-BX
20	Full	ZFHS601M4C20	ZFHS601M4C20-BX	ZFHS602M4C20	ZFHS602M4C20-BX
25	Full	ZFHS601M4C25	ZFHS601M4C25-BX	ZFHS602M4C25	ZFHS602M4C25-BX
30	Full	ZFHS601M4C30	ZFHS601M4C30-BX	ZFHS602M4C30	ZFHS602M4C30-BX

M5 x 0.8 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
6	Full	ZFHS601M5C6	ZFHS601M5C6-BX	ZFHS602M5C6	ZFHS602M5C6-BX
8	Full	ZFHS601M5C8	ZFHS601M5C8-BX	ZFHS602M5C8	ZFHS602M5C8-BX
10	Full	ZFHS601M5C10	ZFHS601M5C10-BX	ZFHS602M5C10	ZFHS602M5C10-BX
12	Full	ZFHS601M5C12	ZFHS601M5C12-BX	ZFHS602M5C12	ZFHS602M5C12-BX
14	Full	ZFHS601M5C14	ZFHS601M5C14-BX	ZFHS602M5C14	ZFHS602M5C14-BX
15	Full	ZFHS601M5C15	ZFHS601M5C15-BX	ZFHS602M5C15	ZFHS602M5C15-BX
16	Full	ZFHS601M5C16	ZFHS601M5C16-BX	ZFHS602M5C16	ZFHS602M5C16-BX
18	Full	ZFHS601M5C18	ZFHS601M5C18-BX	ZFHS602M5C18	ZFHS602M5C18-BX
20	Full	ZFHS601M5C20	ZFHS601M5C20-BX	ZFHS602M5C20	ZFHS602M5C20-BX
25	Full	ZFHS601M5C25	ZFHS601M5C25-BX	ZFHS602M5C25	ZFHS602M5C25-BX
30	Full	ZFHS601M5C30	ZFHS601M5C30-BX	ZFHS602M5C30	ZFHS602M5C30-BX
30	16 Min	ZFHS601M5C30-16	ZFHS601M5C30-16-BX	ZFHS602M5C30-16	ZFHS602M5C30-16-BX
35	Full	ZFHS601M5C35	ZFHS601M5C35-BX	ZFHS602M5C35	ZFHS602M5C35-BX
35	16 Min	ZFHS601M5C35-16	ZFHS601M5C35-16-BX	ZFHS602M5C35-16	ZFHS602M5C35-16-BX
40	Full	ZFHS601M5C40	ZFHS601M5C40-BX	ZFHS602M5C40	ZFHS602M5C40-BX
40	16 Min	ZFHS601M5C40-16	ZFHS601M5C40-16-BX	ZFHS602M5C40-16	ZFHS602M5C40-16-BX

Serrated-Flange Hex Screws — Metric

18-8 SS, 316 SS



M5 x 0.8 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
45	Full	ZFHS601M5C45	ZFHS601M5C45-BX	ZFHS602M5C45	ZFHS602M5C45-BX
50	Full	ZFHS601M5C50	ZFHS601M5C50-BX	ZFHS602M5C50	ZFHS602M5C50-BX
50	16 Min	ZFHS601M5C50-16	ZFHS601M5C50-16-BX	ZFHS602M5C50-16	ZFHS602M5C50-16-BX
55	16 Min	ZFHS601M5C55-16	ZFHS601M5C55-16-BX	ZFHS602M5C55-16	ZFHS602M5C55-16-BX
60	Full	ZFHS601M5C60	ZFHS601M5C60-BX	ZFHS602M5C60	ZFHS602M5C60-BX
65	16 Min	ZFHS601M5C65-16	ZFHS601M5C65-16-BX	ZFHS602M5C65-16	ZFHS602M5C65-16-BX
70	Full	ZFHS601M5C70	ZFHS601M5C70-BX	ZFHS602M5C70	ZFHS602M5C70-BX

M6 x 1 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
8	Full	ZFHS601M6C8	ZFHS601M6C8-BX	ZFHS602M6C8	ZFHS602M6C8-BX
10	Full	ZFHS601M6C10	ZFHS601M6C10-BX	ZFHS602M6C10	ZFHS602M6C10-BX
12	Full	ZFHS601M6C12	ZFHS601M6C12-BX	ZFHS602M6C12	ZFHS602M6C12-BX
14	Full	ZFHS601M6C14	ZFHS601M6C14-BX	ZFHS602M6C14	ZFHS602M6C14-BX
15	Full	ZFHS601M6C15	ZFHS601M6C15-BX	ZFHS602M6C15	ZFHS602M6C15-BX
16	Full	ZFHS601M6C16	ZFHS601M6C16-BX	ZFHS602M6C16	ZFHS602M6C16-BX
18	Full	ZFHS601M6C18	ZFHS601M6C18-BX	ZFHS602M6C18	ZFHS602M6C18-BX
20	Full	ZFHS601M6C20	ZFHS601M6C20-BX	ZFHS602M6C20	ZFHS602M6C20-BX
22	Full	ZFHS601M6C22	ZFHS601M6C22-BX	ZFHS602M6C22	ZFHS602M6C22-BX
25	Full	ZFHS601M6C25	ZFHS601M6C25-BX	ZFHS602M6C25	ZFHS602M6C25-BX
25	18 Min	ZFHS601M6C25-18	ZFHS601M6C25-18-BX	ZFHS602M6C25-18	ZFHS602M6C25-18-BX
30	Full	ZFHS601M6C30	ZFHS601M6C30-BX	ZFHS602M6C30	ZFHS602M6C30-BX
30	18 Min	ZFHS601M6C30-18	ZFHS601M6C30-18-BX	ZFHS602M6C30-18	ZFHS602M6C30-18-BX
35	Full	ZFHS601M6C35	ZFHS601M6C35-BX	ZFHS602M6C35	ZFHS602M6C35-BX
35	18 Min	ZFHS601M6C35-18	ZFHS601M6C35-18-BX	ZFHS602M6C35-18	ZFHS602M6C35-18-BX
40	Full	ZFHS601M6C40	ZFHS601M6C40-BX	ZFHS602M6C40	ZFHS602M6C40-BX
40	18 Min	ZFHS601M6C40-18	ZFHS601M6C40-18-BX	ZFHS602M6C40-18	ZFHS602M6C40-18-BX
45	Full	ZFHS601M6C45	ZFHS601M6C45-BX	ZFHS602M6C45	ZFHS602M6C45-BX
45	18 Min	ZFHS601M6C45-18	ZFHS601M6C45-18-BX	ZFHS602M6C45-18	ZFHS602M6C45-18-BX
50	Full	ZFHS601M6C50	ZFHS601M6C50-BX	ZFHS602M6C50	ZFHS602M6C50-BX
55	Full	ZFHS601M6C55	ZFHS601M6C55-BX	ZFHS602M6C55	ZFHS602M6C55-BX
60	Full	ZFHS601M6C60	ZFHS601M6C60-BX	ZFHS602M6C60	ZFHS602M6C60-BX
65	Full	ZFHS601M6C65	ZFHS601M6C65-BX	ZFHS602M6C65	ZFHS602M6C65-BX

Serrated-Flange Hex Screws — Metric

18-8 SS, 316 SS



M6 x 1 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
70	Full	ZFHS601M6C70	ZFHS601M6C70-BX	ZFHS602M6C70	ZFHS602M6C70-BX
70	18 Min	ZFHS601M6C70-18	ZFHS601M6C70-18-BX	ZFHS602M6C70-18	ZFHS602M6C70-18-BX
75	Full	ZFHS601M6C75	ZFHS601M6C75-BX	ZFHS602M6C75	ZFHS602M6C75-BX
80	18 Min	ZFHS601M6C80-18	ZFHS601M6C80-18-BX	ZFHS602M6C80-18	ZFHS602M6C80-18-BX
110	18 Min	ZFHS601M6C110-18	ZFHS601M6C110-18-BX	ZFHS602M6C110-18	ZFHS602M6C110-18-BX

M8 x 1 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
20	Full	ZFHS601M8F20	ZFHS601M8F20-BX	ZFHS602M8F20	ZFHS602M8F20-BX

M8 x 1.25 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
10	Full	ZFHS601M8C10	ZFHS601M8C10-BX	ZFHS602M8C10	ZFHS602M8C10-BX
12	Full	ZFHS601M8C12	ZFHS601M8C12-BX	ZFHS602M8C12	ZFHS602M8C12-BX
14	Full	ZFHS601M8C14	ZFHS601M8C14-BX	ZFHS602M8C14	ZFHS602M8C14-BX
15	Full	ZFHS601M8C15	ZFHS601M8C15-BX	ZFHS602M8C15	ZFHS602M8C15-BX
16	Full	ZFHS601M8C16	ZFHS601M8C16-BX	ZFHS602M8C16	ZFHS602M8C16-BX
18	Full	ZFHS601M8C18	ZFHS601M8C18-BX	ZFHS602M8C18	ZFHS602M8C18-BX
20	Full	ZFHS601M8C20	ZFHS601M8C20-BX	ZFHS602M8C20	ZFHS602M8C20-BX
22	Full	ZFHS601M8C22	ZFHS601M8C22-BX	ZFHS602M8C22	ZFHS602M8C22-BX
25	Full	ZFHS601M8C25	ZFHS601M8C25-BX	ZFHS602M8C25	ZFHS602M8C25-BX
30	Full	ZFHS601M8C30	ZFHS601M8C30-BX	ZFHS602M8C30	ZFHS602M8C30-BX
30	22 Min	ZFHS601M8C30-22	ZFHS601M8C30-22-BX	ZFHS602M8C30-22	ZFHS602M8C30-22-BX
35	Full	ZFHS601M8C35	ZFHS601M8C35-BX	ZFHS602M8C35	ZFHS602M8C35-BX
35	Full	ZFHS601M8C35-22	ZFHS601M8C35-22-BX	ZFHS602M8C35-22	ZFHS602M8C35-22-BX
40	Full	ZFHS601M8C40	ZFHS601M8C40-BX	ZFHS602M8C40	ZFHS602M8C40-BX
40	22 Min	ZFHS601M8C40-22	ZFHS601M8C40-22-BX	ZFHS602M8C40-22	ZFHS602M8C40-22-BX
45	Full	ZFHS601M8C45	ZFHS601M8C45-BX	ZFHS602M8C45	ZFHS602M8C45-BX
50	Full	ZFHS601M8C50	ZFHS601M8C50-BX	ZFHS602M8C50	ZFHS602M8C50-BX
50	22 Min	ZFHS601M8C50-22	ZFHS601M8C50-22-BX	ZFHS602M8C50-22	ZFHS602M8C50-22-BX
55	Full	ZFHS601M8C55	ZFHS601M8C55-BX	ZFHS602M8C55	ZFHS602M8C55-BX
60	Full	ZFHS601M8C60	ZFHS601M8C60-BX	ZFHS602M8C60	ZFHS602M8C60-BX
65	Full	ZFHS601M8C65	ZFHS601M8C65-BX	ZFHS602M8C65	ZFHS602M8C65-BX

Serrated-Flange Hex Screws — Metric
18-8 SS, 316 SS



M8 x 1.25 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
65	22 Min	ZFHS601M8C65-22	ZFHS601M8C65-22-BX	ZFHS602M8C65-22	ZFHS602M8C65-22-BX
70	Full	ZFHS601M8C70	ZFHS601M8C70-BX	ZFHS602M8C70	ZFHS602M8C70-BX
75	22 Min	ZFHS601M8C75-22	ZFHS601M8C75-22-BX	ZFHS602M8C75-22	ZFHS602M8C75-22-BX
80	Full	ZFHS601M8C80	ZFHS601M8C80-BX	ZFHS602M8C80	ZFHS602M8C80-BX
80	22 Min	ZFHS601M8C80-22	ZFHS601M8C80-22-BX	ZFHS602M8C80-22	ZFHS602M8C80-22-BX
100	22 Min	ZFHS601M8C100-22	ZFHS601M8C100-22-BX	ZFHS602M8C100-22	ZFHS602M8C100-22-BX
150	22 Min	ZFHS601M8C150-22	ZFHS601M8C150-22-BX	ZFHS602M8C150-22	ZFHS602M8C150-22-BX

M10 x 1.5 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
16	Full	ZFHS601M10C16	ZFHS601M10C16-BX	ZFHS602M10C16	ZFHS602M10C16-BX
20	Full	ZFHS601M10C20	ZFHS601M10C20-BX	ZFHS602M10C20	ZFHS602M10C20-BX
25	Full	ZFHS601M10C25	ZFHS601M10C25-BX	ZFHS602M10C25	ZFHS602M10C25-BX
30	Full	ZFHS601M10C30	ZFHS601M10C30-BX	ZFHS602M10C30	ZFHS602M10C30-BX
30	26 Min	ZFHS601M10C30-26	ZFHS601M10C30-26-BX	ZFHS602M10C30-26	ZFHS602M10C30-26-BX
35	Full	ZFHS601M10C35	ZFHS601M10C35-BX	ZFHS602M10C35	ZFHS602M10C35-BX
35	26 Min	ZFHS601M10C35-26	ZFHS601M10C35-26-BX	ZFHS602M10C35-26	ZFHS602M10C35-26-BX
40	Full	ZFHS601M10C40	ZFHS601M10C40-BX	ZFHS602M10C40	ZFHS602M10C40-BX
40	26 Min	ZFHS601M10C40-26	ZFHS601M10C40-26-BX	ZFHS602M10C40-26	ZFHS602M10C40-26-BX
45	Full	ZFHS601M10C45	ZFHS601M10C45-BX	ZFHS602M10C45	ZFHS602M10C45-BX
50	Full	ZFHS601M10C50	ZFHS601M10C50-BX	ZFHS602M10C50	ZFHS602M10C50-BX
50	26 Min	ZFHS601M10C50-26	ZFHS601M10C50-26-BX	ZFHS602M10C50-26	ZFHS602M10C50-26-BX
60	26 Min	ZFHS601M10C60-26	ZFHS601M10C60-26-BX	ZFHS602M10C60-26	ZFHS602M10C60-26-BX

Serrated-Flange Hex Screws — Metric

18-8 SS, 316 SS



M12 x 1.75 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
20	Full	ZFHS601M12C20	ZFHS601M12C20-BX	ZFHS602M12C20	ZFHS602M12C20-BX
25	Full	ZFHS601M12C25	ZFHS601M12C25-BX	ZFHS602M12C25	ZFHS602M12C25-BX
30	Full	ZFHS601M12C30	ZFHS601M12C30-BX	ZFHS602M12C30	ZFHS602M12C30-BX
35	Full	ZFHS601M12C35	ZFHS601M12C35-BX	ZFHS602M12C35	ZFHS602M12C35-BX
40	Full	ZFHS601M12C40	ZFHS601M12C40-BX	ZFHS602M12C40	ZFHS602M12C40-BX
40	30 Min	ZFHS601M12C40-30	ZFHS601M12C40-30-BX	ZFHS602M12C40-30	ZFHS602M12C40-30-BX
45	Full	ZFHS601M12C45	ZFHS601M12C45-BX	ZFHS602M12C45	ZFHS602M12C45-BX
50	Full	ZFHS601M12C50	ZFHS601M12C50-BX	ZFHS602M12C50	ZFHS602M12C50-BX
50	30 Min	ZFHS601M12C50-30	ZFHS601M12C50-30-BX	ZFHS602M12C50-30	ZFHS602M12C50-30-BX
60	Full	ZFHS601M12C60	ZFHS601M12C60-BX	ZFHS602M12C60	ZFHS602M12C60-BX
120	30 Min	ZFHS601M12C120-30	ZFHS601M12C120-30-BX	ZFHS602M12C120-30	ZFHS602M12C120-30-BX

M16 x 2 Thread Size

Lg.	Full or Partial Thread	18-8 SS Part Number	18-8 SS, Bl Ox. Part Number	316 SS Part Number	316 SS, Bl Ox. Part Number
35	Full	ZFHS601M16C35	ZFHS601M16C35-BX	ZFHS602M16C35	ZFHS602M16C35-BX
40	Full	ZFHS601M16C40	ZFHS601M16C40-BX	ZFHS602M16C40	ZFHS602M16C40-BX
50	Full	ZFHS601M16C50	ZFHS601M16C50-BX	ZFHS602M16C50	ZFHS602M16C50-BX

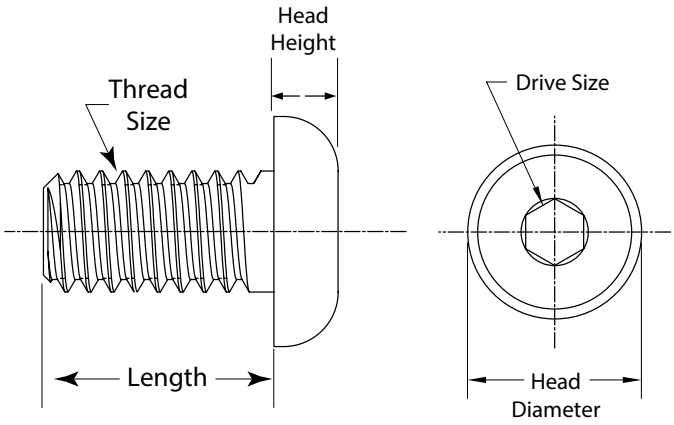
Button Socket Head Cap Screw — Inch

MADE IN THE USA

18-8 SS | Plain

Product Information

AMPG offers harder to find sizes of button head screws. Made from 18-8 stainless steel, these may be mildly magnetic. Not recommended for high strength fastening. Screws have a Class 3A thread fit, a minimum tensile strength of 70,000 psi, and a minimum Rockwell hardness of B55. Screws listed are fully threaded and length is measured from under the head.





Dimensions Table — Inch

Thread Size	Head Diameter (Max. to Min.)	Head Height (Max. to Min)	Thread Designation	Drive Size
5-44	.238 - 226	.066 - .056	UNF	5/64
6-40	.262 - .250	.073 - .063	UNF	5/64
6-48	.262 - .250	.073 - .063	UNS	5/64
8-36	.312 - .298	.087 - .077	UNF	3/32
8-40	.312 - .298	.087 - .077	UNS	3/32
10-24	.361 - .347	.101 - .091	UNC	1/8
10-32	.361 - .347	.101 - .091	UNF	1/8
12-28	.413 - .397	.114 - .104	UNF	5/32
1/4-20	.437 - .419	.132 - .122	UNC	5/32
1/4-32	.437 - .419	.132 - .122	NEF	5/32
5/16-18	.547 - .527	.166 - .152	UNC	3/16
5/16-32	.547 - .527	.166 - .152	NEF	3/16
3/8-16	.656 - .636	.199 - .185	UNC	7/32
3/8-32	.656 - .636	.199 - .185	UNEF	7/32

Button Socket Head Cap Screw — Inch

18-8 SS | Plain



5-44 Thread Size

Length	18-8 SS Part Number
1/4	ZBC118UNF
3/8	ZBC120UNF
1/2	ZBC121UNF

6-40 Thread Size

Length	18-8 SS Part Number
1/4	ZBC128UNF

6-48 Thread Size

Length	18-8 SS Part Number
1/4	ZBC124UNS
3/8	ZBC126UNS
1/2	ZBC128UNS

8-36 Thread Size

Length	18-8 SS Part Number
1/4	ZBC174UNF
3/8	ZBC176UNF
1/2	ZBC178UNF

8-40 Thread Size

Length	18-8 SS Part Number
1/4	ZBC174UNS
3/8	ZBC176UNS
1/2	ZBC178UNS

10-24 Thread Size

Length	18-8 SS Part Number
3/16	ZBC223UNC

10-32 Thread Size

Length	18-8 SS Part Number
1/8	ZBC272UNF

12-28 Thread Size

Length	18-8 SS Part Number
1/2	ZBC328UNF
3/4	ZBC331UNF
1	ZBC333UNF

1/4-20 Thread Size

Length	18-8 SS Part Number
3/16	ZBC383UNC

1/4-32 Thread Size

Length	18-8 SS Part Number
1/2	ZBC448UNEF
3/4	ZBC451UNEF
1	ZBC453UNEF

5/16-18 Thread Size

Length	18-8 SS Part Number
1/4	ZBC514UNC
5/16	ZBC515UNC

5/16-32 Thread Size

Length	18-8 SS Part Number
1/2	ZBC518UNEF
3/4	ZBC521UNEF
1	ZBC523UNEF

3/8-16 Thread Size

Length	18-8 SS Part Number
1/4	ZBC574UNC
3/8	ZBC576UNC

3/8-32 Thread Size

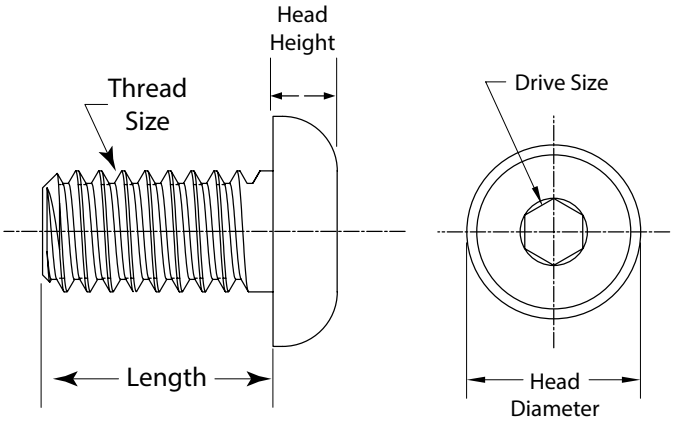
Length	18-8 SS Part Number
3/4	ZBC581UNEF
1	ZBC583UNEF
1-1/2	ZBC587UNEF

Button Head Socket Cap Screw — Inch

Brass | Plain

Product Information

Made from brass, these button head screws are corrosion resistant in wet environments, nonmagnetic, and electrically conductive. Inch screws have a Class 3A thread fit. Length is measured from under the head.





Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Drive Size
2-56	.164	.046	.050
2-64	.164	.046	.050
3-48	.188	.052	1/16
3-56	.188	.052	1/16
4-40	.213	.059	1/16
4-48	.213	.059	1/16
5-40	.238	.066	5/64
5-44	.238	.066	5/64
6-32	.262	.073	5/64
6-40	.262	.073	5/64
8-32	.312	.087	3/32
8-36	.312	.087	3/32
10-24	.361	.101	1/8
10-32	.361	.101	1/8
12-24	.413	.114	1/8
12-28	.413	.114	1/8
1/4-20	.437	.132	5/32
1/4-28	.437	.132	5/32
5/16-18	.547	.166	3/16
5/16-24	.547	.166	3/16
3/8-16	.656	.199	7/32
3/8-24	.656	.199	7/32
7/16-14	.750	.238	1/4
1/2-13	.750	.238	1/4
1/2-20	.875	.265	5/16
5/8-11	1.000	.331	3/8

Dimensions Table — Metric, mm

Thread Size	Head Diameter (Max. to Min.)	Head Height (Max. to Min.)	Hex Drive Size
M3 x 0.5mm	5.70 - 5.40	1.65 - 1.40	2
M4 x 0.7mm	7.60 - 7.20	2.20 - 2.00	2.5
M5 x 0.8mm	9.50 - 9.10	2.75 - 2.50	3
M6 x 1mm	10.50 - 10.00	3.30 - 3.10	4

Button Head Socket Cap Screw — Inch

Brass | Plain



2-56 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
1/8	Fully Threaded	ZSB55002C02
5/32	Fully Threaded	ZSB55002C02.5
3/16	Fully Threaded	ZSB55002C03
1/4	Fully Threaded	ZSB55002C04
5/16	Fully Threaded	ZSB55002C05
3/8	Fully Threaded	ZSB55002C06
7/16	Fully Threaded	ZSB55002C07
1/2	Fully Threaded	ZSB55002C08

2-64 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
1/4	Fully Threaded	ZSB55002F04
3/8	Fully Threaded	ZSB55002F06
1/2	Fully Threaded	ZSB55002F08

3-48 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
1/8	Fully Threaded	ZSB55003C02
3/16	Fully Threaded	ZSB55003C03
1/4	Fully Threaded	ZSB55003C04
5/16	Fully Threaded	ZSB55003C05
3/8	Fully Threaded	ZSB55003C06
1/2	Fully Threaded	ZSB55003C08
5/8	Fully Threaded	ZSB55003C10
3/4	Fully Threaded	ZSB55003C12
1	Fully Threaded	ZSB55003C16

3-56 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
1/4	Fully Threaded	ZSB55003F04
3/8	Fully Threaded	ZSB55003F06
1/2	Fully Threaded	ZSB55003F08

4-40 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
1/8	Fully Threaded	ZSB55004C02
3/16	Fully Threaded	ZSB55004C03
1/4	Fully Threaded	ZSB55004C04
5/16	Fully Threaded	ZSB55004C05
3/8	Fully Threaded	ZSB55004C06
7/16	Fully Threaded	ZSB55004C07
1/2	Fully Threaded	ZSB55004C08
9/16	Fully Threaded	ZSB55004C09
5/8	Fully Threaded	ZSB55004C10
3/4	Fully Threaded	ZSB55004C12
7/8	Fully Threaded	ZSB55004C14
1	Fully Threaded	ZSB55004C16

4-48 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
1/8	Fully Threaded	ZSB55004F02
3/16	Fully Threaded	ZSB55004F03
1/4	Fully Threaded	ZSB55004F04
3/8	Fully Threaded	ZSB55004F06
1/2	Fully Threaded	ZSB55004F08

5-40 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
3/16	Fully Threaded	ZSB55005C03
1/4	Fully Threaded	ZSB55005C04
5/16	Fully Threaded	ZSB55005C05
3/8	Fully Threaded	ZSB55005C06
1/2	Fully Threaded	ZSB55005C08
5/8	Fully Threaded	ZSB55005C10
3/4	Fully Threaded	ZSB55005C12
1	Fully Threaded	ZSB55005C16

5-44 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
1/4	Fully Threaded	ZSB55005F04
3/8	Fully Threaded	ZSB55005F06
1/2	Fully Threaded	ZSB55005F08

6-32 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
1/8	Fully Threaded	ZSB55006C02
3/16	Fully Threaded	ZSB55006C03
5/16	Fully Threaded	ZSB55006C05
7/16	Fully Threaded	ZSB55006C07
9/16	Fully Threaded	ZSB55006C09
5/8	Fully Threaded	ZSB55006C10
3/4	Fully Threaded	ZSB55006C12
7/8	Fully Threaded	ZSB55006C14
1	Fully Threaded	ZSB55006C16

6-40 Thread Size

Length	Fully or Partially Threaded	Brass Part Number
3/16	Fully Threaded	ZSB55006F03
1/4	Fully Threaded	ZSB55006F04
3/8	Fully Threaded	ZSB55006F06
1/2	Fully Threaded	ZSB55006F08

Button Head Socket Cap Screw — Inch

Brass | Plain



8-32 Thread Size

Length	Full or Partially Threaded	Brass Part Number
1/8	Fully Threaded	ZSB55008C02
5/32	Fully Threaded	ZSB55008C02.5
3/16	Fully Threaded	ZSB55008C03
5/16	Fully Threaded	ZSB55008C05
7/16	Fully Threaded	ZSB55008C07
9/16	Fully Threaded	ZSB55008C09
5/8	Fully Threaded	ZSB55008C10
3/4	Fully Threaded	ZSB55008C12
7/8	Fully Threaded	ZSB55008C14
1	Fully Threaded	ZSB55008C16
1 1/8	Fully Threaded	ZSB55008C18
1 1/4	Partially Threaded	ZSB55008C20
1 3/8	Partially Threaded	ZSB55008C22
1 1/2	Partially Threaded	ZSB55008C24

8-36 Thread Size

Length	Full or Partially Threaded	Brass Part Number
1/4	Fully Threaded	ZSB55008F04
3/8	Fully Threaded	ZSB55008F06
1/2	Fully Threaded	ZSB55008F08

10-24 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/16	Fully Threaded	ZSB55010C03
5/16	Fully Threaded	ZSB55010C05
7/16	Fully Threaded	ZSB55010C07
9/16	Fully Threaded	ZSB55010C09
5/8	Fully Threaded	ZSB55010C10
7/8	Fully Threaded	ZSB55010C14
1 1/8	Fully Threaded	ZSB55010C18
1 1/4	Partially Threaded	ZSB55010C20
1 3/8	Partially Threaded	ZSB55010C22
1 1/2	Partially Threaded	ZSB55010C24
1 3/4	Partially Threaded	ZSB55010C28
2	Partially Threaded	ZSB55010C32

10-32 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/16	Fully Threaded	ZSB55010F03
5/16	Fully Threaded	ZSB55010F05
7/16	Fully Threaded	ZSB55010F07
9/16	Fully Threaded	ZSB55010F09
5/8	Fully Threaded	ZSB55010F10
3/4	Fully Threaded	ZSB55010F12
7/8	Fully Threaded	ZSB55010F14
1	Fully Threaded	ZSB55010F16
1 1/8	Fully Threaded	ZSB55010F18
1 1/4	Partially Threaded	ZSB55010F20
1 3/8	Partially Threaded	ZSB55010F22
1 1/2	Partially Threaded	ZSB55010F24
1 5/8	Partially Threaded	ZSB55010F26
1 3/4	Partially Threaded	ZSB55010F28
2	Partially Threaded	ZSB55010F32

12-24 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/8	Fully Threaded	ZSB550#12C06
1/2	Fully Threaded	ZSB550#12C08
5/8	Fully Threaded	ZSB550#12C10
3/4	Fully Threaded	ZSB550#12C12
1	Fully Threaded	ZSB550#12C16

12-28 Thread Size

Length	Full or Partially Threaded	Brass Part Number
1/2	Fully Threaded	ZSB550#12F08
3/4	Fully Threaded	ZSB550#12F12
1	Fully Threaded	ZSB550#12F16

Button Head Socket Cap Screw — Inch

Brass | Plain



1/4-20 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/16	Fully Threaded	ZSB55014C03
1/4	Fully Threaded	ZSB55014C04
5/16	Fully Threaded	ZSB55014C05
7/16	Fully Threaded	ZSB55014C07
9/16	Fully Threaded	ZSB55014C09
7/8	Fully Threaded	ZSB55014C14
1 1/8	Fully Threaded	ZSB55014C18
1 1/4	Fully Threaded	ZSB55014C20
1 3/8	Fully Threaded	ZSB55014C22
1 1/2	Partially Threaded	ZSB55014C24
1 5/8	Partially Threaded	ZSB55014C26
1 3/4	Partially Threaded	ZSB55014C28
1 7/8	Partially Threaded	ZSB55014C30
2	Partially Threaded	ZSB55014C32

1/4-28 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/16	Fully Threaded	ZSB55014F03
1/4	Fully Threaded	ZSB55014F04
5/16	Fully Threaded	ZSB55014F05
3/8	Fully Threaded	ZSB55014F06
7/16	Fully Threaded	ZSB55014F07
1/2	Fully Threaded	ZSB55014F08
9/16	Fully Threaded	ZSB55014F09
5/8	Fully Threaded	ZSB55014F10
3/4	Fully Threaded	ZSB55014F12
7/8	Fully Threaded	ZSB55014F14
1	Fully Threaded	ZSB55014F16
1 1/8	Fully Threaded	ZSB55014F18
1 1/4	Fully Threaded	ZSB55014F20
1 3/8	Fully Threaded	ZSB55014F22
1 1/2	Partially Threaded	ZSB55014F24
1 5/8	Partially Threaded	ZSB55014F26
1 3/4	Partially Threaded	ZSB55014F28
2	Partially Threaded	ZSB55014F32

5/16-18 Thread Size

Length	Full or Partially Threaded	Brass Part Number
1/4	Fully Threaded	ZSB55051C04
5/16	Fully Threaded	ZSB55051C05
3/8	Fully Threaded	ZSB55051C06
7/16	Fully Threaded	ZSB55051C07
9/16	Fully Threaded	ZSB55051C09
5/8	Fully Threaded	ZSB55051C10
7/8	Fully Threaded	ZSB55051C14
1 1/8	Fully Threaded	ZSB55051C18
1 1/4	Fully Threaded	ZSB55051C20
1 3/8	Fully Threaded	ZSB55051C22
1 1/2	Partially Threaded	ZSB55051C24
1 5/8	Partially Threaded	ZSB55051C26
1 3/4	Partially Threaded	ZSB55051C28
1 7/8	Partially Threaded	ZSB55051C30
2	Partially Threaded	ZSB55051C32

5/16-24 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/8	Fully Threaded	ZSB55051F06
1/2	Fully Threaded	ZSB55051F08
5/8	Fully Threaded	ZSB55051F10
3/4	Fully Threaded	ZSB55051F12
7/8	Fully Threaded	ZSB55051F14
1	Fully Threaded	ZSB55051F16
1 1/8	Fully Threaded	ZSB55051F18
1 1/4	Fully Threaded	ZSB55051F20
1 3/8	Fully Threaded	ZSB55051F22
1 1/2	Partially Threaded	ZSB55051F24
1 3/4	Partially Threaded	ZSB55051F28
2	Partially Threaded	ZSB55051F32

Button Head Socket Cap Screw — Inch

Brass | Plain



3/8-16 Thread Size

Length	Full or Partially Threaded	Brass Part Number
1/4	Fully Threaded	ZSB55038C04
3/8	Fully Threaded	ZSB55038C06
5/8	Fully Threaded	ZSB55038C10
7/8	Fully Threaded	ZSB55038C14
1 1/8	Fully Threaded	ZSB55038C18
1 1/4	Fully Threaded	ZSB55038C20
1 3/8	Fully Threaded	ZSB55038C22
1 5/8	Partially Threaded	ZSB55038C26
1 3/4	Partially Threaded	ZSB55038C28
1 7/8	Partially Threaded	ZSB55038C30
2	Partially Threaded	ZSB55038C32

1/2-13 Thread Size

Length	Full or Partially Threaded	Brass Part Number
1/2	Fully Threaded	ZSB55012C08
5/8	Fully Threaded	ZSB55012C10
3/4	Fully Threaded	ZSB55012C12
7/8	Fully Threaded	ZSB55012C14
1	Fully Threaded	ZSB55012C16
1 1/8	Fully Threaded	ZSB55012C18
1 1/4	Fully Threaded	ZSB55012C20
1 1/2	Fully Threaded	ZSB55012C24
1 3/4	Fully Threaded	ZSB55012C28
2	Fully Threaded	ZSB55012C32

3/8-24 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/8	Fully Threaded	ZSB55038F06
1/2	Fully Threaded	ZSB55038F08
5/8	Fully Threaded	ZSB55038F10
3/4	Fully Threaded	ZSB55038F12
1	Fully Threaded	ZSB55038F16
1 1/4	Fully Threaded	ZSB55038F20
1 1/2	Fully Threaded	ZSB55038F24
1 3/4	Partially Threaded	ZSB55038F28
2	Partially Threaded	ZSB55038F32

1/2-20 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/4	Fully Threaded	ZSB55012F12
7/8	Fully Threaded	ZSB55012F14
1	Fully Threaded	ZSB55012F16
1 1/4	Fully Threaded	ZSB55012F20
1 1/2	Fully Threaded	ZSB55012F24
1 3/4	Fully Threaded	ZSB55012F28
2	Fully Threaded	ZSB55012F32

7/16-14 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/4	Fully Threaded	ZSB55071C12
1	Fully Threaded	ZSB55071C16
1 1/4	Fully Threaded	ZSB55071C20
1 1/2	Fully Threaded	ZSB55071C24
2	Fully Threaded	ZSB55071C32

5/8-11 Thread Size

Length	Full or Partially Threaded	Brass Part Number
3/4	Fully Threaded	ZSB55058C12
1	Fully Threaded	ZSB55058C16
1 1/4	Fully Threaded	ZSB55058C20
1 1/2	Fully Threaded	ZSB55058C24
1 3/4	Fully Threaded	ZSB55058C28
2	Fully Threaded	ZSB55058C32

Button Head Socket Cap Screw — Metric

Brass | Plain



Dimensions Table — Metric, mm			
Thread Size	**Head Diameter** (Max. to Min.)	**Head Height** (Max. to Min.)	**Hex Drive Size**
M3 x 0.5mm	5.70 - 5.40	1.65 - 1.40	2
M4 x 0.7mm	7.60 - 7.20	2.20 - 2.00	2.5
M5 x 0.8mm	9.50 - 9.10	2.75 - 2.50	3
M6 x 1mm	10.50 - 10.00	3.30 - 3.10	4

M3 x 0.5mm Thread Size

Length	Brass Part Number
5	ZBC3X5BR
6	ZBC3X6BR
8	ZBC3X8BR
10	ZBC3X10BR
12	ZBC3X12BR

M4 x 0.7mm Thread Size

Length	Brass Part Number
6	ZBC4X6BR
8	ZBC4X8BR
10	ZBC4X10BR
12	ZBC4X12BR
16	ZBC4X16BR

M5 x 0.8mm Thread Size

Length	Brass Part Number
8	ZBC5X8BR
10	ZBC5X10BR
12	ZBC5X12BR
16	ZBC5X16BR
20	ZBC5X20BR

M6 x 1mm Thread Size

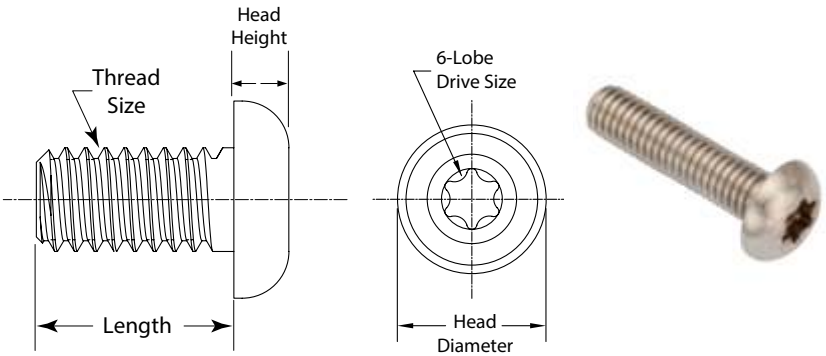
Length	Brass Part Number
10	ZBC6X10BR
12	ZBC6X12BR
16	ZBC6X16BR
20	ZBC6X20BR
25	ZBC6X25BR

6-Lobe Drive Button Head Machine Screw — Inch

A286 SS | Plain

Product Information

These high-performance fasteners are made from A286 Super Alloy. This stainless steel material is useful for applications requiring high strength and corrosion resistance especially in higher temperature applications. They have a 6-lobe drive that has more points of contact than other drives, allowing you to tighten the screw without damaging the recess. Screws have a Class 2A thread fit. Length is measured from under the head.



Dimensions Table — Inch

Thread Size	Head Diameter (Max. to Min.)	Head Height (Max. to Min)	Drive Size
4-40	.213 - .201	.059 - .051	T10
6-32	.262 - .250	.073 - .063	T15
8-32	.312 - .298	.087 - .077	T20
10-24	.361 - .347	.101 - .091	T25
10-32	.361 - .347	.101 - .091	T25
1/4-20	.437 - .419	.132 - .122	T30

4-40 Thread Size

Length	A286 SS Part Number
3/16	ZBM105-286
1/4	ZBM106-286
3/8	ZBM108-286
1/2	ZBM110-286
3/4	ZBM113-286

8-32 Thread Size

Length	A286 SS Part Number
1/4	ZBM174-286
3/8	ZBM176-286
1/2	ZBM178-286
3/4	ZBM181-286
1	ZBM183-286

10-32 Thread Size

Length	A286 SS Part Number
1/4	ZBM274-286
3/8	ZBM276-286
1/2	ZBM278-286
3/4	ZBM281-286
1	ZBM283-286

6-32 Thread Size

Length	A286 SS Part Number
1/4	ZBM124-286
3/8	ZBM126-286
1/2	ZBM128-286
3/4	ZBM131-286
1	ZBM133-286

10-24 Thread Size

Length	A286 SS Part Number
1/4	ZBM224-286
3/8	ZBM226-286
1/2	ZBM228-286
3/4	ZBM231-286
1	ZBM233-286

1/4-20 Thread Size

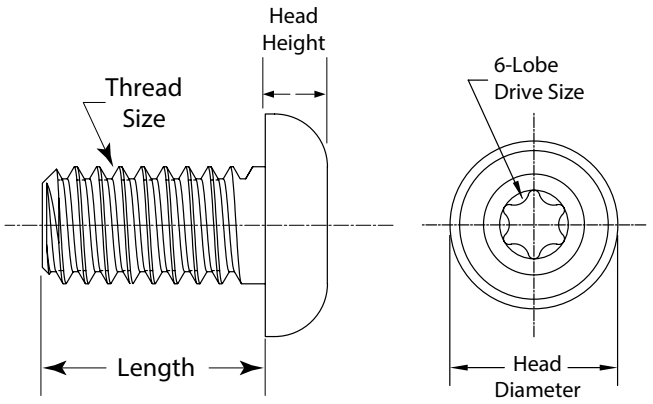
Length	A286 SS Part Number
3/8	ZBM386-286
1/2	ZBM388-286
3/4	ZBM391-286
1	ZBM393-286
1-1/2	ZBM397-286

6-Lobe Drive Button Head Machine Screw — Metric

A286 SS | Plain

Product Information

These high-performance fasteners are made from A286 Super Alloy. This stainless steel material is useful for applications requiring high strength and corrosion resistance especially in higher temperature applications. They have a 6-Lobe drive that has more points of contact than other drives, allowing you to tighten the screw without damaging the recess. Screws have a Class 6g thread fit. Length is measured from under the head.





Dimensions Table — Metric, mm

Thread Size	Head Diameter (Max. to Min.)	Head Height (Max. to Min)	Drive Size
M3 x 0.5mm	5.70 - 5.00	1.65 - 1.40	T10
M4 x 0.7mm	7.60 - 7.20	2.20 - 1.95	T20
M5 x 0.8mm	9.50 - 9.10	2.75 - 2.50	T25
M6 x 1mm	10.50 - 10.10	3.30 - 3.00	T30

M3 x 0.5mm Thread Size

Length	A286 SS Part Number
5	ZBM3X5
6	ZBM3X6
8	ZBM3X8
10	ZBM3X10
12	ZBM3X12

M4 x 0.7mm Thread Size

Length	A286 SS Part Number
6	ZBM4X6
8	ZBM4X8
10	ZBM4X10
12	ZBM4X12
16	ZBM4X16

M5 x 0.8mm Thread Size

Length	A286 SS Part Number
8	ZBM5X8
10	ZBM5X10
12	ZBM5X12
16	ZBM5X16
20	ZBM5X20

M6 x 1mm Thread Size

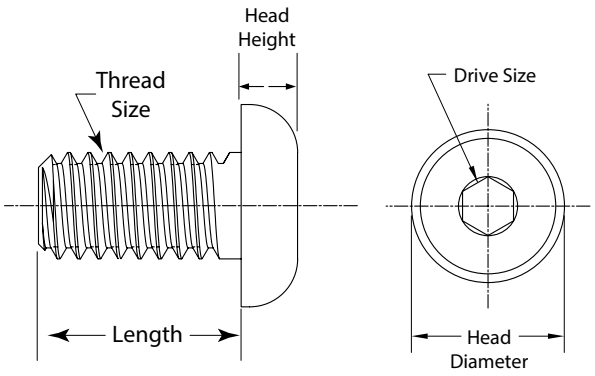
Length	A286 SS Part Number
10	ZBM6X10
12	ZBM6X12
16	ZBM6X16
20	ZBM6X20
25	ZBM6X25

Left Hand Button Head Machine Screw — Inch

18-8 SS | Plain
316 SS | Plain

Product Information

Tighten these screws by turning them to the left; once fastened, they prevent loosening from counterclockwise motion. These high-performance fasteners are made from 18-8 and 316 stainless steel. 18-8 stainless steel has excellent corrosion resistance and may be mildly magnetic. The 316 stainless steel is our most corrosion resistant stainless steel that withstands solvents and pitting caused by chloride and sulfur. May be mildly magnetic. Screws have a Class 2A thread fit for Inch and a 6g thread fit for Metric and are fully threaded. Length is measured from under the head.





Dimensions Table — Inch

Thread Size	Head Diameter (Max. to Min.)	Head Height (Max. to Min)	Drive Size
4-40	.213 - .201	.059 - .051	1/16
6-32	.262 - .250	.073 - .063	5/64
8-32	.312 - .298	.087 - .077	3/32
10-32	.361 - .347	.101 - .091	1/8
1/4-20	.437 - .419	.132 - .122	5/32

4-40 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
1/4	ZBM106LH	ZBM106-316LH
3/8	ZBM108LH	ZBM108-316LH
1/2	ZBM110LH	ZBM110-316LH
3/4	ZBM113LH	ZBM113-316LH

6-32 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
3/8	ZBM126LH	ZBM126-316LH
1/2	ZBM128LH	ZBM128-316LH
3/4	ZBM131LH	ZBM131-316LH
1	ZBM133LH	ZBM133-316LH

8-32 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
3/8	ZBM176LH	ZBM176-316LH
1/2	ZBM178LH	ZBM178-316LH
3/4	ZBM181LH	ZBM181-316LH
1	ZBM183LH	ZBM183-316LH

10-32 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
3/8	ZBM276LH	ZBM276-316LH
1/2	ZBM278LH	ZBM278-316LH
3/4	ZBM281LH	ZBM281-316LH
1	ZBM283LH	ZBM283-316LH

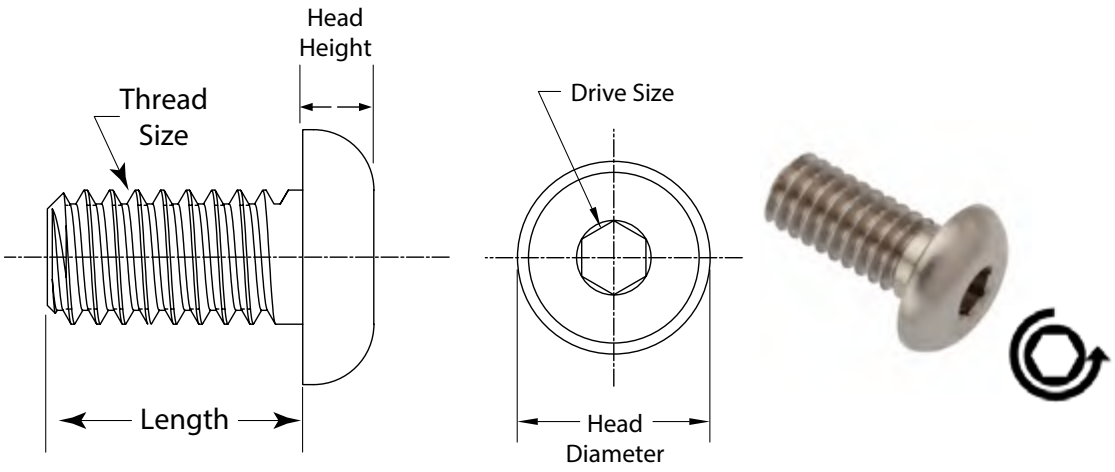
1/4-20 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
3/8	ZBM386LH	ZBM386-316LH
1/2	ZBM388LH	ZBM388-316LH
3/4	ZBM391LH	ZBM391-316LH
1	ZBM393LH	ZBM393-316LH

Left Hand Button Head Machine Screw — Metric

MADE IN THE USA

18-8 SS (A2) | Plain
316 SS (A4) | Plain



Dimensions Table — Metric

Thread Size	Head Diameter (Max to Min.)	Head Height (Max to Min.)	Drive Size
M3 x 0.50mm	5.70 - 5.40	1.65 - 1.40	2mm
M4 x 0.70mm	7.60 - 7.20	2.20 - 2.00	2.5mm
M5 x 0.80mm	9.50 - 9.10	2.75 - 2.50	3mm
M6 x 1.00mm	10.50 - 10.00	3.30 - 3.10	4mm

M3 x 0.50 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
6	ZBM3X6LH	ZBM3X6-316LH
8	ZBM3X8LH	ZBM3X8-316LH
10	ZBM3X10LH	ZBM3X10-316LH
12	ZBM3X12LH	ZBM3X12-316LH

M4 x 0.70 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
8	ZBM4X8LH	ZBM4X8-316LH
10	ZBM4X10LH	ZBM4X10-316LH
12	ZBM4X12LH	ZBM4X12-316LH
16	ZBM4X16LH	ZBM4X16-316LH

M5 x 0.80 Thread Size

Length	18-8 SS Part Number	316 SS Part Number
10	ZBM5X10LH	ZBM5X10-316LH
12	ZBM5X12LH	ZBM5X12-316LH
16	ZBM5X16LH	ZBM5X16-316LH
20	ZBM5X20LH	ZBM5X20-316LH

M6 x 1.00 Thread Size

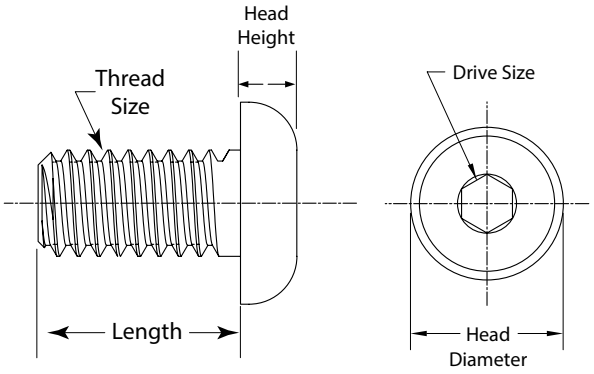
Length	18-8 SS Part Number	316 SS Part Number
10	ZBM6X10LH	ZBM6X12-316LH
12	ZBM6X12LH	ZBM6X16-316LH
16	ZBM6X16LH	ZBM6X20-316LH
20	ZBM6X20LH	ZBM6X25-316LH

Fine Thread Button Head Machine Screws — Metric

316 SS (A4) | Plain

Product Information

These high-performance fasteners are made from 316 stainless steel that withstands solvents and pitting caused by chloride and sulfur. DFARS & RoHS Compliant. Manufactured in USA. All screws are fully threaded. Length is measured from under head. May be mildly magnetic. Screws have a 6g thread fit and are fully threaded. Length is measured from under the head.





Dimensions Table — Metric

Thread Size	Head Diameter (Max to Min.)	Head Height (Max to Min.)	Drive Size
M3 x 0.35mm	5.70 - 5.40	1.65 - 1.40	2mm
M4 x 0.50mm	7.60 - 7.20	2.20 - 2.00	2.5mm
M5 x 0.50mm	9.50 - 9.10	2.75 - 2.50	3mm
M6 x 0.75mm	10.50 - 10.00	3.30 - 3.10	4mm

M3 x 0.35 Thread Size

Length	316 SS Part Number
6	ZBM3X6-316F
8	ZBM3X8-316F
10	ZBM3X10-316F
12	ZBM3X12-316F

M4 x 0.50 Thread Size

Length	316 SS Part Number
6	ZBM4X6-316F
8	ZBM4X8-316F
10	ZBM4X10-316F
12	ZBM4X12-316F
16	ZBM4X16-316F

M5 x 0.50 Thread Size

Length	316 SS Part Number
8	ZBM5X8-316F
10	ZBM5X10-316F
12	ZBM5X12-316F
16	ZBM5X16-316F
20	ZBM5X20-316F

M6 x 0.75 Thread Size

Length	316 SS Part Number
10	ZBM6X10-316F
12	ZBM6X12-316F
16	ZBM6X16-316F
20	ZBM6X20-316F
25	ZBM6X25-316F

Knurled Low Head Thumb Screws — Inch

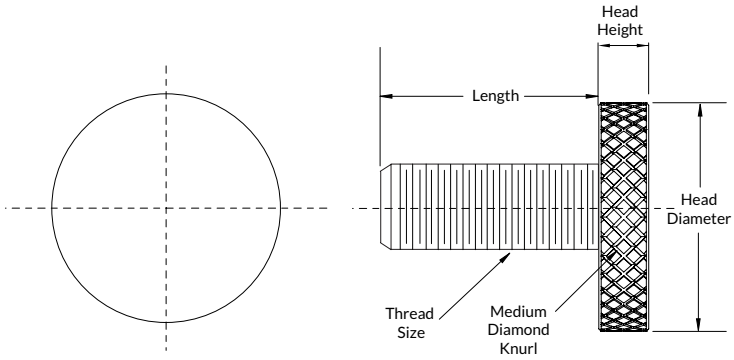
MADE IN THE USA

18-8 SS | Plain



Product Information

These fully threaded Knurled Low Head Thumb Screws have a knurled head for slip-resistant controlled adjustment.



4-40 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number
5/16	5/16	5/16	Z2360
3/8	3/8	5/16	Z2361
3/8	3/8	3/8	Z2362
1/2	1/2	5/16	Z2363

4-48 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number
5/16	5/16	3/16	Z2395-SS
3/8	5/16	3/16	Z2396-SS

6-32 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number
3/8	5/16	3/16	Z2364
1/2	1/4	1/2	Z2365
1/2	5/16	3/16	Z2366
3/8	3/8	3/16	Z2367

6-48 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number
3/8	5/16	3/16	Z2398-SS
1/2	5/16	3/16	Z2399-SS

8-32 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number
3/8	3/8	3/8	Z2368
1/2	1/2	3/8	Z2369
5/8	5/8	3/8	Z2370
3/4	3/4	3/8	Z2371

8-40 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number
3/8	3/8	3/16	Z0765-SS
1/2	3/8	3/16	Z0767-SS
3/4	3/8	3/16	Z0769-SS

10-24 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number
3/4	3/8	3/16	Z2372
3/4	1/2	3/16	Z2373
3/4	3/4	3/16	Z2374
1	3/8	3/16	Z2375
1-1/2	3/4	3/16	Z2376
1-1/2	5/8	3/16	Z2377
2	5/8	3/16	Z2378

10-32 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number
3/8	7/16	3/16	Z2380
1/2	7/16	3/16	Z2382
5/8	7/16	3/16	Z2383
3/4	7/16	3/16	Z2384
3/4	1/2	3/16	Z2385
3/4	3/4	3/16	Z2386
1	1/2	3/16	Z2387
1-1/4	1/2	3/16	Z2388
1-1/4	3/4	3/16	Z2390
1-1/2	5/8	3/16	Z2392
2	5/8	3/16	Z2394

Extra Length Thumb Screws — Inch

MADE IN THE USA

18-8 SS | Plain
Steel | Black Oxide



Product Information

These fully threaded extra long threaded Thumb Screws allow for increased reach and adjustability.

10-32 Thread Size

Length	Head Dia.	Head Height	Steel, Black Ox. Part Number
1-1/2	5/8	3/16	Z0670
2	5/8	3/16	Z0671

10-24 Thread Size

Length	Head Dia.	Head Height	Steel, Black Ox. Part Number
1-1/2	5/8	3/16	Z0672

1/4-20 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number	Steel, Black Ox. Part Number
1-1/2	11/16	7/32	Z0687	Z0674
2-1/2	11/16	7/32	Z0688	Z0675

1/4-28 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number	Steel, Black Ox. Part Number
1-1/2	11/16	7/32	Z0683-SS	Z0683
2-1/2	11/16	7/32	Z0684-SS	Z0684

5/16-18 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number	Steel, Black Ox. Part Number
1-3/4	3/4	1/4	Z0689	Z0676
2-1/4	3/4	1/4	Z0690	Z0677
3	3/4	1/4	Z0691	Z0678

5/16-24 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number	Steel, Black Ox. Part Number
1-3/4	3/4	1/4	Z0685-SS	Z0685
2-1/4	3/4	1/4	Z0686-SS	Z0686
3	3/4	1/4	Z0696-SS	Z0696

3/8-16 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number	Steel Part Number
2	7/8	5/16	Z0692	Z0679
2-1/2	7/8	5/16	Z0693	Z0680
3	7/8	5/16	Z0694	Z0681

3/8-24 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number	Steel Part Number
2	7/8	5/16	Z0697-SS	Z0697
3	7/8	5/16	Z0699-SS	Z0699

1/2-13 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number	Steel Part Number
3	1	3/8	Z0695	Z0682

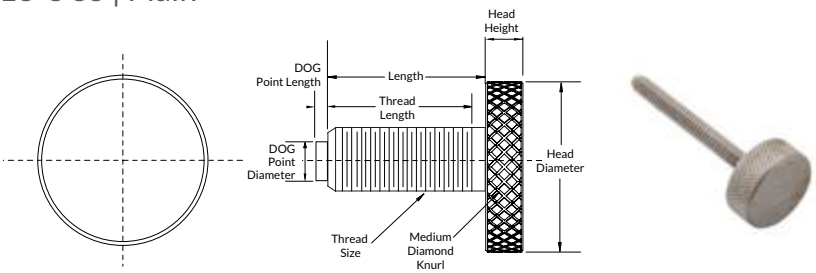
1/2-20 Thread Size

Length	Head Dia.	Head Height	18-8 SS Part Number	Steel Part Number
3	1	3/8	Z0708SS	Z0708

Dog Point Low Head Thumb Screws — Inch

MADE IN THE USA

18-8 SS | Plain



Dimensions Table — Inch

Thread Size	Head Thickness	Head Dia.	Dog Point Diameter	Dog Point Length
10-24	5/16	3/4	.125	.047
1/4-20	5/16	1	.156	.063
5/16-18	3/8	1-1/8	.203	.078
3/8-16	7/16	1-1/4	.250	.094
1/2-13	1/2	1-1/4	.344	.125

10-24 Thread Size

Length	18-8 SS Part Number
1-1/4	Z2180
1-5/8	Z2182

1/4-20 Thread Size

Length	18-8 SS Part Number
1	Z2186
2-1/2	Z2188

5/16-18 Thread Size

Length	18-8 SS Part Number
1-1/2	Z2190
2-1/4	Z2192
2-3/4	Z2194

3/8-16 Thread Size

Length	18-8 SS Part Number
2	Z2196
3	Z2198

1/2-13 Thread Size

Length	18-8 SS Part Number
3-1/2	Z2200

Dog Point Low Head Thumb Screws — Inch

MADE IN THE USA

Steel | Case Hardened, Black Oxide



Dimensions Table — Inch

Thread Size	Dog Point Diameter	Dog Point Length
10-32	1/8	1/8
1/4-20	5/32	1/8
5/16-18	13/64	5/32
3/8-16	1/4	3/16

10-32 Thread Size

Length	Head Thickness	Head Diameter	Steel Part Number
1	1/4	3/4	Z2143

1/4-20 Thread Size

Length	Head Thickness	Head Diameter	Steel Part Number
1-1/2	5/16	1	Z2149

5/16-18 Thread Size

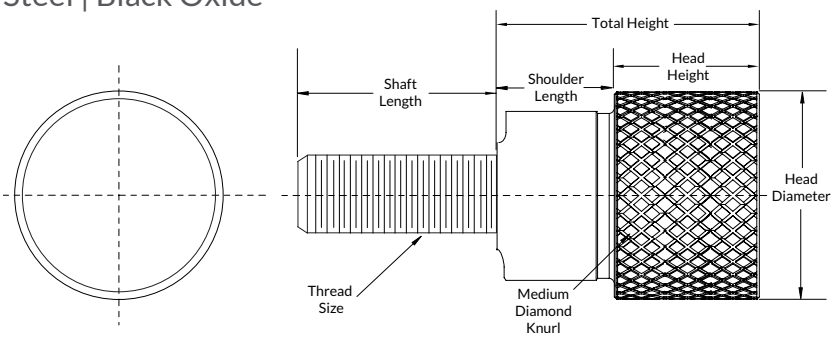
Length	Head Thickness	Head Diameter	Steel Part Number
1-1/2	3/8	1-1/8	Z2156

3/8-16 Thread Size

Length	Head Thickness	Head Diameter	Steel Part Number
1-1/2	7/16	1-1/4	Z2165

Shoulder Knurled Thumb Screws with High Heads — Inch

18-8 SS | Plain
Steel | Black Oxide





18-8 SS

Steel, Black Oxide

4-40 Thread Size

Shaft Length	Head Diameter	Total Height	18-8 SS Part Number	Steel Part Number
1/4	3/8	3/16	Z2300SS	Z2300
3/8	3/8	3/16	Z2301SS	Z2301

4-48 Thread Size

Shaft Length	Head Diameter	Total Height	18-8 SS Part Number	Steel Part Number
1/4	3/8	3/16	Z2302-SS	Z2302
3/8	3/8	3/16	Z2303-SS	Z2303
7/16	3/8	5/16	Z2304-SS	Z2304

6-32 Thread Size

Shaft Length	Head Diameter	Total Height	18-8 SS Part Number	Steel Part Number
7/16	7/16	5/16	Z2305SS	Z2305
9/16	7/16	5/16	Z2307SS	Z2307

8-32 Thread Size

Shaft Length	Head Diameter	Total Height	18-8 SS Part Number	Steel Part Number
5/16	7/16	5/16	Z2312SS	Z2312
3/8	7/16	5/16	Z2313SS	Z2313
7/16	7/16	5/16	Z2314SS	Z2314
1/2	7/16	5/16	Z2315SS	Z2315
9/16	7/16	5/16	Z2316 SS	Z2316
5/16	1/2	5/16	Z2320SS	Z2320
3/8	1/2	5/16	Z2321SS	Z2321
7/16	1/2	5/16	Z2322SS	Z2322
1/2	1/2	5/16	Z2323SS	Z2323
5/8	1/2	5/16	Z2325SS	Z2325

Dimensions Table — Inch

Thread Size	Shoulder Diameter	Shoulder Length
4-40	1/4	3/32
4-48	1/4	3/32
6-32	3/8	3/32
8-32	3/8	3/32
10-32	3/8	3/32
1/4-20	3/8	1/8

10-32 Thread Size

Shaft Length	Head Diameter	Total Height	18-8 SS Part Number	Steel Part Number
5/16	1/2	5/16	Z2330SS	Z2330
3/8	1/2	5/16	Z2331SS	Z2331
7/16	1/2	5/16	Z2332SS	Z2332
1/2	1/2	5/16	Z2333SS	Z2333
9/16	1/2	5/16	Z2334SS	Z2334
5/8	1/2	5/16	Z2335SS	Z2335

1/4-20 Thread Size

Shaft Length	Head Diameter	Total Height	18-8 SS Part Number	Steel Part Number
1/2	1/2	3/8	Z2340SS	–
5/8	1/2	3/8	Z2342SS	–
1	1/2	3/8	Z2346SS	–

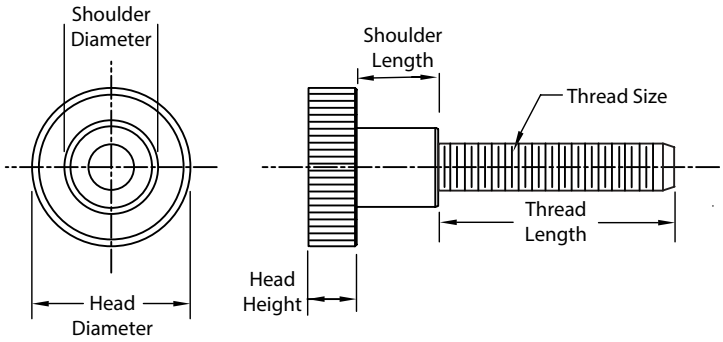
Knurled Low Head Thumb Screws with Shoulders — Inch

MADE IN THE USA

18-8 SS | Plain
Steel | Black Oxide

Product Information

Straight knurled thumb screws with a shoulder.





18-8 SS



Steel, Black Oxide

Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Shoulder OD	Shoulder Length
1/4-20	1	1/4	1/2	3/8
1/4-28	1	1/4	1/2	3/8
5/16-18	1-1/4	1/4	5/8	1/2
5/16-24	1-1/4	1/4	5/8	1/2
3/8-16	1-3/8	5/16	3/4	11/16
3/8-24	1-3/8	5/16	3/4	11/16

1/4-20 Thread Size

Length	18-8 SS Part Number	Steel Part Number
5/16	Z1060SS	Z1060
3/8	Z1061SS	Z1061
1/2	Z1062SS	Z1062
5/8	Z1063SS	Z1063
3/4	Z1064SS	Z1064
1	Z1065SS	Z1065

1/4-28 Thread Size

Length	18-8 SS Part Number	Steel Part Number
5/16	Z1066-SS	Z1066
3/8	Z1067-SS	Z1067
1/2	Z1074-SS	Z1074
5/8	Z1075-SS	Z1075
3/4	Z1081-SS	Z1081
1	Z1082-SS	Z1082

5/16-18 Thread Size

Length	18-8 SS Part Number	Steel Part Number
1/2	Z1068SS	Z1068
5/8	Z1069SS	Z1069
3/4	Z1070SS	Z1070
1	Z1071SS	Z1071
1-1/4	Z1072SS	Z1072
1-1/2	Z1073SS	Z1073

5/16-24 Thread Size

Length	18-8 SS Part Number	Steel Part Number
1/2	Z1083-SS	Z1083
5/8	Z1084-SS	Z1084
3/4	Z1096-SS	Z1096
1	Z1097-SS	Z1097
1-1/4	Z1098-SS	Z1098
1-1/2	Z1099-SS	Z1099

3/8-16 Thread Size

Length	18-8 SS Part Number	Steel Part Number
5/8	Z1076SS	Z1076
3/4	Z1077SS	Z1077
1	Z1078SS	Z1078
1-1/4	Z1079SS	Z1079
1-1/2	Z1080SS	Z1080

3/8-24 Thread Size

Length	18-8 SS Part Number	Steel Part Number
5/8	Z2001-SS	Z2001
3/4	Z2002-SS	Z2002
1	Z2003-SS	Z2003
1-1/4	Z2004-SS	Z2004
1-1/2	Z2005-SS	Z2005

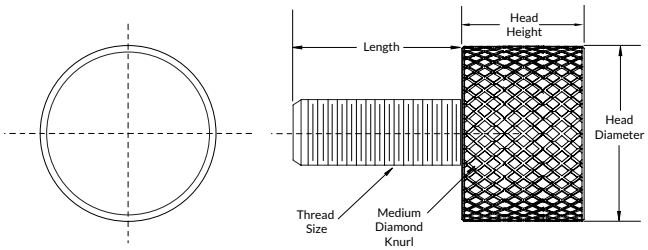
Knurled-Type Thumb Screws with High Heads — Inch

Steel | Black Oxide Plated



Product Information

These High Heads Thumb Screws have extra raised head that makes them easy to grip.



Dimensions Table — Inch

Thread Size	Head Diameter	Head Height
1/4-20	5/8	1/2
5/16-18	3/4	9/16
3/8-16	7/8	11/16
1/2-13	1	1

1/4-20 Thread Size

Length	Steel Part Number
1/2	Z2125
3/4	Z2126

3/8-16 Thread Size

Length	Steel Part Number
3/4	Z2129
1	Z2130

5/16-18 Thread Size

Length	Steel Part Number
3/4	Z2127
1	Z2128

1/2-13 Thread Size

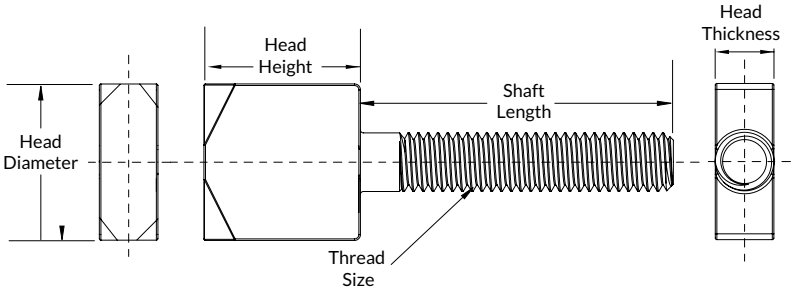
Length	Steel Part Number
3/4	Z2131
1	Z2132

Quarterturn Screws (Latch Bolts) — Inch

18-8 SS | Plain
Steel | Black Oxide

Product Information

The quick release head fits through a slit in a latch or panel to hold it in position.



Dimensions Table — Inch

Thread Size	Head Diameter	Head Height	Head Thickness
10-24	1/2	1/2	3/16
10-32	1/2	1/2	3/16
1/4-20	3/4	5/8	1/4
5/16-18	1	3/4	5/16
3/8-16	1	1	3/8
1/2-13	1-1/4	1	1/2



18-8 SS



Steel, Black Oxide

10-24 Thread Size

Shaft Length	18-8 SS Part Number	Steel Part Number
1	Z1085-SS	Z1085

10-32 Thread Size

Shaft Length	18-8 SS Part Number	Steel Part Number
1	Z1086-SS	Z1086
1-1/2	Z1087-SS	Z1087

1/4-20 Thread Size

Shaft Length	18-8 SS Part Number	Steel Part Number
1-1/4	Z1088-SS	Z1088
1-3/4	Z1089-SS	Z1089

5/16-18 Thread Size

Shaft Length	18-8 SS Part Number	Steel Part Number
1-1/2	Z1090-SS	Z1090
2	Z1091-SS	Z1091

3/8-16Thread Size

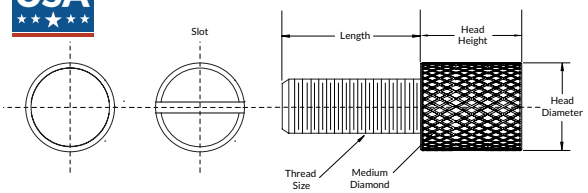
Shaft Length	18-8 SS Part Number	Steel Part Number
1-1/2	Z1092-SS	Z1092
2	Z1093-SS	Z1093

1/2-13 Thread Size

Shaft Length	18-8 SS Part Number	Steel Part Number
1-3/4	Z1094-SS	Z1094
2-1/4	Z1095-SS	Z1095

Knurled Narrow Head Thumb Screws — Inch

18-8 SS | Plain



Product Information

Extra long head for increased reach and adjustability. Available with or without a slotted head.



Non-Slotted Head Slotted Head

4-40 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
3/8	1/8	1/4	Z0730	Z0730SL
1/2	3/8	3/16	Z0732	Z0732SL
3/4	3/8	3/16	Z0734	Z0734SL
1	3/8	3/16	Z0736	Z0736SL
1/2	1/2	1/4	Z0738	Z0738SL
3/4	1/2	1/4	Z0740	Z0740SL
1	1/2	1/4	Z0742	Z0742SL

4-48 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	1/2	1/4	Z0739	Z0739SL
3/4	1/2	1/4	Z0741	Z0741SL
1	1/2	1/4	Z0743	Z0743SL

6-32 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	3/8	3/16	Z0744	—
3/4	3/8	3/16	Z0746	—
1	3/8	3/16	Z0748	Z0748SL
1/2	1/2	1/4	Z0752	Z0752SL
3/4	1/2	1/4	Z0754	Z0754SL

6-48 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	1/2	1/4	Z0756	Z0756SL
3/4	1/2	1/4	Z0757	Z0757SL
1	1/2	1/4	Z0758	Z0758SL

8-32 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	3/8	3/16	Z0760	Z0760SL
1	3/8	3/16	Z0762	Z0762SL
1/2	1/2	1/4	Z0764	Z0764SL
1	1/2	1/4	Z0766	Z0766SL

8-40 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	1/2	1/4	Z0767	Z0767SL
3/4	1/2	1/4	Z0768	Z0768SL
1	1/2	1/4	Z0769	Z0769SL

10-24 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	1/2	1/4	Z0770	Z0770SL
1	1/2	1/4	Z0772	Z0772SL

10-32 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	1/2	1/4	Z0774	Z0774SL
1	1/2	1/4	Z0776	Z0776SL

1/4-20 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	1/2	5/16	Z0780	Z0780SL
1	1/2	5/16	Z0782	Z0782SL
1-1/2	1/2	5/16	Z0783	Z0783SL

1/4-28 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	1/2	5/16	Z0784	Z0784SL
1	1/2	5/16	Z0785	Z0785SL
1-1/2	1/2	5/16	Z0786	Z0786SL

5/16-18 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	5/8	3/8	Z0787	Z0787SL
1	5/8	3/8	Z0788	Z0788SL
1-1/2	5/8	3/8	Z0789	Z0789SL

5/16-24 Thread Size

Length	Head Height	Head Diameter	No Slot Part Number	Slotted Part Number
1/2	5/8	3/8	Z0795	Z0795SL
1	5/8	3/8	Z0796	Z0796SL
1-1/2	5/8	3/8	Z0797	Z0797SL

DIN 922 Pan Head Slot Screw with Full Dog Point — Metric

18-SS (A2) | Plain
Steel | Black Oxide Finish

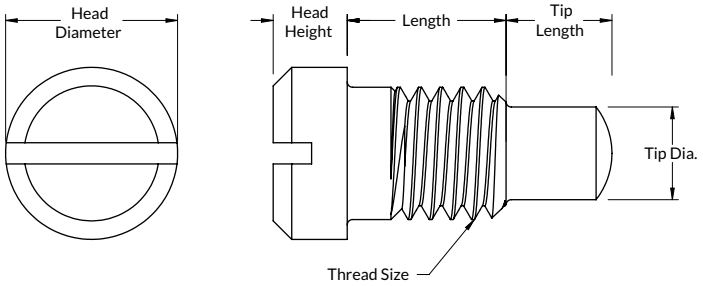
Product Information

With a narrower head than pan head screws, these cheese head screws fit in tight spaces, such as in electrical panels and next to flanges and raised surfaces. A deep slot gives you more driving power and less of a chance of the screwdriver slipping. Length is measured from under the head. Screws with an extended tip, sometimes called a full dog point, fit into a hole or slot to keep parts such as pulleys and gears aligned. Use these screws in place of dowel pins; their threads clamp your parts down and keep them from rotating. When choosing your finish, consider your environment.

ISO 1207 (formerly DIN 84), DIN 920, and DIN 922 screws meet international standards for fastener dimensions. Thread is Coarse Pitch with a Class 6g thread fit.

Dimensions Table — Metric, mm

Thread Size	Head Diameter	Head Height	Tip Diameter	Tip Length
M3 x 0.5	4.00	1.80	2.00	2.50
M4 x 0.7	5.50	2.40	2.80	4.00
M5 x 0.8	6.50	2.70	3.50	4.00
M6 x 1	8.00	3.10	4.50	4.00
M8 x 1.25	10.00	3.80	6.00	6.00
M10 x 1.5	13.00	4.60	7.50	10.00





18-8 SS



Steel, Black Oxide

M3 x 0.5mm Thread Size

Length	18-8 SS Part Number	Steel, Black Ox. Part Number
4	SCR151M3X4X2.5SS	SCR151M3X4X2.5-B

M4 x 0.7mm Thread Size

Length	18-8 SS Part Number	Steel, Black Ox. Part Number
6	SCR151M4X6X4SS	SCR151M4X6X4-B

M5 x 0.8mm Thread Size

Length	18-8 SS Part Number	Steel, Black Ox. Part Number
6	SCR151M5X6X4SS	SCR151M5X6X4-B

M6 x 1mm Thread Size

Length	18-8 SS Part Number	Steel, Black Ox. Part Number
10	SCR151M6X10X4SS	SCR151M6X10X4-B

M8 x 1.25mm Thread Size

Length	18-8 SS Part Number	Steel, Black Ox. Part Number
10	SCR151M8X10X6SS	SCR151M8X10X6-B

M10 x 1.5mm Thread Size

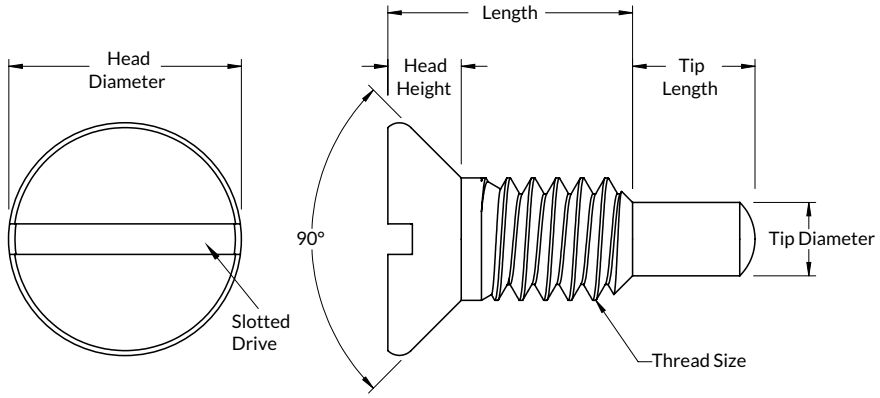
Length	18-8 SS Part Number	Steel, Black Ox. Part Number
16	SCR151M10X16X10SS	SCR151M10X16X10-B

DIN 925 Flat Head Slot Screw with Full Dog Point — Metric

Low Carbon Steel | Black Oxide

Product Information

Angled under the head, these metric screws fit in countersunk holes and sit flush with the surface of your part. Length is measured from the top of the head. Screws with an extended tip, sometimes called a full dog point, fit into a hole or slot to keep parts such as pulleys and gears aligned. Use these screws in place of dowel pins; their threads clamp your parts down and keep them from rotating. Head Angle is 90 Degrees with Pan Head Style with Full Dog Point.
Screws with a black-oxide finish have mild corrosion resistance, but only in dry environments. DIN 925 and ISO 2009 (formerly DIN 963) screws meet international standards for fastener dimensions. ISO 2009 and DIN 963 are functionally equivalent with slight differences in head height, diameter, and thread length. Thread is Coarse Pitch with a Class 6g thread fit.





Dimensions Table — Metric, mm				
Thread Size	**Head Diameter**	**Head Height**	**Tip Diameter**	**Tip Length**
M1.4 x 0.3	2.60	.84	.80	1.00
M1.6 x 0.35	3.00	.96	.80	1.60
M2 x 0.4	3.80	1.20	1.20	2.00
M2.5 x 0.45	4.70	1.50	1.50	2.50
M3 x 0.5	5.60	1.65	2.00	2.50

M1.4 x 0.3mm Thread Size

Length	Steel, Black Oxide Part Number
2.5	SCR152M1.4X2.5X1-B

M1.6 x 0.35mm Thread Size

Length	Steel, Black Oxide Part Number
2.5	SCR152M1.6X2.5X1.6-B

M2 x 0.4mm Thread Size

Length	Steel, Black Oxide Part Number
4	SCR152M2X4X2-B

M2.5 x 0.45mm Thread Size

Length	Steel, Black Oxide Part Number
4	SCR152M2.5X4X2.5-B

M3 x 0.5mm Thread Size

Length	Steel, Black Oxide Part Number
6	SCR152M3X6X2.5-B

Non-Sparking Locking Bolt for Drum Ring — Inch

Brass | Plain



Product Information

This brass bolt allows for a lock to be placed in the hole for extra security. The size of the hex prevents the lock from being oriented parallel to the bolt so it cannot be loosened.

5/8-11 Thread Size

For Max. Shackle Diameter	Hex Head Size (across flats)	O'all Length	Brass Part Number
5/16	5/16	4.85	ZDR58-BRASS

Hanger Bolt — Inch

18-8 SS | Plain

Product Information

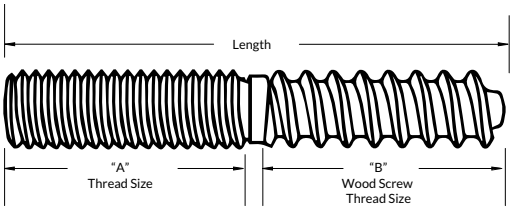
Use these to Hanger Bolts to hang, mount, and fasten parts to wood structures. Install with a stud driver or create wrench flats by threading two nuts onto the stud and jamming them together.

"A" Thread Length	"A" Thread Size	"B" Screw Thread Length	"B" Screw Thread Size	Length	18-8 SS Part Number
1	1/40-20	1	#14	2	BOL50114C32

"A" Thread Length	"B" Thread Size	"B" Screw Thread Length	"B" Screw Thread Size	Length	18-8 SS Part Number
1-1/2	1/40-20	1-1/2	#14	3	BOL50114C48

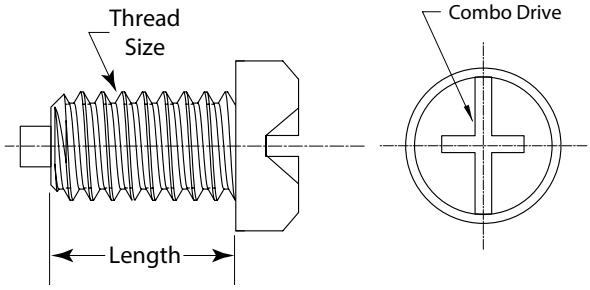
"A" Thread Length	"B" Thread Size	"B" Screw Thread Length	"B" Screw Thread Size	Length	18-8 SS Part Number
1-1/2	3/8-16	1-1/2	#24	3	BOL50138C48





Combo Phillips Pan Head Machine Screws with Pilot Points — Inch

18-8 SS | Plain





6-32 Thread Size

Length	18-8 SS Part Number
1/2	SCR150P06C08
3/4	SCR150P06C12
1	SCR150P06C16
1-1/4	SCR150P06C20

8-32 Thread Size

Length	18-8 SS Part Number
1/2	SCR150P08C08
3/4	SCR150P08C12
1	SCR150P08C16
1-1/4	SCR150P08C20

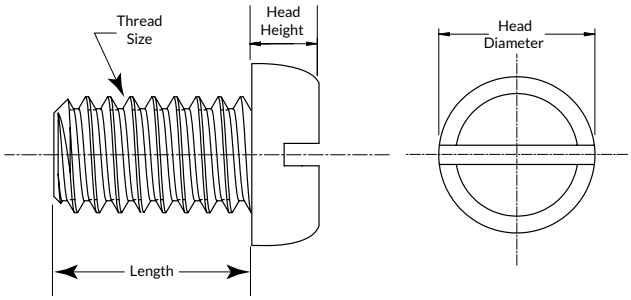
10-32 Thread Size

Length	18-8 SS Part Number
1/2	SCR150P10F08
3/4	SCR150P10F12
1	SCR150P10F16
1-1/4	SCR150P10F20

Slotted Pan Head Machine Screws — Inch

4140 Alloy Steel | Thru-Hardened, Black Oxide Finish





Dimensions Table — Inch

Thread Size	Head Diameter	Head Height
2-56	.155 - .167	.045 - .053
4-40	.205 - .219	.058 - .068
6-32	.256 - .270	.072 - .082
8-32	.306 - .322	.085 - .096
10-24	.357 - .373	.099 - .110
10-32	.357 - .373	.099 - .110
1/4-20	.473 - .492	.130 - .144

2-56 Thread Size

Length	Steel Part Number
1/4	SCR55002
3/8	SCR55004
1/2	SCR55006

4-40 Thread Size

Length	Steel Part Number
1/4	SCR55012
3/8	SCR55014
1/2	SCR55016

6-32 Thread Size

Length	Steel Part Number
1/4	SCR55022
3/8	SCR55024
1/2	SCR55026

8-32 Thread Size

Length	Steel Part Number
3/8	SCR55032
1/2	SCR55034
5/8	SCR55036
3/4	SCR55038

10-24 Thread Size

Length	Steel Part Number
3/8	SCR55050
1/2	SCR55052
5/8	SCR55054
3/4	SCR55056

10-32 Thread Size

Length	Steel Part Number
3/8	SCR55058
1/2	SCR55070
5/8	SCR55072
3/4	SCR55074

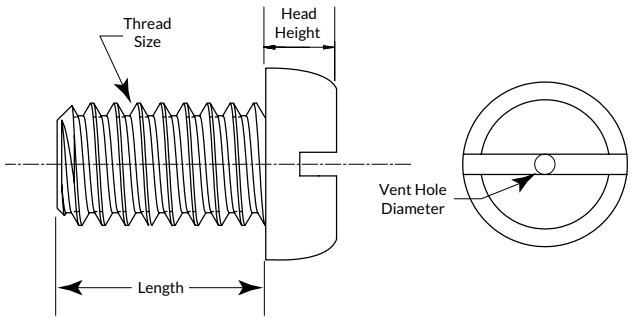
1/4-20 Thread Size

Length	Steel Part Number
1/2	SCR55080

Slotted Pan Head Machine Screws with Vent Holes — Inch

18-8 SS | Plain





Dimensions Table — Inch

Thread Size	Vent Hole Size
2-56	.028
4-40	.035
6-32	.038
8-32	.042
10-32	.046

2-56 Thread Size

Length	18-8 SS Part Number
1/4	SCR68002
5/16	SCR68004
3/8	SCR68006
1/2	SCR68008

4-40 Thread Size

Length	18-8 SS Part Number
1/4	SCR68012
3/8	SCR68014
1/2	SCR68016
3/4	SCR68018

6-32 Thread Size

Length	18-8 SS Part Number
1/4	SCR68024
3/8	SCR68026
1/2	SCR68028
3/4	SCR68030

8-32 Thread Size

Length	18-8 SS Part Number
1/4	SCR68038
3/8	SCR68040
1/2	SCR68042
3/4	SCR68044

10-32 Thread Size

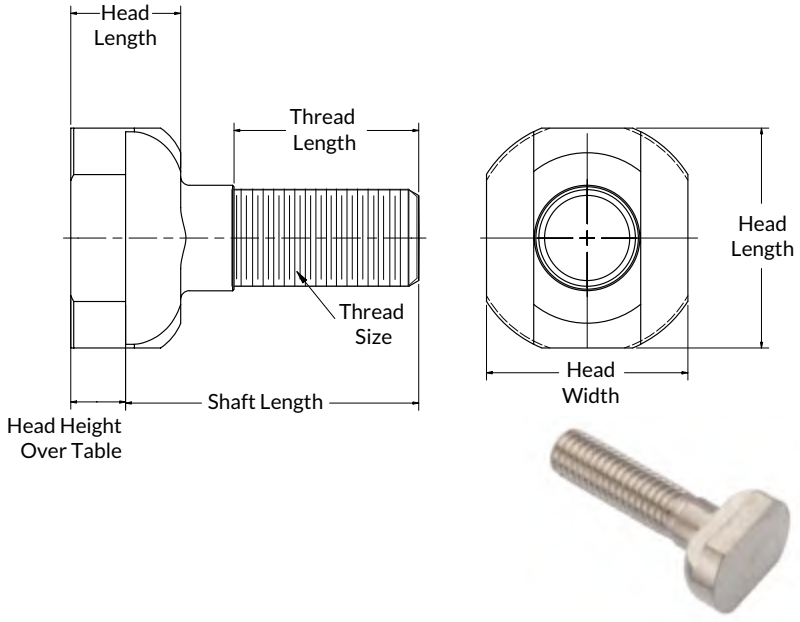
Length	18-8 SS Part Number
1/4	SCR68060
3/8	SCR68062
1/2	SCR68064
3/4	SCR68066
1	SCR68068

T Slot Bolts — Inch

18-8 SS | Plain

Product Information

Used in machine tables with a T Slot, these 18-8 Stainless Steel T Slot Bolts are corrosion resistant. Heads are designed to fit in the T Slot and will not twist or jam. Coarse threads.



Dimensions Table — Inch

Thread Size	Fits Table Slot	Head Height Over Table	Head Width	Head Length
3/8-16	**3/8**	3/16	11/16	3/4
1/2-13	**1/2**	9/32	7/8	1-1/8
5/8-11	**5/8**	11/32	1-3/32	1-5/16
3/4-10	**3/4**	7/16	1-1/4	1-1/2

3/8-16 Thread Size

Shaft Length	Thread Length	18-8 SS Part Number
1	5/8	Z1400
1-1/4	7/8	Z1401
1-1/2	1-1/8	Z1402
2	1-1/2	Z1403
2-1/2	1-1/2	Z1404

1/2-13 Thread Size

Shaft Length	Thread Length	18-8 SS Part Number
1-1/4	3/4	Z1405
1-1/2	1	Z1406
1-3/4	1-1/4	Z1407
2	1-1/2	Z1408
2-1/4	1-1/2	Z1409
2-1/2	1-1/2	Z1410
3	1-1/2	Z1411
3-1/2	2	Z1412
4	2	Z1413

5/8-11 Thread Size

Shaft Length	Thread Length	18-8 SS Part Number
2	1-1/2	Z1414
2-1/2	1-1/2	Z1415
3	1-1/2	Z1416
3-1/2	2	Z1417
4	2	Z1418
6	2	Z1419

3/4-10 Thread Size

Shaft Length	Thread Length	18-8 SS Part Number
4	2	Z1420
4-1/2	2	Z1421
5	2	Z1422
5-1/2	2	Z1423
6	2	Z1424
7	2	Z1245

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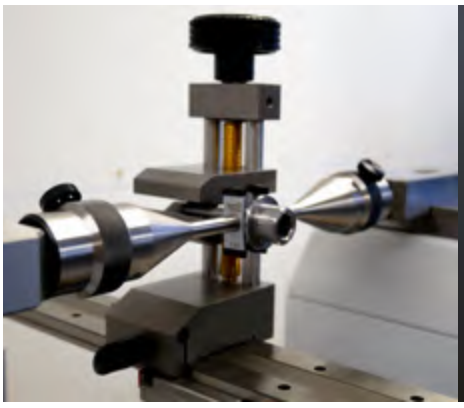
Our continuous capital investments in production equipment, employees, automation, and inspection technologies allows us to design thousands of new items a year, get them into large distributor channels and produce on demand small quantities in a few days.

Stock & Custom...*FAST*

As a precision manufacturer of specialized fasteners, architectural hardware, mechanical components and industrial accessories, AMPG stocks over 50,000 products. We also offer custom manufacturing supported by design, product testing and engineering services. To see the latest and most complete catalog of our over 50,000 different items, visit **www.ampg.com.**

How to Buy Our Products

Visit us **online**, email us at **sales@ampg.com** or give us a call at **317.472.9000** and we can help you with your inquiry. Our stock line of parts ships same day from Indianapolis, Indiana.







Index

Page	Description
i	About AMPG
ii - iii	AMPG Materials
iv	About Our Finishes
	Washers
D-1 to D-6	Flat Washers - Inch & Metric
D-7	Component Thick (Spacer) Washers - Inch
D-7	Welding Thick Washers - Inch
D-8	Machined Beveled Washers - Inch
D-9	Machined Straight Side Washers - Inch
D-10 to D-12	Large OD (Fender) Washers - Inch
D-13	Extra Thick Fender Flat Washers - Inch
D-13	Dock Washers - Inch
D-14	Extra Large OD Washers - Inch
D-15 to D-16	Military Specification Washers - Inch
D-17	Standard SAE Washers - Inch
D-18	Standard USS Washers - Inch
D-18	Standard DIN Washers - Metric
D-19 to D-22	ASME Type B Washers - Inch & Metric
D-23	Non-Metal Washers - Inch
D-24	Easy On Slotted Washers - Inch
D-25 to D-27	Alignment (Spherical) Washers - Inch
D-28 to D-30	Countersunk Washers - Inch & Metric
D-31	Flat Washers for Square-Neck Bolts - Inch & Metric
D-32	Tapped (Round & Square) Weld Plates- Inch
D-33 to D-36	Bearing Plate Washers - Inch
D-34 to D-38	Square Flat Washers - Inch & Metric
	Shims
D-39	Wide Rim Shims - Inch
D-39	Peel Away Shims - Inch
D-40	Horseshoe Shims - Inch
D-41	Shims for Shoulder Diameters - Inch
D-42 to D-45	Shims for Shafts - Inch
D-46 to D-47	Shims for Bearing - Inch
D-48	Shims for D Shaft - Inch
D-49	Wave Washers - Inch
D-50	Tapped Flange Washers - Inch

About AMPG



We Make Beautiful Parts, Right Now

AMPG (Accurate Manufactured Products Group) is a privately owned family business started by current management in 1987. Our 2nd generation is well experienced and active in the business and dedicated to keeping AMPG a closely held family firm.

We are Proud to be an American Manufacturer

AMPG is a Make to Stock Manufacturer of over 50,000 unique items. New products are our lifeblood, and we have a long term strategic plan in place to introduce thousands of new products each and every year.

Our 147,000 Sq Ft facility in Indianapolis supports low to medium volume manufacturing runs with over 80 late model and brand new CNC Lathes, Mills, and Thread Rolling equipment. AMPG has an aggressive investment program in the latest and most advanced Production, Automation, and Inspection equipment, as well as software and engineering systems to run our business as efficiently as possible.

ISO Certification to 9001:2015 was attained to anchor the culture of continual improvement both on and off the production floor. ISO 17065 Product Certification will be applied for in 2023, and ISO 17025 will be used to certify our in house Lab also in 2023. The latest in measuring, testing, and monitoring equipment is used to insure product quality and fast lead times. Lean principles guide the manufacturing process using robots, vision systems, and machine monitoring to enable continuous unmanned production around the clock.

Family Owned, Family Operated

AMPG began in Plainview, NY in 1987, and moved to Indianapolis, Indiana in 2004 in order to find the skilled machinists that are the foundation of our success. We are especially proud of our employee retention (as of 2022 all of our core team members will have over 15 years with the company), and the families second generation has over 18 years experience. We have a unique training method that allows us to grow our manufacturing capabilities to match our product and sales plan.

Our dedication to our employees is evidenced by their longevity and the numerous safety and healthiest employer awards we have won over the years.

Product Quality, Appearance and Quick Deliveries are Foundational Goals

AMPG makes and stocks hard-to-find fasteners, components, and fittings. We ship same day from our Indianapolis facility. We offer custom manufacturing capabilities including design, product testing, and engineering services. Our Made-to-Order program produces as little as one part within 7 days.

A Simple Philosophy

Provide a great customer experience by having beautiful, precise, and hard to find products ready to ship today.

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN THE USA

"All AMPG Washers are Precision Made"

Washers are multipurpose fasteners that are vital in a variety of applications. In general, washers have two main functions: to distribute the pressure of the nut evenly over a surface without damage and to ensure that the nut is pressed against a smooth surface to reduce the chances of loosening over time. Ensure a tighter join with a lock washer, or pre-load it with a wave washer.

Shims can be used to incorporate spacing and clearance in all manner of applications. They can be use as a temporary solution or as a permanent component in many different settings. We offer standard and custom shims in a variety of materials, and in a comprehensive range of sizes and shapes.

AMPG has thousands of hard to find items, made in the USA. We specialize in non standard sizes – extra thick or extra thin. Also small quantities of traceable Military Specification washers. We manufacture a full line of machined product – countersunk washers, spherical washer sets, and others. We have a large line of square washers in many materials, in 2", 3" and 4" square.

Ordering Washers:

Start by finding your Bolt Size. Then determine the Inner Diameter (ID) and the Outer Diameter (OD) as well as your Thickness needed for your project.

Some guidelines for choosing between the materials we produce are shown below.

Material Type	Specification	Tensile, psi	Yield, psi	Estimated Shear, psi	Elongation	Brinell Hardness	Rockwell Hardness
Aluminum 6061-T6	ASTM B211	45,000	40,000	22,500	17%	BHN 95	B56
Brass 360	ASTM B16	58,000	45,000	29,000	25%	BHN 143	B78
Copper 110	ASTM B187	44,000	10,000	21,800	18%	BHN 57	B50
Stainless Steel 18-8 *(303)*	ASTM A582	90,000	35,000	45,000	50%	BHN 160	B83
Stainless Steel 316 *(316/316L)*	ASTM A276	75,000	30,000	37,500	45%	BHN 160	B83
Stainless Steel High Five® *(316 H5)*	ASTM A276	125,000	100,000	62,500	26%	BHN 250	C25
Stainless Steel 17-4 PH	Cond A ASTM A564 TYPE 630	160,000	145,000	80,000	15%	BHN 332	C36
Steel 12L14	ASTM A108	78,000	60,000	39,000	15%	BHN 160	B84
Steel Alloy C4140/41L40 *(Alloy)*	ASTM A108 Cold ASTM A108 Thru Hard	105,000 140,000	85,000 n/a	52,500 70,000	15% n/a	BHN 187 BHN 300	B91 C32
Steel Grade 2	ASTM A307 Equivalent	60,000	36,000	30,000	18%	BHN160	B70
Titanium Grade 2	ASTM B348 GR 2	75,000	55,000	37,500	20%	BHN 163	B85

Note: Listed Mechanical Properties are obtained from various suppliers and is intended for comparison of materials, only. Values are based on raw material specifications. AMPG assumes no obligation and liability for the accuracy of this information. For critical applications, product testing may be appropriate.

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About Our Materials



Aluminum
- Aluminum has the strength of mild steel with one third the weight.
- Resists corrosion in wet environments.
- Lightweight material used for fittings, hardware and fasteners.
- Nonmagnetic.

Brass
- Brass is a softer material approximately two-thirds copper and one-third zinc.
- Provides good resistance to rust and atmospheric corrosion.
- Friction-resistant material used for gears, bearings, fasteners and valves.
- Nonmagnetic.

Copper
- Copper is a versatile, durable material that is used for a variety of applications. Color of copper is popular among artists & architects for its decorative finish.
- Material is electrically conductive with excellent thermal properties, nonmagnetic & resists rust in wet environments.

Stainless Steel 18-8 (303)
- Type 303 stainless offers excellent corrosion resistance.
- Resists chemicals, most dyes, food and nitric acid.
- Corrosion-resistant material used for screws, bushings, nuts and hardware.
- May be mildly magnetic.

Stainless Steel 316 (316/316L)
- Type 316 stainless offers superior corrosion resistance than Type 303 stainless.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Low-maintenance material used in commercial kitchens and food processing.
- May be mildly magnetic.

**AMPG uses dual certified Type 316/316L stainless material. Meets all 316 stainless properties but has lower carbon content, making it more suitable for welding.*

Stainless Steel High Five® (316H5)
- High Five® Stainless is AMPG's higher strength grade of 316 stainless steel.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Corrosion-resistance material with strength equivalent to Grade 5 steel materials.
- May be mildly magnetic.

Stainless Steel 17-4 PH
- Type 17-4 PH stainless maintains excellent corrosion resistance and strength at high temperatures.
- Resists chemicals, most dyes, food and nitric acid.
- High-strength material used for fittings, valves, bolts and shafts.
- Mildly magnetic.

Steel Carbon 12L14
- 12L14 steel is used in many general-purpose applications.
- Material requires a finish to resist rust, such as Black Oxide treatment or zinc plating.
- Low-strength material used for bushings, washers, inserts, fittings, screws and nuts.
- Magnetic.

Steel Alloy 4140/41L40 (Alloy Steel)
- Alloy 4140 is a "primary" material used high strength fasteners and components.
- Material requires a finish to resist rust, such as Black Oxide treatment or zinc plating.
- High-strength material that exceed Grade 8 used for socket screws, studs and components, only after heat treatment.
- Magnetic.

Titanium Gr 2
- Titanium Grade 2 is best known for being strong, lightweight and corrosion resistant.
- Resists chlorides, hypochlorites, chlorates, perchlorates and chlorine dioxide.
- Lightweight material used for chemical-processing equipment, heat exchangers and fasteners.
- Nonmagnetic.

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP
ISO 9001:2015
MADE IN THE USA

About Our Finishes



Black Oxide

Black Oxide

Black oxide by itself provides virtually no protection against corrosive environments. Black oxide only offers moderate protection and thus ideally suited for indoor applications. This treatment provides an attractive and matte black finish. While steel is the usual substrate, other materials including stainless steel, alloy steel, copper and brass react equally well.



Nickel Plated

Nickel Plated

Nickel is used in plating fasteners primarily for esthetics purposes. It provides comparable corrosion resistance to zinc plating, but at a much higher cost.



Galvanized



Hot-Dipped Galvanized

Galvanized and Hot-Dipped Galvanized

Galvanizing involves the application of a layer of zinc. Galvanized metal has a thicker sacrificial protective finish than zinc plated metals. Hot dipped galvanizing puts the thickest possible coating on the metal resulting in superior corrosion resistance. Hot-dipped galvanized steel washers are 10 times as corrosion resistant as zinc plated washers. Hot dipped galvanized fasteners are frequently used in coastal environments. Hot-dipped galvanized washers are tapped slightly larger than regular washers to accommodate this thick coating.



Passivation

Passivation

Passivation is a non-electrolytic process typically using nitric or citric acid to remove contamination from the surface of stainless steel and titanium finished parts. During manufacturing, sulfides added to raw material for improved machinability or particles of iron from machining center cutting tools may transfer to the surface of the finished parts. Surface contamination can result in premature rust and can inhibit the formation of the oxide film which protects the material from corrosion. Passivation renders the material more rust resistant due to lack of iron to react with the atmosphere.



Plain and Oiled

Plain and Oiled

Plain steel fasteners with oil added provides mild rust resistance. For components used in indoor dry environment.



Zinc Plated



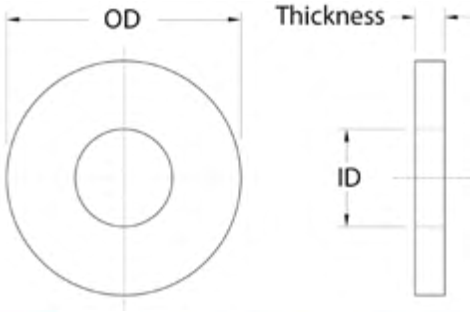
Yellow Zinc Plated

Zinc Plated, Yellow Zinc Plated

Steel fasteners can be electro-plated with zinc for better corrosion resistance and usually to a thickness .0002" – .0003". Fasteners that have been zinc plated have a silver finish. It is a sacrificial finish that corrodes before the underlying steel. Zinc plated washers are fairly corrosion resistant but will rust over time and quicker if the coating is damaged or if exposed to harsh elements. Applying a zinc yellow-chromate passivate over the zinc, improves corrosion resistance and yellow is commonly used to identify high-strength components such as Grade 8 materials.

Flat Washers — Inch

These washers are thicker than general purpose washers for covering large holes or for use as spacers and levelers. All of these washers are produced in the USA.



Tolerances: ID and OD are ±.010 inch.
Thickness tolerance varies by size :
Up to 1/8 thickness is +.005/ -.014 inch.
From 1/8 to 9/32 thick is +.005 / -.020 inch.

Also known as:

- Component Flat Washer


18-8 SS


Alloy Hardened Steel, Black Oxide



Alloy Thru Hardened Steel, Yellow Zinc Plated


Brass


17-4 PH SS



316 H5 SS

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish, Black Oxide Finish, Passivated
- Low Carbon Steel, Plain Finish, Black Oxide Finish
- Steel Medium Carbon, Thru Hardened, Yellow Zinc-Plated Finish
- Brass, Plain Finish
- 17-4 PH Stainless Steel, Plain Finish
- 316 H5 Stainless Steel, Plain Finish

AMPG Flat Washer Kits — Inch





ID	OD	Thickness	Alloy Hardened Steel, Black Oxide Part Number	Alloy Thru Hardened Steel, Yellow Zinc Part Number
Sizes 1/8 to 11/32	Sizes 5/16 to 3/4	Sizes 5/64 to 1/8	Z9108	—
Sizes 13/64 to 21/32	Sizes 1/2 to 1-3/8	Sizes 3/32 to 1/8	Z9107	—
Sizes 9/32 to 25/32	Sizes 5/8 to 1-5/8	Sizes 3/16 to 1/4	Z9212	—
Sizes 9/32 to 13/16	Sizes 5/8 to 1-15/32	Sizes 3/32 to 7/32	—	Z9291

AMPG Flat Washer Kits — Metric

ID	OD	Thickness	Alloy Hardened Steel, Black Oxide Part Number
Sizes 5.3 to 15mm	Sizes 11 to 25mm	Sizes 2 to 3mm	Z9109

Flat Washers — Inch



18-8 Stainless Steel

Bolt Size	ID	OD	Thickness	18-8 SS Part Number
#0	.063	.125	.019	Z9150
#1	.078	.156	.019	Z9151
#2	.094	.187	.028	Z9152
#4	.125	.250	.062	Z9154
	.125	.312	.078	Z9085SS
#6	.156	.312	.062	Z9156
	.156	.375	.078	Z9086SS
#8	.171	.375	.062	Z9158
	.187	.438	.078	Z9087SS
	.187	.438	.078	Z9160
#10	.203	.500	.093	Z9094SS
1/4	.265	.500	.078	Z9164
	.281	.500	.078	Z9161
	.281	.625	.125	Z9095SS
1/4	.281	.625	.187	Z9200SS
	.281	.625	.125	Z9215
	.281	.625	.090 - .108	Z9270SS
5/16	.344	.625	.093	Z9162
	.344	.688	.100	Z9130
	.344	.688	.125	Z9216
	.344	.688	.090 - .108	Z9271SS
5/16	.344	.750	.125	Z9096SS
	.344	.750	.187	Z9201SS
3/8	.406	.750	.093	Z9163
	.406	.812	.125	Z9131
	.406	.812	.110 - .126	Z9272SS
	.406	.875	.125	Z9097SS
3/8	.406	1.000	.187	Z9202SS
	.406	1.000	.125	Z9217
	.406	1.000	.125	Z9217-BOX*
7/16	.469	.922	.125	Z9218
	.469	.922	.110 - .126	Z9273SS

Bolt Size	ID	OD	Thickness	18-8 SS Part Number
7/16	.469	1.000	.125	Z9098SS
	.469	1.000	.187	Z9203SS
1/2	.531	1.062	.190 - .208	Z9274SS
	.531	1.063	.187	Z9219
	.531	1.125	.125	Z9099SS-BOX*
	.531	1.125	.187	Z9204SS-BOX*
1/2	.531	1.125	.125	Z9099SS
	.531	1.125	.187	Z9204SS
9/16	.594	1.171	.168 - .191	Z9275SS
	.594	1.187	.187	Z9220
5/8	.656	1.312	.219	Z9221
	.656	1.312	.206 - .229	Z9276SS
	.656	1.375	.125	Z9100SS-BOX*
	.656	1.375	.125	Z9100SS
5/8	.656	1.375	.187	Z9205SS
3/4	.781	1.625	.156	Z9101SS
	.781	1.625	.125	Z9101SSL
	.781	1.625	.250	Z9206SS
	.812	1.469	.206 - .229	Z9277SS
3/4	.812	1.500	.219	Z9222
7/8	.906	1.750	.156	Z9102SS
	.906	1.750	.250	Z9207SS
	.938	1.750	.234 - .266	Z9278SS
1	1.031	2.000	.187	Z9103SS
	1.031	2.000	.219	Z9208SS
	1.031	2.000	.250	Z9209SS
	1.062	2.000	.234 - .266	Z9279SS
1-1/8	1.156	2.250	.219	Z9104SS
1-1/4	1.281	2.500	.281	Z9105SS

**Black Oxide Finish*

Chart continued on next page

Flat Washers — Inch



Low Carbon Steel, Black Oxide

Bolt Size	ID	OD	Thickness	Steel, Black Oxide Part Number
#0	.063	.125	.019	Z9150STL
#1	.078	.156	.019	Z9151STL
#2	.094	.187	.028	Z9152STL
#4	.125	.250	.062	Z9154STL
	.125	.312	.078	Z9085
#6	.156	.312	.062	Z9156STL
	.156	.375	.078	Z9086
#8	.171	.375	.062	Z9158STL
	.187	.438	.078	Z9087
	.187	.438	.078	Z9160STL
#10	.203	.500	.093	Z9094
1/4	.281	.500	.078	Z9161STL
	.281	.625	.125	Z9095
	.281	.625	.187	Z9200
5/16	.344	.625	.093	Z9162STL
	.344	.688	.125	Z9216STL
	.344	.750	.125	Z9096
	.344	.750	.187	Z9201
3/8	.406	.750	.093	Z9163STL
	.406	.875	.125	Z9097
	.406	1.000	.187	Z9202
	.406	1.000	.125	Z9217STL
7/16	.469	.922	.125	Z9218STL
	.469	1.000	.125	Z9098
	.469	1.000	.187	Z9203
1/2	.531	1.063	.187	Z9219STL
	.531	1.125	.125	Z9099
	.531	1.125	.187	Z9204
	.531	1.125	.187	Z9204
	.531	1.500	.219	Z9235
9/16	.594	1.187	.187	Z9220STL
5/8	.656	1.312	.219	Z9221STL
	.656	1.375	.125	Z9100
	.656	1.375	.187	Z9205
	.656	1.500	.219	Z9236
3/4	.781	1.625	.156	Z9101
	.781	1.625	.250	Z9206
	.781	1.875	.250	Z9237
	.812	1.500	.219	Z9222STL



Low Carbon Steel, Black Oxide

Bolt Size	ID	OD	Thickness	Steel, Black Oxide Part Number
7/8	.906	1.750	.156	Z9102
	.906	1.750	.250	Z9207
	.906	2.125	.298 to .328	Z9238
1	1.031	2.000	.187	Z9103
	1.031	2.000	.219	Z9208
	1.031	2.000	.250	Z9209STL
	1.062	2.500	.312	Z9239
1-1/8	1.156	2.250	.219	Z9104
1-1/4	1.281	2.500	.281	Z9105
	1.312	2.500	.344	Z9240
1-1/2	1.562	2.750	.375	Z9241



Steel Medium Carbon, Thru Hardened, Yellow Zinc

Bolt Size	ID	OD	Thickness	Steel, Yellow Zinc-Plated
1/4	.281	.625	.090 - .108	Z9270
5/16	.344	.688	.090 - .108	Z9271
3/8	.406	.812	.110 - .126	Z9272
7/16	.469	.922	.110 - .126	Z9273
1/2	.531	1.063	.190 - .208	Z9274
9/16	.594	1.171	.168 - .191	Z9275
5/8	.656	1.312	.206 - .229	Z9276
3/4	.812	1.469	.206 - .229	Z9277
7/8	.938	1.750	.234 - .266	Z9278
1	1.062	2.000	.234 - .266	Z9279
1-1/8	1.187	2.250	.234 - .266	Z9280
1-1/4	1.375	2.500	.234 - .266	Z9281
1-3/8	1.437	2.750	.234 - .266	Z9282
1-1/2	1.562	3.000	.234 - .266	Z9283

Flat Washers — Inch



Brass

Bolt Size	ID	OD	Thickness	Brass
#0	.063	.125	.019	Z9150BR
#1	.078	.156	.019	Z9151BR
#2	.094	.187	.028	Z9152BR
#4	.125	.250	.062	Z9154BR
	.125	.312	.078	Z9085BR
#6	.156	.312	.062	Z9156BR
	.156	.375	.078	Z9086BR
#8	.171	.375	.062	Z9158BR
	.187	.438	.078	Z9087BR
	.187	.438	.078	Z9160BR
#10	.203	.500	.093	Z9094BR
1/4	.281	.500	.078	Z9161BR
	.281	.625	.125	Z9095BR
	.281	.625	.187	Z9200BR
5/16	.344	.625	.093	Z9162BR
	.344	.688	.125	Z9216BR
	.344	.750	.125	Z9096BR
	.344	.750	.187	Z9201BR
3/8	.406	.750	.093	Z9163BR
	.406	.875	.125	Z9097BR
	.406	1.000	.187	Z9202BR
	.406	1.000	.125	Z9217BR
7/16	.469	.922	.125	Z9218BR
	.469	1.000	.125	Z9098BR
1/2	.531	1.063	.187	Z9219BR
	.531	1.125	.125	Z9099BR
	.531	1.125	.187	Z9204BR
5/8	.656	1.312	.219	Z9221BR
	.656	1.375	.125	Z9100BR
	.656	1.375	.187	Z9205BR
3/4	.781	1.625	.156	Z9101BR
	.781	1.625	.250	Z9206BR
	.812	1.500	.219	Z9222BR
7/8	.906	1.750	.156	Z9102BR
	.906	1.750	.250	Z9207BR
1	1.031	2.000	.187	Z9103BR
	1.031	2.000	.219	Z9208BR



17-4 PH SS

Bolt Size	ID	OD	Thickness	17-4 PH SS Part Number
#4	.125	.312	.078	Z9085-174
#6	.156	.375	.078	Z9086-174
#8	.187	.438	.078	Z9087-174
#10	.203	.500	.093	Z9094-174
1/4	.281	.625	.125	Z9095-174
	.281	.625	.187	Z9200-174
5/16	.344	.750	.125	Z9096-174
	.344	.750	.187	Z9201-174
3/8	.406	.875	.125	Z9097-174
	.406	1.000	.187	Z9202-174
7/16	.469	1.000	.187	Z9203-174
1/2	.531	1.125	.125	Z9099-174
	.531	1.125	.187	Z9204-174
5/8	.656	1.375	.125	Z9100-174
	.656	1.375	.187	Z9205-174
3/4	.781	1.625	.156	Z9101-174
	.781	1.625	.250	Z9206-174
7/8	.906	1.750	.156	Z9102-174
	.906	1.750	.250	Z9207-174
1	1.031	2.000	.187	Z9103-174
	1.031	2.000	.219	Z9208-174
1-1/8	1.156	2.250	.219	Z9104-174
1-1/4	1.281	2.500	.281	Z9105-174
1-1/2	1.562	2.750	.375	Z9241-174



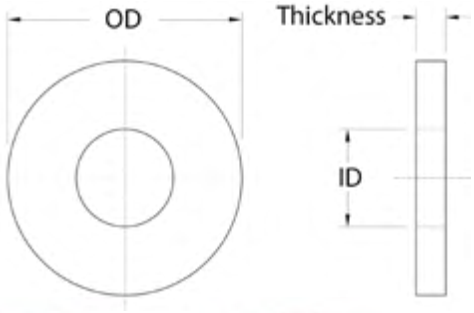
316 H5 SS

Bolt Size	ID	OD	Thickness	316 H5 SS Part Number
1/4	.281	.625	.094	Z9270-316H5
5/16	.344	.688	.094	Z9271-316H5
3/8	.406	.812	.125	Z9272-316H5
1/2	.531	1.063	.203	Z9274-316H5

Flat Washers — Metric

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- 316 Stainless Steel, Plain Finish
- 17-4 PH Stainless Steel, Plain Finish
- Low Carbon Steel, Black Oxide Finish




18-8 Stainless Steel


316 Stainless Steel


17-4 PH Stainless Steel


Low Carbon Steel, Black Oxide

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	17-4 PH SS Part Number	Steel, Black Oxide Part Number
	3.20	8.00	1.50 - 2.40	Z8803SS	Z8803-316	–	Z8803
M3	3.20	12.00	3.00	Z8840SS	Z8840-316	–	–
	3.20	12.00	3.00	–	–	–	Z8840
M4	4.30	10.00	1.50 - 2.40	Z8804SS	Z8804-316	–	Z8804
	4.30	14.00	3.00	Z8842SS	Z8842-316	–	Z8842
	5.30	11.00	1.50 -2.40	Z8805SS	Z8805-316	–	Z8805
M5	5.30	12.00	3.00	–	–	Z90M05-174	–
	5.30	15.00	3.50	Z8844SS	Z8844-316	–	Z8844
M6	6.40	13.00	2.50	Z8806SS	Z8806-316	–	Z8806
	6.40	18.00	4.50	Z8846SS	Z8846-316	–	Z8846
	8.40	16.00	3.00	Z8808SS	Z8808-316	–	Z8808
M8	8.40	19.00	3.00	–	–	Z90M08-174	–
	8.40	22.00	5.00	Z8848SS	Z8848-316	–	Z8848
	10.50	19.00	3.00	Z8810SS	Z8810-316	–	Z8810
M10	10.50	22.00	3.00	–	–	Z90M10-174	–
	10.50	23.00	5.00	Z8850SS	Z8850-316	–	Z8850
	13.00	22.00	3.00	Z8812SS	Z8812-316	–	Z8812
M12	13.00	26.00	3.00	–	–	Z90M12-174	–
	13.00	26.00	5.00	Z8852SS	Z8852-316		Z8852
	13.00	35.00	5.00	–	–	Z92M12-174	–
	13.00	38.00	6.00 - 6.60	Z8851SS	–	–	–
M12	13.00	50.00	6.00 - 6.60	Z8853SS	–	–	–
	13.00	76.00	6.00 - 6.60	Z8855SS	–	–	–
	15.00	25.00	3.00	Z8814SS	Z8814-316	–	Z8814
M14	15.00	26.00	3.00	–	–	Z90M14-174	–
	15.00	27.00	5.00	Z8854SS	Z8854-316	–	Z8854
	15.00	35.00	5.00	–	–	Z92M14-174	–
	17.00	28.00	3.50	Z8816SS	Z8816-316	–	Z8816
M16	17.00	28.00	3.50	Z8818SS	Z8818-316	–	–

Flat Washers — Metric



18-8 Stainless Steel



316 Stainless Steel



17-4 PH Stainless Steel



Low Carbon Steel, Black Oxide

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	17-4 PH SS Part Number	Steel, Black Oxide Part Number
	17.00	32.00	5.00	Z8856SS	Z8856-316	–	Z8856
M16	17.00	35.00	3.00	–	–	Z90M16-174	–
	17.00	35.00	5.00	–	–	Z92M16-174	–
	20.00	32.00	3.50	Z8819SS	–	–	–
M18	20.00	38.00	6.00 - 6.60	Z8857SS	–	–	–
	20.00	42.00	4.00	–	–	Z90M18-174	–
	20.00	42.00	6.00 - 6.60	–	–	Z92M18-174	–
M18	20.00	50.00	6.00 - 6.60	Z8858SS	–	–	–
	20.00	76.00	6.00 - 6.60	Z8859SS	–	–	–
	21.00	35.00	3.50	Z8820SS	Z8820-316	–	Z8820
M20	21.00	35.00	5.00	Z8860SS	Z8860-316	–	Z8860
	22.00	38.00	6.00 - 6.60	Z8861SS	–	–	–
	22.00	45.00	4.00	–	–	Z90M20-174	–
	22.00	45.00	6.00 - 6.60	–	–	Z92M20-174	–
M20	22.00	50.00	6.00 - 6.60	Z8862SS	–	–	–
	22.00	76.00	6.0 0- 6.60	Z8863SS	–	–	–
	25.00	40.00	4.00	Z8824SS	Z8824-316	–	Z8824
M24	25.00	43.00	6.00 - 6.60	Z8864SS	Z8864-316	–	Z8864
	26.00	76.00	6.00 - 6.60	Z8825SS	–	–	–
	26.00	76.00	9.50	Z8826SS	–	–	–
	31.00	44.00	4.00	Z8830SS	Z8830-316	–	Z8830
M30	31.00	48.00	6.00 - 6.60	Z8870SS	Z8870-316	–	Z8870
	32.00	76.00	6.00 - 6.60	Z8871SS	–	–	–
	32.00	76.00	9.50	Z8872SS	–	–	–
	37.00	50.00	5.00	Z8836SS	Z8836-316	–	Z8836
M36	37.00	50.00	7.00 - 7.90	Z8876SS	Z8876-316	–	Z8876
	38.50	76.00	6.00 - 6.60	Z8877SS	–	–	–
	38.50	76.00	9.50	Z8878SS	–	–	–

Component Thick (Spacer) Washers — Inch

A thick washer used as a spacer where appearance and tight tolerance fit are not needed.

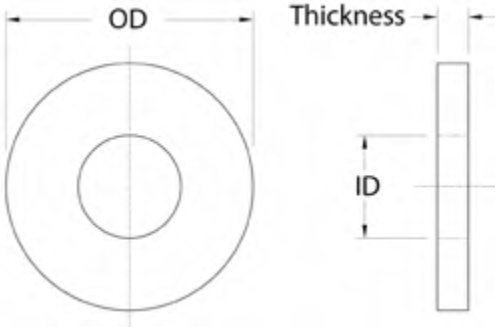
Materials and finishes offered in:

- Alloy Hardened Steel, Black Oxide Finish

Also known as:

- Spacer Washer





Bolt Size	ID	OD	Thickness	Alloy Hardened Steel, Black Oxide Part Number
1/4	.281	.781	.187	Z9200U
5/16	.344	.828	.187	Z9201U
3/8	.406	1.062	.187	Z9202U
7/16	.469	1.250	.187	Z9203U
1/2	.531	1.187	.187	Z9204U
5/8	.656	1.438	.187	Z9205U
3/4	.781	1.688	.250	Z9206U
7/8	.906	1.828	.250	Z9207U
1	1.031	2.062	.281	Z9208U

Welding Thick Washers — Inch

A stamped washer used for welding and other mechanical and construction applications.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- Low Carbon Steel, Black Oxide Finish

Also known as:

- AMPG Roughneck Washer



18-8 Stainless Steel



Low Carbon Steel, Black Oxide

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	Steel, Black Oxide Part Number
3/8	.438	.875	.187	Z9090-SS	Z9090
1/2	.562	1.000	.187	Z9091-SS	Z9091
5/8	.719	1.250	.250	Z9092-SS	Z9092
3/4	.843	1.500	.250	Z9093-SS	Z9093

Machined Beveled Washers — Inch

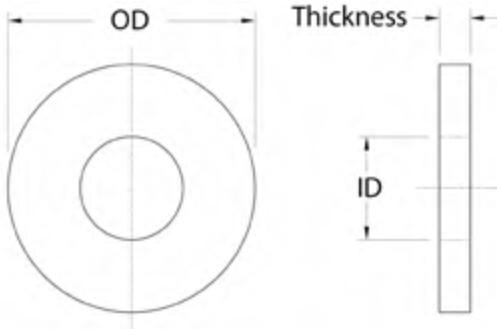
These Williams style washers are thicker and have a beveled outside edge. They are made by machining rather than stamping and are sometimes used in spacing, clamping and bolting applications due to their tighter tolerances and flat machined surfaces.

Materials and finishes offered in:

- Steel, Oiled
- Low Carbon Steel, Oiled
- Low Carbon Steel, Zinc-Plated Finish
- 18-8 Stainless Steel, Plain Finish

Also known as:

- Williams Washer
- Spacing Washer




Steel, Oiled


Low Carbon Steel, Oiled


Low Carbon Steel, Zinc Plated


18-8 Stainless Steel

Bolt Size	ID	OD	Thickness	Steel, Oiled Part Number	Low Carbon Steel, Oiled Part Number	Low Carbon Steel, Zinc Plated Part Number	18-8 SS Part Number
#10	.203	.500	.093	Z9180-BEV	Z9180-BEV-H	Z9180-BEV-HZN	Z9180-BEV-SS
1/4	.281	.625	.125	Z9181-BEV	Z9181-BEV-H	Z9181-BEV-HZN	Z9181-BEV-SS
5/16	.344	.750	.125	Z9182-BEV	Z9182-BEV-H	Z9182-BEV-HZN	Z9182-BEV-SS
3/8	.406	.875	.125	Z9183-BEV	Z9183-BEV-H	Z9183-BEV-HZN	Z9183-BEV-SS
7/16	.469	1.000	.156	Z9184-BEV	Z9184-BEV-H	Z9184-BEV-HZN	Z9184-BEV-SS
1/2	.531	1.000	.187	Z9185-BEV	Z9185-BEV-H	Z9185-BEV-HZN	Z9185-BEV-SS
5/8	.656	1.250	.250	Z9186-BEV	Z9186-BEV-H	Z9186-BEV-HZN	Z9186-BEV-SS
3/4	.781	1.500	.250	Z9187-BEV	Z9187-BEV-H	Z9187-BEV-HZN	Z9187-BEV-SS
7/8	.906	1.750	.250	Z9188-BEV	Z9188-BEV-H	Z9188-BEV-HZN	Z9188-BEV-SS
1	1.031	2.000	.312	Z9189-BEV	Z9189-BEV-H	Z9189-BEV-HZN	Z9189-BEV-SS
1-1/8	1.156	2.250	.312	Z9190-BEV	Z9190-BEV-H	Z9190-BEV-HZN	Z9190-BEV-SS
1-1/4	1.281	2.250	.312	Z9191-BEV	Z9191-BEV-H	Z9191-BEV-HZN	Z9191-BEV-SS

Machined Straight Side Washers — Inch

These washers are made by machining rather than stamping. Stamped flat washers have a sloped side, where the die break from regular stamping presses occurs. These washers have straight sides and provide a finished appearance.

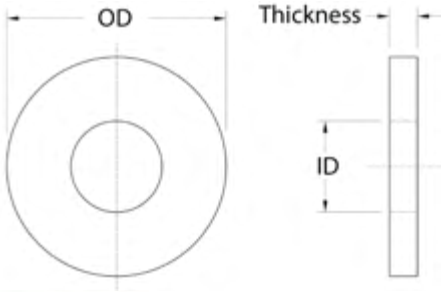
Turned — Not Stamped

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- Steel, Oiled, Plain Finish
- Alloy Hardened Steel, Black Oxide Finish
- Low Carbon Steel, Nickel-Plated

Also known as:

- Dress Flat Washer
- Machined Dress Washer




18-8 Stainless Steel


Steel, Oiled with Plain Finish


Alloy Hardened Steel, Black Oxide


Low Carbon Steel, Nickel Plated

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	Steel, Oiled Part Number	Alloy Hardened Steel, Black Oxide Part Number	Low Carbon Steel, Nickel Plated Part Number
#4	.115	.247	.056 - .071	Z0701SS	–	–	–
#5	.128	.250	.060 - .064	–	–	Z0351	–
#6	.143	.317	.056 - .071	Z0702SS	–	–	–
#8	.169	.369	.056 - .071	Z0703SS	–	–	–
	.193	.375	.060 - .064	–	–	Z0352	–
#10	.203	.500	.093	–	Z9180	–	–
	.203	.438	.072 - .084	Z0704SS	–	Z0353	–
	.203	.500	.093	Z9094M-SS	–	–	Z9094M
#12	.250	.500	.060 - .064	–	–	–	–
1/4	.255	.500	.072 - .084	Z0705SS	–	–	–
	.281	.625	.125	Z9095M-SS	Z9181	–	Z9095M
5/16	.322	.625	.087 - .099	Z0706SS	–	–	–
	.316	.625	.091 - .095	–	–	Z0354	–
	.344	.750	.125	Z9096M-SS	Z9182	–	Z9096M
3/8	.378	.750	.123 - .127	–	–	Z0355	–
	.383	.750	.087 - .099	Z0707SS	–	–	–
	.406	.875	.125	Z9097M-SS	Z9183	–	Z9097M
7/16	.469	1.000	.125	Z9098M-SS	–	–	Z9098M
1/2	.503	1.000	.185 - .189	–	–	Z0356	–
	.531	1.000	.187	–	Z9185	–	–
	.531	1.125	.125	Z9099M-SS	–	–	Z9099M
5/8	.656	1.250	.250	–	Z9186	–	–
	.656	1.375	.125	Z9100M-SS	–	–	Z9100M
3/4	.781	1.500	.250	–	Z9187	–	–
	.781	1.625	.156	Z9101M-SS	–	–	Z9101M
7/8	.906	1.750	.156	Z9102M-SS	–	–	Z9102M
	.906	1.750	.250	–	Z9188	–	–
1	1.031	2.000	.187	Z9103M-SS	–	–	Z9103M
	1.031	2.000	.312	–	Z9189	–	–
1-1/8	1.156	2.250	.312	–	Z9190	–	–
1-1/4	1.281	2.250	.312	–	Z9191	–	–

Large OD (Fender) Washers — Inch

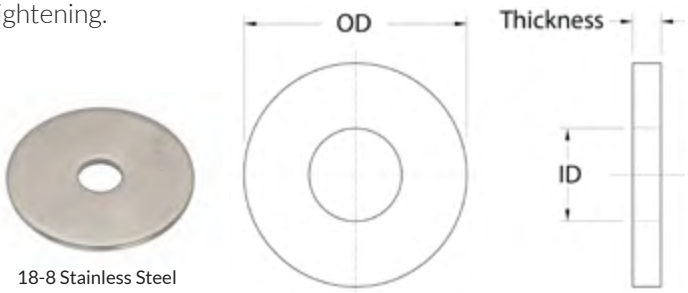
A Large OD washer is similar in shape to a standard washer, differs in that the outside diameter is traditionally much larger in proportion to the inside hole. These flat washers are commonly used to spread the load on thin sheet metal and so named after their use on automobile fenders. The large OD design allows the washer to be placed under the head of a bolt or nut, and helps distribute the load when tightening.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- 316 Stainless Steel, Plain Finish
- Steel, Zinc-Plated Finish
- Low Carbon Steel, Black Oxide Finish

Also known as:

- Fender Washer



18-8 Stainless Steel

Bolt Size	ID	OD	Thickness	18-8 SS Part Number
#4	.125	.312	.031	Z0538-188
#6	.140	.625	.024 - .040	Z0448-188
	.156	.375	.031	Z0539-188
	.156	.562	.040-.054	Z0449-188
#8	.171	.375	.031	Z0540-188
	.171	.750	.033 - .047	Z0450-188
	.187	.750	.043 - .057	Z0451-188
#10	.203	.438	.031	Z0541-188
	.203	.500	.033 - .047	Z0452-188
	.203	.688	.033 - .047	Z0453-188
	.203	.688	.033 - .047	Z0453-188-BX*
#10	.203	.750	.033 - .047	Z0455-188
	.203	1.000	.033 - .047	Z0454-188
	.219	1.250	.043 - .057	Z0456-188
#12	.250	.500	.043 - .057	Z0542-188
1/4	.265	.500	.043 - .057	Z0457-188
	.265	.562	.056 - .071	Z0458-188
	.265	.875	.056 - .071	Z0459-188
	.281	.625	.050	Z0543-188
1/4	.281	1.000	.040 - .060	Z0460-188
	.281	1.250	.040 - .060	Z0461-188
	.281	1.500	.053 - .073	Z0462-188
	.281	1.500	.125	Z9680SS
1/4	.281	2.000	.053 - .073	Z0463-188
5/16	.328	.625	.056 - .071	Z0464-188
	.344	.750	.050	Z0544-188
	.344	1.250	.040 - .060	Z0465-188
	.344	1.250	.040 - .060	Z0465-188-BOX*

Bolt Size	ID	OD	Thickness	18-8 SS Part Number
5/16	.344	1.500	.053 - .073	Z0466-188
	.344	2.000	.053 - .073	Z0467-188
	.344	2.000	.053 - .073	Z0467-188-BOX*
3/8	.390	.875	.050	Z0545-188
	.406	1.250	.040 - .060	Z0468-188
	.406	1.250	.040 - .060	Z0468-188-BOX*
	.406	1.500	.053 - .073	Z0469-188
3/8	.406	1.500	.053 - .073	Z0469-188-BOX*
	.406	1.625	.056 - .071	Z0470-188
	.406	2.000	.053 - .073	Z0471-188
	.406	2.000	.053 - .073	Z0471-188-BOX*
7/16	.500	1.125	.062	Z0546-188
1/2	.531	1.500	.042 - .052	Z0472-188
	.531	2.000	.042 - .052	Z0473-188
	.531	2.000	.125	Z9688SS
	.531	2.000	.250	Z9689SS
1/2	.562	1.250	.062	Z0547-188
9/16	.578	1.062	.062	Z0548-188
5/8	.688	1.500	.078	Z0549-188
	.688	2.500	.125	Z9690SS
	.688	2.500	.250	Z9691SS
3/4	.812	1.750	.109	Z0621-188
7/8	.938	2.000	.109	Z0622-188
1	1.062	2.000	.109	Z0623-188
1-1/8	1.187	2.500	.125	Z0624-188
1-1/4	1.312	2.750	.125	Z0625-188
1-1/2	1.562	3.250	.125	Z0626-188

Black Oxide finish

Washers

For product information and technical drawings, please see page D-10

316 SS

Large OD (Fender) Washers — Inch



316 Stainless Steel

Bolt Size	ID	OD	Thickness	316 SS Part Number
#4	.125	.312	.031	Z0538-316
#6	.141	.625	.024 - .040	Z0448-316
	.156	.562	.040 - .054	Z0449-316
#8	.171	.375	.031	Z0540-316
	.171	.750	.033 - .047	Z0450-316
	.188	.750	.043 - .057	Z0451-316
#10	.203	.438	.031	Z0541-316
	.203	.500	.033 - .047	Z0452-316
	.203	.688	.033 - .047	Z0453-316
	.203	.750	.033 - .047	Z0455-316
#10	.203	1.000	.033 - .047	Z0454-316
	.219	1.250	.043 - .057	Z0456-316
#12	.250	.500	.043 - .057	Z0542-316
1/4	.266	.500	.043 - .057	Z0457-316
	.266	.562	.056 - .071	Z0458-316
	.266	.875	.056 - .071	Z0459-316
	.281	.625	.050	Z0543-316
1/4	.281	1.000	.040 - .060	Z0460-316
	.281	1.250	.040 - .060	Z0461-316
	.281	1.500	.053 - .073	Z0462-316
	.281	2.000	.053 - .073	Z0463-316
5/16	.328	.625	.056 - .071	Z0464-316
	.344	.750	.050	Z0544-316
	.344	1.250	.040 - .060	Z0465-316
	.344	1.500	.053 - .073	Z0466-316
5/16	.344	2.000	.053 - .073	Z0467-316
3/8	.391	0.875	.050	Z0545-316
	.406	1.250	.040 - .060	Z0468-316
	.406	1.500	.053 - .073	Z0469-316
	.406	1.625	.056 - .071	Z0470-316
3/8	.406	2.000	.053 - .073	Z0471-316
7/16	.500	1.125	.063	Z0546-316
1/2	.531	1.500	.240 - .260	Z0830-316
	.531	1.500	.365 - .385	Z0831-316
	.531	2.000	.240 - .260	Z0833-316
	.531	2.000	.365 - .385	Z0834-316
1/2	.531	3.000	.240-.260	Z0836-316
	.531	3.000	.365 - .385	Z0837-316
	.531	1.500	.042 - .052	Z0472-316
	.531	2.000	.042 - .052	Z0473-316
1/2	.563	1.250	.063	Z0547-316
9/16	.578	1.062	.063	Z0548-316
5/8	.688	1.500	.078	Z0549-316
5/8	.688	1.500	.240 - .260	Z0838-316
	.688	1.500	.365 - .385	Z0839-316
	.688	2.000	.240 - .260	Z0840-316
	.688	2.000	.365 - .385	Z0841-316
5/8	.688	3.000	.240 - .260	Z0842-316
	.688	3.000	.365 - .385	Z0843-316
	.813	1.500	.240 - .260	Z0845-316
3/4	.813	1.500	.365 - .385	Z0846-316
	.813	1.750	.109	Z0621-316
	.813	1.750	.240 - .260	Z0848-316
	.813	1.750	.365 - .385	Z0849-316
3/4	.813	2.000	.240 - .260	Z0851-316
	.813	2.000	.365 - .385	Z0852-316
7/8	.938	2.000	.109	Z0622-316
1	1.062	2.250	.110 - .140	WAS1.062X2.25X.125T316
	1.062	2.500	.125	WAS1.062X2.5X.125T316
	1.062	2.850	.110 - .140	WAS1.062X2.85X.125-316
	1.063	2.000	.109	Z0623-316
1	1.063	2.500	.240 - .260	Z0854-316
	1.063	2.500	.365 - .385	Z0855-316
1-1/8	1.187	2.500	.125	Z0624-316
1-1/4	1.313	2.750	.125	Z0625-316
	1.313	3.000	.240 - .260	Z0857-316
	1.313	3.000	.365 - .385	Z0858-316
	1.313	4.000	.240 - .260	Z0859-316
1-1/4	1.313	4.000	.365 - .385	Z0860-316
	1.563	2.500	.136-.192	WAS1375X2.5X156T316
	1.563	3.000	.136-.192	WAS1.375X3X.187T316
1-1/2	1.563	3.250	.125	Z0626-316
	1.563	3.250	.240 - .260	Z0862-316
	1.563	3.250	.365 - .385	Z0863-316
	1.563	3.500	.240 - .260	Z0864-316
1-1/2	1.563	3.500	.365 - .385	Z0865-316
	1.563	4.000	.240 - .260	Z0866-316
	1.563	4.000	.365 - .385	Z0867-316
	2.125	3.500	.153 - .213	WAS1.625X3.5X.187T316
1-3/8	1.625	2.750	.100 - .180	WAS1.5X2.75X.125T316
1-3/4	2.625	4.000	.153 - .213	WAS1.875X4X187T316
2	2.125	3.000	.240 - .260	Z0869-316
	2.125	3.000	.365 - .385	Z0870-316
2-1/4	2.375	4.500	.210 - .280	WAS2.375X4.5X.25T316
2-1/2	2.625	4.500	.240 - .260	Z0871-316
	2.625	4.500	.365 - .385	Z0872-316
3	3.125	5.000	.228 - .310	WAS3.125X5X250T316
	3.125	5.500	.240 - .260	Z0873-316
	3.125	5.500	.365 - .385	Z0874-316
3-1/2	3.625	6.500	.240 - .260	Z0875-316
	3.625	6.500	.365 - .385	Z0876-316
4	4.125	7.500	.240 - .260	Z0877-316
	4.125	7.500	.365 - .385	Z0878-316

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

MADE IN THE USA

Large OD (Fender) Washers — Inch



Steel, Zinc Plated

Bolt Size	ID	OD	Thickness	Steel, Zinc Plated Part Number
#6	.140	.625	.024 - .040	Z0448
	.156	.562	.042 - .052	Z0449
	.156	.750	.036 - .065	Z0480
	.156	.875	.036 - .065	Z0629
#8	.171	.750	.042 - .052	Z0450
	.187	.750	.042 - .052	Z0451
	.187	1.000	.036 - .065	Z0481
	.203	.750	.051 - .080	Z0630
#8	.203	1.000	.051 - .080	Z0631
	.203	1.250	.051 - .080	Z0632
#10	.203	.500	.042 - .052	Z0452
	.203	.688	.042 - .052	Z0453
	.203	.750	.042 - .052	Z0455
	.203	.750	.051 - .080	Z0627
#10	.203	1.000	.042 - .052	Z0454
	.219	.750	.063 - .083	Z0628
	.219	1.000	.125	Z9678
#10	.219	1.250	.042 - .052	Z0456
	.219	1.500	.036 - .065	Z0482
1/4	.265	.500	.042 - .052	Z0457
	.265	.562	.042 - .052	Z0458
	.265	.875	.042 - .052	Z0459
	.281	1.000	.042 - .052	Z0460
1/4	.281	1.250	.042 - .052	Z0461
	.281	1.500	.042 - .052	Z0462
	.281	1.500	.051 - .080	Z0633
1/4	.281	2.000	.042 - .052	Z0463
	.281	2.500	.051 - .080	Z0483
	.281	3.000	.051 - .080	Z0484
5/16	.328	.625	.042 - .052	Z0464
	.344	1.250	.042 - .052	Z0465
	.344	1.500	.042 - .052	Z0466
	.344	1.500	.051 - .080	Z0635
5/16	.344	1.625	.051 - .080	Z0634
	.344	2.000	.042 - .052	Z0467
	.344	2.000	.051 - .080	Z0636
5/16	.344	2.500	.051 - .080	Z0485
	.344	3.000	.051 - .080	Z0486
3/8	.406	1.250	.042 - .052	Z0468
	.406	1.500	.042 - .052	Z0469
	.406	1.500	.051 - .080	Z0637
	.406	1.625	.042 - .052	Z0470
3/8	.406	2.000	.042 - .052	Z0471
	.406	2.000	.051 - .080	Z0638
	.406	3.000	.051 - .080	Z0487
1/2	.531	1.500	.042 - .052	Z0472
	.531	1.500	.051 - .080	Z0639
	.531	2.000	.042 - .052	Z0473
	.531	2.000	.051 - .080	Z0650
1/2	.531	3.000	.051 - .080	Z0488



Low Carbon Steel, Black Oxide

Bolt Size	ID	OD	Thickness	Steel, Black Oxide Part Number
1/4	.281	.750	.130 - .150	Z9285
5/16	.344	.875	.130 - .150	Z9286
3/8	.406	1.000	.130 - .150	Z9287
1/2	.531	1.375	.146 - .166	Z9289
5/8	.656	1.750	.146 - .166	Z9290
3/4	.812	2.000	.240 - .260	Z9293
1	1.062	2.500	.240 - .260	Z9294

Extra Thick Fender Flat Washers — Inch

A series of extra thick and extra wide Fender Washers. Available in 1/8, 1/4, 3/8 and 1/2 inch thicknesses.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- Low Carbon Steel, Zinc Plated



Low Carbon Steel, Zinc Plated



18-8 Stainless Steel

Bolt Size	ID	OD	Thickness	Steel, Zinc Plated Part Number	18-8 SS Part Number
#10	.219	1.000	.125	Z9678	Z9678SS
	.219	1.000	.250	Z9679	–
1/4	.281	1.500	.125	Z9680	–
	.281	1.500	.250	Z9681	–
5/16	.344	2.000	.125	Z9682	Z9682SS
	.344	2.000	.250	Z9683	Z9683SS
3/8	.406	2.000	.125	Z9684	Z9684SS
	.406	2.000	.250	Z9685	Z9685SS
1/2	.531	2.000	.125	Z9688	Z9688SS
	.531	2.000	.250	Z9689	Z9689SS
	.562	3.000	.250	Z9670	–
5/8	.688	2.500	.125	Z9690	Z9690SS
	.688	2.500	.250	Z9691	Z9691SS
	.688	3.000	.250	Z9671	–
3/4	.812	3.000	.125	Z9692	–
	.812	3.000	.250	Z9693	Z9693SS
	.812	3.000	.375	Z9698	–
	.813	2.000	.150	–	WAS812X2X.187T188
7/8	.938	3.000	.250	Z9673	–
	.938	3.250	.125	Z9694	–
	.938	3.250	.250	Z9695	Z9695SS
	.938	3.250	.375	Z9699	–
1	1.062	3.250	.250	Z9674	Z9674SS
	1.062	3.500	.125	Z9696	Z9696SS
	1.062	3.500	.250	Z9697	–
	1.062	3.500	.375	Z9677	–
1-1/8	1.250	2.250	.125	–	WAS1.25X2.25X.125T188
1-1/4	1.375	4.000	.500	Z9675	Z9675SS
1-5/8	1.750	3.750	.153 - .213	–	WAS1.75X3.75X187T303
1-3/4	1.812	3.875	.170 - .200	–	WAS1.812X3.875X.187T188

Dock Washers — Inch

An extra thick and extra wide washer. These washers are used for joinining or spacing wood to wood and wood to metal parts.

Materials and finishes offered in:

- Low Carbon Steel, Zinc Plated
- Low Carbon Steel, Galvanized Finish



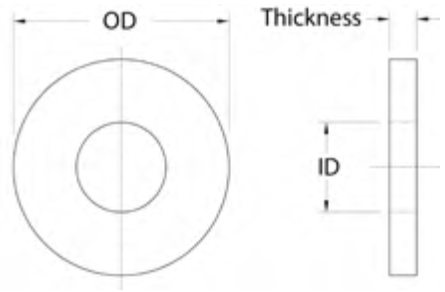
Low Carbon Steel, Zinc Plated



Low Carbon Steel, Galvanized

Bolt Size	ID	OD	Thickness	Steel, Zinc Part Number	Steel, Galvanized Part Number
1/2	9/16	3	1/4	Z9670	Z9670G
5/8	11/16	3	1/4	Z9671	Z9671G
3/4	13/16	3	1/4	Z9693	Z9693G
7/8	15/16	3	1/4	Z9673	Z9673G
1	1-1/16	3-1/4	1/4	Z9674	Z9674G
1-1/4	1-3/8	4	1/2	Z9675	Z9675G

Extra Large OD Washers — Inch



This flat washer provides an extra-large bearing surface for use with 1-3/8" to 4" anchor bolts, screws and nuts. Used on machinery, presses, large diameter bolts, shafts, studs and rollers or wherever a large flat washer is needed. Larger OD washers distribute heavier loads over a wider surface. Higher loads require a studier washer to carry the excessive clamp strength and prevent embedment.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- Thru Hardened Alloy, Black Oxide Finish
- Steel, Hot Dip Galvanized
- Low Carbon Steel, Black Oxide Finish

Also known as:

- Jumbo Washer



18-8 Stainless Steel



Thru Hardened Alloy, Black Oxide

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	Thru Hardened Alloy, Black Oxide Part Number
1-3/8	1.500	2.750	.250	Z9250SS	Z9250
1-1/2	1.625	3.000	.125	Z9251SS	—
	1.625	3.000	.250	Z9252SS	Z9252
1-3/4	1.875	3.375	.250	Z9254SS	Z9254
2	2.125	3.750	.250	Z9256SS	Z9256
2-1/2	2.625	4.500	.312	Z9258SS	Z9258
3	3.125	5.500	.312	Z9260SS	Z9260
3-1/2	3.625	6.500	.312	Z9262SS	Z9262
4	4.125	7.500	.312	Z9264SS	Z9264



Steel, Hot Dip Galvanized



Low Carbon Steel, Black Oxide

Bolt Size	ID	OD	Thickness	Steel, Hot Dip Galvanized Part Number
1-1/2	1.750	4.000	.312	Z9265LCG
	1.750	4.000	.313	Z9253-HDG
1-3/4	2.000	4.000	.312	Z9266LCG
	2.000	4.000	.313	Z9255-HDG
2	2.250	4.000	.312	Z9267LCG
	2.250	4.000	.313	Z9257-HDG
2-1/2	2.750	4.500	.312	Z9268LCG
	2.750	4.500	.313	Z9259-HDG
3	3.250	5.500	.312	Z9269LCG
	3.250	5.500	.313	Z9261-HDG

Bolt Size	ID	OD	Thickness	Steel, Black Oxide Part Number
1-3/8	1.500	2.750	.250	Z9250LC
1-1/2	1.625	3.000	.250	Z9252LC
1-3/4	1.875	3.375	.250	Z9254LC
2	2.125	3.750	.250	Z9256LC

Military Specification Washers — Inch

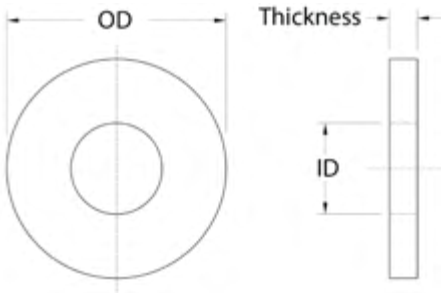
Mil Spec washers are made in accordance with meticulous material and production criteria, which ensure optimal performance. This means they're produced with the utmost uniformity and reliability. An appropriate choice for some aerospace, automotive and industrial applications. Certification is available if requested at the time of order placement. Passivation provides added protection against oxidation and corrosion.

All Military Spec Washers are passivated to certain specs :

AN960 is Passivate QQ-P-35
NAS1149 is Passivate AMS 2700 Method 1, Type 6, Class 1
MS15795 is Passivate ASTM A380

Materials and finishes offered in:

- 18-8 Stainless Steel, Passivated





AN960 MIL SPEC

Bolt Size	ID	OD	Thickness	Pack Amount	18-8 SS Part Number
#2	.099	.250	.006 - .026	100	AN960-C2L
	.099	.250	.022 - .042	100	AN960-C2
#3	.105	.250	.006 - .026	100	AN960-C3L
	.105	.250	.022 - .042	100	AN960-C3
#4	.125	.312	.006 - .026	100	AN960-C4L
	.125	.312	.022 - .042	100	AN960-C4
#6	.149	.375	.006 - .026	100	AN960-C6L
	.149	.375	.022 - .042	100	AN960-C6
#8	.174	.375	.006 - .026	100	AN960-C8L
	.174	.375	.022 - .042	100	AN960-C8
#10	.203	.438	.022 - .042	100	AN960-C10L
	.203	.438	.053 - .073	100	AN960-C10
#11	.234	.625	.055 - .075	Bulk	AN960-C11
1/4	.265	.500	.022 - .042	50	AN960-C416L
	.265	.500	.053 - .073	50	AN960-C416
5/16	.328	.562	.022 - .042	50	AN960-C516L
	.328	.562	.053 - .073	50	AN960-C516
3/8	.390	.625	.022 - .042	50	AN960-C616L
	.390	.625	.053 - .073	50	AN960-C616
7/16	.453	.750	.022 - .042	25	AN960-C716L
	.453	.750	.053 - .073	25	AN960-C716
1/2	.515	.875	.022 - .042	25	AN960-C816L
	.515	.875	.053 - .073	25	AN960-C816
9/16	.578	1.062	.053 - .073	25	AN960-C916
5/8	.640	1.187	.053 - .073	25	AN960-C1016
3/4	.765	1.312	.080 - .100	25	AN960-C1216
7/8	.890	1.500	.080 - .100	25	AN960-C1416
1	1.015	1.750	.080 - .100	25	AN960-C1616

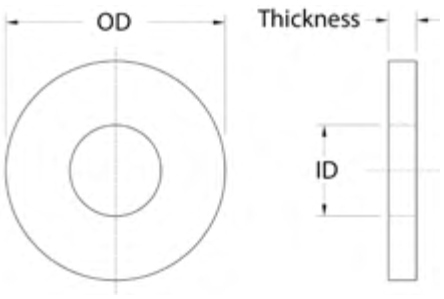


NAS620 MIL SPEC

Bolt Size	ID	OD	Thickness	Pack Amount	18-8 SS Part Number
#0	.063	.099	.014 - .018	100	NAS620-C0
#2	.089	.149	.014 - .018	100	NAS620-C2
#3	.102	.180	.014 - .018	100	NAS620-C3L
	.102	.180	.028 - .036	100	NAS620-C3
#4	.115	.209	.014 - .018	100	NAS620-C4L
	.115	.209	.028 - .036	100	NAS620-C4
#5	.128	.238	.014 - .018	100	NAS620-C5L
	.128	.238	.028 - .036	100	NAS620-C5
#6	.143	.267	.014 - .018	100	NAS620-C6L
	.143	.267	.028 - .036	100	NAS620-C6
#8	.169	.304	.014 - .018	100	NAS620-C8L
	.169	.304	.028 - .036	100	NAS620-C8
#10	.195	.354	.028 - .036	50	NAS620-C10L
	.195	.354	.059 - .067	50	NAS620-C10
1/4	.255	.468	.028 - .036	50	NAS620-C416L
	.255	.468	.059 - .067	50	NAS620-C416

Military Specifcation Washers — Inch

MADE IN THE USA



All Military Spec Washers are passivated to certain specs :
AN960 is Passivate QQ-P-35
NAS1149 is Passivate AMS 2700 Method 1, Type 6, Class 1
MS15795 is Passivate ASTM A380





NAS1149 MIL SPEC

Bolt Size	ID	OD	Thickness	Pack Amount	18-8 SS Part Number
#2	.099	.250	.028 - .036	100	NAS1149-CN232R
#3	.105	.250	.028 - .036	100	NAS1149-CN332R
#4	.125	.312	.028 - .036	100	NAS1149-CN432R
#5	.140	.438	.037 - .047	100	NAS1149-CN542R
#6	.149	.375	.028 - .036	100	NAS1149-CN632R
#8	.174	.375	.028 - .036	100	NAS1149-CN832R
#10	.203	.438	.028 - .036	100	NAS1149-C0332R
	.203	.438	.057 - .069	100	NAS1149-C0363R
1/4	.265	.500	.028 - .036	50	NAS1149-C0432R
	.265	.500	.057 - .069	50	NAS1149-C0463R
5/16	.328	.562	.028 - .036	50	NAS1149-C0532R
	.328	.562	.057 - .069	50	NAS1149-C0563R
3/8	.390	.625	.028 - .036	50	NAS1149-C0632R
	.390	.625	.057 - .069	50	NAS1149-C0663R
7/16	.453	.750	.028 - .036	25	NAS1149-C0732R
	.453	.750	.057 - .069	25	NAS1149-C0763R
1/2	.515	.875	.028 - .036	25	NAS1149-C0832R
	.515	.875	.057 - .069	25	NAS1149-C0863R
9/16	.578	1.062	.028 - .036	10	NAS1149-C0963R
5/8	.640	1.187	.057 - .069	5	NAS1149-C1063R
3/4	.765	1.312	.082 - .098	5	NAS1149-C1290R
7/8	.890	1.500	.082 - .098	5	NAS1149-C1490R
1	1.015	1.750	.082 - .098	1	NAS1149-C1690R

MS15795 MIL SPEC

Bolt Size	ID	OD	Thickness	Pack Amount	18-8 SS Part Number
#1	.078	.187	.016 - .025	100	MS15795-801
#2	.094	.250	.016 - .025	100	MS15795-802
#4	.125	.250	.017 - .028	100	MS15795-803
	.125	.312	.032 - .040	100	MS15795-804
#6	.156	.312	.027 - .048	100	MS15795-805
	.156	.375	.036 - .065	100	MS15795-806
#8	.187	.375	.036 - .065	100	MS15795-807
	.187	.438	.036 - .065	100	MS15795-841
#10	.219	.438	.036 - .065	100	MS15795-808
	.219	.500	.036 - .065	100	MS15795-842
#12	.250	.562	.051 - .080	50	MS15795-809
1/4	.281	.625	.051 - .080	50	MS15795-810
	.312	.734	.051 - .080	50	MS15795-811
5/16	.344	.688	.051 - .080	50	MS15795-812
	.375	.875	.064 - .104	25	MS15795-813
3/8	.406	.812	.051 - .080	25	MS15795-814
	.438	1.000	.064 - .104	25	MS15795-815
7/16	.469	.922	.051 - .080	25	MS15795-816
	.500	1.250	.064 - .104	5	MS15795-817
1/2	.531	1.062	.074 - .121	5	MS15795-818
	.562	1.375	.086 - .132	5	MS15795-819
5/8	.656	1.312	.074 - .121	5	MS15795-820
	.688	1.750	.108 - .160	5	MS15795-821
3/4	.812	1.469	.108 - .160	5	MS15795-822
	.812	2.000	.122 - .177	1	MS15795-823
7/8	.938	1.750	.108 - .160	1	MS15795-824
	.938	2.250	.136 - .192	1	MS15795-825
1	1.062	2.000	.108 - .160	1	MS15795-826
	1.062	2.500	.136 - .192	1	MS15795-827

Standard SAE Washers — Inch

Flat washers distribute pressure of a threaded fastener to prevent damage during tightening. These SAE style washers meet ASME B18.21.1. SAE washers generally have a smaller ID and OD than other standard flat washers.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- 316 Stainless Steel, Plain Finish
- Titanium Grade 2, Plain Finish
- 316 H5 Stainless Steel, Plain Finish



18-8 Stainless Steel

Bolt Size	ID	OD	Thickness	18-8 SS Part Number
#4	.125	.312	.024 - .040	WAS404#4
#6	.156	.375	.036 - .065	WAS404#6
#8	.187	.438	.036 - .065	WAS404#8
#10	.219	.500	.036 - .065	WAS404#10
#12	.250	.562	.051 - .080	WAS404#12
1/4	.281	.625	.051 - .080	WAS40414
5/16	.344	.688	.051 - .080	WAS40451
3/8	.406	.812	.051 - .080	WAS40438
7/16	.469	.922	.051 - .080	WAS40471
1/2	.531	1.062	.074 - .121	WAS40412
5/8	.656	1.312	.074 - .121	WAS40458
3/4	.812	1.500	.108 - .160	WAS40434
1	1.062	2.000	.108 - .160	WAS40401



316 Stainless Steel

Bolt Size	ID	OD	Thickness	316 SS Part Number
#4	.125	.312	.024 - .040	WAS405#4
#6	.156	.375	.036 - .065	WAS405#6
#8	.187	.438	.036 - .065	WAS405#8
#10	.219	.500	.036 - .065	WAS405#10
#12	.250	.562	.051 - .080	WAS405#12
1/4	.281	.625	.051 - .080	WAS40514
5/16	.344	.688	.051 - .080	WAS40551
3/8	.406	.812	.051 - .080	WAS40538
7/16	.469	.922	.051 - .080	WAS40571
1/2	.531	1.062	.074 - .121	WAS40512
5/8	.656	1.312	.074 - .121	WAS40558
3/4	.812	1.500	.108 - .160	WAS40534
1	1.062	2.000	.108 - .160	WAS40501



315 H5 Stainless Steel

Bolt Size	ID	OD	Thickness	316 H5 SS Part Number
#10	.219	.500	.036 - .065	WAS407#10
1/4	.281	.625	.051 - .080	WAS40714
5/16	.344	.688	.051 - .080	WAS40751
3/8	.406	.812	.051 - .080	WAS40738
1/2	.531	1.062	.057 - .067	WAS40712



Titanium Grade 2

Bolt Size	ID	OD	Thickness	Ti2 Part Number
#2	.094	.250	.012 - .018	WAS406#2
#3	.109	.250	.025 - .040	WAS406#3
#4	.125	.250	.025 - .040	WAS406#4
#6	.156	.375	.036 - .065	WAS406#6
#8	.188	.438	.036 - .065	WAS406#8
#10	.219	.500	.036 - .065	WAS406#10
1/4	.281	.625	.051 - .080	WAS40614
5/16	.344	.688	.051 - .080	WAS40651
3/8	.406	.812	.051 - .080	WAS40638
1/2	.531	1.062	.057 - .067	WAS40612

Standard USS Washers — Inch

USS washers generally have a larger ID and OD than SAE washers.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- 316 Stainless Steel, Plain Finish



18-8 Stainless Steel



316 Stainless Steel

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number
#10	.250	.562	.036 - .065	WAS504#10	WAS505#10
1/4	.312	.750	.051 - .080	WAS50414	WAS50514
5/16	.375	.875	.064 - .104	WAS50451	WAS50551
3/8	.438	1.000	.064 - .104	WAS50438	WAS50538
7/16	.500	1.250	.064 - .104	WAS50471	WAS50571
1/2	.562	1.375	.074 - .121	WAS50412	WAS50512
9/16	.625	1.500	.086 - .132	WAS50491	WAS50591
5/8	.688	1.750	.108 - .160	WAS50458	WAS50558
3/4	.812	2.000	.122 - .177	WAS50434	WAS50534
7/8	.938	2.250	.136 - .192	WAS50478	WAS50578
1	1.062	2.500	.136 - .192	WAS50401	WAS50501

Standard DIN Washers — Metric

Flat washers are an essential part of any fastener assembly. As they serve to incorporate spacing and distribute load when placed between a nut and bolt, they will help prevent wear and distortion of installation surfaces over time. Use them to make maintenance easier by allowing for smoother loosening and tightening of components. These USA made metric washers meet DIN 125.

Materials and finishes offered in:

- 316 H5 Stainless Steel, Plain Finish
- Titanium Grade 2, Plain Finish



316 H5 Stainless Steel

Bolt Size	ID	OD	Thickness	316 H5 SS Part Number
M5	5.30	10.00	.90 - 1.10	WAS407M5
M6	6.40	12.00	1.40 - 1.80	WAS407M6
M8	8.40	16.00	1.40 - 1.80	WAS407M8
M10	10.50	20.00	1.80 - 2.20	WAS407M10
M12	13.00	24.00	2.30 - 2.70	WAS407M12



Titanium Grade 2

Bolt Size	ID	OD	Thickness	Ti2 Part Number
M2	2.20	5.00	.20 - .40	WAS406M2
M2.5	2.70	6.00	.40 - .60	WAS406M2.5
M3	3.20	7.00	.40 - .60	WAS406M3
M3.5	3.70	8.00	.40 - .60	WAS406M3.5
M4	4.30	9.00	.70 - .90	WAS406M4
M5	5.30	10.00	.90 - 1.10	WAS406M5
M6	6.40	12.00	1.40 - 1.80	WAS406M6
M8	8.40	16.00	1.40 - 1.80	WAS406M8
M10	10.50	20.00	1.80 - 2.20	WAS406M10
M12	13.00	24.00	2.30 - 2.70	WAS406M12

ASME Type B Washers — Inch

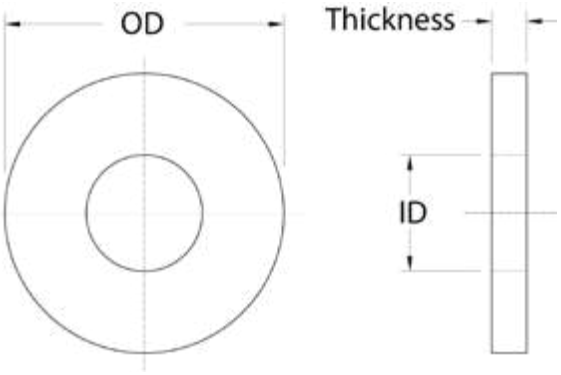
Type B is a series of flat washers with tighter tolerances where outside diameters are categorized as Narrow, Regular or Wide for specific bolt sizes.
All washers are stamped and made in the USA. Type B washers are manufactured to the ASME B18.21.1 specification.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- 316 Stainless Steel, Plain Finish
- Steel, Zinc-Plated Finish
- Aluminum, Plain Finish
- Brass, Plain Finish
- Copper, Plain Finish

Narrow Rim | Regular Rim | Wide Rim







18-8 Stainless Steel | 316 Stainless Steel | Steel, Zinc Plated | Aluminum | Brass | Copper

Narrow Rim

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Steel, Zinc Plated Part Number	Aluminum Part Number	Brass Part Number	Copper Part Number
#0	.068	.125	.022 - .028	WASB#0N8	WASB#0N316	WASB#0NZ	WASB#0NAL	WASB#0NBR	WASB#0NCU
#1	.084	.156	.022 - .028	WASB#1N8	WASB#1N316	WASB#1NZ	WASB#1NAL	WASB#1NBR	WASB#1NCU
#2	.094	.187	.022 - .028	WASB#2N8	WASB#2N316	WASB#2NZ	WASB#2NAL	WASB#2NBR	WASB#2NCU
#4	.125	.250	.028 - .036	WASB#4N8	WASB#4N316	WASB#4NZ	WASB#4NAL	WASB#4NBR	WASB#4NCU
#6	.156	.312	.028 - .036	WASB#6N8	WASB#6N316	WASB#6NZ	WASB#6NAL	WASB#6NBR	WASB#6NCU
#8	.187	.375	.036 - .045	WASB#8N8	WASB#8N316	WASB#8NZ	WASB#8NAL	WASB#8NBR	WASB#8NCU
#10	.203	.406	.036 - .045	WASB#10N8	WASB#10N316	WASB#10NZ	WASB#10NAL	WASB#10NBR	WASB#10NCU
1/4	.281	.500	.056 - .071	WASB14N8	WASB14N316	WASB14NZ	WASB14NAL	WASB14NBR	WASB14NCU
5/16	.344	.625	.056 - .071	WASB51N8	WASB51N316	WASB51NZ	WASB51NAL	WASB51NBR	WASB51NCU
3/8	.406	.734	.056 - .071	WASB38N8	WASB38N316	WASB38NZ	WASB38NAL	WASB38NBR	WASB38NCU
7/16	.469	.875	.056 - .071	WASB71N8	WASB71N316	WASB71NZ	WASB71NAL	WASB71NBR	WASB71NCU
1/2	.531	1.000	.056 - .071	WASB12N8	WASB12N316	WASB12NZ	WASB12NAL	WASB12NBR	WASB12NCU
9/16	.594	1.125	.056 - .071	WASB91N8	WASB91N316	WASB91NZ	WASB91NAL	WASB91NBR	WASB91NCU
5/8	.656	1.250	.090 - .112	WASB58N8	WASB58N316	WASB58NZ	WASB58NAL	WASB58NBR	WASB58NCU
3/4	.812	1.375	.090 - .112	WASB34N8	WASB34N316	WASB34NZ	WASB34NAL	WASB34NBR	WASB34NCU
7/8	.938	1.469	.090 - .112	WASB78N8	WASB78N316	WASB78NZ	WASB78NAL	WASB78NBR	WASB78NCU
1	1.062	1.750	.090 - .112	WASB80N8	WASB80N316	WASB80NZ	WASB80NAL	WASB80NBR	WASB80NCU
1-1/8	1.187	2.000	.090 - .112	WASB81N8	WASB81N316	WASB81NZ	WASB81NAL	WASB81NBR	WASB81NCU
1-1/4	1.312	2.250	.146 - .174	WASB82N8	WASB82N316	WASB82NZ	WASB82NAL	WASB82NBR	WASB82NCU

Chart continued on next page

ANSI TYPE B Washers — Inch



Regular Rim

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Steel, Zinc Plated Part Number	Aluminum Part Number	Brass Part Number	Copper Part Number
#0	.068	.187	.022 - .028	WASB#0R8	WASB#0R316	WASB#0RZ	WASB#0RAL	WASB#0RBR	WASB#0RCU
#1	.084	.219	.022 - .028	WASB#1R8	WASB#1R316	WASB#1RZ	WASB#1RAL	WASB#1RBR	WASB#1RCU
#2	.094	.250	.028 - .036	WASB#2R8	WASB#2R316	WASB#2RZ	WASB#2RAL	WASB#2RBR	WASB#2RCU
#4	.125	.375	.036 - .045	WASB#4R8	WASB#4R316	WASB#4RZ	WASB#4RAL	WASB#4RBR	WASB#4RCU
#6	.156	.438	.036 - .045	WASB#6R8	WASB#6R316	WASB#6RZ	WASB#6RAL	WASB#6RBR	WASB#6RCU
#8	.187	.500	.036 - .045	WASB#8R8	WASB#8R316	WASB#8RZ	WASB#8RAL	WASB#8RBR	WASB#8RCU
#10	.203	.562	.036 - .045	WASB#10R8	WASB#10R316	WASB#10RZ	WASB#10RAL	WASB#10RBR	WASB#10RCU
1/4	.281	.734	.056 - .071	WASB14R8	WASB14R316	WASB14RZ	WASB14RAL	WASB14RBR	WASB14RCU
5/16	.344	.875	.056 - .071	WASB51R8	WASB51R316	WASB51RZ	WASB51RAL	WASB51RBR	WASB51RCU
3/8	.406	1.000	.056 - .071	WASB38R8	WASB38R316	WASB38RZ	WASB38RAL	WASB38RBR	WASB38RCU
7/16	.469	1.125	.056 - .071	WASB71R8	WASB71R316	WASB71RZ	WASB71RAL	WASB71RBR	WASB71RCU
1/2	.531	1.250	.090 - .112	WASB12R8	WASB12R316	WASB12RZ	WASB12RAL	WASB12RBR	WASB12RCU
9/16	.594	1.469	.090 - .112	WASB91R8	WASB91R316	WASB91RZ	WASB91RAL	WASB91RBR	WASB91RCU
5/8	.656	1.750	.090 - .112	WASB58R8	WASB58R316	WASB58RZ	WASB58RAL	WASB58RBR	WASB58RCU
3/4	.812	2.000	.090 - .112	WASB34R8	WASB34R316	WASB34RZ	WASB34RAL	WASB34RBR	WASB34RCU
7/8	.938	2.250	.146 - .174	WASB78R8	WASB78R316	WASB78RZ	WASB78RAL	WASB78RBR	WASB78RCU
1	1.062	2.500	.146 - .174	WASB80R8	WASB80R316	WASB80RZ	WASB80RAL	WASB80RBR	WASB80RCU
1-1/8	1.187	2.750	.146 - .174	WASB81R8	WASB81R316	WASB81RZ	WASB81RAL	WASB81RBR	WASB81RCU
1-1/4	1.312	3.000	.146 - .174	WASB82R8	WASB82R316	WASB82RZ	WASB82RAL	WASB82RBR	WASB82RCU



Wide Rim

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Steel, Zinc Plated Part Number	Aluminum Part Number	Brass Part Number	Copper Part Number
#0	.068	.250	.022 - .028	WASB#0W8	WASB#0W316	WASB#0WZ	WASB#0WAL	WASB#0WBR	WASB#0WCU
#1	.084	.281	.028 - .036	WASB#1W8	WASB#1W316	WASB#1WZ	WASB#1WAL	WASB#1WBR	WASB#1WCU
#2	.094	.344	.028 - .036	WASB#2W8	WASB#2W316	WASB#2WZ	WASB#2WAL	WASB#2WBR	WASB#2WCU
#4	.125	.438	.036 - .045	WASB#4W8	WASB#4W316	WASB#4WZ	WASB#4WAL	WASB#4WBR	WASB#4WCU
#6	.156	.562	.036 - .045	WASB#6W8	WASB#6W316	WASB#6WZ	WASB#6WAL	WASB#6WBR	WASB#6WCU
#8	.187	.625	.056 - .071	WASB#8W8	WASB#8W316	WASB#8WZ	WASB#8WAL	WASB#8WBR	WASB#8WCU
#10	.203	.734	.056 - .071	WASB#10W8	WASB#10W316	WASB#10WZ	WASB#10WAL	WASB#10WBR	WASB#10WCU
1/4	.281	1.000	.056 - .071	WASB14W8	WASB14W316	WASB14WZ	WASB14WAL	WASB14WBR	WASB14WCU
5/16	.344	1.125	.056 - .071	WASB51W8	WASB51W316	WASB51WZ	WASB51WAL	WASB51WBR	WASB51WCU
3/8	.406	1.250	.090 - .112	WASB38W8	WASB38W316	WASB38WZ	WASB38WAL	WASB38WBR	WASB38WCU
7/16	.469	1.469	.090 - .112	WASB71W8	WASB71W316	WASB71WZ	WASB71WAL	WASB71WBR	WASB71WCU
1/2	.531	1.750	.090 - .112	WASB12W8	WASB12W316	WASB12WZ	WASB12WAL	WASB12WBR	WASB12WCU
9/16	.594	2.000	.090 - .112	WASB91W8	WASB91W316	WASB91WZ	WASB91WAL	WASB91WBR	WASB91WCU
5/8	.656	2.250	.146 - .174	WASB58W8	WASB58W316	WASB58WZ	WASB58WAL	WASB58WBR	WASB58WCU
3/4	.812	2.500	.146 - .174	WASB34W8	WASB34W316	WASB34WZ	WASB34WAL	WASB34WBR	WASB34WCU
7/8	.938	2.750	.146 - .174	WASB78W8	WASB78W316	WASB78WZ	WASB78WAL	WASB78WBR	WASB78WCU
1	1.062	3.000	.146 - .174	WASB80W8	WASB80W316	WASB80WZ	WASB80WAL	WASB80WBR	WASB80WCU
1-1/8	1.187	3.250	.146 - .174	WASB81W8	WASB81W316	WASB81WZ	WASB81WAL	WASB81WBR	WASB81WCU
1-1/4	1.312	3.500	.234 - .266	WASB82W8	WASB82W316	WASB82WZ	WASB82WAL	WASB82WBR	WASB82WCU

ASME Type B Washers — Metric

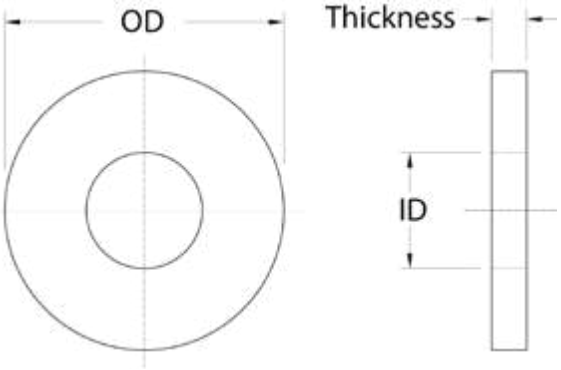
Type B is a series of flat washers with tighter tolerances where outside diameters are categorized as Narrow, Regular or Wide for specific bolt sizes.

All washers are stamped and made in the USA. Metric Type B washers are manufactured to the ANSI B18.22M specification.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- 316 Stainless Steel, Plain Finish







Narrow Rim

Bolt Size	ID	OD	Thickness (min to max)	18-8 SS Part Number	316 SS Part Number
M2.5	3.00	6.00	.60 to .90 mm	WASBM2.5N8	WASBM2.5N316
M3	3.50	7.00	.60 to .90 mm	WASBM3N8	WASBM3N316
M4	4.70	10.00	.80 to 1.20 mm	WASBM4N8	WASBM4N316
M5	5.50	11.00	1.00 to 1.40 mm	WASBM5N8	WASBM5N316
M6	6.65	13.00	1.20 to 1.80 mm	WASBM6N8	WASBM6N316
M8	8.90	18.80	1.60 to 2.30 mm	WASBM8N8	WASBM8N316
M10	10.85	20.00	1.60 to 2.30 mm	WASBM10N8	WASBM10N316
M12	13.30	25.40	2.00 to 2.80 mm	WASBM12N8	WASBM12N316
M14	15.25	28.00	2.00 to 2.80 mm	WASBM14N8	WASBM14N316
M16	17.25	32.00	2.50 to 3.50 mm	WASBM16N8	WASBM16N316
M20	21.80	39.00	3.00 to 4.00 mm	WASBM20N8	WASBM20N316
M24	25.60	44.00	3.50 to 4.60 mm	WASBM24N8	WASBM24N316
M30	33.00	56.00	4.00 to 5.10 mm	WASBM30N8	WASBM30N316
M36	38.90	66.00	4.50 to 5.60 mm	WASBM36N8	WASBM36N316

ANSI TYPE B Washers — Metric



Regular Rim

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number
M2.5	3.00	8.00	.60 to .90 mm	WASBM2.5R8	WASBM2.5R316
M3	3.50	10.00	.80 to 1.20 mm	WASBM3R8	WASBM3R316
M4	4.70	12.00	1.00 to 1.40 mm	WASBM4R8	WASBM4R316
M5	5.50	15.00	1.20 to 1.80 mm	WASBM5R8	WASBM5R316
M6	6.65	18.80	1.20 to 1.80 mm	WASBM6R8	WASBM6R316
M8	8.90	25.40	1.60 to 2.30 mm	WASBM8R8	WASBM8R316
M10	10.85	28.00	2.00 to 2.80 mm	WASBM10R8	WASBM10R316
M12	13.30	34.00	2.50 to 3.50 mm	WASBM12R8	WASBM12R316
M14	15.25	39.00	2.50 to 3.50 mm	WASBM14R8	WASBM14R316
M16	17.25	44.00	3.00 to 4.00 mm	WASBM16R8	WASBM16R316
M20	21.80	50.00	3.50 to 4.60 mm	WASBM20R8	WASBM20R316
M24	25.60	56.00	4.00 to 5.10 mm	WASBM24R8	WASBM24R316
M30	33.00	72.00	4.50 to 5.60 mm	WASBM30R8	WASBM30R316
M36	38.90	90.00	5.00 to 6.40 mm	WASBM36R8	WASBM36R316



Wide Rim

Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number
M2.5	3.00	10.00	.80 to 1.20 mm	WASBM2.5W8	WASBM2.5W316
M3	3.50	12.00	1.00 to 1.40 mm	WASBM3W8	WASBM3W316
M4	4.70	16.00	1.60 to 2.30 mm	WASBM4W8	WASBM4W316
M5	5.50	20.00	1.60 to 2.30 mm	WASBM5W8	WASBM5W316
M6	6.65	25.40	1.60 to 2.30 mm	WASBM6W8	WASBM6W316
M8	8.90	32.00	2.00 to 2.80 mm	WASBM8W8	WASBM8W316
M10	10.85	39.00	2.50 to 3.50 mm	WASBM10W8	WASBM10W316
M12	13.30	44.00	2.50 to 3.50 mm	WASBM12W8	WASBM12W316
M14	15.25	50.00	3.00 to 4.00 mm	WASBM14W8	WASBM14W316
M16	17.25	56.00	3.50 to 4.60 mm	WASBM16W8	WASBM16W316
M20	21.80	66.00	4.00 to 5.10 mm	WASBM20W8	WASBM20W316
M24	25.60	72.00	4.50 to 5.60 mm	WASBM24W8	WASBM24W316
M30	33.00	90.00	5.00 to 6.40 mm	WASBM30W8	WASBM30W316
M36	38.90	110.00	7.00 to 8.50 mm	WASBM36W8	WASBM36W316

Non-Metal Washers — Inch

AMPG stocks flat washers that are also available in non-metal materials. Fiberglass flat washers are insulators of electrical and thermal energy. Also chemically resistant and having a high strength to weight ratio. Color of these washers may be either light tan and/or green. Nylatron flat washers are non abrasive and have low surface friction and made from Nylatron® GS PA66. MDS cast nylon material has superior bearing and wear properties. Phenolic is a tough and lightweight material that resists distortion caused by pressure. Used in electronics, and where moisture resistance is required. PTFE washers are ideal in for low-temperature applications and are often used as insulators in electronic equipment.

Materials and finishes offered in:

- Fiberglass, Green/Tan Finish
- Nylatron, Gray Finish
- Phenolic, Red/Brown Finish
- PTFE, White Finish



Fiberglass

Bolt Size	ID	OD	Thickness	Fiberglass Part Number
#2	.094	.250	.016	Z8300
#3	.105	.255	.031	Z8302
	.105	.255	.062	Z8304
	.105	.255	.125	Z8306
#4	.122	.218	.016	Z8308
	.122	.310	.031	Z8310
	.125	.317	.062	Z8312
#6	.143	.500	.062	Z8314
#8	.174	.381	.031	Z8316
	.174	.562	.062	Z8318
#10	.203	.438	.062	Z8320
1/4	.265	.500	.031	Z8322
5/16	.316	.562	.062	Z8324
3/8	.378	.750	.062	Z8326
1/2	.515	.875	.062	Z8328
5/8	.640	1.193	.093	Z8330
3/4	.765	1.312	.093	Z8332
1	1.015	1.750	.093	Z8334



PTFE

Bolt Size	ID	OD	Thickness	PTFE Part Number
3/8	.390	.625	.032	WAS390625032PTFE
	.406	.687	.032	WAS40626875032PTFE
7/16	.475	.625	.032	WAS475625032PTFE
1/2	.550	.850	.031	WAS550850031PTFE



Nylatron

Bolt Size	ID	OD	Thickness	Nylatron Part Number
#3	.105	.247	.031	Z8380
#4	.118	.219	.031	Z8382
#6	.143	.312	.031	Z8384
#8	.174	.375	.031	Z8386
#10	.203	.460	.031	Z8388
1/4	.265	.500	.031	Z8390
5/16	.322	.562	.031	Z8392
3/8	.383	.500	.031	Z8394
1/2	.531	.875	.031	Z8396



Phenolic

Bolt Size	ID	OD	Thickness	Phenolic Part Number
#4	.125	.312	.045	Z8400
	.125	.312	.062	Z8402
#6	.156	.375	.045	Z8404
	.156	.500	.062	Z8406
#8	1.178	.500	.062	Z8408
#10	.203	.632	.062	Z8410
1/4	.281	.625	.062	Z8412
5/16	.328	.562	.062	Z8414
3/8	.383	.625	.062	Z8416

Easy On Slotted Washers — Inch

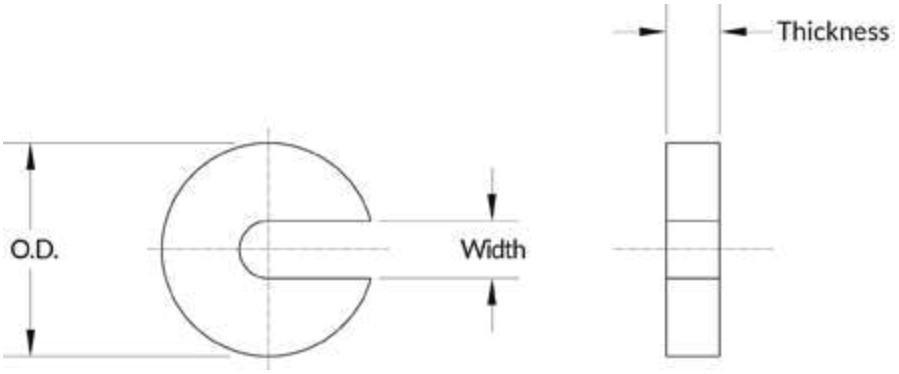
The slot allows addition or removal of the washer without taking the assembly completely apart.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- Low Carbon Steel, Black Oxide Finish

Also known as:

- C Washers





Stainless Steel



Low Carbon Steel, Black Oxide

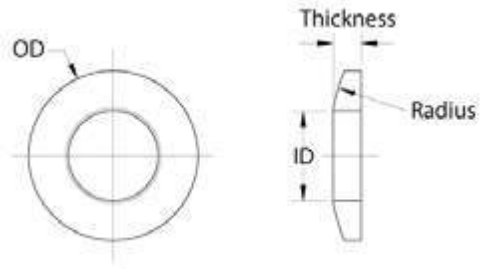
Bolt Size	Width	OD	Thickness	18-8 SS Part Number	Steel, Black Oxide Part Number
1/4	.281	.750	.250	Z9420SS	Z9420
	.281	1.000	.250	Z9421SS	Z9421
	.281	1.750	.250	—	Z9438
5/16	.344	1.250	.312	Z9422SS	Z9422
3/8	.406	1.250	.375	Z9424SS	Z9424
	.406	1.500	.375	Z9425SS	Z9425
	.406	1.750	.375	Z9426SS	Z9426
	.406	2.000	.375	—	Z9439
3/8	.406	2.500	.375	—	Z9440
1/2	.531	1.875	.375	Z9428SS	Z9428
	.531	2.250	.375	Z9429SS	Z9429
	.531	2.000	.375	—	Z9441
5/8	.656	2.125	.375	Z9431SS	Z9431
3/4	.781	2.500	.438	Z9433SS	Z9433
1	1.031	2.500	.438	Z9434SS	Z9434
	1.031	3.000	.562	—	Z9442
1-1/4	1.281	3.000	.625	—	Z9443
	1.312	3.000	.438	Z9437SS	Z9437

Alignment (Spherical) Washers

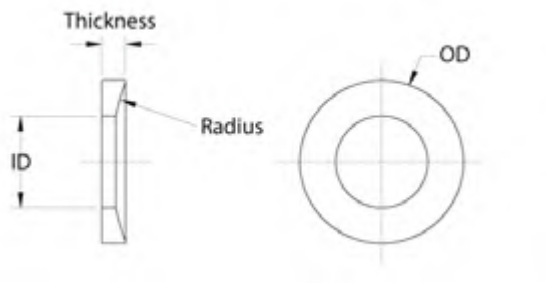
Also known as equalizing, leveling, self-aligning, and spherical washers. A male & female pair are a great solution for fastening a non-parallel surface and clamping uneven parts together. The male washer has a convex bottom surface, while the female has a matching concave top. The male washer has a slightly narrower ID than the female washer while both have the same radius. This allows a bolt to pass through both washers to compensate for misaligned surfaces. A pair of spherical washers have a 3-4° angle of correction. Ideal for die and fixturing applications.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- 316 Stainless Steel, Plain Finish
- Low Carbon Steel, Black Oxide Finish



Male Washer



Female Washer



18-8 SS Male Washer



18-8 SS Female Washer



18-8 SS Set

Bolt Size	Radius	Male				Female				Set	
		ID	OD	Thickness	18-8 SS Male Part Number	ID	OD	Thickness	18-8 SS Female Part Number	Thickness	18-8 SS Spherical Set Part Number
3/16, 1/4	.750	.281	.625	.120	Z9450M-SS	.313	.625	.120	Z9450F-SS	.188	Z9450SETSS
5/16, 3/8	1.250	.406	.875	.130	Z9454M-SS	.438	.875	.156	Z9454F-SS	.250	Z9454SETSS
1/2	1.500	.531	1.125	.188	Z9458M-SS	.563	1.125	.188	Z9458F-SS	.313	Z9458SETSS
5/8	1.750	.656	1.375	.188	Z9462M-SS	.688	1.375	.219	Z9462F-SS	.313	Z9462SETSS
3/4	2.250	.781	1.625	.219	Z9466M-SS	.813	1.625	.265	Z9466F-SS	.375	Z9466SETSS
7/8	2.500	.938	1.750	.240	Z9470M-SS	1.000	1.750	.240	Z9470F-SS	.375	Z9470SETSS
1	2.750	1.062	2.000	.330	Z9474M-SS	1.125	2.000	.290	Z9474F-SS	.500	Z9474SETSS
1-1/8	3.000	1.187	2.250	.281	Z9478M-SS	1.250	2.250	.350	Z9478F-SS	.500	Z9478SETSS
1-1/4	3.000	1.312	2.500	.312	Z9484M-SS	1.375	2.500	.350	Z9484F-SS	.500	Z9484SETSS
1-1/2	3.000	1.562	2.875	.350	Z9488M-SS	1.625	2.875	.390	Z9488F-SS	.500	Z9488SETSS

Chart continued on next page

Alignment (Spherical) Washers — Inch



316 SS Male Washer



316 SS Female Washer



316 SS Set

Bolt Size	Radius	Male				Female				Set	
		ID	OD	Thickness	316 SS Male Part Number	ID	OD	Thickness	316 SS Female Part Number	Thickness	316 SS Spherical Set Part Number
3/16, 1/4	.750	.281	.625	.120	Z9450M-316	.313	.625	.120	Z9450F-316	.188	Z9450SET316
5/16, 3/8	1.250	.406	.875	.130	Z9454M-316	.438	.875	.156	Z9454F-316	.250	Z9454SET316
1/2	1.500	.531	1.125	.188	Z9458M-316	.563	1.125	.188	Z9458F-316	.313	Z9458SET316
5/8	1.750	.656	1.375	.188	Z9462M-316	.688	1.375	.219	Z9462F-316	.313	Z9462SET316
3/4	2.250	.781	1.625	.219	Z9466M-316	.813	1.625	.265	Z9466F-316	.375	Z9466SET316
7/8	2.500	.938	1.750	.240	Z9470M-316	1.000	1.750	.240	Z9470F-316	.375	Z9470SET316
1	2.750	1.062	2.000	.330	Z9474M-316	1.125	2.000	.290	Z9474F-316	.500	Z9474SET316
1-1/8	3.000	1.187	2.250	.281	Z9478M-316	1.250	2.250	.350	Z9478F-316	.500	Z9478SET316
1-1/4	3.000	1.312	2.500	.312	Z9484M-316	1.375	2.500	.350	Z9484F-316	.500	Z9484SET316
1-1/2	3.000	1.562	2.875	.350	Z9488M-316	1.625	2.875	.390	Z9488F-316	.500	Z9488SET316



Steel, Black Oxide Male Washer



Steel, Black Oxide Female Washer



Steel, Black Oxide Set

Bolt Size	Radius	Male				Female				Set	
		ID	OD	Thickness	Steel, Black Oxide Male Part Number	ID	OD	Thickness	Steel, Black Oxide Female Part Number	Thickness	Steel, Black Oxide Spherical Set Part Number
1/4	.750	.281	.625	.120	Z9450M	.312	.625	.120	Z9450F	.187	Z9450SET
3/8	1.250	.406	.875	.130	Z9454M	.438	.875	.156	Z9454F	.250	Z9454SET
1/2	1.500	.531	1.125	.187	Z9458M	.562	1.125	.187	Z9458F	.312	Z9458SET
5/8	1.750	.656	1.375	.187	Z9462M	.688	1.375	.219	Z9462F	.312	Z9462SET
3/4	2.250	.781	1.625	.219	Z9466M	.812	1.625	.265	Z9466F	.375	Z9466SET
7/8	2.500	.938	1.750	.240	Z9470M	1.000	1.750	.240	Z9470F	.375	Z9470SET
1	2.750	1.062	2.000	.330	Z9474M	1.125	2.000	.290	Z9474F	.500	Z9474SET
1-1/8	3.000	1.187	2.250	.281	Z9478M	1.250	2.250	.350	Z9478F	.500	Z9478SET
1-1/4	3.000	1.312	2.500	.312	Z9484M	1.375	2.500	.350	Z9484F	.500	Z9484SET
1-1/2	3.000	1.562	2.875	.350	Z9488M	1.625	2.875	.390	Z9488F	.500	Z9488SET

Alignment (Spherical) Washers — Metric



18-8 SS Male Washer



18-8 SS Female Washer



18-8 SS Set

Bolt Size	Radius	Male				Female				Set	
		ID	OD	Thickness	18-8 SS Male Part Number	ID	OD	Thickness	18-8 SS Female Part Number	Thickness	18-8 SS Spherical Set Part Number
M6	M9	6.40	12.00	2.30	Z9521M	7.10	12.00	2.80	Z9521F	4.20	Z9521SET
M8	M12	8.40	17.00	3.20	Z9523M	9.60	17.00	3.50	Z9523F	5.60	Z9523SET
M10	M15	10.50	21.00	4.00	Z9525M	12.00	21.00	4.20	Z9525F	6.50	Z9525SET
M12	M17	13.00	24.00	4.60	Z9527M	14.20	24.00	5.00	Z9527F	8.00	Z9527SET
M16	M22	17.00	30.00	5.30	Z9531M	19.00	30.00	6.20	Z9531F	9.60	Z9531SET
M20	M27	21.00	36.00	6.30	Z9533M	23.20	36.00	7.50	Z9533F	11.70	Z9533SET
M24	M32	25.00	44.00	8.20	Z9535M	28.00	44.00	9.50	Z9535F	15.20	Z9535SET
M30	M41	31.00	56.00	11.20	Z9537M	35.00	56.00	12.00	Z9537F	19.20	Z9537SET



Steel, Black Oxide Male Washer



Steel, Black Oxide Female Washer



Steel, Black Oxide Set

Bolt Size	Radius	Male				Female				Set	
		ID	OD	Thickness	Steel, Black Oxide Male Part Number	ID	OD	Thickness	Steel, Black Oxide Female Part Number	Thickness	Steel, Black Oxide Spherical Set Part Number
M6	M9	6.40	12.00	2.30	Z9520M	7.10	12.00	2.80	Z9520F	4.20	Z9520SET
M8	M12	8.40	17.00	3.20	Z9522M	9.60	17.00	3.50	Z9522F	5.60	Z9522SET
M10	M15	10.50	21.00	4.00	Z9524M	12.00	21.00	4.20	Z9524F	6.50	Z9524SET
M12	M17	13.00	24.00	4.60	Z9526M	14.20	24.00	5.00	Z9526F	8.00	Z9526SET
M14	M22	15.00	28.00	5.00	Z9528M	16.50	28.00	5.60	Z9528F	9.00	Z9528SET
M16	M22	17.00	30.00	5.30	Z9530M	19.00	30.00	6.20	Z9530F	9.60	Z9530SET
M20	M27	21.00	36.00	6.30	Z9532M	23.20	36.00	7.50	Z9532F	11.70	Z9532SET
M24	M32	25.00	44.00	8.20	Z9534M	28.00	44.00	9.50	Z9534F	15.20	Z9534SET
M30	M41	31.00	56.00	11.20	Z9536M	35.00	56.00	12.00	Z9536F	19.20	Z9536SET

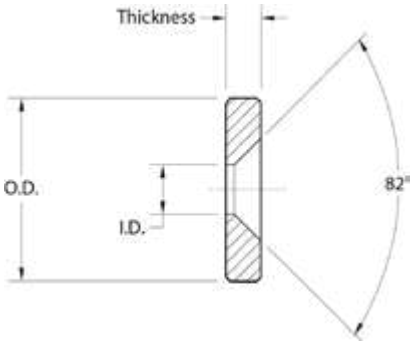
Countersunk Washers — Inch & Metric

A countersunk washer is also known as a finishing washer and dress washer, AMPG washers are machined to be sturdier, offer a larger OD, and provide greater bearing surface than stamped countersunk washers. Flat and oval head screws sit flush within them for a neater appearance. For inch screws, washers are available in 90° and 100° countersunk angles. For metric screws, washers are available with a 90° and 100° countersunk angles. The 90° countersunk is the common angle for commercial metric flat head screws. The majority of military specification screws and rivets are 100°. The 100° countersink angle distribute pressure over a wide area to prevent crushing soft materials. The greater the angle, the greater the bearing surface and the less likely the screw is to pull through thinner materials such as sheet metal. Inch made to AMPG 2002. FIN.05. Made in the USA.

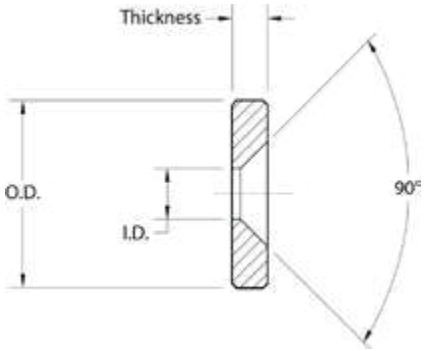
Tolerances: ±.010 inch

Materials and finishes offered in:

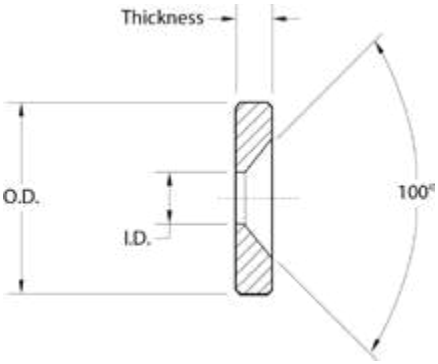
- 18-8 Stainless Steel, Plain Finish
- 316 Stainless Steel, Plain Finish
- Low Carbon Steel, Black Oxide Finish



82° Countersunk, Inch & Metric



90° Countersunk, Metric



100° Countersunk, Inch & Metric



18-8 Stainless Steel



316 Stainless Steel



Low Carbon Steel, Black Oxide

82° Countersunk Washers — Inch



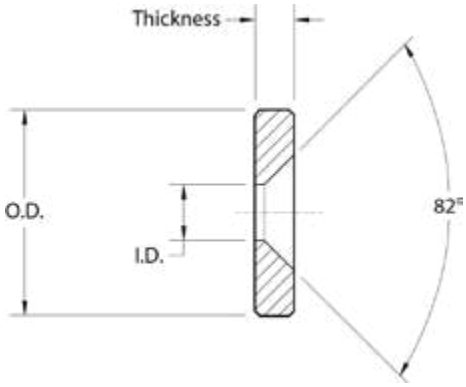
18-8 SS



316 SS



Steel, Black Oxide



Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Steel, Black Oxide Part Number
#4	.125	.438	.084 - .104	Z9972-SS	Z9972-316	Z9972
#5	.140	.500	.094 - .114	Z9978-SS	Z9978-316	Z9978
#6	.156	.562	.097 - .117	Z9979-SS	Z9979-316	Z9979
#8	.187	.750	.125	Z9930SS	Z9930-316	Z9930
#8	.187	1.000	.125	Z9931SS	Z9931-316	Z9931
#10	.203	.812	.140	Z9932SS	Z9932-316	Z9932
#10	.203	1.125	.140	Z9933SS	–	Z9933
#10	.203	1.250	.140	Z9934SS	Z9934-316	Z9934
1/4	.281	1.250	.281	Z9935SS	Z9935-316	Z9935
1/4	.281	1.375	.281	Z9936SS	–	Z9936
1/4	.281	1.500	.281	Z9937SS	–	Z9937
1/4	.281	1.750	.281	Z9938SS	–	Z9938
1/4	.281	2.000	.281	Z9939SS	Z9939-316	Z9939
5/16	.313	1.250	0.125	Z9973SS	–	–
5/16	.344	1.250	.198 - .218	Z9973-SS	Z9973-316	Z9973
–	.425	1.250	.125	Z9974SS	–	–

100° Countersunk Washers — Inch



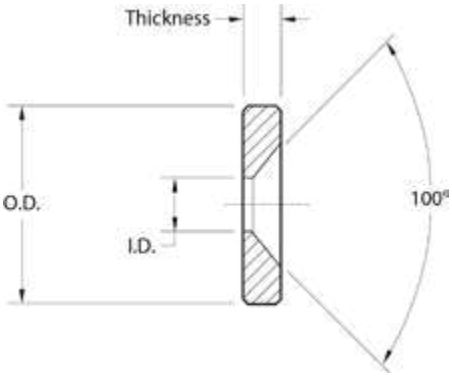
18-8 SS



316 SS



Steel, Black Oxide

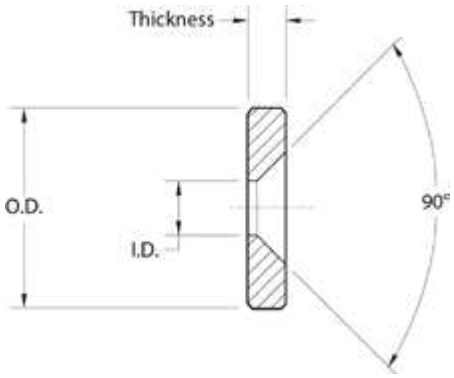


Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Steel, Black Oxide Part Number
#4	.125	.438	.084 - .104	Z9972E-SS	Z9972E-316	Z9972E
#5	.140	.500	.084 - .104	Z9978E-SS	Z9978E-316	Z9978E
#6	.156	.562	.084 - .104	Z9979E-SS	Z9979E-316	Z9979E
#8	.188	.750	.115 - .135	Z9930E-SS	Z9930E-316	Z9930E
#8	.188	1.000	.115 - .135	Z9931E-SS	Z9931E-316	Z9931E
#10	.203	.812	.130 - .151	Z9932E-SS	Z9932E-316	Z9932E
#10	.203	1.250	.130 - .151	Z9934E-SS	Z9934E-316	Z9934E
1/4	.281	1.250	.271 - .291	Z9935E-SS	Z9935E-316	Z9935E
1/4	.281	2.000	.271 - .291	Z9939E-SS	Z9939E-316	Z9939E

Chart continued on next page

90° Countersunk Washers — Metric

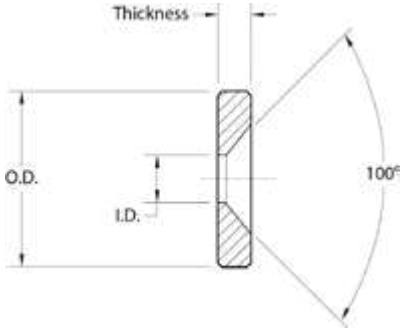




Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Steel, Black Oxide Part Number
M3	3.20	12.00	2.50	Z9972MSS	Z9972M-316	Z9972M
M3.5	3.70	14.00	2.50	Z9979MSS	Z9979M-316	Z9979M
M4	4.30	16.00	3.00	Z9920SS	Z9920-316	Z9920
	4.30	20.00	3.00	—	—	Z9921
M5	5.30	22.00	3.50	Z9922SS	Z9922-316	Z9922
	5.30	25.00	3.50	Z9923SS	—	Z9923
	5.30	28.00	3.50	—	—	Z9924
M6	6.40	32.00	4.00	Z9925SS	Z9925-316	Z9925
	6.40	36.00	4.00	—	—	Z9926
	6.40	40.00	4.00	Z9927SS	—	Z9927
	6.40	45.00	4.00	—	—	Z9928
M6	6.40	52.00	4.00	—	—	Z9929
M8	8.40	32.00	4.80	Z9973MSS	Z9973M-316	Z9973M

100° Countersunk Washers — Metric





Bolt Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Steel, Black Oxide Part Number
M3	3.20	12.00	2.50	Z9972ME-SS	Z9972ME-316	Z9972ME
M4	4.30	16.00	3.00	Z9920E-SS	Z9920E-316	Z9920E
M5	5.30	22.00	3.50	Z9922E-SS	Z9922E-316	Z9922E
M6	6.40	32.00	4.00	Z9925E-SS	Z9925E-316	Z9925E

Countersunk (Pyramid) Washers — Inch

MADE IN THE USA

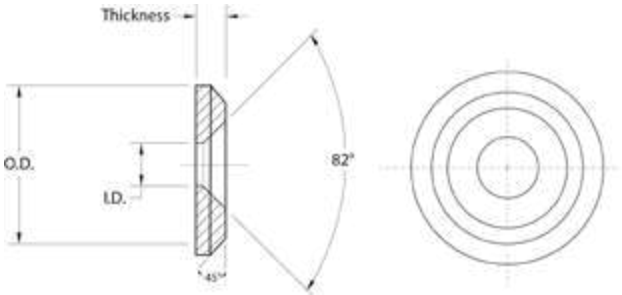
These countersunk finishing washers are machined out of Type 316 Stainless Steel. Our pyramid-style washer was developed for an application where an exceptional aesthetic finish was required. These washers are countersunk to accept 82° Flat Head and 82° Oval Head machine screws. Ideal for use on furniture, cabinetry, instrument framing, face plates, where a contemporary look is preferred.

Materials and finishes offered in:

- 316 Stainless Steel, Plain Finish



316 Stainless Steel



Bolt Size	ID	OD	Thickness	316 SS Part Number
#10	.203	.625	.125	ZPYR#10625-316
1/4	.281	.750	.125	ZPYR14750-316

18-8 SS,
316 SS

MADE IN THE USA

Flat Washers for Square-Neck Bolts — Inch & Metric

Square Hole (ID) are specically designed to be used with carriage bolt style fasteners. Provides a tight fit & prevents bolt from rotating. Available in 18-8 SS. 316 SS & Black-Oxide Steel. Made to fit ASME B18.5 2012 (R2017) Round Head Bolts or DIN 603 carriage bolt dimensions. Inch meets AMPG Specification AMPG 2025 FCW.01 and Metric meets DIN 440 and AMPG Specification 2025 FCW.02

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish, Black Oxide Finish
- 316 Stainless Steel, Flain Finish, Black Oxide Finish

Also known as:

- Carriage Washers



Inch

Bolt Size	Inside Sq Wd (min)	OD (max)	Thickness Range	Thickness (Nominal)	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	316 SS, Black Oxide Part Number
No 10	.226	.500	.094-.109	.102	Z9070-188	Z9070-188-BX	Z9070-316	Z9070-316-BX
1/4	.320	.750	.094-.109	.102	Z9071-188	Z9071-188-BX	Z9071-316	Z9071-316-BX
5/16	.385	1.00	.094-.141	.118	Z9072-188	Z9072-188-BX	Z9072-316	Z9072-316-BX
3/8	.405	1.00	.094-.141	.118	Z9073-188	Z9073-188-BX	Z9073-316	Z9073-316-BX
7/16	.517	1.25	.094-.141	.118	Z9074-188	Z9074-188-BX	Z9074-316	Z9074-316-BX
1/2	.555	1.50	.141-.188	.165	Z9075-188	Z9075-188-BX	Z9075-316	Z9075-316-BX
5/8	.700	1.75	.156-.234	.195	Z9076-188	Z9076-188-BX	Z9076-316	Z9076-316-BX
3/4	.812	2.00	.190-.266	.228	Z9077-188	Z9077-188-BX	Z9077-316	Z9077-316-BX
7/8	.940	2.25	.190-.266	.228	Z9078-188	Z9078-188-BX	Z9078-316	Z9078-316-BX
1	1.08	2.50	.190-.266	.228	Z9079-188	Z9079-188-BX	Z9079-316	Z9079-316-BX

Metric

Bolt Size	Inside Sq Wd (min)	OD (max)	Thickness Range	Thickness (Nominal)	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	316 SS, Black Oxide Part Number
M5	5.50	18.00	2.40 - 2.80	2.60	Z9060-188	Z9060-188-BX	Z9060-316	Z9060-316-BX
M6	6.60	22.00	2.40 -2.80	2.60	Z9061-188	Z9061-188-BX	Z9061-316	Z9061-316-BX
M8	9.00	28.00	2.40 - 3.60	3.00	Z9062-188	Z9062-188-BX	Z9062-316	Z9062-316-BX
M10	11.00	34.00	2.40 -3.60	3.00	Z9063-188	Z9063-188-BX	Z9063-316	Z9063-316-BX
M12	14.00	44.00	3.40 - 4.60	4.00	Z9064-188	Z9064-188-BX	Z9064-316	Z9064-316-BX
M16	18.00	56.00	4.00 - 6.00	5.00	Z9065-188	Z9065-188-BX	Z9065-316	Z9065-316-BX
M20	22.00	72.00	5.00 -7.00	6.00	Z9066-188	Z9066-188-BX	Z9066-316	Z9066-316-BX

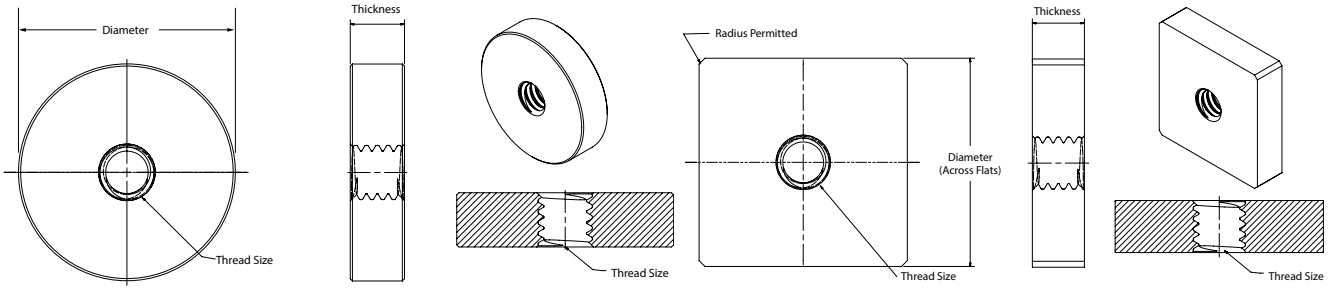
316 SS, Steel

Tapped Weld Plates — Inch

Available in Round or Square Weld Plates. These Tapped Weld Plates are metal plates have a threaded hole. They are designed to be welded onto a surface, like the end of tubing or a structure, to provide a threaded attachment point. The internal threads allow for easy and secure attachment of bolts or other threaded fasteners.

Materials and finishes offered in:

- 316 Stainless Steel, Plain Finish
- Low Carbon Steel, Plain Finish



Round Tapped Weld Plates





Diameter	Thickness	Thread Size	316 SS Part Number	Low Carbon Steel Part Number
1	1/4	3/8-16	ZTWR100X38C-316	ZTWR100X38C-STL
1-1/2	1/4	3/8-16	ZTWR150X38C-316	ZTWR150X38C-STL
2	1/4	3/8-16	ZTWR200X38C-316	ZTWR200X38C-STL
1	1/4	1/2-13	ZTWR100X12C-316	ZTWR100X12C-STL
1-1/2	1/4	1/2-13	ZTWR150X12C-316	ZTWR150X12C-STL
2	1/4	1/2-13	ZTWR200X12C-316	ZTWR200X12C-STL
1	1/4	5/8-11	ZTWR100X58C-316	ZTWR100X58C-STL
1-1/2	1/4	5/8-11	ZTWR150X58C-316	ZTWR150X58C-STL
2	1/4	5/8-11	ZTWR200X58C-316	ZTWR200X58C-STL
1	1/4	3/4-10	ZTWR100X34C-316	ZTWR100X34C-STL
1-1/2	1/4	3/4-10	ZTWR150X34C-316	ZTWR150X34C-STL
2	1/4	3/4-10	ZTWR200X34C-316	ZTWR200X34C-STL

Square Tapped Weld Plates





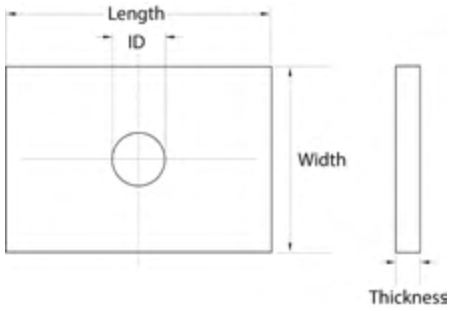
Diameter	Thickness	Thread Size	316 SS Part Number	Low Carbon Steel Part Number
1	1/4	3/8-16	ZTWS100X38C-316	ZTWS100X38C-STL
1-1/2	1/4	3/8-16	ZTWS150X38C-316	ZTWS150X38C-STL
2	1/4	3/8-16	ZTWS200X38C-316	ZTWS200X38C-STL
1	1/4	1/2-13	ZTWS100X12C-316	ZTWS100X12C-STL
1-1/2	1/4	1/2-13	ZTWS150X12C-316	ZTWS150X12C-STL
2	1/4	1/2-13	ZTWS200X12C-316	ZTWS200X12C-STL
1	1/4	5/8-11	ZTWS100X58C-316	ZTWS100X58C-STL
1-1/2	1/4	5/8-11	ZTWS150X58C-316	ZTWS150X58C-STL
2	1/4	5/8-11	ZTWS200X58C-316	ZTWS200X58C-STL
1	1/4	3/4-10	ZTWS100X34C-316	ZTWS100X34C-STL
1-1/2	1/4	3/4-10	ZTWS150X34C-316	ZTWS150X34C-STL
1-1/2	1/4	3/4-10	ZTWS200X34C-316	ZTWS200X34C-STL

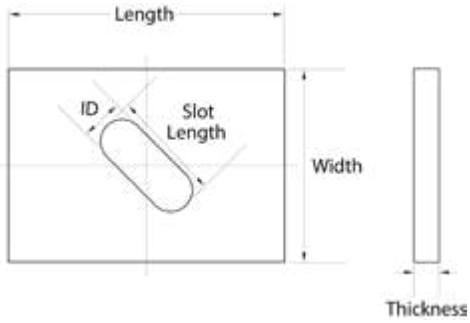
Bearing Plates — Inch

Also known as square or rectangular washers. Bearing Plates are used in array of fastening applications. With their flat sides, bearing plates are designed to prevent rotation and fit in restricted spaces that do not accommodate round washers, such as slots and channels. An excellent part for shimming and providing a large and extra thick bearing surface. They are commonly used in machining & metal working, construction, electrical and automotive applications. Square washers offer wider and thicker dimensions making them good for distributing heavier loads than round washers. One popular use is with woodwork and timber construction. Since they develop more friction when tightened against wood, this type of washer is specified for seismic applications. Testing has shown square washers function better than round washers which tend to fold up and split during an earthquake. Other specialty square & rectangular washers are Case-Hardened Tooling Washers for Work Holding, Bearing Plate Washers for Anchor Bolts, Back-Up Washers for Blind Rivets and Square and Slotted ID Washers.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish







18-8 Stainless Steel

Size	ID	Width	Length	Thickness	18-8 SS Part Number
1/2	.563	3.000	4.500	.230 - .250	Z8751-188
5/8	.563	1.937	2.250	.360 - .390	Z8787-188
	.688	2.000	1.500	.170 - .200	Z8770-188
	.688	3.000	4.500	.230 - .250	Z8752-188
	.688	4.000	1.250	.170- .200	Z8773-188
5/8	.688	4.000	1.500	.170- .200	Z8774-188
	.688	4.000	1.687	.170- .200	Z8775-188
	.688	4.000	2.000	.230 - .250	Z8753-188
3/4	.813	3.000	4.500	.230 - .250	Z8754-188
	.813	6.000	6.000	.230 - .250	Z8755-188
	.813	6.000	5.750	.360 - .390	Z8776-188
7/8	.938	1.937	2.250	.360 - .390	Z8756-188



Slotted, 18-8 Stainless Steel

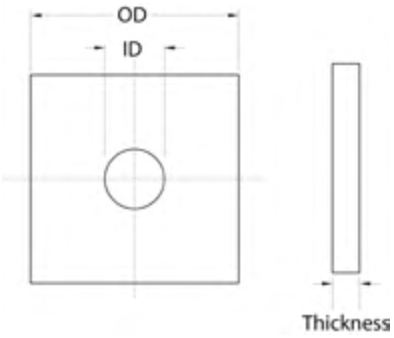
Size	ID (Slot)	Slot Length	Width	Length	Thickness	18-8 SS Part Number
1/2	.563	1.750	3.000	4.500	.230 - .250	Z8751-SLOT-188
5/8	.688	1.750	3.000	4.500	.230 - .250	Z8771-SLOT-188
3/4	.813	1.750	3.000	4.500	.230 - .250	Z8754-SLOT-188

Square Flat Washers — Inch & Metric

Square and rectangular washers are used in array of fastening applications. With their flat sides, square and rectangular washers are designed to prevent rotation and fit in restricted spaces that do not accommodate round washers, such as slots and channels. An excellent part for shimming and providing a large and extra thick bearing surface. They are commonly used in machining and metal working, construction, electrical and automotive applications. Square washers offer wider and thicker dimensions making them good for distributing heavier loads than round washers. One popular use is with woodwork and timber construction. Since they develop more friction when tightened against wood, this type of washer is specified for seismic applications. Testing has shown square washers function better than round washers which tend to fold up and split during an earthquake. Other specialty square & rectangular washers are Case-Hardened Tooling Washers for Work Holding, Bearing Plate Washers for Anchor Bolts, Back-Up Washers for Blind Rivets and Square and Slotted ID Washers.

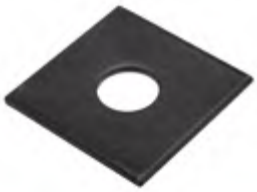
Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish
- Low Carbon Steel, Galvanized Finish
- Low Carbon Steel, Black Oxide Finish
- Low Carbon Steel, Case Hardened, Black Oxide Finish
- Low Carbon Steel, Zinc-Plated Finish
- Low Carbon Steel, Hot Dip Galvanized Finish
- Low Carbon Steel, Diamond Back, Galvanized Finish
- Fiberglass, Green/Tan Finish

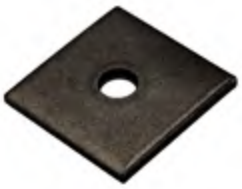




18-8 Stainless Steel



Low Carbon Steel, Black Oxide



Low Carbon Steel,
Case Hardened, Black Oxide



Low Carbon Steel, Galvanized



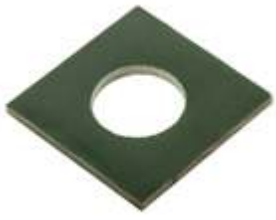
Low Carbon Steel, Zinc Plated



Low Carbon Steel,
Hot Dip Galvanized



Low Carbon Steel,
Diamond Back, Galvanized



Fiberglass, Green Tan

Square Washers — Inch



18-8 Stainless Steel

Bolt Size	ID	OD	Thickness	18-8 SS Part Number
1/4	.313	2.000	.112 - .128	Z8926-188
	.313	2.000	.170 - .200	Z8935-188
	.313	2.000	.235 - .265	Z8950SS
3/8	.438	2.000	.112 - .128	Z8927-188
	.438	2.000	.170 - .200	Z8936-188
	.438	2.000	.235 - .265	Z8952SS
7/16	.500	2.000	.235 - .265	Z8953SS
1/2	.563	2.000	.112 - .128	Z8928-188
	.563	2.000	.170 - .200	Z8937-188
	.563	2.000	.235 - .265	Z8954SS
1/2	.563	3.000	.141 - .187	Z8955-188
	.563	3.000	.235 - .265	Z8880SS
5/8	.688	2.000	.112 - .128	Z8929-188
	.688	2.000	.170 - .200	Z8938-188
	.688	2.000	.235 - .265	Z8956SS
5/8	.688	2.500	.235 - .265	Z8956-188
	.688	3.000	.235 - .265	Z8881SS
	.688	3.000	.485 - .515	Z8778-188
	.688	4.000	.235 - .265	Z8892SS
5/8	.688	4.000	.485 - .515	Z8777-188
3/4	.813	2.000	.112 - .128	Z8931-188
	.813	2.000	.170 - .200	Z8939-188
	.813	2.000	.235 - .265	Z8958SS
3/4	.813	2.500	.235 - .265	Z8757-188
	.813	3.000	.235 - .265	Z8948SS
	.813	3.000	.485 - .515	Z8780-188
	.813	4.000	.235 - .265	Z8893SS
3/4	.813	4.000	.485 - .515	Z8779-188
7/8	.938	2.000	.112 - .128	Z8932-188
	.938	2.000	.170 - .200	Z8941-188
	.938	2.000	.235 - .265	Z8960-188
7/8	.938	2.000	.235 - .265	Z8960SS
	.938	3.000	.235 - .265	Z8883SS
	.938	3.000	.298 - .328	Z8761-188
	.938	4.000	.235 - .265	Z8894SS
1	1.063	2.000	.112 - .128	Z8933-188
	1.063	2.000	.170 - .200	Z8949-188
	1.063	2.000	.235 - .265	Z8962SS
1	1.063	3.000	.235 - .265	Z8884SS
	1.063	3.000	.485 - .515	Z8782-188
	1.063	3.500	.360 - .390	Z8762-188
1	1.063	4.000	.235 - .265	Z8895SS
	1.063	4.000	.485 - .515	Z8781-188
1-1/4	1.313	2.000	.112 - .128	Z8934-188
	1.313	2.000	.170 - .200	Z8951-188
	1.313	2.000	.235 - .265	Z8963SS
	1.313	3.000	.220 - .280	Z8885SS
1-1/4	1.313	3.000	.485 - .515	Z8784-188
	1.313	4.000	.485 - .515	Z8783-188
1-1/2	1.563	3.000	.485 - .515	Z8786-188
	1.563	4.000	.485 - .515	Z8785-188



Slotted Square, 18-8 Stainless Steel

Size	ID (Slot)	Slot Length	OD	Thickness	18-8 SS Part Number
1/2	.563	1.750	3.000	.141 - .187	Z8955-SLOT-188
	.563	1.750	3.000	.235 - .265	Z8880-SLOT-SS
5/8	.688	1.750	3.000	.141 - .187	Z8758-SLOT-188
	.688	1.750	3.000	.235 - .265	Z8759-SLOT-188
3/4	.813	1.750	3.000	.235 - .265	Z8948-SLOT-SS

Chart continued on next page

Square Washers — Inch



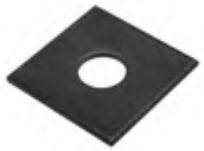
Low Carbon Steel, Case Hardened, Black Oxide

Bolt Size	ID	OD	Thickness	Steel, Hardened, Black Oxide Part Number
1/4	.313	2.000	.235-.265	Z8950H
3/8	.438	2.000	.235-.265	Z8952H
7/16	.500	2.000	.235-.265	Z8953H
1/2	.563	2.000	.235-.265	Z8954H
1/2	.563	3.000	.235-.265	Z8880H
5/8	.688	2.000	.235-.265	Z8956H
	.688	3.000	.235-.265	Z8881H
	.688	4.000	.235-.265	Z8892H
3/4	.813	2.000	.235-.265	Z8958H
	.813	3.000	.235-.265	Z8948H
	.813	4.000	.235-.265	Z8893H
7/8	.938	2.000	.235-.265	Z8960H
	.938	3.000	.235-.265	Z8883H
	.938	4.000	.235-.265	Z8894H
1	1.063	2.000	.235-.265	Z8962H
	1.063	3.000	.235-.265	Z8884H
	1.063	4.000	.235-.265	Z8895H
1-1/4	1.313	2.000	.235-.265	Z8963H
	1.313	3.000	.235-.265	Z8885H
	1.313	4.000	.220-.280	Z8896H
1-1/2	1.563	3.000	.235-.265	Z8886H
	1.563	4.000	.220-.280	Z8897H
1-3/4	1.813	4.000	.220-.280	Z8898H
	1.938	3.000	.235-.265	Z8879H
2	2.063	4.000	.235-.265	Z8899H



Low Carbon Steel, Diamond Back, Galvanized

Bolt Size	ID	OD	Thickness	Steel Diamond Back, Galvanized Part Number
1/4	.313	2.000	.235 - .265	Z8950D
3/8	.438	2.000	.235 - .265	Z8952D
1/2	.563	2.000	.235 - .265	Z8954D
5/8	.688	2.000	.235 - .265	Z8956D
3/4	.813	2.000	.235 - .265	Z8958D
1	1.063	2.000	.235 - .265	Z8962D



Low Carbon Steel, Black Oxide

Bolt Size	ID	OD	Thickness	Steel, Black Oxide Part Number
1/4	.313	2.000	.112 - .128	Z8926-BOX
	.313	2.000	.170 - .200	Z8935-BOX
3/8	.438	2.000	.112 - .128	Z8927-BOX
	.438	2.000	.170 - .200	Z8936-BOX
1/2	.563	2.000	.112 - .128	Z8928-BOX
	.563	2.000	.112 - .128	Z8940-BOX
	.563	2.000	.170 - .200	Z8937-BOX
5/8	.688	2.000	.112 - .128	Z8929-BOX
	.688	2.000	.112 - .128	Z8942-BOX
	.688	2.000	.170 - .200	Z8938-BOX
3/4	.813	2.000	.112 - .128	Z8931-BOX
	.813	2.000	.112 - .128	Z8945-BOX
	.813	2.000	.170 - .200	Z8939-BOX
7/8	.938	2.000	.112 - .128	Z8932-BOX
	.938	2.000	.170 - .200	Z8941-BOX
1	1.063	2.000	.112 - .128	Z8933-BOX
	1.063	2.000	.170 - .200	Z8949-BOX
1-1/4	1.313	2.000	.112 - .128	Z8934-BOX
	1.313	2.000	.170 - .200	Z8951-BOX



Low Carbon Steel, Hot Dip Galvanized

Bolt Size	ID	OD	Thickness	Steel, Hot Dip Galvanized Part Number
1/2	.563	3.000	.235 - .265	Z8880-HDG
5/8	.688	3.000	.235 - .265	Z8881-HDG
	.688	4.000	.235 - .265	Z8892-HDG
3/4	.813	3.000	.235 - .265	Z8882-HDG
	.813	4.000	.235 - .265	Z8893-HDG
7/8	.938	3.000	.235 - .265	Z8883-HDG
	.938	4.000	.235 - .265	Z8894-HDG
1	1.063	3.000	.235 - .265	Z8884-HDG
	1.063	4.000	.235 - .265	Z8895-HDG

Chart continued on next page

Square Washers — Inch



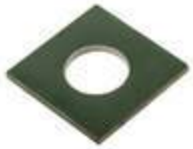
Low Carbon Steel, Zinc Plated

Bolt Size	ID	OD	Thickness	Steel, Zinc Plated Part Number
1/4	.313	2.000	.112 - .128	Z8926-ZN
3/8	.438	2.000	.112 - .128	Z8927-ZN
1/2	.563	2.000	.112 - .128	Z8928-ZN
	.563	2.000	.112 - .128	Z8940-ZN
	.563	2.000	.170 - .200	Z8937-ZN
	.563	2.000	.220 - .280	Z8954-ZN
1/2	.563	2.000	.220 - .280	Z8955-ZN
	.563	3.000	.112 - .128	Z8862-ZN
	.563	3.000	.170 - .200	Z8872-ZN
	.563	3.000	.220 - .280	Z8880-ZN
5/8	.688	2.000	.112 - .128	Z8929-ZN
	.688	2.000	.112 - .128	Z8942-ZN
	.688	2.000	.170 - .200	Z8938-ZN
	.688	2.000	.220 - .280	Z8957-ZN
5/8	.688	2.000	.235 - .265	Z8956-ZN
	.688	3.000	.112 - .128	Z8863-ZN
	.688	3.000	.170 - .200	Z8873-ZN
	.688	3.000	.220 - .280	Z8881-ZN
5/8	.688	4.000	.112 - .128	Z8727-ZN
	.688	4.000	.170 - .200	Z8735-ZN
	.688	4.000	.220 - .280	Z8892-ZN
3/4	.813	2.000	.112 - .128	Z8945-ZN
	.813	2.000	.170 - .200	Z8939-ZN
	.813	2.000	.220 - .280	Z8958-ZN
	.813	3.000	.112 - .128	Z8865-ZN
3/4	.813	3.000	.170 - .200	Z8874-ZN
	.813	3.000	.220 - .280	Z8882-ZN
	.813	4.000	.112 - .128	Z8728-ZN
	.813	4.000	.170 - .200	Z8736-ZN
3/4	.813	4.000	.220 - .280	Z8893-ZN
7/8	.938	2.000	.112 - .128	Z8932-ZN
	.938	2.000	.170 - .200	Z8941-ZN
	.938	2.000	.220 - .280	Z8960-ZN
	.938	3.000	.112 - .128	Z8866-ZN
7/8	.938	3.000	.170 - .200	Z8875-ZN
	.938	3.000	.220 - .280	Z8883-ZN
	.938	4.000	.112 - .128	Z8729-ZN
	.938	4.000	.170 - .200	Z8737-ZN

Bolt Size	ID	OD	Thickness	Steel, Zinc Plated Part Number
7/8	.938	4.000	.220 - .280	Z8894-ZN
1	1.063	2.000	.112 - .128	Z8933-ZN
	1.063	2.000	.170 - .200	Z8949-ZN
	1.063	2.000	.220 - .280	Z8962-ZN
	1.063	3.000	.112 - .128	Z8867-ZN
1	1.063	3.000	.170 - .200	Z8877-ZN
	1.063	3.000	.220 - .280	Z8884-ZN
	1.063	4.000	.112 - .128	Z8730-ZN
	1.063	4.000	.170 - .200	Z8738-ZN
1	1.063	4.000	.220 - .280	Z8895-ZN
1-1/4	1.313	2.000	.112 - .128	Z8934-ZN
	1.313	2.000	.170 - .200	Z8951-ZN
	1.313	2.000	.220 - .280	Z8963-ZN
	1.313	3.000	.112 - .128	Z8868-ZN
1-1/4	1.313	3.000	.170 - .200	Z8878-ZN
	1.313	3.000	.220 - .280	Z8885-ZN
	1.313	4.000	.112 - .128	Z8731-ZN
	1.313	4.000	.170 - .200	Z8739-ZN
1-1/4	1.313	4.000	.220 - .280	Z8896-ZN
1-1/2	1.563	3.000	.112 - .128	Z8869-ZN
	1.563	3.000	.170 - .200	Z8891-ZN
	1.563	3.000	.220 - .280	Z8886-ZN
	1.563	4.000	.112 - .128	Z8732-ZN
1-1/2	1.563	4.000	.170 - .200	Z8740-ZN
	1.563	4.000	.220 - .280	Z8897-ZN
1-3/4	1.813	3.000	.112 - .128	Z8871-ZN
	1.813	3.000	.170 - .200	Z8702-ZN
	1.813	3.000	.220 - .280	Z8879-ZN
	1.813	4.000	.112 - .128	Z8733-ZN
1-3/4	1.813	4.000	.170 - .200	Z8741-ZN
	1.813	4.000	.220 - .280	Z8898-ZN
2	2.063	4.000	.220 - .280	Z8899-ZN
	2.063	4.000	.112 - .128	Z8734-ZN
	2.063	4.000	.170 - .200	Z8742-ZN

Chart continued on next page

Square Washers — Inch



Fiberglass

Bolt Size	ID	OD	Thickness	Fiberglass Part Number
1/4	.266	2.000	.125	Z8340
3/8	.391	2.000	.125	Z8342
1/2	.516	2.000	.125	Z8344
5/8	.640	2.000	.125	Z8346
	.640	2.000	.125	Z8366
3/4	.766	2.000	.125	Z8348
	.766	2.000	.125	Z8368
1	1.016	2.000	.125	Z8350
	1.016	2.000	.125	Z8370



Low Carbon Steel, Galvanized

Bolt Size	ID	OD	Thickness	Steel, Galvanized Part Number
1/4	.313	2.000	.235 - .265	Z8950G
3/8	.438	2.000	.235 - .265	Z8952G
1/2	.563	2.000	.112 - .128	Z8940G
	.563	2.000	.235 - .265	Z8954G
5/8	.688	2.000	.112 - .128	Z8942G
	.688	2.000	.235 - .265	Z8956G
	.688	2.250	.170 - .200	Z8944G
3/4	.813	2.000	.112 - .128	Z8945G
	.813	2.000	.235 - .265	Z8958G
	.813	2.250	.170 - .200	Z8946G
	.813	3.000	.170 - .200	Z8947G
3/4	.813	3.000	.235 - .265	Z8948G
7/8	.938	2.000	.235 - .265	Z8960G
1	1.063	2.000	.235 - .265	Z8962G
1-1/4	1.313	3.000	.235 - .265	Z8885G
	1.313	4.000	.235 - .265	Z8896G
	1.313	2.000	.235 - .265	Z8963G
1-1/2	1.563	3.000	.235 - .265	Z8886G
	1.563	4.000	.235 - .265	Z8897G
1-3/4	1.938	3.000	.235 - .265	Z8879G
	1.938	4.000	.235 - .265	Z8898G
2	2.063	4.000	.235 - .265	Z8899G

Square Washer — Metric



18-8 Stainless Steel



Low Carbon Steel, Black Oxide



Low Carbon Steel, Galvanized

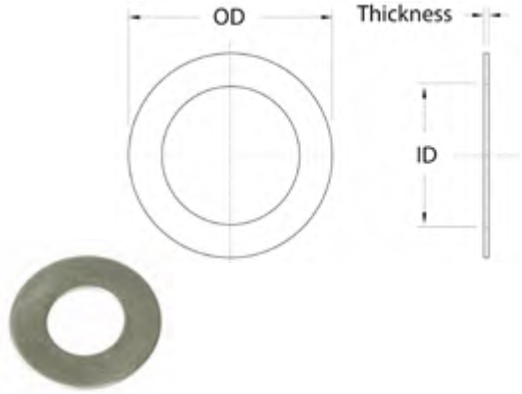
Bolt Size	ID	OD	Thickness	18-8 SS Part Number	Steel, Black Oxide Part Number	Steel, Galvanized Part Number
M6	9.00	50.00	6.00	Z8906SS	Z8906	Z8906-G
M8	11.00	50.00	6.00	Z8908SS	Z8908	Z8908-G
M10	13.00	50.00	6.00	Z8910SS	Z8910	Z8910-G
M12	16.00	50.00	6.00	Z8912SS	Z8912	Z8912-G
M14	18.00	50.00	6.00	Z8914SS	Z8914	Z8914-G
M16	22.00	50.00	6.00	Z8916SS	Z8916	Z8916-G
M20	26.00	50.00	6.00	Z8920SS	Z8920	Z8920-G
M22	28.00	50.00	6.00	Z8922SS	Z8922	Z8922-G
M24	32.00	50.00	6.00	Z8924SS	Z8924	Z8924-G
M30	38.00	50.00	6.00	Z8930SS	Z8930	Z8930-G

Wide Rim Shims — Inch

Sometimes called Machinery Bushings or Oversized Shims. Originally used as a wear shim between two moving parts.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish



18-8 Stainless Steel

Bolt Size	Shaft Size	OD	Thickness	18-8 SS Part Number
1/2	.500	.875	.048	Z9940SS
	.500	.875	.075	Z9954SS
5/8	.625	1.250	.048	Z9944SS
	.625	1.250	.075	Z9956SS
3/4	.750	1.250	.048	Z9946SS
	.750	1.500	.048	Z9948SS
	.750	1.250	.075	Z9958SS
	.750	1.500	.075	Z9960SS
1	1.000	2.000	.048	Z9950SS
	1.000	2.000	.075	Z9962SS
1-1/4	1.250	1.875	.075	Z9964SS
1-1/2	1.500	2.250	.075	Z9968SS

Peel Away Shims — Inch

Brass shims have good strength and are corrosion resistant. Remove layers with a utility knife until you get the thickness you need. Layers are bonded with adhesive.

Tolerances:
ID and OD are ±.01 inch.
Thickness is ±.003 inch.

Materials and finishes offered in:

- Brass, Plain Finish



Brass

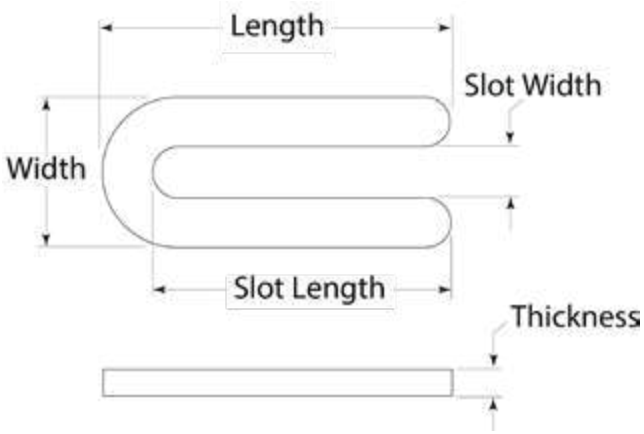
Bolt Size	Shaft Size	OD	Thickness	Brass Part Number
1/8	.135	.234	.031	Z9975
3/16	.193	.375	.031	Z9976
1/4	.255	.500	.031	Z9977

Horseshoe Shims — Inch

A fully machined Horseshoe Shim manufactured out of Type 316 Stainless Steel. Used where regular plastic shims are prohibited, where a fire resistant shim is specified, and where the installer needs to weld to the shim. Also used where installing handrails, guardrails, etc.

Thickness tolerances:
±.01 inch

Materials and finishes offered in:
- 316 Stainless Steel, Plain





316 Stainless Steel

Length	Width	Nominal Slot Width	Actual Slot Length	Nominal Slot Length	Minimum Bolt Size	Maximum Bolt Size	Thickness	316 SS Part Number
2	1-1/2	1/2	17/32	1-1/2	1/4	1/2	.063	Z8424
2-5/8	1-7/8	5/8	21/32	2	1/4	5/8	.063	Z8426
3	2-5/16	13/16	25/32	2-1/4	1/4	3/4	.063	Z8428
3-1/2	1-1/2	1/2	17/32	3	1/4	1/2	.063	Z8430
2	1-1/2	1/2	17/32	1-1/2	1/4	1/2	.125	Z8432
2-5/8	1-7/8	5/8	21/32	2	1/4	5/8	.125	Z8434
3	2-5/16	13/16	25/32	2-1/4	1/4	3/4	.125	Z8436
3-1/2	1-1/2	1/2	17/32	3	1/4	1/2	.125	Z8438
2	1-1/2	1/2	17/32	1-1/2	1/4	1/2	.250	Z8440
2-5/8	1-7/8	5/8	21/32	2	1/4	5/8	.250	Z8442
3	2-5/16	13/16	25/32	2-1/4	1/4	3/4	.250	Z8444
3-1/2	1-1/2	1/2	17/32	3	1/4	1/2	.250	Z8446

Shims for Shoulder Diameters — Inch

Lengthening Shim Washer

Add these washers over the threads of our stainless steel shoulder screws, and you extend the shoulder, making the shoulder longer for more bearing surface. OD matches shoulder diameter. 25 shims per pack.

Shortening Shim Washer

Slip these washers over the shoulder of our stainless steel shoulder screws, and you reduce the shoulder length, making the shoulder shorter for more clearance under the head. OD matches head diameter of the shoulder screw. 25 shims per pack.

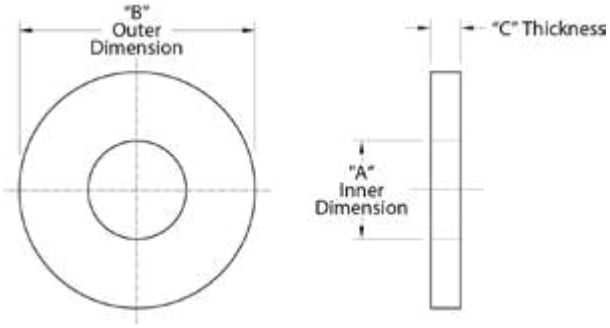
Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish (packs of 25)





18-8 Stainless Steel





18-8 Stainless Steel

Lengthening

Fits Shoulder Size	Fits Thread Size	"A" ID	"B" OD	"C" Thickness	18-8 SS Part Number
				.0045 - .0055	Z9888-005
1/4	#10	.171 - .182	.239 - .243	.014 - .018	Z9888-016
				.027 - .033	Z9888-032
				.0045 - .0055	Z9889-005
5/16	1/4	.234 - .245	.301 - .305	.014 - .018	Z9889-016
				.027 - .033	Z9889-030
				.0045 - .0055	Z9890-005
3/8	5/16	.289 - .300	.363 - .367	.014 - .018	Z9890-016
				.027 - .033	Z9890-030
				.0045 - .0055	Z9891-005
1/2	3/8	.352 - .363	.489 - .493	.014 - .018	Z9891-016
				.027 - .033	Z9891-030
5/8	1/2	.473 - .484	.614 - .618	.014 - .018	Z9892-016
				.027 - .033	Z9892-030

Shortening

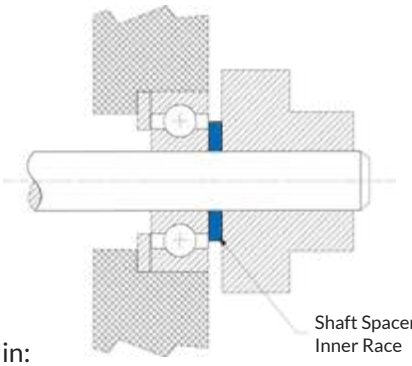
Fits Shoulder Size	"A" ID	"B" OD	"C" Thickness	18-8 SS Part Number
			.0045 - .0055	Z9895-005
1/4	.251 - .262	.373 - .377	.014 - .018	Z9895-016
			.027 - .033	Z9895-030
			.0045 - .0055	Z9896-005
5/16	.314 - .325	.436 - .440	.014 - .018	Z9896-016
			.027 - .033	Z9896-030
			.0045 - .0055	Z9897-005
3/8	.376 - .387	.561 - .565	.014 - .018	Z9897-016
			.027 - .033	Z9897-030
			.0045 - .0055	Z9898-005
1/2	.501 - .512	.748 - .752	.014 - .018	Z9898-016
			.027 - .033	Z9898-030
5/8	.626 - .637	.873 - .877	.014 - .018	Z9899-016
			.027 - .033	Z9899-030
3/4	.751 - .762	.998 - 1.002	.014 - .018	Z9899-116
			.027 - .033	Z9899-130

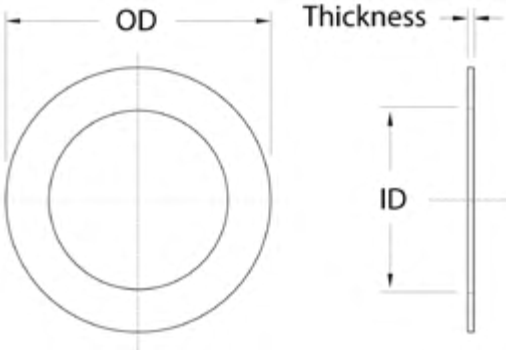
Shims for Shafts (Inner Race Spacers) — Inch

Used for Inner Race Spacers on shafts, or for a precision special dimensioned flat washer. Precision manufactured to extra tight tolerances. These shims are packed in a protective packaging to prevent bending.

10-25 pcs. per Pkg.

Thickness tolerances:
.001 - .008 ± .005
.010 - .016 ± .001
.020 ±.002 (Stainless)
.020 ±.002 (Brass)





Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish (packs of 25)
- 316 Stainless Steel, Plain Finish (packs of 10)
- Brass, Plain Finish (packs of 10)


18-8 Stainless Steel


316 Stainless Steel


Brass

Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Brass Part Number
1/32	.032 - .037	.104 - .114	.001	Z9986-001	–	–
			.002	Z9986-002	–	–
			.003	Z9986-003	–	–
			.004	Z9986-004	–	–
1/32	.032 - .037	.104 - .114	.005	Z9986-005	–	–
			.006	Z9986-006	–	–
			.008	Z9986-008	–	–
			.010	Z9986-010	–	–
1/32	.032 - .037	.104 - .114	.012	Z9986-012	–	–
			.015	Z9986-014	–	–
			.016	Z9986-016	–	–
3/64	.047 - .052	.120 - .130	.001	Z9987-001	–	–
			.002	Z9987-002	–	–
			.003	Z9987-003	–	–
			.004	Z9987-004	–	–
3/64	.047 - .052	.120 - .130	.005	Z9987-005	–	–
			.006	Z9987-006	–	–
			.008	Z9987-008	–	–
			.010	Z9987-010	–	–
3/64	.047 - .052	.120 - .130	.012	Z9987-012	–	–

Chart continued on next page

Shims for Shafts (Inner Race Spacers) — Inch



18-8 Stainless Steel



316 Stainless Steel



Brass

Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Brass Part Number
3/64	.047 - .052	.120 - .130	.015	Z9987-014	–	–
			.016	Z9987-016	–	–
1/16	.063 - .068	.151 - .161	.001	Z9988-001	–	–
			.002	Z9988-002	–	–
			.003	Z9988-003	–	–
			.004	Z9988-004	–	–
1/16	.063 - .068	.151 - .161	.005	Z9988-005	–	–
			.006	Z9988-006	–	–
			.008	Z9988-008	–	–
			.010	Z9988-010	–	–
1/16	.063 - .068	.151 - .161	.012	Z9988-012	–	–
			.015	Z9988-014	–	–
			.016	Z9988-016	–	–
5/64	.079 - .084	.159 - .169	.001	Z9701	Z9701-316	Z9701-BR
			.002	Z9702	Z9702-316	Z9702-BR
			.003	Z9703	Z9703-316	Z9703-BR
			.004	Z9704	Z9704-316	Z9704-BR
5/64	.079 - .084	.159 - .169	.005	Z9705	Z9705-316	Z9705-BR
			.006	Z9706	Z9706-316	Z9706-BR
			.008	Z9708	Z9708-316	Z9708-BR
			.010	Z9710	Z9710-316	Z9710-BR
5/64	.079 - .084	.159 - .169	.012	Z9712	Z9712-316	Z9712-BR
			.015	Z9714	Z9714-316	Z9714-BR
			.016	Z9716	Z9716-316	Z9716-BR
3/32	.093 - .098	.198 - .208	.001	Z9719	–	Z9719-BR
			.002	Z9720	–	Z9720-BR
3/32	.093 - .098	.198 - .208	.003	Z9721	–	Z9721-BR
			.004	Z9722	–	Z9722-BR
			.005	Z9723	Z9723-316	Z9723-BR
			.006	Z9724	Z9724-316	Z9724-BR
3/32	.093 - .098	.198 - .208	.008	Z9728	Z9728-316	Z9728-BR
			.010	Z9730	Z9730-316	Z9730-BR
			.012	Z9732	Z9732-316	Z9732-BR
			.015	Z9734	Z9734-316	Z9734-BR
3/32	.093 - .098	.198 - .208	.016	Z9736	Z9736-316	Z9736-BR

18-8 SS is available in packs of 25
316 SS and Brass are available in packs of 10

Chart continued on next page

Shims for Shafts (Inner Race Spacers) — Inch



18-8 Stainless Steel



316 Stainless Steel



Brass

Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Brass Part Number
1/8	.125 - .130	.182 - .192	.001	Z9741	–	Z9741-BR
			.002	Z9742	–	Z9742-BR
			.003	Z9743	–	Z9743-BR
			.004	Z9744	–	Z9744-BR
1/8	.125 - .130	.182 - .192	.005	Z9745	Z9745-316	Z9745-BR
			.006	Z9746	Z9746-316	Z9746-BR
			.008	Z9748	Z9748-316	Z9748-BR
			.010	Z9750	Z9750-316	Z9750-BR
1/8	.125 - .130	.182 - .192	.012	Z9752	Z9752-316	Z9752-BR
			.015	Z9754	Z9754-316	Z9754-BR
			.016	Z9756	Z9756-316	Z9756-BR
3/16	.188 - .193	.245 - .255	.001	Z9761	–	Z9761-BR
			.002	Z9762	–	Z9762-BR
			.003	Z9763	–	Z9763-BR
			.004	Z9764	–	Z9764-BR
3/16	.188 - .193	.245 - .255	.005	Z9765	Z9765-316	Z9765-BR
			.006	Z9766	Z9766-316	Z9766-BR
			.008	Z9768	Z9768-316	Z9768-BR
			.010	Z9770	Z9770-316	Z9770-BR
3/16	.188 - .193	.245 - .255	.012	Z9772	Z9772-316	Z9772-BR
			.015	Z9774	Z9774-316	Z9774-BR
			.016	Z9776	Z9776-316	Z9776-BR
1/4	.250 - .255	.375 - .380	.001	Z9781	–	Z9781-BR
			.002	Z9782	–	Z9782-BR
			.003	Z9783	–	Z9783-BR
			.004	Z9784	–	Z9784-BR
1/4	.250 - .255	.375 - .380	.005	Z9785	Z9785-316	Z9785-BR
			.006	Z9786	Z9786-316	Z9786-BR
			.008	Z9788	Z9788-316	Z9788-BR
			.010	Z9790	Z9790-316	Z9790-BR
1/4	.250 - .255	.375 - .380	.012	Z9792	Z9792-316	Z9792-BR
			.015	Z9794	Z9794-316	Z9794-BR
			.016	Z9796	Z9796-316	Z9796-BR
5/16	.313 - .318	.495 - .505	.001	Z9801	–	Z9801-BR
			.002	Z9802	–	Z9802-BR
			.003	Z9803	–	Z9803-BR
			.004	Z9804	–	Z9804-BR

18-8 SS is available in packs of 25
316 SS and Brass are available in packs of 10

Chart continued on next page

Shims for Shafts (Inner Race Spacers) — Inch



18-8 Stainless Steel



316 Stainless Steel



Brass

Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Brass Part Number
5/16	.313 - .318	.495 - .505	.005	Z9805	Z9805-316	Z9805-BR
			.006	Z9806	Z9806-316	Z9806-BR
			.008	Z9808	Z9808-316	Z9808-BR
			.009	Z9809	–	Z9809-BR
5/16	.313 - .318	.495 - .505	.010	Z9810	Z9810-316	Z9810-BR
			.012	Z9812	Z9812-316	Z9812-BR
			.015	Z9814	Z9814-316	Z9814-BR
			.016	Z9816	Z9816-316	Z9816-BR
3/8	.375 - .380	.557 - .567	.001	Z9821	–	Z9821-BR
			.002	Z9822	–	Z9822-BR
			.003	Z9823	–	Z9823-BR
			.004	Z9824	–	Z9824-BR
3/8	.375 - .380	.557 - .567	.005	Z9825	Z9825-316	Z9825-BR
			.006	Z9826	Z9826-316	Z9826-BR
			.008	Z9828	Z9828-316	Z9828-BR
3/8	.375 - .380	.557 - .567	.010	Z9830	Z9830-316	Z9830-BR
			.012	Z9832	Z9832-316	Z9832-BR
			.015	Z9834	Z9834-316	Z9834-BR
			.016	Z9836	Z9836-316	Z9836-BR
1/2	.500 - .505	.745 - .755	.001	Z9841	–	Z9841-BR
			.002	Z9842	–	Z9842-BR
			.003	Z9843	–	Z9843-BR
			.004	Z9844	–	Z9844-BR
1/2	.500 - .505	.745 - .755	.005	Z9845	Z9845-316	Z9845-BR
			.006	Z9846	Z9846-316	Z9846-BR
			.008	Z9848	Z9848-316	Z9848-BR
			.010	Z9850	Z9850-316	Z9850-BR
1/2	.500 - .505	.745 - .755	.012	Z9852	Z9852-316	Z9852-BR
			.015	Z9854	Z9854-316	Z9854-BR
			.016	Z9856	Z9856-316	Z9856-BR

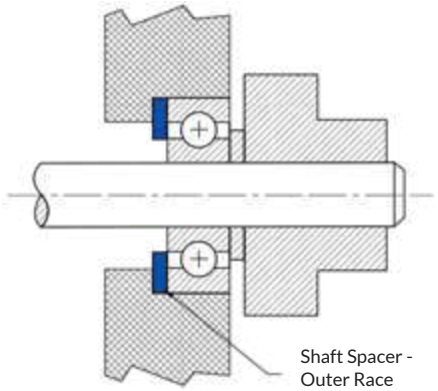
18-8 SS is available in packs of 25
316 SS and Brass are available in packs of 10

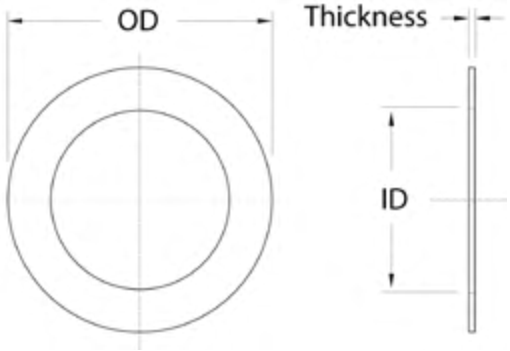
Shims for Bearings (Outer Race Spacers) — Inch

Used for Outer Race Spacers on shafts, or for a precision special dimensioned flatwasher. Precision manufactured to extra tight tolerances.

10-25 pcs. per Pkg.

Thickness tolerances:
.001 - .008 ± .005
.010 - .015 ± .001
.020 ±.002 (Stainless)
.020 ±.002 (Brass)





Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish (packs of 25)
- 316 Stainless Steel, Plain Finish (packs of 10)
- Brass, Plain Finish (packs of 10)


18-8 Stainless Steel


316 Stainless Steel


Brass

Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Brass Part Number
Fits Bearing Size 3/64 x 5/32	.088 - .093	.148 - .153	.003	Z9880-3	–	Z9880-3-BR
			.005	Z9880-5	Z9880-5-316	Z9880-5-BR
			.007	Z9880-7	Z9880-7-316	Z9880-7-BR
			.010	Z9880-10	Z9880-10-316	Z9880-10-BR
			.020	Z9880-20	Z9880-20-316	Z9880-20-BR
Fits Bearing Size .055 x 3/16	.123 - .128	173 - .178	.003	Z9881-3	–	Z9881-3-BR
			.005	Z9881-5	Z9881-5-316	Z9881-5-BR
			.007	Z9881-7	Z9881-7-316	Z9881-7-BR
			.010	Z9881-10	Z9881-10-316	Z9881-10-BR
			.020	Z9881-20	Z9881-20-316	Z9881-20-BR
Fits Bearing Size 5/64 x 1/4 & 1/8 x 1/4	.167 - .172	.243 - .248	.003	Z9882-3	–	Z9882-3-BR
			.005	Z9882-5	Z9882-5-316	Z9882-5-BR
			.007	Z9882-7	Z9882-7-316	Z9882-7-BR
			.010	Z9882-10	Z9882-10-316	Z9882-10-BR
			.020	Z9882-20	Z9882-20-316	Z9882-20-BR

18-8 SS is available in packs of 25
316 SS and Brass are available in packs of 10

Shims for Bearings (Outer Race Spacers) — Inch



18-8 Stainless Steel



316 Stainless Steel



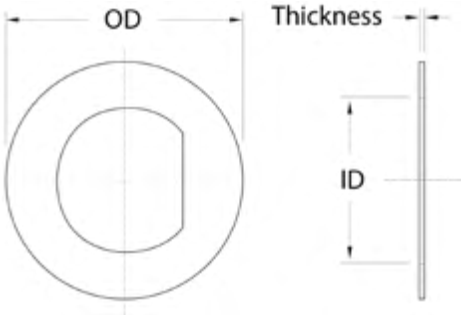
Brass

Size	ID	OD	Thickness	18-8 SS Part Number	316 SS Part Number	Brass Part Number
Fits Bearing Size 3/32 x 5/16 & 1/8 x 5/16	.206 - .211	.305 - .310	.003	Z9883-3	–	Z9883-3-BR
			.005	Z9883-5	Z9883-5-316	Z9883-5-BR
			.007	Z9883-7	Z9883-7-316	Z9883-7-BR
			.010	Z9883-10	Z9883-10-316	Z9883-10-BR
			.020	Z9883-20	Z9883-20-316	Z9883-20-BR
Fits Bearing Size 1/8 x 3/8 & 3/16 x 3/8	.253 - .258	.368 - .373	.003	Z9884-3	–	Z9884-3-BR
			.005	Z9884-5	Z9884-5-316	Z9884-5-BR
			.007	Z9884-7	Z9884-7-316	Z9884-7-BR
			.010	Z9884-10	–	Z9884-10-BR
			.020	Z9884-20	Z9884-20-316	Z9884-20-BR
Fits Bearing Size 3/16 x 1/2 & 1/4 x 1/2	.378 - .383	.493 - .498	.002	–	–	Z9885-2-BR
			.003	Z9885-3	–	Z9885-3-BR
			.005	Z9885-5	Z9885-5-316	Z9885-5-BR
			.007	Z9885-7	Z9885-7-316	Z9885-7-BR
			.010	Z9885-10	Z9885-10-316	Z9885-10-BR
			.020	Z9885-20	Z9885-20-316	Z9885-20-BR
Fits Bearing Size 1/4 x 5/8	.503 - .508	.618 - .623	.003	Z9886-3	–	Z9886-3-BR
			.005	Z9886-5	Z9886-5-316	Z9886-5-BR
			.007	Z9886-7	Z9886-7-316	Z9886-7-BR
			.010	Z9886-10	Z9886-10-316	Z9886-10-BR
			.020	Z9886-20	Z9886-20-316	Z9886-20-BR
Fits 5/8 Shaft Size	.632	.750	.008	Z9878	–	–
Fits Bearing Size 3/8 x 7/8	.687 - .692	.868 - .873	.003	Z9887-3	–	Z9887-3-BR
			.005	Z9887-5	Z9887-5-316	Z9887-5-BR
			.007	Z9887-7	Z9887-7-316	Z9887-7-BR*
			.010	Z9887-10	Z9887-10-316	Z9887-10-BR
			.020	Z9887-20	Z9887-20-316	Z9887-20-BR

18-8 SS is available in packs of 25
316 SS and Brass are available in packs of 10
* Z9887-7-BR available in packs of 25

Shims for D Shafts — Inch

Shaped to fit and made from 18-8 stainless steel.



Thickness tolerances:
± .005 inch

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain



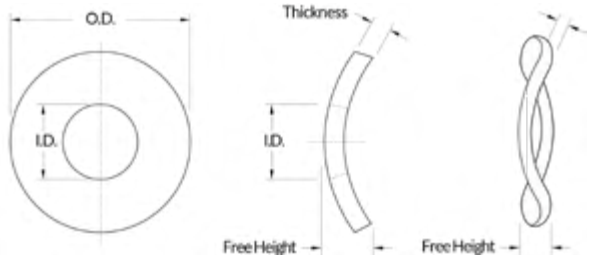
18-8 Stainless Steel

Bolt Size	Shaft Size	OD	Thickness	18-8 SS Part Number
	.250	.750	.031	Z0595
1/4	.250	.750	.062	Z0596
	.250	.750	.125	Z0597
	.375	1.000	.031	Z0560
3/8	.375	1.000	.062	Z0561
	.375	1.000	.125	Z0562
	.500	1.125	.031	Z0565
1/2	.500	1.125	.062	Z0566
	.500	1.125	.125	Z0567
	.625	1.250	.031	Z0570
5/8	.625	1.250	.062	Z0571
	.625	1.250	.125	Z0572
	.750	1.625	.031	Z0575
3/4	.750	1.625	.062	Z0576
	.750	1.625	.125	Z0577
	1.000	1.750	.031	Z0580
1	1.000	1.750	.062	Z0581
	1.000	1.750	.125	Z0582

Wave Washers — Single and Triple Wave — Inch

MADE IN THE USA

These wave washers act as springs because of their flexible shape. Used on shafts, and in assemblies where tolerance are too large, these washers expand/compress to take up the space. They can also be used to reduce vibration.



Materials and finishes offered in:

- 18-8 Stainless Steel, Plain Finish, Black Oxide
- 316 Stainless Steel, Plain Finish



Single Wave, 18-8 Stainless Steel

Bolt Size	ID	OD	Thickness	Free Height	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number
#0	.068	.165 - .175	.010	.035 - .050	WAV100SS	WAV100SSB	WAV100SS316
#2	.094	.125 - .135	.004	.020 - .040	WAV102SS	WAV102SSB	WAV102SS316
#4	.118	.235 - .245	.008	.031 - .056	WAV104SS	WAV104SSB	WAV104SS316
#5	.130 - .140	.240 - .250	.004	.045 - .055	WAV105SS	WAV105SSB	WAV105SS316
	.130 - .140	.240 - .250	.006	.034	WAV111SS	WAV111SSB	WAV111SS316
#6	.143 - .153	.265 - .275	.005	.046 - .062	WAV106SS	WAV106SSB	WAV106SS316
	.143 - .153	.265 - .275	.007	.035	WAV112SS	WAV112SSB	WAV112SS316
#8	.160 - .170	.280 - .290	.006	.028 - .053	WAV108SS	WAV108SSB	WAV108SS316
	.169 - .179	.317 - .327	.008	.042	WAV113SS	WAV113SSB	WAV113SS316
#10	.195 - .205	.297 - .307	.010	.041 - .061	WAV110SS	WAV110SSB	WAV110SS316
	.195 - .205	.365 - .375	.009	.047	WAV114SS	WAV114SSB	WAV114SS316
1/4	.260 - .270	.485 - .495	.011	.063	WAV115SS	WAV115SSB	WAV115SS316
5/16	.322 - .332	.607 - .617	.013	.077	WAV116SS	WAV116SSB	WAV116SS316



Triple Wave, 18-8 Stainless Steel

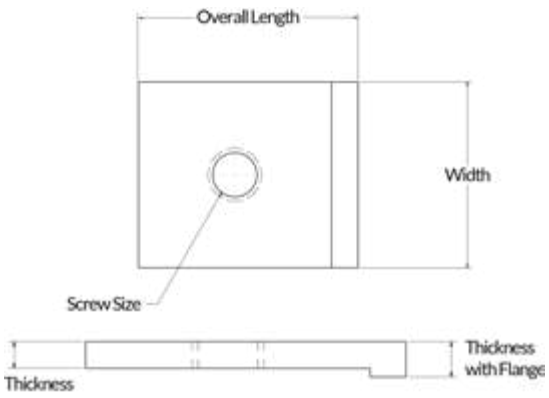
Bolt Size	ID	OD	Thickness	Free Height	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number
#2	.094	.166 - .171	.010	.030 - .040	WAV302SS	WAV302SSB	WAV302SS316
#4	.125	.245 - .255	.005	.015 - .025	WAV304SS	WAV304SSB	WAV304SS316
#5	.128 - .133	.187 - .192	.005	.025 - .035	WAV305SS	WAV305SSB	WAV305SS316
#6	.145 - .150	.240 - .245	.006	.035 - .050	WAV306SS	WAV306SSB	WAV306SS316
#8	.190 - .200	.240 - .250	.006	.035 - .055	WAV308SS	WAV308SSB	WAV308SS316
#10	.203 - .208	.365 - .385	.005	.021 - .041	WAV310SS	WAV310SSB	WAV310SS316

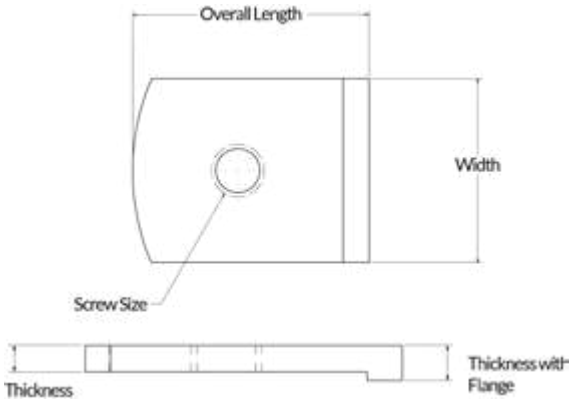
Tapped Flange Washers — Inch

The threaded hole and the raised flange make these washers very easy to tighten down. These washers are used for crossarm anti-split bolts and where crossarm braces attach to the crossarm. The flange allows the washer to be tightened with a cresent wrench. The tapped through hole used with a nut provides a secure double nut connection. Available in square or rounded corners.

Materials and finishes offered in:

- Steel, Hot Dip Galvanized Finish







Square Corners, Steel, Hot Dip Galvanized

Bolt Size	Overall Length	Washer Width	Thickness	Thickness w/Flange	Steel, Galvanized Part Number
1/2-13	3.500	3.000	.187	.250	Z8887-STL-SQ
	3.500	3.000	.187	.250	Z8888-STL-SQ
5/8-11	3.500	3.000	.187	.250	Z8889-STL-SQ
	3.500	3.000	.187	.250	Z8890-STL-SQ



Round Corners, Steel, Hot Dip Galvanized

Bolt Size	Overall Length	Washer Width	Thickness	Thickness w/Flange	Steel, Galvanized Part Number
1/2-13	2.250	1.750	.187	.250	Z8887-STL-RC
	2.250	1.750	.187	.250	Z8888-STL-RC
5/8-11	2.250	1.750	.187	.250	Z8889-STL-RC
	2.250	1.750	.187	.250	Z8890-STL-RC

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.032 - .037	n/a	.104 - .114	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-001	D-38
.032 - .037	n/a	.104 - .114	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-002	D-38
.032 - .037	n/a	.104 - .114	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-003	D-38
.032 - .037	n/a	.104 - .114	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-004	D-38
.032 - .037	n/a	.104 - .114	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-005	D-38
.032 - .037	n/a	.104 - .114	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-006	D-38
.032 - .037	n/a	.104 - .114	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-008	D-38
.032 - .037	n/a	.104 - .114	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-010	D-38
.032 - .037	n/a	.104 - .114	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-012	D-38
.032 - .037	n/a	.104 - .114	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-014	D-38
.032 - .037	n/a	.104 - .114	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9986-016	D-38
.047 - .052	n/a	.120 - .130	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-001	D-38
.047 - .052	n/a	.120 - .130	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-002	D-38
.047 - .052	n/a	.120 - .130	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-003	D-38
.047 - .052	n/a	.120 - .130	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-004	D-38
.047 - .052	n/a	.120 - .130	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-005	D-38
.047 - .052	n/a	.120 - .130	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-006	D-38
.047 - .052	n/a	.120 - .130	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-008	D-38
.047 - .052	n/a	.120 - .130	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-010	D-38
.047 - .052	n/a	.120 - .130	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-012	D-38
.047 - .052	n/a	.120 - .130	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-014	D-39
.047 - .052	n/a	.120 - .130	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9987-016	D-39
.063	#0	.099	.014 - .018	18-8 S/S	n/a	Mil Spec	Round	NAS620-C0	D-15
.063	#0	.125	.019	Brass	n/a	Flat Washer	Round	Z9150BR	D-4
.063	#0	.125	.019	Steel	n/a	Flat Washer	Round	Z9150STL	D-3
.063	#0	.125	.019	18-8 S/S	n/a	Flat Washer	Round	Z9150	D-2
.063 - .068	n/a	.151 - .161	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-001	D-39
.063 - .068	n/a	.151 - .161	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-002	D-39
.063 - .068	n/a	.151 - .161	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-003	D-39
.063 - .068	n/a	.151 - .161	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-004	D-39
.063 - .068	n/a	.151 - .161	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-005	D-39
.063 - .068	n/a	.151 - .161	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-006	D-39
.063 - .068	n/a	.151 - .161	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-008	D-39
.063 - .068	n/a	.151 - .161	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-010	D-39
.063 - .068	n/a	.151 - .161	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-012	D-39
.063 - .068	n/a	.151 - .161	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-014	D-39
.063 - .068	n/a	.151 - .161	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9988-016	D-39
.067	#0	.165 - .175	.010	18-8 S/S	n/a	Wave	Round	WAV100SS	D-45
.068	#0	0.125	.022 - .028	Aluminum	n/a	ASME Type B	Round	WASB#0NAL	D-19
.068	#0	0.125	.022 - .028	Brass	n/a	ASME Type B	Round	WASB#0NBR	D-19
.068	#0	0.125	.022 - .028	Copper	n/a	ASME Type B	Round	WASB#0NCU	D-19
.068	#0	0.187	.022 - .028	Aluminum	n/a	ASME Type B	Round	WASB#0RAL	D-20
.068	#0	0.187	.022 - .028	Brass	n/a	ASME Type B	Round	WASB#0RBR	D-20
.068	#0	0.187	.022 - .028	Copper	n/a	ASME Type B	Round	WASB#0RCU	D-20
.068	#0	0.25	.022 - .028	Aluminum	n/a	ASME Type B	Round	WASB#0WAL	D-20
.068	#0	0.25	.022 - .028	Brass	n/a	ASME Type B	Round	WASB#0WBR	D-20
.068	#0	0.25	.022 - .028	Copper	n/a	ASME Type B	Round	WASB#0WCU	D-20
.068	#0	.125	.022 - .028	Steel	Zinc	ASME Type B	Round	WASB#0NZ	D-19
.068	#0	.125	.022 - .028	18-8 S/S	n/a	ASME Type B	Round	WASB#0N8	D-19
.068	#0	.125	.022 - .028	316 S/S	n/a	ASME Type B	Round	WASB#0N316	D-19
.068	#0	.187	.022 - .028	316 S/S	n/a	ASME Type B	Round	WASB#0R316	D-20
.068	#0	.188	.022 - .028	Steel	Zinc	ASME Type B	Round	WASB#0RZ	D-20

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.068	#0	.188	.022 - .028	18-8 S/S	n/a	ASME Type B	Round	WASB#0R8	D-20
.068	#0	.250	.022 - .028	Steel	Zinc	ASME Type B	Round	WASB#0WZ	D-20
.068	#0	.250	.022 - .028	18-8 S/S	n/a	ASME Type B	Round	WASB#0W8	D-20
.068	#0	.250	.022 - .028	316 S/S	n/a	ASME Type B	Round	WASB#0W316	D-20
.078	#1	.188	.016 - .025	18-8 S/S	n/a	Mil Spec	Round	MS15795-801	D-16
.078	#1	.156	.019	18-8 S/S	n/a	Flat Washer	Round	Z9151	D-2
.078	#1	.156	.019	Brass	n/a	Flat Washer	Round	Z9151BR	D-4
.078	#1	.156	.019	Steel	n/a	Flat Washer	Round	Z9151STL	D-3
.079 - .084	5/64	.159 - .169	.001	316 S/S	n/a	Shims for Shafts	Round	Z9701-316	D-39
.079 - .084	n/a	.159 - .169	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9701	D-39
.079 - .084	n/a	.159 - .169	.001	Brass	n/a	Shims for Shafts	Round	Z9701-BR	D-39
.079 - .084	5/64	.159 - .169	.002	316 S/S	n/a	Shims for Shafts	Round	Z9702-316	D-39
.079 - .084	n/a	.159 - .169	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9702	D-39
.079 - .084	n/a	.159 - .169	.002	Brass	n/a	Shims for Shafts	Round	Z9702-BR	D-39
.079 - .084	5/64	.159 - .169	.003	316 S/S	n/a	Shims for Shafts	Round	Z9703-316	D-39
.079 - .084	n/a	.159 - .169	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9703	D-39
.079 - .084	n/a	.159 - .169	.003	Brass	n/a	Shims for Shafts	Round	Z9703-BR	D-39
.079 - .084	5/64	.159 - .169	.004	316 S/S	n/a	Shims for Shafts	Round	Z9704-316	D-39
.079 - .084	n/a	.159 - .169	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9704	D-39
.079 - .084	n/a	.159 - .169	.004	Brass	n/a	Shims for Shafts	Round	Z9704-BR	D-39
.079 - .084	n/a	.159 - .169	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9705	D-39
.079 - .084	n/a	.159 - .169	.005	316 S/S	n/a	Shims for Shafts	Round	Z9705-316	D-39
.079 - .084	n/a	.159 - .169	.005	Brass	n/a	Shims for Shafts	Round	Z9705-BR	D-39
.079 - .084	n/a	.159 - .169	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9706	D-39
.079 - .084	n/a	.159 - .169	.006	316 S/S	n/a	Shims for Shafts	Round	Z9706-316	D-39
.079 - .084	n/a	.159 - .169	.006	Brass	n/a	Shims for Shafts	Round	Z9706-BR	D-39
.079 - .084	n/a	.159 - .169	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9708	D-39
.079 - .084	n/a	.159 - .169	.008	316 S/S	n/a	Shims for Shafts	Round	Z9708-316	D-39
.079 - .084	n/a	.159 - .169	.008	Brass	n/a	Shims for Shafts	Round	Z9708-BR	D-39
.079 - .084	n/a	.159 - .169	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9710	D-39
.079 - .084	n/a	.159 - .169	.010	316 S/S	n/a	Shims for Shafts	Round	Z9710-316	D-39
.079 - .084	n/a	.159 - .169	.010	Brass	n/a	Shims for Shafts	Round	Z9710-BR	D-39
.079 - .084	n/a	.159 - .169	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9712	D-39
.079 - .084	n/a	.159 - .169	.012	316 S/S	n/a	Shims for Shafts	Round	Z9712-316	D-39
.079 - .084	n/a	.159 - .169	.012	Brass	n/a	Shims for Shafts	Round	Z9712-BR	D-39
.079 - .084	n/a	.159 - .169	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9714	D-39
.079 - .084	n/a	.159 - .169	.015	316 S/S	n/a	Shims for Shafts	Round	Z9714-316	D-39
.079 - .084	n/a	.159 - .169	.015	Brass	n/a	Shims for Shafts	Round	Z9714-BR	D-39
.079 - .084	n/a	.159 - .169	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9716	D-39
.079 - .084	n/a	.159 - .169	.016	316 S/S	n/a	Shims for Shafts	Round	Z9716-316	D-39
.079 - .084	n/a	.159 - .169	.016	Brass	n/a	Shims for Shafts	Round	Z9716-BR	D-39
.084	#1	.156	.022 - .028	Aluminum	n/a	ASME Type B	Round	WASB#1NAL	D-19
.084	#1	.156	.022 - .028	Brass	n/a	ASME Type B	Round	WASB#1NBR	D-19
.084	#1	.156	.022 - .028	Copper	n/a	ASME Type B	Round	WASB#1NCU	D-19
.084	#1	.219	.022 - .028	Aluminum	n/a	ASME Type B	Round	WASB#1RAL	D-20
.084	#1	.219	.022 - .028	Brass	n/a	ASME Type B	Round	WASB#1RBR	D-20
.084	#1	.219	.022 - .028	Copper	n/a	ASME Type B	Round	WASB#1RCU	D-20
.084	#1	.156	.022 - .028	Steel	Zinc	ASME Type B	Round	WASB#1NZ	D-19
.084	#1	.156	.022 - .028	18-8 S/S	n/a	ASME Type B	Round	WASB#1N8	D-19
.084	#1	.156	.022 - .028	316 S/S	n/a	ASME Type B	Round	WASB#1N316	D-19
.084	#1	.219	.022 - .028	Steel	Zinc	ASME Type B	Round	WASB#1RZ	D-20
.084	#1	.219	.022 - .028	18-8 S/S	n/a	ASME Type B	Round	WASB#1R8	D-20
.084	#1	.219	.022 - .028	316 S/S	n/a	ASME Type B	Round	WASB#1R316	D-20
.084	#1	.281	.022 - .028	Steel	Zinc	ASME Type B	Round	WASB#1WZ	D-20
.084	#1	.281	.022 - .028	18-8 S/S	n/a	ASME Type B	Round	WASB#1W8	D-20

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.084	#1	.281	.028 - .036	Aluminum	n/a	ASME Type B	Round	WASB#1WAL	D-20
.084	#1	.281	.028 - .036	Brass	n/a	ASME Type B	Round	WASB#1WBR	D-20
.084	#1	.281	.028 - .036	Copper	n/a	ASME Type B	Round	WASB#1WCU	D-20
.084	#1	.219	.028 - .036	316 S/S	n/a	ASME Type B	Round	WASB#1W316	D-20
.088 - .093	3/64 x 5/32	.148 - .153	.003	18-8 S/S	n/a	Shims for Bearing	Round	Z9880-3	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.003	Brass	n/a	Shims for Bearing	Round	Z9880-3-BR	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.005	18-8 S/S	n/a	Shims for Bearing	Round	Z9880-5	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.005	316 S/S	n/a	Shims for Bearing	Round	Z9880-5-316	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.005	Brass	n/a	Shims for Bearing	Round	Z9880-5-BR	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.007	18-8 S/S	n/a	Shims for Bearing	Round	Z9880-7	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.007	316 S/S	n/a	Shims for Bearing	Round	Z9880-7-316	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.007	Brass	n/a	Shims for Bearing	Round	Z9880-7-BR	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.010	18-8 S/S	n/a	Shims for Bearing	Round	Z9880-10	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.010	316 S/S	n/a	Shims for Bearing	Round	Z9880-10-316	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.010	Brass	n/a	Shims for Bearing	Round	Z9880-10-BR	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.020	18-8 S/S	n/a	Shims for Bearing	Round	Z9880-20	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.020	316 S/S	n/a	Shims for Bearing	Round	Z9880-20-316	D-42
.088 - .093	3/64 x 5/32	.148 - .153	.020	Brass	n/a	Shims for Bearing	Round	Z9880-20-BR	D-42
.089	#2	.149	.014 - .018	18-8 S/S	n/a	Mil Spec	Round	NAS620-C2	D-15
.091	#2	.125 - .135	.004	18-8 S/S	n/a	Wave	Round	WAV102SS	D-45
.093 - .098	n/a	.198 - .208	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9719	D-39
.093 - .098	n/a	.198 - .208	.001	Brass	n/a	Shims for Shafts	Round	Z9719-BR	D-39
.093 - .098	n/a	.198 - .208	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9720	D-39
.093 - .098	n/a	.198 - .208	.002	Brass	n/a	Shims for Shafts	Round	Z9720-BR	D-39
.093 - .098	n/a	.198 - .208	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9721	D-39
.093 - .098	n/a	.198 - .208	.003	Brass	n/a	Shims for Shafts	Round	Z9721-BR	D-39
.093 - .098	n/a	.198 - .208	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9722	D-39
.093 - .098	n/a	.198 - .208	.004	Brass	n/a	Shims for Shafts	Round	Z9722-BR	D-39
.093 - .098	n/a	.198 - .208	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9723	D-39
.093 - .098	n/a	.198 - .208	.005	316 S/S	n/a	Shims for Shafts	Round	Z9723-316	D-39
.093 - .098	n/a	.198 - .208	.005	Brass	n/a	Shims for Shafts	Round	Z9723-BR	D-39
.093 - .098	n/a	.198 - .208	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9724	D-39
.093 - .098	n/a	.198 - .208	.006	316 S/S	n/a	Shims for Shafts	Round	Z9724-316	D-39
.093 - .098	n/a	.198 - .208	.006	Brass	n/a	Shims for Shafts	Round	Z9724-BR	D-39
.093 - .098	n/a	.198 - .208	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9728	D-39
.093 - .098	n/a	.198 - .208	.008	316 S/S	n/a	Shims for Shafts	Round	Z9728-316	D-39
.093 - .098	n/a	.198 - .208	.008	Brass	n/a	Shims for Shafts	Round	Z9728-BR	D-39
.093 - .098	n/a	.198 - .208	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9730	D-39
.093 - .098	n/a	.198 - .208	.010	316 S/S	n/a	Shims for Shafts	Round	Z9730-316	D-39
.093 - .098	n/a	.198 - .208	.010	Brass	n/a	Shims for Shafts	Round	Z9730-BR	D-39
.093 - .098	n/a	.198 - .208	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9732	D-39
.093 - .098	n/a	.198 - .208	.012	316 S/S	n/a	Shims for Shafts	Round	Z9732-316	D-39
.093 - .098	n/a	.198 - .208	.012	Brass	n/a	Shims for Shafts	Round	Z9732-BR	D-39
.093 - .098	n/a	.198 - .208	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9734	D-39
.093 - .098	n/a	.198 - .208	.015	316 S/S	n/a	Shims for Shafts	Round	Z9734-316	D-39
.093 - .098	n/a	.198 - .208	.015	Brass	n/a	Shims for Shafts	Round	Z9734-BR	D-39
.093 - .098	n/a	.198 - .208	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9736	D-39
.093 - .098	n/a	.198 - .208	.016	316 S/S	n/a	Shims for Shafts	Round	Z9736-316	D-39
.093 - .098	n/a	.198 - .208	.016	Brass	n/a	Shims for Shafts	Round	Z9736-BR	D-39
.094	#2	.250	.012 - .018	Titanium	n/a	SAE Standard	Round	WAS406#2	D-17
.094	#2	.250	.016	Fiberglass	n/a	Non-Metal	Round	Z8300	D-23
.094	#2	.250	.016 - .025	18-8 S/S	n/a	Mil Spec	Round	MS15795-802	D-16
.094	#2	.187	.022 - .028	Aluminum	n/a	ASME Type B	Round	WASB#2NAL	D-19
.094	#2	.187	.022 - .028	Brass	n/a	ASME Type B	Round	WASB#2NBR	D-19
.094	#2	.187	.022 - .028	Copper	n/a	ASME Type B	Round	WASB#2NCU	D-19

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.094	#2	.187	.022 - .028	Steel	Zinc	ASME Type B	Round	WASB#2NZ	D-19
.094	#2	.187	.022 - .028	18-8 S/S	n/a	ASME Type B	Round	WASB#2N8	D-19
.094	#2	.187	.022 - .028	316 S/S	n/a	ASME Type B	Round	WASB#2N316	D-19
.094	#2	.187	.028	18-8 S/S	n/a	Flat Washer	Round	Z9152	D-2
.094	#2	.187	.028	Brass	n/a	Flat Washer	Round	Z9152BR	D-4
.094	#2	.187	.028	Steel	n/a	Flat Washer	Round	Z9152STL	D-4
.094	#2	.25	.028 - .036	Aluminum	n/a	ASME Type B	Round	WASB#2RAL	D-20
.094	#2	.25	.028 - .036	Brass	n/a	ASME Type B	Round	WASB#2RBR	D-20
.094	#2	.25	.028 - .036	Copper	n/a	ASME Type B	Round	WASB#2RCU	D-20
.094	#2	.344	.028 - .036	Aluminum	n/a	ASME Type B	Round	WASB#2WAL	D-20
.094	#2	.344	.028 - .036	Brass	n/a	ASME Type B	Round	WASB#2WBR	D-20
.094	#2	.344	.028 - .036	Copper	n/a	ASME Type B	Round	WASB#2WCU	D-20
.094	#2	.250	.028 - .036	Steel	Zinc	ASME Type B	Round	WASB#2RZ	D-20
.094	#2	.250	.028 - .036	18-8 S/S	n/a	ASME Type B	Round	WASB#2R8	D-20
.094	#2	.344	.028 - .036	Steel	Zinc	ASME Type B	Round	WASB#2WZ	D-20
.094	#2	.344	.028 - .036	18-8 S/S	n/a	ASME Type B	Round	WASB#2W8	D-20
.094	#2	.250	.028 - .036	316 S/S	n/a	ASME Type B	Round	WASB#2R316	D-20
.094	#2	.344	.028 - .036	316 S/S	n/a	ASME Type B	Round	WASB#2W316	D-20
.095	#2	.166	.010	18-8 S/S	n/a	Wave	Round	WAV302SS	D-45
.099	#2	.250	.006 - .026	18-8 S/S	n/a	Mil Spec	Round	AN960-C2L	D-15
.099	#2	.250	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C2	D-15
.099	#2	.250	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-CN232R	D-16
.102	#3	.180	.014 - .018	18-8 S/S	n/a	Mil Spec	Round	NAS620-C3	D-15
.102	#3	.180	.029 - .035	18-8 S/S	n/a	Mil Spec	Round	NAS620-C3L	D-15
.105	#3	.250	.006 - .026	18-8 S/S	n/a	Mil Spec	Round	AN960-C3L	D-15
.105	#3	.250	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C3	D-15
.105	#3	.255	.031	Fiberglass	n/a	Non-Metal	Round	Z8302	D-23
.105	#3	.250	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-CN332R	D-16
.105	#3	.255	.062	Fiberglass	n/a	Non-Metal	Round	Z8304	D-23
.105	#3	.255	.125	Fiberglass	n/a	Non-Metal	Round	Z8306	D-23
.108	#3	.247	.031	Nylatron	n/a	Non-Metal	Round	Z8380	D-23
.109	#3	.250	.025 - .040	Titanium	n/a	SAE Standard	Round	WAS406#3	D-17
.115	#4	.209	.014 - .018	18-8 S/S	n/a	Mil Spec	Round	NAS620-C4	D-15
.115	#4	.209	.029 - .035	18-8 S/S	n/a	Mil Spec	Round	NAS620-C4L	D-15
.116	#3	.250	.062	18-8 S/S	n/a	Machined	Round	Z0701SS	D-9
.118	#4	.235 - .245	.008	18-8 S/S	n/a	Wave	Round	WAV104SS	D-45
.120	#4	.220	.031	Nylatron	n/a	Non-Metal	Round	Z8382	D-23
.122	#4	.218	.016	Fiberglass	n/a	Non-Metal	Round	Z8308	D-23
.122	#4	.310	.031	Fiberglass	n/a	Non-Metal	Round	Z8310	D-23
.123 - .128	.055 x 3/16	.173 - .178	.003	18-8 S/S	n/a	Shims for Bearing	Round	Z9881-3	D-42
.123 - .128	.055 x 3/16	.173 - .178	.003	Brass	n/a	Shims for Bearing	Round	Z9881-3-BR	D-42
.123 - .128	.055 x 3/16	.173 - .178	.005	18-8 S/S	n/a	Shims for Bearing	Round	Z9881-5	D-42
.123 - .128	.055 x 3/16	.173 - .178	.005	316 S/S	n/a	Shims for Bearing	Round	Z9881-5-316	D-42
.123 - .128	.055 x 3/16	.173 - .178	.005	Brass	n/a	Shims for Bearing	Round	Z9881-5-BR	D-42
.123 - .128	.055 x 3/16	.173 - .178	.007	18-8 S/S	n/a	Shims for Bearing	Round	Z9881-7	D-42
.123 - .128	.055 x 3/16	.173 - .178	.007	316 S/S	n/a	Shims for Bearing	Round	Z9881-7-316	D-42
.123 - .128	.055 x 3/16	.173 - .178	.007	Brass	n/a	Shims for Bearing	Round	Z9881-7-BR	D-42
.123 - .128	.055 x 3/16	.173 - .178	.010	18-8 S/S	n/a	Shims for Bearing	Round	Z9881-10	D-42
.123 - .128	.055 x 3/16	.173 - .178	.010	316 S/S	n/a	Shims for Bearing	Round	Z9881-10-316	D-42
.123 - .128	.055 x 3/16	.173 - .178	.010	Brass	n/a	Shims for Bearing	Round	Z9881-10-BR	D-42
.123 - .128	.055 x 3/16	.173 - .178	.020	18-8 S/S	n/a	Shims for Bearing	Round	Z9881-20	D-42
.123 - .128	.055 x 3/16	.173 - .178	.020	316 S/S	n/a	Shims for Bearing	Round	Z9881-20-316	D-42
.123 - .128	.055 x 3/16	.173 - .178	.020	Brass	n/a	Shims for Bearing	Round	Z9881-20-BR	D-42
.125	#4	.245	.005	18-8 S/S	n/a	Wave	Round	WAV304SS	D-45
.125	#4	.312	.006 - .026	18-8 S/S	n/a	Mil Spec	Round	AN960-C4L	D-15

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.125	#4	.250	.017 - .028	18-8 S/S	n/a	Mil Spec	Round	MS15795-803	D-16
.125	#4	.312	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C4	D-15
.125	#4	.250	.025 - .040	Titanium	n/a	SAE Standard	Round	WAS406#4	D-17
.125	#4	.312	.025 - .040	18-8 S/S	n/a	SAE Standard	Round	WAS404#4	D-17
.125	#4	.312	.025 - .040	316 S/S	n/a	SAE Standard	Round	WAS405#4	D-17
.125	#4	.250	.028 - .036	Aluminum	n/a	ASME Type B	Round	WASB#4NAL	D-19
.125	#4	.250	.028 - .036	Brass	n/a	ASME Type B	Round	WASB#4NBR	D-19
.125	#4	.250	.028 - .036	Copper	n/a	ASME Type B	Round	WASB#4NCU	D-19
.125	#4	.250	.028 - .036	Steel	Zinc	ASME Type B	Round	WASB#4NZ	D-19
.125	#4	.250	.028 - .036	18-8 S/S	n/a	ASME Type B	Round	WASB#4N8	D-19
.125	#4	.250	.028 - .036	316 S/S	n/a	ASME Type B	Round	WASB#4N316	D-19
.125	#4	.312	.032	316 S/S	n/a	Fender	Round	Z0538-316	D-11
.125	#4	.312	.032	18-8 S/S	n/a	Fender	Round	Z0538-188	D-10
.125	#4	.312	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-CN432R	D-16
.125	#4	.312	.032 - .040	18-8 S/S	n/a	Mil Spec	Round	MS15795-804	D-16
.125	#4	.375	.036 - .045	Aluminum	n/a	ASME Type B	Round	WASB#4RAL	D-20
.125	#4	.375	.036 - .045	Brass	n/a	ASME Type B	Round	WASB#4RBR	D-20
.125	#4	.375	.036 - .045	Copper	n/a	ASME Type B	Round	WASB#4RCU	D-20
.125	#4	.438	.036 - .045	Aluminum	n/a	ASME Type B	Round	WASB#4WAL	D-20
.125	#4	.438	.036 - .045	Brass	n/a	ASME Type B	Round	WASB#4WBR	D-20
.125	#4	.438	.036 - .045	Copper	n/a	ASME Type B	Round	WASB#4WCU	D-20
.125	#4	.375	.036 - .045	Steel	Zinc	ASME Type B	Round	WASB#4RZ	D-20
.125	#4	.375	.036 - .045	18-8 S/S	n/a	ASME Type B	Round	WASB#4R8	D-20
.125	#4	.375	.036 - .045	316 S/S	n/a	ASME Type B	Round	WASB#4R316	D-20
.125	#4	.438	.036 - .045	Steel	Zinc	ASME Type B	Round	WASB#4WZ	D-20
.125	#4	.438	.036 - .045	18-8 S/S	n/a	ASME Type B	Round	WASB#4W8	D-20
.125	#4	.438	.036 - .045	316 S/S	n/a	ASME Type B	Round	WASB#4W316	D-20
.125	#4	.312	.045	Phenolic	n/a	Non-Metal	Round	Z8400	D-23
.125	#4	.317	.062	Fiberglass	n/a	Non-Metal	Round	Z8312	D-23
.125	#4	.250	.063	18-8 S/S	n/a	Flat Washer	Round	Z9154	D-2
.125	#4	.250	.063	Brass	n/a	Flat Washer	Round	Z9154BR	D-4
.125	#4	.250	.063	Steel	n/a	Flat Washer	Round	Z9154STL	D-3
.125	#4	.312	.063	Phenolic	n/a	Non-Metal	Round	Z8402	D-23
.125	#4	.312	.078	Steel	n/a	Flat Washer	Round	Z9085	D-3
.125	#4	.312	.078	Brass	n/a	Flat Washer	Round	Z9085BR	D-4
.125	#4	.312	.078	18-8 S/S	n/a	Flat Washer	Round	Z9085SS	D-2
.125	#4	.312	.078	17-4 S/S	n/a	Flat Washer	Round	Z9085-174	D-4
.125	#4	.438	.084 - .104	18-8 S/S	n/a	Countersunk	Round	Z9972-SS	D-29
.125	#4	.438	.084 - .104	18-8 S/S	n/a	Countersunk	Round	Z9972E-SS	D-29
.125	#4	.438	.084 - .104	316 S/S	n/a	Countersunk	Round	Z9972E-316	D-29
.125	#4	.438	.084 - .104	Steel	Black Ox	Countersunk	Round	Z9972E	D-29
.125	#4	.438	.084 - .104	316 S/S	n/a	Countersunk	Round	Z9972-316	D-29
.125	#4	.438	.084 - .104	Steel	Black Ox	Countersunk	Round	Z9972	D-29
.125 - .130	n/a	.182 - .192	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9741	D-40
.125 - .130	n/a	.182 - .192	.001	Brass	n/a	Shims for Shafts	Round	Z9741-BR	D-40
.125 - .130	n/a	.182 - .192	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9742	D-40
.125 - .130	n/a	.182 - .192	.002	Brass	n/a	Shims for Shafts	Round	Z9742-BR	D-40
.125 - .130	n/a	.182 - .192	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9743	D-40
.125 - .130	n/a	.182 - .192	.003	Brass	n/a	Shims for Shafts	Round	Z9743-BR	D-40
.125 - .130	n/a	.182 - .192	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9744	D-40
.125 - .130	n/a	.182 - .192	.004	Brass	n/a	Shims for Shafts	Round	Z9744-BR	D-40
.125 - .130	n/a	.182 - .192	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9745	D-40
.125 - .130	n/a	.182 - .192	.005	316 S/S	n/a	Shims for Shafts	Round	Z9745-316	D-40
.125 - .130	n/a	.182 - .192	.005	Brass	n/a	Shims for Shafts	Round	Z9745-BR	D-40
.125 - .130	n/a	.182 - .192	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9746	D-40

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.125 - .130	n/a	.182 - .192	.006	316 S/S	n/a	Shims for Shafts	Round	Z9746-316	D-40
.125 - .130	n/a	.182 - .192	.006	Brass	n/a	Shims for Shafts	Round	Z9746-BR	D-40
.125 - .130	n/a	.182 - .192	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9748	D-40
.125 - .130	n/a	.182 - .192	.008	316 S/S	n/a	Shims for Shafts	Round	Z9748-316	D-40
.125 - .130	n/a	.182 - .192	.008	Brass	n/a	Shims for Shafts	Round	Z9748-BR	D-40
.125 - .130	n/a	.182 - .192	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9750	D-40
.125 - .130	n/a	.182 - .192	.010	316 S/S	n/a	Shims for Shafts	Round	Z9750-316	D-40
.125 - .130	n/a	.182 - .192	.010	Brass	n/a	Shims for Shafts	Round	Z9750-BR	D-40
.125 - .130	n/a	.182 - .192	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9752	D-40
.125 - .130	n/a	.182 - .192	.012	316 S/S	n/a	Shims for Shafts	Round	Z9752-316	D-40
.125 - .130	n/a	.182 - .192	.012	Brass	n/a	Shims for Shafts	Round	Z9752-BR	D-40
.125 - .130	n/a	.182 - .192	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9754	D-40
.125 - .130	n/a	.182 - .192	.015	316 S/S	n/a	Shims for Shafts	Round	Z9754-316	D-40
.125 - .130	n/a	.182 - .192	.015	Brass	n/a	Shims for Shafts	Round	Z9754-BR	D-40
.125 - .130	n/a	.182 - .192	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9756	D-40
.125 - .130	n/a	.182 - .192	.016	316 S/S	n/a	Shims for Shafts	Round	Z9756-316	D-40
.125 - .130	n/a	.182 - .192	.016	Brass	n/a	Shims for Shafts	Round	Z9756-BR	D-40
.128	#5	.187	.005	18-8 S/S	n/a	Wave	Round	WAV305SS	D-45
.128	#5	.238	.014 - .018	18-8 S/S	n/a	Mil Spec	Round	NAS620-C5	D-15
.128	#5	.238	.029 - .035	18-8 S/S	n/a	Mil Spec	Round	NAS620-C5L	D-15
.130	#5	.240 - .250	.004	18-8 S/S	n/a	Wave	Round	WAV105SS	D-45
.130	#5	.240	.006	18-8 S/S	n/a	Wave	Round	WAV111SS	D-45
.130	#5	.250	.062	4140 Stl	Black Ox	Machined	Round	Z0351	D-9
.135	1/8	.234	.032	Brass	n/a	Peel Away Shims	Round	Z9975	D-39
.140	#6	.625	.024 - .038	Steel	Zinc	Fender	Round	Z0448	D-12
.140	#6	.625	.024 - .038	18-8 S/S	n/a	Fender	Round	Z0448-188	D-10
.140	#6	.625	.024 - .038	316 S/S	n/a	Fender	Round	Z0448-316	D4
.140	#5	.438	.042	18-8 S/S	n/a	Mil Spec	Round	NAS1149-CN542R	D-16
.140	#5	.500	.084 - .104	18-8 S/S	n/a	Countersunk	Round	Z9978E-SS	D-29
.140	#5	.500	.084 - .104	316 S/S	n/a	Countersunk	Round	Z9978E-316	D-29
.140	#5	.500	.084 - .104	Steel	Black Ox	Countersunk	Round	Z9978E	D-29
.140	#5	.500	.094 - .114	18-8 S/S	n/a	Countersunk	Round	Z9978-SS	D-29
.140	#5	.500	.094 - .114	316 S/S	n/a	Countersunk	Round	Z9978-316	D-29
.140	#5	.500	.094 - .114	Steel	Black Ox	Countersunk	Round	Z9978	D-29
.142	#6	.312	.031	Nylatron	n/a	Non-Metal	Round	Z8384	D-23
.142	#6	.500	.062	Fiberglass	n/a	Non-Metal	Round	Z8314	D-23
.143	#6	.265	.005	18-8 S/S	n/a	Wave	Round	WAV106SS	D-45
.143	#6	.265	.007	18-8 S/S	n/a	Wave	Round	WAV112SS	D-45
.143	#6	.267	.014 - .018	18-8 S/S	n/a	Mil Spec	Round	NAS620-C6	D-15
.143	#6	.267	.029 - .035	18-8 S/S	n/a	Mil Spec	Round	NAS620-C6L	D-15
.144	#6	.312	.062	18-8 S/S	n/a	Machined	Round	Z0702SS	D-9
.145	#6	.240	.006	18-8 S/S	n/a	Wave	Round	WAV306SS	D-45
.149	#6	.375	.006 - .026	18-8 S/S	n/a	Mil Spec	Round	AN960-C6L	D-15
.149	#6	.375	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C6	D-15
.149	#6	.375	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-CN632R	D-16
.153	#6	.375	.045	Phenolic	n/a	Non-Metal	Round	Z8404	D-23
.153	#6	.500	.063	Phenolic	n/a	Non-Metal	Round	Z8406	D-23
.156	#6	.312	.027 - .048	18-8 S/S	n/a	Mil Spec	Round	MS15795-805	D-16
.156	#6	.312	.028 - .036	Aluminum	n/a	ASME Type B	Round	WASB#6NAL	D-19
.156	#6	.312	.028 - .036	Brass	n/a	ASME Type B	Round	WASB#6NBR	D-19
.156	#6	.312	.028 - .036	Copper	n/a	ASME Type B	Round	WASB#6NCU	D-19
.156	#6	.312	.028 - .036	Steel	Zinc	ASME Type B	Round	WASB#6NZ	D-19
.156	#6	.312	.028 - .036	18-8 S/S	n/a	ASME Type B	Round	WASB#6N8	D-19
.156	#6	.312	.028 - .036	316 S/S	n/a	ASME Type B	Round	WASB#6N316	D-19

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.156	#6	.375	.032	18-8 S/S	n/a	Fender	Round	Z0539-188	D-10
.156	#6	.438	.036 - .045	Aluminum	n/a	ASME Type B	Round	WASB#6RAL	D-20
.156	#6	.438	.036 - .045	Brass	n/a	ASME Type B	Round	WASB#6RBR	D-20
.156	#6	0.438	.036 - .045	Copper	n/a	ASME Type B	Round	WASB#6RCU	D-20
.156	#6	0.562	.036 - .045	Aluminum	n/a	ASME Type B	Round	WASB#6WAL	D-20
.156	#6	0.562	.036 - .045	Brass	n/a	ASME Type B	Round	WASB#6WBR	D-20
.156	#6	0.562	.036 - .045	Copper	n/a	ASME Type B	Round	WASB#6WCU	D-20
.156	#6	.438	.036 - .045	Steel	Zinc	ASME Type B	Round	WASB#6RZ	D-20
.156	#6	.438	.036 - .045	18-8 S/S	n/a	ASME Type B	Round	WASB#6R8	D-20
.156	#6	.438	.036 - .045	316 S/S	n/a	ASME Type B	Round	WASB#6R316	D-20
.156	#6	.562	.036 - .045	316 S/S	n/a	ASME Type B	Round	WASB#6W316	D-20
.156	#6	.561	.036 - .045	Steel	Zinc	ASME Type B	Round	WASB#6WZ	D-20
.156	#6	.561	.036 - .045	18-8 S/S	n/a	ASME Type B	Round	WASB#6W8	D-20
.156	#6	.375	.036 - .065	18-8 S/S	n/a	Mil Spec	Round	MS15795-806	D-16
.156	#6	.375	.036 - .065	18-8 S/S	n/a	SAE Standard	Round	WAS404#6	D-17
.156	#6	.375	.036 - .065	316 S/S	n/a	SAE Standard	Round	WAS405#6	D-17
.156	#6	.375	.036 - .065	Titanium	n/a	SAE Standard	Round	WAS406#6	D-17
.156	#6	.750	.036 - .065	Steel	Zinc	Fender	Round	Z0480	D-12
.156	#6	.875	.036 - .065	Steel	Zinc	Fender	Round	Z0629	D-12
.156	#6	.562	.040 - .054	Steel	Zinc	Fender	Round	Z0449	D-12
.156	#6	.562	.040 - .054	18-8 S/S	n/a	Fender	Round	Z0449-188	D-10
.156	#6	.562	.040 - .054	316 S/S	n/a	Fender	Round	Z0449-316	D-11
.156	#6	.312	.063	18-8 S/S	n/a	Flat Washer	Round	Z9156	D-2
.156	#6	.312	.063	Brass	n/a	Flat Washer	Round	Z9156BR	D-4
.156	#6	.312	.063	Steel	n/a	Flat Washer	Round	Z9156STL	D-3
.156	#6	.375	.078	Steel	n/a	Flat Washer	Round	Z9086	D-3
.156	#6	.375	.078	Brass	n/a	Flat Washer	Round	Z9086BR	D-4
.156	#6	.375	.078	18-8 S/S	n/a	Flat Washer	Round	Z9086SS	D-2
.156	#6	.375	.078	17-4 S/S	n/a	Flat Washer	Round	Z9086-174	D-4
.156	#6	.562	.084 - .104	18-8 S/S	n/a	Countersunk	Round	Z9979E-SS	D-29
.156	#6	.562	.084 - .104	316 S/S	n/a	Countersunk	Round	Z9979E-316	D-29
.156	#6	.562	.084 - .104	Steel	Black Ox	Countersunk	Round	Z9979E	D-29
.156	#6	.562	.097 - .117	18-8 S/S	n/a	Countersunk	Round	Z9979-SS	D-29
.156	#6	.562	.097 - .117	316 S/S	n/a	Countersunk	Round	Z9979-316	D-29
.156	#6	.562	.097 - .117	Stl Cased	Black Ox	Countersunk	Round	Z9979	D-29
.160	#8	.280	.006	18-8 S/S	n/a	Wave	Round	WAV108SS	D-45
.167 - .172	5/64 x 1/4	.243 - .248	.003	18-8 S/S	n/a	Shims for Bearing	Round	Z9882-3	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.003	Brass	n/a	Shims for Bearing	Round	Z9882-3-BR	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.005	18-8 S/S	n/a	Shims for Bearing	Round	Z9882-5	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.005	316 S/S	n/a	Shims for Bearing	Round	Z9882-5-316	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.005	Brass	n/a	Shims for Bearing	Round	Z9882-5-BR	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.007	18-8 S/S	n/a	Shims for Bearing	Round	Z9882-7	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.007	316 S/S	n/a	Shims for Bearing	Round	Z9882-7-316	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.007	Brass	n/a	Shims for Bearing	Round	Z9882-7-BR	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.010	18-8 S/S	n/a	Shims for Bearing	Round	Z9882-10	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.010	316 S/S	n/a	Shims for Bearing	Round	Z9882-10-316	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.010	Brass	n/a	Shims for Bearing	Round	Z9882-10-BR	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.020	18-8 S/S	n/a	Shims for Bearing	Round	Z9882-20	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.020	316 S/S	n/a	Shims for Bearing	Round	Z9882-20-316	D-42
.167 - .172	5/64 x 1/4	.243 - .248	.020	Brass	n/a	Shims for Bearing	Round	Z9882-20-BR	D-42
.169	#8	.317	.008	18-8 S/S	n/a	Wave	Round	WAV113SS	D-45
.169	#8	.304	.014 - .018	18-8 S/S	n/a	Mil Spec	Round	NAS620-C8	D-15
.169	#8	.304	.029 - .035	18-8 S/S	n/a	Mil Spec	Round	NAS620-C8L	D-15
.169	#8	.375	.062	18-8 S/S	n/a	Machined	Round	Z0703SS	D-9
.171 - .182	1/4	.239 - .243	.004 - .005	18-8 S/S	n/a	Shims for Shoulders	Round	Z9888-005	D-41

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.171 - .182	1/4	.239 - .243	.014 - .018	18-8 S/S	n/a	Shims for Shoulders	Round	Z9888-016	D-41
.171 - .182	1/4	.239 - .243	.027 - .033	18-8 S/S	n/a	Shims for Shoulders	Round	Z9888-032	D-41
.172	#8	.375	.032	316 S/S	n/a	Fender	Round	Z0540-316	D-11
.172	#8	.375	.032	18-8 S/S	n/a	Fender	Round	Z0540-188	D-10
.172	#8	.750	.033 - .047	Steel	Zinc	Fender	Round	Z0450	D-12
.172	#8	.750	.033 - .047	18-8 S/S	n/a	Fender	Round	Z0450-188	D-10
.172	#8	.750	.033 - .047	316 S/S	n/a	Fender	Round	Z0450-316	D-11
.172	#8	.375	.063	18-8 S/S	n/a	Flat Washer	Round	Z9158	D-2
.172	#8	.375	.063	Brass	n/a	Flat Washer	Round	Z9158BR	D-4
.172	#8	.375	.063	Steel	n/a	Flat Washer	Round	Z9158STL	D-3
.173	#8	.375	.031	Nylatron	n/a	Non-Metal	Round	Z8386	D-23
.174	#8	.375	.006 - .026	18-8 S/S	n/a	Mil Spec	Round	AN960-C8L	D-15
.174	#8	.375	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C8	D-15
.174	#8	.375	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-CN832R	D-16
.175	#8	.380	.031	Fiberglass	n/a	Non-Metal	Round	Z8316	D-23
.177	#8	.500	.062	Phenolic	n/a	Non-Metal	Round	Z8408	D-23
.178	#8	.562	.062	Fiberglass	n/a	Non-Metal	Round	Z8318	D-23
.187	#8	.375	.036 - .045	Aluminum	n/a	ASME Type B	Round	WASB#8NAL	D-19
.187	#8	.375	.036 - .045	Brass	n/a	ASME Type B	Round	WASB#8NBR	D-19
.187	#8	.375	.036 - .045	Copper	n/a	ASME Type B	Round	WASB#8NCU	D-19
.187	#8	.500	.036 - .045	Aluminum	n/a	ASME Type B	Round	WASB#8RAL	D-20
.187	#8	.500	.036 - .045	Brass	n/a	ASME Type B	Round	WASB#8RBR	D-20
.187	#8	.500	.036 - .045	Copper	n/a	ASME Type B	Round	WASB#8RCU	D-20
.187	#8	.375	.036 - .045	316 S/S	n/a	ASME Type B	Round	WASB#8N316	D-19
.187	#8	.500	.036 - .045	316 S/S	n/a	ASME Type B	Round	WASB#8R316	D-20
.187	#8	.625	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB#8WAL	D-20
.187	#8	.625	.056 - .071	Brass	n/a	ASME Type B	Round	WASB#8WBR	D-20
.187	#8	.625	.056 - .071	Copper	n/a	ASME Type B	Round	WASB#8WCU	D-20
.187	#8	.625	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB#8W316	D-20
.188	#8	.375	.036 - .045	Steel	Zinc	ASME Type B	Round	WASB#8NZ	D-19
.188	#8	.375	.036 - .045	18-8 S/S	n/a	ASME Type B	Round	WASB#8N8	D-19
.188	#8	.500	.036 - .045	Steel	Zinc	ASME Type B	Round	WASB#8RZ	D-20
.188	#8	.500	.036 - .045	18-8 S/S	n/a	ASME Type B	Round	WASB#8R8	D-20
.188	#8	.375	.036 - .065	18-8 S/S	n/a	Mil Spec	Round	MS15795-807	D-16
.188	#8	.438	.036 - .065	18-8 S/S	n/a	Mil Spec	Round	MS15795-841	D-16
.188	#8	.438	.036 - .065	18-8 S/S	n/a	SAE Standard	Round	WAS404#8	D-17
.188	#8	.438	.036 - .065	316 S/S	n/a	SAE Standard	Round	WAS405#8	D-17
.188	#8	1.000	.036 - .065	Steel	Zinc	Fender	Round	Z0481	D-12
.188	#8	.438	.036 - .065	Titanium	n/a	SAE Standard	Round	WAS406#8	D-17
.188	#8	.750	.043 - .057	Steel	Zinc	Fender	Round	Z0451	D-12
.188	#8	.750	.043 - .057	18-8 S/S	n/a	Fender	Round	Z0451-188	D-10
.188	#8	.750	.043 - .057	316 S/S	n/a	Fender	Round	Z0451-316	D-11
.188	#8	.625	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB#8WZ	D-20
.188	#8	.625	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB#8W8	D-20
.188	#8	.437	.078	Steel	n/a	Flat Washer	Round	Z9087	D-3
.188	#8	.437	.078	Brass	n/a	Flat Washer	Round	Z9087BR	D-3
.188	#8	.437	.078	18-8 S/S	n/a	Flat Washer	Round	Z9087SS	D-2
.188	#8	.437	.078	17-4 S/S	n/a	Flat Washer	Round	Z9087-174	D-4
.188	#8	.437	.078	18-8 S/S	n/a	Flat Washer	Round	Z9160	D-2
.188	#8	.437	.078	Brass	n/a	Flat Washer	Round	Z9160BR	D-4
.188	#8	.437	.078	Steel	n/a	Flat Washer	Round	Z9160STL	D-3
.188	#8	.750	.115 - .135	18-8 S/S	n/a	Countersunk	Round	Z9930E-SS	D-29
.188	#8	.750	.115 - .135	316 S/S	n/a	Countersunk	Round	Z9930E-316	D-29
.188	#8	.750	.115 - .135	Steel	Black Ox	Countersunk	Round	Z9930E	D-29
.188	#8	1.000	.115 - .135	18-8 S/S	n/a	Countersunk	Round	Z9931E-SS	D-29

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.188	#8	1.000	.115 - .135	316 S/S	n/a	Countersunk	Round	Z9931E-316	D-29
.188	#8	1.000	.115 - .135	Steel	Black Ox	Countersunk	Round	Z9931E	D-29
.188	#8	.750	.125	Stl Cased	Black Ox	Countersunk	Round	Z9930	D-29
.188	#8	.750	.125	316 S/S	n/a	Countersunk	Round	Z9930-316	D-29
.188	#8	.750	.125	18-8 S/S	n/a	Countersunk	Round	Z9930SS	D-29
.188	#8	1.000	.125	Stl Cased	Black Ox	Countersunk	Round	Z9931	D-29
.188	#8	1.000	.125	18-8 S/S	n/a	Countersunk	Round	Z9931SS	D-29
.188	#8	1.000	.125	316 S/S	n/a	Countersunk	Round	Z9931-316	D-29
.188 - .193	n/a	.245 - .255	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9761	D-40
.188 - .193	n/a	.245 - .255	.001	Brass	n/a	Shims for Shafts	Round	Z9761-BR	D-40
.188 - .193	n/a	.245 - .255	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9762	D-40
.188 - .193	n/a	.245 - .255	.002	Brass	n/a	Shims for Shafts	Round	Z9762-BR	D-40
.188 - .193	n/a	.245 - .255	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9763	D-40
.188 - .193	n/a	.245 - .255	.003	Brass	n/a	Shims for Shafts	Round	Z9763-BR	D-40
.188 - .193	n/a	.245 - .255	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9764	D-40
.188 - .193	n/a	.245 - .255	.004	Brass	n/a	Shims for Shafts	Round	Z9764-BR	D-40
.188 - .193	n/a	.245 - .255	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9765	D-40
.188 - .193	n/a	.245 - .255	.005	316 S/S	n/a	Shims for Shafts	Round	Z9765-316	D-40
.188 - .193	n/a	.245 - .255	.005	Brass	n/a	Shims for Shafts	Round	Z9765-BR	D-40
.188 - .193	n/a	.245 - .255	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9766	D-40
.188 - .193	n/a	.245 - .255	.006	316 S/S	n/a	Shims for Shafts	Round	Z9766-316	D-40
.188 - .193	n/a	.245 - .255	.006	Brass	n/a	Shims for Shafts	Round	Z9766-BR	D-40
.188 - .193	n/a	.245 - .255	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9768	D-40
.188 - .193	n/a	.245 - .255	.008	316 S/S	n/a	Shims for Shafts	Round	Z9768-316	D-40
.188 - .193	n/a	.245 - .255	.008	Brass	n/a	Shims for Shafts	Round	Z9768-BR	D-40
.188 - .193	n/a	.245 - .255	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9770	D-40
.188 - .193	n/a	.245 - .255	.010	316 S/S	n/a	Shims for Shafts	Round	Z9770-316	D-40
.188 - .193	n/a	.245 - .255	.010	Brass	n/a	Shims for Shafts	Round	Z9770-BR	D-40
.188 - .193	n/a	.245 - .255	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9772	D-40
.188 - .193	n/a	.245 - .255	.012	316 S/S	n/a	Shims for Shafts	Round	Z9772-316	D-40
.188 - .193	n/a	.245 - .255	.012	Brass	n/a	Shims for Shafts	Round	Z9772-BR	D-40
.188 - .193	n/a	.245 - .255	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9774	D-40
.188 - .193	n/a	.245 - .255	.015	316 S/S	n/a	Shims for Shafts	Round	Z9774-316	D-40
.188 - .193	n/a	.245 - .255	.015	Brass	n/a	Shims for Shafts	Round	Z9774-BR	D-40
.188 - .193	n/a	.245 - .255	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9776	D-40
.188 - .193	n/a	.245 - .255	.016	316 S/S	n/a	Shims for Shafts	Round	Z9776-316	D-40
.188 - .193	n/a	.245 - .255	.016	Brass	n/a	Shims for Shafts	Round	Z9776-BR	D-40
.190	#8	.240	.006	18-8 S/S	n/a	Wave	Round	WAV308SS	D-45
.192	#8	.375	.062	4140 Stl	Black Ox	Machined	Round	Z0352	D-9
.193	3/16	.375	.032	Brass	n/a	Laminated	Round	Z9976	D-39
.195	#10	.365	.009	18-8 S/S	n/a	Wave	Round	WAV114SS	D-45
.195	#10	.297	.010	18-8 S/S	n/a	Wave	Round	WAV110SS	D-45
.195	#10	.354	.029 - .035	18-8 S/S	n/a	Mil Spec	Round	NAS620-C10	D-15
.195	#10	.354	.059 - .067	18-8 S/S	n/a	Mil Spec	Round	NAS620-C10L	D-15
.196	#10	.437	.078	18-8 S/S	n/a	Machined	Round	Z0704SS	D-9
.200	#10	.625	0.125	316 S/S	n/a	Pyramid	Round	ZPYR#10625-316	D-30
.201	#10	.460	.031	Nylatron	n/a	Non-Metal	Round	Z8388	D-23
.202	#10	.632	.063	Phenolic	n/a	Non-Metal	Round	Z8410	D-23
.203	#10	.365	.005	18-8 S/S	n/a	Wave	Round	WAV310SS	D-45
.203	#10	.438	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C10L	D-15
.203	#10	.438	.032	316 S/S	n/a	Fender	Round	Z0541-316	D-11
.203	#10	.438	.032	18-8 S/S	n/a	Fender	Round	Z0541-188	D-10
.203	#10	.438	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0332R	D-16
.203	#10	.688	.033 - .047	18-8 S/S	n/a	Fender	Round	Z0453-188	D-10
.203	#10	.688	.033 - .047	316 S/S	n/a	Fender	Round	Z0453-316	D-11

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.203	#10	.688	.033 - .047	18-8 S/S	Black Ox	Flat Washer	Round	Z0453-188-BX	D-10
.203	#10	.750	.033 - .047	Steel	Zinc	Fender	Round	Z0455	D-12
.203	#10	.750	.033 - .047	18-8 S/S	n/a	Fender	Round	Z0455-188	D-10
.203	#10	.750	.033 - .047	316 S/S	n/a	Fender	Round	Z0455-316	D-11
.203	#10	.500	.033 - .047	Steel	Zinc	Fender	Round	Z0452	D-12
.203	#10	.500	.033 - .047	18-8 S/S	n/a	Fender	Round	Z0452-188	D-10
.203	#10	.500	.033 - .047	316 S/S	n/a	Fender	Round	Z0452-316	D-11
.203	#10	1.000	.033 - .047	Steel	Zinc	Fender	Round	Z0454	D-12
.203	#10	1.000	.033 - .047	18-8 S/S	n/a	Fender	Round	Z0454-188	D-10
.203	#10	1.000	.033 - .047	316 S/S	n/a	Fender	Round	Z0454-316	D-11
.203	#10	.406	.036 - .045	Aluminum	n/a	ASME Type B	Round	WASB#10NAL	D-19
.203	#10	.406	.036 - .045	Brass	n/a	ASME Type B	Round	WASB#10NBR	D-19
.203	#10	.406	.036 - .045	Copper	n/a	ASME Type B	Round	WASB#10NCU	D-19
.203	#10	.562	.036 - .045	Aluminum	n/a	ASME Type B	Round	WASB#10RAL	D-20
.203	#10	.562	.036 - .045	Brass	n/a	ASME Type B	Round	WASB#10RBR	D-20
.203	#10	.562	.036 - .045	Copper	n/a	ASME Type B	Round	WASB#10RCU	D-20
.203	#10	.406	.036 - .045	Steel	Zinc	ASME Type B	Round	WASB#10NZ	D-19
.203	#10	.406	.036 - .045	18-8 S/S	n/a	ASME Type B	Round	WASB#10N8	D-19
.203	#10	.406	.036 - .045	316 S/S	n/a	ASME Type B	Round	WASB#10N316	D-19
.203	#10	.562	.036 - .045	Steel	Zinc	ASME Type B	Round	WASB#10RZ	D-20
.203	#10	.562	.036 - .045	18-8 S/S	n/a	ASME Type B	Round	WASB#10R8	D-20
.203	#10	.562	.036 - .045	316 S/S	n/a	ASME Type B	Round	WASB#10R316	D-20
.203	#10	.688	.042 - .052	Steel	Zinc	Fender	Round	Z0453	D-12
.203	#10	.750	.051 - .080	Steel	Zinc	Fender	Round	Z0627	D-12
.203	#8	.750	.051 - .080	Steel	Zinc	Fender	Round	Z0630	D-12
.203	#8	1.250	.051 - .080	Steel	Zinc	Fender	Round	Z0632	D-12
.203	#8	1.000	.051 - .080	Steel	Zinc	Fender	Round	Z0631	D-12
.203	#10	.438	.053 - .073	18-8 S/S	n/a	Mil Spec	Round	AN960-C10	D-15
.203	#10	.734	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB#10WAL	D-20
.203	#10	.734	.056 - .071	Brass	n/a	ASME Type B	Round	WASB#10WBR	D-20
.203	#10	.734	.056 - .071	Copper	n/a	ASME Type B	Round	WASB#10WCU	D-20
.203	#10	.734	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB#10WZ	D-20
.203	#10	.734	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB#10W8	D-20
.203	#10	.734	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB#10W316	D-20
.203	#10	.443	.062	Fiberglass	n/a	Non-Metal	Round	Z8320	D-23
.203	#10	.438	.063	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0363R	D-16
.203	#10	.500	.093	Stl Cased	Nickel	Machined	Round	Z9094M	D-9
.203	#10	.500	.093	18-8 S/S	n/a	Machined	Round	Z9094M-SS	D-9
.203	#10	.500	.093	Steel	Plain	Machined	Round	Z9180	D-9
.203	#10	.500	.094	Steel	n/a	Flat Washer	Round	Z9094	D-3
.203	#10	.500	.094	Brass	n/a	Flat Washer	Round	Z9094BR	D-4
.203	#10	.500	.094	18-8 S/S	n/a	Flat Washer	Round	Z9094SS	D-2
.203	#10	.500	.094	17-4 S/S	n/a	Flat Washer	Round	Z9094-174	D-4
.203	#10	.500	.094	Soft Stl	Plain	Beveled FW	Round	Z9180-BEV	D-8
.203	#10	.500	.094	Stl Cased	n/a	Beveled FW	Round	Z9180-BEV-H	D-8
.203	#10	.500	.094	Stl Cased	Zinc	Beveled FW	Round	Z9180-BEV-HZN	D-8
.203	#10	.500	.094	18-8 S/S	n/a	Beveled FW	Round	Z9180-BEV-SS	D-8
.203	#10	.812	.130 - .151	18-8 S/S	n/a	Countersunk	Round	Z9932E-SS	D-29
.203	#10	.812	.130 - .151	316 S/S	n/a	Countersunk	Round	Z9932E-316	D-29
.203	#10	.812	.130 - .151	Steel	Black Ox	Countersunk	Round	Z9932E	D-29
.203	#10	1.250	.130 - .151	18-8 S/S	n/a	Countersunk	Round	Z9934E-SS	D-29
.203	#10	1.250	.130 - .151	316 S/S	n/a	Countersunk	Round	Z9934E-316	D-29
.203	#10	1.250	.130 - .151	Steel	Black Ox	Countersunk	Round	Z9934E	D-29
.203	#10	.812	.141	Stl Cased	Black Ox	Countersunk	Round	Z9932	D-29
.203	#10	.812	.141	316 S/S	n/a	Countersunk	Round	Z9932-316	D-29

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.203	#10	.812	.141	18-8 S/S	n/a	Countersunk	Round	Z9932SS	D-29
.203	#10	1.125	.141	Stl Cased	Black Ox	Countersunk	Round	Z9933	D-29
.203	#10	1.125	.141	18-8 S/S	n/a	Countersunk	Round	Z9933SS	D-29
.203	#10	1.250	.141	Stl Cased	Black Ox	Countersunk	Round	Z9934	D-29
.203	#10	1.250	.141	18-8 S/S	n/a	Countersunk	Round	Z9934SS	D-29
.203	#10	1.250	.141	316 S/S	n/a	Countersunk	Round	Z9934-316	D-29
.206 - .211	3/32 x 5/16	.305 - .310	.003	18-8 S/S	n/a	Shims for Bearing	Round	Z9883-3	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.003	Brass	n/a	Shims for Bearing	Round	Z9883-3-BR	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.005	18-8 S/S	n/a	Shims for Bearing	Round	Z9883-5	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.005	316 S/S	n/a	Shims for Bearing	Round	Z9883-5-316	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.005	Brass	n/a	Shims for Bearing	Round	Z9883-5-BR	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.007	18-8 S/S	n/a	Shims for Bearing	Round	Z9883-7	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.007	316 S/S	n/a	Shims for Bearing	Round	Z9883-7-316	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.007	Brass	n/a	Shims for Bearing	Round	Z9883-7-BR	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.010	18-8 S/S	n/a	Shims for Bearing	Round	Z9883-10	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.010	316 S/S	n/a	Shims for Bearing	Round	Z9883-10-316	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.010	Brass	n/a	Shims for Bearing	Round	Z9883-10-BR	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.020	18-8 S/S	n/a	Shims for Bearing	Round	Z9883-20	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.020	316 S/S	n/a	Shims for Bearing	Round	Z9883-20-316	D-43
.206 - .211	3/32 x 5/16	.305 - .310	.020	Brass	n/a	Shims for Bearing	Round	Z9883-20-BR	D-43
.219	#10	.438	.036 - .065	18-8 S/S	n/a	Mil Spec	Round	MS15795-808	D-16
.219	#10	1.500	.036 - .065	Steel	Zinc	Fender	Round	Z0482	D-12
.219	#10	.500	.036 - .065	18-8 S/S	n/a	Mil Spec	Round	MS15795-842	D-16
.219	#10	.500	.036 - .065	18-8 S/S	n/a	SAE Standard	Round	WAS404#10	D-17
.219	#10	.500	.036 - .065	316 S/S	n/a	SAE Standard	Round	WAS405#10	D-17
.219	#10	.500	.036 - .065	316 H5 S/S	n/a	SAE Standard	Round	WAS407#10	D-17
.219	#10	.500	.036 - .065	Titanium	n/a	SAE Standard	Round	WAS406#10	D-17
.219	#10	1.250	.043 - .057	Steel	Zinc	Fender	Round	Z0456	D-12
.219	#10	1.250	.043 - .057	18-8 S/S	n/a	Fender	Round	Z0456-188	D-10
.219	#10	1.250	.043 - .057	316 S/S	n/a	Fender	Round	Z0456-316	D-11
.219	#10	.750	.063 - .083	Steel	Zinc	Fender	Round	Z0628	D-12
.219	#10	.500	.090 - .108	316 H5 S/S	n/a	SAE Standard	Round	Z9263-316H5	D-17
.219	#10	1.000	.125	18-8 S/S	n/a	Fender-XT	Round	Z9678SS	D-13
.219	#10	1.000	.125	Steel	Zinc	Fender-XT	Round	Z9678	D-13
.219	#10	1.000	.250	Steel	Zinc	Fender-XT	Round	Z9679	D-13
.226	No 10	.500	.094-.109	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9070-188	D-31
.226	No 10	.500	.094-.109	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9070-188-BX	D-31
.226	No 10	.500	.094-.109	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9070-316	D-31
.226	No 10	.500	.094-.109	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9070-316-BX	D-31
.234	#11	.625	.055 - .075	18-8 S/S	n/a	Mil Spec	Round	AN960-C11	D-15
.234 - .245	5/16	.301 - .305	.004 - .005	18-8 S/S	n/a	Shims for Shoulders	Round	Z9889-005	D-41
.234 - .245	5/16	.301 - .305	.014 - .018	18-8 S/S	n/a	Shims for Shoulders	Round	Z9889-016	D-41
.234 - .245	5/16	.301 - .305	.027 - .033	18-8 S/S	n/a	Shims for Shoulders	Round	Z9889-030	D-41
.250	1/4	.750	.031	18-8 S/S	n/a	Shims for D Shafts	Round	Z0595	D-44
.250	#10	.563	.036 - .065	18-8 S/S	n/a	USS Standard	Round	WAS504#10	D-18
.250	#10	.563	.036 - .065	316 S/S	n/a	USS Standard	Round	WAS505#10	D-18
.250	#12	.500	.045	316 S/S	n/a	Fender	Round	Z0542-316	D-11
.250	#12	.500	.045	18-8 S/S	n/a	Fender	Round	Z0542-188	D-10
.250	#12	.562	.051 - .080	18-8 S/S	n/a	Mil Spec	Round	MS15795-809	D-16
.250	#12	.563	.051 - .080	18-8 S/S	n/a	SAE Standard	Round	WAS404#12	D-17
.250	#12	.563	.051 - .080	316 S/S	n/a	SAE Standard	Round	WAS405#12	D-17
.250	1/4	.750	.063	18-8 S/S	n/a	Shims for D Shafts	Round	Z0596	D-44
.250	1/4	.750	.125	18-8 S/S	n/a	Shims for D Shafts	Round	Z0597	D-44

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.250 - .255	n/a	.375 - .380	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9781	D-40
.250 - .255	n/a	.375 - .380	.001	Brass	n/a	Shims for Shafts	Round	Z9781-BR	D-40
.250 - .255	n/a	.375 - .380	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9782	D-40
.250 - .255	n/a	.375 - .380	.002	Brass	n/a	Shims for Shafts	Round	Z9782-BR	D-40
.250 - .255	n/a	.375 - .380	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9783	D-40
.250 - .255	n/a	.375 - .380	.003	Brass	n/a	Shims for Shafts	Round	Z9783-BR	D-40
.250 - .255	n/a	.375 - .380	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9784	D-40
.250 - .255	n/a	.375 - .380	.004	Brass	n/a	Shims for Shafts	Round	Z9784-BR	D-40
.250 - .255	n/a	.375 - .380	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9785	D-40
.250 - .255	n/a	.375 - .380	.005	316 S/S	n/a	Shims for Shafts	Round	Z9785-316	D-40
.250 - .255	n/a	.375 - .380	.005	Brass	n/a	Shims for Shafts	Round	Z9785-BR	D-40
.250 - .255	n/a	.375 - .380	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9786	D-40
.250 - .255	n/a	.375 - .380	.006	316 S/S	n/a	Shims for Shafts	Round	Z9786-316	D-40
.250 - .255	n/a	.375 - .380	.006	Brass	n/a	Shims for Shafts	Round	Z9786-BR	D-40
.250 - .255	n/a	.375 - .380	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9788	D-40
.250 - .255	n/a	.375 - .380	.008	316 S/S	n/a	Shims for Shafts	Round	Z9788-316	D-40
.250 - .255	n/a	.375 - .380	.008	Brass	n/a	Shims for Shafts	Round	Z9788-BR	D-40
.250 - .255	n/a	.375 - .380	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9790	D-40
.250 - .255	n/a	.375 - .380	.010	316 S/S	n/a	Shims for Shafts	Round	Z9790-316	D-40
.250 - .255	n/a	.375 - .380	.010	Brass	n/a	Shims for Shafts	Round	Z9790-BR	D-40
.250 - .255	n/a	.375 - .380	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9792	D-40
.250 - .255	n/a	.375 - .380	.012	316 S/S	n/a	Shims for Shafts	Round	Z9792-316	D-40
.250 - .255	n/a	.375 - .380	.012	Brass	n/a	Shims for Shafts	Round	Z9792-BR	D-40
.250 - .255	n/a	.375 - .380	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9794	D-40
.250 - .255	n/a	.375 - .380	.015	316 S/S	n/a	Shims for Shafts	Round	Z9794-316	D-40
.250 - .255	n/a	.375 - .380	.015	Brass	n/a	Shims for Shafts	Round	Z9794-BR	D-40
.250 - .255	n/a	.375 - .380	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9796	D-40
.250 - .255	n/a	.375 - .380	.016	316 S/S	n/a	Shims for Shafts	Round	Z9796-316	D-40
.250 - .255	n/a	.375 - .380	.016	Brass	n/a	Shims for Shafts	Round	Z9796-BR	D-40
.251 - .262	1/4	.373 - .377	.004 - .005	18-8 S/S	n/a	Shims for Shoulders	Round	Z9895-005	D-41
.251 - .262	1/4	.373 - .377	.014 - .018	18-8 S/S	n/a	Shims for Shoulders	Round	Z9895-016	D-41
.251 - .262	1/4	.373 - .377	.027 - .033	18-8 S/S	n/a	Shims for Shoulders	Round	Z9895-030	D-41
.253 - .258	1/8 x 3/8	.363 - .367	.003	18-8 S/S	n/a	Shims for Bearing	Round	Z9884-3	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.003	Brass	n/a	Shims for Bearing	Round	Z9884-3-BR	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.005	18-8 S/S	n/a	Shims for Bearing	Round	Z9884-5	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.005	316 S/S	n/a	Shims for Bearing	Round	Z9884-5-316	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.005	Brass	n/a	Shims for Bearing	Round	Z9884-5-BR	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.007	18-8 S/S	n/a	Shims for Bearing	Round	Z9884-7	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.007	316 S/S	n/a	Shims for Bearing	Round	Z9884-7-316	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.007	Brass	n/a	Shims for Bearing	Round	Z9884-7-BR	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.010	18-8 S/S	n/a	Shims for Bearing	Round	Z9884-10	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.010	316 S/S	n/a	Shims for Bearing	Round	Z9884-10-316	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.010	Brass	n/a	Shims for Bearing	Round	Z9884-10-BR	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.020	18-8 S/S	n/a	Shims for Bearing	Round	Z9884-20	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.020	316 S/S	n/a	Shims for Bearing	Round	Z9884-20-316	D-43
.253 - .258	1/8 x 3/8	.363 - .367	.020	Brass	n/a	Shims for Bearing	Round	Z9884-20-BR	D-43
.255	1/4	.468	.029 - .035	18-8 S/S	n/a	Mil Spec	Round	NAS620-C416L	D-15
.255	1/4	.500	.032	Brass	n/a	Peel Away Shims	Round	Z9977	D-39
.255	1/4	.468	.059 - .067	18-8 S/S	n/a	Mil Spec	Round	NAS620-C416	D-15
.255	1/4	.500	.062	4140 Stl	Black Ox	Machined	Round	Z0353	D-9
.257	3/8	.500	.078	18-8 S/S	n/a	Machined	Round	Z0705SS	D-9
.260	1/4	.485	.011	18-8 S/S	n/a	Wave	Round	WAV115SS	D-45
.262	1/4	.500	.031	Nylatron	n/a	Non-Metal	Round	Z8390	D-23
.265	1/4	.500	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C416L	D-15
.265	1/4	.500	.031	Fiberglass	n/a	Non-Metal	Round	Z8322	D-23

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.265	1/4	.500	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0432R	D-16
.265	1/4	.500	.053 - .073	18-8 S/S	n/a	Mil Spec	Round	AN960-C416	D-15
.265	1/4	.500	.063	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0463R	D-16
.266	1/4	.875	.042 - .052	Steel	Zinc	Fender	Round	Z0459	D-12
.266	1/4	.500	.043 - .057	Steel	Zinc	Fender	Round	Z0457	D-12
.266	1/4	.500	.043 - .057	18-8 S/S	n/a	Fender	Round	Z0457-188	D-10
.266	1/4	.500	.043 - .057	316 S/S	n/a	Fender	Round	Z0457-316	D-11
.266	1/4	.563	.056 - .070	Steel	Zinc	Fender	Round	Z0458	D-12
.266	1/4	.563	.056 - .070	18-8 S/S	n/a	Fender	Round	Z0458-188	D-10
.266	1/4	.563	.056 - .070	316 S/S	n/a	Fender	Round	Z0458-316	D-11
.266	1/4	.875	.056 - .070	18-8 S/S	n/a	Fender	Round	Z0459-188	D-10
.266	1/4	.875	.056 - .070	316 S/S	n/a	Fender	Round	Z0459-316	D-11
.266	1/4	.500	.078	18-8 S/S	n/a	Flat Washer	Round	Z9164	D-2
.266	1/4	2.000	.125	Fiberglass	n/a	Non-Metal	Square	Z8340	D-38
.281	1/4	1.000	.040 - .060	Steel	Zinc	Fender	Round	Z0460	D-12
.281	1/4	1.000	.040 - .060	18-8 S/S	n/a	Fender	Round	Z0460-188	D-10
.281	1/4	1.000	.040 - .060	316 S/S	n/a	Fender	Round	Z0460-316	D-11
.281	1/4	1.250	.040 - .060	Steel	Zinc	Fender	Round	Z0461	D-12
.281	1/4	1.250	.040 - .060	18-8 S/S	n/a	Fender	Round	Z0461-188	D-10
.281	1/4	1.250	.040 - .060	316 S/S	n/a	Fender	Round	Z0461-316	D-11
.281	1/4	.625	.045	18-8 S/S	n/a	Fender	Round	Z0543-188	D-10
.281	1/4	.625	.050	316 S/S	n/a	Fender	Round	Z0543-316	D-11
.281	1/4	.625	.051 - .080	18-8 S/S	n/a	Mil Spec	Round	MS15795-810	D-16
.281	1/4	.625	.051 - .080	18-8 S/S	n/a	SAE Standard	Round	WAS40414	D-17
.281	1/4	.625	.051 - .080	316 S/S	n/a	SAE Standard	Round	WAS40514	D-17
.281	1/4	.625	.051 - .080	316 H5 S/S	n/a	SAE Standard	Round	WAS40714	D-17
.281	1/4	.625	.051 - .080	Titanium	n/a	SAE Standard	Round	WAS40614	D-17
.281	1/4	1.500	.051 - .080	Steel	Zinc	Fender	Round	Z0633	D-12
.281	1/4	2.500	.051- .080	Steel	Zinc	Fender	Round	Z0483	D-12
.281	1/4	3.000	.051- .080	Steel	Zinc	Fender	Round	Z0484	D-12
.281	1/4	1.500	.052 - .072	Steel	Zinc	Fender	Round	Z0462	D-12
.281	1/4	1.500	.052 - .072	18-8 S/S	n/a	Fender	Round	Z0462-188	D-10
.281	1/4	1.500	.052- .072	316 S/S	n/a	Fender	Round	Z0462-316	D-11
.281	1/4	2.000	.052- .072	Steel	Zinc	Fender	Round	Z0463	D-12
.281	1/4	2.000	.052- .072	18-8 S/S	n/a	Fender	Round	Z0463-188	D-10
.281	1/4	2.000	.052- .072	316 S/S	n/a	Fender	Round	Z0463-316	D-11
.281	1/4	0.5	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB14NAL	D-19
.281	1/4	0.5	.056 - .071	Brass	n/a	ASME Type B	Round	WASB14NBR	D-19
.281	1/4	0.5	.056 - .071	Copper	n/a	ASME Type B	Round	WASB14NCU	D-19
.281	1/4	.734	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB14RAL	D-20
.281	1/4	.734	.056 - .071	Brass	n/a	ASME Type B	Round	WASB14RBR	D-20
.281	1/4	.734	.056 - .071	Copper	n/a	ASME Type B	Round	WASB14RCU	D-20
.281	1/4	1	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB14WAL	D-20
.281	1/4	1	.056 - .071	Brass	n/a	ASME Type B	Round	WASB14WBR	D-20
.281	1/4	1	.056 - .071	Copper	n/a	ASME Type B	Round	WASB14WCU	D-20
.281	1/4	.500	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB14N316	D-19
.281	1/4	.734	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB14RZ	D-20
.281	1/4	.734	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB14R8	D-20
.281	1/4	.734	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB14R316	D-20
.281	1/4	1.000	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB14W316	D-20
.281	1/4	.500	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB14NZ	D-19
.281	1/4	.500	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB14N8	D-19
.281	1/4	.625	.063	Phenolic	n/a	Non-Metal	Round	Z8412	D-23
.281	1/4	.500	.078	18-8 S/S	n/a	Flat Washer	Round	Z9161	D-2
.281	1/4	.500	.078	Brass	n/a	Flat Washer	Round	Z9161BR	D-4

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.281	1/4	.500	.078	Steel	n/a	Flat Washer	Round	Z9161STL	D-3
.281	1/4	.625	.094	Steel	Zinc Yel	Flat Washer	Round	Z9270	D-3
.281	1/4	.625	.094	316 H5 S/S	n/a	Flat Washer	Round	Z9270-316H5	D-4
.281	1/4	.625	.094	18-8 S/S	n/a	Flat Washer	Round	Z9270SS	D-2
.281	3/16 or 1/4	.625	.120	Stl Cased	Black Ox	Spherical	Round	Z9450M	D-26
.281	3/16 or 1/4	.625	.120	316 S/S	n/a	Spherical	Round	Z9450M-316	D-26
.281	3/16 or 1/4	.625	.120	18-8 S/S	n/a	Spherical	Round	Z9450M-SS	D-25
.281	1/4	.625	.125	Stl Cased	Nickel	Machined	Round	Z9095M	D-9
.281	1/4	.625	.125	18-8 S/S	n/a	Machined	Round	Z9095M-SS	D-9
.281	1/4	.625	.125	Steel	Plain	Component Thick	Round	Z9181	D-9
.281	1/4	.625	.125	18-8 S/S	n/a	Flat Washer	Round	Z9215	D-2
.281	1/4	.625	.125	Steel	n/a	Flat Washer	Round	Z9095	D-3
.281	1/4	.625	.125	Brass	n/a	Flat Washer	Round	Z9095BR	D-4
.281	1/4	.625	.125	18-8 S/S	n/a	Flat Washer	Round	Z9095SS	D-2
.281	1/4	.625	.125	17-4 S/S	n/a	Flat Washer	Round	Z9095-174	D-4
.281	1/4	.625	.125	Soft Stl	Plain	Beveled FW	Round	Z9181-BEV	D-8
.281	1/4	.625	.125	Stl Cased	Plain	Beveled FW	Round	Z9181-BEV-H	D-8
.281	1/4	.625	.125	Stl Cased	Zinc	Beveled FW	Round	Z9181-BEV-HZN	D-8
.281	1/4	.625	.125	18-8 S/S	n/a	Beveled FW	Round	Z9181-BEV-SS	D-8
.281	1/4	1.500	.125	Steel	n/a	Fender-XT	Round	Z9680	D-13
.281	1/4	1.500	.125	18-8 S/S	n/a	Fender-XT	Round	Z9680SS	D-10
.281	1/4	.750	.130 - .150	Stl Cased	Black Ox	Fender	Round	Z9285	D-12
.281	1/4	.625	.188	Steel	n/a	Flat Washer	Round	Z9200	D-3
.281	1/4	.625	.188	Brass	n/a	Flat Washer	Round	Z9200BR	D-4
.281	1/4	.625	.188	18-8 S/S	n/a	Flat Washer	Round	Z9200SS	D-2
.281	1/4	.625	.188	17-4 S/S	n/a	Flat Washer	Round	Z9200-174	D-4
.281	1/4	.781	.188	Stl Cased	n/a	Component Thick	Round	Z9200U	D-7
.281	1/4	1.750	.250	Steel Cased	Black Ox	C Washer	Round	Z9438	D-24
.281	#10–1/4	.750	.250	Stl Cased	Black Ox	Easy On Slotted	Round	Z9420	D-22
.281	#10–1/4	.750	.250	18-8 S/S	n/a	Easy On Slotted	Round	Z9420SS	D-22
.281	#10–1/4	1.000	.250	Stl Cased	Black Ox	Easy On Slotted	Round	Z9421	D-22
.281	#10–1/4	1.000	.250	18-8 S/S	n/a	Easy On Slotted	Round	Z9421SS	D-22
.281	1/4	1.500	.250	Steel	n/a	Fender-XT	Round	Z9681	D-13
.281	1/4	1.250	.271 - .291	18-8 S/S	n/a	Countersunk	Round	Z9935E-SS	D-29
.281	1/4	1.250	.271 - .291	316 S/S	n/a	Countersunk	Round	Z9935E-316	D-29
.281	1/4	1.250	.271 - .291	Steel	Black Ox	Countersunk	Round	Z9935E	D-29
.281	1/4	2.000	.271 - .291	18-8 S/S	n/a	Countersunk	Round	Z9939E-SS	D-29
.281	1/4	2.000	.271 - .291	316 S/S	n/a	Countersunk	Round	Z9939E-316	D-29
.281	1/4	2.000	.271 - .291	Steel	Black Ox	Countersunk	Round	Z9939E	D-29
.281	1/4	1.250	.281	Stl Cased	Black Ox	Countersunk	Round	Z9935	D-29
.281	1/4	1.250	.281	18-8 S/S	n/a	Countersunk	Round	Z9935SS	D-29
.281	1/4	1.250	.281	316 S/S	n/a	Countersunk	Round	Z9935-316	D-29
.281	1/4	1.375	.281	Stl Cased	Black Ox	Countersunk	Round	Z9936	D-29
.281	1/4	1.375	.281	18-8 S/S	n/a	Countersunk	Round	Z9936SS	D-29
.281	1/4	1.500	.281	Stl Cased	Black Ox	Countersunk	Round	Z9937	D-29
.281	1/4	1.500	.281	18-8 S/S	n/a	Countersunk	Round	Z9937SS	D-29
.281	1/4	1.750	.281	Stl Cased	Black Ox	Countersunk	Round	Z9938	D-29
.281	1/4	1.750	.281	18-8 S/S	n/a	Countersunk	Round	Z9938SS	D-29
.281	1/4	2.000	.281	Stl Cased	Black Ox	Countersunk	Round	Z9939	D-29
.281	1/4	2.000	.281	18-8 S/S	n/a	Countersunk	Round	Z9939SS	D-29
.281	1/4	2.000	.281	316 S/S	n/a	Countersunk	Round	Z9939-316	D-29
.281	1/4	1.000	056 - .071	Steel	Zinc	ASME Type B	Round	WASB14WZ	D-20
.281	1/4	1.000	056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB14W8	D-20
.283	1/4	.750	.125	316 S/S	n/a	Pyramid	Round	ZPYR14750-316	D-30
.289 - .300	3/8	.363 - .367	.004 - .005	18-8 S/S	n/a	Shims for Shoulders	Round	Z9890-005	D-41

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.289 - .300	3/8	.363 - .367	.014 - .018	18-8 S/S	n/a	Shims for Shoulders	Round	Z9890-016	D-41
.289 - .300	3/8	.363 - .367	.027 - .033	18-8 S/S	n/a	Shims for Shoulders	Round	Z9890-030	D-41
.313	1/4	.734	.051 - .080	18-8 S/S	n/a	Mil Spec	Round	MS15795-811	D-16
.313	1/4	.750	.051 - .080	18-8 S/S	n/a	USS Standard	Round	WAS50414	D-18
.313	1/4	.750	.051 - .080	316 S/S	n/a	USS Standard	Round	WAS50514	D-18
.313	1/4	2.000	.112 - .128	18-8 S/S	n/a	Square	Square	Z8926-188	D-35
.313	1/4	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8926-BOX	D-36
.313	1/4	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8926-ZN	D-37
.313	3/16 or 1/4	.625	.120	Stl Cased	Black Ox	Spherical	Round	Z9450F	D-26
.313	3/16 or 1/4	.625	.120	316 S/S	n/a	Spherical	Round	Z9450F-316	D-26
.313	3/16 or 1/4	.625	.120	18-8 S/S	n/a	Spherical	Round	Z9450F-SS	D-25
.313	1/4	1.250	.125	Steel	Black Ox	Countersunk	Round	Z9973	D-29
.313	1/4	1.250	.125	18-8 S/S	n/a	Countersunk	Round	Z9973-SS	D-29
.313	1/4	1.250	.125	316 S/S	n/a	Countersunk	Round	Z9973-316	D-29
.313	5/16	1.250	.125	18-8 S/S	n/a	Countersunk	Round	Z9973SS	D-29
.313	1/4	2.000	.170 - .200	18-8 S/S	n/a	Square	Square	Z8935-188	D-35
.313	1/4	2.000	.170 - .200	Steel	Black Ox	Square	Square	Z8935-BOX	D-36
.313	1/4	2.000	.250	Steel	Galv.	Square	Square	Z8950G	D-38
.313	1/4	2.000	.250	Diamond Stl	Galv.	Square	Square	Z8950D	D-36
.313	1/4	2.000	.250	Stl Cased	Black Ox	Square	Square	Z8950H	D-36
.313	1/4	2.000	.250	18-8 S/S	n/a	Square	Square	Z8950SS	D-35
.313 - .318	n/a	.495 - .505	.001	Brass	n/a	Shims for Shafts	Round	Z9801-BR	D-40
.313 - .318	n/a	.495 - .505	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9801	D-40
.313 - .318	n/a	.495 - .505	.002	Brass	n/a	Shims for Shafts	Round	Z9802-BR	D-40
.313 - .318	n/a	.495 - .505	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9802	D-40
.313 - .318	n/a	.495 - .505	.003	Brass	n/a	Shims for Shafts	Round	Z9803-BR	D-40
.313 - .318	n/a	.495 - .505	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9803	D-40
.313 - .318	n/a	.495 - .505	.004	Brass	n/a	Shims for Shafts	Round	Z9804-BR	D-40
.313 - .318	n/a	.495 - .505	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9804	D-40
.313 - .318	n/a	.495 - .505	.005	316 S/S	n/a	Shims for Shafts	Round	Z9805-316	D-41
.313 - .318	n/a	.495 - .505	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9805	D-41
.313 - .318	n/a	.495 - .505	.005	Brass	n/a	Shims for Shafts	Round	Z9805-BR	D-41
.313 - .318	n/a	.495 - .505	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9806	D-41
.313 - .318	n/a	.495 - .505	.006	Brass	n/a	Shims for Shafts	Round	Z9806-BR	D-41
.313 - .318	n/a	.495 - .505	.006	316 S/S	n/a	Shims for Shafts	Round	Z9806-316	D-41
.313 - .318	n/a	.495 - .505	.008	316 S/S	n/a	Shims for Shafts	Round	Z9808-316	D-41
.313 - .318	n/a	.495 - .505	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9808	D-41
.313 - .318	n/a	.495 - .505	.008	Brass	n/a	Shims for Shafts	Round	Z9808-BR	D-41
.313 - .318	5/16	.495 - .505	.009	Brass	n/a	Shims for Shafts	Round	Z9809-BR	D-41
.313 - .318	n/a	.495 - .505	.009	18-8 S/S	n/a	Shims for Shafts	Round	Z9809	D-41
.313 - .318	n/a	.495 - .505	.010	316 S/S	n/a	Shims for Shafts	Round	Z9810-316	D-41
.313 - .318	n/a	.495 - .505	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9810	D-41
.313 - .318	n/a	.495 - .505	.010	Brass	n/a	Shims for Shafts	Round	Z9810-BR	D-41
.313 - .318	n/a	.495 - .505	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9812	D-41
.313 - .318	n/a	.495 - .505	.012	Brass	n/a	Shims for Shafts	Round	Z9812-BR	D-41
.313 - .318	n/a	.495 - .505	.012	316 S/S	n/a	Shims for Shafts	Round	Z9812-316	D-41
.313 - .318	n/a	.495 - .505	.015	316 S/S	n/a	Shims for Shafts	Round	Z9814-316	D-41
.313 - .318	n/a	.495 - .505	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9814	D-41
.313 - .318	n/a	.495 - .505	.015	Brass	n/a	Shims for Shafts	Round	Z9814-BR	D-41
.313 - .318	n/a	.495 - .505	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9816	D-41
.313 - .318	n/a	.495 - .505	.016	Brass	n/a	Shims for Shafts	Round	Z9816-BR	D-41
.313 - .318	n/a	.495 - .505	.016	316 S/S	n/a	Shims for Shafts	Round	Z9816-316	D-41
.314	5/16	.562	.062	Fiberglass	n/a	Non-Metal	Round	Z8324	D-23
.314 - .325	5/16	.436 - .440	.004 - .005	18-8 S/S	n/a	Shims for Shoulders	Round	Z9896-005	D-41
.314 - .325	5/16	.436 - .440	.014 - .018	18-8 S/S	n/a	Shims for Shoulders	Round	Z9896-016	D-41

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.314 - .325	5/16	.436 - .440	.027 - .033	18-8 S/S	n/a	Shims for Shoulders	Round	Z9896-030	D-41
.318	5/16	.625	.093	4140 Stl	Black Ox	Machined	Round	Z0354	D-9
.320	1/4	0.75	.094-.109	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9071-188	D-31
.320	1/4	0.75	.094-.109	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9071-188-BX	D-31
.320	1/4	0.75	.094-.109	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9071-316	D-31
.320	1/4	0.75	.094-.109	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9071-316-BX	D-31
.322	5/16	0.607	.013	18-8 S/S	n/a	Wave	Round	WAV116SS	D-45
.322	5/16	.562	.031	Nylatron	n/a	Non-Metal	Round	Z8392	D-23
.322	5/16	.625	.093	18-8 S/S	n/a	Machined	Round	Z0706SS	D-9
.328	5/16	.562	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C516L	D-15
.328	5/16	.562	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0532R	D-16
.328	5/16	.562	.053 - .073	18-8 S/S	n/a	Mil Spec	Round	AN960-C516	D-15
.328	5/16	.625	.056 - .070	Steel	Zinc	Fender	Round	Z0464	D-11
.328	5/16	.625	.056 - .070	18-8 S/S	n/a	Fender	Round	Z0464-188	D-10
.328	5/16	.625	.056 - .070	316 S/S	n/a	Fender	Round	Z0464-316	D-11
.328	5/16	.562	.063	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0563R	D-16
.328	5/16	.569	.063	Phenolic	n/a	Non-Metal	Round	Z8414	D-23
.343	5/16	.750	.188	Steel	n/a	Flat Washer	Round	Z9201	D-3
.343	5/16	.750	.188	Brass	n/a	Flat Washer	Round	Z9201BR	D-4
.343	5/16	.750	.188	18-8 S/S	n/a	Flat Washer	Round	Z9201SS	D-2
.344	5/16	1.250	.040 - .060	Steel	Zinc	Fender	Round	Z0465	D-12
.344	5/16	1.250	.040 - .060	18-8 S/S	n/a	Fender	Round	Z0465-188	D-10
.344	5/16	1.250	.040 - .060	18-8 S/S	Black Ox	Fender	Round	Z0465-188-BOX	D-10
.344	5/16	1.250	.040 - .060	316 S/S	n/a	Fender	Round	Z0465-316	D-11
.344	5/16	.750	.050	316 S/S	n/a	Fender	Round	Z0544-316	D-11
.344	5/16	.750	.050	18-8 S/S	n/a	Fender	Round	Z0544-188	D-10
.344	5/16	.688	.051 - .080	18-8 S/S	n/a	Mil Spec	Round	MS15795-812	D-16
.344	5/16	.688	.051 - .080	18-8 S/S	n/a	SAE Standard	Round	WAS40451	D-17
.344	5/16	.688	.051 - .080	316 S/S	n/a	SAE Standard	Round	WAS40551	D-17
.344	5/16	.688	.051 - .080	Titanium	n/a	SAE Standard	Round	WAS40651	D-17
.344	5/16	.688	.051 - .080	316 H5 S/S	n/a	SAE Standard	Round	WAS40751	D-17
.344	5/16	1.500	.051- .080	Steel	Zinc	Fender	Round	Z0635	D-12
.344	5/16	1.625	.051- .080	Steel	Zinc	Fender	Round	Z0634	D-12
.344	5/16	2.000	.051- .080	Steel	Zinc	Fender	Round	Z0636	D-12
.344	5/16	2.500	.051- .080	Steel	Zinc	Fender	Round	Z0485	D-12
.344	5/16	3.000	.051- .080	Steel	Zinc	Fender	Round	Z0486	D-12
.344	5/16	1.500	.052- .072	Steel	Zinc	Fender	Round	Z0466	D-12
.344	5/16	1.500	.052- .072	18-8 S/S	n/a	Fender	Round	Z0466-188	D-10
.344	5/16	1.500	.052- .072	316 S/S	n/a	Fender	Round	Z0466-316	D-11
.344	5/16	2.000	.052- .072	Steel	Zinc	Fender	Round	Z0467	D-12
.344	5/16	2.000	.052- .072	18-8 S/S	n/a	Fender	Round	Z0467-188	D-10
.344	5/16	2.000	.052- .072	18-8 S/S	Black Ox	Fender	Round	Z0467-188-BOX	D-10
.344	5/16	2.000	.052- .072	316 S/S	n/a	Fender	Round	Z0467-316	D-11
.344	5/16	.875	.056 - .070	Steel	Zinc	ASME Type B	Round	WASB51RZ	D-20
.344	5/16	.875	.056 - .070	18-8 S/S	n/a	ASME Type B	Round	WASB51R8	D-20
.344	5/16	0.625	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB51NAL	D-19
.344	5/16	0.625	.056 - .071	Brass	n/a	ASME Type B	Round	WASB51NBR	D-19
.344	5/16	0.625	.056 - .071	Copper	n/a	ASME Type B	Round	WASB51NCU	D-19
.344	5/16	0.875	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB51RAL	D-20
.344	5/16	0.875	.056 - .071	Brass	n/a	ASME Type B	Round	WASB51RBR	D-20
.344	5/16	0.875	.056 - .071	Copper	n/a	ASME Type B	Round	WASB51RCU	D-20
.344	5/16	1.125	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB51WAL	D-20
.344	5/16	1.125	.056 - .071	Brass	n/a	ASME Type B	Round	WASB51WBR	D-20

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.344	5/16	1.125	.056 - .071	Copper	n/a	ASME Type B	Round	WASB51WCU	D-20
.344	5/16	1.125	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB51WZ	D-20
.344	5/16	1.125	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB51W316	D-20
.344	5/16	1.125	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB51W8	D-20
.344	5/16	.625	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB51NZ	D-19
.344	5/16	.625	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB51N8	D-19
.344	5/16	.625	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB51N316	D-19
.344	5/16	.875	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB51R316	D-20
.344	5/16	.625	.094	18-8 S/S	n/a	Flat Washer	Round	Z9162	D-2
.344	5/16	.625	.094	Brass	n/a	Flat Washer	Round	Z9162BR	D-4
.344	5/16	.625	.094	Steel	n/a	Flat Washer	Round	Z9162STL	D-3
.344	5/16	.687	.094	316 H5 S/S	n/a	Flat Washer	Round	Z9271-316H5	D-4
.344	5/16	.687	.100	18-8 S/S	n/a	Flat Washer	Round	Z9130	D-2
.344	5/16	.687	.125	18-8 S/S	n/a	Flat Washer	Round	Z9216	D-2
.344	5/16	.687	.125	Brass	n/a	Flat Washer	Round	Z9216BR	D-4
.344	5/16	.687	.125	Steel	n/a	Flat Washer	Round	Z9216STL	D-3
.344	5/16	.687	.125	Steel	Zinc Yel	Flat Washer	Round	Z9271	D-3
.344	5/16	.687	.125	18-8 S/S	n/a	Flat Washer	Round	Z9271SS	D-2
.344	5/16	.750	.125	Steel	n/a	Flat Washer	Round	Z9096	D-3
.344	5/16	.750	.125	Brass	n/a	Flat Washer	Round	Z9096BR	D-4
.344	5/16	.750	.125	18-8 S/S	n/a	Flat Washer	Round	Z9096SS	D-2
.344	5/16	.750	.125	18-8 S/S	n/a	Flat Washer	Round	Z9096-174	D-4
.344	5/16	.750	.125	Stl Cased	Nickel	Machined	Round	Z9096M	D-9
.344	5/16	.750	.125	18-8 S/S	n/a	Machined	Round	Z9096M-SS	D-9
.344	5/16	.750	.125	Steel	Plain	Component Thick	Round	Z9182	D-9
.344	5/16	.750	.125	Soft Stl	Plain	Beveled FW	Round	Z9182-BEV	D-8
.344	5/16	.750	.125	Stl Cased	Plain	Beveled FW	Round	Z9182-BEV-H	D-8
.344	5/16	.750	.125	Stl Cased	Zinc	Beveled FW	Round	Z9182-BEV-HZN	D-8
.344	5/16	.750	.125	18-8 S/S	n/a	Beveled FW	Round	Z9182-BEV-SS	D-8
.344	5/16	2.000	.125	Steel	n/a	Fender-XT	Round	Z9682	D-13
.344	5/16	2.000	.125	18-8 S/S	n/a	Fender-XT	Round	Z9682SS	D-13
.344	5/16	.875	.130 - .150	Stl Cased	Black Ox	Fender	Round	Z9286	D-12
.344	5/16	.828	.188	Stl Cased	n/a	Component Thick	Round	Z9201U	D-7
.344	5/16	.750	.188	17-4 S/S	n/a	Flat Washer	Round	Z9201-174	D-4
.344	5/16	2.000	.250	Steel	n/a	Fender-XT	Round	Z9683	D-13
.344	5/16	2.000	.250	18-8 S/S	n/a	Fender-XT	Round	Z9683SS	D-13
.344	5/16	1.250	.313	Stl Cased	Black Ox	Easy On Slotted	Round	Z9422	D-22
.344	5/16	1.250	.313	18-8 S/S	n/a	Easy On Slotted	Round	Z9422SS	D-22
.352 - .363	1/2	.489 - .493	.004 - .005	18-8 S/S	n/a	Shims for Shoulders	Round	Z9891-005	D-41
.352 - .363	1/2	.489 - .493	.014 - .018	18-8 S/S	n/a	Shims for Shoulders	Round	Z9891-016	D-41
.352 - .363	1/2	.489 - .493	.027 - .033	18-8 S/S	n/a	Shims for Shoulders	Round	Z9891-030	D-41
.375	3/8	1.000	.031	18-8 S/S	n/a	Shims for D Shafts	Round	Z0560	D-44
.375	3/8	1.000	.063	18-8 S/S	n/a	Shims for D Shafts	Round	Z0561	D-44
.375	5/16	.875	.064 - .104	18-8 S/S	n/a	Mil Spec	Round	MS15795-813	D-16
.375	5/16	.875	.064 - .104	18-8 S/S	n/a	USS Standard	Round	WAS50451	D-18
.375	5/16	.875	.064 - .104	316 S/S	n/a	USS Standard	Round	WAS50551	D-18
.375	3/8	1.000	.125	18-8 S/S	n/a	Shims for D Shafts	Round	Z0562	D-44
.375 - .380	n/a	.557 - .567	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9821	D-41
.375 - .380	n/a	.557 - .567	.001	Brass	n/a	Shims for Shafts	Round	Z9821-BR	D-41
.375 - .380	n/a	.557 - .567	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9822	D-41
.375 - .380	n/a	.557 - .567	.002	Brass	n/a	Shims for Shafts	Round	Z9822-BR	D-41
.375 - .380	n/a	.557 - .567	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9823	D-41
.375 - .380	n/a	.557 - .567	.003	Brass	n/a	Shims for Shafts	Round	Z9823-BR	D-41
.375 - .380	n/a	.557 - .567	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9824	D-41
.375 - .380	n/a	.557 - .567	.004	Brass	n/a	Shims for Shafts	Round	Z9824-BR	D-41

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.375 - .380	n/a	.557 - .567	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9825	D-41
.375 - .380	n/a	.557 - .567	.005	316 S/S	n/a	Shims for Shafts	Round	Z9825-316	D-41
.375 - .380	n/a	.557 - .567	.005	Brass	n/a	Shims for Shafts	Round	Z9825-BR	D-41
.375 - .380	n/a	.557 - .567	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9826	D-41
.375 - .380	n/a	.557 - .567	.006	316 S/S	n/a	Shims for Shafts	Round	Z9826-316	D-41
.375 - .380	n/a	.557 - .567	.006	Brass	n/a	Shims for Shafts	Round	Z9826-BR	D-41
.375 - .380	n/a	.557 - .567	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9828	D-41
.375 - .380	n/a	.557 - .567	.008	316 S/S	n/a	Shims for Shafts	Round	Z9828-316	D-41
.375 - .380	n/a	.557 - .567	.008	Brass	n/a	Shims for Shafts	Round	Z9828-BR	D-41
.375 - .380	n/a	.557 - .567	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9830	D-41
.375 - .380	n/a	.557 - .567	.010	316 S/S	n/a	Shims for Shafts	Round	Z9830-316	D-41
.375 - .380	n/a	.557 - .567	.010	Brass	n/a	Shims for Shafts	Round	Z9830-BR	D-41
.375 - .380	n/a	.557 - .567	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9832	D-41
.375 - .380	n/a	.557 - .567	.012	316 S/S	n/a	Shims for Shafts	Round	Z9832-316	D-41
.375 - .380	n/a	.557 - .567	.012	Brass	n/a	Shims for Shafts	Round	Z9832-BR	D-41
.375 - .380	n/a	.557 - .567	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9834	D-41
.375 - .380	n/a	.557 - .567	.015	316 S/S	n/a	Shims for Shafts	Round	Z9834-316	D-41
.375 - .380	n/a	.557 - .567	.015	Brass	n/a	Shims for Shafts	Round	Z9834-BR	D-41
.375 - .380	n/a	.557 - .567	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9836	D-41
.375 - .380	n/a	.557 - .567	.016	316 S/S	n/a	Shims for Shafts	Round	Z9836-316	D-41
.375 - .380	n/a	.557 - .567	.016	Brass	n/a	Shims for Shafts	Round	Z9836-BR	D-41
.376 - .387	3/8	.561 - .565	.005	18-8 S/S	n/a	Shims for Shoulders	Round	Z9897-005	D-41
.376 - .387	3/8	.561 - .565	.016	18-8 S/S	n/a	Shims for Shoulders	Round	Z9897-016	D-41
.376 - .387	3/8	.561 - .565	.030	18-8 S/S	n/a	Shims for Shoulders	Round	Z9897-030	D-41
.378 - .383	3/16 x 1/2	.493 - .498	.002	18-8 S/S	n/a	Shims for Bearing	Round	Z9885-2-BR	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.003	18-8 S/S	n/a	Shims for Bearing	Round	Z9885-3	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.003	Brass	n/a	Shims for Bearing	Round	Z9885-3-BR	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.005	18-8 S/S	n/a	Shims for Bearing	Round	Z9885-5	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.005	316 S/S	n/a	Shims for Bearing	Round	Z9885-5-316	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.005	Brass	n/a	Shims for Bearing	Round	Z9885-5-BR	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.007	18-8 S/S	n/a	Shims for Bearing	Round	Z9885-7	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.007	316 S/S	n/a	Shims for Bearing	Round	Z9885-7-316	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.007	Brass	n/a	Shims for Bearing	Round	Z9885-7-BR	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.010	18-8 S/S	n/a	Shims for Bearing	Round	Z9885-10	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.010	316 S/S	n/a	Shims for Bearing	Round	Z9885-10-316	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.010	Brass	n/a	Shims for Bearing	Round	Z9885-10-BR	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.020	18-8 S/S	n/a	Shims for Bearing	Round	Z9885-20	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.020	316 S/S	n/a	Shims for Bearing	Round	Z9885-20-316	D-43
.378 - .383	3/16 x 1/2	.493 - .498	.020	Brass	n/a	Shims for Bearing	Round	Z9885-20-BR	D-43
.380	3/8	.750	.062	Fiberglass	n/a	Non-Metal	Round	Z8326	D-23
.380	3/8	.750	.125	4140 Stl	Black Ox	Machined	Round	Z0355	D-9
.383	3/8	.506	.031	Nylatron	n/a	Non-Metal	Round	Z8394	D-23
.385	3/8	.625	.063	Phenolic	n/a	Non-Metal	Round	Z8416	D-23
.385	5/16	1	.094-.141	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9072-188	D-31
.385	5/16	1	.094-.141	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9072-188-BX	D-31
.385	5/16	1	.094-.141	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9072-316	D-31
.385	5/16	1	.094-.141	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9072-316-BX	D-31
.386	3/8	.750	.093	18-8 S/S	n/a	Machined	Round	Z0707SS	D-9
.390	3/8	.625	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C616L	D-15
.390	3/8	.625	.032	PTFE	n/a	Non-Metal	Round	WAS390625032PTFE	D-23
.390	3/8	.625	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0632R	D-16
.390	3/8	.875	.050	316 S/S	n/a	Fender	Round	Z0545-316	D-11
.390	3/8	.875	.050	18-8 S/S	n/a	Fender	Round	Z0545-188	D-10

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.390	3/8	.625	.053 - .073	18-8 S/S	n/a	Mil Spec	Round	AN960-C616	D-15
.390	3/8	.625	.063	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0663R	D-16
.390	3/8	2.000	.125	Fiberglass	n/a	Non-Metal	Square	Z8342	D-38
.405	3/8	1	.094-.141	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9073-188	D-31
.405	3/8	1	.094-.141	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9073-188-BX	D-31
.405	3/8	1	.094-.141	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9073-316	D-31
.405	3/8	1	.094-.141	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9073-316-BX	D-31
.406	3/8	.687	.032	PTFE	n/a	Non-Metal	Round	WAS40626875032PTFE	D-23
.406	3/8	1.250	.040 - .060	18-8 S/S	n/a	Fender	Round	Z0468-188	D-10
.406	3/8	1.250	.040 - .060	18-8 S/S	Black Ox	Fender	Round	Z0468-188-BOX	D-10
.406	3/8	1.250	.040 - .060	316 S/S	n/a	Fender	Round	Z0468-316	D-11
.406	3/8	1.250	.042 - .052	Steel	Zinc	Fender	Round	Z0468	D-12
.406	3/8	1.500	.042- .052	Steel	Zinc	Fender	Round	Z0469	D-12
.406	3/8	1.625	.042- .052	Steel	Zinc	Fender	Round	Z0470	D-12
.406	3/8	.812	.051 - .080	18-8 S/S	n/a	Mil Spec	Round	MS15795-814	D-16
.406	3/8	.812	.051 - .080	18-8 S/S	n/a	SAE Standard	Round	WAS40438	D-17
.406	3/8	.812	.051 - .080	316 S/S	n/a	SAE Standard	Round	WAS40538	D-17
.406	3/8	.812	.051 - .080	316 H5 S/S	n/a	SAE Standard	Round	WAS40738	D-17
.406	3/8	.812	.051 - .080	Titanium	n/a	SAE Standard	Round	WAS40638	D-17
.406	3/8	1.500	.051- .080	Steel	Zinc	Fender	Round	Z0637	D-12
.406	3/8	2.000	.051- .080	Steel	Zinc	Fender	Round	Z0638	D-12
.406	3/8	3.000	.051- .080	Steel	Zinc	Fender	Round	Z0487	D-12
.406	3/8	1.500	.052- .072	18-8 S/S	n/a	Fender	Round	Z0469-188	D-10
.406	3/8	1.500	.052- .072	18-8 S/S	Black Ox	Fender	Round	Z0469-188-BOX	D-10
.406	3/8	1.500	.052- .072	316 S/S	n/a	Fender	Round	Z0469-316	D-11
.406	3/8	2.000	.052- .072	Steel	Zinc	Fender	Round	Z0471	D-12
.406	3/8	2.000	.052- .072	18-8 S/S	n/a	Fender	Round	Z0471-188	D-10
.406	3/8	2.000	.052- .072	18-8 S/S	Black Ox	Fender	Round	Z0471-188-BOX	D-10
.406	3/8	2.000	.052- .072	316 S/S	n/a	Fender	Round	Z0471-316	D-11
.406	3/8	0.734	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB38NAL	D-19
.406	3/8	0.734	.056 - .071	Brass	n/a	ASME Type B	Round	WASB38NBR	D-19
.406	3/8	0.734	.056 - .071	Copper	n/a	ASME Type B	Round	WASB38NCU	D-19
.406	3/8	1	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB38RAL	D-20
.406	3/8	1	.056 - .071	Brass	n/a	ASME Type B	Round	WASB38RBR	D-20
.406	3/8	1	.056 - .071	Copper	n/a	ASME Type B	Round	WASB38RCU	D-20
.406	3/8	.734	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB38NZ	D-19
.406	3/8	.734	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB38N316	D-19
.406	3/8	1.000	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB38RZ	D-20
.406	3/8	1.000	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB38R8	D-20
.406	3/8	1.000	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB38R316	D-20
.406	3/8	.734	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB38N8	D-19
.406	3/8	1.625	.056- .070	18-8 S/S	n/a	Fender	Round	Z0470-188	D-10
.406	3/8	1.625	.056- .070	316 S/S	n/a	Fender	Round	Z0470-316	D-11
.406	3/8	1.25	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB38WAL	D-20
.406	3/8	1.25	.090 - .112	Brass	n/a	ASME Type B	Round	WASB38WBR	D-20
.406	3/8	1.25	.090 - .112	Copper	n/a	ASME Type B	Round	WASB38WCU	D-20
.406	3/8	1.250	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB38WZ	D-20
.406	3/8	1.250	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB38W316	D-20
.406	3/8	1.250	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB38W8	D-20
.406	3/8	.750	.094	18-8 S/S	n/a	Flat Washer	Round	Z9163	D-2
.406	3/8	.750	.094	Brass	n/a	Flat Washer	Round	Z9163BR	D-4
.406	3/8	.750	.094	Steel	n/a	Flat Washer	Round	Z9163STL	D-3
.406	3/8	.875	.125	Stl Cased	Nickel	Machined	Round	Z9097M	D-9

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.406	3/8	.875	.125	18-8 S/S	n/a	Machined	Round	Z9097M-SS	D-9
.406	3/8	.875	.125	Steel	Plain	Component Thick	Round	Z9183	D-9
.406	3/8	.812	.125	316 H5 S/S	n/a	Flat Washer	Round	Z9272-316H5	D-4
.406	3/8	.812	.125	18-8 S/S	n/a	Flat Washer	Round	Z9131	D-2
.406	3/8	.812	.125	Steel	Zinc Yel	Flat Washer	Round	Z9272	D-3
.406	3/8	.812	.125	18-8 S/S	n/a	Flat Washer	Round	Z9272SS	D-2
.406	3/8	.875	.125	Steel	n/a	Flat Washer	Round	Z9097	D-3
.406	3/8	.875	.125	Brass	n/a	Flat Washer	Round	Z9097BR	D-4
.406	3/8	.875	.125	18-8 S/S	n/a	Flat Washer	Round	Z9097SS	D-2
.406	3/8	.875	.125	17-4 S/S	n/a	Flat Washer	Round	Z9097-174	D-4
.406	3/8	.875	.125	Soft Stl	Plain	Beveled FW	Round	Z9183-BEV	D-8
.406	3/8	.875	.125	Stl Cased	Plain	Beveled FW	Round	Z9183-BEV-H	D-8
.406	3/8	.875	.125	Stl Cased	Zinc	Beveled FW	Round	Z9183-BEV-HZN	D-8
.406	3/8	.875	.125	18-8 S/S	n/a	Beveled FW	Round	Z9183-BEV-SS	D-8
.406	3/8	1.000	.125	18-8 S/S	n/a	Flat Washer	Round	Z9217	D-2
.406	3/8	1.000	.125	18-8 S/S	Black Ox	Flat Washer	Round	Z9217-BOX	D-2
.406	3/8	1.000	.125	Brass	n/a	Flat Washer	Round	Z9217BR	D-4
.406	3/8	1.000	.125	Steel	n/a	Flat Washer	Round	Z9217STL	D-3
.406	3/8	2.000	.125	Steel	n/a	Fender-XT	Round	Z9684	D-13
.406	3/8	2.000	.125	18-8 S/S	n/a	Fender-XT	Round	Z9684SS	D-13
.406	5/16 & 3/8	.875	.130	Stl Cased	Black Ox	Spherical	Round	Z9454M	D-26
.406	5/16 & 3/8	.875	.130	316 S/S	n/a	Spherical	Round	Z9454M-316	D-26
.406	5/16 & 3/8	.875	.130	18-8 S/S	n/a	Spherical	Round	Z9454M-SS	D-25
.406	3/8	1.000	.130 - .150	Stl Cased	Black Ox	Fender	Round	Z9287	D-12
.406	3/8	1.000	.188	Steel	n/a	Flat Washer	Round	Z9202	D-3
.406	3/8	1.000	.188	Brass	n/a	Flat Washer	Round	Z9202BR	D-4
.406	3/8	1.000	.188	18-8 S/S	n/a	Flat Washer	Round	Z9202SS	D-2
.406	3/8	1.000	.188	17-4 S/S	n/a	Flat Washer	Round	Z9202-174	D-4
.406	3/8	1.062	.188	Stl Cased	n/a	Component Thick	Round	Z9202U	D-7
.406	3/8	2.000	.250	Steel	n/a	Fender-XT	Round	Z9685	D-13
.406	3/8	2.375	.375	Steel Cased	Black Ox	C Washer	Round	Z9439	D-24
.406	3/8	2.500	.375	Steel Cased	Black Ox	C Washer	Round	Z9440	D-24
.406	5/16 & 3/8	1.250	.375	Stl Cased	Black Ox	Easy On Slotted	Round	Z9424	D-22
.406	5/16 & 3/8	1.250	.375	18-8 S/S	n/a	Easy On Slotted	Round	Z9424SS	D-22
.406	5/16 & 3/8	1.500	.375	Stl Cased	Black Ox	Easy On Slotted	Round	Z9425	D-22
.406	5/16 & 3/8	1.500	.375	18-8 S/S	n/a	Easy On Slotted	Round	Z9425SS	D-22
.406	5/16 & 3/8	1.750	.375	Stl Cased	Black Ox	Easy On Slotted	Round	Z9426	D-22
.406	5/16 & 3/8	1.750	.375	18-8 S/S	n/a	Easy On Slotted	Round	Z9426SS	D-22
.425	3/8	1.250	.125	18-8 S/S	n/a	Countersunk	Round	Z9974SS	D-29
.438	3/8	1.000	.064 - .104	18-8 S/S	n/a	Mil Spec	Round	MS15795-815	D-16
.438	3/8	1.000	.064 - .104	18-8 S/S	n/a	USS Standard	Round	WAS50438	D-18
.438	3/8	1.000	.064 - .104	316 S/S	n/a	USS Standard	Round	WAS50538	D-18
.438	3/8	2.000	.112 - .128	18-8 S/S	n/a	Square	Square	Z8927-188	D-35
.438	3/8	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8927-BOX	D-36
.438	3/8	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8927-ZN	D-37
.438	3/8	2.000	.170 - .200	18-8 S/S	n/a	Square	Square	Z8936-188	D-35
.438	3/8	2.000	.170 - .200	Steel	Black Ox	Square	Square	Z8936-BOX	D-36
.438	3/8	.875	.188	Stl Cased	Zinc	Welding Thick	Round	Z9090	D-7
.438	3/8	.875	.188	18-8 S/S	n/a	Welding Thick	Round	Z9090-SS	D-7
.438	3/8	2.000	.250	18-8 S/S	n/a	Fender-XT	Round	Z9685SS	D-13
.438	3/8	2.000	.250	Diamond Stl	Galv.	Square	Square	Z8952D	D-36
.438	3/8	2.000	.250	Soft Stl	Galv.	Square	Square	Z8952G	D-38
.438	3/8	2.000	.250	Stl Cased	Black Ox	Square	Square	Z8952H	D-36
.438	3/8	2.000	.250	18-8 S/S	n/a	Square	Square	Z8952SS	D-35

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.453	7/16	.750	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C716L	D-15
.453	7/16	.750	.053 - .073	18-8 S/S	n/a	Mil Spec	Round	AN960-C716	D-15
.453	5/16 or 3/8	.875	.156	Stl Cased	Black Ox	Spherical	Round	Z9454F	D-26
.453	5/16 or 3/8	.875	.156	316 S/S	n/a	Spherical	Round	Z9454F-316	D-26
.453	5/16 or 3/8	.875	.156	18-8 S/S	n/a	Spherical	Round	Z9454F-SS	D-25
.469	7/16	.750	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0732R	D-16
.469	7/16	.922	.051 - .080	18-8 S/S	n/a	Mil Spec	Round	MS15795-816	D-16
.469	7/16	.922	.051 - .080	18-8 S/S	n/a	SAE Standard	Round	WAS40471	D-17
.469	7/16	.922	.051 - .080	316 S/S	n/a	SAE Standard	Round	WAS40571	D-17
.469	7/16	0.875	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB71NAL	D-19
.469	7/16	0.875	.056 - .071	Brass	n/a	ASME Type B	Round	WASB71NBR	D-19
.469	7/16	0.875	.056 - .071	Copper	n/a	ASME Type B	Round	WASB71NCU	D-19
.469	7/16	1.125	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB71RAL	D-20
.469	7/16	1.125	.056 - .071	Brass	n/a	ASME Type B	Round	WASB71RBR	D-20
.469	7/16	1.125	.056 - .071	Copper	n/a	ASME Type B	Round	WASB71RCU	D-20
.469	7/16	.875	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB71NZ	D-19
.469	7/16	.875	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB71N8	D-19
.469	7/16	.875	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB71N316	D-19
.469	7/16	1.125	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB71RZ	D-20
.469	7/16	1.125	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB71R8	D-20
.469	7/16	1.125	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB71R316	D-20
.469	7/16	.750	.063	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0763R	D-16
.469	7/16	1.469	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB71WAL	D-20
.469	7/16	1.469	.090 - .112	Brass	n/a	ASME Type B	Round	WASB71WBR	D-20
.469	7/16	1.469	.090 - .112	Copper	n/a	ASME Type B	Round	WASB71WCU	D-20
.469	7/16	1.469	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB71WZ	D-20
.469	7/16	1.469	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB71W8	D-20
.469	7/16	1.469	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB71W316	D-20
.469	7/16	.937	.110 - .126	18-8 S/S	n/a	Flat Washer	Round	Z9273SS	D-2
.469	7/16	.921	.125	18-8 S/S	n/a	Flat Washer	Round	Z9218	D-2
.469	7/16	.921	.125	Brass	n/a	Flat Washer	Round	Z9218BR	D-4
.469	7/16	1.000	.125	Steel	n/a	Flat Washer	Round	Z9098	D-3
.469	7/16	1.000	.125	Brass	n/a	Flat Washer	Round	Z9098BR	D-4
.469	7/16	1.000	.125	Stl Cased	Nickel	Machined	Round	Z9098M	D-9
.469	7/16	1.000	.125	18-8 S/S	n/a	Machined	Round	Z9098M-SS	D-9
.469	7/16	1.000	.125	18-8 S/S	n/a	Flat Washer	Round	Z9098SS	D-2
.469	7/16	.921	.125	Steel	n/a	Flat Washer	Round	Z9218STL	D-3
.469	7/16	.921	.125	Steel	Zinc Yel	Flat Washer	Round	Z9273	D-3
.469	7/16	1.000	.156	Soft Stl	Plain	Beveled FW	Round	Z9184-BEV	D-8
.469	7/16	1.000	.156	Stl Cased	Plain	Beveled FW	Round	Z9184-BEV-H	D-8
.469	7/16	1.000	.156	Stl Cased	Zinc	Beveled FW	Round	Z9184-BEV-HZN	D-8
.469	7/16	1.000	.156	18-8 S/S	n/a	Beveled FW	Round	Z9184-BEV-SS	D-8
.469	7/16	1.250	.188	Stl Cased	n/a	Component Thick	Round	Z9203U	D-7
.469	7/16	1.000	.188	Steel	n/a	Flat Washer	Round	Z9203	D-3
.473 - .484	5/8	.614 - .618	.014 - .018	18-8 S/S	n/a	Shims for Shoulders	Round	Z9892-016	D-41
.473 - .484	5/8	.614 - .618	.027 - .033	18-8 S/S	n/a	Shims for Shoulders	Round	Z9892-030	D-41
.473 - .484	7/16	1.000	.188	18-8 S/S	n/a	Flat Washer	Round	Z9203SS	D-2
.473 - .484	7/16	1.000	.188	17-4 S/S	n/a	Flat Washer	Round	Z9203-174	D-4
.475	7/16	.625	.032	PTFE	n/a	Non-Metal	Round	WAS475625032PTFE	D-23
.500	1/2	1.125	.031	18-8 S/S	n/a	Shims for D Shafts	Round	Z0565	D-44
.500	n/a	.875	.048	18-8 S/S	n/a	Wide Shim	Round	Z9940SS	D-39
.500	7/16	1.125	.062	316 S/S	n/a	Fender	Round	Z0546-316	D-11
.500	7/16	1.125	.062	18-8 S/S	n/a	Fender	Round	Z0546-188	D-10
.500	1/2	1.125	.063	18-8 S/S	n/a	Shims for D Shafts	Round	Z0566	D-44
.500	7/16	1.250	.064 - .104	18-8 S/S	n/a	Mil Spec	Round	MS15795-817	D-16

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.500	7/16	1.250	.064 - .104	18-8 S/S	n/a	USS Standard	Round	WAS50471	D-18
.500	7/16	1.250	.064 - .104	316 S/S	n/a	USS Standard	Round	WAS50571	D-18
.500	n/a	.875	.075	18-8 S/S	n/a	Wide Shim	Round	Z9954SS	D-39
.500	1/2	1.125	.125	18-8 S/S	n/a	Shims for D Shafts	Round	Z0567	D-44
.500	1/2	2.438	.188	Steel	Galv.	Tapped Flange	Square	Z8887-STL-RC	D-46
.500	1/2	3.688	.188	Steel	Galv.	Tapped Flange	Square	Z8887-STL-SQ	D-46
.500	7/16	2.000	.235 - .265	18-8 S/S	n/a	Square	Square	Z8953SS	D-35
.500	7/16	2.000	.250	Stl Cased	Black Ox	Square	Square	Z8953H	D-36
.500 - .505	n/a	.745 - .755	.001	18-8 S/S	n/a	Shims for Shafts	Round	Z9841	D-41
.500 - .505	n/a	.745 - .755	.001	Brass	n/a	Shims for Shafts	Round	Z9841-BR	D-41
.500 - .505	n/a	.745 - .755	.002	18-8 S/S	n/a	Shims for Shafts	Round	Z9842	D-41
.500 - .505	n/a	.745 - .755	.002	Brass	n/a	Shims for Shafts	Round	Z9842-BR	D-41
.500 - .505	n/a	.745 - .755	.003	18-8 S/S	n/a	Shims for Shafts	Round	Z9843	D-41
.500 - .505	n/a	.745 - .755	.003	Brass	n/a	Shims for Shafts	Round	Z9843-BR	D-41
.500 - .505	n/a	.745 - .755	.004	18-8 S/S	n/a	Shims for Shafts	Round	Z9844	D-41
.500 - .505	n/a	.745 - .755	.004	Brass	n/a	Shims for Shafts	Round	Z9844-BR	D-41
.500 - .505	n/a	.745 - .755	.005	18-8 S/S	n/a	Shims for Shafts	Round	Z9845	D-41
.500 - .505	n/a	.745 - .755	.005	316 S/S	n/a	Shims for Shafts	Round	Z9845-316	D-41
.500 - .505	n/a	.745 - .755	.005	Brass	n/a	Shims for Shafts	Round	Z9845-BR	D-41
.500 - .505	n/a	.745 - .755	.006	18-8 S/S	n/a	Shims for Shafts	Round	Z9846	D-41
.500 - .505	n/a	.745 - .755	.006	316 S/S	n/a	Shims for Shafts	Round	Z9846-316	D-41
.500 - .505	n/a	.745 - .755	.006	Brass	n/a	Shims for Shafts	Round	Z9846-BR	D-41
.500 - .505	n/a	.745 - .755	.008	18-8 S/S	n/a	Shims for Shafts	Round	Z9848	D-41
.500 - .505	n/a	.745 - .755	.008	316 S/S	n/a	Shims for Shafts	Round	Z9848-316	D-41
.500 - .505	n/a	.745 - .755	.008	Brass	n/a	Shims for Shafts	Round	Z9848-BR	D-41
.500 - .505	n/a	.745 - .755	.010	18-8 S/S	n/a	Shims for Shafts	Round	Z9850	D-41
.500 - .505	n/a	.745 - .755	.010	316 S/S	n/a	Shims for Shafts	Round	Z9850-316	D-41
.500 - .505	n/a	.745 - .755	.010	Brass	n/a	Shims for Shafts	Round	Z9850-BR	D-41
.500 - .505	n/a	.745 - .755	.012	18-8 S/S	n/a	Shims for Shafts	Round	Z9852	D-41
.500 - .505	n/a	.745 - .755	.012	316 S/S	n/a	Shims for Shafts	Round	Z9852-316	D-41
.500 - .505	n/a	.745 - .755	.012	Brass	n/a	Shims for Shafts	Round	Z9852-BR	D-41
.500 - .505	n/a	.745 - .755	.015	18-8 S/S	n/a	Shims for Shafts	Round	Z9854	D-41
.500 - .505	n/a	.745 - .755	.015	316 S/S	n/a	Shims for Shafts	Round	Z9854-316	D-41
.500 - .505	n/a	.745 - .755	.015	Brass	n/a	Shims for Shafts	Round	Z9854-BR	D-41
.500 - .505	n/a	.745 - .755	.016	18-8 S/S	n/a	Shims for Shafts	Round	Z9856	D-41
.501 - .512	1/2	.748 - .752	.005	18-8 S/S	n/a	Shims for Shoulders	Round	Z9898-005	D-41
.501 - .512	n/a	.745 - .755	.016	316 S/S	n/a	Shims for Shafts	Round	Z9856-316	D-41
.501 - .512	n/a	.745 - .755	.016	Brass	n/a	Shims for Shafts	Round	Z9856-BR	D-41
.503 - .508	1/4 x 5/8	.618 - .623	.003	18-8 S/S	n/a	Shims for Bearing	Round	Z9886-3	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.003	Brass	n/a	Shims for Bearing	Round	Z9886-3-BR	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.005	18-8 S/S	n/a	Shims for Bearing	Round	Z9886-5	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.005	316 S/S	n/a	Shims for Bearing	Round	Z9886-5-316	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.005	Brass	n/a	Shims for Bearing	Round	Z9886-5-BR	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.007	18-8 S/S	n/a	Shims for Bearing	Round	Z9886-7	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.010	18-8 S/S	n/a	Shims for Bearing	Round	Z9886-10	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.010	316 S/S	n/a	Shims for Bearing	Round	Z9886-10-316	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.010	Brass	n/a	Shims for Bearing	Round	Z9886-10-BR	D-43
.503 - .508	1/2	.748 - .752	.016	18-8 S/S	n/a	Shims for Shoulders	Round	Z9898-016	D-41
.503 - .508	1/4 x 5/8	.618 - .623	.020	18-8 S/S	n/a	Shims for Bearing	Round	Z9886-20	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.020	316 S/S	n/a	Shims for Bearing	Round	Z9886-20-316	D-43
.503 - .508	1/4 x 5/8	.618 - .623	.020	Brass	n/a	Shims for Bearing	Round	Z9886-20-BR	D-43
.503 - .508	1/2	.748 - .752	.030	18-8 S/S	n/a	Shims for Shoulders	Round	Z9898-030	D-41
.505	1/4 x 5/8	.618 - .623	.007	316 S/S	n/a	Shims for Bearing	Round	Z9886-7-316	D-43
.515	1/4 x 5/8	.618 - .623	.007	Brass	n/a	Shims for Bearing	Round	Z9886-7-BR	D-43
.515	1/2	.875	.022 - .042	18-8 S/S	n/a	Mil Spec	Round	AN960-C816L	D-15

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.515	1/2	.875	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0832R	D-16
.515	1/2	.875	.053 - .073	18-8 S/S	n/a	Mil Spec	Round	AN960-C816	D-15
.515	1/2	2.000	.125	Fiberglass	n/a	Non-Metal	Square	Z8344	D-38
.515	1/2	1.000	.187	4140 Stl	Black Ox	Machined	Round	Z0356	D-9
.517	7/16	1.25	.094-.141	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9074-188	D-31
.517	7/16	1.25	.094-.141	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9074-188-BX	D-31
.517	7/16	1.25	.094-.141	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9074-316	D-31
.517	7/16	1.25	.094-.141	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9074-316-BX	D-31
.530	1/2	.875	.063	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0863R	D-16
.531	1/2	.880	.031	Nylatron	n/a	Non-Metal	Round	Z8396	D-23
.531	1/2	1.500	.042 - .052	Steel	Zinc	Fender	Round	Z0472	D-12
.531	1/2	1.500	.042 - .052	18-8 S/S	n/a	Fender	Round	Z0472-188	D-10
.531	1/2	1.500	.042 - .052	316 S/S	n/a	Fender	Round	Z0472-316	D-11
.531	1/2	2.000	.042 - .052	Steel	Zinc	Fender	Round	Z0473	D-12
.531	1/2	2.000	.042 - .052	18-8 S/S	n/a	Fender	Round	Z0473-188	D-10
.531	1/2	2.000	.042 - .052	316 S/S	n/a	Fender	Round	Z0473-316	D-11
.531	1/2	3.000	.051 - .080	Steel	Zinc	Fender	Round	Z0488	D-12
.531	1/2	1.500	.051- .080	Steel	Zinc	Fender	Round	Z0639	D-12
.531	1/2	2.000	.051- .080	Steel	Zinc	Fender	Round	Z0650	D-12
.531	1/2	1	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB12NAL	D-19
.531	1/2	1	.056 - .071	Brass	n/a	ASME Type B	Round	WASB12NBR	D-19
.531	1/2	1	.056 - .071	Copper	n/a	ASME Type B	Round	WASB12NCU	D-19
.531	1/2	1.000	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB12NZ	D-19
.531	1/2	1.000	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB12N8	D-19
.531	1/2	1.000	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB12N316	D-19
.531	1/2	1.062	.057 - .067	316 H5 S/S	n/a	SAE Standard	Round	WAS40712	D-17
.531	1/2	1.062	.057 - .067	Titanium	n/a	SAE Standard	Round	WAS40612	D-17
.531	1/2	.880	.062	Fiberglass	n/a	Non-Metal	Round	Z8328	D-23
.531	1/2	1.062	.074 - .121	18-8 S/S	n/a	Mil Spec	Round	MS15795-818	D-16
.531	1/2	1.062	.074 - .121	18-8 S/S	n/a	SAE Standard	Round	WAS40412	D-17
.531	1/2	1.062	.074 - .121	316 S/S	n/a	SAE Standard	Round	WAS40512	D-17
.531	1/2	1.25	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB12RAL	D-20
.531	1/2	1.25	.090 - .112	Brass	n/a	ASME Type B	Round	WASB12RBR	D-20
.531	1/2	1.25	.090 - .112	Copper	n/a	ASME Type B	Round	WASB12RCU	D-20
.531	1/2	1.75	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB12WAL	D-20
.531	1/2	1.75	.090 - .112	Brass	n/a	ASME Type B	Round	WASB12WBR	D-20
.531	1/2	1.75	.090 - .112	Copper	n/a	ASME Type B	Round	WASB12WCU	D-20
.531	1/2	1.250	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB12RZ	D-20
.531	1/2	1.250	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB12R8	D-20
.531	1/2	1.250	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB12R316	D-20
.531	1/2	1.750	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB12W316	D-20
.531	1/2	1.750	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB12WZ	D-20
.531	1/2	1.750	.090- .112	18-8 S/S	n/a	ASME Type B	Round	WASB12W8	D-20
.531	1/2	1.125	.125	18-8 S/S	Black Ox	Flat Washer	Round	Z9099SS-BOX	D-2
.531	1/2	1.125	.125	17-4 S/S	n/a	Flat Washer	Round	Z9099-174	D-4
.531	1/2	1.125	.125	Stl Cased	Nickel	Machined	Round	Z9099M	D-9
.531	1/2	1.125	.125	18-8 S/S	n/a	Machined	Round	Z9099M-SS	D-9
.531	1/2	1.125	.125	Steel	n/a	Flat Washer	Round	Z9099	D-3
.531	1/2	1.125	.125	Brass	n/a	Flat Washer	Round	Z9099BR	D-4
.531	1/2	1.125	.125	18-8 S/S	n/a	Flat Washer	Round	Z9099SS	D-2
.531	1/2	2.000	.125	Steel	n/a	Fender-XT	Round	Z9688	D-13

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.531	1/2	1.375	.146 - .166	Stl Cased	Black Ox	Fender	Round	Z9289	D-12
.531	1/2	1.125	.188	Steel	n/a	Flat Washer	Round	Z9204	D-3
.531	1/2	1.125	.188	Brass	n/a	Flat Washer	Round	Z9204BR	D-4
.531	1/2	1.125	.188	17-4 S/S	n/a	Flat Washer	Round	Z9204-174	D-4
.531	1/2	1.125	.188	18-8 S/S	n/a	Flat Washer	Round	Z9204SS	D-2
.531	1/2	1.125	.188	18-8 S/S	Black Ox	Flat Washer	Round	Z9204SS-BOX	D-2
.531	1/2	1.000	.188	Steel	Plain	Component Thick	Round	Z9185	D-9
.531	1/2	1.000	.188	Soft Stl	Plain	Beveled FW	Round	Z9185-BEV	D-8
.531	1/2	1.000	.188	Stl Cased	Plain	Beveled FW	Round	Z9185-BEV-H	D-8
.531	1/2	1.000	.188	Stl Cased	Zinc	Beveled FW	Round	Z9185-BEV-HZN	D-8
.531	1/2	1.000	.188	18-8 S/S	n/a	Beveled FW	Round	Z9185-BEV-SS	D-8
.531	1/2	1.062	.188	18-8 S/S	n/a	Flat Washer	Round	Z9219	D-2
.531	1/2	1.062	.188	Brass	n/a	Flat Washer	Round	Z9219BR	D-4
.531	1/2	1.062	.188	Steel	n/a	Flat Washer	Round	Z9219STL	D-3
.531	1/2	1.187	.188	Stl Cased	n/a	Component Thick	Round	Z9204U	D-7
.531	7/16 or 1/2	1.125	.188	Stl Cased	Black Ox	Spherical	Round	Z9458M	D-26
.531	7/16 or 1/2	1.125	.188	316 S/S	n/a	Spherical	Round	Z9458M-316	D-26
.531	7/16 or 1/2	1.125	.188	18-8 S/S	n/a	Spherical	Round	Z9458M-SS	D-25
.531	1/2	1.062	.203	Steel	Zinc Yel	Flat Washer	Round	Z9274	D-3
.531	1/2	1.062	.203	316 H5 S/S	n/a	Flat Washer	Round	Z9274-316H5	D-4
.531	1/2	1.062	.203	18-8 S/S	n/a	Flat Washer	Round	Z9274SS	D-2
.531	1/2	1.500	.219	Steel	n/a	Flat Washer	Round	Z9235	D-3
.531	1/2	1.500	.240 - .260	316 S/S	n/a	Fender	Round	Z0830-316	D-11
.531	1/2	2.000	.240 - .260	316 S/S	n/a	Fender	Round	Z0833-316	D-11
.531	1/2	3.000	.240 - .260	316 S/S	n/a	Fender	Round	Z0836-316	D-11
.531	1/2	1.500	.365 - .385	316 S/S	n/a	Fender	Round	Z0831-316	D-11
.531	1/2	2.000	.365 - .385	316 S/S	n/a	Fender	Round	Z0834-316	D-11
.531	1/2	3.000	.365 - .385	316 S/S	n/a	Fender	Round	Z0837-316	D-11
.531	7/16 & 1/2	1.875	.375	Stl Cased	Black Ox	Easy On Slotted	Round	Z9428	D-22
.531	7/16 & 1/2	1.875	.375	18-8 S/S	n/a	Easy On Slotted	Round	Z9428SS	D-22
.531	7/16 & 1/2	2.250	.375	Stl Cased	Black Ox	Easy On Slotted	Round	Z9429	D-22
.531	7/16 & 1/2	2.250	.375	18-8 S/S	n/a	Easy On Slotted	Round	Z9429SS	D-22
.531	1/2	2.375	.375	Steel Cased	Black Ox	C Washer	Round	Z9441	D-24
.550	1/2	.850	.031	PTFE	n/a	Non-Metal	Round	WAS550850031PTFE	D-23
.555	1/2	1.5	.141-.188	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9075-188	D-31
.555	1/2	1.5	.141-.188	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9075-188-BX	D-31
.555	1/2	1.5	.141-.188	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9075-316	D-31
.555	1/2	1.5	.141-.188	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9075-316-BX	D-31
.562	1/2	1.375	.086 - .132	18-8 S/S	n/a	Mil Spec	Round	MS15795-819	D-16
.562	1/2	2.000	.125	18-8 S/S	n/a	Fender-XT	Round	Z9688SS	D-13
.562	1/2	2.000	.250	Steel	n/a	Fender-XT	Round	Z9689	D-13
.562	1/2	2.000	.250	18-8 S/S	n/a	Fender-XT	Round	Z9689SS	D-13
.562	1/2	3.000	0.25	Steel	Zinc	Dock	Round	Z9670	D-13
.563	1/2	1.250	.063	316 S/S	n/a	Fender	Round	Z0547-316	D-11
.563	1/2	1.250	.063	18-8 S/S	n/a	Fender	Round	Z0547-188	D-10
.563	1/2	1.375	.074 - .121	18-8 S/S	n/a	USS Standard	Round	WAS50412	D-18
.563	1/2	1.375	.074 - .121	316 S/S	n/a	USS Standard	Round	WAS50512	D-18
.563	1/2	2.000	.112 - .128	18-8 S/S	n/a	Square	Square	Z8928-188	D-35
.563	1/2	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8928-BOX	D-36

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.563	1/2	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8940-BOX	D-36
.563	1/2	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8928-ZN	D-37
.563	1/2	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8940-ZN	D-37
.563	1/2	3.000	.112 - .128	Steel	Zinc	Square	Square	Z8862-ZN	D-37
.563	1/2	2.000	.125	Soft Stl	Galv.	Square	Square	Z8940G	D-38
.563	1/2	3.000	.141 - .187	18-8 S/S	n/a	Square	Square	Z8955-188	D-35
.563	1/2	3.000	.141 - .187	18-8 S/S	n/a	Square	Square	Z8955-SLOT-188	D-35
.563	1/2	2.000	.170 - .200	18-8 S/S	n/a	Square	Square	Z8937-188	D-35
.563	1/2	2.000	.170 - .200	Steel	Black Ox	Square	Square	Z8937-BOX	D-36
.563	1/2	2.000	.170 - .200	Steel	Zinc	Square	Square	Z8937-ZN	D-37
.563	1/2	3.000	.170 - .200	Steel	Zinc	Square	Square	Z8872-ZN	D-37
.563	1/2	1.000	.188	Stl Cased	Zinc	Welding Thick	Round	Z9091	D-7
.563	1/2	1.000	.188	18-8 S/S	n/a	Welding Thick	Round	Z9091-SS	D-7
.563	1/2	2.000	.220 - .280	Steel	Zinc	Square	Square	Z8954-ZN	D-37
.563	1/2	2.000	.220 - .280	Steel	Zinc	Square	Square	Z8955-ZN	D-37
.563	1/2	3.000	.220 - .280	Steel	Zinc	Square	Square	Z8880-ZN	D-37
.563	1/2	3 x 4.5	.230 - .250	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8751-188	D-33
.563	1/2	3 x 4.5	.230 - .250	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8751-SLOT-188	D-33
.563	1/2	3.000	.235 - .265	18-8 S/S	n/a	Square	Square	Z8880-SLOT-SS	D-35
.563	1/2	3.000	.235- .265	Steel	Black Ox	Square	Square	Z8880H	D-36
.563	1/2	2.000	.250	Diamond Stl	Galv.	Square	Square	Z8954D	D-36
.563	1/2	2.000	.250	Soft Stl	Galv.	Square	Square	Z8954G	D-38
.563	1/2	2.000	.250	Stl Cased	Black Ox	Square	Square	Z8954H	D-36
.563	1/2	2.000	.250	18-8 S/S	n/a	Square	Square	Z8954SS	D-35
.563	1/2	3.000	.250	Steel	Galv.	Square	Square	Z8880-HDG	D-36
.563	1/2	3.000	.250	18-8 S/S	n/a	Square	Square	Z8880SS	D-35
.563	5/8	1.937 x 2.250	.360 - .390	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8787-188	D-33
.578	9/16	1.062	.053 - .073	18-8 S/S	n/a	Mil Spec	Round	AN960-C916	D-15
.578	7/16 or 1/2	1.125	.188	Stl Cased	Black Ox	Spherical	Round	Z9458F	D-26
.578	7/16 or 1/2	1.125	.188	316 S/S	n/a	Spherical	Round	Z9458F-316	D-26
.578	7/16 or 1/2	1.125	.188	18-8 S/S	n/a	Spherical	Round	Z9458F-SS	D-25
.578	1/2	3.000	.250	Steel	Galv.	Dock	Round	Z9670G	D-13
.589 - .609	9/16	1.469	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB91RZ	D-19
.589 - .609	9/16	1.469	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB91R8	D-19
.594	9/16	1.062	.032	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C0963R	D-16
.594	9/16	1.125	.056 - .071	Aluminum	n/a	ASME Type B	Round	WASB91NAL	D-19
.594	9/16	1.125	.056 - .071	Brass	n/a	ASME Type B	Round	WASB91NBR	D-19
.594	9/16	1.125	.056 - .071	Copper	n/a	ASME Type B	Round	WASB91NCU	D-19
.594	9/16	1.125	.056 - .071	316 S/S	n/a	ASME Type B	Round	WASB91N316	D-19
.594	9/16	1.125	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB91NZ	D-19
.594	9/16	1.250	.056 - .071	Steel	Zinc	ASME Type B	Round	WASB91NZ	D-19
.594	9/16	1.250	.056 - .071	18-8 S/S	n/a	ASME Type B	Round	WASB91N8	D-19
.594	9/16	1.062	.062	316 S/S	n/a	Fender	Round	Z0548-316	D-11
.594	9/16	1.062	.062	18-8 S/S	n/a	Fender	Round	Z0548-188	D-10
.594	9/16	1.469	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB91RAL	D-20
.594	9/16	1.469	.090 - .112	Brass	n/a	ASME Type B	Round	WASB91RBR	D-20
.594	9/16	1.469	.090 - .112	Copper	n/a	ASME Type B	Round	WASB91RCU	D-20
.594	9/16	2	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB91WAL	D-20
.594	9/16	2	.090 - .112	Brass	n/a	ASME Type B	Round	WASB91WBR	D-20
.594	9/16	2	.090 - .112	Copper	n/a	ASME Type B	Round	WASB91WCU	D-20
.594	9/16	1.469	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB91R316	D-20
.594	9/16	1.469	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB91RZ	D-20

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.594	9/16	2.000	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB91W316	D-20
.594	9/16	1.161 -1.181	.168 - .191	18-8 S/S	n/a	Flat Washer	Round	Z9275SS	D-2
.594	9/16	1.172	.172	Steel	Zinc Yel	Flat Washer	Round	Z9275	D-3
.594	9/16	1.187	.188	18-8 S/S	n/a	Flat Washer	Round	Z9220	D-2
.594	9/16	1.187	.188	Steel	Black Ox	Flat Washer	Round	Z9220STL	D-3
.625	5/8	1.250	.031	18-8 S/S	n/a	Shims for D Shafts	Round	Z0570	D-44
.625	n/a	1.250	.048	18-8 S/S	n/a	Wide Shim	Round	Z9944SS	D-39
.625	5/8	1.250	.063	18-8 S/S	n/a	Shims for D Shafts	Round	Z0571	D-44
.625	n/a	1.250	.075	18-8 S/S	n/a	Wide Shim	Round	Z9956SS	D-39
.625	9/16	2.000	.090- .112	Steel	Zinc	ASME Type B	Round	WASB91WZ	D-20
.625	9/16	2.000	.090- .112	18-8 S/S	n/a	ASME Type B	Round	WASB91W8	D-20
.625	5/8	1.250	.125	18-8 S/S	n/a	Shims for D Shafts	Round	Z0572	D-44
.625	5/8	2.438	.188	Steel	Galv.	Tapped Flange	Square	Z8888-STL-RC	D-46
.625	5/8	3.688	.188	Steel	Galv.	Tapped Flange	Square	Z8888-STL-SQ	D-46
.626 - .637	9/16	1.500	.086- .132	18-8 S/S	n/a	USS Standard	Round	WAS50491	D-18
.626 - .637	9/16	1.500	.086- .132	316 S/S	n/a	USS Standard	Round	WAS50591	D-18
.640	5/8	.750	.008	18-8 S/S	n/a	Shim	Round	Z9878	D-43
.640	5/8	.873 - .877	.014 - .018	18-8 S/S	n/a	Shims for Shoulders	Round	Z9899-016	D-41
.640	5/8	.873 - .877	.027 - .033	18-8 S/S	n/a	Shims for Shoulders	Round	Z9899-030	D-41
.640	5/8	2.000	.125	Fiberglass	n/a	Non-Metal	Square	Z8346	D-38
.656	5/8	1.187	.053 - .073	18-8 S/S	n/a	Mil Spec	Round	AN960-C1016	D-15
.656	5/8	1.187	.063	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C1063R	D-16
.656	5/8	1.312	.071 - .121	18-8 S/S	n/a	SAE Standard	Round	WAS40458	D-17
.656	5/8	1.312	.071 - .121	316 S/S	n/a	SAE Standard	Round	WAS40558	D-17
.656	5/8	1.312	.074 - .121	18-8 S/S	n/a	Mil Spec	Round	MS15795-820	D-16
.656	5/8	1.25	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB58NAL	D-19
.656	5/8	1.25	.090 - .112	Brass	n/a	ASME Type B	Round	WASB58NBR	D-19
.656	5/8	1.25	.090 - .112	Copper	n/a	ASME Type B	Round	WASB58NCU	D-19
.656	5/8	1.75	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB58RAL	D-20
.656	5/8	1.75	.090 - .112	Brass	n/a	ASME Type B	Round	WASB58RBR	D-20
.656	5/8	1.75	.090 - .112	Copper	n/a	ASME Type B	Round	WASB58RCU	D-20
.656	5/8	1.250	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB58N316	D-19
.656	5/8	1.250	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB58NZ	D-19
.656	5/8	1.250	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB58N8	D-19
.656	5/8	1.750	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB58R316	D-20
.656	5/8	1.750	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB58RZ	D-20
.656	5/8	1.750	.090- .112	Steel	Zinc	ASME Type B	Round	WASB58RZ	D-20
.656	5/8	1.750	.090- .112	18-8 S/S	n/a	ASME Type B	Round	WASB58R8	D-20
.656	5/8	1.193	.093	Fiberglass	n/a	Non-Metal	Round	Z8330	D-23
.656	5/8	1.375	.125	Stl Cased	Nickel	Machined	Round	Z9100M	D-9
.656	5/8	1.375	.125	18-8 S/S	n/a	Machined	Round	Z9100M-SS	D-9
.656	5/8	2.000	.125	Fiberglass	n/a	Non-Metal	Square	Z8366	D-38
.656	5/8	1.375	.125	Steel	n/a	Flat Washer	Round	Z9100	D-3
.656	5/8	1.375	.125	Brass	n/a	Flat Washer	Round	Z9100BR	D-4
.656	5/8	1.375	.125	18-8 S/S	n/a	Flat Washer	Round	Z9100SS	D-2
.656	5/8	1.375	.125	18-8 S/S	Black Ox	Flat Washer	Round	Z9100SS-BOX	D-2
.656	5/8	1.375	.125	17-4 S/S	n/a	Flat Washer	Round	Z9100-174	D-4
.656	5/8	2.25	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB58WAL	D-20
.656	5/8	2.25	.146 - .174	Brass	n/a	ASME Type B	Round	WASB58WBR	D-20
.656	5/8	2.25	.146 - .174	Copper	n/a	ASME Type B	Round	WASB58WCU	D-20
.656	5/8	2.250	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB58W316	D-20
.656	5/8	1.750	.146- .166	Stl Cased	Black Ox	Fender	Round	Z9290	D-12

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.656	5/8	2.250	.146- .174	Steel	Zinc	ASME Type B	Round	WASB58WZ	D-20
.656	5/8	2.250	.146- .174	18-8 S/S	n/a	ASME Type B	Round	WASB58W8	D-20
.656	5/8	1.375	.188	Steel	n/a	Flat Washer	Round	Z9205	D-3
.656	5/8	1.375	.188	Brass	n/a	Flat Washer	Round	Z9205BR	D-4
.656	5/8	1.375	.188	18-8 S/S	n/a	Flat Washer	Round	Z9205SS	D-2
.656	5/8	1.375	.188	17-4 S/S	n/a	Flat Washer	Round	Z9205-174	D-4
.656	5/8	1.437	.188	Stl Cased	n/a	Component Thick	Round	Z9205U	D-7
.656	5/8	1.312	.219	18-8 S/S	n/a	Flat Washer	Round	Z9221	D-2
.656	5/8	1.312	.219	Brass	n/a	Flat Washer	Round	Z9221BR	D-4
.656	5/8	1.312	.219	Steel	Zinc Yel	Flat Washer	Round	Z9276	D-3
.656	5/8	1.312	.219	18-8 S/S	n/a	Flat Washer	Round	Z9276SS	D-2
.656	5/8	1.500	.219	Steel	n/a	Flat Washer	Round	Z9236	D-3
.656	5/8	1.312	.219	Steel Cased	Black Ox	Flat Washer	Round	Z9221STL	D-3
.656	5/8	1.250	.250	Steel	Plain	Component Thick	Round	Z9186	D-9
.656	5/8	1.250	.250	Soft Stl	Plain	Beveled FW	Round	Z9186-BEV	D-8
.656	5/8	1.250	.250	Stl Cased	Plain	Beveled FW	Round	Z9186-BEV-H	D-8
.656	5/8	1.250	.250	Stl Cased	Zinc	Beveled FW	Round	Z9186-BEV-HZN	D-8
.656	5/8	1.250	.250	18-8 S/S	n/a	Beveled FW	Round	Z9186-BEV-SS	D-8
.656	5/8	2.125	.375	Stl Cased	Black Ox	Easy On Slotted	Round	Z9431	D-24
.656	5/8	2.125	.375	18-8 S/S	n/a	Easy On Slotted	Round	Z9431SS	D-24
.687 - .692	3/8 x 7/8	.868 - .873	.003	18-8 S/S	n/a	Shims for Bearing	Round	Z9887-3	D-43
.687 - .692	3/8 x 7/8	.868 - .873	.003	Brass	n/a	Shims for Bearing	Round	Z9887-3-BR	D-43
.687 - .692	3/8 x 7/8	.868 - .873	.005	18-8 S/S	n/a	Shims for Bearing	Round	Z9887-5	D-43
.687 - .692	3/8 x 7/8	.868 - .873	.010	18-8 S/S	n/a	Shims for Bearing	Round	Z9887-10	D-43
.687 - .692	3/8 x 7/8	.868 - .873	.010	316 S/S	n/a	Shims for Bearing	Round	Z9887-10-316	D-43
.687 - .692	3/8 x 7/8	.868 - .873	.010	Brass	n/a	Shims for Bearing	Round	Z9887-10-BR	D-43
.687 - .692	3/8 x 7/8	.868 - .873	.020	18-8 S/S	n/a	Shims for Bearing	Round	Z9887-20	D-43
.687 - .692	3/8 x 7/8	.868 - .873	.020	316 S/S	n/a	Shims for Bearing	Round	Z9887-20-316	D-43
.687 - .692	3/8 x 7/8	.868 - .873	.020	Brass	n/a	Shims for Bearing	Round	Z9887-20-BR	D-43
.687 - .692	5/8	1.500	.078	316 S/S	n/a	Fender	Round	Z0549-316	D-11
.687 - .692	5/8	1.500	.078	18-8 S/S	n/a	Fender	Round	Z0549-188	D-10
.687 - .692	5/8	1.375	.188	Stl Cased	Black Ox	Spherical	Round	Z9462M	D-26
.687 - .692	5/8	1.375	.188	316 S/S	n/a	Spherical	Round	Z9462M-316	D-26
.687 - .692	5/8	1.375	.188	18-8 S/S	n/a	Spherical	Round	Z9462M-SS	D-25
.688	3/8 x 7/8	.868 - .873	.005	316 S/S	n/a	Shims for Bearing	Round	Z9887-5-316	D-43
.688	3/8 x 7/8	.868 - .873	.005	Brass	n/a	Shims for Bearing	Round	Z9887-5-BR	D-43
.688	3/8 x 7/8	.868 - .873	.007	18-8 S/S	n/a	Shims for Bearing	Round	Z9887-7	D-43
.688	3/8 x 7/8	.868 - .873	.007	316 S/S	n/a	Shims for Bearing	Round	Z9887-7-316	D-43
.688	3/8 x 7/8	.868 - .873	.007	Brass	n/a	Shims for Bearing	Round	Z9887-7-BR	D-43
.688	5/8	1.750	.108- .160	18-8 S/S	n/a	Mil Spec	Round	MS15795-821	D-16
.688	5/8	1.750	.108- .160	18-8 S/S	n/a	USS Standard	Round	WAS50458	D-18
.688	5/8	1.750	.108- .160	316 S/S	n/a	USS Standard	Round	WAS50558	D-18
.688	5/8	2.000	.112 - .128	18-8 S/S	n/a	Square	Square	Z8929-188	D-35
.688	5/8	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8929-BOX	D-36
.688	5/8	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8942-BOX	D-36
.688	5/8	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8929-ZN	D-37
.688	5/8	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8942-ZN	D-37
.688	5/8	3.000	.112 - .128	Steel	Zinc	Square	Square	Z8863-ZN	D-37
.688	5/8	4.000	.112 - .128	Steel	Zinc	Square	Square	Z8727-ZN	D-37
.688	5/8	2.000	.125	Soft Stl	Galv.	Square	Square	Z8942G	D-38
.688	5/8	3.000	.141 - .187	18-8 S/S	n/a	Square	Square	Z8758-SLOT-188	D-35
.688	5/8	2.000	.170 - .200	18-8 S/S	n/a	Square	Square	Z8938-188	D-35

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.688	5/8	2.000	.170 - .200	Steel	Black Ox	Square	Square	Z8938-BOX	D-36
.688	5/8	2.000	.170 - .200	Steel	Zinc	Square	Square	Z8938-ZN	D-37
.688	5/8	3.000	.170 - .200	Steel	Zinc	Square	Square	Z8873-ZN	D-37
.688	5/8	4.000	.170 - .200	Steel	Zinc	Square	Square	Z8735-ZN	D-37
.688	5/8	4 x 1.250	.170- .200	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8773-188	D-33
.688	5/8	4 x 1.5	.170- .200	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8774-188	D-33
.688	5/8	4 x 1.687	.170- .200	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8775-188	D-33
.688	5/8	2.250	.188	Soft Stl	Galv.	Square	Square	Z8944G	D-38
.688	5/8	1.375	.219	Stl Cased	Black Ox	Spherical	Round	Z9462F	D-26
.688	5/8	1.375	.219	316 S/S	n/a	Spherical	Round	Z9462F-316	D-26
.688	5/8	1.375	.219	18-8 S/S	n/a	Spherical	Round	Z9462F-SS	D-25
.688	5/8	2.000	.220 - .280	Steel	Zinc	Square	Square	Z8957-ZN	D-37
.688	5/8	3.000	.220 - .280	Steel	Zinc	Square	Square	Z8881-ZN	D-37
.688	5/8	4.000	.220 - .280	Steel	Zinc	Square	Square	Z8892-ZN	D-37
.688	5/8	2 x 1.5	.230 - .250	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8770-188	D-33
.688	5/8	3 x 4.5	.230 - .250	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8752-188	D-33
.688	5/8	3 x 4.5	.230 - .250	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8771-SLOT-188	D-33
.688	5/8	4 x 2	.230 - .250	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8753-188	D-33
.688	5/8	2.000	.235 - .265	Steel	Zinc	Square	Square	Z8956-ZN	D-37
.688	5/8	2.500	.235 - .265	18-8 S/S	n/a	Square	Square	Z8956-188	D-35
.688	5/8	3.000	.235 - .265	18-8 S/S	n/a	Square	Square	Z8759-SLOT-188	D-35
.688	5/8	4.000	.235 - .265	Steel	Black Ox	Square	Square	Z8892H	D-36
.688	5/8	3.000	.235- .265	Steel	Black Ox	Square	Square	Z8881H	D-36
.688	5/8	1.500	.240 - .260	316 S/S	n/a	Fender	Round	Z0838-316	D-11
.688	5/8	2.000	.240 - .260	316 S/S	n/a	Fender	Round	Z0840-316	D-11
.688	5/8	3.000	.240 - .260	316 S/S	n/a	Fender	Round	Z0842-316	D-11
.688	5/8	2.000	.250	Diamond Stl	Galv.	Square	Square	Z8956D	D-36
.688	5/8	2.000	.250	Soft Stl	Galv.	Square	Square	Z8956G	D-38
.688	5/8	2.000	.250	Stl Cased	Black Ox	Square	Square	Z8956H	D-36
.688	5/8	2.000	.250	18-8 S/S	n/a	Square	Square	Z8956SS	D-35
.688	5/8	3.000	.250	Steel	Galv.	Square	Square	Z8881-HDG	D-36
.688	5/8	3.000	.250	18-8 S/S	n/a	Square	Square	Z8881SS	D-35
.688	5/8	4.000	.250	Steel	Galv.	Square	Square	Z8892-HDG	D-36
.688	5/8	4.000	.250	18-8 S/S	n/a	Square	Square	Z8892SS	D-35
.688	5/8	1.500	.365 - .385	316 S/S	n/a	Fender	Round	Z0839-316	D-11
.688	5/8	2.000	.365 - .385	316 S/S	n/a	Fender	Round	Z0841-316	D-11
.688	5/8	3.000	.365 - .385	316 S/S	n/a	Fender	Round	Z0843-316	D-11
.688	5/8	3.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8778-188	D-35
.688	5/8	4.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8777-188	D-35
.688	5/8	3.000	0.25	Steel	Zinc	Dock	Round	Z9671	D-13
.700	5/8	1.75	.156-.234	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9076-188	D-31
.700	5/8	1.75	.156-.234	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9076-188-BX	D-31
.700	5/8	1.75	.156-.234	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9076-316	D-31
.700	5/8	1.75	.156-.234	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9076-316-BX	D-31
.719	5/8	3.000	.250	Steel	Galv.	Dock	Round	Z9671G	D-13
.719	5/8	1.250	.250	Stl Cased	Zinc	Welding Thick	Round	Z9092	D-7
.719	5/8	1.250	.250	18-8 S/S	n/a	Welding Thick	Round	Z9092-SS	D-7
.750	3/4	1.625	.031	18-8 S/S	n/a	Shims for D Shafts	Round	Z0575	D-44
.750	n/a	1.250	.048	18-8 S/S	n/a	Wide Shim	Round	Z9946SS	D-39
.750	n/a	1.500	.048	18-8 S/S	n/a	Wide Shim	Round	Z9948SS	D-39

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.750	3/4	1.625	.125	18-8 S/S	n/a	Shims for D Shafts	Round	Z0577	D-44
.750	5/8	2.500	.125	Steel	n/a	Fender-XT	Round	Z9690	D-13
.750	5/8	2.500	.125	18-8 S/S	n/a	Fender-XT	Round	Z9690SS	D-13
.750	5/8	2.500	.250	Steel	n/a	Fender-XT	Round	Z9691	D-13
.750	5/8	2.500	.250	18-8 S/S	n/a	Fender-XT	Round	Z9691SS	D-13
.750	3/4	1.625	.63	18-8 S/S	n/a	Shims for D Shafts	Round	Z0576	D-44
.765	3/4	.998 -1.002	.014 - .018	18-8 S/S	n/a	Shims for Shoulders	Round	Z9899-116	D-41
.765	n/a	1.250	.075	18-8 S/S	n/a	Wide Shim	Round	Z9958SS	D-39
.765	n/a	1.500	.075	18-8 S/S	n/a	Wide Shim	Round	Z9960SS	D-39
.765	3/4	2.438	.188	Steel	Galv.	Tapped Flange	Square	Z8889-STL-RC	D-46
.765	3/4	3.688	.188	Steel	Galv.	Tapped Flange	Square	Z8889-STL-SQ	D-46
.781	3/4	.998 -1.002	.027 - .033	18-8 S/S	n/a	Shims for Shoulders	Round	Z9899-130	D-41
.781	3/4	1.312	.080 - .100	18-8 S/S	n/a	Mil Spec	Round	AN960-C1216	D-15
.781	3/4	1.312	.090	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C1290R	D-16
.781	3/4	1.317	.093	Fiberglass	n/a	Non-Metal	Round	Z8332	D-23
.781	3/4	2.000	.125	Fiberglass	n/a	Non-Metal	Square	Z8348	D-38
.781	3/4	2.000	.125	Fiberglass	n/a	Non-Metal	Square	Z8368	D-38
.781	3/4	1.625	.125	18-8 S/S	n/a	Flat Washer	Round	Z9101SSL	D-2
.781	3/4	1.625	.156	Stl Cased	Nickel	Machined	Round	Z9101M	D-9
.781	3/4	1.625	.156	18-8 S/S	n/a	Machined	Round	Z9101M-SS	D-9
.781	3/4	1.625	.156	Steel	n/a	Flat Washer	Round	Z9101	D-3
.781	3/4	1.625	.156	Brass	n/a	Flat Washer	Round	Z9101BR	D-4
.781	3/4	1.625	.156	18-8 S/S	n/a	Flat Washer	Round	Z9101SS	D-2
.781	3/4	1.625	.156	17-4 S/S	n/a	Flat Washer	Round	Z9101-174	D-4
.781	3/4	1.500	.250	Steel	Plain	Component Thick	Round	Z9187	D-9
.781	3/4	1.500	.250	Soft Stl	Plain	Beveled FW	Round	Z9187-BEV	D-8
.781	3/4	1.500	.250	Stl Cased	Plain	Beveled FW	Round	Z9187-BEV-H	D-8
.781	3/4	1.625	.250	Steel	n/a	Flat Washer	Round	Z9206	D-3
.781	3/4	1.625	.250	Brass	n/a	Flat Washer	Round	Z9206BR	D-4
.781	3/4	1.625	.250	18-8 S/S	n/a	Flat Washer	Round	Z9206SS	D-2
.781	3/4	1.625	.250	17-4 S/S	n/a	Flat Washer	Round	Z9206-174	D-4
.781	3/4	1.875	.260	Steel	n/a	Flat Washer	Round	Z9237	D-3
.812	3/4	1.375	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB34NAL	D-19
.812	3/4	1.375	.090 - .112	Brass	n/a	ASME Type B	Round	WASB34NBR	D-19
.812	3/4	1.375	.090 - .112	Copper	n/a	ASME Type B	Round	WASB34NCU	D-19
.812	3/4	2	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB34RAL	D-20
.812	3/4	2	.090 - .112	Brass	n/a	ASME Type B	Round	WASB34RBR	D-20
.812	3/4	2	.090 - .112	Copper	n/a	ASME Type B	Round	WASB34RCU	D-20
.812	3/4	1.375	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB34NZ	D-19
.812	3/4	1.375	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB34N8	D-19
.812	3/4	1.375	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB34N316	D-19
.812	3/4	2.000	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB34R316	D-20
.812	3/4	1.469	.108 - .160	18-8 S/S	n/a	Mil Spec	Round	MS15795-822	D-16
.812	3/4	1.500	.108- .160	18-8 S/S	n/a	SAE Standard	Round	WAS40434	D-17
.812	3/4	1.500	.108- .160	316 S/S	n/a	SAE Standard	Round	WAS40534	D-17
.812	3/4	2.000	.122- .177	18-8 S/S	n/a	Mil Spec	Round	MS15795-823	D-16
.812	3/4	2.000	.122- .177	18-8 S/S	n/a	USS Standard	Round	WAS50434	D-18
.812	3/4	2.000	.122- .177	316 S/S	n/a	USS Standard	Round	WAS50534	D-18
.812	3/4	2.000	.125	Steel	Galv.	Square	Square	Z8945G	D-38
.812	3/4	2.5	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB34WAL	D-20
.812	3/4	2.5	.146 - .174	Brass	n/a	ASME Type B	Round	WASB34WBR	D-20
.812	3/4	2.5	.146 - .174	Copper	n/a	ASME Type B	Round	WASB34WCU	D-20

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.812	3/4	2.500	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB34W316	D-20
.812	3/4	2	.190-.266	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9077-188	D-31
.812	3/4	2	.190-.266	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9077-188-BX	D-31
.812	3/4	2	.190-.266	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9077-316	D-31
.812	3/4	2	.190-.266	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9077-316-BX	D-31
.812	3/4	1.625	.219	Stl Cased	Black Ox	Spherical	Round	Z9466M	D-26
.812	3/4	1.625	.219	316 S/S	n/a	Spherical	Round	Z9466M-316	D-26
.812	3/4	1.625	.219	18-8 S/S	n/a	Spherical	Round	Z9466M-SS	D-25
.812	3/4	1.500	.250	Stl Cased	Zinc	Beveled FW	Round	Z9187-BEV-HZN	D-8
.812	3/4	1.500	.250	18-8 S/S	n/a	Beveled FW	Round	Z9187-BEV-SS	D-8
.812	3/4	1.687	.250	Stl Cased	n/a	Component Thick	Round	Z9206U	D-7
.812	3/4	3.000	.250	Steel	Zinc	Dock	Round	Z9693	D-13
.812	3/4	2.500	.438	Stl Cased	Black Ox	Easy On Slotted	Round	Z9433	D-24
.812	3/4	2.500	.438	18-8 S/S	n/a	Easy On Slotted	Round	Z9433SS	D-24
.813	3/4	2.000	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB34RZ	D-20
.813	3/4	2.000	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB34R8	D-20
.813	3/4	1.750	.110	316 S/S	n/a	Fender	Round	Z0621-316	D-11
.813	3/4	1.750	.110	18-8 S/S	n/a	Fender	Round	Z0621-188	D-10
.813	3/4	2.000	.112 - .128	18-8 S/S	n/a	Square	Square	Z8931-188	D-35
.813	3/4	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8931-BOX	D-36
.813	3/4	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8945-BOX	D-36
.813	3/4	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8945-ZN	D-37
.813	3/4	3.000	.112 - .128	Steel	Zinc	Square	Square	Z8865-ZN	D-37
.813	3/4	4.000	.112 - .128	Steel	Zinc	Square	Square	Z8728-ZN	D-37
.813	3/4	2.000	.122 - .177	18-8 S/S	n/a	Fender-XT	Round	WAS812X2X.187T188	D-13
.813	3/4	3.000	.125	Steel	n/a	Fender-XT	Round	Z9692	D-13
.813	3/4	2.500	.146 - .174	Steel	Zinc	ASME Type B	Round	WASB34WZ	D-20
.813	3/4	2.500	.146 - .174	18-8 S/S	n/a	ASME Type B	Round	WASB34W8	D-20
.813	3/4	2.000	.170 - .200	18-8 S/S	n/a	Square	Square	Z8939-188	D-35
.813	3/4	2.000	.170 - .200	Steel	Black Ox	Square	Square	Z8939-BOX	D-36
.813	3/4	2.000	.170 - .200	Steel	Zinc	Square	Square	Z8939-ZN	D-37
.813	3/4	3.000	.170 - .200	Steel	Zinc	Square	Square	Z8874-ZN	D-37
.813	3/4	4.000	.170 - .200	Steel	Zinc	Square	Square	Z8736-ZN	D-37
.813	3/4	2.250	.188	Soft Stl	Galv.	Square	Square	Z8946G	D-38
.813	3/4	3.000	.188	Soft Stl	Galv.	Square	Square	Z8947G	D-38
.813	3/4	1.437	.219	Steel	Zinc Yel	Flat Washer	Round	Z9277	D-3
.813	3/4	1.437	.219	18-8 S/S	n/a	Flat Washer	Round	Z9277SS	D-2
.813	3/4	1.500	.219	18-8 S/S	n/a	Flat Washer	Round	Z9222	D-2
.813	3/4	1.500	.219	Brass	n/a	Flat Washer	Round	Z9222BR	D-4
.813	3/4	1.500	.219	Steel Cased	Black Ox	Flat Washer	Round	Z9222STL	D-3
.813	3/4	2.000	.220 - .280	Steel	Zinc	Square	Square	Z8958-ZN	D-37
.813	3/4	3.000	.220 - .280	Steel	Zinc	Square	Square	Z8882-ZN	D-37
.813	3/4	4.000	.220 - .280	Steel	Zinc	Square	Square	Z8893-ZN	D-37
.813	3/4	3 x 4.5	.230 - .250	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8754-188	D-33
.813	3/4	3 x 4.5	.230 - .250	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8754-SLOT-188	D-33
.813	3/4	6 x 6.000	.230 - .250	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8755-188	D-33
.813	3/4	2.500	.235 - .265	18-8 S/S	n/a	Square	Square	Z8757-188	D-35
.813	3/4	3.000	.235 - .265	18-8 S/S	n/a	Square	Square	Z8948-SLOT-SS	D-35
.813	3/4	3.000	.235- .265	Steel	Black Ox	Square	Square	Z8948H	D-36
.813	3/4	4.000	.235- .265	Steel	Black Ox	Square	Square	Z8893H	D-36
.813	5/8	1.500	.240 - .260	316 S/S	n/a	Fender	Round	Z0845-316	D-11

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.813	3/4	1.750	.240 - .260	316 S/S	n/a	Fender	Round	Z0848-316	D-11
.813	3/4	2.000	.240 - .260	316 S/S	n/a	Fender	Round	Z0851-316	D-11
.813	3/4	2.000	.250	Stl Cased	Black Ox	Square	Square	Z8958H	D-36
.813	3/4	2.000	.250	18-8 S/S	n/a	Square	Square	Z8958SS	D-35
.813	3/4	3.000	.250	Soft Stl	Galv.	Square	Square	Z8948G	D-38
.813	3/4	3.000	.250	18-8 S/S	n/a	Square	Square	Z8948SS	D-35
.813	3/4	3.000	.250	Steel	Galv.	Square	Square	Z8882-HDG	D-36
.813	3/4	4.000	.250	Steel	Galv.	Square	Square	Z8893-HDG	D-36
.813	3/4	4.000	.250	18-8 S/S	n/a	Square	Square	Z8893SS	D-35
.813	3/4	2.000	.250	Diamond Stl	Galv.	Square	Square	Z8958D	D-36
.813	3/4	2.000	.250	Soft Stl	Galv.	Square	Square	Z8958G	D-38
.813	3/4	1.625	.265	316 S/S	n/a	Spherical	Round	Z9466F-316	D-26
.813	3/4	1.625	.265	18-8 S/S	n/a	Spherical	Round	Z9466F-SS	D-25
.813	3/4	6 x 5.75	.360 - .390	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8776-188	D-33
.813	3/4	1.500	.365 - .385	316 S/S	n/a	Fender	Round	Z0846-316	D-11
.813	3/4	1.750	.365 - .385	316 S/S	n/a	Fender	Round	Z0849-316	D-11
.813	3/4	2.000	.365 - .385	316 S/S	n/a	Fender	Round	Z0852-316	D-11
.813	3/4	3.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8780-188	D-35
.813	3/4	4.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8779-188	D-35
.844	3/4	2.000	.240 - .260	Stl Cased	Black Ox	Fender	Round	Z9293	D-12
.844	3/4	1.625	.265	Stl Cased	Black Ox	Spherical	Round	Z9466F	D-26
.890	3/4	3.000	.250	Steel	Galv.	Dock	Round	Z9693G	D-13
.906	7/8	1.500	.080 - .100	18-8 S/S	n/a	Mil Spec	Round	AN960-C1416	D-15
.906	7/8	1.500	.090	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C1490R	D-16
.906	7/8	1.750	.156	Steel	n/a	Flat Washer	Round	Z9102	D-3
.906	7/8	1.750	.156	Brass	n/a	Flat Washer	Round	Z9102BR	D-4
.906	7/8	1.750	.156	18-8 S/S	n/a	Flat Washer	Round	Z9102SS	D-2
.906	7/8	1.750	.156	17-4 S/S	n/a	Flat Washer	Round	Z9102-174	D-4
.906	7/8	1.750	.156	Stl Cased	Nickel	Machined	Round	Z9102M	D-9
.906	7/8	1.750	.156	18-8 S/S	n/a	Machined	Round	Z9102M-SS	D-9
.906	7/8	2.438	.188	Steel	Galv.	Tapped Flange	Square	Z8890-STL-RC	D-46
.906	7/8	3.688	.188	Steel	Galv.	Tapped Flange	Square	Z8890-STL-SQ	D-46
.906	3/4	1.500	.250	Stl Cased	Zinc	Welding Thick	Round	Z9093	D-7
.906	3/4	1.500	.250	18-8 S/S	n/a	Welding Thick	Round	Z9093-SS	D-7
.906	7/8	1.750	.250	Steel	Plain	Machined	Round	Z9188	D-9
.906	7/8	1.750	.250	Steel	n/a	Flat Washer	Round	Z9207	D-3
.906	7/8	1.750	.250	Brass	n/a	Flat Washer	Round	Z9207BR	D-4
.906	3/4	3.000	.250	18-8 S/S	n/a	Fender-XT	Round	Z9693SS	D-13
.906	7/8	2.125	.298 - .328	Steel	n/a	Flat Washer	Round	Z9238	D-3
.906	3/4	3.000	.375	Steel	n/a	Fender-XT	Round	Z9698	D-13
.938	7/8	1.469	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB78NAL	D-19
.938	7/8	1.469	.090 - .112	Brass	n/a	ASME Type B	Round	WASB78NBR	D-19
.938	7/8	1.469	.090 - .112	Copper	n/a	ASME Type B	Round	WASB78NCU	D-19
.938	7/8	1.469	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB78N316	D-19
.938	7/8	1.750	.108 - .160	18-8 S/S	n/a	Mil Spec	Round	MS15795-824	D-16
.938	7/8	2.000	.112 - .128	18-8 S/S	n/a	Square	Square	Z8932-188	D-35
.938	7/8	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8932-BOX	D-36
.938	7/8	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8932-ZN	D-37
.938	7/8	3.000	.112 - .128	Steel	Zinc	Square	Square	Z8866-ZN	D-37
.938	7/8	4.000	.112 - .128	Steel	Zinc	Square	Square	Z8729-ZN	D-37
.938	7/8	3.250	.125	Steel	n/a	Fender-XT	Round	Z9694	D-13
.938	7/8	2.250	.136 - .192	18-8 S/S	n/a	Mil Spec	Round	MS15795-825	D-16
.938	7/8	2.250	.136 - .192	18-8 S/S	n/a	USS Standard	Round	WAS50478	D-18

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
.938	7/8	2.250	.136 - .192	316 S/S	n/a	USS Standard	Round	WAS50578	D-18
.938	7/8	2.25	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB78RAL	D-20
.938	7/8	2.25	.146 - .174	Brass	n/a	ASME Type B	Round	WASB78RBR	D-20
.938	7/8	2.25	.146 - .174	Copper	n/a	ASME Type B	Round	WASB78RCU	D-20
.938	7/8	2.75	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB78WAL	D-20
.938	7/8	2.75	.146 - .174	Brass	n/a	ASME Type B	Round	WASB78WBR	D-20
.938	7/8	2.75	.146 - .174	Copper	n/a	ASME Type B	Round	WASB78WCU	D-20
.938	7/8	2.250	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB78R316	D-20
.938	7/8	2.750	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB78W316	D-20
.938	7/8	2.000	.170 - .200	18-8 S/S	n/a	Square	Square	Z8941-188	D-35
.938	7/8	2.000	.170 - .200	Steel	Black Ox	Square	Square	Z8941-BOX	D-36
.938	7/8	2.000	.170 - .200	Steel	Zinc	Square	Square	Z8941-ZN	D-37
.938	7/8	3.000	.170 - .200	Steel	Zinc	Square	Square	Z8875-ZN	D-37
.938	7/8	4.000	.170 - .200	Steel	Zinc	Square	Square	Z8737-ZN	D-37
.938	7/8	2.000	.220 - .280	Steel	Zinc	Square	Square	Z8960-ZN	D-37
.938	7/8	3.000	.220 - .280	Steel	Zinc	Square	Square	Z8883-ZN	D-37
.938	7/8	4.000	.220 - .280	Steel	Zinc	Square	Square	Z8894-ZN	D-37
.938	7/8	2.000	.235 - .265	18-8 S/S	n/a	Square	Square	Z8960-188	D-35
.938	7/8	4.000	.235 - .265	Steel	Black Ox	Square	Square	Z8894H	D-36
.938	7/8	3.000	.235- .265	Steel	Black Ox	Square	Square	Z8883H	D-36
.938	7/8	1.750	.240	Stl Cased	Black Ox	Spherical	Round	Z9470M	D-26
.938	7/8	1.750	.240	316 S/S	n/a	Spherical	Round	Z9470M-316	D-26
.938	7/8	1.750	.240	18-8 S/S	n/a	Spherical	Round	Z9470M-SS	D-25
.938	7/8	1.750	.250	18-8 S/S	n/a	Flat Washer	Round	Z9207SS	D-2
.938	7/8	1.750	.250	17-4 S/S	n/a	Flat Washer	Round	Z9207-174	D-4
.938	7/8	1.750	.250	Soft Stl	Plain	Beveled FW	Round	Z9188-BEV	D-8
.938	7/8	1.750	.250	Stl Cased	Plain	Beveled FW	Round	Z9188-BEV-H	D-8
.938	7/8	1.750	.250	Stl Cased	Zinc	Beveled FW	Round	Z9188-BEV-HZN	D-8
.938	7/8	1.750	.250	18-8 S/S	n/a	Beveled FW	Round	Z9188-BEV-SS	D-8
.938	7/8	1.750	.250	Steel	Zinc Yel	Flat Washer	Round	Z9278	D-3
.938	7/8	1.828	.250	Stl Cased	n/a	Component Thick	Round	Z9207U	D-7
.938	7/8	2.000	.250	Soft Stl	Galv.	Square	Square	Z8960G	D-38
.938	7/8	2.000	.250	Stl Cased	Black Ox	Square	Square	Z8960H	D-36
.938	7/8	2.000	.250	18-8 S/S	n/a	Square	Square	Z8960SS	D-35
.938	7/8	3.000	.250	Steel	Galv.	Square	Square	Z8883-HDG	D-36
.938	7/8	3.000	.250	18-8 S/S	n/a	Square	Square	Z8883SS	D-35
.938	7/8	4.000	.250	Steel	Galv.	Square	Square	Z8894-HDG	D-36
.938	7/8	4.000	.250	18-8 S/S	n/a	Square	Square	Z8894SS	D-35
.938	7/8	1.750	.250	18-8 S/S	n/a	Flat Washer	Round	Z9278SS	D-2
.938	7/8	3.000	.250	Steel	Galv.	Dock	Round	Z9673G	D-13
.938	7/8	3.250	.250	Steel	n/a	Fender-XT	Round	Z9695	D-13
.938	7/8	3.250	.250	18-8 S/S	n/a	Fender-XT	Round	Z9695SS	D-13
.938	7/8	3.000	.298 - .328	18-8 S/S	n/a	Square	Square	Z8761-188	D-35
.938	7/8	1.937 x 2.25	.360 - .390	18-8 S/S	n/a	Bearing Plate	Rectangle	Z8756-188	D-33
.938	7/8	3.000	0.25	Steel	Zinc	Dock	Round	Z9673	D-13
.940	7/8	2.25	.190-.266	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9078-188	D-31
.940	7/8	2.25	.190-.266	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9078-188-BX	D-31
.940	7/8	2.25	.190-.266	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9078-316	D-31
.940	7/8	2.25	.190-.266	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9078-316-BX	D-31
1.000	1	1.750	.031	18-8 S/S	n/a	Shims for D Shafts	Round	Z0580	D-44
1.000	n/a	2.000	.048	18-8 S/S	n/a	Wide Shim	Round	Z9950SS	D-39

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
1.000	1	1.750	.063	18-8 S/S	n/a	Shims for D Shafts	Round	Z0581	D-44
1.000	n/a	2.000	.075	18-8 S/S	n/a	Wide Shim	Round	Z9962SS	D-39
1.000	7/8	1.469	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB78NZ	D-19
1.000	7/8	1.469	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB78N8	D-19
1.000	1	1.750	.125	18-8 S/S	n/a	Shims for D Shafts	Round	Z0582	D-44
1.000	7/8	3.250	.375	Steel	n/a	Fender-XT	Round	Z9699	D-13
1.015	7/8	2.000	.110	316 S/S	n/a	Fender	Round	Z0622-316	D-11
1.015	7/8	2.000	.110	18-8 S/S	n/a	Fender	Round	Z0622-188	D-10
1.015	7/8	2.250	.146 - .174	Steel	Zinc	ASME Type B	Round	WASB78RZ	D-20
1.015	7/8	2.250	.146 - .174	18-8 S/S	n/a	ASME Type B	Round	WASB78R8	D-20
1.015	7/8	2.750	.146 - .174	Steel	Zinc	ASME Type B	Round	WASB78WZ	D-20
1.031	1	1.750	.080 - .100	18-8 S/S	n/a	Mil Spec	Round	AN960-C1616	D-15
1.031	1	1.750	.090	18-8 S/S	n/a	Mil Spec	Round	NAS1149-C1690R	D-16
1.031	1	1.755	.093	Fiberglass	n/a	Non-Metal	Round	Z8334	D-23
1.031	1	2.000	.125	Fiberglass	n/a	Non-Metal	Square	Z8350	D-38
1.031	1	2.000	.125	Fiberglass	n/a	Non-Metal	Square	Z8370	D-38
1.031	7/8	2.750	.146 - .174	18-8 S/S	n/a	ASME Type B	Round	WASB78W8	D-20
1.031	1	2.000	.188	17-4 S/S	n/a	Flat Washer	Round	Z9103-174	D-4
1.031	1	2.000	.188	Steel	n/a	Flat Washer	Round	Z9103	D-3
1.031	1	2.000	.188	Brass	n/a	Flat Washer	Round	Z9103BR	D-4
1.031	1	2.000	.188	18-8 S/S	n/a	Flat Washer	Round	Z9103SS	D-2
1.031	1	2.000	.219	Steel	n/a	Flat Washer	Round	Z9208	D-3
1.031	1	2.000	.219	Brass	n/a	Flat Washer	Round	Z9208BR	D-4
1.031	1	2.000	.219	18-8 S/S	n/a	Flat Washer	Round	Z9208SS	D-2
1.031	1	2.000	.219	17-4 S/S	n/a	Flat Washer	Round	Z9208-174	D-4
1.031	7/8	1.750	.240	Stl Cased	Black Ox	Spherical	Round	Z9470F	D-26
1.031	7/8	1.750	.240	316 S/S	n/a	Spherical	Round	Z9470F-316	D-26
1.031	7/8	1.750	.240	18-8 S/S	n/a	Spherical	Round	Z9470F-SS	D-25
1.031	1	2.000	.313	Soft Stl	Plain	Beveled FW	Round	Z9189-BEV	D-8
1.032	1	2.000	.313	Stl Cased	Plain	Beveled FW	Round	Z9189-BEV-H	D-8
1.032	1	2.000	.313	Stl Cased	Zinc	Beveled FW	Round	Z9189-BEV-HZN	D-8
1.062	1	1.75	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB80NAL	D-19
1.062	1	1.75	.090 - .112	Brass	n/a	ASME Type B	Round	WASB80NBR	D-19
1.062	1	1.75	.090 - .112	Copper	n/a	ASME Type B	Round	WASB80NCU	D-19
1.062	1	2.5	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB80RAL	D-20
1.062	1	2.5	.146 - .174	Brass	n/a	ASME Type B	Round	WASB80RBR	D-20
1.062	1	2.5	.146 - .174	Copper	n/a	ASME Type B	Round	WASB80RCU	D-20
1.062	1	3	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB80WAL	D-20
1.062	1	3	.146 - .174	Brass	n/a	ASME Type B	Round	WASB80WBR	D-20
1.062	1	3	.146 - .174	Copper	n/a	ASME Type B	Round	WASB80WCU	D-20
1.062	1	1.750	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB80N316	D-19
1.062	1	1.750	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB80NZ	D-19
1.062	1	1.750	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB80N8	D-19
1.062	1	2.000	.108 - .160	18-8 S/S	n/a	Mil Spec	Round	MS15795-826	D-16
1.062	1	2.000	.108 - .160	18-8 S/S	n/a	SAE Standard	Round	WAS40401	D-17
1.062	1	2.000	.108 - .160	316 S/S	n/a	SAE Standard	Round	WAS40501	D-17
1.062	1	2.250	.110 - .140	316 S/S	n/a	Fender	Round	WAS1.062X2.25X.125T316	D-11
1.062	1	2.850	.110 - .140	316 S/S	n/a	Fender	Round	WAS1.062X2.85X.125-316	D-11
1.062	1	2.500	.136 - .192	18-8 S/S	n/a	Mil Spec	Round	MS15795-827	D-16
1.062	1	2.500	.136 - .192	18-8 S/S	n/a	USS Standard	Round	WAS50401	D-18
1.062	1	2.500	.136 - .192	316 S/S	n/a	USS Standard	Round	WAS50501	D-18
1.062	1	2.500	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB80R316	D-20
1.062	1	3.000	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB80W316	D-20

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
1.062	1	2.500	.146 - .174	Steel	Zinc	ASME Type B	Round	WASB80RZ	D-20
1.062	1	2.500	.146 - .174	18-8 S/S	n/a	ASME Type B	Round	WASB80R8	D-20
1.062	1	3.000	.146 - .174	Steel	Zinc	ASME Type B	Round	WASB80WZ	D-20
1.062	1	3.000	.146 - .174	18-8 S/S	n/a	ASME Type B	Round	WASB80W8	D-20
1.062	1	2.000	.187	Stl Cased	Nickel	Machined	Round	Z9103M	D-9
1.062	1	2.000	.187	18-8 S/S	n/a	Machined	Round	Z9103M-SS	D-9
1.062	1	2.500	.240 - .260	Stl Cased	Black Ox	Fender	Round	Z9294	D-12
1.062	1	2.000	.250	18-8 S/S	n/a	Flat Washer	Round	Z9209SS	D-2
1.062	1	2.000	.250	Steel	n/a	Flat Washer	Round	Z9209STL	D-3
1.062	1	2.000	.250	Steel	Zinc Yel	Flat Washer	Round	Z9279	D-3
1.062	1	2.000	.250	18-8 S/S	n/a	Flat Washer	Round	Z9279SS	D-2
1.062	1	2.000	.250	Steel	Galv.	Square	Square	Z8962G	D-38
1.062	1	2.000	.250	Diamond Stl	Galv.	Square	Square	Z8962D	D-36
1.062	1	2.000	.250	Stl Cased	Black Ox	Square	Square	Z8962H	D-36
1.062	1	2.000	.250	18-8 S/S	n/a	Square	Square	Z8962SS	D-35
1.062	1	3.000	.250	Steel	Galv.	Square	Square	Z8884-HDG	D-36
1.062	1	2.062	.281	Stl Cased	n/a	Component Thick	Round	Z9208U	D-7
1.062	1	2.000	.312	Steel	Plain	Component Thick	Round	Z9189	D-9
1.062	1	2.000	.313	18-8 S/S	n/a	Beveled FW	Round	Z9189-BEV-SS	D-8
1.062	1	2.500	.313	Steel	n/a	Flat Washer	Round	Z9239	D-3
1.062	1	2.000	.330	Stl Cased	Black Ox	Spherical	Round	Z9474M	D-26
1.062	1	2.000	.330	316 S/S	n/a	Spherical	Round	Z9474M-316	D-26
1.062	1	2.000	.330	18-8 S/S	n/a	Spherical	Round	Z9474M-SS	D-25
1.062	7/8 & 1	2.500	.438	Stl Cased	Black Ox	Easy On Slotted	Round	Z9434	D-24
1.062	7/8 & 1	2.500	.438	18-8 S/S	n/a	Easy On Slotted	Round	Z9434SS	D-24
1.062	1	3.000	.562	Steel Cased	Black Ox	C Washer	Round	Z9442	D-24
1.062	1	2.000	0.110	316 S/S	n/a	Fender	Round	Z0623-316	D-11
1.062	1	2.000	0.110	18-8 S/S	n/a	Fender	Round	Z0623-188	D-10
1.062	1	2.500	0.125	316 S/S	n/a	Fender	Round	WAS1.062X2.5X.125T316	D-11
1.062	1	3.250	0.25	Steel	Zinc	Dock	Round	Z9674	D-13
1.063	1	2.000	.112 - .128	18-8 S/S	n/a	Square	Square	Z8933-188	D-35
1.063	1	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8933-BOX	D-36
1.063	1	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8933-ZN	D-37
1.063	1	3.000	.112 - .128	Steel	Zinc	Square	Square	Z8867-ZN	D-37
1.063	1	4.000	.112 - .128	Steel	Zinc	Square	Square	Z8730-ZN	D-37
1.063	1	2.000	.170 - .200	18-8 S/S	n/a	Square	Square	Z8949-188	D-35
1.063	1	2.000	.170 - .200	Steel	Black Ox	Square	Square	Z8949-BOX	D-36
1.063	1	2.000	.170 - .200	Steel	Zinc	Square	Square	Z8949-ZN	D-37
1.063	1	3.000	.170 - .200	Steel	Zinc	Square	Square	Z8877-ZN	D-37
1.063	1	4.000	.170 - .200	Steel	Zinc	Square	Square	Z8738-ZN	D-37
1.063	1	2.000	.220 - .280	Steel	Zinc	Square	Square	Z8962-ZN	D-37
1.063	1	3.000	.220 - .280	Steel	Zinc	Square	Square	Z8884-ZN	D-37
1.063	1	4.000	.220 - .280	Steel	Zinc	Square	Square	Z8895-ZN	D-37
1.063	1	4.000	.235 - .265	Steel	Black Ox	Square	Square	Z8895H	D-36
1.063	1	3.000	.235- .265	Steel	Black Ox	Square	Square	Z8884H	D-36
1.063	1	2.500	.240 - .260	316 S/S	n/a	Fender	Round	Z0854-316	D-11
1.063	1	3.500	.360 - .390	18-8 S/S	n/a	Square	Square	Z8762-188	D-35
1.063	1	2.500	.365 - .385	316 S/S	n/a	Fender	Round	Z0855-316	D-11
1.063	1	3.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8782-188	D-35
1.063	1	4.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8781-188	D-35
1.08	1	2.5	.190-.266	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9079-188	D-31

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
1.08	1	2.5	.190-.266	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9079-188-BX	D-31
1.08	1	2.5	.190-.266	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9079-316	D-31
1.08	1	2.5	.190-.266	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9079-316-BX	D-31
1.125	1	3.000	.250	18-8 S/S	n/a	Square	Square	Z8884SS	D-35
1.156	1	3.500	.125	Steel	n/a	Fender-XT	Round	Z9696	D-13
1.156	1	3.500	.125	18-8 S/S	n/a	Fender-XT	Round	Z9696SS	D-13
1.156	1	3.250	.250	Steel	Galv.	Dock	Round	Z9674G	D-13
1.156	1	3.250	.250	18-8 S/S	n/a	Fender-XT	Round	Z9674SS	D-13
1.156	1	3.250	.250	Steel	n/a	Fender-XT	Round	Z9674GU	D-13
1.156	1	3.500	.250	Steel	n/a	Fender-XT	Round	Z9697	D-13
1.156	1	3.500	.375	Steel	n/a	Fender-XT	Round	Z9677	D-13
1.187	1-1/8	2.000	.090 - .112	316 S/S	n/a	ASME Type B	Round	WASB81N316	D-19
1.187	1-1/8	2.750	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB81R316	D-20
1.187	1-1/8	3.250	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB81W316	D-20
1.187	1-1/8	2.000	.090 - .112	Aluminum	n/a	ASME Type B	Round	WASB81NAL	D-19
1.187	1-1/8	2.000	.090 - .112	Brass	n/a	ASME Type B	Round	WASB81NBR	D-19
1.187	1-1/8	2.000	.090 - .112	Copper	n/a	ASME Type B	Round	WASB81NCU	D-19
1.187	1-1/8	2.75	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB81RAL	D-20
1.187	1-1/8	2.75	.146 - .174	Brass	n/a	ASME Type B	Round	WASB81RBR	D-20
1.187	1-1/8	2.75	.146 - .174	Copper	n/a	ASME Type B	Round	WASB81RCU	D-20
1.187	1-1/8	3.25	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB81WAL	D-20
1.187	1-1/8	3.25	.146 - .174	Brass	n/a	ASME Type B	Round	WASB81WBR	D-20
1.187	1-1/8	3.25	.146 - .174	Copper	n/a	ASME Type B	Round	WASB81WCU	D-20
1.188	1 1/8	2.250	.219	Steel	n/a	Flat Washer	Round	Z9104	D-3
1.188	1 1/8	2.250	.219	18-8 S/S	n/a	Flat Washer	Round	Z9104SS	D-2
1.188	1 1/8	2.250	.219	17-4 S/S	n/a	Flat Washer	Round	Z9104-174	D-4
1.188	1	4.000	.250	Steel	Galv.	Square	Square	Z8895-HDG	D-36
1.188	1	4.000	.250	18-8 S/S	n/a	Square	Square	Z8895SS	D-35
1.188	1	2.000	.290	Stl Cased	Black Ox	Spherical	Round	Z9474F	D-26
1.188	1	2.000	.290	316 S/S	n/a	Spherical	Round	Z9474F-316	D-26
1.188	1	2.000	.290	18-8 S/S	n/a	Spherical	Round	Z9474F-SS	D-25
1.188	1-1/8	2.250	.312	Steel	Plain	Component Thick	Round	Z9190	D-9
1.188	1-1/8	2.250	.313	Soft Stl	Plain	Beveled FW	Round	Z9190-BEV	D-8
1.188	1-1/8	2.250	.313	Stl Cased	Plain	Beveled FW	Round	Z9190-BEV-H	D-8
1.250	n/a	1.875	.075	18-8 S/S	n/a	Wide Shim	Round	Z9964SS	D-39
1.250	1-1/8	2.000	.090 - .112	Steel	Zinc	ASME Type B	Round	WASB81NZ	D-19
1.250	1-1/8	2.250	.125	18-8 S/S	n/a	Fender-XT	Round	WAS1.25X2.25X.125T188	D-13
1.250	1-1/8	2.250	.313	Stl Cased	Zinc	Beveled FW	Round	Z9190-BEV-HZN	D-8
1.250	1-1/8	2.250	.313	18-8 S/S	n/a	Beveled FW	Round	Z9190-BEV-SS	D-8
1.281	1-1/8	2.000	.090 - .112	18-8 S/S	n/a	ASME Type B	Round	WASB81N8	D-19
1.281	1-1/8	2.500	.125	316 S/S	n/a	Fender	Round	Z0624-316	D-11
1.281	1-1/8	2.500	.125	18-8 S/S	n/a	Fender	Round	Z0624-188	D-10
1.281	1-1/8	3.250	.146 - .174	Steel	Zinc	ASME Type B	Round	WASB81WZ	D-20
1.281	1-1/8	2.750	.146 - .174	Steel	Zinc	ASME Type B	Round	WASB81RZ	D-20
1.281	1-1/8	2.750	.146- .174	18-8 S/S	n/a	ASME Type B	Round	WASB81R8	D-20
1.281	1-1/8	2.250	.250	Steel	Zinc Yel	Flat Washer	Round	Z9280	D-3
1.281	1-1/8	2.250	.281	Stl Cased	Black Ox	Spherical	Round	Z9478M	D-26
1.281	1-1/8	2.250	.281	316 S/S	n/a	Spherical	Round	Z9478M-316	D-26
1.281	1-1/8	2.250	.281	18-8 S/S	n/a	Spherical	Round	Z9478M-SS	D-25
1.312	1-1/4	2.25	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB82NAL	D-19
1.312	1-1/4	2.25	.146 - .174	Brass	n/a	ASME Type B	Round	WASB82NBR	D-19
1.312	1-1/4	2.25	.146 - .174	Copper	n/a	ASME Type B	Round	WASB82NCU	D-19

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
1.312	1-1/4	3	.146 - .174	Aluminum	n/a	ASME Type B	Round	WASB82RAL	D-20
1.312	1-1/4	3	.146 - .174	Brass	n/a	ASME Type B	Round	WASB82RBR	D-20
1.312	1-1/4	3	.146 - .174	Copper	n/a	ASME Type B	Round	WASB82RCU	D-20
1.312	1-1/4	3.5	.234 - .266	Aluminum	n/a	ASME Type B	Round	WASB82WAL	D-20
1.312	1-1/4	3.5	.234 - .266	Brass	n/a	ASME Type B	Round	WASB82WBR	D-20
1.312	1-1/4	3.5	.234 - .266	Copper	n/a	ASME Type B	Round	WASB82WCU	D-20
1.312	1-1/4	2.250	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB82N316	D-19
1.312	1-1/4	3.000	.146 - .174	316 S/S	n/a	ASME Type B	Round	WASB82R316	D-20
1.312	1 1/8	3.250	.146 - .174	18-8 S/S	n/a	ASME Type B	Round	WASB81W8	D-20
1.312	1-1/4	3.500	.234 - .266	316 S/S	n/a	ASME Type B	Round	WASB82W316	D-20
1.312	1-1/4	2.500	.281	Steel	n/a	Flat Washer	Round	Z9105	D-3
1.312	1-1/4	2.500	.281	18-8 S/S	n/a	Flat Washer	Round	Z9105SS	D-2
1.312	1-1/4	2.500	.281	17-4 S/S	n/a	Flat Washer	Round	Z9105-174	D-4
1.312	1-1/4	2.250	.312	Steel	Plain	Component Thick	Round	Z9191	D-9
1.312	1-1/4	2.250	.313	Soft Stl	Plain	Beveled FW	Round	Z9191-BEV	D-8
1.312	1-1/4	2.250	.313	Stl Cased	Plain	Beveled FW	Round	Z9191-BEV-H	D-8
1.312	1-1/4	2.250	.313	Stl Cased	Zinc	Beveled FW	Round	Z9191-BEV-HZN	D-8
1.312	1-1/4	2.250	.313	18-8 S/S	n/a	Beveled FW	Round	Z9191-BEV-SS	D-8
1.312	1-1/8	2.250	.350	Stl Cased	Black Ox	Spherical	Round	Z9478F	D-26
1.312	1-1/8	2.250	.350	316 S/S	n/a	Spherical	Round	Z9478F-316	D-26
1.312	1-1/8	2.250	.350	18-8 S/S	n/a	Spherical	Round	Z9478F-SS	D-25
1.313	1-1/4	2.000	.112 - .128	18-8 S/S	n/a	Square	Square	Z8934-188	D-35
1.313	1-1/4	2.000	.112 - .128	Steel	Black Ox	Square	Square	Z8934-BOX	D-36
1.313	1-1/4	2.000	.112 - .128	Steel	Zinc	Square	Square	Z8934-ZN	D-37
1.313	1-1/4	3.000	.112 - .128	Steel	Zinc	Square	Square	Z8868-ZN	D-37
1.313	1-1/4	4.000	.112 - .128	Steel	Zinc	Square	Square	Z8731-ZN	D-37
1.313	1-1/4	2.000	.170 - .200	18-8 S/S	n/a	Square	Square	Z8951-188	D-35
1.313	1-1/4	2.000	.170 - .200	Steel	Black Ox	Square	Square	Z8951-BOX	D-36
1.313	1-1/4	2.000	.170 - .200	Steel	Zinc	Square	Square	Z8951-ZN	D-37
1.313	1-1/4	3.000	.170 - .200	Steel	Zinc	Square	Square	Z8878-ZN	D-37
1.313	1-1/4	4.000	.170 - .200	Steel	Zinc	Square	Square	Z8739-ZN	D-37
1.313	1-1/4	2.000	.220 - .280	Steel	Zinc	Square	Square	Z8963-ZN	D-37
1.313	1-1/4	3.000	.220 - .280	18-8 S/S	n/a	Square	Square	Z8885SS	D-35
1.313	1-1/4	3.000	.220 - .280	Steel	Zinc	Square	Square	Z8885-ZN	D-37
1.313	1-1/4	4.000	.220 - .280	Steel	Black Ox	Square	Square	Z8896H	D-36
1.313	1-1/4	4.000	.220 - .280	Steel	Zinc	Square	Square	Z8896-ZN	D-37
1.313	1-1/4	3.000	.240 - .260	316 S/S	n/a	Fender	Round	Z0857-316	D-11
1.313	1-1/4	4.000	.240 - .260	316 S/S	n/a	Fender	Round	Z0859-316	D-11
1.313	1-1/4	2.000	.250	18-8 S/S	n/a	Square	Square	Z8963SS	D-35
1.313	1-1/4	3.000	.250	Steel	Galv.	Square	Square	Z8885G	D-38
1.313	1-1/4	3.000	.250	Steel	Black Ox	Square	Square	Z8885H	D-36
1.313	1-1/4	2.000	.250	Steel	Galv.	Square	Square	Z8963G	D-38
1.313	1-1/4	2.000	.250	Steel	Black Ox	Square	Square	Z8963H	D-36
1.313	1-1/4	3.000	.365 - .385	316 S/S	n/a	Fender	Round	Z0858-316	D-11
1.313	1-1/4	4.000	.365 - .385	316 S/S	n/a	Fender	Round	Z0860-316	D-11
1.313	1-1/4	3.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8784-188	D-35
1.313	1-1/4	4.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8783-188	D-35
1.313	1-1/4	3.000	.625	Steel Cased	Black Ox	C Washer	Round	Z9443	D-24
1.375	1 1/8	2.250	.146 - .174	Steel	Zinc	ASME Type B	Round	WASB82NZ	D-19
1.375	1 1/8	2.250	.146 - .174	18-8 S/S	n/a	ASME Type B	Round	WASB82N8	D-19
1.375	1 1/8	3.000	.146 - .174	Steel	Zinc	ASME Type B	Round	WASB82RZ	D-20
1.375	1 1/8	3.000	.146 - .174	18-8 S/S	n/a	ASME Type B	Round	WASB82R8	D-20
1.375	1 1/8	3.500	.234 - .266	Steel	Zinc	ASME Type B	Round	WASB82WZ	D-20

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
1.375	1-1/4	4.000	.250	Steel	Galv.	Square	Square	Z8896G	D-38
1.375	1-1/4	4.000	0.25	Steel	Zinc	Dock	Round	Z9675	D-13
1.375	1-1/4	2.500	0.312	316 S/S	n/a	Spherical	Round	Z9484M-316	D-26
1.375	1-1/4	2.500	0.312	18-8 S/S	n/a	Spherical	Round	Z9484M-SS	D-25
1.438	1 1/8	3.500	.234 - .266	18-8 S/S	n/a	ASME Type B	Round	WASB82W8	D-20
1.500	n/a	2.250	.075	18-8 S/S	n/a	Wide Shim	Round	Z9968SS	D-39
1.500	1-1/4	2.750	.125	316 S/S	n/a	Fender	Round	Z0625-316	D-11
1.500	1-1/4	2.750	.125	18-8 S/S	n/a	Fender	Round	Z0625-188	D-10
1.500	1 1/4	2.500	.344	Steel	n/a	Flat Washer	Round	Z9240	D-3
1.500	1-1/4	3.000	.438	Stl Cased	Black Ox	Easy On Slotted	Round	Z9437	D-24
1.500	1-1/4	3.000	.438	18-8 S/S	n/a	Easy On Slotted	Round	Z9437SS	D-24
1.562	1-1/4	2.500	.250	Steel	Zinc Yel	Flat Washer	Round	Z9281	D-3
1.562	1-1/4	2.500	.312	Stl Cased	Black Ox	Spherical	Round	Z9484M	D-26
1.562	1-1/4	2.500	.350	Stl Cased	Black Ox	Spherical	Round	Z9484F	D-26
1.563	1-1/2	3.000	.112 - .128	Steel	Zinc	Square	Square	Z8869-ZN	D-37
1.563	1-1/2	4.000	.112 - .128	Steel	Zinc	Square	Square	Z8732-ZN	D-37
1.563	1-1/4	2.500	.136 - .192	316 S/S	n/a	Fender	Round	WAS1375X2.5X156T316	D-11
1.563	1-1/4	3.000	.136 - .192	316 S/S	n/a	Fender	Round	WAS1.375X3X.187T316	D-11
1.563	1-1/2	3.000	.170 - .200	Steel	Zinc	Square	Square	Z8891-ZN	D-37
1.563	1-1/2	4.000	.170 - .200	Steel	Zinc	Square	Square	Z8740-ZN	D-37
1.563	1-1/2	3.000	.220 - .280	Steel	Zinc	Square	Square	Z8886-ZN	D-37
1.563	1-1/2	4.000	.220 - .280	Steel	Black Ox	Square	Square	Z8897H	D-36
1.563	1-1/2	4.000	.220 - .280	Steel	Zinc	Square	Square	Z8897-ZN	D-37
1.563	1-1/2	3.250	.240 - .260	316 S/S	n/a	Fender	Round	Z0862-316	D-11
1.563	1-1/2	3.500	.240 - .260	316 S/S	n/a	Fender	Round	Z0864-316	D-11
1.563	1-1/2	4.000	.240 - .260	316 S/S	n/a	Fender	Round	Z0866-316	D-11
1.563	1-1/4	2.500	.350	316 S/S	n/a	Spherical	Round	Z9484F-316	D-26
1.563	1-1/4	2.500	.350	18-8 S/S	n/a	Spherical	Round	Z9484F-SS	D-25
1.563	1-1/2	3.250	.365 - .385	316 S/S	n/a	Fender	Round	Z0863-316	D-11
1.563	1-1/2	3.500	.365 - .385	316 S/S	n/a	Fender	Round	Z0865-316	D-11
1.563	1-1/2	4.000	.365 - .385	316 S/S	n/a	Fender	Round	Z0867-316	D-11
1.563	1-1/2	3.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8786-188	D-35
1.563	1-1/2	4.000	.485 - .515	18-8 S/S	n/a	Square	Square	Z8785-188	D-35
1.563	1-1/4	4.000	.500	18-8 S/S	n/a	Fender-XT	Round	Z9675SS	D-13
1.563	1-1/4	4.000	.500	Steel	Galv.	Dock	Round	Z9675G	D-13
1.625	1-3/8	2.750	.100 - .180	316 S/S	n/a	Fender	Round	WAS1.5X2.75X.125T316	D-11
1.625	1-3/8	2.750	.250	Steel	Zinc Yel	Flat Washer	Round	Z9282	D-3
1.625	1-3/8	2.750	.250	Alloy Stl	n/a	Extra Large OD	Round	Z9250	D-14
1.625	1-3/8	2.750	.250	18-8 S/S	n/a	Extra Large OD	Round	Z9250SS	D-14
1.625	1-3/8	2.750	.250	Steel	Black Ox	Extra Large OD	Round	Z9250LC	D-14
1.750	1-5/8	3.750	.153 - .213	18-8 S/S	n/a	Fender-XT	Round	WAS1.75X3.75X187T303	D-13
1.750	1-1/2	3.000	.250	Steel	Galv.	Square	Square	Z8886G	D-38
1.750	1-1/2	3.000	.250	Steel	Black Ox	Square	Square	Z8886H	D-36
1.750	1-1/2	4.000	.313	Steel	Galv.	Extra Large OD	Round	Z9253-HDG	D-14
1.750	1-1/2	4.000	.313	Steel	Galv.	Extra Large OD	Round	Z9265LCG	D-14
1.812	1-3/4	3.875	.170 - .200	18-8 S/S	n/a	Fender-XT	Round	WAS1.812X3.875X.187T188	D-13
1.813	1-3/4	3.000	.112 - .128	Steel	Zinc	Square	Square	Z8871-ZN	D-37
1.813	1-3/4	4.000	.112 - .128	Steel	Zinc	Square	Square	Z8733-ZN	D-37
1.813	1-3/4	3.000	.170 - .200	Steel	Zinc	Square	Square	Z8702-ZN	D-37
1.813	1-3/4	4.000	.170 - .200	Steel	Zinc	Square	Square	Z8741-ZN	D-37
1.813	1-3/4	3.000	.220 - .280	Steel	Zinc	Square	Square	Z8879-ZN	D-37
1.813	1-3/4	4.000	.220 - .280	Steel	Black Ox	Square	Square	Z8898H	D-36
1.813	1-3/4	4.000	.220 - .280	Steel	Zinc	Square	Square	Z8898-ZN	D-37
1.875	1-1/2	3.250	.125	316 S/S	n/a	Fender	Round	Z0626-316	D-11

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
1.875	1-1/2	3.000	.250	Steel	Zinc Yel	Flat Washer	Round	Z9283	D-3
1.875	1-1/2	4.000	.250	Steel	Galv.	Square	Square	Z8897G	D-38
1.875	1-1/2	2.750	.375	Steel	n/a	Flat Washer	Round	Z9241	D-3
1.875	1-1/2	2.750	.375	17-4 S/S	n/a	Flat Washer	Round	Z9241-174	D-4
1.937	1-1/2	3.250	.125	18-8 S/S	n/a	Fender	Round	Z0626-188	D-10
1.937	1-1/2	2.875	.350	Stl Cased	Black Ox	Spherical	Round	Z9488M	D-26
1.937	1-1/2	2.875	.350	316 S/S	n/a	Spherical	Round	Z9488M-316	D-26
1.937	1-1/2	2.875	.350	18-8 S/S	n/a	Spherical	Round	Z9488M-SS	D-25
2.000	1-1/2	3.000	.125	18-8 S/S	n/a	Extra Large OD	Round	Z9251SS	D-14
2.000	2	3.750	.250	Steel	Black Ox	Extra Large OD	Round	Z9256LC	D-14
2.000	1-3/4	4.000	.312	Steel	Galv.	Extra Large OD	Round	Z9266LCG	D-14
2.000	1-3/4	4.000	.313	Steel	Galv.	Extra Large OD	Round	Z9255-HDG	D-14
2.063	2	4.000	.112 - .128	Steel	Zinc	Square	Square	Z8734-ZN	D-37
2.063	2	4.000	.170 - .200	Steel	Zinc	Square	Square	Z8742-ZN	D-37
2.063	2	4.000	.220 - .280	Steel	Zinc	Square	Square	Z8899-ZN	D-37
2.063	1-1/2	3.000	.250	Alloy Stl	n/a	Extra Large OD	Round	Z9252	D-14
2.063	1-1/2	3.000	.250	18-8 S/S	n/a	Extra Large OD	Round	Z9252SS	D-14
2.125	1-1/2	3.500	.153 - .213	316 S/S	n/a	Fender	Round	WAS1.625X3.5X.187T316	D-11
2.125	2	3.000	.240 - .260	316 S/S	n/a	Fender	Round	Z0869-316	D-11
2.125	1-1/2	3.000	.250	Steel	Black Ox	Extra Large OD	Round	Z9252LC	D-14
2.125	2	3.750	.250	18-8 S/S	n/a	Extra Large OD	Round	Z9256SS	D-14
2.125	2	3.000	.365 - .385	316 S/S	n/a	Fender	Round	Z0870-316	D-11
2.125	1-1/2	2.875	.390	18-8 S/S	n/a	Spherical	Round	Z9488F-SS	D-25
2.125	1-1/2	2.875	.390	316 S/S	n/a	Spherical	Round	Z9488F-316	D-26
2.125	1-1/2	2.875	.390	Stl Cased	Black Ox	Spherical	Round	Z9488F	D-26
2.250	2	4.000	.312	Steel	Galv.	Extra Large OD	Round	Z9267LCG	D-14
2.250	2	4.000	.313	Steel	Galv.	Extra Large OD	Round	Z9257-HDG	D-14
2.375	2-1/4	4.500	.210 - .280	316 S/S	n/a	Fender-XT	Round	WAS2.375X4.5X.25T316	D-11
2.625	1-3/4	4.000	.153 - .213	316 S/S	n/a	Fender-XT	Round	WAS1.875X4X187T316	D-11
2.625	2-1/2	4.500	.240 - .260	316 S/S	n/a	Fender	Round	Z0871-316	D-11
2.625	2-1/2	4.500	.313	Alloy Stl	n/a	Extra Large OD	Round	Z9258	D-14
2.625	2-1/2	4.500	.313	18-8 S/S	n/a	Extra Large OD	Round	Z9258SS	D-14
2.625	2-1/2	4.500	.365 - .385	316 S/S	n/a	Fender	Round	Z0872-316	D-11
2.750	1-3/4	3.375	.250	Alloy Stl	n/a	Extra Large OD	Round	Z9254	D-14
2.750	1-3/4	3.375	.250	18-8 S/S	n/a	Extra Large OD	Round	Z9254SS	D-14
2.750	2-1/2	4.500	.312	Steel	Galv.	Extra Large OD	Round	Z9268LCG	D-14
2.750	2-1/2	4.500	.313	Steel	Galv.	Extra Large OD	Round	Z9259-HDG	D-14
3.125	3	5.000	.228 - .310	316 S/S	n/a	Fender-XT	Round	WAS3.125X5X250T316	D-11
3.125	3	5.500	.240 - .260	316 S/S	n/a	Fender	Round	Z0873-316	D-11
3.125	1-3/4	3.000	.250	Steel	Galv.	Square	Square	Z8879G	D-38
3.125	1-3/4	3.000	.250	Steel	Black Ox	Square	Square	Z8879H	D-36
3.125	1-3/4	3.375	.250	Steel	Black Ox	Extra Large OD	Round	Z9254LC	D-14
3.125	3	5.500	.313	Alloy Stl	n/a	Extra Large OD	Round	Z9260	D-14
3.125	3	5.500	.313	18-8 S/S	n/a	Extra Large OD	Round	Z9260SS	D-14
3.125	3	5.500	.365 - .385	316 S/S	n/a	Fender	Round	Z0874-316	D-11
3.250	1-3/4	4.000	.250	Steel	Galv.	Square	Square	Z8898G	D-38
3.250	3	5.500	.312	Steel	Galv.	Extra Large OD	Round	Z9269LCG	D-14
3.250	3	5.500	.313	Steel	Galv.	Extra Large OD	Round	Z9261-HDG	D-14
3.625	3-1/2	6.500	.240 - .260	316 S/S	n/a	Fender	Round	Z0875-316	D-11
3.625	2	4.000	.250	Steel	Galv.	Square	Square	Z8899G	D-38
3.625	3-1/2	6.500	.313	Alloy Stl	n/a	Extra Large OD	Round	Z9262	D-14
3.625	3-1/2	6.500	.313	18-8 S/S	n/a	Extra Large OD	Round	Z9262SS	D-14
3.625	3-1/2	6.500	.365 - .385	316 S/S	n/a	Fender	Round	Z0876-316	D-11
4.125	4	7.500	.240 - .260	316 S/S	n/a	Fender	Round	Z0877-316	D-11

Size of Flat Washers by Inner Diameter— Inch

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
4.125	2	3.750	.250	Alloy Stl	n/a	Extra Large OD	Round	Z9256	D-14
4.125	2	4.000	.250	Steel	Black Ox	Square	Square	Z8899H	D-36
4.125	4	7.500	.313	Alloy Stl	n/a	Extra Large OD	Round	Z9264	D-14
4.125	4	7.500	.313	18-8 S/S	n/a	Extra Large OD	Round	Z9264SS	D-14
4.125	4	7.500	.365 - .385	316 S/S	n/a	Fender	Round	Z0878-316	D-11
N/A	3/8-16	1	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR100X38C-316	D-32
N/A	3/8-16	1.5	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR150X38C-316	D-32
N/A	3/8-16	2	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR200X38C-316	D-32
N/A	1/2-13	1	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR100X12C-316	D-32
N/A	1/2-13	1.5	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR150X12C-316	D-32
N/A	1/2-13	2	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR200X12C-316	D-32
N/A	5/8-11	1	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR100X58C-316	D-32
N/A	5/8-11	1.5	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR150X58C-316	D-32
N/A	5/8-11	2	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR200X58C-316	D-32
N/A	3/4-10	1	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR100X34C-316	D-32
N/A	3/4-10	1.5	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR150X34C-316	D-32
N/A	3/4-10	2	.250	316 S/S	n/a	Tapped Weld Plates	Round	ZTWR200X34C-316	D-32
N/A	3/8-16	1	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR100X38C-STL	D-32
N/A	3/8-16	1.5	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR150X38C-STL	D-32
N/A	3/8-16	2	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR200X38C-STL	D-32
N/A	1/2-13	1	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR100X12C-STL	D-32
N/A	1/2-13	1.5	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR150X12C-STL	D-32
N/A	1/2-13	2	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR200X12C-STL	D-32
N/A	5/8-11	1	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR100X58C-STL	D-32
N/A	5/8-11	1.5	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR150X58C-STL	D-32
N/A	5/8-11	2	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR200X58C-STL	D-32
N/A	3/4-10	1	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR100X34C-STL	D-32
N/A	3/4-10	1.5	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR150X34C-STL	D-32
N/A	3/4-10	2	.250	Steel	n/a	Tapped Weld Plates	Round	ZTWR200X34C-STL	D-32
N/A	3/8-16	1	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS100X38C-316	D-32
N/A	3/8-16	1.5	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS150X38C-316	D-32
N/A	3/8-16	2	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS200X38C-316	D-32
N/A	1/2-13	1	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS100X12C-316	D-32
N/A	1/2-13	1.5	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS150X12C-316	D-32
N/A	1/2-13	2	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS200X12C-316	D-32
N/A	5/8-11	1	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS100X58C-316	D-32
N/A	5/8-11	1.5	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS150X58C-316	D-32
N/A	5/8-11	2	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS200X58C-316	D-32
N/A	3/4-10	1	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS100X34C-316	D-32
N/A	3/4-10	1.5	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS150X34C-316	D-32
N/A	3/4-10	1.5	.250	316 S/S	n/a	Tapped Weld Plates	Square	ZTWS200X34C-316	D-32
N/A	3/8-16	1	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS100X38C-STL	D-32
N/A	3/8-16	1.5	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS150X38C-STL	D-32
N/A	3/8-16	2	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS200X38C-STL	D-32
N/A	1/2-13	1	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS100X12C-STL	D-32
N/A	1/2-13	1.5	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS150X12C-STL	D-32
N/A	1/2-13	2	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS200X12C-STL	D-32
N/A	5/8-11	1	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS100X58C-STL	D-32
N/A	5/8-11	1.5	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS150X58C-STL	D-32
N/A	5/8-11	2	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS200X58C-STL	D-32
N/A	3/4-10	1	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS100X34C-STL	D-32
N/A	3/4-10	1.5	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS150X34C-STL	D-32
N/A	3/4-10	1.5	.250	Steel	n/a	Tapped Weld Plates	Square	ZTWS200X34C-STL	D-32

Size of Flat Washers by Inner Diameter— Metric

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
2.20 mm	M2	5.00 mm	.20 - .40	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M2	D-18
2.70 mm	M2.5	6.00 mm	.40 - .60	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M2.5	D-18
3.00 mm	M2.5	6 mm	.60 - .90 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM2.5N8	D-21
3.00 mm	M2.5	6 mm	.60 - .90 mm	316 S/S	n/a	ANSI Type B	Round	WASBM2.5N316	D-21
3.00 mm	M2.5	8 mm	.60 - .90 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM2.5R8	D-22
3.00 mm	M2.5	8 mm	.60 - .90 mm	316 S/S	n/a	ANSI Type B	Round	WASBM2.5R316	D-22
3.00 mm	M2.5	10 mm	.80 - 1.20 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM2.5W8	D-22
3.00 mm	M2.5	10 mm	.80 - 1.20 mm	316 S/S	n/a	ANSI Type B	Round	WASBM2.5W316	D-22
3.20 mm	M3	7.00 mm	.40 - .60 mm	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M3	D-18
3.20 mm	M3	12.00 mm	2.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8840SS	D-5
3.20 mm	M3	12.00 mm	2.00 mm	316 S/S	n/a	Flat Washer	Round	Z8840-316	D-5
3.20 mm	M3	8.00 mm	2.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8803SS	D-5
3.20 mm	M3	8.00 mm	2.00 mm	316 S/S	n/a	Flat Washer	Round	Z8803-316	D-5
3.20 mm	M3	8.00 mm	2.00 mm	Steel	Black Ox	Flat Washer	Round	Z8803	D-5
3.20 mm	M3	12.00 mm	2.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9972MSS	D-30
3.20 mm	M3	12.00 mm	2.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9972M-316	D-30
3.20 mm	M3	12.00 mm	2.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9972M	D-30
3.20 mm	M3	12.00 mm	2.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9972ME-SS	D-30
3.20 mm	M3	12.00 mm	2.50 mm	316 S/S	n/a	Countersunk	Round	Z9972ME-316	D-30
3.20 mm	M3	12.00 mm	2.50 mm	Steel	Black Ox	Countersunk	Round	Z9972ME	D-30
3.20 mm	M3	12.00 mm	3.00 mm	Steel	Black Ox	Flat Washer	Round	Z8840	D-5
3.5 mm	M3	7 mm	.60 - .90 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM3N8	D-21
3.5 mm	M3	7 mm	.60 - .90 mm	316 S/S	n/a	ANSI Type B	Round	WASBM3N316	D-21
3.5 mm	M3	10 mm	.80 - 1.20 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM3R8	D-22
3.5 mm	M3	10 mm	.80 - 1.20 mm	316 S/S	n/a	ANSI Type B	Round	WASBM3R316	D-22
3.5 mm	M3	12 mm	1.00 - 1.40 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM3W8	D-22
3.5 mm	M3	12 mm	1.00 - 1.40 mm	316 S/S	n/a	ANSI Type B	Round	WASBM3W316	D-22
3.70 mm	M3.5	8.00 mm	.40 - .60 mm	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M3.5	D-18
3.70 mm	M3.5	14.00 mm	2.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9979MSS	D-30
3.70 mm	M3.5	14.00 mm	2.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9979M-316	D-30
3.70 mm	M3.5	14.00 mm	2.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9979M	D-30
4.30 mm	M4	9.00 mm	.70 - .90 mm	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M4	D-18
4.30 mm	M4	10.00 mm	2.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8804SS	D-5
4.30 mm	M4	10.00 mm	2.00 mm	316 S/S	n/a	Flat Washer	Round	Z8804-316	D-5
4.30 mm	M4	10.00 mm	2.00 mm	Steel	Black Ox	Flat Washer	Round	Z8804	D-5
4.30 mm	M4	14.00 mm	3.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8842SS	D-5
4.30 mm	M4	14.00 mm	3.00 mm	316 S/S	n/a	Flat Washer	Round	Z8842-316	D-5
4.30 mm	M4	14.00 mm	3.00 mm	Steel	Black Ox	Flat Washer	Round	Z8842	D-5
4.30 mm	M4	16.00 mm	3.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9920SS	D-30
4.30 mm	M4	16.00 mm	3.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9920-316	D-30
4.30 mm	M4	16.00 mm	3.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9920	D-30
4.30 mm	M4	16.00 mm	3.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9920E-SS	D-30
4.30 mm	M4	16.00 mm	3.00 mm	316 S/S	n/a	Countersunk	Round	Z9920E-316	D-30
4.30 mm	M4	16.00 mm	3.00 mm	Steel	Black Ox	Countersunk	Round	Z9920E	D-30
4.30 mm	M4	2.00 mm	3.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9921	D-30
4.70 mm	M4	10 mm	.80 - 1.20 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM4N8	D-21
4.70 mm	M4	10 mm	.80 - 1.20 mm	316 S/S	n/a	ANSI Type B	Round	WASBM4N316	D-21
4.70 mm	M4	12 mm	1.00 - 1.40 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM4R8	D-22
4.70 mm	M4	12 mm	1.00 - 1.40 mm	316 S/S	n/a	ANSI Type B	Round	WASBM4R316	D-22
4.70 mm	M4	16 mm	1.60 - 2.30 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM4W8	D-22
4.70 mm	M4	16 mm	1.60 - 2.30 mm	316 S/S	n/a	ANSI Type B	Round	WASBM4W316	D-22
5.30 mm	M5	10.00 mm	.90 - 1.10 mm	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M5	D-18

Size of Flat Washers by Inner Diameter— Metric

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
5.30 mm	M5	10.00 mm	.90 - 1.10 mm	316 H5 S/S	n/a	DIN Washer	Round	WAS407M5	D-18
5.30 mm	M5	11.00 mm	2.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8805SS	D-5
5.30 mm	M5	11.00 mm	2.00 mm	316 S/S	n/a	Flat Washer	Round	Z8805-316	D-5
5.30 mm	M5	11.00 mm	2.00 mm	Steel	Black Ox	Flat Washer	Round	Z8805	D-5
5.30 mm	M5	12.00 mm	3 mm	17-4 S/S	n/a	Flat Washer	Round	Z90M05-174	D-5
5.30 mm	M5	15.00 mm	3.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8844SS	D-5
5.30 mm	M5	15.00 mm	3.50 mm	316 S/S	n/a	Flat Washer	Round	Z8844-316	D-5
5.30 mm	M5	15.00 mm	3.50 mm	Steel	Black Ox	Flat Washer	Round	Z8844	D-5
5.30 mm	M5	22.00 mm	3.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9922SS	D-30
5.30 mm	M5	22.00 mm	3.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9922-316	D-30
5.30 mm	M5	22.00 mm	3.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9922	D-30
5.30 mm	M5	22.00 mm	3.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9922E-SS	D-30
5.30 mm	M5	22.00 mm	3.50 mm	316 S/S	n/a	Countersunk	Round	Z9922E-316	D-30
5.30 mm	M5	22.00 mm	3.50 mm	Steel	Black Ox	Countersunk	Round	Z9922E	D-30
5.30 mm	M5	25.00 mm	3.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9923SS	D-30
5.30 mm	M5	25.00 mm	3.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9923	D-30
5.30 mm	M5	28.00 mm	3.50 mm	18-8 S/S	n/a	Countersunk	Round	Z9924	D-30
5.50 mm	M5	11.00 mm	1.00- 1.40 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM5N8	D-21
5.50 mm	M5	11.00 mm	1.00- 1.40 mm	316 S/S	n/a	ANSI Type B	Round	WASBM5N316	D-21
5.50 mm	M5	15.00 mm	1.20 - 1.80 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM5R8	D-22
5.50 mm	M5	15.00 mm	1.20 - 1.80 mm	316 S/S	n/a	ANSI Type B	Round	WASBM5R316	D-22
5.50 mm	M5	20.00 mm	1.60 - 2.30 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM5W8	D-22
5.50 mm	M5	20.00 mm	1.60- 2.30 mm	316 S/S	n/a	ANSI Type B	Round	WASBM5W316	D-22
5.50 mm	M5	18.00 mm	2.40 - 2.80 mm	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9060-188	D-31
5.50 mm	M5	18.00 mm	2.40 - 2.80 mm	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9060-316	D-31
5.50 mm	M5	18.00 mm	2.40 - 2.80 mm	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9060-188-BX	D-31
5.50 mm	M5	18.00 mm	2.40 - 2.80 mm	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9060-316-BX	D-31
6.40 mm	M6	12.00 mm	1.40 - 1.80 mm	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M6	D-18
6.40 mm	M6	12.00 mm	1.40 - 1.80 mm	316 H5 S/S	n/a	DIN Washer	Round	WAS407M6	D-18
6.40 mm	M6	12.00 mm	2.30 mm	18-8 S/S	n/a	Spherical	Round	Z9521M	D-4
6.40 mm	M6	12.00 mm	2.30 mm	Steel	Black Ox	Spherical	Round	Z9520M	D-4
6.40 mm	M6	13.00 mm	2.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8806SS	D-5
6.40 mm	M6	13.00 mm	2.50 mm	316 S/S	n/a	Flat Washer	Round	Z8806-316	D-5
6.40 mm	M6	13.00 mm	2.50 mm	Steel	Black Ox	Flat Washer	Round	Z8806	D-5
6.40 mm	M6	32.00 mm	4.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9925SS	D-30
6.40 mm	M6	32.00 mm	4.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9925-316	D-30
6.40 mm	M6	32.00 mm	4.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9925	D-30
6.40 mm	M6	32.00 mm	4.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9925E-SS	D-30
6.40 mm	M6	32.00 mm	4.00 mm	316 S/S	n/a	Countersunk	Round	Z9925E-316	D-30
6.40 mm	M6	32.00 mm	4.00 mm	Steel	Black Ox	Countersunk	Round	Z9925E	D-30
6.40 mm	M6	36.00 mm	4.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9926	D-30
6.40 mm	M6	4.00 mm	4.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9927SS	D-30
6.40 mm	M6	4.00 mm	4.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9927	D-30
6.40 mm	M6	45.00 mm	4.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9928	D-30
6.40 mm	M6	52.00 mm	4.00 mm	18-8 S/S	n/a	Countersunk	Round	Z9929	D-30
6.40 mm	M6	18.00 mm	4.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8846SS	D-5
6.40 mm	M6	18.00 mm	4.50 mm	316 S/S	n/a	Flat Washer	Round	Z8846-316	D-5
6.40 mm	M6	18.00 mm	4.50 mm	Steel	Black Ox	Flat Washer	Round	Z8846	D-5
6.60 mm	M6	22.00 mm	2.40 - 2.80 mm	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9061-316	D-31
6.60 mm	M6	22.00 mm	2.40 - 2.80 mm	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9061-188	D-31
6.60 mm	M6	22.00 mm	2.40 - 2.80 mm	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9061-188-BX	D-31

Size of Flat Washers by Inner Diameter— Metric

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
6.60 mm	M6	22.00 mm	2.40 - 2.80 mm	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9061-316-BX	D-31
6.65 mm	M6	13.00 mm	1.20 - 1.80 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM6N8	D-21
6.65 mm	M6	13.00 mm	1.20 - 1.80 mm	316 S/S	n/a	ANSI Type B	Round	WASBM6N316	D-21
6.65 mm	M6	18.80 mm	1.20 - 1.80 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM6R8	D-22
6.65 mm	M6	18.80 mm	1.20 - 1.80 mm	316 S/S	n/a	ANSI Type B	Round	WASBM6R316	D-22
6.65 mm	M6	25.40 mm	1.60 - 2.30 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM6W8	D-22
6.65 mm	M6	25.40 mm	1.60 - 2.30 mm	316 S/S	n/a	ANSI Type B	Round	WASBM6W316	D-22
7.10 mm	M6	12.00 mm	2.80 mm	18-8 S/S	n/a	Spherical	Round	Z9521F	D-4
7.10 mm	M6	12.00 mm	2.80 mm	Steel	Black Ox	Spherical	Round	Z9520F	D-4
8.40 mm	M8	16.00 mm	1.40 - 1.80 mm	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M8	D-18
8.40 mm	M8	16.00 mm	1.40 - 1.80 mm	316 H5 S/S	n/a	DIN Washer	Round	WAS407M8	D-18
8.40 mm	M8	16.00 mm	3.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8808SS	D-5
8.40 mm	M8	16.00 mm	3.00 mm	316 S/S	n/a	Flat Washer	Round	Z8808-316	D-5
8.40 mm	M8	16.00 mm	3.00 mm	Steel	Black Ox	Flat Washer	Round	Z8808	D-5
8.40 mm	M8	17.00 mm	3.20 mm	18-8 S/S	n/a	Spherical	Round	Z9523M	D-4
8.40 mm	M8	17.00 mm	3.20 mm	Steel	Black Ox	Spherical	Round	Z9522M	D-4
8.40 mm	M8	19.00 mm	3.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z90M08-174	D-5
8.40 mm	M8	22.00 mm	5.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8848SS	D-5
8.40 mm	M8	22.00 mm	5.00 mm	316 S/S	n/a	Flat Washer	Round	Z8848-316	D-5
8.40 mm	M8	22.00 mm	5.00 mm	Steel	Black Ox	Flat Washer	Round	Z8848	D-5
8.40 mm	M8	32.00 mm	4.80 mm	18-8 S/S	n/a	Countersunk	Round	Z9973MSS	D-30
8.40 mm	M8	32.00 mm	4.80 mm	18-8 S/S	n/a	Countersunk	Round	Z9973M-316	D-30
8.40 mm	M8	32.00 mm	4.80 mm	18-8 S/S	n/a	Countersunk	Round	Z9973M	D-30
8.90 mm	M8	18.8 mm	1.60 - 2.30 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM8N8	D-21
8.90 mm	M8	18.8 mm	1.60 - 2.30 mm	316 S/S	n/a	ANSI Type B	Round	WASBM8N316	D-21
8.90 mm	M8	25.40 mm	1.60 - 2.30 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM8R8	D-22
8.90 mm	M8	25.40 mm	1.60 - 2.30 mm	316 S/S	n/a	ANSI Type B	Round	WASBM8R316	D-22
8.90 mm	M8	32.00 mm	2.00- 2.80 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM8W8	D-22
8.90 mm	M8	32.00 mm	2.00 - 2.80 mm	316 S/S	n/a	ANSI Type B	Round	WASBM8W316	D-22
9.00 mm	M8	28.00 mm	2.40 - 3.60 mm	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9062-188	D-31
9.00 mm	M8	28.00 mm	2.40 - 3.60 mm	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9062-316	D-31
9.00 mm	M8	28.00 mm	2.40 - 3.60 mm	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9062-188-BX	D-31
9.00 mm	M8	28.00 mm	2.40 - 3.60 mm	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9062-316-BX	D-31
9.00 mm	M6	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8906SS	D-38
9.00 mm	M6	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8908	D-38
9.00 mm	M6	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8908-G	D-38
9.60 mm	M8	17.00 mm	3.50 mm	18-8 S/S	n/a	Spherical	Round	Z9523F	D-4
9.60 mm	M8	17.00 mm	3.50 mm	Steel	Black Ox	Spherical	Round	Z9522F	D-4
10.50 mm	M10	20.00 mm	1.80 - 2.20 mm	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M10	D-18
10.50 mm	M10	20.00 mm	1.80 - 2.20 mm	316 H5 S/S	n/a	DIN Washer	Round	WAS407M10	D-18
10.50 mm	M10	19.00 mm	3.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8810SS	D-5
10.50 mm	M10	19.00 mm	3.00 mm	316 S/S	n/a	Flat Washer	Round	Z8810-316	D-5
10.50 mm	M10	19.00 mm	3.00 mm	Steel	Black Ox	Flat Washer	Round	Z8810	D-5
10.50 mm	M10	21.00 mm	4.00 mm	18-8 S/S	n/a	Spherical	Round	Z9525M	D-4
10.50 mm	M10	21.00 mm	4.00 mm	Steel	Black Ox	Spherical	Round	Z9524M	D-4
10.50 mm	M10	22.00 mm	3.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z90M10-174	D-5
10.50 mm	M10	23.00 mm	5.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8850SS	D-5
10.50 mm	M10	23.00 mm	5.00 mm	316 S/S	n/a	Flat Washer	Round	Z8850-316	D-5
10.50 mm	M10	23.00 mm	5.00 mm	Steel	Black Ox	Flat Washer	Round	Z8850	D-5
10.85 mm	M10	20 mm	1.60 - 2.30 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM10N8	D-21
10.85 mm	M10	20 mm	1.60 - 2.30 mm	316 S/S	n/a	ANSI Type B	Round	WASBM10N316	D-21

Size of Flat Washers by Inner Diameter— Metric

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
10.85 mm	M10	28.00 mm	2.00 - 2.80 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM10R8	D-22
10.85 mm	M10	28.00 mm	2.00 - 2.80 mm	316 S/S	n/a	ANSI Type B	Round	WASBM10R316	D-22
10.85 mm	M10	39.00 mm	2.50 - 3.50 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM10W8	D-22
10.85 mm	M10	39.00 mm	2.50 - 3.50 mm	316 S/S	n/a	ANSI Type B	Round	WASBM10W316	D-22
11.00 mm	M10	34.00 mm	2.40 - 3.60 mm	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9063-188	D-31
11.00 mm	M10	34.00 mm	2.40 - 3.60 mm	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9063-316	D-31
11.00 mm	M10	34.00 mm	2.40 - 3.60 mm	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9063-188-BX	D-31
11.00 mm	M10	34.00 mm	2.40 - 3.60 mm	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9063-316-BX	D-31
11.00 mm	M8	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8908SS	D-38
11.00 mm	M8	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8910	D-38
11.00 mm	M8	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8910-G	D-38
12.00 mm	M10	21.00 mm	4.20 mm	18-8 S/S	n/a	Spherical	Round	Z9525F	D-4
12.00 mm	M10	21.00 mm	4.20 mm	Steel	Black Ox	Spherical	Round	Z9524F	D-4
13.00 mm	M12	24.00 mm	2.30 - 2.70 mm	Gr 2 Titanium	n/a	DIN Washer	Round	WAS406M12	D-18
13.00 mm	M12	24.00 mm	2.30 - 2.70 mm	316 H5 S/S	n/a	DIN Washer	Round	WAS407M12	D-18
13.00 mm	M12	22.00 mm	3.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8812SS	D-5
13.00 mm	M12	22.00 mm	3.00 mm	316 S/S	n/a	Flat Washer	Round	Z8812-316	D-5
13.00 mm	M12	22.00 mm	3.00 mm	Steel	Black Ox	Flat Washer	Round	Z8812	D-5
13.00 mm	M12	24.00 mm	4.60 mm	18-8 S/S	n/a	Spherical	Round	Z9527M	D-4
13.00 mm	M12	24.00 mm	4.60 mm	Steel	Black Ox	Spherical	Round	Z9526M	D-4
13.00 mm	M12	26.00 mm	3.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z90M12-174	D-5
13.00 mm	M12	26.00 mm	5.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8852SS	D-5
13.00 mm	M12	26.00 mm	5.00 mm	316 S/S	n/a	Flat Washer	Round	Z8852-316	D-5
13.00 mm	M12	26.00 mm	5.00 mm	Steel	Black Ox	Flat Washer	Round	Z8852	D-5
13.00 mm	M12	35.00 mm	5.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z92M12-174	D-5
13.00 mm	M10	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8910SS	D-38
13.00 mm	M10	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8912	D-38
13.00 mm	M10	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8912-G	D-38
13.00 mm	M12	38.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8851SS	D-5
13.00 mm	M12	50.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8853SS	D-5
13.00 mm	M12	76.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8855SS	D-5
13.30 mm	M12	25.40 mm	2.00 - 2.80 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM12N8	D-21
13.30 mm	M12	25.40 mm	2.00 - 2.80 mm	316 S/S	n/a	ANSI Type B	Round	WASBM12N316	D-21
13.30 mm	M12	34.00 mm	2.50 - 3.50 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM12R8	D-22
13.30 mm	M12	34.00 mm	2.50 - 3.50 mm	316 S/S	n/a	ANSI Type B	Round	WASBM12R316	D-22
13.30 mm	M12	44.00 mm	2.50 - 3.50 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM12W8	D-22
13.30 mm	M12	44.00 mm	2.50 - 3.50 mm	316 S/S	n/a	ANSI Type B	Round	WASBM12W316	D-22
14.00 mm	M12	44.00 mm	3.40 - 4.60 mm	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9064-188	D-31
14.00 mm	M12	44.00 mm	3.40 - 4.60 mm	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9064-316	D-31
14.00 mm	M12	44.00 mm	3.40 - 4.60 mm	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9064-188-BX	D-31
14.00 mm	M12	44.00 mm	3.40 - 4.60 mm	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9064-316-BX	D-31
14.20 mm	M12	24.00 mm	5.00 mm	18-8 S/S	n/a	Spherical	Round	Z9527F	D-4
14.20 mm	M12	24.00 mm	5.00 mm	Steel	Black Ox	Spherical	Round	Z9526F	D-4
15.00 mm	M14	25.00 mm	3.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8814SS	D-5
15.00 mm	M14	25.00 mm	3.00 mm	316 S/S	n/a	Flat Washer	Round	Z8814-316	D-5
15.00 mm	M14	25.00 mm	3.00 mm	Steel	Black Ox	Flat Washer	Round	Z8814	D-5
15.00 mm	M14	26.00 mm	3.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z90M14-174	D-5
15.00 mm	M14	27.00 mm	5.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8854SS	D-5
15.00 mm	M14	27.00 mm	5.00 mm	316 S/S	n/a	Flat Washer	Round	Z8854-316	D-5

Size of Flat Washers by Inner Diameter— Metric

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
15.00 mm	M14	27.00 mm	5.00 mm	Steel	Black Ox	Flat Washer	Round	Z8854	D-5
15.00 mm	M14	35.00 mm	5.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z92M14-174	D-5
15.00 mm	M14	28.00 mm	5.00 mm	Steel	Black Ox	Spherical	Round	Z9528M	D-4
15.25 mm	M14	28.00 mm	2.00 - 2.80 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM14N8	D-21
15.25 mm	M14	28.00 mm	2.00 - 2.80 mm	316 S/S	n/a	ANSI Type B	Round	WASBM14N316	D-21
15.25 mm	M14	39.00 mm	2.50 - 3.50 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM14R8	D-22
15.25 mm	M14	39.00 mm	2.50 - 3.50 mm	316 S/S	n/a	ANSI Type B	Round	WASBM14R316	D-22
15.25 mm	M14	50.00 mm	3.00 - 4.00 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM14W8	D-22
15.25 mm	M14	50.00 mm	3.00 - 4.00 mm	316 S/S	n/a	ANSI Type B	Round	WASBM14W316	D-22
16.00 mm	M12	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8912SS	D-38
16.00 mm	M12	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8914	D-38
16.00 mm	M12	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8914-G	D-38
16.50 mm	M14	28.00 mm	5.60 mm	Steel	Black Ox	Spherical	Round	Z9528F	D-4
17.00 mm	M16	35.00 mm	3.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z90M16-174	D-6
17.00 mm	M16	28.00 mm	3.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8816SS	D-6
17.00 mm	M16	28.00 mm	3.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8818SS	D-6
17.00 mm	M16	28.00 mm	3.50 mm	316 S/S	n/a	Flat Washer	Round	Z8816-316	D-6
17.00 mm	M16	28.00 mm	3.50 mm	316 S/S	n/a	Flat Washer	Round	Z8818-316	D-6
17.00 mm	M16	28.00 mm	3.50 mm	Steel	Black Ox	Flat Washer	Round	Z8816	D-6
17.00 mm	M16	32.00 mm	3.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8856SS	D-6
17.00 mm	M16	32.00 mm	3.50 mm	316 S/S	n/a	Flat Washer	Round	Z8856-316	D-6
17.00 mm	M16	32.00 mm	3.50 mm	Steel	Black Ox	Flat Washer	Round	Z8856	D-6
17.00 mm	M16	35.00 mm	5.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z92M16-174	D-6
17.00 mm	M16	30.00 mm	5.30 mm	18-8 S/S	n/a	Spherical	Round	Z9531M	D-4
17.25 mm	M16	32.00 mm	2.50 - 3.50 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM16N8	D-21
17.25 mm	M16	32.00 mm	2.50 - 3.50 mm	316 S/S	n/a	ANSI Type B	Round	WASBM16N316	D-21
17.25 mm	M16	44.00 mm	3.00 - 4.00 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM16R8	D-22
17.25 mm	M16	44.00 mm	3.00 - 4.00 mm	316 S/S	n/a	ANSI Type B	Round	WASBM16R316	D-22
17.25 mm	M16	56.00 mm	3.50 - 4.60 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM16W8	D-22
17.25 mm	M16	56.00 mm	3.50 - 4.60 mm	316 S/S	n/a	ANSI Type B	Round	WASBM16W316	D-22
18.00 mm	M16	56.00 mm	4.00 - 6.00 mm	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9065-188	D-31
18.00 mm	M16	56.00 mm	4.00 - 6.00 mm	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9065-316	D-31
18.00 mm	M16	56.00 mm	4.00 - 6.00 mm	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9065-188-BX	D-31
18.00 mm	M16	56.00 mm	4.00 - 6.00 mm	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9065-316-BX	D-31
18.00 mm	M14	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8914SS	D-38
18.00 mm	M14	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8916	D-38
18.00 mm	M14	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8916-G	D-38
19.00 mm	M16	30.00 mm	6.20 mm	18-8 S/S	n/a	Spherical	Round	Z9531F	D-4
19.00 mm	M16	30.00 mm	6.20 mm	Steel	Black Ox	Spherical	Round	Z9530F	D-4
20.00 mm	M18	32.00 mm	3.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8819SS	D-6
20.00 mm	M18	42.00 mm	4.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z90M18-174	D-6
20.00 mm	M18	38.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8857SS	D-6
20.00 mm	M18	42.00 mm	6.30 mm	17-4 S/S	n/a	Flat Washer	Round	Z92M18-174	D-6
20.00 mm	M18	50.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8858SS	D-6
20.00 mm	M18	76.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8859SS	D-6
21.00 mm	M20	35.00 mm	3.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8820SS	D-6
21.00 mm	M20	35.00 mm	3.50 mm	316 S/S	n/a	Flat Washer	Round	Z8820-316	D-6
21.00 mm	M20	35.00 mm	3.50 mm	Steel	Black Ox	Flat Washer	Round	Z8820	D-6
21.00 mm	M20	35.00 mm	5.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8860SS	D-6
21.00 mm	M20	35.00 mm	5.00 mm	316 S/S	n/a	Flat Washer	Round	Z8860-316	D-6
21.00 mm	M20	35.00 mm	5.00 mm	Steel	Black Ox	Flat Washer	Round	Z8860	D-6

Size of Flat Washers by Inner Diameter— Metric

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
21.00 mm	M20	36.00 mm	6.30 mm	18-8 S/S	n/a	Spherical	Round	Z9533M	D-4
21.00 mm	M20	36.00 mm	6.30 mm	Steel	Black Ox	Spherical	Round	Z9530M	D-4
21.80 mm	M20	39.00 mm	3.00 to 4.00 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM20N8	D-21
21.80 mm	M20	39.00 mm	3.00 - 4.00 mm	316 S/S	n/a	ANSI Type B	Round	WASBM20N316	D-21
21.80 mm	M20	50.00 mm	3.50 - 4.60 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM20R8	D-22
21.80 mm	M20	50.00 mm	3.50 - 4.60 mm	316 S/S	n/a	ANSI Type B	Round	WASBM20R316	D-22
21.80 mm	M20	66.00 mm	4.00 - 5.10 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM20W8	D-22
21.80 mm	M20	66.00 mm	4.00 to 5.10 mm	316 S/S	n/a	ANSI Type B	Round	WASBM20W316	D-22
22.00 mm	M20	45.00 mm	4.00 mm	17-4 S/S	n/a	Flat Washer	Round	Z90M20-174	D-6
22.00 mm	M20	72.00 mm	5.00 -7.00 mm	18-8 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9066-188	D-31
22.00 mm	M20	72.00 mm	5.00 -7.00 mm	316 S/S	n/a	F/W for Sq Neck Bolts	Round	Z9066-316	D-31
22.00 mm	M20	72.00 mm	5.00 -7.00 mm	18-8 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9066-188-BX	D-31
22.00 mm	M20	72.00 mm	5.00 -7.00 mm	316 S/S	Black Ox	F/W for Sq Neck Bolts	Round	Z9066-316-BX	D-31
22.00 mm	M16	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8916SS	D-38
22.00 mm	M16	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8920	D-38
22.00 mm	M16	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8920-G	D-38
22.00 mm	M20	38.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8861SS	D-6
22.00 mm	M20	45.00 mm	6.30 mm	17-4 S/S	n/a	Flat Washer	Round	Z92M20-174	D-6
22.00 mm	M20	50.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8862SS	D-6
22.00 mm	M20	76.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8863SS	D-6
23.20 mm	M20	36.00 mm	7.50 mm	18-8 S/S	n/a	Spherical	Round	Z9533F	D-4
23.20 mm	M20	36.00 mm	7.50 mm	Steel	Black Ox	Spherical	Round	Z9532F	D-4
25.00 mm	M24	40.00 mm	4.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8824SS	D-6
25.00 mm	M24	40.00 mm	4.00 mm	316 S/S	n/a	Flat Washer	Round	Z8824-316	D-6
25.00 mm	M24	40.00 mm	4.00 mm	Steel	Black Ox	Flat Washer	Round	Z8824	D-6
25.00 mm	M24	43.00 mm	4.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8864SS	D-6
25.00 mm	M24	43.00 mm	4.00 mm	316 S/S	n/a	Flat Washer	Round	Z8864-316	D-6
25.00 mm	M24	43.00 mm	4.00 mm	Steel	Black Ox	Flat Washer	Round	Z8864	D-6
25.00 mm	M24	44.00 mm	8.20 mm	18-8 S/S	n/a	Spherical	Round	Z9535M	D-4
25.00 mm	M24	44.00 mm	8.20 mm	Steel	Black Ox	Spherical	Round	Z9532M	D-4
25.60 mm	M24	44.00 mm	3.50 - 4.60 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM24N8	D-21
25.60 mm	M24	44.00 mm	3.50 - 4.60 mm	316 S/S	n/a	ANSI Type B	Round	WASBM24N316	D-21
25.60 mm	M24	56.00 mm	4.00 - 5.10 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM24R8	D-22
25.60 mm	M24	56.00 mm	4.00 - 5.10 mm	316 S/S	n/a	ANSI Type B	Round	WASBM24R316	D-22
25.60 mm	M24	72.00 mm	4.50 - 5.60 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM24W8	D-22
25.60 mm	M24	72.00 mm	4.50 - 5.60 mm	316 S/S	n/a	ANSI Type B	Round	WASBM24W316	D-22
26.00 mm	M20	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8920SS	D-38
26.00 mm	M20	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8922	D-38
26.00 mm	M20	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8922-G	D-38
26.00 mm	M24	76.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8825SS	D-6
26.00 mm	M24	76.00 mm	9.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8826SS	D-6
28.00 mm	M22	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8922SS	D-38
28.00 mm	M22	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8924	D-38
28.00 mm	M22	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8924-G	D-38
28.00 mm	M24	44.00 mm	9.50 mm	Steel	Black Ox	Spherical	Round	Z9534F	D-4
28.00 mm	M24	44.00 mm	9.50 mm	18-8 S/S	n/a	Spherical	Round	Z9535F	D-4
31.00 mm	M30	56.00 mm	11.20 mm	18-8 S/S	n/a	Spherical	Round	Z9537M	D-4
31.00 mm	M30	56.00 mm	11.20 mm	Steel	Black Ox	Spherical	Round	Z9536M	D-4
31.00 mm	M30	44.00 mm	4.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8830SS	D-6
31.00 mm	M30	44.00 mm	4.00 mm	316 S/S	n/a	Flat Washer	Round	Z8830-316	D-6

Size of Flat Washers by Inner Diameter— Metric

ID	Bolt Size	OD	Thickness	Material	Finish	Type	Shape	Part Number	Page #
31.00 mm	M30	44.00 mm	4.00 mm	Steel	Black Ox	Flat Washer	Round	Z8830	D-6
31.00 mm	M30	48.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8870SS	D-6
31.00 mm	M30	48.00 mm	6.30 mm	316 S/S	n/a	Flat Washer	Round	Z8870-316	D-6
31.00 mm	M30	48.00 mm	6.30 mm	Steel	Black Ox	Flat Washer	Round	Z8870	D-6
31.00 mm	M24	44.00 mm	8.20 mm	Steel	Black Ox	Spherical	Round	Z9534M	D-4
32.00 mm	M24	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8924SS	D-38
32.00 mm	M24	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8930	D-38
32.00 mm	M24	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8930-G	D-38
32.00 mm	M30	76.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8871SS	D-6
32.00 mm	M30	76.00 mm	9.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8872SS	D-6
33.00 mm	M30	56.00 mm	4.00 - 5.10 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM30N8	D-21
33.00 mm	M30	56.00 mm	4.00 - 5.10 mm	316 S/S	n/a	ANSI Type B	Round	WASBM30N316	D-21
33.00 mm	M30	72.00 mm	4.50 - 5.60 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM30R8	D-22
33.00 mm	M30	72.00 mm	4.50 - 5.60 mm	316 S/S	n/a	ANSI Type B	Round	WASBM30R316	D-22
33.00 mm	M30	90.00 mm	5.00 - 6.40 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM30W8	D-22
33.00 mm	M30	90.00 mm	5.00 - 6.40 mm	316 S/S	n/a	ANSI Type B	Round	WASBM30W316	D-22
35.00 mm	M30	56.00 mm	12.00 mm	18-8 S/S	n/a	Spherical	Round	Z9537F	D-4
35.00 mm	M30	56.00 mm	12.00 mm	Steel	Black Ox	Spherical	Round	Z9536F	D-4
37.00 mm	M36	50.00 mm	5.00 mm	18-8 S/S	n/a	Flat Washer	Round	Z8836SS	D-6
37.00 mm	M36	50.00 mm	5.00 mm	316 S/S	n/a	Flat Washer	Round	Z8836-316	D-6
37.00 mm	M36	50.00 mm	5.00 mm	Steel	Black Ox	Flat Washer	Round	Z8836	D-6
37.00 mm	M36	50.00 mm	7.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8876SS	D-6
37.00 mm	M36	50.00 mm	7.50 mm	316 S/S	n/a	Flat Washer	Round	Z8876-316	D-6
37.00 mm	M36	50.00 mm	7.50 mm	Steel	Black Ox	Flat Washer	Round	Z8876	D-6
38.00 mm	M30	50.00 mm	6.00 mm	18-8 S/S	n/a	Square	Square	Z8930SS	D-38
38.00 mm	M30	50.00 mm	6.00 mm	Steel	Black Ox	Square	Square	Z8906	D-38
38.00 mm	M30	50.00 mm	6.00 mm	Steel	Galv.	Square	Square	Z8906-G	D-38
38.50 mm	M36	76.00 mm	6.30 mm	18-8 S/S	n/a	Flat Washer	Round	Z8877SS	D-6
38.50 mm	M36	76.00 mm	9.50 mm	18-8 S/S	n/a	Flat Washer	Round	Z8878SS	D-6
38.90 mm	M36	66.00 mm	4.50 - 5.60 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM36N8	D-21
38.90 mm	M36	66.00 mm	4.50 - 5.60 mm	316 S/S	n/a	ANSI Type B	Round	WASBM36N316	D-21
38.90 mm	M36	90.00 mm	5.00 - 6.40 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM36R8	D-22
38.90 mm	M36	90.00 mm	5.00 - 6.40 mm	316 S/S	n/a	ANSI Type B	Round	WASBM36R316	D-22
38.90 mm	M36	110 mm	7.00 - 8.50 mm	18-8 S/S	n/a	ANSI Type B	Round	WASBM36W8	D-22
38.90 mm	M36	110 mm	7.00 - 8.50 mm	316 S/S	n/a	ANSI Type B	Round	WASBM36W316	D-22
n/a	M20	n/a	11.70 mm	18-8 S/S	n/a	Spherical	Round	Z9533SET	D-4
n/a	M20	n/a	11.70 mm	Steel	Black Ox	Spherical	Round	Z9532SET	D-4
n/a	M24	n/a	15.20 mm	18-8 S/S	n/a	Spherical	Round	Z9535SET	D-4
n/a	M24	n/a	15.20 mm	Steel	Black Ox	Spherical	Round	Z9534SET	D-4
n/a	M30	n/a	19.20 mm	18-8 S/S	n/a	Spherical	Round	Z9537SET	D-4
n/a	M30	n/a	19.20 mm	Steel	Black Ox	Spherical	Round	Z9536SET	D-4
n/a	M6	n/a	4.20 mm	18-8 S/S	n/a	Spherical	Round	Z9521SET	D-4
n/a	M6	n/a	4.20 mm	Steel	Black Ox	Spherical	Round	Z9520SET	D-4
n/a	M8	n/a	5.60 mm	18-8 S/S	n/a	Spherical	Round	Z9523SET	D-4
n/a	M8	n/a	5.60 mm	Steel	Black Ox	Spherical	Round	Z9522SET	D-4
n/a	M10	n/a	6.50 mm	18-8 S/S	n/a	Spherical	Round	Z9525SET	D-4
n/a	M10	n/a	6.50 mm	Steel	Black Ox	Spherical	Round	Z9524SET	D-4
n/a	M12	n/a	8.00 mm	18-8 S/S	n/a	Spherical	Round	Z9527SET	D-4
n/a	M12	n/a	8.00 mm	Steel	Black Ox	Spherical	Round	Z9526SET	D-4
n/a	M14	n/a	9.00 mm	Steel	Black Ox	Spherical	Round	Z9528SET	D-4
n/a	M16	n/a	9.60 mm	18-8 S/S	n/a	Spherical	Round	Z9531SET	D-4
n/a	M16	n/a	9.60 mm	Steel	Black Ox	Spherical	Round	Z9530SET	D-4

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AMPG's 121,600 square foot facility is located in the Heart of the Midwest which gives us access to high-quality machinists/employees as well as being strategically located for fast delivery.

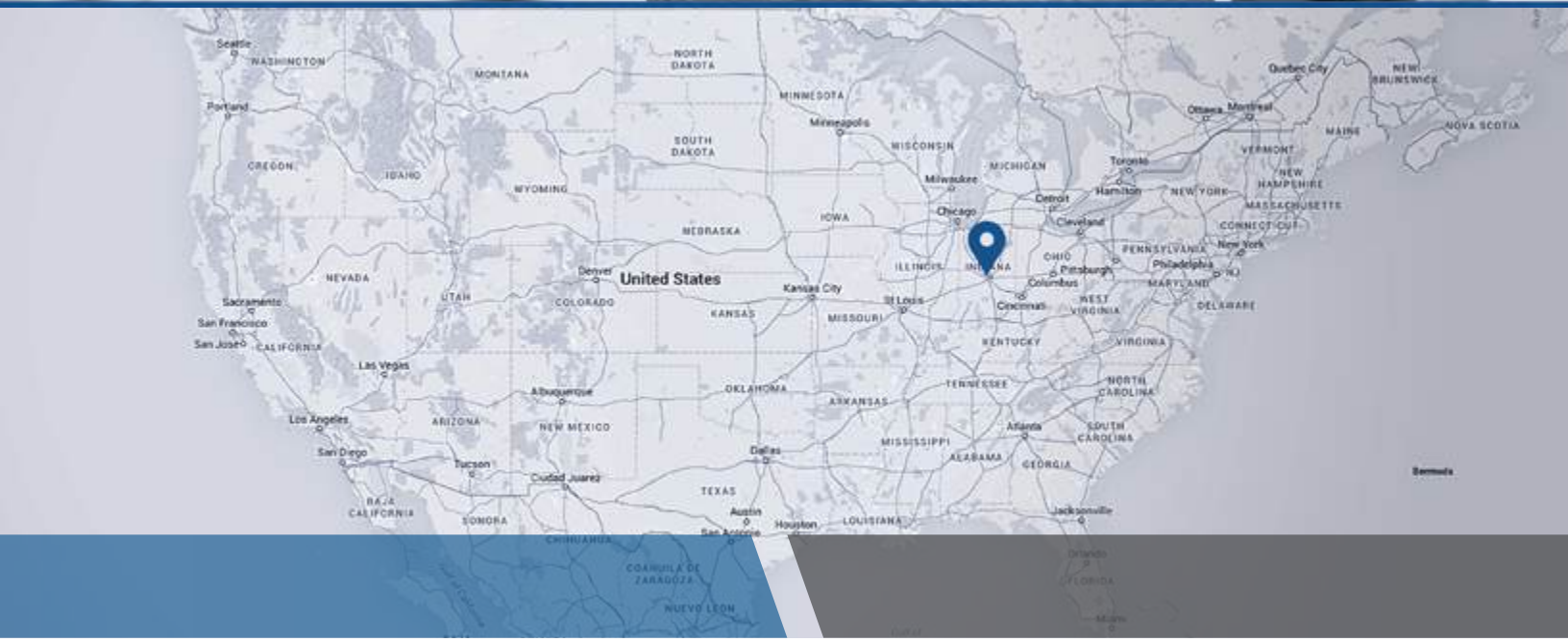
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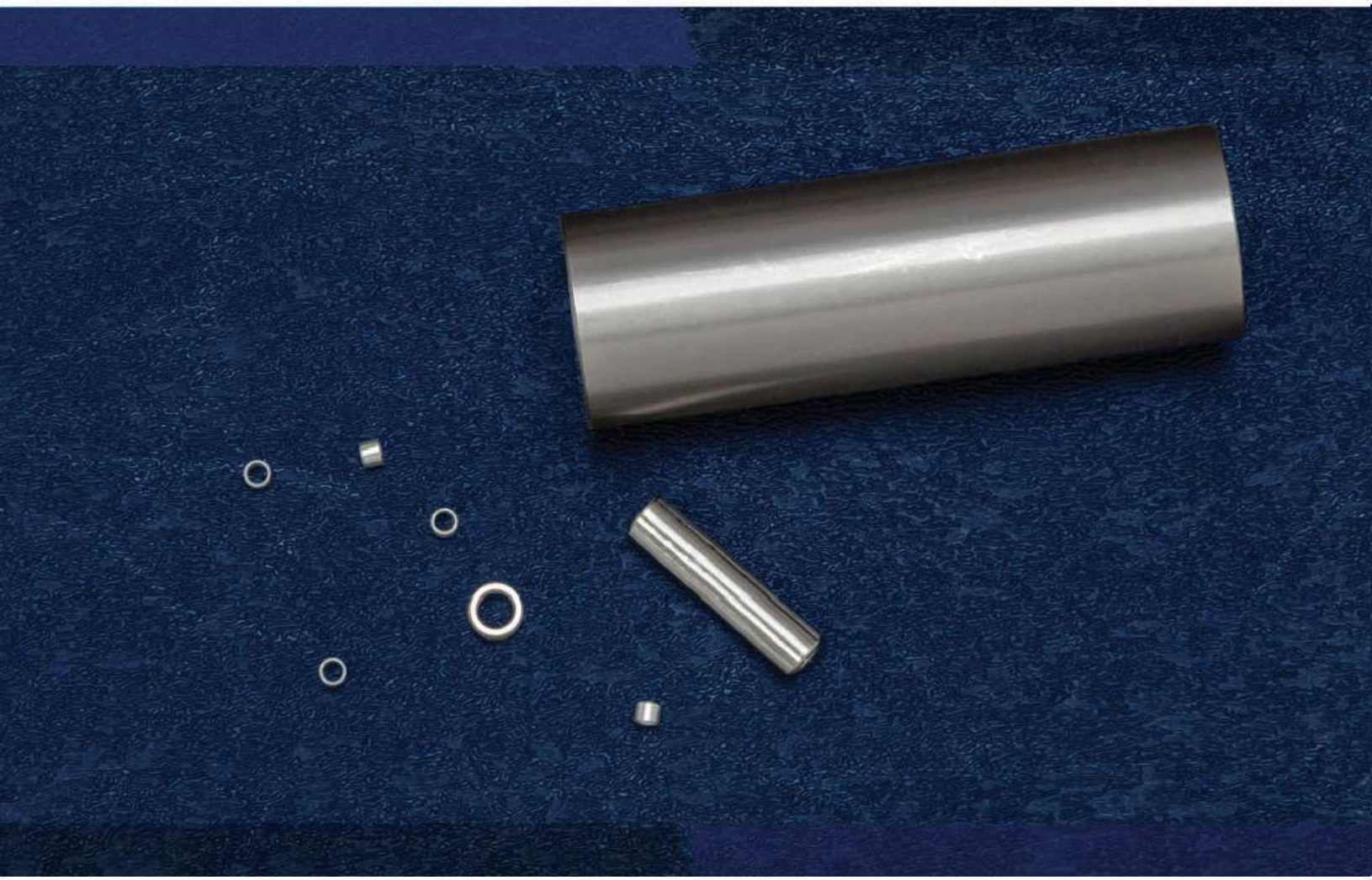
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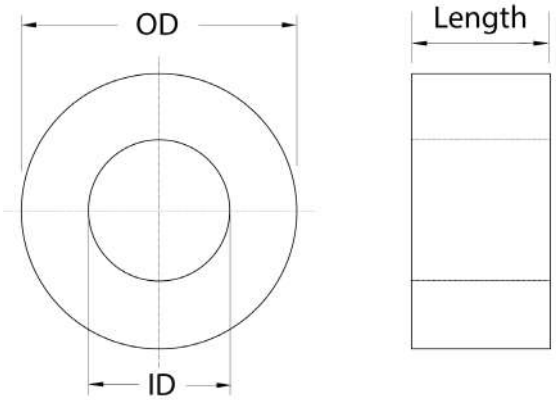
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Product Information

Spacers are also known as sleeves, bushings and clear-hole spacers. Spacers are unthreaded hollow tubes that are primarily used to maintain space between components in assemblies. They are also selected to provide heat or electrical isolation and to connect parts to each other. Spacers are used in many applications that include circuit board spacing, furniture fastening, signage mounting, and gear/bearing assembly.

Spacers are ordered by OD and by Length. OD tolerance is plus to minus .005. The ID tolerance is plus .01 to minus 0. The Length tolerance is plus to minus .005. They are available to fit standard screw and bolt sizes. These spacers have excellent corrosion resistance.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 stainless steel material meet ASTM A582.
- Made from stainless steel, these spacers have good chemical resistance and maybe mildly magnetic.





Round Unthreaded Spacers — Inch
18-8 SS



1/8 OD

Length	Screw Size	ID	18-8 SS Part Number
3/32	#0	.064	ZSU18093-064-188
3/32	#2	.090	ZSU18093-090-188
5/32	#0	.064	ZSU18156-064-188
5/32	#2	.090	ZSU18156-090-188
3/16	#0	.064	ZSU18187-064-188
3/16	#2	.090	ZSU18187-090-188
7/32	#0	.064	ZSU18218-064-188
7/32	#2	.090	ZSU18218-090-188
9/32	#0	.064	ZSU18281-064-188
9/32	#2	.090	ZSU18281-090-188
11/32	#0	.064	ZSU18342-064-188
11/32	#2	.090	ZSU18342-090-188
13/32	#0	.064	ZSU18406-064-188
13/32	#2	.090	ZSU18406-090-188
7/16	#0	.064	ZSU18437-064-188
7/16	#2	.090	ZSU18437-090-188
15/32	#0	.064	ZSU18468-064-188
15/32	#2	.090	ZSU18468-090-188
1/2	#0	.064	ZSU18500-064-188
1/2	#2	.090	ZSU18500-090-188
9/16	#0	.064	ZSU18562-064-188
9/16	#2	.090	ZSU18562-090-188
5/8	#0	.064	ZSU18625-064-188
5/8	#2	.090	ZSU18625-090-188
11/16	#0	.064	ZSU18687-064-188
11/16	#2	.090	ZSU18687-090-188
3/4	#0	.064	ZSU18750-064-188
3/4	#2	.090	ZSU18750-090-188
13/16	#0	.064	ZSU18812-064-188
13/16	#2	.090	ZSU18812-090-188
7/8	#0	.064	ZSU18875-064-188
7/8	#2	.090	ZSU18875-090-188
15/16	#0	.064	ZSU18937-064-188
15/16	#2	.090	ZSU18937-090-188
1	#0	.064	ZSU181-064-188
1	#2	.090	ZSU181-090-188



3/16 OD

Length	Screw Size	ID	18-8 SS Part Number
3/32	#2	.090	ZSU316093-090-188
3/32	#4	.115	ZSU316096-115-188
13/16	#2	.090	ZSU316812-090-188
13/16	#4	.115	ZSU316812-115-188
15/16	#2	.090	ZSU316937-090-188
15/16	#4	.115	ZSU316937-115-188

1/4 OD

Length	Screw Size	ID	18-8 SS Part Number
3/32	#4	.115	ZSU14093-115-188
3/32	#6	.140	ZSU14093-140-188
1-5/8	#4	.115	ZSU141625-115-188
1-5/8	#6	.140	ZSU141625-140-188
1-7/8	#4	.115	ZSU141875-115-188
1-7/8	#6	.140	ZSU141875-140-188
2-1/4	#4	.115	ZSU14225-115-188
2-1/4	#6	.140	ZSU14225-140-188
2-1/2	#4	.115	ZSU14250-115-188
2-1/2	#6	.140	ZSU14250-140-188
2-3/4	#4	.115	ZSU14275-115-188
2-3/4	#6	.140	ZSU14275-140-188
3	#4	.115	ZSU14300-115-188
3	#6	.140	ZSU14300-140-188

5/16 OD

Length	Screw Size	ID	18-8 SS Part Number
3/32	#10	.192	ZSU516093-192-188
1-5/8	#10	.192	ZSU5161625-192-188
1-7/8	#10	.192	ZSU5161875-192-188
2-1/4	#10	.192	ZSU516225-192-188
2-1/2	#10	.192	ZSU516250-192-188
2-3/4	#10	.192	ZSU516275-192-188
3	#10	.192	ZSU516300-192-188

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3/8 OD

Length	Screw Size	ID	18-8 SS Part Number
3/32	#10	.192	ZSU0.375093-192-188
2-3/4	#10	.192	ZSU0.375275-192-188
3	#10	.192	ZSU0.375300-192-188

1/2 OD

Length	Screw Size	ID	18-8 SS Part Number
1-5/8	1/4	.252	ZSU0.51625-252-188
1-7/8	1/4	.252	ZSU0.51875-252-188
2-3/4	1/4	.252	ZSU0.52750-252-188
3	1/4	.252	ZSU0.5300-252-188
3-1/4	1/4	.252	ZSU0.5325-252-188
3-1/2	1/4	.252	ZSU0.5350-252-188
3-3/4	1/4	.252	ZSU0.5375-252-188
4	1/4	.252	ZSU0.5400-252-188
4-1/2	1/4	.252	ZSU0.5450-252-188
5	1/4	.252	ZSU0.5500-252-188
5-1/2	1/4	.252	ZSU0.5550-252-188
6	1/4	.252	ZSU0.5600-252-188

5/8 OD

Length	Screw Size	ID	18-8 SS Part Number
1/8	1/4	.252	ZSU58125-252-188
3/16	1/4	.252	ZSU58187-252-188
11/16	1/4	.252	ZSU58687-252-188
13/16	1/4	.252	ZSU58812-252-188
15/16	1/4	.252	ZSU58937-252-188
1-5/8	1/4	.252	ZSU581625-252-188
1-7/8	1/4	.252	ZSU581875-252-188
2-3/4	1/4	.252	ZSU58275-252-188
3	1/4	.252	ZSU58300-252-188
3-1/4	1/4	.252	ZSU58325-252-188
3-1/2	1/4	.252	ZSU58350-252-188
3-3/4	1/4	.252	ZSU58375-252-188
4	1/4	.252	ZSU58400-252-188
4-1/2	1/4	.252	ZSU58450-252-188
5	1/4	.252	ZSU58500-252-188
5-1/2	1/4	.252	ZSU58550-252-188
6	1/4	.252	ZSU58600-252-188

3/4 OD

Length	Screw Size	ID	18-8 SS Part Number
1/8	5/16	.315	ZSU34125-315-188
3/16	5/16	.315	ZSU34187-315-188
1/4	5/16	.315	ZSU34250-315-188
5/16	5/16	.315	ZSU34312-315-188
7/16	5/16	.315	ZSU34437-315-188
9/16	5/16	.315	ZSU34562-315-188
11/16	5/16	.315	ZSU34687-315-188
13/16	5/16	.315	ZSU34812-315-188
15/16	5/16	.315	ZSU34937-315-188
1-1/8	5/16	.315	ZSU341125-315-188
1-3/8	5/16	.315	ZSU341375-315-188
1-5/8	5/16	.315	ZSU341625-315-188
1-7/8	5/16	.315	ZSU341875-315-188
2-3/4	5/16	.315	ZSU34275-315-188
3	5/16	.315	ZSU34300-315-188
3-1/4	5/16	.315	ZSU34325-315-188
3-1/2	5/16	.315	ZSU34350-315-188
3-3/4	5/16	.315	ZSU34375-315-188
4	5/16	.315	ZSU34400-315-188
4-1/2	5/16	.315	ZSU34450-315-188
5	5/16	.315	ZSU34500-315-188
5-1/2	5/16	.315	ZSU34550-315-188
6	5/16	.315	ZSU34600-315-188

1 OD

Length	Screw Size	ID	18-8 SS Part Number
1/8	1/2	.505	ZSU100125-505-188
1/4	1/2	.505	ZSU100250-505-188
5/8	1/2	.505	ZSU100625-505-188
7/8	1/2	.505	ZSU100875-505-188
1-1/8	1/2	.505	ZSU1001125-505-188
1-1/4	1/2	.505	ZSU1001250-505-188
1-3/8	1/2	.505	ZSU1001375-505-188
1-5/8	1/2	.505	ZSU1001625-505-188
1-3/4	1/2	.505	ZSU100175-505-188
1-7/8	1/2	.505	ZSU1001875-505-188
2-1/4	1/2	.505	ZSU100225-505-188
2-1/2	1/2	.505	ZSU100250-505-188

Round Unthreaded Spacers — Inch

18-8 SS



1 OD

Length	Screw Size	ID	18-8 SS Part Number
2-3/4	1/2	.505	ZSU100275-505-188
3	1/2	.505	ZSU100300-505-188
3-1/4	1/2	.505	ZSU100325-505-188
3-1/2	1/2	.505	ZSU100350-505-188
3-3/4	1/2	.505	ZSU100375-505-188
4	1/2	.505	ZSU100400-505-188
4-1/2	1/2	.505	ZSU100450-505-188
5	1/2	.505	ZSU100500-505-188
5-1/2	1/2	.505	ZSU100550-505-188
6	1/2	.505	ZSU100600-505-188

1-1/2 OD

Length	Screw Size	ID	18-8 SS Part Number
1/8	3/4	.750	ZSU112125-750-188
1/4	3/4	.750	ZSU112250-750-188
5/8	3/4	.750	ZSU112625-750-188
7/8	3/4	.750	ZSU112875-750-188
1-1/8	3/4	.750	ZSU1121125-750-188
1-1/4	3/4	.750	ZSU1121250-750-188
1-3/8	3/4	.750	ZSU1121375-750-188
1-5/8	3/4	.750	ZSU1121625-750-188
1-3/4	3/4	.750	ZSU1121750-750-188
1-7/8	3/4	.750	ZSU1121875-750-188
2-1/4	3/4	.750	ZSU1122250-750-188
2-1/2	3/4	.750	ZSU1122500-750-188
2-3/4	3/4	.750	ZSU112275-750-188
3	3/4	.750	ZSU112300-750-188
3-1/4	3/4	.750	ZSU112325-750-188
3-1/2	3/4	.750	ZSU112350-750-188
3-3/4	3/4	.750	ZSU112375-750-188
4	3/4	.750	ZSU112400-750-188
4-1/2	3/4	.750	ZSU112450-750-188
5	3/4	.750	ZSU112500-750-188
5-1/2	3/4	.750	ZSU112550-750-188
6	3/4	.750	ZSU112600-750-188

2 OD

Length	Screw Size	ID	18-8 SS Part Number
1/4	1	1.000	ZSU2250-1-188
1/2	1	1.000	ZSU2500-1-188
3/4	1	1.000	ZSU2750-1-188
1	1	1.000	ZSU2100-1-188
1-1/4	1	1.000	ZSU21125-1-188
1-1/2	1	1.000	ZSU21500-1-188
1-3/4	1	1.000	ZSU21750-1-188
2	1	1.000	ZSU2200-1-188
2-1/4	1	1.000	ZSU2225-1-188
2-1/2	1	1.000	ZSU2250-1-188
2-3/4	1	1.000	ZSU2275-1-188
3	1	1.000	ZSU2300-1-188
3-1/4	1	1.000	ZSU2325-1-188
3-1/2	1	1.000	ZSU2350-1-188
3-3/4	1	1.000	ZSU2375-1-188
4	1	1.000	ZSU2400-1-188
4-1/2	1	1.000	ZSU2450-1-188
5	1	1.000	ZSU2500-1-188
5-1/2	1	1.000	ZSU2550-1-188
6	1	1.000	ZSU2600-1-188

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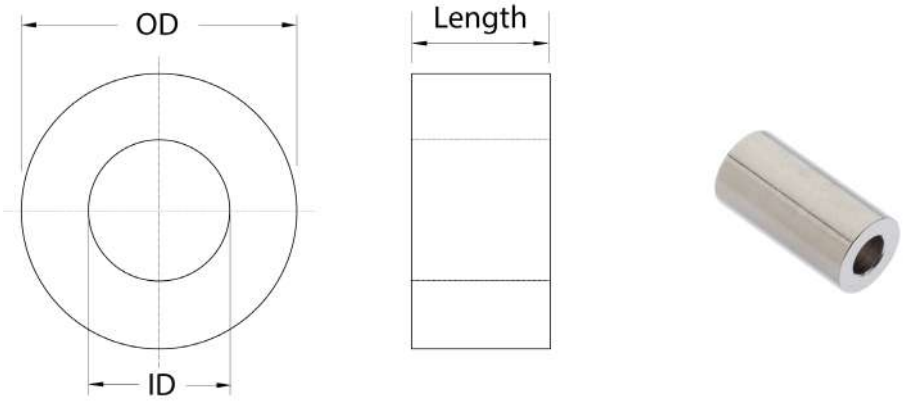
MADE IN THE USA

Product Information

Spacers are also known as sleeves, bushings and clear-hole spacers. Spacers are unthreaded hollow tubes that are primarily used to maintain space between components in assemblies. They are also selected to provide heat or electrical isolation and to connect parts to each other. Spacers are used in many applications that include circuit board spacing, furniture fastening, signage mounting, and gear/bearing assembly.

Spacers are ordered by OD and by Length. OD tolerance is plus to minus .13mm. The ID tolerance is plus .3mm to minus 0. The Length tolerance is plus to minus .13mm. They are available to fit standard screw and bolt sizes. These spacers have excellent corrosion resistance.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 Stainless Steel material meets ASTM A582.
- Made from stainless steel, these spacers have good chemical resistance and maybe mildly magnetic.



Round Unthreaded Spacers — Metric
18-8 (A2) SS



4.5mm OD

Length	Screw Size	ID	18-8 SS Part Number
7	M3	3.20	ZSUM4.5X7-3-188
9	M3	3.20	ZSUM4.5X9-3-188
11	M3	3.20	ZSUM4.5X11-3-188
12	M3	3.20	ZSUM4.5X12-3-188
15	M3	3.20	ZSUM4.5X15-3-188
17	M3	3.20	ZSUM4.5X17-3-188
18	M3	3.20	ZSUM4.5X18-3-188

6mm OD

Length	Screw Size	ID	18-8 SS Part Number
7	M4	4.20	ZSUM6X7-4-188
9	M4	4.20	ZSUM6X9-4-188
11	M4	4.20	ZSUM6X11-4-188
12	M4	4.20	ZSUM6X12-4-188
15	M4	4.20	ZSUM6X15-4-188
17	M4	4.20	ZSUM6X17-4-188
18	M4	4.20	ZSUM6X18-4-188
22	M4	4.20	ZSUM6X22-4-188
24	M4	4.20	ZSUM6X24-4-188
26	M4	4.20	ZSUM6X26-4-188
28	M4	4.20	ZSUM6X28-4-188

8mm OD

Length	Screw Size	ID	18-8 SS Part Number
7	M5	5.30	ZSUM8X7-5-188
9	M5	5.30	ZSUM8X9-5-188
11	M5	5.30	ZSUM8X11-5-188
12	M5	5.30	ZSUM8X12-5-188
15	M5	5.30	ZSUM8X15-5-188
17	M5	5.30	ZSUM8X17-5-188
18	M5	5.30	ZSUM8X18-5-188
22	M5	5.30	ZSUM8X22-5-188
24	M5	5.30	ZSUM8X24-5-188
26	M5	5.30	ZSUM8X26-5-188
28	M5	5.30	ZSUM8X28-5-188



10mm OD

Length	Screw Size	ID	18-8 SS Part Number
7	M5	5.30	ZSUM10X7-5-188
9	M5	5.30	ZSUM10X9-5-188
11	M5	5.30	ZSUM10X11-5-188
12	M5	5.30	ZSUM10X12-5-188
15	M5	5.30	ZSUM10X15-5-188
17	M5	5.30	ZSUM10X17-5-188
18	M5	5.30	ZSUM10X18-5-188
22	M5	5.30	ZSUM10X22-5-188
24	M5	5.30	ZSUM10X24-5-188
26	M5	5.30	ZSUM10X26-5-188
28	M5	5.30	ZSUM10X28-5-188

13mm OD

Length	Screw Size	ID	18-8 SS Part Number
7	M6	6.30	ZSUM13X7-6-188
9	M6	6.30	ZSUM13X9-6-188
11	M6	6.30	ZSUM13X11-6-188
12	M6	6.30	ZSUM13X12-6-188
15	M6	6.30	ZSUM13X15-6-188
17	M6	6.30	ZSUM13X17-6-188
18	M6	6.30	ZSUM13X18-6-188
22	M6	6.30	ZSUM13X22-6-188
24	M6	6.30	ZSUM13X24-6-188
26	M6	6.30	ZSUM13X26-6-188
28	M6	6.30	ZSUM13X28-6-188
50	M6	6.30	ZSUM13X50-6-188

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16mm OD

Length	Screw Size	ID	18-8 SS Part Number
5	M10	10.00	ZSUM16X5-10-188
10	M10	10.00	ZSUM16X10-10-188
15	M10	10.00	ZSUM16X15-10-188
20	M10	10.00	ZSUM16X20-10-188
25	M10	10.00	ZSUM16X25-10-188
30	M10	10.00	ZSUM16X30-10-188
35	M10	10.00	ZSUM16X35-10-188
40	M10	10.00	ZSUM16X40-10-188
45	M10	10.00	ZSUM16X45-10-188
50	M10	10.00	ZSUM16X50-10-188
51	M10	10.00	ZSUM16X51-10-188

19mm OD

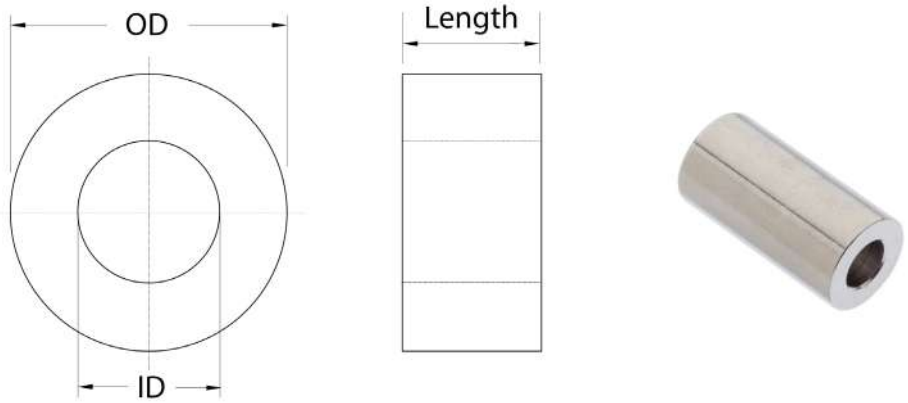
Length	Screw Size	ID	18-8 SS Part Number
5	M12	12.00	ZSUM19X5-12-188
10	M12	12.00	ZSUM19X10-12-188
15	M12	12.00	ZSUM19X15-12-188
20	M12	12.00	ZSUM19X20-12-188
25	M12	12.00	ZSUM19X25-12-188
30	M12	12.00	ZSUM19X30-12-188
35	M12	12.00	ZSUM19X35-12-188
40	M12	12.00	ZSUM19X40-12-188
45	M12	12.00	ZSUM19X45-12-188
50	M12	12.00	ZSUM19X50-12-188
51	M12	12.00	ZSUM19X51-12-188

Product Information

Spacers are also known as sleeves, bushings and clear-hole spacers. Spacers are unthreaded hollow tubes that are primarily used to maintain space between components in assemblies. They are also selected to provide heat or electrical isolation and to connect parts to each other. Spacers are used in many applications that include circuit board spacing, furniture fastening, signage mounting, and gear/bearing assembly.

Type 316 stainless spacers are also referred to as Accuracy Spacers. These parts are ground to maintain tight tolerances, and are 10 times tighter than standard spacers. OD tolerance is plus to minus .0005. The ID tolerance is plus .005 to minus 0. The Length tolerance is plus to minus .0015. They are available to fit standard screw and bolt sizes. These spacers have excellent corrosion resistance and are passivated for enhanced protection. Passivated stainless spacers provide added protection against oxidation and corrosion.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Type 316 Stainless Steel meets ASTM A276.
- Made from stainless steel, these spacers have good chemical resistance and maybe mildly magnetic.



Round Unthreaded Spacers — Inch

316 SS — Passivated



3/16 OD

Length	Screw Size	ID	316 SS Part Number
3/32	#6	.140	ZAS316094-140-316
1/8	#6	.140	ZAS316125-140-316
5/32	#6	.140	ZAS316156-140-316
3/16	#6	.140	ZAS316187-140-316
7/32	#6	.140	ZAS316218-140-316
1/4	#6	.140	ZAS316250-140-316
9/32	#6	.140	ZAS316281-140-316
5/16	#6	.140	ZAS316312-140-316
11/32	#6	.140	ZAS316343-140-316
3/8	#6	.140	ZAS316375-140-316
13/32	#6	.140	ZAS316406-140-316
7/16	#6	.140	ZAS316437-140-316
15/32	#6	.140	ZAS316468-140-316
1/2	#6	.140	ZAS316500-140-316
9/16	#6	.140	ZAS316562-140-316
5/8	#6	.140	ZAS316625-140-316
11/16	#6	.140	ZAS316687-140-316
3/4	#6	.140	ZAS316750-140-316
13/16	#6	.140	ZAS316812-140-316
7/8	#6	.140	ZAS316875-140-316
15/16	#6	.140	ZAS316937-140-316
1	#6	.140	ZAS316100-140-316

1/4 OD

Length	Screw Size	ID	316 SS Part Number
1/16	#8	.166	ZAS14562-166-316
3/32	#8	.166	ZAS14625-140-316
1/8	#6	.140	ZAS14094-140-316
1/8	#8	.166	ZAS14625-166-316
5/32	#6	.140	ZAS14094-166-316
5/32	#8	.166	ZAS14687-140-316
3/16	#6	.140	ZAS14125-140-316
3/16	#8	.166	ZAS14687-166-316
7/32	#6	.140	ZAS14125-166-316
7/32	#8	.166	ZAS14750-140-316
1/4	#6	.140	ZAS14156-140-316
1/4	#8	.166	ZAS14750-166-316
9/32	#6	.140	ZAS14156-166-316



1/4 OD

Length	Screw Size	ID	316 SS Part Number
9/32	#8	.166	ZAS14812-140-316
5/16	#6	.140	ZAS14187-140-316
5/16	#8	.166	ZAS14812-166-316
11/32	#6	.140	ZAS14187-166-316
11/32	#8	.166	ZAS14875-140-316
3/8	#6	.140	ZAS14218-140-316
3/8	#8	.166	ZAS14875-166-316
13/32	#6	.140	ZAS14218-166-316
13/32	#8	.166	ZAS14937-140-316
7/16	#6	.140	ZAS14250-140-316
7/16	#8	.166	ZAS14937-166-316
15/32	#6	.140	ZAS14250-166-316
15/32	#8	.166	ZAS14100-140-316
1/2	#6	.140	ZAS14281-140-316
1/2	#8	.166	ZAS14100-166-316
9/16	#6	.140	ZAS14281-166-316
9/16	#8	.166	ZAS141125-140-316
5/8	#6	.140	ZAS14312-140-316
5/8	#8	.166	ZAS141125-166-316
11/16	#6	.140	ZAS14312-166-316
11/16	#8	.166	ZAS141250-140-316
3/4	#6	.140	ZAS14343-140-316
3/4	#8	.166	ZAS141250-166-316
13/16	#6	.140	ZAS14343-166-316
13/16	#8	.166	ZAS141375-140-316
7/8	#6	.140	ZAS14375-140-316
7/8	#8	.166	ZAS141375-166-316
15/16	#6	.140	ZAS14375-166-316
15/16	#8	.166	ZAS141500-140-316
1	#6	.140	ZAS14406-140-316
1	#8	.166	ZAS141500-166-316
1-1/8	#6	.140	ZAS14406-166-316
1-1/8	#8	.166	ZAS141625-140-316
1-1/4	#6	.140	ZAS14437-140-316
1-1/4	#8	.166	ZAS141625-166-316
1-3/8	#6	.140	ZAS14437-166-316
1-3/8	#8	.166	ZAS141750-140-316
1-1/2	#6	.140	ZAS14468-140-316
1-1/2	#8	.166	ZAS141750-166-316

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1/4 OD

Length	Screw Size	ID	316 SS Part Number
1-5/8	#6	.140	ZAS14468-166-316
1-5/8	#8	.166	ZAS141875-140-316
1-3/4	#6	.140	ZAS14500-140-316
1-3/4	#8	.166	ZAS141875-166-316
1-7/8	#6	.140	ZAS14500-166-316
1-7/8	#8	.166	ZAS14200-140-316
2	#6	.140	ZAS14562-140-316
2	#8	.166	ZAS14200-166-316

5/16 OD

Length	Screw Size	ID	316 SS Part Number
3/32	#10	.192	ZAS516093-192-316
1/8	#10	.192	ZAS516125-192-316
5/32	#10	.192	ZAS516156-192-316
3/16	#10	.192	ZAS516187-192-316
7/32	#10	.192	ZAS516218-192-316
1/4	#10	.192	ZAS516250-192-316
9/32	#10	.192	ZAS516281-192-316
5/16	#10	.192	ZAS516312-192-316
11/32	#10	.192	ZAS516343-192-316
3/8	#10	.192	ZAS516375-192-316
13/32	#10	.192	ZAS516406-192-316
7/16	#10	.192	ZAS516437-192-316
15/32	#10	.192	ZAS516468-192-316
1/2	#10	.192	ZAS516500-192-316
9/16	#10	.192	ZAS516562-192-316
5/8	#10	.192	ZAS516625-192-316
11/16	#10	.192	ZAS516687-192-316
3/4	#10	.192	ZAS516750-192-316
13/16	#10	.192	ZAS516812-192-316
7/8	#10	.192	ZAS516875-192-316
15/16	#10	.192	ZAS516937-192-316
1	#10	.192	ZAS516100-192-316
1-1/8	#10	.192	ZAS5161125-192-316
1-1/4	#10	.192	ZAS5161250-192-316
1-3/8	#10	.192	ZAS5161375-192-316
1-1/2	#10	.192	ZAS5161500-192-316
1-5/8	#10	.192	ZAS5161625-192-316
1-3/4	#10	.192	ZAS5161750-192-316
1-7/8	#10	.192	ZAS5161875-192-316
2	#10	.192	ZAS516200-192-316

3/8 OD

Length	Screw Size	ID	316 SS Part Number
1/8	#10	.192	ZAS38093-192-316
1/8	1/4	.252	ZAS12125-252-316
5/32	#10	.192	ZAS38125-192-316
3/16	#10	.192	ZAS38125-252-316
3/16	1/4	.252	ZAS12187-252-316
7/32	#10	.192	ZAS38156-192-316
1/4	#10	.192	ZAS38187-192-316
1/4	1/4	.252	ZAS12250-252-316
9/32	#10	.192	ZAS38187-252-316
5/16	#10	.192	ZAS38218-192-316
5/16	1/4	.252	ZAS12312-252-316
11/32	#10	.192	ZAS38250-192-316
3/8	#10	.192	ZAS38250-252-316
3/8	1/4	.252	ZAS12375-252-316
13/32	#10	.192	ZAS38281-192-316
7/16	#10	.192	ZAS38312-192-316
7/16	1/4	.252	ZAS12437-252-316
15/32	#10	.192	ZAS38312-252-316
1/2	#10	.192	ZAS38343-192-316
1/2	1/4	.252	ZAS12500-252-316
9/16	#10	.192	ZAS38375-192-316
9/16	1/4	.252	ZAS12562-252-316
5/8	#10	.192	ZAS38375-252-316
5/8	1/4	.252	ZAS12625-252-316
11/16	#10	.192	ZAS38406-192-316
11/16	1/4	.252	ZAS12687-252-316
3/4	#10	.192	ZAS38437-192-316
3/4	1/4	.252	ZAS12750-252-316
13/16	#10	.192	ZAS38437-252-316
13/16	1/4	.252	ZAS12812-252-316
7/8	#10	.192	ZAS38468-192-316
7/8	1/4	.252	ZAS12875-252-316
15/16	#10	.192	ZAS38500-192-316
15/16	1/4	.252	ZAS12937-252-316
1	#10	.192	ZAS38500-252-316
1	1/4	.252	ZAS12100-252-316
1-1/8	#10	.192	ZAS38562-192-316
1-1/8	1/4	.252	ZAS121125-252-316
1-1/4	#10	.192	ZAS38562-252-316
1-1/4	1/4	.252	ZAS121250-252-316
1-3/8	#10	.192	ZAS38625-192-316
1-3/8	1/4	.252	ZAS121375-252-316

Round Unthreaded Spacers — Inch

316 SS — Passivated



3/8 OD

Length	Screw Size	ID	316 SS Part Number
1-1/2	#10	.192	ZAS38625-252-316
1-1/2	1/4	.252	ZAS121500-252-316
1-5/8	#10	.192	ZAS38687-192-316
1-5/8	1/4	.252	ZAS121625-252-316
1-3/4	#10	.192	ZAS38687-252-316
1-3/4	1/4	.252	ZAS121750-252-316
1-7/8	#10	.192	ZAS38750-192-316
1-7/8	1/4	.252	ZAS121875-252-316
2	#10	.192	ZAS38750-252-316
2	1/4	.252	ZAS12200-252-316
2-1/4	1/4	.252	ZAS122250-252-316
2-1/2	1/4	.252	ZAS122500-252-316
2-3/4	1/4	.252	ZAS122750-252-316
3	1/4	.252	ZAS12300-252-316

1/2 OD

Length	Screw Size	ID	316 SS Part Number
1/16	1/4	.252	ZAS38812-192-316
1/8	1/4	.252	ZAS38812-252-316
3/16	1/4	.252	ZAS38875-192-316
1/4	1/4	.252	ZAS38875-252-316
5/16	1/4	.252	ZAS38937-192-316
3/8	1/4	.252	ZAS38937-252-316
7/16	1/4	.252	ZAS38100-192-316
1/2	1/4	.252	ZAS38100-252-316
9/16	1/4	.252	ZAS381125-192-316
5/8	1/4	.252	ZAS381125-252-316
11/16	1/4	.252	ZAS381250-192-316
3/4	1/4	.252	ZAS381250-252-316
13/16	1/4	.252	ZAS381375-192-316
7/8	1/4	.252	ZAS381375-252-316
15/16	1/4	.252	ZAS381500-192-316
1	1/4	.252	ZAS381500-252-316
1-1/8	1/4	.252	ZAS381625-192-316
1-1/4	1/4	.252	ZAS381625-252-316

1/2 OD

Length	Screw Size	ID	316 SS Part Number
1-3/8	1/4	.252	ZAS381750-192-316
1-1/2	1/4	.252	ZAS381750-252-316
1-5/8	1/4	.252	ZAS381875-192-316
1-3/4	1/4	.252	ZAS381875-252-316
1-7/8	1/4	.252	ZAS38200-192-316
2	1/4	.252	ZAS38200-252-316
2-1/4	1/4	.252	ZAS382250-252-316
2-1/2	1/4	.252	ZAS382500-252-316
2-3/4	1/4	.252	ZAS382750-252-316
3	1/4	.252	ZAS38300-252-316

3/4 OD

Length	Screw Size	ID	316 SS Part Number
1/8	3/8	.380	ZAS34125-380-316
3/16	3/8	.380	ZAS34187-380-316
1/4	3/8	.380	ZAS34250-380-316
5/16	3/8	.380	ZAS34312-380-316
3/8	3/8	.380	ZAS34375-380-316
7/16	3/8	.380	ZAS34437-380-316
1/2	3/8	.380	ZAS34500-380-316
5/8	3/8	.380	ZAS34625-380-316
3/4	3/8	.380	ZAS34750-380-316
7/8	3/8	.380	ZAS34875-380-316
1	3/8	.380	ZAS34100-380-316
1-1/8	3/8	.380	ZAS341125-380-316
1-1/4	3/8	.380	ZAS341250-380-316
1-3/8	3/8	.380	ZAS341375-380-316
1-1/2	3/8	.380	ZAS341500-380-316
1-5/8	3/8	.380	ZAS341625-380-316
1-3/4	3/8	.380	ZAS341750-380-316
1-7/8	3/8	.380	ZAS341875-380-316
2	3/8	.380	ZAS34200-380-316
2-1/4	3/8	.380	ZAS342250-380-316
2-1/2	3/8	.380	ZAS342500-380-316
2-3/4	3/8	.380	ZAS342750-380-316
3	3/8	.380	ZAS34300-380-316

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ISO 9001:2015

MADE IN THE USA

1 OD

Length	Screw Size	ID	316 SS Part Number
1/8	1/2	.505	ZAS01125-505-316
1/4	1/2	.505	ZAS01250-505-316
3/8	1/2	.505	ZAS01375-505-316
1/2	1/2	.505	ZAS01500-505-316
5/8	1/2	.505	ZAS01625-505-316
3/4	1/2	.505	ZAS01750-505-316
7/8	1/2	.505	ZAS01875-505-316
1	1/2	.505	ZAS011-505-316
1-1/8	1/2	.505	ZAS011125-505-316
1-1/4	1/2	.505	ZAS011250-505-316
1-3/8	1/2	.505	ZAS011375-505-316
1-1/2	1/2	.505	ZAS011500-505-316
1-5/8	1/2	.505	ZAS011625-505-316
1-3/4	1/2	.505	ZAS011750-505-316
1-7/8	1/2	.505	ZAS011875-505-316
2	1/2	.505	ZAS01200-505-316
2-1/4	1/2	.505	ZAS012250-505-316
2-1/2	1/2	.505	ZAS012500-505-316
2-3/4	1/2	.505	ZAS012750-505-316
3	1/2	.505	ZAS013000-505-316

2 OD

Length	Screw Size	ID	316 SS Part Number
1/8	1	1.000	ZAS2125-1.0-316
1/4	1	1.000	ZAS2250-1.0-316
3/8	1	1.000	ZAS2375-1.0-316
1/2	1	1.000	ZAS2500-1.0-316
5/8	1	1.000	ZAS2625-1.0-316
3/4	1	1.000	ZAS2750-1.0-316
7/8	1	1.000	ZAS2875-1.0-316
1	1	1.000	ZAS2100-1.0-316
1-1/8	1	1.000	ZAS21125-1.0-316
1-1/4	1	1.000	ZAS21250-1.0-316
1-3/8	1	1.000	ZAS21375-1.0-316
1-1/2	1	1.000	ZAS21500-1.0-316
1-5/8	1	1.000	ZAS21625-1.0-316
1-3/4	1	1.000	ZAS21750-1.0-316
1-7/8	1	1.000	ZAS21875-1.0-316
2	1	1.000	ZAS2200-1.0-316
2-1/4	1	1.000	ZAS22250-1.0-316
2-1/2	1	1.000	ZAS22500-1.0-316
2-3/4	1	1.000	ZAS22750-1.0-316
3	1	1.000	ZAS2300-1.0-316

1-1/2 OD

Length	Screw Size	ID	316 SS Part Number
1/8	3/4	.750	ZAS1.5125-750-316
1/4	3/4	.750	ZAS1.5250-750-316
3/8	3/4	.750	ZAS1.5375-750-316
1/2	3/4	.750	ZAS1.5500-750-316
5/8	3/4	.750	ZAS1.5625-750-316
3/4	3/4	.750	ZAS1.5750-750-316
7/8	3/4	.750	ZAS1.5875-750-316
1	3/4	.750	ZAS1.5100-750-316
1-1/8	3/4	.750	ZAS1.51125-750-316
1-1/4	3/4	.750	ZAS1.51250-750-316
1-3/8	3/4	.750	ZAS1.51375-750-316
1-1/2	3/4	.750	ZAS1.51500-750-316
1-5/8	3/4	.750	ZAS1.51625-750-316
1-3/4	3/4	.750	ZAS1.51750-750-316
1-7/8	3/4	.750	ZAS1.51875-750-316
2	3/4	.750	ZAS1.5200-750-316
2-1/4	3/4	.750	ZAS1.52250-750-316
2-1/2	3/4	.750	ZAS1.52500-750-316
2-3/4	3/4	.750	ZAS1.52750-750-316
3	3/4	.750	ZAS1.5300-750-316

3 OD

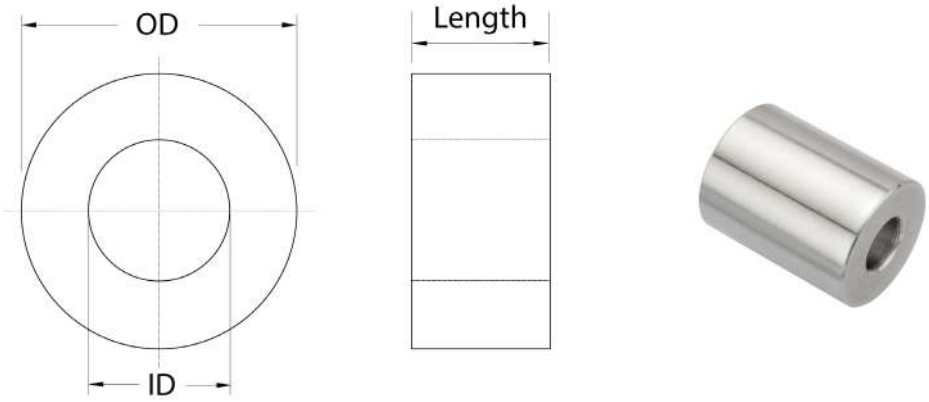
Length	Screw Size	ID	316 SS Part Number
1/8	1	1.000	ZAS3125-1.0-316
1/4	1	1.000	ZAS3250-1.0-316
3/8	1	1.000	ZAS3375-1.0-316
1/2	1	1.000	ZAS3500-1.0-316
5/8	1	1.000	ZAS3625-1.0-316
3/4	1	1.000	ZAS3750-1.0-316
7/8	1	1.000	ZAS3875-1.0-316
1	1	1.000	ZAS3100-1.0-316
1-1/8	1	1.000	ZAS31125-1.0-316
1-1/4	1	1.000	ZAS31250-1.0-316
1-3/8	1	1.000	ZAS31375-1.0-316
1-1/2	1	1.000	ZAS31500-1.0-316
1-5/8	1	1.000	ZAS31625-1.0-316
1-3/4	1	1.000	ZAS31750-1.0-316
1-7/8	1	1.000	ZAS31875-1.0-316
2	1	1.000	ZAS3200-1.0-316
2-1/4	1	1.000	ZAS32250-1.0-316
2-1/2	1	1.000	ZAS32500-1.0-316
2-3/4	1	1.000	ZAS32750-1.0-316
3	1	1.000	ZAS3300-1.0-316

Product Information

Spacers are also known as sleeves, bushings and clear-hole spacers. Spacers are unthreaded hollow tubes that are primarily used to maintain space between components in assemblies. They are also selected to provide heat or electrical isolation and to connect parts to each other. Spacers are used in many applications that include circuit board spacing, furniture fastening, signage mounting, and gear/bearing assembly.

Spacers are ordered by OD and by Length. OD tolerance is plus to minus .005. The ID tolerance is plus .01 to minus 0. The Length tolerance is plus to minus .005. They are available to fit standard screw and bolt sizes.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Aluminum is 6061 -T6 and meets ASTM B211.
- Made from aluminum, these spacers are lightweight, resist corrosion in wet environments and nonmagnetic.



Round Unthreaded Spacers — Inch
Aluminum



1/8 OD

Length	Screw Size	ID	Aluminum Part Number
3/32	#0	.064	ZSU18093-064-ALU
3/32	#2	.090	ZSU18093-090-ALU
5/32	#0	.064	ZSU18156-064-ALU
5/32	#2	.090	ZSU18156-090-ALU
7/32	#0	.064	ZSU18218-064-ALU
7/32	#2	.090	ZSU18218-090-ALU
9/32	#0	.064	ZSU18281-064-ALU
9/32	#2	.090	ZSU18281-090-ALU
11/32	#0	.064	ZSU18342-064-ALU
11/32	#2	.090	ZSU18342-090-ALU
13/32	#0	.064	ZSU18406-064-ALU
13/32	#2	.090	ZSU18406-090-ALU
7/16	#0	.064	ZSU18437-064-ALU
7/16	#2	.090	ZSU18437-090-ALU
15/32	#0	.064	ZSU18468-064-ALU
15/32	#2	.090	ZSU18468-090-ALU
9/16	#0	.064	ZSU18562-064-ALU
9/16	#2	.090	ZSU18562-090-ALU
5/8	#0	.064	ZSU18625-064-ALU
5/8	#2	.090	ZSU18625-090-ALU
11/16	#0	.064	ZSU18687-064-ALU
11/16	#2	.090	ZSU18687-090-ALU
3/4	#0	.064	ZSU18750-064-ALU
3/4	#2	.090	ZSU18750-090-ALU
13/16	#0	.064	ZSU18812-064-ALU
13/16	#2	.090	ZSU18812-090-ALU
7/8	#0	.064	ZSU18875-064-ALU
7/8	#2	.090	ZSU18875-090-ALU
15/16	#0	.064	ZSU18937-064-ALU
15/16	#2	.090	ZSU18937-090-ALU
1	#0	.064	ZSU181-064-ALU
1	#2	.090	ZSU181-090-ALU



3/16 OD

Length	Screw Size	ID	Aluminum Part Number
3/32	#2	.090	ZSU316093-090-ALU
3/32	#4	.115	ZSU316096-115-ALU
13/16	#2	.090	ZSU316812-090-ALU
13/16	#4	.115	ZSU316812-115-ALU
15/16	#2	.090	ZSU316937-090-ALU
15/16	#4	.115	ZSU316937-115-ALU

1/4 OD

Length	Screw Size	ID	Aluminum Part Number
3/32	#4	.115	ZSU14093-115-ALU
3/32	#6	.140	ZSU14093-140-ALU
1-5/8	#4	.115	ZSU141625-115-ALU
1-5/8	#6	.140	ZSU141625-140-ALU
1-7/8	#4	.115	ZSU141875-115-ALU
1-7/8	#6	.140	ZSU141875-140-ALU
2-1/4	#4	.115	ZSU14225-115-ALU
2-1/4	#6	.140	ZSU14225-140-ALU
2-1/2	#4	.115	ZSU14250-115-ALU
2-1/2	#6	.140	ZSU14250-140-ALU
2-3/4	#4	.115	ZSU14275-115-ALU
2-3/4	#6	.140	ZSU14275-140-ALU
3	#4	.115	ZSU14300-115-ALU
3	#6	.140	ZSU14300-140-ALU

5/16 OD

Length	Screw Size	ID	Aluminum Part Number
3/32	#10	.192	ZSU516093-192-ALU
1-5/8	#10	.192	ZSU5161625-192-ALU
1-7/8	#10	.192	ZSU5161875-192-ALU
2-1/4	#10	.192	ZSU516225-192-ALU
2-1/2	#10	.192	ZSU516250-192-ALU
2-3/4	#10	.192	ZSU516275-192-ALU
3	#10	.192	ZSU516300-192-ALU

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3/8 OD

Length	Screw Size	ID	Aluminum Part Number
3/32	#10	.192	ZSU0.375093-192-ALU
1-5/8	#10	.192	ZSU381625-192-ALU
1-7/8	#10	.192	ZSU381875-192-ALU
2-3/4	#10	.192	ZSU0.375275-192-ALU
3	#10	.192	ZSU0.375300-192-ALU

1/2 OD

Length	Screw Size	ID	Aluminum Part Number
1-5/8	1/4	.252	ZSU0.51625-252-ALU
1-7/8	1/4	.252	ZSU0.51875-252-ALU
2-3/4	1/4	.252	ZSU0.52750-252-ALU
3	1/4	.252	ZSU0.5300-252-ALU
3-1/4	1/4	.252	ZSU0.5325-252-ALU
3-1/2	1/4	.252	ZSU0.5350-252-ALU
3-3/4	1/4	.252	ZSU0.5375-252-ALU
4	1/4	.252	ZSU0.5400-252-ALU
4-1/2	1/4	.252	ZSU0.5450-252-ALU
5	1/4	.252	ZSU0.5500-252-ALU
5-1/2	1/4	.252	ZSU0.5550-252-ALU
6	1/4	.252	ZSU0.5600-252-ALU

5/8 OD

Length	Screw Size	ID	Aluminum Part Number
3/16	1/4	.252	ZSU58187-252-ALU
11/16	1/4	.252	ZSU58687-252-ALU
13/16	1/4	.252	ZSU58812-252-ALU
15/16	1/4	.252	ZSU58937-252-ALU
1-5/8	1/4	.252	ZSU581625-252-ALU
1-7/8	1/4	.252	ZSU581875-252-ALU
2-3/4	1/4	.252	ZSU58275-252-ALU
3	1/4	.252	ZSU58300-252-ALU
3-1/4	1/4	.252	ZSU58325-252-ALU
3-1/2	1/4	.252	ZSU58350-252-ALU
3-3/4	1/4	.252	ZSU58375-252-ALU
4	1/4	.252	ZSU58400-252-ALU
4-1/2	1/4	.252	ZSU58450-252-ALU
5	1/4	.252	ZSU58500-252-ALU
5-1/2	1/4	.252	ZSU58550-252-ALU
6	1/4	.252	ZSU58600-252-ALU

3/4 OD

Length	Screw Size	ID	Aluminum Part Number
1/8	5/16	.315	ZSU34125-315-ALU
3/16	5/16	.315	ZSU34187-315-ALU
7/16	5/16	.315	ZSU34437-315-ALU
9/16	5/16	.315	ZSU34562-315-ALU
11/16	5/16	.315	ZSU34687-315-ALU
13/16	5/16	.315	ZSU34812-315-ALU
15/16	5/16	.315	ZSU34937-315-ALU
1-1/8	5/16	.315	ZSU341125-315-ALU
1-3/8	5/16	.315	ZSU341375-315-ALU
1-5/8	5/16	.315	ZSU341625-315-ALU
1-7/8	5/16	.315	ZSU341875-315-ALU
2-3/4	5/16	.315	ZSU34275-315-ALU
3	5/16	.315	ZSU34300-315-ALU
3-1/4	5/16	.315	ZSU34325-315-ALU
3-1/2	5/16	.315	ZSU34350-315-ALU
3-3/4	5/16	.315	ZSU34375-315-ALU
4	5/16	.315	ZSU34400-315-ALU
4-1/2	5/16	.315	ZSU34450-315-ALU
5	5/16	.315	ZSU34500-315-ALU
5-1/2	5/16	.315	ZSU34550-315-ALU
6	5/16	.315	ZSU34600-315-ALU

1 OD

Length	Screw Size	ID	Aluminum Part Number
1/8	1/2	.505	ZSU100125-505-ALU
5/8	1/2	.505	ZSU100625-505-ALU
7/8	1/2	.505	ZSU100875-505-ALU
1-1/8	1/2	.505	ZSU1001125-505-ALU
1-1/4	1/2	.505	ZSU1001250-505-ALU
1-3/8	1/2	.505	ZSU1001375-505-ALU
1-5/8	1/2	.505	ZSU1001625-505-ALU
1-3/4	1/2	.505	ZSU100175-505-ALU
1-7/8	1/2	.505	ZSU1001875-505-ALU
2-1/4	1/2	.505	ZSU100225-505-ALU
2-1/2	1/2	.505	ZSU100250-505-ALU
2-3/4	1/2	.505	ZSU100275-505-ALU

Round Unthreaded Spacers — Inch

Aluminum



1 OD

Length	Screw Size	ID	Aluminum Part Number
3	1/2	.505	ZSU100300-505-ALU
3-1/4	1/2	.505	ZSU100325-505-ALU
3-1/2	1/2	.505	ZSU100350-505-ALU
3-3/4	1/2	.505	ZSU100375-505-ALU
4	1/2	.505	ZSU100400-505-ALU
4-1/2	1/2	.505	ZSU100450-505-ALU
5	1/2	.505	ZSU100500-505-ALU
5-1/2	1/2	.505	ZSU100550-505-ALU
6	1/2	.505	ZSU100600-505-ALU

1-1/2 OD

Length	Screw Size	ID	Aluminum Part Number
1/8	3/4	.750	ZSU112125-750-ALU
1/4	3/4	.750	ZSU112250-750-ALU
5/8	3/4	.750	ZSU112625-750-ALU
7/8	3/4	.750	ZSU112875-750-ALU
1-1/8	3/4	.750	ZSU1121125-750-ALU
1-1/4	3/4	.750	ZSU1121250-750-ALU
1-3/8	3/4	.750	ZSU1121375-750-ALU
1-5/8	3/4	.750	ZSU1121625-750-ALU
1-3/4	3/4	.750	ZSU1121750-750-ALU
1-7/8	3/4	.750	ZSU1121875-750-ALU
2-1/4	3/4	.750	ZSU1122250-750-ALU
2-1/2	3/4	.750	ZSU112250-750-ALU
2-3/4	3/4	.750	ZSU112275-750-ALU
3	3/4	.750	ZSU112300-750-ALU
3-1/4	3/4	.750	ZSU112325-750-ALU
3-1/2	3/4	.750	ZSU112350-750-ALU
3-3/4	3/4	.750	ZSU112375-750-ALU
4	3/4	.750	ZSU112400-750-ALU
4-1/2	3/4	.750	ZSU112450-750-ALU
5	3/4	.750	ZSU112500-750-ALU
5-1/2	3/4	.750	ZSU112550-750-ALU
6	3/4	.750	ZSU112600-750-ALU

2 OD

Length	Screw Size	ID	Aluminum Part Number
1/4	1	1.000	ZSU2250-1-ALU
1/2	1	1.000	ZSU2500-1-ALU
3/4	1	1.000	ZSU2750-1-ALU
1	1	1.000	ZSU2100-1-ALU
1-1/4	1	1.000	ZSU21125-1-ALU
1-1/2	1	1.000	ZSU21500-1-ALU
1-3/4	1	1.000	ZSU21750-1-ALU
2	1	1.000	ZSU2200-1-ALU
2-1/4	1	1.000	ZSU2225-1-ALU
2-1/2	1	1.000	ZSU2250-1-ALU
2-3/4	1	1.000	ZSU2275-1-ALU
3	1	1.000	ZSU2300-1-ALU
3-1/4	1	1.000	ZSU2325-1-ALU
3-1/2	1	1.000	ZSU2350-1-ALU
3-3/4	1	1.000	ZSU2375-1-ALU
4	1	1.000	ZSU2400-1-ALU
4-1/2	1	1.000	ZSU2450-1-ALU
5	1	1.000	ZSU2500-1-ALU
5-1/2	1	1.000	ZSU2550-1-ALU
6	1	1.000	ZSU2600-1-ALU

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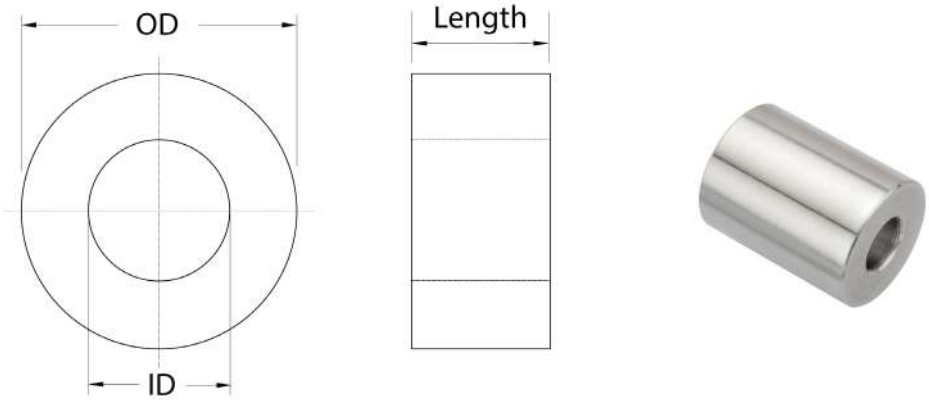
MADE IN THE USA

Product Information

Spacers are also known as sleeves, bushings and clear-hole spacers. Spacers are unthreaded hollow tubes that are primarily used to maintain space between components in assemblies. They are also selected to provide heat or electrical isolation and to connect parts to each other. Spacers are used in many applications that include circuit board spacing, furniture fastening, signage mounting, and gear/bearing assembly.

Spacers are ordered by OD and by Length. OD tolerance is plus to minus .13mm. The ID tolerance is plus .3mm to minus 0. The Length tolerance is plus to minus .13mm. They are available to fit standard screw and bolt sizes.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Aluminum is 6061 -T6 and meets ASTM B211.
- Made from aluminum, these spacers are lightweight, resist corrosion in wet environments and nonmagnetic.





4.5mm OD

Length	Screw Size	ID	Aluminum Part Number
7	M3	3.20	ZSUM4.5X7-3-ALU
9	M3	3.20	ZSUM4.5X9-3-ALU
11	M3	3.20	ZSUM4.5X11-3-ALU
12	M3	3.20	ZSUM4.5X12-3-ALU
15	M3	3.20	ZSUM4.5X15-3-ALU
17	M3	3.20	ZSUM4.5X17-3-ALU
18	M3	3.20	ZSUM4.5X18-3-ALU

6mm OD

Length	Screw Size	ID	Aluminum Part Number
7	M3	3.20	ZSUM6X7-3-ALU
9	M3	3.20	ZSUM6X9-3-ALU
11	M3	3.20	ZSUM6X11-3-ALU
12	M3	3.20	ZSUM6X12-3-ALU
15	M3	3.20	ZSUM6X15-3-ALU
17	M3	3.20	ZSUM6X17-3-ALU
18	M3	3.20	ZSUM6X18-3-ALU
22	M3	3.20	ZSUM6X22-3-ALU
24	M3	3.20	ZSUM6X24-3-ALU
26	M3	3.20	ZSUM6X26-3-ALU
28	M3	3.20	ZSUM6X28-3-ALU

8mm OD

Length	Screw Size	ID	Aluminum Part Number
7	M5	5.30	ZSUM8X7-5-ALU
9	M5	5.30	ZSUM8X9-5-ALU
11	M5	5.30	ZSUM8X11-5-ALU
12	M5	5.30	ZSUM8X12-5-ALU
15	M5	5.30	ZSUM8X15-5-ALU
17	M5	5.30	ZSUM8X17-5-ALU
18	M5	5.30	ZSUM8X18-5-ALU
22	M5	5.30	ZSUM8X22-5-ALU
24	M5	5.30	ZSUM8X24-5-ALU
26	M5	5.30	ZSUM8X26-5-ALU
28	M5	5.30	ZSUM8X28-5-ALU



10mm OD

Length	Screw Size	ID	Aluminum Part Number
7	M5	5.30	ZSUM10X7-5-ALU
9	M5	5.30	ZSUM10X9-5-ALU
11	M5	5.30	ZSUM10X11-5-ALU
12	M5	5.30	ZSUM10X12-5-ALU
15	M5	5.30	ZSUM10X15-5-ALU
17	M5	5.30	ZSUM10X17-5-ALU
18	M5	5.30	ZSUM10X18-5-ALU
22	M5	5.30	ZSUM10X22-5-ALU
24	M5	5.30	ZSUM10X24-5-ALU
26	M5	5.30	ZSUM10X26-5-ALU
28	M5	5.30	ZSUM10X28-5-ALU

13mm OD

Length	Screw Size	ID	Aluminum Part Number
7	M6	6.30	ZSUM13X7-6-ALU
9	M6	6.30	ZSUM13X9-6-ALU
11	M6	6.30	ZSUM13X11-6-ALU
12	M6	6.30	ZSUM13X12-6-ALU
15	M6	6.30	ZSUM13X15-6-ALU
17	M6	6.30	ZSUM13X17-6-ALU
18	M6	6.30	ZSUM13X18-6-ALU
22	M6	6.30	ZSUM13X22-6-ALU
24	M6	6.30	ZSUM13X24-6-ALU
26	M6	6.30	ZSUM13X26-6-ALU
28	M6	6.30	ZSUM13X28-6-ALU
50	M6	6.30	ZSUM13X50-6-ALU

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16mm OD

Length	Screw Size	ID	Aluminum Part Number
5	M10	10.00	ZSUM16X5-10-ALU
10	M10	10.00	ZSUM16X10-10-ALU
15	M10	10.00	ZSUM16X15-10-ALU
20	M10	10.00	ZSUM16X20-10-ALU
25	M10	10.00	ZSUM16X25-10-ALU
30	M10	10.00	ZSUM16X30-10-ALU
35	M10	10.00	ZSUM16X35-10-ALU
40	M10	10.00	ZSUM16X40-10-ALU
45	M10	10.00	ZSUM16X45-10-ALU
50	M10	10.00	ZSUM16X50-10-ALU
51	M10	10.00	ZSUM16X51-10-ALU

19mm OD

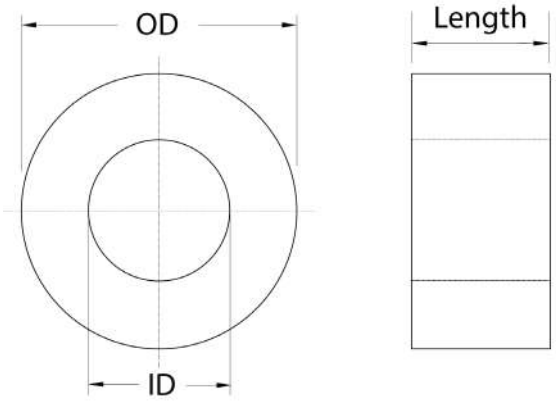
Length	Screw Size	ID	Aluminum Part Number
5	M12	12.00	ZSUM19X5-12-ALU
10	M12	12.00	ZSUM19X10-12-ALU
15	M12	12.00	ZSUM19X15-12-ALU
20	M12	12.00	ZSUM19X20-12-ALU
25	M12	12.00	ZSUM19X25-12-ALU
30	M12	12.00	ZSUM19X30-12-ALU
35	M12	12.00	ZSUM19X35-12-ALU
40	M12	12.00	ZSUM19X40-12-ALU
45	M12	12.00	ZSUM19X45-12-ALU
50	M12	12.00	ZSUM19X50-12-ALU
51	M12	12.00	ZSUM19X51-12-ALU

Product Information

Spacers are also known as sleeves, bushings and clear-hole spacers. Spacers are unthreaded hollow tubes that are primarily used to maintain space between components in assemblies. They are also selected to provide heat or electrical isolation and to connect parts to each other. Spacers are used in many applications that include circuit board spacing, furniture fastening, signage mounting, and gear/bearing assembly.

Spacers are ordered by OD and by Length. OD tolerance is plus to minus .006. The ID tolerance is plus .005 to minus 0. The Length tolerance is plus to minus .005. They are available to fit standard screw and bolt sizes.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Grade 2 Titanium material meets ASTM B348.
- Titanium spacers have high strength-to-weight ratio, excellent corrosion resistance and nonmagnetic.





Round Unthreaded Spacers — Inch

Grade 2 Titanium



1/4 OD

Length	Screw Size	ID	Titanium Part Number
1/8	#8	.166	ZAS14125-166-TI2
3/16	#8	.166	ZAS14187-166-TI2
1/4	#8	.166	ZAS14250-166-TI2
5/16	#8	.166	ZAS14312-166-TI2
3/8	#8	.166	ZAS14375-166-TI2
7/16	#8	.166	ZAS14437-166-TI2
1/2	#8	.166	ZAS14500-166-TI2
9/16	#8	.166	ZAS14562-166-TI2
5/8	#8	.166	ZAS14625-166-TI2
11/16	#8	.166	ZAS14687-166-TI2
3/4	#8	.166	ZAS14750-166-TI2
13/16	#8	.166	ZAS14812-166-TI2
7/8	#8	.166	ZAS14875-166-TI2
15/16	#8	.166	ZAS14937-166-TI2
1	#8	.166	ZAS14100-166-TI2
1-1/8	#8	.166	ZAS141125-166-TI2
1-1/4	#8	.166	ZAS141250-166-TI2
1-3/8	#8	.166	ZAS141375-166-TI2
1-1/2	#8	.166	ZAS141500-166-TI2
1-5/8	#8	.166	ZAS141625-166-TI2
1-3/4	#8	.166	ZAS141750-166-TI2
1-7/8	#8	.166	ZAS141875-166-TI2
2	#8	.166	ZAS142000-166-TI2

1/2 OD

Length	Screw Size	ID	Titanium Part Number
1/8	1/4	.252	ZAS14125-252-TI2
3/16	1/4	.252	ZAS14187-252-TI2
1/4	1/4	.252	ZAS14250-252-TI2
5/16	1/4	.252	ZAS14312-252-TI2
3/8	1/4	.252	ZAS14375-252-TI2
7/16	1/4	.252	ZAS14437-252-TI2
1/2	1/4	.252	ZAS14500-252-TI2
9/16	1/4	.252	ZAS14562-252-TI2
5/8	1/4	.252	ZAS14625-252-TI2
11/16	1/4	.252	ZAS14687-252-TI2
3/4	1/4	.252	ZAS14750-252-TI2
13/16	1/4	.252	ZAS14812-252-TI2
7/8	1/4	.252	ZAS14875-252-TI2
15/16	1/4	.252	ZAS14937-252-TI2
1	1/4	.252	ZAS14100-252-TI2
1-1/8	1/4	.252	ZAS141125-252-TI2
1-1/4	1/4	.252	ZAS141250-252-TI2
1-3/8	1/4	.252	ZAS141375-252-TI2
1-1/2	1/4	.252	ZAS141500-252-TI2
1-5/8	1/4	.252	ZAS141625-252-TI2
1-3/4	1/4	.252	ZAS141750-252-TI2
1-7/8	1/4	.252	ZAS141875-252-TI2
2	1/4	.252	ZAS142000-252-TI2
2-1/4	1/4	.252	ZAS142250-252-TI2
2-1/2	1/4	.252	ZAS142500-252-TI2
2-3/4	1/4	.252	ZAS142750-252-TI2
3	1/4	.252	ZAS143000-252-TI2

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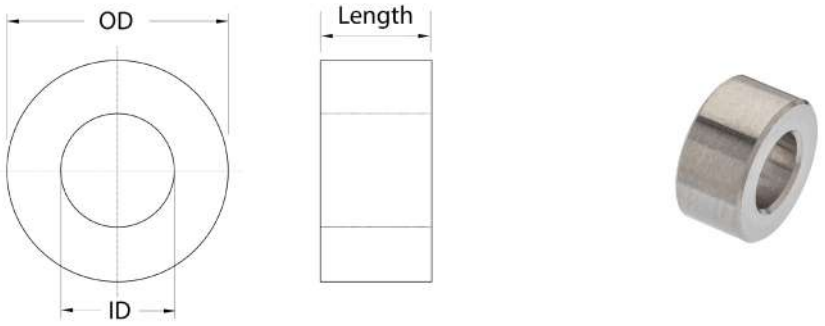
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MADE IN THE USA

Product Information

Spacers are also known as sleeves, bushings and clear-hole spacers. Spacers are unthreaded hollow tubes that are primarily used to maintain space between components in assemblies. They are also selected to provide heat or electrical isolation and to connect parts to each other. Spacers are used in many applications that include circuit board spacing, furniture fastening, signage mounting, and gear/bearing assembly.

Spacers are ordered by OD and by Length. They are available to fit standard screw and bolt sizes.



How to Order

1. Choose material: Aluminum, Brass, Stainless, Steel.
2. Find the needed OD in your Material chart.
3. Specify OD, Length and ID in .001" increments. See Reference Table 1: Maximum Lengths by ID.

Minimum order quantity is 5 spacers.

Reference Table 1

Maximum Lengths by ID

For ID	Max. Spacer Lg.
.063 to .250	10x the ID
.251 to .500	9x the ID
.501 to .750	7x the ID
.751 and Up	5x the ID

Reference Table 2

IDs for Common Screw Sizes

For Screw Size	Use ID
No. 0	.064
No. 2	.090
No. 4	.115
No. 6	.140
No. 8	.166
No. 10	.192
No. 12	.218

For Screw Size	Use ID
1/4	.252
5/16	.315
3/8	.380
1/2	.505
5/8	.630
3/4	.800
1	1.005
1-1/2	1.505

AMPG

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GROUP

Power Transmission & Gas Spring Accessories



ISO 9001:2015

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"Beautiful Parts, Right Now"



Longevity

AMPG is a privately-owned family business started by current management in 1987. With the second generation in the business, already for many years, we are realizing a future of serving our customers, collaborating with our employees, and contributing to a vibrant domestic manufacturing economy.

Philosophy

We are proud to be an American manufacturer dedicated to solving large problems that affect small numbers of customers. We are committed to our team, our products, and our customers.

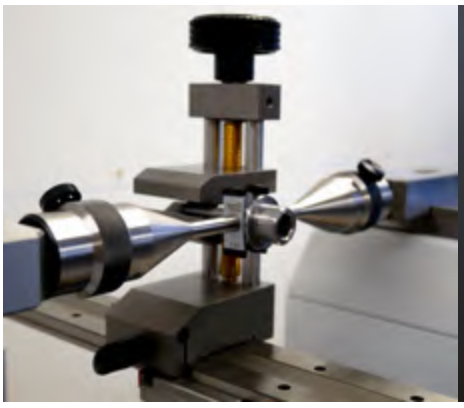
Our continuous capital investments in production equipment, employees, automation, and inspection technologies allows us to design thousands of new items a year, get them into large distributor channels and produce on demand small quantities in a few days.

Stock & Custom...*FAST*

As a precision manufacturer of specialized fasteners, architectural hardware, mechanical components and industrial accessories, AMPG stocks over 50,000 products. We also offer custom manufacturing supported by design, product testing and engineering services. To see the latest and most complete catalog of our over 50,000 different items, visit **www.ampg.com.**

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Index

Page	Description
i	AMPG Materials
F-1 to F-18	Keyed Rotary Shafts, Inch and Metric
F-19 to F-32	Partial Keyed Rotary Shafts, Inch and Metric
F-33 to F-47	D-Profile Rotary Shafts, Inch and Metric
F-48 to F-57	D-Profile Partial Ends Rotary Shafts, Inch and Metric
F-58 to F-64	D-Profile Rotary Shafts with Tap Ends, Inch and Metric
F-65 to F-76	Tapped End(s) Rotary Shafts, Inch and Metric
F-77 to F-88	Threaded Stud Rotary Shafts, Inch and Metric
F-89 to F-100	Step-Down Rotary Shafts, Inch and Metric
F-101 to F-107	Shafts with Retaining Ring Grooves, Inch and Metric
F-108 to F-119	Ground Blank Rotary Shafts, Inch and Metric
F-120	Flange-Mount Shaft Supports, Inch and Metric
F-121 to F-122	Extension Spring Stud Anchors, Inch and Metric
F-123 to F-124	Z-Swivel Spring Anchors, Inch and Metric
F-125 to F-129	External Thread Connecting Rods, Inch and Metric
F-130 to F-134	Internal Thread Connecting Rods, Inch and Metric
F-135 to F-140	RH/LH External Thread Turnbuckle Rods, Inch and Metric
F-141 to F-145	RH/LH Internal Thread Turnbuckle Rods, Inch and Metric
F-146 to F-148	Partially Threaded Studs, Inch
F-149 to F-155	Precision Clevis Pins, Inch and Metric
F-156	Double Drilled Clevis Pins, Inch
F-157	Connector Studs (Hood Pins), Inch
F-157	Headless Clevis Pins (Extra Long), Inch
F-158 to F-166	Rod End Bolts, Inch and Metric
F-167	Left-Hand Rod End Bolts, Inch
F-168	Internally Threaded Solid Rod Ends, Inch
F-169	Externally Threaded Latch Bolts, Metric
F-169	Pull Dowels, Inch
F-170	Round Pin Blanks/Dowel Pin Stock, Inch
F-171	Spring Plunger Mounting Bases Inch
F-172	Gas Spring Attachment Points (Extra Duty)
F-172	Flat Brackets
F-173	Gas Spring Attachment Point Blanks
F-173	Ball Studs
F-174 to F-175	Headed Spring Anchors, Inch
F-176	Threaded Mounting Blocks—Lug-Mount, Inch
F-176	Brackets for Nose-Mount Gear Motors
F-177 to F-225	Male-Female Hex Adapters

About Our Materials



Aluminum *Brass* *Stainless Steel* *Steel*

Aluminum

- Aluminum has the strength of mild steel with one third the weight.
- Resists corrosion in wet environments.
- Lightweight material used for fittings, hardware and fasteners.
- Nonmagnetic.

Brass

- Brass is a softer material approximately two-thirds copper and one-third zinc.
- Provides good resistance to rust and atmospheric corrosion.
- Friction-resistant material used for gears, bearings, fasteners and valves.
- Nonmagnetic.

Stainless Steel 18-8 (303)

- Type 303 stainless offers excellent corrosion resistance.
- Resists chemicals, most dyes, food and nitric acid.
- Corrosion-resistant material used for screws, bushings, nuts and hardware.
- May be mildly magnetic.

Stainless Steel 316 (316/316L)

- Type 316 stainless offers superior corrosion resistance than Type 303 stainless.
- Resists salt water, acids, chlorides, alkalis and other industrial solvents.
- Low-maintenance material used in commercial kitchens and food processing.
- May be mildly magnetic.

AMPG uses dual certified Type 316/316L stainless material. Meets all 316 stainless properties but has lower carbon content, making it more suitable for welding.

Stainless Steel 17-4 PH

- Type 17-4 PH stainless maintains excellent corrosion resistance and strength at high temperatures.
- Resists chemicals, most dyes, food and nitric acid.
- High-strength material used for fittings, valves, bolts and shafts.
- Mildly magnetic.

Carbon Steel C1045

- C1045 Carbon Steel is generally stronger than aluminum and stainless steel but not as corrosion resistant. It offers medium strength properties making them ideal for general purpose use.
- Recommended for applications requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- Material requires a finish to resist rust, such as black-oxide treatment or zinc plating.

Steel Alloy 4140/41L40 (Alloy Steel)

- Alloy 4140 is a “primary” material used high strength fasteners and components.
- Material requires a finish to resist rust, such as black-oxide treatment or zinc plating.
- High-strength material that exceed Grade 8 used for socket screws, studs and components, only after heat treatment.
- Magnetic.

The most comprehensive supplier for USA made

Rotary Shafts

A rotary shaft, also known as a shaft and a rotational shaft, is a mechanical component used to transmit rotary motion or torque in machines and mechanical systems. Unlike a linear shaft that moves objects in a straight line, forward and/or backward, a rotary shaft facilitates reliable rotational motion. Rotary shafts are used with pulleys, gears, sprockets & bearings.

It is important to consider the shaft's surface finish and hardness, which can affect bearing wear and life. The smoother the finish, the less friction it will create. Shafts with chamfered edges reduce damage to other components at installation. Shaft can be modified to suit application: keyed, stepped, internally threaded (tapped), externally threaded, D-profile & grooved.

Materials: 18-8 Stainless Steel, 316 Stainless Steel, Aluminum, 1045 Carbon Steel, 1144 Stress-Proof Alloy Steel
Available in Inch and Metric Sizes



Keyed



D-Profile



Tapped



Threaded



Stepped



Grooved



Ground Blanks

Custom Rotary Shafts available.

Email us at **sales@ampg.com** for more information.

Keyed Rotary Shafts — Inch

18-8 Stainless Steel
316 Stainless Steel
C1045 Steel
1144 Steel
2024 Aluminum

Product Information

A keyed rotary shaft is a mechanical component used to transmit rotational motion and torque in machinery. It is characterized by a linear keyway cut along part of its length, into which a matching key is inserted. This key fits into a corresponding keyway on a hub, pulley, gear, or other components mounted on the shaft. These turned shafts are commonly used in applications where precise alignment and torque transmission are crucial, such as in motors, gearboxes, conveyors, and other mechanical systems. The use of a key and keyway is a simple yet effective method to secure the mounted component to the shaft, allowing for efficient power transmission while also facilitating assembly and disassembly of the system.

Length tolerance is +/-.062 and straightness tolerance is 0.012 in/ft. All shafts are fully lot traceable. Made in the USA from DFARS & RoHS compliant materials.Keyways meet ANSI Standard dimensions and tolerances. Both ends are chamfered. Contact us for Made-to-Order options.

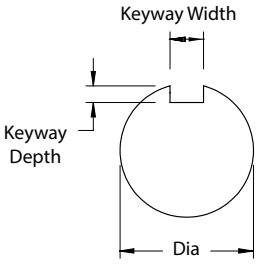
- 18-8 Stainless Steel offers excellent corrosion resistant.
- 316 Stainless Steel, also known as Marine Stainless Steel, offers superior corrosion resistant than 18-8 Stainless Steel.
- Aluminum have the strength of mild steel with one third the weight.
- C1045 Carbon Steel are generally stronger than Stainless Steel and Aluminum without corrosion resistance.
- 1144 Alloy Steel is stronger than Carbon Steel and hardened for increased wear resistance.

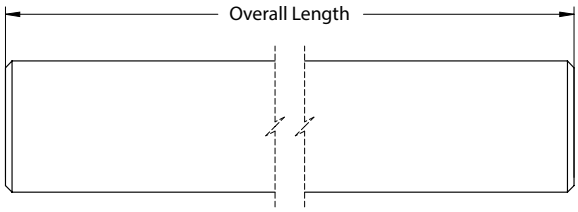


Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS			ASTM A 582 Cond A	B83	90,000	Mildly
316 SS			ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel			ASTM A311	C22	115,000	Magnetic
2024 Aluminum			ASTM B211	B75	68,000	Nonmagnetic

Keyed Rotary Shafts — Inch







Dimensions Table — Inch

Diameter	Diameter Tolerance	Keyway Width	Keyway Depth	Straightness Tolerance	Length Tolerance
5/16	-.0005 to -.0025	3/32	3/64	.012 in/ft	+/-.062
3/8	-.0005 to -.0025	3/32	3/64	.012 in/ft	+/-.062
1/2	-.0005 to -.0025	1/8	1/16	.012 in/ft	+/-.062
9/16	-.0005 to -.0025	1/8	1/16	.012 in/ft	+/-.062
5/8	-.0005 to -.0025	3/16	3/32	.012 in/ft	+/-.062
3/4	-.0005 to -.0025	3/16	3/32	.012 in/ft	+/-.062
7/8	-.0005 to -.0025	3/16	3/32	.012 in/ft	+/-.062
15/16	-.0005 to -.0025	1/4	1/8	.012 in/ft	+/-.062
1	-.0005 to -.0025	1/4	1/8	.012 in/ft	+/-.062
1-1/8	-.0005 to -.0025	1/4	1/8	.012 in/ft	+/-.062
1-3/16	-.0005 to -.0025	1/4	1/8	.012 in/ft	+/-.062
1-1/4	-.0005 to -.0025	1/4	1/8	.012 in/ft	+/-.062
1-5/16	-.003 to 0	5/16	5/32	.012 in/ft	+/-.062
1-3/8	-.003 to 0	5/16	5/32	.012 in/ft	+/-.062
1-7/16	-.003 to 0	3/8	3/16	.012 in/ft	+/-.062
1-1/2	-.003 to 0	3/8	3/16	.012 in/ft	+/-.062
1-5/8	-.003 to 0	3/8	3/16	.012 in/ft	+/-.062
1-3/4	-.003 to 0	3/8	3/16	.012 in/ft	+/-.062
1-7/8	-.003 to 0	1/2	1/4	.012 in/ft	+/-.062
1-15/16	-.0035 to 0	1/2	1/4	.012 in/ft	+/-.062
2	-.0035 to 0	1/2	1/4	.012 in/ft	+/-.062
2-1/8	-.0035 to 0	1/2	1/4	.012 in/ft	+/-.062
2-3/16	-.0035 to 0	1/2	1/4	.012 in/ft	+/-.062
2-3/8	-.0035 to 0	5/8	5/16	.012 in/ft	+/-.062
2-7/16	-.0035 to 0	5/8	5/16	.012 in/ft	+/-.062
2.624	-.0035 to 0	5/8	5/16	.012 in/ft	+/-.062
2-7/8	-.0035 to 0	3/4	3/8	.012 in/ft	+/-.062
3-3/8	-.0035 to 0	7/8	7/16	.012 in/ft	+/-.062

Keyed Rotary Shafts — Inch



5/16 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHK-312-03000-303SU	ZSHK-312-03000-316SU	ZSHK-312-03000-104SU	ZSHK-312-03000-114SU	ZSHK-312-03000-202SU
6	ZSHK-312-06000-303SU	ZSHK-312-06000-316SU	ZSHK-312-06000-104SU	ZSHK-312-06000-114SU	ZSHK-312-06000-202SU
9	ZSHK-312-09000-303SU	ZSHK-312-09000-316SU	ZSHK-312-09000-104SU	ZSHK-312-09000-114SU	ZSHK-312-09000-202SU
12	ZSHK-312-12000-303SU	ZSHK-312-12000-316SU	ZSHK-312-12000-104SU	ZSHK-312-12000-114SU	ZSHK-312-12000-202SU
18	ZSHK-312-18000-303SU	ZSHK-312-18000-316SU	ZSHK-312-18000-104SU	ZSHK-312-18000-114SU	ZSHK-312-18000-202SU
24	ZSHK-312-24000-303SU	ZSHK-312-24000-316SU	ZSHK-312-24000-104SU	ZSHK-312-24000-114SU	ZSHK-312-24000-202SU
36	ZSHK-312-36000-303SU	ZSHK-312-36000-316SU	ZSHK-312-36000-104SU	ZSHK-312-36000-114SU	ZSHK-312-36000-202SU
48	ZSHK-312-48000-303SU	ZSHK-312-48000-316SU	ZSHK-312-48000-104SU	ZSHK-312-48000-114SU	ZSHK-312-48000-202SU
60	ZSHK-312-60000-303SU	ZSHK-312-60000-316SU	ZSHK-312-60000-104SU	ZSHK-312-60000-114SU	ZSHK-312-60000-202SU
72	ZSHK-312-72000-303SU	ZSHK-312-72000-316SU	ZSHK-312-72000-104SU	ZSHK-312-72000-114SU	ZSHK-312-72000-202SU

3/8 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHK-375-03000-303SU	ZSHK-375-03000-316SU	ZSHK-375-03000-104SU	ZSHK-375-03000-114SU	ZSHK-375-03000-202SU
6	ZSHK-375-06000-303SU	ZSHK-375-06000-316SU	ZSHK-375-06000-104SU	ZSHK-375-06000-114SU	ZSHK-375-06000-202SU
9	ZSHK-375-09000-303SU	ZSHK-375-09000-316SU	ZSHK-375-09000-104SU	ZSHK-375-09000-114SU	ZSHK-375-09000-202SU
12	ZSHK-375-12000-303SU	ZSHK-375-12000-316SU	ZSHK-375-12000-104SU	ZSHK-375-12000-114SU	ZSHK-375-12000-202SU
18	ZSHK-375-18000-303SU	ZSHK-375-18000-316SU	ZSHK-375-18000-104SU	ZSHK-375-18000-114SU	ZSHK-375-18000-202SU
24	ZSHK-375-24000-303SU	ZSHK-375-24000-316SU	ZSHK-375-24000-104SU	ZSHK-375-24000-114SU	ZSHK-375-24000-202SU
36	ZSHK-375-36000-303SU	ZSHK-375-36000-316SU	ZSHK-375-36000-104SU	ZSHK-375-36000-114SU	ZSHK-375-36000-202SU
48	ZSHK-375-48000-303SU	ZSHK-375-48000-316SU	ZSHK-375-48000-104SU	ZSHK-375-48000-114SU	ZSHK-375-48000-202SU
60	ZSHK-375-60000-303SU	ZSHK-375-60000-316SU	ZSHK-375-60000-104SU	ZSHK-375-60000-114SU	ZSHK-375-60000-202SU
72	ZSHK-375-72000-303SU	ZSHK-375-72000-316SU	ZSHK-375-72000-104SU	ZSHK-375-72000-114SU	ZSHK-375-72000-202SU

1/2 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHK-500-03000-303SU	ZSHK-500-03000-316SU	ZSHK-500-03000-104SU	ZSHK-500-03000-114SU	ZSHK-500-03000-202SU
6	ZSHK-500-06000-303SU	ZSHK-500-06000-316SU	ZSHK-500-06000-104SU	ZSHK-500-06000-114SU	ZSHK-500-06000-202SU
9	ZSHK-500-09000-303SU	ZSHK-500-09000-316SU	ZSHK-500-09000-104SU	ZSHK-500-09000-114SU	ZSHK-500-09000-202SU
12	ZSHK-500-12000-303SU	ZSHK-500-12000-316SU	ZSHK-500-12000-104SU	ZSHK-500-12000-114SU	ZSHK-500-12000-202SU
18	ZSHK-500-18000-303SU	ZSHK-500-18000-316SU	ZSHK-500-18000-104SU	ZSHK-500-18000-114SU	ZSHK-500-18000-202SU
24	ZSHK-500-24000-303SU	ZSHK-500-24000-316SU	ZSHK-500-24000-104SU	ZSHK-500-24000-114SU	ZSHK-500-24000-202SU
36	ZSHK-500-36000-303SU	ZSHK-500-36000-316SU	ZSHK-500-36000-104SU	ZSHK-500-36000-114SU	ZSHK-500-36000-202SU
48	ZSHK-500-48000-303SU	ZSHK-500-48000-316SU	ZSHK-500-48000-104SU	ZSHK-500-48000-114SU	ZSHK-500-48000-202SU
60	ZSHK-500-60000-303SU	ZSHK-500-60000-316SU	ZSHK-500-60000-104SU	ZSHK-500-60000-114SU	ZSHK-500-60000-202SU
72	ZSHK-500-72000-303SU	ZSHK-500-72000-316SU	ZSHK-500-72000-104SU	ZSHK-500-72000-114SU	ZSHK-500-72000-202SU

Keyed Rotary Shafts — Inch



9/16 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHK-562-03000-303SU	ZSHK-562-03000-316SU	ZSHK-562-03000-104SU	ZSHK-562-03000-114SU	—
6	ZSHK-562-06000-303SU	ZSHK-562-06000-316SU	ZSHK-562-06000-104SU	ZSHK-562-06000-114SU	—
9	ZSHK-562-09000-303SU	ZSHK-562-09000-316SU	ZSHK-562-09000-104SU	ZSHK-562-09000-114SU	—
12	ZSHK-562-12000-303SU	ZSHK-562-12000-316SU	ZSHK-562-12000-104SU	ZSHK-562-12000-114SU	—
18	ZSHK-562-18000-303SU	ZSHK-562-18000-316SU	ZSHK-562-18000-104SU	ZSHK-562-18000-114SU	—
24	ZSHK-562-24000-303SU	ZSHK-562-24000-316SU	ZSHK-562-24000-104SU	ZSHK-562-24000-114SU	—
36	ZSHK-562-36000-303SU	ZSHK-562-36000-316SU	ZSHK-562-36000-104SU	ZSHK-562-36000-114SU	—
48	ZSHK-562-48000-303SU	ZSHK-562-48000-316SU	ZSHK-562-48000-104SU	ZSHK-562-48000-114SU	—
60	ZSHK-562-60000-303SU	ZSHK-562-60000-316SU	ZSHK-562-60000-104SU	ZSHK-562-60000-114SU	—
72	ZSHK-562-72000-303SU	ZSHK-562-72000-316SU	ZSHK-562-72000-104SU	ZSHK-562-72000-114SU	—

5/8 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHK-625-03000-303SU	ZSHK-625-03000-316SU	ZSHK-625-03000-104SU	ZSHK-625-03000-114SU	ZSHK-625-03000-202SU
6	ZSHK-625-06000-303SU	ZSHK-625-06000-316SU	ZSHK-625-06000-104SU	ZSHK-625-06000-114SU	ZSHK-625-06000-202SU
9	ZSHK-625-09000-303SU	ZSHK-625-09000-316SU	ZSHK-625-09000-104SU	ZSHK-625-09000-114SU	ZSHK-625-09000-202SU
12	ZSHK-625-12000-303SU	ZSHK-625-12000-316SU	ZSHK-625-12000-104SU	ZSHK-625-12000-114SU	ZSHK-625-12000-202SU
18	ZSHK-625-18000-303SU	ZSHK-625-18000-316SU	ZSHK-625-18000-104SU	ZSHK-625-18000-114SU	ZSHK-625-18000-202SU
24	ZSHK-625-24000-303SU	ZSHK-625-24000-316SU	ZSHK-625-24000-104SU	ZSHK-625-24000-114SU	ZSHK-625-24000-202SU
36	ZSHK-625-36000-303SU	ZSHK-625-36000-316SU	ZSHK-625-36000-104SU	ZSHK-625-36000-114SU	ZSHK-625-36000-202SU
48	ZSHK-625-48000-303SU	ZSHK-625-48000-316SU	ZSHK-625-48000-104SU	ZSHK-625-48000-114SU	ZSHK-625-48000-202SU
60	ZSHK-625-60000-303SU	ZSHK-625-60000-316SU	ZSHK-625-60000-104SU	ZSHK-625-60000-114SU	ZSHK-625-60000-202SU
72	ZSHK-625-72000-303SU	ZSHK-625-72000-316SU	ZSHK-625-72000-104SU	ZSHK-625-72000-114SU	ZSHK-625-72000-202SU

3/4 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHK-750-03000-303SU	ZSHK-750-03000-316SU	ZSHK-750-03000-104SU	ZSHK-750-03000-114SU	ZSHK-750-03000-202SU
6	ZSHK-750-06000-303SU	ZSHK-750-06000-316SU	ZSHK-750-06000-104SU	ZSHK-750-06000-114SU	ZSHK-750-06000-202SU
9	ZSHK-750-09000-303SU	ZSHK-750-09000-316SU	ZSHK-750-09000-104SU	ZSHK-750-09000-114SU	ZSHK-750-09000-202SU
12	ZSHK-750-12000-303SU	ZSHK-750-12000-316SU	ZSHK-750-12000-104SU	ZSHK-750-12000-114SU	ZSHK-750-12000-202SU
18	ZSHK-750-18000-303SU	ZSHK-750-18000-316SU	ZSHK-750-18000-104SU	ZSHK-750-18000-114SU	ZSHK-750-18000-202SU
24	ZSHK-750-24000-303SU	ZSHK-750-24000-316SU	ZSHK-750-24000-104SU	ZSHK-750-24000-114SU	ZSHK-750-24000-202SU
36	ZSHK-750-36000-303SU	ZSHK-750-36000-316SU	ZSHK-750-36000-104SU	ZSHK-750-36000-114SU	ZSHK-750-36000-202SU
48	ZSHK-750-48000-303SU	ZSHK-750-48000-316SU	ZSHK-750-48000-104SU	ZSHK-750-48000-114SU	ZSHK-750-48000-202SU
60	ZSHK-750-60000-303SU	ZSHK-750-60000-316SU	ZSHK-750-60000-104SU	ZSHK-750-60000-114SU	ZSHK-750-60000-202SU
72	ZSHK-750-72000-303SU	ZSHK-750-72000-316SU	ZSHK-750-72000-104SU	ZSHK-750-72000-114SU	ZSHK-750-72000-202SU

Keyed Rotary Shafts — Inch



7/8 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHK-875-03000-303SU	ZSHK-875-03000-316SU	ZSHK-875-03000-104SU	ZSHK-875-03000-114SU	ZSHK-875-03000-202SU
6	ZSHK-875-06000-303SU	ZSHK-875-06000-316SU	ZSHK-875-06000-104SU	ZSHK-875-06000-114SU	ZSHK-875-06000-202SU
9	ZSHK-875-09000-303SU	ZSHK-875-09000-316SU	ZSHK-875-09000-104SU	ZSHK-875-09000-114SU	ZSHK-875-09000-202SU
12	ZSHK-875-12000-303SU	ZSHK-875-12000-316SU	ZSHK-875-12000-104SU	ZSHK-875-12000-114SU	ZSHK-875-12000-202SU
18	ZSHK-875-18000-303SU	ZSHK-875-18000-316SU	ZSHK-875-18000-104SU	ZSHK-875-18000-114SU	ZSHK-875-18000-202SU
24	ZSHK-875-24000-303SU	ZSHK-875-24000-316SU	ZSHK-875-24000-104SU	ZSHK-875-24000-114SU	ZSHK-875-24000-202SU
36	ZSHK-875-36000-303SU	ZSHK-875-36000-316SU	ZSHK-875-36000-104SU	ZSHK-875-36000-114SU	ZSHK-875-36000-202SU
48	ZSHK-875-48000-303SU	ZSHK-875-48000-316SU	ZSHK-875-48000-104SU	ZSHK-875-48000-114SU	ZSHK-875-48000-202SU
60	ZSHK-875-60000-303SU	ZSHK-875-60000-316SU	ZSHK-875-60000-104SU	ZSHK-875-60000-114SU	ZSHK-875-60000-202SU
72	ZSHK-875-72000-303SU	ZSHK-875-72000-316SU	ZSHK-875-72000-104SU	ZSHK-875-72000-114SU	ZSHK-875-72000-202SU

15/16 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	–	–	ZSHK-937-03000-104SU	–	–
6	–	–	ZSHK-937-06000-104SU	–	–
9	–	–	ZSHK-937-09000-104SU	–	–
12	–	–	ZSHK-937-12000-104SU	–	–
18	–	–	ZSHK-937-18000-104SU	–	–
24	–	–	ZSHK-937-24000-104SU	–	–
36	–	–	ZSHK-937-36000-104SU	–	–
48	–	–	ZSHK-937-48000-104SU	–	–
60	–	–	ZSHK-937-60000-104SU	–	–
72	–	–	ZSHK-937-72000-104SU	–	–

1 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHK-1000-03000-303SU	ZSHK-1000-03000-316SU	ZSHK-1000-03000-104SU	ZSHK-1000-03000-114SU	ZSHK-1000-03000-202SU
6	ZSHK-1000-06000-303SU	ZSHK-1000-06000-316SU	ZSHK-1000-06000-104SU	ZSHK-1000-06000-114SU	ZSHK-1000-06000-202SU
9	ZSHK-1000-09000-303SU	ZSHK-1000-09000-316SU	ZSHK-1000-09000-104SU	ZSHK-1000-09000-114SU	ZSHK-1000-09000-202SU
12	ZSHK-1000-12000-303SU	ZSHK-1000-12000-316SU	ZSHK-1000-12000-104SU	ZSHK-1000-12000-114SU	ZSHK-1000-12000-202SU
18	ZSHK-1000-18000-303SU	ZSHK-1000-18000-316SU	ZSHK-1000-18000-104SU	ZSHK-1000-18000-114SU	ZSHK-1000-18000-202SU
24	ZSHK-1000-24000-303SU	ZSHK-1000-24000-316SU	ZSHK-1000-24000-104SU	ZSHK-1000-24000-114SU	ZSHK-1000-24000-202SU
36	ZSHK-1000-36000-303SU	ZSHK-1000-36000-316SU	ZSHK-1000-36000-104SU	ZSHK-1000-36000-114SU	ZSHK-1000-36000-202SU
48	ZSHK-1000-48000-303SU	ZSHK-1000-48000-316SU	ZSHK-1000-48000-104SU	ZSHK-1000-48000-114SU	ZSHK-1000-48000-202SU
60	ZSHK-1000-60000-303SU	ZSHK-1000-60000-316SU	ZSHK-1000-60000-104SU	ZSHK-1000-60000-114SU	ZSHK-1000-60000-202SU
72	ZSHK-1000-72000-303SU	ZSHK-1000-72000-316SU	ZSHK-1000-72000-104SU	ZSHK-1000-72000-114SU	ZSHK-1000-72000-202SU

Keyed Rotary Shafts — Inch



1-1/8 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1125-03000-303SU	ZSHK-1125-03000-316SU	ZSHK-1125-03000-104SU	ZSHK-1125-03000-114SU
6	ZSHK-1125-06000-303SU	ZSHK-1125-06000-316SU	ZSHK-1125-06000-104SU	ZSHK-1125-06000-114SU
9	ZSHK-1125-09000-303SU	ZSHK-1125-09000-316SU	ZSHK-1125-09000-104SU	ZSHK-1125-09000-114SU
12	ZSHK-1125-12000-303SU	ZSHK-1125-12000-316SU	ZSHK-1125-12000-104SU	ZSHK-1125-12000-114SU
18	ZSHK-1125-18000-303SU	ZSHK-1125-18000-316SU	ZSHK-1125-18000-104SU	ZSHK-1125-18000-114SU
24	ZSHK-1125-24000-303SU	ZSHK-1125-24000-316SU	ZSHK-1125-24000-104SU	ZSHK-1125-24000-114SU
36	ZSHK-1125-36000-303SU	ZSHK-1125-36000-316SU	ZSHK-1125-36000-104SU	ZSHK-1125-36000-114SU
48	ZSHK-1125-48000-303SU	ZSHK-1125-48000-316SU	ZSHK-1125-48000-104SU	ZSHK-1125-48000-114SU
60	ZSHK-1125-60000-303SU	ZSHK-1125-60000-316SU	ZSHK-1125-60000-104SU	ZSHK-1125-60000-114SU
72	ZSHK-1125-72000-303SU	ZSHK-1125-72000-316SU	ZSHK-1125-72000-104SU	ZSHK-1125-72000-114SU

1-3/16 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1187-03000-303SU	ZSHK-1187-03000-316SU	ZSHK-1187-03000-104SU	ZSHK-1187-03000-114SU
6	ZSHK-1187-06000-303SU	ZSHK-1187-06000-316SU	ZSHK-1187-06000-104SU	ZSHK-1187-06000-114SU
9	ZSHK-1187-09000-303SU	ZSHK-1187-09000-316SU	ZSHK-1187-09000-104SU	ZSHK-1187-09000-114SU
12	ZSHK-1187-12000-303SU	ZSHK-1187-12000-316SU	ZSHK-1187-12000-104SU	ZSHK-1187-12000-114SU
18	ZSHK-1187-18000-303SU	ZSHK-1187-18000-316SU	ZSHK-1187-18000-104SU	ZSHK-1187-18000-114SU
24	ZSHK-1187-24000-303SU	ZSHK-1187-24000-316SU	ZSHK-1187-24000-104SU	ZSHK-1187-24000-114SU
36	ZSHK-1187-36000-303SU	ZSHK-1187-36000-316SU	ZSHK-1187-36000-104SU	ZSHK-1187-36000-114SU
48	ZSHK-1187-48000-303SU	ZSHK-1187-48000-316SU	ZSHK-1187-48000-104SU	ZSHK-1187-48000-114SU
60	ZSHK-1187-60000-303SU	ZSHK-1187-60000-316SU	ZSHK-1187-60000-104SU	ZSHK-1187-60000-114SU
72	ZSHK-1187-72000-303SU	ZSHK-1187-72000-316SU	ZSHK-1187-72000-104SU	ZSHK-1187-72000-114SU

1-1/4 Dia. (Tolerance: -.0005" to -.0025")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1250-03000-303SU	ZSHK-1250-03000-316SU	ZSHK-1250-03000-104SU	ZSHK-1250-03000-114SU
6	ZSHK-1250-06000-303SU	ZSHK-1250-06000-316SU	ZSHK-1250-06000-104SU	ZSHK-1250-06000-114SU
9	ZSHK-1250-09000-303SU	ZSHK-1250-09000-316SU	ZSHK-1250-09000-104SU	ZSHK-1250-09000-114SU
12	ZSHK-1250-12000-303SU	ZSHK-1250-12000-316SU	ZSHK-1250-12000-104SU	ZSHK-1250-12000-114SU
18	ZSHK-1250-18000-303SU	ZSHK-1250-18000-316SU	ZSHK-1250-18000-104SU	ZSHK-1250-18000-114SU
24	ZSHK-1250-24000-303SU	ZSHK-1250-24000-316SU	ZSHK-1250-24000-104SU	ZSHK-1250-24000-114SU
36	ZSHK-1250-36000-303SU	ZSHK-1250-36000-316SU	ZSHK-1250-36000-104SU	ZSHK-1250-36000-114SU
48	ZSHK-1250-48000-303SU	ZSHK-1250-48000-316SU	ZSHK-1250-48000-104SU	ZSHK-1250-48000-114SU
60	ZSHK-1250-60000-303SU	ZSHK-1250-60000-316SU	ZSHK-1250-60000-104SU	ZSHK-1250-60000-114SU
72	ZSHK-1250-72000-303SU	ZSHK-1250-72000-316SU	ZSHK-1250-72000-104SU	ZSHK-1250-72000-114SU

Keyed Rotary Shafts — Inch



1-5/16 Dia. (Tolerance: -.003" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1312-03000-303SU	ZSHK-1312-03000-316SU	ZSHK-1312-03000-104SU	ZSHK-1312-03000-114SU
6	ZSHK-1312-06000-303SU	ZSHK-1312-06000-316SU	ZSHK-1312-06000-104SU	ZSHK-1312-06000-114SU
9	ZSHK-1312-09000-303SU	ZSHK-1312-09000-316SU	ZSHK-1312-09000-104SU	ZSHK-1312-09000-114SU
12	ZSHK-1312-12000-303SU	ZSHK-1312-12000-316SU	ZSHK-1312-12000-104SU	ZSHK-1312-12000-114SU
18	ZSHK-1312-18000-303SU	ZSHK-1312-18000-316SU	ZSHK-1312-18000-104SU	ZSHK-1312-18000-114SU
24	ZSHK-1312-24000-303SU	ZSHK-1312-24000-316SU	ZSHK-1312-24000-104SU	ZSHK-1312-24000-114SU
36	ZSHK-1312-36000-303SU	ZSHK-1312-36000-316SU	ZSHK-1312-36000-104SU	ZSHK-1312-36000-114SU
48	ZSHK-1312-48000-303SU	ZSHK-1312-48000-316SU	ZSHK-1312-48000-104SU	ZSHK-1312-48000-114SU
60	ZSHK-1312-60000-303SU	ZSHK-1312-60000-316SU	ZSHK-1312-60000-104SU	ZSHK-1312-60000-114SU
72	ZSHK-1312-72000-303SU	ZSHK-1312-72000-316SU	ZSHK-1312-72000-104SU	ZSHK-1312-72000-114SU

1-3/8 Dia. (Tolerance: -.003" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1375-03000-303SU	ZSHK-1375-03000-316SU	ZSHK-1375-03000-104SU	ZSHK-1375-03000-114SU
6	ZSHK-1375-06000-303SU	ZSHK-1375-06000-316SU	ZSHK-1375-06000-104SU	ZSHK-1375-06000-114SU
9	ZSHK-1375-09000-303SU	ZSHK-1375-09000-316SU	ZSHK-1375-09000-104SU	ZSHK-1375-09000-114SU
12	ZSHK-1375-12000-303SU	ZSHK-1375-12000-316SU	ZSHK-1375-12000-104SU	ZSHK-1375-12000-114SU
18	ZSHK-1375-18000-303SU	ZSHK-1375-18000-316SU	ZSHK-1375-18000-104SU	ZSHK-1375-18000-114SU
24	ZSHK-1375-24000-303SU	ZSHK-1375-24000-316SU	ZSHK-1375-24000-104SU	ZSHK-1375-24000-114SU
36	ZSHK-1375-36000-303SU	ZSHK-1375-36000-316SU	ZSHK-1375-36000-104SU	ZSHK-1375-36000-114SU
48	ZSHK-1375-48000-303SU	ZSHK-1375-48000-316SU	ZSHK-1375-48000-104SU	ZSHK-1375-48000-114SU
60	ZSHK-1375-60000-303SU	ZSHK-1375-60000-316SU	ZSHK-1375-60000-104SU	ZSHK-1375-60000-114SU
72	ZSHK-1375-72000-303SU	ZSHK-1375-72000-316SU	ZSHK-1375-72000-104SU	ZSHK-1375-72000-114SU

1-7/16 Dia. (Tolerance: -.003" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1437-03000-303SU	ZSHK-1437-03000-316SU	ZSHK-1437-03000-104SU	ZSHK-1437-03000-114SU
6	ZSHK-1437-06000-303SU	ZSHK-1437-06000-316SU	ZSHK-1437-06000-104SU	ZSHK-1437-06000-114SU
9	ZSHK-1437-09000-303SU	ZSHK-1437-09000-316SU	ZSHK-1437-09000-104SU	ZSHK-1437-09000-114SU
12	ZSHK-1437-12000-303SU	ZSHK-1437-12000-316SU	ZSHK-1437-12000-104SU	ZSHK-1437-12000-114SU
18	ZSHK-1437-18000-303SU	ZSHK-1437-18000-316SU	ZSHK-1437-18000-104SU	ZSHK-1437-18000-114SU
24	ZSHK-1437-24000-303SU	ZSHK-1437-24000-316SU	ZSHK-1437-24000-104SU	ZSHK-1437-24000-114SU
36	ZSHK-1437-36000-303SU	ZSHK-1437-36000-316SU	ZSHK-1437-36000-104SU	ZSHK-1437-36000-114SU
48	ZSHK-1437-48000-303SU	ZSHK-1437-48000-316SU	ZSHK-1437-48000-104SU	ZSHK-1437-48000-114SU
60	ZSHK-1437-60000-303SU	ZSHK-1437-60000-316SU	ZSHK-1437-60000-104SU	ZSHK-1437-60000-114SU
72	ZSHK-1437-72000-303SU	ZSHK-1437-72000-316SU	ZSHK-1437-72000-104SU	ZSHK-1437-72000-114SU

Keyed Rotary Shafts — Inch



1-1/2 Dia. (Tolerance: -.003" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1500-03000-303SU	ZSHK-1500-03000-316SU	ZSHK-1500-03000-104SU	ZSHK-1500-03000-114SU
6	ZSHK-1500-06000-303SU	ZSHK-1500-06000-316SU	ZSHK-1500-06000-104SU	ZSHK-1500-06000-114SU
9	ZSHK-1500-09000-303SU	ZSHK-1500-09000-316SU	ZSHK-1500-09000-104SU	ZSHK-1500-09000-114SU
12	ZSHK-1500-12000-303SU	ZSHK-1500-12000-316SU	ZSHK-1500-12000-104SU	ZSHK-1500-12000-114SU
18	ZSHK-1500-18000-303SU	ZSHK-1500-18000-316SU	ZSHK-1500-18000-104SU	ZSHK-1500-18000-114SU
24	ZSHK-1500-24000-303SU	ZSHK-1500-24000-316SU	ZSHK-1500-24000-104SU	ZSHK-1500-24000-114SU
36	ZSHK-1500-36000-303SU	ZSHK-1500-36000-316SU	ZSHK-1500-36000-104SU	ZSHK-1500-36000-114SU
48	ZSHK-1500-48000-303SU	ZSHK-1500-48000-316SU	ZSHK-1500-48000-104SU	ZSHK-1500-48000-114SU
60	ZSHK-1500-60000-303SU	ZSHK-1500-60000-316SU	ZSHK-1500-60000-104SU	ZSHK-1500-60000-114SU
72	ZSHK-1500-72000-303SU	ZSHK-1500-72000-316SU	ZSHK-1500-72000-104SU	ZSHK-1500-72000-114SU

1-5/8 Dia. (Tolerance: -.003" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1625-03000-303SU	ZSHK-1625-03000-316SU	ZSHK-1625-03000-104SU	ZSHK-1625-03000-114SU
6	ZSHK-1625-06000-303SU	ZSHK-1625-06000-316SU	ZSHK-1625-06000-104SU	ZSHK-1625-06000-114SU
9	ZSHK-1625-09000-303SU	ZSHK-1625-09000-316SU	ZSHK-1625-09000-104SU	ZSHK-1625-09000-114SU
12	ZSHK-1625-12000-303SU	ZSHK-1625-12000-316SU	ZSHK-1625-12000-104SU	ZSHK-1625-12000-114SU
18	ZSHK-1625-18000-303SU	ZSHK-1625-18000-316SU	ZSHK-1625-18000-104SU	ZSHK-1625-18000-114SU
24	ZSHK-1625-24000-303SU	ZSHK-1625-24000-316SU	ZSHK-1625-24000-104SU	ZSHK-1625-24000-114SU
36	ZSHK-1625-36000-303SU	ZSHK-1625-36000-316SU	ZSHK-1625-36000-104SU	ZSHK-1625-36000-114SU
48	ZSHK-1625-48000-303SU	ZSHK-1625-48000-316SU	ZSHK-1625-48000-104SU	ZSHK-1625-48000-114SU
60	ZSHK-1625-60000-303SU	ZSHK-1625-60000-316SU	ZSHK-1625-60000-104SU	ZSHK-1625-60000-114SU
72	ZSHK-1625-72000-303SU	ZSHK-1625-72000-316SU	ZSHK-1625-72000-104SU	ZSHK-1625-72000-114SU

1-3/4 Dia. (Tolerance: -.003" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1750-03000-303SU	ZSHK-1750-03000-316SU	ZSHK-1750-03000-104SU	ZSHK-1750-03000-114SU
6	ZSHK-1750-06000-303SU	ZSHK-1750-06000-316SU	ZSHK-1750-06000-104SU	ZSHK-1750-06000-114SU
9	ZSHK-1750-09000-303SU	ZSHK-1750-09000-316SU	ZSHK-1750-09000-104SU	ZSHK-1750-09000-114SU
12	ZSHK-1750-12000-303SU	ZSHK-1750-12000-316SU	ZSHK-1750-12000-104SU	ZSHK-1750-12000-114SU
18	ZSHK-1750-18000-303SU	ZSHK-1750-18000-316SU	ZSHK-1750-18000-104SU	ZSHK-1750-18000-114SU
24	ZSHK-1750-24000-303SU	ZSHK-1750-24000-316SU	ZSHK-1750-24000-104SU	ZSHK-1750-24000-114SU
36	ZSHK-1750-36000-303SU	ZSHK-1750-36000-316SU	ZSHK-1750-36000-104SU	ZSHK-1750-36000-114SU
48	ZSHK-1750-48000-303SU	ZSHK-1750-48000-316SU	ZSHK-1750-48000-104SU	ZSHK-1750-48000-114SU
60	ZSHK-1750-60000-303SU	ZSHK-1750-60000-316SU	ZSHK-1750-60000-104SU	ZSHK-1750-60000-114SU
72	ZSHK-1750-72000-303SU	ZSHK-1750-72000-316SU	ZSHK-1750-72000-104SU	ZSHK-1750-72000-114SU

Keyed Rotary Shafts — Inch



1-7/8 Dia. (Tolerance: -.003" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1875-03000-303SU	ZSHK-1875-03000-316SU	ZSHK-1875-03000-104SU	ZSHK-1875-03000-114SU
6	ZSHK-1875-06000-303SU	ZSHK-1875-06000-316SU	ZSHK-1875-06000-104SU	ZSHK-1875-06000-114SU
9	ZSHK-1875-09000-303SU	ZSHK-1875-09000-316SU	ZSHK-1875-09000-104SU	ZSHK-1875-09000-114SU
12	ZSHK-1875-12000-303SU	ZSHK-1875-12000-316SU	ZSHK-1875-12000-104SU	ZSHK-1875-12000-114SU
18	ZSHK-1875-18000-303SU	ZSHK-1875-18000-316SU	ZSHK-1875-18000-104SU	ZSHK-1875-18000-114SU
24	ZSHK-1875-24000-303SU	ZSHK-1875-24000-316SU	ZSHK-1875-24000-104SU	ZSHK-1875-24000-114SU
36	ZSHK-1875-36000-303SU	ZSHK-1875-36000-316SU	ZSHK-1875-36000-104SU	ZSHK-1875-36000-114SU
48	ZSHK-1875-48000-303SU	ZSHK-1875-48000-316SU	ZSHK-1875-48000-104SU	ZSHK-1875-48000-114SU
60	ZSHK-1875-60000-303SU	ZSHK-1875-60000-316SU	ZSHK-1875-60000-104SU	ZSHK-1875-60000-114SU
72	ZSHK-1875-72000-303SU	ZSHK-1875-72000-316SU	ZSHK-1875-72000-104SU	ZSHK-1875-72000-114SU

1-15/16 Dia. (Tolerance: -.0035" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-1937-03000-303SU	ZSHK-1937-03000-316SU	ZSHK-1937-03000-104SU	ZSHK-1937-03000-114SU
6	ZSHK-1937-06000-303SU	ZSHK-1937-06000-316SU	ZSHK-1937-06000-104SU	ZSHK-1937-06000-114SU
9	ZSHK-1937-09000-303SU	ZSHK-1937-09000-316SU	ZSHK-1937-09000-104SU	ZSHK-1937-09000-114SU
12	ZSHK-1937-12000-303SU	ZSHK-1937-12000-316SU	ZSHK-1937-12000-104SU	ZSHK-1937-12000-114SU
18	ZSHK-1937-18000-303SU	ZSHK-1937-18000-316SU	ZSHK-1937-18000-104SU	ZSHK-1937-18000-114SU
24	ZSHK-1937-24000-303SU	ZSHK-1937-24000-316SU	ZSHK-1937-24000-104SU	ZSHK-1937-24000-114SU
36	ZSHK-1937-36000-303SU	ZSHK-1937-36000-316SU	ZSHK-1937-36000-104SU	ZSHK-1937-36000-114SU
48	ZSHK-1937-48000-303SU	ZSHK-1937-48000-316SU	ZSHK-1937-48000-104SU	ZSHK-1937-48000-114SU
60	ZSHK-1937-60000-303SU	ZSHK-1937-60000-316SU	ZSHK-1937-60000-104SU	ZSHK-1937-60000-114SU
72	ZSHK-1937-72000-303SU	ZSHK-1937-72000-316SU	ZSHK-1937-72000-104SU	ZSHK-1937-72000-114SU

2 Dia. (Tolerance: -.0035" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-2000-03000-303SU	ZSHK-2000-03000-316SU	ZSHK-2000-03000-104SU	ZSHK-2000-03000-114SU
6	ZSHK-2000-06000-303SU	ZSHK-2000-06000-316SU	ZSHK-2000-06000-104SU	ZSHK-2000-06000-114SU
9	ZSHK-2000-09000-303SU	ZSHK-2000-09000-316SU	ZSHK-2000-09000-104SU	ZSHK-2000-09000-114SU
12	ZSHK-2000-12000-303SU	ZSHK-2000-12000-316SU	ZSHK-2000-12000-104SU	ZSHK-2000-12000-114SU
18	ZSHK-2000-18000-303SU	ZSHK-2000-18000-316SU	ZSHK-2000-18000-104SU	ZSHK-2000-18000-114SU
24	ZSHK-2000-24000-303SU	ZSHK-2000-24000-316SU	ZSHK-2000-24000-104SU	ZSHK-2000-24000-114SU
36	ZSHK-2000-36000-303SU	ZSHK-2000-36000-316SU	ZSHK-2000-36000-104SU	ZSHK-2000-36000-114SU
48	ZSHK-2000-48000-303SU	ZSHK-2000-48000-316SU	ZSHK-2000-48000-104SU	ZSHK-2000-48000-114SU
60	ZSHK-2000-60000-303SU	ZSHK-2000-60000-316SU	ZSHK-2000-60000-104SU	ZSHK-2000-60000-114SU
72	ZSHK-2000-72000-303SU	ZSHK-2000-72000-316SU	ZSHK-2000-72000-104SU	ZSHK-2000-72000-114SU

Keyed Rotary Shafts — Inch



2-1/8 Dia. (Tolerance: -.0035" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-2125-03000-303SU	ZSHK-2125-03000-316SU	ZSHK-2125-03000-104SU	ZSHK-2125-03000-114SU
6	ZSHK-2125-06000-303SU	ZSHK-2125-06000-316SU	ZSHK-2125-06000-104SU	ZSHK-2125-06000-114SU
9	ZSHK-2125-09000-303SU	ZSHK-2125-09000-316SU	ZSHK-2125-09000-104SU	ZSHK-2125-09000-114SU
12	ZSHK-2125-12000-303SU	ZSHK-2125-12000-316SU	ZSHK-2125-12000-104SU	ZSHK-2125-12000-114SU
18	ZSHK-2125-18000-303SU	ZSHK-2125-18000-316SU	ZSHK-2125-18000-104SU	ZSHK-2125-18000-114SU
24	ZSHK-2125-24000-303SU	ZSHK-2125-24000-316SU	ZSHK-2125-24000-104SU	ZSHK-2125-24000-114SU
36	ZSHK-2125-36000-303SU	ZSHK-2125-36000-316SU	ZSHK-2125-36000-104SU	ZSHK-2125-36000-114SU
48	ZSHK-2125-48000-303SU	ZSHK-2125-48000-316SU	ZSHK-2125-48000-104SU	ZSHK-2125-48000-114SU
60	ZSHK-2125-60000-303SU	ZSHK-2125-60000-316SU	ZSHK-2125-60000-104SU	ZSHK-2125-60000-114SU
72	ZSHK-2125-72000-303SU	ZSHK-2125-72000-316SU	ZSHK-2125-72000-104SU	ZSHK-2125-72000-114SU

2-3/16 Dia. (Tolerance: -.0035" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-2187-03000-303SU	ZSHK-2187-03000-316SU	ZSHK-2187-03000-104SU	ZSHK-2187-03000-114SU
6	ZSHK-2187-06000-303SU	ZSHK-2187-06000-316SU	ZSHK-2187-06000-104SU	ZSHK-2187-06000-114SU
9	ZSHK-2187-09000-303SU	ZSHK-2187-09000-316SU	ZSHK-2187-09000-104SU	ZSHK-2187-09000-114SU
12	ZSHK-2187-12000-303SU	ZSHK-2187-12000-316SU	ZSHK-2187-12000-104SU	ZSHK-2187-12000-114SU
18	ZSHK-2187-18000-303SU	ZSHK-2187-18000-316SU	ZSHK-2187-18000-104SU	ZSHK-2187-18000-114SU
24	ZSHK-2187-24000-303SU	ZSHK-2187-24000-316SU	ZSHK-2187-24000-104SU	ZSHK-2187-24000-114SU
36	ZSHK-2187-36000-303SU	ZSHK-2187-36000-316SU	ZSHK-2187-36000-104SU	ZSHK-2187-36000-114SU
48	ZSHK-2187-48000-303SU	ZSHK-2187-48000-316SU	ZSHK-2187-48000-104SU	ZSHK-2187-48000-114SU
60	ZSHK-2187-60000-303SU	ZSHK-2187-60000-316SU	ZSHK-2187-60000-104SU	ZSHK-2187-60000-114SU
72	ZSHK-2187-72000-303SU	ZSHK-2187-72000-316SU	ZSHK-2187-72000-104SU	ZSHK-2187-72000-114SU

2-3/8 Dia. (Tolerance: -.0035" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-2375-03000-303SU	ZSHK-2375-03000-316SU	ZSHK-2375-03000-104SU	ZSHK-2375-03000-114SU
6	ZSHK-2375-06000-303SU	ZSHK-2375-06000-316SU	ZSHK-2375-06000-104SU	ZSHK-2375-06000-114SU
9	ZSHK-2375-09000-303SU	ZSHK-2375-09000-316SU	ZSHK-2375-09000-104SU	ZSHK-2375-09000-114SU
12	ZSHK-2375-12000-303SU	ZSHK-2375-12000-316SU	ZSHK-2375-12000-104SU	ZSHK-2375-12000-114SU
18	ZSHK-2375-18000-303SU	ZSHK-2375-18000-316SU	ZSHK-2375-18000-104SU	ZSHK-2375-18000-114SU
24	ZSHK-2375-24000-303SU	ZSHK-2375-24000-316SU	ZSHK-2375-24000-104SU	ZSHK-2375-24000-114SU
36	ZSHK-2375-36000-303SU	ZSHK-2375-36000-316SU	ZSHK-2375-36000-104SU	ZSHK-2375-36000-114SU
48	ZSHK-2375-48000-303SU	ZSHK-2375-48000-316SU	ZSHK-2375-48000-104SU	ZSHK-2375-48000-114SU
60	ZSHK-2375-60000-303SU	ZSHK-2375-60000-316SU	ZSHK-2375-60000-104SU	ZSHK-2375-60000-114SU
72	ZSHK-2375-72000-303SU	ZSHK-2375-72000-316SU	ZSHK-2375-72000-104SU	ZSHK-2375-72000-114SU

Keyed Rotary Shafts — Inch



2-7/16 Dia. (Tolerance: -.0035" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
3	ZSHK-2437-03000-303SU	ZSHK-2437-03000-316SU	ZSHK-2437-03000-104SU	ZSHK-2437-03000-114SU
6	ZSHK-2437-06000-303SU	ZSHK-2437-06000-316SU	ZSHK-2437-06000-104SU	ZSHK-2437-06000-114SU
9	ZSHK-2437-09000-303SU	ZSHK-2437-09000-316SU	ZSHK-2437-09000-104SU	ZSHK-2437-09000-114SU
12	ZSHK-2437-12000-303SU	ZSHK-2437-12000-316SU	ZSHK-2437-12000-104SU	ZSHK-2437-12000-114SU
18	ZSHK-2437-18000-303SU	ZSHK-2437-18000-316SU	ZSHK-2437-18000-104SU	ZSHK-2437-18000-114SU
24	ZSHK-2437-24000-303SU	ZSHK-2437-24000-316SU	ZSHK-2437-24000-104SU	ZSHK-2437-24000-114SU
36	ZSHK-2437-36000-303SU	ZSHK-2437-36000-316SU	ZSHK-2437-36000-104SU	ZSHK-2437-36000-114SU
48	ZSHK-2437-48000-303SU	ZSHK-2437-48000-316SU	ZSHK-2437-48000-104SU	ZSHK-2437-48000-114SU
60	ZSHK-2437-60000-303SU	ZSHK-2437-60000-316SU	ZSHK-2437-60000-104SU	ZSHK-2437-60000-114SU
72	ZSHK-2437-72000-303SU	ZSHK-2437-72000-316SU	ZSHK-2437-72000-104SU	ZSHK-2437-72000-114SU

2.624 Dia. (Tolerance: -.0035" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
6	ZSHK-2624-06000-303SU	ZSHK-2624-06000-316SU	ZSHK-2624-06000-104SU	ZSHK-2624-06000-114SU
9	ZSHK-2624-09000-303SU	ZSHK-2624-09000-316SU	ZSHK-2624-09000-104SU	ZSHK-2624-09000-114SU
12	ZSHK-2624-12000-303SU	ZSHK-2624-12000-316SU	ZSHK-2624-12000-104SU	ZSHK-2624-12000-114SU
18	ZSHK-2624-18000-303SU	ZSHK-2624-18000-316SU	ZSHK-2624-18000-104SU	ZSHK-2624-18000-114SU
24	ZSHK-2624-24000-303SU	ZSHK-2624-24000-316SU	ZSHK-2624-24000-104SU	ZSHK-2624-24000-114SU
36	ZSHK-2624-36000-303SU	ZSHK-2624-36000-316SU	ZSHK-2624-36000-104SU	ZSHK-2624-36000-114SU
48	ZSHK-2624-48000-303SU	ZSHK-2624-48000-316SU	ZSHK-2624-48000-104SU	ZSHK-2624-48000-114SU

2-7/8 Dia. (Tolerance: -.0035" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
6	ZSHK-2875-06000-303SU	ZSHK-2875-06000-316SU	ZSHK-2875-06000-104SU	ZSHK-2875-06000-114SU
9	ZSHK-2875-09000-303SU	ZSHK-2875-09000-316SU	ZSHK-2875-09000-104SU	ZSHK-2875-09000-114SU
12	ZSHK-2875-12000-303SU	ZSHK-2875-12000-316SU	ZSHK-2875-12000-104SU	ZSHK-2875-12000-114SU
18	ZSHK-2875-18000-303SU	ZSHK-2875-18000-316SU	ZSHK-2875-18000-104SU	ZSHK-2875-18000-114SU
24	ZSHK-2875-24000-303SU	ZSHK-2875-24000-316SU	ZSHK-2875-24000-104SU	ZSHK-2875-24000-114SU
36	ZSHK-2875-36000-303SU	ZSHK-2875-36000-316SU	ZSHK-2875-36000-104SU	ZSHK-2875-36000-114SU
48	ZSHK-2875-48000-303SU	ZSHK-2875-48000-316SU	ZSHK-2875-48000-104SU	ZSHK-2875-48000-114SU

3-3/8 Dia. (Tolerance: -.0035" to 0")

O'all Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
6	ZSHK-3375-06000-303SU	ZSHK-3375-06000-316SU	ZSHK-3375-06000-104SU	ZSHK-3375-06000-114SU
9	ZSHK-3375-09000-303SU	ZSHK-3375-09000-316SU	ZSHK-3375-09000-104SU	ZSHK-3375-09000-114SU
12	ZSHK-3375-12000-303SU	ZSHK-3375-12000-316SU	ZSHK-3375-12000-104SU	ZSHK-3375-12000-114SU
18	ZSHK-3375-18000-303SU	ZSHK-3375-18000-316SU	ZSHK-3375-18000-104SU	ZSHK-3375-18000-114SU
24	ZSHK-3375-24000-303SU	ZSHK-3375-24000-316SU	ZSHK-3375-24000-104SU	ZSHK-3375-24000-114SU
36	ZSHK-3375-36000-303SU	ZSHK-3375-36000-316SU	ZSHK-3375-36000-104SU	ZSHK-3375-36000-114SU
48	ZSHK-3375-48000-303SU	ZSHK-3375-48000-316SU	ZSHK-3375-48000-104SU	ZSHK-3375-48000-114SU

Keyed Rotary Shafts — Metric

18-8 Stainless Steel
316 Stainless Steel
C1045 Steel
1144 Steel

Product Information

A keyed rotary shaft is a mechanical component used to transmit rotational motion and torque in machinery. It is characterized by a linear keyway cut along part of its length, into which a matching key is inserted. This key fits into a corresponding keyway on a hub, pulley, gear, or other components mounted on the shaft. These turned shafts are commonly used in applications where precise alignment and torque transmission are crucial, such as in motors, gearboxes, conveyors, and other mechanical systems. The use of a key and keyway is a simple yet effective method to secure the mounted component to the shaft, allowing for efficient power transmission while also facilitating assembly and disassembly of the system.

Length tolerance is +/-1.6mm and straightness tolerance is .33mm per 300mm. All shafts are fully lot traceable. Made in the USA from DFARS & RoHS compliant materials.Keyways meet ANSI Standard dimensions and tolerances. Both ends are chamfered. Contact us for Made-to-Order options.

- 18-8 Stainless Steel offers excellent corrosion resistant.
- 316 Stainless Steel, also known as Marine Stainless Steel, offers superior corrosion resistant than 18-8 Stainless Steel.
- Aluminum have the strength of mild steel with one third the weight.
- C1045 Carbon Steel are generally stronger than Stainless Steel and Aluminum without corrosion resistance.
- 1144 Alloy Steel is stronger than Carbon Steel and hardened for increased wear resistance.

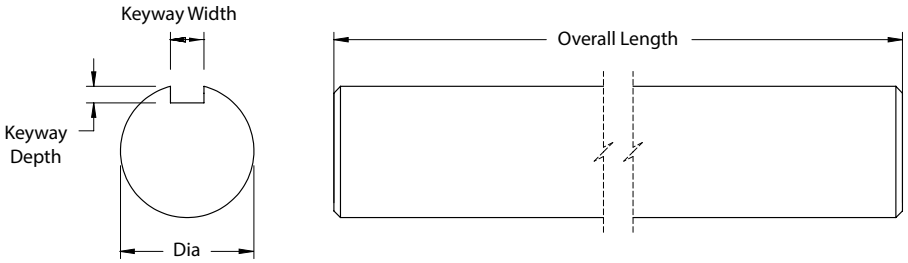


Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS			ASTM A 582 Cond A	B83	90,000	Mildly
316 SS			ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel			ASTM A311	C22	115,000	Magnetic
2024 Aluminum			ASTM B211	B75	68,000	Nonmagnetic

Keyed Rotary Shafts — Metric





Dimensions Table — Metric

Diameter (mm)	Diameter Tolerance	Keyway Width (mm)	Keyway Depth (mm)	Straightness Tolerance (mm)	Length Tolerance (mm)
8	-.0635 to 0mm	2.00	1.20	.33 per 300	+/-1.60
10	-.0635 to 0mm	3.00	1.80	.33 per 300	+/-1.60
12	-.0635 to 0mm	4.00	2.50	.33 per 300	+/-1.60
15	-.0635 to 0mm	5.00	3.00	.33 per 300	+/-1.60
17	-.0635 to 0mm	5.00	3.00	.33 per 300	+/-1.60
20	-.0635 to 0mm	6.00	3.50	.33 per 300	+/-1.60
24	-.0635 to 0mm	8.00	4.00	.33 per 300	+/-1.60
25	-.0635 to 0mm	8.00	4.00	.33 per 300	+/-1.60
28	-.0635 to 0mm	8.00	4.00	.33 per 300	+/-1.60
38	-.076 to 0mm	12.00	5.00	.33 per 300	+/-1.60
40	-.076 to 0mm	12.00	5.00	.33 per 300	+/-1.60
42	-.076 to 0mm	12.00	5.00	.33 per 300	+/-1.60
50	-.076 to 0mm	14.00	5.50	.33 per 300	+/-1.60
55	-.076 to 0mm	14.00	5.50	.33 per 300	+/-1.60

Keyed Rotary Shafts — Metric



8mm Dia. (Tolerance: -.0635 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M08-M0300-303SU	ZSHK-M08-M0300-316SU	ZSHK-M08-M0300-104SU	ZSHK-M08-M0300-114SU
500	ZSHK-M08-M0500-303SU	ZSHK-M08-M0500-316SU	ZSHK-M08-M0500-104SU	ZSHK-M08-M0500-114SU
1,000	ZSHK-M08-M1000-303SU	ZSHK-M08-M1000-316SU	ZSHK-M08-M1000-104SU	ZSHK-M08-M1000-114SU
1,200	ZSHK-M08-M1200-303SU	ZSHK-M08-M1200-316SU	ZSHK-M08-M1200-104SU	ZSHK-M08-M1200-114SU
1,500	ZSHK-M08-M1500-303SU	ZSHK-M08-M1500-316SU	ZSHK-M08-M1500-104SU	ZSHK-M08-M1500-114SU
1,800	ZSHK-M08-M1800-303SU	ZSHK-M08-M1800-316SU	ZSHK-M08-M1800-104SU	ZSHK-M08-M1800-114SU

10mm Dia. (Tolerance: -.0635 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M10-M0300-303SU	ZSHK-M10-M0300-316SU	ZSHK-M10-M0300-104SU	ZSHK-M10-M0300-114SU
500	ZSHK-M10-M0500-303SU	ZSHK-M10-M0500-316SU	ZSHK-M10-M0500-104SU	ZSHK-M10-M0500-114SU
1,000	ZSHK-M10-M1000-303SU	ZSHK-M10-M1000-316SU	ZSHK-M10-M1000-104SU	ZSHK-M10-M1000-114SU
1,200	ZSHK-M10-M1200-303SU	ZSHK-M10-M1200-316SU	ZSHK-M10-M1200-104SU	ZSHK-M10-M1200-114SU
1,500	ZSHK-M10-M1500-303SU	ZSHK-M10-M1500-316SU	ZSHK-M10-M1500-104SU	ZSHK-M10-M1500-114SU
1,800	ZSHK-M10-M1800-303SU	ZSHK-M10-M1800-316SU	ZSHK-M10-M1800-104SU	ZSHK-M10-M1800-114SU

12mm Dia. (Tolerance: -.0635 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M12-M0300-303SU	ZSHK-M12-M0300-316SU	ZSHK-M12-M0300-104SU	ZSHK-M12-M0300-114SU
500	ZSHK-M12-M0500-303SU	ZSHK-M12-M0500-316SU	ZSHK-M12-M0500-104SU	ZSHK-M12-M0500-114SU
1,000	ZSHK-M12-M1000-303SU	ZSHK-M12-M1000-316SU	ZSHK-M12-M1000-104SU	ZSHK-M12-M1000-114SU
1,200	ZSHK-M12-M1200-303SU	ZSHK-M12-M1200-316SU	ZSHK-M12-M1200-104SU	ZSHK-M12-M1200-114SU
1,500	ZSHK-M12-M1500-303SU	ZSHK-M12-M1500-316SU	ZSHK-M12-M1500-104SU	ZSHK-M12-M1500-114SU
1,800	ZSHK-M12-M1800-303SU	ZSHK-M12-M1800-316SU	ZSHK-M12-M1800-104SU	ZSHK-M12-M1800-114SU

15mm Dia. (Tolerance: -.0635 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M15-M0300-303SU	ZSHK-M15-M0300-316SU	ZSHK-M15-M0300-104SU	ZSHK-M15-M0300-114SU
500	ZSHK-M15-M0500-303SU	ZSHK-M15-M0500-316SU	ZSHK-M15-M0500-104SU	ZSHK-M15-M0500-114SU
1,000	ZSHK-M15-M1000-303SU	ZSHK-M15-M1000-316SU	ZSHK-M15-M1000-104SU	ZSHK-M15-M1000-114SU
1,200	ZSHK-M15-M1200-303SU	ZSHK-M15-M1200-316SU	ZSHK-M15-M1200-104SU	ZSHK-M15-M1200-114SU
1,500	ZSHK-M15-M1500-303SU	ZSHK-M15-M1500-316SU	ZSHK-M15-M1500-104SU	ZSHK-M15-M1500-114SU
1,800	ZSHK-M15-M1800-303SU	ZSHK-M15-M1800-316SU	ZSHK-M15-M1800-104SU	ZSHK-M15-M1800-114SU

Keyed Rotary Shafts — Metric



17mm Dia. (Tolerance: -.0635 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M17-M0300-303SU	ZSHK-M17-M0300-316SU	ZSHK-M17-M0300-104SU	ZSHK-M17-M0300-114SU
500	ZSHK-M17-M0500-303SU	ZSHK-M17-M0500-316SU	ZSHK-M17-M0500-104SU	ZSHK-M17-M0500-114SU
1,000	ZSHK-M17-M1000-303SU	ZSHK-M17-M1000-316SU	ZSHK-M17-M1000-104SU	ZSHK-M17-M1000-114SU
1,200	ZSHK-M17-M1200-303SU	ZSHK-M17-M1200-316SU	ZSHK-M17-M1200-104SU	ZSHK-M17-M1200-114SU
1,500	ZSHK-M17-M1700-303SU	ZSHK-M17-M1700-316SU	ZSHK-M17-M1700-104SU	ZSHK-M17-M1700-114SU
1,800	ZSHK-M17-M1800-303SU	ZSHK-M17-M1800-316SU	ZSHK-M17-M1800-104SU	ZSHK-M17-M1800-114SU

20mm Dia. (Tolerance: -.0635 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M20-M0300-303SU	ZSHK-M20-M0300-316SU	ZSHK-M20-M0300-104SU	ZSHK-M20-M0300-114SU
500	ZSHK-M20-M0500-303SU	ZSHK-M20-M0500-316SU	ZSHK-M20-M0500-104SU	ZSHK-M20-M0500-114SU
1,000	ZSHK-M20-M1000-303SU	ZSHK-M20-M1000-316SU	ZSHK-M20-M1000-104SU	ZSHK-M20-M1000-114SU
1,200	ZSHK-M20-M1200-303SU	ZSHK-M20-M1200-316SU	ZSHK-M20-M1200-104SU	ZSHK-M20-M1200-114SU
1,500	ZSHK-M20-M1500-303SU	ZSHK-M20-M1500-316SU	ZSHK-M20-M1500-104SU	ZSHK-M20-M1500-114SU
1,800	ZSHK-M20-M1800-303SU	ZSHK-M20-M1800-316SU	ZSHK-M20-M1800-104SU	ZSHK-M20-M1800-114SU

24mm Dia. (Tolerance: -.0635 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M24-M0300-303SU	ZSHK-M24-M0300-316SU	ZSHK-M24-M0300-104SU	ZSHK-M24-M0300-114SU
500	ZSHK-M24-M0500-303SU	ZSHK-M24-M0500-316SU	ZSHK-M24-M0500-104SU	ZSHK-M24-M0500-114SU
1,000	ZSHK-M24-M1000-303SU	ZSHK-M24-M1000-316SU	ZSHK-M24-M1000-104SU	ZSHK-M24-M1000-114SU
1,200	ZSHK-M24-M1200-303SU	ZSHK-M24-M1200-316SU	ZSHK-M24-M1200-104SU	ZSHK-M24-M1200-114SU
1,500	ZSHK-M24-M1500-303SU	ZSHK-M24-M1500-316SU	ZSHK-M24-M1500-104SU	ZSHK-M24-M1500-114SU
1,800	ZSHK-M24-M1800-303SU	ZSHK-M24-M1800-316SU	ZSHK-M24-M1800-104SU	ZSHK-M24-M1800-114SU

25mm Dia. (Tolerance: -.0635 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M25-M0300-303SU	ZSHK-M25-M0300-316SU	ZSHK-M25-M0300-104SU	ZSHK-M25-M0300-114SU
500	ZSHK-M25-M0500-303SU	ZSHK-M25-M0500-316SU	ZSHK-M25-M0500-104SU	ZSHK-M25-M0500-114SU
1,000	ZSHK-M25-M1000-303SU	ZSHK-M25-M1000-316SU	ZSHK-M25-M1000-104SU	ZSHK-M25-M1000-114SU
1,200	ZSHK-M25-M1200-303SU	ZSHK-M25-M1200-316SU	ZSHK-M25-M1200-104SU	ZSHK-M25-M1200-114SU
1,500	ZSHK-M25-M1500-303SU	ZSHK-M25-M1500-316SU	ZSHK-M25-M1500-104SU	ZSHK-M25-M1500-114SU
1,800	ZSHK-M25-M1800-303SU	ZSHK-M25-M1800-316SU	ZSHK-M25-M1800-104SU	ZSHK-M25-M1800-114SU

Keyed Rotary Shafts — Metric



28mm Dia. (Tolerance: -.0635 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M28-M0300-303SU	ZSHK-M28-M0300-316SU	ZSHK-M28-M0300-104SU	ZSHK-M28-M0300-114SU
500	ZSHK-M28-M0500-303SU	ZSHK-M28-M0500-316SU	ZSHK-M28-M0500-104SU	ZSHK-M28-M0500-114SU
1,000	ZSHK-M28-M1000-303SU	ZSHK-M28-M1000-316SU	ZSHK-M28-M1000-104SU	ZSHK-M28-M1000-114SU
1,200	ZSHK-M28-M1200-303SU	ZSHK-M28-M1200-316SU	ZSHK-M28-M1200-104SU	ZSHK-M28-M1200-114SU
1,500	ZSHK-M28-M2800-303SU	ZSHK-M28-M2800-316SU	ZSHK-M28-M2800-104SU	ZSHK-M28-M2800-114SU
1,800	ZSHK-M28-M1800-303SU	ZSHK-M28-M1800-316SU	ZSHK-M28-M1800-104SU	ZSHK-M28-M1800-114SU

38mm Dia. (Tolerance: -.076 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M38-M0300-303SU	ZSHK-M38-M0300-316SU	ZSHK-M38-M0300-104SU	ZSHK-M38-M0300-114SU
500	ZSHK-M38-M0500-303SU	ZSHK-M38-M0500-316SU	ZSHK-M38-M0500-104SU	ZSHK-M38-M0500-114SU
1,000	ZSHK-M38-M1000-303SU	ZSHK-M38-M1000-316SU	ZSHK-M38-M1000-104SU	ZSHK-M38-M1000-114SU
1,200	ZSHK-M38-M1200-303SU	ZSHK-M38-M1200-316SU	ZSHK-M38-M1200-104SU	ZSHK-M38-M1200-114SU
1,500	ZSHK-M38-M3800-303SU	ZSHK-M38-M3800-316SU	ZSHK-M38-M3800-104SU	ZSHK-M38-M3800-114SU
1,800	ZSHK-M38-M1800-303SU	ZSHK-M38-M1800-316SU	ZSHK-M38-M1800-104SU	ZSHK-M38-M1800-114SU

40mm Dia. (Tolerance: -.076 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M40-M0300-303SU	ZSHK-M40-M0300-316SU	ZSHK-M40-M0300-104SU	ZSHK-M40-M0300-114SU
500	ZSHK-M40-M0500-303SU	ZSHK-M40-M0500-316SU	ZSHK-M40-M0500-104SU	ZSHK-M40-M0500-114SU
1,000	ZSHK-M40-M1000-303SU	ZSHK-M40-M1000-316SU	ZSHK-M40-M1000-104SU	ZSHK-M40-M1000-114SU
1,200	ZSHK-M40-M1200-303SU	ZSHK-M40-M1200-316SU	ZSHK-M40-M1200-104SU	ZSHK-M40-M1200-114SU
1,500	ZSHK-M40-M1500-303SU	ZSHK-M40-M1500-316SU	ZSHK-M40-M1500-104SU	ZSHK-M40-M1500-114SU
1,800	ZSHK-M40-M1800-303SU	ZSHK-M40-M1800-316SU	ZSHK-M40-M1800-104SU	ZSHK-M40-M1800-114SU

Keyed Rotary Shafts — Metric



42mm Dia. (Tolerance: -.076 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M42-M0300-303SU	ZSHK-M42-M0300-316SU	ZSHK-M42-M0300-104SU	ZSHK-M42-M0300-114SU
500	ZSHK-M42-M0500-303SU	ZSHK-M42-M0500-316SU	ZSHK-M42-M0500-104SU	ZSHK-M42-M0500-114SU
1,000	ZSHK-M42-M1000-303SU	ZSHK-M42-M1000-316SU	ZSHK-M42-M1000-104SU	ZSHK-M42-M1000-114SU

50mm Dia. (Tolerance: -.076 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M50-M0300-303SU	ZSHK-M50-M0300-316SU	ZSHK-M50-M0300-104SU	ZSHK-M50-M0300-114SU
500	ZSHK-M50-M0500-303SU	ZSHK-M50-M0500-316SU	ZSHK-M50-M0500-104SU	ZSHK-M50-M0500-114SU
1,000	ZSHK-M50-M1000-303SU	ZSHK-M50-M1000-316SU	ZSHK-M50-M1000-104SU	ZSHK-M50-M1000-114SU
1,200	ZSHK-M50-M1200-303SU	ZSHK-M50-M1200-316SU	ZSHK-M50-M1200-104SU	ZSHK-M50-M1200-114SU
1,500	ZSHK-M50-M1500-303SU	ZSHK-M50-M1500-316SU	ZSHK-M50-M1500-104SU	ZSHK-M50-M1500-114SU
1,800	ZSHK-M50-M1800-303SU	ZSHK-M50-M1800-316SU	ZSHK-M50-M1800-104SU	ZSHK-M50-M1800-114SU

55mm Dia. (Tolerance: -.076 to 0mm)

O'all Lg. (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHK-M55-M0300-303SU	ZSHK-M55-M0300-316SU	ZSHK-M55-M0300-104SU	ZSHK-M55-M0300-114SU
500	ZSHK-M55-M0500-303SU	ZSHK-M55-M0500-316SU	ZSHK-M55-M0500-104SU	ZSHK-M55-M0500-114SU
1,000	ZSHK-M55-M1000-303SU	ZSHK-M55-M1000-316SU	ZSHK-M55-M1000-104SU	ZSHK-M55-M1000-114SU

Partial Keyed Rotary Shafts — Inch

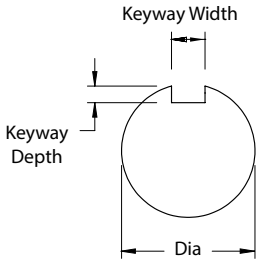
18-8 & 316 SS
Steel & Aluminum

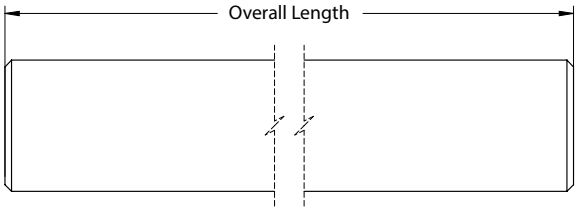
Product Information

Designed with keyways at each end and a smooth, central section, these shafts facilitate efficient torque transfer. The end keyways, compatible with standard ANSI machine keys, securely connect gears, sprockets, and other keyed components. The central plain shaft is ideal for bearing and round-bore component integration. To minimize installation damage, the edges are chamfered, and the entire shaft is precision-machined through turning, grinding, and polishing, ensuring strict diameter and straightness tolerances. The use of a key and keyway is a simple yet effective method to secure the mounted component to the shaft, allowing for efficient power transmission while also facilitating assembly and disassembly of the system.

All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable. Length tolerance is +/-.062 and straightness tolerance is 0.012 in/ft.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- Keyways meet ANSI Standard dimensions and tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- Aluminum shafts are lightweight, corrosion resistant and nonmagnetic. They have a T4 temper, which means they have been heat treated for increased strength.
- Aluminum shafts have the strength of mild steel with one third the weight.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.





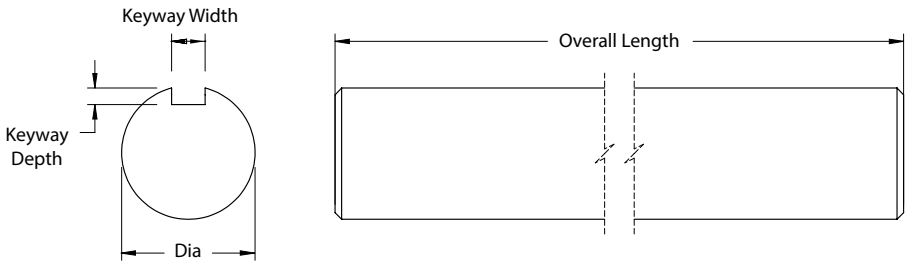


Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic
2024 Aluminum	Ground & Polished	Chamfered	ASTM B211	B75	68,000	Nonmagnetic

Partial Keyed Rotary Shafts — Inch

18-8 & 316 SS
Steel & Aluminum





Dimensions Table — Inch

Diameter	Diameter Tolerance	Keyway Width	Keyway Depth	Straightness Tolerance	Length Tolerance
5/16	-.0005 to -.0025	3/32	3/64	.012 in/ft	+/-.062
3/8	-.0005 to -.0025	3/32	3/64	.012 in/ft	+/-.062
1/2	-.0005 to -.0025	1/8	1/16	.012 in/ft	+/-.062
9/16	-.0005 to -.0025	1/8	1/16	.012 in/ft	+/-.062
5/8	-.0005 to -.0025	3/16	3/32	.012 in/ft	+/-.062
3/4	-.0005 to -.0025	3/16	3/32	.012 in/ft	+/-.062
7/8	-.0005 to -.0025	3/16	3/32	.012 in/ft	+/-.062
15/16	-.0005 to -.0025	3/32	3/64	.012 in/ft	+/-.062
1	-.0005 to -.0025	1/4	1/8	.012 in/ft	+/-.062
1-1/8	-.0005 to -.0025	1/4	1/8	.012 in/ft	+/-.062
1-3/16	-.0005 to -.0025	1/4	1/8	.012 in/ft	+/-.062
1-1/4	-.0005 to -.0025	1/4	1/8	.012 in/ft	+/-.062
1-5/16	-.003 to 0	5/16	5/32	.012 in/ft	+/-.062
1-3/8	-.003 to 0	5/16	5/32	.012 in/ft	+/-.062
1-7/16	-.003 to 0	3/8	3/16	.012 in/ft	+/-.062
1-1/2	-.003 to 0	3/8	3/16	.012 in/ft	+/-.062
1-5/8	-.003 to 0	3/8	3/16	.012 in/ft	+/-.062
1-3/4	-.003 to 0	3/8	3/16	.012 in/ft	+/-.062
1-7/8	-.003 to 0	1/2	1/4	.012 in/ft	+/-.062
1-15/16	-.0035 to 0	1/2	1/4	.012 in/ft	+/-.062
2	-.0035 to 0	1/2	1/4	.012 in/ft	+/-.062
2-1/8	-.0035 to 0	1/2	1/4	.012 in/ft	+/-.062
2-3/16	-.0035 to 0	1/2	1/4	.012 in/ft	+/-.062
2-3/8	-.0035 to 0	5/8	5/16	.012 in/ft	+/-.062
2-7/16	-.0035 to 0	5/8	5/16	.012 in/ft	+/-.062
2.624	-.0035 to 0	5/8	5/16	.012 in/ft	+/-.062
2-7/8	-.0035 to 0	3/4	3/8	.012 in/ft	+/-.062
3-3/8	-.0035 to 0	7/8	7/16	.012 in/ft	+/-.062

Key Lengths

Length Size	Key Lg 1 End	Key Lg 2 End
12	2.00	7.00
18	2.00	7.00
24	4.00	14.00
36	4.00	14.00
48	4.00	14.00
60	4.00	14.00
72	4.00	14.00

Partial Keyed Rotary Shafts — Inch



Key Lengths		
Length Size	Key Lg 1 End	Key Lg 2 End
12	2.00	7.00
18	2.00	7.00
24	4.00	14.00
36	4.00	14.00
48	4.00	14.00
60	4.00	14.00
72	4.00	14.00

5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
12	ZSHKK-312-12000-303SU	ZSHKK-312-12000-316SU	ZSHKK-312-12000-104SU	ZSHKK-312-12000-114SU	ZSHKK-312-12000-202SU
18	ZSHKK-312-18000-303SU	ZSHKK-312-18000-316SU	ZSHKK-312-18000-104SU	ZSHKK-312-18000-114SU	ZSHKK-312-18000-202SU
24	ZSHKK-312-24000-303SU	ZSHKK-312-24000-316SU	ZSHKK-312-24000-104SU	ZSHKK-312-24000-114SU	ZSHKK-312-24000-202SU
36	ZSHKK-312-36000-303SU	ZSHKK-312-36000-316SU	ZSHKK-312-36000-104SU	ZSHKK-312-36000-114SU	ZSHKK-312-36000-202SU
48	ZSHKK-312-48000-303SU	ZSHKK-312-48000-316SU	ZSHKK-312-48000-104SU	ZSHKK-312-48000-114SU	ZSHKK-312-48000-202SU
60	ZSHKK-312-60000-303SU	ZSHKK-312-60000-316SU	ZSHKK-312-60000-104SU	ZSHKK-312-60000-114SU	ZSHKK-312-60000-202SU
72	ZSHKK-312-72000-303SU	ZSHKK-312-72000-316SU	ZSHKK-312-72000-104SU	ZSHKK-312-72000-114SU	ZSHKK-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
12	ZSHKK-375-12000-303SU	ZSHKK-375-12000-316SU	ZSHKK-375-12000-104SU	ZSHKK-375-12000-114SU	ZSHKK-375-12000-202SU
18	ZSHKK-375-18000-303SU	ZSHKK-375-18000-316SU	ZSHKK-375-18000-104SU	ZSHKK-375-18000-114SU	ZSHKK-375-18000-202SU
24	ZSHKK-375-24000-303SU	ZSHKK-375-24000-316SU	ZSHKK-375-24000-104SU	ZSHKK-375-24000-114SU	ZSHKK-375-24000-202SU
36	ZSHKK-375-36000-303SU	ZSHKK-375-36000-316SU	ZSHKK-375-36000-104SU	ZSHKK-375-36000-114SU	ZSHKK-375-36000-202SU
48	ZSHKK-375-48000-303SU	ZSHKK-375-48000-316SU	ZSHKK-375-48000-104SU	ZSHKK-375-48000-114SU	ZSHKK-375-48000-202SU
60	ZSHKK-375-60000-303SU	ZSHKK-375-60000-316SU	ZSHKK-375-60000-104SU	ZSHKK-375-60000-114SU	ZSHKK-375-60000-202SU
72	ZSHKK-375-72000-303SU	ZSHKK-375-72000-316SU	ZSHKK-375-72000-104SU	ZSHKK-375-72000-114SU	ZSHKK-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
12	ZSHKK-500-12000-303SU	ZSHKK-500-12000-316SU	ZSHKK-500-12000-104SU	ZSHKK-500-12000-114SU	ZSHKK-500-12000-202SU
18	ZSHKK-500-18000-303SU	ZSHKK-500-18000-316SU	ZSHKK-500-18000-104SU	ZSHKK-500-18000-114SU	ZSHKK-500-18000-202SU
24	ZSHKK-500-24000-303SU	ZSHKK-500-24000-316SU	ZSHKK-500-24000-104SU	ZSHKK-500-24000-114SU	ZSHKK-500-24000-202SU
36	ZSHKK-500-36000-303SU	ZSHKK-500-36000-316SU	ZSHKK-500-36000-104SU	ZSHKK-500-36000-114SU	ZSHKK-500-36000-202SU
48	ZSHKK-500-48000-303SU	ZSHKK-500-48000-316SU	ZSHKK-500-48000-104SU	ZSHKK-500-48000-114SU	ZSHKK-500-48000-202SU
60	ZSHKK-500-60000-303SU	ZSHKK-500-60000-316SU	ZSHKK-500-60000-104SU	ZSHKK-500-60000-114SU	ZSHKK-500-60000-202SU
72	ZSHKK-500-72000-303SU	ZSHKK-500-72000-316SU	ZSHKK-500-72000-104SU	ZSHKK-500-72000-114SU	ZSHKK-500-72000-202SU

Partial Keyed Rotary Shafts — Inch



Key Lengths		
Length Size	Key Lg 1 End	Key Lg 2 End
12	2.00	7.00
18	2.00	7.00
24	4.00	14.00
36	4.00	14.00
48	4.00	14.00
60	4.00	14.00
72	4.00	14.00

9/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
12	ZSHKK-562-12000-303SU	ZSHKK-562-12000-316SU	ZSHKK-562-12000-104SU	ZSHKK-562-12000-114SU	–
18	ZSHKK-562-18000-303SU	ZSHKK-562-18000-316SU	ZSHKK-562-18000-104SU	ZSHKK-562-18000-114SU	–
24	ZSHKK-562-24000-303SU	ZSHKK-562-24000-316SU	ZSHKK-562-24000-104SU	ZSHKK-562-24000-114SU	–
36	ZSHKK-562-36000-303SU	ZSHKK-562-36000-316SU	ZSHKK-562-36000-104SU	ZSHKK-562-36000-114SU	–
48	ZSHKK-562-48000-303SU	ZSHKK-562-48000-316SU	ZSHKK-562-48000-104SU	ZSHKK-562-48000-114SU	–
60	ZSHKK-562-60000-303SU	ZSHKK-562-60000-316SU	ZSHKK-562-60000-104SU	ZSHKK-562-60000-114SU	–
72	ZSHKK-562-72000-303SU	ZSHKK-562-72000-316SU	ZSHKK-562-72000-104SU	ZSHKK-562-72000-114SU	–

5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
12	ZSHKK-625-12000-303SU	ZSHKK-625-12000-316SU	ZSHKK-625-12000-104SU	ZSHKK-625-12000-114SU	ZSHKK-625-12000-202SU
18	ZSHKK-625-18000-303SU	ZSHKK-625-18000-316SU	ZSHKK-625-18000-104SU	ZSHKK-625-18000-114SU	ZSHKK-625-18000-202SU
24	ZSHKK-625-24000-303SU	ZSHKK-625-24000-316SU	ZSHKK-625-24000-104SU	ZSHKK-625-24000-114SU	ZSHKK-625-24000-202SU
36	ZSHKK-625-36000-303SU	ZSHKK-625-36000-316SU	ZSHKK-625-36000-104SU	ZSHKK-625-36000-114SU	ZSHKK-625-36000-202SU
48	ZSHKK-625-48000-303SU	ZSHKK-625-48000-316SU	ZSHKK-625-48000-104SU	ZSHKK-625-48000-114SU	ZSHKK-625-48000-202SU
60	ZSHKK-625-60000-303SU	ZSHKK-625-60000-316SU	ZSHKK-625-60000-104SU	ZSHKK-625-60000-114SU	ZSHKK-625-60000-202SU
72	ZSHKK-625-72000-303SU	ZSHKK-625-72000-316SU	ZSHKK-625-72000-104SU	ZSHKK-625-72000-114SU	ZSHKK-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
12	ZSHKK-750-12000-303SU	ZSHKK-750-12000-316SU	ZSHKK-750-12000-104SU	ZSHKK-750-12000-114SU	ZSHKK-750-12000-202SU
18	ZSHKK-750-18000-303SU	ZSHKK-750-18000-316SU	ZSHKK-750-18000-104SU	ZSHKK-750-18000-114SU	ZSHKK-750-18000-202SU
24	ZSHKK-750-24000-303SU	ZSHKK-750-24000-316SU	ZSHKK-750-24000-104SU	ZSHKK-750-24000-114SU	ZSHKK-750-24000-202SU
36	ZSHKK-750-36000-303SU	ZSHKK-750-36000-316SU	ZSHKK-750-36000-104SU	ZSHKK-750-36000-114SU	ZSHKK-750-36000-202SU
48	ZSHKK-750-48000-303SU	ZSHKK-750-48000-316SU	ZSHKK-750-48000-104SU	ZSHKK-750-48000-114SU	ZSHKK-750-48000-202SU
60	ZSHKK-750-60000-303SU	ZSHKK-750-60000-316SU	ZSHKK-750-60000-104SU	ZSHKK-750-60000-114SU	ZSHKK-750-60000-202SU
72	ZSHKK-750-72000-303SU	ZSHKK-750-72000-316SU	ZSHKK-750-72000-104SU	ZSHKK-750-72000-114SU	ZSHKK-750-72000-202SU

Partial Keyed Rotary Shafts — Inch



Key Lengths		
Length Size	Key Lg 1 End	Key Lg 2 End
12	2.00	7.00
18	2.00	7.00
24	4.00	14.00
36	4.00	14.00
48	4.00	14.00
60	4.00	14.00
72	4.00	14.00

7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
12	ZSHKK-875-12000-303SU	ZSHKK-875-12000-316SU	ZSHKK-875-12000-104SU	ZSHKK-875-12000-114SU	ZSHKK-875-12000-202SU
18	ZSHKK-875-18000-303SU	ZSHKK-875-18000-316SU	ZSHKK-875-18000-104SU	ZSHKK-875-18000-114SU	ZSHKK-875-18000-202SU
24	ZSHKK-875-24000-303SU	ZSHKK-875-24000-316SU	ZSHKK-875-24000-104SU	ZSHKK-875-24000-114SU	ZSHKK-875-24000-202SU
36	ZSHKK-875-36000-303SU	ZSHKK-875-36000-316SU	ZSHKK-875-36000-104SU	ZSHKK-875-36000-114SU	ZSHKK-875-36000-202SU
48	ZSHKK-875-48000-303SU	ZSHKK-875-48000-316SU	ZSHKK-875-48000-104SU	ZSHKK-875-48000-114SU	ZSHKK-875-48000-202SU
60	ZSHKK-875-60000-303SU	ZSHKK-875-60000-316SU	ZSHKK-875-60000-104SU	ZSHKK-875-60000-114SU	ZSHKK-875-60000-202SU
72	ZSHKK-875-72000-303SU	ZSHKK-875-72000-316SU	ZSHKK-875-72000-104SU	ZSHKK-875-72000-114SU	ZSHKK-875-72000-202SU

5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
12	—	—	ZSHKK-937-12000-104SU	—	—
18	—	—	ZSHKK-937-18000-104SU	—	—
24	—	—	ZSHKK-937-24000-104SU	—	—
36	—	—	ZSHKK-937-36000-104SU	—	—
48	—	—	ZSHKK-937-48000-104SU	—	—
60	—	—	ZSHKK-937-60000-104SU	—	—
72	—	—	ZSHKK-937-72000-104SU	—	—

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
12	ZSHKK-1000-12000-303SU	ZSHKK-1000-12000-316SU	ZSHKK-1000-12000-104SU	ZSHKK-1000-12000-114SU	ZSHKK-1000-12000-202SU
18	ZSHKK-1000-18000-303SU	ZSHKK-1000-18000-316SU	ZSHKK-1000-18000-104SU	ZSHKK-1000-18000-114SU	ZSHKK-1000-18000-202SU
24	ZSHKK-1000-24000-303SU	ZSHKK-1000-24000-316SU	ZSHKK-1000-24000-104SU	ZSHKK-1000-24000-114SU	ZSHKK-1000-24000-202SU
36	ZSHKK-1000-36000-303SU	ZSHKK-1000-36000-316SU	ZSHKK-1000-36000-104SU	ZSHKK-1000-36000-114SU	ZSHKK-1000-36000-202SU
48	ZSHKK-1000-48000-303SU	ZSHKK-1000-48000-316SU	ZSHKK-1000-48000-104SU	ZSHKK-1000-48000-114SU	ZSHKK-1000-48000-202SU
60	ZSHKK-1000-60000-303SU	ZSHKK-1000-60000-316SU	ZSHKK-1000-60000-104SU	ZSHKK-1000-60000-114SU	ZSHKK-1000-60000-202SU
72	ZSHKK-1000-72000-303SU	ZSHKK-1000-72000-316SU	ZSHKK-1000-72000-104SU	ZSHKK-1000-72000-114SU	ZSHKK-1000-72000-202SU

Partial Keyed Rotary Shafts — Inch



Key Lengths		
Length Size	Key Lg 1 End	Key Lg 2 End
12	2.00	7.00
18	2.00	7.00
24	4.00	14.00
36	4.00	14.00
48	4.00	14.00
60	4.00	14.00
72	4.00	14.00

1-1/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
12	ZSHKK-1125-12000-303SU	ZSHKK-1125-12000-316SU	ZSHKK-1125-12000-104SU	ZSHKK-1125-12000-114SU	–
18	ZSHKK-1125-18000-303SU	ZSHKK-1125-18000-316SU	ZSHKK-1125-18000-104SU	ZSHKK-1125-18000-114SU	–
24	ZSHKK-1125-24000-303SU	ZSHKK-1125-24000-316SU	ZSHKK-1125-24000-104SU	ZSHKK-1125-24000-114SU	–
36	ZSHKK-1125-36000-303SU	ZSHKK-1125-36000-316SU	ZSHKK-1125-36000-104SU	ZSHKK-1125-36000-114SU	–
48	ZSHKK-1125-48000-303SU	ZSHKK-1125-48000-316SU	ZSHKK-1125-48000-104SU	ZSHKK-1125-48000-114SU	–
60	ZSHKK-1125-60000-303SU	ZSHKK-1125-60000-316SU	ZSHKK-1125-60000-104SU	ZSHKK-1125-60000-114SU	–
72	ZSHKK-1125-72000-303SU	ZSHKK-1125-72000-316SU	ZSHKK-1125-72000-104SU	ZSHKK-1125-72000-114SU	–

1-3/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	ZSHKK-1187-12000-303SU	ZSHKK-1187-12000-316SU	ZSHKK-1187-12000-104SU	ZSHKK-1187-12000-114SU
18	ZSHKK-1187-18000-303SU	ZSHKK-1187-18000-316SU	ZSHKK-1187-18000-104SU	ZSHKK-1187-18000-114SU
24	ZSHKK-1187-24000-303SU	ZSHKK-1187-24000-316SU	ZSHKK-1187-24000-104SU	ZSHKK-1187-24000-114SU
36	ZSHKK-1187-36000-303SU	ZSHKK-1187-36000-316SU	ZSHKK-1187-36000-104SU	ZSHKK-1187-36000-114SU
48	ZSHKK-1187-48000-303SU	ZSHKK-1187-48000-316SU	ZSHKK-1187-48000-104SU	ZSHKK-1187-48000-114SU
60	ZSHKK-1187-60000-303SU	ZSHKK-1187-60000-316SU	ZSHKK-1187-60000-104SU	ZSHKK-1187-60000-114SU
72	ZSHKK-1187-72000-303SU	ZSHKK-1187-72000-316SU	ZSHKK-1187-72000-104SU	ZSHKK-1187-72000-114SU

1-1/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	ZSHKK-1250-12000-303SU	ZSHKK-1250-12000-316SU	ZSHKK-1250-12000-104SU	ZSHKK-1250-12000-114SU
18	ZSHKK-1250-18000-303SU	ZSHKK-1250-18000-316SU	ZSHKK-1250-18000-104SU	ZSHKK-1250-18000-114SU
24	ZSHKK-1250-24000-303SU	ZSHKK-1250-24000-316SU	ZSHKK-1250-24000-104SU	ZSHKK-1250-24000-114SU
36	ZSHKK-1250-36000-303SU	ZSHKK-1250-36000-316SU	ZSHKK-1250-36000-104SU	ZSHKK-1250-36000-114SU
48	ZSHKK-1250-48000-303SU	ZSHKK-1250-48000-316SU	ZSHKK-1250-48000-104SU	ZSHKK-1250-48000-114SU
60	ZSHKK-1250-60000-303SU	ZSHKK-1250-60000-316SU	ZSHKK-1250-60000-104SU	ZSHKK-1250-60000-114SU
72	ZSHKK-1250-72000-303SU	ZSHKK-1250-72000-316SU	ZSHKK-1250-72000-104SU	ZSHKK-1250-72000-114SU

Partial Keyed Rotary Shafts — Inch



Key Lengths		
Length Size	Key Lg 1 End	Key Lg 2 End
12	2.00	7.00
18	2.00	7.00
24	4.00	14.00
36	4.00	14.00
48	4.00	14.00
60	4.00	14.00
72	4.00	14.00

1-5/16 Diameter (Tolerance: -.003" to 0")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	ZSHKK-1312-12000-303SU	ZSHKK-1312-12000-316SU	ZSHKK-1312-12000-104SU	ZSHKK-1312-12000-114SU
18	ZSHKK-1312-18000-303SU	ZSHKK-1312-18000-316SU	ZSHKK-1312-18000-104SU	ZSHKK-1312-18000-114SU
24	ZSHKK-1312-24000-303SU	ZSHKK-1312-24000-316SU	ZSHKK-1312-24000-104SU	ZSHKK-1312-24000-114SU
36	ZSHKK-1312-36000-303SU	ZSHKK-1312-36000-316SU	ZSHKK-1312-36000-104SU	ZSHKK-1312-36000-114SU
48	ZSHKK-1312-48000-303SU	ZSHKK-1312-48000-316SU	ZSHKK-1312-48000-104SU	ZSHKK-1312-48000-114SU
60	ZSHKK-1312-60000-303SU	ZSHKK-1312-60000-316SU	ZSHKK-1312-60000-104SU	ZSHKK-1312-60000-114SU
72	ZSHKK-1312-72000-303SU	ZSHKK-1312-72000-316SU	ZSHKK-1312-72000-104SU	ZSHKK-1312-72000-114SU

1-3/8 Diameter (Tolerance: -.003" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-1375-12000-303SU	ZSHKK-1375-12000-316SU	ZSHKK-1375-12000-104SU	ZSHKK-1375-12000-114SU
18	2.00	7.00	ZSHKK-1375-18000-303SU	ZSHKK-1375-18000-316SU	ZSHKK-1375-18000-104SU	ZSHKK-1375-18000-114SU
24	4.00	14.00	ZSHKK-1375-24000-303SU	ZSHKK-1375-24000-316SU	ZSHKK-1375-24000-104SU	ZSHKK-1375-24000-114SU
36	4.00	14.00	ZSHKK-1375-36000-303SU	ZSHKK-1375-36000-316SU	ZSHKK-1375-36000-104SU	ZSHKK-1375-36000-114SU
48	4.00	14.00	ZSHKK-1375-48000-303SU	ZSHKK-1375-48000-316SU	ZSHKK-1375-48000-104SU	ZSHKK-1375-48000-114SU
60	4.00	14.00	ZSHKK-1375-60000-303SU	ZSHKK-1375-60000-316SU	ZSHKK-1375-60000-104SU	ZSHKK-1375-60000-114SU
72	4.00	14.00	ZSHKK-1375-72000-303SU	ZSHKK-1375-72000-316SU	ZSHKK-1375-72000-104SU	ZSHKK-1375-72000-114SU

1-7/16 Diameter (Tolerance: -.003" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-1437-12000-303SU	ZSHKK-1437-12000-316SU	ZSHKK-1437-12000-104SU	ZSHKK-1437-12000-114SU
18	2.00	7.00	ZSHKK-1437-18000-303SU	ZSHKK-1437-18000-316SU	ZSHKK-1437-18000-104SU	ZSHKK-1437-18000-114SU
24	4.00	14.00	ZSHKK-1437-24000-303SU	ZSHKK-1437-24000-316SU	ZSHKK-1437-24000-104SU	ZSHKK-1437-24000-114SU
36	4.00	14.00	ZSHKK-1437-36000-303SU	ZSHKK-1437-36000-316SU	ZSHKK-1437-36000-104SU	ZSHKK-1437-36000-114SU
48	4.00	14.00	ZSHKK-1437-48000-303SU	ZSHKK-1437-48000-316SU	ZSHKK-1437-48000-104SU	ZSHKK-1437-48000-114SU
60	4.00	14.00	ZSHKK-1437-60000-303SU	ZSHKK-1437-60000-316SU	ZSHKK-1437-60000-104SU	ZSHKK-1437-60000-114SU
72	4.00	14.00	ZSHKK-1437-72000-303SU	ZSHKK-1437-72000-316SU	ZSHKK-1437-72000-104SU	ZSHKK-1437-72000-114SU

Partial Keyed Rotary Shafts — Inch



1-3/4 Diameter (Tolerance: -.003" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-1750-12000-303SU	ZSHKK-1750-12000-316SU	ZSHKK-1750-12000-104SU	ZSHKK-1750-12000-114SU
18	2.00	7.00	ZSHKK-1750-18000-303SU	ZSHKK-1750-18000-316SU	ZSHKK-1750-18000-104SU	ZSHKK-1750-18000-114SU
24	4.00	14.00	ZSHKK-1750-24000-303SU	ZSHKK-1750-24000-316SU	ZSHKK-1750-24000-104SU	ZSHKK-1750-24000-114SU
36	4.00	14.00	ZSHKK-1750-36000-303SU	ZSHKK-1750-36000-316SU	ZSHKK-1750-36000-104SU	ZSHKK-1750-36000-114SU
48	4.00	14.00	ZSHKK-1750-48000-303SU	ZSHKK-1750-48000-316SU	ZSHKK-1750-48000-104SU	ZSHKK-1750-48000-114SU
60	4.00	14.00	ZSHKK-1750-60000-303SU	ZSHKK-1750-60000-316SU	ZSHKK-1750-60000-104SU	ZSHKK-1750-60000-114SU
72	4.00	14.00	ZSHKK-1750-72000-303SU	ZSHKK-1750-72000-316SU	ZSHKK-1750-72000-104SU	ZSHKK-1750-72000-114SU

1-7/8 Diameter (Tolerance: -.003" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-1875-12000-303SU	ZSHKK-1875-12000-316SU	ZSHKK-1875-12000-104SU	ZSHKK-1875-12000-114SU
18	2.00	7.00	ZSHKK-1875-18000-303SU	ZSHKK-1875-18000-316SU	ZSHKK-1875-18000-104SU	ZSHKK-1875-18000-114SU
24	4.00	14.00	ZSHKK-1875-24000-303SU	ZSHKK-1875-24000-316SU	ZSHKK-1875-24000-104SU	ZSHKK-1875-24000-114SU
36	4.00	14.00	ZSHKK-1875-36000-303SU	ZSHKK-1875-36000-316SU	ZSHKK-1875-36000-104SU	ZSHKK-1875-36000-114SU
48	4.00	14.00	ZSHKK-1875-48000-303SU	ZSHKK-1875-48000-316SU	ZSHKK-1875-48000-104SU	ZSHKK-1875-48000-114SU
60	4.00	14.00	ZSHKK-1875-60000-303SU	ZSHKK-1875-60000-316SU	ZSHKK-1875-60000-104SU	ZSHKK-1875-60000-114SU
72	4.00	14.00	ZSHKK-1875-72000-303SU	ZSHKK-1875-72000-316SU	ZSHKK-1875-72000-104SU	ZSHKK-1875-72000-114SU

1-1/2 Diameter (Tolerance: -.003" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-1500-12000-303SU	ZSHKK-1500-12000-316SU	ZSHKK-1500-12000-104SU	ZSHKK-1500-12000-114SU
18	2.00	7.00	ZSHKK-1500-18000-303SU	ZSHKK-1500-18000-316SU	ZSHKK-1500-18000-104SU	ZSHKK-1500-18000-114SU
24	4.00	14.00	ZSHKK-1500-24000-303SU	ZSHKK-1500-24000-316SU	ZSHKK-1500-24000-104SU	ZSHKK-1500-24000-114SU
36	4.00	14.00	ZSHKK-1500-36000-303SU	ZSHKK-1500-36000-316SU	ZSHKK-1500-36000-104SU	ZSHKK-1500-36000-114SU
48	4.00	14.00	ZSHKK-1500-48000-303SU	ZSHKK-1500-48000-316SU	ZSHKK-1500-48000-104SU	ZSHKK-1500-48000-114SU
60	4.00	14.00	ZSHKK-1500-60000-303SU	ZSHKK-1500-60000-316SU	ZSHKK-1500-60000-104SU	ZSHKK-1500-60000-114SU
72	4.00	14.00	ZSHKK-1500-72000-303SU	ZSHKK-1500-72000-316SU	ZSHKK-1500-72000-104SU	ZSHKK-1500-72000-114SU

1-5/8 Diameter (Tolerance: -.003" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-1625-12000-303SU	ZSHKK-1625-12000-316SU	ZSHKK-1625-12000-104SU	ZSHKK-1625-12000-114SU
18	2.00	7.00	ZSHKK-1625-18000-303SU	ZSHKK-1625-18000-316SU	ZSHKK-1625-18000-104SU	ZSHKK-1625-18000-114SU
24	4.00	14.00	ZSHKK-1625-24000-303SU	ZSHKK-1625-24000-316SU	ZSHKK-1625-24000-104SU	ZSHKK-1625-24000-114SU
36	4.00	14.00	ZSHKK-1625-36000-303SU	ZSHKK-1625-36000-316SU	ZSHKK-1625-36000-104SU	ZSHKK-1625-36000-114SU
48	4.00	14.00	ZSHKK-1625-48000-303SU	ZSHKK-1625-48000-316SU	ZSHKK-1625-48000-104SU	ZSHKK-1625-48000-114SU
60	4.00	14.00	ZSHKK-1625-60000-303SU	ZSHKK-1625-60000-316SU	ZSHKK-1625-60000-104SU	ZSHKK-1625-60000-114SU
72	4.00	14.00	ZSHKK-1625-72000-303SU	ZSHKK-1625-72000-316SU	ZSHKK-1625-72000-104SU	ZSHKK-1625-72000-114SU

Partial Keyed Rotary Shafts — Inch



1-15/16 Diameter (Tolerance: -.0035" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-1937-12000-303SU	ZSHKK-1937-12000-316SU	ZSHKK-1937-12000-104SU	ZSHKK-1937-12000-114SU
18	2.00	7.00	ZSHKK-1937-18000-303SU	ZSHKK-1937-18000-316SU	ZSHKK-1937-18000-104SU	ZSHKK-1937-18000-114SU
24	4.00	14.00	ZSHKK-1937-24000-303SU	ZSHKK-1937-24000-316SU	ZSHKK-1937-24000-104SU	ZSHKK-1937-24000-114SU
36	4.00	14.00	ZSHKK-1937-36000-303SU	ZSHKK-1937-36000-316SU	ZSHKK-1937-36000-104SU	ZSHKK-1937-36000-114SU
48	4.00	14.00	ZSHKK-1937-48000-303SU	ZSHKK-1937-48000-316SU	ZSHKK-1937-48000-104SU	ZSHKK-1937-48000-114SU
60	4.00	14.00	ZSHKK-1937-60000-303SU	ZSHKK-1937-60000-316SU	ZSHKK-1937-60000-104SU	ZSHKK-1937-60000-114SU
72	4.00	14.00	ZSHKK-1937-72000-303SU	ZSHKK-1937-72000-316SU	ZSHKK-1937-72000-104SU	ZSHKK-1937-72000-114SU

2 Diameter (Tolerance: -.0035" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-2000-12000-303SU	ZSHKK-2000-12000-316SU	ZSHKK-2000-12000-104SU	ZSHKK-2000-12000-114SU
18	2.00	7.00	ZSHKK-2000-18000-303SU	ZSHKK-2000-18000-316SU	ZSHKK-2000-18000-104SU	ZSHKK-2000-18000-114SU
24	4.00	14.00	ZSHKK-2000-24000-303SU	ZSHKK-2000-24000-316SU	ZSHKK-2000-24000-104SU	ZSHKK-2000-24000-114SU
36	4.00	14.00	ZSHKK-2000-36000-303SU	ZSHKK-2000-36000-316SU	ZSHKK-2000-36000-104SU	ZSHKK-2000-36000-114SU
48	4.00	14.00	ZSHKK-2000-48000-303SU	ZSHKK-2000-48000-316SU	ZSHKK-2000-48000-104SU	ZSHKK-2000-48000-114SU
60	4.00	14.00	ZSHKK-2000-60000-303SU	ZSHKK-2000-60000-316SU	ZSHKK-2000-60000-104SU	ZSHKK-2000-60000-114SU
72	4.00	14.00	ZSHKK-2000-72000-303SU	ZSHKK-2000-72000-316SU	ZSHKK-2000-72000-104SU	ZSHKK-2000-72000-114SU

2-1/8 Diameter (Tolerance: -.0035" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-2125-12000-303SU	ZSHKK-2125-12000-316SU	ZSHKK-2125-12000-104SU	ZSHKK-2125-12000-114SU
18	2.00	7.00	ZSHKK-2125-18000-303SU	ZSHKK-2125-18000-316SU	ZSHKK-2125-18000-104SU	ZSHKK-2125-18000-114SU
24	4.00	14.00	ZSHKK-2125-24000-303SU	ZSHKK-2125-24000-316SU	ZSHKK-2125-24000-104SU	ZSHKK-2125-24000-114SU
36	4.00	14.00	ZSHKK-2125-36000-303SU	ZSHKK-2125-36000-316SU	ZSHKK-2125-36000-104SU	ZSHKK-2125-36000-114SU
48	4.00	14.00	ZSHKK-2125-48000-303SU	ZSHKK-2125-48000-316SU	ZSHKK-2125-48000-104SU	ZSHKK-2125-48000-114SU
60	4.00	14.00	ZSHKK-2125-60000-303SU	ZSHKK-2125-60000-316SU	ZSHKK-2125-60000-104SU	ZSHKK-2125-60000-114SU
72	4.00	14.00	ZSHKK-2125-72000-303SU	ZSHKK-2125-72000-316SU	ZSHKK-2125-72000-104SU	ZSHKK-2125-72000-114SU

2-3/16 Diameter (Tolerance: -.0035" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-2187-12000-303SU	ZSHKK-2187-12000-316SU	ZSHKK-2187-12000-104SU	ZSHKK-2187-12000-114SU
18	2.00	7.00	ZSHKK-2187-18000-303SU	ZSHKK-2187-18000-316SU	ZSHKK-2187-18000-104SU	ZSHKK-2187-18000-114SU
24	4.00	14.00	ZSHKK-2187-24000-303SU	ZSHKK-2187-24000-316SU	ZSHKK-2187-24000-104SU	ZSHKK-2187-24000-114SU
36	4.00	14.00	ZSHKK-2187-36000-303SU	ZSHKK-2187-36000-316SU	ZSHKK-2187-36000-104SU	ZSHKK-2187-36000-114SU
48	4.00	14.00	ZSHKK-2187-48000-303SU	ZSHKK-2187-48000-316SU	ZSHKK-2187-48000-104SU	ZSHKK-2187-48000-114SU
60	4.00	14.00	ZSHKK-2187-60000-303SU	ZSHKK-2187-60000-316SU	ZSHKK-2187-60000-104SU	ZSHKK-2187-60000-114SU
72	4.00	14.00	ZSHKK-2187-72000-303SU	ZSHKK-2187-72000-316SU	ZSHKK-2187-72000-104SU	ZSHKK-2187-72000-114SU

Partial Keyed Rotary Shafts — Inch



2-3/8 Diameter (Tolerance: -.0035" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-2375-12000-303SU	ZSHKK-2375-12000-316SU	ZSHKK-2375-12000-104SU	ZSHKK-2375-12000-114SU
18	2.00	7.00	ZSHKK-2375-18000-303SU	ZSHKK-2375-18000-316SU	ZSHKK-2375-18000-104SU	ZSHKK-2375-18000-114SU
24	4.00	14.00	ZSHKK-2375-24000-303SU	ZSHKK-2375-24000-316SU	ZSHKK-2375-24000-104SU	ZSHKK-2375-24000-114SU
36	4.00	14.00	ZSHKK-2375-36000-303SU	ZSHKK-2375-36000-316SU	ZSHKK-2375-36000-104SU	ZSHKK-2375-36000-114SU
48	4.00	14.00	ZSHKK-2375-48000-303SU	ZSHKK-2375-48000-316SU	ZSHKK-2375-48000-104SU	ZSHKK-2375-48000-114SU
60	4.00	14.00	ZSHKK-2375-60000-303SU	ZSHKK-2375-60000-316SU	ZSHKK-2375-60000-104SU	ZSHKK-2375-60000-114SU
72	4.00	14.00	ZSHKK-2375-72000-303SU	ZSHKK-2375-72000-316SU	ZSHKK-2375-72000-104SU	ZSHKK-2375-72000-114SU

2-7/16 Diameter (Tolerance: -.0035" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-2437-12000-303SU	ZSHKK-2437-12000-316SU	ZSHKK-2437-12000-104SU	ZSHKK-2437-12000-114SU
18	2.00	7.00	ZSHKK-2437-18000-303SU	ZSHKK-2437-18000-316SU	ZSHKK-2437-18000-104SU	ZSHKK-2437-18000-114SU
24	4.00	14.00	ZSHKK-2437-24000-303SU	ZSHKK-2437-24000-316SU	ZSHKK-2437-24000-104SU	ZSHKK-2437-24000-114SU
36	4.00	14.00	ZSHKK-2437-36000-303SU	ZSHKK-2437-36000-316SU	ZSHKK-2437-36000-104SU	ZSHKK-2437-36000-114SU
48	4.00	14.00	ZSHKK-2437-48000-303SU	ZSHKK-2437-48000-316SU	ZSHKK-2437-48000-104SU	ZSHKK-2437-48000-114SU
60	4.00	14.00	ZSHKK-2437-60000-303SU	ZSHKK-2437-60000-316SU	ZSHKK-2437-60000-104SU	ZSHKK-2437-60000-114SU
72	4.00	14.00	ZSHKK-2437-72000-303SU	ZSHKK-2437-72000-316SU	ZSHKK-2437-72000-104SU	ZSHKK-2437-72000-114SU

2.624 Diameter (Tolerance: -.0035" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-2624-12000-303SU	ZSHKK-2624-12000-316SU	ZSHKK-2624-12000-104SU	ZSHKK-2624-12000-114SU
18	2.00	7.00	ZSHKK-2624-18000-303SU	ZSHKK-2624-18000-316SU	ZSHKK-2624-18000-104SU	ZSHKK-2624-18000-114SU
24	4.00	14.00	ZSHKK-2624-24000-303SU	ZSHKK-2624-24000-316SU	ZSHKK-2624-24000-104SU	ZSHKK-2624-24000-114SU
36	4.00	14.00	ZSHKK-2624-36000-303SU	ZSHKK-2624-36000-316SU	ZSHKK-2624-36000-104SU	ZSHKK-2624-36000-114SU
48	4.00	14.00	ZSHKK-2624-48000-303SU	ZSHKK-2624-48000-316SU	ZSHKK-2624-48000-104SU	ZSHKK-2624-48000-114SU

2-7/8 Diameter (Tolerance: -.0035" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-2875-12000-303SU	ZSHKK-2875-12000-316SU	ZSHKK-2875-12000-104SU	ZSHKK-2875-12000-114SU
18	2.00	7.00	ZSHKK-2875-18000-303SU	ZSHKK-2875-18000-316SU	ZSHKK-2875-18000-104SU	ZSHKK-2875-18000-114SU
24	4.00	14.00	ZSHKK-2875-24000-303SU	ZSHKK-2875-24000-316SU	ZSHKK-2875-24000-104SU	ZSHKK-2875-24000-114SU
36	4.00	14.00	ZSHKK-2875-36000-303SU	ZSHKK-2875-36000-316SU	ZSHKK-2875-36000-104SU	ZSHKK-2875-36000-114SU
48	4.00	14.00	ZSHKK-2875-48000-303SU	ZSHKK-2875-48000-316SU	ZSHKK-2875-48000-104SU	ZSHKK-2875-48000-114SU

3-3/8 Diameter (Tolerance: -.0035" to 0")

O'all Lg (inch)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
12	2.00	7.00	ZSHKK-3375-12000-303SU	ZSHKK-3375-12000-316SU	ZSHKK-3375-12000-104SU	ZSHKK-3375-12000-114SU
18	2.00	7.00	ZSHKK-3375-18000-303SU	ZSHKK-3375-18000-316SU	ZSHKK-3375-18000-104SU	ZSHKK-3375-18000-114SU
24	4.00	14.00	ZSHKK-3375-24000-303SU	ZSHKK-3375-24000-316SU	ZSHKK-3375-24000-104SU	ZSHKK-3375-24000-114SU
36	4.00	14.00	ZSHKK-3375-36000-303SU	ZSHKK-3375-36000-316SU	ZSHKK-3375-36000-104SU	ZSHKK-3375-36000-114SU
48	4.00	14.00	ZSHKK-3375-48000-303SU	ZSHKK-3375-48000-316SU	ZSHKK-3375-48000-104SU	ZSHKK-3375-48000-114SU

Partial Keyed Rotary Shafts — Metric

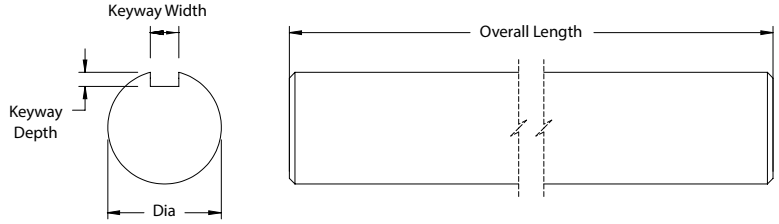
18-8 & 316 SS, Steel

Product Information

Designed with keyways at each end and a smooth, central section, these shafts facilitate efficient torque transfer. The end keyways, compatible with standard ANSI machine keys, securely connect gears, sprockets, and other keyed components. The central plain shaft is ideal for bearing and round-bore component integration. To minimize installation damage, the edges are chamfered, and the entire shaft is precision-machined through turning, grinding, and polishing, ensuring strict diameter and straightness tolerances. The use of a key and keyway is a simple yet effective method to secure the mounted component to the shaft, allowing for efficient power transmission while also facilitating assembly and disassembly of the system.

All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable. Length tolerance is +/-1.6mm and straightness tolerance is .33mm per 300mm.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- Keyways meet ANSI Standard dimensions and tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.





Dimensions Table — Metric

Dia. (mm)	Diameter Tolerance	Keyway Width	Keyway Depth	Straightness Tolerance (mm)	Length Tolerance
8	-.0635 to 0mm	2.00	1.20	.33 per 300	+/-1.60
10	-.0635 to 0mm	3.00	1.80	.33 per 300	+/-1.60
12	-.0635 to 0mm	4.00	2.50	.33 per 300	+/-1.60
15	-.0635 to 0mm	5.00	3.00	.33 per 300	+/-1.60
17	-.0635 to 0mm	5.00	3.00	.33 per 300	+/-1.60
20	-.0635 to 0mm	6.00	3.50	.33 per 300	+/-1.60
24	-.0635 to 0mm	8.00	4.00	.33 per 300	+/-1.60
25	-.0635 to 0mm	8.00	4.00	.33 per 300	+/-1.60
28	-.0635 to 0mm	8.00	4.00	.33 per 300	+/-1.60
38	-.076 to 0mm	12.00	5.00	.33 per 300	+/-1.60
40	-.076 to 0mm	12.00	5.00	.33 per 300	+/-1.60
50	-.076 to 0mm	14.00	5.50	.33 per 300	+/-1.60
55	-.076 to 0mm	14.00	5.50	.33 per 300	+/-1.60

Key Lengths

Length Size	Key Lg 1 End	Key Lg 2 End
300 mm	50mm	175mm
500 mm	100mm	350mm
1,000 mm	100mm	350mm
1,200 mm	100mm	350mm
1,500 mm	100mm	350mm
1,800 mm	100mm	350mm

Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic

Partial Keyed Rotary Shafts — Metric



8mm Diameter (Tolerance: -.0635 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M08-M0300-303SU	ZSHKK-M08-M0300-316SU	ZSHKK-M08-M0300-104SU	ZSHKK-M08-M0300-114SU
500	100.00	350.00	ZSHKK-M08-M0500-303SU	ZSHKK-M08-M0500-316SU	ZSHKK-M08-M0500-104SU	ZSHKK-M08-M0500-114SU
1,000	100.00	350.00	ZSHKK-M08-M1000-303SU	ZSHKK-M08-M1000-316SU	ZSHKK-M08-M1000-104SU	ZSHKK-M08-M1000-114SU
1,200	100.00	350.00	ZSHKK-M08-M1200-303SU	ZSHKK-M08-M1200-316SU	ZSHKK-M08-M1200-104SU	ZSHKK-M08-M1200-114SU
1,500	100.00	350.00	ZSHKK-M08-M1500-303SU	ZSHKK-M08-M1500-316SU	ZSHKK-M08-M1500-104SU	ZSHKK-M08-M1500-114SU
1,800	100.00	350.00	ZSHKK-M08-M1800-303SU	ZSHKK-M08-M1800-316SU	ZSHKK-M08-M1800-104SU	ZSHKK-M08-M1800-114SU

10mm Diameter (Tolerance: -.0635 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M10-M0300-303SU	ZSHKK-M10-M0300-316SU	ZSHKK-M10-M0300-104SU	ZSHKK-M10-M0300-114SU
500	100.00	350.00	ZSHKK-M10-M0500-303SU	ZSHKK-M10-M0500-316SU	ZSHKK-M10-M0500-104SU	ZSHKK-M10-M0500-114SU
1,000	100.00	350.00	ZSHKK-M10-M1000-303SU	ZSHKK-M10-M1000-316SU	ZSHKK-M10-M1000-104SU	ZSHKK-M10-M1000-114SU
1,200	100.00	350.00	ZSHKK-M10-M1200-303SU	ZSHKK-M10-M1200-316SU	ZSHKK-M10-M1200-104SU	ZSHKK-M10-M1200-114SU
1,500	100.00	350.00	ZSHKK-M10-M1500-303SU	ZSHKK-M10-M1500-316SU	ZSHKK-M10-M1500-104SU	ZSHKK-M10-M1500-114SU
1,800	100.00	350.00	ZSHKK-M10-M1800-303SU	ZSHKK-M10-M1800-316SU	ZSHKK-M10-M1800-104SU	ZSHKK-M10-M1800-114SU

12mm Diameter (Tolerance: -.0635 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M12-M0300-303SU	ZSHKK-M12-M0300-316SU	ZSHKK-M12-M0300-104SU	ZSHKK-M12-M0300-114SU
500	100.00	350.00	ZSHKK-M12-M0500-303SU	ZSHKK-M12-M0500-316SU	ZSHKK-M12-M0500-104SU	ZSHKK-M12-M0500-114SU
1,000	100.00	350.00	ZSHKK-M12-M1000-303SU	ZSHKK-M12-M1000-316SU	ZSHKK-M12-M1000-104SU	ZSHKK-M12-M1000-114SU
1,200	100.00	350.00	ZSHKK-M12-M1200-303SU	ZSHKK-M12-M1200-316SU	ZSHKK-M12-M1200-104SU	ZSHKK-M12-M1200-114SU
1,500	100.00	350.00	ZSHKK-M12-M1500-303SU	ZSHKK-M12-M1500-316SU	ZSHKK-M12-M1500-104SU	ZSHKK-M12-M1500-114SU
1,800	100.00	350.00	ZSHKK-M12-M1800-303SU	ZSHKK-M12-M1800-316SU	ZSHKK-M12-M1800-104SU	ZSHKK-M12-M1800-114SU

15mm Diameter (Tolerance: -.0635 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M15-M0300-303SU	ZSHKK-M15-M0300-316SU	ZSHKK-M15-M0300-104SU	ZSHKK-M15-M0300-114SU
500	100.00	350.00	ZSHKK-M15-M0500-303SU	ZSHKK-M15-M0500-316SU	ZSHKK-M15-M0500-104SU	ZSHKK-M15-M0500-114SU
1,000	100.00	350.00	ZSHKK-M15-M1000-303SU	ZSHKK-M15-M1000-316SU	ZSHKK-M15-M1000-104SU	ZSHKK-M15-M1000-114SU
1,200	100.00	350.00	ZSHKK-M15-M1200-303SU	ZSHKK-M15-M1200-316SU	ZSHKK-M15-M1200-104SU	ZSHKK-M15-M1200-114SU
1,500	100.00	350.00	ZSHKK-M15-M1500-303SU	ZSHKK-M15-M1500-316SU	ZSHKK-M15-M1500-104SU	ZSHKK-M15-M1500-114SU
1,800	100.00	350.00	ZSHKK-M15-M1800-303SU	ZSHKK-M15-M1800-316SU	ZSHKK-M15-M1800-104SU	ZSHKK-M15-M1800-114SU

Partial Keyed Rotary Shafts — Metric



20mm Diameter (Tolerance: -.0635 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M20-M0300-303SU	ZSHKK-M20-M0300-316SU	ZSHKK-M20-M0300-104SU	ZSHKK-M20-M0300-114SU
500	100.00	350.00	ZSHKK-M20-M0500-303SU	ZSHKK-M20-M0500-316SU	ZSHKK-M20-M0500-104SU	ZSHKK-M20-M0500-114SU
1,000	100.00	350.00	ZSHKK-M20-M1000-303SU	ZSHKK-M20-M1000-316SU	ZSHKK-M20-M1000-104SU	ZSHKK-M20-M1000-114SU
1,200	100.00	350.00	ZSHKK-M20-M1200-303SU	ZSHKK-M20-M1200-316SU	ZSHKK-M20-M1200-104SU	ZSHKK-M20-M1200-114SU
1,500	100.00	350.00	ZSHKK-M20-M1500-303SU	ZSHKK-M20-M1500-316SU	ZSHKK-M20-M1500-104SU	ZSHKK-M20-M1500-114SU
1,800	100.00	350.00	ZSHKK-M20-M1800-303SU	ZSHKK-M20-M1800-316SU	ZSHKK-M20-M1800-104SU	ZSHKK-M20-M1800-114SU

24mm Diameter (Tolerance: -.0635 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M24-M0300-303SU	ZSHKK-M24-M0300-316SU	ZSHKK-M24-M0300-104SU	ZSHKK-M24-M0300-114SU
500	100.00	350.00	ZSHKK-M24-M0500-303SU	ZSHKK-M24-M0500-316SU	ZSHKK-M24-M0500-104SU	ZSHKK-M24-M0500-114SU
1,000	100.00	350.00	ZSHKK-M24-M1000-303SU	ZSHKK-M24-M1000-316SU	ZSHKK-M24-M1000-104SU	ZSHKK-M24-M1000-114SU
1,200	100.00	350.00	ZSHKK-M24-M1200-303SU	ZSHKK-M24-M1200-316SU	ZSHKK-M24-M1200-104SU	ZSHKK-M24-M1200-114SU
1,500	100.00	350.00	ZSHKK-M24-M1500-303SU	ZSHKK-M24-M1500-316SU	ZSHKK-M24-M1500-104SU	ZSHKK-M24-M1500-114SU
1,800	100.00	350.00	ZSHKK-M24-M1800-303SU	ZSHKK-M24-M1800-316SU	ZSHKK-M24-M1800-104SU	ZSHKK-M24-M1800-114SU

25mm Diameter (Tolerance: -.0635 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M25-M0300-303SU	ZSHKK-M25-M0300-316SU	ZSHKK-M25-M0300-104SU	ZSHKK-M25-M0300-114SU
500	100.00	350.00	ZSHKK-M25-M0500-303SU	ZSHKK-M25-M0500-316SU	ZSHKK-M25-M0500-104SU	ZSHKK-M25-M0500-114SU
1,000	100.00	350.00	ZSHKK-M25-M1000-303SU	ZSHKK-M25-M1000-316SU	ZSHKK-M25-M1000-104SU	ZSHKK-M25-M1000-114SU
1,200	100.00	350.00	ZSHKK-M25-M1200-303SU	ZSHKK-M25-M1200-316SU	ZSHKK-M25-M1200-104SU	ZSHKK-M25-M1200-114SU
1,500	100.00	350.00	ZSHKK-M25-M1500-303SU	ZSHKK-M25-M1500-316SU	ZSHKK-M25-M1500-104SU	ZSHKK-M25-M1500-114SU
1,800	100.00	350.00	ZSHKK-M25-M1800-303SU	ZSHKK-M25-M1800-316SU	ZSHKK-M25-M1800-104SU	ZSHKK-M25-M1800-114SU

28mm Diameter (Tolerance: -.0635 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M28-M0300-303SU	ZSHKK-M28-M0300-316SU	ZSHKK-M28-M0300-104SU	ZSHKK-M28-M0300-114SU
500	100.00	350.00	ZSHKK-M28-M0500-303SU	ZSHKK-M28-M0500-316SU	ZSHKK-M28-M0500-104SU	ZSHKK-M28-M0500-114SU
1,000	100.00	350.00	ZSHKK-M28-M1000-303SU	ZSHKK-M28-M1000-316SU	ZSHKK-M28-M1000-104SU	ZSHKK-M28-M1000-114SU
1,200	100.00	350.00	ZSHKK-M28-M1200-303SU	ZSHKK-M28-M1200-316SU	ZSHKK-M28-M1200-104SU	ZSHKK-M28-M1200-114SU
1,500	100.00	350.00	ZSHKK-M28-M2800-303SU	ZSHKK-M28-M2800-316SU	ZSHKK-M28-M2800-104SU	ZSHKK-M28-M2800-114SU
1,800	100.00	350.00	ZSHKK-M28-M1800-303SU	ZSHKK-M28-M1800-316SU	ZSHKK-M28-M1800-104SU	ZSHKK-M28-M1800-114SU

Partial Keyed Rotary Shafts — Metric



38mm Diameter (Tolerance: -.076 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M38-M0300-303SU	ZSHKK-M38-M0300-316SU	ZSHKK-M38-M0300-104SU	ZSHKK-M38-M0300-114SU
500	100.00	350.00	ZSHKK-M38-M0500-303SU	ZSHKK-M38-M0500-316SU	ZSHKK-M38-M0500-104SU	ZSHKK-M38-M0500-114SU
1,000	100.00	350.00	ZSHKK-M38-M1000-303SU	ZSHKK-M38-M1000-316SU	ZSHKK-M38-M1000-104SU	ZSHKK-M38-M1000-114SU
1,200	100.00	350.00	ZSHKK-M38-M1200-303SU	ZSHKK-M38-M1200-316SU	ZSHKK-M38-M1200-104SU	ZSHKK-M38-M1200-114SU
1,500	100.00	350.00	ZSHKK-M38-M3800-303SU	ZSHKK-M38-M3800-316SU	ZSHKK-M38-M3800-104SU	ZSHKK-M38-M3800-114SU
1,800	100.00	350.00	ZSHKK-M38-M1800-303SU	ZSHKK-M38-M1800-316SU	ZSHKK-M38-M1800-104SU	ZSHKK-M38-M1800-114SU

40mm Diameter (Tolerance: -.076 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M40-M0300-303SU	ZSHKK-M40-M0300-316SU	ZSHKK-M40-M0300-104SU	ZSHKK-M40-M0300-114SU
500	100.00	350.00	ZSHKK-M40-M0500-303SU	ZSHKK-M40-M0500-316SU	ZSHKK-M40-M0500-104SU	ZSHKK-M40-M0500-114SU
1,000	100.00	350.00	ZSHKK-M40-M1000-303SU	ZSHKK-M40-M1000-316SU	ZSHKK-M40-M1000-104SU	ZSHKK-M40-M1000-114SU
1,200	100.00	350.00	ZSHKK-M40-M1200-303SU	ZSHKK-M40-M1200-316SU	ZSHKK-M40-M1200-104SU	ZSHKK-M40-M1200-114SU
1,500	100.00	350.00	ZSHKK-M40-M1500-303SU	ZSHKK-M40-M1500-316SU	ZSHKK-M40-M1500-104SU	ZSHKK-M40-M1500-114SU
1,800	100.00	350.00	ZSHKK-M40-M1800-303SU	ZSHKK-M40-M1800-316SU	ZSHKK-M40-M1800-104SU	ZSHKK-M40-M1800-114SU

50mm Diameter (Tolerance: -.076 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M50-M0300-303SU	ZSHKK-M50-M0300-316SU	ZSHKK-M50-M0300-104SU	ZSHKK-M50-M0300-114SU
500	100.00	350.00	ZSHKK-M50-M0500-303SU	ZSHKK-M50-M0500-316SU	ZSHKK-M50-M0500-104SU	ZSHKK-M50-M0500-114SU
1,000	100.00	350.00	ZSHKK-M50-M1000-303SU	ZSHKK-M50-M1000-316SU	ZSHKK-M50-M1000-104SU	ZSHKK-M50-M1000-114SU
1,200	100.00	350.00	ZSHKK-M50-M1200-303SU	ZSHKK-M50-M1200-316SU	ZSHKK-M50-M1200-104SU	ZSHKK-M50-M1200-114SU
1,500	100.00	350.00	ZSHKK-M50-M1500-303SU	ZSHKK-M50-M1500-316SU	ZSHKK-M50-M1500-104SU	ZSHKK-M50-M1500-114SU
1,800	100.00	350.00	ZSHKK-M50-M1800-303SU	ZSHKK-M50-M1800-316SU	ZSHKK-M50-M1800-104SU	ZSHKK-M50-M1800-114SU

55mm Diameter (Tolerance: -.076 to 0mm)

O'all Lg (mm)	Key Lg 1 End	Key Lg 2 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	50.00	175.00	ZSHKK-M55-M0300-303SU	ZSHKK-M55-M0300-316SU	ZSHKK-M55-M0300-104SU	ZSHKK-M55-M0300-114SU
500	100.00	350.00	ZSHKK-M55-M0500-303SU	ZSHKK-M55-M0500-316SU	ZSHKK-M55-M0500-104SU	ZSHKK-M55-M0500-114SU
1,000	100.00	350.00	ZSHKK-M55-M1000-303SU	ZSHKK-M55-M1000-316SU	ZSHKK-M55-M1000-104SU	ZSHKK-M55-M1000-114SU

D-Profile Rotary Shafts — Inch

18-8 & 316 SS
Steel & Aluminum

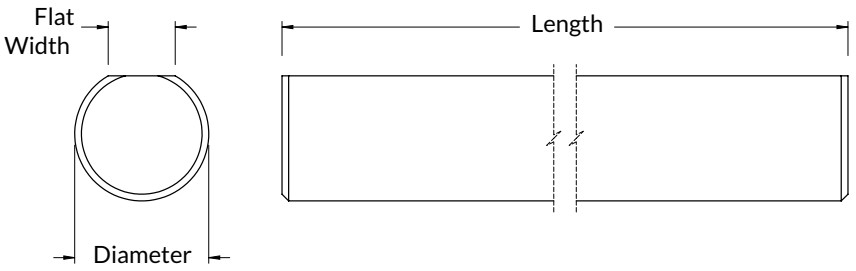
Product Information

D-Profile shafts are a specialized type of rotary shaft, offering a unique mounting solution. Unlike keyed shafts that rely on a keyway and key for torque transmission, D-Profile shafts feature a flattened surface area along a portion of their circumference. This flat allows set screws to engage the shaft for securely mounting gears, bearings, and other components, eliminating the need for complex keyways. These shafts are available in various configurations, including full D-profile length or partially D-profile length at each end, providing flexibility for diverse mechanical applications.

All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable.

Length tolerance is +/-.062 and straightness tolerance is 0.012 in/ft.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- Aluminum shafts are lightweight, corrosion resistant and nonmagnetic. They have a T4 temper, which means they have been heat treated for increased strength.
- Aluminum shafts have the strength of mild steel with one third the weight.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.





Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic
2024 Aluminum	Ground & Polished	Chamfered	ASTM B211	B75	68,000	Nonmagnetic

D-Profile Rotary Shafts — Inch



1/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	1/8	.233	ZSHD-250-03000-303SU	ZSHD-250-03000-316SU	ZSHD-250-03000-104SU	ZSHD-250-03000-114SU	–
6	1/8	.233	ZSHD-250-06000-303SU	ZSHD-250-06000-316SU	ZSHD-250-06000-104SU	ZSHD-250-06000-114SU	–
9	1/8	.233	ZSHD-250-09000-303SU	ZSHD-250-09000-316SU	ZSHD-250-09000-104SU	ZSHD-250-09000-114SU	–
12	1/8	.233	ZSHD-250-12000-303SU	ZSHD-250-12000-316SU	ZSHD-250-12000-104SU	ZSHD-250-12000-114SU	–

5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	5/32	.292	ZSHD-312-03000-303SU	ZSHD-312-03000-316SU	ZSHD-312-03000-104SU	ZSHD-312-03000-114SU	ZSHD-312-03000-202SU
6	5/32	.292	ZSHD-312-06000-303SU	ZSHD-312-06000-316SU	ZSHD-312-06000-104SU	ZSHD-312-06000-114SU	ZSHD-312-06000-202SU
9	5/32	.292	ZSHD-312-09000-303SU	ZSHD-312-09000-316SU	ZSHD-312-09000-104SU	ZSHD-312-09000-114SU	ZSHD-312-09000-202SU
12	5/32	.292	ZSHD-312-12000-303SU	ZSHD-312-12000-316SU	ZSHD-312-12000-104SU	ZSHD-312-12000-114SU	ZSHD-312-12000-202SU
18	5/32	.292	ZSHD-312-18000-303SU	ZSHD-312-18000-316SU	ZSHD-312-18000-104SU	ZSHD-312-18000-114SU	ZSHD-312-18000-202SU
24	5/32	.292	ZSHD-312-24000-303SU	ZSHD-312-24000-316SU	ZSHD-312-24000-104SU	ZSHD-312-24000-114SU	ZSHD-312-24000-202SU
36	5/32	.292	ZSHD-312-36000-303SU	ZSHD-312-36000-316SU	ZSHD-312-36000-104SU	ZSHD-312-36000-114SU	ZSHD-312-36000-202SU
48	5/32	.292	ZSHD-312-48000-303SU	ZSHD-312-48000-316SU	ZSHD-312-48000-104SU	ZSHD-312-48000-114SU	ZSHD-312-48000-202SU
60	5/32	.292	ZSHD-312-60000-303SU	ZSHD-312-60000-316SU	ZSHD-312-60000-104SU	ZSHD-312-60000-114SU	ZSHD-312-60000-202SU
72	5/32	.292	ZSHD-312-72000-303SU	ZSHD-312-72000-316SU	ZSHD-312-72000-104SU	ZSHD-312-72000-114SU	ZSHD-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	3/16	.350	ZSHD-375-03000-303SU	ZSHD-375-03000-316SU	ZSHD-375-03000-104SU	ZSHD-375-03000-114SU	ZSHD-375-03000-202SU
6	3/16	.350	ZSHD-375-06000-303SU	ZSHD-375-06000-316SU	ZSHD-375-06000-104SU	ZSHD-375-06000-114SU	ZSHD-375-06000-202SU
9	3/16	.350	ZSHD-375-09000-303SU	ZSHD-375-09000-316SU	ZSHD-375-09000-104SU	ZSHD-375-09000-114SU	ZSHD-375-09000-202SU
12	3/16	.350	ZSHD-375-12000-303SU	ZSHD-375-12000-316SU	ZSHD-375-12000-104SU	ZSHD-375-12000-114SU	ZSHD-375-12000-202SU
18	3/16	.350	ZSHD-375-18000-303SU	ZSHD-375-18000-316SU	ZSHD-375-18000-104SU	ZSHD-375-18000-114SU	ZSHD-375-18000-202SU
24	3/16	.350	ZSHD-375-24000-303SU	ZSHD-375-24000-316SU	ZSHD-375-24000-104SU	ZSHD-375-24000-114SU	ZSHD-375-24000-202SU
36	3/16	.350	ZSHD-375-36000-303SU	ZSHD-375-36000-316SU	ZSHD-375-36000-104SU	ZSHD-375-36000-114SU	ZSHD-375-36000-202SU
48	3/16	.350	ZSHD-375-48000-303SU	ZSHD-375-48000-316SU	ZSHD-375-48000-104SU	ZSHD-375-48000-114SU	ZSHD-375-48000-202SU
60	3/16	.350	ZSHD-375-60000-303SU	ZSHD-375-60000-316SU	ZSHD-375-60000-104SU	ZSHD-375-60000-114SU	ZSHD-375-60000-202SU
72	3/16	.350	ZSHD-375-72000-303SU	ZSHD-375-72000-316SU	ZSHD-375-72000-104SU	ZSHD-375-72000-114SU	ZSHD-375-72000-202SU

D-Profile Rotary Shafts — Inch



1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	1/4	.467	ZSHD-500-03000-303SU	ZSHD-500-03000-316SU	ZSHD-500-03000-104SU	ZSHD-500-03000-114SU	ZSHD-500-03000-202SU
6	1/4	.467	ZSHD-500-06000-303SU	ZSHD-500-06000-316SU	ZSHD-500-06000-104SU	ZSHD-500-06000-114SU	ZSHD-500-06000-202SU
9	1/4	.467	ZSHD-500-09000-303SU	ZSHD-500-09000-316SU	ZSHD-500-09000-104SU	ZSHD-500-09000-114SU	ZSHD-500-09000-202SU
12	1/4	.467	ZSHD-500-12000-303SU	ZSHD-500-12000-316SU	ZSHD-500-12000-104SU	ZSHD-500-12000-114SU	ZSHD-500-12000-202SU
18	1/4	.467	ZSHD-500-18000-303SU	ZSHD-500-18000-316SU	ZSHD-500-18000-104SU	ZSHD-500-18000-114SU	ZSHD-500-18000-202SU
24	1/4	.467	ZSHD-500-24000-303SU	ZSHD-500-24000-316SU	ZSHD-500-24000-104SU	ZSHD-500-24000-114SU	ZSHD-500-24000-202SU
36	1/4	.467	ZSHD-500-36000-303SU	ZSHD-500-36000-316SU	ZSHD-500-36000-104SU	ZSHD-500-36000-114SU	ZSHD-500-36000-202SU
48	1/4	.467	ZSHD-500-48000-303SU	ZSHD-500-48000-316SU	ZSHD-500-48000-104SU	ZSHD-500-48000-114SU	ZSHD-500-48000-202SU
60	1/4	.467	ZSHD-500-60000-303SU	ZSHD-500-60000-316SU	ZSHD-500-60000-104SU	ZSHD-500-60000-114SU	ZSHD-500-60000-202SU
72	1/4	.467	ZSHD-500-72000-303SU	ZSHD-500-72000-316SU	ZSHD-500-72000-104SU	ZSHD-500-72000-114SU	ZSHD-500-72000-202SU

9/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	9/32	.525	ZSHD-562-03000-303SU	ZSHD-562-03000-316SU	ZSHD-562-03000-104SU	ZSHD-562-03000-114SU	–
6	9/32	.525	ZSHD-562-06000-303SU	ZSHD-562-06000-316SU	ZSHD-562-06000-104SU	ZSHD-562-06000-114SU	–
9	9/32	.525	ZSHD-562-09000-303SU	ZSHD-562-09000-316SU	ZSHD-562-09000-104SU	ZSHD-562-09000-114SU	–
12	9/32	.525	ZSHD-562-12000-303SU	ZSHD-562-12000-316SU	ZSHD-562-12000-104SU	ZSHD-562-12000-114SU	–
18	9/32	.525	ZSHD-562-18000-303SU	ZSHD-562-18000-316SU	ZSHD-562-18000-104SU	ZSHD-562-18000-114SU	–
24	9/32	.525	ZSHD-562-24000-303SU	ZSHD-562-24000-316SU	ZSHD-562-24000-104SU	ZSHD-562-24000-114SU	–
36	9/32	.525	ZSHD-562-36000-303SU	ZSHD-562-36000-316SU	ZSHD-562-36000-104SU	ZSHD-562-36000-114SU	–
48	9/32	.525	ZSHD-562-48000-303SU	ZSHD-562-48000-316SU	ZSHD-562-48000-104SU	ZSHD-562-48000-114SU	–
60	9/32	.525	ZSHD-562-60000-303SU	ZSHD-562-60000-316SU	ZSHD-562-60000-104SU	ZSHD-562-60000-114SU	–
72	9/32	.525	ZSHD-562-72000-303SU	ZSHD-562-72000-316SU	ZSHD-562-72000-104SU	ZSHD-562-72000-114SU	–

5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	5/16	.583	ZSHD-625-03000-303SU	ZSHD-625-03000-316SU	ZSHD-625-03000-104SU	ZSHD-625-03000-114SU	ZSHD-625-03000-202SU
6	5/16	.583	ZSHD-625-06000-303SU	ZSHD-625-06000-316SU	ZSHD-625-06000-104SU	ZSHD-625-06000-114SU	ZSHD-625-06000-202SU
9	5/16	.583	ZSHD-625-09000-303SU	ZSHD-625-09000-316SU	ZSHD-625-09000-104SU	ZSHD-625-09000-114SU	ZSHD-625-09000-202SU
12	5/16	.583	ZSHD-625-12000-303SU	ZSHD-625-12000-316SU	ZSHD-625-12000-104SU	ZSHD-625-12000-114SU	ZSHD-625-12000-202SU
18	5/16	.583	ZSHD-625-18000-303SU	ZSHD-625-18000-316SU	ZSHD-625-18000-104SU	ZSHD-625-18000-114SU	ZSHD-625-18000-202SU
24	5/16	.583	ZSHD-625-24000-303SU	ZSHD-625-24000-316SU	ZSHD-625-24000-104SU	ZSHD-625-24000-114SU	ZSHD-625-24000-202SU
36	5/16	.583	ZSHD-625-36000-303SU	ZSHD-625-36000-316SU	ZSHD-625-36000-104SU	ZSHD-625-36000-114SU	ZSHD-625-36000-202SU
48	5/16	.583	ZSHD-625-48000-303SU	ZSHD-625-48000-316SU	ZSHD-625-48000-104SU	ZSHD-625-48000-114SU	ZSHD-625-48000-202SU
60	5/16	.583	ZSHD-625-60000-303SU	ZSHD-625-60000-316SU	ZSHD-625-60000-104SU	ZSHD-625-60000-114SU	ZSHD-625-60000-202SU
72	5/16	.583	ZSHD-625-72000-303SU	ZSHD-625-72000-316SU	ZSHD-625-72000-104SU	ZSHD-625-72000-114SU	ZSHD-625-72000-202SU

D-Profile Rotary Shafts — Inch



3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	3/8	.700	ZSHD-750-03000-303SU	ZSHD-750-03000-316SU	ZSHD-750-03000-104SU	ZSHD-750-03000-114SU	ZSHD-750-03000-202SU
6	3/8	.700	ZSHD-750-06000-303SU	ZSHD-750-06000-316SU	ZSHD-750-06000-104SU	ZSHD-750-06000-114SU	ZSHD-750-06000-202SU
9	3/8	.700	ZSHD-750-09000-303SU	ZSHD-750-09000-316SU	ZSHD-750-09000-104SU	ZSHD-750-09000-114SU	ZSHD-750-09000-202SU
12	3/8	.700	ZSHD-750-12000-303SU	ZSHD-750-12000-316SU	ZSHD-750-12000-104SU	ZSHD-750-12000-114SU	ZSHD-750-12000-202SU
18	3/8	.700	ZSHD-750-18000-303SU	ZSHD-750-18000-316SU	ZSHD-750-18000-104SU	ZSHD-750-18000-114SU	ZSHD-750-18000-202SU
24	3/8	.700	ZSHD-750-24000-303SU	ZSHD-750-24000-316SU	ZSHD-750-24000-104SU	ZSHD-750-24000-114SU	ZSHD-750-24000-202SU
36	3/8	.700	ZSHD-750-36000-303SU	ZSHD-750-36000-316SU	ZSHD-750-36000-104SU	ZSHD-750-36000-114SU	ZSHD-750-36000-202SU
48	3/8	.700	ZSHD-750-48000-303SU	ZSHD-750-48000-316SU	ZSHD-750-48000-104SU	ZSHD-750-48000-114SU	ZSHD-750-48000-202SU
60	3/8	.700	ZSHD-750-60000-303SU	ZSHD-750-60000-316SU	ZSHD-750-60000-104SU	ZSHD-750-60000-114SU	ZSHD-750-60000-202SU
72	3/8	.700	ZSHD-750-72000-303SU	ZSHD-750-72000-316SU	ZSHD-750-72000-104SU	ZSHD-750-72000-114SU	ZSHD-750-72000-202SU

7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	7/16	.784	ZSHD-875-03000-303SU	ZSHD-875-03000-316SU	ZSHD-875-03000-104SU	ZSHD-875-03000-114SU	ZSHD-875-03000-202SU
6	7/16	.784	ZSHD-875-06000-303SU	ZSHD-875-06000-316SU	ZSHD-875-06000-104SU	ZSHD-875-06000-114SU	ZSHD-875-06000-202SU
9	7/16	.784	ZSHD-875-09000-303SU	ZSHD-875-09000-316SU	ZSHD-875-09000-104SU	ZSHD-875-09000-114SU	ZSHD-875-09000-202SU
12	7/16	.784	ZSHD-875-12000-303SU	ZSHD-875-12000-316SU	ZSHD-875-12000-104SU	ZSHD-875-12000-114SU	ZSHD-875-12000-202SU
18	7/16	.784	ZSHD-875-18000-303SU	ZSHD-875-18000-316SU	ZSHD-875-18000-104SU	ZSHD-875-18000-114SU	ZSHD-875-18000-202SU
24	7/16	.784	ZSHD-875-24000-303SU	ZSHD-875-24000-316SU	ZSHD-875-24000-104SU	ZSHD-875-24000-114SU	ZSHD-875-24000-202SU
36	7/16	.784	ZSHD-875-36000-303SU	ZSHD-875-36000-316SU	ZSHD-875-36000-104SU	ZSHD-875-36000-114SU	ZSHD-875-36000-202SU
48	7/16	.784	ZSHD-875-48000-303SU	ZSHD-875-48000-316SU	ZSHD-875-48000-104SU	ZSHD-875-48000-114SU	ZSHD-875-48000-202SU
60	7/16	.784	ZSHD-875-60000-303SU	ZSHD-875-60000-316SU	ZSHD-875-60000-104SU	ZSHD-875-60000-114SU	ZSHD-875-60000-202SU
72	7/16	.784	ZSHD-875-72000-303SU	ZSHD-875-72000-316SU	ZSHD-875-72000-104SU	ZSHD-875-72000-114SU	ZSHD-875-72000-202SU

15/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	7/16	.784	–	–	ZSHD-937-03000-104SU	–	–
6	7/16	.784	–	–	ZSHD-937-06000-104SU	–	–
9	7/16	.784	–	–	ZSHD-937-09000-104SU	–	–
12	7/16	.784	–	–	ZSHD-937-12000-104SU	–	–
18	7/16	.784	–	–	ZSHD-937-18000-104SU	–	–
24	7/16	.784	–	–	ZSHD-937-24000-104SU	–	–
36	7/16	.784	–	–	ZSHD-937-36000-104SU	–	–
48	7/16	.784	–	–	ZSHD-937-48000-104SU	–	–
60	7/16	.784	–	–	ZSHD-937-60000-104SU	–	–
72	7/16	.784	–	–	ZSHD-937-72000-104SU	–	–

D-Profile Rotary Shafts — Inch



1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	1/2	.933	ZSHD-1000-03000-303SU	ZSHD-1000-03000-316SU	ZSHD-1000-03000-104SU	ZSHD-1000-03000-114SU	ZSHD-1000-03000-202SU
6	1/2	.933	ZSHD-1000-06000-303SU	ZSHD-1000-06000-316SU	ZSHD-1000-06000-104SU	ZSHD-1000-06000-114SU	ZSHD-1000-06000-202SU
9	1/2	.933	ZSHD-1000-09000-303SU	ZSHD-1000-09000-316SU	ZSHD-1000-09000-104SU	ZSHD-1000-09000-114SU	ZSHD-1000-09000-202SU
12	1/2	.933	ZSHD-1000-12000-303SU	ZSHD-1000-12000-316SU	ZSHD-1000-12000-104SU	ZSHD-1000-12000-114SU	ZSHD-1000-12000-202SU
18	1/2	.933	ZSHD-1000-18000-303SU	ZSHD-1000-18000-316SU	ZSHD-1000-18000-104SU	ZSHD-1000-18000-114SU	ZSHD-1000-18000-202SU
24	1/2	.933	ZSHD-1000-24000-303SU	ZSHD-1000-24000-316SU	ZSHD-1000-24000-104SU	ZSHD-1000-24000-114SU	ZSHD-1000-24000-202SU
36	1/2	.933	ZSHD-1000-36000-303SU	ZSHD-1000-36000-316SU	ZSHD-1000-36000-104SU	ZSHD-1000-36000-114SU	ZSHD-1000-36000-202SU
48	1/2	.933	ZSHD-1000-48000-303SU	ZSHD-1000-48000-316SU	ZSHD-1000-48000-104SU	ZSHD-1000-48000-114SU	ZSHD-1000-48000-202SU
60	1/2	.933	ZSHD-1000-60000-303SU	ZSHD-1000-60000-316SU	ZSHD-1000-60000-104SU	ZSHD-1000-60000-114SU	ZSHD-1000-60000-202SU
72	1/2	.933	ZSHD-1000-72000-303SU	ZSHD-1000-72000-316SU	ZSHD-1000-72000-104SU	ZSHD-1000-72000-114SU	ZSHD-1000-72000-202SU

1-1/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	9/16	1.050	ZSHD-1125-03000-303SU	ZSHD-1125-03000-316SU	ZSHD-1125-03000-104SU	ZSHD-1125-03000-114SU	–
6	9/16	1.050	ZSHD-1125-06000-303SU	ZSHD-1125-06000-316SU	ZSHD-1125-06000-104SU	ZSHD-1125-06000-114SU	–
9	9/16	1.050	ZSHD-1125-09000-303SU	ZSHD-1125-09000-316SU	ZSHD-1125-09000-104SU	ZSHD-1125-09000-114SU	–
12	9/16	1.050	ZSHD-1125-12000-303SU	ZSHD-1125-12000-316SU	ZSHD-1125-12000-104SU	ZSHD-1125-12000-114SU	–
18	9/16	1.050	ZSHD-1125-18000-303SU	ZSHD-1125-18000-316SU	ZSHD-1125-18000-104SU	ZSHD-1125-18000-114SU	–
24	9/16	1.050	ZSHD-1125-24000-303SU	ZSHD-1125-24000-316SU	ZSHD-1125-24000-104SU	ZSHD-1125-24000-114SU	–
36	9/16	1.050	ZSHD-1125-36000-303SU	ZSHD-1125-36000-316SU	ZSHD-1125-36000-104SU	ZSHD-1125-36000-114SU	–
48	9/16	1.050	ZSHD-1125-48000-303SU	ZSHD-1125-48000-316SU	ZSHD-1125-48000-104SU	ZSHD-1125-48000-114SU	–
60	9/16	1.050	ZSHD-1125-60000-303SU	ZSHD-1125-60000-316SU	ZSHD-1125-60000-104SU	ZSHD-1125-60000-114SU	–
72	9/16	1.050	ZSHD-1125-72000-303SU	ZSHD-1125-72000-316SU	ZSHD-1125-72000-104SU	ZSHD-1125-72000-114SU	–

1-3/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	19/32	1.107	ZSHD-1187-03000-303SU	ZSHD-1187-03000-316SU	ZSHD-1187-03000-104SU	ZSHD-1187-03000-114SU
6	19/32	1.107	ZSHD-1187-06000-303SU	ZSHD-1187-06000-316SU	ZSHD-1187-06000-104SU	ZSHD-1187-06000-114SU
9	19/32	1.107	ZSHD-1187-09000-303SU	ZSHD-1187-09000-316SU	ZSHD-1187-09000-104SU	ZSHD-1187-09000-114SU
12	19/32	1.107	ZSHD-1187-12000-303SU	ZSHD-1187-12000-316SU	ZSHD-1187-12000-104SU	ZSHD-1187-12000-114SU
18	19/32	1.107	ZSHD-1187-18000-303SU	ZSHD-1187-18000-316SU	ZSHD-1187-18000-104SU	ZSHD-1187-18000-114SU
24	19/32	1.107	ZSHD-1187-24000-303SU	ZSHD-1187-24000-316SU	ZSHD-1187-24000-104SU	ZSHD-1187-24000-114SU
36	19/32	1.107	ZSHD-1187-36000-303SU	ZSHD-1187-36000-316SU	ZSHD-1187-36000-104SU	ZSHD-1187-36000-114SU
48	19/32	1.107	ZSHD-1187-48000-303SU	ZSHD-1187-48000-316SU	ZSHD-1187-48000-104SU	ZSHD-1187-48000-114SU
60	19/32	1.107	ZSHD-1187-60000-303SU	ZSHD-1187-60000-316SU	ZSHD-1187-60000-104SU	ZSHD-1187-60000-114SU
72	19/32	1.107	ZSHD-1187-72000-303SU	ZSHD-1187-72000-316SU	ZSHD-1187-72000-104SU	ZSHD-1187-72000-114SU

D-Profile Rotary Shafts — Inch



1-1/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	5/8	1.166	ZSHD-1250-03000-303SU	ZSHD-1250-03000-316SU	ZSHD-1250-03000-104SU	ZSHD-1250-03000-114SU
6	5/8	1.166	ZSHD-1250-06000-303SU	ZSHD-1250-06000-316SU	ZSHD-1250-06000-104SU	ZSHD-1250-06000-114SU
9	5/8	1.166	ZSHD-1250-09000-303SU	ZSHD-1250-09000-316SU	ZSHD-1250-09000-104SU	ZSHD-1250-09000-114SU
12	5/8	1.166	ZSHD-1250-12000-303SU	ZSHD-1250-12000-316SU	ZSHD-1250-12000-104SU	ZSHD-1250-12000-114SU
18	5/8	1.166	ZSHD-1250-18000-303SU	ZSHD-1250-18000-316SU	ZSHD-1250-18000-104SU	ZSHD-1250-18000-114SU
24	5/8	1.166	ZSHD-1250-24000-303SU	ZSHD-1250-24000-316SU	ZSHD-1250-24000-104SU	ZSHD-1250-24000-114SU
36	5/8	1.166	ZSHD-1250-36000-303SU	ZSHD-1250-36000-316SU	ZSHD-1250-36000-104SU	ZSHD-1250-36000-114SU
48	5/8	1.166	ZSHD-1250-48000-303SU	ZSHD-1250-48000-316SU	ZSHD-1250-48000-104SU	ZSHD-1250-48000-114SU
60	5/8	1.166	ZSHD-1250-60000-303SU	ZSHD-1250-60000-316SU	ZSHD-1250-60000-104SU	ZSHD-1250-60000-114SU
72	5/8	1.166	ZSHD-1250-72000-303SU	ZSHD-1250-72000-316SU	ZSHD-1250-72000-104SU	ZSHD-1250-72000-114SU

1-5/16 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	21/32	1.224	ZSHD-1312-03000-303SU	ZSHD-1312-03000-316SU	ZSHD-1312-03000-104SU	ZSHD-1312-03000-114SU
6	21/32	1.224	ZSHD-1312-06000-303SU	ZSHD-1312-06000-316SU	ZSHD-1312-06000-104SU	ZSHD-1312-06000-114SU
9	21/32	1.224	ZSHD-1312-09000-303SU	ZSHD-1312-09000-316SU	ZSHD-1312-09000-104SU	ZSHD-1312-09000-114SU
12	21/32	1.224	ZSHD-1312-12000-303SU	ZSHD-1312-12000-316SU	ZSHD-1312-12000-104SU	ZSHD-1312-12000-114SU
18	21/32	1.224	ZSHD-1312-18000-303SU	ZSHD-1312-18000-316SU	ZSHD-1312-18000-104SU	ZSHD-1312-18000-114SU
24	21/32	1.224	ZSHD-1312-24000-303SU	ZSHD-1312-24000-316SU	ZSHD-1312-24000-104SU	ZSHD-1312-24000-114SU
36	21/32	1.224	ZSHD-1312-36000-303SU	ZSHD-1312-36000-316SU	ZSHD-1312-36000-104SU	ZSHD-1312-36000-114SU
48	21/32	1.224	ZSHD-1312-48000-303SU	ZSHD-1312-48000-316SU	ZSHD-1312-48000-104SU	ZSHD-1312-48000-114SU
60	21/32	1.224	ZSHD-1312-60000-303SU	ZSHD-1312-60000-316SU	ZSHD-1312-60000-104SU	ZSHD-1312-60000-114SU
72	21/32	1.224	ZSHD-1312-72000-303SU	ZSHD-1312-72000-316SU	ZSHD-1312-72000-104SU	ZSHD-1312-72000-114SU

1-3/8 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	11/16	1.283	ZSHD-1375-03000-303SU	ZSHD-1375-03000-316SU	ZSHD-1375-03000-104SU	ZSHD-1375-03000-114SU
6	11/16	1.283	ZSHD-1375-06000-303SU	ZSHD-1375-06000-316SU	ZSHD-1375-06000-104SU	ZSHD-1375-06000-114SU
9	11/16	1.283	ZSHD-1375-09000-303SU	ZSHD-1375-09000-316SU	ZSHD-1375-09000-104SU	ZSHD-1375-09000-114SU
12	11/16	1.283	ZSHD-1375-12000-303SU	ZSHD-1375-12000-316SU	ZSHD-1375-12000-104SU	ZSHD-1375-12000-114SU
18	11/16	1.283	ZSHD-1375-18000-303SU	ZSHD-1375-18000-316SU	ZSHD-1375-18000-104SU	ZSHD-1375-18000-114SU
24	11/16	1.283	ZSHD-1375-24000-303SU	ZSHD-1375-24000-316SU	ZSHD-1375-24000-104SU	ZSHD-1375-24000-114SU
36	11/16	1.283	ZSHD-1375-36000-303SU	ZSHD-1375-36000-316SU	ZSHD-1375-36000-104SU	ZSHD-1375-36000-114SU
48	11/16	1.283	ZSHD-1375-48000-303SU	ZSHD-1375-48000-316SU	ZSHD-1375-48000-104SU	ZSHD-1375-48000-114SU
60	11/16	1.283	ZSHD-1375-60000-303SU	ZSHD-1375-60000-316SU	ZSHD-1375-60000-104SU	ZSHD-1375-60000-114SU
72	11/16	1.283	ZSHD-1375-72000-303SU	ZSHD-1375-72000-316SU	ZSHD-1375-72000-104SU	ZSHD-1375-72000-114SU

D-Profile Rotary Shafts — Inch



1-7/16 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	23/32	1.341	ZSHD-1437-03000-303SU	ZSHD-1437-03000-316SU	ZSHD-1437-03000-104SU	ZSHD-1437-03000-114SU
6	23/32	1.341	ZSHD-1437-06000-303SU	ZSHD-1437-06000-316SU	ZSHD-1437-06000-104SU	ZSHD-1437-06000-114SU
9	23/32	1.341	ZSHD-1437-09000-303SU	ZSHD-1437-09000-316SU	ZSHD-1437-09000-104SU	ZSHD-1437-09000-114SU
12	23/32	1.341	ZSHD-1437-12000-303SU	ZSHD-1437-12000-316SU	ZSHD-1437-12000-104SU	ZSHD-1437-12000-114SU
18	23/32	1.341	ZSHD-1437-18000-303SU	ZSHD-1437-18000-316SU	ZSHD-1437-18000-104SU	ZSHD-1437-18000-114SU
24	23/32	1.341	ZSHD-1437-24000-303SU	ZSHD-1437-24000-316SU	ZSHD-1437-24000-104SU	ZSHD-1437-24000-114SU
36	23/32	1.341	ZSHD-1437-36000-303SU	ZSHD-1437-36000-316SU	ZSHD-1437-36000-104SU	ZSHD-1437-36000-114SU
48	23/32	1.341	ZSHD-1437-48000-303SU	ZSHD-1437-48000-316SU	ZSHD-1437-48000-104SU	ZSHD-1437-48000-114SU
60	23/32	1.341	ZSHD-1437-60000-303SU	ZSHD-1437-60000-316SU	ZSHD-1437-60000-104SU	ZSHD-1437-60000-114SU
72	23/32	1.341	ZSHD-1437-72000-303SU	ZSHD-1437-72000-316SU	ZSHD-1437-72000-104SU	ZSHD-1437-72000-114SU

1-1/2 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	3/4	1.400	ZSHD-1500-03000-303SU	ZSHD-1500-03000-316SU	ZSHD-1500-03000-104SU	ZSHD-1500-03000-114SU
6	3/4	1.400	ZSHD-1500-06000-303SU	ZSHD-1500-06000-316SU	ZSHD-1500-06000-104SU	ZSHD-1500-06000-114SU
9	3/4	1.400	ZSHD-1500-09000-303SU	ZSHD-1500-09000-316SU	ZSHD-1500-09000-104SU	ZSHD-1500-09000-114SU
12	3/4	1.400	ZSHD-1500-12000-303SU	ZSHD-1500-12000-316SU	ZSHD-1500-12000-104SU	ZSHD-1500-12000-114SU
18	3/4	1.400	ZSHD-1500-18000-303SU	ZSHD-1500-18000-316SU	ZSHD-1500-18000-104SU	ZSHD-1500-18000-114SU
24	3/4	1.400	ZSHD-1500-24000-303SU	ZSHD-1500-24000-316SU	ZSHD-1500-24000-104SU	ZSHD-1500-24000-114SU
36	3/4	1.400	ZSHD-1500-36000-303SU	ZSHD-1500-36000-316SU	ZSHD-1500-36000-104SU	ZSHD-1500-36000-114SU
48	3/4	1.400	ZSHD-1500-48000-303SU	ZSHD-1500-48000-316SU	ZSHD-1500-48000-104SU	ZSHD-1500-48000-114SU
60	3/4	1.400	ZSHD-1500-60000-303SU	ZSHD-1500-60000-316SU	ZSHD-1500-60000-104SU	ZSHD-1500-60000-114SU
72	3/4	1.400	ZSHD-1500-72000-303SU	ZSHD-1500-72000-316SU	ZSHD-1500-72000-104SU	ZSHD-1500-72000-114SU

1-5/8 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	13/16	1.516	ZSHD-1625-03000-303SU	ZSHD-1625-03000-316SU	ZSHD-1625-03000-104SU	ZSHD-1625-03000-114SU
6	13/16	1.516	ZSHD-1625-06000-303SU	ZSHD-1625-06000-316SU	ZSHD-1625-06000-104SU	ZSHD-1625-06000-114SU
9	13/16	1.516	ZSHD-1625-09000-303SU	ZSHD-1625-09000-316SU	ZSHD-1625-09000-104SU	ZSHD-1625-09000-114SU
12	13/16	1.516	ZSHD-1625-12000-303SU	ZSHD-1625-12000-316SU	ZSHD-1625-12000-104SU	ZSHD-1625-12000-114SU
18	13/16	1.516	ZSHD-1625-18000-303SU	ZSHD-1625-18000-316SU	ZSHD-1625-18000-104SU	ZSHD-1625-18000-114SU
24	13/16	1.516	ZSHD-1625-24000-303SU	ZSHD-1625-24000-316SU	ZSHD-1625-24000-104SU	ZSHD-1625-24000-114SU
36	13/16	1.516	ZSHD-1625-36000-303SU	ZSHD-1625-36000-316SU	ZSHD-1625-36000-104SU	ZSHD-1625-36000-114SU
48	13/16	1.516	ZSHD-1625-48000-303SU	ZSHD-1625-48000-316SU	ZSHD-1625-48000-104SU	ZSHD-1625-48000-114SU
60	13/16	1.516	ZSHD-1625-60000-303SU	ZSHD-1625-60000-316SU	ZSHD-1625-60000-104SU	ZSHD-1625-60000-114SU
72	13/16	1.516	ZSHD-1625-72000-303SU	ZSHD-1625-72000-316SU	ZSHD-1625-72000-104SU	ZSHD-1625-72000-114SU

D-Profile Rotary Shafts — Inch



1-3/4 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	7/8	1.633	ZSHD-1750-03000-303SU	ZSHD-1750-03000-316SU	ZSHD-1750-03000-104SU	ZSHD-1750-03000-114SU
6	7/8	1.633	ZSHD-1750-06000-303SU	ZSHD-1750-06000-316SU	ZSHD-1750-06000-104SU	ZSHD-1750-06000-114SU
9	7/8	1.633	ZSHD-1750-09000-303SU	ZSHD-1750-09000-316SU	ZSHD-1750-09000-104SU	ZSHD-1750-09000-114SU
12	7/8	1.633	ZSHD-1750-12000-303SU	ZSHD-1750-12000-316SU	ZSHD-1750-12000-104SU	ZSHD-1750-12000-114SU
18	7/8	1.633	ZSHD-1750-18000-303SU	ZSHD-1750-18000-316SU	ZSHD-1750-18000-104SU	ZSHD-1750-18000-114SU
24	7/8	1.633	ZSHD-1750-24000-303SU	ZSHD-1750-24000-316SU	ZSHD-1750-24000-104SU	ZSHD-1750-24000-114SU
36	7/8	1.633	ZSHD-1750-36000-303SU	ZSHD-1750-36000-316SU	ZSHD-1750-36000-104SU	ZSHD-1750-36000-114SU
48	7/8	1.633	ZSHD-1750-48000-303SU	ZSHD-1750-48000-316SU	ZSHD-1750-48000-104SU	ZSHD-1750-48000-114SU
60	7/8	1.633	ZSHD-1750-60000-303SU	ZSHD-1750-60000-316SU	ZSHD-1750-60000-104SU	ZSHD-1750-60000-114SU
72	7/8	1.633	ZSHD-1750-72000-303SU	ZSHD-1750-72000-316SU	ZSHD-1750-72000-104SU	ZSHD-1750-72000-114SU

1-7/8 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	15/16	1.749	ZSHD-1875-03000-303SU	ZSHD-1875-03000-316SU	ZSHD-1875-03000-104SU	ZSHD-1875-03000-114SU
6	15/16	1.749	ZSHD-1875-06000-303SU	ZSHD-1875-06000-316SU	ZSHD-1875-06000-104SU	ZSHD-1875-06000-114SU
9	15/16	1.749	ZSHD-1875-09000-303SU	ZSHD-1875-09000-316SU	ZSHD-1875-09000-104SU	ZSHD-1875-09000-114SU
12	15/16	1.749	ZSHD-1875-12000-303SU	ZSHD-1875-12000-316SU	ZSHD-1875-12000-104SU	ZSHD-1875-12000-114SU
18	15/16	1.749	ZSHD-1875-18000-303SU	ZSHD-1875-18000-316SU	ZSHD-1875-18000-104SU	ZSHD-1875-18000-114SU
24	15/16	1.749	ZSHD-1875-24000-303SU	ZSHD-1875-24000-316SU	ZSHD-1875-24000-104SU	ZSHD-1875-24000-114SU
36	15/16	1.749	ZSHD-1875-36000-303SU	ZSHD-1875-36000-316SU	ZSHD-1875-36000-104SU	ZSHD-1875-36000-114SU
48	15/16	1.749	ZSHD-1875-48000-303SU	ZSHD-1875-48000-316SU	ZSHD-1875-48000-104SU	ZSHD-1875-48000-114SU
60	15/16	1.749	ZSHD-1875-60000-303SU	ZSHD-1875-60000-316SU	ZSHD-1875-60000-104SU	ZSHD-1875-60000-114SU
72	15/16	1.749	ZSHD-1875-72000-303SU	ZSHD-1875-72000-316SU	ZSHD-1875-72000-104SU	ZSHD-1875-72000-114SU

1-15/16 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	31/32	1.816	ZSHD-1937-03000-303SU	ZSHD-1937-03000-316SU	ZSHD-1937-03000-104SU	ZSHD-1937-03000-114SU
6	31/32	1.816	ZSHD-1937-06000-303SU	ZSHD-1937-06000-316SU	ZSHD-1937-06000-104SU	ZSHD-1937-06000-114SU
9	31/32	1.816	ZSHD-1937-09000-303SU	ZSHD-1937-09000-316SU	ZSHD-1937-09000-104SU	ZSHD-1937-09000-114SU
12	31/32	1.816	ZSHD-1937-12000-303SU	ZSHD-1937-12000-316SU	ZSHD-1937-12000-104SU	ZSHD-1937-12000-114SU
18	31/32	1.816	ZSHD-1937-18000-303SU	ZSHD-1937-18000-316SU	ZSHD-1937-18000-104SU	ZSHD-1937-18000-114SU
24	31/32	1.816	ZSHD-1937-24000-303SU	ZSHD-1937-24000-316SU	ZSHD-1937-24000-104SU	ZSHD-1937-24000-114SU
36	31/32	1.816	ZSHD-1937-36000-303SU	ZSHD-1937-36000-316SU	ZSHD-1937-36000-104SU	ZSHD-1937-36000-114SU
48	31/32	1.816	ZSHD-1937-48000-303SU	ZSHD-1937-48000-316SU	ZSHD-1937-48000-104SU	ZSHD-1937-48000-114SU
60	31/32	1.816	ZSHD-1937-60000-303SU	ZSHD-1937-60000-316SU	ZSHD-1937-60000-104SU	ZSHD-1937-60000-114SU
72	31/32	1.816	ZSHD-1937-72000-303SU	ZSHD-1937-72000-316SU	ZSHD-1937-72000-104SU	ZSHD-1937-72000-114SU

D-Profile Rotary Shafts — Inch



2 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1	1.866	ZSHD-2000-03000-303SU	ZSHD-2000-03000-316SU	ZSHD-2000-03000-104SU	ZSHD-2000-03000-114SU
6	1	1.866	ZSHD-2000-06000-303SU	ZSHD-2000-06000-316SU	ZSHD-2000-06000-104SU	ZSHD-2000-06000-114SU
9	1	1.866	ZSHD-2000-09000-303SU	ZSHD-2000-09000-316SU	ZSHD-2000-09000-104SU	ZSHD-2000-09000-114SU
12	1	1.866	ZSHD-2000-12000-303SU	ZSHD-2000-12000-316SU	ZSHD-2000-12000-104SU	ZSHD-2000-12000-114SU
18	1	1.866	ZSHD-2000-18000-303SU	ZSHD-2000-18000-316SU	ZSHD-2000-18000-104SU	ZSHD-2000-18000-114SU
24	1	1.866	ZSHD-2000-24000-303SU	ZSHD-2000-24000-316SU	ZSHD-2000-24000-104SU	ZSHD-2000-24000-114SU
36	1	1.866	ZSHD-2000-36000-303SU	ZSHD-2000-36000-316SU	ZSHD-2000-36000-104SU	ZSHD-2000-36000-114SU
48	1	1.866	ZSHD-2000-48000-303SU	ZSHD-2000-48000-316SU	ZSHD-2000-48000-104SU	ZSHD-2000-48000-114SU
60	1	1.866	ZSHD-2000-60000-303SU	ZSHD-2000-60000-316SU	ZSHD-2000-60000-104SU	ZSHD-2000-60000-114SU
72	1	1.866	ZSHD-2000-72000-303SU	ZSHD-2000-72000-316SU	ZSHD-2000-72000-104SU	ZSHD-2000-72000-114SU

2-1/8 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1-1/16	1.983	ZSHD-2125-03000-303SU	ZSHD-2125-03000-316SU	ZSHD-2125-03000-104SU	ZSHD-2125-03000-114SU
6	1-1/16	1.983	ZSHD-2125-06000-303SU	ZSHD-2125-06000-316SU	ZSHD-2125-06000-104SU	ZSHD-2125-06000-114SU
9	1-1/16	1.983	ZSHD-2125-09000-303SU	ZSHD-2125-09000-316SU	ZSHD-2125-09000-104SU	ZSHD-2125-09000-114SU
12	1-1/16	1.983	ZSHD-2125-12000-303SU	ZSHD-2125-12000-316SU	ZSHD-2125-12000-104SU	ZSHD-2125-12000-114SU
18	1-1/16	1.983	ZSHD-2125-18000-303SU	ZSHD-2125-18000-316SU	ZSHD-2125-18000-104SU	ZSHD-2125-18000-114SU
24	1-1/16	1.983	ZSHD-2125-24000-303SU	ZSHD-2125-24000-316SU	ZSHD-2125-24000-104SU	ZSHD-2125-24000-114SU
36	1-1/16	1.983	ZSHD-2125-36000-303SU	ZSHD-2125-36000-316SU	ZSHD-2125-36000-104SU	ZSHD-2125-36000-114SU
48	1-1/16	1.983	ZSHD-2125-48000-303SU	ZSHD-2125-48000-316SU	ZSHD-2125-48000-104SU	ZSHD-2125-48000-114SU
60	1-1/16	1.983	ZSHD-2125-60000-303SU	ZSHD-2125-60000-316SU	ZSHD-2125-60000-104SU	ZSHD-2125-60000-114SU
72	1-1/16	1.983	ZSHD-2125-72000-303SU	ZSHD-2125-72000-316SU	ZSHD-2125-72000-104SU	ZSHD-2125-72000-114SU

2-3/16 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1-3/32	2.040	ZSHD-2187-03000-303SU	ZSHD-2187-03000-316SU	ZSHD-2187-03000-104SU	ZSHD-2187-03000-114SU
6	1-3/32	2.040	ZSHD-2187-06000-303SU	ZSHD-2187-06000-316SU	ZSHD-2187-06000-104SU	ZSHD-2187-06000-114SU
9	1-3/32	2.040	ZSHD-2187-09000-303SU	ZSHD-2187-09000-316SU	ZSHD-2187-09000-104SU	ZSHD-2187-09000-114SU
12	1-3/32	2.040	ZSHD-2187-12000-303SU	ZSHD-2187-12000-316SU	ZSHD-2187-12000-104SU	ZSHD-2187-12000-114SU
18	1-3/32	2.040	ZSHD-2187-18000-303SU	ZSHD-2187-18000-316SU	ZSHD-2187-18000-104SU	ZSHD-2187-18000-114SU
24	1-3/32	2.040	ZSHD-2187-24000-303SU	ZSHD-2187-24000-316SU	ZSHD-2187-24000-104SU	ZSHD-2187-24000-114SU
36	1-3/32	2.040	ZSHD-2187-36000-303SU	ZSHD-2187-36000-316SU	ZSHD-2187-36000-104SU	ZSHD-2187-36000-114SU
48	1-3/32	2.040	ZSHD-2187-48000-303SU	ZSHD-2187-48000-316SU	ZSHD-2187-48000-104SU	ZSHD-2187-48000-114SU
60	1-3/32	2.040	ZSHD-2187-60000-303SU	ZSHD-2187-60000-316SU	ZSHD-2187-60000-104SU	ZSHD-2187-60000-114SU
72	1-3/32	2.040	ZSHD-2187-72000-303SU	ZSHD-2187-72000-316SU	ZSHD-2187-72000-104SU	ZSHD-2187-72000-114SU

D-Profile Rotary Shafts — Inch



2-3/8 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1-3/16	2.216	ZSHD-2375-03000-303SU	ZSHD-2375-03000-316SU	ZSHD-2375-03000-104SU	ZSHD-2375-03000-114SU
6	1-3/16	2.216	ZSHD-2375-06000-303SU	ZSHD-2375-06000-316SU	ZSHD-2375-06000-104SU	ZSHD-2375-06000-114SU
9	1-3/16	2.216	ZSHD-2375-09000-303SU	ZSHD-2375-09000-316SU	ZSHD-2375-09000-104SU	ZSHD-2375-09000-114SU
12	1-3/16	2.216	ZSHD-2375-12000-303SU	ZSHD-2375-12000-316SU	ZSHD-2375-12000-104SU	ZSHD-2375-12000-114SU
18	1-3/16	2.216	ZSHD-2375-18000-303SU	ZSHD-2375-18000-316SU	ZSHD-2375-18000-104SU	ZSHD-2375-18000-114SU
24	1-3/16	2.216	ZSHD-2375-24000-303SU	ZSHD-2375-24000-316SU	ZSHD-2375-24000-104SU	ZSHD-2375-24000-114SU
36	1-3/16	2.216	ZSHD-2375-36000-303SU	ZSHD-2375-36000-316SU	ZSHD-2375-36000-104SU	ZSHD-2375-36000-114SU
48	1-3/16	2.216	ZSHD-2375-48000-303SU	ZSHD-2375-48000-316SU	ZSHD-2375-48000-104SU	ZSHD-2375-48000-114SU
60	1-3/16	2.216	ZSHD-2375-60000-303SU	ZSHD-2375-60000-316SU	ZSHD-2375-60000-104SU	ZSHD-2375-60000-114SU
72	1-3/16	2.216	ZSHD-2375-72000-303SU	ZSHD-2375-72000-316SU	ZSHD-2375-72000-104SU	ZSHD-2375-72000-114SU

2-7/16 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1-7/32	2.274	ZSHD-2437-03000-303SU	ZSHD-2437-03000-316SU	ZSHD-2437-03000-104SU	ZSHD-2437-03000-114SU
6	1-7/32	2.274	ZSHD-2437-06000-303SU	ZSHD-2437-06000-316SU	ZSHD-2437-06000-104SU	ZSHD-2437-06000-114SU
9	1-7/32	2.274	ZSHD-2437-09000-303SU	ZSHD-2437-09000-316SU	ZSHD-2437-09000-104SU	ZSHD-2437-09000-114SU
12	1-7/32	2.274	ZSHD-2437-12000-303SU	ZSHD-2437-12000-316SU	ZSHD-2437-12000-104SU	ZSHD-2437-12000-114SU
18	1-7/32	2.274	ZSHD-2437-18000-303SU	ZSHD-2437-18000-316SU	ZSHD-2437-18000-104SU	ZSHD-2437-18000-114SU
24	1-7/32	2.274	ZSHD-2437-24000-303SU	ZSHD-2437-24000-316SU	ZSHD-2437-24000-104SU	ZSHD-2437-24000-114SU
36	1-7/32	2.274	ZSHD-2437-36000-303SU	ZSHD-2437-36000-316SU	ZSHD-2437-36000-104SU	ZSHD-2437-36000-114SU
48	1-7/32	2.274	ZSHD-2437-48000-303SU	ZSHD-2437-48000-316SU	ZSHD-2437-48000-104SU	ZSHD-2437-48000-114SU
60	1-7/32	2.274	ZSHD-2437-60000-303SU	ZSHD-2437-60000-316SU	ZSHD-2437-60000-104SU	ZSHD-2437-60000-114SU
72	1-7/32	2.274	ZSHD-2437-72000-303SU	ZSHD-2437-72000-316SU	ZSHD-2437-72000-104SU	ZSHD-2437-72000-114SU

2.624 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
6	1-5/16	2.449	ZSHD-2624-06000-303SU	ZSHD-2624-06000-316SU	ZSHD-2624-06000-104SU	ZSHD-2624-06000-114SU
9	1-5/16	2.449	ZSHD-2624-09000-303SU	ZSHD-2624-09000-316SU	ZSHD-2624-09000-104SU	ZSHD-2624-09000-114SU
12	1-5/16	2.449	ZSHD-2624-12000-303SU	ZSHD-2624-12000-316SU	ZSHD-2624-12000-104SU	ZSHD-2624-12000-114SU
18	1-5/16	2.449	ZSHD-2624-18000-303SU	ZSHD-2624-18000-316SU	ZSHD-2624-18000-104SU	ZSHD-2624-18000-114SU
24	1-5/16	2.449	ZSHD-2624-24000-303SU	ZSHD-2624-24000-316SU	ZSHD-2624-24000-104SU	ZSHD-2624-24000-114SU
36	1-5/16	2.449	ZSHD-2624-36000-303SU	ZSHD-2624-36000-316SU	ZSHD-2624-36000-104SU	ZSHD-2624-36000-114SU
48	1-5/16	2.449	ZSHD-2624-48000-303SU	ZSHD-2624-48000-316SU	ZSHD-2624-48000-104SU	ZSHD-2624-48000-114SU

D-Profile Rotary Shafts — Inch



2-7/8 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
6	1-7/16	2.682	ZSHD-2875-06000-303SU	ZSHD-2875-06000-316SU	ZSHD-2875-06000-104SU	ZSHD-2875-06000-114SU
9	1-7/16	2.682	ZSHD-2875-09000-303SU	ZSHD-2875-09000-316SU	ZSHD-2875-09000-104SU	ZSHD-2875-09000-114SU
12	1-7/16	2.682	ZSHD-2875-12000-303SU	ZSHD-2875-12000-316SU	ZSHD-2875-12000-104SU	ZSHD-2875-12000-114SU
18	1-7/16	2.682	ZSHD-2875-18000-303SU	ZSHD-2875-18000-316SU	ZSHD-2875-18000-104SU	ZSHD-2875-18000-114SU
24	1-7/16	2.682	ZSHD-2875-24000-303SU	ZSHD-2875-24000-316SU	ZSHD-2875-24000-104SU	ZSHD-2875-24000-114SU
36	1-7/16	2.682	ZSHD-2875-36000-303SU	ZSHD-2875-36000-316SU	ZSHD-2875-36000-104SU	ZSHD-2875-36000-114SU
48	1-7/16	2.682	ZSHD-2875-48000-303SU	ZSHD-2875-48000-316SU	ZSHD-2875-48000-104SU	ZSHD-2875-48000-114SU

3-3/8 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	Flat Wd.	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
6	1-5/8	3.167	ZSHD-3375-06000-303SU	ZSHD-3375-06000-316SU	ZSHD-3375-06000-104SU	ZSHD-3375-06000-114SU
9	1-5/8	3.167	ZSHD-3375-09000-303SU	ZSHD-3375-09000-316SU	ZSHD-3375-09000-104SU	ZSHD-3375-09000-114SU
12	1-5/8	3.167	ZSHD-3375-12000-303SU	ZSHD-3375-12000-316SU	ZSHD-3375-12000-104SU	ZSHD-3375-12000-114SU
18	1-5/8	3.167	ZSHD-3375-18000-303SU	ZSHD-3375-18000-316SU	ZSHD-3375-18000-104SU	ZSHD-3375-18000-114SU
24	1-5/8	3.167	ZSHD-3375-24000-303SU	ZSHD-3375-24000-316SU	ZSHD-3375-24000-104SU	ZSHD-3375-24000-114SU
36	1-5/8	3.167	ZSHD-3375-36000-303SU	ZSHD-3375-36000-316SU	ZSHD-3375-36000-104SU	ZSHD-3375-36000-114SU
48	1-5/8	3.167	ZSHD-3375-48000-303SU	ZSHD-3375-48000-316SU	ZSHD-3375-48000-104SU	ZSHD-3375-48000-114SU

D-Profile Rotary Shafts — Metric

18-8 & 316 SS, Steel

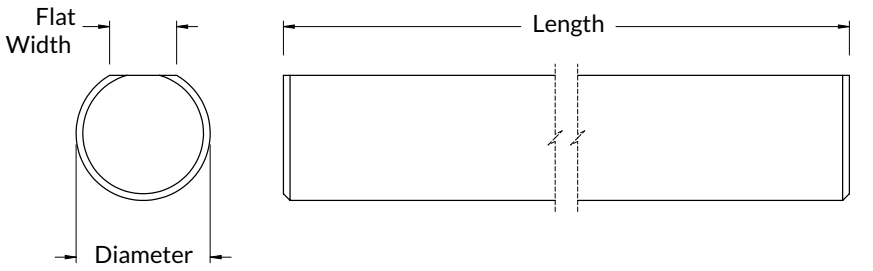
Product Information

D-Profile shafts are a specialized type of rotary shaft, offering a unique mounting solution. Unlike keyed shafts that rely on a keyway and key for torque transmission, D-Profile shafts feature a flattened surface area along a portion of their circumference. This flat allows set screws to engage the shaft for securely mounting gears, bearings, and other components, eliminating the need for complex keyways. These shafts are available in various configurations, including full D-profile length or partially D-profile length at each end, providing flexibility for diverse mechanical applications.

All shafts are made in the USA from DFARS compliant & RoHS compliant materials and shafts are fully lot traceable.

Length tolerance is +/-1.6mm and straightness tolerance is .33mm per 300mm.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.





Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic

8mm Diameter (Tolerance +0/-.0635)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	4.00	7.50	ZSHD-M08-M0300-303SU	ZSHD-M08-M0300-316SU	ZSHD-M08-M0300-104SU	ZSHD-M08-M0300-114SU
500	4.00	7.50	ZSHD-M08-M0500-303SU	ZSHD-M08-M0500-316SU	ZSHD-M08-M0500-104SU	ZSHD-M08-M0500-114SU
1,000	4.00	7.50	ZSHD-M08-M1000-303SU	ZSHD-M08-M1000-316SU	ZSHD-M08-M1000-104SU	ZSHD-M08-M1000-114SU
1,200	4.00	7.50	ZSHD-M08-M1200-303SU	ZSHD-M08-M1200-316SU	ZSHD-M08-M1200-104SU	ZSHD-M08-M1200-114SU
1,500	4.00	7.50	ZSHD-M08-M1500-303SU	ZSHD-M08-M1500-316SU	ZSHD-M08-M1500-104SU	ZSHD-M08-M1500-114SU
1,800	4.00	7.50	ZSHD-M08-M1800-303SU	ZSHD-M08-M1800-316SU	ZSHD-M08-M1800-104SU	ZSHD-M08-M1800-114SU

D-Profile Rotary Shafts — Metric

18-8 & 316 SS, Steel



10mm Diameter (Tolerance +0/-.0635)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	5.00	9.30	ZSHD-M10-M0300-303SU	ZSHD-M10-M0300-316SU	ZSHD-M10-M0300-104SU	ZSHD-M10-M0300-114SU
500	5.00	9.30	ZSHD-M10-M0500-303SU	ZSHD-M10-M0500-316SU	ZSHD-M10-M0500-104SU	ZSHD-M10-M0500-114SU
1,000	5.00	9.30	ZSHD-M10-M1000-303SU	ZSHD-M10-M1000-316SU	ZSHD-M10-M1000-104SU	ZSHD-M10-M1000-114SU
1,200	5.00	9.30	ZSHD-M10-M1200-303SU	ZSHD-M10-M1200-316SU	ZSHD-M10-M1200-104SU	ZSHD-M10-M1200-114SU
1,500	5.00	9.30	ZSHD-M10-M1500-303SU	ZSHD-M10-M1500-316SU	ZSHD-M10-M1500-104SU	ZSHD-M10-M1500-114SU
1,800	5.00	9.30	ZSHD-M10-M1800-303SU	ZSHD-M10-M1800-316SU	ZSHD-M10-M1800-104SU	ZSHD-M10-M1800-114SU

12mm Diameter (Tolerance +0/-.0635)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	6.00	11.20	ZSHD-M12-M0300-303SU	ZSHD-M12-M0300-316SU	ZSHD-M12-M0300-104SU	ZSHD-M12-M0300-114SU
500	6.00	11.20	ZSHD-M12-M0500-303SU	ZSHD-M12-M0500-316SU	ZSHD-M12-M0500-104SU	ZSHD-M12-M0500-114SU
1,000	6.00	11.20	ZSHD-M12-M1000-303SU	ZSHD-M12-M1000-316SU	ZSHD-M12-M1000-104SU	ZSHD-M12-M1000-114SU
1,200	6.00	11.20	ZSHD-M12-M1200-303SU	ZSHD-M12-M1200-316SU	ZSHD-M12-M1200-104SU	ZSHD-M12-M1200-114SU
1,500	6.00	11.20	ZSHD-M12-M1500-303SU	ZSHD-M12-M1500-316SU	ZSHD-M12-M1500-104SU	ZSHD-M12-M1500-114SU
1,800	6.00	11.20	ZSHD-M12-M1800-303SU	ZSHD-M12-M1800-316SU	ZSHD-M12-M1800-104SU	ZSHD-M12-M1800-114SU

15mm Diameter (Tolerance +0/-.0635)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	7.50	14.00	ZSHD-M15-M0300-303SU	ZSHD-M15-M0300-316SU	ZSHD-M15-M0300-104SU	ZSHD-M15-M0300-114SU
500	7.50	14.00	ZSHD-M15-M0500-303SU	ZSHD-M15-M0500-316SU	ZSHD-M15-M0500-104SU	ZSHD-M15-M0500-114SU
1,000	7.50	14.00	ZSHD-M15-M1000-303SU	ZSHD-M15-M1000-316SU	ZSHD-M15-M1000-104SU	ZSHD-M15-M1000-114SU
1,200	7.50	14.00	ZSHD-M15-M1200-303SU	ZSHD-M15-M1200-316SU	ZSHD-M15-M1200-104SU	ZSHD-M15-M1200-114SU
1,500	7.50	14.00	ZSHD-M15-M1500-303SU	ZSHD-M15-M1500-316SU	ZSHD-M15-M1500-104SU	ZSHD-M15-M1500-114SU
1,800	7.50	14.00	ZSHD-M15-M1800-303SU	ZSHD-M15-M1800-316SU	ZSHD-M15-M1800-104SU	ZSHD-M15-M1800-114SU

17mm Diameter (Tolerance +0/-.0635)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	8.50	15.80	ZSHD-M17-M0300-303SU	ZSHD-M17-M0300-316SU	ZSHD-M17-M0300-104SU	ZSHD-M17-M0300-114SU
500	8.50	15.80	ZSHD-M17-M0500-303SU	ZSHD-M17-M0500-316SU	ZSHD-M17-M0500-104SU	ZSHD-M17-M0500-114SU
1,000	8.50	15.80	ZSHD-M17-M1000-303SU	ZSHD-M17-M1000-316SU	ZSHD-M17-M1000-104SU	ZSHD-M17-M1000-114SU
1,200	8.50	15.80	ZSHD-M17-M1200-303SU	ZSHD-M17-M1200-316SU	ZSHD-M17-M1200-104SU	ZSHD-M17-M1200-114SU
1,500	8.50	15.80	ZSHD-M17-M1700-303SU	ZSHD-M17-M1700-316SU	ZSHD-M17-M1700-104SU	ZSHD-M17-M1700-114SU
1,800	8.50	15.80	ZSHD-M17-M1800-303SU	ZSHD-M17-M1800-316SU	ZSHD-M17-M1800-104SU	ZSHD-M17-M1800-114SU

D-Profile Rotary Shafts — Metric



20mm Diameter (Tolerance +0/-.0635)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	10.00	18.60	ZSHD-M20-M0300-303SU	ZSHD-M20-M0300-316SU	ZSHD-M20-M0300-104SU	ZSHD-M20-M0300-114SU
500	10.00	18.60	ZSHD-M20-M0500-303SU	ZSHD-M20-M0500-316SU	ZSHD-M20-M0500-104SU	ZSHD-M20-M0500-114SU
1,000	10.00	18.60	ZSHD-M20-M1000-303SU	ZSHD-M20-M1000-316SU	ZSHD-M20-M1000-104SU	ZSHD-M20-M1000-114SU
1,200	10.00	18.60	ZSHD-M20-M1200-303SU	ZSHD-M20-M1200-316SU	ZSHD-M20-M1200-104SU	ZSHD-M20-M1200-114SU
1,500	10.00	18.60	ZSHD-M20-M1500-303SU	ZSHD-M20-M1500-316SU	ZSHD-M20-M1500-104SU	ZSHD-M20-M1500-114SU
1,800	10.00	18.60	ZSHD-M20-M1800-303SU	ZSHD-M20-M1800-316SU	ZSHD-M20-M1800-104SU	ZSHD-M20-M1800-114SU

24mm Diameter (Tolerance +0/-.0635)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	12.00	22.40	ZSHD-M24-M0300-303SU	ZSHD-M24-M0300-316SU	ZSHD-M24-M0300-104SU	ZSHD-M24-M0300-114SU
500	12.00	22.40	ZSHD-M24-M0500-303SU	ZSHD-M24-M0500-316SU	ZSHD-M24-M0500-104SU	ZSHD-M24-M0500-114SU
1,000	12.00	22.40	ZSHD-M24-M1000-303SU	ZSHD-M24-M1000-316SU	ZSHD-M24-M1000-104SU	ZSHD-M24-M1000-114SU
1,200	12.00	22.40	ZSHD-M24-M1200-303SU	ZSHD-M24-M1200-316SU	ZSHD-M24-M1200-104SU	ZSHD-M24-M1200-114SU
1,500	12.00	22.40	ZSHD-M24-M1500-303SU	ZSHD-M24-M1500-316SU	ZSHD-M24-M1500-104SU	ZSHD-M24-M1500-114SU
1,800	12.00	22.40	ZSHD-M24-M1800-303SU	ZSHD-M24-M1800-316SU	ZSHD-M24-M1800-104SU	ZSHD-M24-M1800-114SU

25mm Diameter (Tolerance +0/-.0635)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	12.50	23.30	ZSHD-M25-M0300-303SU	ZSHD-M25-M0300-316SU	ZSHD-M25-M0300-104SU	ZSHD-M25-M0300-114SU
500	12.50	23.30	ZSHD-M25-M0500-303SU	ZSHD-M25-M0500-316SU	ZSHD-M25-M0500-104SU	ZSHD-M25-M0500-114SU
1,000	12.50	23.30	ZSHD-M25-M1000-303SU	ZSHD-M25-M1000-316SU	ZSHD-M25-M1000-104SU	ZSHD-M25-M1000-114SU
1,200	12.50	23.30	ZSHD-M25-M1200-303SU	ZSHD-M25-M1200-316SU	ZSHD-M25-M1200-104SU	ZSHD-M25-M1200-114SU
1,500	12.50	23.30	ZSHD-M25-M1500-303SU	ZSHD-M25-M1500-316SU	ZSHD-M25-M1500-104SU	ZSHD-M25-M1500-114SU
1,800	12.50	23.30	ZSHD-M25-M1800-303SU	ZSHD-M25-M1800-316SU	ZSHD-M25-M1800-104SU	ZSHD-M25-M1800-114SU

28mm Diameter (Tolerance +0/-.0635)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	14.00	26.10	ZSHD-M28-M0300-303SU	ZSHD-M28-M0300-316SU	ZSHD-M28-M0300-104SU	ZSHD-M28-M0300-114SU
500	14.00	26.10	ZSHD-M28-M0500-303SU	ZSHD-M28-M0500-316SU	ZSHD-M28-M0500-104SU	ZSHD-M28-M0500-114SU
1,000	14.00	26.10	ZSHD-M28-M1000-303SU	ZSHD-M28-M1000-316SU	ZSHD-M28-M1000-104SU	ZSHD-M28-M1000-114SU
1,200	14.00	26.10	ZSHD-M28-M1200-303SU	ZSHD-M28-M1200-316SU	ZSHD-M28-M1200-104SU	ZSHD-M28-M1200-114SU
1,500	14.00	26.10	ZSHD-M28-M2800-303SU	ZSHD-M28-M2800-316SU	ZSHD-M28-M2800-104SU	ZSHD-M28-M2800-114SU
1,800	14.00	26.10	ZSHD-M28-M1800-303SU	ZSHD-M28-M1800-316SU	ZSHD-M28-M1800-104SU	ZSHD-M28-M1800-114SU

D-Profile Rotary Shafts — Metric

18-8 & 316 SS, Steel



38mm Diameter (Tolerance +0/-.076mm)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	19.00	35.50	ZSHD-M38-M0300-303SU	ZSHD-M38-M0300-316SU	ZSHD-M38-M0300-104SU	ZSHD-M38-M0300-114SU
500	19.00	35.50	ZSHD-M38-M0500-303SU	ZSHD-M38-M0500-316SU	ZSHD-M38-M0500-104SU	ZSHD-M38-M0500-114SU
1,000	19.00	35.50	ZSHD-M38-M1000-303SU	ZSHD-M38-M1000-316SU	ZSHD-M38-M1000-104SU	ZSHD-M38-M1000-114SU
1,200	19.00	35.50	ZSHD-M38-M1200-303SU	ZSHD-M38-M1200-316SU	ZSHD-M38-M1200-104SU	ZSHD-M38-M1200-114SU
1,500	19.00	35.50	ZSHD-M38-M3800-303SU	ZSHD-M38-M3800-316SU	ZSHD-M38-M3800-104SU	ZSHD-M38-M3800-114SU
1,800	19.00	35.50	ZSHD-M38-M1800-303SU	ZSHD-M38-M1800-316SU	ZSHD-M38-M1800-104SU	ZSHD-M38-M1800-114SU

40mm Diameter (Tolerance +0/-.076mm)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	12.50	23.30	ZSHD-M25-M0300-303SU	ZSHD-M25-M0300-316SU	ZSHD-M25-M0300-104SU	ZSHD-M25-M0300-114SU
500	12.50	23.30	ZSHD-M25-M0500-303SU	ZSHD-M25-M0500-316SU	ZSHD-M25-M0500-104SU	ZSHD-M25-M0500-114SU
1,000	12.50	23.30	ZSHD-M25-M1000-303SU	ZSHD-M25-M1000-316SU	ZSHD-M25-M1000-104SU	ZSHD-M25-M1000-114SU
1,200	12.50	23.30	ZSHD-M25-M1200-303SU	ZSHD-M25-M1200-316SU	ZSHD-M25-M1200-104SU	ZSHD-M25-M1200-114SU
1,500	12.50	23.30	ZSHD-M25-M1500-303SU	ZSHD-M25-M1500-316SU	ZSHD-M25-M1500-104SU	ZSHD-M25-M1500-114SU
1,800	12.50	23.30	ZSHD-M25-M1800-303SU	ZSHD-M25-M1800-316SU	ZSHD-M25-M1800-104SU	ZSHD-M25-M1800-114SU

42mm Diameter (Tolerance +0/-.076mm)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	21.00	39.20	ZSHD-M42-M0300-303SU	ZSHD-M42-M0300-316SU	ZSHD-M42-M0300-104SU	ZSHD-M42-M0300-114SU
500	21.00	39.20	ZSHD-M42-M0500-303SU	ZSHD-M42-M0500-316SU	ZSHD-M42-M0500-104SU	ZSHD-M42-M0500-114SU
1,000	21.00	39.20	ZSHD-M42-M1000-303SU	ZSHD-M42-M1000-316SU	ZSHD-M42-M1000-104SU	ZSHD-M42-M1000-114SU

50mm Diameter (Tolerance +0/-.076mm)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	25.00	46.70	ZSHD-M50-M0300-303SU	ZSHD-M50-M0300-316SU	ZSHD-M50-M0300-104SU	ZSHD-M50-M0300-114SU
500	25.00	46.70	ZSHD-M50-M0500-303SU	ZSHD-M50-M0500-316SU	ZSHD-M50-M0500-104SU	ZSHD-M50-M0500-114SU
1,000	25.00	46.70	ZSHD-M50-M1000-303SU	ZSHD-M50-M1000-316SU	ZSHD-M50-M1000-104SU	ZSHD-M50-M1000-114SU
1,200	25.00	46.70	ZSHD-M50-M1200-303SU	ZSHD-M50-M1200-316SU	ZSHD-M50-M1200-104SU	ZSHD-M50-M1200-114SU
1,500	25.00	46.70	ZSHD-M50-M1500-303SU	ZSHD-M50-M1500-316SU	ZSHD-M50-M1500-104SU	ZSHD-M50-M1500-114SU
1,800	25.00	46.70	ZSHD-M50-M1800-303SU	ZSHD-M50-M1800-316SU	ZSHD-M50-M1800-104SU	ZSHD-M50-M1800-114SU

55mm Diameter (Tolerance +0/-.076mm)

O'all Lg (mm)	Flat Width	Dim, Flat to Top	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	27.50	51.30	ZSHD-M55-M0300-303SU	ZSHD-M55-M0300-316SU	ZSHD-M55-M0300-104SU	ZSHD-M55-M0300-114SU
500	27.50	51.30	ZSHD-M55-M0500-303SU	ZSHD-M55-M0500-316SU	ZSHD-M55-M0500-104SU	ZSHD-M55-M0500-114SU
1,000	27.50	51.30	ZSHD-M55-M1000-303SU	ZSHD-M55-M1000-316SU	ZSHD-M55-M1000-104SU	ZSHD-M55-M1000-114SU

D-Profile Partial Ends Rotary Shafts — Inch

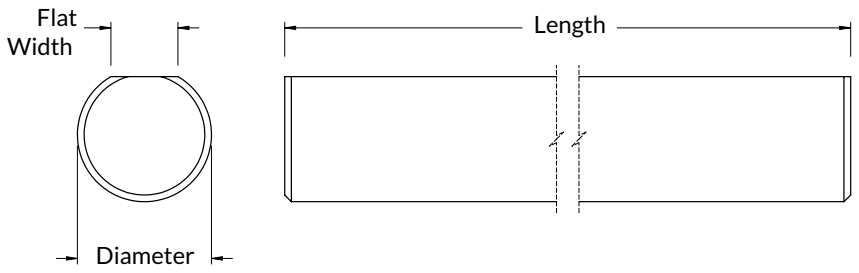
18-8 & 316 SS, Steel, Aluminum

Product Information

D-Profile shafts are a specialized type of rotary shaft, offering a unique mounting solution. Unlike keyed shafts that rely on a keyway and key for torque transmission, D-Profile shafts feature a flattened surface area along a portion of their circumference. This flat allows set screws to engage the shaft for securely mounting gears, bearings, and other components, eliminating the need for complex keyways. Partial D-profile rotary shafts have a flat section milled into each end to prevent slippage between the shaft and the rotating machine element. They are used in high-precision applications such as robotics and drive systems. All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable.

Length tolerance is +/-.062 and straightness tolerance is 0.012 in/ft.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- Aluminum shafts are lightweight, corrosion resistant and nonmagnetic. They have a T4 temper, which means they have been heat treated for increased strength.
- Aluminum shafts have the strength of mild steel with one third the weight.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.





Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic
2024 Aluminum	Ground & Polished	Chamfered	ASTM B211	B75	68,000	Nonmagnetic

D-Profile Partial Ends Rotary Shafts — Inch



5/16 Diameter (±0.0025 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	5/32	.292	1.00	ZSHDD-312-03000-303SU	ZSHDD-312-03000-316SU	ZSHDD-312-03000-104SU	ZSHDD-312-03000-114SU	ZSHDD-312-03000-202SU
6	5/32	.292	2.00	ZSHDD-312-06000-303SU	ZSHDD-312-06000-316SU	ZSHDD-312-06000-104SU	ZSHDD-312-06000-114SU	ZSHDD-312-06000-202SU
9	5/32	.292	3.00	ZSHDD-312-09000-303SU	ZSHDD-312-09000-316SU	ZSHDD-312-09000-104SU	ZSHDD-312-09000-114SU	ZSHDD-312-09000-202SU
12	5/32	.292	4.00	ZSHDD-312-12000-303SU	ZSHDD-312-12000-316SU	ZSHDD-312-12000-104SU	ZSHDD-312-12000-114SU	ZSHDD-312-12000-202SU
18	5/32	.292	4.00	ZSHDD-312-18000-303SU	ZSHDD-312-18000-316SU	ZSHDD-312-18000-104SU	ZSHDD-312-18000-114SU	ZSHDD-312-18000-202SU
24	5/32	.292	6.00	ZSHDD-312-24000-303SU	ZSHDD-312-24000-316SU	ZSHDD-312-24000-104SU	ZSHDD-312-24000-114SU	ZSHDD-312-24000-202SU
36	5/32	.292	6.00	ZSHDD-312-36000-303SU	ZSHDD-312-36000-316SU	ZSHDD-312-36000-104SU	ZSHDD-312-36000-114SU	ZSHDD-312-36000-202SU
48	5/32	.292	6.00	ZSHDD-312-48000-303SU	ZSHDD-312-48000-316SU	ZSHDD-312-48000-104SU	ZSHDD-312-48000-114SU	ZSHDD-312-48000-202SU
60	5/32	.292	6.00	ZSHDD-312-60000-303SU	ZSHDD-312-60000-316SU	ZSHDD-312-60000-104SU	ZSHDD-312-60000-114SU	ZSHDD-312-60000-202SU
72	5/32	.292	6.00	ZSHDD-312-72000-303SU	ZSHDD-312-72000-316SU	ZSHDD-312-72000-104SU	ZSHDD-312-72000-114SU	ZSHDD-312-72000-202SU

1 Diameter (±0.0025 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	1/2	.933	1.00	ZSHDD-1000-03000-303SU	ZSHDD-1000-03000-316SU	ZSHDD-1000-03000-104SU	ZSHDD-1000-03000-114SU	ZSHDD-1000-03000-202SU
6	1/2	.933	2.00	ZSHDD-1000-06000-303SU	ZSHDD-1000-06000-316SU	ZSHDD-1000-06000-104SU	ZSHDD-1000-06000-114SU	ZSHDD-1000-06000-202SU
9	1/2	.933	3.00	ZSHDD-1000-09000-303SU	ZSHDD-1000-09000-316SU	ZSHDD-1000-09000-104SU	ZSHDD-1000-09000-114SU	ZSHDD-1000-09000-202SU
12	1/2	.933	4.00	ZSHDD-1000-12000-303SU	ZSHDD-1000-12000-316SU	ZSHDD-1000-12000-104SU	ZSHDD-1000-12000-114SU	ZSHDD-1000-12000-202SU
18	1/2	.933	4.00	ZSHDD-1000-18000-303SU	ZSHDD-1000-18000-316SU	ZSHDD-1000-18000-104SU	ZSHDD-1000-18000-114SU	ZSHDD-1000-18000-202SU
24	1/2	.933	6.00	ZSHDD-1000-24000-303SU	ZSHDD-1000-24000-316SU	ZSHDD-1000-24000-104SU	ZSHDD-1000-24000-114SU	ZSHDD-1000-24000-202SU
36	1/2	.933	6.00	ZSHDD-1000-36000-303SU	ZSHDD-1000-36000-316SU	ZSHDD-1000-36000-104SU	ZSHDD-1000-36000-114SU	ZSHDD-1000-36000-202SU
48	1/2	.933	6.00	ZSHDD-1000-48000-303SU	ZSHDD-1000-48000-316SU	ZSHDD-1000-48000-104SU	ZSHDD-1000-48000-114SU	ZSHDD-1000-48000-202SU
60	1/2	.933	6.00	ZSHDD-1000-60000-303SU	ZSHDD-1000-60000-316SU	ZSHDD-1000-60000-104SU	ZSHDD-1000-60000-114SU	ZSHDD-1000-60000-202SU
72	1/2	.933	6.00	ZSHDD-1000-72000-303SU	ZSHDD-1000-72000-316SU	ZSHDD-1000-72000-104SU	ZSHDD-1000-72000-114SU	ZSHDD-1000-72000-202SU

1-1/8 Diameter (±0.0025 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	9/16	1.05	1.00	ZSHDD-1125-03000-303SU	ZSHDD-1125-03000-316SU	ZSHDD-1125-03000-104SU	ZSHDD-1125-03000-114SU	–
6	9/16	1.05	2.00	ZSHDD-1125-06000-303SU	ZSHDD-1125-06000-316SU	ZSHDD-1125-06000-104SU	ZSHDD-1125-06000-114SU	–
9	9/16	1.05	3.00	ZSHDD-1125-09000-303SU	ZSHDD-1125-09000-316SU	ZSHDD-1125-09000-104SU	ZSHDD-1125-09000-114SU	–
12	9/16	1.05	4.00	ZSHDD-1125-12000-303SU	ZSHDD-1125-12000-316SU	ZSHDD-1125-12000-104SU	ZSHDD-1125-12000-114SU	–
18	9/16	1.05	4.00	ZSHDD-1125-18000-303SU	ZSHDD-1125-18000-316SU	ZSHDD-1125-18000-104SU	ZSHDD-1125-18000-114SU	–
24	9/16	1.05	6.00	ZSHDD-1125-24000-303SU	ZSHDD-1125-24000-316SU	ZSHDD-1125-24000-104SU	ZSHDD-1125-24000-114SU	–
36	9/16	1.05	6.00	ZSHDD-1125-36000-303SU	ZSHDD-1125-36000-316SU	ZSHDD-1125-36000-104SU	ZSHDD-1125-36000-114SU	–
48	9/16	1.05	6.00	ZSHDD-1125-48000-303SU	ZSHDD-1125-48000-316SU	ZSHDD-1125-48000-104SU	ZSHDD-1125-48000-114SU	–
60	9/16	1.05	6.00	ZSHDD-1125-60000-303SU	ZSHDD-1125-60000-316SU	ZSHDD-1125-60000-104SU	ZSHDD-1125-60000-114SU	–
72	9/16	1.05	6.00	ZSHDD-1125-72000-303SU	ZSHDD-1125-72000-316SU	ZSHDD-1125-72000-104SU	ZSHDD-1125-72000-114SU	–

18-8 SS, 316 SS, Steel

D-Profile Partial Ends Rotary Shafts — Inch



1-3/16 Diameter (±0.0025 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	19/32	1.107	1.00	ZSHDD-1187-03000-303SU	ZSHDD-1187-03000-316SU	ZSHDD-1187-03000-104SU	ZSHDD-1187-03000-114SU
6	19/32	1.107	2.00	ZSHDD-1187-06000-303SU	ZSHDD-1187-06000-316SU	ZSHDD-1187-06000-104SU	ZSHDD-1187-06000-114SU
9	19/32	1.107	3.00	ZSHDD-1187-09000-303SU	ZSHDD-1187-09000-316SU	ZSHDD-1187-09000-104SU	ZSHDD-1187-09000-114SU
12	19/32	1.107	4.00	ZSHDD-1187-12000-303SU	ZSHDD-1187-12000-316SU	ZSHDD-1187-12000-104SU	ZSHDD-1187-12000-114SU
18	19/32	1.107	4.00	ZSHDD-1187-18000-303SU	ZSHDD-1187-18000-316SU	ZSHDD-1187-18000-104SU	ZSHDD-1187-18000-114SU
24	19/32	1.107	6.00	ZSHDD-1187-24000-303SU	ZSHDD-1187-24000-316SU	ZSHDD-1187-24000-104SU	ZSHDD-1187-24000-114SU
36	19/32	1.107	6.00	ZSHDD-1187-36000-303SU	ZSHDD-1187-36000-316SU	ZSHDD-1187-36000-104SU	ZSHDD-1187-36000-114SU
48	19/32	1.107	6.00	ZSHDD-1187-48000-303SU	ZSHDD-1187-48000-316SU	ZSHDD-1187-48000-104SU	ZSHDD-1187-48000-114SU
60	19/32	1.107	6.00	ZSHDD-1187-60000-303SU	ZSHDD-1187-60000-316SU	ZSHDD-1187-60000-104SU	ZSHDD-1187-60000-114SU
72	19/32	1.107	6.00	ZSHDD-1187-72000-303SU	ZSHDD-1187-72000-316SU	ZSHDD-1187-72000-104SU	ZSHDD-1187-72000-114SU

1-1/4 Diameter (±0.0025 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	5/8	1.166	1.00	ZSHDD-1250-03000-303SU	ZSHDD-1250-03000-316SU	ZSHDD-1250-03000-104SU	ZSHDD-1250-03000-114SU
6	5/8	1.166	2.00	ZSHDD-1250-06000-303SU	ZSHDD-1250-06000-316SU	ZSHDD-1250-06000-104SU	ZSHDD-1250-06000-114SU
9	5/8	1.166	3.00	ZSHDD-1250-09000-303SU	ZSHDD-1250-09000-316SU	ZSHDD-1250-09000-104SU	ZSHDD-1250-09000-114SU
12	5/8	1.166	4.00	ZSHDD-1250-12000-303SU	ZSHDD-1250-12000-316SU	ZSHDD-1250-12000-104SU	ZSHDD-1250-12000-114SU
18	5/8	1.166	4.00	ZSHDD-1250-18000-303SU	ZSHDD-1250-18000-316SU	ZSHDD-1250-18000-104SU	ZSHDD-1250-18000-114SU
24	5/8	1.166	6.00	ZSHDD-1250-24000-303SU	ZSHDD-1250-24000-316SU	ZSHDD-1250-24000-104SU	ZSHDD-1250-24000-114SU
36	5/8	1.166	6.00	ZSHDD-1250-36000-303SU	ZSHDD-1250-36000-316SU	ZSHDD-1250-36000-104SU	ZSHDD-1250-36000-114SU
48	5/8	1.166	6.00	ZSHDD-1250-48000-303SU	ZSHDD-1250-48000-316SU	ZSHDD-1250-48000-104SU	ZSHDD-1250-48000-114SU
60	5/8	1.166	6.00	ZSHDD-1250-60000-303SU	ZSHDD-1250-60000-316SU	ZSHDD-1250-60000-104SU	ZSHDD-1250-60000-114SU
72	5/8	1.166	6.00	ZSHDD-1250-72000-303SU	ZSHDD-1250-72000-316SU	ZSHDD-1250-72000-104SU	ZSHDD-1250-72000-114SU

1-5/16 Diameter (+0/-.003 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	21/32	1.224	1.00	ZSHDD-1312-03000-303SU	ZSHDD-1312-03000-316SU	ZSHDD-1312-03000-104SU	ZSHDD-1312-03000-114SU
6	21/32	1.224	2.00	ZSHDD-1312-06000-303SU	ZSHDD-1312-06000-316SU	ZSHDD-1312-06000-104SU	ZSHDD-1312-06000-114SU
9	21/32	1.224	3.00	ZSHDD-1312-09000-303SU	ZSHDD-1312-09000-316SU	ZSHDD-1312-09000-104SU	ZSHDD-1312-09000-114SU
12	21/32	1.224	4.00	ZSHDD-1312-12000-303SU	ZSHDD-1312-12000-316SU	ZSHDD-1312-12000-104SU	ZSHDD-1312-12000-114SU
18	21/32	1.224	4.00	ZSHDD-1312-18000-303SU	ZSHDD-1312-18000-316SU	ZSHDD-1312-18000-104SU	ZSHDD-1312-18000-114SU
24	21/32	1.224	6.00	ZSHDD-1312-24000-303SU	ZSHDD-1312-24000-316SU	ZSHDD-1312-24000-104SU	ZSHDD-1312-24000-114SU
36	21/32	1.224	6.00	ZSHDD-1312-36000-303SU	ZSHDD-1312-36000-316SU	ZSHDD-1312-36000-104SU	ZSHDD-1312-36000-114SU
48	21/32	1.224	6.00	ZSHDD-1312-48000-303SU	ZSHDD-1312-48000-316SU	ZSHDD-1312-48000-104SU	ZSHDD-1312-48000-114SU
60	21/32	1.224	6.00	ZSHDD-1312-60000-303SU	ZSHDD-1312-60000-316SU	ZSHDD-1312-60000-104SU	ZSHDD-1312-60000-114SU
72	21/32	1.224	6.00	ZSHDD-1312-72000-303SU	ZSHDD-1312-72000-316SU	ZSHDD-1312-72000-104SU	ZSHDD-1312-72000-114SU

D-Profile Partial Ends Rotary Shafts — Inch



1-3/8 Diameter (+0/-.003 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	11/16	1.283	1.00	ZSHDD-1375-03000-303SU	ZSHDD-1375-03000-316SU	ZSHDD-1375-03000-104SU	ZSHDD-1375-03000-114SU
6	11/16	1.283	2.00	ZSHDD-1375-06000-303SU	ZSHDD-1375-06000-316SU	ZSHDD-1375-06000-104SU	ZSHDD-1375-06000-114SU
9	11/16	1.283	3.00	ZSHDD-1375-09000-303SU	ZSHDD-1375-09000-316SU	ZSHDD-1375-09000-104SU	ZSHDD-1375-09000-114SU
12	11/16	1.283	4.00	ZSHDD-1375-12000-303SU	ZSHDD-1375-12000-316SU	ZSHDD-1375-12000-104SU	ZSHDD-1375-12000-114SU
18	11/16	1.283	4.00	ZSHDD-1375-18000-303SU	ZSHDD-1375-18000-316SU	ZSHDD-1375-18000-104SU	ZSHDD-1375-18000-114SU
24	11/16	1.283	6.00	ZSHDD-1375-24000-303SU	ZSHDD-1375-24000-316SU	ZSHDD-1375-24000-104SU	ZSHDD-1375-24000-114SU
36	11/16	1.283	6.00	ZSHDD-1375-36000-303SU	ZSHDD-1375-36000-316SU	ZSHDD-1375-36000-104SU	ZSHDD-1375-36000-114SU
48	11/16	1.283	6.00	ZSHDD-1375-48000-303SU	ZSHDD-1375-48000-316SU	ZSHDD-1375-48000-104SU	ZSHDD-1375-48000-114SU
60	11/16	1.283	6.00	ZSHDD-1375-60000-303SU	ZSHDD-1375-60000-316SU	ZSHDD-1375-60000-104SU	ZSHDD-1375-60000-114SU
72	11/16	1.283	6.00	ZSHDD-1375-72000-303SU	ZSHDD-1375-72000-316SU	ZSHDD-1375-72000-104SU	ZSHDD-1375-72000-114SU

1-7/16 Diameter (+0/-.003 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	23/32	1.341	1.00	ZSHDD-1437-03000-303SU	ZSHDD-1437-03000-316SU	ZSHDD-1437-03000-104SU	ZSHDD-1437-03000-114SU
6	23/32	1.341	2.00	ZSHDD-1437-06000-303SU	ZSHDD-1437-06000-316SU	ZSHDD-1437-06000-104SU	ZSHDD-1437-06000-114SU
9	23/32	1.341	3.00	ZSHDD-1437-09000-303SU	ZSHDD-1437-09000-316SU	ZSHDD-1437-09000-104SU	ZSHDD-1437-09000-114SU
12	23/32	1.341	4.00	ZSHDD-1437-12000-303SU	ZSHDD-1437-12000-316SU	ZSHDD-1437-12000-104SU	ZSHDD-1437-12000-114SU
18	23/32	1.341	4.00	ZSHDD-1437-18000-303SU	ZSHDD-1437-18000-316SU	ZSHDD-1437-18000-104SU	ZSHDD-1437-18000-114SU
24	23/32	1.341	6.00	ZSHDD-1437-24000-303SU	ZSHDD-1437-24000-316SU	ZSHDD-1437-24000-104SU	ZSHDD-1437-24000-114SU
36	23/32	1.341	6.00	ZSHDD-1437-36000-303SU	ZSHDD-1437-36000-316SU	ZSHDD-1437-36000-104SU	ZSHDD-1437-36000-114SU
48	23/32	1.341	6.00	ZSHDD-1437-48000-303SU	ZSHDD-1437-48000-316SU	ZSHDD-1437-48000-104SU	ZSHDD-1437-48000-114SU
60	23/32	1.341	6.00	ZSHDD-1437-60000-303SU	ZSHDD-1437-60000-316SU	ZSHDD-1437-60000-104SU	ZSHDD-1437-60000-114SU
72	23/32	1.341	6.00	ZSHDD-1437-72000-303SU	ZSHDD-1437-72000-316SU	ZSHDD-1437-72000-104SU	ZSHDD-1437-72000-114SU

1-1/2 Diameter (+0/-.003 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	3/4	1.40	1.00	ZSHDD-1500-03000-303SU	ZSHDD-1500-03000-316SU	ZSHDD-1500-03000-104SU	ZSHDD-1500-03000-114SU
6	3/4	1.40	2.00	ZSHDD-1500-06000-303SU	ZSHDD-1500-06000-316SU	ZSHDD-1500-06000-104SU	ZSHDD-1500-06000-114SU
9	3/4	1.40	3.00	ZSHDD-1500-09000-303SU	ZSHDD-1500-09000-316SU	ZSHDD-1500-09000-104SU	ZSHDD-1500-09000-114SU
12	3/4	1.40	4.00	ZSHDD-1500-12000-303SU	ZSHDD-1500-12000-316SU	ZSHDD-1500-12000-104SU	ZSHDD-1500-12000-114SU
18	3/4	1.40	4.00	ZSHDD-1500-18000-303SU	ZSHDD-1500-18000-316SU	ZSHDD-1500-18000-104SU	ZSHDD-1500-18000-114SU
24	3/4	1.40	6.00	ZSHDD-1500-24000-303SU	ZSHDD-1500-24000-316SU	ZSHDD-1500-24000-104SU	ZSHDD-1500-24000-114SU
36	3/4	1.40	6.00	ZSHDD-1500-36000-303SU	ZSHDD-1500-36000-316SU	ZSHDD-1500-36000-104SU	ZSHDD-1500-36000-114SU
48	3/4	1.40	6.00	ZSHDD-1500-48000-303SU	ZSHDD-1500-48000-316SU	ZSHDD-1500-48000-104SU	ZSHDD-1500-48000-114SU
60	3/4	1.40	6.00	ZSHDD-1500-60000-303SU	ZSHDD-1500-60000-316SU	ZSHDD-1500-60000-104SU	ZSHDD-1500-60000-114SU
72	3/4	1.40	6.00	ZSHDD-1500-72000-303SU	ZSHDD-1500-72000-316SU	ZSHDD-1500-72000-104SU	ZSHDD-1500-72000-114SU

18-8 SS, 316 SS, Steel



D-Profile Partial Ends Rotary Shafts — Inch

1-5/8 Diameter (+0/-.003 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	13/16	1.516	1.00	ZSHDD-1625-03000-303SU	ZSHDD-1625-03000-316SU	ZSHDD-1625-03000-104SU	ZSHDD-1625-03000-114SU
6	13/16	1.516	2.00	ZSHDD-1625-06000-303SU	ZSHDD-1625-06000-316SU	ZSHDD-1625-06000-104SU	ZSHDD-1625-06000-114SU
9	13/16	1.516	3.00	ZSHDD-1625-09000-303SU	ZSHDD-1625-09000-316SU	ZSHDD-1625-09000-104SU	ZSHDD-1625-09000-114SU
12	13/16	1.516	4.00	ZSHDD-1625-12000-303SU	ZSHDD-1625-12000-316SU	ZSHDD-1625-12000-104SU	ZSHDD-1625-12000-114SU
18	13/16	1.516	4.00	ZSHDD-1625-18000-303SU	ZSHDD-1625-18000-316SU	ZSHDD-1625-18000-104SU	ZSHDD-1625-18000-114SU
24	13/16	1.516	6.00	ZSHDD-1625-24000-303SU	ZSHDD-1625-24000-316SU	ZSHDD-1625-24000-104SU	ZSHDD-1625-24000-114SU
36	13/16	1.516	6.00	ZSHDD-1625-36000-303SU	ZSHDD-1625-36000-316SU	ZSHDD-1625-36000-104SU	ZSHDD-1625-36000-114SU
48	13/16	1.516	6.00	ZSHDD-1625-48000-303SU	ZSHDD-1625-48000-316SU	ZSHDD-1625-48000-104SU	ZSHDD-1625-48000-114SU
60	13/16	1.516	6.00	ZSHDD-1625-60000-303SU	ZSHDD-1625-60000-316SU	ZSHDD-1625-60000-104SU	ZSHDD-1625-60000-114SU
72	13/16	1.516	6.00	ZSHDD-1625-72000-303SU	ZSHDD-1625-72000-316SU	ZSHDD-1625-72000-104SU	ZSHDD-1625-72000-114SU

1-3/4 Diameter (+0/-.003 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	7/8	1.633	1.00	ZSHDD-1750-03000-303SU	ZSHDD-1750-03000-316SU	ZSHDD-1750-03000-104SU	ZSHDD-1750-03000-114SU
6	7/8	1.633	2.00	ZSHDD-1750-06000-303SU	ZSHDD-1750-06000-316SU	ZSHDD-1750-06000-104SU	ZSHDD-1750-06000-114SU
9	7/8	1.633	3.00	ZSHDD-1750-09000-303SU	ZSHDD-1750-09000-316SU	ZSHDD-1750-09000-104SU	ZSHDD-1750-09000-114SU
12	7/8	1.633	4.00	ZSHDD-1750-12000-303SU	ZSHDD-1750-12000-316SU	ZSHDD-1750-12000-104SU	ZSHDD-1750-12000-114SU
18	7/8	1.633	4.00	ZSHDD-1750-18000-303SU	ZSHDD-1750-18000-316SU	ZSHDD-1750-18000-104SU	ZSHDD-1750-18000-114SU
24	7/8	1.633	6.00	ZSHDD-1750-24000-303SU	ZSHDD-1750-24000-316SU	ZSHDD-1750-24000-104SU	ZSHDD-1750-24000-114SU
36	7/8	1.633	6.00	ZSHDD-1750-36000-303SU	ZSHDD-1750-36000-316SU	ZSHDD-1750-36000-104SU	ZSHDD-1750-36000-114SU
48	7/8	1.633	6.00	ZSHDD-1750-48000-303SU	ZSHDD-1750-48000-316SU	ZSHDD-1750-48000-104SU	ZSHDD-1750-48000-114SU
60	7/8	1.633	6.00	ZSHDD-1750-60000-303SU	ZSHDD-1750-60000-316SU	ZSHDD-1750-60000-104SU	ZSHDD-1750-60000-114SU
72	7/8	1.633	6.00	ZSHDD-1750-72000-303SU	ZSHDD-1750-72000-316SU	ZSHDD-1750-72000-104SU	ZSHDD-1750-72000-114SU

1-7/8 Diameter (+0/-.003 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	15/16	1.749	1.00	ZSHDD-1875-03000-303SU	ZSHDD-1875-03000-316SU	ZSHDD-1875-03000-104SU	ZSHDD-1875-03000-114SU
6	15/16	1.749	2.00	ZSHDD-1875-06000-303SU	ZSHDD-1875-06000-316SU	ZSHDD-1875-06000-104SU	ZSHDD-1875-06000-114SU
9	15/16	1.749	3.00	ZSHDD-1875-09000-303SU	ZSHDD-1875-09000-316SU	ZSHDD-1875-09000-104SU	ZSHDD-1875-09000-114SU
12	15/16	1.749	4.00	ZSHDD-1875-12000-303SU	ZSHDD-1875-12000-316SU	ZSHDD-1875-12000-104SU	ZSHDD-1875-12000-114SU
18	15/16	1.749	4.00	ZSHDD-1875-18000-303SU	ZSHDD-1875-18000-316SU	ZSHDD-1875-18000-104SU	ZSHDD-1875-18000-114SU
24	15/16	1.749	6.00	ZSHDD-1875-24000-303SU	ZSHDD-1875-24000-316SU	ZSHDD-1875-24000-104SU	ZSHDD-1875-24000-114SU
36	15/16	1.749	6.00	ZSHDD-1875-36000-303SU	ZSHDD-1875-36000-316SU	ZSHDD-1875-36000-104SU	ZSHDD-1875-36000-114SU
48	15/16	1.749	6.00	ZSHDD-1875-48000-303SU	ZSHDD-1875-48000-316SU	ZSHDD-1875-48000-104SU	ZSHDD-1875-48000-114SU
60	15/16	1.749	6.00	ZSHDD-1875-60000-303SU	ZSHDD-1875-60000-316SU	ZSHDD-1875-60000-104SU	ZSHDD-1875-60000-114SU
72	15/16	1.749	6.00	ZSHDD-1875-72000-303SU	ZSHDD-1875-72000-316SU	ZSHDD-1875-72000-104SU	ZSHDD-1875-72000-114SU

D-Profile Partial Ends Rotary Shafts — Inch



1-15/16 Diameter (+0/-.0035 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	31/32	1.816	1.00	ZSHDD-1937-03000-303SU	ZSHDD-1937-03000-316SU	ZSHDD-1937-03000-104SU	ZSHDD-1937-03000-114SU
6	31/32	1.816	2.00	ZSHDD-1937-06000-303SU	ZSHDD-1937-06000-316SU	ZSHDD-1937-06000-104SU	ZSHDD-1937-06000-114SU
9	31/32	1.816	3.00	ZSHDD-1937-09000-303SU	ZSHDD-1937-09000-316SU	ZSHDD-1937-09000-104SU	ZSHDD-1937-09000-114SU
12	31/32	1.816	4.00	ZSHDD-1937-12000-303SU	ZSHDD-1937-12000-316SU	ZSHDD-1937-12000-104SU	ZSHDD-1937-12000-114SU
18	31/32	1.816	4.00	ZSHDD-1937-18000-303SU	ZSHDD-1937-18000-316SU	ZSHDD-1937-18000-104SU	ZSHDD-1937-18000-114SU
24	31/32	1.816	6.00	ZSHDD-1937-24000-303SU	ZSHDD-1937-24000-316SU	ZSHDD-1937-24000-104SU	ZSHDD-1937-24000-114SU
36	31/32	1.816	6.00	ZSHDD-1937-36000-303SU	ZSHDD-1937-36000-316SU	ZSHDD-1937-36000-104SU	ZSHDD-1937-36000-114SU
48	31/32	1.816	6.00	ZSHDD-1937-48000-303SU	ZSHDD-1937-48000-316SU	ZSHDD-1937-48000-104SU	ZSHDD-1937-48000-114SU
60	31/32	1.816	6.00	ZSHDD-1937-60000-303SU	ZSHDD-1937-60000-316SU	ZSHDD-1937-60000-104SU	ZSHDD-1937-60000-114SU
72	31/32	1.816	6.00	ZSHDD-1937-72000-303SU	ZSHDD-1937-72000-316SU	ZSHDD-1937-72000-104SU	ZSHDD-1937-72000-114SU

2 Diameter (+0/-.0035 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1	1.866	1.00	ZSHDD-2000-03000-303SU	ZSHDD-2000-03000-316SU	ZSHDD-2000-03000-104SU	ZSHDD-2000-03000-114SU
6	1	1.866	2.00	ZSHDD-2000-06000-303SU	ZSHDD-2000-06000-316SU	ZSHDD-2000-06000-104SU	ZSHDD-2000-06000-114SU
9	1	1.866	3.00	ZSHDD-2000-09000-303SU	ZSHDD-2000-09000-316SU	ZSHDD-2000-09000-104SU	ZSHDD-2000-09000-114SU
12	1	1.866	4.00	ZSHDD-2000-12000-303SU	ZSHDD-2000-12000-316SU	ZSHDD-2000-12000-104SU	ZSHDD-2000-12000-114SU
18	1	1.866	4.00	ZSHDD-2000-18000-303SU	ZSHDD-2000-18000-316SU	ZSHDD-2000-18000-104SU	ZSHDD-2000-18000-114SU
24	1	1.866	6.00	ZSHDD-2000-24000-303SU	ZSHDD-2000-24000-316SU	ZSHDD-2000-24000-104SU	ZSHDD-2000-24000-114SU
36	1	1.866	6.00	ZSHDD-2000-36000-303SU	ZSHDD-2000-36000-316SU	ZSHDD-2000-36000-104SU	ZSHDD-2000-36000-114SU
48	1	1.866	6.00	ZSHDD-2000-48000-303SU	ZSHDD-2000-48000-316SU	ZSHDD-2000-48000-104SU	ZSHDD-2000-48000-114SU
60	1	1.866	6.00	ZSHDD-2000-60000-303SU	ZSHDD-2000-60000-316SU	ZSHDD-2000-60000-104SU	ZSHDD-2000-60000-114SU
72	1	1.866	6.00	ZSHDD-2000-72000-303SU	ZSHDD-2000-72000-316SU	ZSHDD-2000-72000-104SU	ZSHDD-2000-72000-114SU

2-1/8 Diameter (+0/-.0035 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1-1/16	1.983	1.00	ZSHDD-2125-03000-303SU	ZSHDD-2125-03000-316SU	ZSHDD-2125-03000-104SU	ZSHDD-2125-03000-114SU
6	1-1/16	1.983	2.00	ZSHDD-2125-06000-303SU	ZSHDD-2125-06000-316SU	ZSHDD-2125-06000-104SU	ZSHDD-2125-06000-114SU
9	1-1/16	1.983	3.00	ZSHDD-2125-09000-303SU	ZSHDD-2125-09000-316SU	ZSHDD-2125-09000-104SU	ZSHDD-2125-09000-114SU
12	1-1/16	1.983	4.00	ZSHDD-2125-12000-303SU	ZSHDD-2125-12000-316SU	ZSHDD-2125-12000-104SU	ZSHDD-2125-12000-114SU
18	1-1/16	1.983	4.00	ZSHDD-2125-18000-303SU	ZSHDD-2125-18000-316SU	ZSHDD-2125-18000-104SU	ZSHDD-2125-18000-114SU
24	1-1/16	1.983	6.00	ZSHDD-2125-24000-303SU	ZSHDD-2125-24000-316SU	ZSHDD-2125-24000-104SU	ZSHDD-2125-24000-114SU
36	1-1/16	1.983	6.00	ZSHDD-2125-36000-303SU	ZSHDD-2125-36000-316SU	ZSHDD-2125-36000-104SU	ZSHDD-2125-36000-114SU
48	1-1/16	1.983	6.00	ZSHDD-2125-48000-303SU	ZSHDD-2125-48000-316SU	ZSHDD-2125-48000-104SU	ZSHDD-2125-48000-114SU
60	1-1/16	1.983	6.00	ZSHDD-2125-60000-303SU	ZSHDD-2125-60000-316SU	ZSHDD-2125-60000-104SU	ZSHDD-2125-60000-114SU
72	1-1/16	1.983	6.00	ZSHDD-2125-72000-303SU	ZSHDD-2125-72000-316SU	ZSHDD-2125-72000-104SU	ZSHDD-2125-72000-114SU

18-8 SS, 316 SS, Steel

D-Profile Partial Ends Rotary Shafts — Inch



2-3/16 Diameter (+0/-.0035 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1-3/32	2.04	1.00	ZSHDD-2187-03000-303SU	ZSHDD-2187-03000-316SU	ZSHDD-2187-03000-104SU	ZSHDD-2187-03000-114SU
6	1-3/32	2.04	2.00	ZSHDD-2187-06000-303SU	ZSHDD-2187-06000-316SU	ZSHDD-2187-06000-104SU	ZSHDD-2187-06000-114SU
9	1-3/32	2.04	3.00	ZSHDD-2187-09000-303SU	ZSHDD-2187-09000-316SU	ZSHDD-2187-09000-104SU	ZSHDD-2187-09000-114SU
12	1-3/32	2.04	4.00	ZSHDD-2187-12000-303SU	ZSHDD-2187-12000-316SU	ZSHDD-2187-12000-104SU	ZSHDD-2187-12000-114SU
18	1-3/32	2.04	4.00	ZSHDD-2187-18000-303SU	ZSHDD-2187-18000-316SU	ZSHDD-2187-18000-104SU	ZSHDD-2187-18000-114SU
24	1-3/32	2.04	6.00	ZSHDD-2187-24000-303SU	ZSHDD-2187-24000-316SU	ZSHDD-2187-24000-104SU	ZSHDD-2187-24000-114SU
36	1-3/32	2.04	6.00	ZSHDD-2187-36000-303SU	ZSHDD-2187-36000-316SU	ZSHDD-2187-36000-104SU	ZSHDD-2187-36000-114SU
48	1-3/32	2.04	6.00	ZSHDD-2187-48000-303SU	ZSHDD-2187-48000-316SU	ZSHDD-2187-48000-104SU	ZSHDD-2187-48000-114SU
60	1-3/32	2.04	6.00	ZSHDD-2187-60000-303SU	ZSHDD-2187-60000-316SU	ZSHDD-2187-60000-104SU	ZSHDD-2187-60000-114SU
72	1-3/32	2.04	6.00	ZSHDD-2187-72000-303SU	ZSHDD-2187-72000-316SU	ZSHDD-2187-72000-104SU	ZSHDD-2187-72000-114SU

2-3/8 Diameter (+0/-.0035 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1-3/16	2.216	1.00	ZSHDD-2375-03000-303SU	ZSHDD-2375-03000-316SU	ZSHDD-2375-03000-104SU	ZSHDD-2375-03000-114SU
6	1-3/16	2.216	2.00	ZSHDD-2375-06000-303SU	ZSHDD-2375-06000-316SU	ZSHDD-2375-06000-104SU	ZSHDD-2375-06000-114SU
9	1-3/16	2.216	3.00	ZSHDD-2375-09000-303SU	ZSHDD-2375-09000-316SU	ZSHDD-2375-09000-104SU	ZSHDD-2375-09000-114SU
12	1-3/16	2.216	4.00	ZSHDD-2375-12000-303SU	ZSHDD-2375-12000-316SU	ZSHDD-2375-12000-104SU	ZSHDD-2375-12000-114SU
18	1-3/16	2.216	4.00	ZSHDD-2375-18000-303SU	ZSHDD-2375-18000-316SU	ZSHDD-2375-18000-104SU	ZSHDD-2375-18000-114SU
24	1-3/16	2.216	6.00	ZSHDD-2375-24000-303SU	ZSHDD-2375-24000-316SU	ZSHDD-2375-24000-104SU	ZSHDD-2375-24000-114SU
36	1-3/16	2.216	6.00	ZSHDD-2375-36000-303SU	ZSHDD-2375-36000-316SU	ZSHDD-2375-36000-104SU	ZSHDD-2375-36000-114SU
48	1-3/16	2.216	6.00	ZSHDD-2375-48000-303SU	ZSHDD-2375-48000-316SU	ZSHDD-2375-48000-104SU	ZSHDD-2375-48000-114SU
60	1-3/16	2.216	6.00	ZSHDD-2375-60000-303SU	ZSHDD-2375-60000-316SU	ZSHDD-2375-60000-104SU	ZSHDD-2375-60000-114SU
72	1-3/16	2.216	6.00	ZSHDD-2375-72000-303SU	ZSHDD-2375-72000-316SU	ZSHDD-2375-72000-104SU	ZSHDD-2375-72000-114SU

2-7/16 Diameter (+0/-.0035 in Tolerance)

O'all Lg (in.)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
3	1-7/32	2.274	1.00	ZSHDD-2437-03000-303SU	ZSHDD-2437-03000-316SU	ZSHDD-2437-03000-104SU	ZSHDD-2437-03000-114SU
6	1-7/32	2.274	2.00	ZSHDD-2437-06000-303SU	ZSHDD-2437-06000-316SU	ZSHDD-2437-06000-104SU	ZSHDD-2437-06000-114SU
9	1-7/32	2.274	3.00	ZSHDD-2437-09000-303SU	ZSHDD-2437-09000-316SU	ZSHDD-2437-09000-104SU	ZSHDD-2437-09000-114SU
12	1-7/32	2.274	4.00	ZSHDD-2437-12000-303SU	ZSHDD-2437-12000-316SU	ZSHDD-2437-12000-104SU	ZSHDD-2437-12000-114SU
18	1-7/32	2.274	4.00	ZSHDD-2437-18000-303SU	ZSHDD-2437-18000-316SU	ZSHDD-2437-18000-104SU	ZSHDD-2437-18000-114SU
24	1-7/32	2.274	6.00	ZSHDD-2437-24000-303SU	ZSHDD-2437-24000-316SU	ZSHDD-2437-24000-104SU	ZSHDD-2437-24000-114SU
36	1-7/32	2.274	6.00	ZSHDD-2437-36000-303SU	ZSHDD-2437-36000-316SU	ZSHDD-2437-36000-104SU	ZSHDD-2437-36000-114SU
48	1-7/32	2.274	6.00	ZSHDD-2437-48000-303SU	ZSHDD-2437-48000-316SU	ZSHDD-2437-48000-104SU	ZSHDD-2437-48000-114SU
60	1-7/32	2.274	6.00	ZSHDD-2437-60000-303SU	ZSHDD-2437-60000-316SU	ZSHDD-2437-60000-104SU	ZSHDD-2437-60000-114SU
72	1-7/32	2.274	6.00	ZSHDD-2437-72000-303SU	ZSHDD-2437-72000-316SU	ZSHDD-2437-72000-104SU	ZSHDD-2437-72000-114SU

D-Profile Partial Ends Rotary Shafts — Metric

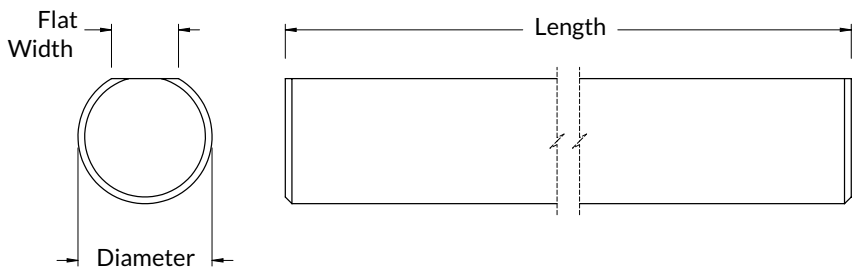
18-8 & 316 SS, Steel

Product Information

D-Profile shafts are a specialized type of rotary shaft, offering a unique mounting solution. Unlike keyed shafts that rely on a keyway and key for torque transmission, D-Profile shafts feature a flattened surface area along a portion of their circumference. This flat allows set screws to engage the shaft for securely mounting gears, bearings, and other components, eliminating the need for complex keyways. Partial D-profile rotary shafts have a flat section milled into each end to prevent slippage between the shaft and the rotating machine element. They are used in high-precision applications such as robotics and drive systems. All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable.

Length tolerance is +/-1.57mm and straightness tolerance is 0.33 mm per 300 mm.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.





Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic

D-Profile Partial Ends Rotary Shafts — Metric



8mm Diameter (+0/-.0635mm in Tolerance)

O'all Lg (mm)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	4.00	7.50	25.00	ZSHDD-M08-M0300-303SU	ZSHDD-M08-M0300-316SU	ZSHDD-M08-M0300-104SU	ZSHDD-M08-M0300-114SU
500	4.00	7.50	50.00	ZSHDD-M08-M0500-303SU	ZSHDD-M08-M0500-316SU	ZSHDD-M08-M0500-104SU	ZSHDD-M08-M0500-114SU
1,000	4.00	7.50	75.00	ZSHDD-M08-M1000-303SU	ZSHDD-M08-M1000-316SU	ZSHDD-M08-M1000-104SU	ZSHDD-M08-M1000-114SU
1,200	4.00	7.50	100.00	ZSHDD-M08-M1200-303SU	ZSHDD-M08-M1200-316SU	ZSHDD-M08-M1200-104SU	ZSHDD-M08-M1200-114SU
1,500	4.00	7.50	100.00	ZSHDD-M08-M1500-303SU	ZSHDD-M08-M1500-316SU	ZSHDD-M08-M1500-104SU	ZSHDD-M08-M1500-114SU
1,800	4.00	7.50	150.00	ZSHDD-M08-M1800-303SU	ZSHDD-M08-M1800-316SU	ZSHDD-M08-M1800-104SU	ZSHDD-M08-M1800-114SU

10mm Diameter (+0/-.0635mm in Tolerance)

O'all Lg (mm)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	5.00	9.30	25.00	ZSHDD-M10-M0300-303SU	ZSHDD-M10-M0300-316SU	ZSHDD-M10-M0300-104SU	ZSHDD-M10-M0300-114SU
500	5.00	9.30	50.00	ZSHDD-M10-M0500-303SU	ZSHDD-M10-M0500-316SU	ZSHDD-M10-M0500-104SU	ZSHDD-M10-M0500-114SU
1,000	5.00	9.30	75.00	ZSHDD-M10-M1000-303SU	ZSHDD-M10-M1000-316SU	ZSHDD-M10-M1000-104SU	ZSHDD-M10-M1000-114SU
1,200	5.00	9.30	100.00	ZSHDD-M10-M1200-303SU	ZSHDD-M10-M1200-316SU	ZSHDD-M10-M1200-104SU	ZSHDD-M10-M1200-114SU
1,500	5.00	9.30	100.00	ZSHDD-M10-M1500-303SU	ZSHDD-M10-M1500-316SU	ZSHDD-M10-M1500-104SU	ZSHDD-M10-M1500-114SU
1,800	5.00	9.30	150.00	ZSHDD-M10-M1800-303SU	ZSHDD-M10-M1800-316SU	ZSHDD-M10-M1800-104SU	ZSHDD-M10-M1800-114SU

15mm Diameter (+0/-.0635mm in Tolerance)

O'all Lg (mm)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	7.50	14.00	25.00	ZSHDD-M15-M0300-303SU	ZSHDD-M15-M0300-316SU	ZSHDD-M15-M0300-104SU	ZSHDD-M15-M0300-114SU
500	7.50	14.00	50.00	ZSHDD-M15-M0500-303SU	ZSHDD-M15-M0500-316SU	ZSHDD-M15-M0500-104SU	ZSHDD-M15-M0500-114SU
1,000	7.50	14.00	75.00	ZSHDD-M15-M1000-303SU	ZSHDD-M15-M1000-316SU	ZSHDD-M15-M1000-104SU	ZSHDD-M15-M1000-114SU
1,200	7.50	14.00	100.00	ZSHDD-M15-M1200-303SU	ZSHDD-M15-M1200-316SU	ZSHDD-M15-M1200-104SU	ZSHDD-M15-M1200-114SU
1,500	7.50	14.00	100.00	ZSHDD-M15-M1500-303SU	ZSHDD-M15-M1500-316SU	ZSHDD-M15-M1500-104SU	ZSHDD-M15-M1500-114SU
1,800	7.50	14.00	150.00	ZSHDD-M15-M1800-303SU	ZSHDD-M15-M1800-316SU	ZSHDD-M15-M1800-104SU	ZSHDD-M15-M1800-114SU

20mm Diameter (+0/-.0635mm in Tolerance)

O'all Lg (mm)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	10.00	18.60	25.00	ZSHDD-M20-M0300-303SU	ZSHDD-M20-M0300-316SU	ZSHDD-M20-M0300-104SU	ZSHDD-M20-M0300-114SU
500	10.00	18.60	50.00	ZSHDD-M20-M0500-303SU	ZSHDD-M20-M0500-316SU	ZSHDD-M20-M0500-104SU	ZSHDD-M20-M0500-114SU
1,000	10.00	18.60	75.00	ZSHDD-M20-M1000-303SU	ZSHDD-M20-M1000-316SU	ZSHDD-M20-M1000-104SU	ZSHDD-M20-M1000-114SU
1,200	10.00	18.60	100.00	ZSHDD-M20-M1200-303SU	ZSHDD-M20-M1200-316SU	ZSHDD-M20-M1200-104SU	ZSHDD-M20-M1200-114SU
1,500	10.00	18.60	100.00	ZSHDD-M20-M1500-303SU	ZSHDD-M20-M1500-316SU	ZSHDD-M20-M1500-104SU	ZSHDD-M20-M1500-114SU
1,800	10.00	18.60	150.00	ZSHDD-M20-M1800-303SU	ZSHDD-M20-M1800-316SU	ZSHDD-M20-M1800-104SU	ZSHDD-M20-M1800-114SU

D-Profile Partial Ends Rotary Shafts — Metric



24mm Diameter (+0/-.0635mm in Tolerance)

O'all Lg (mm)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	12.00	22.40	25.00	ZSHDD-M24-M0300-303SU	ZSHDD-M24-M0300-316SU	ZSHDD-M24-M0300-104SU	ZSHDD-M24-M0300-114SU
500	12.00	22.40	50.00	ZSHDD-M24-M0500-303SU	ZSHDD-M24-M0500-316SU	ZSHDD-M24-M0500-104SU	ZSHDD-M24-M0500-114SU
1,000	12.00	22.40	75.00	ZSHDD-M24-M1000-303SU	ZSHDD-M24-M1000-316SU	ZSHDD-M24-M1000-104SU	ZSHDD-M24-M1000-114SU
1,200	12.00	22.40	100.00	ZSHDD-M24-M1200-303SU	ZSHDD-M24-M1200-316SU	ZSHDD-M24-M1200-104SU	ZSHDD-M24-M1200-114SU
1,500	12.00	22.40	100.00	ZSHDD-M24-M1500-303SU	ZSHDD-M24-M1500-316SU	ZSHDD-M24-M1500-104SU	ZSHDD-M24-M1500-114SU
1,800	12.00	22.40	150.00	ZSHDD-M24-M1800-303SU	ZSHDD-M24-M1800-316SU	ZSHDD-M24-M1800-104SU	ZSHDD-M24-M1800-114SU

25mm Diameter (+0/-.0635mm in Tolerance)

O'all Lg (mm)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	12.50	23.30	25.00	ZSHDD-M25-M0300-303SU	ZSHDD-M25-M0300-316SU	ZSHDD-M25-M0300-104SU	ZSHDD-M25-M0300-114SU
500	12.50	23.30	50.00	ZSHDD-M25-M0500-303SU	ZSHDD-M25-M0500-316SU	ZSHDD-M25-M0500-104SU	ZSHDD-M25-M0500-114SU
1,000	12.50	23.30	75.00	ZSHDD-M25-M1000-303SU	ZSHDD-M25-M1000-316SU	ZSHDD-M25-M1000-104SU	ZSHDD-M25-M1000-114SU
1,200	12.50	23.30	100.00	ZSHDD-M25-M1200-303SU	ZSHDD-M25-M1200-316SU	ZSHDD-M25-M1200-104SU	ZSHDD-M25-M1200-114SU
1,500	12.50	23.30	100.00	ZSHDD-M25-M1500-303SU	ZSHDD-M25-M1500-316SU	ZSHDD-M25-M1500-104SU	ZSHDD-M25-M1500-114SU
1,800	12.50	23.30	150.00	ZSHDD-M25-M1800-303SU	ZSHDD-M25-M1800-316SU	ZSHDD-M25-M1800-104SU	ZSHDD-M25-M1800-114SU

40mm Diameter (+0/-.076mm in Tolerance)

O'all Lg (mm)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	20.00	37.30	25.00	ZSHDD-M40-M0300-303SU	ZSHDD-M40-M0300-316SU	ZSHDD-M40-M0300-104SU	ZSHDD-M40-M0300-114SU
500	20.00	37.30	50.00	ZSHDD-M40-M0500-303SU	ZSHDD-M40-M0500-316SU	ZSHDD-M40-M0500-104SU	ZSHDD-M40-M0500-114SU
1,000	20.00	37.30	75.00	ZSHDD-M40-M1000-303SU	ZSHDD-M40-M1000-316SU	ZSHDD-M40-M1000-104SU	ZSHDD-M40-M1000-114SU
1,200	20.00	37.30	100.00	ZSHDD-M40-M1200-303SU	ZSHDD-M40-M1200-316SU	ZSHDD-M40-M1200-104SU	ZSHDD-M40-M1200-114SU
1,500	20.00	37.30	100.00	ZSHDD-M40-M1500-303SU	ZSHDD-M40-M1500-316SU	ZSHDD-M40-M1500-104SU	ZSHDD-M40-M1500-114SU
1,800	20.00	37.30	150.00	ZSHDD-M40-M1800-303SU	ZSHDD-M40-M1800-316SU	ZSHDD-M40-M1800-104SU	ZSHDD-M40-M1800-114SU

50mm Diameter (+0/-.076mm in Tolerance)

O'all Lg (mm)	Flat Wd.	Dim, Flat to Top	D Flat Lg. Ea End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	25.00	46.70	25.00	ZSHDD-M50-M0300-303SU	ZSHDD-M50-M0300-316SU	ZSHDD-M50-M0300-104SU	ZSHDD-M50-M0300-114SU
500	25.00	46.70	50.00	ZSHDD-M50-M0500-303SU	ZSHDD-M50-M0500-316SU	ZSHDD-M50-M0500-104SU	ZSHDD-M50-M0500-114SU
1,000	25.00	46.70	75.00	ZSHDD-M50-M1000-303SU	ZSHDD-M50-M1000-316SU	ZSHDD-M50-M1000-104SU	ZSHDD-M50-M1000-114SU
1,200	25.00	46.70	100.00	ZSHDD-M50-M1200-303SU	ZSHDD-M50-M1200-316SU	ZSHDD-M50-M1200-104SU	ZSHDD-M50-M1200-114SU
1,500	25.00	46.70	100.00	ZSHDD-M50-M1500-303SU	ZSHDD-M50-M1500-316SU	ZSHDD-M50-M1500-104SU	ZSHDD-M50-M1500-114SU
1,800	25.00	46.70	150.00	ZSHDD-M50-M1800-303SU	ZSHDD-M50-M1800-316SU	ZSHDD-M50-M1800-104SU	ZSHDD-M50-M1800-114SU

D-Profile Rotary Shafts with Tap One End — Inch

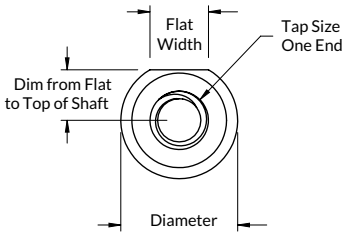
18-8 & 316 SS, Steel, Aluminum

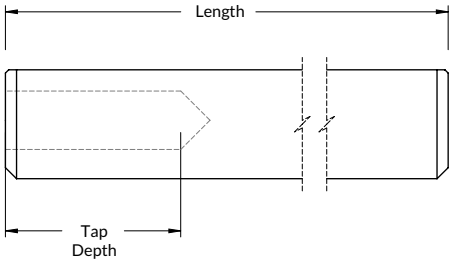
Product Information

D-Profile shafts are a specialized type of rotary shaft, offering a unique mounting solution. These internally threaded shafts offer versatile connection options, allowing direct attachment to threaded components or secure fastening with hardware. Their flat surface facilitates set screw engagement, ensuring firm mounting of gears, sprockets, and bearings. These shafts are available in various configurations, including full D-profile length or partially D-profile length at each end, providing flexibility for diverse mechanical applications.

All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable. Length tolerance is +/-.062 and straightness tolerance is 0.012 in/ft.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- Aluminum shafts are lightweight, corrosion resistant and nonmagnetic. They have a T4 temper, which means they have been heat treated for increased strength.
- Aluminum shafts have the strength of mild steel with one third the weight.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.







Dimensions Table — Inch

Diameter	Diameter Tolerance	Flat Width	Dim from Flat to Top of Shaft	Tap Size One End	Tap Depth 1 End	Straightness Tolerance	Length Tolerance
5/16	-.0005 to -.0025	5/32	0.292	8-32	.250	.012 in/ft	+/-.062
3/8	-.0005 to -.0025	3/16	0.350	10-32	.375	.012 in/ft	+/-.062
1/2	-.0005 to -.0025	1/4	0.467	1/4-20	.500	.012 in/ft	+/-.062
5/8	-.0005 to -.0025	5/16	0.583	1/4-20	.500	.012 in/ft	+/-.062
3/4	-.0005 to -.0025	3/8	0.700	5/16-18	.625	.012 in/ft	+/-.062
7/8	-.0005 to -.0025	7/16	0.784	5/16-18	.625	.012 in/ft	+/-.062
15/16	-.0005 to -.0025	15/32	.875	3/8-16	.750	.012 in/ft	+/-.062
1	-.0005 to -.0025	1/2	0.933	3/8-16	.750	.012 in/ft	+/-.062

Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic
2024 Aluminum	Ground & Polished	Chamfered	ASTM B211	B75	68,000	Nonmagnetic

D-Profile Rotary Shafts with Tap One End — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	8-32	ZSHDTT-312-03000-303SU	ZSHDTT-312-03000-316SU	ZSHDTT-312-03000-104SU	ZSHDTT-312-03000-114SU	ZSHDTT-312-03000-202SU
6	8-32	ZSHDTT-312-06000-303SU	ZSHDTT-312-06000-316SU	ZSHDTT-312-06000-104SU	ZSHDTT-312-06000-114SU	ZSHDTT-312-06000-202SU
9	8-32	ZSHDTT-312-09000-303SU	ZSHDTT-312-09000-316SU	ZSHDTT-312-09000-104SU	ZSHDTT-312-09000-114SU	ZSHDTT-312-09000-202SU
12	8-32	ZSHDTT-312-12000-303SU	ZSHDTT-312-12000-316SU	ZSHDTT-312-12000-104SU	ZSHDTT-312-12000-114SU	ZSHDTT-312-12000-202SU
18	8-32	ZSHDTT-312-18000-303SU	ZSHDTT-312-18000-316SU	ZSHDTT-312-18000-104SU	ZSHDTT-312-18000-114SU	ZSHDTT-312-18000-202SU
24	8-32	ZSHDTT-312-24000-303SU	ZSHDTT-312-24000-316SU	ZSHDTT-312-24000-104SU	ZSHDTT-312-24000-114SU	ZSHDTT-312-24000-202SU
36	8-32	ZSHDTT-312-36000-303SU	ZSHDTT-312-36000-316SU	ZSHDTT-312-36000-104SU	ZSHDTT-312-36000-114SU	ZSHDTT-312-36000-202SU
48	8-32	ZSHDTT-312-48000-303SU	ZSHDTT-312-48000-316SU	ZSHDTT-312-48000-104SU	ZSHDTT-312-48000-114SU	ZSHDTT-312-48000-202SU
60	8-32	ZSHDTT-312-60000-303SU	ZSHDTT-312-60000-316SU	ZSHDTT-312-60000-104SU	ZSHDTT-312-60000-114SU	ZSHDTT-312-60000-202SU
72	8-32	ZSHDTT-312-72000-303SU	ZSHDTT-312-72000-316SU	ZSHDTT-312-72000-104SU	ZSHDTT-312-72000-114SU	ZSHDTT-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	10-32	ZSHDTT-375-03000-303SU	ZSHDTT-375-03000-316SU	ZSHDTT-375-03000-104SU	ZSHDTT-375-03000-114SU	ZSHDTT-375-03000-202SU
6	10-32	ZSHDTT-375-06000-303SU	ZSHDTT-375-06000-316SU	ZSHDTT-375-06000-104SU	ZSHDTT-375-06000-114SU	ZSHDTT-375-06000-202SU
9	10-32	ZSHDTT-375-09000-303SU	ZSHDTT-375-09000-316SU	ZSHDTT-375-09000-104SU	ZSHDTT-375-09000-114SU	ZSHDTT-375-09000-202SU
12	10-32	ZSHDTT-375-12000-303SU	ZSHDTT-375-12000-316SU	ZSHDTT-375-12000-104SU	ZSHDTT-375-12000-114SU	ZSHDTT-375-12000-202SU
18	10-32	ZSHDTT-375-18000-303SU	ZSHDTT-375-18000-316SU	ZSHDTT-375-18000-104SU	ZSHDTT-375-18000-114SU	ZSHDTT-375-18000-202SU
24	10-32	ZSHDTT-375-24000-303SU	ZSHDTT-375-24000-316SU	ZSHDTT-375-24000-104SU	ZSHDTT-375-24000-114SU	ZSHDTT-375-24000-202SU
36	10-32	ZSHDTT-375-36000-303SU	ZSHDTT-375-36000-316SU	ZSHDTT-375-36000-104SU	ZSHDTT-375-36000-114SU	ZSHDTT-375-36000-202SU
48	10-32	ZSHDTT-375-48000-303SU	ZSHDTT-375-48000-316SU	ZSHDTT-375-48000-104SU	ZSHDTT-375-48000-114SU	ZSHDTT-375-48000-202SU
60	10-32	ZSHDTT-375-60000-303SU	ZSHDTT-375-60000-316SU	ZSHDTT-375-60000-104SU	ZSHDTT-375-60000-114SU	ZSHDTT-375-60000-202SU
72	10-32	ZSHDTT-375-72000-303SU	ZSHDTT-375-72000-316SU	ZSHDTT-375-72000-104SU	ZSHDTT-375-72000-114SU	ZSHDTT-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	1/4-20	ZSHDTT-500-03000-303SU	ZSHDTT-500-03000-316SU	ZSHDTT-500-03000-104SU	ZSHDTT-500-03000-114SU	ZSHDTT-500-03000-202SU
6	1/4-20	ZSHDTT-500-06000-303SU	ZSHDTT-500-06000-316SU	ZSHDTT-500-06000-104SU	ZSHDTT-500-06000-114SU	ZSHDTT-500-06000-202SU
9	1/4-20	ZSHDTT-500-09000-303SU	ZSHDTT-500-09000-316SU	ZSHDTT-500-09000-104SU	ZSHDTT-500-09000-114SU	ZSHDTT-500-09000-202SU
12	1/4-20	ZSHDTT-500-12000-303SU	ZSHDTT-500-12000-316SU	ZSHDTT-500-12000-104SU	ZSHDTT-500-12000-114SU	ZSHDTT-500-12000-202SU
18	1/4-20	ZSHDTT-500-18000-303SU	ZSHDTT-500-18000-316SU	ZSHDTT-500-18000-104SU	ZSHDTT-500-18000-114SU	ZSHDTT-500-18000-202SU
24	1/4-20	ZSHDTT-500-24000-303SU	ZSHDTT-500-24000-316SU	ZSHDTT-500-24000-104SU	ZSHDTT-500-24000-114SU	ZSHDTT-500-24000-202SU
36	1/4-20	ZSHDTT-500-36000-303SU	ZSHDTT-500-36000-316SU	ZSHDTT-500-36000-104SU	ZSHDTT-500-36000-114SU	ZSHDTT-500-36000-202SU
48	1/4-20	ZSHDTT-500-48000-303SU	ZSHDTT-500-48000-316SU	ZSHDTT-500-48000-104SU	ZSHDTT-500-48000-114SU	ZSHDTT-500-48000-202SU
60	1/4-20	ZSHDTT-500-60000-303SU	ZSHDTT-500-60000-316SU	ZSHDTT-500-60000-104SU	ZSHDTT-500-60000-114SU	ZSHDTT-500-60000-202SU
72	1/4-20	ZSHDTT-500-72000-303SU	ZSHDTT-500-72000-316SU	ZSHDTT-500-72000-104SU	ZSHDTT-500-72000-114SU	ZSHDTT-500-72000-202SU

18-8 SS, 316 SS, Steel, Aluminum

D-Profile Rotary Shafts with Tap One End — Inch



5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	1/4-20	ZSHDTT-625-03000-303SU	ZSHDTT-625-03000-316SU	ZSHDTT-625-03000-104SU	ZSHDTT-625-03000-114SU	ZSHDTT-625-03000-202SU
6	1/4-20	ZSHDTT-625-06000-303SU	ZSHDTT-625-06000-316SU	ZSHDTT-625-06000-104SU	ZSHDTT-625-06000-114SU	ZSHDTT-625-06000-202SU
9	1/4-20	ZSHDTT-625-09000-303SU	ZSHDTT-625-09000-316SU	ZSHDTT-625-09000-104SU	ZSHDTT-625-09000-114SU	ZSHDTT-625-09000-202SU
12	1/4-20	ZSHDTT-625-12000-303SU	ZSHDTT-625-12000-316SU	ZSHDTT-625-12000-104SU	ZSHDTT-625-12000-114SU	ZSHDTT-625-12000-202SU
18	1/4-20	ZSHDTT-625-18000-303SU	ZSHDTT-625-18000-316SU	ZSHDTT-625-18000-104SU	ZSHDTT-625-18000-114SU	ZSHDTT-625-18000-202SU
24	1/4-20	ZSHDTT-625-24000-303SU	ZSHDTT-625-24000-316SU	ZSHDTT-625-24000-104SU	ZSHDTT-625-24000-114SU	ZSHDTT-625-24000-202SU
36	1/4-20	ZSHDTT-625-36000-303SU	ZSHDTT-625-36000-316SU	ZSHDTT-625-36000-104SU	ZSHDTT-625-36000-114SU	ZSHDTT-625-36000-202SU
48	1/4-20	ZSHDTT-625-48000-303SU	ZSHDTT-625-48000-316SU	ZSHDTT-625-48000-104SU	ZSHDTT-625-48000-114SU	ZSHDTT-625-48000-202SU
60	1/4-20	ZSHDTT-625-60000-303SU	ZSHDTT-625-60000-316SU	ZSHDTT-625-60000-104SU	ZSHDTT-625-60000-114SU	ZSHDTT-625-60000-202SU
72	1/4-20	ZSHDTT-625-72000-303SU	ZSHDTT-625-72000-316SU	ZSHDTT-625-72000-104SU	ZSHDTT-625-72000-114SU	ZSHDTT-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	5/16-18	ZSHDTT-750-03000-303SU	ZSHDTT-750-03000-316SU	ZSHDTT-750-03000-104SU	ZSHDTT-750-03000-114SU	ZSHDTT-750-03000-202SU
6	5/16-18	ZSHDTT-750-06000-303SU	ZSHDTT-750-06000-316SU	ZSHDTT-750-06000-104SU	ZSHDTT-750-06000-114SU	ZSHDTT-750-06000-202SU
9	5/16-18	ZSHDTT-750-09000-303SU	ZSHDTT-750-09000-316SU	ZSHDTT-750-09000-104SU	ZSHDTT-750-09000-114SU	ZSHDTT-750-09000-202SU
12	5/16-18	ZSHDTT-750-12000-303SU	ZSHDTT-750-12000-316SU	ZSHDTT-750-12000-104SU	ZSHDTT-750-12000-114SU	ZSHDTT-750-12000-202SU
18	5/16-18	ZSHDTT-750-18000-303SU	ZSHDTT-750-18000-316SU	ZSHDTT-750-18000-104SU	ZSHDTT-750-18000-114SU	ZSHDTT-750-18000-202SU
24	5/16-18	ZSHDTT-750-24000-303SU	ZSHDTT-750-24000-316SU	ZSHDTT-750-24000-104SU	ZSHDTT-750-24000-114SU	ZSHDTT-750-24000-202SU
36	5/16-18	ZSHDTT-750-36000-303SU	ZSHDTT-750-36000-316SU	ZSHDTT-750-36000-104SU	ZSHDTT-750-36000-114SU	ZSHDTT-750-36000-202SU
48	5/16-18	ZSHDTT-750-48000-303SU	ZSHDTT-750-48000-316SU	ZSHDTT-750-48000-104SU	ZSHDTT-750-48000-114SU	ZSHDTT-750-48000-202SU
60	5/16-18	ZSHDTT-750-60000-303SU	ZSHDTT-750-60000-316SU	ZSHDTT-750-60000-104SU	ZSHDTT-750-60000-114SU	ZSHDTT-750-60000-202SU
72	5/16-18	ZSHDTT-750-72000-303SU	ZSHDTT-750-72000-316SU	ZSHDTT-750-72000-104SU	ZSHDTT-750-72000-114SU	ZSHDTT-750-72000-202SU

7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	5/16-18	ZSHDTT-875-03000-303SU	ZSHDTT-875-03000-316SU	ZSHDTT-875-03000-104SU	ZSHDTT-875-03000-114SU	ZSHDTT-875-03000-202SU
6	5/16-18	ZSHDTT-875-06000-303SU	ZSHDTT-875-06000-316SU	ZSHDTT-875-06000-104SU	ZSHDTT-875-06000-114SU	ZSHDTT-875-06000-202SU
9	5/16-18	ZSHDTT-875-09000-303SU	ZSHDTT-875-09000-316SU	ZSHDTT-875-09000-104SU	ZSHDTT-875-09000-114SU	ZSHDTT-875-09000-202SU
12	5/16-18	ZSHDTT-875-12000-303SU	ZSHDTT-875-12000-316SU	ZSHDTT-875-12000-104SU	ZSHDTT-875-12000-114SU	ZSHDTT-875-12000-202SU
18	5/16-18	ZSHDTT-875-18000-303SU	ZSHDTT-875-18000-316SU	ZSHDTT-875-18000-104SU	ZSHDTT-875-18000-114SU	ZSHDTT-875-18000-202SU
24	5/16-18	ZSHDTT-875-24000-303SU	ZSHDTT-875-24000-316SU	ZSHDTT-875-24000-104SU	ZSHDTT-875-24000-114SU	ZSHDTT-875-24000-202SU
36	5/16-18	ZSHDTT-875-36000-303SU	ZSHDTT-875-36000-316SU	ZSHDTT-875-36000-104SU	ZSHDTT-875-36000-114SU	ZSHDTT-875-36000-202SU
48	5/16-18	ZSHDTT-875-48000-303SU	ZSHDTT-875-48000-316SU	ZSHDTT-875-48000-104SU	ZSHDTT-875-48000-114SU	ZSHDTT-875-48000-202SU
60	5/16-18	ZSHDTT-875-60000-303SU	ZSHDTT-875-60000-316SU	ZSHDTT-875-60000-104SU	ZSHDTT-875-60000-114SU	ZSHDTT-875-60000-202SU
72	5/16-18	ZSHDTT-875-72000-303SU	ZSHDTT-875-72000-316SU	ZSHDTT-875-72000-104SU	ZSHDTT-875-72000-114SU	ZSHDTT-875-72000-202SU

D-Profile Rotary Shafts with Tap One End — Inch



15/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	3/8-16	—	—	ZSHDTT-937-03000-104SU	—	—
6	3/8-16	—	—	ZSHDTT-937-06000-104SU	—	—
9	3/8-16	—	—	ZSHDTT-937-09000-104SU	—	—
12	3/8-16	—	—	ZSHDTT-937-12000-104SU	—	—
18	3/8-16	—	—	ZSHDTT-937-18000-104SU	—	—
24	3/8-16	—	—	ZSHDTT-937-24000-104SU	—	—
36	3/8-16	—	—	ZSHDTT-937-36000-104SU	—	—
48	3/8-16	—	—	ZSHDTT-937-48000-104SU	—	—
60	3/8-16	—	—	ZSHDTT-937-60000-104SU	—	—
72	3/8-16	—	—	ZSHDTT-937-72000-104SU	—	—

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number	2024 Aluminum Part Number
3	3/8-16	ZSHDTT-1000-03000-303SU	ZSHDTT-1000-03000-316SU	ZSHDTT-1000-03000-104SU	ZSHDTT-1000-03000-114SU	ZSHDTT-1000-03000-202SU
6	3/8-16	ZSHDTT-1000-06000-303SU	ZSHDTT-1000-06000-316SU	ZSHDTT-1000-06000-104SU	ZSHDTT-1000-06000-114SU	ZSHDTT-1000-06000-202SU
9	3/8-16	ZSHDTT-1000-09000-303SU	ZSHDTT-1000-09000-316SU	ZSHDTT-1000-09000-104SU	ZSHDTT-1000-09000-114SU	ZSHDTT-1000-09000-202SU
12	3/8-16	ZSHDTT-1000-12000-303SU	ZSHDTT-1000-12000-316SU	ZSHDTT-1000-12000-104SU	ZSHDTT-1000-12000-114SU	ZSHDTT-1000-12000-202SU
18	3/8-16	ZSHDTT-1000-18000-303SU	ZSHDTT-1000-18000-316SU	ZSHDTT-1000-18000-104SU	ZSHDTT-1000-18000-114SU	ZSHDTT-1000-18000-202SU
24	3/8-16	ZSHDTT-1000-24000-303SU	ZSHDTT-1000-24000-316SU	ZSHDTT-1000-24000-104SU	ZSHDTT-1000-24000-114SU	ZSHDTT-1000-24000-202SU
36	3/8-16	ZSHDTT-1000-36000-303SU	ZSHDTT-1000-36000-316SU	ZSHDTT-1000-36000-104SU	ZSHDTT-1000-36000-114SU	ZSHDTT-1000-36000-202SU
48	3/8-16	ZSHDTT-1000-48000-303SU	ZSHDTT-1000-48000-316SU	ZSHDTT-1000-48000-104SU	ZSHDTT-1000-48000-114SU	ZSHDTT-1000-48000-202SU
60	3/8-16	ZSHDTT-1000-60000-303SU	ZSHDTT-1000-60000-316SU	ZSHDTT-1000-60000-104SU	ZSHDTT-1000-60000-114SU	ZSHDTT-1000-60000-202SU
72	3/8-16	ZSHDTT-1000-72000-303SU	ZSHDTT-1000-72000-316SU	ZSHDTT-1000-72000-104SU	ZSHDTT-1000-72000-114SU	ZSHDTT-1000-72000-202SU

D-Profile Rotary Shafts with Tap One End — Metric

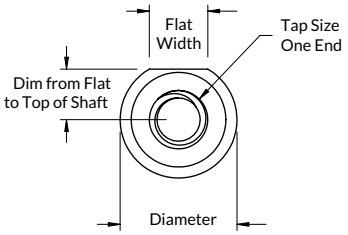
18-8 & 316 SS, Steel

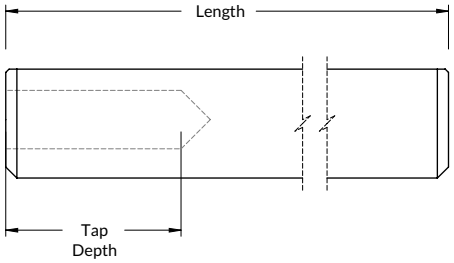
Product Information

D-Profile shafts are a specialized type of rotary shaft, offering a unique mounting solution. These internally threaded shafts offer versatile connection options, allowing direct attachment to threaded components or secure fastening with hardware. Their flat surface facilitates set screw engagement, ensuring firm mounting of gears, sprockets, and bearings. These shafts are available in various configurations, including full D-profile length or partially D-profile length at each end, providing flexibility for diverse mechanical applications.

All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable. Length tolerance is +/-1.6mm and straightness tolerance is .33mm per 300mm.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.







Dimensions Table — Metric

Diameter	Diameter Tolerance	Flat Width	Dim from Flat to Top of Shaft	Tap Size One End	Tap Depth 1 End	Straightness Tolerance	Length Tolerance
8 mm	-.0635 to 0mm	4.00	7.50	M4x0.7	8.00	.33mm per 300mm	+/-1.6mm
10 mm	-.0635 to 0mm	5.00	9.30	M4x0.7	8.00	.33mm per 300mm	+/-1.6mm
12 mm	-.0635 to 0mm	6.00	11.20	M6x1	12.00	.33mm per 300mm	+/-1.6mm
15 mm	-.0635 to 0mm	7.50	14.00	M6x1	12.00	.33mm per 300mm	+/-1.6mm
20 mm	-.0635 to 0mm	10.00	18.60	M8x1.25	16.00	.33mm per 300mm	+/-1.6mm
24 mm	-.0635 to 0mm	12.00	22.40	M10x1.5	20.00	.33mm per 300mm	+/-1.6mm
25 mm	-.0635 to 0mm	12.50	23.30	M10x1.5	20.00	.33mm per 300mm	+/-1.6mm

Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic

D-Profile Rotary Shafts with Tap One End — Metric



8mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	M4x0.7	ZSHDTT-M08-M0300-303SU	ZSHDTT-M08-M0300-316SU	ZSHDTT-M08-M0300-104SU	ZSHDTT-M08-M0300-114SU
500	M4x0.7	ZSHDTT-M08-M0500-303SU	ZSHDTT-M08-M0500-316SU	ZSHDTT-M08-M0500-104SU	ZSHDTT-M08-M0500-114SU
1,000	M4x0.7	ZSHDTT-M08-M1000-303SU	ZSHDTT-M08-M1000-316SU	ZSHDTT-M08-M1000-104SU	ZSHDTT-M08-M1000-114SU
1,200	M4x0.7	ZSHDTT-M08-M1200-303SU	ZSHDTT-M08-M1200-316SU	ZSHDTT-M08-M1200-104SU	ZSHDTT-M08-M1200-114SU
1,500	M4x0.7	ZSHDTT-M08-M1500-303SU	ZSHDTT-M08-M1500-316SU	ZSHDTT-M08-M1500-104SU	ZSHDTT-M08-M1500-114SU
1,800	M4x0.7	ZSHDTT-M08-M1800-303SU	ZSHDTT-M08-M1800-316SU	ZSHDTT-M08-M1800-104SU	ZSHDTT-M08-M1800-114SU

10mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	M4x0.7	ZSHDTT-M10-M0300-303SU	ZSHDTT-M10-M0300-316SU	ZSHDTT-M10-M0300-104SU	ZSHDTT-M10-M0300-114SU
500	M4x0.7	ZSHDTT-M10-M0500-303SU	ZSHDTT-M10-M0500-316SU	ZSHDTT-M10-M0500-104SU	ZSHDTT-M10-M0500-114SU
1,000	M4x0.7	ZSHDTT-M10-M1000-303SU	ZSHDTT-M10-M1000-316SU	ZSHDTT-M10-M1000-104SU	ZSHDTT-M10-M1000-114SU
1,200	M4x0.7	ZSHDTT-M10-M1200-303SU	ZSHDTT-M10-M1200-316SU	ZSHDTT-M10-M1200-104SU	ZSHDTT-M10-M1200-114SU
1,500	M4x0.7	ZSHDTT-M10-M1500-303SU	ZSHDTT-M10-M1500-316SU	ZSHDTT-M10-M1500-104SU	ZSHDTT-M10-M1500-114SU
1,800	M4x0.7	ZSHDTT-M10-M1800-303SU	ZSHDTT-M10-M1800-316SU	ZSHDTT-M10-M1800-104SU	ZSHDTT-M10-M1800-114SU

12mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	M6x1	ZSHDTT-M12-M0300-303SU	ZSHDTT-M12-M0300-316SU	ZSHDTT-M12-M0300-104SU	ZSHDTT-M12-M0300-114SU
500	M6x1	ZSHDTT-M12-M0500-303SU	ZSHDTT-M12-M0500-316SU	ZSHDTT-M12-M0500-104SU	ZSHDTT-M12-M0500-114SU
1,000	M6x1	ZSHDTT-M12-M1000-303SU	ZSHDTT-M12-M1000-316SU	ZSHDTT-M12-M1000-104SU	ZSHDTT-M12-M1000-114SU
1,200	M6x1	ZSHDTT-M12-M1200-303SU	ZSHDTT-M12-M1200-316SU	ZSHDTT-M12-M1200-104SU	ZSHDTT-M12-M1200-114SU
1,500	M6x1	ZSHDTT-M12-M1500-303SU	ZSHDTT-M12-M1500-316SU	ZSHDTT-M12-M1500-104SU	ZSHDTT-M12-M1500-114SU
1,800	M6x1	ZSHDTT-M12-M1800-303SU	ZSHDTT-M12-M1800-316SU	ZSHDTT-M12-M1800-104SU	ZSHDTT-M12-M1800-114SU

15mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	M6x1	ZSHDTT-M15-M0300-303SU	ZSHDTT-M15-M0300-316SU	ZSHDTT-M15-M0300-104SU	ZSHDTT-M15-M0300-114SU
500	M6x1	ZSHDTT-M15-M0500-303SU	ZSHDTT-M15-M0500-316SU	ZSHDTT-M15-M0500-104SU	ZSHDTT-M15-M0500-114SU
1,000	M6x1	ZSHDTT-M15-M1000-303SU	ZSHDTT-M15-M1000-316SU	ZSHDTT-M15-M1000-104SU	ZSHDTT-M15-M1000-114SU
1,200	M6x1	ZSHDTT-M15-M1200-303SU	ZSHDTT-M15-M1200-316SU	ZSHDTT-M15-M1200-104SU	ZSHDTT-M15-M1200-114SU
1,500	M6x1	ZSHDTT-M15-M1500-303SU	ZSHDTT-M15-M1500-316SU	ZSHDTT-M15-M1500-104SU	ZSHDTT-M15-M1500-114SU
1,800	M6x1	ZSHDTT-M15-M1800-303SU	ZSHDTT-M15-M1800-316SU	ZSHDTT-M15-M1800-104SU	ZSHDTT-M15-M1800-114SU

D-Profile Rotary Shafts with Tap One End — Metric

18-8 & 316 SS, Steel



20mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	M8x1.25	ZSHDTT-M20-M0300-303SU	ZSHDTT-M20-M0300-316SU	ZSHDTT-M20-M0300-104SU	ZSHDTT-M20-M0300-114SU
500	M8x1.25	ZSHDTT-M20-M0500-303SU	ZSHDTT-M20-M0500-316SU	ZSHDTT-M20-M0500-104SU	ZSHDTT-M20-M0500-114SU
1,000	M8x1.25	ZSHDTT-M20-M1000-303SU	ZSHDTT-M20-M1000-316SU	ZSHDTT-M20-M1000-104SU	ZSHDTT-M20-M1000-114SU
1,200	M8x1.25	ZSHDTT-M20-M1200-303SU	ZSHDTT-M20-M1200-316SU	ZSHDTT-M20-M1200-104SU	ZSHDTT-M20-M1200-114SU
1,500	M8x1.25	ZSHDTT-M20-M1500-303SU	ZSHDTT-M20-M1500-316SU	ZSHDTT-M20-M1500-104SU	ZSHDTT-M20-M1500-114SU
1,800	M8x1.25	ZSHDTT-M20-M1800-303SU	ZSHDTT-M20-M1800-316SU	ZSHDTT-M20-M1800-104SU	ZSHDTT-M20-M1800-114SU

24mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	M10x1.5	ZSHDTT-M24-M0300-303SU	ZSHDTT-M24-M0300-316SU	ZSHDTT-M24-M0300-104SU	ZSHDTT-M24-M0300-114SU
500	M10x1.5	ZSHDTT-M24-M0500-303SU	ZSHDTT-M24-M0500-316SU	ZSHDTT-M24-M0500-104SU	ZSHDTT-M24-M0500-114SU
1,000	M10x1.5	ZSHDTT-M24-M1000-303SU	ZSHDTT-M24-M1000-316SU	ZSHDTT-M24-M1000-104SU	ZSHDTT-M24-M1000-114SU
1,200	M10x1.5	ZSHDTT-M24-M1200-303SU	ZSHDTT-M24-M1200-316SU	ZSHDTT-M24-M1200-104SU	ZSHDTT-M24-M1200-114SU
1,500	M10x1.5	ZSHDTT-M24-M1500-303SU	ZSHDTT-M24-M1500-316SU	ZSHDTT-M24-M1500-104SU	ZSHDTT-M24-M1500-114SU
1,800	M10x1.5	ZSHDTT-M24-M1800-303SU	ZSHDTT-M24-M1800-316SU	ZSHDTT-M24-M1800-104SU	ZSHDTT-M24-M1800-114SU

25mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Tap Size 1 End	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Stressproof Steel Part Number
300	M10x1.5	ZSHDTT-M25-M0300-303SU	ZSHDTT-M25-M0300-316SU	ZSHDTT-M25-M0300-104SU	ZSHDTT-M25-M0300-114SU
500	M10x1.5	ZSHDTT-M25-M0500-303SU	ZSHDTT-M25-M0500-316SU	ZSHDTT-M25-M0500-104SU	ZSHDTT-M25-M0500-114SU
1,000	M10x1.5	ZSHDTT-M25-M1000-303SU	ZSHDTT-M25-M1000-316SU	ZSHDTT-M25-M1000-104SU	ZSHDTT-M25-M1000-114SU
1,200	M10x1.5	ZSHDTT-M25-M1200-303SU	ZSHDTT-M25-M1200-316SU	ZSHDTT-M25-M1200-104SU	ZSHDTT-M25-M1200-114SU
1,500	M10x1.5	ZSHDTT-M25-M1500-303SU	ZSHDTT-M25-M1500-316SU	ZSHDTT-M25-M1500-104SU	ZSHDTT-M25-M1500-114SU
1,800	M10x1.5	ZSHDTT-M25-M1800-303SU	ZSHDTT-M25-M1800-316SU	ZSHDTT-M25-M1800-104SU	ZSHDTT-M25-M1800-114SU

Tapped End(s) Rotary Shafts — Inch

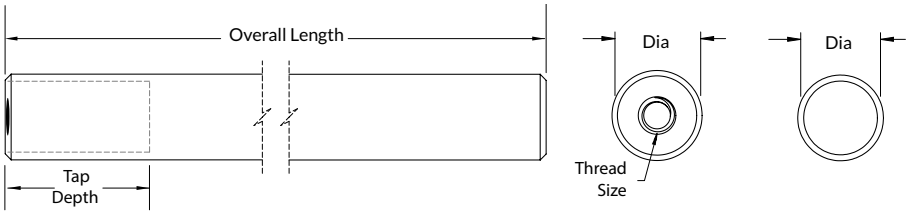
18-8 & 316 SS, Steel, Aluminum

Product Information

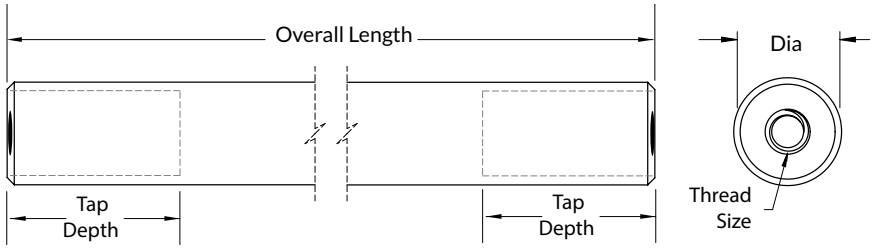
Internal threads enable direct mounting of these shafts to threaded fasteners, eliminating the need for additional support. Engineered for low friction in both manual and automated systems, their smooth, hard, and wear-resistant surfaces are ideal for use with linear bearings. Commonly found in packaging, machine tool, and material handling applications, these shafts undergo precise turning, grinding, and polishing to ensure strict diameter and straightness tolerances. A hardened surface provides exceptional durability under repeated motion while maintaining a soft core to absorb stress from shifting loads. Chamfered ends protect bearings, housings, and other components from damage during installation.

All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable. Length tolerance is +/-.062 and straightness tolerance is 0.012 in/ft.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- Aluminum shafts are lightweight, corrosion resistant and nonmagnetic. They have a T4 temper, which means they have been heat treated for increased strength.
- Aluminum shafts have the strength of mild steel with one third the weight.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.









Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic
2024 Aluminum	Ground & Polished	Chamfered	ASTM B211	B75	68,000	Nonmagnetic

Tapped End Rotary Shafts One End — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	10-32	.375	ZSHI-312-03000-303SU	ZSHI-312-03000-316SU	ZSHI-312-03000-104SU	ZSHI-312-03000-114SU	ZSHI-312-03000-202SU
6	10-32	.375	ZSHI-312-06000-303SU	ZSHI-312-06000-316SU	ZSHI-312-06000-104SU	ZSHI-312-06000-114SU	ZSHI-312-06000-202SU
9	10-32	.375	ZSHI-312-09000-303SU	ZSHI-312-09000-316SU	ZSHI-312-09000-104SU	ZSHI-312-09000-114SU	ZSHI-312-09000-202SU
12	10-32	.375	ZSHI-312-12000-303SU	ZSHI-312-12000-316SU	ZSHI-312-12000-104SU	ZSHI-312-12000-114SU	ZSHI-312-12000-202SU
18	10-32	.375	ZSHI-312-18000-303SU	ZSHI-312-18000-316SU	ZSHI-312-18000-104SU	ZSHI-312-18000-114SU	ZSHI-312-18000-202SU
24	10-32	.375	ZSHI-312-24000-303SU	ZSHI-312-24000-316SU	ZSHI-312-24000-104SU	ZSHI-312-24000-114SU	ZSHI-312-24000-202SU
36	10-32	.375	ZSHI-312-36000-303SU	ZSHI-312-36000-316SU	ZSHI-312-36000-104SU	ZSHI-312-36000-114SU	ZSHI-312-36000-202SU
48	10-32	.375	ZSHI-312-48000-303SU	ZSHI-312-48000-316SU	ZSHI-312-48000-104SU	ZSHI-312-48000-114SU	ZSHI-312-48000-202SU
60	10-32	.375	ZSHI-312-60000-303SU	ZSHI-312-60000-316SU	ZSHI-312-60000-104SU	ZSHI-312-60000-114SU	ZSHI-312-60000-202SU
72	10-32	.375	ZSHI-312-72000-303SU	ZSHI-312-72000-316SU	ZSHI-312-72000-104SU	ZSHI-312-72000-114SU	ZSHI-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1/4-20	0.5	ZSHI-375-03000-303SU	ZSHI-375-03000-316SU	ZSHI-375-03000-104SU	ZSHI-375-03000-114SU	ZSHI-375-03000-202SU
6	1/4-20	0.5	ZSHI-375-06000-303SU	ZSHI-375-06000-316SU	ZSHI-375-06000-104SU	ZSHI-375-06000-114SU	ZSHI-375-06000-202SU
9	1/4-20	0.5	ZSHI-375-09000-303SU	ZSHI-375-09000-316SU	ZSHI-375-09000-104SU	ZSHI-375-09000-114SU	ZSHI-375-09000-202SU
12	1/4-20	0.5	ZSHI-375-12000-303SU	ZSHI-375-12000-316SU	ZSHI-375-12000-104SU	ZSHI-375-12000-114SU	ZSHI-375-12000-202SU
18	1/4-20	0.5	ZSHI-375-18000-303SU	ZSHI-375-18000-316SU	ZSHI-375-18000-104SU	ZSHI-375-18000-114SU	ZSHI-375-18000-202SU
24	1/4-20	0.5	ZSHI-375-24000-303SU	ZSHI-375-24000-316SU	ZSHI-375-24000-104SU	ZSHI-375-24000-114SU	ZSHI-375-24000-202SU
36	1/4-20	0.5	ZSHI-375-36000-303SU	ZSHI-375-36000-316SU	ZSHI-375-36000-104SU	ZSHI-375-36000-114SU	ZSHI-375-36000-202SU
48	1/4-20	0.5	ZSHI-375-48000-303SU	ZSHI-375-48000-316SU	ZSHI-375-48000-104SU	ZSHI-375-48000-114SU	ZSHI-375-48000-202SU
60	1/4-20	0.5	ZSHI-375-60000-303SU	ZSHI-375-60000-316SU	ZSHI-375-60000-104SU	ZSHI-375-60000-114SU	ZSHI-375-60000-202SU
72	1/4-20	0.5	ZSHI-375-72000-303SU	ZSHI-375-72000-316SU	ZSHI-375-72000-104SU	ZSHI-375-72000-114SU	ZSHI-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	5/16-18	0.625	ZSHI-500-03000-303SU	ZSHI-500-03000-316SU	ZSHI-500-03000-104SU	ZSHI-500-03000-114SU	ZSHI-500-03000-202SU
6	5/16-18	0.625	ZSHI-500-06000-303SU	ZSHI-500-06000-316SU	ZSHI-500-06000-104SU	ZSHI-500-06000-114SU	ZSHI-500-06000-202SU
9	5/16-18	0.625	ZSHI-500-09000-303SU	ZSHI-500-09000-316SU	ZSHI-500-09000-104SU	ZSHI-500-09000-114SU	ZSHI-500-09000-202SU
12	5/16-18	0.625	ZSHI-500-12000-303SU	ZSHI-500-12000-316SU	ZSHI-500-12000-104SU	ZSHI-500-12000-114SU	ZSHI-500-12000-202SU
18	5/16-18	0.625	ZSHI-500-18000-303SU	ZSHI-500-18000-316SU	ZSHI-500-18000-104SU	ZSHI-500-18000-114SU	ZSHI-500-18000-202SU
24	5/16-18	0.625	ZSHI-500-24000-303SU	ZSHI-500-24000-316SU	ZSHI-500-24000-104SU	ZSHI-500-24000-114SU	ZSHI-500-24000-202SU
36	5/16-18	0.625	ZSHI-500-36000-303SU	ZSHI-500-36000-316SU	ZSHI-500-36000-104SU	ZSHI-500-36000-114SU	ZSHI-500-36000-202SU
48	5/16-18	0.625	ZSHI-500-48000-303SU	ZSHI-500-48000-316SU	ZSHI-500-48000-104SU	ZSHI-500-48000-114SU	ZSHI-500-48000-202SU
60	5/16-18	0.625	ZSHI-500-60000-303SU	ZSHI-500-60000-316SU	ZSHI-500-60000-104SU	ZSHI-500-60000-114SU	ZSHI-500-60000-202SU
72	5/16-18	0.625	ZSHI-500-72000-303SU	ZSHI-500-72000-316SU	ZSHI-500-72000-104SU	ZSHI-500-72000-114SU	ZSHI-500-72000-202SU

Tapped End Rotary Shafts One End — Inch



9/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	5/16-18	.625	ZSHI-562-03000-303SU	ZSHI-562-03000-316SU	ZSHI-562-03000-104SU	ZSHI-562-03000-114SU	–
6	5/16-18	.625	ZSHI-562-06000-303SU	ZSHI-562-06000-316SU	ZSHI-562-06000-104SU	ZSHI-562-06000-114SU	–
9	5/16-18	.625	ZSHI-562-09000-303SU	ZSHI-562-09000-316SU	ZSHI-562-09000-104SU	ZSHI-562-09000-114SU	–
12	5/16-18	.625	ZSHI-562-12000-303SU	ZSHI-562-12000-316SU	ZSHI-562-12000-104SU	ZSHI-562-12000-114SU	–
18	5/16-18	.625	ZSHI-562-18000-303SU	ZSHI-562-18000-316SU	ZSHI-562-18000-104SU	ZSHI-562-18000-114SU	–
24	5/16-18	.625	ZSHI-562-24000-303SU	ZSHI-562-24000-316SU	ZSHI-562-24000-104SU	ZSHI-562-24000-114SU	–
36	5/16-18	.625	ZSHI-562-36000-303SU	ZSHI-562-36000-316SU	ZSHI-562-36000-104SU	ZSHI-562-36000-114SU	–
48	5/16-18	.625	ZSHI-562-48000-303SU	ZSHI-562-48000-316SU	ZSHI-562-48000-104SU	ZSHI-562-48000-114SU	–
60	5/16-18	.625	ZSHI-562-60000-303SU	ZSHI-562-60000-316SU	ZSHI-562-60000-104SU	ZSHI-562-60000-114SU	–
72	5/16-18	.625	ZSHI-562-72000-303SU	ZSHI-562-72000-316SU	ZSHI-562-72000-104SU	ZSHI-562-72000-114SU	–

5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	3/8-16	.750	ZSHI-625-03000-303SU	ZSHI-625-03000-316SU	ZSHI-625-03000-104SU	ZSHI-625-03000-114SU	ZSHI-625-03000-202SU
6	3/8-16	.750	ZSHI-625-06000-303SU	ZSHI-625-06000-316SU	ZSHI-625-06000-104SU	ZSHI-625-06000-114SU	ZSHI-625-06000-202SU
9	3/8-16	.750	ZSHI-625-09000-303SU	ZSHI-625-09000-316SU	ZSHI-625-09000-104SU	ZSHI-625-09000-114SU	ZSHI-625-09000-202SU
12	3/8-16	.750	ZSHI-625-12000-303SU	ZSHI-625-12000-316SU	ZSHI-625-12000-104SU	ZSHI-625-12000-114SU	ZSHI-625-12000-202SU
18	3/8-16	.750	ZSHI-625-18000-303SU	ZSHI-625-18000-316SU	ZSHI-625-18000-104SU	ZSHI-625-18000-114SU	ZSHI-625-18000-202SU
24	3/8-16	.750	ZSHI-625-24000-303SU	ZSHI-625-24000-316SU	ZSHI-625-24000-104SU	ZSHI-625-24000-114SU	ZSHI-625-24000-202SU
36	3/8-16	.750	ZSHI-625-36000-303SU	ZSHI-625-36000-316SU	ZSHI-625-36000-104SU	ZSHI-625-36000-114SU	ZSHI-625-36000-202SU
48	3/8-16	.750	ZSHI-625-48000-303SU	ZSHI-625-48000-316SU	ZSHI-625-48000-104SU	ZSHI-625-48000-114SU	ZSHI-625-48000-202SU
60	3/8-16	.750	ZSHI-625-60000-303SU	ZSHI-625-60000-316SU	ZSHI-625-60000-104SU	ZSHI-625-60000-114SU	ZSHI-625-60000-202SU
72	3/8-16	.750	ZSHI-625-72000-303SU	ZSHI-625-72000-316SU	ZSHI-625-72000-104SU	ZSHI-625-72000-114SU	ZSHI-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1/2-13	1	ZSHI-750-03000-303SU	ZSHI-750-03000-316SU	ZSHI-750-03000-104SU	ZSHI-750-03000-114SU	ZSHI-750-03000-202SU
6	1/2-13	1	ZSHI-750-06000-303SU	ZSHI-750-06000-316SU	ZSHI-750-06000-104SU	ZSHI-750-06000-114SU	ZSHI-750-06000-202SU
9	1/2-13	1	ZSHI-750-09000-303SU	ZSHI-750-09000-316SU	ZSHI-750-09000-104SU	ZSHI-750-09000-114SU	ZSHI-750-09000-202SU
12	1/2-13	1	ZSHI-750-12000-303SU	ZSHI-750-12000-316SU	ZSHI-750-12000-104SU	ZSHI-750-12000-114SU	ZSHI-750-12000-202SU
18	1/2-13	1	ZSHI-750-18000-303SU	ZSHI-750-18000-316SU	ZSHI-750-18000-104SU	ZSHI-750-18000-114SU	ZSHI-750-18000-202SU
24	1/2-13	1	ZSHI-750-24000-303SU	ZSHI-750-24000-316SU	ZSHI-750-24000-104SU	ZSHI-750-24000-114SU	ZSHI-750-24000-202SU
36	1/2-13	1	ZSHI-750-36000-303SU	ZSHI-750-36000-316SU	ZSHI-750-36000-104SU	ZSHI-750-36000-114SU	ZSHI-750-36000-202SU
48	1/2-13	1	ZSHI-750-48000-303SU	ZSHI-750-48000-316SU	ZSHI-750-48000-104SU	ZSHI-750-48000-114SU	ZSHI-750-48000-202SU
60	1/2-13	1	ZSHI-750-60000-303SU	ZSHI-750-60000-316SU	ZSHI-750-60000-104SU	ZSHI-750-60000-114SU	ZSHI-750-60000-202SU
72	1/2-13	1	ZSHI-750-72000-303SU	ZSHI-750-72000-316SU	ZSHI-750-72000-104SU	ZSHI-750-72000-114SU	ZSHI-750-72000-202SU

Tapped End Rotary Shafts One End — Inch



7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	5/8-11	1.125	ZSHI-875-03000-303SU	ZSHI-875-03000-316SU	ZSHI-875-03000-104SU	ZSHI-875-03000-114SU	ZSHI-875-03000-202SU
6	5/8-11	1.125	ZSHI-875-06000-303SU	ZSHI-875-06000-316SU	ZSHI-875-06000-104SU	ZSHI-875-06000-114SU	ZSHI-875-06000-202SU
9	5/8-11	1.125	ZSHI-875-09000-303SU	ZSHI-875-09000-316SU	ZSHI-875-09000-104SU	ZSHI-875-09000-114SU	ZSHI-875-09000-202SU
12	5/8-11	1.125	ZSHI-875-12000-303SU	ZSHI-875-12000-316SU	ZSHI-875-12000-104SU	ZSHI-875-12000-114SU	ZSHI-875-12000-202SU
18	5/8-11	1.125	ZSHI-875-18000-303SU	ZSHI-875-18000-316SU	ZSHI-875-18000-104SU	ZSHI-875-18000-114SU	ZSHI-875-18000-202SU
24	5/8-11	1.125	ZSHI-875-24000-303SU	ZSHI-875-24000-316SU	ZSHI-875-24000-104SU	ZSHI-875-24000-114SU	ZSHI-875-24000-202SU
36	5/8-11	1.125	ZSHI-875-36000-303SU	ZSHI-875-36000-316SU	ZSHI-875-36000-104SU	ZSHI-875-36000-114SU	ZSHI-875-36000-202SU
48	5/8-11	1.125	ZSHI-875-48000-303SU	ZSHI-875-48000-316SU	ZSHI-875-48000-104SU	ZSHI-875-48000-114SU	ZSHI-875-48000-202SU
60	5/8-11	1.125	ZSHI-875-60000-303SU	ZSHI-875-60000-316SU	ZSHI-875-60000-104SU	ZSHI-875-60000-114SU	ZSHI-875-60000-202SU
72	5/8-11	1.125	ZSHI-875-72000-303SU	ZSHI-875-72000-316SU	ZSHI-875-72000-104SU	ZSHI-875-72000-114SU	ZSHI-875-72000-202SU

15/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	10-32	.375	–	–	ZSHI-937-03000-104SU	–	–
6	10-32	.375	–	–	ZSHI-937-06000-104SU	–	–
9	10-32	.375	–	–	ZSHI-937-09000-104SU	–	–
12	10-32	.375	–	–	ZSHI-937-12000-104SU	–	–
18	10-32	.375	–	–	ZSHI-937-18000-104SU	–	–
24	10-32	.375	–	–	ZSHI-937-24000-104SU	–	–
36	10-32	.375	–	–	ZSHI-937-36000-104SU	–	–
48	10-32	.375	–	–	ZSHI-937-48000-104SU	–	–
60	10-32	.375	–	–	ZSHI-937-60000-104SU	–	–
72	10-32	.375	–	–	ZSHI-937-72000-104SU	–	–

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	3/4-10	1.5	ZSHI-1000-03000-303SU	ZSHI-1000-03000-316SU	ZSHI-625-03000-104SU	ZSHI-625-03000-114SU	ZSHI-625-03000-202SU
6	3/4-10	1.5	ZSHI-1000-06000-303SU	ZSHI-1000-06000-316SU	ZSHI-625-06000-104SU	ZSHI-625-06000-114SU	ZSHI-625-06000-202SU
9	3/4-10	1.5	ZSHI-1000-09000-303SU	ZSHI-1000-09000-316SU	ZSHI-625-09000-104SU	ZSHI-625-09000-114SU	ZSHI-625-09000-202SU
12	3/4-10	1.5	ZSHI-1000-12000-303SU	ZSHI-1000-12000-316SU	ZSHI-625-12000-104SU	ZSHI-625-12000-114SU	ZSHI-625-12000-202SU
18	3/4-10	1.5	ZSHI-1000-18000-303SU	ZSHI-1000-18000-316SU	ZSHI-625-18000-104SU	ZSHI-625-18000-114SU	ZSHI-625-18000-202SU
24	3/4-10	1.5	ZSHI-1000-24000-303SU	ZSHI-1000-24000-316SU	ZSHI-625-24000-104SU	ZSHI-625-24000-114SU	ZSHI-625-24000-202SU
36	3/4-10	1.5	ZSHI-1000-36000-303SU	ZSHI-1000-36000-316SU	ZSHI-625-36000-104SU	ZSHI-625-36000-114SU	ZSHI-625-36000-202SU
48	3/4-10	1.5	ZSHI-1000-48000-303SU	ZSHI-1000-48000-316SU	ZSHI-625-48000-104SU	ZSHI-625-48000-114SU	ZSHI-625-48000-202SU
60	3/4-10	1.5	ZSHI-1000-60000-303SU	ZSHI-1000-60000-316SU	ZSHI-625-60000-104SU	ZSHI-625-60000-114SU	ZSHI-625-60000-202SU
72	3/4-10	1.5	ZSHI-1000-72000-303SU	ZSHI-1000-72000-316SU	ZSHI-625-72000-104SU	ZSHI-625-72000-114SU	ZSHI-625-72000-202SU

Tapped End Rotary Shafts Both Ends — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	10-32	.375	ZSHII-312-03000-303SU	ZSHII-312-03000-316SU	ZSHII-312-03000-104SU	ZSHII-312-03000-114SU	ZSHII-312-03000-202SU
6	10-32	.375	ZSHII-312-06000-303SU	ZSHII-312-06000-316SU	ZSHII-312-06000-104SU	ZSHII-312-06000-114SU	ZSHII-312-06000-202SU
9	10-32	.375	ZSHII-312-09000-303SU	ZSHII-312-09000-316SU	ZSHII-312-09000-104SU	ZSHII-312-09000-114SU	ZSHII-312-09000-202SU
12	10-32	.375	ZSHII-312-12000-303SU	ZSHII-312-12000-316SU	ZSHII-312-12000-104SU	ZSHII-312-12000-114SU	ZSHII-312-12000-202SU
18	10-32	.375	ZSHII-312-18000-303SU	ZSHII-312-18000-316SU	ZSHII-312-18000-104SU	ZSHII-312-18000-114SU	ZSHII-312-18000-202SU
24	10-32	.375	ZSHII-312-24000-303SU	ZSHII-312-24000-316SU	ZSHII-312-24000-104SU	ZSHII-312-24000-114SU	ZSHII-312-24000-202SU
36	10-32	.375	ZSHII-312-36000-303SU	ZSHII-312-36000-316SU	ZSHII-312-36000-104SU	ZSHII-312-36000-114SU	ZSHII-312-36000-202SU
48	10-32	.375	ZSHII-312-48000-303SU	ZSHII-312-48000-316SU	ZSHII-312-48000-104SU	ZSHII-312-48000-114SU	ZSHII-312-48000-202SU
60	10-32	.375	ZSHII-312-60000-303SU	ZSHII-312-60000-316SU	ZSHII-312-60000-104SU	ZSHII-312-60000-114SU	ZSHII-312-60000-202SU
72	10-32	.375	ZSHII-312-72000-303SU	ZSHII-312-72000-316SU	ZSHII-312-72000-104SU	ZSHII-312-72000-114SU	ZSHII-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1/4-20	0.5	ZSHII-375-03000-303SU	ZSHII-375-03000-316SU	ZSHII-375-03000-104SU	ZSHII-375-03000-114SU	ZSHII-375-03000-202SU
6	1/4-20	0.5	ZSHII-375-06000-303SU	ZSHII-375-06000-316SU	ZSHII-375-06000-104SU	ZSHII-375-06000-114SU	ZSHII-375-06000-202SU
9	1/4-20	0.5	ZSHII-375-09000-303SU	ZSHII-375-09000-316SU	ZSHII-375-09000-104SU	ZSHII-375-09000-114SU	ZSHII-375-09000-202SU
12	1/4-20	0.5	ZSHII-375-12000-303SU	ZSHII-375-12000-316SU	ZSHII-375-12000-104SU	ZSHII-375-12000-114SU	ZSHII-375-12000-202SU
18	1/4-20	0.5	ZSHII-375-18000-303SU	ZSHII-375-18000-316SU	ZSHII-375-18000-104SU	ZSHII-375-18000-114SU	ZSHII-375-18000-202SU
24	1/4-20	0.5	ZSHII-375-24000-303SU	ZSHII-375-24000-316SU	ZSHII-375-24000-104SU	ZSHII-375-24000-114SU	ZSHII-375-24000-202SU
36	1/4-20	0.5	ZSHII-375-36000-303SU	ZSHII-375-36000-316SU	ZSHII-375-36000-104SU	ZSHII-375-36000-114SU	ZSHII-375-36000-202SU
48	1/4-20	0.5	ZSHII-375-48000-303SU	ZSHII-375-48000-316SU	ZSHII-375-48000-104SU	ZSHII-375-48000-114SU	ZSHII-375-48000-202SU
60	1/4-20	0.5	ZSHII-375-60000-303SU	ZSHII-375-60000-316SU	ZSHII-375-60000-104SU	ZSHII-375-60000-114SU	ZSHII-375-60000-202SU
72	1/4-20	0.5	ZSHII-375-72000-303SU	ZSHII-375-72000-316SU	ZSHII-375-72000-104SU	ZSHII-375-72000-114SU	ZSHII-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	5/16-18	0.625	ZSHII-500-03000-303SU	ZSHII-500-03000-316SU	ZSHII-500-03000-104SU	ZSHII-500-03000-114SU	ZSHII-500-03000-202SU
6	5/16-18	0.625	ZSHII-500-06000-303SU	ZSHII-500-06000-316SU	ZSHII-500-06000-104SU	ZSHII-500-06000-114SU	ZSHII-500-06000-202SU
9	5/16-18	0.625	ZSHII-500-09000-303SU	ZSHII-500-09000-316SU	ZSHII-500-09000-104SU	ZSHII-500-09000-114SU	ZSHII-500-09000-202SU
12	5/16-18	0.625	ZSHII-500-12000-303SU	ZSHII-500-12000-316SU	ZSHII-500-12000-104SU	ZSHII-500-12000-114SU	ZSHII-500-12000-202SU
18	5/16-18	0.625	ZSHII-500-18000-303SU	ZSHII-500-18000-316SU	ZSHII-500-18000-104SU	ZSHII-500-18000-114SU	ZSHII-500-18000-202SU
24	5/16-18	0.625	ZSHII-500-24000-303SU	ZSHII-500-24000-316SU	ZSHII-500-24000-104SU	ZSHII-500-24000-114SU	ZSHII-500-24000-202SU
36	5/16-18	0.625	ZSHII-500-36000-303SU	ZSHII-500-36000-316SU	ZSHII-500-36000-104SU	ZSHII-500-36000-114SU	ZSHII-500-36000-202SU
48	5/16-18	0.625	ZSHII-500-48000-303SU	ZSHII-500-48000-316SU	ZSHII-500-48000-104SU	ZSHII-500-48000-114SU	ZSHII-500-48000-202SU
60	5/16-18	0.625	ZSHII-500-60000-303SU	ZSHII-500-60000-316SU	ZSHII-500-60000-104SU	ZSHII-500-60000-114SU	ZSHII-500-60000-202SU
72	5/16-18	0.625	ZSHII-500-72000-303SU	ZSHII-500-72000-316SU	ZSHII-500-72000-104SU	ZSHII-500-72000-114SU	ZSHII-500-72000-202SU

18-8 SS, 316 SS, Steel, Aluminum

Tapped End Rotary Shafts Both Ends — Inch



5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	3/8-16	.750	ZSHII-625-03000-303SU	ZSHII-625-03000-316SU	ZSHII-625-03000-104SU	ZSHII-625-03000-114SU	ZSHII-625-03000-202SU
6	3/8-16	.750	ZSHII-625-06000-303SU	ZSHII-625-06000-316SU	ZSHII-625-06000-104SU	ZSHII-625-06000-114SU	ZSHII-625-06000-202SU
9	3/8-16	.750	ZSHII-625-09000-303SU	ZSHII-625-09000-316SU	ZSHII-625-09000-104SU	ZSHII-625-09000-114SU	ZSHII-625-09000-202SU
12	3/8-16	.750	ZSHII-625-12000-303SU	ZSHII-625-12000-316SU	ZSHII-625-12000-104SU	ZSHII-625-12000-114SU	ZSHII-625-12000-202SU
18	3/8-16	.750	ZSHII-625-18000-303SU	ZSHII-625-18000-316SU	ZSHII-625-18000-104SU	ZSHII-625-18000-114SU	ZSHII-625-18000-202SU
24	3/8-16	.750	ZSHII-625-24000-303SU	ZSHII-625-24000-316SU	ZSHII-625-24000-104SU	ZSHII-625-24000-114SU	ZSHII-625-24000-202SU
36	3/8-16	.750	ZSHII-625-36000-303SU	ZSHII-625-36000-316SU	ZSHII-625-36000-104SU	ZSHII-625-36000-114SU	ZSHII-625-36000-202SU
48	3/8-16	.750	ZSHII-625-48000-303SU	ZSHII-625-48000-316SU	ZSHII-625-48000-104SU	ZSHII-625-48000-114SU	ZSHII-625-48000-202SU
60	3/8-16	.750	ZSHII-625-60000-303SU	ZSHII-625-60000-316SU	ZSHII-625-60000-104SU	ZSHII-625-60000-114SU	ZSHII-625-60000-202SU
72	3/8-16	.750	ZSHII-625-72000-303SU	ZSHII-625-72000-316SU	ZSHII-625-72000-104SU	ZSHII-625-72000-114SU	ZSHII-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1/2-13	1	ZSHII-750-03000-303SU	ZSHII-750-03000-316SU	ZSHII-750-03000-104SU	ZSHII-750-03000-114SU	ZSHII-750-03000-202SU
6	1/2-13	1	ZSHII-750-06000-303SU	ZSHII-750-06000-316SU	ZSHII-750-06000-104SU	ZSHII-750-06000-114SU	ZSHII-750-06000-202SU
9	1/2-13	1	ZSHII-750-09000-303SU	ZSHII-750-09000-316SU	ZSHII-750-09000-104SU	ZSHII-750-09000-114SU	ZSHII-750-09000-202SU
12	1/2-13	1	ZSHII-750-12000-303SU	ZSHII-750-12000-316SU	ZSHII-750-12000-104SU	ZSHII-750-12000-114SU	ZSHII-750-12000-202SU
18	1/2-13	1	ZSHII-750-18000-303SU	ZSHII-750-18000-316SU	ZSHII-750-18000-104SU	ZSHII-750-18000-114SU	ZSHII-750-18000-202SU
24	1/2-13	1	ZSHII-750-24000-303SU	ZSHII-750-24000-316SU	ZSHII-750-24000-104SU	ZSHII-750-24000-114SU	ZSHII-750-24000-202SU
36	1/2-13	1	ZSHII-750-36000-303SU	ZSHII-750-36000-316SU	ZSHII-750-36000-104SU	ZSHII-750-36000-114SU	ZSHII-750-36000-202SU
48	1/2-13	1	ZSHII-750-48000-303SU	ZSHII-750-48000-316SU	ZSHII-750-48000-104SU	ZSHII-750-48000-114SU	ZSHII-750-48000-202SU
60	1/2-13	1	ZSHII-750-60000-303SU	ZSHII-750-60000-316SU	ZSHII-750-60000-104SU	ZSHII-750-60000-114SU	ZSHII-750-60000-202SU
72	1/2-13	1	ZSHII-750-72000-303SU	ZSHII-750-72000-316SU	ZSHII-750-72000-104SU	ZSHII-750-72000-114SU	ZSHII-750-72000-202SU

7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	5/8-11	1.125	ZSHII-875-03000-303SU	ZSHII-875-03000-316SU	ZSHII-875-03000-104SU	ZSHII-875-03000-114SU	ZSHII-875-03000-202SU
6	5/8-11	1.125	ZSHII-875-06000-303SU	ZSHII-875-06000-316SU	ZSHII-875-06000-104SU	ZSHII-875-06000-114SU	ZSHII-875-06000-202SU
9	5/8-11	1.125	ZSHII-875-09000-303SU	ZSHII-875-09000-316SU	ZSHII-875-09000-104SU	ZSHII-875-09000-114SU	ZSHII-875-09000-202SU
12	5/8-11	1.125	ZSHII-875-12000-303SU	ZSHII-875-12000-316SU	ZSHII-875-12000-104SU	ZSHII-875-12000-114SU	ZSHII-875-12000-202SU
18	5/8-11	1.125	ZSHII-875-18000-303SU	ZSHII-875-18000-316SU	ZSHII-875-18000-104SU	ZSHII-875-18000-114SU	ZSHII-875-18000-202SU
24	5/8-11	1.125	ZSHII-875-24000-303SU	ZSHII-875-24000-316SU	ZSHII-875-24000-104SU	ZSHII-875-24000-114SU	ZSHII-875-24000-202SU
36	5/8-11	1.125	ZSHII-875-36000-303SU	ZSHII-875-36000-316SU	ZSHII-875-36000-104SU	ZSHII-875-36000-114SU	ZSHII-875-36000-202SU
48	5/8-11	1.125	ZSHII-875-48000-303SU	ZSHII-875-48000-316SU	ZSHII-875-48000-104SU	ZSHII-875-48000-114SU	ZSHII-875-48000-202SU
60	5/8-11	1.125	ZSHII-875-60000-303SU	ZSHII-875-60000-316SU	ZSHII-875-60000-104SU	ZSHII-875-60000-114SU	ZSHII-875-60000-202SU
72	5/8-11	1.125	ZSHII-875-72000-303SU	ZSHII-875-72000-316SU	ZSHII-875-72000-104SU	ZSHII-875-72000-114SU	ZSHII-875-72000-202SU

Tapped End Rotary Shafts Both Ends — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	5/8-11	1.125	—	—	ZSHII-937-03000-104SU	—	—
6	5/8-11	1.125	—	—	ZSHII-937-06000-104SU	—	—
9	5/8-11	1.125	—	—	ZSHII-937-09000-104SU	—	—
12	5/8-11	1.125	—	—	ZSHII-937-12000-104SU	—	—
18	5/8-11	1.125	—	—	ZSHII-937-18000-104SU	—	—
24	5/8-11	1.125	—	—	ZSHII-937-24000-104SU	—	—
36	5/8-11	1.125	—	—	ZSHII-937-36000-104SU	—	—
48	5/8-11	1.125	—	—	ZSHII-937-48000-104SU	—	—
60	5/8-11	1.125	—	—	ZSHII-937-60000-104SU	—	—
72	5/8-11	1.125	—	—	ZSHII-937-72000-104SU	—	—

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	3/4-10	1.5	ZSHII-1000-03000-303SU	ZSHII-1000-03000-316SU	ZSHII-1000-03000-104SU	ZSHII-1000-03000-114SU	ZSHII-1000-03000-202SU
6	3/4-10	1.5	ZSHII-1000-06000-303SU	ZSHII-1000-06000-316SU	ZSHII-1000-06000-104SU	ZSHII-1000-06000-114SU	ZSHII-1000-06000-202SU
9	3/4-10	1.5	ZSHII-1000-09000-303SU	ZSHII-1000-09000-316SU	ZSHII-1000-09000-104SU	ZSHII-1000-09000-114SU	ZSHII-1000-09000-202SU
12	3/4-10	1.5	ZSHII-1000-12000-303SU	ZSHII-1000-12000-316SU	ZSHII-1000-12000-104SU	ZSHII-1000-12000-114SU	ZSHII-1000-12000-202SU
18	3/4-10	1.5	ZSHII-1000-18000-303SU	ZSHII-1000-18000-316SU	ZSHII-1000-18000-104SU	ZSHII-1000-18000-114SU	ZSHII-1000-18000-202SU
24	3/4-10	1.5	ZSHII-1000-24000-303SU	ZSHII-1000-24000-316SU	ZSHII-1000-24000-104SU	ZSHII-1000-24000-114SU	ZSHII-1000-24000-202SU
36	3/4-10	1.5	ZSHII-1000-36000-303SU	ZSHII-1000-36000-316SU	ZSHII-1000-36000-104SU	ZSHII-1000-36000-114SU	ZSHII-1000-36000-202SU
48	3/4-10	1.5	ZSHII-1000-48000-303SU	ZSHII-1000-48000-316SU	ZSHII-1000-48000-104SU	ZSHII-1000-48000-114SU	ZSHII-1000-48000-202SU
60	3/4-10	1.5	ZSHII-1000-60000-303SU	ZSHII-1000-60000-316SU	ZSHII-1000-60000-104SU	ZSHII-1000-60000-114SU	ZSHII-1000-60000-202SU
72	3/4-10	1.5	ZSHII-1000-72000-303SU	ZSHII-1000-72000-316SU	ZSHII-1000-72000-104SU	ZSHII-1000-72000-114SU	ZSHII-1000-72000-202SU

Tapped End(s) Rotary Shafts — Metric

18-8 & 316 SS, Steel

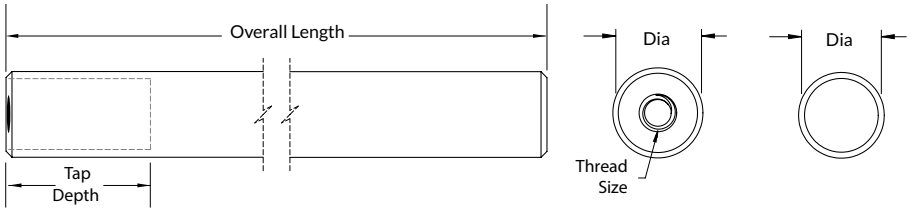
Product Information

Internal threads enable direct mounting of these shafts to threaded fasteners, eliminating the need for additional support. Engineered for low friction in both manual and automated systems, their smooth, hard, and wear-resistant surfaces are ideal for use with linear bearings. Commonly found in packaging, machine tool, and material handling applications, these shafts undergo precise turning, grinding, and polishing to ensure strict diameter and straightness tolerances. A hardened surface provides exceptional durability under repeated motion while maintaining a soft core to absorb stress from shifting loads. Chamfered ends protect bearings, housings, and other components from damage during installation.

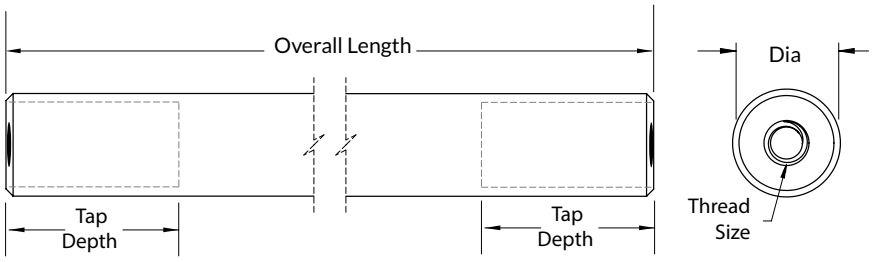
All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable.

Length tolerance is +/-1.6mm and straightness tolerance is .33mm per 300mm.

- Shafts are turned, ground and polished to tight diameter and straightness tolerances.
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.









Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic

Tapped End Rotary Shafts One End — Metric



8mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M5x0.8	10	ZSHI-M08-M0300-303SU	ZSHI-M08-M0300-316SU	ZSHI-M08-M0300-104SU	ZSHI-M08-M0300-114SU
500	M5x0.8	10	ZSHI-M08-M0500-303SU	ZSHI-M08-M0500-316SU	ZSHI-M08-M0500-104SU	ZSHI-M08-M0500-114SU
1,000	M5x0.8	10	ZSHI-M08-M1000-303SU	ZSHI-M08-M1000-316SU	ZSHI-M08-M1000-104SU	ZSHI-M08-M1000-114SU
1,200	M5x0.8	10	ZSHI-M08-M1200-303SU	ZSHI-M08-M1200-316SU	ZSHI-M08-M1200-104SU	ZSHI-M08-M1200-114SU
1,500	M5x0.8	10	ZSHI-M08-M1500-303SU	ZSHI-M08-M1500-316SU	ZSHI-M08-M1500-104SU	ZSHI-M08-M1500-114SU
1,800	M5x0.8	10	ZSHI-M08-M1800-303SU	ZSHI-M08-M1800-316SU	ZSHI-M08-M1800-104SU	ZSHI-M08-M1800-114SU

10mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M6x1.00	12	ZSHI-M10-M0300-303SU	ZSHI-M10-M0300-316SU	ZSHI-M10-M0300-104SU	ZSHI-M10-M0300-114SU
500	M6x1.00	12	ZSHI-M10-M0500-303SU	ZSHI-M10-M0500-316SU	ZSHI-M10-M0500-104SU	ZSHI-M10-M0500-114SU
1,000	M6x1.00	12	ZSHI-M10-M1000-303SU	ZSHI-M10-M1000-316SU	ZSHI-M10-M1000-104SU	ZSHI-M10-M1000-114SU
1,200	M6x1.00	12	ZSHI-M10-M1200-303SU	ZSHI-M10-M1200-316SU	ZSHI-M10-M1200-104SU	ZSHI-M10-M1200-114SU
1,500	M6x1.00	12	ZSHI-M10-M1500-303SU	ZSHI-M10-M1500-316SU	ZSHI-M10-M1500-104SU	ZSHI-M10-M1500-114SU
1,800	M6x1.00	12	ZSHI-M10-M1800-303SU	ZSHI-M10-M1800-316SU	ZSHI-M10-M1800-104SU	ZSHI-M10-M1800-114SU

12mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M8x1	16	ZSHI-M12-M0300-303SU	ZSHI-M12-M0300-316SU	ZSHI-M12-M0300-104SU	ZSHI-M12-M0300-114SU
500	M8x1	16	ZSHI-M12-M0500-303SU	ZSHI-M12-M0500-316SU	ZSHI-M12-M0500-104SU	ZSHI-M12-M0500-114SU
1,000	M8x1	16	ZSHI-M12-M1000-303SU	ZSHI-M12-M1000-316SU	ZSHI-M12-M1000-104SU	ZSHI-M12-M1000-114SU
1,200	M8x1	16	ZSHI-M12-M1200-303SU	ZSHI-M12-M1200-316SU	ZSHI-M12-M1200-104SU	ZSHI-M12-M1200-114SU
1,500	M8x1	16	ZSHI-M12-M1500-303SU	ZSHI-M12-M1500-316SU	ZSHI-M12-M1500-104SU	ZSHI-M12-M1500-114SU
1,800	M8x1	16	ZSHI-M12-M1800-303SU	ZSHI-M12-M1800-316SU	ZSHI-M12-M1800-104SU	ZSHI-M12-M1800-114SU

15mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M10x1.25	20	ZSHI-M15-M0300-303SU	ZSHI-M15-M0300-316SU	ZSHI-M15-M0300-104SU	ZSHI-M15-M0300-114SU
500	M10x1.25	20	ZSHI-M15-M0500-303SU	ZSHI-M15-M0500-316SU	ZSHI-M15-M0500-104SU	ZSHI-M15-M0500-114SU
1,000	M10x1.25	20	ZSHI-M15-M1000-303SU	ZSHI-M15-M1000-316SU	ZSHI-M15-M1000-104SU	ZSHI-M15-M1000-114SU
1,200	M10x1.25	20	ZSHI-M15-M1200-303SU	ZSHI-M15-M1200-316SU	ZSHI-M15-M1200-104SU	ZSHI-M15-M1200-114SU
1,500	M10x1.25	20	ZSHI-M15-M1500-303SU	ZSHI-M15-M1500-316SU	ZSHI-M15-M1500-104SU	ZSHI-M15-M1500-114SU
1,800	M10x1.25	20	ZSHI-M15-M1800-303SU	ZSHI-M15-M1800-316SU	ZSHI-M15-M1800-104SU	ZSHI-M15-M1800-114SU

Tapped End Rotary Shafts One End — Metric



17mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M10x1.25	20	ZSHI-M17-M0300-303SU	ZSHI-M17-M0300-316SU	ZSHI-M17-M0300-104SU	ZSHI-M17-M0300-114SU
500	M10x1.25	20	ZSHI-M17-M0500-303SU	ZSHI-M17-M0500-316SU	ZSHI-M17-M0500-104SU	ZSHI-M17-M0500-114SU
1,000	M10x1.25	20	ZSHI-M17-M1000-303SU	ZSHI-M17-M1000-316SU	ZSHI-M17-M1000-104SU	ZSHI-M17-M1000-114SU
1,200	M10x1.25	20	ZSHI-M17-M1200-303SU	ZSHI-M17-M1200-316SU	ZSHI-M17-M1200-104SU	ZSHI-M17-M1200-114SU
1,500	M10x1.25	20	ZSHI-M17-M1700-303SU	ZSHI-M17-M1700-316SU	ZSHI-M17-M1700-104SU	ZSHI-M17-M1700-114SU
1,800	M10x1.25	20	ZSHI-M17-M1800-303SU	ZSHI-M17-M1800-316SU	ZSHI-M17-M1800-104SU	ZSHI-M17-M1800-114SU

20mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M12x1.25	24	ZSHI-M20-M0300-303SU	ZSHI-M20-M0300-316SU	ZSHI-M20-M0300-104SU	ZSHI-M20-M0300-114SU
500	M12x1.25	24	ZSHI-M20-M0500-303SU	ZSHI-M20-M0500-316SU	ZSHI-M20-M0500-104SU	ZSHI-M20-M0500-114SU
1,000	M12x1.25	24	ZSHI-M20-M1000-303SU	ZSHI-M20-M1000-316SU	ZSHI-M20-M1000-104SU	ZSHI-M20-M1000-114SU
1,200	M12x1.25	24	ZSHI-M20-M1200-303SU	ZSHI-M20-M1200-316SU	ZSHI-M20-M1200-104SU	ZSHI-M20-M1200-114SU
1,500	M12x1.25	24	ZSHI-M20-M1500-303SU	ZSHI-M20-M1500-316SU	ZSHI-M20-M1500-104SU	ZSHI-M20-M1500-114SU
1,800	M12x1.25	24	ZSHI-M20-M1800-303SU	ZSHI-M20-M1800-316SU	ZSHI-M20-M1800-104SU	ZSHI-M20-M1800-114SU

24mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M16x1.5	30	ZSHI-M24-M0300-303SU	ZSHI-M24-M0300-316SU	ZSHI-M24-M0300-104SU	ZSHI-M24-M0300-114SU
500	M16x1.5	30	ZSHI-M24-M0500-303SU	ZSHI-M24-M0500-316SU	ZSHI-M24-M0500-104SU	ZSHI-M24-M0500-114SU
1,000	M16x1.5	30	ZSHI-M24-M1000-303SU	ZSHI-M24-M1000-316SU	ZSHI-M24-M1000-104SU	ZSHI-M24-M1000-114SU
1,200	M16x1.5	30	ZSHI-M24-M1200-303SU	ZSHI-M24-M1200-316SU	ZSHI-M24-M1200-104SU	ZSHI-M24-M1200-114SU
1,500	M16x1.5	30	ZSHI-M24-M1500-303SU	ZSHI-M24-M1500-316SU	ZSHI-M24-M1500-104SU	ZSHI-M24-M1500-114SU
1,800	M16x1.5	30	ZSHI-M24-M1800-303SU	ZSHI-M24-M1800-316SU	ZSHI-M24-M1800-104SU	ZSHI-M24-M1800-114SU

25mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M16x1.5	30	ZSHI-M25-M0300-303SU	ZSHI-M25-M0300-316SU	ZSHI-M25-M0300-104SU	ZSHI-M25-M0300-114SU
500	M16x1.5	30	ZSHI-M25-M0500-303SU	ZSHI-M25-M0500-316SU	ZSHI-M25-M0500-104SU	ZSHI-M25-M0500-114SU
1,000	M16x1.5	30	ZSHI-M25-M1000-303SU	ZSHI-M25-M1000-316SU	ZSHI-M25-M1000-104SU	ZSHI-M25-M1000-114SU
1,200	M16x1.5	30	ZSHI-M25-M1200-303SU	ZSHI-M25-M1200-316SU	ZSHI-M25-M1200-104SU	ZSHI-M25-M1200-114SU
1,500	M16x1.5	30	ZSHI-M25-M1500-303SU	ZSHI-M25-M1500-316SU	ZSHI-M25-M1500-104SU	ZSHI-M25-M1500-114SU
1,800	M16x1.5	30	ZSHI-M25-M1800-303SU	ZSHI-M25-M1800-316SU	ZSHI-M25-M1800-104SU	ZSHI-M25-M1800-114SU

28mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Thread Size	Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M16x1.5	30	ZSHI-M28-M0300-303SU	ZSHI-M28-M0300-316SU	ZSHI-M28-M0300-104SU	ZSHI-M28-M0300-114SU
500	M16x1.5	30	ZSHI-M28-M0500-303SU	ZSHI-M28-M0500-316SU	ZSHI-M28-M0500-104SU	ZSHI-M28-M0500-114SU
1,000	M16x1.5	30	ZSHI-M28-M1000-303SU	ZSHI-M28-M1000-316SU	ZSHI-M28-M1000-104SU	ZSHI-M28-M1000-114SU
1,200	M16x1.5	30	ZSHI-M28-M1200-303SU	ZSHI-M28-M1200-316SU	ZSHI-M28-M1200-104SU	ZSHI-M28-M1200-114SU
1,500	M16x1.5	30	ZSHI-M28-M2800-303SU	ZSHI-M28-M2800-316SU	ZSHI-M28-M2800-104SU	ZSHI-M28-M2800-114SU
1,800	M16x1.5	30	ZSHI-M28-M1800-303SU	ZSHI-M28-M1800-316SU	ZSHI-M28-M1800-104SU	ZSHI-M28-M1800-114SU

Tapped End Rotary Shafts Both Ends — Metric



8mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M5x0.8	10	ZSHII-M08-M0300-303SU	ZSHII-M08-M0300-316SU	ZSHII-M08-M0300-104SU	ZSHII-M08-M0300-114SU
500	M5x0.8	10	ZSHII-M08-M0500-303SU	ZSHII-M08-M0500-316SU	ZSHII-M08-M0500-104SU	ZSHII-M08-M0500-114SU
1,000	M5x0.8	10	ZSHII-M08-M1000-303SU	ZSHII-M08-M1000-316SU	ZSHII-M08-M1000-104SU	ZSHII-M08-M1000-114SU
1,200	M5x0.8	10	ZSHII-M08-M1200-303SU	ZSHII-M08-M1200-316SU	ZSHII-M08-M1200-104SU	ZSHII-M08-M1200-114SU
1,500	M5x0.8	10	ZSHII-M08-M1500-303SU	ZSHII-M08-M1500-316SU	ZSHII-M08-M1500-104SU	ZSHII-M08-M1500-114SU
1,800	M5x0.8	10	ZSHII-M08-M1800-303SU	ZSHII-M08-M1800-316SU	ZSHII-M08-M1800-104SU	ZSHII-M08-M1800-114SU

10mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M6x1	12	ZSHII-M10-M0300-303SU	ZSHII-M10-M0300-316SU	ZSHII-M10-M0300-104SU	ZSHII-M10-M0300-114SU
500	M6x1	12	ZSHII-M10-M0500-303SU	ZSHII-M10-M0500-316SU	ZSHII-M10-M0500-104SU	ZSHII-M10-M0500-114SU
1,000	M6x1	12	ZSHII-M10-M1000-303SU	ZSHII-M10-M1000-316SU	ZSHII-M10-M1000-104SU	ZSHII-M10-M1000-114SU
1,200	M6x1	12	ZSHII-M10-M1200-303SU	ZSHII-M10-M1200-316SU	ZSHII-M10-M1200-104SU	ZSHII-M10-M1200-114SU
1,500	M6x1	12	ZSHII-M10-M1500-303SU	ZSHII-M10-M1500-316SU	ZSHII-M10-M1500-104SU	ZSHII-M10-M1500-114SU
1,800	M6x1	12	ZSHII-M10-M1800-303SU	ZSHII-M10-M1800-316SU	ZSHII-M10-M1800-104SU	ZSHII-M10-M1800-114SU

12mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M8x1	16	ZSHII-M12-M0300-303SU	ZSHII-M12-M0300-316SU	ZSHII-M12-M0300-104SU	ZSHII-M12-M0300-114SU
500	M8x1	16	ZSHII-M12-M0500-303SU	ZSHII-M12-M0500-316SU	ZSHII-M12-M0500-104SU	ZSHII-M12-M0500-114SU
1,000	M8x1	16	ZSHII-M12-M1000-303SU	ZSHII-M12-M1000-316SU	ZSHII-M12-M1000-104SU	ZSHII-M12-M1000-114SU
1,200	M8x1	16	ZSHII-M12-M1200-303SU	ZSHII-M12-M1200-316SU	ZSHII-M12-M1200-104SU	ZSHII-M12-M1200-114SU
1,500	M8x1	16	ZSHII-M12-M1500-303SU	ZSHII-M12-M1500-316SU	ZSHII-M12-M1500-104SU	ZSHII-M12-M1500-114SU
1,800	M8x1	16	ZSHII-M12-M1800-303SU	ZSHII-M12-M1800-316SU	ZSHII-M12-M1800-104SU	ZSHII-M12-M1800-114SU

15mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M10x1.25	20	ZSHII-M15-M0300-303SU	ZSHII-M15-M0300-316SU	ZSHII-M15-M0300-104SU	ZSHII-M15-M0300-114SU
500	M10x1.25	20	ZSHII-M15-M0500-303SU	ZSHII-M15-M0500-316SU	ZSHII-M15-M0500-104SU	ZSHII-M15-M0500-114SU
1,000	M10x1.25	20	ZSHII-M15-M1000-303SU	ZSHII-M15-M1000-316SU	ZSHII-M15-M1000-104SU	ZSHII-M15-M1000-114SU
1,200	M10x1.25	20	ZSHII-M15-M1200-303SU	ZSHII-M15-M1200-316SU	ZSHII-M15-M1200-104SU	ZSHII-M15-M1200-114SU
1,500	M10x1.25	20	ZSHII-M15-M1500-303SU	ZSHII-M15-M1500-316SU	ZSHII-M15-M1500-104SU	ZSHII-M15-M1500-114SU
1,800	M10x1.25	20	ZSHII-M15-M1800-303SU	ZSHII-M15-M1800-316SU	ZSHII-M15-M1800-104SU	ZSHII-M15-M1800-114SU

Tapped End Rotary Shafts Both Ends — Metric



20mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M12x1.25	24	ZSHII-M20-M0300-303SU	ZSHII-M20-M0300-316SU	ZSHII-M20-M0300-104SU	ZSHII-M20-M0300-114SU
500	M12x1.25	24	ZSHII-M20-M0500-303SU	ZSHII-M20-M0500-316SU	ZSHII-M20-M0500-104SU	ZSHII-M20-M0500-114SU
1,000	M12x1.25	24	ZSHII-M20-M1000-303SU	ZSHII-M20-M1000-316SU	ZSHII-M20-M1000-104SU	ZSHII-M20-M1000-114SU
1,200	M12x1.25	24	ZSHII-M20-M1200-303SU	ZSHII-M20-M1200-316SU	ZSHII-M20-M1200-104SU	ZSHII-M20-M1200-114SU
1,500	M12x1.25	24	ZSHII-M20-M1500-303SU	ZSHII-M20-M1500-316SU	ZSHII-M20-M1500-104SU	ZSHII-M20-M1500-114SU
1,800	M12x1.25	24	ZSHII-M20-M1800-303SU	ZSHII-M20-M1800-316SU	ZSHII-M20-M1800-104SU	ZSHII-M20-M1800-114SU

24mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M16x1.5	30	ZSHII-M24-M0300-303SU	ZSHII-M24-M0300-316SU	ZSHII-M24-M0300-104SU	ZSHII-M24-M0300-114SU
500	M16x1.5	30	ZSHII-M24-M0500-303SU	ZSHII-M24-M0500-316SU	ZSHII-M24-M0500-104SU	ZSHII-M24-M0500-114SU
1,000	M16x1.5	30	ZSHII-M24-M1000-303SU	ZSHII-M24-M1000-316SU	ZSHII-M24-M1000-104SU	ZSHII-M24-M1000-114SU
1,200	M16x1.5	30	ZSHII-M24-M1200-303SU	ZSHII-M24-M1200-316SU	ZSHII-M24-M1200-104SU	ZSHII-M24-M1200-114SU
1,500	M16x1.5	30	ZSHII-M24-M1500-303SU	ZSHII-M24-M1500-316SU	ZSHII-M24-M1500-104SU	ZSHII-M24-M1500-114SU
1,800	M16x1.5	30	ZSHII-M24-M1800-303SU	ZSHII-M24-M1800-316SU	ZSHII-M24-M1800-104SU	ZSHII-M24-M1800-114SU

25mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Both Thread Sizes	Both Tap Depth	18-8 SS Part Number	316 SS Part Number	C0145 Steel Part Number	1144 Steel Part Number
300	M16x1.5	30	ZSHII-M25-M0300-303SU	ZSHII-M25-M0300-316SU	ZSHII-M25-M0300-104SU	ZSHII-M25-M0300-114SU
500	M16x1.5	30	ZSHII-M25-M0500-303SU	ZSHII-M25-M0500-316SU	ZSHII-M25-M0500-104SU	ZSHII-M25-M0500-114SU
1,000	M16x1.5	30	ZSHII-M25-M1000-303SU	ZSHII-M25-M1000-316SU	ZSHII-M25-M1000-104SU	ZSHII-M25-M1000-114SU
1,200	M16x1.5	30	ZSHII-M25-M1200-303SU	ZSHII-M25-M1200-316SU	ZSHII-M25-M1200-104SU	ZSHII-M25-M1200-114SU
1,500	M16x1.5	30	ZSHII-M25-M1500-303SU	ZSHII-M25-M1500-316SU	ZSHII-M25-M1500-104SU	ZSHII-M25-M1500-114SU
1,800	M16x1.5	30	ZSHII-M25-M1800-303SU	ZSHII-M25-M1800-316SU	ZSHII-M25-M1800-104SU	ZSHII-M25-M1800-114SU

Threaded Stud Rotary Shaft — Inch

18-8 & 316 SS, Steel, Aluminum

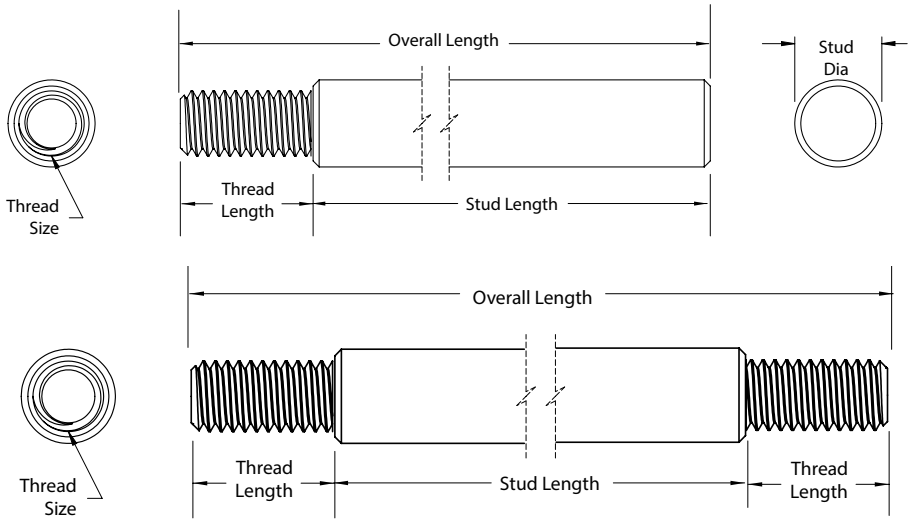
Product Information

Threaded Rotary Shafts are precision-engineered metal rods designed for rotational applications. Featuring threaded ends for secure component attachment, these shafts excel in transmitting power and motion. Crafted from high-quality materials and available in various diameters and lengths, they offer exceptional durability and performance. Ideal for a wide range of industrial machinery, automation systems, and mechanical assemblies, threaded rotary shafts provide reliable and efficient operation.

All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable.

Length tolerance is +/-.062 and straightness tolerance is 0.012 in/ft.

- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- Aluminum shafts have the strength of mild steel with one third the weight.
- Aluminum shafts are lightweight, corrosion resistant and nonmagnetic. They have a T4 temper, which means they have been heat treated for increased strength.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.





Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic
2024 Aluminum	Ground & Polished	Chamfered	ASTM B211	B75	68,000	Nonmagnetic

18-8 SS, 316 SS, Steel, Aluminum

Threaded Stud Rotary Shaft One End — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Thread Size	Thread Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.437	1/4-20	.375	ZSHT-312-03000-303SU	ZSHT-312-03000-316SU	ZSHT-312-03000-104SU	ZSHT-312-03000-114SU	ZSHT-312-03000-202SU
6	.437	1/4-20	.375	ZSHT-312-06000-303SU	ZSHT-312-06000-316SU	ZSHT-312-06000-104SU	ZSHT-312-06000-114SU	ZSHT-312-06000-202SU
9	.437	1/4-20	.375	ZSHT-312-09000-303SU	ZSHT-312-09000-316SU	ZSHT-312-09000-104SU	ZSHT-312-09000-114SU	ZSHT-312-09000-202SU
12	.437	1/4-20	.375	ZSHT-312-12000-303SU	ZSHT-312-12000-316SU	ZSHT-312-12000-104SU	ZSHT-312-12000-114SU	ZSHT-312-12000-202SU
18	.437	1/4-20	.375	ZSHT-312-18000-303SU	ZSHT-312-18000-316SU	ZSHT-312-18000-104SU	ZSHT-312-18000-114SU	ZSHT-312-18000-202SU
24	.437	1/4-20	.375	ZSHT-312-24000-303SU	ZSHT-312-24000-316SU	ZSHT-312-24000-104SU	ZSHT-312-24000-114SU	ZSHT-312-24000-202SU
36	.437	1/4-20	.375	ZSHT-312-36000-303SU	ZSHT-312-36000-316SU	ZSHT-312-36000-104SU	ZSHT-312-36000-114SU	ZSHT-312-36000-202SU
48	.437	1/4-20	.375	ZSHT-312-48000-303SU	ZSHT-312-48000-316SU	ZSHT-312-48000-104SU	ZSHT-312-48000-114SU	ZSHT-312-48000-202SU
60	.437	1/4-20	.375	ZSHT-312-60000-303SU	ZSHT-312-60000-316SU	ZSHT-312-60000-104SU	ZSHT-312-60000-114SU	ZSHT-312-60000-202SU
72	.437	1/4-20	.375	ZSHT-312-72000-303SU	ZSHT-312-72000-316SU	ZSHT-312-72000-104SU	ZSHT-312-72000-114SU	ZSHT-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Thread Size	Thread Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.875	5/16-18	.750	ZSHT-375-03000-303SU	ZSHT-375-03000-316SU	ZSHT-375-03000-104SU	ZSHT-375-03000-114SU	ZSHT-375-03000-202SU
6	.875	5/16-18	.750	ZSHT-375-06000-303SU	ZSHT-375-06000-316SU	ZSHT-375-06000-104SU	ZSHT-375-06000-114SU	ZSHT-375-06000-202SU
9	.875	5/16-18	.750	ZSHT-375-09000-303SU	ZSHT-375-09000-316SU	ZSHT-375-09000-104SU	ZSHT-375-09000-114SU	ZSHT-375-09000-202SU
12	.875	5/16-18	.750	ZSHT-375-12000-303SU	ZSHT-375-12000-316SU	ZSHT-375-12000-104SU	ZSHT-375-12000-114SU	ZSHT-375-12000-202SU
18	.875	5/16-18	.750	ZSHT-375-18000-303SU	ZSHT-375-18000-316SU	ZSHT-375-18000-104SU	ZSHT-375-18000-114SU	ZSHT-375-18000-202SU
24	.875	5/16-18	.750	ZSHT-375-24000-303SU	ZSHT-375-24000-316SU	ZSHT-375-24000-104SU	ZSHT-375-24000-114SU	ZSHT-375-24000-202SU
36	.875	5/16-18	.750	ZSHT-375-36000-303SU	ZSHT-375-36000-316SU	ZSHT-375-36000-104SU	ZSHT-375-36000-114SU	ZSHT-375-36000-202SU
48	.875	5/16-18	.750	ZSHT-375-48000-303SU	ZSHT-375-48000-316SU	ZSHT-375-48000-104SU	ZSHT-375-48000-114SU	ZSHT-375-48000-202SU
60	.875	5/16-18	.750	ZSHT-375-60000-303SU	ZSHT-375-60000-316SU	ZSHT-375-60000-104SU	ZSHT-375-60000-114SU	ZSHT-375-60000-202SU
72	.875	5/16-18	.750	ZSHT-375-72000-303SU	ZSHT-375-72000-316SU	ZSHT-375-72000-104SU	ZSHT-375-72000-114SU	ZSHT-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Thread Size	Thread Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1	3/8-16	.875	ZSHT-500-03000-303SU	ZSHT-500-03000-316SU	ZSHT-500-03000-104SU	ZSHT-500-03000-114SU	ZSHT-500-03000-202SU
6	1	3/8-16	.875	ZSHT-500-06000-303SU	ZSHT-500-06000-316SU	ZSHT-500-06000-104SU	ZSHT-500-06000-114SU	ZSHT-500-06000-202SU
9	1	3/8-16	.875	ZSHT-500-09000-303SU	ZSHT-500-09000-316SU	ZSHT-500-09000-104SU	ZSHT-500-09000-114SU	ZSHT-500-09000-202SU
12	1	3/8-16	.875	ZSHT-500-12000-303SU	ZSHT-500-12000-316SU	ZSHT-500-12000-104SU	ZSHT-500-12000-114SU	ZSHT-500-12000-202SU
18	1	3/8-16	.875	ZSHT-500-18000-303SU	ZSHT-500-18000-316SU	ZSHT-500-18000-104SU	ZSHT-500-18000-114SU	ZSHT-500-18000-202SU
24	1	3/8-16	.875	ZSHT-500-24000-303SU	ZSHT-500-24000-316SU	ZSHT-500-24000-104SU	ZSHT-500-24000-114SU	ZSHT-500-24000-202SU
36	1	3/8-16	.875	ZSHT-500-36000-303SU	ZSHT-500-36000-316SU	ZSHT-500-36000-104SU	ZSHT-500-36000-114SU	ZSHT-500-36000-202SU
48	1	3/8-16	.875	ZSHT-500-48000-303SU	ZSHT-500-48000-316SU	ZSHT-500-48000-104SU	ZSHT-500-48000-114SU	ZSHT-500-48000-202SU
60	1	3/8-16	.875	ZSHT-500-60000-303SU	ZSHT-500-60000-316SU	ZSHT-500-60000-104SU	ZSHT-500-60000-114SU	ZSHT-500-60000-202SU
72	1	3/8-16	.875	ZSHT-500-72000-303SU	ZSHT-500-72000-316SU	ZSHT-500-72000-104SU	ZSHT-500-72000-114SU	ZSHT-500-72000-202SU

Threaded Stud Rotary Shaft One End — Inch



9/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Thread Size	Thread Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1.25	1/2-13	1	ZSHT-562-03000-303SU	ZSHT-562-03000-316SU	ZSHT-562-03000-104SU	ZSHT-562-03000-114SU	–
6	1.25	1/2-13	1	ZSHT-562-06000-303SU	ZSHT-562-06000-316SU	ZSHT-562-06000-104SU	ZSHT-562-06000-114SU	–
9	1.25	1/2-13	1	ZSHT-562-09000-303SU	ZSHT-562-09000-316SU	ZSHT-562-09000-104SU	ZSHT-562-09000-114SU	–
12	1.25	1/2-13	1	ZSHT-562-12000-303SU	ZSHT-562-12000-316SU	ZSHT-562-12000-104SU	ZSHT-562-12000-114SU	–
18	1.25	1/2-13	1	ZSHT-562-18000-303SU	ZSHT-562-18000-316SU	ZSHT-562-18000-104SU	ZSHT-562-18000-114SU	–
24	1.25	1/2-13	1	ZSHT-562-24000-303SU	ZSHT-562-24000-316SU	ZSHT-562-24000-104SU	ZSHT-562-24000-114SU	–
36	1.25	1/2-13	1	ZSHT-562-36000-303SU	ZSHT-562-36000-316SU	ZSHT-562-36000-104SU	ZSHT-562-36000-114SU	–
48	1.25	1/2-13	1	ZSHT-562-48000-303SU	ZSHT-562-48000-316SU	ZSHT-562-48000-104SU	ZSHT-562-48000-114SU	–
60	1.25	1/2-13	1	ZSHT-562-60000-303SU	ZSHT-562-60000-316SU	ZSHT-562-60000-104SU	ZSHT-562-60000-114SU	–
72	1.25	1/2-13	1	ZSHT-562-72000-303SU	ZSHT-562-72000-316SU	ZSHT-562-72000-104SU	ZSHT-562-72000-114SU	–

5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Thread Size	Thread Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1.25	1/2-13	1	ZSHT-625-03000-303SU	ZSHT-625-03000-316SU	ZSHT-625-03000-104SU	ZSHT-625-03000-114SU	ZSHT-625-03000-202SU
6	1.25	1/2-13	1	ZSHT-625-06000-303SU	ZSHT-625-06000-316SU	ZSHT-625-06000-104SU	ZSHT-625-06000-114SU	ZSHT-625-06000-202SU
9	1.25	1/2-13	1	ZSHT-625-09000-303SU	ZSHT-625-09000-316SU	ZSHT-625-09000-104SU	ZSHT-625-09000-114SU	ZSHT-625-09000-202SU
12	1.25	1/2-13	1	ZSHT-625-12000-303SU	ZSHT-625-12000-316SU	ZSHT-625-12000-104SU	ZSHT-625-12000-114SU	ZSHT-625-12000-202SU
18	1.25	1/2-13	1	ZSHT-625-18000-303SU	ZSHT-625-18000-316SU	ZSHT-625-18000-104SU	ZSHT-625-18000-114SU	ZSHT-625-18000-202SU
24	1.25	1/2-13	1	ZSHT-625-24000-303SU	ZSHT-625-24000-316SU	ZSHT-625-24000-104SU	ZSHT-625-24000-114SU	ZSHT-625-24000-202SU
36	1.25	1/2-13	1	ZSHT-625-36000-303SU	ZSHT-625-36000-316SU	ZSHT-625-36000-104SU	ZSHT-625-36000-114SU	ZSHT-625-36000-202SU
48	1.25	1/2-13	1	ZSHT-625-48000-303SU	ZSHT-625-48000-316SU	ZSHT-625-48000-104SU	ZSHT-625-48000-114SU	ZSHT-625-48000-202SU
60	1.25	1/2-13	1	ZSHT-625-60000-303SU	ZSHT-625-60000-316SU	ZSHT-625-60000-104SU	ZSHT-625-60000-114SU	ZSHT-625-60000-202SU
72	1.25	1/2-13	1	ZSHT-625-72000-303SU	ZSHT-625-72000-316SU	ZSHT-625-72000-104SU	ZSHT-625-72000-114SU	ZSHT-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Thread Size	Thread Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1.50	5/8-11	1.25	ZSHT-750-03000-303SU	ZSHT-750-03000-316SU	ZSHT-750-03000-104SU	ZSHT-750-03000-114SU	ZSHT-750-03000-202SU
6	1.50	5/8-11	1.25	ZSHT-750-06000-303SU	ZSHT-750-06000-316SU	ZSHT-750-06000-104SU	ZSHT-750-06000-114SU	ZSHT-750-06000-202SU
9	1.50	5/8-11	1.25	ZSHT-750-09000-303SU	ZSHT-750-09000-316SU	ZSHT-750-09000-104SU	ZSHT-750-09000-114SU	ZSHT-750-09000-202SU
12	1.50	5/8-11	1.25	ZSHT-750-12000-303SU	ZSHT-750-12000-316SU	ZSHT-750-12000-104SU	ZSHT-750-12000-114SU	ZSHT-750-12000-202SU
18	1.50	5/8-11	1.25	ZSHT-750-18000-303SU	ZSHT-750-18000-316SU	ZSHT-750-18000-104SU	ZSHT-750-18000-114SU	ZSHT-750-18000-202SU
24	1.50	5/8-11	1.25	ZSHT-750-24000-303SU	ZSHT-750-24000-316SU	ZSHT-750-24000-104SU	ZSHT-750-24000-114SU	ZSHT-750-24000-202SU
36	1.50	5/8-11	1.25	ZSHT-750-36000-303SU	ZSHT-750-36000-316SU	ZSHT-750-36000-104SU	ZSHT-750-36000-114SU	ZSHT-750-36000-202SU
48	1.50	5/8-11	1.25	ZSHT-750-48000-303SU	ZSHT-750-48000-316SU	ZSHT-750-48000-104SU	ZSHT-750-48000-114SU	ZSHT-750-48000-202SU
60	1.50	5/8-11	1.25	ZSHT-750-60000-303SU	ZSHT-750-60000-316SU	ZSHT-750-60000-104SU	ZSHT-750-60000-114SU	ZSHT-750-60000-202SU
72	1.50	5/8-11	1.25	ZSHT-750-72000-303SU	ZSHT-750-72000-316SU	ZSHT-750-72000-104SU	ZSHT-750-72000-114SU	ZSHT-750-72000-202SU

18-8 SS, 316 SS, Steel, Aluminum

Threaded Stud Rotary Shaft One End — Inch



7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Thread Size	Thread Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1.50	5/8-11	1.25	ZSHT-875-03000-303SU	ZSHT-875-03000-316SU	ZSHT-875-03000-104SU	ZSHT-875-03000-114SU	ZSHT-875-03000-202SU
6	1.50	5/8-11	1.25	ZSHT-875-06000-303SU	ZSHT-875-06000-316SU	ZSHT-875-06000-104SU	ZSHT-875-06000-114SU	ZSHT-875-06000-202SU
9	1.50	5/8-11	1.25	ZSHT-875-09000-303SU	ZSHT-875-09000-316SU	ZSHT-875-09000-104SU	ZSHT-875-09000-114SU	ZSHT-875-09000-202SU
12	1.50	5/8-11	1.25	ZSHT-875-12000-303SU	ZSHT-875-12000-316SU	ZSHT-875-12000-104SU	ZSHT-875-12000-114SU	ZSHT-875-12000-202SU
18	1.50	5/8-11	1.25	ZSHT-875-18000-303SU	ZSHT-875-18000-316SU	ZSHT-875-18000-104SU	ZSHT-875-18000-114SU	ZSHT-875-18000-202SU
24	1.50	5/8-11	1.25	ZSHT-875-24000-303SU	ZSHT-875-24000-316SU	ZSHT-875-24000-104SU	ZSHT-875-24000-114SU	ZSHT-875-24000-202SU
36	1.50	5/8-11	1.25	ZSHT-875-36000-303SU	ZSHT-875-36000-316SU	ZSHT-875-36000-104SU	ZSHT-875-36000-114SU	ZSHT-875-36000-202SU
48	1.50	5/8-11	1.25	ZSHT-875-48000-303SU	ZSHT-875-48000-316SU	ZSHT-875-48000-104SU	ZSHT-875-48000-114SU	ZSHT-875-48000-202SU
60	1.50	5/8-11	1.25	ZSHT-875-60000-303SU	ZSHT-875-60000-316SU	ZSHT-875-60000-104SU	ZSHT-875-60000-114SU	ZSHT-875-60000-202SU
72	1.50	5/8-11	1.25	ZSHT-875-72000-303SU	ZSHT-875-72000-316SU	ZSHT-875-72000-104SU	ZSHT-875-72000-114SU	ZSHT-875-72000-202SU

15/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Thread Size	Thread Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	2	7/8-9	1.50	–	–	ZSHT-937-03000-104SU	–	–
6	2	7/8-9	1.50	–	–	ZSHT-937-06000-104SU	–	–
9	2	7/8-9	1.50	–	–	ZSHT-937-09000-104SU	–	–
12	2	7/8-9	1.50	–	–	ZSHT-937-12000-104SU	–	–
18	2	7/8-9	1.50	–	–	ZSHT-937-18000-104SU	–	–
24	2	7/8-9	1.50	–	–	ZSHT-937-24000-104SU	–	–
36	2	7/8-9	1.50	–	–	ZSHT-937-36000-104SU	–	–
48	2	7/8-9	1.50	–	–	ZSHT-937-48000-104SU	–	–
60	2	7/8-9	1.50	–	–	ZSHT-937-60000-104SU	–	–
72	2	7/8-9	1.50	–	–	ZSHT-937-72000-104SU	–	–

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Thread Size	Thread Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	2	7/8-9	1.50	ZSHT-1000-03000-303SU	ZSHT-1000-03000-316SU	ZSHT-1000-03000-104SU	ZSHT-1000-03000-114SU	ZSHT-1000-03000-202SU
6	2	7/8-9	1.50	ZSHT-1000-06000-303SU	ZSHT-1000-06000-316SU	ZSHT-1000-06000-104SU	ZSHT-1000-06000-114SU	ZSHT-1000-06000-202SU
9	2	7/8-9	1.50	ZSHT-1000-09000-303SU	ZSHT-1000-09000-316SU	ZSHT-1000-09000-104SU	ZSHT-1000-09000-114SU	ZSHT-1000-09000-202SU
12	2	7/8-9	1.50	ZSHT-1000-12000-303SU	ZSHT-1000-12000-316SU	ZSHT-1000-12000-104SU	ZSHT-1000-12000-114SU	ZSHT-1000-12000-202SU
18	2	7/8-9	1.50	ZSHT-1000-18000-303SU	ZSHT-1000-18000-316SU	ZSHT-1000-18000-104SU	ZSHT-1000-18000-114SU	ZSHT-1000-18000-202SU
24	2	7/8-9	1.50	ZSHT-1000-24000-303SU	ZSHT-1000-24000-316SU	ZSHT-1000-24000-104SU	ZSHT-1000-24000-114SU	ZSHT-1000-24000-202SU
36	2	7/8-9	1.50	ZSHT-1000-36000-303SU	ZSHT-1000-36000-316SU	ZSHT-1000-36000-104SU	ZSHT-1000-36000-114SU	ZSHT-1000-36000-202SU
48	2	7/8-9	1.50	ZSHT-1000-48000-303SU	ZSHT-1000-48000-316SU	ZSHT-1000-48000-104SU	ZSHT-1000-48000-114SU	ZSHT-1000-48000-202SU
60	2	7/8-9	1.50	ZSHT-1000-60000-303SU	ZSHT-1000-60000-316SU	ZSHT-1000-60000-104SU	ZSHT-1000-60000-114SU	ZSHT-1000-60000-202SU
72	2	7/8-9	1.50	ZSHT-1000-72000-303SU	ZSHT-1000-72000-316SU	ZSHT-1000-72000-104SU	ZSHT-1000-72000-114SU	ZSHT-1000-72000-202SU

Threaded Stud Rotary Shaft Both Ends — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Threads Size	Threads Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.437	1/4-20	.375	ZSHTT-312-03000-303SU	ZSHTT-312-03000-316SU	ZSHTT-312-03000-104SU	ZSHTT-312-03000-114SU	ZSHTT-312-03000-202SU
6	.437	1/4-20	.375	ZSHTT-312-06000-303SU	ZSHTT-312-06000-316SU	ZSHTT-312-06000-104SU	ZSHTT-312-06000-114SU	ZSHTT-312-06000-202SU
9	.437	1/4-20	.375	ZSHTT-312-09000-303SU	ZSHTT-312-09000-316SU	ZSHTT-312-09000-104SU	ZSHTT-312-09000-114SU	ZSHTT-312-09000-202SU
12	.437	1/4-20	.375	ZSHTT-312-12000-303SU	ZSHTT-312-12000-316SU	ZSHTT-312-12000-104SU	ZSHTT-312-12000-114SU	ZSHTT-312-12000-202SU
18	.437	1/4-20	.375	ZSHTT-312-18000-303SU	ZSHTT-312-18000-316SU	ZSHTT-312-18000-104SU	ZSHTT-312-18000-114SU	ZSHTT-312-18000-202SU
24	.437	1/4-20	.375	ZSHTT-312-24000-303SU	ZSHTT-312-24000-316SU	ZSHTT-312-24000-104SU	ZSHTT-312-24000-114SU	ZSHTT-312-24000-202SU
36	.437	1/4-20	.375	ZSHTT-312-36000-303SU	ZSHTT-312-36000-316SU	ZSHTT-312-36000-104SU	ZSHTT-312-36000-114SU	ZSHTT-312-36000-202SU
48	.437	1/4-20	.375	ZSHTT-312-48000-303SU	ZSHTT-312-48000-316SU	ZSHTT-312-48000-104SU	ZSHTT-312-48000-114SU	ZSHTT-312-48000-202SU
60	.437	1/4-20	.375	ZSHTT-312-60000-303SU	ZSHTT-312-60000-316SU	ZSHTT-312-60000-104SU	ZSHTT-312-60000-114SU	ZSHTT-312-60000-202SU
72	.437	1/4-20	.375	ZSHTT-312-72000-303SU	ZSHTT-312-72000-316SU	ZSHTT-312-72000-104SU	ZSHTT-312-72000-114SU	ZSHTT-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Threads Size	Threads Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.875	5/16-18	.750	ZSHTT-375-03000-303SU	ZSHTT-375-03000-316SU	ZSHTT-375-03000-104SU	ZSHTT-375-03000-114SU	ZSHTT-375-03000-202SU
6	.875	5/16-18	.750	ZSHTT-375-06000-303SU	ZSHTT-375-06000-316SU	ZSHTT-375-06000-104SU	ZSHTT-375-06000-114SU	ZSHTT-375-06000-202SU
9	.875	5/16-18	.750	ZSHTT-375-09000-303SU	ZSHTT-375-09000-316SU	ZSHTT-375-09000-104SU	ZSHTT-375-09000-114SU	ZSHTT-375-09000-202SU
12	.875	5/16-18	.750	ZSHTT-375-12000-303SU	ZSHTT-375-12000-316SU	ZSHTT-375-12000-104SU	ZSHTT-375-12000-114SU	ZSHTT-375-12000-202SU
18	.875	5/16-18	.750	ZSHTT-375-18000-303SU	ZSHTT-375-18000-316SU	ZSHTT-375-18000-104SU	ZSHTT-375-18000-114SU	ZSHTT-375-18000-202SU
24	.875	5/16-18	.750	ZSHTT-375-24000-303SU	ZSHTT-375-24000-316SU	ZSHTT-375-24000-104SU	ZSHTT-375-24000-114SU	ZSHTT-375-24000-202SU
36	.875	5/16-18	.750	ZSHTT-375-36000-303SU	ZSHTT-375-36000-316SU	ZSHTT-375-36000-104SU	ZSHTT-375-36000-114SU	ZSHTT-375-36000-202SU
48	.875	5/16-18	.750	ZSHTT-375-48000-303SU	ZSHTT-375-48000-316SU	ZSHTT-375-48000-104SU	ZSHTT-375-48000-114SU	ZSHTT-375-48000-202SU
60	.875	5/16-18	.750	ZSHTT-375-60000-303SU	ZSHTT-375-60000-316SU	ZSHTT-375-60000-104SU	ZSHTT-375-60000-114SU	ZSHTT-375-60000-202SU
72	.875	5/16-18	.750	ZSHTT-375-72000-303SU	ZSHTT-375-72000-316SU	ZSHTT-375-72000-104SU	ZSHTT-375-72000-114SU	ZSHTT-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Threads Size	Threads Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1	3/8-16	.875	ZSHTT-500-03000-303SU	ZSHTT-500-03000-316SU	ZSHTT-500-03000-104SU	ZSHTT-500-03000-114SU	ZSHTT-500-03000-202SU
6	1	3/8-16	.875	ZSHTT-500-06000-303SU	ZSHTT-500-06000-316SU	ZSHTT-500-06000-104SU	ZSHTT-500-06000-114SU	ZSHTT-500-06000-202SU
9	1	3/8-16	.875	ZSHTT-500-09000-303SU	ZSHTT-500-09000-316SU	ZSHTT-500-09000-104SU	ZSHTT-500-09000-114SU	ZSHTT-500-09000-202SU
12	1	3/8-16	.875	ZSHTT-500-12000-303SU	ZSHTT-500-12000-316SU	ZSHTT-500-12000-104SU	ZSHTT-500-12000-114SU	ZSHTT-500-12000-202SU
18	1	3/8-16	.875	ZSHTT-500-18000-303SU	ZSHTT-500-18000-316SU	ZSHTT-500-18000-104SU	ZSHTT-500-18000-114SU	ZSHTT-500-18000-202SU
24	1	3/8-16	.875	ZSHTT-500-24000-303SU	ZSHTT-500-24000-316SU	ZSHTT-500-24000-104SU	ZSHTT-500-24000-114SU	ZSHTT-500-24000-202SU
36	1	3/8-16	.875	ZSHTT-500-36000-303SU	ZSHTT-500-36000-316SU	ZSHTT-500-36000-104SU	ZSHTT-500-36000-114SU	ZSHTT-500-36000-202SU
48	1	3/8-16	.875	ZSHTT-500-48000-303SU	ZSHTT-500-48000-316SU	ZSHTT-500-48000-104SU	ZSHTT-500-48000-114SU	ZSHTT-500-48000-202SU
60	1	3/8-16	.875	ZSHTT-500-60000-303SU	ZSHTT-500-60000-316SU	ZSHTT-500-60000-104SU	ZSHTT-500-60000-114SU	ZSHTT-500-60000-202SU
72	1	3/8-16	.875	ZSHTT-500-72000-303SU	ZSHTT-500-72000-316SU	ZSHTT-500-72000-104SU	ZSHTT-500-72000-114SU	ZSHTT-500-72000-202SU

18-8 SS, 316 SS, Steel, Aluminum

Threaded Stud Rotary Shaft Both Ends — Inch



5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Threads Size	Threads Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1.25	1/2-13	1	ZSHTT-625-03000-303SU	ZSHTT-625-03000-316SU	ZSHTT-625-03000-104SU	ZSHTT-625-03000-114SU	ZSHTT-625-03000-202SU
6	1.25	1/2-13	1	ZSHTT-625-06000-303SU	ZSHTT-625-06000-316SU	ZSHTT-625-06000-104SU	ZSHTT-625-06000-114SU	ZSHTT-625-06000-202SU
9	1.25	1/2-13	1	ZSHTT-625-09000-303SU	ZSHTT-625-09000-316SU	ZSHTT-625-09000-104SU	ZSHTT-625-09000-114SU	ZSHTT-625-09000-202SU
12	1.25	1/2-13	1	ZSHTT-625-12000-303SU	ZSHTT-625-12000-316SU	ZSHTT-625-12000-104SU	ZSHTT-625-12000-114SU	ZSHTT-625-12000-202SU
18	1.25	1/2-13	1	ZSHTT-625-18000-303SU	ZSHTT-625-18000-316SU	ZSHTT-625-18000-104SU	ZSHTT-625-18000-114SU	ZSHTT-625-18000-202SU
24	1.25	1/2-13	1	ZSHTT-625-24000-303SU	ZSHTT-625-24000-316SU	ZSHTT-625-24000-104SU	ZSHTT-625-24000-114SU	ZSHTT-625-24000-202SU
36	1.25	1/2-13	1	ZSHTT-625-36000-303SU	ZSHTT-625-36000-316SU	ZSHTT-625-36000-104SU	ZSHTT-625-36000-114SU	ZSHTT-625-36000-202SU
48	1.25	1/2-13	1	ZSHTT-625-48000-303SU	ZSHTT-625-48000-316SU	ZSHTT-625-48000-104SU	ZSHTT-625-48000-114SU	ZSHTT-625-48000-202SU
60	1.25	1/2-13	1	ZSHTT-625-60000-303SU	ZSHTT-625-60000-316SU	ZSHTT-625-60000-104SU	ZSHTT-625-60000-114SU	ZSHTT-625-60000-202SU
72	1.25	1/2-13	1	ZSHTT-625-72000-303SU	ZSHTT-625-72000-316SU	ZSHTT-625-72000-104SU	ZSHTT-625-72000-114SU	ZSHTT-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Threads Size	Threads Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1.5	5/8-11	1.25	ZSHTT-750-03000-303SU	ZSHTT-750-03000-316SU	ZSHTT-750-03000-104SU	ZSHTT-750-03000-114SU	ZSHTT-750-03000-202SU
6	1.5	5/8-11	1.25	ZSHTT-750-06000-303SU	ZSHTT-750-06000-316SU	ZSHTT-750-06000-104SU	ZSHTT-750-06000-114SU	ZSHTT-750-06000-202SU
9	1.5	5/8-11	1.25	ZSHTT-750-09000-303SU	ZSHTT-750-09000-316SU	ZSHTT-750-09000-104SU	ZSHTT-750-09000-114SU	ZSHTT-750-09000-202SU
12	1.5	5/8-11	1.25	ZSHTT-750-12000-303SU	ZSHTT-750-12000-316SU	ZSHTT-750-12000-104SU	ZSHTT-750-12000-114SU	ZSHTT-750-12000-202SU
18	1.5	5/8-11	1.25	ZSHTT-750-18000-303SU	ZSHTT-750-18000-316SU	ZSHTT-750-18000-104SU	ZSHTT-750-18000-114SU	ZSHTT-750-18000-202SU
24	1.5	5/8-11	1.25	ZSHTT-750-24000-303SU	ZSHTT-750-24000-316SU	ZSHTT-750-24000-104SU	ZSHTT-750-24000-114SU	ZSHTT-750-24000-202SU
36	1.5	5/8-11	1.25	ZSHTT-750-36000-303SU	ZSHTT-750-36000-316SU	ZSHTT-750-36000-104SU	ZSHTT-750-36000-114SU	ZSHTT-750-36000-202SU
48	1.5	5/8-11	1.25	ZSHTT-750-48000-303SU	ZSHTT-750-48000-316SU	ZSHTT-750-48000-104SU	ZSHTT-750-48000-114SU	ZSHTT-750-48000-202SU
60	1.5	5/8-11	1.25	ZSHTT-750-60000-303SU	ZSHTT-750-60000-316SU	ZSHTT-750-60000-104SU	ZSHTT-750-60000-114SU	ZSHTT-750-60000-202SU
72	1.5	5/8-11	1.25	ZSHTT-750-72000-303SU	ZSHTT-750-72000-316SU	ZSHTT-750-72000-104SU	ZSHTT-750-72000-114SU	ZSHTT-750-72000-202SU

7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Threads Size	Threads Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	1.75	3/4-10	1.50	ZSHTT-875-03000-303SU	ZSHTT-875-03000-316SU	ZSHTT-875-03000-104SU	ZSHTT-875-03000-114SU	ZSHTT-875-03000-202SU
6	1.75	3/4-10	1.50	ZSHTT-875-06000-303SU	ZSHTT-875-06000-316SU	ZSHTT-875-06000-104SU	ZSHTT-875-06000-114SU	ZSHTT-875-06000-202SU
9	1.75	3/4-10	1.50	ZSHTT-875-09000-303SU	ZSHTT-875-09000-316SU	ZSHTT-875-09000-104SU	ZSHTT-875-09000-114SU	ZSHTT-875-09000-202SU
12	1.75	3/4-10	1.50	ZSHTT-875-12000-303SU	ZSHTT-875-12000-316SU	ZSHTT-875-12000-104SU	ZSHTT-875-12000-114SU	ZSHTT-875-12000-202SU
18	1.75	3/4-10	1.50	ZSHTT-875-18000-303SU	ZSHTT-875-18000-316SU	ZSHTT-875-18000-104SU	ZSHTT-875-18000-114SU	ZSHTT-875-18000-202SU
24	1.75	3/4-10	1.50	ZSHTT-875-24000-303SU	ZSHTT-875-24000-316SU	ZSHTT-875-24000-104SU	ZSHTT-875-24000-114SU	ZSHTT-875-24000-202SU
36	1.75	3/4-10	1.50	ZSHTT-875-36000-303SU	ZSHTT-875-36000-316SU	ZSHTT-875-36000-104SU	ZSHTT-875-36000-114SU	ZSHTT-875-36000-202SU
48	1.75	3/4-10	1.50	ZSHTT-875-48000-303SU	ZSHTT-875-48000-316SU	ZSHTT-875-48000-104SU	ZSHTT-875-48000-114SU	ZSHTT-875-48000-202SU
60	1.75	3/4-10	1.50	ZSHTT-875-60000-303SU	ZSHTT-875-60000-316SU	ZSHTT-875-60000-104SU	ZSHTT-875-60000-114SU	ZSHTT-875-60000-202SU
72	1.75	3/4-10	1.50	ZSHTT-875-72000-303SU	ZSHTT-875-72000-316SU	ZSHTT-875-72000-104SU	ZSHTT-875-72000-114SU	ZSHTT-875-72000-202SU

Threaded Stud Rotary Shaft Both Ends — Inch



15/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Threads Size	Threads Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	2	7/8-9	1.50	–	–	ZSHTT-937-03000-104SU	–	–
6	2	7/8-9	1.50	–	–	ZSHTT-937-06000-104SU	–	–
9	2	7/8-9	1.50	–	–	ZSHTT-937-09000-104SU	–	–
12	2	7/8-9	1.50	–	–	ZSHTT-937-12000-104SU	–	–
18	2	7/8-9	1.50	–	–	ZSHTT-937-18000-104SU	–	–
24	2	7/8-9	1.50	–	–	ZSHTT-937-24000-104SU	–	–
36	2	7/8-9	1.50	–	–	ZSHTT-937-36000-104SU	–	–
48	2	7/8-9	1.50	–	–	ZSHTT-937-48000-104SU	–	–
60	2	7/8-9	1.50	–	–	ZSHTT-937-60000-104SU	–	–
72	2	7/8-9	1.50	–	–	ZSHTT-937-72000-104SU	–	–

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Stud Lg	Threads Size	Threads Lg	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	2	7/8-9	1.50	ZSHTT-1000-03000-303SU	ZSHTT-1000-03000-316SU	ZSHTT-1000-03000-104SU	ZSHTT-1000-03000-114SU	ZSHTT-1000-03000-202SU
6	2	7/8-9	1.50	ZSHTT-1000-06000-303SU	ZSHTT-1000-06000-316SU	ZSHTT-1000-06000-104SU	ZSHTT-1000-06000-114SU	ZSHTT-1000-06000-202SU
9	2	7/8-9	1.50	ZSHTT-1000-09000-303SU	ZSHTT-1000-09000-316SU	ZSHTT-1000-09000-104SU	ZSHTT-1000-09000-114SU	ZSHTT-1000-09000-202SU
12	2	7/8-9	1.50	ZSHTT-1000-12000-303SU	ZSHTT-1000-12000-316SU	ZSHTT-1000-12000-104SU	ZSHTT-1000-12000-114SU	ZSHTT-1000-12000-202SU
18	2	7/8-9	1.50	ZSHTT-1000-18000-303SU	ZSHTT-1000-18000-316SU	ZSHTT-1000-18000-104SU	ZSHTT-1000-18000-114SU	ZSHTT-1000-18000-202SU
24	2	7/8-9	1.50	ZSHTT-1000-24000-303SU	ZSHTT-1000-24000-316SU	ZSHTT-1000-24000-104SU	ZSHTT-1000-24000-114SU	ZSHTT-1000-24000-202SU
36	2	7/8-9	1.50	ZSHTT-1000-36000-303SU	ZSHTT-1000-36000-316SU	ZSHTT-1000-36000-104SU	ZSHTT-1000-36000-114SU	ZSHTT-1000-36000-202SU
48	2	7/8-9	1.50	ZSHTT-1000-48000-303SU	ZSHTT-1000-48000-316SU	ZSHTT-1000-48000-104SU	ZSHTT-1000-48000-114SU	ZSHTT-1000-48000-202SU
60	2	7/8-9	1.50	ZSHTT-1000-60000-303SU	ZSHTT-1000-60000-316SU	ZSHTT-1000-60000-104SU	ZSHTT-1000-60000-114SU	ZSHTT-1000-60000-202SU
72	2	7/8-9	1.50	ZSHTT-1000-72000-303SU	ZSHTT-1000-72000-316SU	ZSHTT-1000-72000-104SU	ZSHTT-1000-72000-114SU	ZSHTT-1000-72000-202SU

Threaded Stud Rotary Shaft — Metric

18-8 & 316 SS, Steel

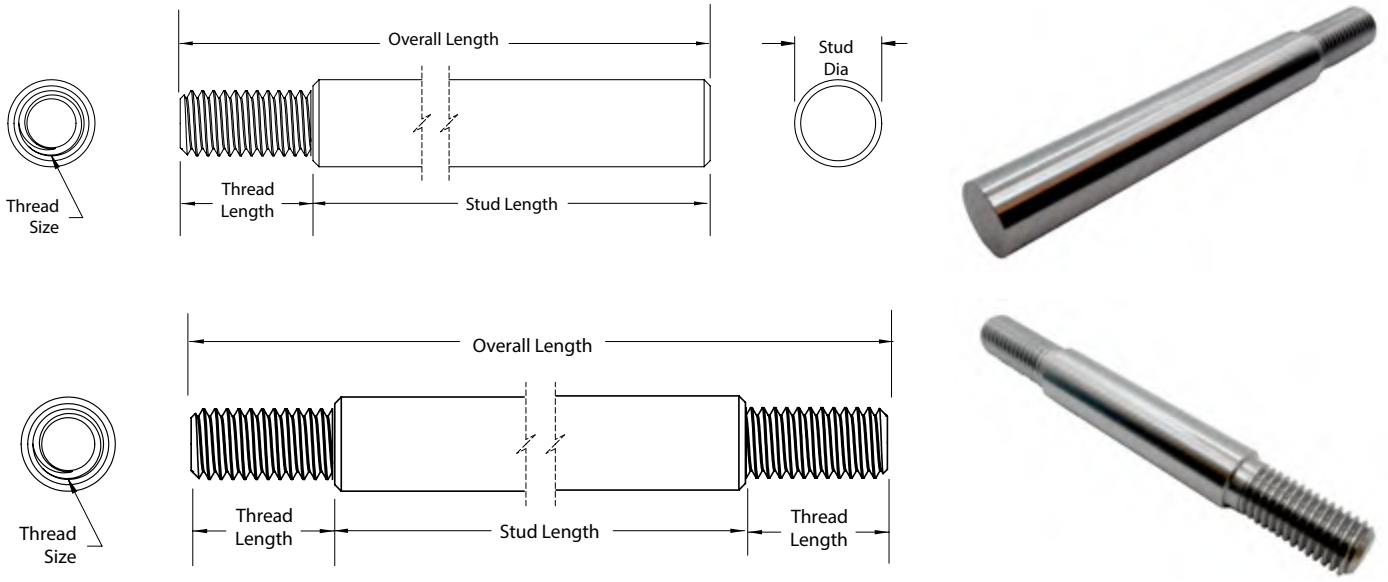
Product Information

Threaded Rotary Shafts are precision-engineered metal rods designed for rotational applications.

Featuring threaded ends for secure component attachment, these shafts excel in transmitting power and motion. Crafted from high-quality materials and available in various diameters and lengths, they offer exceptional durability and performance. Ideal for a wide range of industrial machinery, automation systems, and mechanical assemblies, threaded rotary shafts provide reliable and efficient operation.

All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable. Length tolerance is +/-1.6mm and straightness tolerance is .33mm per 300mm.

- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.



Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic

Threaded Stud Rotary Shaft One End — Metric



8mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Thread Size	Thread Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	16	M6 x 1.00	12	ZSHT-M08-M0300-303SU	ZSHT-M08-M0300-316SU	ZSHT-M08-M0300-104SU	ZSHT-M08-M0300-114SU
500	16	M6 x 1.00	12	ZSHT-M08-M0500-303SU	ZSHT-M08-M0500-316SU	ZSHT-M08-M0500-104SU	ZSHT-M08-M0500-114SU
1,000	16	M6 x 1.00	12	ZSHT-M08-M1000-303SU	ZSHT-M08-M1000-316SU	ZSHT-M08-M1000-104SU	ZSHT-M08-M1000-114SU
1,200	16	M6 x 1.00	12	ZSHT-M08-M1200-303SU	ZSHT-M08-M1200-316SU	ZSHT-M08-M1200-104SU	ZSHT-M08-M1200-114SU
1,500	16	M6 x 1.00	12	ZSHT-M08-M1500-303SU	ZSHT-M08-M1500-316SU	ZSHT-M08-M1500-104SU	ZSHT-M08-M1500-114SU
1,800	16	M6 x 1.00	12	ZSHT-M08-M1800-303SU	ZSHT-M08-M1800-316SU	ZSHT-M08-M1800-104SU	ZSHT-M08-M1800-114SU

10mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Thread Size	Thread Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	20	M8 x 1	15	ZSHT-M10-M0300-303SU	ZSHT-M10-M0300-316SU	ZSHT-M10-M0300-104SU	ZSHT-M10-M0300-114SU
500	20	M8 x 1	15	ZSHT-M10-M0500-303SU	ZSHT-M10-M0500-316SU	ZSHT-M10-M0500-104SU	ZSHT-M10-M0500-114SU
1,000	20	M8 x 1	15	ZSHT-M10-M1000-303SU	ZSHT-M10-M1000-316SU	ZSHT-M10-M1000-104SU	ZSHT-M10-M1000-114SU
1,200	20	M8 x 1	15	ZSHT-M10-M1200-303SU	ZSHT-M10-M1200-316SU	ZSHT-M10-M1200-104SU	ZSHT-M10-M1200-114SU
1,500	20	M8 x 1	15	ZSHT-M10-M1500-303SU	ZSHT-M10-M1500-316SU	ZSHT-M10-M1500-104SU	ZSHT-M10-M1500-114SU
1,800	20	M8 x 1	15	ZSHT-M10-M1800-303SU	ZSHT-M10-M1800-316SU	ZSHT-M10-M1800-104SU	ZSHT-M10-M1800-114SU

12mm Diameter (Tolerance: +0/-.0635mm)

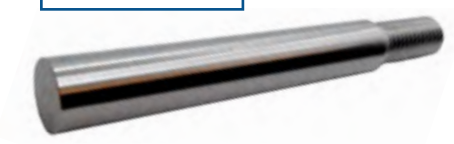
O'all Lg (mm)	Stud Length	Thread Size	Thread Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	24	M10 x 1.25	20	ZSHT-M12-M0300-303SU	ZSHT-M12-M0300-316SU	ZSHT-M12-M0300-104SU	ZSHT-M12-M0300-114SU
500	24	M10 x 1.25	20	ZSHT-M12-M0500-303SU	ZSHT-M12-M0500-316SU	ZSHT-M12-M0500-104SU	ZSHT-M12-M0500-114SU
1,000	24	M10 x 1.25	20	ZSHT-M12-M1000-303SU	ZSHT-M12-M1000-316SU	ZSHT-M12-M1000-104SU	ZSHT-M12-M1000-114SU
1,200	24	M10 x 1.25	20	ZSHT-M12-M1200-303SU	ZSHT-M12-M1200-316SU	ZSHT-M12-M1200-104SU	ZSHT-M12-M1200-114SU
1,500	24	M10 x 1.25	20	ZSHT-M12-M1500-303SU	ZSHT-M12-M1500-316SU	ZSHT-M12-M1500-104SU	ZSHT-M12-M1500-114SU
1,800	24	M10 x 1.25	20	ZSHT-M12-M1800-303SU	ZSHT-M12-M1800-316SU	ZSHT-M12-M1800-104SU	ZSHT-M12-M1800-114SU

15mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Thread Size	Thread Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	30	M12 x 1.25	20	ZSHT-M15-M0300-303SU	ZSHT-M15-M0300-316SU	ZSHT-M15-M0300-104SU	ZSHT-M15-M0300-114SU
500	30	M12 x 1.25	20	ZSHT-M15-M0500-303SU	ZSHT-M15-M0500-316SU	ZSHT-M15-M0500-104SU	ZSHT-M15-M0500-114SU
1,000	30	M12 x 1.25	20	ZSHT-M15-M1000-303SU	ZSHT-M15-M1000-316SU	ZSHT-M15-M1000-104SU	ZSHT-M15-M1000-114SU
1,200	30	M12 x 1.25	20	ZSHT-M15-M1200-303SU	ZSHT-M15-M1200-316SU	ZSHT-M15-M1200-104SU	ZSHT-M15-M1200-114SU
1,500	30	M12 x 1.25	20	ZSHT-M15-M1500-303SU	ZSHT-M15-M1500-316SU	ZSHT-M15-M1500-104SU	ZSHT-M15-M1500-114SU
1,800	30	M12 x 1.25	20	ZSHT-M15-M1800-303SU	ZSHT-M15-M1800-316SU	ZSHT-M15-M1800-104SU	ZSHT-M15-M1800-114SU

18-8 SS, 316 SS, Steel

Threaded Stud Rotary Shaft One End — Metric



17mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Thread Size	Thread Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	30	M12 x 1.25	22	ZSHT-M17-M0300-303SU	ZSHT-M17-M0300-316SU	ZSHT-M17-M0300-104SU	ZSHT-M17-M0300-114SU
500	30	M12 x 1.25	22	ZSHT-M17-M0500-303SU	ZSHT-M17-M0500-316SU	ZSHT-M17-M0500-104SU	ZSHT-M17-M0500-114SU
1,000	30	M12 x 1.25	22	ZSHT-M17-M1000-303SU	ZSHT-M17-M1000-316SU	ZSHT-M17-M1000-104SU	ZSHT-M17-M1000-114SU
1,200	30	M12 x 1.25	22	ZSHT-M17-M1200-303SU	ZSHT-M17-M1200-316SU	ZSHT-M17-M1200-104SU	ZSHT-M17-M1200-114SU
1,500	30	M12 x 1.25	22	ZSHT-M17-M1700-303SU	ZSHT-M17-M1700-316SU	ZSHT-M17-M1700-104SU	ZSHT-M17-M1700-114SU
1,800	30	M12 x 1.25	22	ZSHT-M17-M1800-303SU	ZSHT-M17-M1800-316SU	ZSHT-M17-M1800-104SU	ZSHT-M17-M1800-114SU

20mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Thread Size	Thread Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	40	M16 x 1.5	25	ZSHT-M20-M0300-303SU	ZSHT-M20-M0300-316SU	ZSHT-M20-M0300-104SU	ZSHT-M20-M0300-114SU
500	40	M16 x 1.5	25	ZSHT-M20-M0500-303SU	ZSHT-M20-M0500-316SU	ZSHT-M20-M0500-104SU	ZSHT-M20-M0500-114SU
1,000	40	M16 x 1.5	25	ZSHT-M20-M1000-303SU	ZSHT-M20-M1000-316SU	ZSHT-M20-M1000-104SU	ZSHT-M20-M1000-114SU
1,200	40	M16 x 1.5	25	ZSHT-M20-M1200-303SU	ZSHT-M20-M1200-316SU	ZSHT-M20-M1200-104SU	ZSHT-M20-M1200-114SU
1,500	40	M16 x 1.5	25	ZSHT-M20-M1500-303SU	ZSHT-M20-M1500-316SU	ZSHT-M20-M1500-104SU	ZSHT-M20-M1500-114SU
1,800	40	M16 x 1.5	25	ZSHT-M20-M1800-303SU	ZSHT-M20-M1800-316SU	ZSHT-M20-M1800-104SU	ZSHT-M20-M1800-114SU

24mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Thread Size	Thread Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	45	M20 x 1.50	30	ZSHT-M24-M0300-303SU	ZSHT-M24-M0300-316SU	ZSHT-M24-M0300-104SU	ZSHT-M24-M0300-114SU
500	45	M20 x 1.50	30	ZSHT-M24-M0500-303SU	ZSHT-M24-M0500-316SU	ZSHT-M24-M0500-104SU	ZSHT-M24-M0500-114SU
1,000	45	M20 x 1.50	30	ZSHT-M24-M1000-303SU	ZSHT-M24-M1000-316SU	ZSHT-M24-M1000-104SU	ZSHT-M24-M1000-114SU
1,200	45	M20 x 1.50	30	ZSHT-M24-M1200-303SU	ZSHT-M24-M1200-316SU	ZSHT-M24-M1200-104SU	ZSHT-M24-M1200-114SU
1,500	45	M20 x 1.50	30	ZSHT-M24-M1500-303SU	ZSHT-M24-M1500-316SU	ZSHT-M24-M1500-104SU	ZSHT-M24-M1500-114SU
1,800	45	M20 x 1.50	30	ZSHT-M24-M1800-303SU	ZSHT-M24-M1800-316SU	ZSHT-M24-M1800-104SU	ZSHT-M24-M1800-114SU

25mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Thread Size	Thread Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	45	M20 x 1.50	30	ZSHT-M25-M0300-303SU	ZSHT-M25-M0300-316SU	ZSHT-M25-M0300-104SU	ZSHT-M25-M0300-114SU
500	45	M20 x 1.50	30	ZSHT-M25-M0500-303SU	ZSHT-M25-M0500-316SU	ZSHT-M25-M0500-104SU	ZSHT-M25-M0500-114SU
1,000	45	M20 x 1.50	30	ZSHT-M25-M1000-303SU	ZSHT-M25-M1000-316SU	ZSHT-M25-M1000-104SU	ZSHT-M25-M1000-114SU
1,200	45	M20 x 1.50	30	ZSHT-M25-M1200-303SU	ZSHT-M25-M1200-316SU	ZSHT-M25-M1200-104SU	ZSHT-M25-M1200-114SU
1,500	45	M20 x 1.50	30	ZSHT-M25-M1500-303SU	ZSHT-M25-M1500-316SU	ZSHT-M25-M1500-104SU	ZSHT-M25-M1500-114SU
1,800	45	M20 x 1.50	30	ZSHT-M25-M1800-303SU	ZSHT-M25-M1800-316SU	ZSHT-M25-M1800-104SU	ZSHT-M25-M1800-114SU

28mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Thread Size	Thread Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	45	M20 x 1.50	30	ZSHT-M28-M0300-303SU	ZSHT-M28-M0300-316SU	ZSHT-M28-M0300-104SU	ZSHT-M28-M0300-114SU
500	45	M20 x 1.50	30	ZSHT-M28-M0500-303SU	ZSHT-M28-M0500-316SU	ZSHT-M28-M0500-104SU	ZSHT-M28-M0500-114SU
1,000	45	M20 x 1.50	30	ZSHT-M28-M1000-303SU	ZSHT-M28-M1000-316SU	ZSHT-M28-M1000-104SU	ZSHT-M28-M1000-114SU
1,200	45	M20 x 1.50	30	ZSHT-M28-M1200-303SU	ZSHT-M28-M1200-316SU	ZSHT-M28-M1200-104SU	ZSHT-M28-M1200-114SU
1,500	45	M20 x 1.50	30	ZSHT-M28-M2800-303SU	ZSHT-M28-M2800-316SU	ZSHT-M28-M2800-104SU	ZSHT-M28-M2800-114SU
1,800	45	M20 x 1.50	30	ZSHT-M28-M1800-303SU	ZSHT-M28-M1800-316SU	ZSHT-M28-M1800-104SU	ZSHT-M28-M1800-114SU

Threaded Stud Rotary Shaft Both Ends — Metric



8mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Threads Size	Threads Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	16	M6 x 1.00	12	ZSHTT-M08-M0300-303SU	ZSHTT-M08-M0300-316SU	ZSHTT-M08-M0300-104SU	ZSHTT-M08-M0300-114SU
500	16	M6 x 1.00	12	ZSHTT-M08-M0500-303SU	ZSHTT-M08-M0500-316SU	ZSHTT-M08-M0500-104SU	ZSHTT-M08-M0500-114SU
1,000	16	M6 x 1.00	12	ZSHTT-M08-M1000-303SU	ZSHTT-M08-M1000-316SU	ZSHTT-M08-M1000-104SU	ZSHTT-M08-M1000-114SU
1,200	16	M6 x 1.00	12	ZSHTT-M08-M1200-303SU	ZSHTT-M08-M1200-316SU	ZSHTT-M08-M1200-104SU	ZSHTT-M08-M1200-114SU
1,500	16	M6 x 1.00	12	ZSHTT-M08-M1500-303SU	ZSHTT-M08-M1500-316SU	ZSHTT-M08-M1500-104SU	ZSHTT-M08-M1500-114SU
1,800	16	M6 x 1.00	12	ZSHTT-M08-M1800-303SU	ZSHTT-M08-M1800-316SU	ZSHTT-M08-M1800-104SU	ZSHTT-M08-M1800-114SU

10mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Threads Size	Threads Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	20	M8 x 1	15	ZSHTT-M10-M0300-303SU	ZSHTT-M10-M0300-316SU	ZSHTT-M10-M0300-104SU	ZSHTT-M10-M0300-114SU
500	20	M8 x 1	15	ZSHTT-M10-M0500-303SU	ZSHTT-M10-M0500-316SU	ZSHTT-M10-M0500-104SU	ZSHTT-M10-M0500-114SU
1,000	20	M8 x 1	15	ZSHTT-M10-M1000-303SU	ZSHTT-M10-M1000-316SU	ZSHTT-M10-M1000-104SU	ZSHTT-M10-M1000-114SU
1,200	20	M8 x 1	15	ZSHTT-M10-M1200-303SU	ZSHTT-M10-M1200-316SU	ZSHTT-M10-M1200-104SU	ZSHTT-M10-M1200-114SU
1,500	20	M8 x 1	15	ZSHTT-M10-M1500-303SU	ZSHTT-M10-M1500-316SU	ZSHTT-M10-M1500-104SU	ZSHTT-M10-M1500-114SU
1,800	20	M8 x 1	15	ZSHTT-M10-M1800-303SU	ZSHTT-M10-M1800-316SU	ZSHTT-M10-M1800-104SU	ZSHTT-M10-M1800-114SU

12mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Threads Size	Threads Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	24	M10 x 1.25	20	ZSHTT-M12-M0300-303SU	ZSHTT-M12-M0300-316SU	ZSHTT-M12-M0300-104SU	ZSHTT-M12-M0300-114SU
500	24	M10 x 1.25	20	ZSHTT-M12-M0500-303SU	ZSHTT-M12-M0500-316SU	ZSHTT-M12-M0500-104SU	ZSHTT-M12-M0500-114SU
1,000	24	M10 x 1.25	20	ZSHTT-M12-M1000-303SU	ZSHTT-M12-M1000-316SU	ZSHTT-M12-M1000-104SU	ZSHTT-M12-M1000-114SU
1,200	24	M10 x 1.25	20	ZSHTT-M12-M1200-303SU	ZSHTT-M12-M1200-316SU	ZSHTT-M12-M1200-104SU	ZSHTT-M12-M1200-114SU
1,500	24	M10 x 1.25	20	ZSHTT-M12-M1500-303SU	ZSHTT-M12-M1500-316SU	ZSHTT-M12-M1500-104SU	ZSHTT-M12-M1500-114SU
1,800	24	M10 x 1.25	20	ZSHTT-M12-M1800-303SU	ZSHTT-M12-M1800-316SU	ZSHTT-M12-M1800-104SU	ZSHTT-M12-M1800-114SU

15mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Threads Size	Threads Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	30	M12 x 1.25	20	ZSHTT-M15-M0300-303SU	ZSHTT-M15-M0300-316SU	ZSHTT-M15-M0300-104SU	ZSHTT-M15-M0300-114SU
500	30	M12 x 1.25	20	ZSHTT-M15-M0500-303SU	ZSHTT-M15-M0500-316SU	ZSHTT-M15-M0500-104SU	ZSHTT-M15-M0500-114SU
1,000	30	M12 x 1.25	20	ZSHTT-M15-M1000-303SU	ZSHTT-M15-M1000-316SU	ZSHTT-M15-M1000-104SU	ZSHTT-M15-M1000-114SU
1,200	30	M12 x 1.25	20	ZSHTT-M15-M1200-303SU	ZSHTT-M15-M1200-316SU	ZSHTT-M15-M1200-104SU	ZSHTT-M15-M1200-114SU
1,500	30	M12 x 1.25	20	ZSHTT-M15-M1500-303SU	ZSHTT-M15-M1500-316SU	ZSHTT-M15-M1500-104SU	ZSHTT-M15-M1500-114SU
1,800	30	M12 x 1.25	20	ZSHTT-M15-M1800-303SU	ZSHTT-M15-M1800-316SU	ZSHTT-M15-M1800-104SU	ZSHTT-M15-M1800-114SU

Threaded Stud Rotary Shaft Both Ends — Metric



20mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Threads Size	Threads Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	40	M16 x 1.5	25	ZSHTT-M20-M0300-303SU	ZSHTT-M20-M0300-316SU	ZSHTT-M20-M0300-104SU	ZSHTT-M20-M0300-114SU
500	40	M16 x 1.5	25	ZSHTT-M20-M0500-303SU	ZSHTT-M20-M0500-316SU	ZSHTT-M20-M0500-104SU	ZSHTT-M20-M0500-114SU
1,000	40	M16 x 1.5	25	ZSHTT-M20-M1000-303SU	ZSHTT-M20-M1000-316SU	ZSHTT-M20-M1000-104SU	ZSHTT-M20-M1000-114SU
1,200	40	M16 x 1.5	25	ZSHTT-M20-M1200-303SU	ZSHTT-M20-M1200-316SU	ZSHTT-M20-M1200-104SU	ZSHTT-M20-M1200-114SU
1,500	40	M16 x 1.5	25	ZSHTT-M20-M1500-303SU	ZSHTT-M20-M1500-316SU	ZSHTT-M20-M1500-104SU	ZSHTT-M20-M1500-114SU
1,800	40	M16 x 1.5	25	ZSHTT-M20-M1800-303SU	ZSHTT-M20-M1800-316SU	ZSHTT-M20-M1800-104SU	ZSHTT-M20-M1800-114SU

24mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Threads Size	Threads Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	45	M20 x 1.50	30	ZSHTT-M24-M0300-303SU	ZSHTT-M24-M0300-316SU	ZSHTT-M24-M0300-104SU	ZSHTT-M24-M0300-114SU
500	45	M20 x 1.50	30	ZSHTT-M24-M0500-303SU	ZSHTT-M24-M0500-316SU	ZSHTT-M24-M0500-104SU	ZSHTT-M24-M0500-114SU
1,000	45	M20 x 1.50	30	ZSHTT-M24-M1000-303SU	ZSHTT-M24-M1000-316SU	ZSHTT-M24-M1000-104SU	ZSHTT-M24-M1000-114SU
1,200	45	M20 x 1.50	30	ZSHTT-M24-M1200-303SU	ZSHTT-M24-M1200-316SU	ZSHTT-M24-M1200-104SU	ZSHTT-M24-M1200-114SU
1,500	45	M20 x 1.50	30	ZSHTT-M24-M1500-303SU	ZSHTT-M24-M1500-316SU	ZSHTT-M24-M1500-104SU	ZSHTT-M24-M1500-114SU
1,800	45	M20 x 1.50	30	ZSHTT-M24-M1800-303SU	ZSHTT-M24-M1800-316SU	ZSHTT-M24-M1800-104SU	ZSHTT-M24-M1800-114SU

25mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Stud Length	Threads Size	Threads Length	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	45	M20 x 1.50	30	ZSHTT-M25-M0300-303SU	ZSHTT-M25-M0300-316SU	ZSHTT-M25-M0300-104SU	ZSHTT-M25-M0300-114SU
500	45	M20 x 1.50	30	ZSHTT-M25-M0500-303SU	ZSHTT-M25-M0500-316SU	ZSHTT-M25-M0500-104SU	ZSHTT-M25-M0500-114SU
1,000	45	M20 x 1.50	30	ZSHTT-M25-M1000-303SU	ZSHTT-M25-M1000-316SU	ZSHTT-M25-M1000-104SU	ZSHTT-M25-M1000-114SU
1,200	45	M20 x 1.50	30	ZSHTT-M25-M1200-303SU	ZSHTT-M25-M1200-316SU	ZSHTT-M25-M1200-104SU	ZSHTT-M25-M1200-114SU
1,500	45	M20 x 1.50	30	ZSHTT-M25-M1500-303SU	ZSHTT-M25-M1500-316SU	ZSHTT-M25-M1500-104SU	ZSHTT-M25-M1500-114SU
1,800	45	M20 x 1.50	30	ZSHTT-M25-M1800-303SU	ZSHTT-M25-M1800-316SU	ZSHTT-M25-M1800-104SU	ZSHTT-M25-M1800-114SU

Step-Down Rotary Shafts — Inch

18-8 & 316 SS, Steel, Aluminum

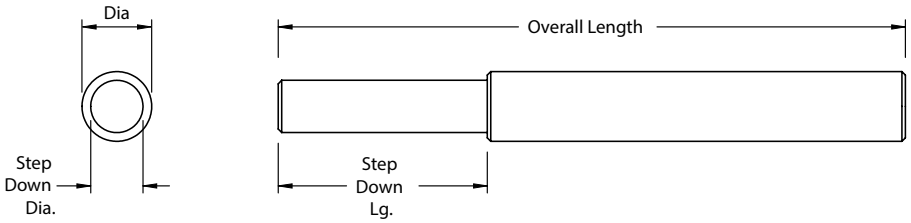
Product Information

A step-down rotary shaft is a type of shaft with a diameter that decreases along its length. This creates a shoulder on the shaft that can be used for various purposes. They are commonly used in machinery to provide a location for bearings, gears, or other components to be mounted. The step down reduces the need for separate collars or spacers, simplifying the design and potentially reducing weight. For instance, a step-down rotary shaft might be used in a gearbox to support a bearing that separates two gears of different sizes. Step-down rotary shafts can be found in a wide variety of applications, including gearboxes, pumps, and conveyor systems.

All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable. Length tolerance is +/-.062 and straightness tolerance is 0.012 in/ft.

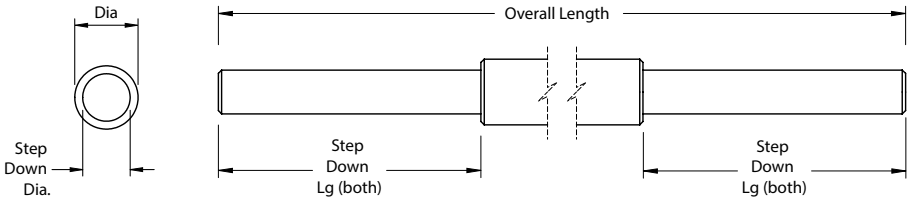
- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- Aluminum shafts have the strength of mild steel with one third the weight.
- Aluminum shafts are lightweight, corrosion resistant and nonmagnetic. They have a T4 temper, which means they have been heat treated for increased strength.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.

One End





Both Ends





Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic
2024 Aluminum	Ground & Polished	Chamfered	ASTM B211	B75	68,000	Nonmagnetic

Step-Down Rotary Shafts — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.250	1	ZSHS-312-03000-303SU	ZSHS-312-03000-316SU	ZSHS-312-03000-104SU	ZSHS-312-03000-114SU	ZSHS-312-03000-202SU
6	.250	3	ZSHS-312-06000-303SU	ZSHS-312-06000-316SU	ZSHS-312-06000-104SU	ZSHS-312-06000-114SU	ZSHS-312-06000-202SU
9	.250	3	ZSHS-312-09000-303SU	ZSHS-312-09000-316SU	ZSHS-312-09000-104SU	ZSHS-312-09000-114SU	ZSHS-312-09000-202SU
12	.250	3	ZSHS-312-12000-303SU	ZSHS-312-12000-316SU	ZSHS-312-12000-104SU	ZSHS-312-12000-114SU	ZSHS-312-12000-202SU
18	.250	3	ZSHS-312-18000-303SU	ZSHS-312-18000-316SU	ZSHS-312-18000-104SU	ZSHS-312-18000-114SU	ZSHS-312-18000-202SU
24	.250	3	ZSHS-312-24000-303SU	ZSHS-312-24000-316SU	ZSHS-312-24000-104SU	ZSHS-312-24000-114SU	ZSHS-312-24000-202SU
36	.250	3	ZSHS-312-36000-303SU	ZSHS-312-36000-316SU	ZSHS-312-36000-104SU	ZSHS-312-36000-114SU	ZSHS-312-36000-202SU
48	.250	3	ZSHS-312-48000-303SU	ZSHS-312-48000-316SU	ZSHS-312-48000-104SU	ZSHS-312-48000-114SU	ZSHS-312-48000-202SU
60	.250	3	ZSHS-312-60000-303SU	ZSHS-312-60000-316SU	ZSHS-312-60000-104SU	ZSHS-312-60000-114SU	ZSHS-312-60000-202SU
72	.250	3	ZSHS-312-72000-303SU	ZSHS-312-72000-316SU	ZSHS-312-72000-104SU	ZSHS-312-72000-114SU	ZSHS-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.250	1	ZSHS-375-03000-303SU	ZSHS-375-03000-316SU	ZSHS-375-03000-104SU	ZSHS-375-03000-114SU	ZSHS-375-03000-202SU
6	.250	3	ZSHS-375-06000-303SU	ZSHS-375-06000-316SU	ZSHS-375-06000-104SU	ZSHS-375-06000-114SU	ZSHS-375-06000-202SU
9	.250	3	ZSHS-375-09000-303SU	ZSHS-375-09000-316SU	ZSHS-375-09000-104SU	ZSHS-375-09000-114SU	ZSHS-375-09000-202SU
12	.250	3	ZSHS-375-12000-303SU	ZSHS-375-12000-316SU	ZSHS-375-12000-104SU	ZSHS-375-12000-114SU	ZSHS-375-12000-202SU
18	.250	3	ZSHS-375-18000-303SU	ZSHS-375-18000-316SU	ZSHS-375-18000-104SU	ZSHS-375-18000-114SU	ZSHS-375-18000-202SU
24	.250	3	ZSHS-375-24000-303SU	ZSHS-375-24000-316SU	ZSHS-375-24000-104SU	ZSHS-375-24000-114SU	ZSHS-375-24000-202SU
36	.250	3	ZSHS-375-36000-303SU	ZSHS-375-36000-316SU	ZSHS-375-36000-104SU	ZSHS-375-36000-114SU	ZSHS-375-36000-202SU
48	.250	3	ZSHS-375-48000-303SU	ZSHS-375-48000-316SU	ZSHS-375-48000-104SU	ZSHS-375-48000-114SU	ZSHS-375-48000-202SU
60	.250	3	ZSHS-375-60000-303SU	ZSHS-375-60000-316SU	ZSHS-375-60000-104SU	ZSHS-375-60000-114SU	ZSHS-375-60000-202SU
72	.250	3	ZSHS-375-72000-303SU	ZSHS-375-72000-316SU	ZSHS-375-72000-104SU	ZSHS-375-72000-114SU	ZSHS-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.375	1	ZSHS-500-03000-303SU	ZSHS-500-03000-316SU	ZSHS-500-03000-104SU	ZSHS-500-03000-114SU	ZSHS-500-03000-202SU
6	.375	3	ZSHS-500-06000-303SU	ZSHS-500-06000-316SU	ZSHS-500-06000-104SU	ZSHS-500-06000-114SU	ZSHS-500-06000-202SU
9	.375	3	ZSHS-500-09000-303SU	ZSHS-500-09000-316SU	ZSHS-500-09000-104SU	ZSHS-500-09000-114SU	ZSHS-500-09000-202SU
12	.375	3	ZSHS-500-12000-303SU	ZSHS-500-12000-316SU	ZSHS-500-12000-104SU	ZSHS-500-12000-114SU	ZSHS-500-12000-202SU
18	.375	3	ZSHS-500-18000-303SU	ZSHS-500-18000-316SU	ZSHS-500-18000-104SU	ZSHS-500-18000-114SU	ZSHS-500-18000-202SU
24	.375	3	ZSHS-500-24000-303SU	ZSHS-500-24000-316SU	ZSHS-500-24000-104SU	ZSHS-500-24000-114SU	ZSHS-500-24000-202SU
36	.375	3	ZSHS-500-36000-303SU	ZSHS-500-36000-316SU	ZSHS-500-36000-104SU	ZSHS-500-36000-114SU	ZSHS-500-36000-202SU
48	.375	3	ZSHS-500-48000-303SU	ZSHS-500-48000-316SU	ZSHS-500-48000-104SU	ZSHS-500-48000-114SU	ZSHS-500-48000-202SU
60	.375	3	ZSHS-500-60000-303SU	ZSHS-500-60000-316SU	ZSHS-500-60000-104SU	ZSHS-500-60000-114SU	ZSHS-500-60000-202SU
72	.375	3	ZSHS-500-72000-303SU	ZSHS-500-72000-316SU	ZSHS-500-72000-104SU	ZSHS-500-72000-114SU	ZSHS-500-72000-202SU

Step-Down Rotary Shafts — Inch



5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.375	1	ZSHS-625-03000-303SU	ZSHS-625-03000-316SU	ZSHS-625-03000-104SU	ZSHS-625-03000-114SU	ZSHS-625-03000-202SU
6	.375	3	ZSHS-625-06000-303SU	ZSHS-625-06000-316SU	ZSHS-625-06000-104SU	ZSHS-625-06000-114SU	ZSHS-625-06000-202SU
9	.375	3	ZSHS-625-09000-303SU	ZSHS-625-09000-316SU	ZSHS-625-09000-104SU	ZSHS-625-09000-114SU	ZSHS-625-09000-202SU
12	.375	3	ZSHS-625-12000-303SU	ZSHS-625-12000-316SU	ZSHS-625-12000-104SU	ZSHS-625-12000-114SU	ZSHS-625-12000-202SU
18	.375	3	ZSHS-625-18000-303SU	ZSHS-625-18000-316SU	ZSHS-625-18000-104SU	ZSHS-625-18000-114SU	ZSHS-625-18000-202SU
24	.375	3	ZSHS-625-24000-303SU	ZSHS-625-24000-316SU	ZSHS-625-24000-104SU	ZSHS-625-24000-114SU	ZSHS-625-24000-202SU
36	.375	3	ZSHS-625-36000-303SU	ZSHS-625-36000-316SU	ZSHS-625-36000-104SU	ZSHS-625-36000-114SU	ZSHS-625-36000-202SU
48	.375	3	ZSHS-625-48000-303SU	ZSHS-625-48000-316SU	ZSHS-625-48000-104SU	ZSHS-625-48000-114SU	ZSHS-625-48000-202SU
60	.375	3	ZSHS-625-60000-303SU	ZSHS-625-60000-316SU	ZSHS-625-60000-104SU	ZSHS-625-60000-114SU	ZSHS-625-60000-202SU
72	.375	3	ZSHS-625-72000-303SU	ZSHS-625-72000-316SU	ZSHS-625-72000-104SU	ZSHS-625-72000-114SU	ZSHS-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.5	1	ZSHS-750-03000-303SU	ZSHS-750-03000-316SU	ZSHS-750-03000-104SU	ZSHS-750-03000-114SU	ZSHS-750-03000-202SU
6	.5	3	ZSHS-750-06000-303SU	ZSHS-750-06000-316SU	ZSHS-750-06000-104SU	ZSHS-750-06000-114SU	ZSHS-750-06000-202SU
9	.5	3	ZSHS-750-09000-303SU	ZSHS-750-09000-316SU	ZSHS-750-09000-104SU	ZSHS-750-09000-114SU	ZSHS-750-09000-202SU
12	.5	3	ZSHS-750-12000-303SU	ZSHS-750-12000-316SU	ZSHS-750-12000-104SU	ZSHS-750-12000-114SU	ZSHS-750-12000-202SU
18	.5	3	ZSHS-750-18000-303SU	ZSHS-750-18000-316SU	ZSHS-750-18000-104SU	ZSHS-750-18000-114SU	ZSHS-750-18000-202SU
24	.5	3	ZSHS-750-24000-303SU	ZSHS-750-24000-316SU	ZSHS-750-24000-104SU	ZSHS-750-24000-114SU	ZSHS-750-24000-202SU
36	.5	3	ZSHS-750-36000-303SU	ZSHS-750-36000-316SU	ZSHS-750-36000-104SU	ZSHS-750-36000-114SU	ZSHS-750-36000-202SU
48	.5	3	ZSHS-750-48000-303SU	ZSHS-750-48000-316SU	ZSHS-750-48000-104SU	ZSHS-750-48000-114SU	ZSHS-750-48000-202SU
60	.5	3	ZSHS-750-60000-303SU	ZSHS-750-60000-316SU	ZSHS-750-60000-104SU	ZSHS-750-60000-114SU	ZSHS-750-60000-202SU
72	.5	3	ZSHS-750-72000-303SU	ZSHS-750-72000-316SU	ZSHS-750-72000-104SU	ZSHS-750-72000-114SU	ZSHS-750-72000-202SU

7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.625	1	ZSHS-875-03000-303SU	ZSHS-875-03000-316SU	ZSHS-875-03000-104SU	ZSHS-875-03000-114SU	ZSHS-875-03000-202SU
6	.625	3	ZSHS-875-06000-303SU	ZSHS-875-06000-316SU	ZSHS-875-06000-104SU	ZSHS-875-06000-114SU	ZSHS-875-06000-202SU
9	.625	3	ZSHS-875-09000-303SU	ZSHS-875-09000-316SU	ZSHS-875-09000-104SU	ZSHS-875-09000-114SU	ZSHS-875-09000-202SU
12	.625	3	ZSHS-875-12000-303SU	ZSHS-875-12000-316SU	ZSHS-875-12000-104SU	ZSHS-875-12000-114SU	ZSHS-875-12000-202SU
18	.625	3	ZSHS-875-18000-303SU	ZSHS-875-18000-316SU	ZSHS-875-18000-104SU	ZSHS-875-18000-114SU	ZSHS-875-18000-202SU
24	.625	3	ZSHS-875-24000-303SU	ZSHS-875-24000-316SU	ZSHS-875-24000-104SU	ZSHS-875-24000-114SU	ZSHS-875-24000-202SU
36	.625	3	ZSHS-875-36000-303SU	ZSHS-875-36000-316SU	ZSHS-875-36000-104SU	ZSHS-875-36000-114SU	ZSHS-875-36000-202SU
48	.625	3	ZSHS-875-48000-303SU	ZSHS-875-48000-316SU	ZSHS-875-48000-104SU	ZSHS-875-48000-114SU	ZSHS-875-48000-202SU
60	.625	3	ZSHS-875-60000-303SU	ZSHS-875-60000-316SU	ZSHS-875-60000-104SU	ZSHS-875-60000-114SU	ZSHS-875-60000-202SU
72	.625	3	ZSHS-875-72000-303SU	ZSHS-875-72000-316SU	ZSHS-875-72000-104SU	ZSHS-875-72000-114SU	ZSHS-875-72000-202SU

Step-Down Rotary Shafts — Inch



15/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.750	1	–	–	ZSHS-937-03000-104SU	–	–
6	.750	3	–	–	ZSHS-937-06000-104SU	–	–
9	.750	3	–	–	ZSHS-937-09000-104SU	–	–
12	.750	3	–	–	ZSHS-937-12000-104SU	–	–
18	.750	3	–	–	ZSHS-937-18000-104SU	–	–
24	.750	3	–	–	ZSHS-937-24000-104SU	–	–
36	.750	3	–	–	ZSHS-937-36000-104SU	–	–
48	.750	3	–	–	ZSHS-937-48000-104SU	–	–
60	.750	3	–	–	ZSHS-937-60000-104SU	–	–
72	.750	3	–	–	ZSHS-937-72000-104SU	–	–

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.750	1	ZSHS-1000-03000-303SU	ZSHS-1000-03000-316SU	ZSHS-1000-03000-104SU	ZSHS-1000-03000-114SU	ZSHS-1000-03000-202SU
6	.750	3	ZSHS-1000-06000-303SU	ZSHS-1000-06000-316SU	ZSHS-1000-06000-104SU	ZSHS-1000-06000-114SU	ZSHS-1000-06000-202SU
9	.750	3	ZSHS-1000-09000-303SU	ZSHS-1000-09000-316SU	ZSHS-1000-09000-104SU	ZSHS-1000-09000-114SU	ZSHS-1000-09000-202SU
12	.750	3	ZSHS-1000-12000-303SU	ZSHS-1000-12000-316SU	ZSHS-1000-12000-104SU	ZSHS-1000-12000-114SU	ZSHS-1000-12000-202SU
18	.750	3	ZSHS-1000-18000-303SU	ZSHS-1000-18000-316SU	ZSHS-1000-18000-104SU	ZSHS-1000-18000-114SU	ZSHS-1000-18000-202SU
24	.750	3	ZSHS-1000-24000-303SU	ZSHS-1000-24000-316SU	ZSHS-1000-24000-104SU	ZSHS-1000-24000-114SU	ZSHS-1000-24000-202SU
36	.750	3	ZSHS-1000-36000-303SU	ZSHS-1000-36000-316SU	ZSHS-1000-36000-104SU	ZSHS-1000-36000-114SU	ZSHS-1000-36000-202SU
48	.750	3	ZSHS-1000-48000-303SU	ZSHS-1000-48000-316SU	ZSHS-1000-48000-104SU	ZSHS-1000-48000-114SU	ZSHS-1000-48000-202SU
60	.750	3	ZSHS-1000-60000-303SU	ZSHS-1000-60000-316SU	ZSHS-1000-60000-104SU	ZSHS-1000-60000-114SU	ZSHS-1000-60000-202SU
72	.750	3	ZSHS-1000-72000-303SU	ZSHS-1000-72000-316SU	ZSHS-1000-72000-104SU	ZSHS-1000-72000-114SU	ZSHS-1000-72000-202SU

Both Ends Step-Down Rotary Shafts — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.250	.750	ZSHSS-312-03000-303SU	ZSHSS-312-03000-316SU	ZSHSS-312-03000-104SU	ZSHSS-312-03000-114SU	ZSHSS-312-03000-202SU
6	.250	1.00	ZSHSS-312-06000-303SU	ZSHSS-312-06000-316SU	ZSHSS-312-06000-104SU	ZSHSS-312-06000-114SU	ZSHSS-312-06000-202SU
9	.250	1.50	ZSHSS-312-09000-303SU	ZSHSS-312-09000-316SU	ZSHSS-312-09000-104SU	ZSHSS-312-09000-114SU	ZSHSS-312-09000-202SU
12	.250	3.00	ZSHSS-312-12000-303SU	ZSHSS-312-12000-316SU	ZSHSS-312-12000-104SU	ZSHSS-312-12000-114SU	ZSHSS-312-12000-202SU
18	.250	3.00	ZSHSS-312-18000-303SU	ZSHSS-312-18000-316SU	ZSHSS-312-18000-104SU	ZSHSS-312-18000-114SU	ZSHSS-312-18000-202SU
24	.250	3.00	ZSHSS-312-24000-303SU	ZSHSS-312-24000-316SU	ZSHSS-312-24000-104SU	ZSHSS-312-24000-114SU	ZSHSS-312-24000-202SU
36	.250	3.00	ZSHSS-312-36000-303SU	ZSHSS-312-36000-316SU	ZSHSS-312-36000-104SU	ZSHSS-312-36000-114SU	ZSHSS-312-36000-202SU
48	.250	3.00	ZSHSS-312-48000-303SU	ZSHSS-312-48000-316SU	ZSHSS-312-48000-104SU	ZSHSS-312-48000-114SU	ZSHSS-312-48000-202SU
60	.250	3.00	ZSHSS-312-60000-303SU	ZSHSS-312-60000-316SU	ZSHSS-312-60000-104SU	ZSHSS-312-60000-114SU	ZSHSS-312-60000-202SU
72	.250	3.00	ZSHSS-312-72000-303SU	ZSHSS-312-72000-316SU	ZSHSS-312-72000-104SU	ZSHSS-312-72000-114SU	ZSHSS-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.250	.750	ZSHSS-375-03000-303SU	ZSHSS-375-03000-316SU	ZSHSS-375-03000-104SU	ZSHSS-375-03000-114SU	ZSHSS-375-03000-202SU
6	.250	1.00	ZSHSS-375-06000-303SU	ZSHSS-375-06000-316SU	ZSHSS-375-06000-104SU	ZSHSS-375-06000-114SU	ZSHSS-375-06000-202SU
9	.250	1.50	ZSHSS-375-09000-303SU	ZSHSS-375-09000-316SU	ZSHSS-375-09000-104SU	ZSHSS-375-09000-114SU	ZSHSS-375-09000-202SU
12	.250	3.00	ZSHSS-375-12000-303SU	ZSHSS-375-12000-316SU	ZSHSS-375-12000-104SU	ZSHSS-375-12000-114SU	ZSHSS-375-12000-202SU
18	.250	3.00	ZSHSS-375-18000-303SU	ZSHSS-375-18000-316SU	ZSHSS-375-18000-104SU	ZSHSS-375-18000-114SU	ZSHSS-375-18000-202SU
24	.250	3.00	ZSHSS-375-24000-303SU	ZSHSS-375-24000-316SU	ZSHSS-375-24000-104SU	ZSHSS-375-24000-114SU	ZSHSS-375-24000-202SU
36	.250	3.00	ZSHSS-375-36000-303SU	ZSHSS-375-36000-316SU	ZSHSS-375-36000-104SU	ZSHSS-375-36000-114SU	ZSHSS-375-36000-202SU
48	.250	3.00	ZSHSS-375-48000-303SU	ZSHSS-375-48000-316SU	ZSHSS-375-48000-104SU	ZSHSS-375-48000-114SU	ZSHSS-375-48000-202SU
60	.250	3.00	ZSHSS-375-60000-303SU	ZSHSS-375-60000-316SU	ZSHSS-375-60000-104SU	ZSHSS-375-60000-114SU	ZSHSS-375-60000-202SU
72	.250	3.00	ZSHSS-375-72000-303SU	ZSHSS-375-72000-316SU	ZSHSS-375-72000-104SU	ZSHSS-375-72000-114SU	ZSHSS-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.375	.750	ZSHSS-500-03000-303SU	ZSHSS-500-03000-316SU	ZSHSS-500-03000-104SU	ZSHSS-500-03000-114SU	ZSHSS-500-03000-202SU
6	.375	1.00	ZSHSS-500-06000-303SU	ZSHSS-500-06000-316SU	ZSHSS-500-06000-104SU	ZSHSS-500-06000-114SU	ZSHSS-500-06000-202SU
9	.375	1.50	ZSHSS-500-09000-303SU	ZSHSS-500-09000-316SU	ZSHSS-500-09000-104SU	ZSHSS-500-09000-114SU	ZSHSS-500-09000-202SU
12	.375	3.00	ZSHSS-500-12000-303SU	ZSHSS-500-12000-316SU	ZSHSS-500-12000-104SU	ZSHSS-500-12000-114SU	ZSHSS-500-12000-202SU
18	.375	3.00	ZSHSS-500-18000-303SU	ZSHSS-500-18000-316SU	ZSHSS-500-18000-104SU	ZSHSS-500-18000-114SU	ZSHSS-500-18000-202SU
24	.375	3.00	ZSHSS-500-24000-303SU	ZSHSS-500-24000-316SU	ZSHSS-500-24000-104SU	ZSHSS-500-24000-114SU	ZSHSS-500-24000-202SU
36	.375	3.00	ZSHSS-500-36000-303SU	ZSHSS-500-36000-316SU	ZSHSS-500-36000-104SU	ZSHSS-500-36000-114SU	ZSHSS-500-36000-202SU
48	.375	3.00	ZSHSS-500-48000-303SU	ZSHSS-500-48000-316SU	ZSHSS-500-48000-104SU	ZSHSS-500-48000-114SU	ZSHSS-500-48000-202SU
60	.375	3.00	ZSHSS-500-60000-303SU	ZSHSS-500-60000-316SU	ZSHSS-500-60000-104SU	ZSHSS-500-60000-114SU	ZSHSS-500-60000-202SU
72	.375	3.00	ZSHSS-500-72000-303SU	ZSHSS-500-72000-316SU	ZSHSS-500-72000-104SU	ZSHSS-500-72000-114SU	ZSHSS-500-72000-202SU

Both Ends Step-Down Rotary Shafts — Inch



5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.375	.750	ZSHSS-625-03000-303SU	ZSHSS-625-03000-316SU	ZSHSS-625-03000-104SU	ZSHSS-625-03000-114SU	ZSHSS-625-03000-202SU
6	.375	1.00	ZSHSS-625-06000-303SU	ZSHSS-625-06000-316SU	ZSHSS-625-06000-104SU	ZSHSS-625-06000-114SU	ZSHSS-625-06000-202SU
9	.375	1.50	ZSHSS-625-09000-303SU	ZSHSS-625-09000-316SU	ZSHSS-625-09000-104SU	ZSHSS-625-09000-114SU	ZSHSS-625-09000-202SU
12	.375	3.00	ZSHSS-625-12000-303SU	ZSHSS-625-12000-316SU	ZSHSS-625-12000-104SU	ZSHSS-625-12000-114SU	ZSHSS-625-12000-202SU
18	.375	3.00	ZSHSS-625-18000-303SU	ZSHSS-625-18000-316SU	ZSHSS-625-18000-104SU	ZSHSS-625-18000-114SU	ZSHSS-625-18000-202SU
24	.375	3.00	ZSHSS-625-24000-303SU	ZSHSS-625-24000-316SU	ZSHSS-625-24000-104SU	ZSHSS-625-24000-114SU	ZSHSS-625-24000-202SU
36	.375	3.00	ZSHSS-625-36000-303SU	ZSHSS-625-36000-316SU	ZSHSS-625-36000-104SU	ZSHSS-625-36000-114SU	ZSHSS-625-36000-202SU
48	.375	3.00	ZSHSS-625-48000-303SU	ZSHSS-625-48000-316SU	ZSHSS-625-48000-104SU	ZSHSS-625-48000-114SU	ZSHSS-625-48000-202SU
60	.375	3.00	ZSHSS-625-60000-303SU	ZSHSS-625-60000-316SU	ZSHSS-625-60000-104SU	ZSHSS-625-60000-114SU	ZSHSS-625-60000-202SU
72	.375	3.00	ZSHSS-625-72000-303SU	ZSHSS-625-72000-316SU	ZSHSS-625-72000-104SU	ZSHSS-625-72000-114SU	ZSHSS-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.5	.750	ZSHSS-750-03000-303SU	ZSHSS-750-03000-316SU	ZSHSS-750-03000-104SU	ZSHSS-750-03000-114SU	ZSHSS-750-03000-202SU
6	.5	1.00	ZSHSS-750-06000-303SU	ZSHSS-750-06000-316SU	ZSHSS-750-06000-104SU	ZSHSS-750-06000-114SU	ZSHSS-750-06000-202SU
9	.5	1.50	ZSHSS-750-09000-303SU	ZSHSS-750-09000-316SU	ZSHSS-750-09000-104SU	ZSHSS-750-09000-114SU	ZSHSS-750-09000-202SU
12	.5	3.00	ZSHSS-750-12000-303SU	ZSHSS-750-12000-316SU	ZSHSS-750-12000-104SU	ZSHSS-750-12000-114SU	ZSHSS-750-12000-202SU
18	.5	3.00	ZSHSS-750-18000-303SU	ZSHSS-750-18000-316SU	ZSHSS-750-18000-104SU	ZSHSS-750-18000-114SU	ZSHSS-750-18000-202SU
24	.5	3.00	ZSHSS-750-24000-303SU	ZSHSS-750-24000-316SU	ZSHSS-750-24000-104SU	ZSHSS-750-24000-114SU	ZSHSS-750-24000-202SU
36	.5	3.00	ZSHSS-750-36000-303SU	ZSHSS-750-36000-316SU	ZSHSS-750-36000-104SU	ZSHSS-750-36000-114SU	ZSHSS-750-36000-202SU
48	.5	3.00	ZSHSS-750-48000-303SU	ZSHSS-750-48000-316SU	ZSHSS-750-48000-104SU	ZSHSS-750-48000-114SU	ZSHSS-750-48000-202SU
60	.5	3.00	ZSHSS-750-60000-303SU	ZSHSS-750-60000-316SU	ZSHSS-750-60000-104SU	ZSHSS-750-60000-114SU	ZSHSS-750-60000-202SU
72	.5	3.00	ZSHSS-750-72000-303SU	ZSHSS-750-72000-316SU	ZSHSS-750-72000-104SU	ZSHSS-750-72000-114SU	ZSHSS-750-72000-202SU

7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.625	.750	ZSHSS-875-03000-303SU	ZSHSS-875-03000-316SU	ZSHSS-875-03000-104SU	ZSHSS-875-03000-114SU	ZSHSS-875-03000-202SU
6	.625	1.00	ZSHSS-875-06000-303SU	ZSHSS-875-06000-316SU	ZSHSS-875-06000-104SU	ZSHSS-875-06000-114SU	ZSHSS-875-06000-202SU
9	.625	1.50	ZSHSS-875-09000-303SU	ZSHSS-875-09000-316SU	ZSHSS-875-09000-104SU	ZSHSS-875-09000-114SU	ZSHSS-875-09000-202SU
12	.625	3.00	ZSHSS-875-12000-303SU	ZSHSS-875-12000-316SU	ZSHSS-875-12000-104SU	ZSHSS-875-12000-114SU	ZSHSS-875-12000-202SU
18	.625	3.00	ZSHSS-875-18000-303SU	ZSHSS-875-18000-316SU	ZSHSS-875-18000-104SU	ZSHSS-875-18000-114SU	ZSHSS-875-18000-202SU
24	.625	3.00	ZSHSS-875-24000-303SU	ZSHSS-875-24000-316SU	ZSHSS-875-24000-104SU	ZSHSS-875-24000-114SU	ZSHSS-875-24000-202SU
36	.625	3.00	ZSHSS-875-36000-303SU	ZSHSS-875-36000-316SU	ZSHSS-875-36000-104SU	ZSHSS-875-36000-114SU	ZSHSS-875-36000-202SU
48	.625	3.00	ZSHSS-875-48000-303SU	ZSHSS-875-48000-316SU	ZSHSS-875-48000-104SU	ZSHSS-875-48000-114SU	ZSHSS-875-48000-202SU
60	.625	3.00	ZSHSS-875-60000-303SU	ZSHSS-875-60000-316SU	ZSHSS-875-60000-104SU	ZSHSS-875-60000-114SU	ZSHSS-875-60000-202SU
72	.625	3.00	ZSHSS-875-72000-303SU	ZSHSS-875-72000-316SU	ZSHSS-875-72000-104SU	ZSHSS-875-72000-114SU	ZSHSS-875-72000-202SU

Both Ends Step-Down Rotary Shafts — Inch



15/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.625	.750	—	—	ZSHSS-937-03000-104SU	—	—
6	.625	1.00	—	—	ZSHSS-937-06000-104SU	—	—
9	.625	1.50	—	—	ZSHSS-937-09000-104SU	—	—
12	.625	3.00	—	—	ZSHSS-937-12000-104SU	—	—
18	.625	3.00	—	—	ZSHSS-937-18000-104SU	—	—
24	.625	3.00	—	—	ZSHSS-937-24000-104SU	—	—
36	.625	3.00	—	—	ZSHSS-937-36000-104SU	—	—
48	.625	3.00	—	—	ZSHSS-937-48000-104SU	—	—
60	.625	3.00	—	—	ZSHSS-937-60000-104SU	—	—
72	.625	3.00	—	—	ZSHSS-937-72000-104SU	—	—

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	Step Down Dia	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	.750	.750	ZSHSS-1000-03000-303SU	ZSHSS-1000-03000-316SU	ZSHSS-1000-03000-104SU	ZSHSS-1000-03000-114SU	ZSHSS-1000-03000-202SU
6	.750	1.00	ZSHSS-1000-06000-303SU	ZSHSS-1000-06000-316SU	ZSHSS-1000-06000-104SU	ZSHSS-1000-06000-114SU	ZSHSS-1000-06000-202SU
9	.750	1.50	ZSHSS-1000-09000-303SU	ZSHSS-1000-09000-316SU	ZSHSS-1000-09000-104SU	ZSHSS-1000-09000-114SU	ZSHSS-1000-09000-202SU
12	.750	3.00	ZSHSS-1000-12000-303SU	ZSHSS-1000-12000-316SU	ZSHSS-1000-12000-104SU	ZSHSS-1000-12000-114SU	ZSHSS-1000-12000-202SU
18	.750	3.00	ZSHSS-1000-18000-303SU	ZSHSS-1000-18000-316SU	ZSHSS-1000-18000-104SU	ZSHSS-1000-18000-114SU	ZSHSS-1000-18000-202SU
24	.750	3.00	ZSHSS-1000-24000-303SU	ZSHSS-1000-24000-316SU	ZSHSS-1000-24000-104SU	ZSHSS-1000-24000-114SU	ZSHSS-1000-24000-202SU
36	.750	3.00	ZSHSS-1000-36000-303SU	ZSHSS-1000-36000-316SU	ZSHSS-1000-36000-104SU	ZSHSS-1000-36000-114SU	ZSHSS-1000-36000-202SU
48	.750	3.00	ZSHSS-1000-48000-303SU	ZSHSS-1000-48000-316SU	ZSHSS-1000-48000-104SU	ZSHSS-1000-48000-114SU	ZSHSS-1000-48000-202SU
60	.750	3.00	ZSHSS-1000-60000-303SU	ZSHSS-1000-60000-316SU	ZSHSS-1000-60000-104SU	ZSHSS-1000-60000-114SU	ZSHSS-1000-60000-202SU
72	.750	3.00	ZSHSS-1000-72000-303SU	ZSHSS-1000-72000-316SU	ZSHSS-1000-72000-104SU	ZSHSS-1000-72000-114SU	ZSHSS-1000-72000-202SU

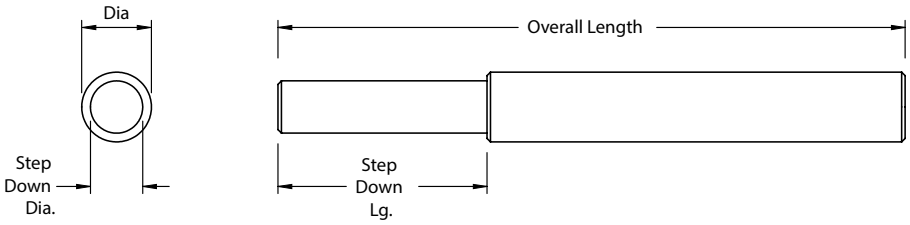
Step-Down Rotary Shafts — Metric

18-8 & 316 SS, Steel

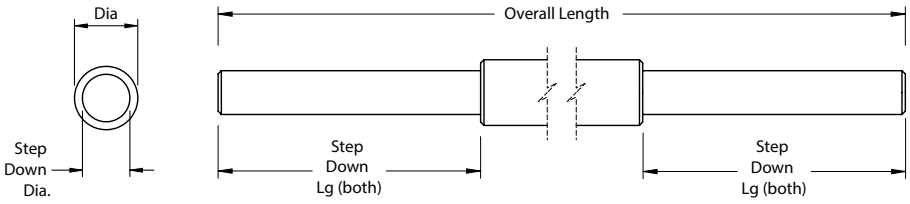
Product Information

A step-down rotary shaft is a type of shaft with a diameter that decreases along its length. This creates a shoulder on the shaft that can be used for various purposes. They are commonly used in machinery to provide a location for bearings, gears, or other components to be mounted. The step down reduces the need for separate collars or spacers, simplifying the design and potentially reducing weight. For instance, a step-down rotary shaft might be used in a gearbox to support a bearing that separates two gears of different sizes. Step-down rotary shafts can be found in a wide variety of applications, including gearboxes, pumps, and conveyor systems. All shafts are made in the USA from DFARS compliant & RoHS compliant stainless steel and shafts are fully lot traceable.

- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.









Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic

One End Step-Down Rotary Shafts — Metric



8mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	6	75	ZSHS-M08-M0300-303SU	ZSHS-M08-M0300-316SU	ZSHS-M08-M0300-104SU	ZSHS-M08-M0300-114SU
500	6	75	ZSHS-M08-M0500-303SU	ZSHS-M08-M0500-316SU	ZSHS-M08-M0500-104SU	ZSHS-M08-M0500-114SU
1,000	6	75	ZSHS-M08-M1000-303SU	ZSHS-M08-M1000-316SU	ZSHS-M08-M1000-104SU	ZSHS-M08-M1000-114SU
1,200	6	75	ZSHS-M08-M1200-303SU	ZSHS-M08-M1200-316SU	ZSHS-M08-M1200-104SU	ZSHS-M08-M1200-114SU
1,500	6	75	ZSHS-M08-M1500-303SU	ZSHS-M08-M1500-316SU	ZSHS-M08-M1500-104SU	ZSHS-M08-M1500-114SU
1,800	6	75	ZSHS-M08-M1800-303SU	ZSHS-M08-M1800-316SU	ZSHS-M08-M1800-104SU	ZSHS-M08-M1800-114SU

10mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	6	75	ZSHS-M10-M0300-303SU	ZSHS-M10-M0300-316SU	ZSHS-M10-M0300-104SU	ZSHS-M10-M0300-114SU
500	6	75	ZSHS-M10-M0500-303SU	ZSHS-M10-M0500-316SU	ZSHS-M10-M0500-104SU	ZSHS-M10-M0500-114SU
1,000	6	75	ZSHS-M10-M1000-303SU	ZSHS-M10-M1000-316SU	ZSHS-M10-M1000-104SU	ZSHS-M10-M1000-114SU
1,200	6	75	ZSHS-M10-M1200-303SU	ZSHS-M10-M1200-316SU	ZSHS-M10-M1200-104SU	ZSHS-M10-M1200-114SU
1,500	6	75	ZSHS-M10-M1500-303SU	ZSHS-M10-M1500-316SU	ZSHS-M10-M1500-104SU	ZSHS-M10-M1500-114SU
1,800	6	75	ZSHS-M10-M1800-303SU	ZSHS-M10-M1800-316SU	ZSHS-M10-M1800-104SU	ZSHS-M10-M1800-114SU

12mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	8	75	ZSHS-M12-M0300-303SU	ZSHS-M12-M0300-316SU	ZSHS-M12-M0300-104SU	ZSHS-M12-M0300-114SU
500	8	75	ZSHS-M12-M0500-303SU	ZSHS-M12-M0500-316SU	ZSHS-M12-M0500-104SU	ZSHS-M12-M0500-114SU
1,000	8	75	ZSHS-M12-M1000-303SU	ZSHS-M12-M1000-316SU	ZSHS-M12-M1000-104SU	ZSHS-M12-M1000-114SU
1,200	8	75	ZSHS-M12-M1200-303SU	ZSHS-M12-M1200-316SU	ZSHS-M12-M1200-104SU	ZSHS-M12-M1200-114SU
1,500	8	75	ZSHS-M12-M1500-303SU	ZSHS-M12-M1500-316SU	ZSHS-M12-M1500-104SU	ZSHS-M12-M1500-114SU
1,800	8	75	ZSHS-M12-M1800-303SU	ZSHS-M12-M1800-316SU	ZSHS-M12-M1800-104SU	ZSHS-M12-M1800-114SU

15mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm))	Step Down Diameter	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	10	75	ZSHS-M15-M0300-303SU	ZSHS-M15-M0300-316SU	ZSHS-M15-M0300-104SU	ZSHS-M15-M0300-114SU
500	10	75	ZSHS-M15-M0500-303SU	ZSHS-M15-M0500-316SU	ZSHS-M15-M0500-104SU	ZSHS-M15-M0500-114SU
1,000	10	75	ZSHS-M15-M1000-303SU	ZSHS-M15-M1000-316SU	ZSHS-M15-M1000-104SU	ZSHS-M15-M1000-114SU
1,200	10	75	ZSHS-M15-M1200-303SU	ZSHS-M15-M1200-316SU	ZSHS-M15-M1200-104SU	ZSHS-M15-M1200-114SU
1,500	10	75	ZSHS-M15-M1500-303SU	ZSHS-M15-M1500-316SU	ZSHS-M15-M1500-104SU	ZSHS-M15-M1500-114SU
1,800	10	75	ZSHS-M15-M1800-303SU	ZSHS-M15-M1800-316SU	ZSHS-M15-M1800-104SU	ZSHS-M15-M1800-114SU

One End Step-Down Rotary Shafts — Metric



20mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	12	75	ZSHS-M20-M0300-303SU	ZSHS-M20-M0300-316SU	ZSHS-M20-M0300-104SU	ZSHS-M20-M0300-114SU
500	12	75	ZSHS-M20-M0500-303SU	ZSHS-M20-M0500-316SU	ZSHS-M20-M0500-104SU	ZSHS-M20-M0500-114SU
1,000	12	75	ZSHS-M20-M1000-303SU	ZSHS-M20-M1000-316SU	ZSHS-M20-M1000-104SU	ZSHS-M20-M1000-114SU
1,200	12	75	ZSHS-M20-M1200-303SU	ZSHS-M20-M1200-316SU	ZSHS-M20-M1200-104SU	ZSHS-M20-M1200-114SU
1,500	12	75	ZSHS-M20-M1500-303SU	ZSHS-M20-M1500-316SU	ZSHS-M20-M1500-104SU	ZSHS-M20-M1500-114SU
1,800	12	75	ZSHS-M20-M1800-303SU	ZSHS-M20-M1800-316SU	ZSHS-M20-M1800-104SU	ZSHS-M20-M1800-114SU

24mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	16	75	ZSHS-M24-M0300-303SU	ZSHS-M24-M0300-316SU	ZSHS-M24-M0300-104SU	ZSHS-M24-M0300-114SU
500	16	75	ZSHS-M24-M0500-303SU	ZSHS-M24-M0500-316SU	ZSHS-M24-M0500-104SU	ZSHS-M24-M0500-114SU
1,000	16	75	ZSHS-M24-M1000-303SU	ZSHS-M24-M1000-316SU	ZSHS-M24-M1000-104SU	ZSHS-M24-M1000-114SU
1,200	16	75	ZSHS-M24-M1200-303SU	ZSHS-M24-M1200-316SU	ZSHS-M24-M1200-104SU	ZSHS-M24-M1200-114SU
1,500	16	75	ZSHS-M24-M1500-303SU	ZSHS-M24-M1500-316SU	ZSHS-M24-M1500-104SU	ZSHS-M24-M1500-114SU
1,800	16	75	ZSHS-M24-M1800-303SU	ZSHS-M24-M1800-316SU	ZSHS-M24-M1800-104SU	ZSHS-M24-M1800-114SU

25mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	16	75	ZSHS-M25-M0300-303SU	ZSHS-M25-M0300-316SU	ZSHS-M25-M0300-104SU	ZSHS-M25-M0300-114SU
500	16	75	ZSHS-M25-M0500-303SU	ZSHS-M25-M0500-316SU	ZSHS-M25-M0500-104SU	ZSHS-M25-M0500-114SU
1,000	16	75	ZSHS-M25-M1000-303SU	ZSHS-M25-M1000-316SU	ZSHS-M25-M1000-104SU	ZSHS-M25-M1000-114SU
1,200	16	75	ZSHS-M25-M1200-303SU	ZSHS-M25-M1200-316SU	ZSHS-M25-M1200-104SU	ZSHS-M25-M1200-114SU
1,500	16	75	ZSHS-M25-M1500-303SU	ZSHS-M25-M1500-316SU	ZSHS-M25-M1500-104SU	ZSHS-M25-M1500-114SU
1,800	16	75	ZSHS-M25-M1800-303SU	ZSHS-M25-M1800-316SU	ZSHS-M25-M1800-104SU	ZSHS-M25-M1800-114SU

Both Ends Step-Down Rotary Shafts — Metric



8mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	6	75	ZSHSS-M08-M0300-303SU	ZSHSS-M08-M0300-316SU	ZSHSS-M08-M0300-104SU	ZSHSS-M08-M0300-114SU
500	6	75	ZSHSS-M08-M0500-303SU	ZSHSS-M08-M0500-316SU	ZSHSS-M08-M0500-104SU	ZSHSS-M08-M0500-114SU
1,000	6	75	ZSHSS-M08-M1000-303SU	ZSHSS-M08-M1000-316SU	ZSHSS-M08-M1000-104SU	ZSHSS-M08-M1000-114SU
1,200	6	75	ZSHSS-M08-M1200-303SU	ZSHSS-M08-M1200-316SU	ZSHSS-M08-M1200-104SU	ZSHSS-M08-M1200-114SU
1,500	6	75	ZSHSS-M08-M1500-303SU	ZSHSS-M08-M1500-316SU	ZSHSS-M08-M1500-104SU	ZSHSS-M08-M1500-114SU
1,800	6	75	ZSHSS-M08-M1800-303SU	ZSHSS-M08-M1800-316SU	ZSHSS-M08-M1800-104SU	ZSHSS-M08-M1800-114SU

10mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	6	75	ZSHSS-M10-M0300-303SU	ZSHSS-M10-M0300-316SU	ZSHSS-M10-M0300-104SU	ZSHSS-M10-M0300-114SU
500	6	75	ZSHSS-M10-M0500-303SU	ZSHSS-M10-M0500-316SU	ZSHSS-M10-M0500-104SU	ZSHSS-M10-M0500-114SU
1,000	6	75	ZSHSS-M10-M1000-303SU	ZSHSS-M10-M1000-316SU	ZSHSS-M10-M1000-104SU	ZSHSS-M10-M1000-114SU
1,200	6	75	ZSHSS-M10-M1200-303SU	ZSHSS-M10-M1200-316SU	ZSHSS-M10-M1200-104SU	ZSHSS-M10-M1200-114SU
1,500	6	75	ZSHSS-M10-M1500-303SU	ZSHSS-M10-M1500-316SU	ZSHSS-M10-M1500-104SU	ZSHSS-M10-M1500-114SU
1,800	6	75	ZSHSS-M10-M1800-303SU	ZSHSS-M10-M1800-316SU	ZSHSS-M10-M1800-104SU	ZSHSS-M10-M1800-114SU

12mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	8	75	ZSHSS-M12-M0300-303SU	ZSHSS-M12-M0300-316SU	ZSHSS-M12-M0300-104SU	ZSHSS-M12-M0300-114SU
500	8	75	ZSHSS-M12-M0500-303SU	ZSHSS-M12-M0500-316SU	ZSHSS-M12-M0500-104SU	ZSHSS-M12-M0500-114SU
1,000	8	75	ZSHSS-M12-M1000-303SU	ZSHSS-M12-M1000-316SU	ZSHSS-M12-M1000-104SU	ZSHSS-M12-M1000-114SU
1,200	8	75	ZSHSS-M12-M1200-303SU	ZSHSS-M12-M1200-316SU	ZSHSS-M12-M1200-104SU	ZSHSS-M12-M1200-114SU
1,500	8	75	ZSHSS-M12-M1500-303SU	ZSHSS-M12-M1500-316SU	ZSHSS-M12-M1500-104SU	ZSHSS-M12-M1500-114SU
1,800	8	75	ZSHSS-M12-M1800-303SU	ZSHSS-M12-M1800-316SU	ZSHSS-M12-M1800-104SU	ZSHSS-M12-M1800-114SU

15mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Dia	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	10	75	ZSHSS-M15-M0300-303SU	ZSHSS-M15-M0300-316SU	ZSHSS-M15-M0300-104SU	ZSHSS-M15-M0300-114SU
500	10	75	ZSHSS-M15-M0500-303SU	ZSHSS-M15-M0500-316SU	ZSHSS-M15-M0500-104SU	ZSHSS-M15-M0500-114SU
1,000	10	75	ZSHSS-M15-M1000-303SU	ZSHSS-M15-M1000-316SU	ZSHSS-M15-M1000-104SU	ZSHSS-M15-M1000-114SU
1,200	10	75	ZSHSS-M15-M1200-303SU	ZSHSS-M15-M1200-316SU	ZSHSS-M15-M1200-104SU	ZSHSS-M15-M1200-114SU
1,500	10	75	ZSHSS-M15-M1500-303SU	ZSHSS-M15-M1500-316SU	ZSHSS-M15-M1500-104SU	ZSHSS-M15-M1500-114SU
1,800	10	75	ZSHSS-M15-M1800-303SU	ZSHSS-M15-M1800-316SU	ZSHSS-M15-M1800-104SU	ZSHSS-M15-M1800-114SU

Both Ends Step-Down Rotary Shafts — Metric



20mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	12	75	ZSHSS-M20-M0300-303SU	ZSHSS-M20-M0300-316SU	ZSHSS-M20-M0300-104SU	ZSHSS-M20-M0300-114SU
500	12	75	ZSHSS-M20-M0500-303SU	ZSHSS-M20-M0500-316SU	ZSHSS-M20-M0500-104SU	ZSHSS-M20-M0500-114SU
1,000	12	75	ZSHSS-M20-M1000-303SU	ZSHSS-M20-M1000-316SU	ZSHSS-M20-M1000-104SU	ZSHSS-M20-M1000-114SU
1200	12	75	ZSHSS-M20-M1200-303SU	ZSHSS-M20-M1200-316SU	ZSHSS-M20-M1200-104SU	ZSHSS-M20-M1200-114SU
1,500	12	75	ZSHSS-M20-M1500-303SU	ZSHSS-M20-M1500-316SU	ZSHSS-M20-M1500-104SU	ZSHSS-M20-M1500-114SU
1,800	12	75	ZSHSS-M20-M1800-303SU	ZSHSS-M20-M1800-316SU	ZSHSS-M20-M1800-104SU	ZSHSS-M20-M1800-114SU

24mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	16	75	ZSHSS-M24-M0300-303SU	ZSHSS-M24-M0300-316SU	ZSHSS-M24-M0300-104SU	ZSHSS-M24-M0300-114SU
500	16	75	ZSHSS-M24-M0500-303SU	ZSHSS-M24-M0500-316SU	ZSHSS-M24-M0500-104SU	ZSHSS-M24-M0500-114SU
1,000	16	75	ZSHSS-M24-M1000-303SU	ZSHSS-M24-M1000-316SU	ZSHSS-M24-M1000-104SU	ZSHSS-M24-M1000-114SU
1200	16	75	ZSHSS-M24-M1200-303SU	ZSHSS-M24-M1200-316SU	ZSHSS-M24-M1200-104SU	ZSHSS-M24-M1200-114SU
1,500	16	75	ZSHSS-M24-M1500-303SU	ZSHSS-M24-M1500-316SU	ZSHSS-M24-M1500-104SU	ZSHSS-M24-M1500-114SU
1,800	16	75	ZSHSS-M24-M1800-303SU	ZSHSS-M24-M1800-316SU	ZSHSS-M24-M1800-104SU	ZSHSS-M24-M1800-114SU

25mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	Step Down Diameter	Both Step Down Lg.	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	16	75	ZSHSS-M25-M0300-303SU	ZSHSS-M25-M0300-316SU	ZSHSS-M25-M0300-104SU	ZSHSS-M25-M0300-114SU
500	16	75	ZSHSS-M25-M0500-303SU	ZSHSS-M25-M0500-316SU	ZSHSS-M25-M0500-104SU	ZSHSS-M25-M0500-114SU
1,000	16	75	ZSHSS-M25-M1000-303SU	ZSHSS-M25-M1000-316SU	ZSHSS-M25-M1000-104SU	ZSHSS-M25-M1000-114SU
1200	16	75	ZSHSS-M25-M1200-303SU	ZSHSS-M25-M1200-316SU	ZSHSS-M25-M1200-104SU	ZSHSS-M25-M1200-114SU
1,500	16	75	ZSHSS-M25-M1500-303SU	ZSHSS-M25-M1500-316SU	ZSHSS-M25-M1500-104SU	ZSHSS-M25-M1500-114SU
1,800	16	75	ZSHSS-M25-M1800-303SU	ZSHSS-M25-M1800-316SU	ZSHSS-M25-M1800-104SU	ZSHSS-M25-M1800-114SU

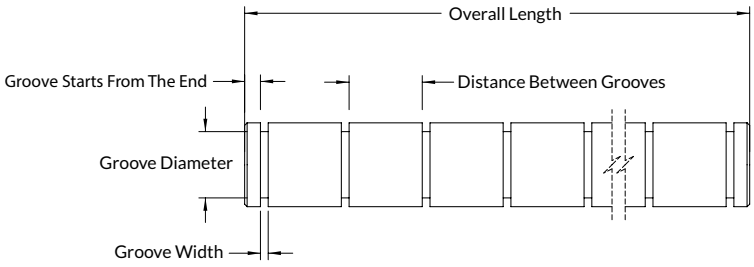
Shafts with Retaining Ring Grooves Both Ends — Inch

18-8 & 316 SS, Steel & Aluminum

Product Information

Grooved Rotary shafts feature machined grooves that are specially designed to accommodate retaining rings. The retaining rings hold components such as gears or bearings in place along the shaft (Both Ends) within grooves. Their chamfered edges minimize damage to components during installation. Precision-engineered with tight tolerances, these rings are turned, ground, and polished for accuracy.

- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- Aluminum shafts have the strength of mild steel with one third the weight.
- Aluminum shafts are lightweight, corrosion resistant and nonmagnetic. They have a T4 temper, which means they have been heat treated for increased strength.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.





Dimensions Table — Inch

Dia.	Diameter Tolerance	Groove Width	Groove Dia	# of Grooves Each End	Groove Starts From the End	Distance Btw Grooves	Straightness Tolerance	Length Tolerance
5/16	-.0005 to -.0025	.029	.250	2 & 4	.063	.250	.012 in/ft	+/-.062
3/8	-.0005 to -.0025	.039	.303	2 & 4	.063	.375	.012 in/ft	+/-.062
1/2	-.0005 to -.0025	.046	.396	2 & 4	.094	.437	.012 in/ft	+/-.062
5/8	-.0005 to -.0025	.046	.485	2 & 4	.125	.500	.012 in/ft	+/-.062
3/4	-.0005 to -.0025	.056	.625	2 & 4	.125	.563	.012 in/ft	+/-.062
7/8	-.0005 to -.0025	.056	.675	2 & 4	.125	.563	.012 in/ft	+/-.062
1	-.0005 to -.0025	.056	.835	2 & 4	.125	.563	.012 in/ft	+/-.062

Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic
2024 Aluminum	Ground & Polished	Chamfered	ASTM B211	B75	68,000	Nonmagnetic

Shafts with Retaining Ring Grooves Both Ends — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHGG-312-03000-303SU	ZSHGG-312-03000-316SU	ZSHGG-312-03000-104SU	ZSHGG-312-03000-114SU	ZSHGG-312-03000-202SU
6	ZSHGG-312-06000-303SU	ZSHGG-312-06000-316SU	ZSHGG-312-06000-104SU	ZSHGG-312-06000-114SU	ZSHGG-312-06000-202SU
9	ZSHGG-312-09000-303SU	ZSHGG-312-09000-316SU	ZSHGG-312-09000-104SU	ZSHGG-312-09000-114SU	ZSHGG-312-09000-202SU
12	ZSHGG-312-12000-303SU	ZSHGG-312-12000-316SU	ZSHGG-312-12000-104SU	ZSHGG-312-12000-114SU	ZSHGG-312-12000-202SU
18	ZSHGG-312-18000-303SU	ZSHGG-312-18000-316SU	ZSHGG-312-18000-104SU	ZSHGG-312-18000-114SU	ZSHGG-312-18000-202SU
24	ZSHGG-312-24000-303SU	ZSHGG-312-24000-316SU	ZSHGG-312-24000-104SU	ZSHGG-312-24000-114SU	ZSHGG-312-24000-202SU
36	ZSHGG-312-36000-303SU	ZSHGG-312-36000-316SU	ZSHGG-312-36000-104SU	ZSHGG-312-36000-114SU	ZSHGG-312-36000-202SU
48	ZSHGG-312-48000-303SU	ZSHGG-312-48000-316SU	ZSHGG-312-48000-104SU	ZSHGG-312-48000-114SU	ZSHGG-312-48000-202SU
60	ZSHGG-312-60000-303SU	ZSHGG-312-60000-316SU	ZSHGG-312-60000-104SU	ZSHGG-312-60000-114SU	ZSHGG-312-60000-202SU
72	ZSHGG-312-72000-303SU	ZSHGG-312-72000-316SU	ZSHGG-312-72000-104SU	ZSHGG-312-72000-114SU	ZSHGG-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHGG-375-03000-303SU	ZSHGG-375-03000-316SU	ZSHGG-375-03000-104SU	ZSHGG-375-03000-114SU	ZSHGG-375-03000-202SU
6	ZSHGG-375-06000-303SU	ZSHGG-375-06000-316SU	ZSHGG-375-06000-104SU	ZSHGG-375-06000-114SU	ZSHGG-375-06000-202SU
9	ZSHGG-375-09000-303SU	ZSHGG-375-09000-316SU	ZSHGG-375-09000-104SU	ZSHGG-375-09000-114SU	ZSHGG-375-09000-202SU
12	ZSHGG-375-12000-303SU	ZSHGG-375-12000-316SU	ZSHGG-375-12000-104SU	ZSHGG-375-12000-114SU	ZSHGG-375-12000-202SU
18	ZSHGG-375-18000-303SU	ZSHGG-375-18000-316SU	ZSHGG-375-18000-104SU	ZSHGG-375-18000-114SU	ZSHGG-375-18000-202SU
24	ZSHGG-375-24000-303SU	ZSHGG-375-24000-316SU	ZSHGG-375-24000-104SU	ZSHGG-375-24000-114SU	ZSHGG-375-24000-202SU
36	ZSHGG-375-36000-303SU	ZSHGG-375-36000-316SU	ZSHGG-375-36000-104SU	ZSHGG-375-36000-114SU	ZSHGG-375-36000-202SU
48	ZSHGG-375-48000-303SU	ZSHGG-375-48000-316SU	ZSHGG-375-48000-104SU	ZSHGG-375-48000-114SU	ZSHGG-375-48000-202SU
60	ZSHGG-375-60000-303SU	ZSHGG-375-60000-316SU	ZSHGG-375-60000-104SU	ZSHGG-375-60000-114SU	ZSHGG-375-60000-202SU
72	ZSHGG-375-72000-303SU	ZSHGG-375-72000-316SU	ZSHGG-375-72000-104SU	ZSHGG-375-72000-114SU	ZSHGG-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHGG-500-03000-303SU	ZSHGG-500-03000-316SU	ZSHGG-500-03000-104SU	ZSHGG-500-03000-114SU	ZSHGG-500-03000-202SU
6	ZSHGG-500-06000-303SU	ZSHGG-500-06000-316SU	ZSHGG-500-06000-104SU	ZSHGG-500-06000-114SU	ZSHGG-500-06000-202SU
9	ZSHGG-500-09000-303SU	ZSHGG-500-09000-316SU	ZSHGG-500-09000-104SU	ZSHGG-500-09000-114SU	ZSHGG-500-09000-202SU
12	ZSHGG-500-12000-303SU	ZSHGG-500-12000-316SU	ZSHGG-500-12000-104SU	ZSHGG-500-12000-114SU	ZSHGG-500-12000-202SU
18	ZSHGG-500-18000-303SU	ZSHGG-500-18000-316SU	ZSHGG-500-18000-104SU	ZSHGG-500-18000-114SU	ZSHGG-500-18000-202SU
24	ZSHGG-500-24000-303SU	ZSHGG-500-24000-316SU	ZSHGG-500-24000-104SU	ZSHGG-500-24000-114SU	ZSHGG-500-24000-202SU
36	ZSHGG-500-36000-303SU	ZSHGG-500-36000-316SU	ZSHGG-500-36000-104SU	ZSHGG-500-36000-114SU	ZSHGG-500-36000-202SU
48	ZSHGG-500-48000-303SU	ZSHGG-500-48000-316SU	ZSHGG-500-48000-104SU	ZSHGG-500-48000-114SU	ZSHGG-500-48000-202SU
60	ZSHGG-500-60000-303SU	ZSHGG-500-60000-316SU	ZSHGG-500-60000-104SU	ZSHGG-500-60000-114SU	ZSHGG-500-60000-202SU
72	ZSHGG-500-72000-303SU	ZSHGG-500-72000-316SU	ZSHGG-500-72000-104SU	ZSHGG-500-72000-114SU	ZSHGG-500-72000-202SU

Shafts with Retaining Ring Grooves Both Ends — Inch



5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHGG-625-03000-303SU	ZSHGG-625-03000-316SU	ZSHGG-625-03000-104SU	ZSHGG-625-03000-114SU	ZSHGG-625-03000-202SU
6	ZSHGG-625-06000-303SU	ZSHGG-625-06000-316SU	ZSHGG-625-06000-104SU	ZSHGG-625-06000-114SU	ZSHGG-625-06000-202SU
9	ZSHGG-625-09000-303SU	ZSHGG-625-09000-316SU	ZSHGG-625-09000-104SU	ZSHGG-625-09000-114SU	ZSHGG-625-09000-202SU
12	ZSHGG-625-12000-303SU	ZSHGG-625-12000-316SU	ZSHGG-625-12000-104SU	ZSHGG-625-12000-114SU	ZSHGG-625-12000-202SU
18	ZSHGG-625-18000-303SU	ZSHGG-625-18000-316SU	ZSHGG-625-18000-104SU	ZSHGG-625-18000-114SU	ZSHGG-625-18000-202SU
24	ZSHGG-625-24000-303SU	ZSHGG-625-24000-316SU	ZSHGG-625-24000-104SU	ZSHGG-625-24000-114SU	ZSHGG-625-24000-202SU
36	ZSHGG-625-36000-303SU	ZSHGG-625-36000-316SU	ZSHGG-625-36000-104SU	ZSHGG-625-36000-114SU	ZSHGG-625-36000-202SU
48	ZSHGG-625-48000-303SU	ZSHGG-625-48000-316SU	ZSHGG-625-48000-104SU	ZSHGG-625-48000-114SU	ZSHGG-625-48000-202SU
60	ZSHGG-625-60000-303SU	ZSHGG-625-60000-316SU	ZSHGG-625-60000-104SU	ZSHGG-625-60000-114SU	ZSHGG-625-60000-202SU
72	ZSHGG-625-72000-303SU	ZSHGG-625-72000-316SU	ZSHGG-625-72000-104SU	ZSHGG-625-72000-114SU	ZSHGG-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHGG-750-03000-303SU	ZSHGG-750-03000-316SU	ZSHGG-750-03000-104SU	ZSHGG-750-03000-114SU	ZSHGG-750-03000-202SU
6	ZSHGG-750-06000-303SU	ZSHGG-750-06000-316SU	ZSHGG-750-06000-104SU	ZSHGG-750-06000-114SU	ZSHGG-750-06000-202SU
9	ZSHGG-750-09000-303SU	ZSHGG-750-09000-316SU	ZSHGG-750-09000-104SU	ZSHGG-750-09000-114SU	ZSHGG-750-09000-202SU
12	ZSHGG-750-12000-303SU	ZSHGG-750-12000-316SU	ZSHGG-750-12000-104SU	ZSHGG-750-12000-114SU	ZSHGG-750-12000-202SU
18	ZSHGG-750-18000-303SU	ZSHGG-750-18000-316SU	ZSHGG-750-18000-104SU	ZSHGG-750-18000-114SU	ZSHGG-750-18000-202SU
24	ZSHGG-750-24000-303SU	ZSHGG-750-24000-316SU	ZSHGG-750-24000-104SU	ZSHGG-750-24000-114SU	ZSHGG-750-24000-202SU
36	ZSHGG-750-36000-303SU	ZSHGG-750-36000-316SU	ZSHGG-750-36000-104SU	ZSHGG-750-36000-114SU	ZSHGG-750-36000-202SU
48	ZSHGG-750-48000-303SU	ZSHGG-750-48000-316SU	ZSHGG-750-48000-104SU	ZSHGG-750-48000-114SU	ZSHGG-750-48000-202SU
60	ZSHGG-750-60000-303SU	ZSHGG-750-60000-316SU	ZSHGG-750-60000-104SU	ZSHGG-750-60000-114SU	ZSHGG-750-60000-202SU
72	ZSHGG-750-72000-303SU	ZSHGG-750-72000-316SU	ZSHGG-750-72000-104SU	ZSHGG-750-72000-114SU	ZSHGG-750-72000-202SU

Shafts with Retaining Ring Grooves Both Ends — Inch



7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHGG-875-03000-303SU	ZSHGG-875-03000-316SU	ZSHGG-875-03000-104SU	ZSHGG-875-03000-114SU	ZSHGG-875-03000-202SU
6	ZSHGG-875-06000-303SU	ZSHGG-875-06000-316SU	ZSHGG-875-06000-104SU	ZSHGG-875-06000-114SU	ZSHGG-875-06000-202SU
9	ZSHGG-875-09000-303SU	ZSHGG-875-09000-316SU	ZSHGG-875-09000-104SU	ZSHGG-875-09000-114SU	ZSHGG-875-09000-202SU
12	ZSHGG-875-12000-303SU	ZSHGG-875-12000-316SU	ZSHGG-875-12000-104SU	ZSHGG-875-12000-114SU	ZSHGG-875-12000-202SU
18	ZSHGG-875-18000-303SU	ZSHGG-875-18000-316SU	ZSHGG-875-18000-104SU	ZSHGG-875-18000-114SU	ZSHGG-875-18000-202SU
24	ZSHGG-875-24000-303SU	ZSHGG-875-24000-316SU	ZSHGG-875-24000-104SU	ZSHGG-875-24000-114SU	ZSHGG-875-24000-202SU
36	ZSHGG-875-36000-303SU	ZSHGG-875-36000-316SU	ZSHGG-875-36000-104SU	ZSHGG-875-36000-114SU	ZSHGG-875-36000-202SU
48	ZSHGG-875-48000-303SU	ZSHGG-875-48000-316SU	ZSHGG-875-48000-104SU	ZSHGG-875-48000-114SU	ZSHGG-875-48000-202SU
60	ZSHGG-875-60000-303SU	ZSHGG-875-60000-316SU	ZSHGG-875-60000-104SU	ZSHGG-875-60000-114SU	ZSHGG-875-60000-202SU
72	ZSHGG-875-72000-303SU	ZSHGG-875-72000-316SU	ZSHGG-875-72000-104SU	ZSHGG-875-72000-114SU	ZSHGG-875-72000-202SU

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHGG-1000-03000-303SU	ZSHGG-1000-03000-316SU	ZSHGG-1000-03000-104SU	ZSHGG-1000-03000-114SU	ZSHGG-1000-03000-202SU
6	ZSHGG-1000-06000-303SU	ZSHGG-1000-06000-316SU	ZSHGG-1000-06000-104SU	ZSHGG-1000-06000-114SU	ZSHGG-1000-06000-202SU
9	ZSHGG-1000-09000-303SU	ZSHGG-1000-09000-316SU	ZSHGG-1000-09000-104SU	ZSHGG-1000-09000-114SU	ZSHGG-1000-09000-202SU
12	ZSHGG-1000-12000-303SU	ZSHGG-1000-12000-316SU	ZSHGG-1000-12000-104SU	ZSHGG-1000-12000-114SU	ZSHGG-1000-12000-202SU
18	ZSHGG-1000-18000-303SU	ZSHGG-1000-18000-316SU	ZSHGG-1000-18000-104SU	ZSHGG-1000-18000-114SU	ZSHGG-1000-18000-202SU
24	ZSHGG-1000-24000-303SU	ZSHGG-1000-24000-316SU	ZSHGG-1000-24000-104SU	ZSHGG-1000-24000-114SU	ZSHGG-1000-24000-202SU
36	ZSHGG-1000-36000-303SU	ZSHGG-1000-36000-316SU	ZSHGG-1000-36000-104SU	ZSHGG-1000-36000-114SU	ZSHGG-1000-36000-202SU
48	ZSHGG-1000-48000-303SU	ZSHGG-1000-48000-316SU	ZSHGG-1000-48000-104SU	ZSHGG-1000-48000-114SU	ZSHGG-1000-48000-202SU
60	ZSHGG-1000-60000-303SU	ZSHGG-1000-60000-316SU	ZSHGG-1000-60000-104SU	ZSHGG-1000-60000-114SU	ZSHGG-1000-60000-202SU
72	ZSHGG-1000-72000-303SU	ZSHGG-1000-72000-316SU	ZSHGG-1000-72000-104SU	ZSHGG-1000-72000-114SU	ZSHGG-1000-72000-202SU

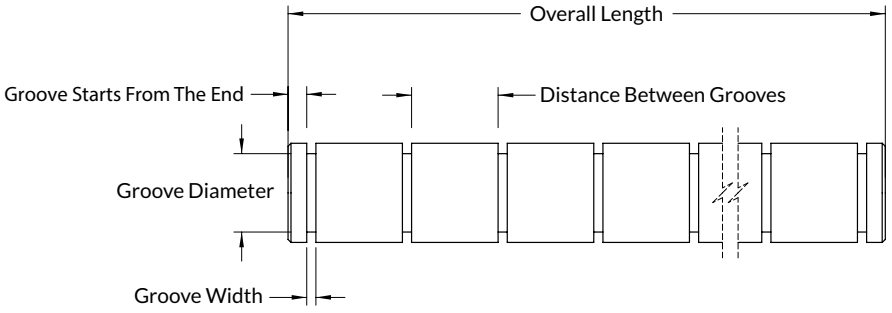
Shafts with Retaining Ring Grooves Both Ends — Metric

18-8 & 316 SS, Steel

Product Information

Grooved Rotary shafts feature machined grooves that are specially designed to accommodate retaining rings. The retaining rings hold components such as gears or bearings in place along the shaft (Both Ends) within grooves. Their chamfered edges minimize damage to components during installation. Precision-engineered with tight tolerances, these rings are turned, ground, and polished for accuracy.

- 18-8 stainless steel shafts offer excellent corrosion resistant and can be mildly magnetic. Meets ASTM A582 Condition A. material specification.
- Type 316 stainless steel, also known as marine stainless steel, offers superior corrosion resistant than 18-8 stainless steel and maybe mildly magnetic. Meets ASTM A276 Condition A. material specification.
- C1045 Carbon Steel shafts are generally stronger than aluminum and stainless steel shafts but not as corrosion resistant. These Carbon Steel shafts offers medium strength properties making them ideal for general purpose use.
- C1045 Carbon Steel is recommended for shafts requiring higher strength and wear resistance than carbon steel and stainless steel shafts.
- 1144 Stressproof Alloy Steel has excellent strength and hardness, and is specifically treated to relieve stresses for this durable material.





Dimensions Table — Metric

Dia.	Diameter Tolerance	Groove Width	Groove Dia	# of Grooves Each End	Groove Starts From the End	Distance Btw Grooves	Straightness Tolerance	Length Tolerance
8mm	-.0635 to 0mm	0.94	7	2 & 4	1.6	6	.33mm per 300mm	+/-1.6mm
10mm	-.0635 to 0mm	1.05	8	2 & 4	1.6	6	.33mm per 300mm	+/-1.6mm
12mm	-.0635 to 0mm	1.15	9	2 & 4	3.2	10	.33mm per 300mm	+/-1.6mm
15mm	-.0635 to 0mm	1.25	10	2 & 4	3.2	10	.33mm per 300mm	+/-1.6mm
20mm	-.0635 to 0mm	1.8	19	2 & 4	3.2	12	.33mm per 300mm	+/-1.6mm
24mm	-.0635 to 0mm	1.8	19	2 & 4	3.2	12	.33mm per 300mm	+/-1.6mm
25mm	-.0635 to 0mm	2.05	24	2 & 4	3.2	12	.33mm per 300mm	+/-1.6mm

Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS	Ground & Polished	Chamfered	ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel	Ground & Polished	Chamfered	ASTM A311	C22	115,000	Magnetic

Shafts with Retaining Ring Grooves Both Ends — Metric



8mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHGG-M08-M0300-303SU	ZSHGG-M08-M0300-316SU	ZSHGG-M08-M0300-104SU	ZSHGG-M08-M0300-114SU
500	ZSHGG-M08-M0500-303SU	ZSHGG-M08-M0500-316SU	ZSHGG-M08-M0500-104SU	ZSHGG-M08-M0500-114SU
1,000	ZSHGG-M08-M1000-303SU	ZSHGG-M08-M1000-316SU	ZSHGG-M08-M1000-104SU	ZSHGG-M08-M1000-114SU
1,200	ZSHGG-M08-M1200-303SU	ZSHGG-M08-M1200-316SU	ZSHGG-M08-M1200-104SU	ZSHGG-M08-M1200-114SU
1,500	ZSHGG-M08-M1500-303SU	ZSHGG-M08-M1500-316SU	ZSHGG-M08-M1500-104SU	ZSHGG-M08-M1500-114SU
1,800	ZSHGG-M08-M1800-303SU	ZSHGG-M08-M1800-316SU	ZSHGG-M08-M1800-104SU	ZSHGG-M08-M1800-114SU

10mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHGG-M10-M0300-303SU	ZSHGG-M10-M0300-316SU	ZSHGG-M10-M0300-104SU	ZSHGG-M10-M0300-114SU
500	ZSHGG-M10-M0500-303SU	ZSHGG-M10-M0500-316SU	ZSHGG-M10-M0500-104SU	ZSHGG-M10-M0500-114SU
1,000	ZSHGG-M10-M1000-303SU	ZSHGG-M10-M1000-316SU	ZSHGG-M10-M1000-104SU	ZSHGG-M10-M1000-114SU
1,200	ZSHGG-M10-M1200-303SU	ZSHGG-M10-M1200-316SU	ZSHGG-M10-M1200-104SU	ZSHGG-M10-M1200-114SU
1,500	ZSHGG-M10-M1500-303SU	ZSHGG-M10-M1500-316SU	ZSHGG-M10-M1500-104SU	ZSHGG-M10-M1500-114SU
1,800	ZSHGG-M10-M1800-303SU	ZSHGG-M10-M1800-316SU	ZSHGG-M10-M1800-104SU	ZSHGG-M10-M1800-114SU

12mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHGG-M12-M0300-303SU	ZSHGG-M12-M0300-316SU	ZSHGG-M12-M0300-104SU	ZSHGG-M12-M0300-114SU
500	ZSHGG-M12-M0500-303SU	ZSHGG-M12-M0500-316SU	ZSHGG-M12-M0500-104SU	ZSHGG-M12-M0500-114SU
1,000	ZSHGG-M12-M1000-303SU	ZSHGG-M12-M1000-316SU	ZSHGG-M12-M1000-104SU	ZSHGG-M12-M1000-114SU
1,200	ZSHGG-M12-M1200-303SU	ZSHGG-M12-M1200-316SU	ZSHGG-M12-M1200-104SU	ZSHGG-M12-M1200-114SU
1,500	ZSHGG-M12-M1500-303SU	ZSHGG-M12-M1500-316SU	ZSHGG-M12-M1500-104SU	ZSHGG-M12-M1500-114SU
1,800	ZSHGG-M12-M1800-303SU	ZSHGG-M12-M1800-316SU	ZSHGG-M12-M1800-104SU	ZSHGG-M12-M1800-114SU

15mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHGG-M15-M0300-303SU	ZSHGG-M15-M0300-316SU	ZSHGG-M15-M0300-104SU	ZSHGG-M15-M0300-114SU
500	ZSHGG-M15-M0500-303SU	ZSHGG-M15-M0500-316SU	ZSHGG-M15-M0500-104SU	ZSHGG-M15-M0500-114SU
1,000	ZSHGG-M15-M1000-303SU	ZSHGG-M15-M1000-316SU	ZSHGG-M15-M1000-104SU	ZSHGG-M15-M1000-114SU
1,200	ZSHGG-M15-M1200-303SU	ZSHGG-M15-M1200-316SU	ZSHGG-M15-M1200-104SU	ZSHGG-M15-M1200-114SU
1,500	ZSHGG-M15-M1500-303SU	ZSHGG-M15-M1500-316SU	ZSHGG-M15-M1500-104SU	ZSHGG-M15-M1500-114SU
1,800	ZSHGG-M15-M1800-303SU	ZSHGG-M15-M1800-316SU	ZSHGG-M15-M1800-104SU	ZSHGG-M15-M1800-114SU

Shafts with Retaining Ring Grooves Both Ends — Metric



20mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHGG-M20-M0300-303SU	ZSHGG-M20-M0300-316SU	ZSHGG-M20-M0300-104SU	ZSHGG-M20-M0300-114SU
500	ZSHGG-M20-M0500-303SU	ZSHGG-M20-M0500-316SU	ZSHGG-M20-M0500-104SU	ZSHGG-M20-M0500-114SU
1,000	ZSHGG-M20-M1000-303SU	ZSHGG-M20-M1000-316SU	ZSHGG-M20-M1000-104SU	ZSHGG-M20-M1000-114SU
1,200	ZSHGG-M20-M1200-303SU	ZSHGG-M20-M1200-316SU	ZSHGG-M20-M1200-104SU	ZSHGG-M20-M1200-114SU
1,500	ZSHGG-M20-M1500-303SU	ZSHGG-M20-M1500-316SU	ZSHGG-M20-M1500-104SU	ZSHGG-M20-M1500-114SU
1,800	ZSHGG-M20-M1800-303SU	ZSHGG-M20-M1800-316SU	ZSHGG-M20-M1800-104SU	ZSHGG-M20-M1800-114SU

24mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHGG-M24-M0300-303SU	ZSHGG-M24-M0300-316SU	ZSHGG-M24-M0300-104SU	ZSHGG-M24-M0300-114SU
500	ZSHGG-M24-M0500-303SU	ZSHGG-M24-M0500-316SU	ZSHGG-M24-M0500-104SU	ZSHGG-M24-M0500-114SU
1,000	ZSHGG-M24-M1000-303SU	ZSHGG-M24-M1000-316SU	ZSHGG-M24-M1000-104SU	ZSHGG-M24-M1000-114SU
1,200	ZSHGG-M24-M1200-303SU	ZSHGG-M24-M1200-316SU	ZSHGG-M24-M1200-104SU	ZSHGG-M24-M1200-114SU
1,500	ZSHGG-M24-M1500-303SU	ZSHGG-M24-M1500-316SU	ZSHGG-M24-M1500-104SU	ZSHGG-M24-M1500-114SU
1,800	ZSHGG-M24-M1800-303SU	ZSHGG-M24-M1800-316SU	ZSHGG-M24-M1800-104SU	ZSHGG-M24-M1800-114SU

25mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHGG-M25-M0300-303SU	ZSHGG-M25-M0300-316SU	ZSHGG-M25-M0300-104SU	ZSHGG-M25-M0300-114SU
500	ZSHGG-M25-M0500-303SU	ZSHGG-M25-M0500-316SU	ZSHGG-M25-M0500-104SU	ZSHGG-M25-M0500-114SU
1,000	ZSHGG-M25-M1000-303SU	ZSHGG-M25-M1000-316SU	ZSHGG-M25-M1000-104SU	ZSHGG-M25-M1000-114SU
1,200	ZSHGG-M25-M1200-303SU	ZSHGG-M25-M1200-316SU	ZSHGG-M25-M1200-104SU	ZSHGG-M25-M1200-114SU
1,500	ZSHGG-M25-M1500-303SU	ZSHGG-M25-M1500-316SU	ZSHGG-M25-M1500-104SU	ZSHGG-M25-M1500-114SU
1,800	ZSHGG-M25-M1800-303SU	ZSHGG-M25-M1800-316SU	ZSHGG-M25-M1800-104SU	ZSHGG-M25-M1800-114SU

Ground Blank Rotary Shafts — Inch

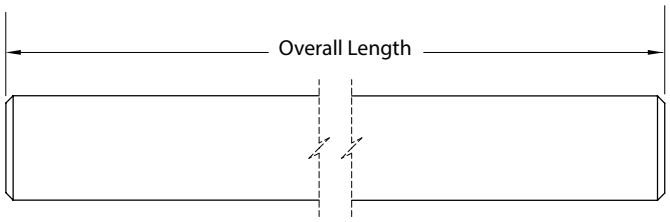
18-8 SS, 316 SS, Steel and Aluminum

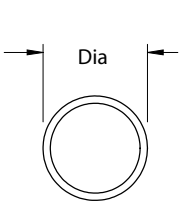
Product Information

Plain ground rotary shafts are cylindrical components precision-ground to achieve a smooth, accurate surface finish. These shafts serve as the backbone for countless mechanical systems, transmitting rotational motion. Their applications span across various industries, including automotive, aerospace, and manufacturing. From supporting gears and pulleys in power transmission systems to acting as axles in vehicles, plain ground rotary shafts are essential components that enable efficient and reliable machinery operation. Their durability, precision, and versatility make them indispensable in modern engineering.

Length tolerance is +/-.062 and straightness tolerance is 0.012 in/ft.

- 18-8 Stainless Steel offers excellent corrosion resistant.
- 316 Stainless Steel, also known as Marine Stainless Steel, offers superior corrosion resistant than 18-8 Stainless Steel.
- Aluminum have the strength of mild steel with one third the weight.
- C1045 Carbon Steel are generally stronger than Stainless Steel and Aluminum without corrosion resistance.
- 1144 Alloy Steel is stronger than Carbon Steel and hardened for increased wear resistance.







Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS			ASTM A 582 Cond A	B83	90,000	Mildly
316 SS			ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel	Ground & Polished	Chamfered	ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel			ASTM A311	C22	115,000	Magnetic
2024 Aluminum			ASTM B211	B75	68,000	Nonmagnetic

Ground Blank Rotary Shafts — Inch



5/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-312-03000-303SU	ZSHR-312-03000-316SU	ZSHR-312-03000-104SU	ZSHR-312-03000-114SU	ZSHR-312-03000-202SU
6	ZSHR-312-06000-303SU	ZSHR-312-06000-316SU	ZSHR-312-06000-104SU	ZSHR-312-06000-114SU	ZSHR-312-06000-202SU
9	ZSHR-312-09000-303SU	ZSHR-312-09000-316SU	ZSHR-312-09000-104SU	ZSHR-312-09000-114SU	ZSHR-312-09000-202SU
12	ZSHR-312-12000-303SU	ZSHR-312-12000-316SU	ZSHR-312-12000-104SU	ZSHR-312-12000-114SU	ZSHR-312-12000-202SU
18	ZSHR-312-18000-303SU	ZSHR-312-18000-316SU	ZSHR-312-18000-104SU	ZSHR-312-18000-114SU	ZSHR-312-18000-202SU
24	ZSHR-312-24000-303SU	ZSHR-312-24000-316SU	ZSHR-312-24000-104SU	ZSHR-312-24000-114SU	ZSHR-312-24000-202SU
36	ZSHR-312-36000-303SU	ZSHR-312-36000-316SU	ZSHR-312-36000-104SU	ZSHR-312-36000-114SU	ZSHR-312-36000-202SU
48	ZSHR-312-48000-303SU	ZSHR-312-48000-316SU	ZSHR-312-48000-104SU	ZSHR-312-48000-114SU	ZSHR-312-48000-202SU
60	ZSHR-312-60000-303SU	ZSHR-312-60000-316SU	ZSHR-312-60000-104SU	ZSHR-312-60000-114SU	ZSHR-312-60000-202SU
72	ZSHR-312-72000-303SU	ZSHR-312-72000-316SU	ZSHR-312-72000-104SU	ZSHR-312-72000-114SU	ZSHR-312-72000-202SU

3/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-375-03000-303SU	ZSHR-375-03000-316SU	ZSHR-375-03000-104SU	ZSHR-375-03000-114SU	ZSHR-375-03000-202SU
6	ZSHR-375-06000-303SU	ZSHR-375-06000-316SU	ZSHR-375-06000-104SU	ZSHR-375-06000-114SU	ZSHR-375-06000-202SU
9	ZSHR-375-09000-303SU	ZSHR-375-09000-316SU	ZSHR-375-09000-104SU	ZSHR-375-09000-114SU	ZSHR-375-09000-202SU
12	ZSHR-375-12000-303SU	ZSHR-375-12000-316SU	ZSHR-375-12000-104SU	ZSHR-375-12000-114SU	ZSHR-375-12000-202SU
18	ZSHR-375-18000-303SU	ZSHR-375-18000-316SU	ZSHR-375-18000-104SU	ZSHR-375-18000-114SU	ZSHR-375-18000-202SU
24	ZSHR-375-24000-303SU	ZSHR-375-24000-316SU	ZSHR-375-24000-104SU	ZSHR-375-24000-114SU	ZSHR-375-24000-202SU
36	ZSHR-375-36000-303SU	ZSHR-375-36000-316SU	ZSHR-375-36000-104SU	ZSHR-375-36000-114SU	ZSHR-375-36000-202SU
48	ZSHR-375-48000-303SU	ZSHR-375-48000-316SU	ZSHR-375-48000-104SU	ZSHR-375-48000-114SU	ZSHR-375-48000-202SU
60	ZSHR-375-60000-303SU	ZSHR-375-60000-316SU	ZSHR-375-60000-104SU	ZSHR-375-60000-114SU	ZSHR-375-60000-202SU
72	ZSHR-375-72000-303SU	ZSHR-375-72000-316SU	ZSHR-375-72000-104SU	ZSHR-375-72000-114SU	ZSHR-375-72000-202SU

1/2 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-500-03000-303SU	ZSHR-500-03000-316SU	ZSHR-500-03000-104SU	ZSHR-500-03000-114SU	ZSHR-500-03000-202SU
6	ZSHR-500-06000-303SU	ZSHR-500-06000-316SU	ZSHR-500-06000-104SU	ZSHR-500-06000-114SU	ZSHR-500-06000-202SU
9	ZSHR-500-09000-303SU	ZSHR-500-09000-316SU	ZSHR-500-09000-104SU	ZSHR-500-09000-114SU	ZSHR-500-09000-202SU
12	ZSHR-500-12000-303SU	ZSHR-500-12000-316SU	ZSHR-500-12000-104SU	ZSHR-500-12000-114SU	ZSHR-500-12000-202SU
18	ZSHR-500-18000-303SU	ZSHR-500-18000-316SU	ZSHR-500-18000-104SU	ZSHR-500-18000-114SU	ZSHR-500-18000-202SU
24	ZSHR-500-24000-303SU	ZSHR-500-24000-316SU	ZSHR-500-24000-104SU	ZSHR-500-24000-114SU	ZSHR-500-24000-202SU
36	ZSHR-500-36000-303SU	ZSHR-500-36000-316SU	ZSHR-500-36000-104SU	ZSHR-500-36000-114SU	ZSHR-500-36000-202SU
48	ZSHR-500-48000-303SU	ZSHR-500-48000-316SU	ZSHR-500-48000-104SU	ZSHR-500-48000-114SU	ZSHR-500-48000-202SU
60	ZSHR-500-60000-303SU	ZSHR-500-60000-316SU	ZSHR-500-60000-104SU	ZSHR-500-60000-114SU	ZSHR-500-60000-202SU
72	ZSHR-500-72000-303SU	ZSHR-500-72000-316SU	ZSHR-500-72000-104SU	ZSHR-500-72000-114SU	ZSHR-500-72000-202SU

Ground Blank Rotary Shafts — Inch



5/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-625-03000-303SU	ZSHR-625-03000-316SU	ZSHR-625-03000-104SU	ZSHR-625-03000-114SU	ZSHR-625-03000-202SU
6	ZSHR-625-06000-303SU	ZSHR-625-06000-316SU	ZSHR-625-06000-104SU	ZSHR-625-06000-114SU	ZSHR-625-06000-202SU
9	ZSHR-625-09000-303SU	ZSHR-625-09000-316SU	ZSHR-625-09000-104SU	ZSHR-625-09000-114SU	ZSHR-625-09000-202SU
12	ZSHR-625-12000-303SU	ZSHR-625-12000-316SU	ZSHR-625-12000-104SU	ZSHR-625-12000-114SU	ZSHR-625-12000-202SU
18	ZSHR-625-18000-303SU	ZSHR-625-18000-316SU	ZSHR-625-18000-104SU	ZSHR-625-18000-114SU	ZSHR-625-18000-202SU
24	ZSHR-625-24000-303SU	ZSHR-625-24000-316SU	ZSHR-625-24000-104SU	ZSHR-625-24000-114SU	ZSHR-625-24000-202SU
36	ZSHR-625-36000-303SU	ZSHR-625-36000-316SU	ZSHR-625-36000-104SU	ZSHR-625-36000-114SU	ZSHR-625-36000-202SU
48	ZSHR-625-48000-303SU	ZSHR-625-48000-316SU	ZSHR-625-48000-104SU	ZSHR-625-48000-114SU	ZSHR-625-48000-202SU
60	ZSHR-625-60000-303SU	ZSHR-625-60000-316SU	ZSHR-625-60000-104SU	ZSHR-625-60000-114SU	ZSHR-625-60000-202SU
72	ZSHR-625-72000-303SU	ZSHR-625-72000-316SU	ZSHR-625-72000-104SU	ZSHR-625-72000-114SU	ZSHR-625-72000-202SU

3/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-750-03000-303SU	ZSHR-750-03000-316SU	ZSHR-750-03000-104SU	ZSHR-750-03000-114SU	ZSHR-750-03000-202SU
6	ZSHR-750-06000-303SU	ZSHR-750-06000-316SU	ZSHR-750-06000-104SU	ZSHR-750-06000-114SU	ZSHR-750-06000-202SU
9	ZSHR-750-09000-303SU	ZSHR-750-09000-316SU	ZSHR-750-09000-104SU	ZSHR-750-09000-114SU	ZSHR-750-09000-202SU
12	ZSHR-750-12000-303SU	ZSHR-750-12000-316SU	ZSHR-750-12000-104SU	ZSHR-750-12000-114SU	ZSHR-750-12000-202SU
18	ZSHR-750-18000-303SU	ZSHR-750-18000-316SU	ZSHR-750-18000-104SU	ZSHR-750-18000-114SU	ZSHR-750-18000-202SU
24	ZSHR-750-24000-303SU	ZSHR-750-24000-316SU	ZSHR-750-24000-104SU	ZSHR-750-24000-114SU	ZSHR-750-24000-202SU
36	ZSHR-750-36000-303SU	ZSHR-750-36000-316SU	ZSHR-750-36000-104SU	ZSHR-750-36000-114SU	ZSHR-750-36000-202SU
48	ZSHR-750-48000-303SU	ZSHR-750-48000-316SU	ZSHR-750-48000-104SU	ZSHR-750-48000-114SU	ZSHR-750-48000-202SU
60	ZSHR-750-60000-303SU	ZSHR-750-60000-316SU	ZSHR-750-60000-104SU	ZSHR-750-60000-114SU	ZSHR-750-60000-202SU
72	ZSHR-750-72000-303SU	ZSHR-750-72000-316SU	ZSHR-750-72000-104SU	ZSHR-750-72000-114SU	ZSHR-750-72000-202SU

7/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-875-03000-303SU	ZSHR-875-03000-316SU	ZSHR-875-03000-104SU	ZSHR-875-03000-114SU	ZSHR-875-03000-202SU
6	ZSHR-875-06000-303SU	ZSHR-875-06000-316SU	ZSHR-875-06000-104SU	ZSHR-875-06000-114SU	ZSHR-875-06000-202SU
9	ZSHR-875-09000-303SU	ZSHR-875-09000-316SU	ZSHR-875-09000-104SU	ZSHR-875-09000-114SU	ZSHR-875-09000-202SU
12	ZSHR-875-12000-303SU	ZSHR-875-12000-316SU	ZSHR-875-12000-104SU	ZSHR-875-12000-114SU	ZSHR-875-12000-202SU
18	ZSHR-875-18000-303SU	ZSHR-875-18000-316SU	ZSHR-875-18000-104SU	ZSHR-875-18000-114SU	ZSHR-875-18000-202SU
24	ZSHR-875-24000-303SU	ZSHR-875-24000-316SU	ZSHR-875-24000-104SU	ZSHR-875-24000-114SU	ZSHR-875-24000-202SU
36	ZSHR-875-36000-303SU	ZSHR-875-36000-316SU	ZSHR-875-36000-104SU	ZSHR-875-36000-114SU	ZSHR-875-36000-202SU
48	ZSHR-875-48000-303SU	ZSHR-875-48000-316SU	ZSHR-875-48000-104SU	ZSHR-875-48000-114SU	ZSHR-875-48000-202SU
60	ZSHR-875-60000-303SU	ZSHR-875-60000-316SU	ZSHR-875-60000-104SU	ZSHR-875-60000-114SU	ZSHR-875-60000-202SU
72	ZSHR-875-72000-303SU	ZSHR-875-72000-316SU	ZSHR-875-72000-104SU	ZSHR-875-72000-114SU	ZSHR-875-72000-202SU

Ground Blank Rotary Shafts — Inch



15/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	—	—	ZSHR-937-03000-104SU	—	—
6	—	—	ZSHR-937-06000-104SU	—	—
9	—	—	ZSHR-937-09000-104SU	—	—
12	—	—	ZSHR-937-12000-104SU	—	—
18	—	—	ZSHR-937-18000-104SU	—	—
24	—	—	ZSHR-937-24000-104SU	—	—
36	—	—	ZSHR-937-36000-104SU	—	—
48	—	—	ZSHR-937-48000-104SU	—	—
60	—	—	ZSHR-937-60000-104SU	—	—
72	—	—	ZSHR-937-72000-104SU	—	—

1 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1000-03000-303SU	ZSHR-1000-03000-316SU	ZSHR-1000-03000-104SU	ZSHR-1000-03000-114SU	ZSHR-1000-03000-202SU
6	ZSHR-1000-06000-303SU	ZSHR-1000-06000-316SU	ZSHR-1000-06000-104SU	ZSHR-1000-06000-114SU	ZSHR-1000-06000-202SU
9	ZSHR-1000-09000-303SU	ZSHR-1000-09000-316SU	ZSHR-1000-09000-104SU	ZSHR-1000-09000-114SU	ZSHR-1000-09000-202SU
12	ZSHR-1000-12000-303SU	ZSHR-1000-12000-316SU	ZSHR-1000-12000-104SU	ZSHR-1000-12000-114SU	ZSHR-1000-12000-202SU
18	ZSHR-1000-18000-303SU	ZSHR-1000-18000-316SU	ZSHR-1000-18000-104SU	ZSHR-1000-18000-114SU	ZSHR-1000-18000-202SU
24	ZSHR-1000-24000-303SU	ZSHR-1000-24000-316SU	ZSHR-1000-24000-104SU	ZSHR-1000-24000-114SU	ZSHR-1000-24000-202SU
36	ZSHR-1000-36000-303SU	ZSHR-1000-36000-316SU	ZSHR-1000-36000-104SU	ZSHR-1000-36000-114SU	ZSHR-1000-36000-202SU
48	ZSHR-1000-48000-303SU	ZSHR-1000-48000-316SU	ZSHR-1000-48000-104SU	ZSHR-1000-48000-114SU	ZSHR-1000-48000-202SU
60	ZSHR-1000-60000-303SU	ZSHR-1000-60000-316SU	ZSHR-1000-60000-104SU	ZSHR-1000-60000-114SU	ZSHR-1000-60000-202SU
72	ZSHR-1000-72000-303SU	ZSHR-1000-72000-316SU	ZSHR-1000-72000-104SU	ZSHR-1000-72000-114SU	ZSHR-1000-72000-202SU

1-1/8 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1125-03000-303SU	ZSHR-1125-03000-316SU	ZSHR-1125-03000-104SU	ZSHR-1125-03000-114SU	—
6	ZSHR-1125-06000-303SU	ZSHR-1125-06000-316SU	ZSHR-1125-06000-104SU	ZSHR-1125-06000-114SU	—
9	ZSHR-1125-09000-303SU	ZSHR-1125-09000-316SU	ZSHR-1125-09000-104SU	ZSHR-1125-09000-114SU	—
12	ZSHR-1125-12000-303SU	ZSHR-1125-12000-316SU	ZSHR-1125-12000-104SU	ZSHR-1125-12000-114SU	—
18	ZSHR-1125-18000-303SU	ZSHR-1125-18000-316SU	ZSHR-1125-18000-104SU	ZSHR-1125-18000-114SU	—
24	ZSHR-1125-24000-303SU	ZSHR-1125-24000-316SU	ZSHR-1125-24000-104SU	ZSHR-1125-24000-114SU	—
36	ZSHR-1125-36000-303SU	ZSHR-1125-36000-316SU	ZSHR-1125-36000-104SU	ZSHR-1125-36000-114SU	—
48	ZSHR-1125-48000-303SU	ZSHR-1125-48000-316SU	ZSHR-1125-48000-104SU	ZSHR-1125-48000-114SU	—
60	ZSHR-1125-60000-303SU	ZSHR-1125-60000-316SU	ZSHR-1125-60000-104SU	ZSHR-1125-60000-114SU	—
72	ZSHR-1125-72000-303SU	ZSHR-1125-72000-316SU	ZSHR-1125-72000-104SU	ZSHR-1125-72000-114SU	—

Ground Blank Rotary Shafts — Inch



1-3/16 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1187-03000-303SU	ZSHR-1187-03000-316SU	ZSHR-1187-03000-104SU	ZSHR-1187-03000-114SU	–
6	ZSHR-1187-06000-303SU	ZSHR-1187-06000-316SU	ZSHR-1187-06000-104SU	ZSHR-1187-06000-114SU	–
9	ZSHR-1187-09000-303SU	ZSHR-1187-09000-316SU	ZSHR-1187-09000-104SU	ZSHR-1187-09000-114SU	–
12	ZSHR-1187-12000-303SU	ZSHR-1187-12000-316SU	ZSHR-1187-12000-104SU	ZSHR-1187-12000-114SU	–
18	ZSHR-1187-18000-303SU	ZSHR-1187-18000-316SU	ZSHR-1187-18000-104SU	ZSHR-1187-18000-114SU	–
24	ZSHR-1187-24000-303SU	ZSHR-1187-24000-316SU	ZSHR-1187-24000-104SU	ZSHR-1187-24000-114SU	–
36	ZSHR-1187-36000-303SU	ZSHR-1187-36000-316SU	ZSHR-1187-36000-104SU	ZSHR-1187-36000-114SU	–
48	ZSHR-1187-48000-303SU	ZSHR-1187-48000-316SU	ZSHR-1187-48000-104SU	ZSHR-1187-48000-114SU	–
60	ZSHR-1187-60000-303SU	ZSHR-1187-60000-316SU	ZSHR-1187-60000-104SU	ZSHR-1187-60000-114SU	–
72	ZSHR-1187-72000-303SU	ZSHR-1187-72000-316SU	ZSHR-1187-72000-104SU	ZSHR-1187-72000-114SU	–

1-1/4 Diameter (Tolerance: -.0005" to -.0025")

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1250-03000-303SU	ZSHR-1250-03000-316SU	ZSHR-1250-03000-104SU	ZSHR-1250-03000-114SU	–
6	ZSHR-1250-06000-303SU	ZSHR-1250-06000-316SU	ZSHR-1250-06000-104SU	ZSHR-1250-06000-114SU	–
9	ZSHR-1250-09000-303SU	ZSHR-1250-09000-316SU	ZSHR-1250-09000-104SU	ZSHR-1250-09000-114SU	–
12	ZSHR-1250-12000-303SU	ZSHR-1250-12000-316SU	ZSHR-1250-12000-104SU	ZSHR-1250-12000-114SU	–
18	ZSHR-1250-18000-303SU	ZSHR-1250-18000-316SU	ZSHR-1250-18000-104SU	ZSHR-1250-18000-114SU	–
24	ZSHR-1250-24000-303SU	ZSHR-1250-24000-316SU	ZSHR-1250-24000-104SU	ZSHR-1250-24000-114SU	–
36	ZSHR-1250-36000-303SU	ZSHR-1250-36000-316SU	ZSHR-1250-36000-104SU	ZSHR-1250-36000-114SU	–
48	ZSHR-1250-48000-303SU	ZSHR-1250-48000-316SU	ZSHR-1250-48000-104SU	ZSHR-1250-48000-114SU	–
60	ZSHR-1250-60000-303SU	ZSHR-1250-60000-316SU	ZSHR-1250-60000-104SU	ZSHR-1250-60000-114SU	–
72	ZSHR-1250-72000-303SU	ZSHR-1250-72000-316SU	ZSHR-1250-72000-104SU	ZSHR-1250-72000-114SU	–

1-5/16 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1312-03000-303SU	ZSHR-1312-03000-316SU	ZSHR-1312-03000-104SU	ZSHR-1312-03000-114SU	–
6	ZSHR-1312-06000-303SU	ZSHR-1312-06000-316SU	ZSHR-1312-06000-104SU	ZSHR-1312-06000-114SU	–
9	ZSHR-1312-09000-303SU	ZSHR-1312-09000-316SU	ZSHR-1312-09000-104SU	ZSHR-1312-09000-114SU	–
12	ZSHR-1312-12000-303SU	ZSHR-1312-12000-316SU	ZSHR-1312-12000-104SU	ZSHR-1312-12000-114SU	–
18	ZSHR-1312-18000-303SU	ZSHR-1312-18000-316SU	ZSHR-1312-18000-104SU	ZSHR-1312-18000-114SU	–
24	ZSHR-1312-24000-303SU	ZSHR-1312-24000-316SU	ZSHR-1312-24000-104SU	ZSHR-1312-24000-114SU	–
36	ZSHR-1312-36000-303SU	ZSHR-1312-36000-316SU	ZSHR-1312-36000-104SU	ZSHR-1312-36000-114SU	–
48	ZSHR-1312-48000-303SU	ZSHR-1312-48000-316SU	ZSHR-1312-48000-104SU	ZSHR-1312-48000-114SU	–
60	ZSHR-1312-60000-303SU	ZSHR-1312-60000-316SU	ZSHR-1312-60000-104SU	ZSHR-1312-60000-114SU	–
72	ZSHR-1312-72000-303SU	ZSHR-1312-72000-316SU	ZSHR-1312-72000-104SU	ZSHR-1312-72000-114SU	–

Ground Blank Rotary Shafts — Inch



1-3/8 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1375-03000-303SU	ZSHR-1375-03000-316SU	ZSHR-1375-03000-104SU	ZSHR-1375-03000-114SU	–
6	ZSHR-1375-06000-303SU	ZSHR-1375-06000-316SU	ZSHR-1375-06000-104SU	ZSHR-1375-06000-114SU	–
9	ZSHR-1375-09000-303SU	ZSHR-1375-09000-316SU	ZSHR-1375-09000-104SU	ZSHR-1375-09000-114SU	–
12	ZSHR-1375-12000-303SU	ZSHR-1375-12000-316SU	ZSHR-1375-12000-104SU	ZSHR-1375-12000-114SU	–
18	ZSHR-1375-18000-303SU	ZSHR-1375-18000-316SU	ZSHR-1375-18000-104SU	ZSHR-1375-18000-114SU	–
24	ZSHR-1375-24000-303SU	ZSHR-1375-24000-316SU	ZSHR-1375-24000-104SU	ZSHR-1375-24000-114SU	–
36	ZSHR-1375-36000-303SU	ZSHR-1375-36000-316SU	ZSHR-1375-36000-104SU	ZSHR-1375-36000-114SU	–
48	ZSHR-1375-48000-303SU	ZSHR-1375-48000-316SU	ZSHR-1375-48000-104SU	ZSHR-1375-48000-114SU	–
60	ZSHR-1375-60000-303SU	ZSHR-1375-60000-316SU	ZSHR-1375-60000-104SU	ZSHR-1375-60000-114SU	–
72	ZSHR-1375-72000-303SU	ZSHR-1375-72000-316SU	ZSHR-1375-72000-104SU	ZSHR-1375-72000-114SU	–

1-7/16 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1437-03000-303SU	ZSHR-1437-03000-316SU	ZSHR-1437-03000-104SU	ZSHR-1437-03000-114SU	–
6	ZSHR-1437-06000-303SU	ZSHR-1437-06000-316SU	ZSHR-1437-06000-104SU	ZSHR-1437-06000-114SU	–
9	ZSHR-1437-09000-303SU	ZSHR-1437-09000-316SU	ZSHR-1437-09000-104SU	ZSHR-1437-09000-114SU	–
12	ZSHR-1437-12000-303SU	ZSHR-1437-12000-316SU	ZSHR-1437-12000-104SU	ZSHR-1437-12000-114SU	–
18	ZSHR-1437-18000-303SU	ZSHR-1437-18000-316SU	ZSHR-1437-18000-104SU	ZSHR-1437-18000-114SU	–
24	ZSHR-1437-24000-303SU	ZSHR-1437-24000-316SU	ZSHR-1437-24000-104SU	ZSHR-1437-24000-114SU	–
36	ZSHR-1437-36000-303SU	ZSHR-1437-36000-316SU	ZSHR-1437-36000-104SU	ZSHR-1437-36000-114SU	–
48	ZSHR-1437-48000-303SU	ZSHR-1437-48000-316SU	ZSHR-1437-48000-104SU	ZSHR-1437-48000-114SU	–
60	ZSHR-1437-60000-303SU	ZSHR-1437-60000-316SU	ZSHR-1437-60000-104SU	ZSHR-1437-60000-114SU	–
72	ZSHR-1437-72000-303SU	ZSHR-1437-72000-316SU	ZSHR-1437-72000-104SU	ZSHR-1437-72000-114SU	–

1-1/2 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1500-03000-303SU	ZSHR-1500-03000-316SU	ZSHR-1500-03000-104SU	ZSHR-1500-03000-114SU	–
6	ZSHR-1500-06000-303SU	ZSHR-1500-06000-316SU	ZSHR-1500-06000-104SU	ZSHR-1500-06000-114SU	–
9	ZSHR-1500-09000-303SU	ZSHR-1500-09000-316SU	ZSHR-1500-09000-104SU	ZSHR-1500-09000-114SU	–
12	ZSHR-1500-12000-303SU	ZSHR-1500-12000-316SU	ZSHR-1500-12000-104SU	ZSHR-1500-12000-114SU	–
18	ZSHR-1500-18000-303SU	ZSHR-1500-18000-316SU	ZSHR-1500-18000-104SU	ZSHR-1500-18000-114SU	–
24	ZSHR-1500-24000-303SU	ZSHR-1500-24000-316SU	ZSHR-1500-24000-104SU	ZSHR-1500-24000-114SU	–
36	ZSHR-1500-36000-303SU	ZSHR-1500-36000-316SU	ZSHR-1500-36000-104SU	ZSHR-1500-36000-114SU	–
48	ZSHR-1500-48000-303SU	ZSHR-1500-48000-316SU	ZSHR-1500-48000-104SU	ZSHR-1500-48000-114SU	–
60	ZSHR-1500-60000-303SU	ZSHR-1500-60000-316SU	ZSHR-1500-60000-104SU	ZSHR-1500-60000-114SU	–
72	ZSHR-1500-72000-303SU	ZSHR-1500-72000-316SU	ZSHR-1500-72000-104SU	ZSHR-1500-72000-114SU	–

Ground Blank Rotary Shafts — Inch



1-5/8 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1625-03000-303SU	ZSHR-1625-03000-316SU	ZSHR-1625-03000-104SU	ZSHR-1625-03000-114SU	–
6	ZSHR-1625-06000-303SU	ZSHR-1625-06000-316SU	ZSHR-1625-06000-104SU	ZSHR-1625-06000-114SU	–
9	ZSHR-1625-09000-303SU	ZSHR-1625-09000-316SU	ZSHR-1625-09000-104SU	ZSHR-1625-09000-114SU	–
12	ZSHR-1625-12000-303SU	ZSHR-1625-12000-316SU	ZSHR-1625-12000-104SU	ZSHR-1625-12000-114SU	–
18	ZSHR-1625-18000-303SU	ZSHR-1625-18000-316SU	ZSHR-1625-18000-104SU	ZSHR-1625-18000-114SU	–
24	ZSHR-1625-24000-303SU	ZSHR-1625-24000-316SU	ZSHR-1625-24000-104SU	ZSHR-1625-24000-114SU	–
36	ZSHR-1625-36000-303SU	ZSHR-1625-36000-316SU	ZSHR-1625-36000-104SU	ZSHR-1625-36000-114SU	–
48	ZSHR-1625-48000-303SU	ZSHR-1625-48000-316SU	ZSHR-1625-48000-104SU	ZSHR-1625-48000-114SU	–
60	ZSHR-1625-60000-303SU	ZSHR-1625-60000-316SU	ZSHR-1625-60000-104SU	ZSHR-1625-60000-114SU	–
72	ZSHR-1625-72000-303SU	ZSHR-1625-72000-316SU	ZSHR-1625-72000-104SU	ZSHR-1625-72000-114SU	–

1-3/4 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1750-03000-303SU	ZSHR-1750-03000-316SU	ZSHR-1750-03000-104SU	ZSHR-1750-03000-114SU	–
6	ZSHR-1750-06000-303SU	ZSHR-1750-06000-316SU	ZSHR-1750-06000-104SU	ZSHR-1750-06000-114SU	–
9	ZSHR-1750-09000-303SU	ZSHR-1750-09000-316SU	ZSHR-1750-09000-104SU	ZSHR-1750-09000-114SU	–
12	ZSHR-1750-12000-303SU	ZSHR-1750-12000-316SU	ZSHR-1750-12000-104SU	ZSHR-1750-12000-114SU	–
18	ZSHR-1750-18000-303SU	ZSHR-1750-18000-316SU	ZSHR-1750-18000-104SU	ZSHR-1750-18000-114SU	–
24	ZSHR-1750-24000-303SU	ZSHR-1750-24000-316SU	ZSHR-1750-24000-104SU	ZSHR-1750-24000-114SU	–
36	ZSHR-1750-36000-303SU	ZSHR-1750-36000-316SU	ZSHR-1750-36000-104SU	ZSHR-1750-36000-114SU	–
48	ZSHR-1750-48000-303SU	ZSHR-1750-48000-316SU	ZSHR-1750-48000-104SU	ZSHR-1750-48000-114SU	–
60	ZSHR-1750-60000-303SU	ZSHR-1750-60000-316SU	ZSHR-1750-60000-104SU	ZSHR-1750-60000-114SU	–
72	ZSHR-1750-72000-303SU	ZSHR-1750-72000-316SU	ZSHR-1750-72000-104SU	ZSHR-1750-72000-114SU	–

1-7/8 Diameter (Tolerance: +0/-.003)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1875-03000-303SU	ZSHR-1875-03000-316SU	ZSHR-1875-03000-104SU	ZSHR-1875-03000-114SU	–
6	ZSHR-1875-06000-303SU	ZSHR-1875-06000-316SU	ZSHR-1875-06000-104SU	ZSHR-1875-06000-114SU	–
9	ZSHR-1875-09000-303SU	ZSHR-1875-09000-316SU	ZSHR-1875-09000-104SU	ZSHR-1875-09000-114SU	–
12	ZSHR-1875-12000-303SU	ZSHR-1875-12000-316SU	ZSHR-1875-12000-104SU	ZSHR-1875-12000-114SU	–
18	ZSHR-1875-18000-303SU	ZSHR-1875-18000-316SU	ZSHR-1875-18000-104SU	ZSHR-1875-18000-114SU	–
24	ZSHR-1875-24000-303SU	ZSHR-1875-24000-316SU	ZSHR-1875-24000-104SU	ZSHR-1875-24000-114SU	–
36	ZSHR-1875-36000-303SU	ZSHR-1875-36000-316SU	ZSHR-1875-36000-104SU	ZSHR-1875-36000-114SU	–
48	ZSHR-1875-48000-303SU	ZSHR-1875-48000-316SU	ZSHR-1875-48000-104SU	ZSHR-1875-48000-114SU	–
60	ZSHR-1875-60000-303SU	ZSHR-1875-60000-316SU	ZSHR-1875-60000-104SU	ZSHR-1875-60000-114SU	–
72	ZSHR-1875-72000-303SU	ZSHR-1875-72000-316SU	ZSHR-1875-72000-104SU	ZSHR-1875-72000-114SU	–

Ground Blank Rotary Shafts — Inch



1-7/8 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-1937-03000-303SU	ZSHR-1937-03000-316SU	ZSHR-1937-03000-104SU	ZSHR-1937-03000-114SU	–
6	ZSHR-1937-06000-303SU	ZSHR-1937-06000-316SU	ZSHR-1937-06000-104SU	ZSHR-1937-06000-114SU	–
9	ZSHR-1937-09000-303SU	ZSHR-1937-09000-316SU	ZSHR-1937-09000-104SU	ZSHR-1937-09000-114SU	–
12	ZSHR-1937-12000-303SU	ZSHR-1937-12000-316SU	ZSHR-1937-12000-104SU	ZSHR-1937-12000-114SU	–
18	ZSHR-1937-18000-303SU	ZSHR-1937-18000-316SU	ZSHR-1937-18000-104SU	ZSHR-1937-18000-114SU	–
24	ZSHR-1937-24000-303SU	ZSHR-1937-24000-316SU	ZSHR-1937-24000-104SU	ZSHR-1937-24000-114SU	–
36	ZSHR-1937-36000-303SU	ZSHR-1937-36000-316SU	ZSHR-1937-36000-104SU	ZSHR-1937-36000-114SU	–
48	ZSHR-1937-48000-303SU	ZSHR-1937-48000-316SU	ZSHR-1937-48000-104SU	ZSHR-1937-48000-114SU	–
60	ZSHR-1937-60000-303SU	ZSHR-1937-60000-316SU	ZSHR-1937-60000-104SU	ZSHR-1937-60000-114SU	–
72	ZSHR-1937-72000-303SU	ZSHR-1937-72000-316SU	ZSHR-1937-72000-104SU	ZSHR-1937-72000-114SU	–

2 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-2000-03000-303SU	ZSHR-2000-03000-316SU	ZSHR-2000-03000-104SU	ZSHR-2000-03000-114SU	–
6	ZSHR-2000-06000-303SU	ZSHR-2000-06000-316SU	ZSHR-2000-06000-104SU	ZSHR-2000-06000-114SU	–
9	ZSHR-2000-09000-303SU	ZSHR-2000-09000-316SU	ZSHR-2000-09000-104SU	ZSHR-2000-09000-114SU	–
12	ZSHR-2000-12000-303SU	ZSHR-2000-12000-316SU	ZSHR-2000-12000-104SU	ZSHR-2000-12000-114SU	–
18	ZSHR-2000-18000-303SU	ZSHR-2000-18000-316SU	ZSHR-2000-18000-104SU	ZSHR-2000-18000-114SU	–
24	ZSHR-2000-24000-303SU	ZSHR-2000-24000-316SU	ZSHR-2000-24000-104SU	ZSHR-2000-24000-114SU	–
36	ZSHR-2000-36000-303SU	ZSHR-2000-36000-316SU	ZSHR-2000-36000-104SU	ZSHR-2000-36000-114SU	–
48	ZSHR-2000-48000-303SU	ZSHR-2000-48000-316SU	ZSHR-2000-48000-104SU	ZSHR-2000-48000-114SU	–
60	ZSHR-2000-60000-303SU	ZSHR-2000-60000-316SU	ZSHR-2000-60000-104SU	ZSHR-2000-60000-114SU	–
72	ZSHR-2000-72000-303SU	ZSHR-2000-72000-316SU	ZSHR-2000-72000-104SU	ZSHR-2000-72000-114SU	–

2-1/8 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-2125-03000-303SU	ZSHR-2125-03000-316SU	ZSHR-2125-03000-104SU	ZSHR-2125-03000-114SU	–
6	ZSHR-2125-06000-303SU	ZSHR-2125-06000-316SU	ZSHR-2125-06000-104SU	ZSHR-2125-06000-114SU	–
9	ZSHR-2125-09000-303SU	ZSHR-2125-09000-316SU	ZSHR-2125-09000-104SU	ZSHR-2125-09000-114SU	–
12	ZSHR-2125-12000-303SU	ZSHR-2125-12000-316SU	ZSHR-2125-12000-104SU	ZSHR-2125-12000-114SU	–
18	ZSHR-2125-18000-303SU	ZSHR-2125-18000-316SU	ZSHR-2125-18000-104SU	ZSHR-2125-18000-114SU	–
24	ZSHR-2125-24000-303SU	ZSHR-2125-24000-316SU	ZSHR-2125-24000-104SU	ZSHR-2125-24000-114SU	–
36	ZSHR-2125-36000-303SU	ZSHR-2125-36000-316SU	ZSHR-2125-36000-104SU	ZSHR-2125-36000-114SU	–
48	ZSHR-2125-48000-303SU	ZSHR-2125-48000-316SU	ZSHR-2125-48000-104SU	ZSHR-2125-48000-114SU	–
60	ZSHR-2125-60000-303SU	ZSHR-2125-60000-316SU	ZSHR-2125-60000-104SU	ZSHR-2125-60000-114SU	–
72	ZSHR-2125-72000-303SU	ZSHR-2125-72000-316SU	ZSHR-2125-72000-104SU	ZSHR-2125-72000-114SU	–

Ground Blank Rotary Shafts — Inch



2-3/16 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-2187-03000-303SU	ZSHR-2187-03000-316SU	ZSHR-2187-03000-104SU	ZSHR-2187-03000-114SU	–
6	ZSHR-2187-06000-303SU	ZSHR-2187-06000-316SU	ZSHR-2187-06000-104SU	ZSHR-2187-06000-114SU	–
9	ZSHR-2187-09000-303SU	ZSHR-2187-09000-316SU	ZSHR-2187-09000-104SU	ZSHR-2187-09000-114SU	–
12	ZSHR-2187-12000-303SU	ZSHR-2187-12000-316SU	ZSHR-2187-12000-104SU	ZSHR-2187-12000-114SU	–
18	ZSHR-2187-18000-303SU	ZSHR-2187-18000-316SU	ZSHR-2187-18000-104SU	ZSHR-2187-18000-114SU	–
24	ZSHR-2187-24000-303SU	ZSHR-2187-24000-316SU	ZSHR-2187-24000-104SU	ZSHR-2187-24000-114SU	–
36	ZSHR-2187-36000-303SU	ZSHR-2187-36000-316SU	ZSHR-2187-36000-104SU	ZSHR-2187-36000-114SU	–
48	ZSHR-2187-48000-303SU	ZSHR-2187-48000-316SU	ZSHR-2187-48000-104SU	ZSHR-2187-48000-114SU	–
60	ZSHR-2187-60000-303SU	ZSHR-2187-60000-316SU	ZSHR-2187-60000-104SU	ZSHR-2187-60000-114SU	–
72	ZSHR-2187-72000-303SU	ZSHR-2187-72000-316SU	ZSHR-2187-72000-104SU	ZSHR-2187-72000-114SU	–

2-3/8 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-2375-03000-303SU	ZSHR-2375-03000-316SU	ZSHR-2375-03000-104SU	ZSHR-2375-03000-114SU	–
6	ZSHR-2375-06000-303SU	ZSHR-2375-06000-316SU	ZSHR-2375-06000-104SU	ZSHR-2375-06000-114SU	–
9	ZSHR-2375-09000-303SU	ZSHR-2375-09000-316SU	ZSHR-2375-09000-104SU	ZSHR-2375-09000-114SU	–
12	ZSHR-2375-12000-303SU	ZSHR-2375-12000-316SU	ZSHR-2375-12000-104SU	ZSHR-2375-12000-114SU	–
18	ZSHR-2375-18000-303SU	ZSHR-2375-18000-316SU	ZSHR-2375-18000-104SU	ZSHR-2375-18000-114SU	–
24	ZSHR-2375-24000-303SU	ZSHR-2375-24000-316SU	ZSHR-2375-24000-104SU	ZSHR-2375-24000-114SU	–
36	ZSHR-2375-36000-303SU	ZSHR-2375-36000-316SU	ZSHR-2375-36000-104SU	ZSHR-2375-36000-114SU	–
48	ZSHR-2375-48000-303SU	ZSHR-2375-48000-316SU	ZSHR-2375-48000-104SU	ZSHR-2375-48000-114SU	–
60	ZSHR-2375-60000-303SU	ZSHR-2375-60000-316SU	ZSHR-2375-60000-104SU	ZSHR-2375-60000-114SU	–
72	ZSHR-2375-72000-303SU	ZSHR-2375-72000-316SU	ZSHR-2375-72000-104SU	ZSHR-2375-72000-114SU	–

2-7/16 Diameter (Tolerance: +0/-.0035)

O'all Lg (inch)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number	2024 Aluminum Part Number
3	ZSHR-2437-03000-303SU	ZSHR-2437-03000-316SU	ZSHR-2437-03000-104SU	ZSHR-2437-03000-114SU	–
6	ZSHR-2437-06000-303SU	ZSHR-2437-06000-316SU	ZSHR-2437-06000-104SU	ZSHR-2437-06000-114SU	–
9	ZSHR-2437-09000-303SU	ZSHR-2437-09000-316SU	ZSHR-2437-09000-104SU	ZSHR-2437-09000-114SU	–
12	ZSHR-2437-12000-303SU	ZSHR-2437-12000-316SU	ZSHR-2437-12000-104SU	ZSHR-2437-12000-114SU	–
18	ZSHR-2437-18000-303SU	ZSHR-2437-18000-316SU	ZSHR-2437-18000-104SU	ZSHR-2437-18000-114SU	–
24	ZSHR-2437-24000-303SU	ZSHR-2437-24000-316SU	ZSHR-2437-24000-104SU	ZSHR-2437-24000-114SU	–
36	ZSHR-2437-36000-303SU	ZSHR-2437-36000-316SU	ZSHR-2437-36000-104SU	ZSHR-2437-36000-114SU	–
48	ZSHR-2437-48000-303SU	ZSHR-2437-48000-316SU	ZSHR-2437-48000-104SU	ZSHR-2437-48000-114SU	–
60	ZSHR-2437-60000-303SU	ZSHR-2437-60000-316SU	ZSHR-2437-60000-104SU	ZSHR-2437-60000-114SU	–
72	ZSHR-2437-72000-303SU	ZSHR-2437-72000-316SU	ZSHR-2437-72000-104SU	ZSHR-2437-72000-114SU	–

Ground Blank Rotary Shafts — Metric

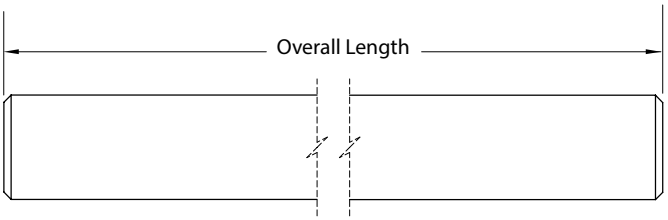
18-8 SS, 316 SS and Steel

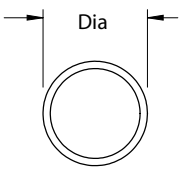
Product Information

Plain ground rotary shafts are cylindrical components precision-ground to achieve a smooth, accurate surface finish. These shafts serve as the backbone for countless mechanical systems, transmitting rotational motion. Their applications span across various industries, including automotive, aerospace, and manufacturing. From supporting gears and pulleys in power transmission systems to acting as axles in vehicles, plain ground rotary shafts are essential components that enable efficient and reliable machinery operation. Their durability, precision, and versatility make them indispensable in modern engineering.

Length tolerance is +/-1.6mm and straightness tolerance is .33mm per 300mm.

- 18-8 Stainless Steel offers excellent corrosion resistant.
- 316 Stainless Steel, also known as Marine Stainless Steel, offers superior corrosion resistant than 18-8 Stainless Steel.
- Aluminum have the strength of mild steel with one third the weight.
- C1045 Carbon Steel are generally stronger than Stainless Steel and Aluminum without corrosion resistance.
- 1144 Alloy Steel is stronger than Carbon Steel and hardened for increased wear resistance.







Materials Chart

Material	Mechanical Finish	Edge Type	Specs Met	Rockwell Hardness	Tensile Strength (psi)	Magnetic?
18-8 SS	Ground & Polished	Chamfered	ASTM A 582 Cond A	B83	90,000	Mildly
316 SS			ASTM A 276 Cond	B83	85,000	Mildly
C1045 Carbon Steel			ASTM A108	C15	91,000	Magnetic
1144 Alloy Steel			ASTM A311	C22	115,000	Magnetic



8mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHR-M08-M0300-303SU	ZSHR-M08-M0300-316SU	ZSHR-M08-M0300-104SU	ZSHR-M08-M0300-114SU
500	ZSHR-M08-M0500-303SU	ZSHR-M08-M0500-316SU	ZSHR-M08-M0500-104SU	ZSHR-M08-M0500-114SU
1,000	ZSHR-M08-M1000-303SU	ZSHR-M08-M1000-316SU	ZSHR-M08-M1000-104SU	ZSHR-M08-M1000-114SU
1,200	ZSHR-M08-M1200-303SU	ZSHR-M08-M1200-316SU	ZSHR-M08-M1200-104SU	ZSHR-M08-M1200-114SU
1,500	ZSHR-M08-M1500-303SU	ZSHR-M08-M1500-316SU	ZSHR-M08-M1500-104SU	ZSHR-M08-M1500-114SU
1,800	ZSHR-M08-M1800-303SU	ZSHR-M08-M1800-316SU	ZSHR-M08-M1800-104SU	ZSHR-M08-M1800-114SU

Ground Blank Rotary Shafts — Metric



10mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHR-M10-M0300-303SU	ZSHR-M10-M0300-316SU	ZSHR-M10-M0300-104SU	ZSHR-M10-M0300-114SU
500	ZSHR-M10-M0500-303SU	ZSHR-M10-M0500-316SU	ZSHR-M10-M0500-104SU	ZSHR-M10-M0500-114SU
1,000	ZSHR-M10-M1000-303SU	ZSHR-M10-M1000-316SU	ZSHR-M10-M1000-104SU	ZSHR-M10-M1000-114SU
1,200	ZSHR-M10-M1200-303SU	ZSHR-M10-M1200-316SU	ZSHR-M10-M1200-104SU	ZSHR-M10-M1200-114SU
1,500	ZSHR-M10-M1500-303SU	ZSHR-M10-M1500-316SU	ZSHR-M10-M1500-104SU	ZSHR-M10-M1500-114SU
1,800	ZSHR-M10-M1800-303SU	ZSHR-M10-M1800-316SU	ZSHR-M10-M1800-104SU	ZSHR-M10-M1800-114SU

12mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHR-M12-M0300-303SU	ZSHR-M12-M0300-316SU	ZSHR-M12-M0300-104SU	ZSHR-M12-M0300-114SU
500	ZSHR-M12-M0500-303SU	ZSHR-M12-M0500-316SU	ZSHR-M12-M0500-104SU	ZSHR-M12-M0500-114SU
1,000	ZSHR-M12-M1000-303SU	ZSHR-M12-M1000-316SU	ZSHR-M12-M1000-104SU	ZSHR-M12-M1000-114SU
1,200	ZSHR-M12-M1200-303SU	ZSHR-M12-M1200-316SU	ZSHR-M12-M1200-104SU	ZSHR-M12-M1200-114SU
1,500	ZSHR-M12-M1500-303SU	ZSHR-M12-M1500-316SU	ZSHR-M12-M1500-104SU	ZSHR-M12-M1500-114SU
1,800	ZSHR-M12-M1800-303SU	ZSHR-M12-M1800-316SU	ZSHR-M12-M1800-104SU	ZSHR-M12-M1800-114SU

15mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHR-M15-M0300-303SU	ZSHR-M15-M0300-316SU	ZSHR-M15-M0300-104SU	ZSHR-M15-M0300-114SU
500	ZSHR-M15-M0500-303SU	ZSHR-M15-M0500-316SU	ZSHR-M15-M0500-104SU	ZSHR-M15-M0500-114SU
1,000	ZSHR-M15-M1000-303SU	ZSHR-M15-M1000-316SU	ZSHR-M15-M1000-104SU	ZSHR-M15-M1000-114SU
1,200	ZSHR-M15-M1200-303SU	ZSHR-M15-M1200-316SU	ZSHR-M15-M1200-104SU	ZSHR-M15-M1200-114SU
1,500	ZSHR-M15-M1500-303SU	ZSHR-M15-M1500-316SU	ZSHR-M15-M1500-104SU	ZSHR-M15-M1500-114SU
1,800	ZSHR-M15-M1800-303SU	ZSHR-M15-M1800-316SU	ZSHR-M15-M1800-104SU	ZSHR-M15-M1800-114SU

20mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHR-M20-M0300-303SU	ZSHR-M20-M0300-316SU	ZSHR-M20-M0300-104SU	ZSHR-M20-M0300-114SU
500	ZSHR-M20-M0500-303SU	ZSHR-M20-M0500-316SU	ZSHR-M20-M0500-104SU	ZSHR-M20-M0500-114SU
1,000	ZSHR-M20-M1000-303SU	ZSHR-M20-M1000-316SU	ZSHR-M20-M1000-104SU	ZSHR-M20-M1000-114SU
1,200	ZSHR-M20-M1200-303SU	ZSHR-M20-M1200-316SU	ZSHR-M20-M1200-104SU	ZSHR-M20-M1200-114SU
1,500	ZSHR-M20-M1500-303SU	ZSHR-M20-M1500-316SU	ZSHR-M20-M1500-104SU	ZSHR-M20-M1500-114SU
1,800	ZSHR-M20-M1800-303SU	ZSHR-M20-M1800-316SU	ZSHR-M20-M1800-104SU	ZSHR-M20-M1800-114SU

Ground Blank Rotary Shafts — Metric



24mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHR-M24-M0300-303SU	ZSHR-M24-M0300-316SU	ZSHR-M24-M0300-104SU	ZSHR-M24-M0300-114SU
500	ZSHR-M24-M0500-303SU	ZSHR-M24-M0500-316SU	ZSHR-M24-M0500-104SU	ZSHR-M24-M0500-114SU
1,000	ZSHR-M24-M1000-303SU	ZSHR-M24-M1000-316SU	ZSHR-M24-M1000-104SU	ZSHR-M24-M1000-114SU
1,200	ZSHR-M24-M1200-303SU	ZSHR-M24-M1200-316SU	ZSHR-M24-M1200-104SU	ZSHR-M24-M1200-114SU
1,500	ZSHR-M24-M1500-303SU	ZSHR-M24-M1500-316SU	ZSHR-M24-M1500-104SU	ZSHR-M24-M1500-114SU
1,800	ZSHR-M24-M1800-303SU	ZSHR-M24-M1800-316SU	ZSHR-M24-M1800-104SU	ZSHR-M24-M1800-114SU

25mm Diameter (Tolerance: +0/-.0635mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHR-M25-M0300-303SU	ZSHR-M25-M0300-316SU	ZSHR-M25-M0300-104SU	ZSHR-M25-M0300-114SU
500	ZSHR-M25-M0500-303SU	ZSHR-M25-M0500-316SU	ZSHR-M25-M0500-104SU	ZSHR-M25-M0500-114SU
1,000	ZSHR-M25-M1000-303SU	ZSHR-M25-M1000-316SU	ZSHR-M25-M1000-104SU	ZSHR-M25-M1000-114SU
1,200	ZSHR-M25-M1200-303SU	ZSHR-M25-M1200-316SU	ZSHR-M25-M1200-104SU	ZSHR-M25-M1200-114SU
1,500	ZSHR-M25-M1500-303SU	ZSHR-M25-M1500-316SU	ZSHR-M25-M1500-104SU	ZSHR-M25-M1500-114SU
1,800	ZSHR-M25-M1800-303SU	ZSHR-M25-M1800-316SU	ZSHR-M25-M1800-104SU	ZSHR-M25-M1800-114SU

40mm Diameter (Tolerance: +0/-.076mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHR-M40-M0300-303SU	ZSHR-M40-M0300-316SU	ZSHR-M40-M0300-104SU	ZSHR-M40-M0300-114SU
500	ZSHR-M40-M0500-303SU	ZSHR-M40-M0500-316SU	ZSHR-M40-M0500-104SU	ZSHR-M40-M0500-114SU
1,000	ZSHR-M40-M1000-303SU	ZSHR-M40-M1000-316SU	ZSHR-M40-M1000-104SU	ZSHR-M40-M1000-114SU
1,200	ZSHR-M40-M1200-303SU	ZSHR-M40-M1200-316SU	ZSHR-M40-M1200-104SU	ZSHR-M40-M1200-114SU
1,500	ZSHR-M40-M1500-303SU	ZSHR-M40-M1500-316SU	ZSHR-M40-M1500-104SU	ZSHR-M40-M1500-114SU
1,800	ZSHR-M40-M1800-303SU	ZSHR-M40-M1800-316SU	ZSHR-M40-M1800-104SU	ZSHR-M40-M1800-114SU

50mm Diameter (Tolerance: +0/-.076mm)

O'all Lg (mm)	18-8 SS Part Number	316 SS Part Number	C1045 Steel Part Number	1144 Steel Part Number
300	ZSHR-M50-M0300-303SU	ZSHR-M50-M0300-316SU	ZSHR-M50-M0300-104SU	ZSHR-M50-M0300-114SU
500	ZSHR-M50-M0500-303SU	ZSHR-M50-M0500-316SU	ZSHR-M50-M0500-104SU	ZSHR-M50-M0500-114SU
1,000	ZSHR-M50-M1000-303SU	ZSHR-M50-M1000-316SU	ZSHR-M50-M1000-104SU	ZSHR-M50-M1000-114SU
1,200	ZSHR-M50-M1200-303SU	ZSHR-M50-M1200-316SU	ZSHR-M50-M1200-104SU	ZSHR-M50-M1200-114SU
1,500	ZSHR-M50-M1500-303SU	ZSHR-M50-M1500-316SU	ZSHR-M50-M1500-104SU	ZSHR-M50-M1500-114SU
1,800	ZSHR-M50-M1800-303SU	ZSHR-M50-M1800-316SU	ZSHR-M50-M1800-104SU	ZSHR-M50-M1800-114SU

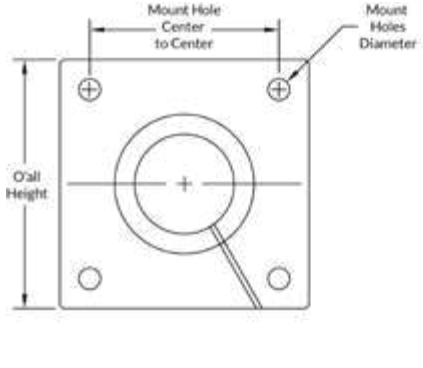
Flange-Mount Shaft Supports — Inch and Metric

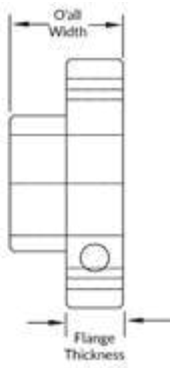
Aluminum

Product Information

For providing support to ends of linear shafts. For use with light load shafts where shaft alignment is not critical. Commonly used with closed-style linear bearings. Four bolt design.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Aluminum is 6061 -T6 and meets ASTM B211.
- Made from aluminum, these Flange-Mount Shaft Support are lightweight, resist corrosion in wet environments and nonmagnetic.







Flange Mount, Inch

For Shaft OD	O'all Length	O'all Width	O'all Height	Flange Thickness	Mount Holes Diameter	Mount Hole Center-to-Center	Clamping Screw Size	AMPG Part Number
1/4	1-1/2	3/4	1-1/2	3/8	.16	1	6-32	ZMOUNTK30
5/16	1-1/2	3/4	1-1/2	3/8	.16	1	6-32	ZMOUNTK31
3/8	1-1/2	3/4	1-1/2	3/8	.16	1	6-32	ZMOUNTK32
1/2	1-5/8	7/8	1-5/8	1/2	.18	1-1/4	8-32	ZMOUNTK21
5/8	2	7/8	2	1/2	.18	1-1/2	8-32	ZMOUNTK35
3/4	2-3/8	1	2-3/8	5/8	.21	1-3/4	10-32	ZMOUNTK22
7/8	2-1/2	1	2-1/2	5/8	.21	2	10-32	ZMOUNTK38
1	2-3/4	1-1/4	2-3/4	5/8	.27	2-1/8	1/4-20	ZMOUNTK23
1-1/8	3	1-1/4	3	3/4	.27	2-1/4	1/4-20	ZMOUNTK42
1-1/4	3-1/8	1-3/8	3-1/8	3/4	.27	2-3/8	1/4-20	ZMOUNTK24
1-1/2	3-1/2	1-5/8	3-1/2	3/4	.33	2-1/2	5/16-18	ZMOUNTK45
2	4	2	4	7/8	.33	2-7/8	5/16-18	ZMOUNTK53

Flange Mount, Metric

For Shaft OD	O'all Length	O'all Width	O'all Height	Flange Thickness	Mount Holes Diameter	Mount Hole Center-to-Center	Clamping Screw Size	AMPG Part Number
10 mm	40.00	22.00	40.00	12.00	5.00	25.00	M4	ZMOUNTM10
12 mm	40.00	22.00	40.00	12.00	5.00	25.00	M4	ZMOUNTM12
20 mm	64.00	26.00	64.00	16.00	7.00	42.00	M5	ZMOUNTM20
25 mm	70.00	32.00	70.00	16.00	8.00	50.00	M6	ZMOUNTM25
30 mm	80.00	35.00	80.00	18.00	8.00	60.00	M6	ZMOUNTM30

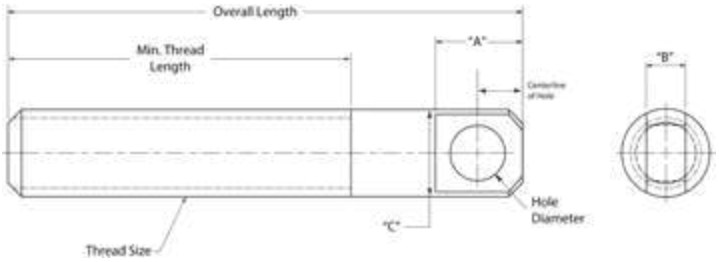
Extension Spring Stud Anchors — Inch

18-8 Stainless Steel
Steel | Black Oxide

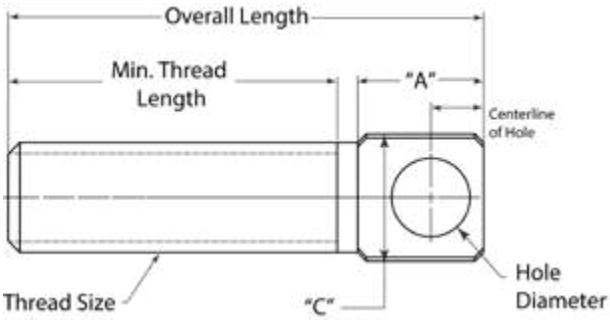
Product Information

Attach an extension spring to a stud and then thread the stud into your part for a secure connection. Class 2A thread fit.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 stainless steel material meet ASTM A582.
- Low strength steel with a Rockwell hardness of B55.
- Made from stainless steel, these spring anchors have good chemical resistance and maybe mildly magnetic.









Extension Spring Stud Anchors, Inch

Thread Size	Overall Length	Min. Thread Lg.	Hole Dia	Centerline of Hole to Top of Head	"A"	"B"	"C"	AMPG 18-8 SS Part Number	AMPG Steel Part Number
6-32	.625	.400	.080	.070	.150	.062	.138	Z20001SS	Z20001
6-40	.625	.400	.080	.070	.150	.062	.138	Z20022SS	Z20022
6-48	.625	.400	.080	.070	.150	.062	.138	Z20002SS	Z20002
8-32	.875	.625	.100	.085	.160	.072	.164	Z20004SS	Z20004
8-36	.875	.625	.100	.085	.160	.072	.164	Z20023SS	Z20023
8-40	.875	.625	.100	.085	.160	.072	.164	Z20005SS	Z20005
10-24	1.125	.750	.120	.098	.190	.085	.190	Z20024SS	Z20024
10-32	1.125	.750	.120	.098	.190	.085	.190	Z20025SS	Z20025
1/4-20	1.250	.875	.150	.130	.250	.120	.250	Z20010SS	Z20010
1/4-20	1.250	.875	.268	.180	.350	.120	.120	Z20026SS*	Z20026*
1/4-28	1.250	.875	.150	.130	.250	.120	.250	Z20011SS	Z20011
3/8-16	1.625	1.125	.220	.180	.360	.150	.375	Z20014SS	Z20014
3/8-16	1.625	1.125	.268	.180	.430	.150	.375	Z20028SS*	Z20028*
3/8-24	1.625	1.125	.220	.180	.360	.150	.375	Z20015SS	Z20015

*Head Width is wider than Diameter

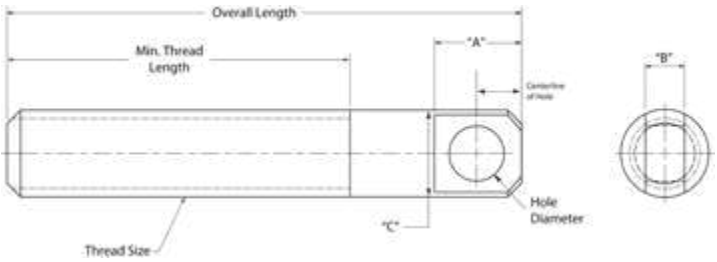
Extension Spring Stud Anchors — Metric

18-8 Stainless Steel
Steel | Black Oxide

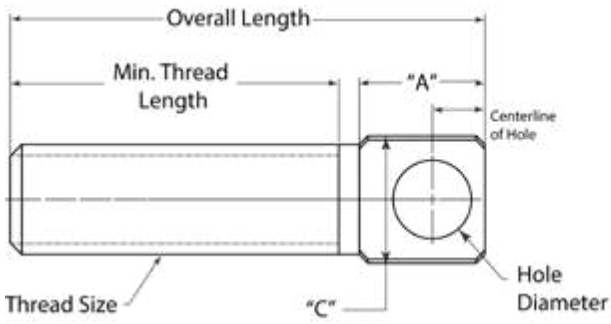
Product Information

Attach an extension spring to a stud and then thread the stud into your part for a secure connection. Class 6g thread fit.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 stainless steel material meet ASTM A582.
- Low strength steel has a Rockwell hardness of B55.









Extension Spring Stud Anchors, Metric

Thread Size	Overall Length	Min. Thread Lg.	Hole Dia	Centerline of Hole to Top of Head	"A"	"B"	"C"	AMPG 18-8 SS Part Number	AMPG Steel Part Number
M3.5	16.00	10.00	2.00	1.80	3.80	1.60	3.50	Z2000M3.5SS	Z2000M3.5
M4	22.00	16.00	2.50	2.10	4.10	1.80	4.00	Z2000M4SS	Z2000M4
M5	28.00	19.00	3.00	2.60	4.80	2.20	5.00	Z2000M5SS	Z2000M5
M6	32.00	22.00	4.00	2.60	6.30	2.70	6.00	Z2000M6SS	Z2000M6
M8	38.00	25.00	5.00	4.20	7.90	3.60	8.00	Z2000M8SS	Z2000M8
M10	41.00	28.00	6.00	4.80	9.10	4.00	10.00	Z2000M10SS	Z2000M10

18-8 SS, Steel

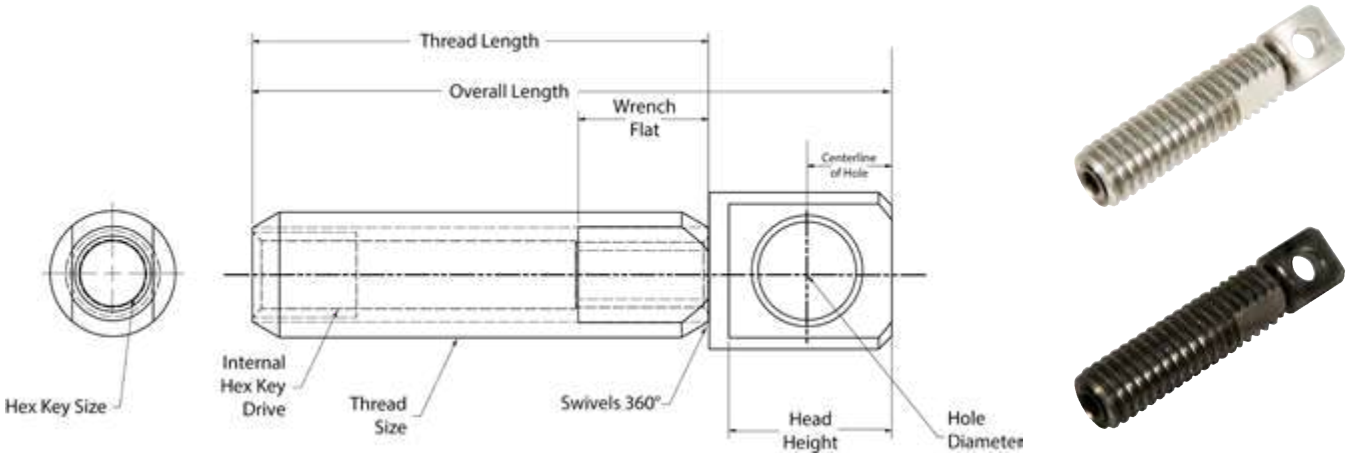
Z-Swivel Spring Anchors — Inch

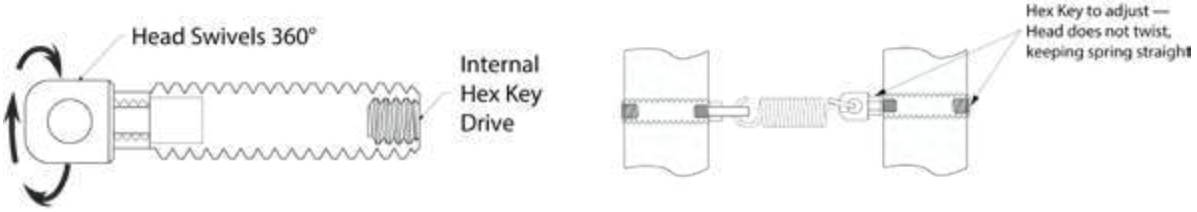
18-8 Stainless Steel
Steel | Black Oxide

Product Information

AMPG's Z Swivel Spring Anchors allow for the adjustment of tension on the spring, without twisting it. The attachment point to the spring is on a swivel, allowing the spring to be drawn tighter, without changing or twisting the spring posititon.

They are two ways to adjust the anchor, with a hex key from the bottom of the anchor, or by using the wrench flats on the top of the anchor. Class 2A thread fit. Overall length tolerance is ± .080 inch. Hole size tolerance is +/-.005 inch.





Z-Swivel Spring Stud Anchors, Inch

Thread Size	Min. Thread Length	Nominal Overall Length	Min. Overall Length	Max. Overall Length	Head Height	Diameter	Hole Dia	Centerline of Hole to Top of Head	Hex Key Size	AMPG 18-8 SS Part Number	AMPG Steel Part Number
6-32	.400	0.625	0.545	0.705	.150	.138	.080	.070	.035	Z20050SS	Z20050
6-40	.400	0.625	0.545	0.705	.150	.138	.080	.070	.035	Z20051SS	Z20051
8-32	.625	.875	0.795	0.955	.160	.164	.100	.085	.035	Z20054SS	Z20054
8-36	.625	.875	0.795	0.955	.160	.164	.100	.085	.050	Z20055SS	Z20055
10-24	.750	1.128	1.048	1.208	.190	.190	.120	.098	.050	Z20068SS	Z20068
10-32	.750	1.128	1.048	1.208	.190	.190	.120	.098	.062	Z20069SS	Z20069
1/4-20	.875	1.250	1.170	1.330	.250	.250	.150	.130	.078	Z20058SS	Z20058
1/4-28	.875	1.250	1.170	1.330	.250	.250	.150	.130	.078	Z20059SS	Z20059
3/8-16	1.125	1.625	1.545	1.705	.360	.375	.220	.180	.125	Z20065SS	Z20065
3/8-24	1.125	1.625	1.545	1.705	.360	.375	.220	.180	.125	Z20066SS	Z20066

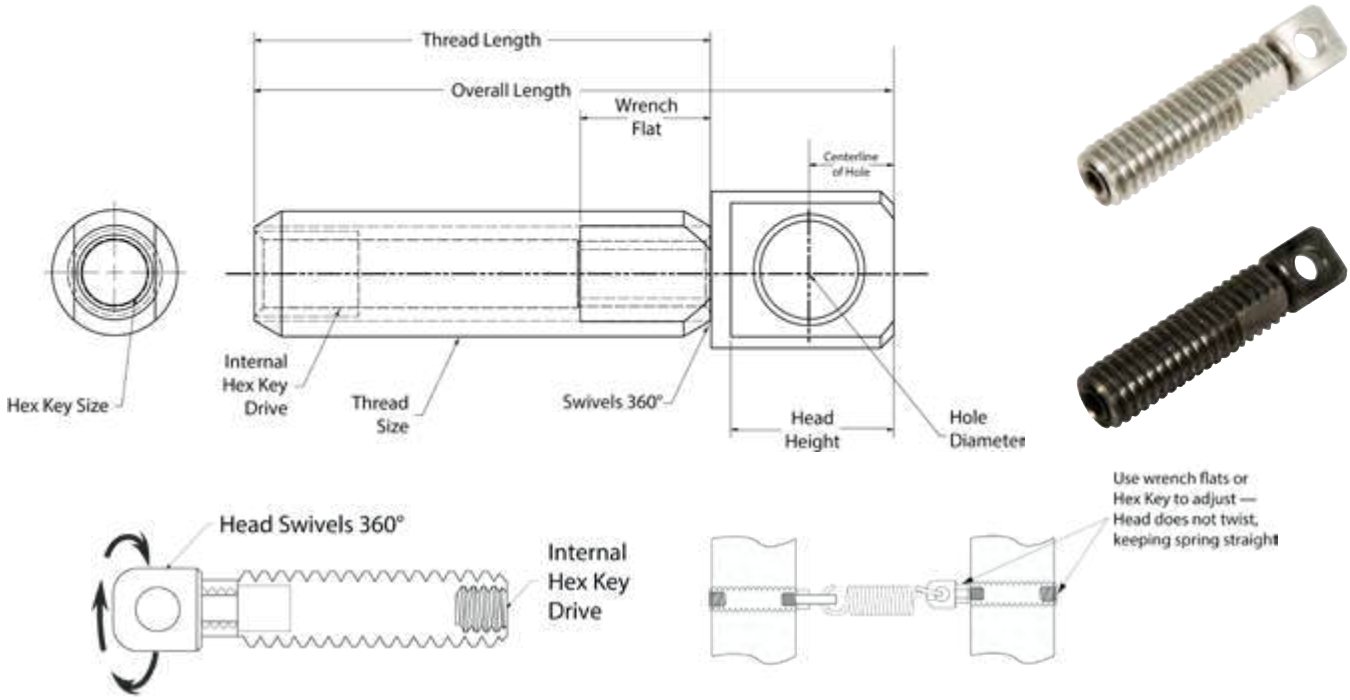
Z-Swivel Spring Anchor — Metric

18-8 Stainless Steel
Steel | Black Oxide

Product Information

AMPG's Z Swivel Spring Anchors allow for the adjustment of tension on the spring, without twisting it. The attachment point to the spring is on a swivel, allowing the spring to be drawn tighter, without changing or twisting the spring posititon.

They are two ways to adjust the anchor, with a hex key from the bottom of the anchor, or by using the wrench flats on the top of the anchor. Class 6g thread fit. Overall length tolerance is ± 2mm. Hole size tolerance is +/-.12mm.



Z-Swivel Spring Stud Anchors, Metric

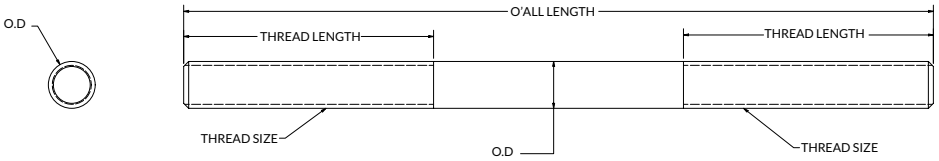
Thread Size	Thread Pitch	Min. Thread Length	Nominal Overall Length	Min. Overall Length	Max. Overall Length	Head Height	Dia,	Hole Dia.	Centerline of Hole to Top of Head	Hex Key Size	AMPG 18-8 SS Part Number	AMPG Steel Part Number
M3.5	.06	10.00	16.00	14.00	18.00	3.80	3.50	2.00	1.80	0.9	Z2001M3.5SS	Z2001M3.5
M4	.07	16.00	22.00	20.00	24.00	4.10	4.00	2.50	2.10	1.3	Z2001M4SS	Z2001M4
M5	.08	19.00	28.00	26.00	30.00	4.80	5.00	3.00	2.60	1.5	Z2001M5SS	Z2001M5
M6	1.00	22.00	32.00	30.00	34.00	6.30	6.00	4.00	3.10	2	Z2001M6SS	Z2001M6
M8	1.25	25.00	38.00	36.00	40.00	7.90	8.00	5.00	4.20	2.5	Z2001M8SS	Z2001M8
M10	1.50	28.00	41.00	39.00	43.00	9.10	10.00	6.00	4.80	3	Z2001M10SS	Z2001M10

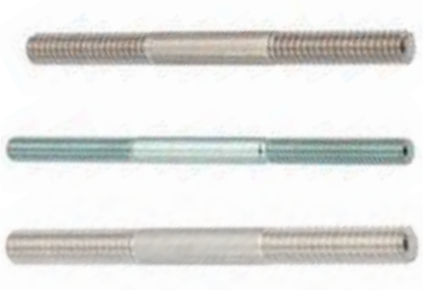
External Threaded Connecting Rods — Inch

18-8 Stainless Steel
12L14 Plain Carbon Steel
Aluminum

Product Information

Designed for use with right-hand threaded rod ends, these rods have right-hand threads on both ends. Use them for remote valve operators, throttle controllers, shifting mechanisms, and virtually any push/pull assembly.





3" O'all Length

Thread Size	Thread Spacing	O'all Length	Thread Length	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-24	Coarse	3	1	3/16	LINK21903E-188	LINK21903E	LINK21903EA
10-32	Fine	3	1	3/16	LINK21803E-188	LINK21803EZ	LINK21803EA
1/4-20	Coarse	3	1	1/4	LINK25103E-188	LINK25103E	LINK25103EA
1/4-28	Fine	3	1	1/4	LINK25003E-188	LINK25003EZ	LINK25003EA
5/16-18	Coarse	3	1	5/16	LINK31303E-188	LINK31303E	LINK31303EA
5/16-24	Fine	3	1	5/16	LINK31203E-188	LINK31203EZ	LINK31203EA
3/8-16	Coarse	3	1	3/8	LINK37603E-188	LINK37603E	LINK37603EA
3/8-24	Fine	3	1	3/8	LINK37503E-188	LINK37503E	LINK37503EA
7/16-20	Fine	3	1	7/16	LINK43703E-188	LINK43703E	LINK43703EA
1/2-20	Fine	3	1	1/2	LINK50003E-188	LINK50003E	LINK50003EA

6" O'all Length

Thread Size	Thread Spacing	O'all Length	Thread Length	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-24	Coarse	6	1-3/16	3/16	LINK21906E-188	LINK21906E	LINK21906EA
10-32	Fine	6	1-3/16	3/16	LINK21806E-188	LINK21806EZ	LINK21806EA
1/4-20	Coarse	6	1-1/2	1/4	LINK251016E-188	LINK25106E	LINK25106EA
1/4-28	Fine	6	1-1/2	1/4	LINK25006E-188	LINK25006EZ	LINK25006EA
5/16-18	Coarse	6	1-5/8	5/16	LINK31306E-188	LINK31306E	LINK31306EA
5/16-24	Fine	6	1-5/8	5/16	LINK31206E-188	LINK31206EZ	LINK31206EA
3/8-16	Coarse	6	2	3/8	LINK37606E-188	LINK37606E	LINK37606EA
3/8-24	Fine	6	2	3/8	LINK37506E-188	LINK37506E	LINK37506EA
7/16-20	Fine	6	2	7/16	LINK43706E-188	LINK43706E	LINK43706EA
1/2-13	Coarse	6	2	1/2	LINK50106E-188	LINK50106E	LINK50106EA
1/2-20	Fine	6	2	1/2	LINK50006E-188	LINK50006E	LINK50006EA

External Threaded Connecting Rod — Inch



9" O'all Length

Thread Size	Thread Spacing	O'all Length	Thread Length	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-24	Coarse	9	1-3/16	3/16	LINK21909E-188	LINK21909E	LINK21909EA
10-32	Fine	9	1-3/16	3/16	LINK21809E-188	LINK21809EZ	LINK21809EA
1/4-20	Coarse	9	1-1/2	1/4	LINK25109E-188	LINK25109E	LINK25109EA
1/4-28	Fine	9	1-1/2	1/4	LINK25009E-188	LINK25009EZ	LINK25009EA
5/16-18	Coarse	9	1-5/8	5/16	LINK31309E-188	LINK31309E	LINK31309EA
5/16-24	Fine	9	1-5/8	5/16	LINK31209E-188	LINK31209EZ	LINK31209EA
3/8-16	Coarse	9	2	3/8	LINK37609E-188	LINK37609E	LINK37609EA
3/8-24	Fine	9	2	3/8	LINK37509E-188	LINK37509E	LINK37509EA
7/16-20	Fine	9	2	7/16	LINK43709E-188	LINK43709E	LINK43709EA
1/2-13	Coarse	9	2	1/2	LINK50109E-188	LINK50109E	LINK50109EA
1/2-20	Fine	9	2	1/2	LINK50009E-188	LINK50009E	LINK50009EA

12" O'all Length

Thread Size	Thread Spacing	O'all Length	Thread Length	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-24	Coarse	12	1-3/16	3/16	LINK21912E-188	LINK21912E	LINK21912EA
10-32	Fine	12	1-3/16	3/16	LINK21812E-188	LINK21812EZ	LINK21812EA
1/4-20	Coarse	12	1-1/2	1/4	LINK25112E-188	LINK25112E	LINK25112EA
1/4-28	Fine	12	1-1/2	1/4	LINK25012E-188	LINK25012EZ	LINK25012EA
5/16-18	Coarse	12	1-5/8	5/16	LINK31312E-188	LINK31212E	LINK31312EA
5/16-24	Fine	12	1-5/8	5/16	LINK31212E-188	LINK31212EZ	LINK31212EA
3/8-16	Coarse	12	2	3/8	LINK37612E-188	LINK37612E	LINK37612EA
3/8-24	Fine	12	2	3/8	LINK37512E-188	LINK37512E	LINK37512EA
7/16-20	Fine	12	2	7/16	LINK43712E-188	LINK43712E	LINK43712EA
1/2-13	Coarse	12	2	1/2	LINK50112E-188	LINK50112E	LINK50112EA
1/2-20	Fine	12	2	1/2	LINK50012E-188	LINK50012E	LINK50012EA
5/8-11	Coarse	12	3-5/8	5/8	LINK62612E-188	LINK62612E	LINK62612EA
5/8-18	Fine	12	3-5/8	5/8	LINK62512E-188	LINK62512E	LINK62512EA

External Threaded Connecting Rod — Inch



18" O'all Length

Thread Size	Thread Spacing	O'all Length	Thread Length	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
1/4-28	Fine	18	1-1/2	1/4	LINK25018E-188	LINK25018EZ	LINK25018EA
5/16-24	Fine	18	1-5/8	5/16	LINK31218E-188	LINK31218EZ	LINK31218EA
3/8-24	Fine	18	2	3/8	LINK37518E-188	LINK37518E	LINK37518EA
7/16-20	Fine	18	2	7/16	LINK43718E-188	LINK43718E	LINK43718EA
1/2-13	Coarse	18	2	1/2	LINK50118E-188	LINK50118E	LINK50118EA
1/2-20	Fine	18	2	1/2	LINK50018E-188	LINK50018E	LINK50018EA
5/8-11	Coarse	18	3-5/8	5/8	LINK62618E-188	LINK62618E	LINK62618EA
5/8-18	Fine	18	3-5/8	5/8	LINK62518E-188	LINK62518E	LINK62518EA
3/4-10	Coarse	18	3-5/8	3/4	LINK75118E-188	LINK75118E	LINK75118EA
3/4-16	Fine	18	3-5/8	3/4	LINK75018E-188	LINK75018E	LINK75018EA

24" O'all Length

Thread Size	Thread Spacing	O'all Length	Thread Length	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
5/16-24	Fine	24	1-5/8	5/16	LINK31224E-188	LINK31224EZ	LINK31224EA
3/8-24	Fine	24	2	3/8	LINK37524E-188	LINK37524E	LINK37524EA
7/16-20	Fine	24	2	7/16	LINK43724E-188	LINK43724E	LINK43724EA
1/2-13	Coarse	24	2	1/2	LINK50124E-188	LINK50124E	LINK50124EA
1/2-20	Fine	24	2	1/2	LINK50024E-188	LINK50024E	LINK50024EA
5/8-11	Coarse	24	3-5/8	5/8	LINK62624E-188	LINK62624E	LINK62624EA
5/8-18	Fine	24	3-5/8	5/8	LINK62524E-188	LINK62524E	LINK62524EA
3/4-10	Coarse	24	3-5/8	3/4	LINK75124E-188	LINK75124E	LINK75124EA
3/4-16	Fine	24	3-5/8	3/4	LINK75024E-188	LINK75024E	LINK75024EA

30" O'all Length

Thread Size	Thread Spacing	O'all Length	Thread Length	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
3/8-24	Fine	30	2	3/8	LINK37530E-188	LINK37530E	LINK37530EA
7/16-20	Fine	30	2	7/16	LINK43730E-188	LINK43730E	LINK43730EA
1/2-20	Fine	30	2	1/2	LINK50030E-188	LINK50030E	LINK50030EA
5/8-11	Coarse	30	3-5/8	5/8	—	—	LINK62630EA
5/8-18	Fine	30	3-5/8	5/8	LINK62530E-188	LINK62530E	LINK62530EA
3/4-16	Fine	30	3-5/8	3/4	LINK75030E-188	LINK75030E	LINK75030EA

36" O'all Length

Thread Size	Thread Spacing	O'all Length	Thread Length	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
7/16-20	Fine	36	2	7/16	LINK43736E-188	LINK43736E	LINK43736EA
1/2-20	Fine	36	2	1/2	LINK50036E-188	LINK50036E	LINK50036EA
5/8-18	Fine	36	3-5/8	5/8	LINK62536E-188	LINK62536E	LINK62536EA
3/4-16	Fine	36	3-5/8	3/4	LINK75036E-188	LINK75036E	LINK75036EA

External Threaded Connecting Rod — Metric

18-8 Stainless Steel
12L14 Plain Carbon Steel
Aluminum



75mm O'all Length

Thread Size	O'all Length	Thread Length	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M3 x 0.5	75	25	3	Coarse	LINKM3X75E-188	LINKM3X75E	LINKM3X75E-ALUM
M4 x 0.7	75	25	4	Coarse	LINKM4X75E-188	LINKM4X75E	LINKM4X75E-ALUM
M5 x 0.8	75	25	5	Coarse	LINKM5X75E-188	LINKM5X75E	LINKM5X75E-ALUM
M6 x 1	75	25	6	Coarse	LINKM6X75E-188	LINKM6X75E	LINKM6X75E-ALUM
M8 x 1.25	75	25	8	Coarse	LINKM8X75E-188	LINKM8X75E	LINKM8X75E-ALUM
M10 x 1.5	75	25	10	Coarse	LINKM10X75E-188	LINKM10X75E	LINKM10X75E-ALUM
M12 x 1.75	75	25	12	Coarse	LINKM12X75E-188	LINKM12X75E	LINKM12X75E-ALUM

150mm O'all Length

Thread Size	O'all Length	Thread Length	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M4 x 0.7	150	25	4	Coarse	LINKM4X150E-188	LINKM4X150E	LINKM4X150E-ALUM
M5 x 0.8	150	30	5	Coarse	LINKM5X150E-188	LINKM5X150E	LINKM5X150E-ALUM
M6 x 1	150	35	6	Coarse	LINKM6X150E-188	LINKM6X150E	LINKM6X150E-ALUM
M8 x 1.25	150	40	8	Coarse	LINKM8X150E-188	LINKM8X150E	LINKM8X150E-ALUM
M10 x 1.5	150	50	10	Coarse	LINKM10X150E-188	LINKM10X150E	LINKM10X150E-ALUM
M12 x 1.75	150	50	12	Coarse	LINKM12X150E-188	LINKM12X150E	LINKM12X150E-ALUM

225mm O'all Length

Thread Size	O'all Length	Thread Length	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	225	30	5	Coarse	LINKM5X225E-188	LINKM5X225E	LINKM5X225E-ALUM
M6 x 1	225	35	6	Coarse	LINKM6X225E-188	LINKM6X225E	LINKM6X225E-ALUM
M8 x 1.25	225	40	8	Coarse	LINKM8X225E-188	LINKM8X225E	LINKM8X225E-ALUM
M10 x 1.5	225	50	10	Coarse	LINKM10X225E-188	LINKM10X225E	LINKM10X225E-ALUM
M12 x 1.75	225	50	12	Coarse	LINKM12X225E-188	LINKM12X225E	LINKM12X225E-ALUM

External Threaded Connecting Rod — Metric



305mm O'all Length

Thread Size	O'all Length	Thread Length	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	225	30	5	Coarse	LINKM5X225E-188	LINKM5X305E	LINKM5X305E-ALUM
M6 x 1	225	35	6	Coarse	LINKM6X225E-188	LINKM6X305E	LINKM6X305E-ALUM
M8 x 1.25	225	40	8	Coarse	LINKM8X225E-188	LINKM8X305E	LINKM8X305E-ALUM
M10 x 1.5	225	50	10	Coarse	LINKM10X225E-188	LINKM10X305E	LINKM10X305E-ALUM
M12 x 1.75	225	50	12	Coarse	LINKM12X225E-188	LINKM12X305E	LINKM12X305E-ALUM
M14 x 2	305	50	14	Coarse	—	LINKM14X305E	LINKM14X305E-ALUM
M16 x 2	305	75	16	Coarse	—	LINKM16X305E	LINKM16X305E-ALUM

455mm O'all Length

Thread Size	O'all Length	Thread Length	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M6 x 1	455	35	6	Coarse	LINKM6X455E-188	LINKM6X455E	LINKM6X455E-ALUM
M8 x 1.25	455	40	8	Coarse	LINKM8X455E-188	LINKM8X455E	LINKM8X455E-ALUM
M10 x 1.5	455	50	10	Coarse	LINKM10X455E-188	LINKM10X455E	LINKM10X455E-ALUM
M12 x 1.75	455	50	12	Coarse	LINKM12X455E-188	LINKM12X455E	LINKM12X455E-ALUM
M14 x 2	455	50	14	Coarse	LINKM14X455E-188	LINKM14X455E	LINKM14X455E-ALUM
M16 x 2	455	75	16	Coarse	LINKM16X455E-188	LINKM16X455E	LINKM16X455E-ALUM
M20 x 2.5	455	75	20	Coarse	LINKM20X455E-188	LINKM20X455E	LINKM20X455E-ALUM

610mm O'all Length

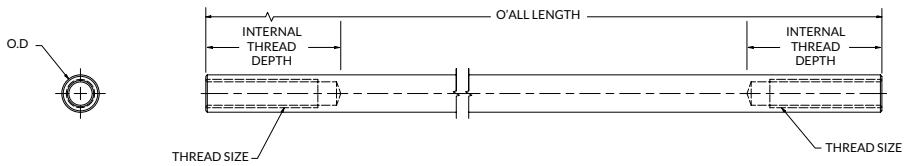
Thread Size	O'all Length	Thread Length	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M8 x 1.25	610	40	8	Coarse	LINKM8X610E-188	LINKM8X610E	LINKM8X610E-ALUM
M10 x 1.5	610	50	10	Coarse	LINKM10X610E-188	LINKM10X610E	LINKM10X610E-ALUM
M12 x 1.75	610	50	12	Coarse	LINKM12X610E-188	LINKM12X610E	LINKM12X610E-ALUM
M14 x 2	610	50	14	Coarse	LINKM14X610E-188	LINKM14X610E	LINKM14X610E-ALUM
M16 x 2	610	75	16	Coarse	LINKM16X610E-188	LINKM16X610E	LINKM16X610E-ALUM
M20 x 2.5	610	75	20	Coarse	LINKM20X610E-188	LINKM20X610E	LINKM20X610E-ALUM

Internal Thread Connecting Rods — Inch

18-8 Stainless Steel
12L14 Plain Carbon Steel | Zinc Plated
Aluminum

Product Information

Designed for use with right-hand thread rod ends, these rods have right-hand threads on both ends. Use them for remote valve operators, throttle controllers, shifting mechanisms, and virtually any push/pull assembly.





3" O'all Length

Thread Size	Thread Spacing	O'all Length	Internal Thread Depth	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-24	Coarse	3	3/4	1/4	LINK21903I-188	LINK21903I	LINK21903IA
10-32	Fine	3	3/4	1/4	LINK21803I-188	LINK21803IZ	LINK21803IA
1/4-20	Coarse	3	1	3/8	LINK25103I-188	LINK25103I	LINK25103IA
1/4-28	Fine	3	1	3/8	LINK25003I-188	LINK25003IZ	LINK25003IA
5/16-18	Coarse	3	1 1/4	7/16	LINK31303I-188	LINK31303I	LINK31303IA
5/16-24	Fine	3	1 1/4	7/16	LINK31203I-188	LINK31203IZ	LINK31203IA
3/8-16	Coarse	3	1 1/4	7/16	LINK37603I-188	LINK37603I	LINK37603IA
3/8-24	Fine	3	1 1/4	7/16	LINK37503I-188	LINK37503I	LINK37503IA
1/2-20	Fine	3	1 1/4	5/8	LINK50003I-188	LINK50003I	LINK50003IA

6" O'all Length

Thread Size	Thread Spacing	O'all Length	Internal Thread Depth	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-24	Coarse	6	3/4	1/4	LINK21906I-188	LINK21906I	LINK21906IA
10-32	Fine	6	3/4	1/4	LINK21806I-188	LINK21806IZ	LINK21806IA
1/4-20	Coarse	6	1	3/8	LINK25106I-188	LINK25106I	LINK25106IA
1/4-28	Fine	6	1	3/8	LINK25006I-188	LINK25006IZ	LINK25006IA
5/16-18	Coarse	6	1 1/4	7/16	LINK31306I-188	LINK31306I	LINK31306IA
5/16-24	Fine	6	1 1/4	7/16	LINK31206I-188	LINK31206IZ	LINK31206IA
3/8-16	Coarse	6	1 1/4	7/16	LINK37606I-188	LINK37606I	LINK37606IA
3/8-24	Fine	6	1 1/4	7/16	LINK37506I-188	LINK37506I	LINK37506IA
7/16-20	Fine	6	1 3/8	9/16	LINK43706I-188	LINK43706I	LINK43706IA
1/2-20	Fine	6	1 1/2	5/8	LINK50006I-188	LINK50006I	LINK50006IA

Internal Thread Connecting Rod — Inch



9" O'all Length

Thread Size	Thread Spacing	O'all Length	Internal Thread Depth	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-24	Coarse	9	3/4	1/4	LINK21909I-188	LINK21909I	LINK21909IA
10-32	Fine	9	3/4	1/4	LINK21809I-188	LINK21809IZ	LINK21809IA
1/4-20	Coarse	9	1	3/8	LINK25109I-188	LINK25109I	LINK25109IA
1/4-28	Fine	9	1	3/8	LINK25009I-188	LINK25009IZ	LINK25009IA
5/16-18	Coarse	9	1 1/4	7/16	LINK31309I-188	LINK31309I	LINK31309IA
5/16-24	Fine	9	1 1/4	7/16	LINK31209I-188	LINK31209IZ	LINK31209IA
3/8-16	Coarse	9	1 1/4	7/16	LINK37609I-188	LINK37609I	LINK37609IA
3/8-24	Fine	9	1 1/4	7/16	LINK37509I-188	LINK37509I	LINK37509IA
7/16-20	Fine	9	1 1/4	9/16	LINK43709I-188	LINK43709I	LINK43709IA
1/2-20	Fine	9	1 1/4	5/8	LINK50009I-188	LINK50009I	LINK50009IA

12" O'all Length

Thread Size	Thread Spacing	O'all Length	Internal Thread Depth	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-24	Coarse	12	3/4	1/4	LINK21912I-188	LINK21912I	LINK21912IA
10-32	Fine	12	3/4	1/4	LINK21812I-188	LINK21812IZ	LINK21812IA
1/4-20	Coarse	12	1	3/8	LINK25112I-188	LINK25112I	LINK25112IA
1/4-28	Fine	12	1	3/8	LINK25012I-188	LINK25012IZ	LINK25012IA
5/16-18	Coarse	12	1 1/4	7/16	LINK31312I-188	LINK31312I	LINK31312IA
5/16-24	Fine	12	1 1/4	7/16	LINK31212I-188	LINK31212IZ	LINK31212IA
3/8-16	Coarse	12	1 1/4	7/16	LINK37612I-188	LINK37612I	LINK37612IA
3/8-24	Fine	12	1 1/4	7/16	LINK37512I-188	LINK37512I	LINK37512IA
7/16-20	Fine	12	1 3/8	9/16	LINK43712I-188	LINK43712I	LINK43712IA
1/2-20	Fine	12	1 1/2	5/8	LINK50012I-188	LINK50012I	LINK50012IA
5/8-18	Fine	12	1 5/8	3/4	LINK62512I-188	LINK62512I	LINK62512IA

18" O'all Length

Thread Size	Thread Spacing	O'all Length	Internal Thread Depth	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
1/4-28	Fine	18	1	3/8	LINK25018I-188	LINK25018IZ	LINK25018IA
5/16-24	Fine	18	1 1/4	7/16	LINK31218I-188	LINK31218IZ	LINK31218IA
3/8-24	Fine	18	1 1/4	7/16	LINK37518I-188	LINK37518I	LINK37518IA
7/16-20	Fine	18	1 3/8	9/16	LINK43718I-188	LINK43718I	LINK43718IA
1/2-20	Fine	18	1 1/2	5/8	LINK50018I-188	LINK50018I	LINK50018IA
5/8-18	Fine	18	1 5/8	3/4	LINK62518I-188	LINK62518I	LINK62518IA
3/4-16	Fine	18	1 3/4	7/8	LINK75018I-188	LINK75018I	LINK75018IA

Internal Thread Connecting Rod — Inch



24" O'all Length

Thread Size	Thread Spacing	O'all Length	Internal Thread Depth	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
5/16-24	Fine	24	1 1/4	7/16	LINK31224I-188	LINK31224IZ	LINK31224IA
3/8-24	Fine	24	1 1/4	7/16	LINK37524I-188	LINK37524I	LINK37524IA
7/16-20	Fine	24	1 3/8	9/16	LINK43724I-188	LINK43724I	LINK43724IA
1/2-20	Fine	24	1 1/2	5/8	LINK50024I-188	LINK50024I	LINK50024IA
5/8-18	Fine	24	1 5/8	3/4	LINK62524I-188	LINK62524I	LINK62524IA
3/4-16	Fine	24	1 3/4	7/8	LINK75024I-188	LINK75024I	LINK75024IA

30" O'all Length

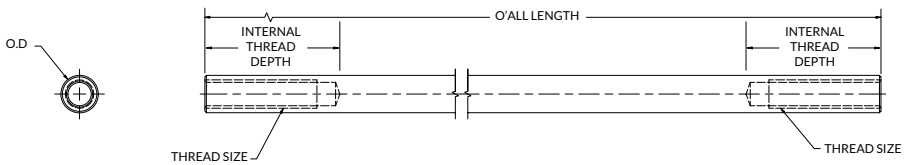
Thread Size	Thread Spacing	O'all Length	Internal Thread Depth	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
3/8-24	Fine	30	1 1/4	7/16	LINK37530I-188	LINK37530I	LINK37530IA
7/16-20	Fine	30	1 3/8	9/16	LINK43730I-188	LINK43730I	LINK43730IA
1/2-20	Fine	30	1 1/2	5/8	LINK50030I-188	LINK50030I	LINK50030IA
5/8-18	Fine	30	1 5/8	3/4	LINK62530I-188	LINK62530I	LINK62530IA
3/4-16	Fine	30	1 3/4	7/8	LINK75030I-188	LINK75030I	LINK75030IA

36" O'all Length

Thread Size	Thread Spacing	O'all Length	Internal Thread Depth	OD	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
7/16-20	Fine	36	1 3/8	9/16	LINK43736I-188	LINK43736I	LINK43736IA
1/2-20	Fine	36	1 1/2	5/8	LINK50036I-188	LINK50036I	LINK50036IA
5/8-18	Fine	36	1 5/8	3/4	LINK62536I-188	LINK62536I	LINK62536IA
3/4-16	Fine	36	1 3/4	7/8	LINK75036I-188	LINK75036I	LINK75036IA

Internal Thread Connecting Rods — Metric

18-8 Stainless Steel
12L14 Plain Carbon Steel
Aluminum





75mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M3 x 0.5	75	12	6.3	Coarse	LINKM3X75I-188	LINKM3X75I	LINKM3X75I-ALUM
M4 x 0.7	75	12	6.3	Coarse	LINKM4X75I-188	LINKM4X75I	LINKM4X75I-ALUM
M5 x 0.8	75	12	6.3	Coarse	LINKM5X75I-188	LINKM5X75I	LINKM5X75I-ALUM
M6 x 1	75	16	9.5	Coarse	LINKM6X75I-188	LINKM6X75I	LINKM6X75I-ALUM
M8 x 1.25	75	20	11	Coarse	LINKM8X75I-188	LINKM8X75I	LINKM8X75I-ALUM
M10 x 1.5	75	25	12.5	Coarse	LINKM10X75I-188	LINKM10X75I	LINKM10X75I-ALUM
M12 x 1.75	75	25	15.8	Coarse	LINKM12X75I-188	LINKM12X75I	LINKM12X75I-ALUM

150mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	150	12	6.3	Coarse	LINKM5X150I-188	LINKM5X150I	LINKM5X150I-ALUM
M6 x 1	150	16	9.5	Coarse	LINKM6X150I-188	LINKM6X150I	LINKM6X150I-ALUM
M8 x 1.25	150	20	11	Coarse	LINKM8X150I-188	LINKM8X150I	LINKM8X150I-ALUM
M10 x 1.5	150	25	12.5	Coarse	LINKM10X150I-188	LINKM10X150I	LINKM10X150I-ALUM
M12 x 1.75	150	25	15.8	Coarse	LINKM12X150I-188	LINKM12X150I	LINKM12X150I-ALUM

225mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	225	12	6.3	Coarse	LINKM5X225I-188	LINKM5X225I	LINKM5X225I-ALUM
M6 x 1	225	16	9.5	Coarse	LINKM6X225I-188	LINKM6X225I	LINKM6X225I-ALUM
M8 x 1.25	225	20	11	Coarse	LINKM8X225I-188	LINKM8X225I	LINKM8X225I-ALUM
M10 x 1.5	225	25	12.5	Coarse	LINKM10X225I-188	LINKM10X225I	LINKM10X225I-ALUM
M12 x 1.75	225	25	15.8	Coarse	LINKM12X225I-188	LINKM12X225I	LINKM12X225I-ALUM

Internal Thread Connecting Rod — Metric



305mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	305	12	6.3	Coarse	LINKM5X305I-188	LINKM5X305I	LINKM5X305I-ALUM
M6 x 1	305	16	9.5	Coarse	LINKM6X305I-188	LINKM6X305I	LINKM6X305I-ALUM
M8 x 1.25	305	20	11	Coarse	LINKM8X305I-188	LINKM8X305I	LINKM8X305I-ALUM
M10 x 1.5	305	25	12.5	Coarse	LINKM10X305I-188	LINKM10X305I	LINKM10X305I-ALUM
M12 x 1.75	305	25	15.8	Coarse	LINKM12X305I-188	LINKM12X305I	LINKM12X305I-ALUM
M16 x 2	305	40	19	Coarse	LINKM16X305I-188	LINKM16X305I	LINKM16X305I-ALUM

455mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M6 x 1	455	16	9.5	Coarse	LINKM6X455I-188	LINKM6X455I	LINKM6X455I-ALUM
M8 x 1.25	455	20	11	Coarse	LINKM8X455I-188	LINKM8X455I	LINKM8X455I-ALUM
M10 x 1.5	455	25	12.5	Coarse	LINKM10X455I-188	LINKM10X455I	LINKM10X455I-ALUM
M12 x 1.75	455	25	15.8	Coarse	LINKM12X455I-188	LINKM12X455I	LINKM12X455I-ALUM
M16 x 2	455	40	19	Coarse	LINKM16X455I-188	LINKM16X455I	LINKM16X455I-ALUM
M20 x 2.5	455	45	22.2	Coarse	LINKM20X455I-188	LINKM20X455I	LINKM20X455I-ALUM

610mm O'all Length

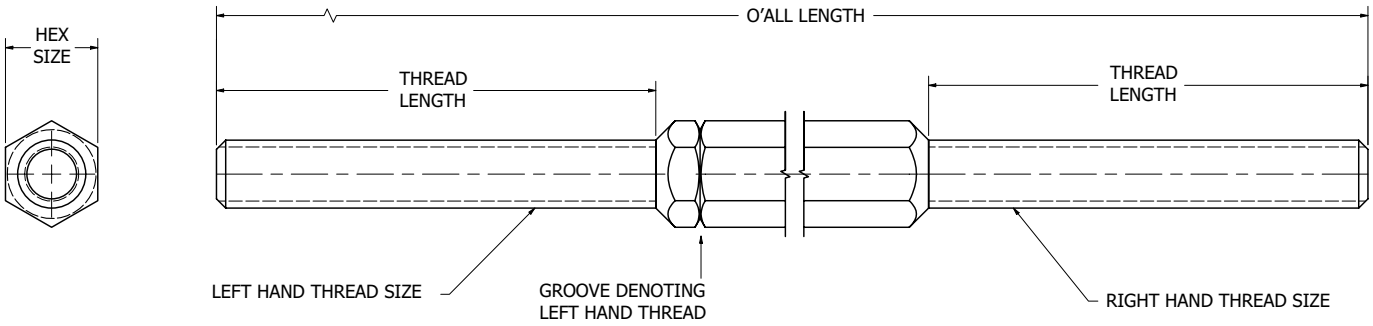
Thread Size	O'all Length	Internal Thread Depth	OD	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M8 x 1.25	610	20	11	Coarse	LINKM8X610I-188	LINKM8X610I	LINKM8X610I-ALUM
M10 x 1.5	610	25	12.5	Coarse	LINKM10X610I-188	LINKM10X610I	LINKM10X610I-ALUM
M12 x 1.75	610	25	15.8	Coarse	LINKM12X610I-188	LINKM12X610I	LINKM12X610I-ALUM
M16 x 2	610	40	19	Coarse	LINKM16X610I-188	LINKM16X610I	LINKM16X610I-ALUM
M20 x 2.5	610	45	22.2	Coarse	LINKM20X610I-188	LINKM20X610I	LINKM20X610I-ALUM

RH/LH External Thread Turnbuckle Rods — Inch

18-8 Stainless Steel
12L14 Plain Carbon Steel
Aluminum

Product Information

Similar to turnbuckles, these rods have right-hand threads on one end and left-hand threads on the other so you can make a linkage that adjusts for tension. Add right- and left-hand threaded rod ends to build your linkages. Rods have a hex-shaped body so you can adjust them with a wrench. Grove indicates Left-Hand thread side. Thread Class is 6H.





2" O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	2	1/2	3/16	Coarse	LINKH001-188	LINKH001-STL	LINKH001
10-32	2	3/4	1/4	Fine	LINKH004-188	LINKH004-STL	LINKH004
1/4-28	2	3/4	1/4	Fine	LINKH006-188	LINKH006-STL	LINKH006
5/16-24	2	3/4	5/16	Fine	LINKH010-188	LINKH010-STL	LINKH010
3/8-24	2	3/4	3/8	Fine	LINKH014-188	LINKH014-STL	LINKH014
1/2-20	2	3/4	1/2	Fine	LINKH018-188	LINKH018-STL	LINKH018

3" O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	3	1/2	3/16	Coarse	LINKH023-188	LINKH023-STL	LINKH023
10-32	3	3/4	1/4	Fine	LINKH026-188	LINKH026-STL	LINKH026
1/4-28	3	3/4	1/4	Fine	LINKH030-188	LINKH030-STL	LINKH030
5/16-24	3	3/4	5/16	Fine	LINKH034-188	LINKH034-STL	LINKH034
3/8-24	3	1	3/8	Fine	LINKH038-188	LINKH038-STL	LINKH038
1/2-20	3	1	1/2	Fine	LINKH042-188	LINKH042-STL	LINKH042

RH/LH External Thread Turnbuckle Rod — Inch



4" O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	4	1	3/16	Coarse	LINKH047-188	LINKH047-STL	LINKH047
10-32	4	1	1/4	Fine	LINKH050-188	LINKH050-STL	LINKH050
1/4-20	4	1	1/4	Coarse	—	—	LINKH052
1/4-28	4	1	1/4	Fine	LINKH054-188	LINKH054-STL	LINKH054
5/16-18	4	1 1/4	5/16	Coarse	—	—	LINKH056
5/16-24	4	1 1/4	5/16	Fine	LINKH058-188	LINKH058-STL	LINKH058
5/16-24	4	1 1/4	3/8	Fine	—	—	LINKH060
3/8-24	4	1 1/4	3/8	Fine	LINKH062-188	LINKH062-STL	LINKH062
7/16-20	4	1 1/4	7/16	Fine	LINKH063-188	LINKH063-STL	LINKH063
1/2-13	4	1 1/2	1/2	Coarse	—	—	LINKH064
1/2-20	4	1 1/2	1/2	Fine	LINKH066-188	LINKH066-STL	LINKH066
3/4-10	4	1 3/4	3/4	Coarse	—	—	LINKH068
3/4-16	4	1 3/4	3/4	Fine	LINKH070-188	LINKH070-STL	LINKH070
5/8-18	4	1 3/4	5/8	Fine	LINKH074-188	LINKH074-STL	LINKH074

6" O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	6	1	3/16	Coarse	LINKH092-188	LINKH092-STL	LINKH092
10-32	6	1 3/16	1/4	Fine	LINKH102-188	LINKH102-STL	LINKH102
1/4-20	6	1 1/2	1/4	Coarse	—	—	LINKH104
1/4-28	6	1 1/2	1/4	Fine	LINKH106-188	LINKH106-STL	LINKH106
5/16-18	6	1 5/8	5/16	Coarse	—	—	LINKH108
5/16-24	6	1 5/8	5/16	Fine	LINKH110-188	LINKH110-STL	LINKH110
3/8-24	6	2	3/8	Fine	LINKH114-188	LINKH114-STL	LINKH114
7/16-20	6	2	7/16	Fine	LINKH115-188	LINKH115-STL	LINKH115
1/2-13	6	2	1/2	Coarse	—	—	LINKH116
1/2-20	6	2	1/2	Fine	LINKH118-188	LINKH118-STL	LINKH118
3/4-10	6	2	3/4	Coarse	—	—	LINKH120
3/4-16	6	2	3/4	Fine	LINKH122-188	LINKH122-STL	LINKH122
5/8-18	6	2	5/8	Fine	LINKH126-188	LINKH126-STL	LINKH126

12" O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	12	1	3/16	Coarse	LINKH140-188	LINKH140-STL	LINKH140
10-32	12	1 3/16	1/4	Fine	LINKH150-188	LINKH150-STL	LINKH150
1/4-20	12	1 3/16	1/4	Coarse	—	—	LINKH152
1/4-28	12	1 3/16	1/4	Fine	LINKH154-188	LINKH154-STL	LINKH154
5/16-18	12	1 5/8	5/16	Coarse	—	—	LINKH156
5/16-24	12	1 5/8	5/16	Fine	LINKH158-188	LINKH158-STL	LINKH158
3/8-16	12	2	3/8	Coarse	—	—	LINKH160
3/8-24	12	2	3/8	Fine	LINKH162-188	LINKH162-STL	LINKH162
7/16-20	12	2	7/16	Fine	LINKH163-188	LINKH163-STL	LINKH163

RH/LH External Thread Turnbuckle Rod — Inch



12" O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
1/2-13	12	2	1/2	Coarse	—	—	LINKH164
1/2-20	12	2	1/2	Fine	LINKH166-188	LINKH166-STL	LINKH166
3/4-10	12	2	3/4	Coarse	—	—	LINKH168
3/4-16	12	2	3/4	Fine	LINKH170-188	LINKH170-STL	LINKH170
5/8-18	12	2	5/8	Fine	LINKH174-188	LINKH174-STL	LINKH174

18" O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-32	18	1 3/16	1/4	Fine	LINKH200-188	LINKH200-STL	LINKH200
1/4-20	18	1 1/2	1/4	Coarse	—	—	LINKH202
1/4-28	18	1 1/2	1/4	Fine	LINKH204-188	LINKH204-STL	LINKH204
5/16-18	18	1 5/8	5/16	Coarse	—	—	LINKH206
5/16-24	18	1 5/8	5/16	Fine	LINKH208-188	LINKH208-STL	LINKH208
3/8-16	18	2	3/8	Coarse	—	—	LINKH210
3/8-24	18	2	3/8	Fine	LINKH212-188	LINKH212-STL	LINKH212
7/16-20	18	2	7/16	Fine	LINKH213-188	LINKH213-STL	LINKH213
1/2-13	18	2	1/2	Coarse	—	—	LINKH214
1/2-20	18	2	1/2	Fine	LINKH216-188	LINKH216-STL	LINKH216
3/4-10	18	2	3/4	Coarse	—	—	LINKH218
3/4-16	18	2	3/4	Fine	LINKH220-188	LINKH220-STL	LINKH220
5/8-18	18	2	5/8	Fine	LINKH224-188	LINKH224-STL	LINKH224

24" O'all Length

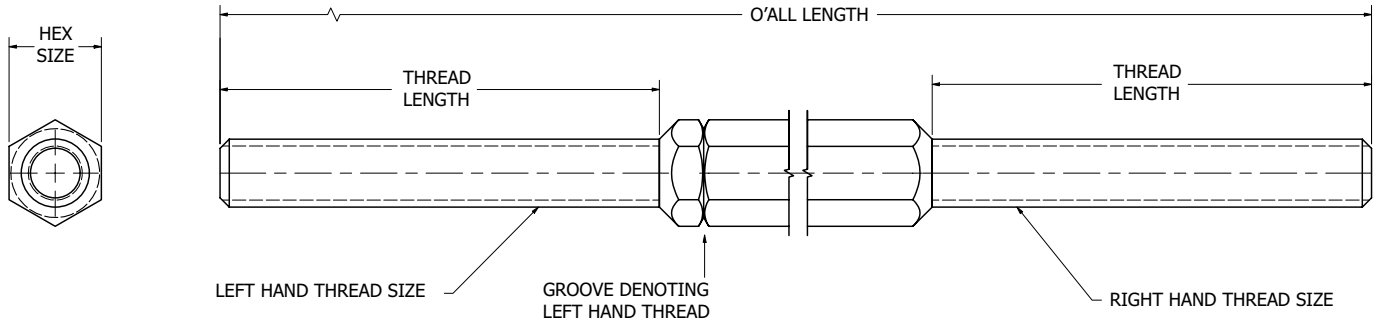
Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
10-32	24	1 3/16	1/4	Fine	LINKH250-188	LINKH250-STL	LINKH250
1/4-20	24	1 1/2	1/4	Coarse	—	—	LINKH252
1/4-28	24	1 1/2	1/4	Fine	LINKH254-188	LINKH254-STL	LINKH254
5/16-18	24	1 5/8	5/16	Coarse	—	—	LINKH256
5/16-24	24	1 5/8	5/16	Fine	LINKH258-188	LINKH258-STL	LINKH258
3/8-16	24	2	3/8	Coarse	—	—	LINKH260
3/8-24	24	2	3/8	Fine	LINKH262-188	LINKH262-STL	LINKH262
7/16-20	24	2	7/16	Fine	LINKH263-188	LINKH263-STL	LINKH263
1/2-13	24	2	1/2	Coarse	—	—	LINKH264
1/2-20	24	2	1/2	Fine	LINKH266-188	LINKH266-STL	LINKH266
3/4-10	24	2	3/4		—	—	LINKH268
3/4-16	24	2	3/4	Fine	LINKH270-188	LINKH270-STL	LINKH270
5/8-18	24	2	5/8	Fine	LINKH274-188	LINKH274-STL	LINKH274

RH/LH External Thread Turnbuckle Rods — Metric

18-8 Stainless Steel
12L14 Plain Carbon Steel
Aluminum

Product Information

Similar to turnbuckles, these rods have right-hand threads on one end and left-hand threads on the other so you can make a linkage that adjusts for tension. Add right- and left-hand threaded rod ends to build your linkages. Rods have a hex-shaped body so you can adjust them with a wrench. Grove indicates Left-Hand thread side. Thread Class is 6H.





50mm O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	50	12	5	Coarse	LINKHM5X50E-188	LINKHM5X50E	LINKHM5X50E-ALUM
M6 x 1	50	16	6	Coarse	LINKHM6X50E-188	LINKHM6X50E	LINKHM6X50E-ALUM
M8 x 1.25	50	20	8	Coarse	LINKHM8X50E-188	LINKHM8X50E	LINKHM8X50E-ALUM
M10 x 1.5	50	20	10	Coarse	LINKHM10X50E-188	LINKHM10X50E	LINKHM10X50E-ALUM
M12 x 1.75	50	20	12	Coarse	LINKHM12X50E-188	LINKHM12X50E	LINKHM12X50E-ALUM
M14 x 2	50	20	14	Coarse	LINKHM14X50E-188	LINKHM14X50E	LINKHM14X50E-ALUM
M16 x 2	50	20	16	Coarse	LINKHM16X50E-188	LINKHM16X50E	LINKHM16X50E-ALUM
M20 x 2.5	50	20	20	Coarse	LINKHM20X50E-188	LINKHM20X50E	LINKHM20X50E-ALUM

76mm O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	76	12	5	Coarse	LINKHM5X76E-188	LINKHM5X76E	LINKHM5X76E-ALUM
M6 x 1	76	16	6	Coarse	LINKHM6X76E-188	LINKHM6X76E	LINKHM6X76E-ALUM
M8 x 1.25	76	20	8	Coarse	LINKHM8X76E-188	LINKHM8X76E	LINKHM8X76E-ALUM
M10 x 1.5	76	25	10	Coarse	LINKHM10X76E-188	LINKHM10X76E	LINKHM10X76E-ALUM
M12 x 1.75	76	25	12	Coarse	LINKHM12X76E-188	LINKHM12X76E	LINKHM12X76E-ALUM
M14 x 2	76	25	14	Coarse	LINKHM14X76E-188	LINKHM14X76E	LINKHM14X76E-ALUM
M16 x 2	76	25	16	Coarse	LINKHM16X76E-188	LINKHM16X76E	LINKHM16X76E-ALUM
M20 x 2.5	76	25	20	Coarse	LINKHM20X76E-188	LINKHM20X76E	LINKHM20X76E-ALUM

RH/LH External Thread Turnbuckle Rod — Metric



100mm O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	100	25	5	Coarse	LINKHM5X100E-188	LINKHM5X100E	LINKHM5X100E-ALUM
M6 x 1	100	25	6	Coarse	LINKHM6X100E-188	LINKHM6X100E	LINKHM6X100E-ALUM
M8 x 1.25	100	30	8	Coarse	LINKHM8X100E-188	LINKHM8X100E	LINKHM8X100E-ALUM
M10 x 1.5	100	30	10	Coarse	LINKHM10X100E-188	LINKHM10X100E	LINKHM10X100E-ALUM
M12 x 1.75	100	40	12	Coarse	LINKHM12X100E-188	LINKHM12X100E	LINKHM12X100E-ALUM
M14 x 2	100	40	14	Coarse	LINKHM14X100E-188	LINKHM14X100E	LINKHM14X100E-ALUM
M16 x 2	100	40	16	Coarse	LINKHM16X100E-188	LINKHM16X100E	LINKHM16X100E-ALUM
M20 x 2.5	100	40	20	Coarse	LINKHM20X100E-188	LINKHM20X100E	LINKHM20X100E-ALUM

150mm O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	150	30	5	Coarse	LINKHM5X150E-188	LINKHM5X150E	LINKHM5X150E-ALUM
M6 x 1	150	40	6	Coarse	LINKHM6X150E-188	LINKHM6X150E	LINKHM6X150E-ALUM
M8 x 1.25	150	40	8	Coarse	LINKHM8X150E-188	LINKHM8X150E	LINKHM8X150E-ALUM
M10 x 1.5	150	50	10	Coarse	LINKHM10X150E-188	LINKHM10X150E	LINKHM10X150E-ALUM
M12 x 1.75	150	50	12	Coarse	LINKHM12X150E-188	LINKHM12X150E	LINKHM12X150E-ALUM
M14 x 2	150	50	14	Coarse	LINKHM14X150E-188	LINKHM14X150E	LINKHM14X150E-ALUM
M16 x 2	150	50	16	Coarse	LINKHM16X150E-188	LINKHM16X150E	LINKHM16X150E-ALUM
M20 x 2.5	150	50	20	Coarse	LINKHM20X150E-188	LINKHM20X150E	LINKHM20X150E-ALUM

305mm O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	305	30	5	Coarse	LINKHM5X305E-188	LINKHM5X305E	LINKHM5X305E-ALUM
M6 x 1	305	30	6	Coarse	LINKHM6X305E-188	LINKHM6X305E	LINKHM6X305E-ALUM
M8 x 1.25	305	40	8	Coarse	LINKHM8X305E-188	LINKHM8X305E	LINKHM8X305E-ALUM
M10 x 1.5	305	50	10	Coarse	LINKHM10X305E-188	LINKHM10X305E	LINKHM10X305E-ALUM
M12 x 1.75	305	50	12	Coarse	LINKHM12X305E-188	LINKHM12X305E	LINKHM12X305E-ALUM
M14 x 2	305	50	14	Coarse	LINKHM14X305E-188	LINKHM14X305E	LINKHM14X305E-ALUM
M16 x 2	305	50	16	Coarse	LINKHM16X305E-188	LINKHM16X305E	LINKHM16X305E-ALUM
M20 x 2.5	305	50	20	Coarse	LINKHM20X305E-188	LINKHM20X305E	LINKHM20X305E-ALUM

RH/LH External Thread Turnbuckle Rod — Metric



455mm O'all Length

Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	455	30	5	Coarse	LINKHM5X455E-188	LINKHM5X455E	LINKHM5X455E-ALUM
M6 x 1	455	40	6	Coarse	LINKHM6X455E-188	LINKHM6X455E	LINKHM6X455E-ALUM
M8 x 1.25	455	40	8	Coarse	LINKHM8X455E-188	LINKHM8X455E	LINKHM8X455E-ALUM
M10 x 1.5	455	50	10	Coarse	LINKHM10X455E-188	LINKHM10X455E	LINKHM10X455E-ALUM
M12 x 1.75	455	50	12	Coarse	LINKHM12X455E-188	LINKHM12X455E	LINKHM12X455E-ALUM
M14 x 2	455	50	14	Coarse	LINKHM14X455E-188	LINKHM14X455E	LINKHM14X455E-ALUM
M16 x 2	455	50	16	Coarse	LINKHM16X455E-188	LINKHM16X455E	LINKHM16X455E-ALUM
M20 x 2.5	455	50	20	Coarse	LINKHM20X455E-188	LINKHM20X455E	LINKHM20X455E-ALUM

610mm O'all Length

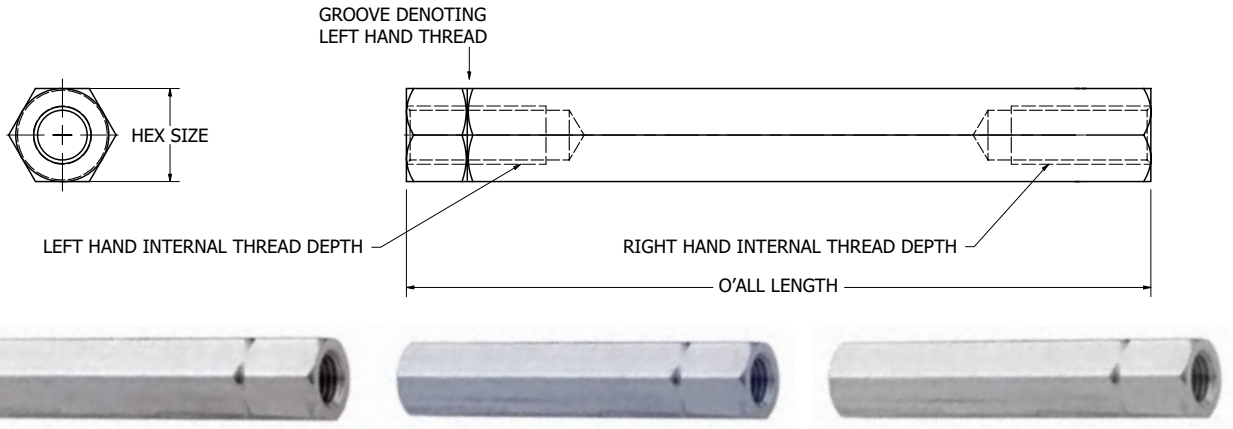
Thread Length	O'all Length	Thread Length	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	610	30	5	Coarse	LINKHM5X610E-188	LINKHM5X610E	LINKHM5X610E-ALUM
M6 x 1	610	40	6	Coarse	LINKHM6X610E-188	LINKHM6X610E	LINKHM6X610E-ALUM
M8 x 1.25	610	40	8	Coarse	LINKHM8X610E-188	LINKHM8X610E	LINKHM8X610E-ALUM
M10 x 1.5	610	50	10	Coarse	LINKHM10X610E-188	LINKHM10X610E	LINKHM10X610E-ALUM
M12 x 1.75	610	50	12	Coarse	LINKHM12X610E-188	LINKHM12X610E	LINKHM12X610E-ALUM
M14 x 2	610	50	14	Coarse	LINKHM14X610E-188	LINKHM14X610E	LINKHM14X610E-ALUM
M16 x 2	610	50	16	Coarse	LINKHM16X610E-188	LINKHM16X610E	LINKHM16X610E-ALUM
M20 x 2.5	610	50	20	Coarse	LINKHM20X610E-188	LINKHM20X610E	LINKHM20X610E-ALUM

RH/LH Internal Thread Turnbuckle Rods — Inch

18-8 Stainless Steel
12L14 Plain Carbon Steel
Aluminum

Product Information

Similar to turnbuckles, these rods have right-hand threads on one end and left-hand threads on the other so you can make a linkage that adjusts for tension. Add right- and left-hand threaded rod ends to build your linkages. Rods have a hex-shaped body so you can adjust them with a wrench. Grove indicates Left-Hand thread side.



2" O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	2	1/2	5/16	Coarse	LINKT020-188	LINKT020-STL	LINKT020
10-32	2	1/2	5/16	Fine	LINKT040-188	LINKT040-STL	LINKT040
1/4-28	2	3/4	3/8	Fine	LINKT050-188	LINKT050-STL	LINKT050
5/16-24	2	3/4	1/2	Fine	LINKT100-188	LINKT100-STL	LINKT100
3/8-24	2	3/4	1/2	Fine	LINKT120-188	LINKT120-STL	LINKT120
7/16-20	2	3/4	5/8	Fine	LINKT140-188	LINKT140-STL	LINKT140
1/2-20	2	3/4	5/8	Fine	LINKT150-188	LINKT150-STL	LINKT150
5/8-18	2	3/4	3/4	Fine	LINKT180-188	LINKT180-STL	LINKT180
3/4-16	2	3/4	1	Fine	LINKT200-188	LINKT200-STL	LINKT200

3" O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	3	1/2	5/16	Coarse	LINKT024-188	LINKT024-STL	LINKT024
10-32	3	1/2	5/16	Fine	LINKT044-188	LINKT044-STL	LINKT044
1/4-28	3	3/4	3/8	Fine	LINKT054-188	LINKT054-STL	LINKT054
5/16-24	3	3/4	1/2	Fine	LINKT104-188	LINKT104-STL	LINKT104
3/8-24	3	1	1/2	Fine	LINKT124-188	LINKT124-STL	LINKT124
7/16-20	3	1	5/8	Fine	LINKT144-188	LINKT144-STL	LINKT144
1/2-20	3	1	5/8	Fine	LINKT154-188	LINKT154-STL	LINKT154
5/8-18	3	1	3/4	Fine	LINKT184-188	LINKT184-STL	LINKT184
3/4-16	3	1	1	Fine	LINKT204-188	LINKT204-STL	LINKT204

RH/LH Internal Thread Turnbuckle Rod — Inch



4" O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	4	1/2	5/16	Coarse	LINKT028-188	LINKT028-STL	LINKT028
10-32	4	1/2	5/16	Fine	LINKT046-188	LINKT046-STL	LINKT046
1/4-28	4	3/4	3/8	Fine	LINKT058-188	LINKT058-STL	LINKT058
5/16-24	4	3/4	1/2	Fine	LINKT108-188	LINKT108-STL	LINKT108
3/8-24	4	1	1/2	Fine	LINKT128-188	LINKT128-STL	LINKT128
7/16-20	4	1	5/8	Fine	LINKT146-188	LINKT146-STL	LINKT146
1/2-20	4	1	5/8	Fine	LINKT158-188	LINKT158-STL	LINKT158
5/8-18	4	1	7/8	Fine	LINKT186-188	LINKT186-STL	LINKT186
3/4-16	4	1	1	Fine	LINKT208-188	LINKT208-STL	LINKT208

6" O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	6	1/2	5/16	Coarse	LINKT034-188	LINKT034-STL	LINKT034
10-32	6	1/2	5/16	Fine	LINKT047-188	LINKT047-STL	LINKT047
1/4-28	6	3/4	3/8	Fine	LINKT064-188	LINKT064-STL	LINKT064
5/16-24	6	3/4	1/2	Fine	LINKT114-188	LINKT114-STL	LINKT114
3/8-24	6	1	1/2	Fine	LINKT134-188	LINKT134-STL	LINKT134
7/16-20	6	1	5/8	Fine	LINKT147-188	LINKT147-STL	LINKT147
1/2-20	6	1	5/8	Fine	LINKT164-188	LINKT164-STL	LINKT164
5/8-18	6	1	7/8	Fine	LINKT187-188	LINKT187-STL	LINKT187
3/4-16	6	1	1	Fine	LINKT214-188	LINKT214-STL	LINKT214

RH/LH Internal Thread Turnbuckle Rod — Inch



12" O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
6-32	12	1/2	5/16	Coarse	LINKT036-188	LINKT034-STL	LINKT036
10-32	12	1/2	5/16	Fine	LINKT048-188	LINKT047-STL	LINKT048
1/4-28	12	3/4	3/8	Fine	LINKT070-188	LINKT064-STL	LINKT064
5/16-24	12	3/4	1/2	Fine	LINKT116-188	LINKT114-STL	LINKT114
3/8-24	12	1	1/2	Fine	LINKT136-188	LINKT134-STL	LINKT134
7/16-20	12	1	5/8	Fine	LINKT148-188	LINKT147-STL	LINKT148
1/2-20	12	1	5/8	Fine	LINKT166-188	LINKT164-STL	LINKT164
5/8-18	12	1	7/8	Fine	LINKT188-188	LINKT187-STL	LINKT188
3/4-16	12	1	1	Fine	LINKT218-188	LINKT214-STL	LINKT218

18" O'all Length

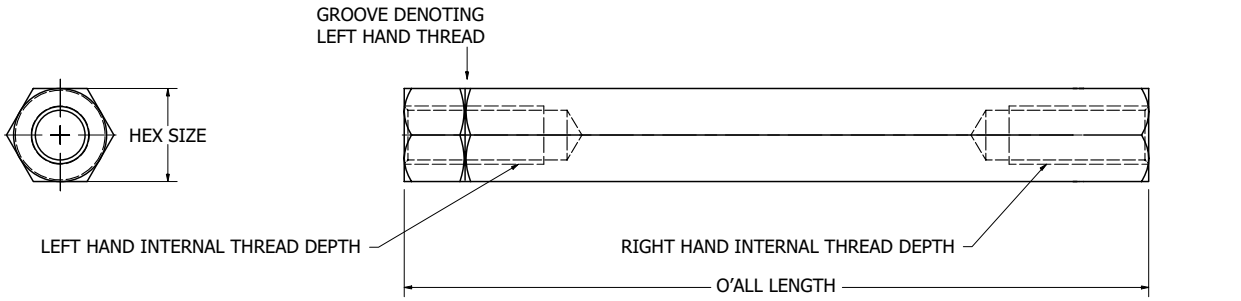
Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
1/4-28	18	3/4	3/8	Fine	LINKT038-188	LINKT038-STL	LINKT038
5/16-24	18	3/4	1/2	Fine	LINKT049-188	LINKT049-STL	LINKT049
3/8-24	18	1	1/2	Fine	LINKT138-188	LINKT138-STL	LINKT138
7/16-20	18	1	5/8	Fine	LINKT149-188	LINKT149-STL	LINKT149
1/2-20	18	1	5/8	Fine	LINKT169-188	LINKT169-STL	LINKT169
5/8-18	18	1	7/8	Fine	LINKT189-188	LINKT189-STL	LINKT189
3/4-16	18	1	1	Fine	LINKT220-188	LINKT220-STL	LINKT220

RH/LH Internal Thread Turnbuckle Rods — Metric

18-8 Stainless Steel
12L14 Plain Carbon Steel
Aluminum

Product Information

Similar to turnbuckles, these rods have right-hand threads on one end and left-hand threads on the other so you can make a linkage that adjusts for tension. Add right- and left-hand threaded rod ends to build your linkages. Rods have a hex-shaped body so you can adjust them with a wrench. Grove indicates Left-Hand thread side. Rods have a 6H Thread Class.





50mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	50	12	10	Coarse	LINKTM5X50I-188	LINKTM5X50I	LINKTM5X50I-ALUM
M6 x 1	50	16	10	Coarse	LINKTM6X50I-188	LINKTM6X50I	LINKTM6X50I-ALUM
M8 x 1.25	50	16	12	Coarse	LINKTM8X50I-188	LINKTM8X50I	LINKTM8X50I-ALUM
M10 x 1.5	50	16	17	Coarse	LINKTM10X50I-188	LINKTM10X50I	LINKTM10X50I-ALUM
M12 x 1.75	50	16	19	Coarse	LINKTM12X50I-188	LINKTM12X50I	LINKTM12X50I-ALUM
M14 x 2	50	16	22	Coarse	LINKTM14X50I-188	LINKTM14X50I	LINKTM14X50I-ALUM
M16 x 2	50	16	24	Coarse	LINKTM16X50I-188	LINKTM16X50I	LINKTM16X50I-ALUM
M20 x 2.5	50	16	30	Coarse	LINKTM20X50I-188	LINKTM20X50I	LINKTM20X50I-ALUM

76mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	76	12	10	Coarse	LINKTM5X76I-188	LINKTM5X76I	LINKTM5X76I-ALUM
M6 x 1	76	16	10	Coarse	LINKTM6X76I-188	LINKTM6X76I	LINKTM6X76I-ALUM
M8 x 1.25	76	20	12	Coarse	LINKTM8X76I-188	LINKTM8X76I	LINKTM8X76I-ALUM
M10 x 1.5	76	20	17	Coarse	LINKTM10X76I-188	LINKTM10X76I	LINKTM10X76I-ALUM
M12 x 1.75	76	20	19	Coarse	LINKTM12X76I-188	LINKTM12X76I	LINKTM12X76I-ALUM
M14 x 2	76	20	22	Coarse	LINKTM14X76I-188	LINKTM14X76I	LINKTM14X76I-ALUM
M16 x 2	76	20	24	Coarse	LINKTM16X76I-188	LINKTM16X76I	LINKTM16X76I-ALUM
M20 x 2.5	76	20	30	Coarse	LINKTM20X76I-188	LINKTM20X76I	LINKTM20X76I-ALUM

RH/LH Internal Thread Turnbuckle Rods — Metric



100mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	100	12	10	Coarse	LINKTM5X100I-188	LINKTM5X100I	LINKTM5X100I-ALUM
M6 x 1	100	16	10	Coarse	LINKTM6X100I-188	LINKTM6X100I	LINKTM6X100I-ALUM
M8 x 1.25	100	20	12	Coarse	LINKTM8X100I-188	LINKTM8X100I	LINKTM8X100I-ALUM
M10 x 1.5	100	25	17	Coarse	LINKTM10X100I-188	LINKTM10X100I	LINKTM10X100I-ALUM
M12 x 1.75	100	25	19	Coarse	LINKTM12X100I-188	LINKTM12X100I	LINKTM12X100I-ALUM
M14 x 2	100	25	22	Coarse	LINKTM14X100I-188	LINKTM14X100I	LINKTM14X100I-ALUM
M16 x 2	100	25	24	Coarse	LINKTM16X100I-188	LINKTM16X100I	LINKTM16X100I-ALUM
M20 x 2.5	100	25	30	Coarse	LINKTM20X100I-188	LINKTM20X100I	LINKTM20X100I-ALUM

150mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	150	12	10	Coarse	LINKTM5X150I-188	LINKTM5X150I	LINKTM5X150I-ALUM
M6 x 1	150	16	10	Coarse	LINKTM6X150I-188	LINKTM6X150I	LINKTM6X150I-ALUM
M8 x 1.25	150	20	12	Coarse	LINKTM8X150I-188	LINKTM8X150I	LINKTM8X150I-ALUM
M10 x 1.5	150	25	17	Coarse	LINKTM10X150I-188	LINKTM10X150I	LINKTM10X150I-ALUM
M12 x 1.75	150	25	19	Coarse	LINKTM12X150I-188	LINKTM12X150I	LINKTM12X150I-ALUM
M14 x 2	150	25	22	Coarse	LINKTM14X150I-188	LINKTM14X150I	LINKTM14X150I-ALUM
M16 x 2	150	25	24	Coarse	LINKTM16X150I-188	LINKTM16X150I	LINKTM16X150I-ALUM
M20 x 2.5	150	25	30	Coarse	LINKTM20X150I-188	LINKTM20X150I	LINKTM20X150I-ALUM

305mm O'all Length

Thread Size	O'all Length	Internal Thread Depth	Hex Size	Thread Spacing	18-8 SS Part Number	Steel Part Number	Aluminum Part Number
M5 x 0.8	305	12	10	Coarse	LINKTM5X305I-188	LINKTM5X305I	LINKTM5X305I-ALUM
M6 x 1	305	16	10	Coarse	LINKTM6X305I-188	LINKTM6X305I	LINKTM6X305I-ALUM
M8 x 1.25	305	20	12	Coarse	LINKTM8X305I-188	LINKTM8X305I	LINKTM8X305I-ALUM
M10 x 1.5	305	25	17	Coarse	LINKTM10X305I-188	LINKTM10X305I	LINKTM10X305I-ALUM
M12 x 1.75	305	25	19	Coarse	LINKTM12X305I-188	LINKTM12X305I	LINKTM12X305I-ALUM
M14 x 2	305	25	22	Coarse	LINKTM14X305I-188	LINKTM14X305I	LINKTM14X305I-ALUM
M16 x 2	305	25	24	Coarse	LINKTM16X305I-188	LINKTM16X305I	LINKTM16X305I-ALUM
M20 x 2.5	305	25	30	Coarse	LINKTM20X305I-188	LINKTM20X305I	LINKTM20X305I-ALUM

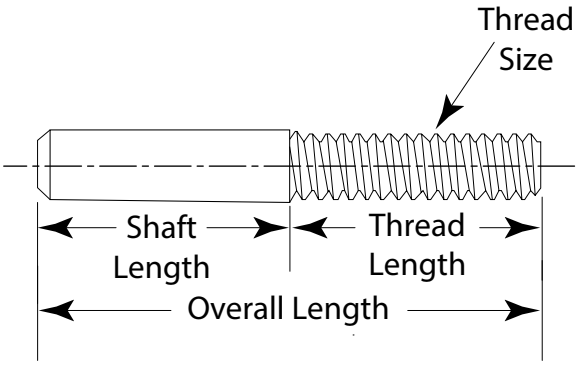
Partially Threaded Studs — Inch

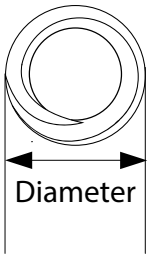
18-8 Stainless Steel

Product Information

Use the unthreaded end as a pivot point, hinge, shaft, or locator pin. Made from 18-8 stainless steel, these studs are chemical resistant and may be mildly magnetic. 18-8 stainless steel studs have excellent corrosion resistance. Studs have a Thread Class of 2A. Thread length tolerance is ±.015".

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 stainless steel material meet ASTM A582.
- Made from stainless steel, these studs have good chemical resistance and maybe mildly magnetic.







6-32 Thread Size

O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	.138	STUDSE06C16-304
1-1/2	3/4	3/4	.138	STUDSE06C24-304
2	3/4	1-1/4	.138	STUDSE06C32-304
2-1/2	3/4	1-3/4	.138	STUDSE06C40-304
3	3/4	2-1/4	.138	STUDSE06C48-304

8-32 Thread Size

O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	.164	STUDSE08C16-304
1-1/2	3/4	3/4	.164	STUDSE08C24-304
2	3/4	1-1/4	.164	STUDSE08C32-304
2-1/2	3/4	1-3/4	.164	STUDSE08C40-304
3	3/4	2-1/4	.164	STUDSE08C48-304

10-24 Thread Size

O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	.190	STUDSE10C16-304
1-1/2	3/4	3/4	.190	STUDSE10C24-304
2	3/4	1-1/4	.190	STUDSE10C32-304
2-1/2	3/4	1-3/4	.190	STUDSE10C40-304
3	3/4	2-1/4	.190	STUDSE10C48-304
3-1/2	3/4	2-3/4	.190	STUDSE10C56-304
4	3/4	3-1/4	.190	STUDSE10C64-304

10-32 Thread Size

O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	.190	STUDSE10F16-304
1-1/2	3/4	3/4	.190	STUDSE10F24-304
2	3/4	1-1/4	.190	STUDSE10F32-304
2-1/2	3/4	1-3/4	.190	STUDSE10F40-304
3	3/4	2-1/4	.190	STUDSE10F48-304
3-1/2	3/4	2-3/4	.190	STUDSE10F56-304
4	3/4	3-1/4	.190	STUDSE10F64-304

Partially Threaded Studs — Inch



1/4-20 Thread Size

O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	1/4	STUDSE14C16-304
1-1/2	3/4	3/4	1/4	STUDSE14C24-304
2	3/4	1-1/4	1/4	STUDSE14C32-304
2-1/2	3/4	1-3/4	1/4	STUDSE14C40-304
3	3/4	2-1/4	1/4	STUDSE14C48-304
3-1/2	3/4	2-3/4	1/4	STUDSE14C56-304
4	3/4	3-1/4	1/4	STUDSE14C64-304
4-1/2	3/4	3-3/4	1/4	STUDSE14C72-304
5	3/4	4-1/4	1/4	STUDSE14C80-304
5-1/2	3/4	4-3/4	1/4	STUDSE14C88-304
6	3/4	5-1/4	1/4	STUDSE14C96-304

1/4-28 Thread Size

O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	1/4	STUDSE14F16-304
1-1/2	3/4	3/4	1/4	STUDSE14F24-304
2	3/4	1-1/4	1/4	STUDSE14F32-304
2-1/2	3/4	1-3/4	1/4	STUDSE14F40-304
3	3/4	2-1/4	1/4	STUDSE14F48-304
3-1/2	3/4	2-3/4	1/4	STUDSE14F56-304
4	3/4	3-1/4	1/4	STUDSE14F64-304
4-1/2	3/4	3-3/4	1/4	STUDSE14F72-304
5	3/4	4-1/4	1/4	STUDSE14F80-304
5-1/2	3/4	4-3/4	1/4	STUDSE14F88-304
6	3/4	5-1/4	1/4	STUDSE14F96-304

5/16-18 Thread Size

O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	5/16	STUDSE51C16-304
1-1/2	3/4	3/4	5/16	STUDSE51C24-304
2	3/4	1-1/4	5/16	STUDSE51C32-304
2-1/2	3/4	1-3/4	5/16	STUDSE51C40-304
3	3/4	2-1/4	5/16	STUDSE51C48-304
3-1/2	3/4	2-3/4	5/16	STUDSE51C56-304
4	3/4	3-1/4	5/16	STUDSE51C64-304
4-1/2	3/4	3-3/4	5/16	STUDSE51C72-304
5	3/4	4-1/4	5/16	STUDSE51C80-304
5-1/2	3/4	4-3/4	5/16	STUDSE51C88-304
6	3/4	5-1/4	5/16	STUDSE51C96-304

Partially Threaded Studs — Inch



5/16-24 Thread Size

O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	5/16	STUDSE51F16-304
1-1/2	3/4	3/4	5/16	STUDSE51F24-304
2	3/4	1-1/4	5/16	STUDSE51F32-304
2-1/2	3/4	1-3/4	5/16	STUDSE51F40-304
3	3/4	2-1/4	5/16	STUDSE51F48-304
3-1/2	3/4	2-3/4	5/16	STUDSE51F56-304
4	3/4	3-1/4	5/16	STUDSE51F64-304
4-1/2	3/4	3-3/4	5/16	STUDSE51F72-304
5	3/4	4-1/4	5/16	STUDSE51F80-304
5-1/2	3/4	4-3/4	5/16	STUDSE51F88-304
6	3/4	5-1/4	5/16	STUDSE51F96-304

3/8-16 Thread Size

O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	3/8	STUDSE38C16-304

3/8-24 Thread Size

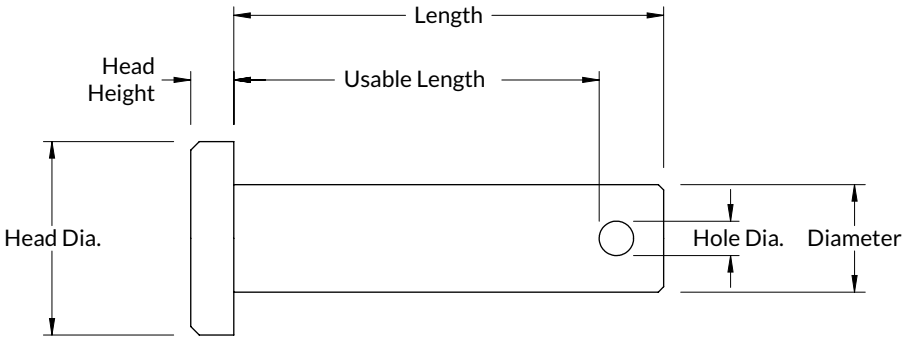
O'all Length	Thread Length	Shaft Length	Dia.	18-8 SS Part Number
1	1/2	1/2	3/8	STUDSE38F16-304
1-1/2	5/8	3/4	3/8	STUDSE38F24-304
2	3/4	1-1/4	3/8	STUDSE38F32-304
2-1/2	3/4	1-3/4	3/8	STUDSE38F40-304
3	3/4	2-1/4	3/8	STUDSE38F48-304
3-1/2	3/4	2-3/4	3/8	STUDSE38F56-304
4	1	3	3/8	STUDSE38F64-304
4-1/2	1	3-1/2	3/8	STUDSE38F72-304
5	1	4	3/8	STUDSE38F80-304
5-1/2	1-1/2	4	3/8	STUDSE38F88-304
6	1-1/2	4-1/2	3/8	STUDSE38F96-304

Precision Clevis Pins — Inch

316 Stainless Steel
18-8 Stainless Steel | Black Oxide
17-4 PH Stainless Steel

Product Information

These pins combine the locking capabilities of a clevis pin with the precision diameter of a dowel pin for a tight fit. Easier to install and remove than bolts or rivets, they lock in place with a cotter pin (sold separately). Diameter Tolerance is -0.002" to -0.004", Head Diameter Tolerance is -0.015" to 0"and Head Height Tolerance is -0.015" to 0". These pins have a flat head type.





Precision Clevis Pins, Inch

Dia.	Length	Usable Length	Head Dia.	Head Ht.	Hole Dia.	For Max Cotter Pin Dia.	316 SS Part Number	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	17-4 PH SS Part Number
1/8	1/2	5/16	1/4	1/16	3/32	3/64	PIN3021808	PIN3011808	PIN3011808-BX	PIN7441808
	5/8	7/16	5/16	1/16	3/32	1/16	PIN3021810	PIN3011810	PIN3011810-BX	PIN7441810
	3/4	9/16	1/4	1/16	3/32	3/64	PIN3021812	PIN3011812	PIN3011812-BX	PIN7441812
	7/8	11/16	5/16	1/16	3/32	1/16	PIN3021814	PIN3011814	PIN3011814-BX	PIN7441814
1/8	1	13/16	1/4	1/16	3/32	3/64	PIN3021816	PIN3011816	PIN3011816-BX	PIN7441816
	1 1/8	15/16	5/16	1/16	3/32	1/16	PIN3021818	PIN3011818	PIN3011818-BX	PIN7441818
	1 1/4	1 1/16	1/4	1/16	3/32	3/64	PIN3021820	PIN3011820	PIN3011820-BX	PIN7441820
3/16	1/2	5/16	5/16	1/16	3/32	1/16	PIN3023108	PIN3013108	PIN3013108-BX	PIN7443108
	5/8	7/16	5/16	1/16	3/32	1/16	PIN3023110	PIN3013110	PIN3013110-BX	PIN7443110
	3/4	9/16	5/16	1/16	3/32	1/16	PIN3023112	PIN3013112	PIN3013112-BX	PIN7443112
	7/8	11/16	5/16	1/16	3/32	1/16	PIN3023114	PIN3013114	PIN3013114-BX	PIN7443114
3/16	1	13/16	5/16	1/16	3/32	1/16	PIN3023116	PIN3013116	PIN3013116-BX	PIN7443116
	1 1/8	15/16	5/16	1/16	3/32	1/16	PIN3023118	PIN3013118	PIN3013118-BX	PIN7443118
	1 1/4	1 1/16	5/16	1/16	3/32	1/16	PIN3023120	PIN3013120	PIN3013120-BX	PIN7443120
	1 3/8	1 3/16	5/16	1/16	3/32	1/16	PIN3023122	PIN3013122	PIN3013122-BX	PIN7443122
3/16	1 1/2	1 5/16	5/16	1/16	3/32	1/16	PIN3023124	PIN3013124	PIN3013124-BX	PIN7443124
	1 5/8	1 7/16	5/16	1/16	3/32	1/16	PIN3023126	PIN3013126	PIN3013126-BX	PIN7443126
	1 3/4	1 9/16	5/16	1/16	3/32	1/16	PIN3023128	PIN3013128	PIN3013128-BX	PIN7443128
	1 7/8	1 11/16	5/16	1/16	3/32	1/16	PIN3023130	PIN3013130	PIN3013130-BX	PIN7443130

Precision Clevis Pins — Inch



Dia.	Length	Usable Length	Head Dia.	Head Ht.	Hole Dia.	For Max Cotter Pin Dia.	316 SS Part Number	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	17-4 PH SS Part Number
3/16	2	1 13/16	5/16	1/16	3/32	1/16	PIN3023132	PIN3013132	PIN3013132-BX	PIN7443132
	2 1/8	1 15/16	5/16	1/16	3/32	1/16	PIN3023134	PIN3013134	PIN3013134-BX	PIN7443134
	2 1/4	2 1/16	5/16	1/16	3/32	1/16	PIN3023136	PIN3013136	PIN3013136-BX	PIN7443136
	2 3/8	2 3/16	5/16	1/16	3/32	1/16	PIN3023138	PIN3013138	PIN3013138-BX	PIN7443138
3/16	2 1/2	2 5/16	5/16	1/16	3/32	1/16	PIN3023140	PIN3013140	PIN3013140-BX	PIN7443140
	2 3/4	2 9/16	5/16	1/16	3/32	1/16	PIN3023144	PIN3013144	PIN3013144-BX	PIN7443144
	3	2 13/16	5/16	1/16	3/32	1/16	PIN3023148	PIN3013148	PIN3013148-BX	PIN7443148
1/4	1/2	5/16	3/8	3/32	3/32	1/16	PIN3021408	PIN3011408	PIN3011408-BX	PIN7441408
	5/8	7/16	3/8	3/32	3/32	1/16	PIN3021410	PIN3011410	PIN3011410-BX	PIN7441410
	3/4	9/16	3/8	3/32	3/32	1/16	PIN3021412	PIN3011412	PIN3011412-BX	PIN7441412
	7/8	11/16	3/8	3/32	3/32	1/16	PIN3021414	PIN3011414	PIN3011414-BX	PIN7441414
1/4	1	13/16	3/8	3/32	3/32	1/16	PIN3021416	PIN3011416	PIN3011416-BX	PIN7441416
	1 1/8	15/16	3/8	3/32	3/32	1/16	PIN3021418	PIN3011418	PIN3011418-BX	PIN7441418
	1 1/4	1 1/16	3/8	3/32	3/32	1/16	PIN3021420	PIN3011420	PIN3011420-BX	PIN7441420
	1 3/8	1 3/16	3/8	3/32	3/32	1/16	PIN3021422	PIN3011422	PIN3011422-BX	PIN7441422
1/4	1 1/2	1 5/16	3/8	3/32	3/32	1/16	PIN3021424	PIN3011424	PIN3011424-BX	PIN7441424
	1 5/8	1 7/16	3/8	3/32	3/32	1/16	PIN3021426	PIN3011426	PIN3011426-BX	PIN7441426
	1 3/4	1 9/16	3/8	3/32	3/32	1/16	PIN3021428	PIN3011428	PIN3011428-BX	PIN7441428
	1 7/8	1 11/16	3/8	3/32	3/32	1/16	PIN3021430	PIN3011430	PIN3011430-BX	PIN7441430
1/4	2	1 13/16	3/8	3/32	3/32	1/16	PIN3021432	PIN3011432	PIN3011432-BX	PIN7441432
	2 1/8	1 15/16	3/8	3/32	3/32	1/16	PIN3021434	PIN3011434	PIN3011434-BX	PIN7441434
	2 1/4	2 1/16	3/8	3/32	3/32	1/16	PIN3021436	PIN3011436	PIN3011436-BX	PIN7441436
	2 3/8	2 3/16	3/8	3/32	3/32	1/16	PIN3021438	PIN3011438	PIN3011438-BX	PIN7441438
1/4	2 1/2	2 5/16	3/8	3/32	3/32	1/16	PIN3021440	PIN3011440	PIN3011440-BX	PIN7441440
	2 3/4	2 9/16	3/8	3/32	3/32	1/16	PIN3021444	PIN3011444	PIN3011444-BX	PIN7441444
	3	2 13/16	3/8	3/32	3/32	1/16	PIN3021448	PIN3011448	PIN3011448-BX	PIN7441448
	3 1/2	3 5/16	3/8	3/32	3/32	1/16	PIN3021456	PIN3011456	PIN3011456-BX	PIN7441456
1/4	4	3 13/16	3/8	3/32	3/32	1/16	PIN3021464	PIN3011464	PIN3011464-BX	PIN7441464
5/16	1/2	1/4	7/16	3/32	9/64	1/8	PIN3025108	PIN3015108	PIN3015108-BX	PIN7445108
	3/4	1/2	7/16	3/32	9/64	1/8	PIN3025112	PIN3015112	PIN3015112-BX	PIN7445112
	7/8	5/8	7/16	3/32	9/64	1/8	PIN3025114	PIN3015114	PIN3015114-BX	PIN7445114
	1	3/4	7/16	3/32	9/64	1/8	PIN3025116	PIN3015116	PIN3015116-BX	PIN7445116
5/16	1 1/8	7/8	7/16	3/32	9/64	1/8	PIN3025118	PIN3015118	PIN3015118-BX	PIN7445118
	1 1/4	1	7/16	3/32	9/64	1/8	PIN3025120	PIN3015120	PIN3015120-BX	PIN7445120
	1 3/8	1 1/8	7/16	3/32	9/64	1/8	PIN3025122	PIN3015122	PIN3015122-BX	PIN7445122
	1 1/2	1 1/4	7/16	3/32	9/64	1/8	PIN3025124	PIN3015124	PIN3015124-BX	PIN7445124

Precision Clevis Pins — Inch



Dia.	Length	Usable Length	Head Dia.	Head Ht.	Hole Dia.	For Max Cotter Pin Dia.	316 SS Part Number	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	17-4 PH SS Part Number
5/16	1 5/8	1 3/8	7/16	3/32	9/64	1/8	PIN3025126	PIN3015126	PIN3015126-BX	PIN7445126
	1 3/4	1 1/2	7/16	3/32	9/64	1/8	PIN3025128	PIN3015128	PIN3015128-BX	PIN7445128
	1 7/8	1 5/8	7/16	3/32	9/64	1/8	PIN3025130	PIN3015130	PIN3015130-BX	PIN7445130
	2	1 3/4	7/16	3/32	9/64	1/8	PIN3025132	PIN3015132	PIN3015132-BX	PIN7445132
5/16	2 1/8	1 7/8	7/16	3/32	9/64	1/8	PIN3025134	PIN3015134	PIN3015134-BX	PIN7445134
	2 1/4	2	7/16	3/32	9/64	1/8	PIN3025136	PIN3015136	PIN3015136-BX	PIN7445136
	2 3/8	2 1/8	7/16	3/32	9/64	1/8	PIN3025138	PIN3015138	PIN3015138-BX	PIN7445138
	2 1/2	2 1/4	7/16	3/32	9/64	1/8	PIN3025140	PIN3015140	PIN3015140-BX	PIN7445140
5/16	2 5/8	2 3/8	7/16	3/32	9/64	1/8	PIN3025142	PIN3015142	PIN3015142-BX	PIN7445142
	2 3/4	2 1/2	7/16	3/32	9/64	1/8	PIN3025144	PIN3015144	PIN3015144-BX	PIN7445144
	3	2 3/4	7/16	3/32	9/64	1/8	PIN3025148	PIN3015148	PIN3015148-BX	PIN7445148
	3 1/2	3 1/4	7/16	3/32	9/64	1/8	PIN3025156	PIN3015156	PIN3015156-BX	PIN7445156
5/16	4	3 3/4	7/16	3/32	9/64	1/8	PIN3025164	PIN3015164	PIN3015164-BX	PIN7445164
3/8	3/4	1/2	1/2	1/8	5/32	1/8	PIN3023812	PIN3013812	PIN3013812-BX	PIN7443812
	7/8	5/8	1/2	1/8	5/32	1/8	PIN3023814	PIN3013814	PIN3013814-BX	PIN7443814
	1	3/4	1/2	1/8	5/32	1/8	PIN3023816	PIN3013816	PIN3013816-BX	PIN7443816
	1 1/8	7/8	1/2	1/8	5/32	1/8	PIN3023818	PIN3013818	PIN3013818-BX	PIN7443818
3/8	1 1/4	1	1/2	1/8	5/32	1/8	PIN3023820	PIN3013820	PIN3013820-BX	PIN7443820
	1 3/8	1 1/8	1/2	1/8	5/32	1/8	PIN3023822	PIN3013822	PIN3013822-BX	PIN7443822
	1 1/2	1 1/4	1/2	1/8	5/32	1/8	PIN3023824	PIN3013824	PIN3013824-BX	PIN7443824
	1 5/8	1 3/8	1/2	1/8	5/32	1/8	PIN3023826	PIN3013826	PIN3013826-BX	PIN7443826
3/8	1 3/4	1 1/2	1/2	1/8	5/32	1/8	PIN3023828	PIN3013828	PIN3013828-BX	PIN7443828
	1 7/8	1 5/8	1/2	1/8	5/32	1/8	PIN3023830	PIN3013830	PIN3013830-BX	PIN7443830
	2	1 3/4	1/2	1/8	5/32	1/8	PIN3023832	PIN3013832	PIN3013832-BX	PIN7443832
	2 1/8	1 7/8	1/2	1/8	5/32	1/8	PIN3023834	PIN3013834	PIN3013834-BX	PIN7443834
3/8	2 1/4	2	1/2	1/8	5/32	1/8	PIN3023836	PIN3013836	PIN3013836-BX	PIN7443836
	2 3/8	2 1/8	1/2	1/8	5/32	1/8	PIN3023838	PIN3013838	PIN3013838-BX	PIN7443838
	2 1/2	2 1/4	1/2	1/8	5/32	1/8	PIN3023840	PIN3013840	PIN3013840-BX	PIN7443840
	2 5/8	2 3/8	1/2	1/8	5/32	1/8	PIN3023842	PIN3013842	PIN3013842-BX	PIN7443842
3/8	2 3/4	2 1/2	1/2	1/8	5/32	1/8	PIN3023844	PIN3013844	PIN3013844-BX	PIN7443844
	3	2 3/4	1/2	1/8	5/32	1/8	PIN3023848	PIN3013848	PIN3013848-BX	PIN7443848
	3 1/2	3 1/4	1/2	1/8	5/32	1/8	PIN3023856	PIN3013856	PIN3013856-BX	PIN7443856
	4	3 3/4	1/2	1/8	5/32	1/8	PIN3023864	PIN3013864	PIN3013864-BX	PIN7443864
3/8	4 1/2	4 1/4	1/2	1/8	5/32	1/8	PIN3023872	PIN3013872	PIN3013872-BX	PIN7443872
	5	4 3/4	1/2	1/8	5/32	1/8	PIN3023880	PIN3013880	PIN3013880-BX	PIN7443880

Precision Clevis Pins — Inch



Dia.	Length	Usable Length	Head Dia.	Head Ht.	Hole Dia.	For Max Cotter Pin Dia.	316 SS Part Number	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	17-4 PH SS Part Number
7/16	3/4	1/2	9/16	5/32	5/32	1/8	PIN3027112	PIN3017112	PIN3017112-BX	PIN7447112
	1	3/4	9/16	5/32	5/32	1/8	PIN3027116	PIN3017116	PIN3017116-BX	PIN7447116
	1 1/4	1	9/16	5/32	5/32	1/8	PIN3027120	PIN3017120	PIN3017120-BX	PIN7447120
	1 1/2	1 1/4	9/16	5/32	5/32	1/8	PIN3027124	PIN3017124	PIN3017124-BX	PIN7447124
7/16	1 3/4	1 1/2	9/16	5/32	5/32	1/8	PIN3027128	PIN3017128	PIN3017128-BX	PIN7447128
	2	1 3/4	9/16	5/32	5/32	1/8	PIN3027132	PIN3017132	PIN3017132-BX	PIN7447132
	2 1/4	2	9/16	5/32	5/32	1/8	PIN3027136	PIN3017136	PIN3017136-BX	PIN7447136
	2 1/2	2 1/4	9/16	5/32	5/32	1/8	PIN3027140	PIN3017140	PIN3017140-BX	PIN7447140
7/16	2 3/4	2 1/2	9/16	5/32	5/32	1/8	PIN3027144	PIN3017144	PIN3017144-BX	PIN7447144
	3	2 3/4	9/16	5/32	5/32	1/8	PIN3027148	PIN3017148	PIN3017148-BX	PIN7447148
	3 1/2	3 1/4	9/16	5/32	5/32	1/8	PIN3027156	PIN3017156	PIN3017156-BX	PIN7447156
	4	3 3/4	9/16	5/32	5/32	1/8	PIN3027164	PIN3017164	PIN3017164-BX	PIN7447164
7/16	4 1/2	4 1/4	9/16	5/32	5/32	1/8	PIN3027172	PIN3017172	PIN3017172-BX	PIN7447172
	5	4 3/4	9/16	5/32	5/32	1/8	PIN3027180	PIN3017180	PIN3017180-BX	PIN7447180
1/2	3/4	1/2	5/8	5/32	5/32	1/8	PIN3021212	PIN3011212	PIN3011212-BX	PIN7441212
	1	3/4	5/8	5/32	5/32	1/8	PIN3021216	PIN3011216	PIN3011216-BX	PIN7441216
	1 1/4	1	5/8	5/32	5/32	1/8	PIN3021220	PIN3011220	PIN3011220-BX	PIN7441220
	1 1/2	1 1/4	5/8	5/32	5/32	1/8	PIN3021224	PIN3011224	PIN3011224-BX	PIN7441224
1/2	1 3/4	1 1/2	5/8	5/32	5/32	1/8	PIN3021228	PIN3011228	PIN3011228-BX	PIN7441228
	2	1 3/4	5/8	5/32	5/32	1/8	PIN3021232	PIN3011232	PIN3011232-BX	PIN7441232
	2 1/4	2	5/8	5/32	5/32	1/8	PIN3021236	PIN3011236	PIN3011236-BX	PIN7441236
	2 1/2	2 1/4	5/8	5/32	5/32	1/8	PIN3021240	PIN3011240	PIN3011240-BX	PIN7441240
1/2	2 3/4	2 1/2	5/8	5/32	5/32	1/8	PIN3021244	PIN3011244	PIN3011244-BX	PIN7441244
	3	2 3/4	5/8	5/32	5/32	1/8	PIN3021248	PIN3011248	PIN3011248-BX	PIN7441248
	3 1/4	3	5/8	5/32	5/32	1/8	PIN3021252	PIN3011252	PIN3011252-BX	PIN7441252
	3 1/2	3 1/4	5/8	5/32	5/32	1/8	PIN3021256	PIN3011256	PIN3011256-BX	PIN7441256
1/2	4	3 3/4	5/8	5/32	5/32	1/8	PIN3021264	PIN3011264	PIN3011264-BX	PIN7441264
	4 1/2	4 1/4	5/8	5/32	5/32	1/8	PIN3021272	PIN3011272	PIN3011272-BX	PIN7441272
	5	4 3/4	5/8	5/32	5/32	1/8	PIN3021280	PIN3011280	PIN3011280-BX	PIN7441280
	6	5 3/4	5/8	5/32	5/32	1/8	PIN3021296	PIN3011296	PIN3011296-BX	PIN7441296
9/16	2	1 3/4	13/16	7/32	5/32	1/8	PIN3029132	PIN3019132	PIN3019132-BX	PIN7449132
	2 1/2	2 1/4	13/16	7/32	5/32	1/8	PIN3029140	PIN3019140	PIN3019140-BX	PIN7449140
	3	2 3/4	13/16	7/32	5/32	1/8	PIN3029148	PIN3019148	PIN3019148-BX	PIN7449148
	3 1/2	3 1/4	13/16	7/32	5/32	1/8	PIN3029156	PIN3019156	PIN3019156-BX	PIN7449156

Precision Clevis Pins — Inch



Dia.	Length	Usable Length	Head Dia.	Head Ht.	Hole Dia.	For Max Cotter Pin Dia.	316 SS Part Number	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	17-4 PH SS Part Number
9/16	4	3 3/4	13/16	7/32	5/32	1/8	PIN3029164	PIN3019164	PIN3019164-BX	PIN7449164
5/8	1 1/4	1	13/16	7/32	5/32	1/8	PIN3025820	PIN3015820	PIN3015820-BX	PIN7445820
	1 1/2	1 1/4	13/16	7/32	5/32	1/8	PIN3025824	PIN3015824	PIN3015824-BX	PIN7445824
	1 3/4	1 1/2	13/16	7/32	5/32	1/8	PIN3025828	PIN3015828	PIN3015828-BX	PIN7445828
	2	1 3/4	13/16	7/32	5/32	1/8	PIN3025832	PIN3015832	PIN3015832-BX	PIN7445832
5/8	2 1/4	2	13/16	7/32	5/32	1/8	PIN3025836	PIN3015836	PIN3015836-BX	PIN7445836
	2 1/2	2 1/4	13/16	7/32	5/32	1/8	PIN3025840	PIN3015840	PIN3015840-BX	PIN7445840
	2 3/4	2 1/2	13/16	7/32	5/32	1/8	PIN3025844	PIN3015844	PIN3015844-BX	PIN7445844
	3	2 3/4	13/16	7/32	5/32	1/8	PIN3025848	PIN3015848	PIN3015848-BX	PIN7445848
5/8	3 1/4	3	13/16	7/32	5/32	1/8	PIN3025852	PIN3015852	PIN3015852-BX	PIN7445852
	3 1/2	3 1/4	13/16	7/32	5/32	1/8	PIN3025856	PIN3015856	PIN3015856-BX	PIN7445856
	4	3 3/4	13/16	7/32	5/32	1/8	PIN3025864	PIN3015864	PIN3015864-BX	PIN7445864
	4 1/2	4 1/4	13/16	7/32	5/32	1/8	PIN3025872	PIN3015872	PIN3015872-BX	PIN7445872
5/8	5	4 3/4	13/16	7/32	5/32	1/8	PIN3025880	PIN3015880	PIN3015880-BX	PIN7445880
	6	5 3/4	13/16	7/32	5/32	1/8	PIN3025896	PIN3015896	PIN3015896-BX	PIN7445896
3/4	2	1 3/4	15/16	5/16	5/32	1/8	PIN3023432	PIN3013432	PIN3013432-BX	PIN7443432
	2 1/4	2	15/16	5/16	5/32	1/8	PIN3023436	PIN3013436	PIN3013436-BX	PIN7443436
	2 1/2	2 1/4	15/16	5/16	5/32	1/8	PIN3023440	PIN3013440	PIN3013440-BX	PIN7443440
	2 3/4	2 1/2	15/16	5/16	5/32	1/8	PIN3023444	PIN3013444	PIN3013444-BX	PIN7443444
3/4	3	2 3/4	15/16	5/16	5/32	1/8	PIN3023448	PIN3013448	PIN3013448-BX	PIN7443448
	3 1/4	3	15/16	5/16	5/32	1/8	PIN3023452	PIN3013452	PIN3013452-BX	PIN7443452
3/4	3 1/2	3 1/4	15/16	5/16	5/32	1/8	PIN3023456	PIN3013456	PIN3013456-BX	PIN7443456
	4	3 3/4	15/16	5/16	5/32	1/8	PIN3023464	PIN3013464	PIN3013464-BX	PIN7443464
	4 1/2	4 1/4	15/16	5/16	5/32	1/8	PIN3023472	PIN3013472	PIN3013472-BX	PIN7443472
	5	4 3/4	15/16	5/16	5/32	1/8	PIN3023480	PIN3013480	PIN3013480-BX	PIN7443480
3/4	6	5 3/4	15/16	5/16	5/32	1/8	PIN3023496	PIN3013496	PIN3013496-BX	PIN7443496
7/8	2	1 11/16	1 1/32	5/16	7/32	3/16	PIN3027832	PIN3017832	PIN3017832-BX	PIN7447832
	2 1/4	1 15/16	1 1/32	5/16	7/32	3/16	PIN3027836	PIN3017836	PIN3017836-BX	PIN7447836
	2 1/2	2 3/16	1 1/32	5/16	7/32	3/16	PIN3027840	PIN3017840	PIN3017840-BX	PIN7447840
	2 3/4	2 7/16	1 1/32	5/16	7/32	3/16	PIN3027844	PIN3017844	PIN3017844-BX	PIN7447844

Precision Clevis Pins — Inch



Dia.	Length	Usable Length	Head Dia.	Head Ht.	Hole Dia.	For Max Cotter Pin Dia.	316 SS Part Number	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	17-4 PH SS Part Number
7/8	3	2 11/16	1 1/32	5/16	7/32	3/16	PIN3027848	PIN3017848	PIN3017848-BX	PIN7447848
	3 1/4	2 15/16	1 1/32	5/16	7/32	3/16	PIN3027852	PIN3017852	PIN3017852-BX	PIN7447852
	3 1/2	3 3/16	1 1/32	5/16	7/32	3/16	PIN3027856	PIN3017856	PIN3017856-BX	PIN7447856
	4	3 11/16	1 1/32	5/16	7/32	3/16	PIN3027864	PIN3017864	PIN3017864-BX	PIN7447864
7/8	4 1/2	4 3/16	1 1/32	5/16	7/32	3/16	PIN3027872	PIN3017872	PIN3017872-BX	PIN7447872
	5	4 11/16	1 1/32	5/16	7/32	3/16	PIN3027880	PIN3017880	PIN3017880-BX	PIN7447880
	6	5 11/16	1 1/32	5/16	7/32	3/16	PIN3027896	PIN3017896	PIN3017896-BX	PIN7447896
1	3	2 11/16	1 3/16	11/32	13/64	3/16	PIN30200148	PIN30100148	PIN30100148-BX	PIN74400148
	3 1/4	2 15/16	1 3/16	11/32	13/64	3/16	PIN30200152	PIN30100152	PIN30100152-BX	PIN74400152
	3 1/2	3 3/16	1 3/16	11/32	13/64	3/16	PIN30200156	PIN30100156	PIN30100156-BX	PIN74400156
	4	3 11/16	1 3/16	11/32	13/64	3/16	PIN30200164	PIN30100164	PIN30100164-BX	PIN74400164
1	4 1/2	4 3/16	1 3/16	11/32	13/64	3/16	PIN30200172	PIN30100172	PIN30100172-BX	PIN74400172
	5	4 11/16	1 3/16	11/32	13/64	3/16	PIN30200180	PIN30100180	PIN30100180-BX	PIN74400180
	6	5 11/16	1 3/16	11/32	13/64	3/16	PIN30200196	PIN30100196	PIN30100196-BX	PIN74400196
1 1/8	3	2 3/8	1 3/8	11/32	1/4	3/16	PIN30201848	PIN30101848	PIN30101848-BX	PIN74401848
	4	3 3/8	1 13/32	11/32	1/4	3/16	PIN30201864	PIN30101864	PIN30101864-BX	PIN74401864
	5	4 3/8	1 13/32	11/32	1/4	3/16	PIN30201880	PIN30101880	PIN30101880-BX	PIN74401880
	6	5 3/8	1 13/32	11/32	1/4	3/16	PIN30201896	PIN30101896	PIN30101896-BX	PIN74401896
1 1/4	3	2 3/8	1 1/2	11/32	1/4	3/16	PIN30201248	PIN30101248	PIN30101248-BX	PIN74401248
	4	3 3/8	1 1/2	11/32	1/4	3/16	PIN30201264	PIN30101264	PIN30101264-BX	PIN74401264
	5	4 3/8	1 1/2	11/32	1/4	3/16	PIN30201280	PIN30101280	PIN30101280-BX	PIN74401280
	6	5 3/8	1 1/2	11/32	1/4	3/16	PIN30201296	PIN30101296	PIN30101296-BX	PIN74401296

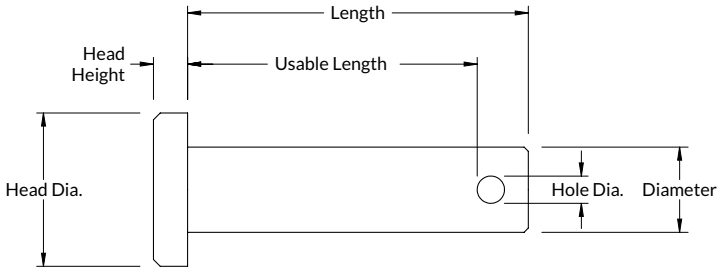
Oversized Clevis Pin — Inch



Dia.	Length	Useable Length	Head Dia (min)	Head Dia (max)	Head Height (min)	Head Height (max)	Hole Dia.	18-8 SS Part Number
1/4	3/4	9/16	.360	.380	.080	.100	3/32	PIN6002500750
	1	13/16	.360	.380	.080	.100	3/32	PIN6002501000
	1-1/4	1-1/16	.360	.380	.080	.100	3/32	PIN6002501250
	1-1/2	1-5/16	.360	.380	.080	.100	3/32	PIN6002501500
3/8	1	3/4	.490	.510	.110	.130	1/8	PIN6003751000
	1-1/4	1	.490	.510	.110	.130	1/8	PIN6003751250
	1-1/2	1-1/4	.490	.510	.110	.130	1/8	PIN6003751500
	1-3/4	1-1/2	.490	.510	.110	.130	1/8	PIN6003751750
3/8	2	1-3/4	.490	.510	.110	.130	1/8	PIN6003752000
	3	2-3/4	.490	.510	.110	.130	1/8	PIN6003753000

Precision Clevis Pins — Metric

316 Stainless Steel
18-8 Stainless Steel | Plain | Black Oxide
17-4 PH Stainless Steel



Product Information

These pins combine the locking capabilities of a clevis pin with the precision diameter of a dowel pin for a tight fit. Easier to install and remove than bolts or rivets, they lock in place with a cotter pin (sold separately). Diameter Tolerance is -.05mm/-.10mm, Head Diameter Tolerance is -0.38mm / 0, Head Height Tolerance is -0.38mm / 0 and Hole Diameter Tolerance of +0.5mm. These pins have a flat head type.



Precision Clevis Pins, Metric

Dia.	Length	Usable Length	Head Dia.	Head Ht.	Hole Dia.	For Max Cotter Pin Dia.	316 SS Part Number	AMPG 18-8 SS Part Number	AMPG 18-8 SS, Black Oxide Part Number	17-4 PH SS Part Number
8mm	20	15	14	3	2	2	PIN3028X20	PIN301M8X20	PIN3018X20-BX	PIN7448X20
	24	19	14	3	2	2	PIN3028X24	PIN301M8X24	PIN3018X24-BX	PIN7448X24
	25	20	14	3	2	2	PIN3028X25	PIN301M8X25	PIN3018X25-BX	PIN7448X25
	30	25	14	3	2	2	PIN3028X30	PIN301M8X30	PIN3018X30-BX	PIN7448X30
8mm	35	30	14	3	2	2	PIN3028X35	PIN301M8X35	PIN3018X35-BX	PIN7448X35
	50	44	14	3	2	2	PIN3028X50	PIN301M8X50	PIN3018X50-BX	PIN7448X50
10mm	25	19	18	4	3.2	3.2	PIN30210X25	PIN301M10X25	PIN30110X25-BX	PIN74410X25
	30	24	18	4	3.2	3.2	PIN30210X30	PIN301M10X30	PIN30110X30-BX	PIN74410X30
	40	34	18	4	3.2	3.2	PIN30210X40	PIN301M10X40	PIN30110X40-BX	PIN74410X40
	50	44	18	4	3.2	3.2	PIN30210X50	PIN301M10X50	PIN30110X50-BX	PIN74410X50
10mm	60	54	18	4	3.2	3.2	PIN30210X60	PIN301M10X60	PIN30110X60-BX	PIN74410X60
	70	64	18	4	3.2	3.2	PIN30210X70	PIN301M10X70	PIN30110X70-BX	PIN74410X70
12mm	30	23	20	4	3.2	3.2	PIN30212X30	PIN301M12X30	PIN30112X30-BX	PIN74412X30
	35	28	20	4	3.2	3.2	PIN30212X35	PIN301M12X35	PIN30112X35-BX	PIN74412X35
	45	38	20	4	3.2	3.2	PIN30212X45	PIN301M12X45	PIN30112X45-BX	PIN74412X45
	50	43	20	4	3.2	3.2	PIN30212X50	PIN301M12X50	PIN30112X50-BX	PIN74412X50
12mm	60	53	20	4	3.2	3.2	PIN30212X60	PIN301M12X60	PIN30112X60-BX	PIN74412X60
16mm	40	31	25	5	4	4	PIN30216X40	PIN301M16X40	PIN30116X40-BX	PIN74416X40
	50	41	25	5	4	4	PIN30216X50	PIN301M16X50	PIN30116X50-BX	PIN74416X50
	60	51	25	5	4	4	PIN30216X60	PIN301M16X60	PIN30116X60-BX	PIN74416X60
20mm	40	29	30	5	5	5	PIN30220X40	PIN301M20X40	PIN30120X40-BX	PIN74420X40
	50	39	30	5	5	5	PIN30220X50	PIN301M20X50	PIN30120X50-BX	PIN74420X50
	60	49	30	5	5	5	PIN30220X60	PIN301M20X60	PIN30120X60-BX	PIN74420X60
	65	54	30	5	5	5	PIN30220X65	PIN301M20X65	PIN30120X65-BX	PIN74420X65

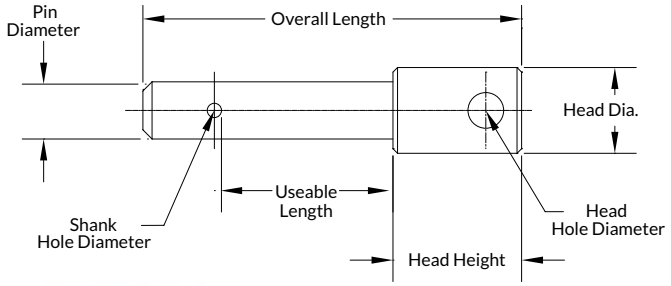
Double Drilled Clevis Pins — Inch

High Strength Aluminum (7075-T6)

Product Information

Clevis pins are useful for quick disconnect or temporary fasteners. These pins includes a steel zinc split ring and an aluminum clotter pin. All 3 components come packaged in the same bag, and comprise one complete unit. 1/4 & 3/8 Diameter Pins are packed with 1/16 X 1 Aluminum Cotter Pin. 1/2 & 3/4 Diameter Pins are packed with 1/8 X 2 Aluminum Cotter Pin. 1/4" Diameter Pins have a Steel Zinc Ring thru the head 1.100 OD X .110 Thick. 3/8, 1/2, and 3/4" Diameter Pins have a Steel Zinc Ring thru the head 1.640 OD X .168 Thick. Usable Length = From under the head to start of Cotter Pin Hole.

Diameter Tolerance: -0.002 to -0.007
Usable Length Tolerance: +0.015 to -0.015
Head Diameter Tolerance: +0.015 to -0.015
Head Height Tolerance: +0.015 to -0.015
Overall Length Tolerance: +0 to -0.020





Pin Dia.	O'all Length	Useable Length	Head Dia.	Head Height	Head Hole Dia.	Shank Hole Dia.	Aluminum Part Number
1/4	1-3/4	3/4	3/8	9/16	5/32	1/16	PIN500120
	2	1	3/8	9/16	5/32	1/16	PIN500122
	2-1/4	1-1/4	3/8	9/16	5/32	1/16	PIN500124
	2-1/2	1-1/2	3/8	9/16	5/32	1/16	PIN500126
3/8	2-1/4	1	1/2	3/4	1/4	1/16	PIN500130
	2-1/2	1-1/4	1/2	3/4	1/4	1/16	PIN500132
	2-3/4	1-1/2	1/2	3/4	1/4	1/16	PIN500134
	3	1-3/4	1/2	3/4	1/4	1/16	PIN500136
3/8	3-1/4	2	1/2	3/4	1/4	1/16	PIN500138
1/2	3	1-1/2	5/8	15/16	1/4	5/32	PIN500148
	3-1/4	1-3/4	5/8	15/16	1/4	5/32	PIN500150
	3-1/2	2	5/8	15/16	1/4	5/32	PIN500152
	4	2-1/2	5/8	15/16	1/4	5/32	PIN500156
1/2	4-1/4	3	5/8	15/16	1/4	5/32	PIN500158
3/4	4-1/8	2	7/8	1-5/16	1/4	5/32	PIN500165
	4-5/8	2-1/2	7/8	1-5/16	1/4	5/32	PIN500167
	5-1/8	3	7/8	1-5/16	1/4	5/32	PIN500169
	5-5/8	3-1/2	7/8	1-5/16	1/4	5/32	PIN500171
3/4	6-1/8	4	7/8	1-5/16	1/4	5/32	PIN500173

Connector Studs (Hood Pins) — Inch

18-8 Stainless Steel

Product Information

Known as connector studs or hood pins, these clevis pins are threaded so you can bolt them to a component on one end, and lock the other end with the reuseable cotter pin. Hairpin cotter length is 2". Stud and cotter pin are 18-8 stainless steel.



Pin Dia.	Pin O'all Length	Useable Length	Thread Size	Thread Length	Connector Stud with Hairpin Cotter Pin Part Number	Connector Stud Only Part Number
5/16"	2	1.4	5/16-24	1	PIN70051F32	PIN70051F32-1
	3	2.4	5/16-24	2	PIN70051F48	PIN70051F48-1
	4	3.4	5/16-24	3	PIN70051F64	PIN70051F64-1
3/8"	2	1.4	3/8-24	1	PIN70038F32	PIN70038F32-1
	3	2.4	3/8-24	2	PIN70038F48	PIN70038F48-1
	4	3.4	3/8-24	3	PIN70038F64	PIN70038F64-1
1/2"	2	1.4	1/2-20	1	PIN70012F32	PIN70012F32-1
	3	2.4	1/2-20	2	PIN70012F48	PIN70012F48-1
	4	3.4	1/2-20	3	PIN70012F64	PIN70012F64-1

Headless Clevis Pins (Extra Long — Inch

18-8 Stainless Steel

Product Information

Lengths from 12" to 24" provide extra reach. 18-8 Stainless Steel provides corrosion resistance and strength. Two Stainless Steel Cotter Pins are included with each part.



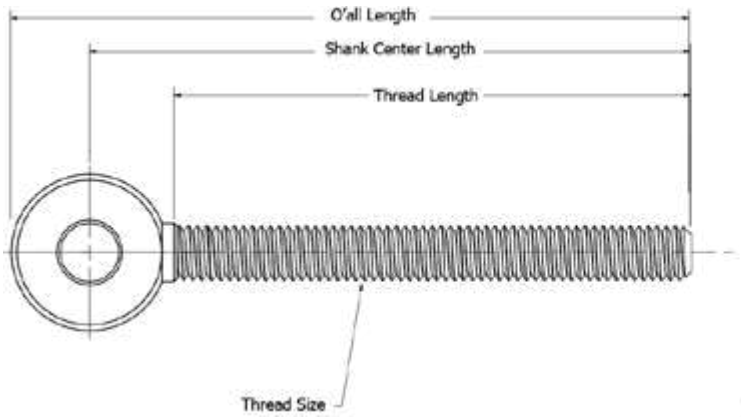
Pin Dia.	Pin O'all Length	Useable Length	Drilled Holes	S/S Clotter Pin (2) Included	S/S Cotter Pin Part Number	Clevis Pin Part Number
3/16" (.183-.191)	12"	11"	5/64"	5/64" X 3/4"	PIN503010	LINKC005
	16	15	5/64	5/64 X 3/4	PIN503010	LINKC010
	20	19	5/64	5/64 X 3/4	PIN503010	LINKC015
	24	23	5/64	5/64 X 3/4	PIN503010	LINKC020
1/4 (.246-.254)	12	11	5/64	5/64 X 3/4	PIN503010	LINKC180
	16	15	5/64	5/64 X 3/4	PIN503010	LINKC185
	20	19	5/64	5/64 X 3/4	PIN503010	LINKC190
	24	23	5/64	5/64 X 3/4	PIN503010	LINKC195
5/16 (.308-.316)	12	11	7/64	7/64 X 3/4	PIN503015	LINKC280
	16	15	7/64	7/64 X 3/4	PIN503015	LINKC285
	20	19	7/64	7/64 X 3/4	PIN503015	LINKC290
	24	23	7/64	7/64 X 3/4	PIN503015	LINKC295
3/8 (.371-.379)	12	11	7/64	7/64 X 3/4	PIN503015	LINKC370
	16	15	7/64	7/64 X 3/4	PIN503015	LINKC375
	20	19	7/64	7/64 X 3/4	PIN503015	LINKC380
	24	23	7/64	7/64 X 3/4	PIN503015	LINKC385
1/2 (.496-.504)	12	11	5/32	5/32 X 1	PIN503020	LINKC460
	16	15	5/32	5/32 X 1	PIN503020	LINKC465
	20	19	5/32	5/32 X 1	PIN503020	LINKC470
	24	23	5/32	5/32 X 1	PIN503020	LINKC475

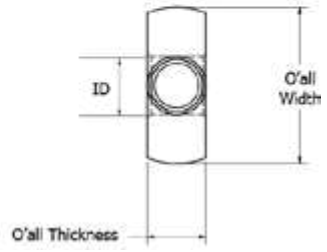
Rod End Bolts — Inch

316 Stainless Steel
18-8 Stainless Steel | Black Oxide
17-4 PH Stainless Steel
Brass
Aluminum | Red Anodized
Steel 12L14 | Black Oxide
Steel 4140 | Black Oxide

Product Information

Rod End Bolts also known as swing bolts, pivoting bolts and hinge eyebolts. These threaded bolts can be cut to length to fit.







Rod End Bolts, Inch

Thread Size	Shank Center Lg.	ID	Thread Lg.	O'all Wd.	O'all Thickness	O'all Length	316 SS Part Number	18-8 SS Part Number	18-8 SS Black Oxide Part Number	17-4 PH SS Part Number	Brass Part Number
6-32	3/4	1/8	1/2	5/16	5/32	29/32	ZEB10-316	ZEB10	ZEB10-BLACK	ZEB10-174	ZEB10-BR
	1	1/8	3/4	5/16	5/32	1-5/32	ZEB12-316	ZEB12	ZEB12-BLACK	ZEB12-174	ZEB12-BR
	1-1/2	1/8	1-1/4	5/16	5/32	1-21/32	ZEB14-316	ZEB14	ZEB14-BLACK	ZEB14-174	ZEB14-BR
	2	1/8	1-3/4	5/16	5/32	2-5/32	ZEB16-316	ZEB16	ZEB16-BLACK	ZEB16-174	ZEB16-BR
8-32	1	5/32	3/4	5/16	3/16	1-5/32	ZEB20-316	ZEB20	ZEB20-BLACK	ZEB20-174	ZEB20-BR
	1-1/2	5/32	1-1/4	5/16	3/16	1-21/32	ZEB22-316	ZEB22	ZEB22-BLACK	ZEB22-174	ZEB22-BR
	2	5/32	1-3/4	5/16	3/16	2-5/32	ZEB24-316	ZEB24	ZEB24-BLACK	ZEB24-174	ZEB24-BR
10-32	1-1/2	3/16	1	1/2	5/16	1-3/4	ZEB30-316	ZEB30	ZEB30-BLACK	ZEB30-174	ZEB30-BR
	1-1/2	3/16	1	1/2	5/16	1-3/4	–	Z0008-188	–	–	–
	2	3/16	3/4	1/2	3/16	2-1/4	Z0033-188	Z0033-316	–	–	–
	2	3/16	1-1/2	1/2	3/16	2-1/4	ZEB32-316	ZEB32	ZEB32-BLACK	ZEB32-174	ZEB32-BR
	3	3/16	3/4	1/2	3/16	3-1/4	Z0034-188	Z0034-316	–	–	–
	3	3/16	2-1/2	1/2	3/16	3-1/4	ZEB34-316	ZEB34	ZEB34-BLACK	ZEB34-174	ZEB34-BR
1/4-20	2	3/16	1-1/2	5/8	1/4	2-5/16	ZEB40-316	ZEB40	ZEB40-BLACK	ZEB40-174	ZEB40-BR
	3	3/16	2-1/2	5/8	1/4	3-5/16	ZEB42-316	ZEB42	ZEB42-BLACK	ZEB42-174	ZEB42-BR
	1-1/2	1/4	1-1/8	5/8	1/4	1-13/16	ZEB50-316	ZEB50	ZEB50-BLACK	ZEB50-174	ZEB50-BR
	2	1/4	1-1/2	5/8	1/4	2-5/16	ZEB52-316	ZEB52	ZEB52-BLACK	ZEB52-174	ZEB52-BR

Rod End Bolts — Inch



Thread Size	Shank Center Lg.	ID	Thread Lg.	O'all Wd.	O'all Thickness	O'all Length	316 SS Part Number	18-8 SS Part Number	18-8 SS Black Oxide Part Number	17-4 PH SS Part Number	Brass Part Number
1/4-20	3	1/4	2-1/2	5/8	1/4	3-5/16	ZEB54-316	ZEB54	ZEB54-BLACK	ZEB54-174	ZEB54-BR
	3-1/2	1/4	3	5/8	1/4	3-13/16	ZEB56-316	ZEB56	ZEB56-BLACK	ZEB56-174	ZEB56-BR
1/4-28	2	1/4	1-1/2	5/8	1/4	2-5/16	ZEB66-316	ZEB66	ZEB66-BLACK	ZEB66-174	ZEB66-BR
	3	1/4	2-1/2	5/8	1/4	3-5/16	ZEB68-316	ZEB68	ZEB68-BLACK	ZEB68-174	ZEB68-BR
	3-1/2	1/4	3	5/8	1/4	3-13/16	ZEB70-316	ZEB70	ZEB70-BLACK	ZEB70-174	ZEB70-BR
5/16-18	2	1/4	1-1/2	11/16	5/16	2-11/32	ZEB76-316	ZEB76	ZEB76-BLACK	ZEB76-174	ZEB76-BR
5/16-18	3	1/4	2-1/2	11/16	5/16	3-11/32	ZEB78-316	ZEB78	ZEB78-BLACK	ZEB78-174	ZEB78-BR
	1-1/2	5/16	1-1/16	11/16	5/16	1-27/32	ZEB84-316	ZEB84	ZEB84-BLACK	ZEB84-174	ZEB84-BR
	3-1/2	5/16	3-1/16	11/16	5/16	3-27/32	ZEB86-316	ZEB86	ZEB86-BLACK	ZEB86-174	ZEB86-BR
	6	5/16	5-9/16	11/16	5/16	6-11/32	ZEB88-316	ZEB88	ZEB88-BLACK	ZEB88-174	ZEB88-BR
5/16-24	2	1/4	1-1/2	11/16	5/16	2-11/32	ZEB90-316	ZEB90	ZEB90-BLACK	ZEB90-174	ZEB90-BR
	3	1/4	2-1/2	11/16	5/16	3-11/32	ZEB92-316	ZEB92	ZEB92-BLACK	ZEB92-174	ZEB92-BR
3/8-16	3	5/16	2-1/2	13/16	3/8	3-13/32	ZEB94-316	ZEB94	ZEB94-BLACK	ZEB94-174	ZEB94-BR
	4	5/16	3-1/2	13/16	3/8	4-13/32	ZEB96-316	ZEB96	ZEB96-BLACK	ZEB96-174	ZEB96-BR
	2	3/8	1-1/2	13/16	3/8	2-13/32	ZEB104-316	ZEB104	ZEB104-BLACK	ZEB104-174	ZEB104-BR
	3-1/2	3/8	3	13/16	3/8	3-29/32	ZEB106-316	ZEB106	ZEB106-BLACK	ZEB106-174	ZEB106-BR
3/8-16	5	3/8	4-1/2	13/16	3/8	5-13/32	ZEB108-316	ZEB108	ZEB108-BLACK	ZEB108-174	ZEB108-BR
	6	3/8	5-1/2	13/16	3/8	6-13/32	ZEB110-316	ZEB110	ZEB110-BLACK	ZEB110-174	ZEB110-BR
3/8-24	3-1/2	3/8	3	13/16	3/8	3-29/32	ZEB116-316	ZEB116	ZEB116-BLACK	ZEB116-174	ZEB116-BR
	5	3/8	4-1/2	13/16	3/8	5-13/32	ZEB118-316	ZEB118	ZEB118-BLACK	ZEB118-174	ZEB118-BR
1/2-13	2-1/2	1/2	1-7/8	1-1/32	1/2	3-1/64	ZEB126-316	ZEB126	ZEB126-BLACK	ZEB126-174	ZEB126-BR
	3-1/2	1/2	2-7/8	1-1/32	1/2	4-1/64	ZEB128-316	ZEB128	ZEB128-BLACK	ZEB128-174	ZEB128-BR
	5	1/2	4-3/16	1-1/32	1/2	5-33/64	ZEB130-316	ZEB130	ZEB130-BLACK	ZEB130-174	ZEB130-BR
	6	1/2	5-3/8	1-1/32	1/2	6-33/64	ZEB132-316	ZEB132	ZEB132-BLACK	ZEB132-174	ZEB132-BR
1/2-20	3-1/2	1/2	2-7/8	1-1/32	1/2	4-1/64	ZEB138-316	ZEB138	ZEB138-BLACK	ZEB138-174	ZEB138-BR
	5	1/2	4-3/16	1-1/32	1/2	5-33/64	ZEB140-316	ZEB140	ZEB140-BLACK	ZEB140-174	ZEB140-BR
5/8-11	3-1/2	5/8	2-3/4	1-5/16	5/8	4-5/32	ZEB146-316	ZEB146	ZEB146-BLACK	ZEB146-174	ZEB146-BR
	5	5/8	4-1/4	1-5/16	5/8	5-21/32	ZEB148-316	ZEB148	ZEB148-BLACK	ZEB148-174	ZEB148-BR
	6	5/8	5-1/4	1-5/16	5/8	6-21/32	ZEB150-316	ZEB150	ZEB150-BLACK	ZEB150-174	ZEB150-BR
5/8-24	3-1/2	5/8	2-3/4	1-5/16	5/8	4-5/32	ZEB156-316	ZEB156	ZEB156-BLACK	ZEB156-174	ZEB156-BR
	5	5/8	4-1/4	1-5/16	5/8	5-21/32	ZEB158-316	ZEB158	ZEB158-BLACK	ZEB158-174	ZEB158-BR
3/4-10	3-1/2	3/4	2-5/8	1-9/16	3/4	4-9/32	ZEB164-316	ZEB164	ZEB164-BLACK	ZEB164-174	ZEB164-BR
	5	3/4	4-1/8	1-9/16	3/4	5-25/32	ZEB166-316	ZEB166	ZEB166-BLACK	ZEB166-174	ZEB166-BR
	6	3/4	5-1/8	1-9/16	3/4	6-25/32	ZEB168-316	ZEB168	ZEB168-BLACK	ZEB168-174	ZEB168-BR
3/4-16	5	3/4	4-1/8	1-9/16	3/4	5-25/32	ZEB174-316	ZEB174	ZEB174-BLACK	ZEB174-174	ZEB174-BR
	6	3/4	5-1/8	1-9/16	3/4	6-25/32	ZEB176-316	ZEB176	ZEB176-BLACK	ZEB176-174	ZEB176-BR

Rod End Bolts — Inch



Rod End Bolts, Inch

Thread Size	Shank Center Lg.	ID	Thread Lg.	O'all Wd.	O'all Thickness	O'all Length	316 SS Part Number	18-8 SS Part Number	18-8 SS Black Oxide Part Number	17-4 PH SS Part Number	Brass Part Number
7/8-9	5	7/8	3-13/16	1-7/8	7/8	5-15/16	ZEB180-316	ZEB180	ZEB180-BLACK	ZEB180-174	ZEB180-BR
	6	7/8	4-13/16	1-7/8	7/8	6-15/16	ZEB182-316	ZEB182	ZEB182-BLACK	ZEB182-174	ZEB182-BR
1-8	6	1	4-3/4	2-3/32	1	7-3/64	ZEB186-316	ZEB186	ZEB186-BLACK	ZEB186-174	ZEB186-BR
	8	1	6	2-3/32	1	9-3/64	ZEB188-316	ZEB188	ZEB188-BLACK	ZEB188-174	ZEB188-BR
1-1/4-7	6	1-1/4	4-1/4	2-21/32	1-1/4	7-21/64	ZEB192-316	ZEB192	ZEB192-BLACK	ZEB192-174	ZEB192-BR
	8	1-1/4	6	2-21/32	1-1/4	9-21/64	ZEB194-316	ZEB194	ZEB194-BLACK	ZEB194-174	ZEB194-BR
1-1/2-6	6	1-1/2	4	3-3/32	1-1/2	7-35/64	ZEB198-316	ZEB198	ZEB198-BLACK	ZEB198-174	ZEB198-BR
	8	1-1/2	6	3-3/32	1-1/2	9-35/64	ZEB200-316	ZEB200	ZEB200-BLACK	ZEB200-174	ZEB200-BR



Rod End Bolts, Inch

Thread Size	Shank Center Lg.	ID	Thread Lg.	O'all Wd.	O'all Thickness	O'all Length	4140 Steel, Black Oxide Part Number	12L14 Steel Black Oxide Part Number
6-32	3/4	1/8	1/2	5/16	5/32	29/32	ZEB10-ALLOY-BX	—
6-32	1	1/8	3/4	5/16	5/32	1-5/32	ZEB12-ALLOY-BX	—
6-32	1-1/2	1/8	1-1/4	5/16	5/32	1-21/32	ZEB14-ALLOY-BX	—
6-32	2	1/8	1-3/4	5/16	5/32	2-5/32	ZEB16-ALLOY-BX	—
8-32	1	5/32	3/4	5/16	3/16	1-5/32	ZEB20-ALLOY-BX	—
8-32	1-1/2	5/32	1-1/4	5/16	3/16	1-21/32	ZEB22-ALLOY-BX	—
8-32	2	5/32	1-3/4	5/16	3/16	2-5/32	ZEB24-ALLOY-BX	—
10-32	1-1/2	3/16	1	1/2	5/16	1-3/4	Z0008-414	Z0008-12L
10-32	2	3/16	1-1/2	1/2	3/16	2-1/4	ZEB32-ALLOY-BX	—
10-32	3	3/16	3/4	1/2	3/16	3-1/4	Z0034-414	—
10-32	3	3/16	2-1/2	1/2	3/16	3-1/4	ZEB34-ALLOY-BX	—
1/4-20	2	3/16	1-1/2	5/8	1/4	2-5/16	ZEB40-ALLOY-BX	—
1/4-20	3	3/16	2-1/2	5/8	1/4	3-5/16	ZEB42-ALLOY-BX	—
1/4-20	2	1/4	1-1/2	5/8	1/4	2-5/16	ZEB52-ALLOY-BX	—
1/4-20	3	1/4	2-1/2	5/8	1/4	3-5/16	ZEB54-ALLOY-BX	—
1/4-28	2	1/4	1-1/2	5/8	1/4	2-5/16	ZEB66-ALLOY-BX	—
1/4-28	3	1/4	2-1/2	5/8	1/4	3-5/16	ZEB68-ALLOY-BX	—
5/16-18	2	1/4	1-1/2	11/16	5/16	2-11/32	ZEB76-ALLOY-BX	—
5/16-18	3	1/4	2-1/2	11/16	5/16	3-11/32	ZEB78-ALLOY-BX	—

Rod End Bolts — Inch



Rod End Bolts, Inch

Thread Size	Shank Center Lg.	ID	Thread Lg.	O'all Wd.	O'all Thickness	O'all Length	4140 Steel, Black Oxide Part Number	12L14 Steel Black Oxide Part Number
5/16-24	2	1/4	1-1/2	11/16	5/16	2-11/32	ZEB90-ALLOY-BX	—
5/16-24	3	1/4	2-1/2	11/16	5/16	3-11/32	ZEB92-ALLOY-BX	—
3/8-16	3	5/16	2-1/2	13/16	3/8	3-13/32	ZEB94-ALLOY-BX	—
3/8-16	4	5/16	3-1/2	13/16	3/8	4-13/32	ZEB96-ALLOY-BX	—
3/8-16	2	3/8	1-1/2	13/16	3/8	2-13/32	ZEB104-ALLOY-BX	—
3/8-24	5	3/8	4-1/2	13/16	3/8	5-13/32	ZEB118-ALLOY-BX	—
1/2-13	2-1/2	1/2	1-7/8	1-1/32	1/2	3-1/64	ZEB126-ALLOY-BX	—



Rod End Bolts, Inch

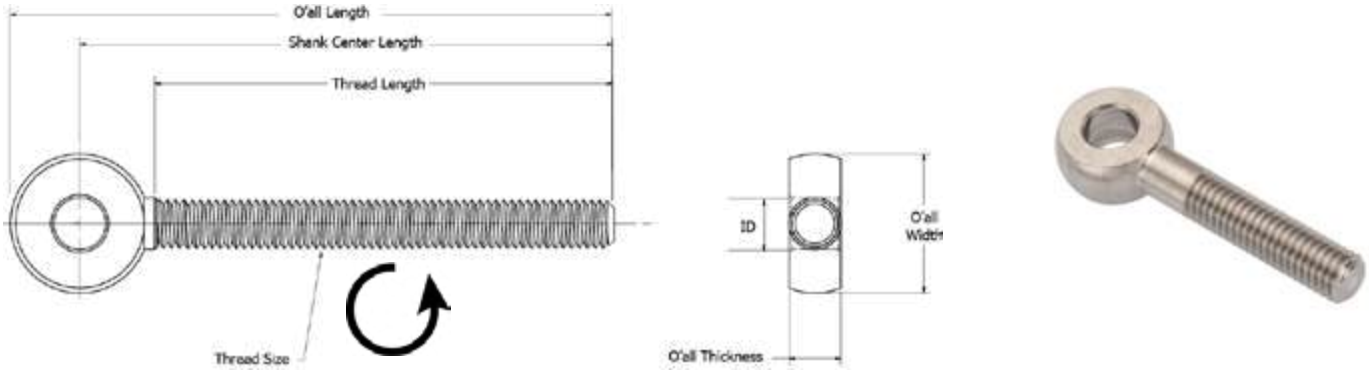
Thread Size	Shank Center Lg.	ID	Thread Lg.	O'all Wd.	O'all Thickness	O'all Length	Aluminum, Red Andodized Part Number
1/4-20	2	3/16	3/4	1/2	9/32	2-1/4	Z0010
1/4-20	4	3/16	3/4	1/2	9/32	4-1/4	Z0011
5/16-18	3	1/4	1-1/2	5/8	11/32	3-5/16	Z0013
5/16-18	4	1/4	1-1/2	5/8	11/32	4-5/16	Z0014
3/8-16	3	3/8	1-1/2	3/4	7/16	3-3/8	Z0016
3/8-16	4	3/8	1-1/2	3/4	7/16	4-3/8	Z0017
3/8-16	5	3/8	1-1/2	3/4	7/16	5-3/8	Z0018
1/2-13	3-3/4	3/8	1-1/2	1	9/16	4-1/4	Z0020
1/2-13	4	3/8	1-1/2	1	9/16	4-1/2	Z0021
1/2-13	5	3/8	1-1/2	1	9/16	5-1/2	Z0022
5/8-11	4-1/2	5/8	2	1-1/4	11/16	5-1/8	Z0025
5/8-11	5	5/8	2	1-1/4	11/16	5-5/8	Z0026
5/8-11	6	5/8	2	1-1/4	11/16	6-5/8	Z0027
3/4-10	4-1/2	3/4	2	1-1/2	13/16	5-1/4	Z0030
3/4-10	5	5/8	1-3/4	1-1/2	13/16	5-3/4	Z0031
3/4-10	6	3/4	2-1/2	1-1/2	13/16	6-3/4	Z0032

Left Hand Rod End Bolts — Inch

18-8 Stainless Steel

Product Information

Rod End Bolts also known as swing bolts, pivoting bolts and hinge eyebolts. These threaded bolts can be cut to length to fit your application. Left-hand threads tightens when turned counterclockwise. Class 2A-UNC. Made from DFARS & RoHs compliant 303 stainless steel.



Left Hand Rod End Bolts, Inch

Thread Size	Shank Center Lg.	ID	Thread Lg.	O'all Wd.	O'all Thickness	O'all Length	18-8 SS Part Number
6-32	3/4	1/8	1/2	5/16	5/32	29/32	ZEB10-LH
6-32	1	1/8	3/4	5/16	5/32	1-5/32	ZEB12-LH
6-32	1-1/2	1/8	1-1/4	5/16	5/32	1-21/32	ZEB14-LH
6-32	2	1/8	1-3/4	5/16	5/32	2-5/32	ZEB16-LH
8-32	1	5/32	3/4	5/16	3/16	1-5/32	ZEB20-LH
8-32	1-1/2	5/32	1-1/4	5/16	3/16	1-21/32	ZEB22-LH
8-32	2	5/32	1-3/4	5/16	3/16	2-5/32	ZEB24-LH
10-32	1-1/2	3/16	1	1/2	5/16	1-3/4	ZEB30-LH
10-32	2	3/16	1-1/2	1/2	3/16	2-1/4	ZEB32-LH
10-32	3	3/16	2-1/2	1/2	3/16	3-1/4	ZEB34-LH
1/4-20	2	3/16	1-1/2	5/8	1/4	2-5/16	ZEB40-LH
1/4-20	3	3/16	2-1/2	5/8	1/4	3-5/16	ZEB42-LH
1/4-20	1-1/2	1/4	1-1/8	5/8	1/4	1-27/32	ZEB50-LH
1/4-20	2	1/4	1-1/2	5/8	1/4	2-5/16	ZEB52-LH
1/4-20	3	1/4	2-1/2	5/8	1/4	3-5/16	ZEB54-LH
1/4-20	3-1/2	1/4	3	5/8	1/4	3-13/16	ZEB56-LH
1/4-20	5	1/4	4-1/2	5/8	1/4	5-5/16	ZEB58-LH
1/4-20	6	1/4	5-5/8	5/8	1/4	6-5/16	ZEB60-LH
1/4-28	2	1/4	1-1/2	5/8	1/4	2-5/16	ZEB66-LH
1/4-28	3	1/4	2-1/2	5/8	1/4	3-5/16	ZEB68-LH
1/4-28	3-1/2	1/4	3	5/8	1/4	3-13/16	ZEB70-LH
5/16-18	2	1/4	1-1/2	11/16	5/16	2-11/32	ZEB76-LH
5/16-18	3	1/4	2-1/2	11/16	5/16	3-11/32	ZEB78-LH

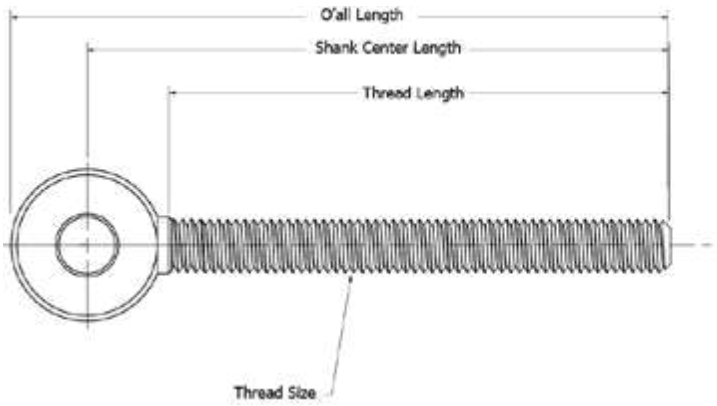
Left Hand Rod End Bolts — Inch

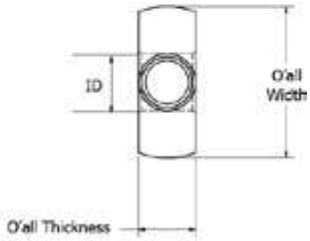


Thread Size	Shank Center Lg.	ID	Thread Lg.	O'all Wd.	O'all Thickness	O'all Length	18-8 SS Part Number
5/16-18	1-1/2	5/16	1-1/16	11/16	5/16	1-27/32	ZEB84-LH
5/16-18	3-1/2	5/16	3-1/16	11/16	5/16	3-27/32	ZEB86-LH
5/16-18	6	5/16	5-9/16	11/16	5/16	6-11/32	ZEB88-LH
5/16-24	2	1/4	1-1/2	11/16	5/16	2-11/32	ZEB90-LH
5/16-24	3	1/4	2-1/2	11/16	5/16	3-11/32	ZEB92-LH
3/8-16	3	5/16	2-1/2	13/16	3/8	3-13/32	ZEB94-LH
3/8-16	4	5/16	3-1/2	13/16	3/8	4-13/32	ZEB96-LH
3/8-16	2	3/8	1-1/2	13/16	3/8	2-13/32	ZEB104-LH
3/8-16	3-1/2	3/8	3	13/16	3/8	3-29/32	ZEB106-LH
3/8-16	5	3/8	4-1/2	13/16	3/8	5-13/32	ZEB108-LH
3/8-16	6	3/8	5-1/2	13/16	3/8	6-13/32	ZEB110-LH
3/8-24	3-1/2	3/8	3	13/16	3/8	3-29/32	ZEB116-LH
3/8-24	5	3/8	4-1/2	13/16	3/8	5-13/32	ZEB118-LH
1/2-13	2-1/2	1/2	1-7/8	1-1/32	1/2	3-1/64	ZEB126-LH
1/2-13	3-1/2	1/2	2-7/8	1-1/32	1/2	4-1/64	ZEB128-LH
1/2-13	5	1/2	4-3/16	1-1/32	1/2	5-33/64	ZEB130-LH
1/2-13	6	1/2	5-3/8	1-1/32	1/2	6-33/64	ZEB132-LH
1/2-20	3-1/2	1/2	2-7/8	1-1/32	1/2	4-1/64	ZEB138-LH
1/2-20	5	1/2	4-3/16	1-1/32	1/2	5-33/64	ZEB140-LH
5/8-11	3-1/2	5/8	2-3/4	1-5/16	5/8	4-5/32	ZEB146-LH
5/8-11	5	5/8	4-1/4	1-5/16	5/8	5-21/32	ZEB148-LH
5/8-11	6	5/8	5-1/4	1-5/16	5/8	6-21/32	ZEB150-LH
5/8-24	3-1/2	5/8	2-3/4	1-5/16	5/8	4-5/32	ZEB156-LH
5/8-24	5	5/8	4-1/4	1-5/16	5/8	5-21/32	ZEB158-LH
3/4-10	3-1/2	3/4	2-5/8	1-9/16	3/4	4-9/32	ZEB164-LH
3/4-10	5	3/4	4-1/8	1-9/16	3/4	5-25/32	ZEB166-LH
3/4-10	6	3/4	5-1/8	1-9/16	3/4	6-25/32	ZEB168-LH
3/4-16	5	3/4	4-1/8	1-9/16	3/4	5-25/32	ZEB174-LH
3/4-16	6	3/4	5-1/8	1-9/16	3/4	6-25/32	ZEB176-LH
7/8-9	5	7/8	3-13/16	1-7/8	7/8	5-15/16	ZEB180-LH
7/8-9	6	7/8	4-13/16	1-7/8	7/8	6-15/16	ZEB182-LH
1-8	6	1	4-3/4	2-3/32	1	7-3/64	ZEB186-LH
1-8	8	1	6	2-3/32	1	9-3/64	ZEB188-LH
1-1/4-7	6	1-1/4	4-1/4	2-21/32	1-1/4	7-21/64	ZEB192-LH
1-1/4-7	8	1-1/4	6	2-21/32	1-1/4	9-21/64	ZEB194-LH
1-1/2-6	6	1-1/2	4	3-3/32	1-1/2	7-35/64	ZEB198-LH
1-1/2-6	8	1-1/2	6	3-3/32	1-1/2	9-35/64	ZEB200-LH

Rod End Bolts — Metric

316 Stainless Steel
18-8 Stainless Steel | Plain | Black Oxide
17-4 PH Stainless Steel
Brass







Rod End Bolts, Metric

Thread Size	Shank Center Lg.	ID	Thread Lg. (min.)	O'all Wd.	O'all Thickness	O'all Length	AMPG 316 SS Part Number	18-8 SS Part Number
M5 x 0.8	25	5	16	12	6	31	ZEBM5X25-316	ZEBM5X25
	30	5	16	12	6	36	ZEBM5X30-316	ZEBM5X30
	35	5	21	12	6	41	ZEBM5X35-316	ZEBM5X35
	40	5	26	12	6	46	ZEBM5X40-316	ZEBM5X40
M5 x 0.8	45	5	31	12	6	51	ZEBM5X45-316	ZEBM5X45
	50	5	36	12	6	56	ZEBM5X50-316	ZEBM5X50
	60	5	46	12	6	66	ZEBM5X60-316	ZEBM5X60
M6 x 1	70	6	56	14	7	77	ZEBM6X70-316	—
	80	6	66	14	7	87	ZEBM6X80-316	—
M10 x 1.5	75	10	57	20	12	85	ZEBM10X75-316	ZEBM10X75
M12 x 1.75	130	12	107	25	14	143	ZEBM12X130-316	ZEBM12X130
M16 x 2	150	16	118	32	17	166	ZEBM16X150-316	ZEBM16X150
	160	16	133	32	17	176	ZEBM16X160-316	—
M20 x 2.5	110	18	78	40	22	130	ZEBM20X110-316	ZEBM20X110
	130	18	98	40	22	150	ZEBM20X130-316	ZEBM20X130
	150	18	118	40	22	170	ZEBM20X150-316	ZEBM20X150
M24 x 3	90	22	58	45	25	113	ZEBM24X90-316	ZEBM24X90
	100	22	68	45	25	123	ZEBM24X100-316	ZEBM24X100
	120	22	88	45	25	143	ZEBM24X120-316	ZEBM24X120
	140	22	108	45	25	163	ZEBM24X140-316	ZEBM24X140
M24 x 3	150	22	118	45	25	173	ZEBM24X150-316	ZEBM24X150
	160	22	128	45	25	183	ZEBM24X160-316	ZEBM24X160

Rod End Bolts — Metric



Thread Size	Shank Center Lg.	ID	Thread Lg. (min)	O'all Wd.	O'all Thick.	O'all Length	18-8 SS, Black Oxide Part Number	17-4 PH SS Part Number	AMPG Brass Part Number	Steel Black Oxide Part Number
M5 x 0.8	25	5	16	12	6	31	ZEBM5X25-BLACK	ZEBM5X25-174	ZEBM5X25-BR	ZEBM5X25-STL-BX
	30	5	16	12	6	36	ZEBM5X30-BLACK	ZEBM5X30-174	ZEBM5X30-BR	ZEBM5X30-STL-BX
	35	5	21	12	6	41	ZEBM5X35-BLACK	ZEBM5X35-174	ZEBM5X35-BR	ZEBM5X35-STL-BX
	40	5	26	12	6	46	ZEBM5X40-BLACK	ZEBM5X40-174	ZEBM5X40-BR	ZEBM5X40-STL-BX
M5 x 0.8	45	5	31	12	6	51	ZEBM5X45-BLACK	ZEBM5X45-174	ZEBM5X45-BR	ZEBM5X45-STL-BX
M5 x 0.8	50	5	36	12	6	56	ZEBM5X50-BLACK	ZEBM5X50-174	ZEBM5X50-BR	ZEBM5X50-STL-BX
	60	5	46	12	6	66	ZEBM5X60-BLACK	ZEBM5X60-174	ZEBM5X60-BR	ZEBM5X60-STL-BX
M6 x 1	30	6	18	14	7	37	ZEBM6X30-BLACK	ZEBM6X30-174	ZEBM6X30-BR	ZEBM6X30-STL-BX
	35	6	22	14	7	42	ZEBM6X35-BLACK	ZEBM6X35-174	ZEBM6X35-BR	ZEBM6X35-STL-BX
	40	6	26	14	7	47	ZEBM6X40-BLACK	ZEBM6X40-174	ZEBM6X40-BR	ZEBM6X40-STL-BX
	45	6	31	14	7	52	ZEBM6X45-BLACK	ZEBM6X45-174	ZEBM6X45-BR	ZEBM6X45-STL-BX
M6 x 1	50	6	36	14	7	57	ZEBM6X50-BLACK	ZEBM6X50-174	ZEBM6X50-BR	–
	60	6	46	14	7	67	ZEBM6X60-BLACK	ZEBM6X60-174	ZEBM6X60-BR	–
	70	6	56	14	7	77	ZEBM6X70-BLACK	ZEBM6X70-174	ZEBM6X70-BR	ZEBM6X70-STL-BX
	80	6	66	14	7	87	ZEBM6X80-BLACK	ZEBM6X80-174	ZEBM6X80-BR	–
8 x 1.25	30	8	22	18	9	39	ZEBM8X30-BLACK	ZEBM8X30-174	ZEBM8X30-BR	ZEBM8X30-STL-BX
	35	8	22	18	9	44	ZEBM8X35-BLACK	ZEBM8X35-174	ZEBM8X35-BR	ZEBM8X35-STL-BX
	40	8	24	18	9	49	ZEBM8X40-BLACK	ZEBM8X40-174	–	ZEBM8X40-STL-BX
	45	8	29	18	9	54	ZEBM8X45-BLACK	ZEBM8X45-174	ZEBM8X45-BR	ZEBM8X45-STL-BX
8 x 1.25	50	8	34	18	9	59	ZEBM8X50-BLACK	ZEBM8X50-174	–	–
	60	8	44	18	9	69	ZEBM8X60-BLACK	ZEBM8X60-174	–	ZEBM8X60-STL-BX
	70	8	54	18	9	79	ZEBM8X70-BLACK	ZEBM8X70-174	–	ZEBM8X70-STL-BX
	80	8	64	18	9	89	ZEBM8X80-BLACK	ZEBM8X80-174	–	–
8 x 1.25	90	8	74	18	9	99	ZEBM8X90-BLACK	ZEBM8X90-174	ZEBM8X90-BR	ZEBM8X90-STL-BX
	100	8	84	18	9	109	ZEBM8X100-BLACK	ZEBM8X100-174	ZEBM8X100-BR	–
M10 x 1.5	40	10	26	20	12	50	ZEBM10X40-BLACK	ZEBM10X40-174	ZEBM10X40-BR	ZEBM10X40-STL-BX
	45	10	26	20	12	55	ZEBM10X45-BLACK	ZEBM10X45-174	ZEBM10X45-BR	ZEBM10X45-STL-BX
	50	10	32	20	12	60	ZEBM10X50-BLACK	ZEBM10X50-174	–	–
	60	10	42	20	12	70	ZEBM10X60-BLACK	ZEBM10X60-174	–	ZEBM10X60-STL-BX
M10 x 1.5	70	10	52	20	12	80	ZEBM10X70-BLACK	ZEBM10X70-174	–	ZEBM10X70-STL-BX
	75	10	57	20	12	85	ZEBM10X75-BLACK	ZEBM10X75-174	ZEBM10X75-BR	ZEBM10X75-STL-BX
	80	10	62	20	12	90	ZEBM10X80-BLACK	ZEBM10X80-174	–	–
	90	10	72	20	12	100	ZEBM10X90-BLACK	ZEBM10X90-174	–	ZEBM10X90-STL-BX
M10 x 1.5	100	10	82	20	12	110	ZEBM10X100-BLACK	ZEBM10X100-174	–	–
	110	10	92	20	12	120	ZEBM10X110-BLACK	ZEBM10X110-174	ZEBM10X110-BR	ZEBM10X110-STL-BX
	120	10	102	20	12	130	ZEBM10X120-BLACK	ZEBM10X120-174	ZEBM10X120-BR	ZEBM12X120-STL-BX

Rod End Bolts — Metric



Thread Size	Shank Center Lg.	ID	Thread Lg. (min)	O'all Wd.	O'all Thick.	O'all Length	18-8 SS, Black Oxide Part Number	17-4 PH SS Part Number	AMPG Brass Part Number	Steel Black Oxide Part Number
M12 x 1.75	50	12	30	25	14	63	ZEBM12X50-BLACK	ZEBM12X50-174	ZEBM12X50-BR	–
	60	12	37	25	14	73	ZEBM12X60-BLACK	ZEBM12X60-174	–	–
	70	12	47	25	14	83	ZEBM12X70-BLACK	ZEBM12X70-174	–	–
	80	12	57	25	14	93	ZEBM12X80-BLACK	ZEBM12X80-174	–	–
M12 x 1.75	90	12	67	25	14	103	ZEBM12X90-BLACK	ZEBM12X90-174	–	–
	100	12	77	25	14	113	ZEBM12X100-BLACK	ZEBM12X100-174	–	–
	110	12	87	25	14	123	ZEBM12X110-BLACK	ZEBM12X110-174	ZEBM12X110-BR	–
	120	12	97	25	14	133	ZEBM12X120-BLACK	ZEBM12X120-174	–	–
M12 x 1.75	130	12	107	25	14	143	ZEBM12X130-BLACK	ZEBM12X130-174	–	–
M16 x 2	60	16	38	32	17	76	ZEBM16X60-BLACK	ZEBM16X60-174	ZEBM16X160-BR	ZEBM16X60-STL-BX
	70	16	43	32	17	86	ZEBM16X70-BLACK	ZEBM16X70-174	–	–
	80	16	53	32	17	96	ZEBM16X80-BLACK	ZEBM16X80-174	–	ZEBM16X80-STL-BX
	90	16	63	32	17	106	ZEBM16X90-BLACK	ZEBM16X90-174	–	ZEBM16X90-STL-BX
M16 x 2	100	16	73	32	17	116	ZEBM16X100-BLACK	ZEBM16X100-174	–	–
	110	16	83	32	17	126	ZEBM16X110-BLACK	ZEBM16X110-174	–	ZEBM16X110-STL-BX
	120	16	93	32	17	136	ZEBM16X120-BLACK	ZEBM16X120-174	–	ZEBM16X120-STL-BX
	130	16	103	32	17	146	ZEBM16X130-BLACK	ZEBM16X130-174	–	ZEBM16X130-STL-BX
M16 x 2	140	16	113	32	17	156	ZEBM16X140-BLACK	ZEBM16X140-174	–	–
	150	16	118	32	17	166	ZEBM16X150-BLACK	ZEBM16X150-174	–	ZEBM16X150-STL-BX
	160	16	133	32	17	176	ZEBM16X160-BLACK	ZEBM16X160-174	–	–
M20 x 2.5	70	18	38	40	22	90	ZEBM20X70-BLACK	ZEBM20X70-174	ZEBM20X70-BR	ZEBM20X70-STL-BX
	80	18	48	40	22	100	ZEBM20X80-BLACK	ZEBM20X80-174	–	ZEBM20X80-STL-BX
	90	18	58	40	22	110	ZEBM20X90-BLACK	ZEBM20X90-174	–	ZEBM20X90-STL-BX
	100	18	68	40	22	120	ZEBM20X100-BLACK	ZEBM20X100-174	–	–
M20 x 2.5	110	18	78	40	22	130	ZEBM20X110-BLACK	ZEBM20X110-174	–	ZEBM20X110-STL-BX
M20 x 2.5	120	18	88	40	22	140	ZEBM20X120-BLACK	ZEBM20X120-174	–	–
	130	18	98	40	22	150	ZEBM20X130-BLACK	ZEBM20X130-174	–	ZEBM20X130-STL-BX
	140	18	108	40	22	160	ZEBM20X140-BLACK	ZEBM20X140-174	–	–
	150	18	118	40	22	170	ZEBM20X150-BLACK	ZEBM20X150-174	ZEBM20X150-BR	ZEBM20X150-STL-BX
M20 x 2.5	160	18	128	40	22	180	ZEBM20X160-BLACK	ZEBM20X160-174	ZEBM20X160-BR	–
M24 x 3	90	22	58	45	25	113	ZEBM24X90-BLACK	ZEBM24X90-174	ZEBM24X90-BR	ZEBM24X90-STL-BX
	100	22	68	45	25	123	ZEBM24X100-BLACK	ZEBM24X100-174	ZEBM24X100-BR	ZEBM24X100-STL-BX
	120	22	88	45	25	143	ZEBM24X120-BLACK	ZEBM24X120-174	ZEBM24X120-BR	ZEBM24X120-STL-BX
	140	22	108	45	25	163	ZEBM24X140-BLACK	ZEBM24X140-174	ZEBM24X140-BR	ZEBM24X140-STL-BX
M24 x 3	150	22	118	45	25	173	ZEBM24X150-BLACK	ZEBM24X150-174	ZEBM24X150-BR	ZEBM24X150-STL-BX
	160	22	128	45	25	183	ZEBM24X160-BLACK	ZEBM24X160-174	ZEBM24X160-BR	ZEBM24X160-STL-BX

Left Hand Rod End Bolts — Metric

18-8 Stainless Steel | Black Oxide
Steel 12L14 | Black Oxide



Left Hand Rod End Bolts, Metric

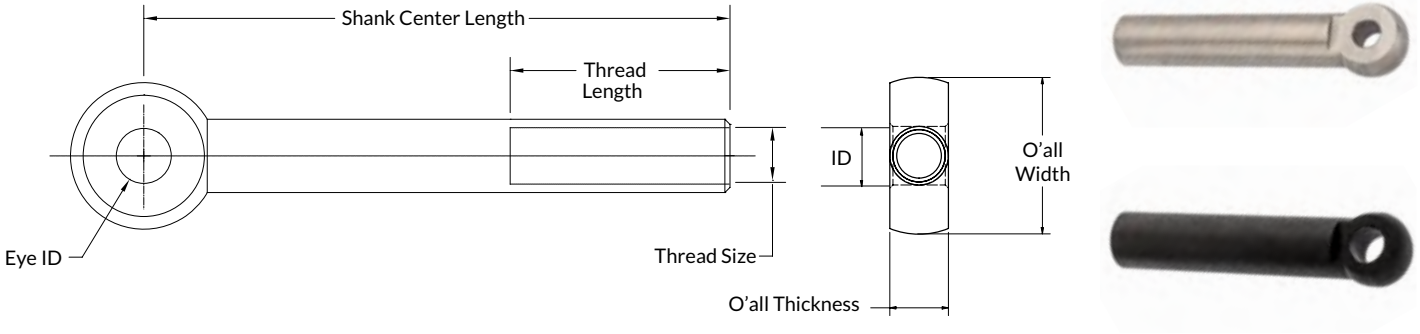
Thread Size	Thread Direction	Shank Center Lg.	ID	Thread Lg. (min)	O'all Wd.	O'all Thickness	O'all Length	AMPG 18-8 SS, Left Hand Threads Part Number	Steel, Black Oxide Part Number
M5 x 0.8	Left	25	5	16	12	6	31	ZEBM5X25-LH	ZEBM5X25LH-STL-BX
		30	5	16	12	6	36	ZEBM5X30-LH	ZEBM5X30LH-STL-BX
		35	5	21	12	6	41	ZEBM5X35-LH	ZEBM5X35LH-STL-BX
		40	5	26	12	6	46	ZEBM5X40-LH	ZEBM5X40LH-STL-BX
M5 x 0.8	Left	45	5	31	12	6	51	ZEBM5X45-LH	ZEBM5X45LH-STL-BX
		50	5	36	12	6	56	ZEBM5X50-LH	ZEBM5X50LH-STL-BX
		60	5	46	12	6	66	ZEBM5X60-LH	ZEBM5X60LH-STL-BX
M6 x 1	Left	30	6	18	14	7	37	ZEBM6X30-LH	ZEBM6X30LH-STL-BX
		35	6	22	14	7	42	ZEBM6X35-LH	ZEBM6X35LH-STL-BX
		40	6	26	14	7	47	ZEBM6X40-LH	ZEBM6X40LH-STL-BX
		45	6	31	14	7	52	ZEBM6X45-LH	ZEBM6X45LH-STL-BX
M6 x 1	Left	50	6	36	14	7	57	ZEBM6X50-LH	ZEBM6X50LH-STL-BX
		60	6	46	14	7	67	ZEBM6X60-LH	ZEBM6X60LH-STL-BX
		70	6	56	14	7	77	ZEBM6X70-LH	ZEBM6X70LH-STL-BX
		80	6	66	14	7	87	ZEBM6X80-LH	ZEBM6X80LH-STL-BX
8 x 1.25	Left	30	8	22	18	9	39	ZEBM8X30-LH	ZEBM8X30LH-STL-BX
		35	8	22	18	9	44	ZEBM8X35-LH	ZEBM8X35LH-STL-BX
		40	8	24	18	9	49	ZEBM8X40-LH	ZEBM8X40LH-STL-BX
		45	8	29	18	9	54	ZEBM8X45-LH	ZEBM8X45LH-STL-BX
8 x 1.25	Left	50	8	34	18	9	59	ZEBM8X50-LH	ZEBM8X50LH-STL-BX
		60	8	44	18	9	69	ZEBM8X60-LH	ZEBM8X60LH-STL-BX
		70	8	54	18	9	79	ZEBM8X70-LH	ZEBM8X70LH-STL-BX
		80	8	64	18	9	89	ZEBM8X80-LH	ZEBM8X80LH-STL-BX
8 x 1.25	Left	90	8	74	18	9	99	ZEBM8X90-LH	ZEBM8X90LH-STL-BX
		100	8	84	18	9	109	ZEBM8X100-LH	ZEBM8X100LH-STL-BX
M10 x 1.5	Left	40	10	26	20	12	50	ZEBM10X40-LH	ZEBM10X40LH-STL-BX
		45	10	26	20	12	55	ZEBM10X45-LH	ZEBM10X45LH-STL-BX
		50	10	32	20	12	60	ZEBM10X50-LH	ZEBM10X50LH-STL-BX
		60	10	42	20	12	70	ZEBM10X60-LH	ZEBM10X60LH-STL-BX
M10 x 1.5	Left	70	10	52	20	12	80	ZEBM10X70-LH	ZEBM10X70LH-STL-BX
		75	10	57	20	12	85	ZEBM10X75-LH	ZEBM10X75LH-STL-BX
		80	10	62	20	12	90	ZEBM10X80-LH	ZEBM10X80LH-STL-BX
		90	10	72	20	12	100	ZEBM10X90-LH	ZEBM10X90LH-STL-BX
M10 x 1.5	Left	100	10	82	20	12	110	ZEBM10X100-LH	ZEBM10X100LH-STL-BX
		110	10	92	20	12	120	ZEBM10X110-LH	ZEBM10X110LH-STL-BX
		120	10	102	20	12	130	ZEBM10X120-LH	ZEBM10X120LH-STL-BX

Internally Threaded Solid Rod Ends — Inch

18-8 Stainless Steel | Black Oxide
Steel 12L14 | Black Oxide

Product Information

Rod End Bolts also known as swing bolts, pivoting bolts and hinge eyebolts. These have an internal thread.



Stainless Internally Threaded Rod Ends, Inch

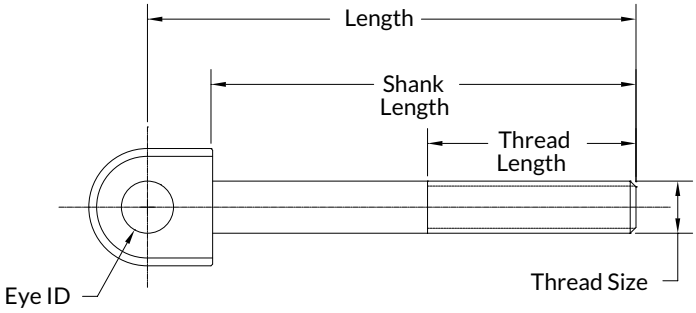
Thread Size	Shank Outside Diameter	Shank Center Length	Eye ID	O'all Width	O'all Thickness	O'all Length	Thread Length	18-8 SS Part Number
1/4-20	3/8	2	3/16	1/2	9/32	2-1/4	3/4	Z0040SS
3/8-16	5/8	3	3/8	3/4	7/16	3-3/8	1	Z0041SS
1/2-13	3/4	3-3/4	3/8	1	9/16	4-1/4	1	Z0042SS
1/2-13	3/4	4	3/8	1	9/16	4-1/2	1	Z0043SS
5/8-11	7/8	4-1/2	5/8	1-1/4	11/16	5-1/8	1	Z0044SS
5/8-11	7/8	5	5/8	1-1/4	11/16	5-5/8	1	Z0045SS
5/8-11	7/8	6	5/8	1-1/4	11/16	6-5/8	1-1/2	Z0046SS
3/4-10	1	4-1/2	3/4	1-1/2	13/16	5-1/4	1	Z0047SS

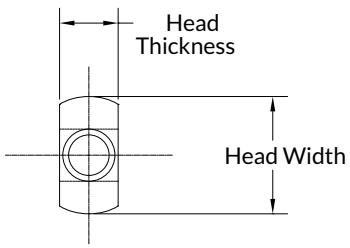
Steel Internally Threaded Rod Ends, Inch

Thread Size	Shank Outside Diameter	Shank Center Length	Eye ID	O'all Width	O'all Thickness	O'all Length	Thread Length	Steel, Black Oxide Part Number
1/4-20	3/8	2	3/16	1/2	9/32	2-1/4	3/4	Z0040
1/4-20	3/8	2	1/4	1/2	9/32	2-1/4	3/4	Z0038
3/8-16	5/8	3	3/8	3/4	7/16	3-3/8	1	Z0041
1/2-13	3/4	3-3/4	3/8	1	9/16	3-1/4	1	Z0042
1/2-13	3/4	3-3/4	1/2	1	9/16	3-1/4	1	Z0039
1/2-13	3/4	4	3/8	1	9/16	4-1/2	1	Z0043
5/8-11	7/8	4-1/2	5/8	1-1/4	11/16	5-1/8	1	Z0044
5/8-11	7/8	5	5/8	1-1/4	11/16	5-5/8	1	Z0045
5/8-11	7/8	6	5/8	1-1/4	11/16	6-5/8	1-1/2	Z0046
3/4-10	1	4-1/2	3/4	1-1/2	13/16	5-1/4	1	Z0047

Externally Threaded Latch Bolts — Metric

Steel 12L14 | Black Oxide







Latch Bolts, Metric

Thread Size	Length	Eye ID	Head Width	Head Thickness	Thread Length	Shank Length	Steel, Black Oxide Part Number
M8	75	8	18	9	32	65	Z0050
M8	100	8	18	9	32	90	Z0051
M10	75	10	20	12	40	64	Z0053
M10	100	10	20	12	40	89	Z0054
M16	75	16	32	17	40	57	Z0056
M16	100	16	32	17	40	83	Z0057

Pull Dowels — Inch

Low Carbon Steel | Case Hardened

Product Information

Designed with a flat on the side to release trapped air in blind holes. Case Haredened to .005-.010 Depth. O.D. Tolerance: +.0001"– +.0003".



Pull Dowels, Inch

Diameter	Length	Thread Size	Thread Depth	Steel Part Number
1/4	3/4	8-32	3/8	Z1258
	1			Z1260
	1-1/4			Z1262
	1-1/2			Z1264
1/4	2	8-32	3/8	Z1266
5/16	3/4	10-32	1/4	Z1250
	1			Z1200
	1-1/4			Z1202
	1-1/2			Z1204
5/16	2	10-32	1/4	Z1252
3/8	1	10-32	3/8	Z1206
	1-1/4			Z1208
	1-1/2			Z1210
	2			Z1212
3/8	2-1/2	10-32	3/8	Z1254
	3			Z1214
7/16	1-1/2	1/4-20	3/8	Z1216

Diameter	Length	Thread Size	Thread Depth	Steel Part Number
7/16	2	1/4-20	3/8	Z1218
1/2	1	1/4-20	1/2	Z1220
	1-1/4			Z1222
	1-1/2			Z1224
	1-3/4			Z1256
1/2	2	1/4-20	1/2	Z1226
	2-1/2			Z1228
	3			Z1230
5/8	1-1/2	5/16-18	1/2	Z1232
	2			Z1234
	2-1/2			Z1236
	3			Z1238
3/4	2	3/8-16	1/2	Z1240
	2-1/2			Z1242
	3			Z1244
1	2-1/2	3/8-16	1/2	Z1246
	3			Z1248

Round Pin Blanks, Dowel Pin Stock — Inch

300 Series Stainless Steel
4140 Alloy Steel

Product Information

Cut end Pin Blanks manufactured from various materials. All pins are 12" long with Chamfered Flat Ends. Ready for modications. Length tolerance is + 0.020/- 0.125. Diameter tolerance is +/-.002".



Stainless Steel



4140 Steel

Dowel Diameter	Dowel Length	300 Series SS Part Number	Steel Part Number
1/8	12	PIN12512SS	PIN12512
5/32	12	PIN12515SS	PIN12515
3/16	12	PIN12518SS	PIN12518
1/4	12	PIN12525SS	PIN12525
5/16	12	PIN12531SS	PIN12531
3/8	12	PIN12537SS	PIN12537
7/16	12	PIN12543SS	PIN12543
1/2	12	PIN12550SS	PIN12550
9/16	12	PIN12556SS	PIN12556
5/8	12	PIN12562SS	PIN12562
3/4	12	PIN12575SS	PIN12575
1	12	PIN12501SS	PIN12501

Small Diameter Dowel Pins — Inch

18-8 Stainless Steel





Size comparison

Dowel Diameter	Dowel Length	18-8 SS Part Number
1/64	1/4	PIN602015250
1/64	3/8	PIN602015375
1/64	1/2	PIN602015500

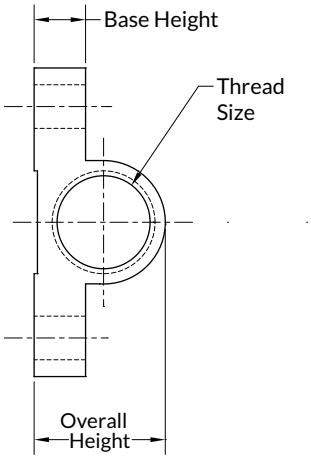
Spring Plunger Mounting Bases — Inch

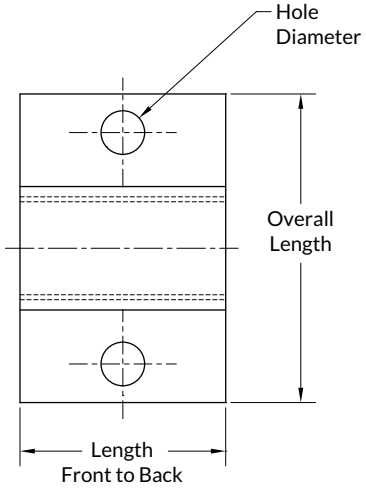
18-8 Stainless Steel
Steel | Zinc

Product Information

Also known as Tooling Flanges, Full range of sizes from 8-32 thru 5/8-11. Used as mounting points for spring plungers and any spring-loaded devices. Used for horizontal applications without the need for custom designed blocks and fixtures. Spring Plunger not included.









18-8 SS



Steel, Zinc

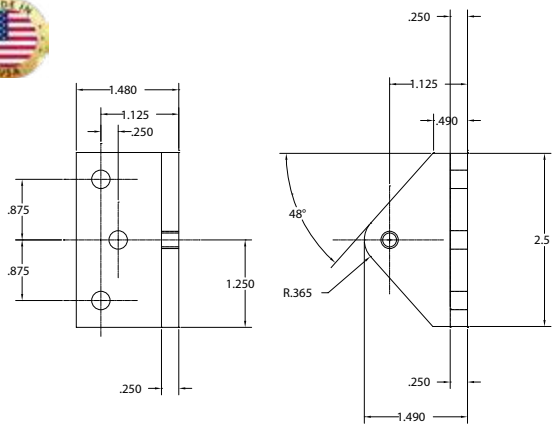
Thread Size	Overall Length	Length Front to Back	Overall Height	Base Thickness	Hole Diameter	18-8 SS Part Number	Steel, Zinc Part Number
8-32	.690	.500	.250	.090	1/8	Z0377SS	Z0377
10-32	.690	.500	.270	.130	1/8	Z0378SS	Z0378
1/4-20	.880	.690	.410	.190	9/64	Z0379SS	Z0379
5/16-18	.940	.630	.410	.188	9/64	Z0380SS	Z0380
3/8-16	1.130	.750	.470	.219	5/32	Z0381SS	Z0381
1/2-13	1.500	1.00	.630	.250	13/64	Z0382SS	Z0382
5/8-11	1.880	1.250	.800	.312	17/64	Z0383SS	Z0383

Gas Spring Attachment Points (Extra Duty)

316 Stainless Steel
18-8 Stainless Steel
Steel | Zinc

Product Information

Used as mounting points for Gas Springs where extra strength is needed. These Brackets are the thickest and strongest Brackets available from stock. Fits Gas Springs with 13MM or 16MM Ball Sockets.







Inverted Bracket

Stud Size	Thickness	Material	Part Number
		Steel Zinc	FITK53
13mm	1/4	18-8 SS	FITK53SS
		316 SS	FITK53-316SS
		Steel Zinc	FITK53-16MM
16mm	1/4	18-8 SS	FITK53SS16
		316 SS	FITK5316-316SS

90 Degree Angle Inverted Bracket,
1/4" Thick, (3) .260 mounting holes

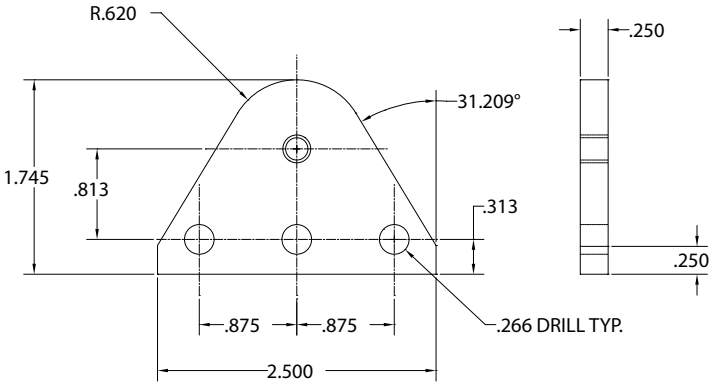
Long Neck Brackets

Stud Size	Thickness	Material	Part Number
		Steel Zinc	FITK52
13mm	1/4	18-8 SS	FITK52SS
		316 SS	FITK52-316SS
		Steel Zinc	FITK52-16MM
16mm	1/4	18-8 SS	FITK52SS16
		316 SS	FITK5216-316SS

90 Degree Long Neck Bracket,
1/4" Thick, (3) .260 mounting holes

Flat Brackets

316 Stainless Steel
18-8 Stainless Steel
Steel | Zinc





Stud Size	Thickness	Material	Part Number
		Steel Zinc	FITK51
13mm	1/4	18-8 SS	FITK51SS
		316 SS	FITK51-316SS
		Steel Zinc	FITK51-16MM
16mm	1/4	18-8 SS	FITK51SS16
		316 SS	FITK5116-316SS

Flat Bracket, 1/4" Thick, (3) .260 mounting holes

Gas Spring Attachment Point Blanks

Aluminum
Steel-Zinc (Ball Studs)

Product Information

These easy-to-machine aluminum brackets allow for customized gas spring mounting in any position on panels, lids, or doors. They come without pre-drilled mounting holes, so you can position them exactly as needed. Fits Gas Springs with 10MM ball stud.



Flat



90° Bend



30° Bend

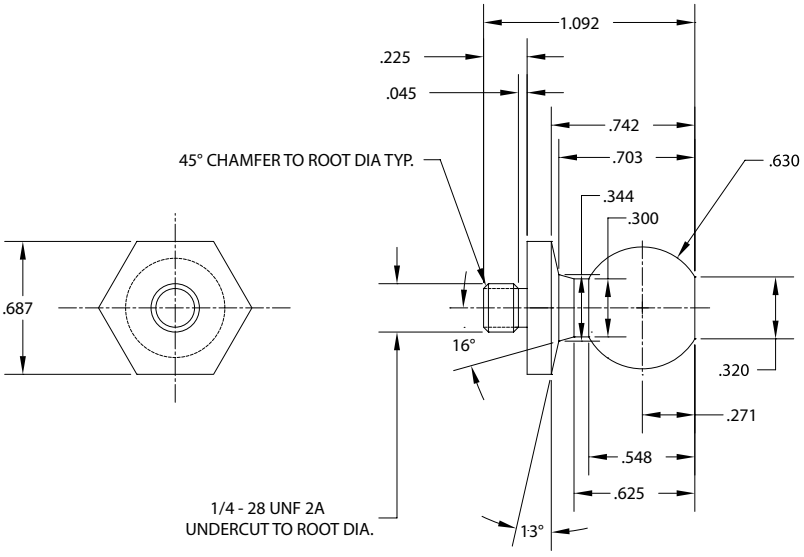


Flat 5 Sides

Stud Size	Bracket Type	Thickness	Longest Dimension	Part Number
10mm	Flat	.085	2.235	FITK-T1
10mm	90° Bend	.125	2.000	FITK-T2
10mm	90° Bend	.095	2.540	FITK-T3
10mm	30° Bend	.075	2.170	FITK-T4
10mm	90° Bend	.075	2.510	FITK-T5
10mm	Flat 5 Sides	.075	2.180	FITK-T6
10mm	Flat 5 Sides (opposite ball)	.075	2.180	FITK-T7

Ball Studs

316 Stainless Steel
18-8 Stainless Steel
Steel | Zinc





Stud Size	Material	Part Number
10mm*	Steel Zinc	FITK-T4BALL
13mm	Steel Zinc	FITK54
	18-8 SS	FITK54SS
	316 SS	FITK54-316SS
16mm	Steel Zinc	FITK55
	18-8 SS	FITK55SS
	316 SS	FITK55-316SS

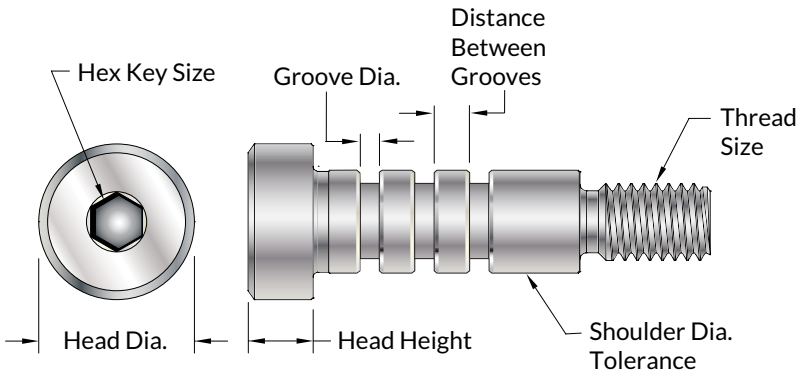
* .070" thread length

Headed Spring Anchors — Inch

18-8 Stainless Steel

Product Information

These easy to install Headed Spring Anchors have multiple grooves to allow for height adjustment after installation. The multiple grooves can accommodate two springs on a single anchor. Grooves are approx. .005" deeper than wire diameter for positive locking. Separation between each groove of approx. 3 times the wire diameter. AMPG"s large variety of diameters and heights make this a versatile anchor for both prototype and production methods. Anchors have a 3A Thread Class and 3 grooves.





Designed for End Inner Diameter of	Groove Dia	Groove Height	Distance between Grooves	Shaft Dia.	Shaft Length	Head Height	Head Outer Diameter	Type of Drive	Hex Size	Thread Size	Thread Lth	18-8 SS Part Number
.070	.017	.024	.036	.078	3/8	3/32	5/32	Slot	n/a	1-72	1/8	Z202005SS
.070	.017	.024	.036	.078	1/2	3/32	5/32	Slot	n/a	1-72	1/8	Z202010SS
.070	.017	.024	.036	.078	3/4	3/32	5/32	Slot	n/a	1-72	1/8	Z202015SS
1/8	.063	.052	.078	.125	3/4	1/8	1/4	Hex	5/64	4-40	5/32	Z202020SS
1/8	.063	.052	.078	.125	1	1/8	1/4	Hex	5/64	4-40	5/32	Z202025SS
1/8	.063	.052	.078	.125	1-1/4	1/8	1/4	Hex	5/64	4-40	5/32	Z202030SS
11/64	.094	.068	.102	.172	3/4	5/32	5/16	Hex	3/32	8-32	3/16	Z202035SS
11/64	.094	.068	.102	.172	1	5/32	5/16	Hex	3/32	8-32	3/16	Z202040SS
11/64	.094	.068	.102	.172	1-1/4	5/32	5/16	Hex	3/32	8-32	3/16	Z202045SS
11/64	.094	.068	.102	.172	1-1/2	5/32	5/16	Hex	3/32	8-32	3/16	Z202050SS
3/16	.126	.052	.078	.187	3/4	5/32	5/16	Hex	3/32	8-32	3/16	Z202055SS
3/16	.126	.052	.078	.187	1	5/32	5/16	Hex	3/32	8-32	3/16	Z202060SS
3/16	.126	.052	.078	.187	1-1/4	5/32	5/16	Hex	3/32	8-32	3/16	Z202065SS
3/16	.126	.052	.078	.187	1-1/2	5/32	5/16	Hex	3/32	8-32	3/16	Z202070SS
13/64	.094	.098	.147	.203	1	5/32	5/16	Hex	3/32	8-32	3/16	Z202075SS
13/64	.094	.098	.147	.203	1-1/4	5/32	5/16	Hex	3/32	8-32	3/16	Z202080SS
13/64	.094	.098	.147	.203	1-1/2	5/32	5/16	Hex	3/32	8-32	3/16	Z202085SS
13/64	.094	.098	.147	.203	2	5/32	5/16	Hex	3/32	8-32	3/16	Z202090SS
17/64	.170	.090	.135	.270	1	7/32	3/8	Hex	1/8	10-24	3/8	Z202095SS
17/64	.170	.090	.135	.270	1-1/4	7/32	3/8	Hex	1/8	10-24	3/8	Z202100SS
17/64	.170	.090	.135	.270	1-1/2	7/32	3/8	Hex	1/8	10-24	3/8	Z202105SS

Headed Spring Anchors — Inch





Designed for End Inner Diameter of	Groove Dia	Groove Height	Distance between Grooves	Shaft Dia.	Shaft Length	Head Height	Head Outer Diameter	Type of Drive	Hex Size	Thread Size	Thread Lth	18-8 SS Part Number
17/64	.170	.090	.135	.270	2	7/32	3/8	Hex	1/8	10-24	3/8	Z202110SS
19/64	.214	.068	.102	.292	1	7/32	7/16	Hex	1/8	1/4-20	7/16	Z202115SS
19/64	.214	.068	.102	.292	1-1/4	7/32	7/16	Hex	1/8	1/4-20	7/16	Z202120SS
19/64	.214	.068	.102	.292	1-1/2	7/32	7/16	Hex	1/8	1/4-20	7/16	Z202125SS
19/64	.214	.068	.102	.292	2	7/32	7/16	Hex	1/8	1/4-20	7/16	Z202130SS
3/8	.238	.126	.189	.374	1-1/2	1/4	9/16	Hex	3/16	5/16-18	1/2	Z202135SS
3/8	.238	.126	.189	.374	1-3/4	1/4	9/16	Hex	3/16	5/16-18	1/2	Z202140SS
3/8	.238	.126	.189	.374	2	1/4	9/16	Hex	3/16	5/16-18	1/2	Z202145SS
3/8	.238	.126	.189	.374	2-1/2	1/4	9/16	Hex	3/16	5/16-18	1/2	Z202150SS
27/64	.326	.082	.123	.418	1	1/4	9/16	Hex	3/16	5/16-18	1/2	Z202155SS
27/64	.326	.082	.123	.418	1-1/4	1/4	9/16	Hex	3/16	5/16-18	1/2	Z202160SS
27/64	.326	.082	.123	.418	1-1/2	1/4	9/16	Hex	3/16	5/16-18	1/2	Z202165SS
27/64	.326	.082	.123	.418	2	1/4	9/16	Hex	3/16	5/16-18	1/2	Z202170SS
9/16	.360	.190	.285	.560	1-3/4	3/8	7/8	Hex	5/16	1/2-13	3/4	Z202175SS
9/16	.360	.190	.285	.560	2	3/8	7/8	Hex	5/16	1/2-13	3/4	Z202180SS
9/16	.360	.190	.285	.560	2-1/4	3/8	7/8	Hex	5/16	1/2-13	3/4	Z202185SS
9/16	.360	.190	.285	.560	2-1/2	3/8	7/8	Hex	5/16	1/2-13	3/4	Z202190SS
5/8	.488	.126	.189	.624	1-1/2	3/8	7/8	Hex	5/16	1/2-13	3/4	Z202195SS
5/8	.488	.126	.189	.624	1-3/4	3/8	7/8	Hex	5/16	1/2-13	3/4	Z202200SS
5/8	.488	.126	.189	.624	2	3/8	7/8	Hex	5/16	1/2-13	3/4	Z202205SS
5/8	.488	.126	.189	.624	2-1/2	3/8	7/8	Hex	5/16	1/2-13	3/4	Z202210SS
13/16	.610	.190	.285	.810	1-3/4	1/2	1	Hex	3/8	5/8-11	7/8	Z202215SS
13/16	.610	.190	.285	.810	2	1/2	1	Hex	3/8	5/8-11	7/8	Z202220SS
13/16	.610	.190	.285	.810	2-1/4	1/2	1	Hex	3/8	5/8-11	7/8	Z202225SS
13/16	.610	.190	.285	.810	2-1/2	1/2	1	Hex	3/8	5/8-11	7/8	Z202230SS
1	.700	.270	.405	.980	2-1/4	5/8	1-1/4	Hex	1/2	3/4-10	7/8	Z202235SS
1	.700	.270	.405	.980	2-1/2	5/8	1-1/4	Hex	1/2	3/4-10	1	Z202240SS
1	.700	.270	.405	.980	2-3/4	5/8	1-1/4	Hex	1/2	3/4-10	1	Z202245SS
1	.700	.270	.405	.980	3	5/8	1-1/4	Hex	1/2	3/4-10	1	Z202250SS

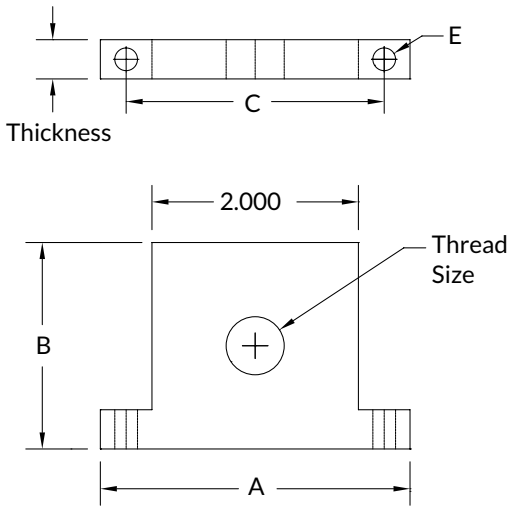
Threaded Mounting Blocks—Lug-Mount — Inch

Steel | Black Oxide

Product Information

Lug-mount blocks for mounting threaded-body shock absorbers.Use jam nut (not included) to secure in position.





A	B	C	E	Thickness	Thread Size	Steel Part Number
3	2	2.5	.220	.380	9/16-18	ZLUGK26
3	2	2.5	.220	.380	3/4-16	ZLUGK32
3	2	2.5	.220	.380	7/8-14	ZLUGK33
3	2	2.5	.220	.380	1"-12	ZLUGK34
3	2	2.5	.220	.380	1-1/4"-12	ZLUGK35
3	2	2.5	.220	.380	1-3/8"-12	ZLUGK36
3	2	2.5	.220	.380	M14 x 1.5	ZLUGK41
3	2	2.5	.220	.380	M20 x 1.5	ZLUGK42
3	2	2.5	.220	.380	M25 x 1.5	ZLUGK43
3	2	2.5	.220	.380	M33 x 1.5	ZLUGK44
3	2	2.5	.220	.380	M36 x 1.5	ZLUGK45

Brackets for Nose-Mount Gearmotors — Inch

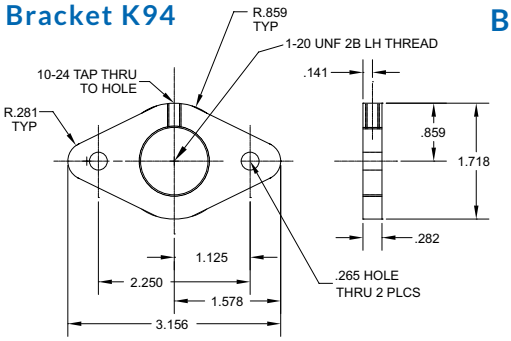
Steel | Black Oxide

Product Information

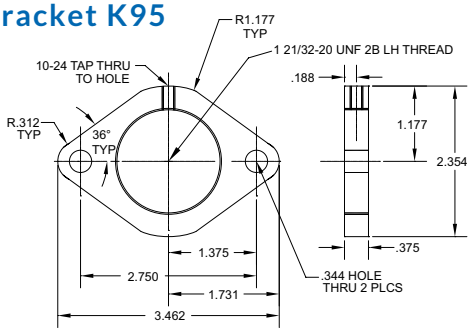
Mounting Brackets for .3 & .5 hp Nose-Mount Air-Powered Gearmotor with left-hand threads on the motor's nose.



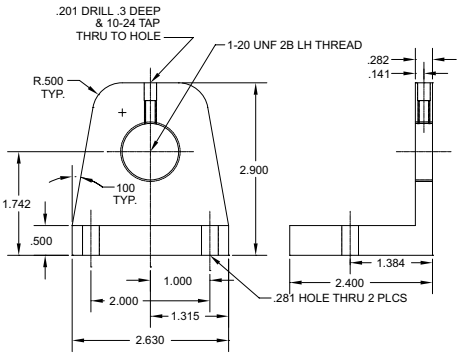
Bracket K94



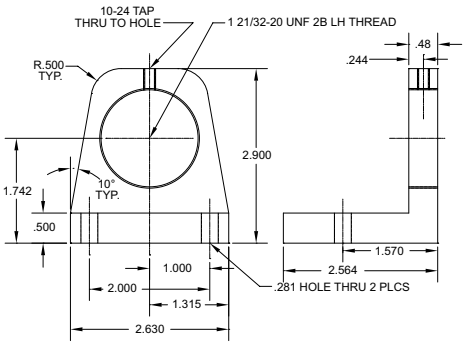
Bracket K95



Bracket K91



Bracket K92



Flange-Mount Brackets, Inch

Threads	Length	Steel Part Number
1-20	3-1/8	BracketK94
1-21/32-20	3-1/2	BracketK95



Foot-Mount Brackets, Inch

Threads	Length	Steel Part Number
1-20	3-1/8	BracketK91
1-21/32-20	3-1/2	BracketK92

AMPG

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Male-Female Hex Thread Adapters



ISO 9001:2015

MADE IN THE USA

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8090 Woodland Drive
Indianapolis, IN 46278

p: 317.472.9000
f: 317.472.9010

Male-Female Hex Thread Adapters — Inch & Metric

316 Stainless Steel | Plain
18-8 Stainless Steel | Plain
Aluminum | Plain
Steel | Zinc Steel | Black Oxide

Product Information

These Male-Female Thread Adapters are available in Inch-to-Inch, Inch-to-Metric, and Metric-to-Metric sizes.

Join threads with small diameters to large or course threads to fine with these inch-sized adapters. Use them to position components in an assembly, or to create space between parts. An external hex lets you tighten or loosen them with a wrench.

Change inch threads to metric with these adapters, or swap metric threads for inch. An external hex lets you tighten or loosen them with a wrench. You can also use them to increase or reduce your thread size, or to create space between parts in an assembly. They meet ASTM specifications, which means the materials they are made from or plated with adhere to specific standards for chemical and physical properties, such as hardness.

- **Stainless Steel 18-8** (303) : Type 303 (18-8) stainless steel offers excellent corrosion resistance. Maybe mildly magnetic. The most widely used stainless steel used in chemical and food processing equipment. Corrosion resistant to a wide range of chemicals; most dyes, food and nitric acid. For areas exposed to salt water or chemicals, 316 stainless steel adapters are the best choice. Only harsh chemicals, such as hydrochloric acid, will cause them to corrode.
- **Stainless Steel 316** (316/316L) : Type 316 stainless steel is a chrome-nickel steel with superior corrosion resistance than 303 stainless steel. Widely used in chemical processing and marine environments, as the molybdenum in 316 stainless steel has higher resistance to chlorides. Type 316 is generally considered non-magnetic, but can become magnetic when cold worked.
- **Aluminum** : Aluminum has the strength of mild steel with one third the weight. Material is nonmagnetic. A corrosion resistant layer forms naturally on its surface, so aluminum offers good corrosion resistance to salt water and chemicals.
- **Black Oxide Steel** : Steel offers low strength properties and is magnetic. Steel is used in many general purpose applications and has a black oxide finish to prevent rust.



18-8 Stainless Steel



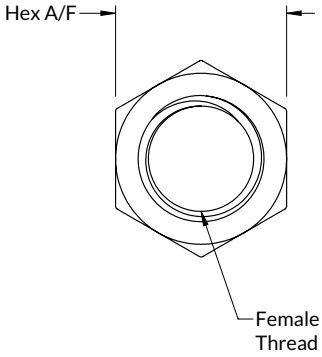
316 Stainless Steel

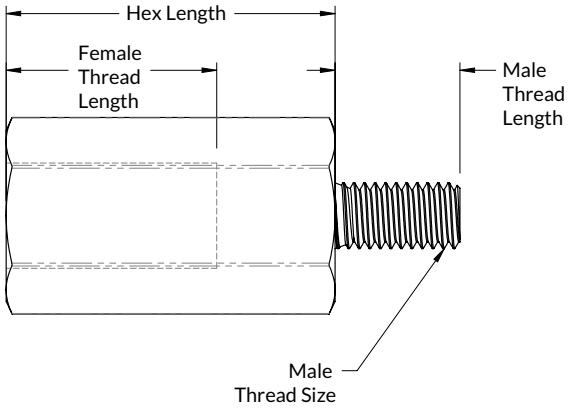


Aluminum



Black Oxide Steel





Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
2-56	5/32	–	–	4-40	1/4	1/4	1/2	316	ZTA2CX4C-316
2-56	5/32	–	–	6-32	1/4	1/4	1/2	316	ZTA2CX6C-316
2-56	5/32	–	–	8-32	1/4	1/4	1/2	316	ZTA2CX8CF-316
2-56	5/32	4-40	3/16	–	–	3/16	1/8	316	ZTAE2CX4C-316
2-56	5/32	4-48	3/16	–	–	3/16	1/8	18-8	ZTAE2CX4F-188
2-56	5/32	8-32	3/16	–	–	1/4	1/8	316	ZTAE2CX8C-316
4-40	3/16	–	–	6-32	1/4	1/4	1/2	316	ZTA4CX6C-316
4-40	3/16	–	–	8-32	1/4	1/4	1/2	316	ZTA4CX8C-316
4-40	3/16	–	–	10-24	1/4	1/4	1/2	18-8	ZTA4CX10C-188
4-40	3/16	–	–	10-24	1/4	1/4	1/2	316	ZTA4CX10C-316
4-40	3/16	–	–	10-32	1/4	1/4	1/2	316	ZTA4CX10F-316
4-40	3/16	4-48	3/16	–	–	1/4	1/8	18-8	ZTAE4CX4F-188
4-40	3/16	6-32	1/4	–	–	1/4	1/8	316	ZTAE4CX6C-316
4-40	3/16	6-40	1/4	–	–	1/4	1/8	18-8	ZTAE4CX6F-188
4-40	3/16	8-32	1/4	–	–	1/4	1/8	316	ZTAE4CX8C-316
4-40	3/16	10-24	1/4	–	–	5/16	1/8	18-8	ZTAE4CX10C-188
4-40	3/16	10-24	1/4	–	–	5/16	1/8	316	ZTAE4CX10C-316
4-40	3/16	10-32	1/4	–	–	5/16	1/8	316	ZTAE4CX10F-316
4-48	3/16	–	–	4-40	7/32	1/4	1/2	18-8	ZTA4FX4C-188
4-48	3/16	–	–	6-32	1/4	1/4	1/2	18-8	ZTA4FX6C-188
4-48	3/16	6-32	1/4	–	–	1/4	1/8	18-8	ZTAE4FX6C-188
4-48	3/16	6-40	1/4	–	–	1/4	1/8	18-8	ZTAE4FX6F-188
6-32	1/4	–	–	10-24	7/16	3/8	3/4	18-8	ZTA6CX10C-188
6-32	1/4	–	–	10-32	7/16	3/8	3/4	316	ZTA6CX10F-316
6-32	1/4	–	–	1/4-20	7/16	3/8	3/4	18-8	ZTA6CX14C-188
6-32	1/4	–	–	1/4-20	7/16	3/8	3/4	316	ZTA6CX14C-316
6-32	1/4	–	–	1/4-20	7/16	3/8	3/4	Alum	ZTA6CX14C-AL
6-32	1/4	–	–	4-40	1/4	1/4	1/2	316	ZTA6CX4C-316
6-32	1/4	–	–	8-32	7/16	3/8	3/4	316	ZTA6CX8C-316
6-32	1/4	–	–	M4 x 0.7	1/8	1/4	1/2	316	ZTA6CXM4C-316
6-32	1/4	–	–	M5 x 0.8	1/8	1/4	1/2	316	ZTA6CXM5C-316
6-32	1/4	10-24	3/8	–	–	5/16	1/8	18-8	ZTAE6CX10C-188
6-32	1/4	10-24	3/8	–	–	5/16	1/8	316	ZTAE6CX10C-316
6-32	1/4	10-32	3/8	–	–	5/16	1/8	316	ZTAE6CX10F-316
6-32	1/4	1/4-20	3/8	–	–	3/8	3/16	316	ZTAE6CX14C-316
6-32	1/4	4-40	3/16	–	–	1/4	1/8	18-8	ZTAE6CX4C-188
6-32	1/4	6-40	1/4	–	–	1/4	1/8	18-8	ZTAE6CX6F-188
6-32	1/4	8-32	3/8	–	–	1/4	1/8	316	ZTAE6CX8C-316
6-32	1/4	8-36	3/8	–	–	1/4	1/8	18-8	ZTAE6CX8F-188

18-8 SS, 316 SS, Alum, Steel



Male-Female Thread Adapters

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
6-32	1/4	M4 x 0.7	3/8	–	–	1/4	1/8	316	ZTAE6CXM4C-316
6-32	1/4	M4 x 0.5	3/8	–	–	1/4	1/8	18-8	ZTAE6CXM4F-188
6-32	1/4	M5 x 0.8	3/8	–	–	1/4	1/8	316	ZTAE6CXM5C-316
6-32	1/4	M5 x 0.5	3/8	–	–	1/4	1/8	18-8	ZTAE6CXM5F-188
6-40	1/4	–	–	4-40	1/4	1/4	1/2	18-8	ZTA6FX4C-188
6-40	1/4	–	–	4-40	1/4	1/4	1/2	316	ZTA6FX4C-316
6-40	1/4	–	–	6-32	7/16	3/8	3/4	18-8	ZTA6FX6C-188
6-40	1/4	–	–	8-32	7/16	3/8	3/4	18-8	ZTA6FX8C-188
6-40	1/4	–	–	M4 x 0.7	1/8	1/4	1/2	18-8	ZTA6FXM4C-188
6-40	1/4	–	–	M4 x 0.7	1/8	1/4	1/2	316	ZTA6FXM4C-316
6-40	1/4	–	–	M5 x 0.8	1/8	1/4	1/2	18-8	ZTA6FXM5C-188
6-40	1/4	–	–	M5 x 0.8	1/8	1/4	1/2	316	ZTA6FXM5C-316
6-40	1/4	8-32	3/8	–	–	1/4	1/8	18-8	ZTAE6FX8C-188
6-40	1/4	8-36	3/8	–	–	1/4	1/8	18-8	ZTAE6FX8F-188
6-40	1/4	M4 x 0.7	3/8	–	–	1/4	1/8	18-8	ZTAE6FXM4C-188
6-40	1/4	M4 x 0.7	3/8	–	–	1/4	1/8	316	ZTAE6FXM4C-316
6-40	1/4	M5 x 0.8	3/8	–	–	1/4	1/8	18-8	ZTAE6FXM5C-188
6-40	1/4	M5 x 0.8	3/8	–	–	1/4	1/8	316	ZTAE6FXM5C-316
6-40	1/4	M5 x 0.5	3/8	–	–	1/4	1/8	18-8	ZTAE6FXM5F-188
8-32	21/64	–	–	10-32	9/32	3/8	3/4	316	ZTA8CX10F-316
8-32	3/8	–	–	10-24	7/16	3/8	3/4	316	ZTA8CX10C-316
8-32	3/8	–	–	1/4-20	9/32	1/2	3/4	316	ZTA8CX14C-316
8-32	3/8	–	–	5/16-18	9/32	1/2	3/4	316	ZTA8CX51C-316
8-32	3/8	–	–	6-32	1/4	3/8	1/2	316	ZTA8CX6C-316
8-32	3/8	–	–	M5 x 0.8	3/8	3/8	3/4	316	ZTA8CXM5C-316
8-32	3/8	–	–	M6 x 1	3/8	3/8	3/4	316	ZTA8CXM6C-316
8-32	3/8	10-24	3/8	–	–	5/16	1/8	18-8	ZTAE8CX10C-188
8-32	3/8	10-32	3/8	–	–	5/16	1/8	316	ZTAE8CX10F-316
8-32	3/8	1/4-20	3/8	–	–	3/8	3/16	316	ZTAE8CX14C-316
8-32	3/8	5/16-18	3/8	–	–	1/2	3/16	316	ZTAE8CX51C-316
8-32	3/8	8-36	3/8	–	–	1/4	1/8	18-8	ZTAE8CX8F-188
8-32	3/8	M5 x 0.8	3/8	–	–	1/4	1/8	316	ZTAE8CXM5C-316
8-32	3/8	M5 x 0.5	3/8	–	–	1/4	1/8	18-8	ZTAE8CXM5F-188
8-32	3/8	M6 x 1	1/2	–	–	5/16	1/8	316	ZTAE8CXM6C-316
8-32	3/8	M6 x .750	1/2	–	–	5/16	1/8	18-8	ZTAE8CXM6F-188
8-36	21/64	–	–	10-32	9/32	3/8	3/4	18-8	ZTA8FX10F-188
8-36	21/64	–	–	10-32	9/32	3/8	3/4	316	ZTA8FX10F-316
8-36	3/8	–	–	10-24	7/16	3/8	3/4	18-8	ZTA8FX10C-188
8-36	3/8	–	–	6-32	1/4	3/8	1/2	18-8	ZTA8FX6C-188
8-36	3/8	–	–	8-32	7/16	3/8	3/4	18-8	ZTA8FX8C-188

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
8-36	3/8	–	–	M5 x 0.8	3/8	3/8	3/4	18-8	ZTA8FXM5C-188
8-36	3/8	–	–	M5 x 0.8	3/8	3/8	3/4	316	ZTA8FXM5C-316
8-36	3/8	–	–	M6 x 1	3/8	3/8	3/4	18-8	ZTA8FXM6C-188
8-36	3/8	–	–	M6 x 1	3/8	3/8	3/4	316	ZTA8FXM6C-316
8-36	3/8	10-24	3/8	–	–	5/16	1/8	18-8	ZTAE8FX10C-188
8-36	3/8	10-32	3/8	–	–	5/16	1/8	18-8	ZTAE8FX10F-188
8-36	3/8	10-32	3/8	–	–	5/16	1/8	316	ZTAE8FX10F-316
8-36	3/8	M5 x 0.8	3/8	–	–	1/4	1/8	18-8	ZTAE8FXM5C-188
8-36	3/8	M5 x 0.8	3/8	–	–	1/4	1/8	316	ZTAE8FXM5C-316
8-36	3/8	M5 x 0.5	3/8	–	–	1/4	1/8	18-8	ZTAE8FXM5F-188
8-36	3/8	M6 x 1	1/2	–	–	5/16	1/8	18-8	ZTAE8FXM6C-188
8-36	3/8	M6 x 1	1/2	–	–	5/16	1/8	316	ZTAE8FXM6C-316
8-36	3/8	M6 x 1	1/2	–	–	5/16	1/8	Alum	ZTAE8FXM6C-AL
8-36	3/8	M6 x .750	1/2	–	–	5/16	1/8	18-8	ZTAE8FXM6F-188
10-24	3/8	–	–	10-32	1/2	3/8	3/4	316	ZTA10CX10F-316
10-24	3/8	–	–	1/4-20	3/8	1/2	3/4	18-8	ZTA10CX14C-188
10-24	3/8	–	–	1/4-20	3/8	1/2	3/4	316	ZTA10CX14C-316
10-24	3/8	–	–	1/4-20	3/8	1/2	3/4	Alum	ZTA10CX14C-AL
10-24	3/8	–	–	1/4-32	3/8	1/2	3/4	18-8	ZTA10CX14EF-188
10-24	3/8	–	–	1/4-28	3/8	1/2	3/4	18-8	ZTA10CX14F-188
10-24	3/8	–	–	3/8-16	9/16	1/2	1	18-8	ZTA10CX38C-188
10-24	3/8	–	–	3/8-16	9/16	1/2	1	316	ZTA10CX38C-316
10-24	3/8	–	–	3/8-16	9/16	1/2	1	Alum	ZTA10CX38C-AL
10-24	3/8	–	–	3/8-16	9/16	1/2	1	Stl Blk	ZTA10CX38CSTL-B
10-24	3/8	–	–	5/16-18	3/8	1/2	3/4	18-8	ZTA10CX51C-188
10-24	3/8	–	–	5/16-18	3/8	1/2	3/4	316	ZTA10CX51C-316
10-24	3/8	–	–	5/16-32	3/8	1/2	3/4	18-8	ZTA10CX51EF-188
10-24	3/8	–	–	5/16-24	3/8	1/2	3/4	18-8	ZTA10CX51F-188
10-24	3/8	–	–	8-32	9/32	3/8	3/4	18-8	ZTA10CX8C-188
10-24	3/8	–	–	8-32	9/32	3/8	3/4	316	ZTA10CX8C-316
10-24	3/8	–	–	M5 x 0.8	3/8	3/8	3/4	18-8	ZTA10CXM5C-188
10-24	3/8	–	–	M5 x 0.8	3/8	3/8	3/4	316	ZTA10CXM5C-316
10-24	3/8	–	–	M6 x 1	7/16	3/8	3/4	18-8	ZTA10CXM6C-188
10-24	3/8	–	–	M6 x 1	7/16	3/8	3/4	316	ZTA10CXM6C-316
10-24	3/8	–	–	M8 x 1.25	7/16	1/2	3/4	18-8	ZTA10CXM8C-188
10-24	3/8	–	–	M8 x 1.25	7/16	1/2	3/4	316	ZTA10CXM8C-316
10-24	3/8	–	–	M8 x 1	7/16	1/2	3/4	18-8	ZTA10CXM8F-188
10-24	3/8	–	–	M8 x 1	7/16	1/2	3/4	316	ZTA10CXM8F-316
10-24	3/8	10-32	3/8	–	–	5/16	1/8	316	ZTAE10CX10F-316
10-24	3/8	10-32	3/8	–	–	5/16	1/8	Alum	ZTAE10CX10F-AL
10-24	3/8	1/4-20	5/8	–	–	3/8	3/16	18-8	ZTAE10CX14C-188

18-8 SS, 316 SS, Alum, Steel



Male-Female Thread Adapters

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
10-24	3/8	1/4-20	5/8	–	–	3/8	3/16	316	ZTAE10CX14C-316
10-24	3/8	1/4-20	5/8	–	–	3/8	3/16	Alum	ZTAE10CX14C-AL
10-24	3/8	1/4-20	3/8	–	–	3/8	3/16	Stl Blk	ZTAE10CX14CSTL-B
10-24	3/8	1/4-32	5/8	–	–	3/8	3/16	18-8	ZTAE10CX14EF-188
10-24	3/8	1/4-28	5/8	–	–	3/8	3/16	18-8	ZTAE10CX14F-188
10-24	3/8	1/4-28	5/8	–	–	3/8	3/16	316	ZTAE10CX14F-316
10-24	3/8	3/8-16	5/8	–	–	9/16	1/4	18-8	ZTAE10CX38C-188
10-24	3/8	3/8-16	5/8	–	–	9/16	1/4	316	ZTAE10CX38C-316
10-24	3/8	3/8-16	5/8	–	–	9/16	1/4	Alum	ZTAE10CX38C-AL
10-24	3/8	3/8-16	3/8	–	–	9/16	1/4	Stl Blk	ZTAE10CX38CSTL-B
10-24	3/8	5/16-18	5/8	–	–	1/2	3/16	18-8	ZTAE10CX51C-188
10-24	3/8	5/16-18	5/8	–	–	1/2	3/16	316	ZTAE10CX51C-316
10-24	3/8	5/16-18	5/8	–	–	1/2	3/16	Alum	ZTAE10CX51C-AL
10-24	3/8	5/16-32	5/8	–	–	1/2	3/16	18-8	ZTAE10CX51EF-188
10-24	3/8	5/16-24	5/8	–	–	1/2	3/16	18-8	ZTAE10CX51F-188
10-24	3/8	5/16-24	5/8	–	–	1/2	3/16	316	ZTAE10CX51F-316
10-24	3/8	M5 x 0.8	3/8	–	–	5/16	1/8	18-8	ZTAE10CXM5C-188
10-24	3/8	M5 x 0.8	3/8	–	–	5/16	1/8	316	ZTAE10CXM5C-316
10-24	3/8	M5 x 0.8	3/8	–	–	5/16	1/8	Alum	ZTAE10CXM5C-AL
10-24	3/8	M5 x 0.5	3/8	–	–	5/16	1/8	18-8	ZTAE10CXM5F-188
10-24	3/8	M6 x 1	1/2	–	–	5/16	1/8	18-8	ZTAE10CXM6C-188
10-24	3/8	M6 x 1	1/2	–	–	5/16	1/8	316	ZTAE10CXM6C-316
10-24	3/8	M6 x 1	1/2	–	–	5/16	1/8	Alum	ZTAE10CXM6C-AL
10-24	3/8	M6 x .750	1/2	–	–	5/16	1/8	18-8	ZTAE10CXM6F-188
10-24	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	18-8	ZTAE10CXM8C-188
10-24	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	316	ZTAE10CXM8C-316
10-24	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	Alum	ZTAE10CXM8C-AL
10-24	5/8	M8 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE10CXM8F-188
10-24	5/8	M8 x 1	1/2	–	–	1/2	3/16	316	ZTAE10CXM8F-316
10-32	3/8	–	–	10-24	7/16	3/8	3/4	316	ZTA10FX10C-316
10-32	3/8	–	–	1/4-20	3/8	1/2	3/4	316	ZTA10FX14C-316
10-32	3/8	–	–	1/4-32	3/8	1/2	3/4	18-8	ZTA10FX14EF-188
10-32	3/8	–	–	1/4-28	3/8	1/2	3/4	18-8	ZTA10FX14F-188
10-32	3/8	–	–	3/8-16	9/16	1/2	1	18-8	ZTA10FX38C-188
10-32	3/8	–	–	3/8-16	9/16	1/2	1	316	ZTA10FX38C-316
10-32	3/8	–	–	3/8-16	9/16	1/2	1	Alum	ZTA10FX38C-AL
10-32	3/8	–	–	3/8-16	9/16	1/2	1	Stl Blk	ZTA10FX38CSTL-B
10-32	3/8	–	–	5/16-18	3/8	1/2	3/4	316	ZTA10FX51C-316
10-32	3/8	–	–	5/16-32	3/8	1/2	3/4	18-8	ZTA10FX51EF-188
10-32	3/8	–	–	5/16-24	3/8	1/2	3/4	18-8	ZTA10FX51F-188

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
10-32	3/8	–	–	5/16-24	3/8	1/2	3/4	316	ZTA10FX51F-316
10-32	3/8	–	–	8-32	9/32	3/8	3/4	316	ZTA10FX8C-316
10-32	3/8	–	–	M5 x 0.8	3/8	3/8	3/4	316	ZTA10FXM5C-316
10-32	3/8	–	–	M6 x 1	7/16	3/8	3/4	316	ZTA10FXM6C-316
10-32	3/8	–	–	M6 x .750	7/16	3/8	3/4	18-8	ZTA10FXM6F-188
10-32	3/8	–	–	M8 x 1.25	7/16	1/2	3/4	316	ZTA10FXM8C-316
10-32	3/8	–	–	M8 x 1	7/16	1/2	3/4	18-8	ZTA10FXM8F-188
10-32	3/8	–	–	M8 x 1	7/16	1/2	3/4	316	ZTA10FXM8F-316
10-32	3/8	1/4-20	5/8	–	–	3/8	3/16	316	ZTAE10FX14C-316
10-32	3/8	1/4-32	5/8	–	–	3/8	3/16	18-8	ZTAE10FX14EF-188
10-32	3/8	1/4-28	5/8	–	–	3/8	3/16	18-8	ZTAE10FX14F-188
10-32	3/8	1/4-28	5/8	–	–	3/8	3/16	316	ZTAE10FX14F-316
10-32	3/8	3/8-16	5/8	–	–	9/16	1/4	18-8	ZTAE10FX38C-188
10-32	3/8	3/8-16	5/8	–	–	9/16	1/4	316	ZTAE10FX38C-316
10-32	3/8	3/8-16	5/8	–	–	9/16	1/4	Alum	ZTAE10FX38C-AL
10-32	3/8	5/16-18	5/8	–	–	1/2	3/16	316	ZTAE10FX51C-316
10-32	3/8	5/16-32	5/8	–	–	1/2	3/16	18-8	ZTAE10FX51EF-188
10-32	3/8	5/16-24	5/8	–	–	1/2	3/16	18-8	ZTAE10FX51F-188
10-32	3/8	5/16-24	5/8	–	–	1/2	3/16	316	ZTAE10FX51F-316
10-32	3/8	M5 x 0.8	3/8	–	–	5/16	1/8	316	ZTAE10FXM5C-316
10-32	3/8	M5 x 0.5	3/8	–	–	5/16	1/8	18-8	ZTAE10FXM5F-188
10-32	3/8	M6 x 1	1/2	–	–	5/16	1/8	316	ZTAE10FXM6C-316
10-32	3/8	M6 x .750	1/2	–	–	5/16	1/8	18-8	ZTAE10FXM6F-188
10-32	3/8	M8 x 1.25	1/2	–	–	1/2	3/16	316	ZTAE10FXM8C-316
10-32	3/8	M8 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE10FXM8F-188
10-32	3/8	M8 x 1	1/2	–	–	1/2	3/16	316	ZTAE10FXM8F-316
1/4-20	1/2	–	–	10-32	9/32	1/2	3/4	316	ZTA14CX10F-316
1/4-20	1/2	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTA14CX12C-316
1/4-20	1/2	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTA14CX12C-AL
1/4-20	1/2	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTA14CX12EF-188
1/4-20	1/2	–	–	1/2-28	3/4	3/4	1-1/2	316	ZTA14CX12EF-316
1/4-20	1/2	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTA14CX12F-188
1/4-20	1/2	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTA14CX12F-316
1/4-20	1/2	–	–	1/2-20	3/4	3/4	1-1/2	Alum	ZTA14CX12F-AL
1/4-20	1/2	–	–	1/2-20	3/4	3/4	1-1/2	Stl Blk	ZTA14CX12FSTL-B
1/4-20	1/2	–	–	3/8-16	9/16	5/8	1	316	ZTA14CX38C-316
1/4-20	1/2	–	–	3/8-16	9/16	5/8	1	Alum	ZTA14CX38C-AL
1/4-20	1/2	–	–	3/8-32	9/16	5/8	1	18-8	ZTA14CX38EF-188
1/4-20	1/2	–	–	3/8-32	9/16	5/8	1	316	ZTA14CX38EF-316
1/4-20	1/2	–	–	3/8-24	9/16	5/8	1	18-8	ZTA14CX38F-188

18-8 SS, 316 SS, Alum, Steel



Male-Female Thread Adapters

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/4-20	1/2	–	–	3/8-24	9/16	5/8	1	316	ZTA14CX38F-316
1/4-20	1/2	–	–	3/8-24	9/16	5/8	1	Alum	ZTA14CX38F-AL
1/4-20	1/2	–	–	5/16-18	15/32	1/2	1	316	ZTA14CX51C-316
1/4-20	1/2	–	–	5/16-32	15/32	1/2	1	18-8	ZTA14CX51EF-188
1/4-20	1/2	–	–	5/16-24	15/32	1/2	1	18-8	ZTA14CX51F-188
1/4-20	1/2	–	–	5/16-24	15/32	1/2	1	316	ZTA14CX51F-316
1/4-20	1/2	–	–	M10 x 1.5	9/16	5/8	1	18-8	ZTA14CXM10C-188
1/4-20	1/2	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA14CXM10C-316
1/4-20	1/2	–	–	M10 x 1.5	9/16	5/8	1	Alum	ZTA14CXM10C-AL
1/4-20	1/2	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA14CXM10EF-188
1/4-20	1/2	–	–	M10 x 1	9/16	5/8	1	316	ZTA14CXM10EF-316
1/4-20	1/2	–	–	M10 x 1	9/16	5/8	1	Alum	ZTA14CXM10EF-AL
1/4-20	1/2	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA14CXM10F-188
1/4-20	1/2	–	–	M10 x 1.25	9/16	5/8	1	316	ZTA14CXM10F-316
1/4-20	1/2	–	–	M10 x 1.25	9/16	5/8	1	Alum	ZTA14CXM10F-AL
1/4-20	1/2	–	–	M12 x 1.75	3/4	3/4	1-1/2	18-8	ZTA14CXM12C-188
1/4-20	1/2	–	–	M12 x 1.75	3/4	3/4	1-1/2	316	ZTA14CXM12C-316
1/4-20	1/2	–	–	M12 x 1.75	3/4	3/4	1-1/2	Alum	ZTA14CXM12C-AL
1/4-20	1/2	–	–	M12 x 1.25	3/4	3/4	1-1/2	18-8	ZTA14CXM12EF-188
1/4-20	1/2	–	–	M12 x 1.25	3/4	3/4	1-1/2	316	ZTA14CXM12EF-316
1/4-20	1/2	–	–	M12 x 1.25	3/4	3/4	1-1/2	Alum	ZTA14CXM12EF-AL
1/4-20	1/2	–	–	M12 x 1.5	3/4	3/4	1-1/2	18-8	ZTA14CXM12F-188
1/4-20	1/2	–	–	M12 x 1.5	3/4	3/4	1-1/2	316	ZTA14CXM12F-316
1/4-20	1/2	–	–	M12 x 1.5	3/4	3/4	1-1/2	Alum	ZTA14CXM12F-AL
1/4-20	5/8	–	–	10-24	7/16	1/2	3/4	316	ZTA14CX10C-316
1/4-20	5/8	–	–	1/4-32	5/8	1/2	1	18-8	ZTA14CX14EF-188
1/4-20	5/8	–	–	1/4-28	5/8	1/2	1	316	ZTA14CX14F-316
1/4-20	5/8	–	–	M5 x 0.8	7/16	1/2	3/4	316	ZTA14CXM5C-316
1/4-20	5/8	–	–	M5 x 0.5	7/16	1/2	3/4	18-8	ZTA14CXM5F-188
1/4-20	5/8	–	–	M6 x 1	7/16	1/2	3/4	316	ZTA14CXM6C-316
1/4-20	5/8	–	–	M6 x .750	7/16	1/2	3/4	18-8	ZTA14CXM6F-188
1/4-20	5/8	–	–	M8 x 1.25	3/8	1/2	3/4	316	ZTA14CXM8C-316
1/4-20	5/8	–	–	M8 x 1	3/8	1/2	3/4	18-8	ZTA14CXM8F-188
1/4-20	5/8	–	–	M8 x 1	3/8	1/2	3/4	316	ZTA14CXM8F-316
1/4-20	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE14CX12C-316
1/4-20	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE14CX12C-AL
1/4-20	5/8	1/2-13	3/4	–	–	3/4	3/8	Stl Blk	ZTAE14CX12CSTL-B
1/4-20	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE14CX12EF-188
1/4-20	5/8	1/2-28	3/4	–	–	3/4	3/8	316	ZTAE14CX12EF-316
1/4-20	5/8	1/2-28	3/4	–	–	3/4	3/8	Alum	ZTAE14CX12EF-AL
1/4-20	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE14CX12F-188

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/4-20	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE14CX12F-316
1/4-20	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE14CX12F-AL
1/4-20	5/8	1/4-32	5/8	–	–	3/8	3/16	18-8	ZTAE14CX14EF-188
1/4-20	5/8	1/4-32	5/8	–	–	3/8	3/16	316	ZTAE14CX14EF-316
1/4-20	5/8	1/4-28	5/8	–	–	3/8	3/16	316	ZTAE14CX14F-316
1/4-20	5/8	3/8-16	5/8	–	–	9/16	1/4	316	ZTAE14CX38C-316
1/4-20	5/8	3/8-16	5/8	–	–	9/16	1/4	Alum	ZTAE14CX38C-AL
1/4-20	5/8	3/8-16	5/8	–	–	9/16	1/4	Stl Blk	ZTAE14CX38CSTL-B
1/4-20	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE14CX38EF-188
1/4-20	5/8	3/8-32	5/8	–	–	9/16	1/4	316	ZTAE14CX38EF-316
1/4-20	5/8	3/8-24	5/8	–	–	9/16	1/4	18-8	ZTAE14CX38F-188
1/4-20	5/8	3/8-24	5/8	–	–	9/16	1/4	316	ZTAE14CX38F-316
1/4-20	5/8	3/8-24	5/8	–	–	9/16	1/4	Alum	ZTAE14CX38F-AL
1/4-20	5/8	5/16-18	5/8	–	–	1/2	3/16	316	ZTAE14CX51C-316
1/4-20	5/8	5/16-32	5/8	–	–	1/2	3/16	18-8	ZTAE14CX51EF-188
1/4-20	5/8	5/16-32	5/8	–	–	1/2	3/16	316	ZTAE14CX51EF-316
1/4-20	5/8	5/16-24	5/8	–	–	1/2	3/16	18-8	ZTAE14CX51F-188
1/4-20	5/8	5/16-24	5/8	–	–	1/2	3/16	316	ZTAE14CX51F-316
1/4-20	5/8	5/16-24	5/8	–	–	1/2	3/16	Alum	ZTAE14CX51F-AL
1/4-20	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	18-8	ZTAE14CXM10C-188
1/4-20	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE14CXM10C-316
1/4-20	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	Alum	ZTAE14CXM10C-AL
1/4-20	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE14CXM10EF-188
1/4-20	5/8	M10 x 1	5/8	–	–	9/16	1/4	316	ZTAE14CXM10EF-316
1/4-20	5/8	M10 x 1	5/8	–	–	9/16	1/4	Alum	ZTAE14CXM10EF-AL
1/4-20	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE14CXM10F-188
1/4-20	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE14CXM10F-316
1/4-20	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	Alum	ZTAE14CXM10F-AL
1/4-20	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE14CXM12C-188
1/4-20	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE14CXM12C-316
1/4-20	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE14CXM12C-AL
1/4-20	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE14CXM12EF-188
1/4-20	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE14CXM12EF-316
1/4-20	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE14CXM12EF-AL
1/4-20	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE14CXM12F-188
1/4-20	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE14CXM12F-316
1/4-20	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	Alum	ZTAE14CXM12F-AL
1/4-20	5/8	M5 x 0.8	3/8	–	–	3/8	3/16	316	ZTAE14CXM5C-316
1/4-20	5/8	M5 x 0.5	3/8	–	–	3/8	3/16	18-8	ZTAE14CXM5F-188
1/4-20	5/8	M5 x 0.5	3/8	–	–	3/8	3/16	316	ZTAE14CXM5F-316

Male-Female Thread Adapters

18-8 SS, 316 SS, Alum, Steel



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/4-20	5/8	M6 x 1	1/2	–	–	3/8	3/16	316	ZTAE14CXM6C-316
1/4-20	5/8	M6 x .750	1/2	–	–	3/8	3/16	18-8	ZTAE14CXM6F-188
1/4-20	5/8	M6 x .750	1/2	–	–	3/8	3/16	316	ZTAE14CXM6F-316
1/4-20	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	316	ZTAE14CXM8C-316
1/4-20	5/8	M8 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE14CXM8F-188
1/4-20	5/8	M8 x 1	1/2	–	–	1/2	3/16	316	ZTAE14CXM8F-316
1/4-20	5/8	M8 x 1	1/2	–	–	1/2	3/16	Alum	ZTAE14CXM8F-AL
1/4-28	1/2	–	–	10-32	9/32	1/2	3/4	18-8	ZTA14FX10F-188
1/4-28	1/2	–	–	10-32	9/32	1/2	3/4	316	ZTA14FX10F-316
1/4-28	1/2	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTA14FX12C-188
1/4-28	1/2	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTA14FX12C-316
1/4-28	1/2	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTA14FX12C-AL
1/4-28	1/2	–	–	1/2-13	3/4	3/4	1-1/2	Stl Blk	ZTA14FX12CSTL-B
1/4-28	1/2	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTA14FX12EF-188
1/4-28	1/2	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTA14FX12F-188
1/4-28	1/2	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTA14FX12F-316
1/4-28	1/2	–	–	3/8-16	9/16	5/8	1	18-8	ZTA14FX38C-188
1/4-28	1/2	–	–	3/8-16	9/16	5/8	1	316	ZTA14FX38C-316
1/4-28	1/2	–	–	3/8-16	9/16	5/8	1	Alum	ZTA14FX38C-AL
1/4-28	1/2	–	–	3/8-16	9/16	5/8	1	Stl Blk	ZTA14FX38CSTL-B
1/4-28	1/2	–	–	3/8-32	9/16	5/8	1	18-8	ZTA14FX38EF-188
1/4-28	1/2	–	–	3/8-24	9/16	5/8	1	18-8	ZTA14FX38F-188
1/4-28	1/2	–	–	5/16-18	15/32	1/2	1	18-8	ZTA14FX51C-188
1/4-28	1/2	–	–	5/16-18	15/32	1/2	1	316	ZTA14FX51C-316
1/4-28	1/2	–	–	5/16-32	15/32	1/2	1	18-8	ZTA14FX51EF-188
1/4-28	1/2	–	–	5/16-24	15/32	1/2	1	18-8	ZTA14FX51F-188
1/4-28	1/2	–	–	M10 x 1.5	9/16	5/8	1	18-8	ZTA14FXM10C-188
1/4-28	1/2	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA14FXM10C-316
1/4-28	1/2	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA14FXM10EF-188
1/4-28	1/2	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA14FXM10F-188
1/4-28	1/2	–	–	M10 x 1.25	9/16	5/8	1	316	ZTA14FXM10F-316
1/4-28	1/2	–	–	M12 x 1.75	3/4	3/4	1-1/2	18-8	ZTA14FXM12C-188
1/4-28	1/2	–	–	M12 x 1.75	3/4	3/4	1-1/2	316	ZTA14FXM12C-316
1/4-28	1/2	–	–	M12 x 1.25	3/4	3/4	1-1/2	18-8	ZTA14FXM12EF-188
1/4-28	1/2	–	–	M12 x 1.25	3/4	3/4	1-1/2	316	ZTA14FXM12EF-316
1/4-28	1/2	–	–	M12 x 1.5	3/4	3/4	1-1/2	18-8	ZTA14FXM12F-188
1/4-28	1/2	–	–	M12 x 1.5	3/4	3/4	1-1/2	316	ZTA14FXM12F-316
1/4-28	5/8	–	–	10-24	7/16	1/2	3/4	18-8	ZTA14FX10C-188
1/4-28	5/8	–	–	1/4-20	5/8	1/2	1	18-8	ZTA14FX14C-188
1/4-28	5/8	–	–	1/4-20	5/8	1/2	1	316	ZTA14FX14C-316
1/4-28	5/8	–	–	1/4-20	5/8	1/2	1	Alum	ZTA14FX14C-AL

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/4-28	5/8	–	–	1/4-32	5/8	1/2	1	18-8	ZTA14FX14EF-188
1/4-28	5/8	–	–	M5 x 0.8	7/16	1/2	3/4	18-8	ZTA14FXM5C-188
1/4-28	5/8	–	–	M5 x 0.8	7/16	1/2	3/4	316	ZTA14FXM5C-316
1/4-28	5/8	–	–	M6 x 1	7/16	1/2	3/4	18-8	ZTA14FXM6C-188
1/4-28	5/8	–	–	M6 x 1	7/16	1/2	3/4	316	ZTA14FXM6C-316
1/4-28	5/8	–	–	M8 x 1.25	3/8	1/2	3/4	18-8	ZTA14FXM8C-188
1/4-28	5/8	–	–	M8 x 1.25	3/8	1/2	3/4	316	ZTA14FXM8C-316
1/4-28	5/8	–	–	M8 x 1	3/8	1/2	3/4	18-8	ZTA14FXM8F-188
1/4-28	5/8	1/2-13	3/4	–	–	3/4	3/8	18-8	ZTAE14FX12C-188
1/4-28	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE14FX12C-316
1/4-28	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE14FX12C-AL
1/4-28	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE14FX12EF-188
1/4-28	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE14FX12F-188
1/4-28	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE14FX12F-316
1/4-28	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE14FX12F-AL
1/4-28	5/8	1/4-32	5/8	–	–	3/8	3/16	18-8	ZTAE14FX14EF-188
1/4-28	5/8	3/8-16	5/8	–	–	9/16	1/4	18-8	ZTAE14FX38C-188
1/4-28	5/8	3/8-16	5/8	–	–	9/16	1/4	316	ZTAE14FX38C-316
1/4-28	5/8	3/8-16	5/8	–	–	9/16	1/4	Alum	ZTAE14FX38C-AL
1/4-28	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE14FX38EF-188
1/4-28	5/8	3/8-24	5/8	–	–	9/16	1/4	18-8	ZTAE14FX38F-188
1/4-28	5/8	3/8-24	5/8	–	–	9/16	1/4	316	ZTAE14FX38F-316
1/4-28	5/8	5/16-18	5/8	–	–	1/2	3/16	18-8	ZTAE14FX51C-188
1/4-28	5/8	5/16-18	5/8	–	–	1/2	3/16	316	ZTAE14FX51C-316
1/4-28	5/8	5/16-18	5/8	–	–	1/2	3/16	Alum	ZTAE14FX51C-AL
1/4-28	5/8	5/16-32	5/8	–	–	1/2	3/16	18-8	ZTAE14FX51EF-188
1/4-28	5/8	5/16-24	5/8	–	–	1/2	3/16	18-8	ZTAE14FX51F-188
1/4-28	5/8	5/16-24	5/8	–	–	1/2	3/16	316	ZTAE14FX51F-316
1/4-28	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	18-8	ZTAE14FXM10C-188
1/4-28	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE14FXM10C-316
1/4-28	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE14FXM10EF-188
1/4-28	5/8	M10 x 1	5/8	–	–	9/16	1/4	316	ZTAE14FXM10EF-316
1/4-28	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE14FXM10F-188
1/4-28	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE14FXM10F-316
1/4-28	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE14FXM12C-188
1/4-28	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE14FXM12C-316
1/4-28	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE14FXM12C-AL
1/4-28	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE14FXM12EF-188
1/4-28	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE14FXM12EF-316
1/4-28	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE14FXM12EF-AL

Male-Female Thread Adapters

18-8 SS, 316 SS, Alum, Steel



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/4-28	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE14FXM12F-188
1/4-28	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE14FXM12F-316
1/4-28	5/8	M5 x 0.8	3/8	–	–	3/8	3/16	18-8	ZTAE14FXM5C-188
1/4-28	5/8	M5 x 0.8	3/8	–	–	3/8	3/16	316	ZTAE14FXM5C-316
1/4-28	5/8	M5 x 0.5	3/8	–	–	3/8	3/16	18-8	ZTAE14FXM5F-188
1/4-28	5/8	M6 x 1	1/2	–	–	3/8	3/16	18-8	ZTAE14FXM6C-188
1/4-28	5/8	M6 x 1	1/2	–	–	3/8	3/16	316	ZTAE14FXM6C-316
1/4-28	5/8	M6 x 1	1/2	–	–	3/8	3/16	Alum	ZTAE14FXM6C-AL
1/4-28	5/8	M6 x .750	1/2	–	–	3/8	3/16	18-8	ZTAE14FXM6F-188
1/4-28	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	18-8	ZTAE14FXM8C-188
1/4-28	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	316	ZTAE14FXM8C-316
1/4-28	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	Alum	ZTAE14FXM8C-AL
1/4-28	5/8	M8 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE14FXM8F-188
1/4-28	5/8	M8 x 1	1/2	–	–	1/2	3/16	316	ZTAE14FXM8F-316
1/4-32	1/2	–	–	10-32	9/32	1/2	3/4	18-8	ZTA14EFX10F-188
1/4-32	1/2	–	–	10-32	9/32	1/2	3/4	316	ZTA14EFX10F-316
1/4-32	1/2	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTA14EFX12C-188
1/4-32	1/2	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTA14EFX12C-316
1/4-32	1/2	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTA14EFX12C-AL
1/4-32	1/2	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTA14EFX12EF-188
1/4-32	1/2	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTA14EFX12F-188
1/4-32	1/2	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTA14EFX12F-316
1/4-32	1/2	–	–	3/8-16	9/16	5/8	1	18-8	ZTA14EFX38C-188
1/4-32	1/2	–	–	3/8-16	9/16	5/8	1	316	ZTA14EFX38C-316
1/4-32	1/2	–	–	3/8-16	9/16	5/8	1	Alum	ZTA14EFX38C-AL
1/4-32	1/2	–	–	3/8-32	9/16	5/8	1	18-8	ZTA14EFX38EF-188
1/4-32	1/2	–	–	3/8-24	9/16	5/8	1	18-8	ZTA14EFX38F-188
1/4-32	1/2	–	–	5/16-18	15/32	1/2	1	18-8	ZTA14EFX51C-188
1/4-32	1/2	–	–	5/16-18	15/32	1/2	1	316	ZTA14EFX51C-316
1/4-32	1/2	–	–	5/16-24	15/32	1/2	1	18-8	ZTA14EFX51F-188
1/4-32	1/2	–	–	M10 x 1.5	9/16	5/8	1	18-8	ZTA14EFXM10C-188
1/4-32	1/2	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA14EFXM10EF-188
1/4-32	1/2	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA14EFXM10F-188
1/4-32	1/2	–	–	M12 x 1.75	3/4	3/4	1-1/2	18-8	ZTA14EFXM12C-188
1/4-32	1/2	–	–	M12 x 1.75	3/4	3/4	1-1/2	316	ZTA14EFXM12C-316
1/4-32	1/2	–	–	M12 x 1.25	3/4	3/4	1-1/2	18-8	ZTA14EFXM12EF-188
1/4-32	1/2	–	–	M12 x 1.25	3/4	3/4	1-1/2	316	ZTA14EFXM12EF-316
1/4-32	1/2	–	–	M12 x 1.5	3/4	3/4	1-1/2	18-8	ZTA14EFXM12F-188
1/4-32	5/8	–	–	10-24	7/16	1/2	3/4	18-8	ZTA14EFX10C-188
1/4-32	5/8	–	–	1/4-20	5/8	1/2	1	18-8	ZTA14EFX14C-188
1/4-32	5/8	–	–	1/4-20	5/8	1/2	1	316	ZTA14EFX14C-316

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/4-32	5/8	–	–	1/4-28	5/8	1/2	1	18-8	ZTA14EFX14F-188
1/4-32	5/8	–	–	M5 x 0.8	7/16	1/2	3/4	18-8	ZTA14EFXM5C-188
1/4-32	5/8	–	–	M6 x 1	7/16	1/2	3/4	18-8	ZTA14EFXM6C-188
1/4-32	5/8	–	–	M6 x 1	7/16	1/2	3/4	316	ZTA14EFXM6C-316
1/4-32	5/8	–	–	M8 x 1.25	3/8	1/2	3/4	18-8	ZTA14EFXM8C-188
1/4-32	5/8	–	–	M8 x 1.25	3/8	1/2	3/4	316	ZTA14EFXM8C-316
1/4-32	5/8	–	–	M8 x 1	3/8	1/2	3/4	18-8	ZTA14EFXM8F-188
1/4-32	5/8	1/2-13	3/4	–	–	3/4	3/8	18-8	ZTAE14EFX12C-188
1/4-32	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE14EFX12C-316
1/4-32	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE14EFX12C-AL
1/4-32	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE14EFX12EF-188
1/4-32	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE14EFX12F-188
1/4-32	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE14EFX12F-316
1/4-32	5/8	3/8-16	5/8	–	–	9/16	1/4	18-8	ZTAE14EFX38C-188
1/4-32	5/8	3/8-16	5/8	–	–	9/16	1/4	316	ZTAE14EFX38C-316
1/4-32	5/8	3/8-16	5/8	–	–	9/16	1/4	Alum	ZTAE14EFX38C-AL
1/4-32	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE14EFX38EF-188
1/4-32	5/8	3/8-24	5/8	–	–	9/16	1/4	18-8	ZTAE14EFX38F-188
1/4-32	5/8	5/16-18	5/8	–	–	1/2	3/16	18-8	ZTAE14EFX51C-188
1/4-32	5/8	5/16-18	5/8	–	–	1/2	3/16	316	ZTAE14EFX51C-316
1/4-32	5/8	5/16-24	5/8	–	–	1/2	3/16	18-8	ZTAE14EFX51F-188
1/4-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	18-8	ZTAE14EFXM10C-188
1/4-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE14EFXM10C-316
1/4-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	Alum	ZTAE14EFXM10C-AL
1/4-32	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE14EFXM10EF-188
1/4-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE14EFXM10F-188
1/4-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE14EFXM10F-316
1/4-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE14EFXM12C-188
1/4-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE14EFXM12C-316
1/4-32	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE14EFXM12EF-188
1/4-32	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE14EFXM12EF-316
1/4-32	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE14EFXM12F-188
1/4-32	5/8	M5 x 0.8	3/8	–	–	3/8	3/16	18-8	ZTAE14EFXM5C-188
1/4-32	5/8	M5 x 0.8	3/8	–	–	3/8	3/16	316	ZTAE14EFXM5C-316
1/4-32	5/8	M6 x 1	1/2	–	–	3/8	3/16	18-8	ZTAE14EFXM6C-188
1/4-32	5/8	M6 x 1	1/2	–	–	3/8	3/16	316	ZTAE14EFXM6C-316
1/4-32	5/8	M6 x 1	1/2	–	–	3/8	3/16	Alum	ZTAE14EFXM6C-AL
1/4-32	5/8	M6 x .750	1/2	–	–	3/8	3/16	18-8	ZTAE14EFXM6F-188
1/4-32	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	18-8	ZTAE14EFXM8C-188
1/4-32	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	316	ZTAE14EFXM8C-316
1/4-32	5/8	M8 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE14EFXM8F-188

Male-Female Thread Adapters

18-8 SS, 316 SS, Alum, Steel



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-16	1/2	–	–	3/8-32	5/8	1/2	1	18-8	ZTA38CX38EF-188
3/8-16	1/2	–	–	3/8-32	5/8	1/2	1	316	ZTA38CX38EF-316
3/8-16	1/2	–	–	3/8-24	5/8	1/2	1	316	ZTA38CX38F-316
3/8-16	1/2	–	–	3/8-24	5/8	1/2	1	Alum	ZTA38CX38F-AL
3/8-16	1/2	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA38CXM10C-316
3/8-16	1/2	–	–	M10 x 1.5	9/16	5/8	1	Alum	ZTA38CXM10C-AL
3/8-16	1/2	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA38CXM10EF-188
3/8-16	1/2	–	–	M10 x 1	9/16	5/8	1	316	ZTA38CXM10EF-316
3/8-16	1/2	–	–	M10 x 1	9/16	5/8	1	Alum	ZTA38CXM10EF-AL
3/8-16	1/2	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA38CXM10F-188
3/8-16	1/2	–	–	M10 x 1.25	9/16	5/8	1	316	ZTA38CXM10F-316
3/8-16	1/2	–	–	M10 x 1.25	9/16	5/8	1	Alum	ZTA38CXM10F-AL
3/8-16	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	316	ZTA38CXM12C-316
3/8-16	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	Alum	ZTA38CXM12C-AL
3/8-16	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	18-8	ZTA38CXM12EF-188
3/8-16	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	316	ZTA38CXM12EF-316
3/8-16	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	Alum	ZTA38CXM12EF-AL
3/8-16	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	18-8	ZTA38CXM12F-188
3/8-16	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	316	ZTA38CXM12F-316
3/8-16	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	Alum	ZTA38CXM12F-AL
3/8-16	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE38CX12C-316
3/8-16	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE38CX12C-AL
3/8-16	5/8	1/2-13	3/4	–	–	3/4	3/8	Stl Blk	ZTAE38CX12CSTL-B
3/8-16	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE38CX12EF-188
3/8-16	5/8	1/2-28	3/4	–	–	3/4	3/8	316	ZTAE38CX12EF-316
3/8-16	5/8	1/2-28	3/4	–	–	3/4	3/8	Alum	ZTAE38CX12EF-AL
3/8-16	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE38CX12F-188
3/8-16	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE38CX12F-316
3/8-16	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE38CX12F-AL
3/8-16	5/8	3/4-10	3/4	–	–	1-1/8	11/16	18-8	ZTAE38CX34C-188
3/8-16	5/8	3/4-10	3/4	–	–	1-1/8	11/16	316	ZTAE38CX34C-316
3/8-16	5/8	3/4-10	3/4	–	–	1-1/8	11/16	Alum	ZTAE38CX34C-AL
3/8-16	5/8	3/4-10	3/4	–	–	1-1/8	11/16	Stl Blk	ZTAE38CX34CSTL-B
3/8-16	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE38CX38EF-188
3/8-16	5/8	3/8-32	5/8	–	–	9/16	1/4	316	ZTAE38CX38EF-316
3/8-16	5/8	3/8-24	5/8	–	–	9/16	1/4	316	ZTAE38CX38F-316
3/8-16	5/8	3/8-24	5/8	–	–	9/16	1/4	Alum	ZTAE38CX38F-AL
3/8-16	5/8	5/8-11	3/4	–	–	15/16	9/16	18-8	ZTAE38CX58C-188
3/8-16	5/8	5/8-11	3/4	–	–	15/16	9/16	316	ZTAE38CX58C-316
3/8-16	5/8	5/8-11	3/4	–	–	15/16	9/16	Alum	ZTAE38CX58C-AL

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-16	5/8	5/8-11	3/4	–	–	15/16	9/16	Stl Blk	ZTAE38CX58CSTL-B
3/8-16	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE38CXM10C-316
3/8-16	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	Alum	ZTAE38CXM10C-AL
3/8-16	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE38CXM10EF-188
3/8-16	5/8	M10 x 1	5/8	–	–	9/16	1/4	316	ZTAE38CXM10EF-316
3/8-16	5/8	M10 x 1	5/8	–	–	9/16	1/4	Alum	ZTAE38CXM10EF-AL
3/8-16	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE38CXM10F-188
3/8-16	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE38CXM10F-316
3/8-16	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	Alum	ZTAE38CXM10F-AL
3/8-16	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE38CXM12C-316
3/8-16	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE38CXM12C-AL
3/8-16	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE38CXM12EF-188
3/8-16	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE38CXM12EF-316
3/8-16	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE38CXM12EF-AL
3/8-16	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE38CXM12F-188
3/8-16	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE38CXM12F-316
3/8-16	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	Alum	ZTAE38CXM12F-AL
3/8-16	5/8	M6 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38CXM6C-188
3/8-16	5/8	M6 x 1	1/2	–	–	9/16	1/4	316	ZTAE38CXM6C-316
3/8-16	5/8	M6 x 1	1/2	–	–	9/16	1/4	Alum	ZTAE38CXM6C-AL
3/8-16	5/8	M6 x .750	1/2	–	–	9/16	1/4	18-8	ZTAE38CXM6F-188
3/8-16	5/8	M6 x .750	1/2	–	–	9/16	1/4	316	ZTAE38CXM6F-316
3/8-16	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	18-8	ZTAE38CXM8C-188
3/8-16	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	316	ZTAE38CXM8C-316
3/8-16	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	Alum	ZTAE38CXM8C-AL
3/8-16	5/8	M8 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38CXM8F-188
3/8-16	5/8	M8 x 1	1/2	–	–	9/16	1/4	316	ZTAE38CXM8F-316
3/8-16	5/8	M8 x 1	1/2	–	–	9/16	1/4	Alum	ZTAE38CXM8F-AL
3/8-16	3/4	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTA38CX12C-316
3/8-16	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTA38CX12C-AL
3/8-16	3/4	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTA38CX12EF-188
3/8-16	3/4	–	–	1/2-28	3/4	3/4	1-1/2	316	ZTA38CX12EF-316
3/8-16	3/4	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTA38CX12F-188
3/8-16	3/4	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTA38CX12F-316
3/8-16	3/4	–	–	1/2-20	3/4	3/4	1-1/2	Alum	ZTA38CX12F-AL
3/8-16	3/4	–	–	1/4-20	3/8	5/8	1	316	ZTA38CX14C-316
3/8-16	3/4	–	–	1/4-20	3/8	5/8	1	Alum	ZTA38CX14C-AL
3/8-16	3/4	–	–	1/4-32	3/8	5/8	1	18-8	ZTA38CX14EF-188
3/8-16	3/4	–	–	1/4-28	3/8	5/8	1	18-8	ZTA38CX14F-188
3/8-16	3/4	–	–	1/4-28	3/8	5/8	1	316	ZTA38CX14F-316
3/8-16	3/4	–	–	1/4-28	3/8	5/8	1	Alum	ZTA38CX14F-AL

18-8 SS, 316 SS, Alum, Steel



Male-Female Thread Adapters

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-16	3/4	–	–	3/4-10	1	1-1/4	2-1/4	18-8	ZTA38CX34C-188
3/8-16	3/4	–	–	3/4-10	1	1-1/4	2-1/4	316	ZTA38CX34C-316
3/8-16	3/4	–	–	3/4-10	1	1-1/4	2-1/4	Alum	ZTA38CX34C-AL
3/8-16	3/4	–	–	3/4-10	1	1-1/4	2-1/4	Stl Blk	ZTA38CX34CSTL-B
3/8-16	3/4	–	–	5/16-18	15/32	5/8	1	316	ZTA38CX51C-316
3/8-16	3/4	–	–	5/16-18	15/32	5/8	1	Alum	ZTA38CX51C-AL
3/8-16	3/4	–	–	5/16-32	15/32	5/8	1	18-8	ZTA38CX51EF-188
3/8-16	3/4	–	–	5/16-24	15/32	5/8	1	18-8	ZTA38CX51F-188
3/8-16	3/4	–	–	5/16-24	15/32	5/8	1	316	ZTA38CX51F-316
3/8-16	3/4	–	–	5/16-24	15/32	5/8	1	Alum	ZTA38CX51F-AL
3/8-16	3/4	–	–	5/8-11	7/8	1	2	18-8	ZTA38CX58C-188
3/8-16	3/4	–	–	5/8-11	7/8	1	2	316	ZTA38CX58C-316
3/8-16	3/4	–	–	5/8-11	7/8	1	2	Alum	ZTA38CX58C-AL
3/8-16	3/4	–	–	5/8-11	7/8	1	2	Stl Blk	ZTA38CX58CSTL-B
3/8-16	3/4	–	–	M6 x 1	3/8	5/8	1	18-8	ZTA38CXM6C-188
3/8-16	3/4	–	–	M6 x 1	3/8	5/8	1	316	ZTA38CXM6C-316
3/8-16	3/4	–	–	M6 x 1	3/8	5/8	1	Alum	ZTA38CXM6C-AL
3/8-16	3/4	–	–	M6 x .750	3/8	5/8	1	18-8	ZTA38CXM6F-188
3/8-16	3/4	–	–	M8 x 1.25	15/32	5/8	1	18-8	ZTA38CXM8C-188
3/8-16	3/4	–	–	M8 x 1.25	15/32	5/8	1	316	ZTA38CXM8C-316
3/8-16	3/4	–	–	M8 x 1.25	15/32	5/8	1	Alum	ZTA38CXM8C-AL
3/8-16	3/4	–	–	M8 x 1	15/32	5/8	1	18-8	ZTA38CXM8F-188
3/8-16	3/4	–	–	M8 x 1	15/32	5/8	1	316	ZTA38CXM8F-316
3/8-16	3/4	–	–	M8 x 1	15/32	5/8	1	Alum	ZTA38CXM8F-AL
3/8-24	1/2	–	–	3/8-16	7/8	5/8	1-1/2	316	ZTA38FX38C-316
3/8-24	1/2	–	–	3/8-16	7/8	5/8	1-1/2	Alum	ZTA38FX38C-AL
3/8-24	1/2	–	–	3/8-32	7/8	5/8	1-1/2	18-8	ZTA38FX38EF-188
3/8-24	1/2	–	–	M10 x 1.5	9/16	5/8	1	18-8	ZTA38FXM10C-188
3/8-24	1/2	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA38FXM10C-316
3/8-24	1/2	–	–	M10 x 1.5	9/16	5/8	1	Alum	ZTA38FXM10C-AL
3/8-24	1/2	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA38FXM10EF-188
3/8-24	1/2	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA38FXM10F-188
3/8-24	1/2	–	–	M10 x 1.25	9/16	5/8	1	316	ZTA38FXM10F-316
3/8-24	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	18-8	ZTA38FXM12C-188
3/8-24	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	316	ZTA38FXM12C-316
3/8-24	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	18-8	ZTA38FXM12EF-188
3/8-24	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	316	ZTA38FXM12EF-316
3/8-24	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	18-8	ZTA38FXM12F-188
3/8-24	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	316	ZTA38FXM12F-316
3/8-24	5/8	1/2-13	3/4	–	–	3/4	3/8	18-8	ZTAE38FX12C-188
3/8-24	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE38FX12C-316

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-24	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE38FX12C-AL
3/8-24	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE38FX12EF-188
3/8-24	5/8	1/2-28	3/4	–	–	3/4	3/8	316	ZTAE38FX12EF-316
3/8-24	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE38FX12F-188
3/8-24	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE38FX12F-316
3/8-24	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE38FX12F-AL
3/8-24	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE38FX38EF-188
3/8-24	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	18-8	ZTAE38FXM10C-188
3/8-24	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE38FXM10C-316
3/8-24	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	Alum	ZTAE38FXM10C-AL
3/8-24	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE38FXM10EF-188
3/8-24	5/8	M10 x 1	5/8	–	–	9/16	1/4	316	ZTAE38FXM10EF-316
3/8-24	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE38FXM10F-188
3/8-24	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE38FXM10F-316
3/8-24	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE38FXM12C-188
3/8-24	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE38FXM12C-316
3/8-24	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE38FXM12C-AL
3/8-24	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE38FXM12EF-188
3/8-24	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE38FXM12EF-316
3/8-24	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE38FXM12EF-AL
3/8-24	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE38FXM12F-188
3/8-24	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE38FXM12F-316
3/8-24	5/8	M6 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38FXM6C-188
3/8-24	5/8	M6 x 1	1/2	–	–	9/16	1/4	316	ZTAE38FXM6C-316
3/8-24	5/8	M6 x 1	1/2	–	–	9/16	1/4	Alum	ZTAE38FXM6C-AL
3/8-24	5/8	M6 x .750	1/2	–	–	9/16	1/4	18-8	ZTAE38FXM6F-188
3/8-24	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	18-8	ZTAE38FXM8C-188
3/8-24	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	316	ZTAE38FXM8C-316
3/8-24	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	Alum	ZTAE38FXM8C-AL
3/8-24	5/8	M8 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38FXM8F-188
3/8-24	5/8	M8 x 1	1/2	–	–	9/16	1/4	316	ZTAE38FXM8F-316
3/8-24	3/4	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTA38FX12C-188
3/8-24	3/4	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTA38FX12C-316
3/8-24	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTA38FX12C-AL
3/8-24	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Stl Blk	ZTA38FX12CSTL-B
3/8-24	3/4	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTA38FX12EF-188
3/8-24	3/4	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTA38FX12F-188
3/8-24	3/4	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTA38FX12F-316
3/8-24	3/4	–	–	1/4-20	3/8	5/8	1	18-8	ZTA38FX14C-188
3/8-24	3/4	–	–	1/4-20	3/8	5/8	1	316	ZTA38FX14C-316
3/8-24	3/4	–	–	1/4-20	3/8	5/8	1	Alum	ZTA38FX14C-AL

18-8 SS, 316 SS, Alum, Steel



Male-Female Thread Adapters

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-24	3/4	–	–	1/4-32	3/8	5/8	1	18-8	ZTA38FX14EF-188
3/8-24	3/4	–	–	1/4-28	3/8	5/8	1	18-8	ZTA38FX14F-188
3/8-24	3/4	–	–	3/8-16	9/16	5/8	1-1/2	Stl Blk	ZTA38FX38CSTL-B
3/8-24	3/4	–	–	5/16-18	15/32	5/8	1	18-8	ZTA38FX51C-188
3/8-24	3/4	–	–	5/16-18	15/32	5/8	1	316	ZTA38FX51C-316
3/8-24	3/4	–	–	5/16-18	15/32	5/8	1	Alum	ZTA38FX51C-AL
3/8-24	3/4	–	–	5/16-32	15/32	5/8	1	18-8	ZTA38FX51EF-188
3/8-24	3/4	–	–	5/16-24	15/32	5/8	1	18-8	ZTA38FX51F-188
3/8-24	3/4	–	–	M6 x 1	3/8	5/8	1	18-8	ZTA38FXM6C-188
3/8-24	3/4	–	–	M6 x 1	3/8	5/8	1	316	ZTA38FXM6C-316
3/8-24	3/4	–	–	M6 x 1	3/8	5/8	1	Alum	ZTA38FXM6C-AL
3/8-24	3/4	–	–	M6 x .750	3/8	5/8	1	18-8	ZTA38FXM6F-188
3/8-24	3/4	–	–	M8 x 1.25	15/32	5/8	1	18-8	ZTA38FXM8C-188
3/8-24	3/4	–	–	M8 x 1.25	15/32	5/8	1	316	ZTA38FXM8C-316
3/8-24	3/4	–	–	M8 x 1.25	15/32	5/8	1	Alum	ZTA38FXM8C-AL
3/8-24	3/4	–	–	M8 x 1	15/32	5/8	1	18-8	ZTA38FXM8F-188
3/8-24	3/4	–	–	M8 x 1	15/32	5/8	1	316	ZTA38FXM8F-316
3/8-32	1/2	–	–	3/8-16	5/8	1/2	1	18-8	ZTA38EFX38C-188
3/8-32	1/2	–	–	3/8-16	5/8	1/2	1	316	ZTA38EFX38C-316
3/8-32	1/2	–	–	3/8-24	5/8	1/2	1	18-8	ZTA38EFX38F-188
3/8-32	1/2	–	–	M10 x 1.5	9/16	5/8	1	18-8	ZTA38EFXM10C-188
3/8-32	1/2	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA38EFXM10C-316
3/8-32	1/2	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA38EFXM10EF-188
3/8-32	1/2	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA38EFXM10F-188
3/8-32	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	18-8	ZTA38EFXM12C-188
3/8-32	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	316	ZTA38EFXM12C-316
3/8-32	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	18-8	ZTA38EFXM12EF-188
3/8-32	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	316	ZTA38EFXM12EF-316
3/8-32	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	18-8	ZTA38EFXM12F-188
3/8-32	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	316	ZTA38EFXM12F-316
3/8-32	5/8	1/2-13	3/4	–	–	3/4	3/8	18-8	ZTAE38EFX12C-188
3/8-32	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE38EFX12C-316
3/8-32	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE38EFX12C-AL
3/8-32	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE38EFX12EF-188
3/8-32	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE38EFX12F-188
3/8-32	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE38EFX12F-316
3/8-32	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE38EFX12F-AL
3/8-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	18-8	ZTAE38EFXM10C-188
3/8-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE38EFXM10C-316
3/8-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	Alum	ZTAE38EFXM10C-AL

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-32	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE38EFXM10EF-188
3/8-32	5/8	M10 x 1	5/8	–	–	9/16	1/4	316	ZTAE38EFXM10EF-316
3/8-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE38EFXM10F-188
3/8-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE38EFXM10F-316
3/8-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	Alum	ZTAE38EFXM10F-AL
3/8-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE38EFXM12C-188
3/8-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE38EFXM12C-316
3/8-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE38EFXM12C-AL
3/8-32	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE38EFXM12EF-188
3/8-32	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE38EFXM12EF-316
3/8-32	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE38EFXM12F-188
3/8-32	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE38EFXM12F-316
3/8-32	5/8	M6 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38EFXM6C-188
3/8-32	5/8	M6 x 1	1/2	–	–	9/16	1/4	316	ZTAE38EFXM6C-316
3/8-32	5/8	M6 x 1	1/2	–	–	9/16	1/4	Alum	ZTAE38EFXM6C-AL
3/8-32	5/8	M6 x .750	1/2	–	–	9/16	1/4	18-8	ZTAE38EFXM6F-188
3/8-32	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	18-8	ZTAE38EFXM8C-188
3/8-32	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	316	ZTAE38EFXM8C-316
3/8-32	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	Alum	ZTAE38EFXM8C-AL
3/8-32	5/8	M8 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38EFXM8F-188
3/8-32	5/8	M8 x 1	1/2	–	–	9/16	1/4	316	ZTAE38EFXM8F-316
3/8-32	3/4	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTA38EFX12C-188
3/8-32	3/4	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTA38EFX12C-316
3/8-32	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTA38EFX12C-AL
3/8-32	3/4	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTA38EFX12F-188
3/8-32	3/4	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTA38EFX12F-316
3/8-32	3/4	–	–	1/4-20	3/8	5/8	1	18-8	ZTA38EFX14C-188
3/8-32	3/4	–	–	1/4-20	3/8	5/8	1	316	ZTA38EFX14C-316
3/8-32	3/4	–	–	1/4-20	3/8	5/8	1	Alum	ZTA38EFX14C-AL
3/8-32	3/4	–	–	1/4-32	3/8	5/8	1	18-8	ZTA38EFX14EF-188
3/8-32	3/4	–	–	1/4-28	3/8	5/8	1	18-8	ZTA38EFX14F-188
3/8-32	3/4	–	–	5/16-18	15/32	5/8	1	18-8	ZTA38EFX51C-188
3/8-32	3/4	–	–	5/16-18	15/32	5/8	1	316	ZTA38EFX51C-316
3/8-32	3/4	–	–	5/16-18	15/32	5/8	1	Alum	ZTA38EFX51C-AL
3/8-32	3/4	–	–	5/16-32	15/32	5/8	1	18-8	ZTA38EFX51EF-188
3/8-32	3/4	–	–	5/16-24	15/32	5/8	1	18-8	ZTA38EFX51F-188
3/8-32	3/4	–	–	M6 x 1	3/8	5/8	1	18-8	ZTA38EFXM6C-188
3/8-32	3/4	–	–	M6 x 1	3/8	5/8	1	316	ZTA38EFXM6C-316
3/8-32	3/4	–	–	M6 x 1	3/8	5/8	1	Alum	ZTA38EFXM6C-AL
3/8-32	3/4	–	–	M6 x .750	3/8	5/8	1	18-8	ZTA38EFXM6F-188

Male-Female Thread Adapters

18-8 SS, 316 SS, Alum, Steel



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-32	3/4	–	–	M8 x 1.25	15/32	5/8	1	18-8	ZTA38EFXM8C-188
3/8-32	3/4	–	–	M8 x 1.25	15/32	5/8	1	316	ZTA38EFXM8C-316
3/8-32	3/4	–	–	M8 x 1.25	15/32	5/8	1	Alum	ZTA38EFXM8C-AL
3/8-32	3/4	–	–	M8 x 1	15/32	5/8	1	18-8	ZTA38EFXM8F-188
5/16-18	5/8	–	–	10-24	7/16	1/2	3/4	316	ZTA51CX10C-316
5/16-18	5/8	–	–	10-32	9/32	1/2	3/4	316	ZTA51CX10F-316
5/16-18	5/8	–	–	1/2-13	11/16	3/4	1-1/2	18-8	ZTA51CX12C-188
5/16-18	5/8	–	–	1/2-13	11/16	3/4	1-1/2	316	ZTA51CX12C-316
5/16-18	5/8	–	–	1/2-13	11/16	3/4	1-1/2	Alum	ZTA51CX12C-AL
5/16-18	5/8	–	–	1/2-13	3/4	3/4	1-1/2	Stl Blk	ZTA51CX12CSTL-B
5/16-18	5/8	–	–	1/2-28	11/16	3/4	1-1/2	18-8	ZTA51CX12EF-188
5/16-18	5/8	–	–	1/2-28	11/16	3/4	1-1/2	316	ZTA51CX12EF-316
5/16-18	5/8	–	–	1/2-20	11/16	3/4	1-1/2	18-8	ZTA51CX12F-188
5/16-18	5/8	–	–	1/2-20	11/16	3/4	1-1/2	316	ZTA51CX12F-316
5/16-18	5/8	–	–	1/2-20	11/16	3/4	1-1/2	Alum	ZTA51CX12F-AL
5/16-18	5/8	–	–	1/4-20	3/8	1/2	1	316	ZTA51CX14C-316
5/16-18	5/8	–	–	1/4-32	3/8	1/2	1	18-8	ZTA51CX14EF-188
5/16-18	5/8	–	–	1/4-28	3/8	1/2	1	18-8	ZTA51CX14F-188
5/16-18	5/8	–	–	1/4-28	3/8	1/2	1	316	ZTA51CX14F-316
5/16-18	5/8	–	–	3/8-16	9/16	1/2	1	316	ZTA51CX38C-316
5/16-18	5/8	–	–	3/8-16	9/16	1/2	1	Alum	ZTA51CX38C-AL
5/16-18	5/8	–	–	3/8-32	9/16	1/2	1	18-8	ZTA51CX38EF-188
5/16-18	5/8	–	–	3/8-24	9/16	1/2	1	18-8	ZTA51CX38F-188
5/16-18	5/8	–	–	3/8-24	9/16	1/2	1	316	ZTA51CX38F-316
5/16-18	5/8	–	–	5/16-32	5/8	1/2	1	18-8	ZTA51CX51EF-188
5/16-18	5/8	–	–	5/16-24	5/8	1/2	1	316	ZTA51CX51F-316
5/16-18	5/8	–	–	5/8-11	7/8	3/4	1-1/2	18-8	ZTA51CX58C-188
5/16-18	5/8	–	–	5/8-11	7/8	3/4	1-1/2	316	ZTA51CX58C-316
5/16-18	5/8	–	–	5/8-11	7/8	3/4	1-1/2	Alum	ZTA51CX58C-AL
5/16-18	5/8	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA51CXM10C-316
5/16-18	5/8	–	–	M10 x 1.5	9/16	5/8	1	Alum	ZTA51CXM10C-AL
5/16-18	5/8	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA51CXM10EF-188
5/16-18	5/8	–	–	M10 x 1	9/16	5/8	1	316	ZTA51CXM10EF-316
5/16-18	5/8	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA51CXM10F-188
5/16-18	5/8	–	–	M10 x 1.25	9/16	5/8	1	316	ZTA51CXM10F-316
5/16-18	5/8	–	–	M10 x 1.25	9/16	5/8	1	Alum	ZTA51CXM10F-AL
5/16-18	5/8	–	–	M12 x 1.75	11/16	3/4	1-1/2	18-8	ZTA51CXM12C-188
5/16-18	5/8	–	–	M12 x 1.75	11/16	3/4	1-1/2	316	ZTA51CXM12C-316
5/16-18	5/8	–	–	M12 x 1.75	11/16	3/4	1-1/2	Alum	ZTA51CXM12C-AL
5/16-18	5/8	–	–	M12 x 1.25	11/16	3/4	1-1/2	18-8	ZTA51CXM12EF-188

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
5/16-18	5/8	–	–	M12 x 1.25	11/16	3/4	1-1/2	316	ZTA51CXM12EF-316
5/16-18	5/8	–	–	M12 x 1.25	11/16	3/4	1-1/2	Alum	ZTA51CXM12EF-AL
5/16-18	5/8	–	–	M12 x 1.5	11/16	3/4	1-1/2	18-8	ZTA51CXM12F-188
5/16-18	5/8	–	–	M12 x 1.5	11/16	3/4	1-1/2	316	ZTA51CXM12F-316
5/16-18	5/8	–	–	M5 x 0.8	9/32	1/2	3/4	316	ZTA51CXM5C-316
5/16-18	5/8	–	–	M6 x 1	3/8	1/2	1	316	ZTA51CXM6C-316
5/16-18	5/8	–	–	M6 x .750	3/8	1/2	1	18-8	ZTA51CXM6F-188
5/16-18	5/8	–	–	M8 x 1.25	3/8	5/8	3/4	316	ZTA51CXM8C-316
5/16-18	5/8	–	–	M8 x 1	3/8	5/8	3/4	18-8	ZTA51CXM8F-188
5/16-18	5/8	–	–	M8 x 1	3/8	5/8	3/4	316	ZTA51CXM8F-316
5/16-18	5/8	–	–	M8 x 1	3/8	5/8	3/4	Alum	ZTA51CXM8F-AL
5/16-18	5/8	1/2-13	3/4	–	–	3/4	3/8	18-8	ZTAE51CX12C-188
5/16-18	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE51CX12C-316
5/16-18	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE51CX12C-AL
5/16-18	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE51CX12EF-188
5/16-18	5/8	1/2-28	3/4	–	–	3/4	3/8	316	ZTAE51CX12EF-316
5/16-18	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE51CX12F-188
5/16-18	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE51CX12F-316
5/16-18	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE51CX12F-AL
5/16-18	5/8	3/8-16	5/8	–	–	9/16	1/4	316	ZTAE51CX38C-316
5/16-18	5/8	3/8-16	5/8	–	–	9/16	1/4	Alum	ZTAE51CX38C-AL
5/16-18	5/8	3/8-16	5/8	–	–	9/16	1/4	Stl Blk	ZTAE51CX38CSTL-B
5/16-18	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE51CX38EF-188
5/16-18	5/8	3/8-32	5/8	–	–	9/16	1/4	316	ZTAE51CX38EF-316
5/16-18	5/8	3/8-24	5/8	–	–	9/16	1/4	18-8	ZTAE51CX38F-188
5/16-18	5/8	3/8-24	5/8	–	–	9/16	1/4	316	ZTAE51CX38F-316
5/16-18	5/8	5/16-32	5/8	–	–	1/2	3/16	18-8	ZTAE51CX51EF-188
5/16-18	5/8	5/16-24	5/8	–	–	1/2	3/16	316	ZTAE51CX51F-316
5/16-18	5/8	5/8-11	3/4	–	–	15/16	9/16	18-8	ZTAE51CX58C-188
5/16-18	5/8	5/8-11	3/4	–	–	15/16	9/16	316	ZTAE51CX58C-316
5/16-18	5/8	5/8-11	3/4	–	–	15/16	9/16	Alum	ZTAE51CX58C-AL
5/16-18	5/8	5/8-11	3/4	–	–	15/16	9/16	Stl Blk	ZTAE51CX58CSTL-B
5/16-18	5/8	M10 x 1.5	5/8	–	–	1/2	3/16	316	ZTAE51CXM10C-316
5/16-18	5/8	M10 x 1.5	5/8	–	–	1/2	3/16	Alum	ZTAE51CXM10C-AL
5/16-18	5/8	M10 x 1	5/8	–	–	1/2	3/16	18-8	ZTAE51CXM10EF-188
5/16-18	5/8	M10 x 1	5/8	–	–	1/2	3/16	316	ZTAE51CXM10EF-316
5/16-18	5/8	M10 x 1.25	5/8	–	–	1/2	3/16	18-8	ZTAE51CXM10F-188
5/16-18	5/8	M10 x 1.25	5/8	–	–	1/2	3/16	316	ZTAE51CXM10F-316
5/16-18	5/8	M10 x 1.25	5/8	–	–	1/2	3/16	Alum	ZTAE51CXM10F-AL
5/16-18	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE51CXM12C-188
5/16-18	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE51CXM12C-316

Male-Female Thread Adapters

18-8 SS, 316 SS, Alum, Steel



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
5/16-18	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE51CXM12C-AL
5/16-18	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE51CXM12EF-188
5/16-18	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE51CXM12EF-316
5/16-18	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE51CXM12EF-AL
5/16-18	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE51CXM12F-188
5/16-18	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE51CXM12F-316
5/16-18	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	Alum	ZTAE51CXM12F-AL
5/16-18	5/8	M5 x 0.8	3/8	–	–	1/2	3/16	316	ZTAE51CXM5C-316
5/16-18	5/8	M5 x 0.5	3/8	–	–	1/2	3/16	18-8	ZTAE51CXM5F-188
5/16-18	5/8	M6 x 1	1/2	–	–	1/2	3/16	316	ZTAE51CXM6C-316
5/16-18	5/8	M6 x .750	1/2	–	–	1/2	3/16	18-8	ZTAE51CXM6F-188
5/16-18	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	316	ZTAE51CXM8C-316
5/16-18	5/8	M8 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE51CXM8F-188
5/16-18	5/8	M8 x 1	1/2	–	–	1/2	3/16	316	ZTAE51CXM8F-316
5/16-24	5/8	–	–	10-24	7/16	1/2	3/4	18-8	ZTA51FX10C-188
5/16-24	5/8	–	–	10-32	9/32	1/2	3/4	18-8	ZTA51FX10F-188
5/16-24	5/8	–	–	10-32	9/32	1/2	3/4	316	ZTA51FX10F-316
5/16-24	5/8	–	–	1/2-13	11/16	3/4	1-1/2	18-8	ZTA51FX12C-188
5/16-24	5/8	–	–	1/2-13	11/16	3/4	1-1/2	316	ZTA51FX12C-316
5/16-24	5/8	–	–	1/2-13	11/16	3/4	1-1/2	Alum	ZTA51FX12C-AL
5/16-24	5/8	–	–	1/2-13	3/4	3/4	1-1/2	Stl Blk	ZTA51FX12CSTL-B
5/16-24	5/8	–	–	1/2-28	11/16	3/4	1-1/2	18-8	ZTA51FX12EF-188
5/16-24	5/8	–	–	1/2-20	11/16	3/4	1-1/2	18-8	ZTA51FX12F-188
5/16-24	5/8	–	–	1/2-20	11/16	3/4	1-1/2	316	ZTA51FX12F-316
5/16-24	5/8	–	–	1/4-20	3/8	1/2	1	18-8	ZTA51FX14C-188
5/16-24	5/8	–	–	1/4-20	3/8	1/2	1	316	ZTA51FX14C-316
5/16-24	5/8	–	–	1/4-20	3/8	1/2	1	Alum	ZTA51FX14C-AL
5/16-24	5/8	–	–	1/4-32	3/8	1/2	1	18-8	ZTA51FX14EF-188
5/16-24	5/8	–	–	1/4-28	3/8	1/2	1	18-8	ZTA51FX14F-188
5/16-24	5/8	–	–	3/8-16	9/16	1/2	1	18-8	ZTA51FX38C-188
5/16-24	5/8	–	–	3/8-16	9/16	1/2	1	316	ZTA51FX38C-316
5/16-24	5/8	–	–	3/8-32	9/16	1/2	1	18-8	ZTA51FX38EF-188
5/16-24	5/8	–	–	3/8-24	9/16	1/2	1	18-8	ZTA51FX38F-188
5/16-24	5/8	–	–	5/16-18	5/8	1/2	1	316	ZTA51FX51C-316
5/16-24	5/8	–	–	5/16-32	5/8	1/2	1	18-8	ZTA51FX51EF-188
5/16-24	5/8	–	–	M10 x 1.5	9/16	5/8	1	18-8	ZTA51FXM10C-188
5/16-24	5/8	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA51FXM10C-316
5/16-24	5/8	–	–	M10 x 1.5	9/16	5/8	1	Alum	ZTA51FXM10C-AL
5/16-24	5/8	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA51FXM10EF-188
5/16-24	5/8	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA51FXM10F-188

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
5/16-24	5/8	–	–	M10 x 1.25	9/16	5/8	1	316	ZTA51FXM10F-316
5/16-24	5/8	–	–	M12 x 1.75	11/16	3/4	1-1/2	18-8	ZTA51FXM12C-188
5/16-24	5/8	–	–	M12 x 1.75	11/16	3/4	1-1/2	316	ZTA51FXM12C-316
5/16-24	5/8	–	–	M12 x 1.25	11/16	3/4	1-1/2	18-8	ZTA51FXM12EF-188
5/16-24	5/8	–	–	M12 x 1.25	11/16	3/4	1-1/2	316	ZTA51FXM12EF-316
5/16-24	5/8	–	–	M12 x 1.5	11/16	3/4	1-1/2	18-8	ZTA51FXM12F-188
5/16-24	5/8	–	–	M12 x 1.5	11/16	3/4	1-1/2	316	ZTA51FXM12F-316
5/16-24	5/8	–	–	M5 x 0.8	9/32	1/2	3/4	18-8	ZTA51FXM5C-188
5/16-24	5/8	–	–	M5 x 0.8	9/32	1/2	3/4	316	ZTA51FXM5C-316
5/16-24	5/8	–	–	M6 x 1	3/8	1/2	1	18-8	ZTA51FXM6C-188
5/16-24	5/8	–	–	M6 x 1	3/8	1/2	1	316	ZTA51FXM6C-316
5/16-24	5/8	–	–	M6 x .750	3/8	1/2	1	18-8	ZTA51FXM6F-188
5/16-24	5/8	–	–	M8 x 1.25	3/8	5/8	3/4	18-8	ZTA51FXM8C-188
5/16-24	5/8	–	–	M8 x 1.25	3/8	5/8	3/4	316	ZTA51FXM8C-316
5/16-24	5/8	–	–	M8 x 1.25	3/8	5/8	3/4	Alum	ZTA51FXM8C-AL
5/16-24	5/8	–	–	M8 x 1	3/8	5/8	3/4	18-8	ZTA51FXM8F-188
5/16-24	5/8	1/2-13	3/4	–	–	3/4	3/8	18-8	ZTAE51FX12C-188
5/16-24	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE51FX12C-316
5/16-24	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE51FX12C-AL
5/16-24	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE51FX12EF-188
5/16-24	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE51FX12F-188
5/16-24	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE51FX12F-316
5/16-24	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE51FX12F-AL
5/16-24	5/8	3/8-16	5/8	–	–	9/16	1/4	18-8	ZTAE51FX38C-188
5/16-24	5/8	3/8-16	5/8	–	–	9/16	1/4	316	ZTAE51FX38C-316
5/16-24	5/8	3/8-16	5/8	–	–	9/16	1/4	Alum	ZTAE51FX38C-AL
5/16-24	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE51FX38EF-188
5/16-24	5/8	3/8-24	5/8	–	–	9/16	1/4	18-8	ZTAE51FX38F-188
5/16-24	5/8	3/8-24	5/8	–	–	9/16	1/4	316	ZTAE51FX38F-316
5/16-24	5/8	5/16-32	5/8	–	–	1/2	3/16	18-8	ZTAE51FX51EF-188
5/16-24	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	18-8	ZTAE51FXM10C-188
5/16-24	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE51FXM10C-316
5/16-24	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE51FXM10EF-188
5/16-24	5/8	M10 x 1	5/8	–	–	9/16	1/4	316	ZTAE51FXM10EF-316
5/16-24	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE51FXM10F-188
5/16-24	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE51FXM10F-316
5/16-24	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE51FXM12C-188
5/16-24	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE51FXM12C-316
5/16-24	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE51FXM12C-AL
5/16-24	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE51FXM12EF-188

Male-Female Thread Adapters

18-8 SS, 316 SS, Alum, Steel



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
5/16-24	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE51FXM12EF-316
5/16-24	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE51FXM12EF-AL
5/16-24	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE51FXM12F-188
5/16-24	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE51FXM12F-316
5/16-24	5/8	M5 x 0.8	3/8	–	–	1/2	3/16	18-8	ZTAE51FXM5C-188
5/16-24	5/8	M5 x 0.8	3/8	–	–	1/2	3/16	316	ZTAE51FXM5C-316
5/16-24	5/8	M5 x 0.5	3/8	–	–	1/2	3/16	18-8	ZTAE51FXM5F-188
5/16-24	5/8	M6 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE51FXM6C-188
5/16-24	5/8	M6 x 1	1/2	–	–	1/2	3/16	316	ZTAE51FXM6C-316
5/16-24	5/8	M6 x 1	1/2	–	–	1/2	3/16	Alum	ZTAE51FXM6C-AL
5/16-24	5/8	M6 x .750	1/2	–	–	1/2	3/16	18-8	ZTAE51FXM6F-188
5/16-24	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	18-8	ZTAE51FXM8C-188
5/16-24	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	316	ZTAE51FXM8C-316
5/16-24	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	Alum	ZTAE51FXM8C-AL
5/16-24	5/8	M8 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE51FXM8F-188
5/16-24	5/8	M8 x 1	1/2	–	–	1/2	3/16	316	ZTAE51FXM8F-316
5/16-32	5/8	–	–	10-24	7/16	1/2	3/4	18-8	ZTA51EFX10C-188
5/16-32	5/8	–	–	10-32	9/32	1/2	3/4	18-8	ZTA51EFX10F-188
5/16-32	5/8	–	–	10-32	9/32	1/2	3/4	316	ZTA51EFX10F-316
5/16-32	5/8	–	–	1/2-13	11/16	3/4	1-1/2	18-8	ZTA51EFX12C-188
5/16-32	5/8	–	–	1/2-13	11/16	3/4	1-1/2	316	ZTA51EFX12C-316
5/16-32	5/8	–	–	1/2-13	11/16	3/4	1-1/2	Alum	ZTA51EFX12C-AL
5/16-32	5/8	–	–	1/2-28	11/16	3/4	1-1/2	18-8	ZTA51EFX12EF-188
5/16-32	5/8	–	–	1/2-20	11/16	3/4	1-1/2	18-8	ZTA51EFX12F-188
5/16-32	5/8	–	–	1/2-20	11/16	3/4	1-1/2	316	ZTA51EFX12F-316
5/16-32	5/8	–	–	1/4-20	3/8	1/2	1	18-8	ZTA51EFX14C-188
5/16-32	5/8	–	–	1/4-20	3/8	1/2	1	316	ZTA51EFX14C-316
5/16-32	5/8	–	–	1/4-28	3/8	1/2	1	18-8	ZTA51EFX14F-188
5/16-32	5/8	–	–	3/8-16	9/16	1/2	1	18-8	ZTA51EFX38C-188
5/16-32	5/8	–	–	3/8-16	9/16	1/2	1	316	ZTA51EFX38C-316
5/16-32	5/8	–	–	3/8-32	9/16	1/2	1	18-8	ZTA51EFX38EF-188
5/16-32	5/8	–	–	3/8-24	9/16	1/2	1	18-8	ZTA51EFX38F-188
5/16-32	5/8	–	–	5/16-18	5/8	1/2	1	18-8	ZTA51EFX51C-188
5/16-32	5/8	–	–	5/16-18	5/8	1/2	1	316	ZTA51EFX51C-316
5/16-32	5/8	–	–	5/16-24	5/8	1/2	1	18-8	ZTA51EFX51F-188
5/16-32	5/8	–	–	M10 x 1.5	9/16	5/8	1	18-8	ZTA51EFXM10C-188
5/16-32	5/8	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA51EFXM10EF-188
5/16-32	5/8	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA51EFXM10F-188
5/16-32	5/8	–	–	M12 x 1.75	11/16	3/4	1-1/2	18-8	ZTA51EFXM12C-188
5/16-32	5/8	–	–	M12 x 1.75	11/16	3/4	1-1/2	316	ZTA51EFXM12C-316
5/16-32	5/8	–	–	M12 x 1.25	11/16	3/4	1-1/2	18-8	ZTA51EFXM12EF-188

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
5/16-32	5/8	–	–	M12 x 1.25	11/16	3/4	1-1/2	316	ZTA51EFXM12EF-316
5/16-32	5/8	–	–	M12 x 1.5	11/16	3/4	1-1/2	18-8	ZTA51EFXM12F-188
5/16-32	5/8	–	–	M5 x 0.8	9/32	1/2	3/4	18-8	ZTA51EFXM5C-188
5/16-32	5/8	–	–	M5 x 0.8	9/32	1/2	3/4	316	ZTA51EFXM5C-316
5/16-32	5/8	–	–	M5 x 0.5	9/32	1/2	3/4	18-8	ZTA51EFXM5F-188
5/16-32	5/8	–	–	M6 x 1	3/8	1/2	1	18-8	ZTA51EFXM6C-188
5/16-32	5/8	–	–	M6 x 1	3/8	1/2	1	316	ZTA51EFXM6C-316
5/16-32	5/8	–	–	M6 x .750	3/8	1/2	1	18-8	ZTA51EFXM6F-188
5/16-32	5/8	–	–	M8 x 1.25	3/8	5/8	3/4	18-8	ZTA51EFXM8C-188
5/16-32	5/8	–	–	M8 x 1.25	3/8	5/8	3/4	316	ZTA51EFXM8C-316
5/16-32	5/8	–	–	M8 x 1.25	3/8	5/8	3/4	Alum	ZTA51EFXM8C-AL
5/16-32	5/8	–	–	M8 x 1	3/8	5/8	3/4	18-8	ZTA51EFXM8F-188
5/16-32	5/8	1/2-13	3/4	–	–	3/4	3/8	18-8	ZTAE51EFX12C-188
5/16-32	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE51EFX12C-316
5/16-32	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE51EFX12C-AL
5/16-32	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE51EFX12EF-188
5/16-32	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE51EFX12F-188
5/16-32	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE51EFX12F-316
5/16-32	5/8	3/8-16	5/8	–	–	9/16	1/4	18-8	ZTAE51EFX38C-188
5/16-32	5/8	3/8-16	5/8	–	–	9/16	1/4	316	ZTAE51EFX38C-316
5/16-32	5/8	3/8-16	5/8	–	–	9/16	1/4	Alum	ZTAE51EFX38C-AL
5/16-32	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE51EFX38EF-188
5/16-32	5/8	3/8-24	5/8	–	–	9/16	1/4	18-8	ZTAE51EFX38F-188
5/16-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	18-8	ZTAE51EFXM10C-188
5/16-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE51EFXM10C-316
5/16-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	Alum	ZTAE51EFXM10C-AL
5/16-32	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE51EFXM10EF-188
5/16-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE51EFXM10F-188
5/16-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE51EFXM10F-316
5/16-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE51EFXM12C-188
5/16-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE51EFXM12C-316
5/16-32	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE51EFXM12EF-188
5/16-32	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE51EFXM12EF-316
5/16-32	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE51EFXM12F-188
5/16-32	5/8	M5 x 0.8	3/8	–	–	1/2	3/16	18-8	ZTAE51EFXM5C-188
5/16-32	5/8	M5 x 0.8	3/8	–	–	1/2	3/16	316	ZTAE51EFXM5C-316
5/16-32	5/8	M5 x 0.8	3/8	–	–	1/2	3/16	Alum	ZTAE51EFXM5C-AL
5/16-32	5/8	M5 x 0.5	3/8	–	–	1/2	3/16	18-8	ZTAE51EFXM5F-188
5/16-32	5/8	M6 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE51EFXM6C-188
5/16-32	5/8	M6 x 1	1/2	–	–	1/2	3/16	316	ZTAE51EFXM6C-316
5/16-32	5/8	M6 x 1	1/2	–	–	1/2	3/16	Alum	ZTAE51EFXM6C-AL

18-8 SS, 316 SS, Alum, Steel



Male-Female Thread Adapters

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
5/16-32	5/8	M6 x .750	1/2	–	–	1/2	3/16	18-8	ZTAE51EFXM6F-188
5/16-32	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	18-8	ZTAE51EFXM8C-188
5/16-32	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	316	ZTAE51EFXM8C-316
5/16-32	5/8	M8 x 1.25	1/2	–	–	1/2	3/16	Alum	ZTAE51EFXM8C-AL
5/16-32	5/8	M8 x 1	1/2	–	–	1/2	3/16	18-8	ZTAE51EFXM8F-188
5/16-32	5/8	M8 x 1	1/2	–	–	1/2	3/16	316	ZTAE51EFXM8F-316
3/8-16	1/2	–	–	3/8-32	5/8	1/2	1	18-8	ZTA38CX38EF-188
3/8-16	1/2	–	–	3/8-32	5/8	1/2	1	316	ZTA38CX38EF-316
3/8-16	1/2	–	–	3/8-24	5/8	1/2	1	316	ZTA38CX38F-316
3/8-16	1/2	–	–	3/8-24	5/8	1/2	1	Alum	ZTA38CX38F-AL
3/8-16	1/2	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA38CXM10C-316
3/8-16	1/2	–	–	M10 x 1.5	9/16	5/8	1	Alum	ZTA38CXM10C-AL
3/8-16	1/2	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA38CXM10EF-188
3/8-16	1/2	–	–	M10 x 1	9/16	5/8	1	316	ZTA38CXM10EF-316
3/8-16	1/2	–	–	M10 x 1	9/16	5/8	1	Alum	ZTA38CXM10EF-AL
3/8-16	1/2	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA38CXM10F-188
3/8-16	1/2	–	–	M10 x 1.25	9/16	5/8	1	316	ZTA38CXM10F-316
3/8-16	1/2	–	–	M10 x 1.25	9/16	5/8	1	Alum	ZTA38CXM10F-AL
3/8-16	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	316	ZTA38CXM12C-316
3/8-16	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	Alum	ZTA38CXM12C-AL
3/8-16	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	18-8	ZTA38CXM12EF-188
3/8-16	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	316	ZTA38CXM12EF-316
3/8-16	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	Alum	ZTA38CXM12EF-AL
3/8-16	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	18-8	ZTA38CXM12F-188
3/8-16	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	316	ZTA38CXM12F-316
3/8-16	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	Alum	ZTA38CXM12F-AL
3/8-16	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE38CX12C-316
3/8-16	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE38CX12C-AL
3/8-16	5/8	1/2-13	3/4	–	–	3/4	3/8	Stl Blk	ZTAE38CX12CSTL-B
3/8-16	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE38CX12EF-188
3/8-16	5/8	1/2-28	3/4	–	–	3/4	3/8	316	ZTAE38CX12EF-316
3/8-16	5/8	1/2-28	3/4	–	–	3/4	3/8	Alum	ZTAE38CX12EF-AL
3/8-16	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE38CX12F-188
3/8-16	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE38CX12F-316
3/8-16	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE38CX12F-AL
3/8-16	5/8	3/4-10	3/4	–	–	1-1/8	11/16	18-8	ZTAE38CX34C-188
3/8-16	5/8	3/4-10	3/4	–	–	1-1/8	11/16	316	ZTAE38CX34C-316
3/8-16	5/8	3/4-10	3/4	–	–	1-1/8	11/16	Alum	ZTAE38CX34C-AL
3/8-16	5/8	3/4-10	3/4	–	–	1-1/8	11/16	Stl Blk	ZTAE38CX34CSTL-B
3/8-16	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE38CX38EF-188
3/8-16	5/8	3/8-32	5/8	–	–	9/16	1/4	316	ZTAE38CX38EF-316

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-16	5/8	3/8-24	5/8	–	–	9/16	1/4	316	ZTAE38CX38F-316
3/8-16	5/8	3/8-24	5/8	–	–	9/16	1/4	Alum	ZTAE38CX38F-AL
3/8-16	5/8	5/8-11	3/4	–	–	15/16	9/16	18-8	ZTAE38CX58C-188
3/8-16	5/8	5/8-11	3/4	–	–	15/16	9/16	316	ZTAE38CX58C-316
3/8-16	5/8	5/8-11	3/4	–	–	15/16	9/16	Alum	ZTAE38CX58C-AL
3/8-16	5/8	5/8-11	3/4	–	–	15/16	9/16	Stl Blk	ZTAE38CX58CSTL-B
3/8-16	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE38CXM10C-316
3/8-16	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	Alum	ZTAE38CXM10C-AL
3/8-16	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE38CXM10EF-188
3/8-16	5/8	M10 x 1	5/8	–	–	9/16	1/4	316	ZTAE38CXM10EF-316
3/8-16	5/8	M10 x 1	5/8	–	–	9/16	1/4	Alum	ZTAE38CXM10EF-AL
3/8-16	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE38CXM10F-188
3/8-16	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE38CXM10F-316
3/8-16	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	Alum	ZTAE38CXM10F-AL
3/8-16	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE38CXM12C-316
3/8-16	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE38CXM12C-AL
3/8-16	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE38CXM12EF-188
3/8-16	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE38CXM12EF-316
3/8-16	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE38CXM12EF-AL
3/8-16	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE38CXM12F-188
3/8-16	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE38CXM12F-316
3/8-16	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	Alum	ZTAE38CXM12F-AL
3/8-16	5/8	M6 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38CXM6C-188
3/8-16	5/8	M6 x 1	1/2	–	–	9/16	1/4	316	ZTAE38CXM6C-316
3/8-16	5/8	M6 x 1	1/2	–	–	9/16	1/4	Alum	ZTAE38CXM6C-AL
3/8-16	5/8	M6 x .750	1/2	–	–	9/16	1/4	18-8	ZTAE38CXM6F-188
3/8-16	5/8	M6 x .750	1/2	–	–	9/16	1/4	316	ZTAE38CXM6F-316
3/8-16	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	18-8	ZTAE38CXM8C-188
3/8-16	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	316	ZTAE38CXM8C-316
3/8-16	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	Alum	ZTAE38CXM8C-AL
3/8-16	5/8	M8 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38CXM8F-188
3/8-16	5/8	M8 x 1	1/2	–	–	9/16	1/4	316	ZTAE38CXM8F-316
3/8-16	5/8	M8 x 1	1/2	–	–	9/16	1/4	Alum	ZTAE38CXM8F-AL
3/8-16	3/4	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTA38CX12C-316
3/8-16	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTA38CX12C-AL
3/8-16	3/4	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTA38CX12EF-188
3/8-16	3/4	–	–	1/2-28	3/4	3/4	1-1/2	316	ZTA38CX12EF-316
3/8-16	3/4	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTA38CX12F-188
3/8-16	3/4	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTA38CX12F-316
3/8-16	3/4	–	–	1/2-20	3/4	3/4	1-1/2	Alum	ZTA38CX12F-AL
3/8-16	3/4	–	–	1/4-20	3/8	5/8	1	316	ZTA38CX14C-316

18-8 SS, 316 SS, Alum, Steel



Male-Female Thread Adapters

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-16	3/4	–	–	1/4-20	3/8	5/8	1	Alum	ZTA38CX14C-AL
3/8-16	3/4	–	–	1/4-32	3/8	5/8	1	18-8	ZTA38CX14EF-188
3/8-16	3/4	–	–	1/4-28	3/8	5/8	1	18-8	ZTA38CX14F-188
3/8-16	3/4	–	–	1/4-28	3/8	5/8	1	316	ZTA38CX14F-316
3/8-16	3/4	–	–	1/4-28	3/8	5/8	1	Alum	ZTA38CX14F-AL
3/8-16	3/4	–	–	3/4-10	1	1-1/4	2-1/4	18-8	ZTA38CX34C-188
3/8-16	3/4	–	–	3/4-10	1	1-1/4	2-1/4	316	ZTA38CX34C-316
3/8-16	3/4	–	–	3/4-10	1	1-1/4	2-1/4	Alum	ZTA38CX34C-AL
3/8-16	3/4	–	–	3/4-10	1	1-1/4	2-1/4	Stl Blk	ZTA38CX34CSTL-B
3/8-16	3/4	–	–	5/16-18	15/32	5/8	1	316	ZTA38CX51C-316
3/8-16	3/4	–	–	5/16-18	15/32	5/8	1	Alum	ZTA38CX51C-AL
3/8-16	3/4	–	–	5/16-32	15/32	5/8	1	18-8	ZTA38CX51EF-188
3/8-16	3/4	–	–	5/16-24	15/32	5/8	1	18-8	ZTA38CX51F-188
3/8-16	3/4	–	–	5/16-24	15/32	5/8	1	316	ZTA38CX51F-316
3/8-16	3/4	–	–	5/16-24	15/32	5/8	1	Alum	ZTA38CX51F-AL
3/8-16	3/4	–	–	5/8-11	7/8	1	2	18-8	ZTA38CX58C-188
3/8-16	3/4	–	–	5/8-11	7/8	1	2	316	ZTA38CX58C-316
3/8-16	3/4	–	–	5/8-11	7/8	1	2	Alum	ZTA38CX58C-AL
3/8-16	3/4	–	–	5/8-11	7/8	1	2	Stl Blk	ZTA38CX58CSTL-B
3/8-16	3/4	–	–	M6 x 1	3/8	5/8	1	18-8	ZTA38CXM6C-188
3/8-16	3/4	–	–	M6 x 1	3/8	5/8	1	316	ZTA38CXM6C-316
3/8-16	3/4	–	–	M6 x 1	3/8	5/8	1	Alum	ZTA38CXM6C-AL
3/8-16	3/4	–	–	M6 x .750	3/8	5/8	1	18-8	ZTA38CXM6F-188
3/8-16	3/4	–	–	M8 x 1.25	15/32	5/8	1	18-8	ZTA38CXM8C-188
3/8-16	3/4	–	–	M8 x 1.25	15/32	5/8	1	316	ZTA38CXM8C-316
3/8-16	3/4	–	–	M8 x 1.25	15/32	5/8	1	Alum	ZTA38CXM8C-AL
3/8-16	3/4	–	–	M8 x 1	15/32	5/8	1	18-8	ZTA38CXM8F-188
3/8-16	3/4	–	–	M8 x 1	15/32	5/8	1	316	ZTA38CXM8F-316
3/8-16	3/4	–	–	M8 x 1	15/32	5/8	1	Alum	ZTA38CXM8F-AL
3/8-24	1/2	–	–	3/8-16	7/8	5/8	1-1/2	316	ZTA38FX38C-316
3/8-24	1/2	–	–	3/8-16	7/8	5/8	1-1/2	Alum	ZTA38FX38C-AL
3/8-24	1/2	–	–	3/8-32	7/8	5/8	1-1/2	18-8	ZTA38FX38EF-188
3/8-24	1/2	–	–	M10 x 1.5	9/16	5/8	1	18-8	ZTA38FXM10C-188
3/8-24	1/2	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA38FXM10C-316
3/8-24	1/2	–	–	M10 x 1.5	9/16	5/8	1	Alum	ZTA38FXM10C-AL
3/8-24	1/2	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA38FXM10EF-188
3/8-24	1/2	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA38FXM10F-188
3/8-24	1/2	–	–	M10 x 1.25	9/16	5/8	1	316	ZTA38FXM10F-316
3/8-24	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	18-8	ZTA38FXM12C-188
3/8-24	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	316	ZTA38FXM12C-316
3/8-24	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	18-8	ZTA38FXM12EF-188

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-24	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	316	ZTA38FXM12EF-316
3/8-24	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	18-8	ZTA38FXM12F-188
3/8-24	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	316	ZTA38FXM12F-316
3/8-24	5/8	1/2-13	3/4	–	–	3/4	3/8	18-8	ZTAE38FX12C-188
3/8-24	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE38FX12C-316
3/8-24	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE38FX12C-AL
3/8-24	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE38FX12EF-188
3/8-24	5/8	1/2-28	3/4	–	–	3/4	3/8	316	ZTAE38FX12EF-316
3/8-24	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE38FX12F-188
3/8-24	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE38FX12F-316
3/8-24	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE38FX12F-AL
3/8-24	5/8	3/8-32	5/8	–	–	9/16	1/4	18-8	ZTAE38FX38EF-188
3/8-24	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	18-8	ZTAE38FXM10C-188
3/8-24	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE38FXM10C-316
3/8-24	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	Alum	ZTAE38FXM10C-AL
3/8-24	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE38FXM10EF-188
3/8-24	5/8	M10 x 1	5/8	–	–	9/16	1/4	316	ZTAE38FXM10EF-316
3/8-24	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE38FXM10F-188
3/8-24	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE38FXM10F-316
3/8-24	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE38FXM12C-188
3/8-24	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE38FXM12C-316
3/8-24	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE38FXM12C-AL
3/8-24	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE38FXM12EF-188
3/8-24	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE38FXM12EF-316
3/8-24	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE38FXM12EF-AL
3/8-24	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE38FXM12F-188
3/8-24	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE38FXM12F-316
3/8-24	5/8	M6 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38FXM6C-188
3/8-24	5/8	M6 x 1	1/2	–	–	9/16	1/4	316	ZTAE38FXM6C-316
3/8-24	5/8	M6 x 1	1/2	–	–	9/16	1/4	Alum	ZTAE38FXM6C-AL
3/8-24	5/8	M6 x .750	1/2	–	–	9/16	1/4	18-8	ZTAE38FXM6F-188
3/8-24	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	18-8	ZTAE38FXM8C-188
3/8-24	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	316	ZTAE38FXM8C-316
3/8-24	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	Alum	ZTAE38FXM8C-AL
3/8-24	5/8	M8 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38FXM8F-188
3/8-24	5/8	M8 x 1	1/2	–	–	9/16	1/4	316	ZTAE38FXM8F-316
3/8-24	3/4	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTA38FX12C-188
3/8-24	3/4	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTA38FX12C-316
3/8-24	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTA38FX12C-AL
3/8-24	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Stl Blk	ZTA38FX12CSTL-B
3/8-24	3/4	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTA38FX12EF-188



Male-Female Thread Adapters

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-24	3/4	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTA38FX12F-188
3/8-24	3/4	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTA38FX12F-316
3/8-24	3/4	–	–	1/4-20	3/8	5/8	1	18-8	ZTA38FX14C-188
3/8-24	3/4	–	–	1/4-20	3/8	5/8	1	316	ZTA38FX14C-316
3/8-24	3/4	–	–	1/4-20	3/8	5/8	1	Alum	ZTA38FX14C-AL
3/8-24	3/4	–	–	1/4-32	3/8	5/8	1	18-8	ZTA38FX14EF-188
3/8-24	3/4	–	–	1/4-28	3/8	5/8	1	18-8	ZTA38FX14F-188
3/8-24	3/4	–	–	3/8-16	9/16	5/8	1-1/2	Stl Blk	ZTA38FX38CSTL-B
3/8-24	3/4	–	–	5/16-18	15/32	5/8	1	18-8	ZTA38FX51C-188
3/8-24	3/4	–	–	5/16-18	15/32	5/8	1	316	ZTA38FX51C-316
3/8-24	3/4	–	–	5/16-18	15/32	5/8	1	Alum	ZTA38FX51C-AL
3/8-24	3/4	–	–	5/16-32	15/32	5/8	1	18-8	ZTA38FX51EF-188
3/8-24	3/4	–	–	5/16-24	15/32	5/8	1	18-8	ZTA38FX51F-188
3/8-24	3/4	–	–	M6 x 1	3/8	5/8	1	18-8	ZTA38FXM6C-188
3/8-24	3/4	–	–	M6 x 1	3/8	5/8	1	316	ZTA38FXM6C-316
3/8-24	3/4	–	–	M6 x 1	3/8	5/8	1	Alum	ZTA38FXM6C-AL
3/8-24	3/4	–	–	M6 x .750	3/8	5/8	1	18-8	ZTA38FXM6F-188
3/8-24	3/4	–	–	M8 x 1.25	15/32	5/8	1	18-8	ZTA38FXM8C-188
3/8-24	3/4	–	–	M8 x 1.25	15/32	5/8	1	316	ZTA38FXM8C-316
3/8-24	3/4	–	–	M8 x 1.25	15/32	5/8	1	Alum	ZTA38FXM8C-AL
3/8-24	3/4	–	–	M8 x 1	15/32	5/8	1	18-8	ZTA38FXM8F-188
3/8-24	3/4	–	–	M8 x 1	15/32	5/8	1	316	ZTA38FXM8F-316
3/8-32	1/2	–	–	3/8-16	5/8	1/2	1	18-8	ZTA38EFX38C-188
3/8-32	1/2	–	–	3/8-16	5/8	1/2	1	316	ZTA38EFX38C-316
3/8-32	1/2	–	–	3/8-24	5/8	1/2	1	18-8	ZTA38EFX38F-188
3/8-32	1/2	–	–	M10 x 1.5	9/16	5/8	1	18-8	ZTA38EFXM10C-188
3/8-32	1/2	–	–	M10 x 1.5	9/16	5/8	1	316	ZTA38EFXM10C-316
3/8-32	1/2	–	–	M10 x 1	9/16	5/8	1	18-8	ZTA38EFXM10EF-188
3/8-32	1/2	–	–	M10 x 1.25	9/16	5/8	1	18-8	ZTA38EFXM10F-188
3/8-32	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	18-8	ZTA38EFXM12C-188
3/8-32	1/2	–	–	M12 x 1.75	7/8	5/8	1-1/2	316	ZTA38EFXM12C-316
3/8-32	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	18-8	ZTA38EFXM12EF-188
3/8-32	1/2	–	–	M12 x 1.25	7/8	5/8	1-1/2	316	ZTA38EFXM12EF-316
3/8-32	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	18-8	ZTA38EFXM12F-188
3/8-32	1/2	–	–	M12 x 1.5	7/8	5/8	1-1/2	316	ZTA38EFXM12F-316
3/8-32	5/8	1/2-13	3/4	–	–	3/4	3/8	18-8	ZTAE38EFX12C-188
3/8-32	5/8	1/2-13	3/4	–	–	3/4	3/8	316	ZTAE38EFX12C-316
3/8-32	5/8	1/2-13	3/4	–	–	3/4	3/8	Alum	ZTAE38EFX12C-AL
3/8-32	5/8	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE38EFX12EF-188
3/8-32	5/8	1/2-20	3/4	–	–	3/4	3/8	18-8	ZTAE38EFX12F-188
3/8-32	5/8	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE38EFX12F-316
3/8-32	5/8	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE38EFX12F-AL

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	18-8	ZTAE38EFXM10C-188
3/8-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	316	ZTAE38EFXM10C-316
3/8-32	5/8	M10 x 1.5	5/8	–	–	9/16	1/4	Alum	ZTAE38EFXM10C-AL
3/8-32	5/8	M10 x 1	5/8	–	–	9/16	1/4	18-8	ZTAE38EFXM10EF-188
3/8-32	5/8	M10 x 1	5/8	–	–	9/16	1/4	316	ZTAE38EFXM10EF-316
3/8-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	18-8	ZTAE38EFXM10F-188
3/8-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	316	ZTAE38EFXM10F-316
3/8-32	5/8	M10 x 1.25	5/8	–	–	9/16	1/4	Alum	ZTAE38EFXM10F-AL
3/8-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE38EFXM12C-188
3/8-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE38EFXM12C-316
3/8-32	5/8	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE38EFXM12C-AL
3/8-32	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE38EFXM12EF-188
3/8-32	5/8	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE38EFXM12EF-316
3/8-32	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE38EFXM12F-188
3/8-32	5/8	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE38EFXM12F-316
3/8-32	5/8	M6 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38EFXM6C-188
3/8-32	5/8	M6 x 1	1/2	–	–	9/16	1/4	316	ZTAE38EFXM6C-316
3/8-32	5/8	M6 x 1	1/2	–	–	9/16	1/4	Alum	ZTAE38EFXM6C-AL
3/8-32	5/8	M6 x .750	1/2	–	–	9/16	1/4	18-8	ZTAE38EFXM6F-188
3/8-32	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	18-8	ZTAE38EFXM8C-188
3/8-32	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	316	ZTAE38EFXM8C-316
3/8-32	5/8	M8 x 1.25	1/2	–	–	9/16	1/4	Alum	ZTAE38EFXM8C-AL
3/8-32	5/8	M8 x 1	1/2	–	–	9/16	1/4	18-8	ZTAE38EFXM8F-188
3/8-32	5/8	M8 x 1	1/2	–	–	9/16	1/4	316	ZTAE38EFXM8F-316
3/8-32	3/4	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTA38EFX12C-188
3/8-32	3/4	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTA38EFX12C-316
3/8-32	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTA38EFX12C-AL
3/8-32	3/4	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTA38EFX12F-188
3/8-32	3/4	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTA38EFX12F-316
3/8-32	3/4	–	–	1/4-20	3/8	5/8	1	18-8	ZTA38EFX14C-188
3/8-32	3/4	–	–	1/4-20	3/8	5/8	1	316	ZTA38EFX14C-316
3/8-32	3/4	–	–	1/4-20	3/8	5/8	1	Alum	ZTA38EFX14C-AL
3/8-32	3/4	–	–	1/4-32	3/8	5/8	1	18-8	ZTA38EFX14EF-188
3/8-32	3/4	–	–	1/4-28	3/8	5/8	1	18-8	ZTA38EFX14F-188
3/8-32	3/4	–	–	5/16-18	15/32	5/8	1	18-8	ZTA38EFX51C-188
3/8-32	3/4	–	–	5/16-18	15/32	5/8	1	316	ZTA38EFX51C-316
3/8-32	3/4	–	–	5/16-18	15/32	5/8	1	Alum	ZTA38EFX51C-AL
3/8-32	3/4	–	–	5/16-32	15/32	5/8	1	18-8	ZTA38EFX51EF-188
3/8-32	3/4	–	–	5/16-24	15/32	5/8	1	18-8	ZTA38EFX51F-188
3/8-32	3/4	–	–	M6 x 1	3/8	5/8	1	18-8	ZTA38EFXM6C-188
3/8-32	3/4	–	–	M6 x 1	3/8	5/8	1	316	ZTA38EFXM6C-316

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
3/8-32	3/4	–	–	M6 x 1	3/8	5/8	1	Alum	ZTA38EFXM6C-AL
3/8-32	3/4	–	–	M6 x .750	3/8	5/8	1	18-8	ZTA38EFXM6F-188
3/8-32	3/4	–	–	M8 x 1.25	15/32	5/8	1	18-8	ZTA38EFXM8C-188
3/8-32	3/4	–	–	M8 x 1.25	15/32	5/8	1	316	ZTA38EFXM8C-316
3/8-32	3/4	–	–	M8 x 1.25	15/32	5/8	1	Alum	ZTA38EFXM8C-AL
3/8-32	3/4	–	–	M8 x 1	15/32	5/8	1	18-8	ZTA38EFXM8F-188
1/2-13	3/4	–	–	1/2-28	7/8	3/4	1-1/2	18-8	ZTA12CX12EF-188
1/2-13	3/4	–	–	1/2-28	7/8	3/4	1-1/2	316	ZTA12CX12EF-316
1/2-13	3/4	–	–	1/2-20	7/8	3/4	1-1/2	316	ZTA12CX12F-316
1/2-13	3/4	–	–	1/2-20	7/8	3/4	1-1/2	Alum	ZTA12CX12F-AL
1/2-13	3/4	–	–	3/4-10	1	1-1/4	2-1/4	18-8	ZTA12CX34C-188
1/2-13	3/4	–	–	3/4-10	1	1-1/4	2-1/4	316	ZTA12CX34C-316
1/2-13	3/4	–	–	3/4-10	1	1-1/4	2-1/4	Alum	ZTA12CX34C-AL
1/2-13	3/4	–	–	5/8-11	7/8	1	2	18-8	ZTA12CX58C-188
1/2-13	3/4	–	–	5/8-11	7/8	1	2	316	ZTA12CX58C-316
1/2-13	3/4	–	–	5/8-11	7/8	1	2	Alum	ZTA12CX58C-AL
1/2-13	3/4	–	–	M12 x 1.75	7/8	3/4	1-1/2	316	ZTA12CXM12C-316
1/2-13	3/4	–	–	M12 x 1.75	7/8	3/4	1-1/2	Alum	ZTA12CXM12C-AL
1/2-13	3/4	–	–	M12 x 1.25	7/8	3/4	1-1/2	18-8	ZTA12CXM12EF-188
1/2-13	3/4	–	–	M12 x 1.25	7/8	3/4	1-1/2	316	ZTA12CXM12EF-316
1/2-13	3/4	–	–	M12 x 1.25	7/8	3/4	1-1/2	Alum	ZTA12CXM12EF-AL
1/2-13	3/4	–	–	M12 x 1.5	7/8	3/4	1-1/2	18-8	ZTA12CXM12F-188
1/2-13	3/4	–	–	M12 x 1.5	7/8	3/4	1-1/2	316	ZTA12CXM12F-316
1/2-13	3/4	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE12CX12EF-188
1/2-13	3/4	1/2-28	3/4	–	–	3/4	3/8	316	ZTAE12CX12EF-316
1/2-13	3/4	1/2-28	3/4	–	–	3/4	3/8	Alum	ZTAE12CX12EF-AL
1/2-13	3/4	1/2-20	3/4	–	–	3/4	3/8	316	ZTAE12CX12F-316
1/2-13	3/4	1/2-20	3/4	–	–	3/4	3/8	Alum	ZTAE12CX12F-AL
1/2-13	3/4	1/2-20	3/4	–	–	3/4	3/8	Stl Blk	ZTAE12CX12FSTL-B
1/2-13	3/4	3/4-10	3/4	–	–	1-1/8	11/16	18-8	ZTAE12CX34C-188
1/2-13	3/4	3/4-10	3/4	–	–	1-1/8	11/16	316	ZTAE12CX34C-316
1/2-13	3/4	3/4-10	3/4	–	–	1-1/8	11/16	Alum	ZTAE12CX34C-AL
1/2-13	3/4	3/4-10	3/4	–	–	1-1/8	11/16	Stl Blk	ZTAE12CX34CSTL-B
1/2-13	3/4	5/8-11	3/4	–	–	15/16	9/16	18-8	ZTAE12CX58C-188
1/2-13	3/4	5/8-11	3/4	–	–	15/16	9/16	316	ZTAE12CX58C-316
1/2-13	3/4	5/8-11	3/4	–	–	15/16	9/16	Alum	ZTAE12CX58C-AL
1/2-13	3/4	5/8-11	3/4	–	–	15/16	9/16	Stl Blk	ZTAE12CX58CSTL-B
1/2-13	3/4	M10 x 1.5	5/8	–	–	3/4	3/8	18-8	ZTAE12CXM10C-188
1/2-13	3/4	M10 x 1.5	5/8	–	–	3/4	3/8	316	ZTAE12CXM10C-316
1/2-13	3/4	M10 x 1.5	5/8	–	–	3/4	3/8	Alum	ZTAE12CXM10C-AL
1/2-13	3/4	M10 x 1	5/8	–	–	3/4	3/8	18-8	ZTAE12CXM10EF-188

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/2-13	3/4	M10 x 1	5/8	–	–	3/4	3/8	316	ZTAE12CXM10EF-316
1/2-13	3/4	M10 x 1	5/8	–	–	3/4	3/8	Alum	ZTAE12CXM10EF-AL
1/2-13	3/4	M10 x 1.25	5/8	–	–	3/4	3/8	18-8	ZTAE12CXM10F-188
1/2-13	3/4	M10 x 1.25	5/8	–	–	3/4	3/8	316	ZTAE12CXM10F-316
1/2-13	3/4	M10 x 1.25	5/8	–	–	3/4	3/8	Alum	ZTAE12CXM10F-AL
1/2-13	3/4	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE12CXM12C-316
1/2-13	3/4	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE12CXM12C-AL
1/2-13	3/4	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE12CXM12EF-188
1/2-13	3/4	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE12CXM12EF-316
1/2-13	3/4	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE12CXM12EF-AL
1/2-13	3/4	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE12CXM12F-188
1/2-13	3/4	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE12CXM12F-316
1/2-13	3/4	M12 x 1.5	3/4	–	–	3/4	3/8	Alum	ZTAE12CXM12F-AL
1/2-13	3/4	M6 x 1	1/2	–	–	3/4	3/8	18-8	ZTAE12CXM6C-188
1/2-13	3/4	M6 x 1	1/2	–	–	3/4	3/8	316	ZTAE12CXM6C-316
1/2-13	3/4	M6 x 1	1/2	–	–	3/4	3/8	Alum	ZTAE12CXM6C-AL
1/2-13	3/4	M6 x .750	1/2	–	–	3/4	3/8	18-8	ZTAE12CXM6F-188
1/2-13	3/4	M6 x .750	1/2	–	–	3/4	3/8	316	ZTAE12CXM6F-316
1/2-13	3/4	M8 x 1.25	1/2	–	–	3/4	3/8	18-8	ZTAE12CXM8C-188
1/2-13	3/4	M8 x 1.25	1/2	–	–	3/4	3/8	316	ZTAE12CXM8C-316
1/2-13	3/4	M8 x 1.25	1/2	–	–	3/4	3/8	Alum	ZTAE12CXM8C-AL
1/2-13	3/4	M8 x 1	1/2	–	–	3/4	3/8	18-8	ZTAE12CXM8F-188
1/2-13	3/4	M8 x 1	1/2	–	–	3/4	3/8	316	ZTAE12CXM8F-316
1/2-13	3/4	M8 x 1	1/2	–	–	3/4	3/8	Alum	ZTAE12CXM8F-AL
1/2-13	7/8	–	–	1/4-20	3/8	3/4	1-1/2	316	ZTA12CX14C-316
1/2-13	7/8	–	–	1/4-20	3/8	3/4	1-1/2	Alum	ZTA12CX14C-AL
1/2-13	7/8	–	–	1/4-32	3/8	3/4	1-1/2	18-8	ZTA12CX14EF-188
1/2-13	7/8	–	–	1/4-28	3/8	3/4	1-1/2	18-8	ZTA12CX14F-188
1/2-13	7/8	–	–	1/4-28	3/8	3/4	1-1/2	316	ZTA12CX14F-316
1/2-13	7/8	–	–	3/8-16	9/16	3/4	1-1/2	316	ZTA12CX38C-316
1/2-13	7/8	–	–	3/8-16	9/16	3/4	1-1/2	Alum	ZTA12CX38C-AL
1/2-13	7/8	–	–	3/8-32	9/16	3/4	1-1/2	18-8	ZTA12CX38EF-188
1/2-13	7/8	–	–	3/8-32	9/16	3/4	1-1/2	316	ZTA12CX38EF-316
1/2-13	7/8	–	–	3/8-24	9/16	3/4	1-1/2	18-8	ZTA12CX38F-188
1/2-13	7/8	–	–	3/8-24	9/16	3/4	1-1/2	316	ZTA12CX38F-316
1/2-13	7/8	–	–	3/8-24	9/16	3/4	1-1/2	Alum	ZTA12CX38F-AL
1/2-13	7/8	–	–	5/16-18	15/32	3/4	1-1/2	18-8	ZTA12CX51C-188
1/2-13	7/8	–	–	5/16-18	15/32	3/4	1-1/2	316	ZTA12CX51C-316
1/2-13	7/8	–	–	5/16-18	15/32	3/4	1-1/2	Alum	ZTA12CX51C-AL
1/2-13	7/8	–	–	5/16-18	15/32	3/4	1-1/2	Stl Blk	ZTA12CX51CSTL-B
1/2-13	7/8	–	–	5/16-32	15/32	3/4	1-1/2	18-8	ZTA12CX51EF-188

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/2-13	7/8	–	–	5/16-32	15/32	3/4	1-1/2	316	ZTA12CX51EF-316
1/2-13	7/8	–	–	5/16-24	15/32	3/4	1-1/2	18-8	ZTA12CX51F-188
1/2-13	7/8	–	–	5/16-24	15/32	3/4	1-1/2	316	ZTA12CX51F-316
1/2-13	7/8	–	–	M10 x 1.5	9/16	3/4	1-1/2	18-8	ZTA12CXM10C-188
1/2-13	7/8	–	–	M10 x 1.5	9/16	3/4	1-1/2	316	ZTA12CXM10C-316
1/2-13	7/8	–	–	M10 x 1.5	9/16	3/4	1-1/2	Alum	ZTA12CXM10C-AL
1/2-13	7/8	–	–	M10 x 1	9/16	3/4	1-1/2	18-8	ZTA12CXM10EF-188
1/2-13	7/8	–	–	M10 x 1	9/16	3/4	1-1/2	316	ZTA12CXM10EF-316
1/2-13	7/8	–	–	M10 x 1.25	9/16	3/4	1-1/2	18-8	ZTA12CXM10F-188
1/2-13	7/8	–	–	M10 x 1.25	9/16	3/4	1-1/2	316	ZTA12CXM10F-316
1/2-13	7/8	–	–	M10 x 1.25	9/16	3/4	1-1/2	Alum	ZTA12CXM10F-AL
1/2-13	7/8	–	–	M6 x 1	3/8	3/4	1-1/2	18-8	ZTA12CXM6C-188
1/2-13	7/8	–	–	M6 x 1	3/8	3/4	1-1/2	316	ZTA12CXM6C-316
1/2-13	7/8	–	–	M6 x 1	3/8	3/4	1-1/2	Alum	ZTA12CXM6C-AL
1/2-13	7/8	–	–	M6 x .750	3/8	3/4	1-1/2	18-8	ZTA12CXM6F-188
1/2-13	7/8	–	–	M6 x .750	3/8	3/4	1-1/2	316	ZTA12CXM6F-316
1/2-13	7/8	–	–	M8 x 1.25	15/32	3/4	1-1/2	18-8	ZTA12CXM8C-188
1/2-13	7/8	–	–	M8 x 1.25	15/32	3/4	1-1/2	316	ZTA12CXM8C-316
1/2-13	7/8	–	–	M8 x 1.25	15/32	3/4	1-1/2	Alum	ZTA12CXM8C-AL
1/2-13	7/8	–	–	M8 x 1	15/32	3/4	1-1/2	18-8	ZTA12CXM8F-188
1/2-13	7/8	–	–	M8 x 1	15/32	3/4	1-1/2	316	ZTA12CXM8F-316
1/2-13	7/8	–	–	M8 x 1	15/32	3/4	1-1/2	Alum	ZTA12CXM8F-AL
1/2-20	3/4	–	–	1/2-13	7/8	3/4	1-1/2	316	ZTA12FX12C-316
1/2-20	3/4	–	–	1/2-13	7/8	3/4	1-1/2	Alum	ZTA12FX12C-AL
1/2-20	3/4	–	–	1/2-28	7/8	3/4	1-1/2	18-8	ZTA12FX12EF-188
1/2-20	3/4	–	–	1/2-28	7/8	3/4	1-1/2	316	ZTA12FX12EF-316
1/2-20	3/4	–	–	M12 x 1.75	7/8	3/4	1-1/2	18-8	ZTA12FXM12C-188
1/2-20	3/4	–	–	M12 x 1.75	7/8	3/4	1-1/2	316	ZTA12FXM12C-316
1/2-20	3/4	–	–	M12 x 1.25	7/8	3/4	1-1/2	18-8	ZTA12FXM12EF-188
1/2-20	3/4	–	–	M12 x 1.25	7/8	3/4	1-1/2	316	ZTA12FXM12EF-316
1/2-20	3/4	–	–	M12 x 1.5	7/8	3/4	1-1/2	18-8	ZTA12FXM12F-188
1/2-20	3/4	–	–	M12 x 1.5	7/8	3/4	1-1/2	316	ZTA12FXM12F-316
1/2-20	3/4	1/2-28	3/4	–	–	3/4	3/8	18-8	ZTAE12FX12EF-188
1/2-20	3/4	1/2-28	3/4	–	–	3/4	3/8	316	ZTAE12FX12EF-316
1/2-20	3/4	M10 x 1.5	5/8	–	–	3/4	3/8	18-8	ZTAE12FXM10C-188
1/2-20	3/4	M10 x 1.5	5/8	–	–	3/4	3/8	316	ZTAE12FXM10C-316
1/2-20	3/4	M10 x 1.5	5/8	–	–	3/4	3/8	Alum	ZTAE12FXM10C-AL
1/2-20	3/4	M10 x 1	5/8	–	–	3/4	3/8	18-8	ZTAE12FXM10EF-188
1/2-20	3/4	M10 x 1	5/8	–	–	3/4	3/8	316	ZTAE12FXM10EF-316
1/2-20	3/4	M10 x 1	5/8	–	–	3/4	3/8	Alum	ZTAE12FXM10EF-AL
1/2-20	3/4	M10 x 1.25	5/8	–	–	3/4	3/8	18-8	ZTAE12FXM10F-188
1/2-20	3/4	M10 x 1.25	5/8	–	–	3/4	3/8	316	ZTAE12FXM10F-316

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/2-20	3/4	M10 x 1.25	5/8	–	–	3/4	3/8	Alum	ZTAE12FXM10F-AL
1/2-20	3/4	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE12FXM12C-188
1/2-20	3/4	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE12FXM12C-316
1/2-20	3/4	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE12FXM12C-AL
1/2-20	3/4	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE12FXM12EF-188
1/2-20	3/4	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE12FXM12EF-316
1/2-20	3/4	M12 x 1.25	3/4	–	–	3/4	3/8	Alum	ZTAE12FXM12EF-AL
1/2-20	3/4	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE12FXM12F-188
1/2-20	3/4	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE12FXM12F-316
1/2-20	3/4	M6 x 1	1/2	–	–	3/4	3/8	18-8	ZTAE12FXM6C-188
1/2-20	3/4	M6 x 1	1/2	–	–	3/4	3/8	316	ZTAE12FXM6C-316
1/2-20	3/4	M6 x 1	1/2	–	–	3/4	3/8	Alum	ZTAE12FXM6C-AL
1/2-20	3/4	M6 x .750	1/2	–	–	3/4	3/8	18-8	ZTAE12FXM6F-188
1/2-20	3/4	M8 x 1.25	1/2	–	–	3/4	3/8	18-8	ZTAE12FXM8C-188
1/2-20	3/4	M8 x 1.25	1/2	–	–	3/4	3/8	316	ZTAE12FXM8C-316
1/2-20	3/4	M8 x 1.25	1/2	–	–	3/4	3/8	Alum	ZTAE12FXM8C-AL
1/2-20	3/4	M8 x 1	1/2	–	–	3/4	3/8	18-8	ZTAE12FXM8F-188
1/2-20	3/4	M8 x 1	1/2	–	–	3/4	3/8	316	ZTAE12FXM8F-316
1/2-20	3/4	M8 x 1	1/2	–	–	3/4	3/8	Alum	ZTAE12FXM8F-AL
1/2-20	7/8	–	–	1/2-13	3/4	3/4	1-1/2	Stl Blk	ZTA12FX12CSTL-B
1/2-20	7/8	–	–	1/4-20	3/8	3/4	1-1/2	18-8	ZTA12FX14C-188
1/2-20	7/8	–	–	1/4-20	3/8	3/4	1-1/2	316	ZTA12FX14C-316
1/2-20	7/8	–	–	1/4-20	3/8	3/4	1-1/2	Alum	ZTA12FX14C-AL
1/2-20	7/8	–	–	1/4-20	3/8	3/4	1-1/2	Stl Blk	ZTA12FX14CSTL-B
1/2-20	7/8	–	–	1/4-32	3/8	3/4	1-1/2	18-8	ZTA12FX14EF-188
1/2-20	7/8	–	–	1/4-28	3/8	3/4	1-1/2	18-8	ZTA12FX14F-188
1/2-20	7/8	–	–	1/4-28	3/8	3/4	1-1/2	316	ZTA12FX14F-316
1/2-20	7/8	–	–	3/8-16	9/16	3/4	1-1/2	18-8	ZTA12FX38C-188
1/2-20	7/8	–	–	3/8-16	9/16	3/4	1-1/2	316	ZTA12FX38C-316
1/2-20	7/8	–	–	3/8-16	9/16	3/4	1-1/2	Alum	ZTA12FX38C-AL
1/2-20	7/8	–	–	3/8-16	9/16	3/4	1-1/2	Stl Blk	ZTA12FX38CSTL-B
1/2-20	7/8	–	–	3/8-32	9/16	3/4	1-1/2	18-8	ZTA12FX38EF-188
1/2-20	7/8	–	–	3/8-32	9/16	3/4	1-1/2	316	ZTA12FX38EF-316
1/2-20	7/8	–	–	3/8-24	9/16	3/4	1-1/2	18-8	ZTA12FX38F-188
1/2-20	7/8	–	–	3/8-24	9/16	3/4	1-1/2	316	ZTA12FX38F-316
1/2-20	7/8	–	–	5/16-18	15/32	3/4	1-1/2	18-8	ZTA12FX51C-188
1/2-20	7/8	–	–	5/16-18	15/32	3/4	1-1/2	316	ZTA12FX51C-316
1/2-20	7/8	–	–	5/16-18	15/32	3/4	1-1/2	Alum	ZTA12FX51C-AL
1/2-20	7/8	–	–	5/16-32	15/32	3/4	1-1/2	18-8	ZTA12FX51EF-188
1/2-20	7/8	–	–	5/16-24	15/32	3/4	1-1/2	18-8	ZTA12FX51F-188
1/2-20	7/8	–	–	5/16-24	15/32	3/4	1-1/2	316	ZTA12FX51F-316

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/2-20	7/8	–	–	M10 x 1.5	9/16	3/4	1-1/2	18-8	ZTA12FXM10C-188
1/2-20	7/8	–	–	M10 x 1.5	9/16	3/4	1-1/2	316	ZTA12FXM10C-316
1/2-20	7/8	–	–	M10 x 1.5	9/16	3/4	1-1/2	Alum	ZTA12FXM10C-AL
1/2-20	7/8	–	–	M10 x 1	9/16	3/4	1-1/2	18-8	ZTA12FXM10EF-188
1/2-20	7/8	–	–	M10 x 1	9/16	3/4	1-1/2	316	ZTA12FXM10EF-316
1/2-20	7/8	–	–	M10 x 1.25	9/16	3/4	1-1/2	18-8	ZTA12FXM10F-188
1/2-20	7/8	–	–	M10 x 1.25	9/16	3/4	1-1/2	316	ZTA12FXM10F-316
1/2-20	7/8	–	–	M6 x 1	3/8	3/4	1-1/2	18-8	ZTA12FXM6C-188
1/2-20	7/8	–	–	M6 x 1	3/8	3/4	1-1/2	316	ZTA12FXM6C-316
1/2-20	7/8	–	–	M6 x 1	3/8	3/4	1-1/2	Alum	ZTA12FXM6C-AL
1/2-20	7/8	–	–	M8 x 1.25	15/32	3/4	1-1/2	18-8	ZTA12FXM8C-188
1/2-20	7/8	–	–	M8 x 1.25	15/32	3/4	1-1/2	316	ZTA12FXM8C-316
1/2-20	7/8	–	–	M8 x 1.25	15/32	3/4	1-1/2	Alum	ZTA12FXM8C-AL
1/2-20	7/8	–	–	M8 x 1	15/32	3/4	1-1/2	18-8	ZTA12FXM8F-188
1/2-20	7/8	–	–	M8 x 1	15/32	3/4	1-1/2	316	ZTA12FXM8F-316
1/2-28	3/4	–	–	1/2-13	7/8	3/4	1-1/2	18-8	ZTA12EFX12C-188
1/2-28	3/4	–	–	1/2-13	7/8	3/4	1-1/2	316	ZTA12EFX12C-316
1/2-28	3/4	–	–	1/2-13	7/8	3/4	1-1/2	Alum	ZTA12EFX12C-AL
1/2-28	3/4	–	–	1/2-20	7/8	3/4	1-1/2	18-8	ZTA12EFX12F-188
1/2-28	3/4	–	–	1/2-20	7/8	3/4	1-1/2	316	ZTA12EFX12F-316
1/2-28	3/4	–	–	M12 x 1.75	7/8	3/4	1-1/2	18-8	ZTA12EFXM12C-188
1/2-28	3/4	–	–	M12 x 1.75	7/8	3/4	1-1/2	316	ZTA12EFXM12C-316
1/2-28	3/4	–	–	M12 x 1.25	7/8	3/4	1-1/2	18-8	ZTA12EFXM12EF-188
1/2-28	3/4	–	–	M12 x 1.25	7/8	3/4	1-1/2	316	ZTA12EFXM12EF-316
1/2-28	3/4	–	–	M12 x 1.5	7/8	3/4	1-1/2	18-8	ZTA12EFXM12F-188
1/2-28	3/4	–	–	M12 x 1.5	7/8	3/4	1-1/2	316	ZTA12EFXM12F-316
1/2-28	3/4	M10 x 1.5	5/8	–	–	3/4	3/8	18-8	ZTAE12EFXM10C-188
1/2-28	3/4	M10 x 1.5	5/8	–	–	3/4	3/8	316	ZTAE12EFXM10C-316
1/2-28	3/4	M10 x 1.5	5/8	–	–	3/4	3/8	Alum	ZTAE12EFXM10C-AL
1/2-28	3/4	M10 x 1	5/8	–	–	3/4	3/8	18-8	ZTAE12EFXM10EF-188
1/2-28	3/4	M10 x 1	5/8	–	–	3/4	3/8	316	ZTAE12EFXM10EF-316
1/2-28	3/4	M10 x 1.25	5/8	–	–	3/4	3/8	18-8	ZTAE12EFXM10F-188
1/2-28	3/4	M10 x 1.25	5/8	–	–	3/4	3/8	316	ZTAE12EFXM10F-316
1/2-28	3/4	M10 x 1.25	5/8	–	–	3/4	3/8	Alum	ZTAE12EFXM10F-AL
1/2-28	3/4	M12 x 1.75	3/4	–	–	3/4	3/8	18-8	ZTAE12EFXM12C-188
1/2-28	3/4	M12 x 1.75	3/4	–	–	3/4	3/8	316	ZTAE12EFXM12C-316
1/2-28	3/4	M12 x 1.75	3/4	–	–	3/4	3/8	Alum	ZTAE12EFXM12C-AL
1/2-28	3/4	M12 x 1.25	3/4	–	–	3/4	3/8	18-8	ZTAE12EFXM12EF-188
1/2-28	3/4	M12 x 1.25	3/4	–	–	3/4	3/8	316	ZTAE12EFXM12EF-316
1/2-28	3/4	M12 x 1.5	3/4	–	–	3/4	3/8	18-8	ZTAE12EFXM12F-188
1/2-28	3/4	M12 x 1.5	3/4	–	–	3/4	3/8	316	ZTAE12EFXM12F-316

Male-Female Thread Adapters



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
1/2-28	3/4	M6 x 1	1/2	–	–	3/4	3/8	18-8	ZTAE12EFXM6C-188
1/2-28	3/4	M6 x 1	1/2	–	–	3/4	3/8	316	ZTAE12EFXM6C-316
1/2-28	3/4	M6 x 1	1/2	–	–	3/4	3/8	Alum	ZTAE12EFXM6C-AL
1/2-28	3/4	M6 x .750	1/2	–	–	3/4	3/8	18-8	ZTAE12EFXM6F-188
1/2-28	3/4	M8 x 1	1/2	–	–	3/4	3/8	18-8	ZTAE12EFXM8F-188
1/2-28	3/4	M8 x 1	1/2	–	–	3/4	3/8	316	ZTAE12EFXM8F-316
1/2-28	3/4	M8 x 1.25	1/2	–	–	3/4	3/8	18-8	ZTAE12EFXM8C-188
1/2-28	3/4	M8 x 1.25	1/2	–	–	3/4	3/8	316	ZTAE12EFXM8C-316
1/2-28	3/4	M8 x 1.25	1/2	–	–	3/4	3/8	Alum	ZTAE12EFXM8C-AL
1/2-28	7/8	–	–	1/4-20	3/8	3/4	1-1/2	18-8	ZTA12EFX14C-188
1/2-28	7/8	–	–	1/4-20	3/8	3/4	1-1/2	316	ZTA12EFX14C-316
1/2-28	7/8	–	–	1/4-20	3/8	3/4	1-1/2	Alum	ZTA12EFX14C-AL
1/2-28	7/8	–	–	1/4-32	3/8	3/4	1-1/2	18-8	ZTA12EFX14EF-188
1/2-28	7/8	–	–	1/4-28	3/8	3/4	1-1/2	18-8	ZTA12EFX14F-188
1/2-28	7/8	–	–	3/8-16	9/16	3/4	1-1/2	18-8	ZTA12EFX38C-188
1/2-28	7/8	–	–	3/8-16	9/16	3/4	1-1/2	316	ZTA12EFX38C-316
1/2-28	7/8	–	–	3/8-16	9/16	3/4	1-1/2	Alum	ZTA12EFX38C-AL
1/2-28	7/8	–	–	3/8-32	9/16	3/4	1-1/2	18-8	ZTA12EFX38EF-188
1/2-28	7/8	–	–	3/8-24	9/16	3/4	1-1/2	18-8	ZTA12EFX38F-188
1/2-28	7/8	–	–	3/8-24	9/16	3/4	1-1/2	316	ZTA12EFX38F-316
1/2-28	7/8	–	–	5/16-18	15/32	3/4	1-1/2	18-8	ZTA12EFX51C-188
1/2-28	7/8	–	–	5/16-18	15/32	3/4	1-1/2	316	ZTA12EFX51C-316
1/2-28	7/8	–	–	5/16-18	15/32	3/4	1-1/2	Alum	ZTA12EFX51C-AL
1/2-28	7/8	–	–	5/16-32	15/32	3/4	1-1/2	18-8	ZTA12EFX51EF-188
1/2-28	7/8	–	–	5/16-24	15/32	3/4	1-1/2	18-8	ZTA12EFX51F-188
1/2-28	7/8	–	–	5/16-24	15/32	3/4	1-1/2	316	ZTA12EFX51F-316
1/2-28	7/8	–	–	M6 x .750	3/8	3/4	1-1/2	18-8	ZTA12EFXM6F-188
1/2-28	7/8	–	–	M6 x 1	3/8	3/4	1-1/2	18-8	ZTA12EFXM6C-188
1/2-28	7/8	–	–	M6 x 1	3/8	3/4	1-1/2	316	ZTA12EFXM6C-316
1/2-28	7/8	–	–	M6 x 1	3/8	3/4	1-1/2	Alum	ZTA12EFXM6C-AL
1/2-28	7/8	–	–	M8 x 1	15/32	3/4	1-1/2	18-8	ZTA12EFXM8F-188
1/2-28	7/8	–	–	M8 x 1	15/32	3/4	1-1/2	316	ZTA12EFXM8F-316
1/2-28	7/8	–	–	M8 x 1.25	15/32	3/4	1-1/2	18-8	ZTA12EFXM8C-188
1/2-28	7/8	–	–	M8 x 1.25	15/32	3/4	1-1/2	316	ZTA12EFXM8C-316
1/2-28	7/8	–	–	M8 x 1.25	15/32	3/4	1-1/2	Alum	ZTA12EFXM8C-AL
1/2-28	7/8	–	–	M10 x 1.5	9/16	3/4	1-1/2	18-8	ZTA12EFXM10C-188
1/2-28	7/8	–	–	M10 x 1.5	9/16	3/4	1-1/2	316	ZTA12EFXM10C-316
1/2-28	7/8	–	–	M10 x 1	9/16	3/4	1-1/2	18-8	ZTA12EFXM10EF-188
1/2-28	7/8	–	–	M10 x 1	9/16	3/4	1-1/2	316	ZTA12EFXM10EF-316
1/2-28	7/8	–	–	M10 x 1.25	9/16	3/4	1-1/2	18-8	ZTA12EFXM10F-188
1/2-28	7/8	–	–	M10 x 1.25	9/16	3/4	1-1/2	316	ZTA12EFXM10F-316

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters

Metric Male Thread Size



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M2.5 x 0.45	7.5mm	M3 x 0.5	7.5mm	–	–	6.4mm	3.2mm	316	ZTAEM2.5CXM3C-316
M2.5 x 0.45	7.5mm	M3 x 0.35	7.5mm	–	–	6.4mm	3.2mm	18-8	ZTAEM2.5CXM3F-188
M3 x 0.35	7.5mm	–	–	M2.5 x 0.45	3.0mm	10mm	12.7mm	18-8	ZTAM3FXM2.5C-188
M3 x 0.35	7.5mm	–	–	M3 x 0.5	3.2mm	10mm	12.7mm	18-8	ZTAM3FXM3C-188
M3 x 0.35	7.5mm	–	–	M3 x 0.5	3.2mm	10mm	12.7mm	316	ZTAM3FXM3C-316
M3 x 0.35	7.5mm	–	–	M4 x 0.7	3.2mm	10mm	12.7mm	18-8	ZTAM3FXM4C-188
M3 x 0.35	7.5mm	–	–	M4 x 0.7	3.2mm	10mm	12.7mm	316	ZTAM3FXM4C-316
M3 x 0.5	7.5mm	M3 x 0.35	7.5mm	–	–	6.4mm	3.2mm	18-8	ZTAEM3CXM3F-188
M3 x 0.5	7.5mm	M4 x 0.5	9.5mm	–	–	6.4mm	3.2mm	18-8	ZTAEM3CXM4F-188
M3 x 0.5	7.5mm	–	–	M2.5 x 0.45	3.0mm	10mm	12.7mm	316	ZTAM3CXM2.5C-316
M3 x 0.5	7.5mm	–	–	M3.5 x 0.6	3.2mm	10mm	12.7mm	18-8	ZTAM3CXM3.5C-188
M3 x 0.5	7.5mm	–	–	M4 x 0.7	3.2mm	10mm	12.7mm	316	ZTAM3CXM4C-316
M3 x 0.5	7.5mm	–	–	M4 x 0.5	3.2mm	10mm	12.7mm	18-8	ZTAM3CXM4F-188
M3.5 x 0.6	9.5mm	M5 x 0.5	7.5mm	–	–	7.9mm	3.2mm	18-8	ZTAEM3.5CXM5F-188
M4 x 0.5	9.5mm	–	–	M3 x 0.5	3.2mm	11mm	12.7mm	18-8	ZTAM4FXM3C-188
M4 x 0.5	9.5mm	–	–	M3 x 0.5	3.2mm	11mm	12.7mm	316	ZTAM4FXM3C-316
M4 x 0.5	9.5mm	–	–	M4 x 0.7	3.2mm	11mm	12.7mm	18-8	ZTAM4FXM4C-188
M4 x 0.5	9.5mm	–	–	M4 x 0.7	3.2mm	11mm	12.7mm	316	ZTAM4FXM4C-316
M4 x 0.5	9.5mm	–	–	M5 x 0.8	9.5mm	11mm	19.1mm	18-8	ZTAM4FXM5C-188
M4 x 0.5	3/8	–	–	6-32	1/4	3/8	1/2	18-8	ZTAM4FX6C-188
M4 x 0.7	9.5mm	M3 x 0.5	7.5mm	–	–	6.4mm	3.2mm	316	ZTAEM4CXM3C-316
M4 x 0.7	9.5mm	M3 x 0.35	7.5mm	–	–	6.4mm	3.2mm	18-8	ZTAEM4CXM3F-188
M4 x 0.7	9.5mm	M4 x 0.5	9.5mm	–	–	6.4mm	3.2mm	18-8	ZTAEM4CXM4F-188
M4 x 0.7	9.5mm	M5 x 0.8	9.5mm	–	–	7.9mm	3.2mm	316	ZTAEM4CXM5C-316
M4 x 0.7	9.5mm	M5 x 0.5	9.5mm	–	–	7.9mm	3.2mm	18-8	ZTAEM4CXM5F-188
M4 x 0.7	9.5mm	–	–	M3 x 0.5	3.2mm	11mm	12.7mm	316	ZTAM4CXM3C-316
M4 x 0.7	9.5mm	–	–	M5 x 0.8	9.5mm	11mm	19.1mm	316	ZTAM4CXM5C-316
M4 x 0.7	9.5mm	–	–	M5 x 0.5	9.5mm	11mm	19.1mm	18-8	ZTAM4CXM5F-188
M4 x 0.7	3/8	–	–	6-32	1/4	1/4	1/2	316	ZTAM4CX6C-316
M4 x 0.7	3/8	–	–	6-40	1/4	3/8	1/2	18-8	ZTAM4CX6F-188
M5 x 0.5	9.5mm	–	–	M4 x 0.7	3.2mm	11mm	12.7mm	18-8	ZTAM5FXM4C-188
M5 x 0.5	9.5mm	–	–	M4 x 0.7	3.2mm	11mm	12.7mm	316	ZTAM5FXM4C-316
M5 x 0.5	9.5mm	–	–	M5 x 0.8	11.1mm	13mm	19.1mm	18-8	ZTAM5FXM5C-188
M5 x 0.5	9.5mm	–	–	M5 x 0.8	11.1mm	13mm	19.1mm	316	ZTAM5FXM5C-316
M5 x 0.5	9.5mm	–	–	M6 x 1	11.1mm	13mm	19.1mm	18-8	ZTAM5FXM6C-188
M5 x 0.5	9.5mm	–	–	M6 x 1	11.1mm	13mm	19.1mm	316	ZTAM5FXM6C-316
M5 x 0.5	9.5mm	–	–	M6 x .750	11.1mm	13mm	19.1mm	18-8	ZTAM5FXM6F-188
M5 x 0.5	3/8	–	–	10-24	7/16	3/8	3/4	18-8	ZTAM5FX10C-188
M5 x 0.5	3/8	–	–	10-32	1/2	3/8	3/4	18-8	ZTAM5FX10F-188

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters

Metric Male Thread Size



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M5 x 0.5	3/8	–	–	10-32	1/2	3/8	3/4	316	ZTAM5FX10F-316
M5 x 0.5	3/8	–	–	1/4-20	3/8	1/2	3/4	18-8	ZTAM5FX14C-188
M5 x 0.5	3/8	–	–	1/4-20	3/8	1/2	3/4	316	ZTAM5FX14C-316
M5 x 0.5	3/8	–	–	5/16-18	3/8	1/2	3/4	18-8	ZTAM5FX51C-188
M5 x 0.5	3/8	–	–	5/16-18	3/8	1/2	3/4	316	ZTAM5FX51C-316
M5 x 0.5	3/8	–	–	6-32	7/16	3/8	3/4	18-8	ZTAM5FX6C-188
M5 x 0.5	3/8	–	–	8-32	7/16	3/8	3/4	18-8	ZTAM5FX8C-188
M5 x 0.8	9.5mm	M4 x 0.5	9.5mm	–	–	7.9mm	3.2mm	18-8	ZTAEM5CXM4F-188
M5 x 0.8	9.5mm	M5 x 0.5	9.5mm	–	–	7.9mm	3.2mm	18-8	ZTAEM5CXM5F-188
M5 x 0.8	9.5mm	M6 x 1	12.7mm	–	–	9.5mm	4.8mm	316	ZTAEM5CXM6C-316
M5 x 0.8	9.5mm	M6 x .750	12.7mm	–	–	9.5mm	4.8mm	18-8	ZTAEM5CXM6F-188
M5 x 0.8	9.5mm	–	–	M4 x 0.7	3.2mm	11mm	12.7mm	316	ZTAM5CXM4C-316
M5 x 0.8	9.5mm	–	–	M6 x 1	11.1mm	13mm	19.1mm	316	ZTAM5CXM6C-316
M5 x 0.8	9.5mm	–	–	M6 x .750	11.1mm	13mm	19.1mm	18-8	ZTAM5CXM6F-188
M5 x 0.8	3/8	–	–	10-24	7/16	3/8	3/4	316	ZTAM5CX10C-316
M5 x 0.8	3/8	–	–	10-32	7/16	3/8	3/4	316	ZTAM5CX10F-316
M5 x 0.8	3/8	–	–	1/4-20	3/8	1/2	3/4	316	ZTAM5CX14C-316
M5 x 0.8	3/8	–	–	1/4-28	3/8	1/2	3/4	18-8	ZTAM5CX14F-188
M5 x 0.8	3/8	–	–	5/16-18	3/8	1/2	3/4	316	ZTAM5CX51C-316
M5 x 0.8	3/8	–	–	5/16-24	3/8	1/2	3/4	18-8	ZTAM5CX51F-188
M5 x 0.8	3/8	–	–	5/16-24	3/8	1/2	3/4	316	ZTAM5CX51F-316
M5 x 0.8	3/8	–	–	6-32	7/16	3/8	3/4	316	ZTAM5CX6C-316
M5 x 0.8	3/8	–	–	6-40	7/16	3/8	3/4	18-8	ZTAM5CX6F -188
M5 x 0.8	3/8	–	–	8-32	7/16	3/8	3/4	316	ZTAM5CX8C-316
M6 x .750	12.7mm	M8 x 1	12.7mm	–	–	12.7mm	4.8mm	18-8	ZTAEM6FXM8F-188
M6 x .750	12.7mm	M8 x 1	12.7mm	–	–	12.7mm	4.8mm	316	ZTAEM6FXM8F-316
M6 x .750	1/2	–	–	10-24	7/16	3/8	3/4	18-8	ZTAM6FX10C-188
M6 x .750	1/2	–	–	10-32	1/2	3/8	3/4	18-8	ZTAM6FX10F-188
M6 x .750	1/2	–	–	10-32	1/2	3/8	3/4	316	ZTAM6FX10F-316
M6 x .750	1/2	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTAM6FX12C-188
M6 x .750	1/2	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTAM6FX12C-316
M6 x .750	1/2	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTAM6FX12C-AL
M6 x .750	1/2	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTAM6FX12EF-188
M6 x .750	1/2	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTAM6FX12F-188
M6 x .750	1/2	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTAM6FX12F-316
M6 x .750	1/2	–	–	1/4-20	5/8	1/2	1	18-8	ZTAM6FX14C-188
M6 x .750	1/2	–	–	1/4-20	5/8	1/2	1	316	ZTAM6FX14C-316
M6 x .750	1/2	–	–	1/4-28	5/8	1/2	1	18-8	ZTAM6FX14F-188
M6 x .750	1/2	–	–	3/8-16	9/16	5/8	1	18-8	ZTAM6FX38C-188
M6 x .750	1/2	–	–	3/8-16	9/16	5/8	1	316	ZTAM6FX38C-316

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters



Metric Male Thread Size

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M6 x .750	1/2	–	–	3/8-32	9/16	5/8	1	18-8	ZTAM6FX38EF-188
M6 x .750	1/2	–	–	3/8-24	9/16	5/8	1	18-8	ZTAM6FX38F-188
M6 x .750	1/2	–	–	5/16-18	15/32	1/2	1	18-8	ZTAM6FX51C-188
M6 x .750	1/2	–	–	5/16-18	15/32	1/2	1	316	ZTAM6FX51C-316
M6 x .750	1/2	–	–	5/16-32	15/32	1/2	1	18-8	ZTAM6FX51EF-188
M6 x .750	1/2	–	–	5/16-24	15/32	1/2	1	18-8	ZTAM6FX51F-188
M6 x .750	1/2	–	–	8-32	7/16	3/8	3/4	18-8	ZTAM6FX8C-188
M6 x .750	12.7mm	–	–	M5 x 0.8	9.5mm	13mm	19.1mm	316	ZTAM6FXM5C-316
M6 x .750	12.7mm	–	–	M5 x 0.5	9.5mm	13mm	19.1mm	18-8	ZTAM6FXM5F-188
M6 x .750	12.7mm	–	–	M6 x 1	9.5mm	14mm	19.1mm	18-8	ZTAM6FXM6C-188
M6 x .750	12.7mm	–	–	M6 x 1	9.5mm	14mm	19.1mm	316	ZTAM6FXM6C-316
M6 x .750	12.7mm	–	–	M6 x 1	9.5mm	14mm	19.1mm	Alum	ZTAM6FXM6C-AL
M6 x .750	12.7mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	316	ZTAM6FXM8C-316
M6 x .750	12.7mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	Alum	ZTAM6FXM8C-AL
M6 x .750	12.7mm	–	–	M8 x 1	9.5mm	14mm	19.1mm	18-8	ZTAM6FXM8F-188
M6 x 1	12.7mm	M5 x 0.5	9.5mm	–	–	9.5mm	4.8mm	18-8	ZTAEM6CXM5F-188
M6 x 1	12.7mm	M8 x 1.25	12.7mm	–	–	12.7mm	4.8mm	316	ZTAEM6CXM8C-316
M6 x 1	12.7mm	M8 x 1	12.7mm	–	–	12.7mm	4.8mm	18-8	ZTAEM6CXM8F-188
M6 x 1	12.7mm	M8 x 1	12.7mm	–	–	12.7mm	4.8mm	316	ZTAEM6CXM8F-316
M6 x 1	12.7mm	M8 x 1	12.7mm	–	–	12.7mm	4.8mm	Alum	ZTAEM6CXM8F-AL
M6 x 1	1/2	–	–	10-24	7/16	3/8	3/4	316	ZTAM6CX10C-316
M6 x 1	1/2	–	–	10-32	7/16	3/8	3/4	316	ZTAM6CX10F-316
M6 x 1	1/2	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTAM6CX12C-188
M6 x 1	1/2	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTAM6CX12C-316
M6 x 1	1/2	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTAM6CX12C-AL
M6 x 1	1/2	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTAM6CX12EF-188
M6 x 1	1/2	–	–	1/2-28	3/4	3/4	1-1/2	316	ZTAM6CX12EF-316
M6 x 1	1/2	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTAM6CX12F-188
M6 x 1	1/2	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTAM6CX12F-316
M6 x 1	1/2	–	–	1/2-20	3/4	3/4	1-1/2	Alum	ZTAM6CX12F-AL
M6 x 1	1/2	–	–	1/4-20	5/8	1/2	1	316	ZTAM6CX14C-316
M6 x 1	1/2	–	–	1/4-32	5/8	1/2	1	18-8	ZTAM6CX14EF-188
M6 x 1	1/2	–	–	1/4-28	5/8	1/2	1	18-8	ZTAM6CX14F-188
M6 x 1	1/2	–	–	1/4-28	5/8	1/2	1	316	ZTAM6CX14F-316
M6 x 1	1/2	–	–	3/8-16	9/16	5/8	1	18-8	ZTAM6CX38C-188
M6 x 1	1/2	–	–	3/8-16	9/16	5/8	1	316	ZTAM6CX38C-316
M6 x 1	1/2	–	–	3/8-16	9/16	5/8	1	Alum	ZTAM6CX38C-AL
M6 x 1	1/2	–	–	3/8-32	9/16	5/8	1	18-8	ZTAM6CX38EF-188
M6 x 1	1/2	–	–	3/8-24	9/16	5/8	1	18-8	ZTAM6CX38F-188
M6 x 1	1/2	–	–	3/8-24	9/16	5/8	1	316	ZTAM6CX38F-316

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ISO 9001:2015

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters

Metric Male Thread Size



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M6 x 1	1/2	–	–	3/8-24	9/16	5/8	1	Alum	ZTAM6CX38F-AL
M6 x 1	1/2	–	–	5/16-18	15/32	1/2	1	316	ZTAM6CX51C-316
M6 x 1	1/2	–	–	5/16-32	15/32	1/2	1	18-8	ZTAM6CX51EF-188
M6 x 1	1/2	–	–	5/16-24	15/32	1/2	1	18-8	ZTAM6CX51F-188
M6 x 1	1/2	–	–	5/16-24	15/32	1/2	1	316	ZTAM6CX51F-316
M6 x 1	1/2	–	–	8-32	7/16	3/8	3/4	316	ZTAM6CX8C-316
M6 x 1	1/2	–	–	8-36	7/16	3/8	3/4	18-8	ZTAM6CX8F-188
M6 x 1	12.7mm	–	–	M5 x 0.8	9.5mm	13mm	19.1mm	316	ZTAM6CXM5C-316
M6 x 1	12.7mm	–	–	M5 x 0.5	9.5mm	13mm	19.1mm	18-8	ZTAM6CXM5F-188
M6 x 1	12.7mm	–	–	M6 x .750	9.5mm	14mm	19.1mm	18-8	ZTAM6CXM6F-188
M6 x 1	12.7mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	316	ZTAM6CXM8C-316
M6 x 1	12.7mm	–	–	M8 x 1	9.5mm	14mm	19.1mm	18-8	ZTAM6CXM8F-188
M6 x 1	12.7mm	–	–	M8 x 1	9.5mm	14mm	19.1mm	316	ZTAM6CXM8F-316
M6 x 1	12.7mm	–	–	M8 x 1	9.5mm	14mm	19.1mm	Alum	ZTAM6CXM8F-AL
M8 x 1	12.7mm	M10 x 1	16mm	–	–	17.4mm	6.4mm	18-8	ZTAEM8FXM10EF-188
M8 x 1	12.7mm	M10 x 1	16mm	–	–	17.4mm	6.4mm	316	ZTAEM8FXM10EF-316
M8 x 1	12.7mm	M10 x 1.25	16mm	–	–	17.4mm	6.4mm	18-8	ZTAEM8FXM10F-188
M8 x 1	12.7mm	M10 x 1.25	16mm	–	–	17.4mm	6.4mm	316	ZTAEM8FXM10F-316
M8 x 1	12.7mm	M10 x 1.25	16mm	–	–	17.4mm	6.4mm	Alum	ZTAEM8FXM10F-AL
M8 x 1	1/2	–	–	10-24	7/16	1/2	3/4	18-8	ZTAM8FX10C-188
M8 x 1	1/2	–	–	10-32	7/16	1/2	3/4	18-8	ZTAM8FX10F-188
M8 x 1	1/2	–	–	10-32	7/16	1/2	3/4	316	ZTAM8FX10F-316
M8 x 1	1/2	–	–	1/4-20	5/8	1/2	1	18-8	ZTAM8FX14C-188
M8 x 1	1/2	–	–	1/4-20	5/8	1/2	1	316	ZTAM8FX14C-316
M8 x 1	1/2	–	–	1/4-20	5/8	1/2	1	Alum	ZTAM8FX14C-AL
M8 x 1	1/2	–	–	1/4-32	5/8	1/2	1	18-8	ZTAM8FX14EF-188
M8 x 1	1/2	–	–	1/4-28	5/8	1/2	1	18-8	ZTAM8FX14F-188
M8 x 1	1/2	–	–	5/16-18	5/8	5/8	1	18-8	ZTAM8FX51C-188
M8 x 1	1/2	–	–	5/16-18	5/8	5/8	1	316	ZTAM8FX51C-316
M8 x 1	1/2	–	–	5/16-18	5/8	5/8	1	Alum	ZTAM8FX51C-AL
M8 x 1	1/2	–	–	5/16-32	5/8	1/2	1	18-8	ZTAM8FX51EF-188
M8 x 1	1/2	–	–	5/16-24	5/8	1/2	1	18-8	ZTAM8FX51F-188
M8 x 1	12.7mm	–	–	M10 x 1.5	14.3mm	16mm	25.4mm	18-8	ZTAM8FXM10C-188
M8 x 1	12.7mm	–	–	M10 x 1.5	14.3mm	16mm	25.4mm	316	ZTAM8FXM10C-316
M8 x 1	12.7mm	–	–	M10 x 1.5	14.3mm	16mm	25.4mm	Alum	ZTAM8FXM10C-AL
M8 x 1	12.7mm	–	–	M10 x 1	17.4mm	16mm	25.4mm	18-8	ZTAM8FXM10EF-188
M8 x 1	12.7mm	–	–	M10 x 1	17.4mm	16mm	25.4mm	316	ZTAM8FXM10EF-316
M8 x 1	12.7mm	–	–	M10 x 1.25	14.3mm	16mm	25.4mm	18-8	ZTAM8FXM10F-188
M8 x 1	12.7mm	–	–	M10 x 1.25	14.3mm	16mm	25.4mm	316	ZTAM8FXM10F-316
M8 x 1	12.7mm	–	–	M6 x 1	11.1mm	13mm	19.1mm	18-8	ZTAM8FXM6C-188

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters

Metric Male Thread Size



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M8 x 1	12.7mm	–	–	M6 x 1	11.1mm	13mm	19.1mm	316	ZTAM8FXM6C-316
M8 x 1	12.7mm	–	–	M6 x .750	11.1mm	13mm	19.1mm	18-8	ZTAM8FXM6F-188
M8 x 1	12.7mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	316	ZTAM8FXM8C-316
M8 x 1	12.7mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	Alum	ZTAM8FXM8C-AL
M8 x 1	5/8	–	–	1/2-13	11/16	3/4	1-1/2	18-8	ZTAM8FX12C-188
M8 x 1	5/8	–	–	1/2-13	11/16	3/4	1-1/2	316	ZTAM8FX12C-316
M8 x 1	5/8	–	–	1/2-13	11/16	3/4	1-1/2	Alum	ZTAM8FX12C-AL
M8 x 1	5/8	–	–	1/2-28	11/16	3/4	1-1/2	18-8	ZTAM8FX12EF-188
M8 x 1	5/8	–	–	1/2-20	11/16	3/4	1-1/2	18-8	ZTAM8FX12F-188
M8 x 1	5/8	–	–	1/2-20	11/16	3/4	1-1/2	316	ZTAM8FX12F-316
M8 x 1	5/8	–	–	3/8-16	9/16	1/2	1	18-8	ZTAM8FX38C-188
M8 x 1	5/8	–	–	3/8-16	9/16	1/2	1	316	ZTAM8FX38C-316
M8 x 1	5/8	–	–	3/8-16	9/16	1/2	1	Alum	ZTAM8FX38C-AL
M8 x 1	5/8	–	–	3/8-32	9/16	1/2	1	18-8	ZTAM8FX38EF-188
M8 x 1	5/8	–	–	3/8-24	9/16	1/2	1	18-8	ZTAM8FX38F-188
M8 x 1.25	12.7mm	M10 x 1.5	16mm	–	–	17.4mm	6.4mm	316	ZTAEM8CXM10C-316
M8 x 1.25	12.7mm	M10 x 1.5	16mm	–	–	17.4mm	6.4mm	Alum	ZTAEM8CXM10C-AL
M8 x 1.25	12.7mm	M10 x 1	16mm	–	–	17.4mm	6.4mm	316	ZTAEM8CXM10EF-316
M8 x 1.25	12.7mm	M10 x 1	16mm	–	–	17.4mm	6.4mm	Alum	ZTAEM8CXM10EF-AL
M8 x 1.25	12.7mm	M8 x 1	12.7mm	–	–	12.7mm	4.8mm	316	ZTAEM8CXM8F-316
M8 x 1.25	12.7mm	M8 x 1	12.7mm	–	–	12.7mm	4.8mm	Alum	ZTAEM8CXM8F-AL
M8 x 1.25	1/2	–	–	10-24	7/16	1/2	3/4	18-8	ZTAM8CX10C-188
M8 x 1.25	1/2	–	–	10-24	7/16	1/2	3/4	316	ZTAM8CX10C-316
M8 x 1.25	1/2	–	–	10-32	7/16	1/2	3/4	316	ZTAM8CX10F-316
M8 x 1.25	1/2	–	–	1/4-20	5/8	1/2	1	316	ZTAM8CX14C-316
M8 x 1.25	1/2	–	–	1/4-32	5/8	1/2	1	18-8	ZTAM8CX14EF-188
M8 x 1.25	1/2	–	–	1/4-28	5/8	1/2	1	18-8	ZTAM8CX14F-188
M8 x 1.25	1/2	–	–	1/4-28	5/8	1/2	1	316	ZTAM8CX14F-316
M8 x 1.25	1/2	–	–	5/16-18	5/8	5/8	1	316	ZTAM8CX51C-316
M8 x 1.25	1/2	–	–	5/16-32	5/8	5/8	1	18-8	ZTAM8CX51EF-188
M8 x 1.25	1/2	–	–	5/16-24	5/8	5/8	1	18-8	ZTAM8CX51F-188
M8 x 1.25	1/2	–	–	5/16-24	5/8	5/8	1	316	ZTAM8CX51F-316
M8 x 1.25	12.7mm	–	–	M10 x 1.5	14.3mm	16mm	25.4mm	316	ZTAM8CXM10C-316
M8 x 1.25	12.7mm	–	–	M10 x 1.5	14.3mm	16mm	25.4mm	Alum	ZTAM8CXM10C-AL
M8 x 1.25	12.7mm	–	–	M10 x 1	17.4mm	16mm	25.4mm	316	ZTAM8CXM10EF-316
M8 x 1.25	12.7mm	–	–	M10 x 1.25	14.3mm	16mm	25.4mm	18-8	ZTAM8CXM10F-188
M8 x 1.25	12.7mm	–	–	M10 x 1.25	14.3mm	16mm	25.4mm	316	ZTAM8CXM10F-316
M8 x 1.25	12.7mm	–	–	M10 x 1.25	14.3mm	16mm	25.4mm	Alum	ZTAM8CXM10F-AL
M8 x 1.25	12.7mm	–	–	M6 x 1	11.1mm	13mm	19.1mm	316	ZTAM8CXM6C-316
M8 x 1.25	12.7mm	–	–	M6 x .750	11.1mm	13mm	19.1mm	18-8	ZTAM8CXM6F-188

Male-Female Thread Adapters

Metric Male Thread Size



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M8 x 1.25	12.7mm	–	–	M8 x 1	11.1mm	14mm	19.1mm	316	ZTAM8CXM8F-316
M8 x 1.25	12.7mm	–	–	M8 x 1	11.1mm	14mm	19.1mm	Alum	ZTAM8CXM8F-AL
M8 x 1.25	5/8	–	–	1/2-13	11/16	3/4	1-1/2	18-8	ZTAM8CX12C-188
M8 x 1.25	5/8	–	–	1/2-13	11/16	3/4	1-1/2	316	ZTAM8CX12C-316
M8 x 1.25	5/8	–	–	1/2-13	11/16	3/4	1-1/2	Alum	ZTAM8CX12C-AL
M8 x 1.25	5/8	–	–	1/2-28	11/16	3/4	1-1/2	18-8	ZTAM8CX12EF-188
M8 x 1.25	5/8	–	–	1/2-28	11/16	3/4	1-1/2	316	ZTAM8CX12EF-316
M8 x 1.25	5/8	–	–	1/2-20	11/16	3/4	1-1/2	18-8	ZTAM8CX12F-188
M8 x 1.25	5/8	–	–	1/2-20	11/16	3/4	1-1/2	316	ZTAM8CX12F-316
M8 x 1.25	5/8	–	–	1/2-20	11/16	3/4	1-1/2	Alum	ZTAM8CX12F-AL
M8 x 1.25	5/8	–	–	3/8-16	9/16	5/8	1	18-8	ZTAM8CX38C-188
M8 x 1.25	5/8	–	–	3/8-16	9/16	5/8	1	316	ZTAM8CX38C-316
M8 x 1.25	5/8	–	–	3/8-16	9/16	5/8	1	Alum	ZTAM8CX38C-AL
M8 x 1.25	5/8	–	–	3/8-32	9/16	5/8	1	18-8	ZTAM8CX38EF-188
M8 x 1.25	5/8	–	–	3/8-24	9/16	5/8	1	18-8	ZTAM8CX38F-188
M8 x 1.25	5/8	–	–	3/8-24	9/16	5/8	1	316	ZTAM8CX38F-316
M8 x 1.25	5/8	–	–	3/8-24	9/16	5/8	1	Alum	ZTAM8CX38F-AL
M10 x 1	5/8	–	–	1/4-20	3/8	5/8	1	18-8	ZTAM10EFX14C-188
M10 x 1	5/8	–	–	1/4-20	3/8	5/8	1	316	ZTAM10EFX14C-316
M10 x 1	5/8	–	–	1/4-20	3/8	5/8	1	Alum	ZTAM10EFX14C-AL
M10 x 1	5/8	–	–	1/4-32	3/8	5/8	1	18-8	ZTAM10EFX14EF-188
M10 x 1	5/8	–	–	1/4-28	3/8	5/8	1	18-8	ZTAM10EFX14F-188
M10 x 1	5/8	–	–	3/8-16	7/8	5/8	1-1/2	18-8	ZTAM10EFX38C-188
M10 x 1	5/8	–	–	3/8-16	7/8	5/8	1-1/2	316	ZTAM10EFX38C-316
M10 x 1	5/8	–	–	3/8-16	7/8	5/8	1-1/2	Alum	ZTAM10EFX38C-AL
M10 x 1	5/8	–	–	3/8-32	7/8	5/8	1-1/2	18-8	ZTAM10EFX38EF-188
M10 x 1	5/8	–	–	3/8-24	7/8	5/8	1-1/2	18-8	ZTAM10EFX38F-188
M10 x 1	5/8	–	–	3/8-24	7/8	5/8	1-1/2	316	ZTAM10EFX38F-316
M10 x 1	5/8	–	–	5/16-18	5/8	5/8	1	18-8	ZTAM10EFX51C-188
M10 x 1	5/8	–	–	5/16-18	5/8	5/8	1	316	ZTAM10EFX51C-316
M10 x 1	5/8	–	–	5/16-18	5/8	5/8	1	Alum	ZTAM10EFX51C-AL
M10 x 1	5/8	–	–	5/16-32	5/8	5/8	1	18-8	ZTAM10EFX51EF-188
M10 x 1	5/8	–	–	5/16-24	5/8	5/8	1	18-8	ZTAM10EFX51F-188
M10 x 1	16mm	–	–	M10 x 1.5	14.3mm	16mm	25.4mm	316	ZTAM10EFXM10C-316
M10 x 1	16mm	–	–	M10 x 1.5	14.3mm	16mm	25.4mm	Alum	ZTAM10EFXM10C-AL
M10 x 1	16mm	–	–	M10 x 1.25	15.9mm	16mm	25.4mm	316	ZTAM10EFXM10F-316
M10 x 1	16mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	18-8	ZTAM10EFXM12C-188
M10 x 1	16mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	316	ZTAM10EFXM12C-316
M10 x 1	16mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	Alum	ZTAM10EFXM12C-AL
M10 x 1	16mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	18-8	ZTAM10EFXM12EF-188

18-8 SS, 316 SS, Alum, Steel



Male-Female Thread Adapters

Metric Male Thread Size

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M10 x 1	16mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	316	ZTAM10EFXM12EF-316
M10 x 1	16mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	Alum	ZTAM10EFXM12EF-AL
M10 x 1	16mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	18-8	ZTAM10EFXM12F-188
M10 x 1	16mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	316	ZTAM10EFXM12F-316
M10 x 1	16mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	18-8	ZTAM10EFXM8C-188
M10 x 1	16mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	316	ZTAM10EFXM8C-316
M10 x 1	16mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	Alum	ZTAM10EFXM8C-AL
M10 x 1	16mm	–	–	M8 x 1	9.5mm	14mm	19.1mm	18-8	ZTAM10EFXM8F-188
M10 x 1	3/4	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTAM10EFX12C-188
M10 x 1	3/4	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTAM10EFX12C-316
M10 x 1	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTAM10EFX12C-AL
M10 x 1	3/4	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTAM10EFX12EF-188
M10 x 1	3/4	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTAM10EFX12F-188
M10 x 1	3/4	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTAM10EFX12F-316
M10 x 1.25	5/8	–	–	1/4-20	3/8	5/8	1	18-8	ZTAM10FX14C-188
M10 x 1.25	5/8	–	–	1/4-20	3/8	5/8	1	316	ZTAM10FX14C-316
M10 x 1.25	5/8	–	–	1/4-20	3/8	5/8	1	Alum	ZTAM10FX14C-AL
M10 x 1.25	5/8	–	–	1/4-32	3/8	5/8	1	18-8	ZTAM10FX14EF-188
M10 x 1.25	5/8	–	–	1/4-28	3/8	5/8	1	18-8	ZTAM10FX14F-188
M10 x 1.25	5/8	–	–	3/8-16	7/8	5/8	1-1/2	18-8	ZTAM10FX38C-188
M10 x 1.25	5/8	–	–	3/8-16	7/8	5/8	1-1/2	316	ZTAM10FX38C-316
M10 x 1.25	5/8	–	–	3/8-16	7/8	5/8	1-1/2	Alum	ZTAM10FX38C-AL
M10 x 1.25	5/8	–	–	3/8-32	7/8	5/8	1-1/2	18-8	ZTAM10FX38EF-188
M10 x 1.25	5/8	–	–	3/8-32	7/8	5/8	1-1/2	316	ZTAM10FX38EF-316
M10 x 1.25	5/8	–	–	3/8-24	7/8	5/8	1-1/2	18-8	ZTAM10FX38F-188
M10 x 1.25	5/8	–	–	3/8-24	7/8	5/8	1-1/2	316	ZTAM10FX38F-316
M10 x 1.25	5/8	–	–	5/16-18	5/8	5/8	1	18-8	ZTAM10FX51C-188
M10 x 1.25	5/8	–	–	5/16-18	5/8	5/8	1	316	ZTAM10FX51C-316
M10 x 1.25	5/8	–	–	5/16-18	5/8	5/8	1	Alum	ZTAM10FX51C-AL
M10 x 1.25	5/8	–	–	5/16-32	5/8	5/8	1	18-8	ZTAM10FX51EF-188
M10 x 1.25	5/8	–	–	5/16-24	5/8	5/8	1	18-8	ZTAM10FX51F-188
M10 x 1.25	16mm	M10 x 1	16mm	–	–	17.4mm	6.4mm	18-8	ZTAEM10FXM10EF-188
M10 x 1.25	16mm	M10 x 1	16mm	–	–	17.4mm	6.4mm	316	ZTAEM10FXM10EF-316
M10 x 1.25	16mm	M10 x 1	16mm	–	–	17.4mm	6.4mm	Alum	ZTAEM10FXM10EF-AL
M10 x 1.25	16mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	18-8	ZTAEM10FXM12EF-188
M10 x 1.25	16mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	316	ZTAEM10FXM12EF-316
M10 x 1.25	16mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	Alum	ZTAEM10FXM12EF-AL
M10 x 1.25	16mm	–	–	M10 x 1.5	14.3mm	16mm	25.4mm	316	ZTAM10FXM10C-316
M10 x 1.25	16mm	–	–	M10 x 1.5	14.3mm	16mm	25.4mm	Alum	ZTAM10FXM10C-AL
M10 x 1.25	16mm	–	–	M10 x 1	14.3mm	16mm	25.4mm	18-8	ZTAM10FXM10EF-188

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters



Metric Male Thread Size

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M10 x 1.25	16mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	18-8	ZTAM10FXM12C-188
M10 x 1.25	16mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	316	ZTAM10FXM12C-316
M10 x 1.25	16mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	Alum	ZTAM10FXM12C-AL
M10 x 1.25	16mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	18-8	ZTAM10FXM12EF-188
M10 x 1.25	16mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	316	ZTAM10FXM12EF-316
M10 x 1.25	16mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	Alum	ZTAM10FXM12EF-AL
M10 x 1.25	16mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	18-8	ZTAM10FXM12F-188
M10 x 1.25	16mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	316	ZTAM10FXM12F-316
M10 x 1.25	16mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	Alum	ZTAM10FXM12F-AL
M10 x 1.25	16mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	18-8	ZTAM10FXM8C-188
M10 x 1.25	16mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	316	ZTAM10FXM8C-316
M10 x 1.25	16mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	Alum	ZTAM10FXM8C-AL
M10 x 1.25	16mm	–	–	M8 x 1	9.5mm	14mm	19.1mm	18-8	ZTAM10FXM8F-188
M10 x 1.25	16mm	–	–	M8 x 1	9.5mm	14mm	19.1mm	316	ZTAM10FXM8F-316
M10 x 1.25	3/4	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTAM10FX12C-188
M10 x 1.25	3/4	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTAM10FX12C-316
M10 x 1.25	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTAM10FX12C-AL
M10 x 1.25	3/4	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTAM10FX12EF-188
M10 x 1.25	3/4	–	–	1/2-28	3/4	3/4	1-1/2	316	ZTAM10FX12EF-316
M10 x 1.25	3/4	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTAM10FX12F-188
M10 x 1.25	3/4	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTAM10FX12F-316
M10 x 1.5	5/8	–	–	1/4-20	3/8	5/8	1	18-8	ZTAM10CX14C-188
M10 x 1.5	5/8	–	–	1/4-20	3/8	5/8	1	316	ZTAM10CX14C-316
M10 x 1.5	5/8	–	–	1/4-20	3/8	5/8	1	Alum	ZTAM10CX14C-AL
M10 x 1.5	5/8	–	–	1/4-32	3/8	5/8	1	18-8	ZTAM10CX14EF-188
M10 x 1.5	5/8	–	–	1/4-28	3/8	5/8	1	18-8	ZTAM10CX14F-188
M10 x 1.5	5/8	–	–	3/8-16	7/8	5/8	1-1/2	316	ZTAM10CX38C-316
M10 x 1.5	5/8	–	–	3/8-16	7/8	5/8	1-1/2	Alum	ZTAM10CX38C-AL
M10 x 1.5	5/8	–	–	3/8-32	7/8	5/8	1-1/2	18-8	ZTAM10CX38EF-188
M10 x 1.5	5/8	–	–	3/8-32	7/8	5/8	1-1/2	316	ZTAM10CX38EF-316
M10 x 1.5	5/8	–	–	3/8-24	7/8	5/8	1-1/2	18-8	ZTAM10CX38F-188
M10 x 1.5	5/8	–	–	3/8-24	7/8	5/8	1-1/2	316	ZTAM10CX38F-316
M10 x 1.5	5/8	–	–	5/16-18	5/8	5/8	1	316	ZTAM10CX51C-316
M10 x 1.5	5/8	–	–	5/16-18	5/8	5/8	1	Alum	ZTAM10CX51C-AL
M10 x 1.5	5/8	–	–	5/16-32	5/8	5/8	1	18-8	ZTAM10CX51EF-188
M10 x 1.5	5/8	–	–	5/16-24	5/8	5/8	1	18-8	ZTAM10CX51F-188
M10 x 1.5	5/8	–	–	5/16-24	5/8	5/8	1	316	ZTAM10CX51F-316
M10 x 1.5	16mm	M10 x 1	16mm	–	–	17.4mm	6.4mm	316	ZTAEM10CXM10EF-316
M10 x 1.5	16mm	M10 x 1	16mm	–	–	17.4mm	6.4mm	Alum	ZTAEM10CXM10EF-AL
M10 x 1.5	16mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	18-8	ZTAEM10CXM12EF-188

18-8 SS, 316 SS, Alum, Steel



Male-Female Thread Adapters

Metric Male Thread Size

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M10 x 1.5	16mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	316	ZTAEM10CXM12EF-316
M10 x 1.5	16mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	Alum	ZTAEM10CXM12EF-AL
M10 x 1.5	16mm	M12 x 1.5	19mm	–	–	19mm	9.5mm	18-8	ZTAEM10CXM12F-188
M10 x 1.5	16mm	M12 x 1.5	19mm	–	–	19mm	9.5mm	316	ZTAEM10CXM12F-316
M10 x 1.5	16mm	M12 x 1.5	19mm	–	–	19mm	9.5mm	Alum	ZTAEM10CXM12F-AL
M10 x 1.5	16mm	M8 x 1	12.7mm	–	–	17.4mm	6.4mm	18-8	ZTAEM10CXM8F-188
M10 x 1.5	16mm	M8 x 1	12.7mm	–	–	17.4mm	6.4mm	316	ZTAEM10CXM8F-316
M10 x 1.5	16mm	M8 x 1	12.7mm	–	–	17.4mm	6.4mm	Alum	ZTAEM10CXM8F-AL
M10 x 1.5	16mm	–	–	M10 x 1	17.4mm	16mm	25.4mm	316	ZTAM10CXM10EF-316
M10 x 1.5	16mm	–	–	M10 x 1.25	15.9mm	16mm	25.4mm	316	ZTAM10CXM10F-316
M10 x 1.5	16mm	–	–	M10 x 1.25	15.9mm	16mm	25.4mm	Alum	ZTAM10CXM10F-AL
M10 x 1.5	16mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	316	ZTAM10CXM12C-316
M10 x 1.5	16mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	Alum	ZTAM10CXM12C-AL
M10 x 1.5	16mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	18-8	ZTAM10CXM12EF-188
M10 x 1.5	16mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	316	ZTAM10CXM12EF-316
M10 x 1.5	16mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	Alum	ZTAM10CXM12EF-AL
M10 x 1.5	16mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	18-8	ZTAM10CXM12F-188
M10 x 1.5	16mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	316	ZTAM10CXM12F-316
M10 x 1.5	16mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	Alum	ZTAM10CXM12F-AL
M10 x 1.5	16mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	316	ZTAM10CXM8C-316
M10 x 1.5	16mm	–	–	M8 x 1.25	9.5mm	14mm	19.1mm	Alum	ZTAM10CXM8C-AL
M10 x 1.5	16mm	–	–	M8 x 1	9.5mm	14mm	19.1mm	18-8	ZTAM10CXM8F-188
M10 x 1.5	16mm	–	–	M8 x 1	9.5mm	14mm	19.1mm	316	ZTAM10CXM8F-316
M10 x 1.5	3/4	–	–	1/2-13	3/4	3/4	1-1/2	18-8	ZTAM10CX12C-188
M10 x 1.5	3/4	–	–	1/2-13	3/4	3/4	1-1/2	316	ZTAM10CX12C-316
M10 x 1.5	3/4	–	–	1/2-13	3/4	3/4	1-1/2	Alum	ZTAM10CX12C-AL
M10 x 1.5	3/4	–	–	1/2-28	3/4	3/4	1-1/2	18-8	ZTAM10CX12EF-188
M10 x 1.5	3/4	–	–	1/2-28	3/4	3/4	1-1/2	316	ZTAM10CX12EF-316
M10 x 1.5	3/4	–	–	1/2-20	3/4	3/4	1-1/2	18-8	ZTAM10CX12F-188
M10 x 1.5	3/4	–	–	1/2-20	3/4	3/4	1-1/2	316	ZTAM10CX12F-316
M10 x 1.5	3/4	–	–	1/2-20	3/4	3/4	1-1/2	Alum	ZTAM10CX12F-AL
M12 x 1.25	18mm	–	–	M10 x 1.5	14.3mm	16mm	38.1mm	18-8	ZTAM12EFXM10C-188
M12 x 1.25	18mm	–	–	M10 x 1.5	14.3mm	16mm	38.1mm	316	ZTAM12EFXM10C-316
M12 x 1.25	18mm	–	–	M10 x 1.5	14.3mm	16mm	38.1mm	Alum	ZTAM12EFXM10C-AL
M12 x 1.25	18mm	–	–	M10 x 1	14.3mm	16mm	38.1mm	18-8	ZTAM12EFXM10EF-188
M12 x 1.25	18mm	–	–	M10 x 1	14.3mm	16mm	38.1mm	316	ZTAM12EFXM10EF-316
M12 x 1.25	18mm	–	–	M10 x 1	14.3mm	16mm	38.1mm	Alum	ZTAM12EFXM10EF-AL
M12 x 1.25	18mm	–	–	M10 x 1.25	14.3mm	16mm	38.1mm	18-8	ZTAM12EFXM10F-188
M12 x 1.25	18mm	–	–	M10 x 1.25	14.3mm	16mm	38.1mm	316	ZTAM12EFXM10F-316
M12 x 1.25	18mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	316	ZTAM12EFXM12C-316

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

Male-Female Thread Adapters



Metric Male Thread Size

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M12 x 1.25	18mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	Alum	ZTAM12EFXM12C-AL
M12 x 1.25	18mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	316	ZTAM12EFXM12F-316
M12 x 1.25	18mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	Alum	ZTAM12EFXM12F-AL
M12 x 1.25	3/4	–	–	1/2-13	7/8	3/4	1-1/2	18-8	ZTAM12EFX12C-188
M12 x 1.25	3/4	–	–	1/2-13	7/8	3/4	1-1/2	316	ZTAM12EFX12C-316
M12 x 1.25	3/4	–	–	1/2-13	7/8	3/4	1-1/2	Alum	ZTAM12EFX12C-AL
M12 x 1.25	3/4	–	–	1/2-28	7/8	3/4	1-1/2	18-8	ZTAM12EFX12EF-188
M12 x 1.25	3/4	–	–	1/2-28	7/8	3/4	1-1/2	316	ZTAM12EFX12EF-316
M12 x 1.25	3/4	–	–	1/2-20	7/8	3/4	1-1/2	18-8	ZTAM12EFX12F-188
M12 x 1.25	3/4	–	–	1/2-20	7/8	3/4	1-1/2	316	ZTAM12EFX12F-316
M12 x 1.25	3/4	–	–	3/8-16	7/8	3/4	1-1/2	18-8	ZTAM12EFX38C-188
M12 x 1.25	3/4	–	–	3/8-16	7/8	3/4	1-1/2	316	ZTAM12EFX38C-316
M12 x 1.25	3/4	–	–	3/8-16	7/8	3/4	1-1/2	Alum	ZTAM12EFX38C-AL
M12 x 1.25	3/4	–	–	3/8-32	7/8	3/4	1-1/2	18-8	ZTAM12EFX38EF-188
M12 x 1.25	3/4	–	–	3/8-32	7/8	3/4	1-1/2	316	ZTAM12EFX38EF-316
M12 x 1.25	3/4	–	–	3/8-24	7/8	3/4	1-1/2	18-8	ZTAM12EFX38F-188
M12 x 1.25	3/4	–	–	3/8-24	7/8	3/4	1-1/2	316	ZTAM12EFX38F-316
M12 x 1.25	7/8	–	–	1/4-20	3/8	3/4	1-1/2	18-8	ZTAM12EFX14C-188
M12 x 1.25	7/8	–	–	1/4-20	3/8	3/4	1-1/2	316	ZTAM12EFX14C-316
M12 x 1.25	7/8	–	–	1/4-20	3/8	3/4	1-1/2	Alum	ZTAM12EFX14C-AL
M12 x 1.25	7/8	–	–	1/4-32	3/8	3/4	1-1/2	18-8	ZTAM12EFX14EF-188
M12 x 1.25	7/8	–	–	1/4-28	3/8	3/4	1-1/2	18-8	ZTAM12EFX14F-188
M12 x 1.25	7/8	–	–	1/4-28	3/8	3/4	1-1/2	316	ZTAM12EFX14F-316
M12 x 1.25	7/8	–	–	5/16-18	15/32	3/4	1-1/2	18-8	ZTAM12EFX51C-188
M12 x 1.25	7/8	–	–	5/16-18	15/32	3/4	1-1/2	316	ZTAM12EFX51C-316
M12 x 1.25	7/8	–	–	5/16-18	15/32	3/4	1-1/2	Alum	ZTAM12EFX51C-AL
M12 x 1.25	7/8	–	–	5/16-32	15/32	3/4	1-1/2	18-8	ZTAM12EFX51EF-188
M12 x 1.25	7/8	–	–	5/16-24	15/32	3/4	1-1/2	18-8	ZTAM12EFX51F-188
M12 x 1.25	7/8	–	–	5/16-24	15/32	3/4	1-1/2	316	ZTAM12EFX51F-316
M12 x 1.5	18mm	–	–	M10 x 1.5	14.3mm	16mm	38.1mm	18-8	ZTAM12FXM10C-188
M12 x 1.5	18mm	–	–	M10 x 1.5	14.3mm	16mm	38.1mm	316	ZTAM12FXM10C-316
M12 x 1.5	18mm	–	–	M10 x 1.5	14.3mm	16mm	38.1mm	Alum	ZTAM12FXM10C-AL
M12 x 1.5	18mm	–	–	M10 x 1	14.3mm	16mm	38.1mm	18-8	ZTAM12FXM10EF-188
M12 x 1.5	18mm	–	–	M10 x 1	14.3mm	16mm	38.1mm	316	ZTAM12FXM10EF-316
M12 x 1.5	18mm	–	–	M10 x 1.25	14.3mm	16mm	38.1mm	18-8	ZTAM12FXM10F-188
M12 x 1.5	18mm	–	–	M10 x 1.25	14.3mm	16mm	38.1mm	316	ZTAM12FXM10F-316
M12 x 1.5	18mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	316	ZTAM12FXM12C-316
M12 x 1.5	18mm	–	–	M12 x 1.75	22.2mm	22mm	38.1mm	Alum	ZTAM12FXM12C-AL
M12 x 1.5	18mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	316	ZTAM12FXM12EF-316
M12 x 1.5	18mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	Alum	ZTAM12FXM12EF-AL
M12 x 1.5	19mm	M10 x 1	19mm	–	–	19mm	9.5mm	18-8	ZTAEM12FXM10EF-188

18-8 SS, 316 SS, Alum, Steel

Male-Female Thread Adapters



Metric Male Thread Size

Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M12 x 1.5	19mm	M10 x 1	19mm	–	–	19mm	9.5mm	316	ZTAEM12FXM10EF-316
M12 x 1.5	19mm	M10 x 1.25	19mm	–	–	19mm	9.5mm	18-8	ZTAEM12FXM10F-188
M12 x 1.5	19mm	M10 x 1.25	19mm	–	–	19mm	9.5mm	316	ZTAEM12FXM10F-316
M12 x 1.5	19mm	M10 x 1.25	19mm	–	–	19mm	9.5mm	Alum	ZTAEM12FXM10F-AL
M12 x 1.5	19mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	18-8	ZTAEM12FXM12EF-188
M12 x 1.5	19mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	316	ZTAEM12FXM12EF-316
M12 x 1.5	19mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	Alum	ZTAEM12FXM12EF-AL
M12 x 1.5	3/4	–	–	1/2-13	7/8	3/4	1-1/2	18-8	ZTAM12FX12C-188
M12 x 1.5	3/4	–	–	1/2-13	7/8	3/4	1-1/2	316	ZTAM12FX12C-316
M12 x 1.5	3/4	–	–	1/2-13	7/8	3/4	1-1/2	Alum	ZTAM12FX12C-AL
M12 x 1.5	3/4	–	–	1/2-28	7/8	3/4	1-1/2	18-8	ZTAM12FX12EF-188
M12 x 1.5	3/4	–	–	1/2-20	7/8	3/4	1-1/2	18-8	ZTAM12FX12F-188
M12 x 1.5	3/4	–	–	1/2-20	7/8	3/4	1-1/2	316	ZTAM12FX12F-316
M12 x 1.5	3/4	–	–	3/8-16	7/8	3/4	1-1/2	18-8	ZTAM12FX38C-188
M12 x 1.5	3/4	–	–	3/8-16	7/8	3/4	1-1/2	316	ZTAM12FX38C-316
M12 x 1.5	3/4	–	–	3/8-16	7/8	3/4	1-1/2	Alum	ZTAM12FX38C-AL
M12 x 1.5	3/4	–	–	3/8-32	7/8	3/4	1-1/2	18-8	ZTAM12FX38EF-188
M12 x 1.5	3/4	–	–	3/8-24	7/8	3/4	1-1/2	18-8	ZTAM12FX38F-188
M12 x 1.5	3/4	–	–	3/8-24	7/8	3/4	1-1/2	316	ZTAM12FX38F-316
M12 x 1.5	7/8	–	–	1/4-20	3/8	3/4	1-1/2	18-8	ZTAM12FX14C-188
M12 x 1.5	7/8	–	–	1/4-20	3/8	3/4	1-1/2	316	ZTAM12FX14C-316
M12 x 1.5	7/8	–	–	1/4-20	3/8	3/4	1-1/2	Alum	ZTAM12FX14C-AL
M12 x 1.5	7/8	–	–	1/4-32	3/8	3/4	1-1/2	18-8	ZTAM12FX14EF-188
M12 x 1.5	7/8	–	–	1/4-28	3/8	3/4	1-1/2	18-8	ZTAM12FX14F-188
M12 x 1.5	7/8	–	–	1/4-28	3/8	3/4	1-1/2	316	ZTAM12FX14F-316
M12 x 1.5	7/8	–	–	5/16-18	15/32	3/4	1-1/2	18-8	ZTAM12FX51C-188
M12 x 1.5	7/8	–	–	5/16-18	15/32	3/4	1-1/2	316	ZTAM12FX51C-316
M12 x 1.5	7/8	–	–	5/16-18	15/32	3/4	1-1/2	Alum	ZTAM12FX51C-AL
M12 x 1.5	7/8	–	–	5/16-32	15/32	3/4	1-1/2	18-8	ZTAM12FX51EF-188
M12 x 1.5	7/8	–	–	5/16-24	15/32	3/4	1-1/2	18-8	ZTAM12FX51F-188
M12 x 1.5	7/8	–	–	5/16-24	15/32	3/4	1-1/2	316	ZTAM12FX51F-316
M12 x 1.75	18mm	–	–	M10 x 1.5	14.3mm	16mm	38.1mm	316	ZTAM12CXM10C-316
M12 x 1.75	18mm	–	–	M10 x 1.5	14.3mm	16mm	38.1mm	Alum	ZTAM12CXM10C-AL
M12 x 1.75	18mm	–	–	M10 x 1	14.3mm	16mm	38.1mm	18-8	ZTAM12CXM10EF-188
M12 x 1.75	18mm	–	–	M10 x 1	14.3mm	16mm	38.1mm	316	ZTAM12CXM10EF-316
M12 x 1.75	18mm	–	–	M10 x 1.25	14.3mm	16mm	38.1mm	18-8	ZTAM12CXM10F-188
M12 x 1.75	18mm	–	–	M10 x 1.25	14.3mm	16mm	38.1mm	316	ZTAM12CXM10F-316
M12 x 1.75	18mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	316	ZTAM12CXM12EF-316
M12 x 1.75	18mm	–	–	M12 x 1.25	22.2mm	22mm	38.1mm	Alum	ZTAM12CXM12EF-AL
M12 x 1.75	18mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	316	ZTAM12CXM12F-316

AMPG ACCURATE MANUFACTURED PRODUCTS GROUP

ISO 9001:2015

Male-Female Thread Adapters

Metric Male Thread Size



Male Thread A Side	Male Thd Lth A Side	Male Thread B Side	Male Thd Lth B Side	Female Thread B Side	Female Thd Lth B Side	Hex A/F	Hex Length	Material	Part Number
M12 x 1.75	18mm	–	–	M12 x 1.5	22.2mm	22mm	38.1mm	Alum	ZTAM12CXM12F-AL
M12 x 1.75	19mm	M10 x 1.5	19mm	–	–	19mm	9.5mm	18-8	ZTAEM12CXM10C-188
M12 x 1.75	19mm	M10 x 1.5	19mm	–	–	19mm	9.5mm	316	ZTAEM12CXM10C-316
M12 x 1.75	19mm	M10 x 1.5	19mm	–	–	19mm	9.5mm	Alum	ZTAEM12CXM10C-AL
M12 x 1.75	19mm	M10 x 1	19mm	–	–	19mm	9.5mm	18-8	ZTAEM12CXM10EF-188
M12 x 1.75	19mm	M10 x 1	19mm	–	–	19mm	9.5mm	316	ZTAEM12CXM10EF-316
M12 x 1.75	19mm	M10 x 1	19mm	–	–	19mm	9.5mm	Alum	ZTAEM12CXM10EF-AL
M12 x 1.75	19mm	M10 x 1.25	19mm	–	–	19mm	9.5mm	18-8	ZTAEM12CXM10F-188
M12 x 1.75	19mm	M10 x 1.25	19mm	–	–	19mm	9.5mm	316	ZTAEM12CXM10F-316
M12 x 1.75	19mm	M10 x 1.25	19mm	–	–	19mm	9.5mm	Alum	ZTAEM12CXM10F-AL
M12 x 1.75	19mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	316	ZTAEM12CXM12EF-316
M12 x 1.75	19mm	M12 x 1.25	19mm	–	–	19mm	9.5mm	Alum	ZTAEM12CXM12EF-AL
M12 x 1.75	19mm	M12 x 1.5	19mm	–	–	19mm	9.5mm	18-8	ZTAEM12CXM12F-188
M12 x 1.75	19mm	M12 x 1.5	19mm	–	–	19mm	9.5mm	316	ZTAEM12CXM12F-316
M12 x 1.75	3/4	–	–	1/2-13	7/8	3/4	1-1/2	316	ZTAM12CX12C-316
M12 x 1.75	3/4	–	–	1/2-13	7/8	3/4	1-1/2	Alum	ZTAM12CX12C-AL
M12 x 1.75	3/4	–	–	1/2-28	7/8	3/4	1-1/2	18-8	ZTAM12CX12EF-188
M12 x 1.75	3/4	–	–	1/2-28	7/8	3/4	1-1/2	316	ZTAM12CX12EF-316
M12 x 1.75	3/4	–	–	1/2-20	7/8	3/4	1-1/2	18-8	ZTAM12CX12F-188
M12 x 1.75	3/4	–	–	1/2-20	7/8	3/4	1-1/2	316	ZTAM12CX12F-316
M12 x 1.75	3/4	–	–	3/8-16	7/8	3/4	1-1/2	316	ZTAM12CX38C-316
M12 x 1.75	3/4	–	–	3/8-16	7/8	3/4	1-1/2	Alum	ZTAM12CX38C-AL
M12 x 1.75	3/4	–	–	3/8-32	7/8	3/4	1-1/2	18-8	ZTAM12CX38EF-188
M12 x 1.75	3/4	–	–	3/8-32	7/8	3/4	1-1/2	316	ZTAM12CX38EF-316
M12 x 1.75	3/4	–	–	3/8-24	7/8	3/4	1-1/2	18-8	ZTAM12CX38F-188
M12 x 1.75	3/4	–	–	3/8-24	7/8	3/4	1-1/2	316	ZTAM12CX38F-316
M12 x 1.75	7/8	–	–	1/4-20	3/8	3/4	1-1/2	18-8	ZTAM12CX14C-188
M12 x 1.75	7/8	–	–	1/4-20	3/8	3/4	1-1/2	316	ZTAM12CX14C-316
M12 x 1.75	7/8	–	–	1/4-20	3/8	3/4	1-1/2	Alum	ZTAM12CX14C-AL
M12 x 1.75	7/8	–	–	1/4-32	3/8	3/4	1-1/2	18-8	ZTAM12CX14EF-188
M12 x 1.75	7/8	–	–	1/4-28	3/8	3/4	1-1/2	18-8	ZTAM12CX14F-188
M12 x 1.75	7/8	–	–	1/4-28	3/8	3/4	1-1/2	316	ZTAM12CX14F-316
M12 x 1.75	7/8	–	–	5/16-18	15/32	3/4	1-1/2	18-8	ZTAM12CX51C-188
M12 x 1.75	7/8	–	–	5/16-18	15/32	3/4	1-1/2	316	ZTAM12CX51C-316
M12 x 1.75	7/8	–	–	5/16-18	15/32	3/4	1-1/2	Alum	ZTAM12CX51C-AL
M12 x 1.75	7/8	–	–	5/16-32	15/32	3/4	1-1/2	18-8	ZTAM12CX51EF-188
M12 x 1.75	7/8	–	–	5/16-24	15/32	3/4	1-1/2	18-8	ZTAM12CX51F-188
M12 x 1.75	7/8	–	–	5/16-24	15/32	3/4	1-1/2	316	ZTAM12CX51F-316

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Nuts Index

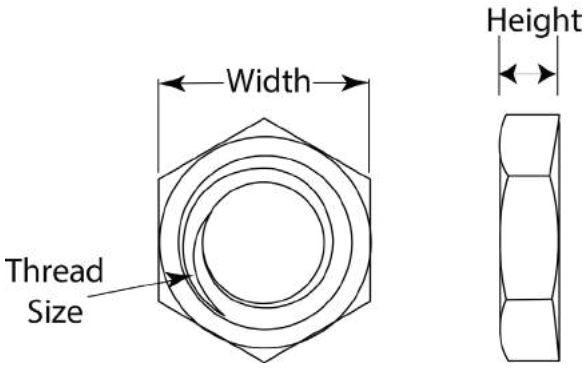
Page	Description
I-1	Narrow Hex Nuts — Inch and Metric
I-2 to I-6	Hex Jam Nuts — Inch and Metric
I-7 to I-10	Jam Nuts Left Hand Thread — Inch and Metric
I-11 to I-12	Machine Screw Nuts — Inch
I-13 to I-17	Hex Full Nuts — Inch and Metric
I-18 to I-20	Hex Panel Nuts — Inch and Metric
I-21	Heavy Hex Nuts — Inch
I-22 to I-25	Hex Flange Nuts — Inch and Metric
I-26 to I-30	Hex Serrated Flange Nuts — Inch and Metric
I-31 to I-34	Hex Coupling Nuts — Inch and Metric
I-35 to I-36	Extra-Long Hex Coupling Nuts — Inch and Metric
I-37 to I-40	Right-Hand to Left-Hand Hex Coupling Nuts — Inch and Metric
I-41 to I-62	Hex Reducing Coupling Nuts — Inch to Inch, Inch to Metric, Metric to Metric
I-63 to I-66	Round Coupling Nuts — Inch and Metric
I-67 to I-68	Socket Drive Nuts — Inch and Metric
I-69 to I-70	Standard Cap Nuts (Acorn Nuts) — Inch and Metric
I-71	High Cap Nuts (“Too Tall” Acorn Nuts)— Inch
I-72 to I-74	Knurled Thumb Nuts — Inch and Metric
I-75	Shoulder Nuts for Studs and Bolts — Inch
I-76	30° Wedge Ramp Threads & External Nylon Pellet Lock Nuts — Inch
I-76	Shock Absorber Nuts — Inch and Metric
I-77	Knurled Round Nuts with Wrench Flats — Inch
I-77	Spanner Nuts —Hydraulic Clamping Cylinder Jam Nuts — Inch
I-78	Knurled Lock Nuts — Inch
I-78	Check Nuts — Inch
I-78	Extra Wide Nuts — Inch

Narrow Hex Nuts — Inch and Metric

Hex Nuts are the most common nuts for general fastening applications. Nuts may be mildy magnetic and have a Class 2B thread fit for Inch and 6H for Metric.

Materials and finishes offered in:

- 18-8 Stainless Steel, Black Oxide Finish
- 316 Stainless Steel, Plain
- 316 Stainless Steel, Black Oxide





Hex Nut Narrow, Inch

Thread Size	Width	Height	18-8 SS, Black Oxide Part Number	316 SS Part Number	316 SS, Black Oxide Part Number
4-40	3/16	1/16	—	NUT20004C-316	NUT20004C-316B
5-40	1/4	3/32	NUT20005C-B	NUT20005C-316	NUT20005C-316B
6-32	1/4	3/32	—	NUT20006C-316	NUT20006C-316B
8-32	1/4	3/32	—	NUT20008CX-316	NUT20008CX-316B
8-32	5/16	7/64	—	NUT20008C-316	NUT20008C-316B
10-24	5/16	7/64	—	NUT20010C-316	NUT20010C-316B
10-32	5/16	7/64	—	NUT20010FX-316	NUT20010FX-316B
10-32	11/32	1/8	NUT20010F-B	NUT20010F-316	NUT20010F-316B

Hex Nut Narrow, Metric

Thread Size (mm)	Width	Height	316 SS Part Number	316 SS, Black Oxide Part Number
M3 x 0.5	5	1.7	NUT20M3X0.5-316	NUT20M3X0.5-316-BX
M3.5 x 0.6	5.5	2.5	NUT20M3.5X0.6-316	NUT20M3.5X0.6-316-BX
M4 x 0.7	5.5	2.5	NUT20M4X0.7-316	NUT20M4X0.7-316-BX
M4 x 0.7	7	2.9	NUT20M4X0.7T-316	NUT20M4X0.7T-316-BX
M5 x 0.8	7	2.5	NUT20M5X0.8-316	NUT20M5X0.8-316-BX
M5 x 0.8	7.5	2.9	NUT20M5X0.8T-316	NUT20M5X0.8T-316-BX
M5 x 0.8	8	3.3	NUT20M5X0.8XT-316	NUT20M5X0.8XT-316-BX

Hex Jam Nuts — Inch

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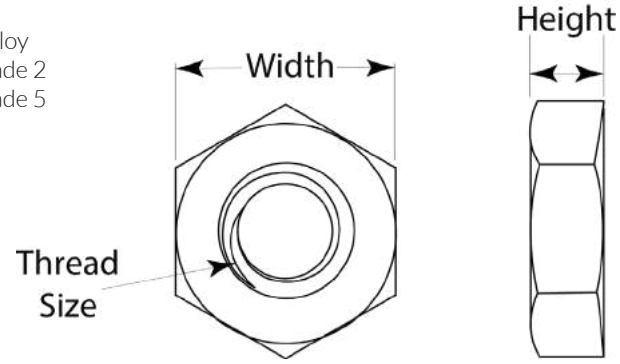
IMPORT

Also known as Hex Thin Nuts, they are about half the height of standard hex nuts. Use them in low-clearance applications or jam one against another nut to hold it in place. Nuts have a Class 2B thread fit.

Materials and finishes offered in:

- 18-8 Stainless Steel, Black Oxide Finish
- 316 Stainless Steel, Black Oxide Finish
- Aluminum
- Steel, Zinc Plated
- Steel, Black Oxide
- 316 H5 Stainless Steel
- 17-4 PH Stainless Steel
- A286 Stainless Steel
- 410 Stainless Steel
- Monel 405
- C276 Hastelloy
- Titanium Grade 2
- Titanium Grade 5





18-8 SS, Black Oxide Hex Jam Nuts

Thread Size	Width	Height	18-8 SS, Black Oxide Part Number
1/4-20	7/16	5/32	NUT25214C-B*
1/4-28	7/16	5/32	NUT25214F-B*
5/16-18	1/2	3/16	NUT25251C-B*
5/16-24	1/2	3/16	NUT25251F-B*
3/8-16	9/16	7/32	NUT25238C-B*
3/8-24	9/16	7/32	NUT25238F-B*
7/16-14	11/16	1/4	NUT25271C-B*
7/16-20	11/16	1/4	NUT25271F-B*
1/2-13	3/4	5/16	NUT25212C-B*
1/2-20	3/4	5/16	NUT25212F-B*
5/8-11	15/16	3/8	NUT25258C-B*
5/8-18	15/16	3/8	NUT25258F-B*
3/4-10	1-1/8	27/64	NUT25234C-B*
3/4-16	1-1/8	27/64	NUT25234F-B*
7/8-14	1-5/16	31/64	NUT25278F-B
7/8-9	1-5/16	31/64	NUT25278C-B
1-8	1-1/2	35/64	NUT25281C-B
1-12	1-1/2	35/64	NUT25281F-B
1-1/8-7	1-11/16	39/64	NUT25282C-B
1-1/8-12	1-11/16	39/64	NUT25282F-B
1-1/4-12	1-7/8	23/32	NUT25283F-B
1-1/4-7	1-7/8	23/32	NUT25283C-B
1-1/2-6	2-1/4	27/32	NUT25284C-B
1-1/2-12	2-1/4	27/32	NUT25284F-B
1-3/4-5	2-5/8	31/32	NUT25285C-B
2-4 1/2	3	1-3/32	NUT25286C-B

316 SS, Black Oxide Hex Jam Nuts

Thread Size	Width	Height	316 SS, Black Oxide Part Number
1/4-20	7/16	5/32	NUT25314C-B*
1/4-28	7/16	5/32	NUT25314F-B*
5/16-18	1/2	3/16	NUT25351C-B*
5/16-24	1/2	3/16	NUT25351F-B*
3/8-16	9/16	7/32	NUT25338C-B*
3/8-24	9/16	7/32	NUT25338F-B*
7/16-14	11/16	1/4	NUT25371C-B
1/2-13	3/4	5/16	NUT25312C-B*
1/2-20	3/4	5/16	NUT25312F-B*
9/16-12	7/8	5/16	NUT25391C-B
5/8-11	15/16	3/8	NUT25358C-B*
5/8-18	15/16	3/8	NUT25358F-B*
3/4-10	1-1/8	27/64	NUT25334C-B*
3/4-16	1-1/8	27/64	NUT25334F-B*
7/8-14	1-5/16	31/64	NUT25378F-B
7/8-9	1-5/16	31/64	NUT25378C-B
1-8	1-1/2	35/64	NUT25381C-B
1-12	1-1/2	35/64	NUT25381F-B
1-1/8-12	1-11/16	39/64	NUT25382F-B
1-1/8-7	1-11/16	39/64	NUT25382C-B
1-1/4-12	1-7/8	23/32	NUT25383F-B
1-1/4-7	1-7/8	23/32	NUT25383C-B
1-1/2-12	2-1/4	27/32	NUT25384F-B
1-1/2-6	2-1/4	27/32	NUT25384C-B
1-3/4-5	2-5/8	31/32	NUT25385C-B
2-4 1/2	3	1-3/32	NUT25386C-B

**Imported*

Hex Jam Nuts — Inch



Aluminum Hex Jam Nuts

Thread Size	Width	Height	Aluminum Part Number
1/4-20	7/16	5/32	NUT70114C
1/4-28	7/16	5/32	NUT70114F
5/16-18	1/2	3/16	NUT70151C
5/16-24	1/2	3/16	NUT70151F
3/8-16	9/16	7/32	NUT70138C
3/8-24	9/16	7/32	NUT70138F
1/2-13	3/4	5/16	NUT70112C
1/2-20	3/4	5/16	NUT70112F
5/8-11	15/16	3/8	NUT70158C
5/8-18	15/16	3/8	NUT70158F
3/4-10	1-1/8	27/64	NUT70134C
3/4-16	1-1/8	27/64	NUT70134F
1-14	1-1/2	35/64	ZNJ06188F
1-8	1-1/2	35/64	ZNJ06188C



Steel, Zinc Hex Jam Nuts

Thread Size	Width	Height	Steel, Zinc Part Number
1/4-20	7/16	5./32	NUT25114C
1/4-28	7/16	5/32	NUT25114F
9/16-18	7/8	5/16	NUT25191F



Steel, Black Oxide Hex Jam Nuts

Thread Size	Width	Height	Steel, Bl. Ox. Part Number
1-5/16-16	1-7/8	1/2	Z0340



316 H5, 17-4 PH, A286 and 410 SS Hex Jam Nuts

Thread Size	Width	Height	316 H5 Part Number	17-4 PH SS Part Number	A286 SS Part Number	410 SS Part Number
1/4-20	7/16	5/32	ZNJ61614C	ZNJ17414C	ZNJ28614C	ZNJ41014C
1/4-28	7/16	5/32	ZNJ61614F	ZNJ17414F	ZNJ28614F	ZNJ41014F
5/16-18	1/2	3/16	ZNJ61651C	ZNJ17451C	ZNJ28651C	ZNJ41051C
5/16-24	1/2	3/16	ZNJ61651F	ZNJ17451F	ZNJ28651F	ZNJ41051F
3/8-16	9/16	7/32	ZNJ61638C	ZNJ17438C	ZNJ28638C	ZNJ41038C
3/8-24	9/16	7/32	ZNJ61638F	ZNJ17438F	ZNJ28638F	ZNJ41038F
1/2-13	3/4	5/16	ZNJ61612C	ZNJ17412C	ZNJ28612C	ZNJ41012C
1/2-20	3/4	5/16	ZNJ61612F	ZNJ17412F	ZNJ28612F	ZNJ41012F
5/8-11	15/16	3/8	ZNJ61658C	ZNJ17458C	ZNJ28658C	ZNJ41058C
5/8-18	15/16	3/8	ZNJ61658F	ZNJ17458F	ZNJ28658F	ZNJ41058F
3/4-10	1-1/8	27/64	ZNJ61634C	ZNJ17434C	ZNJ28634C	ZNJ41034C
3/4-16	1-1/8	27/64	ZNJ61634F	ZNJ17434F	ZNJ28634F	ZNJ41034F
1-8	1-1/2	35/64	ZNJ61688C	ZNJ17488C	ZNJ28688C	ZNJ41088C
1-14	1-1/2	35/64	ZNJ61688F	ZNJ17488F	ZNJ28688F	ZNJ41088F

Hex Jam Nuts — Inch



Exotic Materials Hex Jam Nuts

Thread Size	Width	Height	Monel 405 Part Number	C276 Hastelloy Part Number
1/4-20	7/16	5/32	ZNJ40514C	ZNJ27614C
1/4-28	7/16	5/32	ZNJ40514F	ZNJ27614F
5/16-18	1/2	3/16	ZNJ40551C	ZNJ27651C
5/16-24	1/2	3/16	ZNJ40551F	ZNJ27651F
3/8-16	9/16	7/32	ZNJ40538C	ZNJ27638C
3/8-24	9/16	7/32	ZNJ40538F	ZNJ27638F
1/2-13	3/4	5/16	ZNJ40512C	ZNJ27612C
1/2-20	3/4	5/16	ZNJ40512F	ZNJ27612F
5/8-11	15/16	3/8	ZNJ40558C	ZNJ27658C
5/8-18	15/16	3/8	ZNJ40558F	ZNJ27658F
3/4-10	1-1/8	27/64	ZNJ40534C	ZNJ27634C
3/4-16	1-1/8	27/64	ZNJ40534F	ZNJ27634F
1-8	1-1/2	35/64	ZNJ40588C	ZNJ27688C
1-14	1-1/2	35/64	ZNJ40588F	ZNJ27688F



Titanium Grade 2 & Grade 5 Hex Jam Nuts

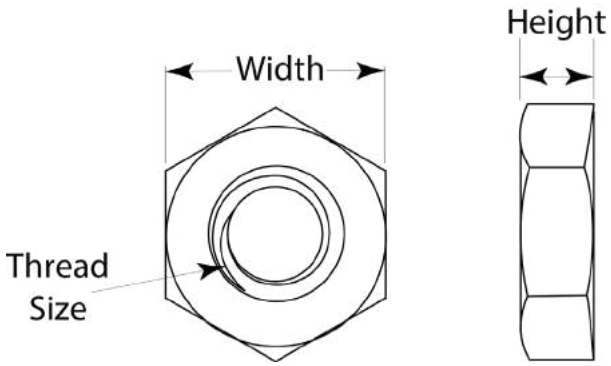
Thread Size	Width	Height	Ti2 Part Number	Ti5 Part Number
1/4-20	7/16	5/32	ZNJTI214C	ZNJTI514C
1/4-28	7/16	5/32	ZNJTI214F	ZNJTI514F
5/16-18	1/2	3/16	ZNJTI251C	ZNJTI551C
5/16-24	1/2	3/16	ZNJTI251F	ZNJTI551F
3/8-16	9/16	7/32	ZNJTI238C	ZNJTI538C
3/8-24	9/16	7/32	ZNJTI238F	ZNJTI538F
1/2-13	3/4	5/16	ZNJTI212C	ZNJTI512C
1/2-20	3/4	5/16	ZNJTI212F	ZNJTI512F
5/8-11	15/16	3/8	ZNJTI258C	ZNJTI558C
5/8-18	15/16	3/8	ZNJTI258F	ZNJTI558F
3/4-10	1-1/8	27/64	ZNJTI234C	ZNJTI534C
3/4-16	1-1/8	27/64	ZNJTI234F	ZNJTI534F
1-8	1-1/2	35/64	ZNJTI288C	ZNJTI588C
1-14	1-1/2	35/64	ZNJTI288F	ZNJTI588F

Jam Nuts — Metric

Also known as Hex Thin Nuts, they are about half the height of standard hex nuts. Use them in low-clearance applications or jam one against another nut to hold it in place. Nuts have a Class 6H thread fit and meet DIN 439B.

Materials and finishes offered in:

- Aluminum
- 316 H5 Stainless Steel
- 17-4 PH Stainless Steel
- A286 Stainless Steel
- 410 Stainless Steel
- 405 Monel
- C276 Hastelloy
- Titanium Grade 2
- Titanium Grade 5







Aluminum Hex Jam Nuts

Thread Size	Width	Height	Aluminum Part Number
M6 x 1	10.00	3.20	ZNJ061M6
M8 x 1.25	13.00	4.00	ZNJ061M8
M10 x 1.5	17.00	5.00	ZNJ061M10
M12 x 1.75	19.00	6.00	ZNJ061M12
M16 x 2	24.00	8.00	ZNJ061M16
M20 x 2.5	30.00	10.00	ZNJ061M20
M24 x 3	36.00	12.00	ZNJ061M24

316 H5 SS Hex Jam Nuts

Thread Size	Width	Height	316 H5 Part Number
M6 x 1	10.00	3.20	ZNJ616M6
M8 x 1.25	13.00	4.00	ZNJ616M8
M10 x 1.5	17.00	5.00	ZNJ616M10
M12 x 1.75	19.00	6.00	ZNJ616M12
M16 x 2	24.00	8.00	ZNJ616M16
M20 x 2.5	30.00	10.00	ZNJ616M20
M24 x 3	36.00	12.00	ZNJ616M24

Jam Nuts — Metric



17-4 PH SS Hex Jam Nuts

Thread Size	Width	Height	17-4 PH SS Part Number
M6 x 1	10.00	3.20	ZNJ174M6
M8 x 1.25	13.00	4.00	ZNJ174M8
M10 x 1.5	17.00	5.00	ZNJ174M10
M12 x 1.75	19.00	6.00	ZNJ174M12
M16 x 2	24.00	8.00	ZNJ174M16
M20 x 2.5	30.00	10.00	ZNJ174M20
M24 x 3	36.00	12.00	ZNJ174M24

Exotic Materials Hex Jam Nuts

Thread Size	Width	Height	405 Monel Part Number	C276 Hastelloy Part Number
M6 x 1	10.00	3.20	ZNJ405M6	ZNJ276M6
M8 x 1.25	13.00	4.00	ZNJ405M8	ZNJ276M8
M10 x 1.5	17.00	5.00	ZNJ405M10	ZNJ276M10
M12 x 1.75	19.00	6.00	ZNJ405M12	ZNJ276M12
M16 x 2	24.00	8.00	ZNJ405M16	ZNJ276M16
M20 x 2.5	30.00	10.00	ZNJ405M20	ZNJ276M20
M24 x 3	36.00	12.00	ZNJ405M24	ZNJ276M24

A286 SS Hex Jam Nuts

Thread Size	Width	Height	A286 SS Part Number
M6 x 1	10.00	3.20	ZNJ286M6
M8 x 1.25	13.00	4.00	ZNJ286M8
M10 x 1.5	17.00	5.00	ZNJ286M10
M12 x 1.75	19.00	6.00	ZNJ286M12
M16 x 2	24.00	8.00	ZNJ286M16
M20 x 2.5	30.00	10.00	ZNJ286M20
M24 x 3	36.00	12.00	ZNJ286M24

Titanium Grade 2 Hex Jam Nuts

Thread Size	Width	Height	Ti2 Part Number
M6 x 1	10.00	3.20	ZNJTI2M6
M8 x 1.25	13.00	4.00	ZNJTI2M8
M10 x 1.5	17.00	5.00	ZNJTI2M10
M12 x 1.75	19.00	6.00	ZNJTI2M12
M16 x 2	24.00	8.00	ZNJTI2M16
M20 x 2.5	30.00	10.00	ZNJTI2M20
M24 x 3	36.00	12.00	ZNJTI2M24

410 SS Hex Jam Nuts

Thread Size	Width	Height	410 SS Part Number
M6 x 1	10.00	3.20	ZNJ410M6
M8 x 1.25	13.00	4.00	ZNJ410M8
M10 x 1.5	17.00	5.00	ZNJ410M10
M12 x 1.75	19.00	6.00	ZNJ410M12
M16 x 2	24.00	8.00	ZNJ410M16
M20 x 2.5	30.00	10.00	ZNJ410M20
M24 x 3	36.00	12.00	ZNJ410M24

Titanium Grade 5 Hex Jam Nuts

Thread Size	Width	Height	Ti5 Part Number
M6 x 1	10.00	3.20	ZNJTI5M6
M8 x 1.25	13.00	4.00	ZNJTI5M8
M10 x 1.5	17.00	5.00	ZNJTI5M10
M12 x 1.75	19.00	6.00	ZNJTI5M12
M16 x 2	24.00	8.00	ZNJTI5M16
M20 x 2.5	30.00	10.00	ZNJTI5M20
M24 x 3	36.00	12.00	ZNJTI5M24

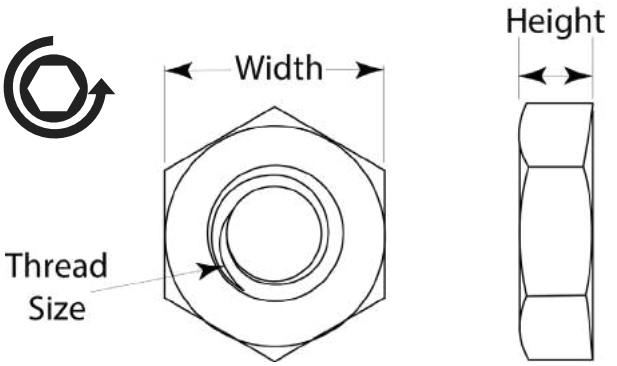
Jam Nuts Left Hand Thread — Inch

Product Information

Also known as Thin Hex Nuts, these Jam Nuts are about half the height of standard hex nuts and have left hand threads. Use them in low-clearance applications or jam one against another nut to hold it in place. Nuts have a Class 2B thread fit.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain | Black Oxide
- 316 Stainless Steel | Plain | Black Oxide
- Brass | Plain
- Steel |Black Oxide





Thread Size	Width	Height	18-8 SS Part Number	18-8 SS, Blk Ox. Part Number	316 SS Part Number	Steel, Black Ox. Part Number	Brass, Part Number
4-40	1/4	1/16	NUTJ04C-LH	NUTJ04C-LH-BX	NUTJ04C-LH-316	NUTJ04C-LH-STLBX	NUTJ04C-LH-BR
4-48	1/4	1/16	NUTJ04F-LH	NUTJ04F-LH-BX	NUTJ04F-LH-316	NUTJ04F-LH-STLBX	NUTJ04F-LH-BR
5-40	5/16	3/32	NUTJ05C-LH	NUTJ05C-LH-BX	NUTJ05C-LH-316	NUTJ05C-LH-STLBX	NUTJ05C-LH-BR
5-44	5/16	3/32	NUTJ05F-LH	NUTJ05F-LH-BX	NUTJ05F-LH-316	NUTJ05F-LH-STLBX	NUTJ05F-LH-BR
6-32	5/16	3/32	NUTJ06C-LH	NUTJ06C-LH-BX	NUTJ06C-LH-316	NUTJ06C-LH-STLBX	NUTJ06C-LH-BR
6-40	5/16	3/32	NUTJ06F-LH	NUTJ06F-LH-BX	NUTJ06F-LH-316	NUTJ06F-LH-STLBX	NUTJ06F-LH-BR
8-32	11/32	7/64	NUTJ08C-LH	NUTJ08C-LH-BX	NUTJ08C-LH-316	NUTJ08C-LH-STLBX	NUTJ08C-LH-BR
8-36	11/32	7/64	NUTJ08F-LH	NUTJ08F-LH-BX	NUTJ08F-LH-316	NUTJ08F-LH-STLBX	NUTJ08F-LH-BR
10-24	3/8	7/64	NUTJ10C-LH	NUTJ10C-LH-BX	NUTJ10C-LH-316	NUTJ10C-LH-STLBX	NUTJ10C-LH-BR
10-32	3/8	7/64	NUTJ10F-LH	NUTJ10F-LH-BX	NUTJ10F-LH-316	NUTJ10F-LH-STLBX	NUTJ10F-LH-BR
12-24	7/16	9/64	NUTJ11C-LH	NUTJ11C-LH-BX	NUTJ11C-LH-316	NUTJ11C-LH-STLBX	NUTJ11C-LH-BR
12-28	7/16	9/64	NUTJ11F-LH	NUTJ11F-LH-BX	NUTJ11F-LH-316	NUTJ11F-LH-STLBX	NUTJ11F-LH-BR
1/2-13	3/4	5/16	NUTJ12C-LH	NUTJ12C-LH-BX	NUTJ12C-LH-316	NUTJ12C-LH-STLBX	NUTJ12C-LH-BR
1/2-20	3/4	5/16	NUTJ12F-LH	NUTJ12F-LH-BX	NUTJ12F-LH-316	NUTJ12F-LH-STLBX	NUTJ12F-LH-BR
1/4-20	7/16	5/32	NUTJ14C-LH	NUTJ14C-LH-BX	NUTJ14C-LH-316	NUTJ14C-LH-STLBX	NUTJ14C-LH-BR
1/4-28	7/16	5/32	NUTJ14F-LH	NUTJ14F-LH-BX	NUTJ14F-LH-316	NUTJ14F-LH-STLBX	NUTJ14F-LH-BR
3/4-10	1-1/8	27/64	NUTJ34C-LH	NUTJ34C-LH-BX	NUTJ34C-LH-316	NUTJ34C-LH-STLBX	NUTJ34C-LH-BR
3/4-16	1-1/8	27/64	NUTJ34F-LH	NUTJ34F-LH-BX	NUTJ34F-LH-316	NUTJ34F-LH-STLBX	NUTJ34F-LH-BR
3/8-16	9/16	7/32	NUTJ38C-LH	NUTJ38C-LH-BX	NUTJ38C-LH-316	NUTJ38C-LH-STLBX	NUTJ38C-LH-BR
3/8-24	9/16	7/32	NUTJ38F-LH	NUTJ38F-LH-BX	NUTJ38F-LH-316	NUTJ38F-LH-STLBX	NUTJ38F-LH-BR
5/16-18	1/2	3/16	NUTJ51C-LH	NUTJ51C-LH-BX	NUTJ51C-LH-316	NUTJ51C-LH-STLBX	NUTJ51C-LH-BR

Chart continued on next page

Jam Nuts Left Hand Thread — Inch



Thread Size	Width	Height	18-8 SS Part Number	18-8 SS, Blk Ox. Part Number	316 SS Part Number	Steel, Black Ox. Part Number	Brass, Part Number
5/16-24	1/2	3/16	NUTJ51F-LH	NUTJ51F-LH-BX	NUTJ51F-LH-316	NUTJ51F-LH-STLBX	NUTJ51F-LH-BR
7/16-14	11/16	1/4	NUTJ71C-LH	NUTJ71C-LH-BX	NUTJ71C-LH-316	NUTJ71C-LH-STLBX	NUTJ71C-LH-BR
7/16-20	11/16	1/4	NUTJ71F-LH	NUTJ71F-LH-BX	NUTJ71F-LH-316	NUTJ71F-LH-STLBX	NUTJ71F-LH-BR
9/16-12	7/8	5/16	NUTJ91C-LH	NUTJ91C-LH-BX	NUTJ91C-LH-316	NUTJ91C-LH-STLBX	NUTJ91C-LH-BR
9/16-18	7/8	5/16	NUTJ91F-LH	NUTJ91F-LH-BX	NUTJ91F-LH-316	NUTJ91F-LH-STLBX	NUTJ91F-LH-BR
5/8-11	15/16	3/8	NUTJ58C-LH	NUTJ58C-LH-BX	NUTJ58C-LH-316	NUTJ58C-LH-STLBX	NUTJ58C-LH-BR
5/8-18	15/16	3/8	NUTJ58F-LH	NUTJ58F-LH-BX	NUTJ58F-LH-316	NUTJ58F-LH-STLBX	NUTJ58F-LH-BR
7/8-9	1-5/16	31/64	NUTJ78C-LH	NUTJ78C-LH-BX	NUTJ78C-LH-316	NUTJ78C-LH-STLBX	NUTJ78C-LH-BR
7/8-20	1-5/16	31/64	NUTJ78EF-LH	NUTJ78EF-LH-BX	NUTJ78EF-LH-316	NUTJ78EF-LH-STLBX	NUTJ78EF-LH-BR
7/8-14	1-5/16	31/64	NUTJ78F-LH	NUTJ78F-LH-BX	NUTJ78F-LH-316	NUTJ78F-LH-STLBX	NUTJ78F-LH-BR
1-8	1-1/2	35/64	NUTJ81C-LH	NUTJ81C-LH-BX	NUTJ81C-LH-316	NUTJ81C-LH-STLBX	NUTJ81C-LH-BR
1-14	1-1/2	35/64	NUTJ81EF-LH	NUTJ81EF-LH-BX	NUTJ81EF-LH-316	NUTJ81EF-LH-STLBX	NUTJ81EF-LH-BR
1-12	1-1/2	35/64	NUTJ81F-LH	NUTJ81F-LH-BX	NUTJ81F-LH-316	NUTJ81F-LH-STLBX	NUTJ81F-LH-BR
1-1/8-7	1-11/16	39/64	NUTJ82C-LH	NUTJ82C-LH-BX	NUTJ82C-LH-316	NUTJ82C-LH-STLBX	NUTJ82C-LH-BR
1-1/8-12	1-11/16	39/64	NUTJ82F-LH	NUTJ82F-LH-BX	NUTJ82F-LH-316	NUTJ82F-LH-STLBX	NUTJ82F-LH-BR
1-1/4-7	1-7/8	23/32	NUTJ83C-LH	NUTJ83C-LH-BX	NUTJ83C-LH-316	NUTJ83C-LH-STLBX	NUTJ83C-LH-BR
1-1/4-12	1-7/8	23/32	NUTJ83F-LH	NUTJ83F-LH-BX	NUTJ83F-LH-316	NUTJ83F-LH-STLBX	NUTJ83F-LH-BR
1-1/2-6	2-1/4	27/32	NUTJ84C-LH	NUTJ84C-LH-BX	NUTJ84C-LH-316	NUTJ84C-LH-STLBX	NUTJ84C-LH-BR
1-1/2-12	2-1/4	27/32	NUTJ84F-LH	NUTJ84F-LH-BX	NUTJ84F-LH-316	NUTJ84F-LH-STLBX	NUTJ84F-LH-BR
1-3/4-5	2-5/8	31/32	NUTJ85C-LH	NUTJ85C-LH-BX	NUTJ85C-LH-316	NUTJ85C-LH-STLBX	NUTJ85C-LH-BR
1-3/4-16	2-5/8	31/32	NUTJ85EF-LH	NUTJ85EF-LH-BX	NUTJ85EF-LH-316	NUTJ85EF-LH-STLBX	NUTJ85EF-LH-BR
2-4-1/2	3	1-3/32	NUTJ86C-LH	NUTJ86C-LH-BX	NUTJ86C-LH-316	NUTJ86C-LH-STLBX	NUTJ86C-LH-BR
2-12	3	1-3/32	NUTJ86EF-LH	NUTJ86EF-LH-BX	NUTJ86EF-LH-316	NUTJ86EF-LH-STLBX	NUTJ86EF-LH-BR

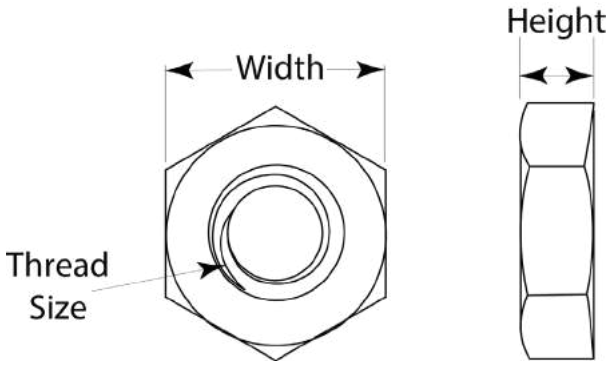
Jam Nuts Left Hand Thread — Metric

Product Information

Also known as Thin Hex Nuts, these Jam Nuts are about half the height of standard hex nuts and have left-hand threads. Use them in low-clearance applications or jam one against another nut to hold it in place. Nuts have a Class 6H thread fit.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain |Black Oxide
- 316 Stainless Steel | Plain |Black Oxide
- Brass | Plain
- Steel |Black Oxide





Thread Size	Width	Height	18-8 SS Part Number	18-8 SS, Blk Ox. Part Number	316 SS Part Number	Steel, Black Ox. Part Number	Brass, Part Number
M3 x 0.35	5.5	1.8	NUTJM3X0.35-LH	NUTJM3X0.35-LH-BX	NUTJM3X0.35-LH-316	NUTJM3X0.35-LH-STLBX	NUTJM3X0.35-LH-BR
M3 x 0.5	5.5	1.8	NUTJM3X0.5-LH	NUTJM3X0.5-LH-BX	NUTJM3X0.5-LH-316	NUTJM3X0.5-LH-STLBX	NUTJM3X0.5-LH-BR
M4 x 0.5	7	2.2	NUTJM4X0.5-LH	NUTJM4X0.5-LH-BX	NUTJM4X0.5-LH-316	NUTJM4X0.5-LH-STLBX	NUTJM4X0.5-LH-BR
M4 x 0.7	7	2.2	NUTJM4X0.7-LH	NUTJM4X0.7-LH-BX	NUTJM4X0.7-LH-316	NUTJM4X0.7-LH-STLBX	NUTJM4X0.7-LH-BR
M5 x 0.5	8	2.7	NUTJM5X0.5-LH	NUTJM5X0.5-LH-BX	NUTJM5X0.5-LH-316	NUTJM5X0.5-LH-STLBX	NUTJM5X0.5-LH-BR
M5 x 0.8	8	2.7	NUTJM5X0.8-LH	NUTJM5X0.8-LH-BX	NUTJM5X0.8-LH-316	NUTJM5X0.8-LH-STLBX	NUTJM5X0.8-LH-BR
M6 x 0.75	10	3.2	NUTJM6X0.75-LH	NUTJM6X0.75-LH-BX	NUTJM6X0.75-LH-316	NUTJM6X0.75-LH-STLBX	NUTJM6X0.75-LH-BR
M6 x 1	10	3.2	NUTJM6X1-LH	NUTJM6X1-LH-BX	NUTJM6X1-LH-316	NUTJM6X1-LH-STLBX	NUTJM6X1-LH-BR
M8 x 1	13	4	NUTJM8X1-LH	NUTJM8X1-LH-BX	NUTJM8X1-LH-316	NUTJM8X1-LH-STLBX	NUTJM8X1-LH-BR
M8 x 1.25	13	4	NUTJM8X1.25-LH	NUTJM8X1.25-LH-BX	NUTJM8X1.25-LH-316	NUTJM8X1.25-LH-STLBX	NUTJM8X1.25-LH-BR
M10 x 1	17	5	NUTJM10X1-LH	NUTJM10X1-LH-BX	NUTJM10X1-LH-316	NUTJM10X1-LH-STLBX	NUTJM10X1-LH-BR
M10 x 1.5	17	5	NUTJM10X1.5-LH	NUTJM10X1.5-LH-BX	NUTJM10X1.5-LH-316	NUTJM10X1.5-LH-STLBX	NUTJM10X1.5-LH-BR
M12 x 1.5	19	6	NUTJM12X1.5-LH	NUTJM12X1.5-LH-BX	NUTJM12X1.5-LH-316	NUTJM12X1.5-LH-STLBX	NUTJM12X1.5-LH-BR
M12 x 1.75	19	6	NUTJM12X1.75-LH	NUTJM12X1.75-LH-BX	NUTJM12X1.75-LH-316	NUTJM12X1.75-LH-STLBX	NUTJM12X1.75-LH-BR
M14 x 1.5	22	7	NUTJM14X1.5-LH	NUTJM14X1.5-LH-BX	NUTJM14X1.5-LH-316	NUTJM14X1.5-LH-STLBX	NUTJM14X1.5-LH-BR
M14 x 2	22	7	NUTJM14X2-LH	NUTJM14X2-LH-BX	NUTJM14X2-LH-316	NUTJM14X2-LH-STLBX	NUTJM14X2-LH-BR
M16 x 1.5	24	8	NUTJM16X1.5-LH	NUTJM16X1.5-LH-BX	NUTJM16X1.5-LH-316	NUTJM16X1.5-LH-STLBX	NUTJM16X1.5-LH-BR

Jam Nuts Left Hand Thread — Metric



Thread Size	Width	Height	18-8 SS Part Number	18-8 SS, Blk Ox. Part Number	316 SS Part Number	Steel, Black Ox. Part Number	Brass, Part Number
M16 x 2	24	8	NUTJM16X2-LH	NUTJM16X2-LH-BX	NUTJM16X2-LH-316	NUTJM16X2-LH-STLBX	NUTJM16X2-LH-BR
M18 x 1.5	27	9	NUTJM18X1.5-LH	NUTJM18X1.5-LH-BX	NUTJM18X1.5-LH-316	NUTJM18X1.5-LH-STLBX	NUTJM18X1.5-LH-BR
M18 x 2.5	27	9	NUTJM18X2.5-LH	NUTJM18X2.5-LH-BX	NUTJM18X2.5-LH-316	NUTJM18X2.5-LH-STLBX	NUTJM18X2.5-LH-BR
M20 x 1.5	30	10	NUTJM20X1.5-LH	NUTJM20X1.5-LH-BX	NUTJM20X1.5-LH-316	NUTJM20X1.5-LH-STLBX	NUTJM20X1.5-LH-BR
M20 x 2.5	30	10	NUTJM20X2.5-LH	NUTJM20X2.5-LH-BX	NUTJM20X2.5-LH-316	NUTJM20X2.5-LH-STLBX	NUTJM20X2.5-LH-BR
M22 x 1.5	32	11	NUTJM22X1.5-LH	NUTJM22X1.5-LH-BX	NUTJM22X1.5-LH-316	NUTJM22X1.5-LH-STLBX	NUTJM22X1.5-LH-BR
M22 x 2.5	32	11	NUTJM22X2.5-LH	NUTJM22X2.5-LH-BX	NUTJM22X2.5-LH-316	NUTJM22X2.5-LH-STLBX	NUTJM22X2.5-LH-BR
M24 x 1.5	36	12	NUTJM24X1.5-LH	NUTJM24X1.5-LH-BX	NUTJM24X1.5-LH-316	NUTJM24X1.5-LH-STLBX	NUTJM24X1.5-LH-BR
M24 x 3	36	12	NUTJM24X3-LH	NUTJM24X3-LH-BX	NUTJM24X3-LH-316	NUTJM24X3-LH-STLBX	NUTJM24X3-LH-BR
M27 x 1.5	41	13.5	NUTJM27X1.5-LH	NUTJM27X1.5-LH-BX	NUTJM27X1.5-LH-316	NUTJM27X1.5-LH-STLBX	NUTJM27X1.5-LH-BR
M27 x 2	41	13.5	NUTJM27X2-LH	NUTJM27X2-LH-BX	NUTJM27X2-LH-316	NUTJM27X2-LH-STLBX	NUTJM27X2-LH-BR
M27 x 3	41	13.5	NUTJM27X3-LH	NUTJM27X3-LH-BX	NUTJM27X3-LH-316	NUTJM27X3-LH-STLBX	NUTJM27X3-LH-BR
M30 x 1.5	46	15	NUTJM30X1.5-LH	NUTJM30X1.5-LH-BX	NUTJM30X1.5-LH-316	NUTJM30X1.5-LH-STLBX	NUTJM30X1.5-LH-BR
M30 x 2	46	15	NUTJM30X2-LH	NUTJM30X2-LH-BX	NUTJM30X2-LH-316	NUTJM30X2-LH-STLBX	NUTJM30X2-LH-BR
M30 x 3.5	46	15	NUTJM30X3.5-LH	NUTJM30X3.5-LH-BX	NUTJM30X3.5-LH-316	NUTJM30X3.5-LH-STLBX	NUTJM30X3.5-LH-BR
M33 x 2	50	16.5	NUTJM33X2-LH	NUTJM33X2-LH-BX	NUTJM33X2-LH-316	NUTJM33X2-LH-STLBX	NUTJM33X2-LH-BR
M33 x 3.5	50	16.5	NUTJM33X3.5-LH	NUTJM33X3.5-LH-BX	NUTJM33X3.5-LH-316	NUTJM33X3.5-LH-STLBX	NUTJM33X3.5-LH-BR

Machine Screw Nuts — Inch

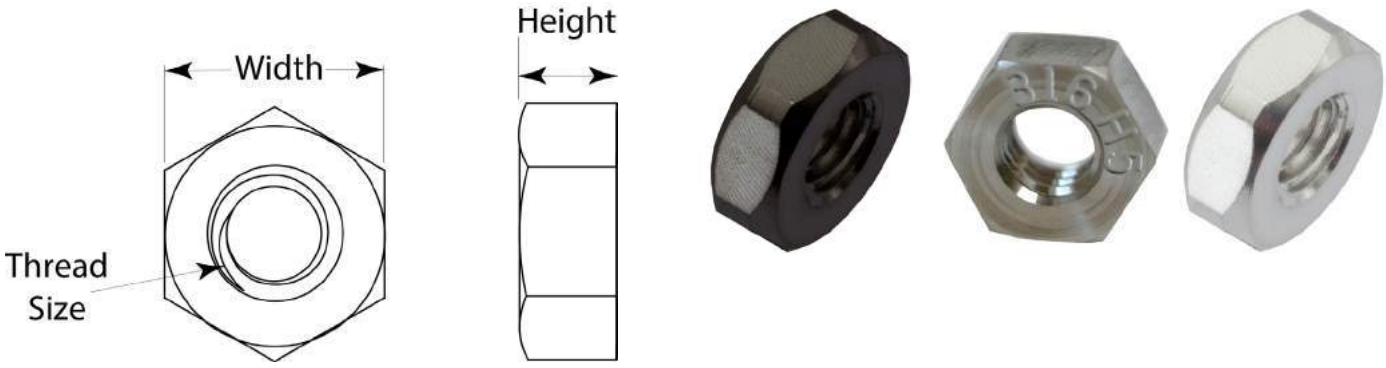
MADE IN THE USA

IMPORT

These Hex Nuts are often used with smaller diameter machine screws to connect materials together mechanically. These nuts are smaller in design in comparision to standard machine screw nuts and have smaller widths across the flats and corners.

Materials and finishes offered in:

- 316 Stainless Steel | Black Oxide finish
- 18-8 Stainless Steel | Black Oxide finish
- 316 H5 Stainless Steel | Plain
- Aluminum |Plain
- 405 Monel | Plain
- C276 Hastelloy
- Titanium Grade 2 |Plain
- Titanium Grade 5 |Plain



Thread Size	Width	Height	316 SS, Bl. Ox. Part Number	18-8 SS, Bl. Ox. Part Number	316 H5 SS Part Number	Aluminum Part Number
2-56	3/16	1/16	NUT20302C-B	—	—	NUT70002C
2-64	3/16	1/16	—	—	—	NUT70002F
3-48	3/16	1/16	—	—	—	NUT70003C
3-56	3/16	1/16	—	—	—	NUT70003F
4-40	1/4	3/32	NUT20304C-B*	—	NUT93004C	NUT70004C
4-48	1/4	3/32	—	—	—	NUT70004F
5-40	5/16	7/64	—	—	—	NUT70005C
5-44	5/16	7/64	—	—	—	NUT70005F
6-32	5/16	7/64	NUT20306C-B*	—	NUT93006C	NUT70006C
6-40	5/16	7/64	NUT20306F-B	NUT20206F-B*	—	NUT70006F
8-32	11/32	1/8	NUT20308C-B*	—	NUT93008C	NUT70008C
8-36	11/32	1/8	NUT20308F-B	NUT20208F-B*	—	NUT70008F
10-24	3/8	1/8	NUT20310C-B*	—	NUT93010C	NUT70010C
10-32	3/8	1/8	NUT20310F-B*	—	NUT93010F	NUT70010F
12-24	7/16	5/32	NUT20311C-B*	NUT20211C-B*	—	NUT700#12C
12-28	7/16	5/32	NUT20311F-B	NUT20211F-B*	—	NUT700#12F

**Imported*

Machine Screw Nuts — Inch

Exotic Material Machine Screw Hex Nuts



Thread Size	Width	Height	Monel 405 Part Number	C276 Hastelloy Part Number
4-40	1/4	3/32	NUT40504C	NUT27604C
6-32	5/16	7/64	NUT40506C	NUT27606C
8-32	11/32	1/8	NUT40508C	NUT27608C
10-24	3/8	1/8	NUT40510C	NUT27610C
10-32	3/8	1/8	NUT40510F	NUT27610F
1/4-20	7/16	7/32	NUT40514C	NUT27614C
5/16-18	1/2	17/64	NUT40551C	NUT27651C
3/8-16	9/16	21/64	NUT40538C	NUT27638C
1/2-13	3/4	7/16	NUT40512C	NUT27612C
5/8-11	15/16	35/64	NUT40558C	NUT27658C
3/4-10	1-1/8	41/64	NUT40534C	NUT27634C
7/8-9	1-5/16	3/4	NUT40578C	NUT27678C
1-8	1-1/2	55/64	NUT40588C	NUT27688C

Titanium Machine Screw Hex Nuts



Thread Size	Width	Height	Ti2 Part Number	Ti5 Part Number
2-56	3/16	1/16	NUT95002C	NUT95102C
4-40	1/4	3/32	NUT95004C	NUT95104C
6-32	5/16	7/64	NUT95006C	NUT95106C
8-32	11/32	1/8	NUT95008C	NUT95108C
10-24	3/8	1/8	NUT95010C	NUT95110C
10-32	3/8	1/8	NUT95010F	NUT95110F
1/4-20	7/16	7/32	NUT95014C	NUT95114C
1/4-28	7/16	7/32	NUT95014F	NUT95114F
5/16-18	1/2	17/64	NUT95051C	NUT95151C
5/16-24	1/2	17/64	NUT95051F	NUT95151F
3/8-16	9/16	21/64	NUT95038C	NUT95138C
3/8-24	9/16	21/64	NUT95038F	NUT95138F
7/16-14	11/16	3/8	NUT95071C	NUT95171C
7/16-20	11/16	3/8	NUT95071F	NUT95171F
1/2-13	3/4	7/16	NUT95012C	NUT95112C
1/2-20	3/4	7/16	NUT95012F	NUT95112F
5/8-11	15/16	35/64	NUT95058C	NUT95158C
5/8-18	15/16	35/64	NUT95058F	NUT95158F
3/4-10	1-1/8	41/64	NUT95034C	NUT95134C
7/8-9	1-5/16	3/4	NUT95078C	NUT95178C
7/8-14	1-5/16	3/4	NUT95078F	NUT95178F
1-8	1-1/2	55/64	NUT95088C	NUT95188C
1-14	1-1/2	55/64	NUT95088F	NUT95188F

Hex Full Nuts — Inch

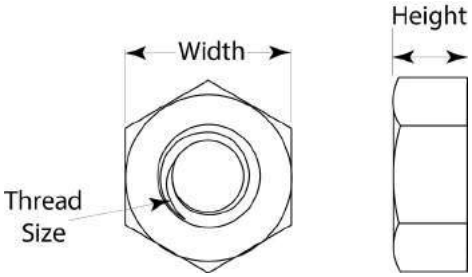
MADE IN THE USA

IMPORT

Hex Nuts are the most common nuts for general fastening applications. 18-8 stainless steel offers excellent corrosion resistance and resists chemicals, most dyes, food and nitric acid. Nuts may be mildy magnetic and have a Class 2B thread fit.

Materials and finishes offered in:

- 18-8 Stainless Steel, Plain | Black Oxide finish
- 316 Stainless Steel | Black Oxide finish
- 316 H5 Stainless Steel | Plain
- 17-4 PH Stainless Steel |Plain
- Steel Grade 8 | Plain
- Titanium Grade 2 | Plain
- Titanium Grade 5 | Plain





Stainless Steel Hex Full Nuts

Thread Size	Width	Height	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS, Black Oxide Part Number	316 H5 SS Part Number	17-4 PH SS Part Number
1/4-20	7/16	7/32	NUT20214C	NUT20214C-B*	NUT20314C-B*	NUT93014C	NUT17414C
1/4-28	7/16	7/32	NUT20214F	NUT20214F-B*	NUT20314F-B*	–	–
5/16-18	1/2	17/64	NUT20251C	NUT20251C-B*	NUT20351C-B*	NUT93051C	NUT17451C
5/16-24	1/2	17/64	NUT20251F	NUT20251F-B*	NUT20351F-B*	–	–
3/8-16	9/16	21/64	NUT20238C	NUT20238C-B*	NUT2038C-B*	NUT93038C	NUT17438C
3/8-24	9/16	21/64	NUT20238F	NUT20238F-B*	NUT2038F-B*	–	–
1/2-13	3/4	7/16	NUT20212C	NUT20212C-B*	NUT20312C-B*	NUT93012C	NUT17412C
1/2-20	3/4	7/16	NUT20212F	NUT20212F-B*	NUT20312F-B*	–	–
5/8-11	15/16	35/64	NUT20258C	NUT20258C-B*	NUT20358C-B*	–	–
5/8-18	15/16	35/64	NUT20258F	NUT20258F-B*	NUT20358F-B*	–	–
3/4-10	1-1/8	41/64	NUT20234C	NUT20234C-B*	NUT20334C-B*	–	–
3/4-16	1-1/8	41/64	NUT20234F	NUT20234F-B*	NUT20334F-B*	–	–
7/8-9	1-5/16	3/4	NUT20278C	NUT20278C-B*	NUT20378C-B*	–	–
1-8	1-1/2	55/64	NUT20281C	NUT20281C-B*	NUT20381C-B*	–	–
1-1/4-7	1-7/8	1-1/16	NUT20283C	NUT20283C-B*	NUT20383C-B*	–	–
7/16-14	11/16	3/8	NUT20271C	NUT20271C-B*	NUT20371C-B*	–	–
7/16-20	11/16	3/8	NUT20271F	NUT20271F-B*	NUT20371F-B*	–	–
9/16-12	7/8	31/64	NUT20291C	NUT20291C-B*	NUT20391C-B*	–	–
9/16-18	7/8	31/64	NUT20291F	NUT20291F-B*	NUT20391F-B*	–	–
7/8-14	1-5/16	3/4	NUT20278F	NUT20278F-B*	NUT20378F-B*	–	–
1-12	1-1/2	55/64	NUT20281F	NUT20281F-B*	NUT20381F-B*	–	–
1-1/8-7	1-11/16	31/32	NUT20282C	NUT20282C-B*	NUT20382C-B*	–	–
1-1/2-6	2-1/4	1-9/32	NUT20284C	NUT20284C-B*	NUT20384C-B*	–	–
1-3/4-5	2-5/8	1-1/2	NUT20285C	NUT20285C-B*	NUT20385C-B*	–	–
2-4 1/2	3	1-23/32	NUT20286C	NUT20286C-B*	NUT20386C-B*	–	–

**Imported*

Hex Full Nuts — Inch



Aluminum Hex Full Nuts

Thread Size	Width	Height	Aluminum Part Number
1/4-20	7/16	7/32	NUT70014C
1/4-32	7/16	7/32	NUT70014EF
1/4-28	7/16	7/32	NUT70014F
5/16-18	1/2	17/64	NUT70051C
5/16-24	1/2	17/64	NUT70051F
3/8-16	9/16	21/64	NUT70038C
3/8-24	9/16	21/64	NUT70038F
1/2-13	3/4	7/16	NUT70012C
1/2-28	3/4	7/16	NUT70012EF
1/2-20	3/4	7/16	NUT70012F
5/8-11	15/16	35/64	NUT70058C
5/8-18	15/16	35/64	NUT70058F
3/4-10	1-1/8	41/64	NUT70034C
3/4-16	1-1/8	41/64	NUT70034F
7/8-9	1-15/16	3/4	NUT70078C
3/8-32	9/16	21/64	NUT70038EF
5/16-32	1/2	17/64	NUT70051EF
7/16-14	11/16	3/8	NUT70071C
7/16-20	11/16	3/8	NUT70071F
7/16-28	11/16	3/8	NUT70071EF
9/16-12	7/8	31/64	NUT70091C
9/16-18	7/8	31/64	NUT70091F
5/8-24	15/16	35/64	NUT70058EF
3/4-20	1-1/8	41/64	NUT70034EF
1-8	1-1/2	55/64	NUT700010C
1-1/8-7	1-11/16	31/32	NUT700011C
1-1/4-7	1-7/8	1-1/16	NUT700012C
1-3/8-6	2-1/16	1-11/64	NUT700013C
1-1/2-6	2-1/4	1-9/32	NUT700015C
1-3/4-5	2-5/8	1-1/2	NUT700018C
2-4 1/2	3	1-23/32	NUT700020C



Steel, Zinc Plated Hex Full Nuts

Thread Size	Width	Height	Steel, Zinc Part Number
1/4-20	7/16	7/32	NUT10114C*
1/4-28	7/16	7/32	NUT10114F*
7/16-20	11/16	3/8	NUT10171F*
1-14	1-1/2	55/64	NUT10101F*





Steel Grade 8 Hex Full Nuts

Thread Size	Width	Height	Steel, Bl. Ox. Part Number	Steel, Yl. Zinc Part Number
3/8-16	9/16	21/64	Z0267*	—
1/2-13	3/4	7/16	Z0268*	NUT26112C*
5/8-11	15/16	35/64	Z0269*	—
3/4-10	1-1/8	41/64	Z0270*	NUT26134C*
7/8-9	1-5/16	3/4	Z0271*	—
1-8	1-1/2	55/64	Z0272*	—

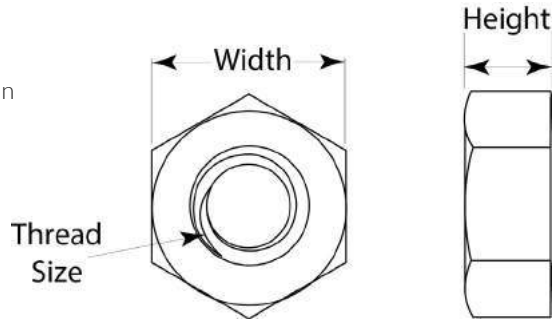
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Hex Full Nuts — Metric

Hex Nuts are the most common nuts for general fastening applications. Nuts may be mildly magnetic and have a Class 6H thread fit.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain
  18-8 Stainless Steel | Black Oxide finish
- 316 Stainless Steel | Black Oxide finish
- 316 H5 Stainless Steel |Plain
- 17-4 PH Stainless Steel | Plain
- A286 Stainless Steel |Plain
- Alloy 20 Stainless Steel |Plain
- Monel |Plain
- Titanium Grade 2 |Plain
- Titanium Grade 5 |Plain



18-8 SS Hex Full Nuts

Thread Size	Width	Height	18-8 SS Part Number	18-8 SS, Black Ox. Part Number
M2 x 0.4	4	1.6	—	NUT202M2-B
M2.5 x 0.45	5	2	—	NUT202M2.5-B
M3.5 x 0.6	6	2.8	—	NUT202M3.5-B
M7 x 1	11	5.5	—	NUT202M7-B
M8 x 1	13	6.5	NUT202M8F	NUT202M8F-B
M10 x 1	17	8	NUT202M10EF	NUT202M10EF-B
M10 x 1.25	17	8	NUT202M10F	NUT202M10F-B
M12 x 1	19	10	NUT202M12EF1.00	NUT202M12EF1.00-B
M12 x 1.25	19	10	NUT202M12EF1.25	NUT202M12EF1.25-B
M12 x 1.5	19	10	NUT202M12F	NUT202M12F-B
M14 x 1.5	22	11	NUT202M14F	NUT202M14F-B
M14 x 2	22	11	—	NUT202M14-B
M16 x 1.5	24	13	NUT202M16F	NUT202M16F-B
M18 x 1.5	27	15	NUT202M18F	NUT202M18F-B
M18 x 2.5	27	15	—	NUT202M18-B
M20 x 1.5	30	16	NUT202M20EF	NUT202M20EF-B
M20 x 2	30	16	NUT202M20F	NUT202M20F-B
M22 x 1.5	32	18	NUT202M22F	NUT202M22F-B
M22 x 2.5	32	18	—	NUT202M22-B
M24 x 1.5	36	19	NUT202M24EF	NUT202M24EF-B
M24 x 2	36	19	NUT202M24F	NUT202M24F-B
M27 x 1.5	41	22	NUT202M27EF	NUT202M27EF-B
M27 x 2	41	22	NUT202M27F	NUT202M27F-B
M27 x 3	41	22	—	NUT202M27-B
M30 x 1.5	46	24	NUT202M30EF	NUT202M30EF-B
M30 x 2	46	24	NUT202M30F	NUT202M30F-B
M30 x 3.5	46	24	—	NUT202M30-B
M33 x 1.5	50	26	NUT202M33EF	NUT202M33EF-B
M33 x 2	50	26	NUT202M33F	—
M36 x 1.5	55	29	NUT202M36EF	NUT202M36EF-B
M36 x 3	55	29	NUT202M36F	NUT202M36F-B
M36 x 4	55	29	—	NUT202M36-B
M42 x 4.5	65	34	—	NUT202M42-B
M48 x 5	75	38	—	NUT202M48-B



316 SS, Black Oxide Hex Full Nuts

Thread Size	Width	Height	316 SS, Black Ox. Part Number
M2 x 0.4	4	1.6	NUT203M2-B
M2.5 x 0.45	5	2	NUT203M2.5-B
M3 x 0.5	5.5	2.4	NUT203M3-B
M3.5 x 0.6	6	2.8	NUT203M3.5-B
M4 x 0.7	7	3.2	NUT203M4-B
M5 x 0.8	8	4	NUT203M5-B
M6 x 1	10	5	NUT203M6-B
M7 x 1	11	5.5	NUT203M7-B
M8 x 1.25	13	6.5	NUT203M8-B
M10 x 1.5	17	8	NUT203M10-B
M12 x 1.75	19	10	NUT203M12-B
M14 x 2	22	11	NUT203M14-B
M16 x 2	24	13	NUT203M16-B
M18 x 2.5	27	15	NUT203M18-B
M20 x 2.5	30	16	NUT203M20-B
M22 x 2.5	32	18	NUT203M22-B
M24 x 3	36	19	NUT203M24-B
M27 x 3	41	22	NUT203M27-B
M30 x 3.5	46	24	NUT203M30-B
M36 x 4	55	29	NUT203M36-B
M42 x 4.5	65	34	NUT203M42-B
M48 x 5	75	38	NUT203M48-B

Hex Full Nuts — Metric



316 H5 SS Hex Full Nuts

Thread Size	Width	Height	316 H5 SS Part Number
M2 x 0.4	4	1.6	NUT930M2C
M2.5 x 0.45	5	2	NUT930M2.5C
M3 x 0.5	5.5	2.4	NUT930M3C
M4 x 0.7	7	3.2	NUT930M4C
M5 x 0.8	8	4.7	NUT930M5C
M6 x 1	10	5.2	NUT930M6C
M8 x 1.25	13	6.8	NUT930M8C
M10 x 1.5	16	8.4	NUT930M10C
M12 x 1.75	18	10.8	NUT930M12C



Steel Hex Full Nuts

Thread Size	Width	Height	Steel Part Number	Steel, Black Ox. Part Number	Steel, Zinc Part Number
M5 x 0.8	8	4	—	—	NUT101M5
M6 x 1	10	5	—	—	NUT101M6
M8 x 1	13	6.5	NUT101M8F-STL	NUT101M8F-BX	—
M8 x 1.25	13	6.5	NUT101M8C-STL	NUT101M8C-BX	—
M10 x 1.25	17	8	NUT101M10F-STL	NUT101M10F-BX	—
M10 x 1.5	17	8	NUT101M10C-STL	NUT101M10C-BX	—
M12 x 1.5	19	10	NUT101M12F-STL	NUT101M12F-BX	—
M12 x 1.75	19	10	NUT101M12C-STL	NUT101M12C-BX	—
M14 x 1.5	22	11	NUT101M14F-STL	NUT101M14F-BX	—
M14 x 2	22	11	NUT101M14C-STL	NUT101M14C-BX	—
M16 x 1.5	24	13	NUT101M16F-STL	NUT101M16F-BX	—
M16 x 2	24	13	NUT101M16C-STL	NUT101M16C-BX	NUT201M16
M20 x 2	30	16	NUT101M20F-STL	NUT101M20F-BX	—
M20 x 2.5	30	16	NUT101M20C-STL	NUT101M20C-BX	NUT201M20
M24 x 2	36	19	NUT101M24F-STL	NUT101M24F-BX	—
M24 x 3	36	19	NUT101M24C-STL	NUT101M24C-BX	—
M30 x 3.5	46	24	NUT101M30C-STL	NUT101M30C-BX	—
M36 x 4	55	29	NUT101M36C-STL	NUT101M36C-BX	—
M42 x 4.5	65	34	NUT101M42C-STL	NUT101M42C-BX	—
M48 x 5	75	38	NUT101M48C-STL	NUT101M48C-BX	—

Hex Full Nuts — Metric

17-4 PH SS Hex Full Nuts

Thread Size	Width	Height	17-4 SS Part Number
M3 x 0.5	5.50	2.40	NUT174M3C
M4 x 0.7	7.00	3.20	NUT174M4C
M5 x 0.8	8.00	4.00	NUT174M5C
M6 x 1	10.00	5.00	NUT174M6C
M8 x 1.25	13.00	6.50	NUT174M8C
M10 x 1.5	17.00	8.00	NUT174M10C
M12 x 1.75	19.00	10.00	NUT174M12C
M16 x 2	24.00	13.00	NUT174M16C
M20 x 2.5	30.00	16.00	NUT174M20C
M24 x 3	36.00	19.00	NUT174M24C

A286 SS Hex Full Nuts

Thread Size	Width	Height	A286 SS Part Number
M3 x 0.5	5.50	2.40	NUT286M3C
M4 x 0.7	7.00	3.20	NUT286M4C
M5 x 0.8	8.00	4.00	NUT286M5C
M6 x 1	10.00	5.00	NUT286M6C
M8 x 1.25	13.00	6.50	NUT286M8C
M10 x 1.5	17.00	8.00	NUT286M10C
M12 x 1.75	19.00	10.00	NUT286M12C
M16 x 2	24.00	13.00	NUT286M16C
M20 x 2.5	30.00	16.00	NUT286M20C
M24 x 3	36.00	19.00	NUT286M24C

Alloy 20 SS Hex Full Nuts

Thread Size	Width	Height	Alloy 20 SS Part Number
M3 x 0.5	5.50	2.40	NUT020M3C
M4 x 0.7	7.00	3.20	NUT020M4C
M5 x 0.8	8.00	4.00	NUT020M5C
M6 x 1	10.00	5.00	NUT020M6C
M8 x 1.25	13.00	6.50	NUT020M8C
M10 x 1.5	17.00	8.00	NUT020M10C
M12 x 1.75	19.00	10.00	NUT020M12C
M16 x 2	24.00	13.00	NUT020M16C
M20 x 2.5	30.00	16.00	NUT020M20C
M24 x 3	36.00	19.00	NUT020M24C

Monel Hex Full Nuts

Thread Size	Width	Height	400 Nickel Part Number	C276 Nickel Part Number
M3 x 0.5	5.50	2.40	NUT405M3C	NUT276M3C
M4 x 0.7	7.00	3.20	NUT405M4C	NUT276M4C
M5 x 0.8	8.00	4.00	NUT405M5C	NUT276M5C
M6 x 1	10.00	5.00	NUT405M6C	NUT276M6C
M8 x 1.25	13.00	6.50	NUT405M8C	NUT276M8C
M10 x 1.5	17.00	8.00	NUT405M10C	NUT276M10C
M12 x 1.75	19.00	10.00	NUT405M12C	NUT276M12C
M16 x 2	24.00	13.00	NUT405M16C	NUT276M16C
M20 x 2.5	30.00	16.00	NUT405M20C	NUT276M20C
M24 x 3	36.00	19.00	NUT405M24C	NUT276M24C

Titanium Grade 2 Hex Full Nuts

Thread Size	Width	Height	Specifications Met	Ti2 Part Number
M2 x 0.4	4.00	1.60	DIN 934	NUT950M2C
M2.5 x 0.45	5.00	2.00	DIN 934	NUT950M2.5C
M3 x 0.5	5.50	2.40	DIN 934	NUT950M3C
M4 x 0.7	7.00	3.20	DIN 934	NUT950M4C
M5 x 0.8	8.00	4.70	ISO 4032	NUT950M5C
M6 x 1	10.00	5.20	ISO 4032	NUT950M6C
M8 x 1.25	13.00	6.80	ISO 4032	NUT950M8C
M10 x 1.5	16.00	8.40	ISO 4032	NUT950M10C
M12 x 1.75	18.00	10.80	ISO 4032	NUT950M12C
M16 x 2	24.00	13.00	DIN 934	NUT950M16C
M20 x 2.5	30.00	16.00	DIN 934	NUT950M20C
M24 x 3	36.00	19.00	DIN 934	NUT950M24C

Titanium Grade 5 Hex Full Nuts

Thread Size	Width	Height	Specifications Met	Ti5 Part Number
M2 x 0.4	4.00	1.60	DIN 934	NUT951M2C
M2.5 x 0.45	5.00	2.00	DIN 934	NUT951M2.5C
M3 x 0.5	5.50	2.40	DIN 934	NUT951M3C
M4 x 0.7	7.00	3.20	DIN 934	NUT951M4C
M5 x 0.8	8.00	4.70	ISO 4032	NUT951M5C
M6 x 1	10.00	5.20	ISO 4032	NUT951M6C
M8 x 1.25	13.00	6.80	ISO 4032	NUT951M8C
M10 x 1.5	16.00	8.40	ISO 4032	NUT951M10C
M12 x 1.75	18.00	10.80	ISO 4032	NUT951M12C
M16 x 2	24.00	13.00	DIN 934	NUT951M16C
M20 x 2.5	30.00	16.00	DIN 934	NUT951M20C
M24 x 3	36.00	19.00	DIN 934	NUT951M24C

18-8 SS, 316 SS, Steel

Hex Panel Nuts — Inch

MADE IN THE USA

These Hex Panel Nuts are often reffered to Dress Nuts and can be fastened with a wrench can be used to fasten them for greater torque compared to knurled panel nuts. They are slim in design, allowing for use in confined areas such as electrical panels.

Materials and finishes offered in:

- 18-8 Stainless Steel | Black Oxide | Plain
- Brass | Plain | Nickel Plated
- Steel | Zinc Plated
- Nylon (Limited Supply), Black color



Stainless Steel and Steel Hex Panel Nuts

Thread Size	Across Flats	Height	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	Steel, Black Ox. Part Number	Steel, Zinc Part Number
1/8-27	9/16	1/8	Z0214-SS	Z0214-SS-BX	Z0214-316	Z0214-STL-BX	—
1/8-27	5/8	1/8	Z0215	Z0215-SS-BX	Z0215-316	Z0215-STL-BX	Z0180
1/8-27	5/8	3/16	Z0216	Z0216-SS-BX	Z0216-316	Z0216-STL-BX	Z0181
1/4-18	11/16	1/4	Z0217-SS	Z0217-SS-BX	Z0217-316	Z0217-STL-BX	—
1/4-18	11/16	17/64	Z0244-SS	Z0244-SS-BX	Z0244-316	—	—
1/4-18	11/16	9/32	Z0227-SS	Z0227-SS-BX	Z0227-316	—	—
1/4-32	3/8	3/32	Z0195-SS	Z0195-SS-BX	Z0195-316	Z0195-STL-BX	—
1/4-32	5/16	5/64	Z0196-SS	Z0196-SS-BX	Z0196-316	Z0196-STL-BX	Z0196-STL
1/4-32	7/16	7/32	Z0425-SS	Z0425-SS-BX	Z0425-316	Z0425-STL-BX	—
1/4-40	5/16	1/16	Z0436-SS	Z0436-SS-BX	Z0436-316	Z0436-STL-BX	—
1/4-40	5/8	3/16	Z0218-SS	Z0218-SS-BX	Z0218-316	Z0218-STL-BX	Z0183
5/16-32	3/8	3/32	Z0424-SS	Z0424-SS-BX	Z0424-316	Z0424-STL-BX	—
5/16-32	7/16	7/64	Z0204-SS	Z0204-SS-BX	Z0204-316	Z0204-STL-BX	Z0204-STL
5/16-32	1/2	17/64	Z0426-SS	Z0426-SS-BX	Z0426-316	Z0426-STL-BX	—
3/8-18	13/16	19/64	Z0234-SS	Z0234-SS-BX	Z0234-316	Z0234-STL-BX	—
3/8-18	13/16	9/32	Z0232-SS	Z0232-SS-BX	Z0232-316	Z0232-STL-BX	—
3/8-18	13/16	17/64	Z0229-SS	Z0229-SS-BX	Z0229-316	Z0229-STL-BX	—
3/8-32	1/2	3/32	Z0219-SS	Z0219-SS-BX	Z0219-316	Z0219-STL-BX	—
3/8-32	9/16	21/64	Z0427-SS	Z0427-SS-BX	Z0427-316	Z0427-STL-BX	—
3/8-32	5/8	3/32	Z0220	Z0220-SS-BX	Z0220-316	Z0220-STL-BX	Z0185
3/8-32	5/8	1/2	Z0221	Z0221-SS-BX	Z0221-316	Z0221-STL-BX	Z0186
3/8-32	5/8	9/16	Z0222	Z0222-SS-BX	Z0222-316	Z0222-STL-BX	Z0187
7/16-28	5/8	3/32	Z0446-SS	Z0446-SS-BX	Z0446-316	Z0446-STL-BX	Z0446-STL
7/16-28	11/16	3/8	Z0428-SS	Z0428-SS-BX	Z0428-316	Z0428-STL-BX	—
15/32-32	9/16	3/32	Z0198-SS	Z0198-SS-BX	Z0198-316	—	—
15/32-32	9/16	3/32	Z0223-SS	Z0223-SS-BX	Z0223-316	Z0223-STL-BX	—
15/32-32	9/16	5/64	Z0199-SS	Z0199-SS-BX	Z0199-316	Z0199-STL-BX	Z0199-STL
15/32-32	5/8	3/32	Z0225	Z0225-SS-BX	Z0225-316	Z0225-STL-BX	Z0190
15/32-32	5/8	9/16	Z0226	Z0226-SS-BX	Z0226-316	Z0226-STL-BX	Z0191
1/2-14	1	21/64	Z0238-SS	Z0238-SS-BX	Z0238-316	Z0238-STL-BX	—
1/2-14	1	11/32	Z0239-SS	Z0239-SS-BX	Z0239-316	Z0239-STL-BX	—
1/2-14	1	23/64	Z0242-SS	Z0242-SS-BX	Z0242-316	Z0242-STL-BX	—
1/2-28	5/8	3/32	Z0447-SS	Z0447-SS-BX	Z0447-316	Z0447-STL-BX	Z0447-STL

Hex Panel Nuts — Inch



Stainless Steel and Steel Hex Panel Nuts

Thread Size	Across Flats	Height	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	Steel, Black Ox. Part Number	Steel, Zinc Part Number
1/2-28	5/8	1/8	Z0224-SS	Z0224-SS-BX	Z0224-316	Z0224-STL-BX	—
1/2-28	3/4	5/16	NUT25212UNEF	—	—	—	—
1/2-28	3/4	3/8	Z0429-SS	Z0429-SS-BX	Z0429-316	Z0429-STL-BX	—
1/2-28	3/4	7/16	NUT20212UNEF	—	—	—	—
5/8-24	15/16	3/8	Z0430-SS	Z0430-SS-BX	Z0430-316	Z0430-STL-BX	—
5/8-24	15/16	35/64	NUT20258UNEF	—	—	—	—
5/8-27	3/4	1/8	Z0228	Z0228-SS-BX	Z0228-316	Z0228-STL-BX	Z0192
11/16-24	1	27/64	Z0431-SS	Z0431-SS-BX	Z0431-316	Z0431-STL-BX	—
3/4-20	1	27/64	Z0432-SS	Z0432-SS-BX	Z0432-316	Z0432-STL-BX	—
3/4-20	1-1/8	27/64	NUT25234UNEF	—	—	—	—
3/4-20	1-1/8	41/64	NUT20234UNEF	—	—	—	—
7/8-20	1-5/16	3/4	NUT20278UNEF	—	—	—	—
7/8-20	1-5/16	31/64	Z0433-SS	Z0433-SS-BX	Z0433-316	Z0433-STL-BX	—



Brass and Nylon Hex Panel Nuts

LIMITED SUPPLY

Thread Size	Across Flats	Height	Brass Part Number	Brass, Nickel Part Number	Nylon Part Number
1/8-27	1/2	1/8	Z0202-BR	Z0202	—
1/8-27	5/8	1/8	Z0200	—	Z0230
1/8-27	5/8	3/16	Z0201	—	Z0231
1/4-32	5/16	5/64	Z0196-BR	Z0196	—
1/4-32	3/8	3/32	Z0195-BR	Z0195	—
1/4-40	5/16	1/16	—	Z0197	—
1/4-40	5/8	3/16	Z0203	—	Z0233
5/16-32	7/16	7/64	Z0204-BR	Z0204	—
3/8-32	1/2	3/32	—	Z0209	—
3/8-32	5/8	3/32	Z0205	—	Z0235
3/8-32	5/8	1/2	Z0206	—	Z0236
3/8-32	5/8	9/16	Z0207	—	Z0237
15/32-32	9/16	3/32	—	Z0198	—
15/32-32	9/16	5/64	—	Z0199	—
15/32-32	5/8	3/32	Z0210	—	Z0240
15/32-32	5/8	9/16	Z0211	—	Z0241
1/2-28	5/8	1/8	—	Z0212	—
5/8-27	3/4	1/8	Z0213	—	Z0243

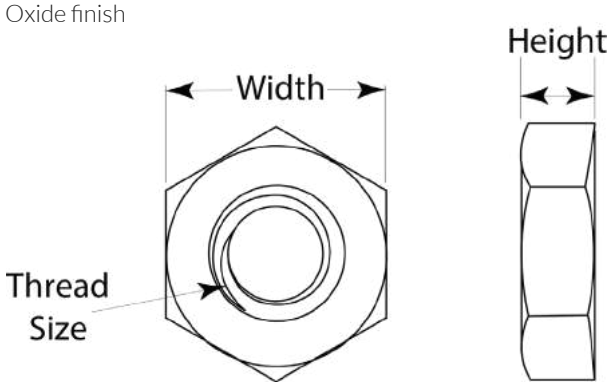
18-8 SS,
316 SS, Steel

Hex Panel Nuts — Metric

These Hex Panel Nuts are often reffered to Dress Nuts and can be fastened with a wrench can be used to fasten them for greater torque compared to knurled panel nuts. They are slim in design, allowing for use in confined areas such as electrical panels.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain | Black Oxide finish
- 316 Stainless Steel | Plain
- Steel | Black Oxide finsh





Metric Hex Panel Nuts

Thread Size	Across Flats	Height	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	Steel, Black Oxide Part Number
M6 x 0.75	8	2.4	Z02M6F2	Z02M6F2-BX	Z02M6F2-316	Z02M6F2-STL-BX
M6 x 0.75	10	2.4	Z02M6F4	Z02M6F4-BX	Z02M6F4-316	Z02M6F4-STL-BX
M6 x 0.75	11	4	Z02M6F6	Z02M6F6-BX	Z02M6F6-316	Z02M6F6-STL-BX
M8 x 1	11	3	Z02M8F10	Z02M8F10-BX	Z02M8F10-316	Z02M8F10-STL-BX
M8 x 1	11	4	Z02M8F12	Z02M8F12-BX	Z02M8F12-316	Z02M8F12-STL-BX
M8 x 1	11	5	Z02M8F14	Z02M8F14-BX	Z02M8F14-316	Z02M8F14-STL-BX
M10 x 1.25	13	4	Z02M10F18	Z02M10F18-BX	Z02M10F18-316	Z02M10F18-STL-BX
M10 x 1.25	16	4	Z02M10F20	Z02M10F20-BX	Z02M10F20-316	Z02M10F20-STL-BX
M10 x 1.25	16	5	Z02M10F22	Z02M10F22-BX	Z02M10F22-316	Z02M10F22-STL-BX
M10 x 1.25	16	6	Z02M10F24	Z02M10F24-BX	Z02M10F24-316	Z02M10F24-STL-BX
M12 x 1.25	16	4	Z02M12F28	Z02M12F28-BX	Z02M12F28-316	Z02M12F28-STL-BX
M12 x 1.25	16	5	Z02M12F30	Z02M12F30-BX	Z02M12F30-316	Z02M12F30-STL-BX
M12 x 1.25	18	6	Z02M12F32	Z02M12F32-BX	Z02M12F32-316	Z02M12F32-STL-BX
M14 x 1.5	18	5	Z02M14F36	Z02M14F36-BX	Z02M14F36-316	Z02M14F36-STL-BX
M14 x 1.5	18	6.5	Z02M14F38	Z02M14F38-BX	Z02M14F38-316	Z02M14F38-STL-BX
M14 x 1.5	20	7	Z02M14F40	Z02M14F40-BX	Z02M14F40-316	Z02M14F40-STL-BX
M16 x 1.5	22	6.5	Z02M16F44	Z02M16F44-BX	Z02M16F44-316	Z02M16F44-STL-BX
M20 x 1.5	26	6.5	Z02M20F52	Z02M20F52-BX	Z02M20F52-316	Z02M20F52-STL-BX

Heavy Hex Nuts — Inch

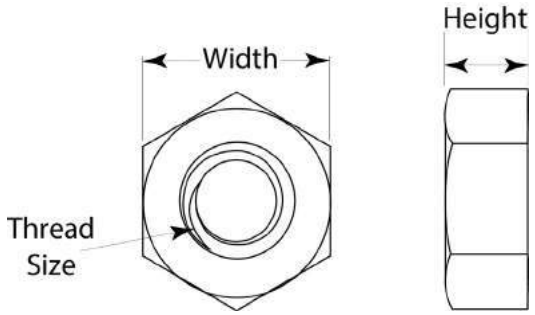
MADE IN THE USA

IMPORT

A giant size of our Hex Nuts. Made to ASME/ANSI B18.22 1987/R 1999 Heavy Hex Nut. 2B thread fit.

Materials and finishes offered in:

- Low Carbon Steel | Zinc Plated
- Grade 2H Steel | Plain
- Steel Grade 5 |Plain





Steel Heavy Hex Nuts

Thread Size	Width	Height	Material	Steel Part Number
5/16-18	9/16	19/64	Steel, Zinc	NUT30151C*
1/2-13	7/8	31/64	Steel, Zinc	NUT30112C*
5/8-11	1-1/16	39/64	Steel, Zinc	NUT30158C*
3/4-10	1-1/4	47/64	Steel Gr A563	NUT10534CA563*
7/8-9	1-7/16	55/64	Steel, Zinc	NUT30178C*
1-8	1-5/8	63/64	Steel, Zinc	NUT30101C*
1-1/2-6	2-3/8	1-15/32	Steel Gr 5	NUT3051.5-6*
3-1/2-4	5-3/8	3-7/16	Steel Gr 2H	Z0990
3-1/2-8	5-3/8	3-7/16	Steel Gr 2H	Z0991
4-4	6	4	Steel Gr 2H	Z0992
4-8	6	4	Steel Gr 2H	Z0993

**Imported*

18-8 SS, 316 SS, 17-4 PH, A286, 316 H5

Hex Flange Nuts — Inch

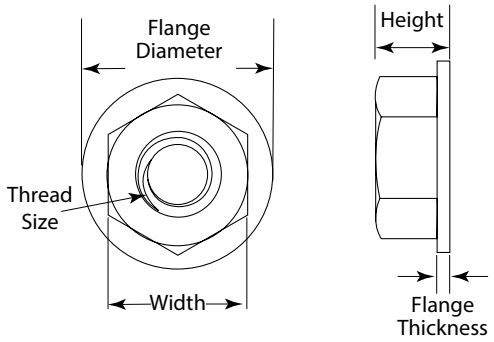
Product Information

Hex Flange Nuts distribute pressure where the nut meets the material surface, eliminating the need for a separate washer. 18-8 stainless steel offers excellent corrosion resistance and resists chemicals, most dyes, food and nitric acid. Type 316 stainless steel offers superior corrosion resistance than 18-8 stainless steel and resists salt water, acids, chlorides, alkalis and other industrial solvents. Both materials maybe mildy magnetic and have a Class 2B thread fit. These Hex Flange Nuts meet AMPG 2018 ZNF.01. Height includes the flange.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain
- 316 Stainless Steel | Plain
- 17-4 PH Stainless Steel | Plain
- A286 Stainless Steel | Plain
- 316 H5 Stainless Steel | Plain
- Titanium Grade 2 | Plain
- Titanium Grade 5 | Plain





Stainless Steel Hex Flange Nuts

Thread Size	Width	Height	Flange Diameter	Flange Thickness	18-8 SS Part Number	316 SS Part Number	316 H5 SS Part Number	17-4 PH SS Part Number	A286 SS Part Number
2-56	1/8	3/32	3/16	.020	ZNF18802C	ZNF31602C	ZNF61602C	ZNF17402C	ZNF28602C
4-40	1/4	7/32	3/8	.050	ZNF18804C	ZNF31604C	ZNF61604C	ZNF17404C	ZNF28604C
6-32	5/16	7/32	13/32	.050	ZNF18806C	ZNF31606C	ZNF61606C	ZNF17406C	ZNF28606C
8-32	11/32	1/4	15/32	.060	ZNF18808C	ZNF31608C	ZNF61608C	ZNF17408C	ZNF28608C
10-24	3/8	5/16	1/2	.060	ZNF18810C	ZNF31610C	ZNF61610C	ZNF17410C	ZNF28610C
10-32	3/8	5/16	1/2	.060	ZNF18810F	ZNF31610F	ZNF61610F	ZNF17410F	ZNF28610F
1/4-20	7/16	15/64	19/32	.040	—	—	NUT93114C*	—	—
1/4-20	1/2	5/16	5/8	.090	ZNF18814C	ZNF31614C	ZNF61614C	ZNF17414C	ZNF28614C
1/4-28	1/2	5/16	5/8	.090	ZNF18814F	ZNF31614F	ZNF61614F	ZNF17414F	ZNF28614F
5/16-18	1/2	9/32	11/16	.040	—	—	NUT93151C*	—	—
5/16-18	9/16	3/8	3/4	.090	ZNF18851C	ZNF31651C	ZNF61651C	ZNF17451C	ZNF28651C
5/16-24	9/16	3/8	3/4	.090	ZNF18851F	ZNF31651F	ZNF61651F	ZNF17451F	ZNF28651F
3/8-16	9/16	11/32	1	.050	—	—	NUT93138C*	—	—
3/8-16	11/16	1/2	7/8	.130	ZNF18838C	ZNF31638C	ZNF61638C	ZNF17438C	ZNF28638C
3/8-24	11/16	1/2	7/8	.130	ZNF18838F	ZNF31638F	ZNF61638F	ZNF17438F	ZNF28638F
7/16-14	3/4	9/16	1	.160	ZNF18871C	ZNF31671C	ZNF61671C	ZNF17471C	ZNF28671C
7/16-20	3/4	9/16	1	.160	ZNF18871F	ZNF31671F	ZNF61671F	ZNF17471F	ZNF28671F
1/2-13	3/4	29/64	1		—	—	NUT93112C*	—	—
1/2-13	7/8	11/16	1-1/8	.160	ZNF18812C	ZNF31612C	ZNF61612C	ZNF17412C	ZNF28612C
1/2-20	7/8	11/16	1-1/8	.160	ZNF18812F	ZNF31612F	ZNF61612F	ZNF17412F	ZNF28612F
5/8-11	1-1/16	13/16	1-3/8	.190	ZNF18858C	ZNF31658C	ZNF61658C	ZNF17458C	ZNF28658C
5/8-18	1-1/16	13/16	1-3/8	.190	ZNF18858F	ZNF31658F	ZNF61658F	ZNF17458F	ZNF28658F
3/4-10	1-1/4	1	1-5/8	.250	ZNF18834C	ZNF31634C	ZNF61634C	ZNF17434C	ZNF28634C
3/4-16	1-1/4	1	1-5/8	.250	ZNF18834F	ZNF31634F	ZNF61634F	ZNF17434F	ZNF28634F
7/8-9	1-7/16	1 1/8	1-3/4	.250	ZNF18878C	ZNF31678C	ZNF61678C	ZNF17478C	ZNF28678C
1-8	1-5/8	1 1/4	2	.250	ZNF18888C	ZNF31688C	ZNF61688C	ZNF17488C	ZNF28688C
1-14	1-5/8	1 1/4	2	.250	ZNF18888F	ZNF31688F	ZNF61688F	ZNF17488F	ZNF28688F
1-1/4-7	1-13/16	1 1/4	2-1/4	.250	ZNF18889C	ZNF31689C	ZNF61689C	ZNF17489C	ZNF28689C

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** Small pattern flange nuts.*

Hex Flange Nuts — Inch



Titanium Hex Flange Nuts

Thread Size	Width	Height	Flange Diameter	Flange Thickness	Ti2 Part Number	Ti5 Part Number
2-56	1/8	3/32	3/16	.020	ZNFTI202C	ZNFTI502C
4-40	1/4	7/32	3/8	.050	ZNFTI204C	ZNFTI504C
6-32	5/16	7/32	13/32	.050	ZNFTI206C	ZNFTI506C
8-32	11/32	1/4	15/32	.060	ZNFTI208C	ZNFTI508C
10-24	3/8	5/16	1/2	.060	ZNFTI210C	ZNFTI510C
10-32	3/8	5/16	1/2	.060	ZNFTI210F	ZNFTI510F
1/4-20	1/2	5/16	5/8	.090	ZNFTI214C	ZNFTI514C
1/4-28	1/2	5/16	5/8	.090	ZNFTI214F	ZNFTI514F
5/16-18	9/16	3/8	3/4	.090	ZNFTI251C	ZNFTI551C
5/16-24	9/16	3/8	3/4	.090	ZNFTI251F	ZNFTI551F
3/8-16	11/16	1/2	7/8	.130	ZNFTI238C	ZNFTI538C
3/8-24	11/16	1/2	7/8	.130	ZNFTI238F	ZNFTI538F
7/16-14	3/4	9/16	1	.160	ZNFTI271C	ZNFTI571C
7/16-20	3/4	9/16	1	.160	ZNFTI271F	ZNFTI571F
1/2-13	7/8	11/16	1-1/8	.160	ZNFTI212C	ZNFTI512C
1/2-20	7/8	11/16	1-1/8	.160	ZNFTI212F	ZNFTI512F
5/8-11	1-1/16	13/16	1-3/8	.190	ZNFTI258C	ZNFTI558C
5/8-18	1-1/16	13/16	1-3/8	.190	ZNFTI258F	ZNFTI558F
3/4-10	1-1/4	1	1-5/8	.250	ZNFTI234C	ZNFTI534C
3/4-16	1-1/4	1	1-5/8	.250	ZNFTI234F	ZNFTI534F
7/8-9	1-7/16	1 1/8	1-3/4	.250	ZNFTI278C	ZNFTI578C
1-8	1-5/8	1 1/4	2	.250	ZNFTI288C	ZNFTI588C
1-14	1-5/8	1 1/4	2	.250	ZNFTI288F	ZNFTI588F
1-1/4-7	1-13/16	1 1/4	2-1/4	.250	ZNFTI289C	ZNFTI589C

18-8 SS, 316 SS, 17-4 PH, A286, 316 H5

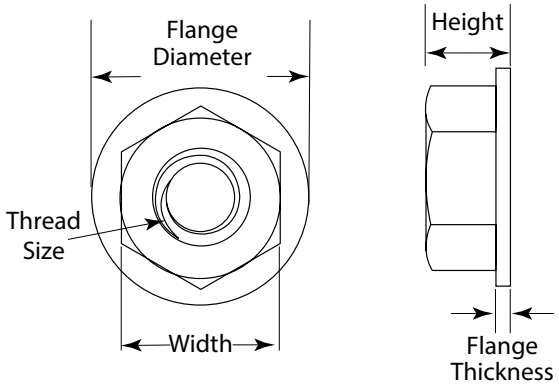
Hex Flange Nuts — Metric

Product Information

Hex Flange Nuts distribute pressure where the nut meets the material surface, eliminating the need for a separate washer. These Hex Flange Nuts meet AMPG 2018 ZNF.02 and have a Class 6H thread fit. Small pattern sizes meet DIN 6923. Height includes the flange.

Materials and finishes offered in:

- 18-8 Stainless Steel | Black Oxide finish
- 316 Stainless Steel | Black Oxide finish
- 17-4 PH Stainless Steel |Plain
- A286 Stainless Steel |Plain
- 316 H5 Stainless Steel | Plain
- Titanium Grade 2 |Plain
- Titanium Grade 5 |Plain





Stainless Steel Hex Flange Nuts

Thread Size	Width	Height	Flange Diameter	Flange Thickness	18-8 SS Part Number	316 SS Part Number	17-4 PH SS Part Number	A286 SS Part Number
M6 x 1	10.00	6.00	14.20	1.20	ZNF188M6	ZNF316M6	ZNF174M6	ZNF286M6
M8 x 1.25	13.00	8.00	17.90	1.30	ZNF188M8	ZNF316M8	ZNF174M8	ZNF286M8
M10 x 1.5	15.00	10.00	21.80	1.80	ZNF188M10	ZNF316M10	ZNF174M10	ZNF286M10
M12 x 1.75	18.00	12.00	26.00	2.20	ZNF188M12	ZNF316M12	ZNF174M12	ZNF286M12
M14 x 2	22.00	21.00	28.00	4.00	ZNF188M14-DIN	ZNF316M14-DIN	–	–
M16 x 2	24.00	16.00	34.50	3.00	ZNF188M16-DIN	ZNF316M16-DIN	–	–
M16 x 2	24.00	24.00	31.00	5.00	ZNF188M16	ZNF316M16	ZNF174M16	ZNF286M16
M18 x 2.5	27.00	27.00	34.00	5.00	ZNF188M18-DIN	ZNF316M18-DIN	–	–
M20 x 2.5	30.00	20.00	42.80	3.70	ZNF188M20-DIN	ZNF316M20-DIN	–	–
M20 x 2.5	30.00	30.00	37.00	6.00	ZNF188M20	ZNF316M20	ZNF174M20	ZNF286M20
M24 x 3	36.00	24.00	51.50	4.40	ZNF188M24	ZNF316M24	ZNF174M24	ZNF286M24
M24 x 3	36.00	36.00	45.00	6.00	ZNF188M24-DIN	ZNF316M24-DIN	–	–
M30 x 3.5	46.00	45.00	58.00	8.00	ZNF188M30-DIN	ZNF316M30-DIN	–	–
M36 x 4	55.00	54.00	68.00	10.00	ZNF188M36-DIN	ZNF316M36-DIN	–	–

Hex Flange Nuts — Metric



316 H5 Hex Flange Nuts

Thread Size	Width	Height	Flange Diameter	Flange Thickness	316 H5 Part Number
M6 x 1	10.00	6.00	14.20	1.19	NUT931M6C*
M6 x 1	13.00	8.00	16.00	2.30	ZNF616M6
M8 x 1.25	13.00	8.00	17.90	1.31	NUT9311M8C*
M8 x 1.25	15.00	9.50	19.00	2.30	ZNF616M8
M10 x 1.5	15.00	10.00	22.00	1.81	NUT9311M10C*
M10 x 1.5	18.00	13.00	22.23	3.30	ZNF616M10
M12 x 1.75	18.00	12.00	26.00	2.20	NUT9311M12C*
M12 x 1.75	22.00	18.00	28.50	4.00	ZNF616M12
M16 x 2	27.00	21.00	35.00	5.00	ZNF616M16
M20 x 2.5	32.00	25.00	41.00	6.30	ZNF616M20
M24 x 3	42.00	32.00	50.50	6.30	ZNF616M24

** Small pattern flange nuts.*



Titanium Hex Flange Nuts

Thread Size	Width	Height	Flange Diameter	Flange Thickness	Titanium Gr2 Part Number	Titanium Gr5 Part Number
M6 x 1	10	6	14.2	1.2	ZNFTI2M6	ZNFTI5M6
M8 x 1.25	13	8	17.9	1.3	ZNFTI2M8	ZNFTI5M8
M10 x 1.5	15	10	21.8	1.8	ZNFTI2M10	ZNFTI5M10
M12 x 1.75	18	12	26.0	2.2	ZNFTI2M12	ZNFTI5M12
M16 x 2	24	16	34.5	3.0	ZNFTI2M16	ZNFTI5M16
M20 x 2.5	30	20	42.8	3.7	ZNFTI2M20	ZNFTI5M20
M24 x 3	36	24	51.5	4.4	ZNFTI2M24	ZNFTI5M24

18-8 SS,
316 SS

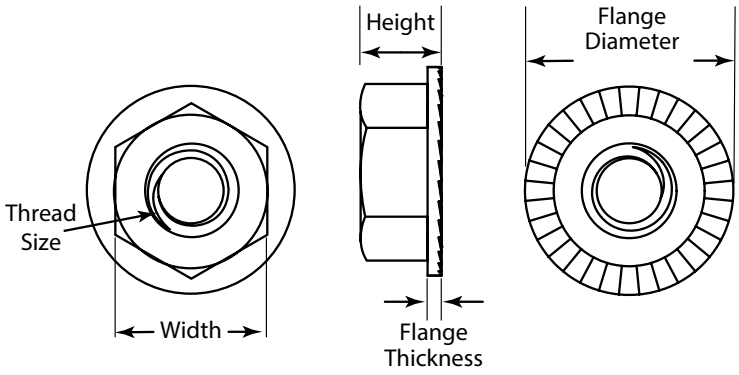
Hex Serrated Flange Nuts — Inch

Product Information

These Hex Serranted Flange Nut have serrations that can gripe the material surface rather than the threads that allows for minimal amount of vibration resistance. These Hex Flange Nuts have a Class 2B thread fit. Height includes the flange.

Materials and finishes offered in:

- 18-8 Stainless Steel | Black Oxide finish
- 316 Stainless Steel | Plain
- Grade 5 Steel | Zinc Plated
- Grade 5 Steel | Black Oxide finish
- Brass | Plain





Hex Serrated Flange Nuts

Thread Size	Width	Over all Height	Flange Diameter	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number
4-40	5/16	11/64	25/64	ZNF61404C-SER	ZNF61404C-SER-BX	ZNF61504C-SER
4-48	5/16	11/64	25/64	ZNF61404F-SER	ZNF61404F-SER-BX	ZNF61504F-SER
5-40	5/16	7/32	13/32	ZNF61405C-SER	ZNF61405C-SER-BX	ZNF61505C-SER
5-44	5/16	7/32	13/32	ZNF61405F-SER	ZNF61405F-SER-BX	ZNF61505F-SER
6-32	5/16	7/32	13/32	ZNF61406C-SER	ZNF61406C-SER-BX	ZNF61506C-SER
6-40	5/16	7/32	13/32	ZNF61406F-SER	ZNF61406F-SER-BX	ZNF61506F-SER
8-32	11/32	7/32	15/32	ZNF61408C-SER	ZNF61408C-SER-BX	ZNF61508C-SER
8-36	11/32	7/32	15/32	ZNF61408F-SER	ZNF61408F-SER-BX	ZNF61508F-SER
10-24	3/8	7/32	1/2	ZNF61410C-SER	ZNF61410C-SER-BX	ZNF61510C-SER
10-32	3/8	7/32	1/2	ZNF61410F-SER	ZNF61410F-SER-BX	ZNF61510F-SER
12-24	7/16	15/64	19/32	ZNF614#12C-SER	ZNF614#12C-SER-BX	ZNF615#12C-SER
1/4-20	7/16	15/64	19/32	ZNF61414C-SER	ZNF61414C-SER-BX	ZNF61514C-SER
1/4-28	7/16	15/64	19/32	ZNF61414F-SER	ZNF61414F-SER-BX	ZNF61514F-SER
5/16-18	1/2	9/32	43/64	ZNF61451C-SER	ZNF61451C-SER-BX	ZNF61551C-SER
5/16-24	1/2	9/32	43/64	ZNF61451F-SER	ZNF61451F-SER-BX	ZNF61551F-SER
3/8-16	9/16	11/32	3/4	ZNF61438C-SER	ZNF61438C-SER-BX	ZNF61538C-SER
3/8-24	9/16	11/32	3/4	ZNF61438F-SER	ZNF61438F-SER-BX	ZNF61538F-SER
7/16-14	3/4	9/16	1	ZNF61471C-SER	ZNF61471C-SER-BX	ZNF61571C-SER

Hex Serrated Flange Nuts — Inch



Hex Serrated Flange Nuts

Thread Size	Width	Over all Height	Flange Diameter	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number
7/16-20	3/4	9/16	1	ZNF61471F-SER	ZNF61471F-SER-BX	ZNF61571F-SER
1/2-13	7/8	11/16	1-1/8	ZNF61412C-SER	ZNF61412C-SER-BX	ZNF61512C-SER
1/2-20	7/8	11/16	1-1/8	ZNF61412F-SER	ZNF61412F-SER-BX	ZNF61512F-SER
9/16-12	7/8	13/16	1-3/8	ZNF61491C-SER	ZNF61491C-SER-BX	ZNF61591C-SER
5/8-11	1-1/16	13/16	1-3/8	ZNF61458C-SER	ZNF61458C-SER-BX	ZNF61558C-SER
5/8-18	1-1/16	13/16	1-3/8	ZNF61458F-SER	ZNF61458F-SER-BX	ZNF61558F-SER
3/4-10	1-1/4	1	1-5/8	ZNF61434C-SER	ZNF61434C-SER-BX	ZNF61534C-SER
3/4-16	1-1/4	1	1-5/8	ZNF61434F-SER	ZNF61434F-SER-BX	ZNF61534F-SER
7/8-9	1-7/16	1-1/8	1-3/4	ZNF61478C-SER	ZNF61478C-SER-BX	ZNF61578C-SER
7/8-14	1-7/16	1-1/8	1-3/4	ZNF61478F-SER	ZNF61478F-SER-BX	ZNF61578F-SER
1-8	1-5/8	1-1/4	2	ZNF614001C-SER	ZNF614001C-SER-BX	ZNF615001C-SER
1-12	1-5/8	1-1/4	2	ZNF614001F-SER	ZNF614001F-SER-BX	ZNF615001F-SER
1-14	1-5/8	1-1/4	2	ZNF614001S-SER	ZNF614001S-SER-BX	ZNF615001S-SER
1-1/8-7	1-5/8	1-1/4	2-1/4	ZNF6140011C-SER	ZNF6140011C-SER-BX	ZNF6150011C-SER
1-1/8-12	1-5/8	1-1/4	2-1/4	ZNF6140011F-SER	ZNF6140011F-SER-BX	ZNF6150011F-SER
1-1/4-7	1-13/16	1-1/4	2-1/4	ZNF6140012C-SER	ZNF6140012C-SER-BX	ZNF6150012C-SER
1-1/4-12	1-13/16	1-1/4	2-1/4	ZNF6140012F-SER	ZNF6140012F-SER-BX	ZNF6150012F-SER
1-3/8-6	2	1-1/4	2-3/4	ZNF6140013C-SER	ZNF6140013C-SER-BX	ZNF6150013C-SER
1-3/8-12	2	1-1/4	2-3/4	ZNF6140013F-SER	ZNF6140013F-SER-BX	ZNF6150013F-SER
1-1/2-6	2-1/4	1-1/2	2-3/4	ZNF6140015C-SER	ZNF6140015C-SER-BX	ZNF6150015C-SER
1-1/2-12	2-1/4	1-1/2	2-3/4	ZNF6140015F-SER	ZNF6140015F-SER-BX	ZNF6150015F-SER

Hex Serrated Flange Nuts — Inch



Hex Serrated Flange Nuts

Thread Size	Width	Over all Height	Flange Diameter	Steel, Zinc Part Number	Steel, Black Ox. Part Number	Brass Part Number
4-40	5/16	11/64	25/64	ZNF60004C-SER-ZC	ZNF60004C-SER	ZNF61704C-SER
4-48	5/16	11/64	25/64	ZNF60004F-SER-ZC	ZNF60004F-SER	ZNF61704F-SER
5-40	5/16	7/32	13/32	ZNF60005C-SER-ZC	ZNF60005C-SER	ZNF61705C-SER
5-44	5/16	7/32	13/32	ZNF60005F-SER-ZC	ZNF60005F-SER	ZNF61705F-SER
6-32	5/16	7/32	13/32	ZNF60006C-SER-ZC	ZNF60006C-SER	ZNF61706C-SER
6-40	5/16	7/32	13/32	ZNF60006F-SER-ZC	ZNF60006F-SER	ZNF61706F-SER
8-32	11/32	7/32	15/32	ZNF60008C-SER-ZC	ZNF60008C-SER	ZNF61708C-SER
8-36	11/32	7/32	15/32	ZNF60008F-SER-ZC	ZNF60008F-SER	ZNF61708F-SER
10-24	3/8	7/32	1/2	ZNF60010C-SER-ZC	ZNF60010C-SER	ZNF61710C-SER
10-32	3/8	7/32	1/2	ZNF60010F-SER-ZC	ZNF60010F-SER	ZNF61710F-SER
12-24	7/16	15/64	19/32	ZNF600#12C-SER-ZC	ZNF600#12C-SER	ZNF617#12C-SER
1/4-20	7/16	15/64	19/32	ZNF60014C-SER-ZC	ZNF60014C-SER	ZNF61714C-SER
1/4-28	7/16	15/64	19/32	ZNF60014F-SER-ZC	ZNF60014F-SER	ZNF61714F-SER
5/16-18	1/2	9/32	43/64	ZNF60051C-SER-ZC	ZNF60051C-SER	ZNF61751C-SER
5/16-24	1/2	9/32	43/64	ZNF60051F-SER-ZC	ZNF60051F-SER	ZNF61751F-SER
3/8-16	9/16	11/32	3/4	ZNF60038C-SER-ZC	ZNF60038C-SER	ZNF61738C-SER
3/8-24	9/16	11/32	3/4	ZNF60038F-SER-ZC	ZNF60038F-SER	ZNF61738F-SER
7/16-14	3/4	9/16	1	ZNF60071C-SER-ZC	ZNF60071C-SER	ZNF61771C-SER
7/16-20	3/4	9/16	1	ZNF60071F-SER-ZC	ZNF60071F-SER	ZNF61771F-SER
1/2-13	7/8	11/16	1-1/8	ZNF60012C-SER-ZC	ZNF60012C-SER	ZNF61712C-SER
1/2-20	7/8	11/16	1-1/8	ZNF60012F-SER-ZC	ZNF60012F-SER	ZNF61712F-SER
9/16-12	7/8	13/16	1-3/8	ZNF60091C-SER-ZC	ZNF60091C-SER	ZNF61791C-SER
5/8-11	1-1/16	13/16	1-3/8	ZNF60058C-SER-ZC	ZNF60058C-SER	ZNF61758C-SER
5/8-18	1-1/16	13/16	1-3/8	ZNF60058F-SER-ZC	ZNF60058F-SER	ZNF61758F-SER
3/4-10	1-1/4	1	1-5/8	ZNF60034C-SER-ZC	ZNF60034C-SER	ZNF61734C-SER
3/4-16	1-1/4	1	1-5/8	ZNF60034F-SER-ZC	ZNF60034F-SER	ZNF61734F-SER
7/8-9	1-7/16	1-1/8	1-3/4	ZNF60078C-SER-ZC	ZNF60078C-SER	ZNF61778C-SER
7/8-14	1-7/16	1-1/8	1-3/4	ZNF60078F-SER-ZC	ZNF60078F-SER	ZNF61778F-SER
1-8	1-5/8	1-1/4	2	ZNF600001C-SER-ZC	ZNF600001C-SER	ZNF617001C-SER
1-12	1-5/8	1-1/4	2	ZNF600001F-SER-ZC	ZNF600001F-SER	ZNF617001F-SER
1-14	1-5/8	1-1/4	2	ZNF600001S-SER-ZC	ZNF600001S-SER	ZNF617001S-SER
1-1/8-7	1-5/8	1-1/4	2-1/4	ZNF6000011C-SER-ZC	ZNF6000011C-SER	ZNF6170011C-SER
1-1/8-12	1-5/8	1-1/4	2-1/4	ZNF6000011F-SER-ZC	ZNF6000011F-SER	ZNF6170011F-SER
1-1/4-7	1-13/16	1-1/4	2-1/4	ZNF6000012C-SER-ZC	ZNF6000012C-SER	ZNF6170012C-SER
1-1/4-12	1-13/16	1-1/4	2-1/4	ZNF6000012F-SER-ZC	ZNF6000012F-SER	ZNF6170012F-SER
1-3/8-6	2	1-1/4	2-3/4	ZNF6000013C-SER-ZC	ZNF6000013C-SER	ZNF6170013C-SER
1-3/8-12	2	1-1/4	2-3/4	ZNF6000013F-SER-ZC	ZNF6000013F-SER	ZNF6170013F-SER
1-1/2-6	2-1/4	1-1/2	2-3/4	ZNF6000015C-SER-ZC	ZNF6000015C-SER	ZNF6170015C-SER
1-1/2-12	2-1/4	1-1/2	2-3/4	ZNF6000015F-SER-ZC	ZNF6000015F-SER	ZNF6170015F-SER

Hex Serrated Flange Nuts — Metric






Hex Serrated Flange Nuts

Thread Size (mm)	Width	Over all Height	Flange Diameter	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number
M3 x .35	8	4.40	10.00	ZNF614M3F-SER	ZNF614M3F-SER-BX	ZNF615M3F-SER
M3 x .5	8	4.40	10.00	ZNF614M3C-SER	ZNF614M3C-SER-BX	ZNF615M3C-SER
M4 x .5	8	5.60	10.30	ZNF614M4F-SER	ZNF614M4F-SER-BX	ZNF615M4F-SER
M4 x .7	8	5.60	10.30	ZNF614M4C-SER	ZNF614M4C-SER-BX	ZNF615M4C-SER
M5 x .5	8	5.60	10.30	ZNF614M5F-SER	ZNF614M5F-SER-BX	ZNF615M5F-SER
M5 x .8	8	5.60	10.30	ZNF614M5C-SER	ZNF614M5C-SER-BX	ZNF615M5C-SER
M6 x .75	10	5.60	12.00	ZNF614M6F-SER	ZNF614M6F-SER-BX	ZNF615M6F-SER
M6 x 1	10	5.60	12.00	ZNF614M6C-SER	ZNF614M6C-SER-BX	ZNF615M6C-SER
M7 x 1	10	5.60	12.70	ZNF614M7C-SER	ZNF614M7C-SER-BX	ZNF615M7C-SER
M8 x 1	13	6.00	15.00	ZNF614M8F-SER	ZNF614M8F-SER-BX	ZNF615M8F-SER
M8 x 1.25	13	6.00	15.00	ZNF614M8C-SER	ZNF614M8C-SER-BX	ZNF615M8C-SER
M10 x 1	15	7.00	17.00	ZNF614M10F-SER	ZNF614M10F-SER-BX	ZNF615M10F-SER
M10 x 1.25	15	7.00	17.00	ZNF614M10C-SER	ZNF614M10C-SER-BX	ZNF615M10C-SER
M12 x 1.25	18	8.70	19.00	ZNF614M12C-SER	ZNF614M12C-SER-BX	ZNF615M12C-SER
M12 x 1.5	18	8.70	19.00	ZNF614M12F-SER	ZNF614M12F-SER-BX	ZNF615M12F-SER
M14 x 1.5	22	14.30	25.40	ZNF614M14F-SER	ZNF614M14F-SER-BX	ZNF615M14F-SER
M14 x 2	22	14.30	25.40	ZNF614M14C-SER	ZNF614M14C-SER-BX	ZNF615M14C-SER
M16 x 1.5	24	17.50	28.60	ZNF614M16F-SER	ZNF614M16F-SER-BX	ZNF615M16F-SER
M16 x 2	24	17.50	28.60	ZNF614M16C-SER	ZNF614M16C-SER-BX	ZNF615M16C-SER
M18 x 1.5	27	20.60	35.00	ZNF614M18F-SER	ZNF614M18F-SER-BX	ZNF615M18F-SER
M18 x 2.5	27	20.60	35.00	ZNF614M18C-SER	ZNF614M18C-SER-BX	ZNF615M18C-SER
M20 x 1.5	30	25.40	41.30	ZNF614M20F-SER	ZNF614M20F-SER-BX	ZNF615M20F-SER
M20 x 2.5	30	25.40	41.30	ZNF614M20C-SER	ZNF614M20C-SER-BX	ZNF615M20C-SER
M22 x 2.5	32	30.00	50.80	ZNF614M22C-SER	ZNF614M22C-SER-BX	ZNF615M22C-SER
M24 x 3	36	30.00	57.00	ZNF614M24C-SER	ZNF614M24C-SER-BX	ZNF615M24C-SER
M27 x 3	41	30.00	57.00	ZNF614M27C-SER	ZNF614M27C-SER-BX	ZNF615M27C-SER
M30 x 3.5	46	30.00	70.00	ZNF614M30C-SER	ZNF614M30C-SER-BX	ZNF615M30C-SER
M36 x 4	55	38.00	70.00	ZNF614M36C-SER	ZNF614M36C-SER-BX	ZNF615M36C-SER

Hex Serrated Flange Nuts — Metric



Hex Serrated Flange Nuts

Thread Size	Width	Over all Height	Flange Diameter	Steel, Zinc Part Number	Steel, Black Ox. Part Number	Brass Part Number
M3 x .35	8	4.40	10.00	ZNF600M3F-SER-ZC	ZNF600M3F-SER	ZNF617M3F-SER
M3 x .5	8	4.40	10.00	ZNF600M3C-SER-ZC	ZNF600M3C-SER	ZNF617M3C-SER
M4 x .5	8	5.60	10.30	ZNF600M4F-SER-ZC	ZNF600M4F-SER	ZNF617M4F-SER
M4 x .7	8	5.60	10.30	ZNF600M4C-SER-ZC	ZNF600M4C-SER	ZNF617M4C-SER
M5 x .5	8	5.60	10.30	ZNF600M5F-SER-ZC	ZNF600M5F-SER	ZNF617M5F-SER
M5 x .8	8	5.60	10.30	ZNF600M5C-SER-ZC	ZNF600M5C-SER	ZNF617M5C-SER
M6 x .75	10	5.60	12.00	ZNF600M6F-SER-ZC	ZNF600M6F-SER	ZNF617M6F-SER
M6 x 1	10	5.60	12.00	ZNF600M6C-SER-ZC	ZNF600M6C-SER	ZNF617M6C-SER
M7 x 1	10	5.60	12.70	ZNF600M7C-SER-ZC	ZNF600M7C-SER	ZNF617M7C-SER
M8 x 1	13	6.00	15.00	ZNF600M8F-SER-ZC	ZNF600M8F-SER	ZNF617M8F-SER
M8 x 1.25	13	6.00	15.00	ZNF600M8C-SER-ZC	ZNF600M8C-SER	ZNF617M8C-SER
M10 x 1	15	7.00	17.00	ZNF600M10F-SER-ZC	ZNF600M10F-SER	ZNF617M10F-SER
M10 x 1.25	15	7.00	17.00	ZNF600M10C-SER-ZC	ZNF600M10C-SER	ZNF617M10C-SER
M12 x 1.25	18	8.70	19.00	ZNF600M12C-SER-ZC	ZNF600M12C-SER	ZNF617M12C-SER
M12 x 1.5	18	8.70	19.00	ZNF600M12F-SER-ZC	ZNF600M12F-SER	ZNF617M12F-SER
M14 x 1.5	22	14.30	25.40	ZNF600M14F-SER-ZC	ZNF600M14F-SER	ZNF617M14F-SER
M14 x 2	22	14.30	25.40	ZNF600M14C-SER-ZC	ZNF600M14C-SER	ZNF617M14C-SER
M16 x 1.5	24	17.50	28.60	ZNF600M16F-SER-ZC	ZNF600M16F-SER	ZNF617M16F-SER
M16 x 2	24	17.50	28.60	ZNF600M16C-SER-ZC	ZNF600M16C-SER	ZNF617M16C-SER
M18 x 1.5	27	20.60	35.00	ZNF600M18F-SER-ZC	ZNF600M18F-SER	ZNF617M18F-SER
M18 x 2.5	27	20.60	35.00	ZNF600M18C-SER-ZC	ZNF600M18C-SER	ZNF617M18C-SER
M20 x 1.5	30	25.40	41.30	ZNF600M20F-SER-ZC	ZNF600M20F-SER	ZNF617M20F-SER
M20 x 2.5	30	25.40	41.30	ZNF600M20C-SER-ZC	ZNF600M20C-SER	ZNF617M20C-SER
M22 x 2.5	32	30.00	50.80	ZNF600M22C-SER-ZC	ZNF600M22C-SER	ZNF617M22C-SER
M24 x 3	36	30.00	57.00	ZNF600M24C-SER-ZC	ZNF600M24C-SER	ZNF617M24C-SER
M27 x 3	41	30.00	57.00	ZNF600M27C-SER-ZC	ZNF600M27C-SER	ZNF617M27C-SER
M30 x 3.5	46	30.00	70.00	ZNF600M30C-SER-ZC	ZNF600M30C-SER	ZNF617M30C-SER
M36 x 4	55	38.00	70.00	ZNF600M36C-SER-ZC	ZNF600M36C-SER	ZNF617M36C-SER

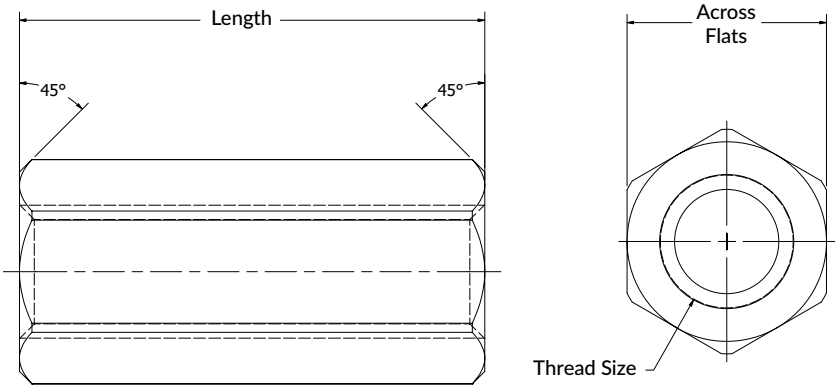
Hex Coupling Nuts — Inch

Also known as extension nuts, use them to connect and extend threaded rods. They are about three-times taller than standard hex nuts.

Materials and finishes offered in:

- 316 Stainless Steel |Plain
- 18-8 Stainless Steel |Plain
- Steel, Black Oxide | Steel Case-Hardened and Black Oxide
- Aluminum | Plain
- Brass |Plain









Stainless Steel Hex Coupling Nuts

Thread Size	Across Flats	Length	316 SS Part Number	18-8 SS Part Number
2-56	1/4	3/8	NUT652256	—
0-80	1/4	3/8	NUT652080	—
4-40	5/16	7/16	NUT652440	—
6-32	5/16	1/2	NUT652632	—
8-32	3/8	5/8	NUT652832	—
10-24	3/8	3/4	NUT6521024	—
10-32	3/8	3/4	NUT6521032	—
5/16-24	7/16	1	NUT65251624	—
7/16-14	9/16	1-1/4	NUT65271614	—
7/16-20	9/16	1-1/4	NUT65271620	—
9/16-12	13/16	2-1/8	—	NUT65191C
9/16-18	13/16	2-1/8	—	NUT65191F
5/8-18	13/16	2-1/8	NUT6525818	—
3/4-16	1	2-1/4	NUT6523416	—

Hex Coupling Nuts — Inch



Aluminum Hex Coupling Nuts

Thread Size	Across Flats	Length	Aluminum Part Number
4-40	5/16	7/16	NUT608440
6-32	5/16	1/2	NUT608632
8-32	3/8	5/8	NUT608832
10-24	3/8	3/4	NUT6081024
10-32	3/8	3/4	NUT6081032
1/4-20	3/8	7/8	NUT6081420
5/16-18	7/16	1	NUT60851618
3/8-16	1/2	1-1/8	NUT6083816
1/2-13	5/8	1-1/4	NUT6081213



Steel Hex Coupling Nuts

Thread Size	Across Flats	Length	Steel, Case Hardened, Black Oxide Part Number	Steel, Black Oxide Part Number
1/4-20	1/2	5/8	Z0083	—
5/16-18	9/16	7/8	Z0084	—
3/8-16	11/16	1	Z0085	—
1/2-13	7/8	1-1/4	Z0086	—
5/8-11	1-1/16	1-5/8	Z0087	—
3/4-10	1-1/4	1-7/8	—	Z0088
7/8-9	1-7/16	2-1/4	—	Z0089
1-8	1-5/8	2-1/2	Z0090	—



Brass Hex Coupling Nuts

Thread Size	Across Flats	Length	Brass Part Number
2-56	3/16	5/16	NUT609256
3-48	1/4	5/16	NUT609348
4-40	5/16	7/16	NUT609440
5-40	5/16	7/16	NUT609540
6-32	5/16	1/2	NUT609632
8-32	3/8	5/8	NUT609832
10-24	3/8	3/4	NUT6091024
10-32	3/8	3/4	NUT6091032
12-24	3/8	3/4	NUT6091224
1/4-28	3/8	7/8	NUT60914F
5/16-24	1/2	7/8	NUT60951F
3/8-24	1/2	1-1/8	NUT60938F
3/8-24	5/8	1-3/4	NUT609F38-1.75L
7/16-14	9/16	1-1/4	NUT60971C
7/16-20	9/16	1-1/4	NUT60971F

Thread Size	Across Flats	Length	Brass Part Number
1/2-20	5/8	1-1/4	NUT609F12
1/2-20	11/16	1-3/4	NUT609F12-1.75L
9/16-12	13/16	2-1/8	NUT60991C
9/16-18	13/16	2-1/8	NUT60991F
5/8-18	13/16	2-1/8	NUT60958F
3/4-16	1	2-1/4	NUT60934F
7/8-14	1-1/4	2-1/2	NUT60978F
7/8-9	1-1/4	2-1/2	NUT60978C
1-14	1-3/8	2-3/4	NUT60901F
1-1/8-7	1-1/2	3	NUT609011C
1-1/4-12	1-5/8	3	NUT609012F
1-1/4-7	1-5/8	3	NUT609012C
1-1/2-12	2	3-1/2	NUT609015F
1-1/2-6	2	3-1/2	NUT609015C

Hex Coupling Nuts — Metric

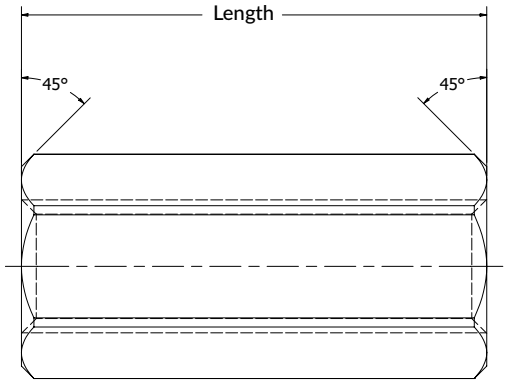
MADE IN THE USA

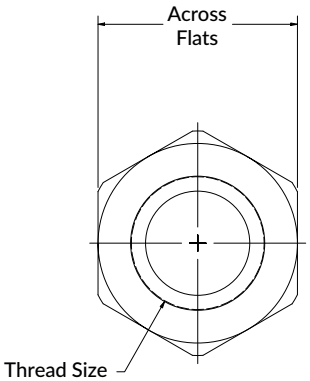
IMPORT

Also known as extension nuts, use them to connect and extend threaded rods. They are about three-times taller than standard hex nuts.

Materials and finishes offered in:

- 18-8 Stainless Steel | 18-8 Stainless Steel, Black Oxide
- 316 Stainless Steel | 316 Stainless Steel, Black Oxide
- Steel Class 8, Black Oxide | Steel Class 8, Zinc Plated and Baked
- Brass | Plain







18-8 and 316 SS Hex Coupling Nuts

MADE IN THE USA

Thread Size (mm)	Across Flats	Length	Specs Met	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	316 SS, Black Oxide Part Number
M2 x 0.4	4	6	—	NUT651M2X0.4	NUT651M2X0.4-B	NUT652M2X0.4	NUT652M2X0.4-B
M2.5 x 0.45	4	6	—	NUT651M2.5X0.45	NUT651M2.5X0.45-B	NUT652M2.5X0.45	NUT652M2.5X0.45-B
M3 x 0.5	5	9	—	NUT651M3X0.5	NUT651M3X0.5-B	NUT652M3X0.5	NUT652M3X0.5-B
M4 x 0.7	8	12	DIN 6334	NUT651M4X0.7	NUT651M4X0.7-B	NUT652M4X0.7	NUT652M4X0.7-B
M5 x 0.8	8	15	DIN 6334	—	NUT651M5X0.8-B	NUT652M5X0.8	NUT652M5X0.8-B
M6 x 1	10	18	DIN 6334	—	NUT651M6X1-B	NUT652M6X1	NUT652M6X1-B
M8 x 1.25	13	24	DIN 6334	—	NUT651M8X1.25-B	NUT652M8X1.25	NUT652M8X1.25-B
M10 x 1.5	17	30	DIN 6334	—	NUT651M10X1.5-B	NUT652M10X1.5	NUT652M10X1.5-B
M12 x 1.75	19	36	DIN 6334	—	NUT651M12X1.75-B	NUT652M12X1.75	NUT652M12X1.75-B
M14 x 2	22	42	DIN 6334	NUT651M14X2	NUT651M14X2-B	NUT652M14X2	NUT652M14X2-B
M16 x 2	24	48	DIN 6334	—	NUT651M16X2-B	NUT652M16X2	NUT652M16X2-B
M18 x 2.5	27	54	DIN 6334	NUT651M18X2.5	NUT651M18X2.5-B	NUT652M18X2.5	NUT652M18X2.5-B
M20 x 2.5	30	60	DIN 6334	—	NUT651M20X2.5-B	NUT652M20X2.5	NUT652M20X2.5-B
M22 x 2.5	32	66	DIN 6334	NUT651M22X2.5	NUT651M22X2.5-B	NUT652M22X2.5	NUT652M22X2.5-B
M24 x 3	36	72	DIN 6334	NUT651M24X3	NUT651M24X3-B	NUT652M24X3	NUT652M24X3-B
M27 x 3	41	81	—	NUT651M27X3	NUT651M27X3-B	NUT652M27X3	NUT652M27X3-B
M30 x 3.5	46	90	DIN 6334	NUT651M30X3.5	NUT651M30X3.5-B	NUT652M30X3.5	NUT652M30X3.5-B

Hex Coupling Nuts — Metric





Steel Hex Coupling Nuts

IMPORT

Thread Size (mm)	Across Flats	Length	Steel, Black Ox. Part Number	Steel, Zinc Plated Part Number
M2 x 0.4	4	6	NUT614M2C-B	NUT614M2C
M2.5 x 0.45	5	7	NUT614M2.5C-B	NUT614M2.5C
M3 x 0.5	5.5	9	NUT614M3C-B	NUT614M3C
M3.5 x 0.6	6	10.4	NUT614M3.5C-B	NUT614M3.5C
M4 x 0.7	7	11.8	NUT614M4C-B	NUT614M4C
M5 x 0.8	8	14.8	NUT614M5C-B	NUT614M5C
M6 x 1	10	18	NUT614M6C-B	—
M7 x 1	11	20	NUT614M7C-B	NUT614M7C
M8 x 1.25	13	24	NUT614M8C-B	—
M10 x 1.5	17	30	NUT614M10C-B	—
M12 x 1.75	19	36	NUT614M12C-B	—
M14 x 2	22	42	NUT614M14C-B	NUT614M14C
M16 x 2	24	48	NUT614M16C-B	—
M18 x 2.5	27	54	NUT614M18C-B	NUT614M18C
M20 x 2.5	30	60	NUT614M20C-B	—
M22 x 2.5	32	66	NUT614M22C-B	NUT614M22C
M24 x 3	36	72	NUT614M24C-B	—
M27 x 3	41	81	NUT614M27C-B	NUT614M27C
M30 x 3.5	46	90	NUT614M30C-B	—



Brass Hex Coupling Nuts

MADE IN THE USA

Thread Size (mm)	Across Flats	Length	Brass Part Number
M2 x 0.4	4	6	NUT609M2X0.4
M2.5 x 0.45	4	6	NUT609M2.5X0.45
M3 x 0.5	5	9	NUT609M3X0.5
M4 x 0.7	7	12	NUT609M4X0.7
M5 x 0.8	8	15	NUT609M5X0.8
M6 x 1	10	18	NUT609M6X1
M8 x 1.25	13	24	NUT609M8X1.25
M10 x 1.5	17	30	NUT609M10X1.5
M12 x 1.75	19	36	NUT609M12X1.75
M14 x 2	22	42	NUT609M14X2
M16 x 2	24	48	NUT609M16X2
M18 x 2.5	27	54	NUT609M18X2.5
M20 x 2.5	30	60	NUT609M20X2.5
M22 x 2.5	32	66	NUT609M22X2.5
M24 x 3	36	72	NUT609M24X3
M27 x 3	41	81	NUT609M27X3
M30 x 3.5	46	90	NUT609M30X3.5
M33 x 3.5	50	99	NUT609M33X3.5
M36 x 4	55	108	NUT609M36X4

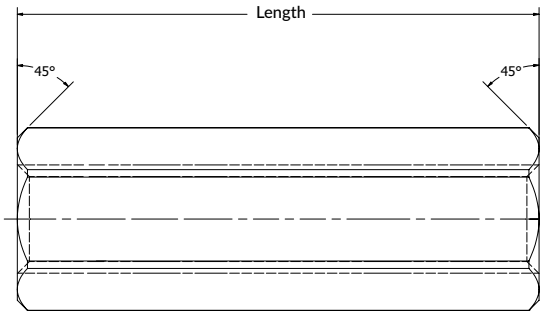
Extra-Long Hex Coupling Nuts — Inch

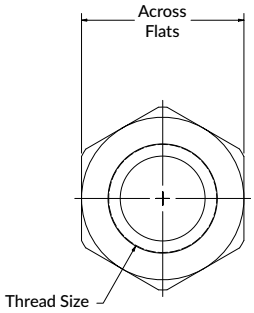
Also known as extension nuts or sleeve nuts, use them to connect and extend threaded rods. They are about three-times taller than standard hex nuts and at least twice the length of standard coupling nuts to provide more room to connect and extend long lengths of threaded rods. 2B Thread Fit.

Materials and finishes offered in:

- Steel | Black Oxide | Zinc Plated







Steel Extra-Long Hex Coupling Nuts

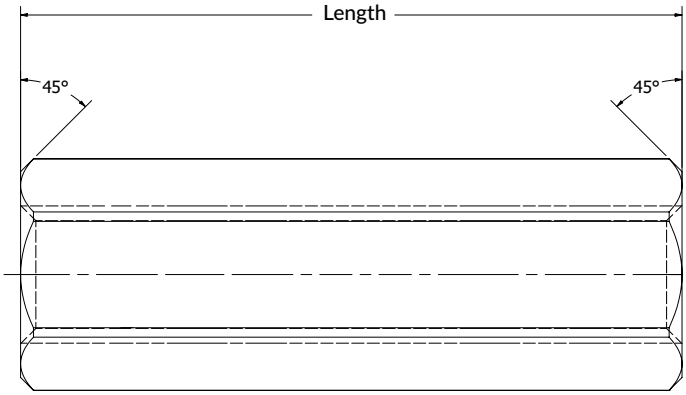
Thread Size	Across Flats	Length	Steel, Black Oxide Part Number	Steel, Zinc Plated Part Number
4-40	5/16	1-1/2	NUT64104C24-B	NUT64104C24
5-40	5/16	1-1/2	NUT64105C24-B	NUT64105C24
6-32	5/16	1-1/2	NUT64106C24-B	NUT64106C24
8-32	3/8	1-1/2	NUT64108C24-B	NUT64108C24
10-24	3/8	3	NUT64110C48-B	NUT64110C48
10-32	3/8	3	NUT64110F48-B	NUT64110F48
1/4-20	1/2	3	NUT64114C48-B	NUT64114C48
1/4-20	1/2	6	NUT64114C96-B	NUT64114C96
1/4-28	1/2	2	NUT64114F32-B	NUT64114F32
5/16-18	5/8	3	NUT64151C48-B	NUT64151C48
5/16-18	5/8	6	NUT64151C96-B	NUT64151C96
5/16-24	5/8	3	NUT64151F48-B	NUT64151F48
3/8-16	5/8	4	NUT64138C64-B	—
3/8-16	5/8	6	NUT64138C96-B	NUT64138C96
3/8-24	5/8	4	NUT64138F64-B	NUT64138F64
7/16-14	5/8	4	NUT64171C64-B	NUT64171C64
7/16-20	5/8	4	NUT64171F64-B	NUT64171F64
1/2-13	3/4	4	NUT64112C64-B	—
1/2-13	3/4	6	NUT64112C96-B	NUT64112C96
1/2-20	3/4	4	NUT64112F64-B	NUT64112F64
5/8-11	1-1/8	5	NUT64158C80-B	—
5/8-18	1-1/8	5	NUT64158F80-B	NUT64158F80
7/8-14	1-3/8	7	NUT64178F112-B	NUT64178F112
3/4-10	1-1/4	5	NUT64134C80-B	—
3/4-16	1-1/4	5	NUT64134F80-B	NUT64134F80
7/8-9	1-3/8	7	NUT64178C112-B	—
1-8	1-5/8	7	NUT64101C112-B	—
1-14	1-5/8	7	NUT64101F112-B	NUT64101F112

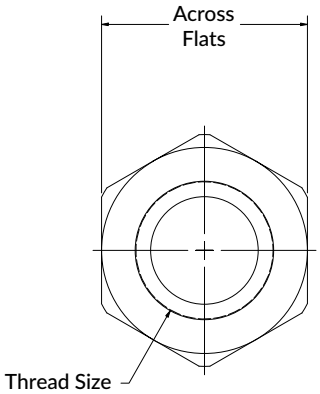
Extra-Long Hex Coupling Nuts — Metric

Also known as extension nuts or sleeve nuts, use them to connect and extend threaded rods. They are about three-times taller than standard hex nuts and at least twice the length of standard coupling nuts to provide more room to connect and extend long lengths of threaded rods. 6H Thread Fit.

Materials and finishes offered in:

- Steel | Black Oxide | Steel, Zinc Plated









Steel Extra-Long Hex Coupling Nuts

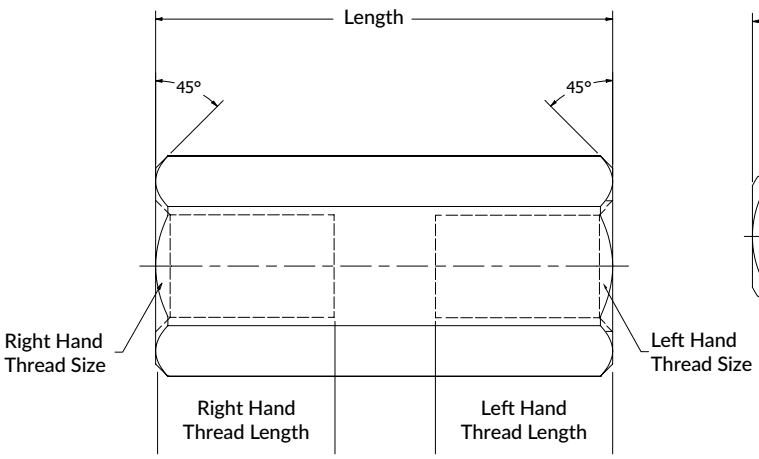
Thread Size (mm)	Across Flats	Length	Steel, Black Oxide Part Number	Steel, Zinc Plated Part Number
M3 x 0.5	5	25	NUT641M3CX25-B	NUT641M3CX25
M3 x 0.5	5	40	NUT641M3CX40-B	NUT641M3CX40
M4 x 0.7	8	25	NUT641M4CX25-B	NUT641M4CX25
M4 x 0.7	8	40	NUT641M4CX40-B	NUT641M4CX40
M5 x 0.8	8	50	NUT641M5CX50-B	NUT641M5CX50
M5 x 0.8	8	75	NUT641M5CX75-B	NUT641M5CX75
M6 x 1	10	50	NUT641M6CX50-B	NUT641M6CX50
M6 x 1	10	75	NUT641M6CX75-B	NUT641M6CX75
M8 x 1.25	13	50	NUT641M8CX50-B	NUT641M8CX50
M8 x 1.25	13	75	NUT641M8CX75-B	NUT641M8CX75
M10 x 1.5	17	100	NUT641M10CX100-B	NUT641M10CX100
M10 x 1.5	17	150	NUT641M10CX150-B	NUT641M10CX150
M12 x 1.75	19	100	NUT641M12CX100-B	NUT641M12CX100
M12 x 1.75	19	150	NUT641M12CX150-B	NUT641M12CX150
M14 x 2	22	100	NUT641M14CX100-B	NUT641M14CX100
M14 x 2	22	150	NUT641M14CX150-B	NUT641M14CX150
M16 x 2	24	125	NUT641M16CX125-B	NUT641M16CX125
M20 x 2.5	30	125	NUT641M20CX125-B	NUT641M20CX125
M24 x 3	36	150	NUT641M24CX150-B	NUT641M24CX150

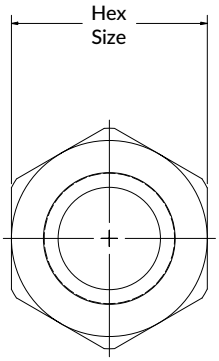
Right-Hand to Left-Hand Hex Coupling Nuts — Inch

Also known as sleeve nuts, thread adapters fasten parts with right-hand threads to parts with left-hand threads. 2B Left and Right Hand Thread Fits.

Made from 18-8 stainless steel, these coupling nuts have good chemical resistance and may be mildly magnetic.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- 18-8 stainless steel material meet ASTM A582.
- Made from stainless steel, these coupling nuts have good chemical resistance and maybe mildly magnetic.
- A black finish reduces light reflection and often is selected to better match materials being fastened.







18-8 SS

18-8 SS with black oxide finish



Right-Hand Left-Hand Hex Coupling Nuts, Inch

Left Hand Thread Size	Right Hand Thread Size	Left Hand Thread Lg.	Right Hand Thread Lg.	Hex Size	Length	AMPG 18-8 SS Part Number
5-40	5-40	1/4	1/4	5/16	1	NUT651540RL
12-24	12-24	1/2	1/2	3/8	2	NUT6511224RL
1/4-28	1/4-28	1/2	1/2	3/8	2	NUT6511428RL
5/16-24	5/16-24	1/2	1/2	7/16	2	NUT65151624RL
3/8-24	3/8-24	3/4	3/4	1/2	2-1/2	NUT6513824RL
7/16-14	7/16-14	3/4	3/4	1/2	2-1/2	NUT65171614RL
5/8-11	5/8-11	1-1/2	1-1/2	1-1/8	5	NUT6515811RL
3/4-10	3/4-10	1-1/2	1-1/2	1-1/4	5	NUT6513410RL
7/8-9	7/8-9	1-1/2	1-1/2	1-3/8	5	NUT651789RL
1-8	1-8	1-1/2	1-1/2	1-5/8	5	NUT65181CRL

Right-Hand Left-Hand HexCoupling Nuts — Inch





Right-Hand Left-Hand Hex Coupling Nuts, Inch

Left Hand Thread Size	Right Hand Thread Size	Left Hand Thread Lg.	Right Hand Thread Lg.	Hex Size	Length	AMPG 18-8 SS Part Number	AMPG 18-8 SS, Black Ox. Part Number	AMPG 316 SS Part Number
4-40	4-40	1/4	1/4	5/16	1	NUT651440RL	NUT651440RL-BX	NUT652440RL
5-40	5-40	1/4	1/4	5/16	1	NUT651540RL	NUT651540RL-BX	NUT652540RL
6-32	6-32	1/4	1/4	5/16	1	NUT651632RL	NUT651632RL-BX	NUT652632RL
8-32	8-32	5/16	5/16	3/8	1	NUT651832RL	NUT651832RL-BX	NUT652832RL
10-24	10-24	3/8	3/8	3/8	1-1/2	NUT6511024RL	NUT6511024RL-BX	NUT6521024RL
10-32	10-32	3/8	3/8	3/8	1-1/2	NUT6511032RL	NUT6511032RL-BX	NUT6521032RL
12-24	12-24	1/2	1/2	3/8	2	NUT6511224RL	NUT6511224RL-BX	NUT6521224RL
1/4-20	1/4-20	1/2	1/2	3/8	2	NUT6511420RL	NUT6511420RL-BX	NUT6521420RL
1/4-28	1/4-28	1/2	1/2	3/8	2	NUT6511428RL	NUT6511428RL-BX	NUT6521428RL
5/16-18	5/16-18	1/2	1/2	7/16	2	NUT65151618RL	NUT65151618RL-BX	NUT65251618RL
5/16-24	5/16-24	1/2	1/2	7/16	2	NUT65151624RL	NUT65151624RL-BX	NUT65251624RL
3/8-16	3/8-16	3/4	3/4	1/2	2-1/2	NUT6513816RL	NUT6513816RL-BX	NUT6523816RL
3/8-24	3/8-24	3/4	3/4	1/2	2-1/2	NUT6513824RL	NUT6513824RL-BX	NUT6523824RL
7/16-14	7/16-14	3/4	3/4	1/2	2-1/2	NUT65171614RL	NUT65171614RL-BX	NUT65271614RL
1/2-13	1/2-13	1	1	5/8	3	NUT6511213RL	NUT6511213RL-BX	NUT6521213RL
5/8-11	5/8-11	1-1/2	1-1/2	1-1/8	5	NUT6515811RL	NUT6515811RL-BX	NUT6525811RL
3/4-10	3/4-10	1-1/2	1-1/2	1-1/4	5	NUT6513410RL	NUT6513410RL-BX	NUT6523410RL
7/8-9	7/8-9	1-1/2	1-1/2	1-3/8	5	NUT651789RL	NUT651789RL-BX	NUT652789RL
1-8	1-8	1-1/2	1-1/2	1-5/8	5	NUT65181CRL	NUT65181CRL-BX	NUT65281CRL

Right-Hand Left-Hand Hex Coupling Nuts — Inch





Right-Hand Left-Hand Hex Coupling Nuts, Inch

Left Hand Thread Size	Right Hand Thread Size	Left Hand Thread Lg.	Right Hand Thread Lg.	Left Hand Thread Fit	Right Hand Thread Fit	Hex Size	Length	AMPG Aluminum Part Number	AMPG Steel, Black Ox. Part Number
4-40	4-40	1/4	1/4	2B	2B	5/16	1	NUT720440RL	NUT612440RL-BX
5-40	5-40	1/4	1/4	2B	2B	5/16	1	NUT720540RL	NUT612540RL-BX
6-32	6-32	1/4	1/4	2B	2B	5/16	1	NUT720632RL	NUT612632RL-BX
8-32	8-32	5/16	5/16	2B	2B	3/8	1	NUT720832RL	NUT612832RL-BX
10-24	10-24	3/8	3/8	2B	2B	3/8	1-1/2	NUT7201024RL	NUT6121024RL-BX
10-32	10-32	3/8	3/8	2B	2B	3/8	1-1/2	NUT7201032RL	NUT6121032RL-BX
12-24	12-24	1/2	1/2	2B	2B	3/8	2	NUT7201224RL	NUT6121224RL-BX
1/4-20	1/4-20	1/2	1/2	2B	2B	3/8	2	NUT7201420RL	NUT6121420RL-BX
1/4-28	1/4-28	1/2	1/2	2B	2B	3/8	2	NUT7201428RL	NUT6121428RL-BX
5/16-18	5/16-18	1/2	1/2	2B	2B	7/16	2	NUT72051618RL	NUT61251618RL-BX
5/16-24	5/16-24	1/2	1/2	2B	2B	7/16	2	NUT72051624RL	NUT61251624RL-BX
3/8-16	3/8-16	3/4	3/4	2B	2B	1/2	2-1/2	NUT7203816RL	NUT6123816RL-BX
3/8-24	3/8-24	3/4	3/4	2B	2B	1/2	2-1/2	NUT7203824RL	NUT6123824RL-BX
7/16-14	7/16-14	3/4	3/4	2B	2B	1/2	2-1/2	NUT72071614RL	NUT61271614RL-BX
1/2-13	1/2-13	1	1	2B	2B	5/8	3	NUT7201213RL	NUT6121213RL-BX
5/8-11	5/8-11	1-1/2	1-1/2	2B	2B	1-1/8	5	NUT7205811RL	NUT6125811RL-BX
3/4-10	3/4-10	1-1/2	1-1/2	2B	2B	1-1/4	5	NUT7203410RL	NUT6123410RL-BX
7/8-9	7/8-9	1-1/2	1-1/2	2B	2B	1-3/8	5	NUT720789RL	NUT612789RL-BX
1-8	1-8	1-1/2	1-1/2	2B	2B	1-5/8	5	NUT72081CRL	NUT61281CRL-BX

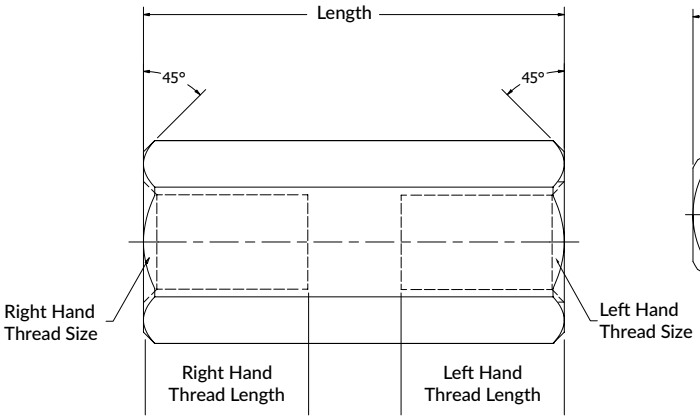
Right-Hand Left-Hand Hex Coupling Nuts — Metric

Product Information

Also known as sleeve nuts, thread adapters fasten parts with right-hand threads to parts with left-hand threads.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain | Black Oxide finish
- 316 Stainless Steel | Black Oxide finish
- Aluminum | Plain
- Steel | Black Oxide finish





18-8 SS



18-8 SS with black oxide finish



316 SS



Aluminum



Steel, Black Oxide

18-8 and 316 SS Right-Hand Left-Hand Hex Coupling Nuts

Left Hand Thread Size	Right Hand Thread Size	Left Hand Thread Lg.	Right Hand Thread Lg.	Left Hand Thread Fit	Right Hand Thread Fit	Hex Size	Length	AMPG 18-8 SS Part Number	AMPG 18-8 SS, Black Ox. Part Number	AMPG 316 SS Part Number
M4 x 0.7	M4 x 0.7	8	8	2B	2B	10	25	NUT651M4RL	NUT651M4RL-BX	NUT652M4RL
M5 x 0.8	M5 x 0.8	8	8	2B	2B	10	38	NUT651M5RL	NUT651M5RL-BX	NUT652M5RL
M6 x 1	M6 x 1	8	8	2B	2B	10	50	NUT651M6RL	NUT651M6RL-BX	NUT652M6RL
M8 x 1.25	M8 x 1.25	12	12	2B	2B	11	50	NUT651M8RL	NUT651M8RL-BX	NUT652M8RL
M10 x 1.5	M10 x 1.5	20	20	2B	2B	16	65	NUT651M10RL	NUT651M10RL-BX	NUT652M10RL
M12 x 1.75	M12 x 1.75	25	25	2B	2B	16	75	NUT651M12RL	NUT651M12RL-BX	NUT652M12RL

Aluminum and Steel/Black Oxide Right-Hand Left-Hand Hex Coupling Nuts

Left Hand Thread Size	Right Hand Thread Size	Left Hand Thread Lg.	Right Hand Thread Lg.	Left Hand Thread Fit	Right Hand Thread Fit	Hex Size	Length	AMPG Aluminum Part Number	AMPG Steel, Black Ox. Part Number
M4 x 0.7	M4 x 0.7	8	8	6H	6H	10	25	NUT720M4RL	NUT612M4RL-BX
M5 x 0.8	M5 x 0.8	8	8	6H	6H	10	38	NUT720M5RL	NUT612M5RL-BX
M6 x 1	M6 x 1	8	8	6H	6H	10	50	NUT720M6RL	NUT612M6RL-BX
M8 x 1.25	M8 x 1.25	12	12	6H	6H	11	50	NUT720M8RL	NUT612M8RL-BX
M10 x 1.5	M10 x 1.5	20	20	6H	6H	16	65	NUT720M10RL	NUT612M10RL-BX
M12 x 1.75	M12 x 1.75	25	25	6H	6H	16	75	NUT720M12RL	NUT612M12RL-BX

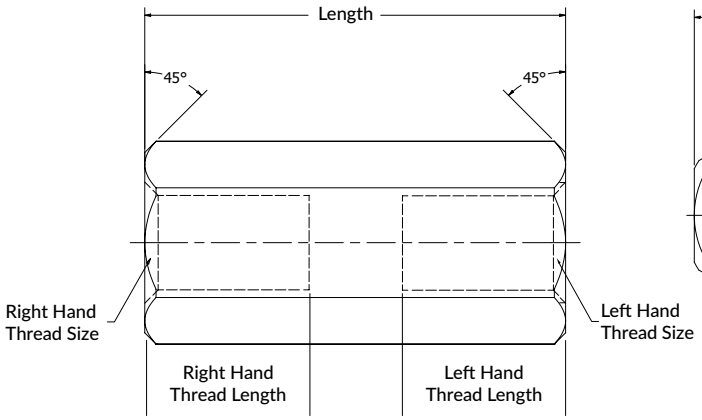
Hex Reducing Coupling Nuts — Inch to Inch, Inch to Metric, Metric to Metric

Product Information

Hex Reducing Coupling Nuts join two male-threaded components of varying sizes, such as threaded rods using a wrench to secure them. These adapters possess two threads of diverse sizes and intervals, enabling the alteration of thread size or the transition from coarse to fine threading. Additionally, they can be employed to modify the gender of a connection from male to female. Smaller adapters can function as threaded standoffs, which serve to position and isolate circuit boards and other components within assemblies.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain
- 316 Stainless Steel |Plain
- Aluminum |Plain
- Steel | Black Oxide finish





18-8 SS



316 SS



Aluminum



Steel, Black Oxide

Hex Reducing Coupling Nuts, Inch to Inch

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
2-56 To 4-40	1/8	1/8	5/16	7/16	18-8 SS	NUT6012X4
2-56 To 4-40	1/8	1/8	5/16	7/16	316 SS	NUT6022CX4C
2-56 To 6-32	1/8	9/64	5/16	1/2	316 SS	NUT6022CX6C
2-56 To 8-32	1/8	9/64	5/16	5/8	316 SS	NUT6022CX8C
4-40 To 4-48	1/8	1/8	5/16	7/16	18-8 SS	NUT6014CX4F
4-40 To 6-32	9/64	9/64	5/16	1/2	18-8 SS	NUT6014X6
4-40 To 6-32	9/64	9/64	5/16	1/2	316 SS	NUT6024CX6C
4-40 To 6-40	9/64	9/64	5/16	1/2	18-8 SS	NUT6014CX6F
4-40 To 8-32	9/64	11/64	5/16	5/8	316 SS	NUT6024CX8C
4-40 To 10-24	9/64	3/16	5/16	3/4	18-8 SS	NUT6014CX10C
4-40 To 10-24	9/64	3/16	5/16	3/4	316 SS	NUT6024CX10C
4-40 To 10-32	9/64	3/16	5/16	3/4	316 SS	NUT6024CX10F
4-48 To 6-32	9/64	9/64	5/16	1/2	18-8 SS	NUT6014FX6C
4-48 To 6-32	9/64	9/64	5/16	1/2	316 SS	NUT6024FX6C
6-32 To 6-40	9/64	9/64	5/16	1/2	18-8 SS	NUT6016CX6F
6-32 To 8-32	11/64	11/64	5/16	5/8	18-8 SS	NUT6016X8

18-8 SS, 316 SS, Steel. Alum

Hex Reducing Coupling Nuts — Inch to Inch



Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
6-32 To 8-32	11/64	11/64	5/16	5/8	316 SS	NUT6026CX8C
6-32 To 8-36	11/64	11/64	5/16	5/8	18-8 SS	NUT6016CX8F
6-32 To 10-24	11/64	3/16	5/16	3/4	18-8 SS	NUT6016CX10C
6-32 To 10-24	11/64	3/16	5/16	3/4	316 SS	NUT6026CX10C
6-32 To 10-32	11/64	3/16	5/16	3/4	316 SS	NUT6026CX10F
6-32 To 1/4-20	11/64	1/4	1/2	1	316 SS	NUT6026CX14C
6-40 To 8-32	11/64	11/64	5/16	5/8	316 SS	NUT6026FX8C
6-40 To 8-32	11/64	11/64	5/16	5/8	18-8 SS	NUT6016FX8C
8-32 To 8-36	11/64	11/64	5/16	5/8	18-8 SS	NUT6018CX8F
8-32 To 10-24	3/16	3/16	5/16	3/4	316 SS	NUT6028CX10C
8-32 To 10-24	3/16	3/16	5/16	3/4	18-8 SS	NUT6018CX10C
8-32 To 10-32	3/16	3/16	5/16	3/4	316 SS	NUT6028CX10F
8-32 To 10-32	3/16	3/16	5/16	3/4	18-8 SS	NUT6018X10
8-32 To 1/4-20	3/16	1/4	1/2	1	316 SS	NUT6028CX14C
8-32 To 5/16-18	3/16	5/16	1/2	1	316 SS	NUT6028CX51C
8-36 To 10-24	3/16	3/16	5/16	3/4	18-8 SS	NUT6018FX10C
8-36 To 10-32	3/16	3/16	5/16	3/4	316 SS	NUT6028FX10F
8-36 To 10-32	3/16	3/16	5/16	3/4	18-8 SS	NUT6018FX10F
10-24 To 10-32	3/16	3/16	5/16	3/4	18-8 SS	NUT60110CX10F
10-24 To 10-32	3/16	3/16	5/16	3/4	316 SS	NUT60210CX10F
10-24 To 1/4-20	1/4	1/4	1/2	1	18-8 SS	NUT60110CX14C
10-24 To 1/4-20	1/4	1/4	1/2	1	Steel, Bl Ox	NUT612L10CX14C
10-24 To 1/4-20	1/4	1/4	1/2	1	316 SS	NUT60210CX14C
10-24 To 1/4-20	1/4	1/4	1/2	1	Alum	NUT72010CX14C
10-24 To 1/4-28	1/4	1/4	1/2	1	18-8 SS	NUT60110CX14F
10-24 To 1/4-28	1/4	1/4	1/2	1	316 SS	NUT60210CX14F
10-24 To 5/16-18	5/16	5/16	1/2	1	18-8 SS	NUT60110CX51C
10-24 To 5/16-18	5/16	5/16	1/2	1	316 SS	NUT60210CX51C
10-24 To 5/16-24	5/16	5/16	1/2	1	18-8 SS	NUT60110CX51F
10-24 To 5/16-24	5/16	5/16	1/2	1	316 SS	NUT60210CX51F
10-24 To 5/16-32	5/16	5/16	1/2	1	18-8 SS	NUT60110CX51EF
10-24 To 3/8-16	5/16	1/2	1/2	1	18-8 SS	NUT60110CX38C
10-24 To 3/8-16	5/16	1/2	1/2	1	316 SS	NUT60210CX38C
10-24 To 3/8-16	5/16	1/2	1/2	1	Steel, Bl Ox	NUT612L10CX38C
10-24 To 3/8-16	5/16	1/2	1/2	1	Alum	NUT72010CX38C
10-32 To 1/4-20	1/4	1/4	1/2	1	316 SS	NUT60210FX14C
10-32 To 1/4-20	1/4	1/4	1/2	1	18-8 SS	NUT60110X14

Hex Reducing Coupling Nuts — Inch to Inch



Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
10-32 To 1/4-28	1/4	1/4	1/2	1	316 SS	NUT60210FX14F
10-32 To 1/4-28	1/4	1/4	1/2	1	18-8 SS	NUT60110FX14F
10-32 To 1/4-32	1/4	1/4	1/2	1	18-8 SS	NUT60110FX14EF
10-32 To 5/16-18	5/16	5/16	1/2	1	18-8 SS	NUT60110X51
10-32 To 5/16-18	5/16	5/16	1/2	1	316 SS	NUT60210FX51C
10-32 To 5/16-24	5/16	5/16	1/2	1	18-8 SS	NUT60110FX51F
10-32 To 5/16-24	5/16	5/16	1/2	1	316 SS	NUT60210FX51F
10-32 To 5/16-32	5/16	5/16	1/2	1	18-8 SS	NUT60110FX51EF
10-32 To 3/8-16	5/16	3/8	1/2	1	Steel, Bl Ox	NUT612L10FX38C
10-32 To 3/8-16	5/16	3/8	1/2	1	316 SS	NUT60210FX38C
10-32 To 3/8-16	5/16	3/8	1/2	1	Alum	NUT72010FX38C
10-32 To 3/8-16	5/16	3/8	1/2	1	18-8 SS	NUT60110FX38C
1/4-20 To 1/4-28	1/4	1/4	1/2	1	18-8 SS	NUT60114X14
1/4-20 To 1/4-28	1/4	1/4	1/2	1	316 SS	NUT60214CX14F
1/4-20 To 1/4-32	1/4	1/4	1/2	1	18-8 SS	NUT60114CX14EF
1/4-20 To 1/4-32	1/4	1/4	1/2	1	316 SS	NUT60214CX14EF
1/4-20 To 5/16-18	1/4	5/16	1/2	1	316 SS	NUT60214CX51C
1/4-20 To 5/16-24	1/2	5/16	1/2	1	18-8 SS	NUT60114CX51F
1/4-20 To 5/16-24	1/2	5/16	1/2	1	316 SS	NUT60214CX51F
1/4-20 To 5/16-32	1/2	5/16	1/2	1	18-8 SS	NUT60114CX51EF
1/4-20 To 5/16-32	1/2	5/16	1/2	1	316 SS	NUT60214CX51EF
1/4-20 To 3/8-16	1/2	3/8	1/2	1	316 SS	NUT60214CX38C
1/4-20 To 3/8-16	1/2	3/8	1/2	1	Steel, Bl Ox	NUT612L14CX38C
1/4-20 To 3/8-16	1/2	3/8	1/2	1	Alum	NUT72014CX38C
1/4-20 To 3/8-24	1/2	3/8	1/2	1	18-8 SS	NUT60114CX38F
1/4-20 To 3/8-24	1/2	3/8	1/2	1	316 SS	NUT60214CX38F
1/4-20 To 3/8-32	1/2	3/8	1/2	1	18-8 SS	NUT60114CX38EF
1/4-20 To 3/8-32	1/2	3/8	1/2	1	316 SS	NUT60214CX38EF
1/4-20 To 1/2-13	1/2	1/2	5/8	1-1/4	18-8 SS	NUT60114X12
1/4-20 To 1/2-13	5/8	1/2	5/8	1-1/4	316 SS	NUT60214CX12C
1/4-20 To 1/2-13	5/8	1/2	5/8	1-1/4	Steel, Bl Ox	NUT612L14CX12C
1/4-20 To 1/2-13	5/8	1/2	5/8	1-1/4	Alum	NUT72014CX12C
1/4-20 To 1/2-20	5/8	1/2	5/8	1-1/4	18-8 SS	NUT60114CX12F
1/4-20 To 1/2-20	5/8	1/2	5/8	1-1/4	316 SS	NUT60214CX12F
1/4-20 To 1/2-20	5/8	1/2	5/8	1-1/4	Alum	NUT72014CX12F
1/4-20 To 1/2-28	5/8	1/2	5/8	1-1/4	18-8 SS	NUT60114CX12EF
1/4-20 To 1/2-28	5/8	1/2	5/8	1-1/4	316 SS	NUT60214CX12EF

Hex Reducing Coupling Nuts — Inch to Inch



Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
1/4-28 To 1/4-32	1/4	1/2	1/2	1	18-8 SS	NUT60114FX14EF
1/4-28 To 5/16-18	1/4	5/16	1/2	1	18-8 SS	NUT60114FX51C
1/4-28 To 5/16-18	1/4	5/16	1/2	1	316 SS	NUT60214FX51C
1/4-28 To 5/16-24	1/4	5/16	1/2	1	18-8 SS	NUT60114FX51F
1/4-28 To 5/16-24	1/4	5/16	1/2	1	316 SS	NUT60214FX51F
1/4-28 To 5/16-32	1/4	5/16	1/2	1	18-8 SS	NUT60114FX51EF
1/4-28 To 3/8-16	1/4	3/8	1/2	1	Alum	NUT72014FX38C
1/4-28 To 3/8-16	1/4	3/8	1/2	1	316 SS	NUT60214FX38C
1/4-28 To 3/8-16	1/4	3/8	1/2	1	18-8 SS	NUT60114FX38C
1/4-28 To 3/8-24	1/4	3/8	1/2	1	316 SS	NUT60214FX38F
1/4-28 To 3/8-24	1/4	3/8	1/2	1	18-8 SS	NUT60114FX38F
1/4-28 To 3/8-32	1/4	3/8	1/2	1	18-8 SS	NUT60114FX38EF
1/4-28 To 1/2-13	1/4	1/2	5/8	1-1/4	18-8 SS	NUT60114FX12C
1/4-28 To 1/2-13	1/4	1/2	5/8	1-1/4	316 SS	NUT60214FX12C
1/4-28 To 1/2-13	1/4	1/2	5/8	1-1/4	Alum	NUT72014FX12C
1/4-28 To 1/2-20	1/4	1/2	5/8	1-1/4	18-8 SS	NUT60114FX12F
1/4-28 To 1/2-20	1/4	1/2	5/8	1-1/4	316 SS	NUT60214FX12F
1/4-28 To 1/2-28	1/4	1/2	5/8	1-1/4	18-8 SS	NUT60114FX12EF
1/4-32 To 5/16-18	1/4	5/16	1/2	1	18-8 SS	NUT60114EFX51C
1/4-32 To 5/16-18	1/4	5/16	1/2	1	Alum	NUT72014EFX51C
1/4-32 To 5/16-18	1/4	5/16	1/2	1	316 SS	NUT60214EFX51C
1/4-32 To 5/16-24	1/4	5/16	1/2	1	18-8 SS	NUT60114EFX51F
1/4-32 To 5/16-32	1/4	5/16	1/2	1	18-8 SS	NUT60114EFX51EF
1/4-32 To 3/8-16	1/4	3/8	1/2	1	Alum	NUT72014EFX38C
1/4-32 To 3/8-16	1/4	3/8	1/2	1	316 SS	NUT60214EFX38C
1/4-32 To 3/8-16	1/4	3/8	1/2	1	18-8 SS	NUT60114EFX38C
1/4-32 To 3/8-24	1/4	3/8	1/2	1	18-8 SS	NUT60114EFX38F
1/4-32 To 3/8-32	1/4	3/8	1/2	1	18-8 SS	NUT60114EFX38EF
1/4-32 To 1/2-13	1/4	1/2	5/8	1-1/4	18-8 SS	NUT60114EFX12C
1/4-32 To 1/2-13	1/4	1/2	5/8	1-1/4	Alum	NUT72014EFX12C
1/4-32 To 1/2-13	1/4	1/2	5/8	1-1/4	316 SS	NUT60214EFX12C
1/4-32 To 1/2-20	1/4	1/2	5/8	1-1/4	18-8 SS	NUT60114EFX12F
1/4-32 To 1/2-20	1/4	1/2	5/8	1-1/4	316 SS	NUT60214EFX12F
1/4-32 To 1/2-28	1/4	1/2	5/8	1-1/4	18-8 SS	NUT60114EFX12EF
5/16-18 To 5/16-24	5/16	5/16	1/2	1	316 SS	NUT60251CX51F
5/16-18 To 3/8-16	5/16	3/8	1/2	1	316 SS	NUT60251CX38C
5/16-18 To 3/8-24	5/16	3/8	1/2	1	316 SS	NUT60251CX38F

Hex Reducing Coupling Nuts — Inch to Inch



Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
5/16-18 To 3/8-32	5/16	3/8	1/2	1	316 SS	NUT60251CX38EF
5/16-18 To 1/2-13	5/16	1/2	5/8	1-1/4	316 SS	NUT60251CX12C
5/16-18 To 1/2-20	5/16	1/2	5/8	1-1/4	316 SS	NUT60251CX12F
5/16-18 To 1/2-28	5/16	1/2	5/8	1-1/4	316 SS	NUT60251CX12EF
5/16-24 To 3/8-16	5/16	3/8	1/2	1	316 SS	NUT60251FX38C
5/16-24 To 3/8-24	5/16	3/8	1/2	1	316 SS	NUT60251FX38F
5/16-24 To 1/2-13	5/16	1/2	5/8	1-1/4	316 SS	NUT60251FX12C
5/16-24 To 1/2-20	5/16	1/2	5/8	1-1/4	316 SS	NUT60251FX12F
5/16-32 To 3/8-16	5/16	3/8	1/2	1	316 SS	NUT60251EFX38C
5/16-32 To 1/2-13	5/16	1/2	5/8	1-1/4	316 SS	NUT60251EFX12C
5/16-32 To 1/2-20	5/16	1/2	5/8	1-1/4	316 SS	NUT60251EFX12F
5/16-18 To 3/8-16	5/16	3/8	1/2	1	Steel, Bl Ox	NUT612L51CX38C
5/16-18 To 3/8-16	5/16	3/8	1/2	1	Alum	NUT72051CX38C
5/16-18 To 5/16-32	5/16	5/16	13/16	1	18-8 SS	NUT60151CX51EF
5/16-18 To 5/16-24	5/16	5/16	7/16	1	18-8 SS	NUT60151X51
5/16-18 To 3/8-24	5/16	3/8	1/2	1	18-8 SS	NUT60151CX38F
5/16-18 To 3/8-32	5/16	3/8	1/2	1	18-8 SS	NUT60151CX38EF
5/16-18 To 1/2-13	5/16	1/2	5/8	1-1/4	18-8 SS	NUT60151X12
5/16-18 To 1/2-13	5/16	1/2	5/8	1-1/4	Steel, Bl Ox	NUT612L51CX12C
5/16-18 To 1/2-13	5/16	1/2	5/8	1-1/4	Alum	NUT72051CX12C
5/16-18 To 1/2-20	5/16	1/2	5/8	1-1/4	18-8 SS	NUT60151CX12F
5/16-18 To 1/2-28	5/16	1/2	5/8	1-1/4	18-8 SS	NUT60151CX12EF
5/16-24 To 5/16-32	5/16	5/16	1/2	1	18-8 SS	NUT60151FX51EF
5/16-24 To 3/8-16	5/16	3/8	1/2	1	Alum	NUT72051FX38C
5/16-24 To 3/8-16	5/16	3/8	1/2	1	18-8 SS	NUT60151FX38C
5/16-24 To 3/8-24	5/16	3/8	1/2	1	18-8 SS	NUT60151FX38F
5/16-24 To 3/8-32	5/16	3/8	1/2	1	18-8 SS	NUT60151FX38EF
5/16-24 To 1/2-13	5/16	1/2	5/8	1-1/4	18-8 SS	NUT60151FX12C
5/16-24 To 1/2-13	5/16	1/2	5/8	1-1/4	Alum	NUT72051FX12C
5/16-24 To 1/2-20	5/16	1/2	5/8	1-1/4	18-8 SS	NUT60151FX12F
5/16-24 To 1/2-28	5/16	1/2	5/8	1-1/4	18-8 SS	NUT60151FX12EF
5/16-32 To 3/8-16	5/16	3/8	1/2	1	Alum	NUT72051EFX38C
5/16-32 To 3/8-16	5/16	3/8	1/2	1	18-8 SS	NUT60151EFX38C
5/16-32 To 3/8-24	5/16	3/8	1/2	1	18-8 SS	NUT60151EFX38F
5/16-32 To 3/8-32	5/16	3/8	1/2	1	18-8 SS	NUT60151EFX38EF
5/16-32 To 1/2-13	5/16	1/2	5/8	1-1/4	Alum	NUT72051EFX12C
5/16-32 To 1/2-13	5/16	1/2	5/8	1-1/4	18-8 SS	NUT60151EFX12C

Hex Reducing Coupling Nuts — Inch to Inch



Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
5/16-32 To 1/2-20	5/16	1/2	5/8	1-1/4	18-8 SS	NUT60151EFX12F
5/16-32 To 1/2-28	5/16	1/2	5/8	1-1/4	18-8 SS	NUT60151EFX12EF
3/8-16 To 3/8-24	3/8	3/8	1/2	1-1/4	18-8 SS	NUT60138X38
3/8-16 To 3/8-24	3/8	3/8	1/2	1-1/4	316 SS	NUT60238CX38F
3/8-16 To 3/8-32	3/8	3/8	1/2	1-1/4	Alum	NUT72038CX38EF
3/8-16 To 3/8-32	3/8	3/8	1/2	1-1/4	18-8 SS	NUT60138CX38EF
3/8-16 To 3/8-32	3/8	3/8	1/2	1-1/4	316 SS	NUT60238CX38EF
3/8-16 To 1/2-13	3/8	1/2	5/8	1-1/4	Steel, Bl Ox	NUT612L38CX12C
3/8-16 To 1/2-13	3/8	1/2	5/8	1-1/4	Alum	NUT72038CX12C
3/8-16 To 1/2-13	3/8	1/2	5/8	1-1/4	316 SS	NUT60238CX12C
3/8-16 To 1/2-20	3/8	1/2	5/8	1-1/4	18-8 SS	NUT60138CX12F
3/8-16 To 1/2-20	3/8	1/2	5/8	1-1/4	Alum	NUT72038CX12F
3/8-16 To 1/2-20	3/8	1/2	5/8	1-1/4	316 SS	NUT60238CX12F
3/8-16 To 1/2-28	3/8	1/2	5/8	1-1/4	18-8 SS	NUT60138CX12EF
3/8-16 To 1/2-28	3/8	1/2	5/8	1-1/4	Alum	NUT72038CX12EF
3/8-16 To 1/2-28	3/8	1/2	5/8	1-1/4	316 SS	NUT60238CX12EF
3/8-16 To 5/8-11	3/8	5/8	13/16	1-1/2	Alum	NUT72038CX58C
3/8-16 To 5/8-11	3/8	5/8	13/16	1-1/2	316 SS	NUT60238CX58C
3/8-16 To 3/4-10	3/8	3/4	1	1-1/2	Alum	NUT72038CX34C
3/8-16 To 3/4-10	3/8	3/4	1	1-1/2	316 SS	NUT60238CX34C
3/8-16 To 5/8-11	3/8	5/8	13/16	1-1/2	18-8 SS	NUT60138X58
3/8-16 To 3/4-10	3/8	3/4	1	1-1/2	18-8 SS	NUT60138X34
3/8-24 To 3/8-32	3/8	3/8	1/2	1-1/4	18-8 SS	NUT60138FX38EF
3/8-24 To 1/2-13	3/8	1/2	5/8	1-1/4	18-8 SS	NUT60138FX12C
3/8-24 To 1/2-13	3/8	1/2	5/8	1-1/4	Alum	NUT72038FX12C
3/8-24 To 1/2-13	3/8	1/2	5/8	1-1/4	316 SS	NUT60238FX12C
3/8-24 To 1/2-20	3/8	1/2	5/8	1-1/4	18-8 SS	NUT60138FX12F
3/8-24 To 1/2-20	3/8	1/2	5/8	1-1/4	Alum	NUT72038FX12F
3/8-24 To 1/2-20	3/8	1/2	5/8	1-1/4	316 SS	NUT60238FX12F
3/8-24 To 1/2-28	3/8	1/2	5/8	1-1/4	18-8 SS	NUT60138FX12EF
3/8-24 To 5/8-11	3/8	5/8	13/16	1-1/2	Alum	NUT72038FX58C
3/8-24 To 5/8-11	3/8	5/8	13/16	1-1/2	316 SS	NUT60238FX58C
3/8-24 To 3/4-10	3/8	3/4	1	1-1/2	Alum	NUT72038FX34C
3/8-24 To 3/4-10	3/8	3/4	1	1-1/2	316 SS	NUT60238FX34C
3/8-24 To 5/8-11	3/8	5/8	13/16	1-1/2	18-8 SS	NUT60138FX58C
3/8-24 To 3/4-10	3/8	3/4	1	1-1/2	18-8 SS	NUT60138FX34C
3/8-32 To 1/2-13	3/8	1/2	5/8	1-1/4	18-8 SS	NUT60138EFX12C

Hex Reducing Coupling Nuts — Inch to Inch



Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
3/8-32 To 1/2-13	3/8	1/2	5/8	1-1/4	Alum	NUT72038EFX12C
3/8-32 To 1/2-13	3/8	1/2	5/8	1-1/4	316 SS	NUT60238EFX12C
3/8-32 To 1/2-20	3/8	1/2	5/8	1-1/4	18-8 SS	NUT60138EFX12F
3/8-32 To 1/2-20	3/8	1/2	5/8	1-1/4	Alum	NUT72038EFX12F
3/8-32 To 1/2-20	3/8	1/2	5/8	1-1/4	316 SS	NUT60238EFX12F
3/8-32 To 1/2-28	3/8	1/2	5/8	1-1/4	18-8 SS	NUT60138EFX12EF
3/8-32 To 5/8-11	3/8	5/8	13/16	1-1/2	Alum	NUT72038EFX58C
3/8-32 To 5/8-11	3/8	5/8	13/16	1-1/2	316 SS	NUT60238EFX58C
3/8-32 To 3/4-10	3/8	3/4	1	1-1/2	316 SS	NUT60238EFX34C
3/8-32 To 5/8-11	3/8	5/8	13/16	1-1/2	18-8 SS	NUT60138EFX58C
3/8-32 To 3/4-10	3/8	3/4	1	1-1/2	18-8 SS	NUT60138EFX34C
1/2-13 To 1/2-28	1/2	1/2	5/8	2-1/4	Alum	NUT72012CX12EF
1/2-13 To 1/2-20	1/2	1/2	5/8	2-1/4	Steel, Bl Ox	NUT612L12CX12F
1/2-13 To 1/2-20	1/2	1/2	5/8	2-1/4	Alum	NUT72012CX12F
1/2-13 To 1/2-20	1/2	1/2	5/8	2-1/4	18-8 SS	NUT60112X12
1/2-13 To 1/2-20	1/2	1/2	5/8	2-1/4	316 SS	NUT60212CX12F
1/2-13 To 1/2-28	1/2	1/2	5/8	2-1/4	18-8 SS	NUT60112CX12EF
1/2-13 To 1/2-28	1/2	1/2	5/8	2-1/4	316 SS	NUT60212CX12EF
1/2-13 To 5/8-11	1/2	5/8	7/8	1-3/4	Steel, Bl Ox	NUT612L12CX58C
1/2-13 To 5/8-11	1/2	5/8	7/8	1-3/4	Alum	NUT72012CX58C
1/2-13 To 5/8-11	1/2	5/8	7/8	1-3/4	316 SS	NUT60212CX58C
1/2-13 To 3/4-10	1/2	3/4	1	2-1/4	Steel, Bl Ox	NUT612L12CX34C
1/2-13 To 3/4-10	1/2	3/4	1	2-1/4	Alum	NUT72012CX34C
1/2-13 To 3/4-10	1/2	3/4	1	2-1/4	18-8 SS	NUT60112X34
1/2-13 To 3/4-10	1/2	3/4	1	2-1/4	316 SS	NUT60212CX34C
1/2-13 To 1-8	1/2	1	1-3/8	2	Alum	NUT72012CX01C
1/2-13 To 1-8	1/2	1	1-3/8	2	18-8 SS	NUT60112X01
1/2-13 To 1-8	1/2	1	1-3/8	2	316 SS	NUT60212CX01C
1/2-20 to 1/2-28	1/2	1/2	5/8	2-1/4	18-8 SS	NUT60112FX12EF
1/2-20 to 5/8-11	1/2	5/8	7/8	1-3/4	Alum	NUT72012FX58C
1/2-20 to 5/8-11	1/2	5/8	7/8	1-3/4	18-8 SS	NUT60112FX58C
1/2-20 to 5/8-11	1/2	5/8	7/8	1-3/4	316 SS	NUT60212FX58C
1/2-20 to 3/4-10	1/2	3/4	1	2-1/4	Alum	NUT72012FX34C

Hex Reducing Coupling Nuts — Inch to Inch



Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
1/2-20 to 3/4-10	1/2	3/4	1	2-1/4	18-8 SS	NUT60112FX34C
1/2-20 to 3/4-10	1/2	3/4	1	2-1/4	316 SS	NUT60212FX34C
1/2-20 to 1-8	1/2	1	1-3/8	2	18-8 SS	NUT60112FX01C
1/2-20 to 1-8	1/2	1	1-3/8	2	316 SS	NUT60212FX01C
1/2-28 To 5/8-11	1/2	5/8	7/8	1-3/4	Alum	NUT72012EFX58C
1/2-28 To 5/8-11	1/2	5/8	7/8	1-3/4	18-8 SS	NUT60112EFX58C
1/2-28 To 5/8-11	1/2	5/8	7/8	1-3/4	316 SS	NUT60212EFX58C
1/2-28 To 3/4-10	1/2	3/4	1	2-1/4	Alum	NUT72012EFX34C
1/2-28 To 3/4-10	1/2	3/4	1	2-1/4	18-8 SS	NUT60112EFX34C
1/2-28 To 3/4-10	1/2	3/4	1	2-1/4	316 SS	NUT60212EFX34C
1/2-28 To 1-8	1/2	1	1-3/8	2	18-8 SS	NUT60112EFX01C
1/2-28 To 1-8	1/2	1	1-3/8	2	316 SS	NUT60212EFX01C
5/8-11 To 5/8-18	5/8	5/8	7/8	2	316 SS	NUT60258CX58F
5/8-11 To 5/8-18	5/8	5/8	7/8	2	Alum	NUT72058CX58F
5/8-11 To 5/8-18	5/8	5/8	7/8	2	18-8 SS	NUT60158X58
5/8-11 To 3/4-10	5/8	3/4	1	2	316 SS	NUT60258CX34C
5/8-11 To 3/4-10	5/8	3/4	1	2	Steel, Bl Ox	NUT612L58CX34C
5/8-11 To 3/4-10	5/8	3/4	1	2	Alum	NUT72058CX34C
5/8-11 To 7/8-9	5/8	7/8	1-1/4	2	316 SS	NUT60258CX78C
5/8-11 To 7/8-9	5/8	7/8	1-1/4	2	18-8 SS	NUT60158X78
5/8-11 To 1-8	5/8	1	1-3/8	2	316 SS	NUT60258CX01C
5/8-11 To 1-8	5/8	1	1-3/8	2	Alum	NUT72058CX01C
5/8-11 To 1-8	5/8	1	1-3/8	2	18-8 SS	NUT60158X01
3/4-10 To 3/4-16	3/4	3/4	1-1/4	2	316 SS	NUT60234CX34F
3/4-10 To 3/4-16	3/4	3/4	1-1/4	2	Alum	NUT72034CX34F
3/4-10 To 3/4-16	3/4	3/4	1-1/4	2	18-8 SS	NUT60134X34
3/4-10 To 7/8-9	3/4	7/8	1-1/4	2-1/4	316 SS	NUT60234CX78C
3/4-10 To 7/8-9	3/4	7/8	1-1/4	2-1/4	18-8 SS	NUT60134X78
3/4-10 To 1-8	3/4	1	1-3/8	2-1/2	316 SS	NUT60234CX01C
3/4-10 To 1-8	3/4	1	1-3/8	2-1/2	18-8 SS	NUT60134X01
3/4-10 To 1-1/4-7	3/4	1-1/16	1-5/8	3	316 SS	NUT60234CX012C
3/4-10 To 1-1/4-7	3/4	1-1/16	1-5/8	3	18-8 SS	NUT60134CX012C
7/8-9 To 1-8	7/8	1	1-3/8	2	316 SS	NUT60278CX01C
7/8-9 To 1-8	7/8	1	1-3/8	2	18-8 SS	NUT60178CX01C
7/8-9 To 1-1/4-7	7/8	1-1/16	1-5/8	3	18-8 SS	NUT60178CX012C
1-8 To 1 1/4-7	1	1-1/16	1-5/8	3	18-8 SS	NUT60101CX012C

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
6-32 To M4 x 0.7	9/64	4mm	11mm	11mm	316 SS	NUT6026CXM4C
6-40 To M4 x 0.7	9/64	4mm	11mm	11mm	316 SS	NUT6026FXM4C
6-32 To M5 x 0.8	9/64	5mm	11mm	11mm	316 SS	NUT6026CXM5C
6-40 To M5 x 0.8	9/64	5mm	11mm	11mm	316 SS	NUT6026FXM5C
6-32 To M4 x 0.5	9/64	4mm	11mm	11mm	18-8 SS	NUT6016CXM4F
6-32 To M4 x 0.7	9/64	4mm	11mm	11mm	18-8 SS	NUT6016XM4
6-32 To M5 x 0.5	9/64	5mm	11mm	11mm	18-8 SS	NUT6016CXM5F
6-40 To M4 x 0.7	9/64	4mm	11mm	11mm	18-8 SS	NUT6016FXM4C
6-40 To M5 x 0.8	9/64	5mm	11mm	11mm	18-8 SS	NUT6016FXM5C
8-32 To M5 x 0.5	5/32	5mm	13mm	25mm	18-8 SS	NUT6018CXM5F
8-32 To M5 x 0.8	5/32	5mm	13mm	25mm	18-8 SS	NUT6018XM5
8-32 To M5 x 0.8	5/32	5mm	13mm	25mm	316 SS	NUT6028CXM5C
8-32 To M6 x 0.75	5/32	6mm	13mm	25mm	18-8 SS	NUT6018CXM6F
8-32 To M6 x 1	5/32	6mm	13mm	25mm	316 SS	NUT6028CXM6C
8-36 To M5 x 0.5	5/32	5mm	13mm	25mm	18-8 SS	NUT6018FXM5F
8-36 To M5 x 0.8	5/32	5mm	13mm	25mm	316 SS	NUT6028FXM5C
8-36 To M5 x 0.8	5/32	5mm	13mm	25mm	18-8 SS	NUT6018FXM5C
8-36 To M6 x 0.75	5/32	6mm	13mm	25mm	18-8 SS	NUT6018FXM6F
8-36 To M6 x 1	5/32	6mm	13mm	25mm	18-8 SS	NUT6018FXM6C
8-36 To M6 x 1	5/32	6mm	13mm	25mm	316 SS	NUT6028FXM6C
10-24 To M5 x 0.5	1/4	5mm	13mm	25mm	18-8 SS	NUT60110CXM5F
10-24 To M5 x 0.8	1/4	5mm	13mm	25mm	18-8 SS	NUT60110CXM5C
10-24 To M5 x 0.8	1/4	5mm	13mm	25mm	316 SS	NUT60210CXM5C
10-24 To M6 x 0.75	1/4	6mm	13mm	25mm	18-8 SS	NUT60110CXM6F
10-24 To M6 x 1	1/4	6mm	13mm	25mm	18-8 SS	NUT60110CXM6C
10-24 To M6 x 1	1/4	6mm	13mm	25mm	316 SS	NUT60210CXM6C
10-24 To M6 x 1	1/4	6mm	13mm	25mm	Alum	NUT72010CXM6C
10-24 To M8 x 1	1/4	8mm	16mm	38mm	18-8 SS	NUT60110CXM8F
10-24 To M8 x 1	1/4	8mm	16mm	38mm	316 SS	NUT60210CXM8F

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
10-24 To M8 x 1	1/4	8mm	16mm	38mm	Alum	NUT72010CXM8F
10-24 To M8 x 1.25	1/4	8mm	16mm	38mm	18-8 SS	NUT60110CXM8C
10-24 To M8 x 1.25	1/4	8mm	16mm	38mm	316 SS	NUT60210CXM8C
10-24 To M8 x 1.25	1/4	8mm	16mm	38mm	Alum	NUT72010CXM8C
10-32 To M5 x 0.5	1/4	5mm	13mm	25mm	18-8 SS	NUT60110FXM5F
10-32 To M5 x 0.8	1/4	5mm	13mm	25mm	316 SS	NUT60210FXM5C
10-32 To M5 x 0.8	1/4	5mm	13mm	25mm	18-8 SS	NUT60110XM5
10-32 To M6 x 0.75	1/4	6mm	13mm	25mm	18-8 SS	NUT60110FXM6F
10-32 To M6 x 1	1/4	6mm	13mm	25mm	316 SS	NUT60210FXM6C
10-32 To M6 x 1	1/4	6mm	13mm	25mm	18-8 SS	NUT60110XM6
10-32 To M8 x 1	1/4	8mm	16mm	38mm	316 SS	NUT60210FXM8F
10-32 To M8 x 1	1/4	8mm	16mm	38mm	Alum	NUT72010FXM8F
10-32 To M8 x 1	1/4	8mm	16mm	38mm	18-8 SS	NUT60110FXM8F
10-32 To M8 x 1.25	1/4	8mm	16mm	38mm	316 SS	NUT60210FXM8C
1/4-20 To M5 x 0.5	1/4	5mm	13mm	38mm	18-8 SS	NUT60114CXM5F
1/4-20 To M5 x 0.5	1/4	5mm	13mm	38mm	316 SS	NUT60214CXM5F
1/4-20 To M5 x 0.8	1/4	5mm	13mm	38mm	316 SS	NUT60214CXM5C
1/4-20 To M6 x 0.75	1/4	6mm	13mm	38mm	18-8 SS	NUT60114CXM6F
1/4-20 To M6 x 0.75	1/4	6mm	13mm	38mm	316 SS	NUT60214CXM6F
1/4-20 To M6 x 0.75	1/4	6mm	13mm	38mm	Alum	NUT72014CXM6F
1/4-20 To M6 x 1	1/4	6mm	13mm	38mm	18-8 SS	NUT60114XM6
1/4-20 To M6 x 1	1/4	6mm	13mm	38mm	316 SS	NUT60214CXM6C
1/4-20 To M8 x 1	1/4	8mm	16mm	38mm	316 SS	NUT60214CXM8F
1/4-20 To M8 x 1	1/4	8mm	16mm	38mm	Alum	NUT72014CXM8F
1/4-20 To M8 x 1	1/4	8mm	16mm	38mm	18-8 SS	NUT60114CXM8F
1/4-20 To M8 x 1.25	1/4	8mm	16mm	38mm	18-8 SS	NUT60114XM8
1/4-20 To M8 x 1.25	1/4	8mm	16mm	38mm	316 SS	NUT60214CXM8C
1/4-20 To M10 x 1	1/4	10mm	16mm	38mm	18-8 SS	NUT60114CXM10EF
1/4-20 To M10 x 1	1/4	10mm	16mm	38mm	316 SS	NUT60214CXM10EF
1/4-20 To M10 x 1	1/4	10mm	16mm	38mm	Alum	NUT72014CXM10EF
1/4-20 To M10 x 1.25	1/4	10mm	16mm	38mm	18-8 SS	NUT60114CXM10F
1/4-20 To M10 x 1.25	1/4	10mm	16mm	38mm	316 SS	NUT60214CXM10F
1/4-20 To M10 x 1.25	1/4	10mm	16mm	38mm	Alum	NUT72014CXM10F
1/4-20 To M10 x 1.5	1/4	10mm	16mm	38mm	18-8 SS	NUT60114CXM10C
1/4-20 To M10 x 1.5	1/4	10mm	16mm	38mm	316 SS	NUT60214CXM10C

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
1/4-20 To M10 x 1.5	1/4	10mm	16mm	38mm	Alum	NUT72014CXM10C
1/4-20 To M12 x 1.25	1/4	12mm	18mm	38mm	18-8 SS	NUT60114CXM12EF
1/4-20 To M12 x 1.25	1/4	12mm	18mm	38mm	316 SS	NUT60214CXM12EF
1/4-20 To M12 x 1.25	1/4	12mm	18mm	38mm	Alum	NUT72014CXM12EF
1/4-20 To M12 x 1.5	1/4	12mm	18mm	38mm	18-8 SS	NUT60114CXM12F
1/4-20 To M12 x 1.5	1/4	12mm	18mm	38mm	316 SS	NUT60214CXM12F
1/4-20 To M12 x 1.5	1/4	12mm	18mm	38mm	Alum	NUT72014CXM12F
1/4-20 To M12 x 1.75	1/4	12mm	18mm	38mm	18-8 SS	NUT60114CXM12C
1/4-20 To M12 x 1.75	1/4	12mm	18mm	38mm	316 SS	NUT60214CXM12C
1/4-20 To M12 x 1.75	1/4	12mm	18mm	38mm	Alum	NUT72014CXM12C
1/4-28 To M5 x 0.5	1/4	5mm	13mm	38mm	18-8 SS	NUT60114FXM5F
1/4-28 To M5 x 0.8	1/4	5mm	13mm	38mm	18-8 SS	NUT60114FXM5C
1/4-28 To M5 x 0.8	1/4	5mm	13mm	38mm	316 SS	NUT60214FXM5C
1/4-28 To M5 x 0.8	1/4	5mm	13mm	38mm	Alum	NUT72014FXM5C
1/4-28 To M6 x 0.75	1/4	6mm	13mm	38mm	18-8 SS	NUT60114FXM6F
1/4-28 To M6 x 1	1/4	6mm	13mm	38mm	Alum	NUT72014FXM6C
1/4-28 To M6 x 1	1/4	6mm	13mm	38mm	18-8 SS	NUT60114FXM6C
1/4-28 To M6 x 1	1/4	6mm	13mm	38mm	316 SS	NUT60214FXM6C
1/4-28 To M8 x 1	1/4	8mm	16mm	38mm	18-8 SS	NUT60114FXM8F
1/4-28 To M8 x 1	1/4	8mm	16mm	38mm	316 SS	NUT60214FXM8F
1/4-28 To M8 x 1	1/4	8mm	16mm	38mm	Alum	NUT72014FXM8F
1/4-28 To M8 x 1.25	1/4	8mm	16mm	38mm	18-8 SS	NUT60114FXM8C
1/4-28 To M8 x 1.25	1/4	8mm	16mm	38mm	316 SS	NUT60214FXM8C
1/4-28 To M8 x 1.25	1/4	8mm	16mm	38mm	Alum	NUT72014FXM8C
1/4-28 To M10 x 1	1/4	10mm	16mm	38mm	18-8 SS	NUT60114FXM10EF
1/4-28 To M10 x 1	1/4	10mm	16mm	38mm	316 SS	NUT60214FXM10EF
1/4-28 To M10 x 1.25	1/4	10mm	16mm	38mm	18-8 SS	NUT60114FXM10F
1/4-28 To M10 x 1.25	1/4	10mm	16mm	38mm	316 SS	NUT60214FXM10F
1/4-28 To M10 x 1.25	1/4	10mm	16mm	38mm	Alum	NUT72014FXM10F
1/4-28 To M10 x 1.5	1/4	10mm	16mm	38mm	18-8 SS	NUT60114FXM10C
1/4-28 To M10 x 1.5	1/4	10mm	16mm	38mm	316 SS	NUT60214FXM10C
1/4-28 To M10 x 1.5	1/4	10mm	16mm	38mm	Alum	NUT72014FXM10C
1/4-28 To M12 x 1.25	1/4	12mm	18mm	38mm	18-8 SS	NUT60114FXM12EF
1/4-28 To M12 x 1.25	1/4	12mm	18mm	38mm	316 SS	NUT60214FXM12EF
1/4-28 To M12 x 1.25	1/4	12mm	18mm	38mm	Alum	NUT72014FXM12EF
1/4-28 To M12 x 1.5	1/4	12mm	18mm	38mm	18-8 SS	NUT60114FXM12F

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
1/4-28 To M12 x 1.5	1/4	12mm	18mm	38mm	316 SS	NUT60214FXM12F
1/4-28 To M12 x 1.75	1/4	12mm	18mm	38mm	18-8 SS	NUT60114FXM12C
1/4-28 To M12 x 1.75	1/4	12mm	18mm	38mm	316 SS	NUT60214FXM12C
1/4-28 To M12 x 1.75	1/4	12mm	18mm	38mm	Alum	NUT72014FXM12C
1/4-32 To M5 x 0.5	1/4	5mm	13mm	38mm	18-8 SS	NUT60114EFXM5F
1/4-32 To M5 x 0.8	1/4	5mm	13mm	38mm	316 SS	NUT60214EFXM5C
1/4-32 To M5 x 0.8	1/4	5mm	13mm	38mm	Alum	NUT72014EFXM5C
1/4-32 To M5 x 0.8	1/4	5mm	13mm	38mm	18-8 SS	NUT60114EFXM5C
1/4-32 To M6 x 0.75	1/4	6mm	13mm	38mm	18-8 SS	NUT60114EFXM6F
1/4-32 To M6 x 1	1/4	6mm	13mm	38mm	316 SS	NUT60214EFXM6C
1/4-32 To M6 x 1	1/4	6mm	13mm	38mm	Alum	NUT72014EFXM6C
1/4-32 To M6 x 1	1/4	6mm	13mm	38mm	18-8 SS	NUT60114EFXM6C
1/4-32 To M8 x 1	1/4	8mm	16mm	38mm	316 SS	NUT60214EFXM8F
1/4-32 To M8 x 1	1/4	8mm	16mm	38mm	18-8 SS	NUT60114EFXM8F
1/4-32 To M8 x 1.25	1/4	8mm	16mm	38mm	316 SS	NUT60214EFXM8C
1/4-32 To M8 x 1.25	1/4	8mm	16mm	38mm	Alum	NUT72014EFXM8C
1/4-32 To M8 x 1.25	1/4	8mm	16mm	38mm	18-8 SS	NUT60114EFXM8C
1/4-32 To M10 x 1	1/4	10mm	16mm	38mm	316 SS	NUT60214EFXM10EF
1/4-32 To M10 x 1	1/4	10mm	16mm	38mm	18-8 SS	NUT60114EFXM10EF
1/4-32 To M10 x 1.25	1/4	10mm	16mm	38mm	316 SS	NUT60214EFXM10F
1/4-32 To M10 x 1.25	1/4	10mm	16mm	38mm	18-8 SS	NUT60114EFXM10F
1/4-32 To M10 x 1.5	1/4	10mm	16mm	38mm	316 SS	NUT60214EFXM10C
1/4-32 To M10 x 1.5	1/4	10mm	16mm	38mm	Alum	NUT72014EFXM10C
1/4-32 To M10 x 1.5	1/4	10mm	16mm	38mm	18-8 SS	NUT60114EFXM10C
1/4-32 To M12 x 1.25	1/4	12mm	18mm	38mm	316 SS	NUT60214EFXM12EF
1/4-32 To M12 x 1.25	1/4	12mm	18mm	38mm	18-8 SS	NUT60114EFXM12EF
1/4-32 To M12 x 1.5	1/4	12mm	18mm	38mm	316 SS	NUT60214EFXM12F
1/4-32 To M12 x 1.5	1/4	12mm	18mm	38mm	18-8 SS	NUT60114EFXM12F
1/4-32 To M12 x 1.75	1/4	12mm	18mm	38mm	316 SS	NUT60214EFXM12C
1/4-32 To M12 x 1.75	1/4	12mm	18mm	38mm	18-8 SS	NUT60114EFXM12C
5/16-18 To M10 x 1	5/16	10mm	16mm	38mm	18-8 SS	NUT60151CXM10EF
5/16-18 To M5 x 0.5	5/16	5mm	16mm	38mm	18-8 SS	NUT60151CXM5F
5/16-18 To M5 x 0.8	5/16	5mm	16mm	38mm	316 SS	NUT60251CXM5C
5/16-18 To M6 x 0.75	5/16	6mm	16mm	38mm	18-8 SS	NUT60151CXM6F
5/16-18 To M6 x 1	5/16	6mm	16mm	38mm	316 SS	NUT60251CXM6C
5/16-18 To M8 x 1	5/16	8mm	16mm	38mm	316 SS	NUT60251CXM8F
5/16-18 To M8 x 1	5/16	8mm	16mm	38mm	Alum	NUT72051CXM8F
5/16-18 To M8 x 1	5/16	8mm	16mm	38mm	18-8 SS	NUT60151CXM8F

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
5/16-18 To M8 x 1.25	5/16	8mm	16mm	38mm	18-8 SS	NUT60151XM8
5/16-18 To M8 x 1.25	5/16	8mm	16mm	38mm	316 SS	NUT60251CXM8C
5/16-18 To M10 x 1	5/16	10mm	16mm	38mm	316 SS	NUT60251CXM10EF
5/16-18 To M10 x 1	5/16	10mm	16mm	38mm	Alum	NUT72051CXM10EF
5/16-18 To M10 x 1.25	5/16	10mm	16mm	38mm	316 SS	NUT60251CXM10F
5/16-18 To M10 x 1.25	5/16	10mm	16mm	38mm	Alum	NUT72051CXM10F
5/16-18 To M10 x 1.25	5/16	10mm	16mm	38mm	18-8 SS	NUT60151CXM10F
5/16-18 To M10 x 1.5	5/16	10mm	16mm	38mm	316 SS	NUT60251CXM10C
5/16-18 To M10 x 1.5	5/16	10mm	16mm	38mm	Alum	NUT72051CXM10C
5/16-18 To M10 x 1.5	5/16	10mm	16mm	38mm	18-8 SS	NUT60151XM10
5/16-18 To M12 x 1.25	5/16	12mm	18mm	38mm	18-8 SS	NUT60151CXM12EF
5/16-18 To M12 x 1.25	5/16	12mm	18mm	38mm	316 SS	NUT60251CXM12EF
5/16-18 To M12 x 1.25	5/16	12mm	18mm	38mm	Alum	NUT72051CXM12EF
5/16-18 To M12 x 1.5	5/16	12mm	18mm	38mm	18-8 SS	NUT60151CXM12F
5/16-18 To M12 x 1.5	5/16	12mm	18mm	38mm	316 SS	NUT60251CXM12F
5/16-18 To M12 x 1.5	5/16	12mm	18mm	38mm	Alum	NUT72051CXM12F
5/16-18 To M12 x 1.75	5/16	12mm	18mm	38mm	18-8 SS	NUT60151CXM12C
5/16-18 To M12 x 1.75	5/16	12mm	18mm	38mm	316 SS	NUT60251CXM12C
5/16-18 To M12 x 1.75	5/16	12mm	18mm	38mm	Alum	NUT72051CXM12C
5/16-24 To M5 x 0.5	5/16	5mm	16mm	38mm	18-8 SS	NUT60151FXM5F
5/16-24 To M5 x 0.8	5/16	5mm	16mm	38mm	18-8 SS	NUT60151FXM5C
5/16-24 To M5 x 0.8	5/16	5mm	16mm	38mm	316 SS	NUT60251FXM5C
5/16-24 To M5 x 0.8	5/16	5mm	16mm	38mm	Alum	NUT72051FXM5C
5/16-24 To M6 x 0.75	5/16	6mm	16mm	38mm	18-8 SS	NUT60151FXM6F
5/16-24 To M6 x 1	5/16	6mm	16mm	38mm	316 SS	NUT60251FXM6C
5/16-24 To M6 x 1	5/16	6mm	16mm	38mm	Alum	NUT72051FXM6C
5/16-24 To M6 x 1	5/16	6mm	16mm	38mm	18-8 SS	NUT60151FXM6C
5/16-24 To M8 x 1	5/16	8mm	16mm	38mm	18-8 SS	NUT60151FXM8F
5/16-24 To M8 x 1	5/16	8mm	16mm	38mm	316 SS	NUT60251FXM8F
5/16-24 To M8 x 1	5/16	8mm	16mm	38mm	Alum	NUT72051FXM8F
5/16-24 To M8 x 1.25	5/16	8mm	16mm	38mm	316 SS	NUT60251FXM8C
5/16-24 To M8 x 1.25	5/16	8mm	16mm	38mm	Alum	NUT72051FXM8C
5/16-24 To M8 x 1.25	5/16	8mm	16mm	38mm	18-8 SS	NUT60151FXM8C
5/16-24 To M10 x 1	5/16	10mm	16mm	38mm	316 SS	NUT60251FXM10EF
5/16-24 To M10 x 1	5/16	10mm	16mm	38mm	18-8 SS	NUT60151FXM10EF
5/16-24 To M10 x 1.25	5/16	10mm	16mm	38mm	18-8 SS	NUT60151FXM10F
5/16-24 To M10 x 1.25	5/16	10mm	16mm	38mm	316 SS	NUT60251FXM10F

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
5/16-24 To M10 x 1.25	5/16	10mm	16mm	38mm	Alum	NUT72051FXM10F
5/16-24 To M10 x 1.5	5/16	10mm	16mm	38mm	18-8 SS	NUT60151FXM10C
5/16-24 To M10 x 1.5	5/16	10mm	16mm	38mm	316 SS	NUT60251FXM10C
5/16-24 To M10 x 1.5	5/16	10mm	16mm	38mm	Alum	NUT72051FXM10C
5/16-24 To M12 x 1.25	5/16	12mm	18mm	38mm	18-8 SS	NUT60151FXM12EF
5/16-24 To M12 x 1.25	5/16	12mm	18mm	38mm	316 SS	NUT60251FXM12EF
5/16-24 To M12 x 1.25	5/16	12mm	18mm	38mm	Alum	NUT72051FXM12EF
5/16-24 To M12 x 1.5	5/16	12mm	18mm	38mm	18-8 SS	NUT60151FXM12F
5/16-24 To M12 x 1.5	5/16	12mm	18mm	38mm	316 SS	NUT60251FXM12F
5/16-24 To M12 x 1.75	5/16	12mm	18mm	38mm	18-8 SS	NUT60151FXM12C
5/16-24 To M12 x 1.75	5/16	12mm	18mm	38mm	316 SS	NUT60251FXM12C
5/16-24 To M12 x 1.75	5/16	12mm	18mm	38mm	Alum	NUT72051FXM12C
5/16-32 To M5 x 0.5	5/16	5mm	16mm	38mm	18-8 SS	NUT60151EFXM5F
5/16-32 To M5 x 0.8	5/16	5mm	16mm	38mm	18-8 SS	NUT60151EFXM5C
5/16-32 To M5 x 0.8	5/16	5mm	16mm	38mm	316 SS	NUT60251EFXM5C
5/16-32 To M5 x 0.8	5/16	5mm	16mm	38mm	Alum	NUT72051EFXM5C
5/16-32 To M6 x 0.75	5/16	6mm	16mm	38mm	18-8 SS	NUT60151EFXM6F
5/16-32 To M6 x 1	5/16	6mm	16mm	38mm	18-8 SS	NUT60151EFXM6C
5/16-32 To M6 x 1	5/16	6mm	16mm	38mm	316 SS	NUT60251EFXM6C
5/16-32 To M6 x 1	5/16	6mm	16mm	38mm	Alum	NUT72051EFXM6C
5/16-32 To M8 x 1	5/16	8mm	16mm	38mm	18-8 SS	NUT60151EFXM8F
5/16-32 To M8 x 1	5/16	8mm	16mm	38mm	316 SS	NUT60251EFXM8F
5/16-32 To M8 x 1.25	5/16	8mm	16mm	38mm	18-8 SS	NUT60151EFXM8C
5/16-32 To M8 x 1.25	5/16	8mm	16mm	38mm	316 SS	NUT60251EFXM8C
5/16-32 To M8 x 1.25	5/16	8mm	16mm	38mm	Alum	NUT72051EFXM8C
5/16-32 To M10 x 1	5/16	10mm	16mm	38mm	18-8 SS	NUT60151EFXM10EF
5/16-32 To M10 x 1	5/16	10mm	16mm	38mm	316 SS	NUT60251EFXM10EF
5/16-32 To M10 x 1.25	5/16	10mm	16mm	38mm	18-8 SS	NUT60151EFXM10F
5/16-32 To M10 x 1.25	5/16	10mm	16mm	38mm	316 SS	NUT60251EFXM10F
5/16-32 To M10 x 1.5	5/16	10mm	16mm	38mm	18-8 SS	NUT60151EFXM10C
5/16-32 To M10 x 1.5	5/16	10mm	16mm	38mm	316 SS	NUT60251EFXM10C
5/16-32 To M10 x 1.5	5/16	10mm	16mm	38mm	Alum	NUT72051EFXM10C
5/16-32 To M12 x 1.25	5/16	12mm	18mm	38mm	18-8 SS	NUT60151EFXM12EF
5/16-32 To M12 x 1.25	5/16	12mm	18mm	38mm	316 SS	NUT60251EFXM12EF
5/16-32 To M12 x 1.5	5/16	12mm	18mm	38mm	18-8 SS	NUT60151EFXM12F
5/16-32 To M12 x 1.5	5/16	12mm	18mm	38mm	316 SS	NUT60251EFXM12F
5/16-32 To M12 x 1.75	5/16	12mm	18mm	38mm	18-8 SS	NUT60151EFXM12C
5/16-32 To M12 x 1.75	5/16	12mm	18mm	38mm	316 SS	NUT60251EFXM12C

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
3/8-16 To M6 x 0.75	3/8	6mm	16mm	38mm	18-8 SS	NUT60138CXM6F
3/8-16 To M6 x 1	3/8	6mm	16mm	38mm	18-8 SS	NUT60138CXM6C
3/8-16 To M6 x 0.75	3/8	6mm	16mm	38mm	316 SS	NUT60238CXM6F
3/8-16 To M6 x 1	3/8	6mm	16mm	38mm	316 SS	NUT60238CXM6C
3/8-16 To M6 x 1	3/8	6mm	16mm	38mm	Alum	NUT72038CXM6C
3/8-16 To M8 x 1	3/8	8mm	16mm	38mm	18-8 SS	NUT60138CXM8F
3/8-16 To M8 x 1	3/8	8mm	16mm	38mm	316 SS	NUT60238CXM8F
3/8-16 To M8 x 1	3/8	8mm	16mm	38mm	Alum	NUT72038CXM8F
3/8-16 To M8 x 1.25	3/8	8mm	16mm	38mm	18-8 SS	NUT60138CXM8C
3/8-16 To M8 x 1.25	3/8	8mm	16mm	38mm	316 SS	NUT60238CXM8C
3/8-16 To M8 x 1.25	3/8	8mm	16mm	38mm	Alum	NUT72038CXM8C
3/8-16 To M10 x 1	3/8	10mm	16mm	38mm	18-8 SS	NUT60138CXM10EF
3/8-16 To M10 x 1	3/8	10mm	16mm	38mm	316 SS	NUT60238CXM10EF
3/8-16 To M10 x 1	3/8	10mm	16mm	38mm	Alum	NUT72038CXM10EF
3/8-16 To M10 x 1.25	3/8	10mm	16mm	38mm	18-8 SS	NUT60138CXM10F
3/8-16 To M10 x 1.25	3/8	10mm	16mm	38mm	316 SS	NUT60238CXM10F
3/8-16 To M10 x 1.25	3/8	10mm	16mm	38mm	Alum	NUT72038CXM10F
3/8-16 To M10 x 1.5	3/8	10mm	16mm	38mm	18-8 SS	NUT60138X10
3/8-16 To M10 x 1.5	3/8	10mm	16mm	38mm	316 SS	NUT60238CXM10C
3/8-16 To M10 x 1.5	3/8	10mm	16mm	38mm	Alum	NUT72038CXM10C
3/8-16 To M12 x 1.25	3/8	12mm	18mm	38mm	18-8 SS	NUT60138CXM12EF
3/8-16 To M12 x 1.25	3/8	12mm	18mm	38mm	316 SS	NUT60238CXM12EF
3/8-16 To M12 x 1.25	3/8	12mm	18mm	38mm	Alum	NUT72038CXM12EF
3/8-16 To M12 x 1.5	3/8	12mm	18mm	38mm	18-8 SS	NUT60138CXM12F
3/8-16 To M12 x 1.5	3/8	12mm	18mm	38mm	316 SS	NUT60238CXM12F
3/8-16 To M12 x 1.5	3/8	12mm	18mm	38mm	Alum	NUT72038CXM12F
3/8-16 To M12 x 1.75	3/8	12mm	16mm	38mm	18-8 SS	NUT60138XM12
3/8-16 To M12 x 1.75	3/8	12mm	18mm	38mm	316 SS	NUT60238CXM12C
3/8-16 To M12 x 1.75	3/8	12mm	18mm	38mm	Alum	NUT72038CXM12C
3/8-24 To M6 x 0.75	3/8	6mm	16mm	38mm	18-8 SS	NUT60138FXM6F
3/8-24 To M6 x 1	3/8	6mm	16mm	38mm	316 SS	NUT60238FXM6C
3/8-24 To M6 x 1	3/8	6mm	16mm	38mm	Alum	NUT72038FXM6C
3/8-24 To M6 x 1	3/8	6mm	16mm	38mm	18-8 SS	NUT60138FXM6C
3/8-24 To M8 x 1	3/8	8mm	16mm	38mm	316 SS	NUT60238FXM8F
3/8-24 To M8 x 1	3/8	8mm	16mm	38mm	Alum	NUT72038FXM8F
3/8-24 To M8 x 1	3/8	8mm	16mm	38mm	18-8 SS	NUT60138FXM8F
3/8-24 To M6 x 0.75	3/8	6mm	16mm	38mm	316 SS	NUT60238FXM6F
3/8-24 To M8 x 1.25	3/8	8mm	16mm	38mm	316 SS	NUT60238FXM8C

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
3/8-24 To M8 x 1.25	3/8	8mm	16mm	38mm	Alum	NUT72038FXM8C
3/8-24 To M8 x 1.25	3/8	8mm	16mm	38mm	18-8 SS	NUT60138FXM8C
3/8-24 To M10 x 1	3/8	10mm	16mm	38mm	316 SS	NUT60238FXM10EF
3/8-24 To M10 x 1	3/8	10mm	16mm	38mm	18-8 SS	NUT60138FXM10EF
3/8-24 To M10 x 1.25	3/8	10mm	16mm	38mm	316 SS	NUT60238FXM10F
3/8-24 To M10 x 1.25	3/8	10mm	16mm	38mm	Alum	NUT72038FXM10F
3/8-24 To M10 x 1.25	3/8	10mm	16mm	38mm	18-8 SS	NUT60138FXM10F
3/8-24 To M10 x 1.5	3/8	10mm	16mm	38mm	316 SS	NUT60238FXM10C
3/8-24 To M10 x 1.5	3/8	10mm	16mm	38mm	Alum	NUT72038FXM10C
3/8-24 To M10 x 1.5	3/8	10mm	16mm	38mm	18-8 SS	NUT60138FXM10C
3/8-24 To M12 x 1.25	3/8	12mm	18mm	38mm	316 SS	NUT60238FXM12EF
3/8-24 To M12 x 1.25	3/8	12mm	18mm	38mm	Alum	NUT72038FXM12EF
3/8-24 To M12 x 1.25	3/8	12mm	18mm	38mm	18-8 SS	NUT60138FXM12EF
3/8-24 To M12 x 1.5	3/8	12mm	18mm	38mm	18-8 SS	NUT60138FXM12F
3/8-24 To M12 x 1.5	3/8	12mm	18mm	38mm	316 SS	NUT60238FXM12F
3/8-24 To M12 x 1.75	3/8	12mm	18mm	38mm	18-8 SS	NUT60138FXM12C
3/8-24 To M12 x 1.75	3/8	12mm	18mm	38mm	316 SS	NUT60238FXM12C
3/8-24 To M12 x 1.75	3/8	12mm	18mm	38mm	Alum	NUT72038FXM12C
3/8-32 To M6 x 0.75	3/8	6mm	16mm	38mm	18-8 SS	NUT60138EFXM6F
3/8-32 To M6 x 1	3/8	6mm	16mm	38mm	18-8 SS	NUT60138EFXM6C
3/8-32 To M6 x 1	3/8	6mm	16mm	38mm	316 SS	NUT60238EFXM6C
3/8-32 To M6 x 1	3/8	6mm	16mm	38mm	Alum	NUT72038EFXM6C
3/8-32 To M8 x 1	3/8	8mm	16mm	38mm	18-8 SS	NUT60138EFXM8F
3/8-32 To M8 x 1	3/8	8mm	16mm	38mm	316 SS	NUT60238EFXM8F
3/8-32 To M8 x 1.25	3/8	8mm	16mm	38mm	18-8 SS	NUT60138EFXM8C
3/8-32 To M8 x 1.25	3/8	8mm	16mm	38mm	316 SS	NUT60238EFXM8C
3/8-32 To M8 x 1.25	3/8	8mm	16mm	38mm	Alum	NUT72038EFXM8C
3/8-32 To M10 x 1	3/8	10mm	16mm	38mm	18-8 SS	NUT60138EFXM10EF
3/8-32 To M10 x 1	3/8	10mm	16mm	38mm	316 SS	NUT60238EFXM10EF
3/8-32 To M10 x 1.25	3/8	10mm	16mm	38mm	18-8 SS	NUT60138EFXM10F
3/8-32 To M10 x 1.25	3/8	10mm	16mm	38mm	316 SS	NUT60238EFXM10F
3/8-32 To M10 x 1.25	3/8	10mm	16mm	38mm	Alum	NUT72038EFXM10F
3/8-32 To M10 x 1.5	3/8	10mm	16mm	38mm	18-8 SS	NUT60138EFXM10C
3/8-32 To M10 x 1.5	3/8	10mm	16mm	38mm	316 SS	NUT60238EFXM10C
3/8-32 To M10 x 1.5	3/8	10mm	16mm	38mm	Alum	NUT72038EFXM10C
3/8-32 To M12 x 1.25	3/8	12mm	18mm	38mm	18-8 SS	NUT60138EFXM12EF

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
3/8-32 To M12 x 1.25	3/8	12mm	18mm	38mm	316 SS	NUT60238EFXM12EF
3/8-32 To M12 x 1.25	3/8	12mm	18mm	38mm	Alum	NUT72038EFXM12EF
3/8-32 To M12 x 1.5	3/8	12mm	18mm	38mm	18-8 SS	NUT60138EFXM12F
3/8-32 To M12 x 1.5	3/8	12mm	18mm	38mm	316 SS	NUT60238EFXM12F
3/8-32 To M12 x 1.75	3/8	12mm	18mm	38mm	18-8 SS	NUT60138EFXM12C
3/8-32 To M12 x 1.75	3/8	12mm	18mm	38mm	316 SS	NUT60238EFXM12C
3/8-32 To M12 x 1.75	3/8	12mm	18mm	38mm	Alum	NUT72038EFXM12C
1/2-13 To M6 x 0.75	1/2	6mm	18mm	38mm	316 SS	NUT60212CXM6F
1/2-13 To M6 x 0.75	1/2	6mm	18mm	38mm	18-8 SS	NUT60112CXM6F
1/2-13 To M6 x 1	1/2	6mm	18mm	38mm	316 SS	NUT60212CXM6C
1/2-13 To M6 x 1	1/2	6mm	18mm	38mm	Alum	NUT72012CXM6C
1/2-13 To M6 x 1	1/2	6mm	18mm	38mm	18-8 SS	NUT60112CXM6C
1/2-13 To M8 x 1	1/2	8mm	18mm	38mm	316 SS	NUT60212CXM8F
1/2-13 To M8 x 1	1/2	8mm	18mm	38mm	Alum	NUT72012CXM8F
1/2-13 To M8 x 1	1/2	8mm	18mm	38mm	18-8 SS	NUT60112CXM8F
1/2-13 To M8 x 1.25	1/2	8mm	18mm	38mm	316 SS	NUT60212CXM8C
1/2-13 To M8 x 1.25	1/2	8mm	18mm	38mm	Alum	NUT72012CXM8C
1/2-13 To M8 x 1.25	1/2	8mm	18mm	38mm	18-8 SS	NUT60112CXM8C
1/2-13 To M10 x 1	1/2	10mm	18mm	38mm	316 SS	NUT60212CXM10EF
1/2-13 To M10 x 1	1/2	10mm	18mm	38mm	Alum	NUT72012CXM10EF
1/2-13 To M10 x 1	1/2	10mm	18mm	38mm	18-8 SS	NUT60112CXM10EF
1/2-13 To M10 x 1.25	1/2	10mm	18mm	38mm	18-8 SS	NUT60112CXM10F
1/2-13 To M10 x 1.25	1/2	10mm	18mm	38mm	316 SS	NUT60212CXM10F
1/2-13 To M10 x 1.25	1/2	10mm	18mm	38mm	Alum	NUT72012CXM10F
1/2-13 To M10 x 1.5	1/2	10mm	18mm	38mm	18-8 SS	NUT60112CXM10C
1/2-13 To M10 x 1.5	1/2	10mm	18mm	38mm	316 SS	NUT60212CXM10C
1/2-13 To M10 x 1.5	1/2	10mm	18mm	38mm	Alum	NUT72012CXM10C
1/2-13 To M12 x 1.25	1/2	12mm	18mm	38mm	18-8 SS	NUT60112CXM12EF
1/2-13 To M12 x 1.25	1/2	12mm	18mm	38mm	316 SS	NUT60212CXM12EF
1/2-13 To M12 x 1.25	1/2	12mm	18mm	38mm	Alum	NUT72012CXM12EF
1/2-13 To M12 x 1.5	1/2	12mm	18mm	38mm	18-8 SS	NUT60112CXM12F
1/2-13 To M12 x 1.5	1/2	12mm	18mm	38mm	316 SS	NUT60212CXM12F
1/2-13 To M12 x 1.5	1/2	12mm	18mm	38mm	Alum	NUT72012CXM12F
1/2-13 To M12 x 1.75	1/2	12mm	18mm	38mm	18-8 SS	NUT60112XM12
1/2-13 To M12 x 1.75	1/2	12mm	18mm	38mm	316 SS	NUT60212CXM12C
1/2-13 To M12 x 1.75	1/2	12mm	18mm	38mm	Alum	NUT72012CXM12C

Hex Reducing Coupling Nuts — Inch to Metric



Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
1/2-13 To M16 x 2	1/2	16mm	21mm	54mm	18-8 SS	NUT60112XM16
1/2-13 To M16 x 2	1/2	16mm	21mm	54mm	316 SS	NUT60212CXM16C
1/2-13 To M16 x 2	1/2	16mm	21mm	54mm	Alum	NUT72012CXM16C
1/2-20 To M6 x 0.75	1/2	6mm	18mm	38mm	316 SS	NUT60212FXM6F
1/2-20 To M6 x 0.75	1/2	6mm	18mm	38mm	18-8 SS	NUT60112FXM6F
1/2-20 To M6 x 1	1/2	6mm	18mm	38mm	316 SS	NUT60212FXM6C
1/2-20 To M6 x 1	1/2	6mm	18mm	38mm	Alum	NUT72012FXM6C
1/2-20 To M6 x 1	1/2	6mm	18mm	38mm	18-8 SS	NUT60112FXM6C
1/2-20 To M8 x 1	1/2	8mm	18mm	38mm	316 SS	NUT60212FXM8F
1/2-20 To M8 x 1	1/2	8mm	18mm	38mm	Alum	NUT72012FXM8F
1/2-20 To M8 x 1	1/2	8mm	18mm	38mm	18-8 SS	NUT60112FXM8F
1/2-20 To M8 x 1.25	1/2	8mm	18mm	38mm	316 SS	NUT60212FXM8C
1/2-20 To M8 x 1.25	1/2	8mm	18mm	38mm	Alum	NUT72012FXM8C
1/2-20 To M8 x 1.25	1/2	8mm	18mm	38mm	18-8 SS	NUT60112FXM8C
1/2-20 To M10 x 1	1/2	10mm	18mm	38mm	316 SS	NUT60212FXM10EF
1/2-20 To M10 x 1	1/2	10mm	18mm	38mm	Alum	NUT72012FXM10EF
1/2-20 To M10 x 1	1/2	10mm	18mm	38mm	18-8 SS	NUT60112FXM10EF
1/2-20 To M10 x 1.25	1/2	10mm	18mm	38mm	316 SS	NUT60212FXM10F
1/2-20 To M10 x 1.25	1/2	10mm	18mm	38mm	Alum	NUT72012FXM10F
1/2-20 To M10 x 1.25	1/2	10mm	18mm	38mm	18-8 SS	NUT60112FXM10F
1/2-20 To M10 x 1.5	1/2	10mm	18mm	38mm	18-8 SS	NUT60112FXM10C
1/2-20 To M10 x 1.5	1/2	10mm	18mm	38mm	316 SS	NUT60212FXM10C
1/2-20 To M10 x 1.5	1/2	10mm	18mm	38mm	Alum	NUT72012FXM10C
1/2-20 To M12 x 1.25	1/2	12mm	18mm	38mm	18-8 SS	NUT60112FXM12EF
1/2-20 To M12 x 1.25	1/2	12mm	18mm	38mm	316 SS	NUT60212FXM12EF
1/2-20 To M12 x 1.25	1/2	12mm	18mm	38mm	Alum	NUT72012FXM12EF
1/2-20 To M12 x 1.5	1/2	12mm	18mm	38mm	316 SS	NUT60212FXM12F
1/2-20 To M12 x 1.5	1/2	12mm	18mm	38mm	Alum	NUT72012FXM12F
1/2-20 To M12 x 1.5	1/2	12mm	18mm	38mm	18-8 SS	NUT60112FXM12F
1/2-20 To M12 x 1.75	1/2	12mm	18mm	38mm	316 SS	NUT60212FXM12C
1/2-20 To M12 x 1.75	1/2	12mm	18mm	38mm	Alum	NUT72012FXM12C
1/2-20 To M12 x 1.75	1/2	12mm	18mm	38mm	18-8 SS	NUT60112FXM12C
1/2-20 To M16 x 2	1/2	16mm	21mm	54mm	316 SS	NUT60212FXM16C
1/2-20 To M16 x 2	1/2	16mm	21mm	54mm	Alum	NUT72012FXM16C
1/2-20 To M16 x 2	1/2	16mm	21mm	54mm	18-8 SS	NUT60112FXM16C
1/2-28 To M6 x 0.75	1/2	6mm	18mm	38mm	18-8 SS	NUT60112EFXM6F
1/2-28 To M6 x 1	1/2	6mm	18mm	38mm	316 SS	NUT60212EFXM6C

Hex Reducing Coupling Nuts — Inch to Metric






Hex Reducing Coupling Nuts, Inch to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
1/2-28 To M6 x 1	1/2	6mm	18mm	38mm	Alum	NUT72012EFXM6C
1/2-28 To M6 x 1	1/2	6mm	18mm	38mm	18-8 SS	NUT60112EFXM6C
1/2-28 To M8 x 1	1/2	8mm	18mm	38mm	316 SS	NUT60212EFXM8F
1/2-28 To M8 x 1	1/2	8mm	18mm	38mm	18-8 SS	NUT60112EFXM8F
1/2-28 To M8 x 1.25	1/2	8mm	18mm	38mm	316 SS	NUT60212EFXM8C
1/2-28 To M8 x 1.25	1/2	8mm	18mm	38mm	Alum	NUT72012EFXM8C
1/2-28 To M8 x 1.25	1/2	8mm	18mm	38mm	18-8 SS	NUT60112EFXM8C
1/2-28 To M10 x 1	1/2	10mm	18mm	38mm	316 SS	NUT60212EFXM10EF
1/2-28 To M10 x 1	1/2	10mm	18mm	38mm	Alum	NUT72012EFXM10EF
1/2-28 To M10 x 1	1/2	10mm	18mm	38mm	18-8 SS	NUT60112EFXM10EF
1/2-28 To M10 x 1.25	1/2	10mm	18mm	38mm	316 SS	NUT60212EFXM10F
1/2-28 To M10 x 1.25	1/2	10mm	18mm	38mm	Alum	NUT72012EFXM10F
1/2-28 To M10 x 1.25	1/2	10mm	18mm	38mm	18-8 SS	NUT60112EFXM10F
1/2-28 To M10 x 1.5	1/2	10mm	18mm	38mm	316 SS	NUT60212EFXM10C
1/2-28 To M10 x 1.5	1/2	10mm	18mm	38mm	Alum	NUT72012EFXM10C
1/2-28 To M10 x 1.5	1/2	10mm	18mm	38mm	18-8 SS	NUT60112EFXM10C
1/2-28 To M12 x 1.25	1/2	12mm	18mm	38mm	18-8 SS	NUT60112EFXM12EF
1/2-28 To M12 x 1.25	1/2	12mm	18mm	38mm	316 SS	NUT60212EFXM12EF
1/2-28 To M12 x 1.25	1/2	12mm	18mm	38mm	Alum	NUT72012EFXM12EF
1/2-28 To M12 x 1.5	1/2	12mm	18mm	38mm	316 SS	NUT60212EFXM12F
1/2-28 To M12 x 1.5	1/2	12mm	18mm	38mm	18-8 SS	NUT60112EFXM12F
1/2-28 To M12 x 1.75	1/2	12mm	18mm	38mm	316 SS	NUT60212EFXM12C
1/2-28 To M12 x 1.75	1/2	12mm	18mm	38mm	Alum	NUT72012EFXM12C
1/2-28 To M12 x 1.75	1/2	12mm	18mm	38mm	18-8 SS	NUT60112EFXM12C
1/2-28 To M16 x 2	1/2	16mm	21mm	54mm	316 SS	NUT60212EFXM16C
1/2-28 To M16 x 2	1/2	16mm	21mm	54mm	Alum	NUT72012EFXM16C
1/2-28 To M16 x 2	1/2	16mm	21mm	54mm	18-8 SS	NUT60112EFXM16C

Hex Reducing Coupling Nuts — Metric to Metric



Hex Reducing Coupling Nuts, Metric to Metric

Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
M3 x 0.35 To M3 x 0.5	3mm	3mm	8mm	15mm	18-8 SS	NUT601M3FXM3C
M3 x 0.35 To M3 x 0.5	3mm	3mm	8mm	15mm	316 SS	NUT602M3FXM3C
M3 x 0.35 To M4 x 0.7	3mm	4mm	10mm	18mm	18-8 SS	NUT601M3FXM4C
M3 x 0.35 To M4 x 0.7	3mm	4mm	10mm	18mm	316 SS	NUT602M3FXM4C
M3 x 0.35 To M2.5 x 0.45	3mm	3mm	8mm	15mm	18-8 SS	NUT601M3FXM2.5C
M3 x 0.35 To M2.5 x 0.45	3mm	3mm	8mm	15mm	316 SS	NUT602M3FXM2.5C
M3 x 0.5 To M4 x 0.5	3mm	4mm	10mm	18mm	18-8 SS	NUT601M3CXM4F
M3 x 0.5 To M4 x 0.7	3mm	4mm	10mm	18mm	316 SS	NUT602M3CXM4C
M3 x 0.5 To M2.5 x 0.45	3mm	3mm	8mm	15mm	316 SS	NUT602M3CXM2.5C
M4 x 0.5 To M4 x 0.7	4mm	4mm	10mm	18mm	18-8 SS	NUT601M4FXM4C
M4 x 0.5 To M4 x 0.7	4mm	4mm	10mm	18mm	316 SS	NUT602M4FXM4C
M4 x 0.5 To M5 x 0.5	4mm	4mm	13mm	25mm	18-8 SS	NUT601M4FXM5F
M4 x 0.5 To M5 x 0.8	4mm	4mm	13mm	25mm	18-8 SS	NUT601M4FXM5C
M4 x 0.5 To M5 x 0.8	4mm	4mm	13mm	25mm	316 SS	NUT602M4FXM5C
M4 x 0.7 To M5 x 0.5	4mm	4mm	13mm	25mm	18-8 SS	NUT601M4CXM5F
M4 x 0.7 To M5 x 0.8	4mm	5mm	13mm	25mm	18-8 SS	NUT601M4XM5
M4 x 0.7 To M5 x 0.8	4mm	5mm	13mm	25mm	316 SS	NUT602M4CXM8C
M4 x 0.8 To M6 x 1	4mm	6mm	13mm	25mm	18-8 SS	NUT601M4XM6
M5 x 0.5 To M5 x 0.8	5mm	5mm	13mm	25mm	18-8 SS	NUT601M5FXM5C
M5 x 0.5 To M5 x 0.8	5mm	5mm	13mm	25mm	316 SS	NUT602M5FXM5C
M5 x 0.5 To M6 x 0.75	5mm	6mm	13mm	25mm	18-8 SS	NUT601M5FXM6F
M5 x 0.5 To M6 x 1	5mm	6mm	13mm	25mm	18-8 SS	NUT601M5FXM6C
M5 x 0.5 To M6 x 1	5mm	6mm	13mm	25mm	316 SS	NUT602M5FXM6C
M5 x 0.8 To M6 x 0.75	5mm	6mm	13mm	25mm	18-8 SS	NUT601M5CXM6F
M5 x 0.8 To M6 x 1	5mm	6mm	13mm	25mm	316 SS	NUT602M5CXM6C
M6 x 0.75 To M6 x 1	6mm	6mm	16mm	38mm	18-8 SS	NUT601M6FXM6C
M6 x 0.75 To M6 x 1	6mm	6mm	16mm	38mm	316 SS	NUT602M6FXM6C
M6 x 0.75 To M6 x 1	6mm	6mm	16mm	38mm	Alum	NUT720M6FXM6C
M6 x 0.75 To M8 x 1	6mm	8mm	16mm	38mm	18-8 SS	NUT601M6FXM8F
M6 x 0.75 To M8 x 1	6mm	8mm	16mm	38mm	316 SS	NUT602M6FXM8F
M6 x 0.75 To M8 x 1.25	6mm	8mm	16mm	38mm	18-8 SS	NUT601M6FXM8C
M6 x 0.75 To M8 x 1.25	6mm	8mm	16mm	38mm	316 SS	NUT602M6FXM8C

Hex Reducing Coupling Nuts — Metric to Metric






Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
M6 x 0.75 To M8 x 1.25	6mm	8mm	16mm	38mm	Alum	NUT720M6FXM8C
M6 x 1 To M8 x 1	6mm	8mm	16mm	38mm	18-8 SS	NUT601M6CXM8F
M6 x 1 To M8 x 1	6mm	8mm	16mm	38mm	316 SS	NUT602M6CXM8F
M6 x 1 To M8 x 1	6mm	8mm	16mm	38mm	Alum	NUT720M6CXM8F
M6 x 1 To M8 x 1.25	6mm	8mm	16mm	38mm	316 SS	NUT602M6CXM8C
M6 x 1 To M8 x 1.25	6mm	8mm	16mm	38mm	18-8 SS	NUT601M6XM8
M8 x 1 To M8 x 1.25	8mm	8mm	16mm	38mm	18-8 SS	NUT601M8FXM8C
M8 x 1 To M8 x 1.25	8mm	8mm	16mm	38mm	316 SS	NUT602M8FXM8C
M8 x 1 To M8 x 1.25	8mm	8mm	16mm	38mm	Alum	NUT720M8FXM8C
M8 x 1 To M10 x 1	8mm	10mm	16mm	38mm	18-8 SS	NUT601M8FXM10EF
M8 x 1 To M10 x 1	8mm	10mm	16mm	38mm	316 SS	NUT602M8FXM10EF
M8 x 1 To M10 x 1	8mm	10mm	16mm	38mm	Alum	NUT720M8FXM10EF
M8 x 1 To M10 x 1.25	8mm	10mm	16mm	38mm	18-8 SS	NUT601M8FXM10F
M8 x 1 To M10 x 1.25	8mm	10mm	16mm	38mm	316 SS	NUT602M8FXM10F
M8 x 1 To M10 x 1.25	8mm	10mm	16mm	38mm	Alum	NUT720M8FXM10F
M8 x 1 To M10 x 1.5	8mm	10mm	16mm	38mm	18-8 SS	NUT601M8FXM10C
M8 x 1 To M10 x 1.5	8mm	10mm	16mm	38mm	316 SS	NUT602M8FXM10C
M8 x 1 To M10 x 1.5	8mm	10mm	16mm	38mm	Alum	NUT720M8FXM10C
M8 x 1.25 To M10 x 1	8mm	10mm	16mm	38mm	18-8 SS	NUT601M8CXM10EF
M8 x 1.25 To M10 x 1	8mm	10mm	16mm	38mm	316 SS	NUT602M8CXM10EF
M8 x 1.25 To M10 x 1	8mm	10mm	16mm	38mm	Alum	NUT720M8CXM10EF
M8 x 1.25 To M10 x 1.25	8mm	10mm	16mm	38mm	18-8 SS	NUT601M8CXM10F
M8 x 1.25 To M10 x 1.25	8mm	10mm	16mm	38mm	316 SS	NUT602M8CXM10F
M8 x 1.25 To M10 x 1.25	8mm	10mm	16mm	38mm	Alum	NUT720M8CXM10F
M8 x 1.25 To M10 x 1.5	8mm	10mm	16mm	38mm	18-8 SS	NUT601M8XM10
M8 x 1.25 To M10 x 1.5	8mm	10mm	16mm	38mm	316 SS	NUT602M8CXM10C
M8 x 1.25 To M10 x 1.5	8mm	10mm	16mm	38mm	Alum	NUT720M8CXM10C
M10 x 1 To M10 x 1.25	10mm	10mm	16mm	38mm	18-8 SS	NUT601M10EFXM10F
M10 x 1 To M10 x 1.25	10mm	10mm	16mm	38mm	316 SS	NUT602M10EFXM10F
M10 x 1 To M10 x 1.25	10mm	10mm	16mm	38mm	Alum	NUT720M10EFXM10F
M10 x 1 To M10 x 1.5	10mm	10mm	16mm	38mm	18-8 SS	NUT601M10EFXM10C
M10 x 1 To M10 x 1.5	10mm	10mm	16mm	38mm	316 SS	NUT602M10EFXM10C
M10 x 1 To M10 x 1.5	10mm	10mm	16mm	38mm	Alum	NUT720M10EFXM10C
M10 x 1 To M12 x 1.25	10mm	12mm	16mm	38mm	18-8 SS	NUT601M10EFXM12EF
M10 x 1 To M12 x 1.25	10mm	12mm	16mm	38mm	316 SS	NUT602M10EFXM12EF
M10 x 1 To M12 x 1.25	10mm	12mm	16mm	38mm	Alum	NUT720M10EFXM12EF

Hex Reducing Coupling Nuts — Metric to Metric



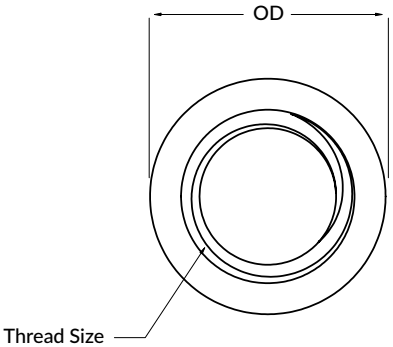
Thread Size (A To B)	Thread Lg. (A)	Thread Lg. (B)	Hex Size	Length	Material Type	Part Number
M10 x 1 To M12 x 1.5	10mm	12mm	16mm	38mm	18-8 SS	NUT601M10EFXM12F
M10 x 1 To M12 x 1.5	10mm	12mm	16mm	38mm	316 SS	NUT602M10EFXM12F
M10 x 1 To M12 x 1.75	10mm	12mm	16mm	38mm	18-8 SS	NUT601M10EFXM12C
M10 x 1 To M12 x 1.75	10mm	12mm	16mm	38mm	316 SS	NUT602M10EFXM12C
M10 x 1 To M12 x 1.75	10mm	12mm	16mm	38mm	Alum	NUT720M10EFXM12C
M10 x 1.25 To M10 x 1.5	10mm	10mm	16mm	38mm	18-8 SS	NUT601M10FXM10C
M10 x 1.25 To M10 x 1.5	10mm	10mm	16mm	38mm	316 SS	NUT602M10FXM10C
M10 x 1.25 To M10 x 1.5	10mm	10mm	16mm	38mm	Alum	NUT720M10FXM10C
M10 x 1.25 To M12 x 1.25	10mm	12mm	16mm	38mm	18-8 SS	NUT601M10FXM12EF
M10 x 1.25 To M12 x 1.25	10mm	12mm	16mm	38mm	316 SS	NUT602M10FXM12EF
M10 x 1.25 To M12 x 1.25	10mm	12mm	16mm	38mm	Alum	NUT720M10FXM12EF
M10 x 1.25 To M12 x 1.5	10mm	12mm	16mm	38mm	18-8 SS	NUT601M10FXM12F
M10 x 1.25 To M12 x 1.5	10mm	12mm	16mm	38mm	316 SS	NUT602M10FXM12F
M10 x 1.25 To M12 x 1.5	10mm	12mm	16mm	38mm	Alum	NUT720M10FXM12F
M10 x 1.25 To M12 x 1.75	10mm	12mm	16mm	38mm	18-8 SS	NUT601M10FXM12C
M10 x 1.25 To M12 x 1.75	10mm	12mm	16mm	38mm	316 SS	NUT602M10FXM12C
M10 x 1.25 To M12 x 1.75	10mm	12mm	16mm	38mm	Alum	NUT720M10FXM12C
M10 x 1.5 To M12 x 1.25	10mm	12mm	16mm	38mm	18-8 SS	NUT601M10CXM12EF
M10 x 1.5 To M12 x 1.25	10mm	12mm	16mm	38mm	316 SS	NUT602M10CXM12EF
M10 x 1.5 To M12 x 1.25	10mm	12mm	16mm	38mm	Alum	NUT720M10CXM12EF
M10 x 1.5 To M12 x 1.5	10mm	12mm	16mm	38mm	18-8 SS	NUT601M10CXM12F
M10 x 1.5 To M12 x 1.5	10mm	12mm	16mm	38mm	316 SS	NUT602M10CXM12F
M10 x 1.5 To M12 x 1.5	10mm	12mm	16mm	38mm	Alum	NUT720M10CXM12F
M10 x 1.5 To M12 x 1.75	10mm	12mm	16mm	38mm	18-8 SS	NUT601M10XM12
M10 x 1.5 To M12 x 1.75	10mm	12mm	16mm	38mm	316 SS	NUT602M10CXM12C
M10 x 1.5 To M12 x 1.75	10mm	12mm	16mm	38mm	Alum	NUT720M10CXM12C
M12 x 1.25 To M12 x 1.5	12mm	12mm	21mm	54mm	18-8 SS	NUT601M12EFXM12F
M12 x 1.25 To M12 x 1.5	12mm	12mm	21mm	54mm	316 SS	NUT602M12EFXM12F
M12 x 1.25 To M12 x 1.5	12mm	12mm	21mm	54mm	Alum	NUT720M12EFXM12F
M12 x 1.25 To M12 x 1.75	12mm	12mm	21mm	54mm	18-8 SS	NUT601M12EFXM12C
M12 x 1.25 To M12 x 1.75	12mm	12mm	21mm	54mm	316 SS	NUT602M12EFXM12C
M12 x 1.25 To M12 x 1.75	12mm	12mm	21mm	54mm	Alum	NUT720M12EFXM12C
M12 x 1.5 To M12 x 1.75	12mm	12mm	21mm	54mm	18-8 SS	NUT601M12FXM12C
M12 x 1.5 To M12 x 1.75	12mm	12mm	21mm	54mm	316 SS	NUT602M12FXM12C
M12 x 1.5 To M12 x 1.75	12mm	12mm	21mm	54mm	Alum	NUT720M12FXM12C
M12 x 1.75 To M16 x 2	12mm	16mm	21mm	54mm	18-8 SS	NUT601M12XM16
M12 x 1.75 To M16 x 2	12mm	16mm	21mm	54mm	316 SS	NUT602M12CXM16C
M12 x 1.75 To M16 x 2	12mm	16mm	21mm	54mm	Alum	NUT720M12CXM16C

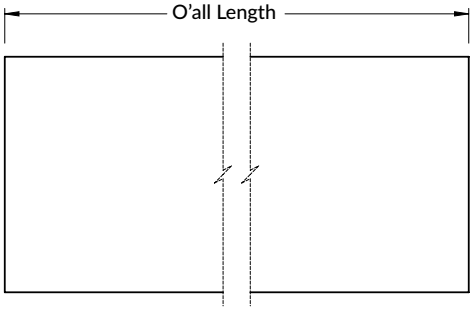
Round Coupling Nuts — Inch

These Coupling Nuts have a smooth rounded body for a finished look. Often used to connect and extend threaded rods.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain | Black Oxide
- 316 Stainless Steel | Plain | Black Oxide
- Steel | Black Oxide







Round Coupling Nuts

Thread Size	Length	O.D	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	Steel, Black Oxide Part Number
8-32	3/4	19/64	NUT66108C12	NUT66108C12-BX	NUT66208C12	NUT66008C12-BX
10-32	3/4	19/64	NUT66110C12	NUT66110C12-BX	NUT66210C12	NUT66010C12-BX
1/4-20	3/4	23/64	NUT66114C12	NUT66114C12-BX	NUT66214C12	NUT66014C12-BX
1/4-20	1	23/64	NUT66114C16	NUT66114C16-BX	NUT66214C16	NUT66014C16-BX
1/4-20	1-1/4	23/64	NUT66114C20	NUT66114C20-BX	NUT66214C20	NUT66014C20-BX
1/4-28	3/4	23/64	NUT66114F12	NUT66114F12-BX	NUT66214F12	NUT66014F12-BX
1/4-28	1	23/64	NUT66114F16	NUT66114F16-BX	NUT66214F16	NUT66014F16-BX
1/4-28	1-1/4	23/64	NUT66114F20	NUT66114F20-BX	NUT66214F20	NUT66014F20-BX
5/16-18	3/4	27/64	NUT66151C12	NUT66151C12-BX	NUT66251C12	NUT66051C12-BX
5/16-18	1	27/64	NUT66151C16	NUT66151C16-BX	NUT66251C16	NUT66051C16-BX
5/16-18	1-1/4	27/64	NUT66151C20	NUT66151C20-BX	NUT66251C20	NUT66051C20-BX
5/16-18	1-1/2	27/64	NUT66151C24	NUT66151C24-BX	NUT66251C24	NUT66051C24-BX
5/16-18	2	27/64	NUT66151C32	NUT66151C32-BX	NUT66251C32	NUT66051C32-BX
5/16-24	3/4	27/64	NUT66151F12	NUT66151F12-BX	NUT66251F12	NUT66051F12-BX
5/16-24	1	27/64	NUT66151F16	NUT66151F16-BX	NUT66251F16	NUT66051F16-BX
5/16-24	1-1/4	27/64	NUT66151F20	NUT66151F20-BX	NUT66251F20	NUT66051F20-BX
5/16-24	1-1/2	27/64	NUT66151F24	NUT66151F24-BX	NUT66251F24	NUT66051F24-BX
5/16-24	2	27/64	NUT66151F32	NUT66151F32-BX	NUT66251F32	NUT66051F32-BX
3/8-16	3/4	31/64	NUT66138C12	NUT66138C12-BX	NUT66238C12	NUT66038C12-BX

Round Coupling Nuts — Inch



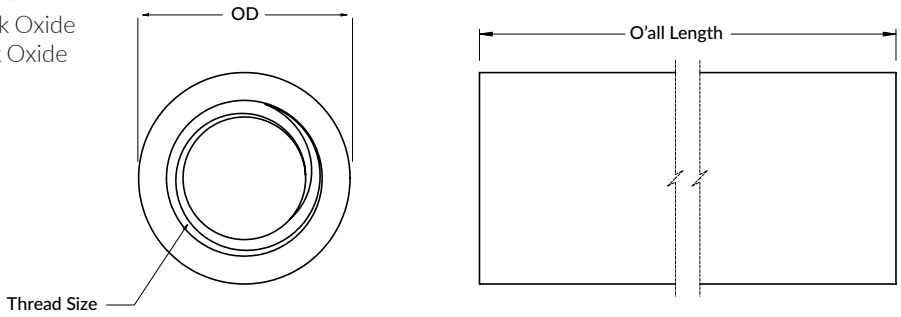
Round Coupling Nuts

Thread Size	Length	O.D	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	Steel, Black Oxide Part Number
3/8-16	1	31/64	NUT66138C16	NUT66138C16-BX	NUT66238C16	NUT66038C16-BX
3/8-16	1-1/4	31/64	NUT66138C20	NUT66138C20-BX	NUT66238C20	NUT66038C20-BX
3/8-16	1-1/2	31/64	NUT66138C24	NUT66138C24-BX	NUT66238C24	NUT66038C24-BX
3/8-16	2	31/64	NUT66138C32	NUT66138C32-BX	NUT66238C32	NUT66038C32-BX
3/8-24	3/4	31/64	NUT66138F12	NUT66138F12-BX	NUT66238F12	NUT66038F12-BX
3/8-24	1	31/64	NUT66138F16	NUT66138F16-BX	NUT66238F16	NUT66038F16-BX
3/8-24	1-1/4	31/64	NUT66138F20	NUT66138F20-BX	NUT66238F20	NUT66038F20-BX
3/8-24	1-1/2	31/64	NUT66138F24	NUT66138F24-BX	NUT66238F24	NUT66038F24-BX
3/8-24	2	31/64	NUT66138F32	NUT66138F32-BX	NUT66238F32	NUT66038F32-BX
3/8-32	1	31/64	NUT66138EF16	NUT66138EF16-BX	NUT66238EF16	NUT66038EF16-BX
3/8-32	1-1/4	31/64	NUT66138EF20	NUT66138EF20-BX	NUT66238EF20	NUT66038EF20-BX
1/2-13	1-1/4	37/64	NUT66112C20	NUT66112C20-BX	NUT66212C20	NUT66012C20-BX
1/2-13	1-1/2	37/64	NUT66112C24	NUT66112C24-BX	NUT66212C24	NUT66012C24-BX
1/2-13	2	37/64	NUT66112C32	NUT66112C32-BX	NUT66212C32	NUT66012C32-BX
1/2-20	1-1/4	37/64	NUT66112F20	NUT66112F20-BX	NUT66212F20	NUT66012F20-BX
1/2-20	1-1/2	37/64	NUT66112F24	NUT66112F24-BX	NUT66212F24	NUT66012F24-BX
1/2-20	2	37/64	NUT66112F32	NUT66112F32-BX	NUT66212F32	NUT66012F32-BX
1/2-28	1-1/4	37/64	NUT66112EF20	NUT66112EF20-BX	NUT66212EF20	NUT66012EF20-BX
1/2-28	1-1/2	37/64	NUT66112EF24	NUT66112EF24-BX	NUT66212EF24	NUT66012EF24-BX
5/8-11	1-1/4	55/64	NUT66158C20	NUT66158C20-BX	NUT66258C20	NUT66058C20-BX
5/8-11	1-1/2	55/64	NUT66158C24	NUT66158C24-BX	NUT66258C24	NUT66058C24-BX
5/8-11	2	55/64	NUT66158C32	NUT66158C32-BX	NUT66258C32	NUT66058C32-BX
5/8-18	1-1/4	55/64	NUT66158F20	NUT66158F20-BX	NUT66258F20	NUT66058F20-BX
5/8-18	1-1/2	55/64	NUT66158F24	NUT66158F24-BX	NUT66258F24	NUT66058F24-BX
5/8-18	2	55/64	NUT66158F32	NUT66158F32-BX	NUT66258F32	NUT66058F32-BX
3/4-10	1-1/4	63/64	NUT66134C20	NUT66134C20-BX	NUT66234C20	NUT66034C20-BX
3/4-10	1-1/2	63/64	NUT66134C24	NUT66134C24-BX	NUT66234C24	NUT66034C24-BX
3/4-10	2	63/64	NUT66134C32	NUT66134C32-BX	NUT66234C32	NUT66034C32-BX
3/4-16	1-1/4	63/64	NUT66134F20	NUT66134F20-BX	NUT66234F20	NUT66034F20-BX
3/4-16	1-1/2	63/64	NUT66134F24	NUT66134F24-BX	NUT66234F24	NUT66034F24-BX
3/4-16	2	63/64	NUT66134F32	NUT66134F32-BX	NUT66234F32	NUT66034F32-BX

Round Coupling Nuts — Metric

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain | Black Oxide
- 316 Stainless Steel | Plain | Black Oxide
- Steel | Black Oxide





Round Coupling Nuts

Thread Size (mm)	Length	O.D	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	Steel, Black Oxide Part Number
M4 x 0.7	20	8	NUT661M4CX20	NUT661M4CX20-BX	NUT662M4CX20	NUT660M4CX20-BX
M5 x 0.8	20	8	NUT661M5CX20	NUT661M5CX20-BX	NUT662M5CX20	NUT660M5CX20-BX
M6 x 0.75	20	10	NUT661M6FX20	NUT661M6FX20-BX	NUT662M6FX20	NUT660M6FX20-BX
M6 x 0.75	25	10	NUT661M6FX25	NUT661M6FX25-BX	NUT662M6FX25	NUT660M6FX25-BX
M6 x 0.75	30	10	NUT661M6FX30	NUT661M6FX30-BX	NUT662M6FX30	NUT660M6FX30-BX
M6 x 1	20	10	NUT661M6CX20	NUT661M6CX20-BX	NUT662M6CX20	NUT660M6CX20-BX
M6 x 1	25	10	NUT661M6CX25	NUT661M6CX25-BX	NUT662M6CX25	NUT660M6CX25-BX
M6 x 1	30	10	NUT661M6CX30	NUT661M6CX30-BX	NUT662M6CX30	NUT660M6CX30-BX
M8 x 1	20	11	NUT661M8FX20	NUT661M8FX20-BX	NUT662M8FX20	NUT660M8FX20-BX
M8 x 1	25	11	NUT661M8FX25	NUT661M8FX25-BX	NUT662M8FX25	NUT660M8FX25-BX
M8 x 1	30	11	NUT661M8FX30	NUT661M8FX30-BX	NUT662M8FX30	NUT660M8FX30-BX
M8 x 1	40	11	NUT661M8FX40	NUT661M8FX40-BX	NUT662M8FX40	NUT660M8FX40-BX
M8 x 1	50	11	NUT661M8FX50	NUT661M8FX50-BX	NUT662M8FX50	NUT660M8FX50-BX
M8 x 1.25	20	11	NUT661M8CX20	NUT661M8CX20-BX	NUT662M8CX20	NUT660M8CX20-BX
M8 x 1.25	25	11	NUT661M8CX25	NUT661M8CX25-BX	NUT662M8CX25	NUT660M8CX25-BX
M8 x 1.25	30	11	NUT661M8CX30	NUT661M8CX30-BX	NUT662M8CX30	NUT660M8CX30-BX
M8 x 1.25	40	11	NUT661M8CX40	NUT661M8CX40-BX	NUT662M8CX40	NUT660M8CX40-BX
M8 x 1.25	50	11	NUT661M8CX50	NUT661M8CX50-BX	NUT662M8CX50	NUT660M8CX50-BX
M10 x 1	25	16	NUT661M10EFX25	NUT661M10EFX25-BX	NUT662M10EFX25	NUT660M10EFX25-BX
M10 x 1	30	16	NUT661M10EFX30	NUT661M10EFX30-BX	NUT662M10EFX30	NUT660M10EFX30-BX
M10 x 1.25	20	16	NUT661M10FX20	NUT661M10FX20-BX	NUT662M10FX20	NUT660M10FX20-BX
M10 x 1.25	25	16	NUT661M10FX25	NUT661M10FX25-BX	NUT662M10FX25	NUT660M10FX25-BX
M10 x 1.25	30	16	NUT661M10FX30	NUT661M10FX30-BX	NUT662M10FX30	NUT660M10FX30-BX
M10 x 1.25	40	16	NUT661M10FX40	NUT661M10FX40-BX	NUT662M10FX40	NUT660M10FX40-BX
M10 x 1.25	50	16	NUT661M10FX50	NUT661M10FX50-BX	NUT662M10FX50	NUT660M10FX50-BX

18-8 SS,
316 SS, Steel

Round Coupling Nuts — Metric






Thread Size (mm)	Length	O.D	18-8 SS Part Number	18-8 SS, Black Oxide Part Number	316 SS Part Number	Steel, Black Oxide Part Number
M10 x 1.5	20	13	NUT661M10CX20	NUT661M10CX20-BX	NUT662M10CX20	NUT660M10CX20-BX
M10 x 1.5	25	13	NUT661M10CX25	NUT661M10CX25-BX	NUT662M10CX25	NUT660M10CX25-BX
M10 x 1.5	30	13	NUT661M10CX30	NUT661M10CX30-BX	NUT662M10CX30	NUT660M10CX30-BX
M10 x 1.5	40	13	NUT661M10CX40	NUT661M10CX40-BX	NUT662M10CX40	NUT660M10CX40-BX
M10 x 1.5	50	13	NUT661M10CX50	NUT661M10CX50-BX	NUT662M10CX50	NUT660M10CX50-BX
M12 x 1	30	20	NUT661M12EFX30	NUT661M12EFX30-BX	NUT662M12EFX30	NUT660M12EFX30-BX
M12 x 1	40	20	NUT661M12EFX40	NUT661M12EFX40-BX	NUT662M12EFX40	NUT660M12EFX40-BX
M12 x 1.5	30	20	NUT661M12FX30	NUT661M12FX30-BX	NUT662M12FX30	NUT660M12FX30-BX
M12 x 1.5	40	20	NUT661M12FX40	NUT661M12FX40-BX	NUT662M12FX40	NUT660M12FX40-BX
M12 x 1.5	50	20	NUT661M12FX50	NUT661M12FX50-BX	NUT662M12FX50	NUT660M12FX50-BX
M12 x 1.75	30	15	NUT661M12CX30	NUT661M12CX30-BX	NUT662M12CX30	NUT660M12CX30-BX
M12 x 1.75	40	15	NUT661M12CX40	NUT661M12CX40-BX	NUT662M12CX40	NUT660M12CX40-BX
M12 x 1.75	50	15	NUT661M12CX50	NUT661M12CX50-BX	NUT662M12CX50	NUT660M12CX50-BX
M14 x 1.5	30	20	NUT661M14FX30	NUT661M14FX30-BX	NUT662M14FX30	NUT660M14FX30-BX
M14 x 1.5	40	20	NUT661M14FX40	NUT661M14FX40-BX	NUT662M14FX40	NUT660M14FX40-BX
M14 x 2	30	18	NUT661M14CX30	NUT661M14CX30-BX	NUT662M14CX30	NUT660M14CX30-BX
M14 x 2	40	18	NUT661M14CX40	NUT661M14CX40-BX	NUT662M14CX40	NUT660M14CX40-BX
M16 x 1.5	30	24	NUT661M16FX30	NUT661M16FX30-BX	NUT662M16FX30	NUT660M16FX40-BX
M16 x 1.5	40	24	NUT661M16FX40	NUT661M16FX40-BX	NUT662M16FX40	NUT660M16FX50-BX
M16 x 1.5	50	24	NUT661M16FX50	NUT661M16FX50-BX	NUT662M16FX50	NUT660M16FX30-BX
M16 x 2	30	22	NUT661M16CX30	NUT661M16CX30-BX	NUT662M16CX30	NUT660M16CX30-BX
M16 x 2	40	22	NUT661M16CX40	NUT661M16CX40-BX	NUT662M16CX40	NUT660M16CX40-BX
M16 x 2	50	22	NUT661M16CX50	NUT661M16CX50-BX	NUT662M16CX50	NUT660M16CX50-BX
M20 x 1.5	30	30	NUT661M20FX30	NUT661M20FX30-BX	NUT662M20FX30	NUT660M20FX30-BX
M20 x 1.5	40	30	NUT661M20FX40	NUT661M20FX40-BX	NUT662M20FX40	NUT660M20FX40-BX
M20 x 1.5	50	30	NUT661M20FX50	NUT661M20FX50-BX	NUT662M20FX50	NUT660M20FX50-BX
M20 x 2.5	30	28	NUT661M20CX30	NUT661M20CX30-BX	NUT662M20CX30	NUT660M20CX30-BX
M20 x 2.5	40	28	NUT661M20CX40	NUT661M20CX40-BX	NUT662M20CX40	NUT660M20CX40-BX
M20 x 2.5	50	28	NUT661M20CX50	NUT661M20CX50-BX	NUT662M20CX50	NUT660M20CX50-BX

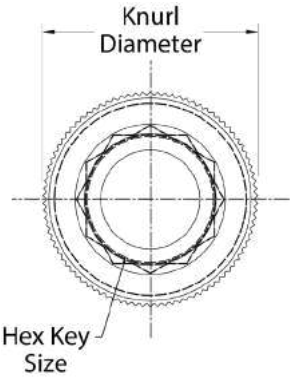
Socket Drive Nuts — Inch

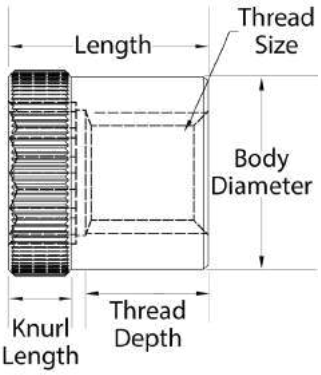
Product Information

Also known as Allen nuts, you can use these versatile fasteners as both threaded inserts and nuts. To use as inserts, press or draw them into any nonhardened steel, cast iron, or soft nonferrous metal. You can even mold them into plastics, ceramics, fiber, and similar materials. To use as nuts, tighten them with a 6-point hex key. Thread class is 2B and they are partially threaded.

Materials and finishes offered in:

- 18-8 Stainless Steel |Plain
- Steel | Black Oxide Finish







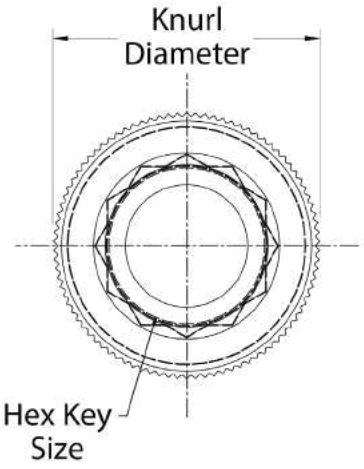
Socket Drive Nuts, Inch

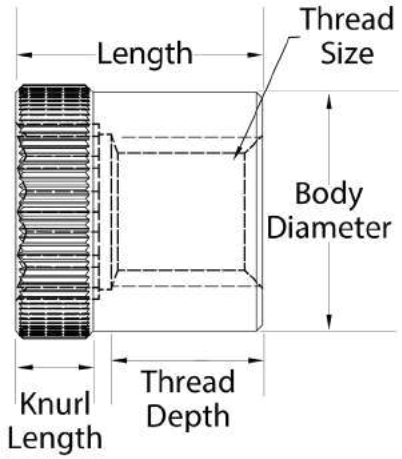
Thread Size	Body Diameter (min, max)	Length (min, max)	Knurl Diam-eter (min, max)	Thread Depth	Hex Key Size	Knurl Length (min)	18-8 SS Part Number	Steel, Black Oxide Part Number
4-40	.183 - .187	.172 - .179	.205 - .209	.080	1/8	.046	Z1960SS	Z1960
5-40	.183 - .187	.198 - .205	.205 - .209	.095	1/8	.056	Z1962SS	Z1962
6-32	.253 - .257	.223 - .230	.274 - .278	.100	5/32	.071	Z1964SS	Z1964
8-32	.275 - .280	.266 - .273	.302 - .307	.125	3/16	.084	Z1966SS	Z1966
10-24	.302 - .307	.309 - .319	.331 - .336	.170	3/16	.096	Z1968SS	Z1968
10-32	.302 - .307	.309 - .319	.331 - .336	.170	3/16	.096	Z1969SS	Z1969
1/4-20	.398 - .403	.409- .419	.425 - .430	.225	1/4	.136	Z1970SS	Z1970
1/4-28	.398 - .403	.409 - .419	.425 - .430	.225	1/4	.136	Z1971SS	Z1971
5/16-18	.493 - .498	.512 - .522	.521 - .526	.285	5/16	.165	Z1972SS	Z1972
5/16-24	.493 - .498	.512 - .522	.521 - .526	.285	5/16	.165	Z1973SS	Z1973
3/8-16	.585 - .590	.606 - .621	.615 - .620	.325	3/8	.195	Z1974SS	Z1974
3/8-24	.585 - .590	.606 - .621	.615 - .620	.325	3/8	.195	Z1975SS	Z1975
7/16-14	.705 - .710	.718 - .733	.738 - .743	.360	7/16	.235	Z1976SS	Z1976
7/16-20	.705 - .710	.718 - .733	.738 - .743	.360	7/16	.235	Z1977SS	Z1977
1/2-13	.795 - .800	.821 - .836	.836 - .841	.445	1/2	.265	Z1978SS	Z1978
1/2-20	.795 - .800	.821 - .836	.836 - .841	.445	1/2	.265	Z1979SS	Z1979
5/8-11	.980 - .986	.995 - 1.010	1.034 - 1.040	.500	5/8	.325	Z1982SS	Z1982
5/8-18	.980 - .986	.995 - 1.010	1.034 -1.040	.500	5/8	.325	Z1983SS	Z1983
3/4-10	1.152 - 1.158	1.170 - 1.185	1.209 -1.215	.600	3/4	.385	Z1984SS	Z1984
3/4-16	1.152 - 1.158	1.170 - 1.185	1.209 - 1.215	.600	3/4	.385	Z1985SS	Z1985
7/8-9	1.355 - 1.361	1.343 -1.358	1.424 -1.430	.700	7/8	.445	Z1986SS	Z1986
7/8-14	1.355 - 1.361	1.343 -1.358	1.424 - 1.430	.700	7/8	.445	Z1987SS	Z1987
1-8	1.527 - 1.533	1.517 -1.532	1.612 - 1.620	.810	1	.495	Z1988SS	Z1988
1-14	1.527 - 1.533	1.517 -1.532	1.612 - 1.620	.810	1	.495	Z1989SS	Z1989

18-8 SS, Steel

Socket Drive Nuts — Metric

Also known as Allen nuts, you can use these versatile fasteners as both threaded inserts and nuts. To use as inserts, press or draw them into any nonhardened steel, cast iron, or soft nonferrous metal. You can even mold them into plastics, ceramics, fiber, and similar materials. 18-8 stainless steel inserts have excellent corrosion resistance and may be mildly magnetic. Heat Treated steel inserts have the same strength properties as ASTM A194 Grade 2H nuts - Medium Carbon Steel Quenched and Tempered. To use as nuts, tighten them with a 6-point hex key. Thread class is 6H and they are partially threaded.







Socket Drive Nuts

Thread Size (mm)	Body Diameter (min, max)	Length (min, max)	Knurl Diameter (min, max)	Thread Depth	Hex Key Size	Knurl Length (min)	18-8 SS Part Number	Steel, Black Oxide Part Number
Size - Metric		Insert Nuts Dimensions - Inches						
M3 x 0.5	.183 - .187	.172 - .179	.205 - .209	.080	1/8	.046	Z1960MSS	Z1960M
M4 x 0.7	.275 - .280	.266 - .273	.302 - .307	.125	3/16	.084	Z1963MSS	Z1963M
M5 x 0.8	.302 - .307	.309 - .319	.331 - .336	.170	3/16	.096	Z1964MSS	Z1964M
M6 x 1	.398 - .403	.409 - .419	.425 - .430	.225	1/4	.136	Z1966MSS	Z1966M
M8 x 1.25	.493 - .498	.512 - .522	.521 - .526	.285	5/16	.165	Z1968MSS	Z1968M
M10 x 1.5	.585 - .590	.606 - .621	.615 - .620	.325	3/8	.195	Z1970MSS	Z1970M
M12 x 1.75	.705 - .710	.718 - .733	.738 - .743	.360	7/16	.235	Z1972MSS	Z1972M
M14 x 2	.795 - .800	.821 - .836	.836 - .841	.445	1/2	.265	Z1974MSS	Z1974M
M18 x 2.5	.980 - .986	.995 - 1.010	1.034 - 1.040	.500	5/8	.325	Z1976MSS	Z1976M
M20 x 2.5	1.152 - 1.158	1.170 - 1.185	1.209 - 1.215	.600	3/4	.385	Z1978MSS	Z1978M
M24 x 3	1.527 - 1.533	1.517 - 1.532	1.612 - 1.620	.810	1	.495	Z1979MSS	Z1979M

18-8 SS, 316 SS
Steel

MADE IN THE USA

IMPORT

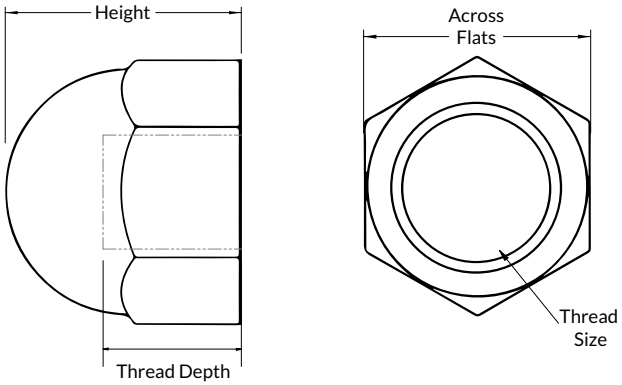
Standard Cap Nut (Acorn Nut) — Inch

Product Information

Also known as acorn nuts, they have a smooth rounded head that covers and protects threads while providing a finished appearance. Thread fit is 2B.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain
- 316 Stainless Steel | Plain
- Steel | Nickel-Plated
- Brass | Plain





18-8 SS Acorn Nuts

Thread Size	Thread Depth	Across Flats	Height	18-8 SS Part Number
0-80	1/16	3/16	3/16	NUT802080
1-64	1/16	3/16	3/16	NUT802164
1-72	1/16	3/16	3/16	NUT802172
2-56	5/64	3/16	3/16	NUT802256
2-64	5/64	3/16	3/16	NUT802264
3-48	5/64	1/4	1/4	NUT802348
3-56	5/64	1/4	1/4	NUT802356
4-48	5/32	1/4	1/4	NUT802448
5-40	1/8	5/16	11/32	NUT802540
5-44	1/8	5/16	11/32	NUT802544
6-40	5/32	5/16	11/32	NUT802640
8-36	5/32	5/16	11/32	NUT802836
12-28	7/32	3/8	13/32	NUT8021228
1-14	1	1-7/16	1-35/64	NUT80281NSF
5/8-11	5/8	15/16	1	NUT80558C*
1-1/4-12	1-1/4	1-13/16	1-61/64	NUT80283F

**Imported, 300 series stainless steel*



Steel Acorn Nuts

Thread Size	Thread Depth	Across Flats	Height	Finish	Steel Part Number
10-32	3/16	3/8	13/32	Nickel Plt	Z8220-3*

**Imported*



316 SS Acorn Nuts

Thread Size	Thread Depth	Across Flats	Height	316 SS Part Number
0-80	1/16	3/16	3/16	NUT805080
1-64	1/16	3/16	3/16	NUT805164
1-72	1/16	3/16	3/16	NUT805172
2-56	5/64	3/16	3/16	NUT805256
2-64	5/64	3/16	3/16	NUT805264
3-48	5/64	1/4	1/4	NUT805348
3-56	5/64	1/4	1/4	NUT805356
4-48	5/32	1/4	1/4	NUT805448
5-40	1/8	5/16	11/32	NUT805540
5-44	1/8	5/16	11/32	NUT805544
6-40	5/32	5/16	11/32	NUT805640
8-32	5/32	5/16	11/32	NUT80508C
12-24	7/32	3/8	13/32	NUT8051224
12-28	7/32	3/8	13/32	NUT8051228
7/16-14	7/16	5/8	11/16	NUT80571C
7/16-20	7/16	5/8	11/16	NUT80571F
9/16-12	9/16	7/8	15/16	NUT80591C
9/16-18	9/16	7/8	15/16	NUT80591F
5/8-18	5/8	15/16	1	NUT80558F
3/4-16	3/4	1-1/16	1-5/32	NUT80534F
7/8-9	7/8	1-1/4	1-23/64	NUT80578C
7/8-14	7/8	1-1/4	1-23/64	NUT80578F
1-8	1	1-7/16	1-35/64	NUT80581C
1-12	1	1-7/16	1-35/64	NUT80581F
1-14	1	1-7/16	1-35/64	NUT80581NSF
1-1/4-7	1-1/4	1-13/16	1-61/64	NUT80583C
1-1/4-12	1-1/4	1-13/16	1-61/64	NUT80583F

Standard Cap Nuts (Acorn Nut) — Inch



Brass Acorn Nuts

Thread Size	Thread Depth	Across Flats	Height	Finish	Brass Part Number
0-80	1/16	3/16	3/16	Plain	NUT804080
10-32	.265	.365	.318	Nickel-Plated	Z28220-3

Standard Cap Nuts (Acorn Nut) Assortments — Inch

Steel, Nickel-Plated Acorn Nuts

Thread Sizes Included	Total Pieces	Steel Part Number
6-32 (35 pieces), 8-32 (35 pieces), 10-32 (35 pieces), 1/4-20 (35 pieces), 5/16-19 (35 pieces), 3/8-16 (25 pieces),	200	Z8220*

**Imported*



**Plastic container included*

Low Cap Nuts (Giant Thread Acorn Nut) — Inch



Thread Size	Thread Depth	Across Flats	Height	Material	Finish	Part Number
8-32	5/32	5/16	9/32	Brass	Nickel Plt	NUT8068CXL*
8-36	5/32	5/16	5/32	316 SS	Plain	NUT805836
3/4-10	1/2	1-1/16	7/8	Brass	Chrome Plt	NUT80434CC
3/4-10	3/4	1-1/16	1-5/32	316 SS	Plain	NUT80534C
3/4-16	1/2	1-1/16	7/8	Brass	Nickel Plt	NUT80434FN
1-8	5/8	1-7/16	1-1/4	Brass	Chrome Plt	NUT80401CC
1-8	5/8	1-7/16	1-1/4	Brass	Nickel Plt	NUT80401CN

**Imported*

High Cap Nuts ("Too Tall" Acorn Nut) — Inch

Product Information

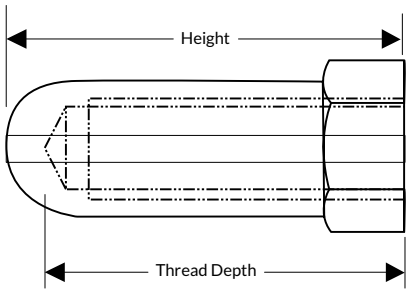
3/8 and 1/2 Bolt sizes are the most common Quick Bolt type installs for Hand Rails, Posts and Panel Signage. Most concrete pads are 4X4, 6X6, or 8X8 and using a bolt that is too large will increase the possibility of the concrete pad cracking or chipping. Best to use the smallest bolt size possible.

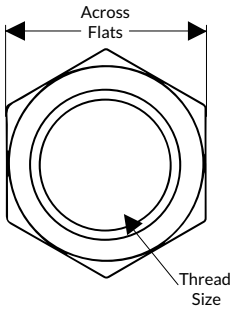
Materials and finishes offered in:

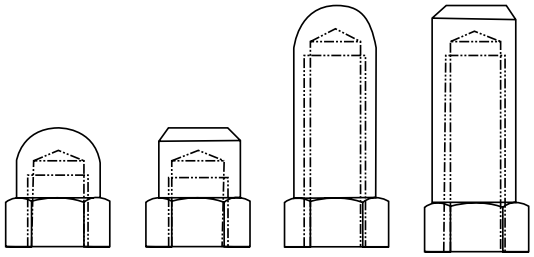
- 18-8 Stainless Steel | Plain
- 316 Stainless Steel | Plain
- Aluminum

Acorn shape offered in:

- Standard Acorn Shape
- Flattened Acorn Shape







Regular "Too Tall"



316 SS



18-8 SS



Aluminum

Thread Size	Thread Depth	Across Flats	Height	Head Form	18-8 SS Part Number	316 SS Part Number	Aluminum Part Number
3/8-16	15/32	9/16	25/32	High	Z0326-188	Z0326-316	Z0326-ALU
3/8-16	3/4	9/16	1-1/16	High	Z0327-188	Z0327-316	Z0327-ALU
3/8-16	1	9/16	1-5/16	High	Z0328-188	Z0328-316	Z0328-ALU
3/8-16	1-1/4	9/16	1-9/16	High	Z0329-188	Z0329-316	Z0329-ALU
3/8-16	15/32	9/16	25/32	Flat Top	Z0330-188	Z0330-316	Z0330-ALU
3/8-16	3/4	9/16	1-1/16	Flat Top	Z0331-188	Z0331-316	Z0331-ALU
3/8-16	1	9/16	1-5/16	Flat Top	Z0332-188	Z0332-316	Z0332-ALU
3/8-16	1-1/4	9/16	1-9/16	Flat Top	Z0333-188	Z0333-316	Z0333-ALU
1/2-13	5/8	3/4	1-1/32	High	Z0334-188	Z0334-316	Z0334-ALU
1/2-13	1	3/4	1-7/16	High	Z0335-188	Z0335-316	Z0335-ALU
1/2-13	1-1/4	3/4	1-3/4	High	Z0336-188	Z0336-316	Z0336-ALU
1/2-13	1-1/2	3/4	2	High	Z0337-188	Z0337-316	Z0337-ALU
1/2-13	5/8	3/4	1-1/32	Flat Top	Z0338-188	Z0338-316	Z0338-ALU
1/2-13	1	3/4	1-7/16	Flat Top	Z0339-188	Z0339-316	Z0339-ALU
1/2-13	1-1/4	3/4	1-3/4	Flat Top	Z0347-188	Z0347-316	Z0347-ALU
1/2-13	1-1/2	3/4	2	Flat Top	Z0348-188	Z0348-316	Z0348-ALU

Knurled Thumb Nuts — Inch

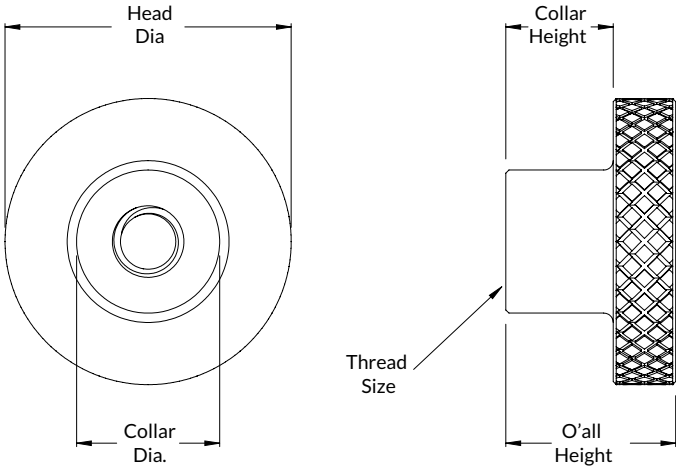
MADE IN THE USA

Product Information

These thumb nuts have a knurled head for slip-resistant controlled adjustment and the collar raises the head to make it easy to grip. Class 2B thread class with fully threaded right hand threads.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain | Black Oxide
- 316 Stainless Steel | Plain





18-8 SS



18-8 SS, Black Oxide



316 SS

Knurled Thumb Nuts, Inch

Thread Size	Collar Dia.	Head Dia.	Collar Ht.	Head Ht.	O'all Ht.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number
0-80	7/32	3/8	3/16	1/16	1/4	NUT681080	NUT681080-BX	—
1-72	7/32	3/8	3/16	1/16	1/4	NUT681172	NUT681172-BX	—
2-56	7/32	3/8	3/16	1/16	1/4	NUT681256	NUT681256-BX	—
3-48	1/4	1/2	1/4	1/8	3/8	NUT681348	NUT681348-BX	—
4-40	1/4	1/2	1/4	1/8	3/8	NUT681440	NUT681440-BX	NUT682440
	1/4	3/4	1/4	1/8	3/8	NUT681440OH	NUT681440OH-BX	—
	1/4	1/2	1/2	1/8	5/8	NUT681440L	NUT681440L-BX	—
	1/4	3/4	1/2	1/8	5/8	NUT681440LOH	NUT681440LOH-BX	—
5-40	1/4	1/2	1/4	1/8	3/8	NUT681540	NUT681540-BX	—
	1/4	1/2	1/2	1/8	5/8	NUT681540L	NUT681540L-BX	—
6-32	1/4	1/2	1/4	1/8	3/8	NUT681632	NUT681632-BX	NUT682632
	1/4	1/2	1/2	1/8	5/8	NUT681632L	NUT681632L-BX	—
6-32	1/4	3/4	1/4	1/8	3/8	NUT681632OH	NUT681632OH-BX	—
	1/4	3/4	1/2	1/8	5/8	NUT681632LOH	NUT681632LOH-BX	—
8-32	5/16	1/2	1/4	1/8	3/8	NUT681832	NUT681832-BX	NUT682832
	5/16	1/2	1/2	1/8	5/8	NUT681832L	NUT681832L-BX	—
	5/16	3/4	1/4	1/8	3/8	NUT681832OH	NUT681832OH-BX	—
	5/16	3/4	1/2	1/8	5/8	NUT681832LOH	NUT681832LOH-BX	—

Knurled Thumb Nuts — Inch



Knurled Thumb Nuts, Inch

Thread Size	Collar Dia.	Head Dia.	Collar Ht.	Head Ht.	O'all Ht.	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number
10-24	3/8	1/2	1/4	3/16	7/16	NUT6811024	NUT6811024-BX	NUT6821024
	3/8	1/2	1/2	3/16	11/16	NUT6811024L	NUT6811024L-BX	—
	3/8	1	1/4	3/16	7/16	NUT6811024OH	NUT6811024OH-BX	—
	3/8	1	1/2	3/16	11/16	NUT6811024LOH	NUT6811024LOH-BX	—
10-32	3/8	1/2	1/4	3/16	7/16	NUT6811032	NUT6811032-BX	NUT6821032
	3/8	1/2	1/2	3/16	11/16	NUT6811032L	NUT6811032L-BX	—
	3/8	1	1/4	3/16	7/16	NUT6811032OH	NUT6811032OH-BX	—
	3/8	1	1/2	3/16	11/16	NUT6811032LOH	NUT6811032LOH-BX	—
12-24	1/2	3/4	1/4	1/4	1/2	NUT6811224	NUT6811224-BX	—
1/4-20	1/2	3/4	1/4	1/4	1/2	NUT6811420	NUT6811420-BX	NUT6821420
	1/2	3/4	1/2	1/4	3/4	NUT6811420L	NUT6811420L-BX	—
	1/2	1	1/4	1/4	1/2	NUT6811420OH	NUT6811420OH-BX	—
	1/2	1	1/2	1/4	3/4	NUT6811420LOH	NUT6811420LOH-BX	—
1/4-20	1/2	1	3/4	1/4	1	NUT6811420XOH	NUT6811420XOH-BX	—
1/4-28	1/2	3/4	1/4	1/4	1/2	NUT6811428	NUT6811428-BX	—
	1/2	3/4	1/2	1/4	3/4	NUT6811428L	NUT6811428L-BX	—
5/16-18	1/2	1	3/8	1/4	5/8	NUT68151618	NUT68151618-BX	NUT68251618
5/16-24	1/2	1	3/8	1/4	5/8	NUT68151624	NUT68151624-BX	—
3/8-16	5/8	1	1/2	1/4	3/4	NUT6813816	NUT6813816-BX	NUT6823816
3/8-24	5/8	3/4	1/2	1/4	3/4	NUT6813824	NUT6813824-BX	—
7/16-14	5/8	1-1/8	3/4	3/16	15/16	NUT68171614	NUT68171614-BX	—
7/16-20	5/8	1-1/8	3/4	3/16	15/16	NUT68171620	NUT68171620-BX	—
1/2-13	5/8	1-1/8	3/4	3/16	15/16	NUT6811213	NUT6811213-BX	NUT6821213
1/2-20	5/8	1-1/8	3/4	3/16	15/16	NUT6811220	NUT6811220-BX	—

Knurled Thumb Nuts — Metric

Product Information

These thumb nuts have a knurled head for slip-resistant controlled adjustment and the collar raises the head to make it easy to grip. Class 6H thread class with fully threaded right hand threads. Available in low and standard nut profile sizes.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain | Black Oxide
- 316 Stainless Steel | Plain | Black Oxide
- Brass | Plain



18-8 SS



18-8 SS, Black Oxide



316 SS



316 SS, Black Oxide



Brass

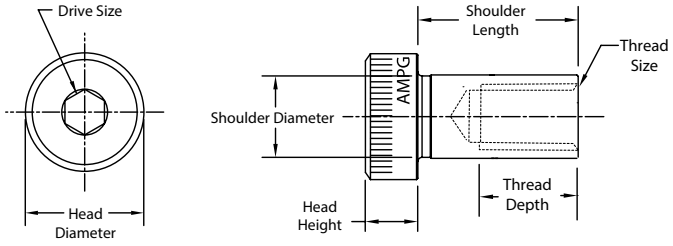
Knurled Thumb Nuts, Metric

Thread Size (mm)	Collar Dia.	Head Dia.	Collar Ht.	Head Ht.	O'all Height	18-8 SS Part Number	18-8 SS, Black Ox. Part Number	316 SS Part Number	316 SS, Black Ox. Part Number	Brass Part Number
M2 x 0.4	4.5	9	0.5	2	2.5	ZTNM2L-188	ZTNM2L-188-BX	ZTNM2L-316	ZTNM2L-316-BX	ZTNM2L-BR
M2 x 0.4	5	10	4	2	6	ZTNM2S-188	ZTNM2S-188-BX	ZTNM2S-316	ZTNM2S-316-BX	ZTNM2S-BR
M2.5 x 0.45	5	11	0.5	2.5	3	ZTNM2.5L-188	ZTNM2.5L-188-BX	ZTNM2.5L-316	ZTNM2.5L-316-BX	ZTNM2.5L-BR
M2.5 x 0.45	6	12	5	2.5	7.5	ZTNM2.5S-188	ZTNM2.5S-188-BX	ZTNM2.5S-316	ZTNM2.5S-316-BX	ZTNM2.5S-BR
M3 x 0.5	6	20	12.5	3.5	16	ZTNM3H-188	ZTNM3H-188-BX	ZTNM3H-316	ZTNM3H-316-BX	ZTNM3H-BR
M3 x 0.5	6	12	0.5	2.5	3	ZTNM3L-188	ZTNM3L-188-BX	ZTNM3L-316	ZTNM3L-316-BX	ZTNM3L-BR
M3 x 0.5	6	12	5.0	2.5	7.5	ZTNM3S-188	ZTNM3S-188-BX	ZTNM3S-316	ZTNM3S-316-BX	ZTNM3S-BR
M3.5 x 0.6	8	20	12.5	3.5	16	ZTNM3.5H-188	ZTNM3.5H-188-BX	ZTNM3.5H-316	ZTNM3.5H-316-BX	ZTNM3.5H-BR
M3.5 x 0.6	8	16	0.5	3.5	4	ZTNM3.5L-188	ZTNM3.5L-188-BX	ZTNM3.5L-316	ZTNM3.5L-316-BX	ZTNM3.5L-BR
M3.5 x 0.6	8	16	6.0	3.5	9.5	ZTNM3.5S-188	ZTNM3.5S-188-BX	ZTNM3.5S-316	ZTNM3.5S-316-BX	ZTNM3.5S-BR
M4 x 0.7	8	20	12.5	3.5	16	ZTNM4H-188	ZTNM4H-188-BX	ZTNM4H-316	ZTNM4H-316-BX	ZTNM4H-BR
M4 x 0.7	8	16	0.5	3.5	4	ZTNM4L-188	ZTNM4L-188-BX	ZTNM4L-316	ZTNM4L-316-BX	ZTNM4L-BR
M4 x 0.7	8	16	6	3.5	9.5	ZTNM4S-188	ZTNM4S-188-BX	ZTNM4S-316	ZTNM4S-316-BX	ZTNM4S-BR
M5 x 0.8	10	25	12.5	5	17.5	ZTNM5H-188	ZTNM5H-188-BX	ZTNM5H-316	ZTNM5H-316-BX	ZTNM5H-BR
M5 x 0.8	10	20	1	4	5	ZTNM5L-188	ZTNM5L-188-BX	ZTNM5L-316	ZTNM5L-316-BX	ZTNM5L-BR
M5 x 0.8	10	20	7.5	4	11.5	ZTNM5S-188	ZTNM5S-188-BX	ZTNM5S-316	ZTNM5S-316-BX	ZTNM5S-BR
M6 x 1	12	25	14	5	19	ZTNM6H-188	ZTNM6H-188-BX	ZTNM6H-316	ZTNM6H-316-BX	ZTNM6H-BR
M6 x 1	12	24	1	5	6	ZTNM6L-188	ZTNM6L-188-BX	ZTNM6L-316	ZTNM6L-316-BX	ZTNM6L-BR
M6 x 1	12	24	10	5	15	ZTNM6S-188	ZTNM6S-188-BX	ZTNM6S-316	ZTNM6S-316-BX	ZTNM6S-BR
M8 x 1.25	16	30	2	6	8	ZTNM8L-188	ZTNM8L-188-BX	ZTNM8L-316	ZTNM8L-316-BX	ZTNM8L-BR
M8 x 1.25	16	30	12	6	18	ZTNM8S-188	ZTNM8S-188-BX	ZTNM8S-316	ZTNM8S-316-BX	ZTNM8S-BR
M10 x 1.5	20	36	2	8	10	ZTNM10L-188	ZTNM10L-188-BX	ZTNM10L-316	ZTNM10L-316-BX	ZTNM10L-BR
M10 x 1.5	20	36	15	8	23	ZTNM10S-188	ZTNM10S-188-BX	ZTNM10S-316	ZTNM10S-316-BX	ZTNM10S-BR
M12 x 1.75	19	25.4	12	10	22	ZTNM12S-188	ZTNM12S-188-BX	ZTNM12S-316	ZTNM12S-316-BX	ZTNM12S-BR
M14 x 2	28	56	20	10	30	ZTNM14S-188	ZTNM14S-188-BX	ZTNM14S-316	ZTNM14S-316-BX	ZTNM14S-BR
M16 x 2	32	64	25	10	35	ZTNM16S-188	ZTNM16S-188-BX	ZTNM16S-316	ZTNM16S-316-BX	ZTNM16S-BR

Shoulder Nuts for Studs and Bolts — Inch

Hex Drive

Internal threads allow you to screw these shoulders onto a stud and bolt. They're commonly used as a bearing pin, axle, or pivot point where a tapped hole is not available. They have a knurled head. The unthreaded shoulder is held to a precise diameter and length. Made in the USA with DFARS compliant material, each screw is manufactured in one complete operation, which produces a tightly controlled consistent and concentric product. Shoulder diameters of 1/4, 5/16, 3/8 and 1/2 meet our internal specification AMPG 2013 TAP.01. The diameter tolerance is -.002 to -.004 inches. The shoulder length tolerance is ±.005 inches. Screws have a Class 2B thread fit and are partially threaded. Heads are knurled, stamped, or both to provide finger grip.



Dimensions and Tolerance Table — Inch

Shoulder Diameter	Shoulder Diameter Max. to Min.	Head Diameter	Head Height	Drive Size	Head Appearance
1/4	.248 to .246	3/8	3/16	1/8	Head Mark and Knurl
5/16	.310 to .308	7/16	7/32	5/32	
3/8	.373 to .371	9/16	1/4	3/16	
1/2	.498 to .496	3/4	5/16	1/4	

Head appearance may be knurled and/or head marked.
18-8 Stainless Steel is manufactured from Type 303 Stainless Steel Bar.



STR60114C08-TAP

1/4 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Thread Depth	18-8 SS Part Number
1/4 x 1/2	4-40 x 1/4	STR60114C08-TAP
1/4 x 3/4		STR60114C12-TAP
1/4 x 1		STR60114C16-TAP
1/4 x 1-1/4		STR60114C20-TAP
1/4 x 1-1/2	4-40 x 1/4	STR60114C24-TAP
1/4 x 2		STR60114C32-TAP



STR60138C08-TAP

3/8 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Thread Depth	18-8 SS Part Number
3/8 x 1/2	8-32 x 1/4	STR60138C08-TAP
3/8 x 3/4		STR60138C12-TAP
3/8 x 1		STR60138C16-TAP
3/8 x 1-1/4		STR60138C20-TAP
3/8 x 1-1/2	8-32 x 1/4	STR60138C24-TAP
3/8 x 2		STR60138C32-TAP



STR60151C08-TAP

5/16 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Thread Depth	18-8 SS Part Number
5/16 x 1/2	6-32 x 1/4	STR60151C08-TAP
5/16 x 3/4		STR60151C12-TAP
5/16 x 1		STR60151C16-TAP
5/16 x 1-1/4		STR60151C20-TAP
5/16 x 1-1/2	6-32 x 1/4	STR60151C24-TAP
5/16 x 2		STR60151C32-TAP



STR60112C08-TAP

1/2 Shoulder Diameter

Shoulder Dia. x Lg.	Thread Size x Thread Depth	18-8 SS Part Number
1/2 x 1/2	10-32 x 1/4	STR60112C08-TAP
1/2 x 3/4		STR60112C12-TAP
1/2 x 1		STR60112C16-TAP
1/2 x 1-1/4		STR60112C20-TAP
1/2 x 1-1/2	10-32 x 1/4	STR60112C24-TAP
1/2 x 2		STR60112C32-TAP

30° Wedge Ramp Threads & External Nylon Pellet Lock Nuts — Inch

Product Information

These threaded inserts are designed to be used with Class 2A and 3A standard screw threads (60° threads). The special 30° wedge ramp internal thread eliminates the loosening from vibration that is present witha standard form thread. The tight fit of the wedge ramp thread eliminates most transverse motion that is typically induced by vibration. This fit is what inhibits the screw from backing out. This 303 stainless steel insert is thoroughly tested and offers superior vibration resistance. Once a screw is threaded into the insert, the screw can be removed and re-installed since there are no deformed threads that interfer or damage the screw threads. This product is completely re-usable, as there are no deformed threads or nylon locking elements to wear or interfere with assembly and disassembly. External Nylon Locking Pellet locks Insert in place.

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain



Internal Thread Size	External Thread Size	Length	Tap Drill Size	18-8 SS Part Number
4-40	10-32	7/32	21	Z0655
6-32	12-28	1/4	14	Z0656
8-32	1/4-28	9/32	3	Z0657
10-24	5/16-24	5/16	I	Z0658
10-32	5/16-24	5/16	I	Z0659
1/4-20	3/8-24	3/8	Q	Z0660
5/16-18	7/16-20	7/16	25/64	Z0661
3/8-16	1/2-20	15/32	29/64	Z0662
1/2-13	5/8-18	19/32	37/64	Z0663
5/8-11	3/4-16	11/16	11/16	Z0664
3/4-10	1-8	25/32	7/8	Z0665

Shock Absorber Nuts — Inch & Metric

Product Information

Threaded-body shock absorbers can be mounted and secured using mounting blocks for shock absorbers (not included).

Materials and finishes offered in:

- 18-8 Stainless Steel | Plain
- Steel | Black Oxide



Inch Shock Absorber Nut

Thread Size	Thread Fit	Across Flats	Length	18-8 SS Part Number	Steel, Black Ox Part Number
9/16-18	2B	7/8	5/16	NUTJ91F	—
3/4-16	2B	1	1/4	NUT26234F	—
1-12	2B	1-1/4	1/4	NUT26281F	—
1-1/4-12	2B	1-1/2	1/4	NUT26283F	NUT25083F-BX
1-3/8-12	2B	1-5/8	1/4	NUT262835F	NUT250835F-BX

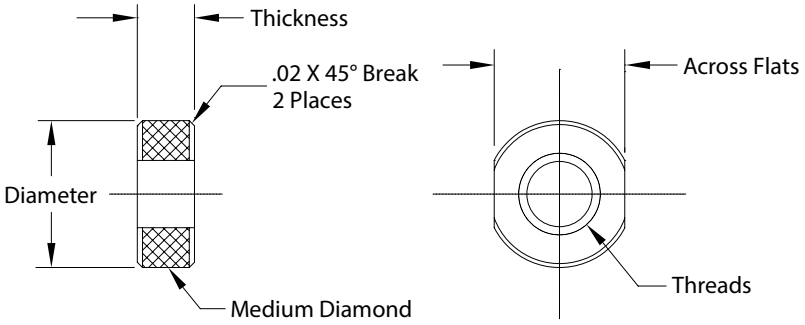
Metric Shock Absorber Nut

Thread Size	Thread Fit	Across Flats	Length	Steel, Black Ox Part Number
1-1/4-12	2B	1-7/8	23/32	NUT25083F-BX
1-3/8-12	2B	2-1/4	3/4	NUT250835F-BX

Knurled Round Nuts with Wrench Flats — Inch

Materials and finishes offered in:

- 4140 Steel Thru Hardened | Black Oxide Finish





Thread Size	Diameter	Across Flats	Thickness	Steel Part Number
4-40	1/4	3/16	3/32	Z0641
5-40	5/16	1/4	7/64	Z0642
6-32	5/16	1/4	7/64	Z0643
8-32	11/32	5/16	1/8	Z0644
10-32	3/8	5/16	1/8	Z0645
1/4-20	7/16	3/8	3/16	Z0646
5/16-18	9/16	1/2	7/32	Z0647

Spanner Nuts —Hydraulic Clamping Cylinder Jam Nuts — Inch

Product Information

For all threaded cylinders and shock absorbers.

Materials and finishes offered in:

- Steel | Black Oxide Finish

Hex



Round



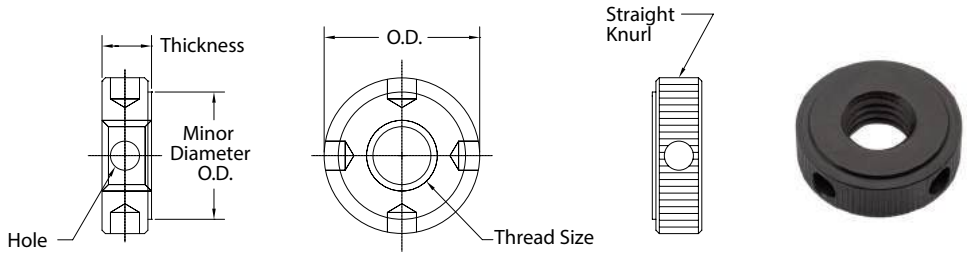




Thread Size	Outer Diameter	Thickness	Shape	Spanner Slot Width	Spanner Slot Depth	De-Sta-Co Equalivalent	Fits Jergens Cylinders	Part Number
1-5/16 - 16 UN2B	1-7/8 AF	1/2	Hex			051-131-160	60463, 60464, 60965	Z0340
1-7/8 - 16 UN2B	2-5/8	.380	Round	5/16	5/16	051-187-160	60465, 60466, 60598, 60967	Z0342
2-1/2 - 16 UN2B	3-1/4	1/2	Round	5/16	5/16	051-250-160		Z0344

Knurled Lock Nuts — Inch

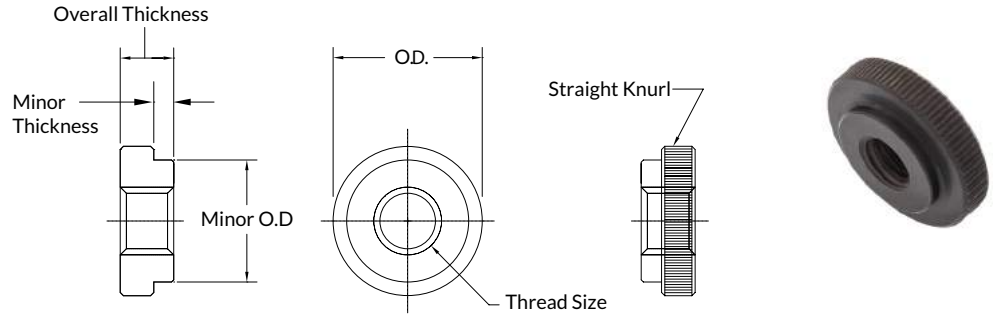
LIMITED SUPPLY



Thread Size	O.D.	Thickness	Minor Dia. O.D.	Holes	Steel, Black Oxide Part Number
3/16-16	1	3/8	3/4	(4) .188	Z0285
1/2-13	1-1/4	7/16	1	(4) .257	Z0286
5/8-11	1-3/8	7/16	1-1/8	(4) .257	Z0287
3/4-10	1-3/4	9/16	1-1/2	(4) .316	Z0288
1-8	2	9/16	1-3/4	(4) .316	Z0289

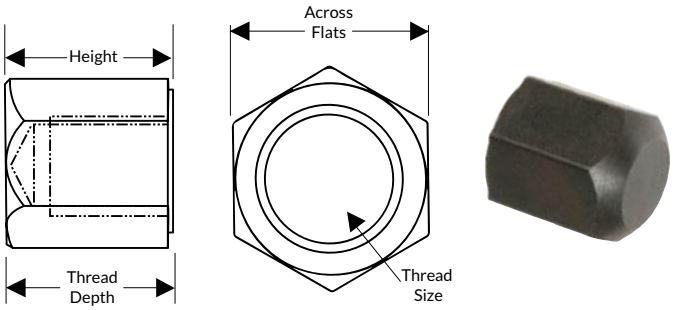
Check Nuts — Inch

LIMITED SUPPLY



Thread Size	O.D.	Overall Thickness	Minor Thickness	Minor Dia. O.D	Steel, Black Oxide Part Number
10-24	3/4	7/32	1/16	1/2	Z0275
1/4-20	3/4	7/32	1/16	1/2	Z0276
1/2-13	1	3/8	1/8	3/4	Z0279

Extra Wide Nuts — Inch



Thread Size	Thread Depth	Across Flats	Height	Steel, Black Oxide Part Number
3/8-16	3/4	3/4	1/2	Z0296
5/8-11	1-1/16	1-3/16	15/16	Z0298

Longevity

Since 1995, Accurate Manufactured Products Group (AMPG) has been a stocking manufacturer of precision components, hard-to-find fasteners and industrial products.

Strategic Location

AMPG's 121,600 square foot facility is located in the Heart of the Midwest which gives us access to high-quality machinists/employees as well as being strategically located for fast delivery.

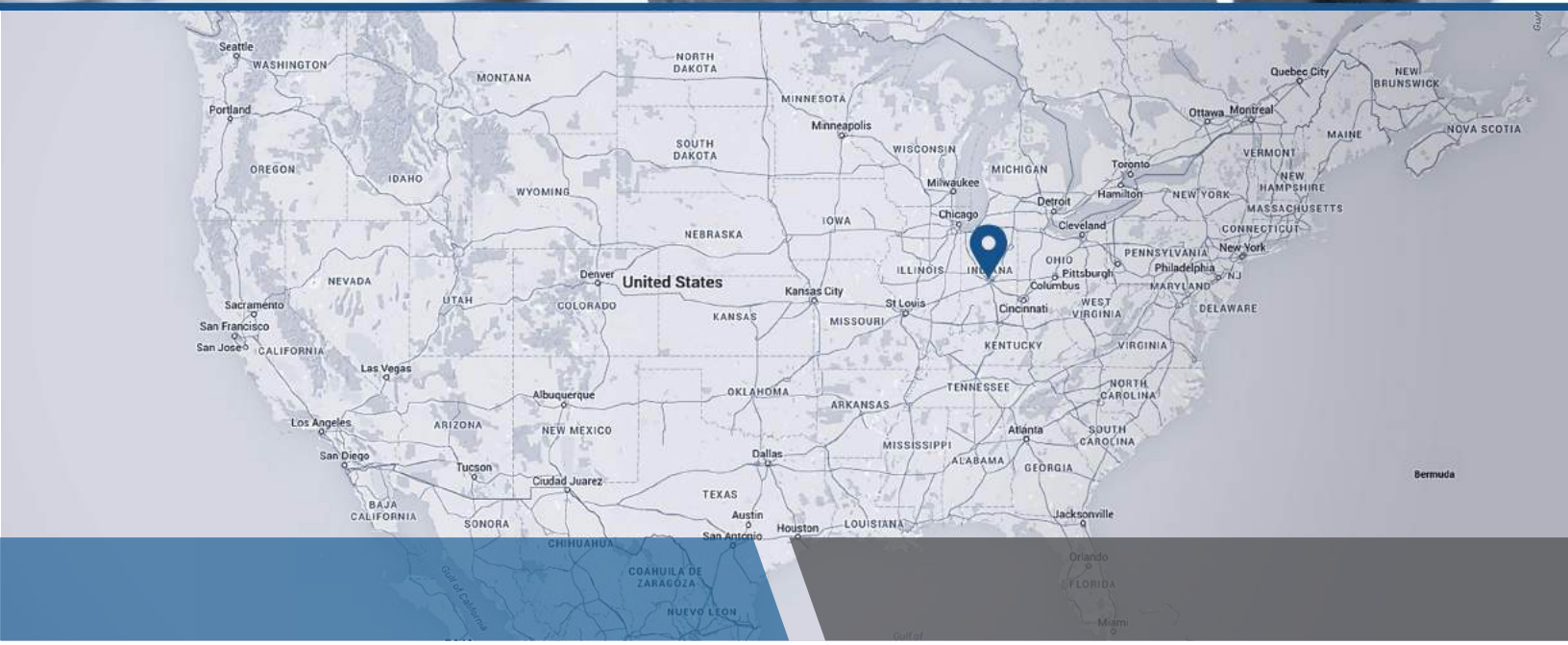
Advanced Equipment

Our manufacturing facility operates 24/7, producing precision parts on state-of-the-art CNC Swiss Lathes. Parts are made from high quality materials with a superior machined finish.

Superior Quality

Our advanced electronic Quality Control systems are employed on the manufacturing floor to catch trends before bad parts are produced.





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"Beautiful Parts, Right Now"



Longevity

AMPG is a privately-owned family business started by current management in 1987. With the second generation in the business, already for many years, we are realizing a future of serving our customers, collaborating with our employees, and contributing to a vibrant domestic manufacturing economy.

Philosophy

We are proud to be an American manufacturer dedicated to solving large problems that affect small numbers of customers. We are committed to our team, our products, and our customers.

Our continuous capital investments in production equipment, employees, automation, and inspection technologies allows us to design thousands of new items a year, get them into large distributor channels and produce on demand small quantities in a few days.

Stock & Custom...*FAST*

As a precision manufacturer of specialized fasteners, architectural hardware, mechanical components and industrial accessories, AMPG stocks over 35,000 products. We also offer custom manufacturing supported by design, product testing and engineering services. To see the latest and most complete catalog of our over 35,000 different items, visit **www.ampg.com.**

How to Buy Our Products

Visit us **online**, email us at **sales@ampg.com** or give us a call at **317.472.9000** and we can help you with your inquiry. Our stock line of parts ships same day from Indianapolis, Indiana.





We Make Beautiful Parts, Right Now

AMPG (Accurate Manufactured Products Group) is a privately owned family business started by current management in 1987. Our 2nd generation is well experienced and active in the business and dedicated to keeping AMPG a closely held family firm.

We are Proud to be an American Manufacturer

AMPG is a Make to Stock Manufacturer of over 50,000 unique items. New products are our lifeblood, and we have a long term strategic plan in place to introduce thousands of new products each and every year.

Our 147,000 Sq Ft facility in Indianapolis supports low to medium volume manufacturing runs with over 70 late model and brand new CNC Lathes, Mills, and Thread Rolling equipment. AMPG has an aggressive investment program in the latest and most advanced Production, Automation, and Inspection equipment, as well as software and engineering systems to run our business as efficiently as possible.

ISO Certification to 9001:2015 was attained to anchor the culture of continual improvement both on and off the production floor. ISO 17065 Product Certification will be applied for in 2023, and ISO 17025 will be used to certify our in house Lab also in 2023. The latest in measuring, testing, and monitoring equipment is used to insure product quality and fast lead times. Lean principles guide the manufacturing process using robots, vision systems, and machine monitoring to enable continuous unmanned production around the clock.

Family Owned, Family Operated

AMPG began in Plainview, NY in 1987, and moved to Indianapolis, Indiana in 2004 in order to find the skilled machinists that are the foundation of our success. We are especially proud of our employee retention (as of 2022 all of our core team members will have over 15 years with the company), and the families second generation has over 18 years experience. We have a unique training method that allows us to grow our manufacturing capabilities to match our product and sales plan.

Our dedication to our employees is evidenced by their longevity and the numerous safety and healthiest employer awards we have won over the years.

Product Quality, Appearance and Quick Deliveries are Foundational Goals

AMPG makes and stocks hard-to-find fasteners, components, and fittings. We ship same day from our Indianapolis facility. We offer custom manufacturing capabilities including design, product testing, and engineering services. Our Made-to-Order program produces as little as one part within 7 days.

A Simple Philosophy

Provide a great customer experience by having beautiful, precise, and hard to find products ready to ship today.

Page	Description
i	About AMPG
G-1 to G-5	QUICK OUTS™ Socket-Screw Extractors, Inch and Metric
G6 to G-9	Threaded Hole Transfer Punches, Inch and Metric
G-10	Drawbars for Milling Machines, Inch
G-10	The Universal Drawbar, Inch
G-11	Drawbars for Milling Machines w/Right Angle Attachments, Inch
G-11	Quill Feed Handles, Inch
G-11	Spider Handle, Inch
G-12	Precision Adjustable Mill Stop, Inch
G-12	Quill Stop, Inch
G-12	Shell End Mill Arbor Screws, Inch
G-13	Milling Machine Arbor Spacers, Inch
G-13	5C Fixture Mounts, Inch
G-14	5C Mount Precision Chucks, Inch
G-14	5C Adapter Body, Inch
G-14	Soft Collet Heads, Inch
G-15	Internal Expanding Collet Heads, Inch
G-15	Adjustable Collet Stop, Inch
G-15	Universal 5C Collet Stop, Inch
G-15	5C Extra Length Collet Stop, Inch
G-16	5C “Finger” Collet Stop, Inch
G-16	Reducer Bushing for Air Die Grinders, Inch
G-16	Slitting Saw Arbors, Inch
G-16	3 Pc. Slitting Saw Arbor Set, Inch
G-17	8 Piece Expanding Arbor Set, Inch
G-17	3 Pc. Expanding Arbor Set, Inch
G-17	Individual Expanding Arbors, Inch
G-18	Vise Speed Handles, Inch
G-18	Aluminum Soft Jaws for Vises, Inch
G-18	Hand E-Key Chuck Keys, Inch
G-19	Work Stop for Milling Machine Vises, Inch
G-19	E-Z Vise Stop, Inch
G-19	Mini Vise Stop, Inch
G-19	Mini Stop, Inch
G-19	Arbor Press Work Stop, Inch
G-20	Lathe Mandrels, Inch
G-21	Handle and Extension Rod Kits for Threaded-Shank Tube Brushes, Inch

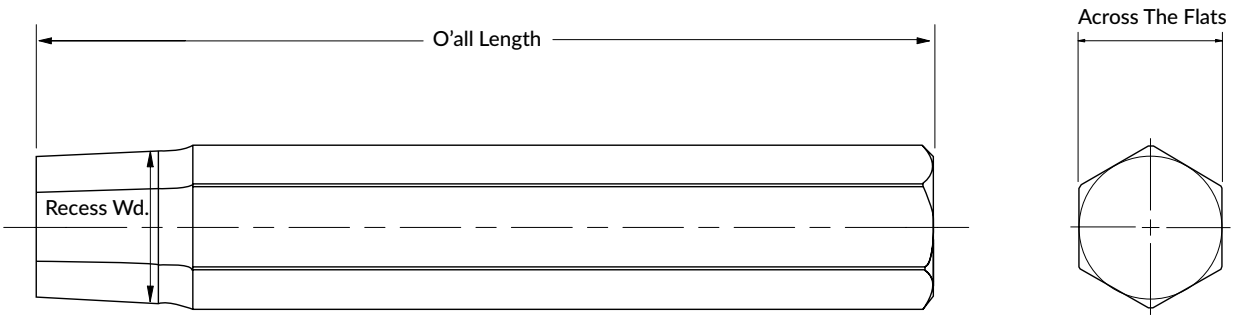
QUICK OUTS™ Socket-Screw Extractors — Inch & Metric

Steel, Black Oxide

Product Information

QUICK OUTS™ are USA made socket-screw extractors that don't need a drill. Extract socket drive screws that have damaged round recesses without drilling. Just tap them into the stripped drive for socket head, socket button head, socket flat head and socket set screws. or any fastener with a hex socket drive. To remove, turn extractors with a wrench. Heat-Treated Steel. Sold individually or in sets. Sets sold with multi-compartment plastic case.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Alloy Steel material meets ASTM A108.
- Socket screw extractors are hardened for durability and have a black-oxide finish. Offers mild rust resistance.
- Extractors for right-hand and left-hand threaded screws.



Socket-Head Cap Screw Extractor



Button-Head Socket Cap Screw Extractors



Flat-Head Socket Cap Screw Extractors



Socket Set Screw Extractors





Extractor Sets

QUICK OUTS™ Socket-Screw Extractors — Inch & Metric

Steel, Black Oxide



Socket-Head Cap Screws Extractors, Inch

For Screw Size	Recess Wd.	Across the Flats	O'all Length	Engraved Size	Steel Black Ox Part Number
No. 6	7/64	5/16	2-1/4	SKT6	ZEXTC-6
No. 8	9/64	5/16	2-1/4	SKT8	ZEXTC-8
No. 10	5/32	5/16	2-1/4	SKT10	ZEXTC-10
1/4	3/16	5/16	2-1/4	SKT14	ZEXTC-14
5/16	1/4	5/16	2-3/4	SKT51	ZEXTC-51
3/8	5/16	3/8	3	SKT38	ZEXTC-38
7/16	3/8	7/16	3-1/4	SKT71	ZEXTC-71
1/2	3/8	7/16	3-1/2	SKT12	ZEXTC-12
5/8	1/2	9/16	3-5/8	SKT58	ZEXTC-58
3/4	5/8	3/4	3-5/8	SKT34	ZEXTC-34
7/8	3/4	7/8	3-5/8	SKT78	ZEXTC-78
1	3/4	7/8	3-5/8	SKT01	ZEXTC-01

Socket-Head Cap Screws Extractors, Metric

For Screw Size	Recess Wd.	Across the Flats	O'all Length	Engraved Size	Steel Black Ox Part Number
M3	2.5mm	8mm	2-1/4	SKTM3	ZEXTC-M3
M4	3mm	8mm	2-1/4	SKTM4	ZEXTC-M4
M5	4mm	8mm	2-1/4	SKTM5	ZEXTC-M5
M6	5mm	8mm	2-1/4	SKTM6	ZEXTC-M6
M8	6mm	8mm	2-3/4	SKTM8	ZEXTC-M8
M10	8mm	9mm	3	SKTM10	ZEXTC-M10
M12	10mm	12mm	3-1/4	SKTM12	ZEXTC-M12
M14	12mm	14mm	3-1/2	SKTM14	ZEXTC-M14
M16	14mm	16mm	3-5/8	SKTM16	ZEXTC-M16
M18	14mm	16mm	3-5/8	SKTM18	ZEXTC-M18
M20	17mm	19mm	3-5/8	SKTM20	ZEXTC-M20
M24	19mm	21mm	3-5/8	SKTM24	ZEXTC-M24



Socket-Head Cap Screws Extractors Sets

Set contains following extractors	No. of Extractors included	Steel Black Ox Part Number
No. 6, No. 8, No. 10, 1/4	4	ZEXTC-SET6-14
1/4, 5/16, 3/8, 7/16, 1/2	5	ZEXTC-SET14-12
5/8, 3/4	2	ZEXTC-SET58-34
7/8, 1	2	ZEXTC-SET78-01
M3, M4, M5, M6	4	ZEXTC-SETM3-M6
M6, M8, M10, M12, M14	5	ZEXTC-SETM6-M14
M16, M18, M20, M24	4	ZEXTC-SETM16-M24

QUICK OUTS™ Socket-Screw Extractors — Inch & Metric

Steel, Black Oxide



Button-Head Extractors, Inch

For Screw Size	Recess Wd.	Across the Flats	O'all Length	Engraved Size	Steel Black Ox Part Number
No. 6	5/64	5/16	2-1/4	BTN6	ZEXTB-6
No. 8	3/32	5/16	2-1/4	BTN8	ZEXTB-8
No. 10	1/8	5/16	2-1/4	BTN10	ZEXTB-10
1/4	5/32	5/16	2-1/4	BTN14	ZEXTB-14
5/16	3/16	5/16	2-3/4	BTN51	ZEXTB-51
3/8	7/32	5/16	3	BTN38	ZEXTB-38
7/16	1/4	5/16	3	BTN71	ZEXTB-71
1/2	5/16	3/8	3	BTN12	ZEXTB-12
5/8	3/8	7/16	3-1/4	BTN58	ZEXTB-58

Button-Head Extractors, Metric

For Screw Size	Recess Wd.	Across the Flats	O'all Length	Engraved Size	Steel Black Ox Part Number
M3	2mm	8mm	2-1/4	BTNM3	ZEXTB-M3
M4	2.5mm	8mm	2-1/4	BTNM4	ZEXTB-M4
M5	3mm	8mm	2-1/4	BTNM5	ZEXTB-M5
M6	4mm	8mm	2-1/4	BTNM6	ZEXTB-M6
M8	5mm	8mm	2-3/4	BTNM8	ZEXTB-M8
M10	6mm	8mm	3	BTNM10	ZEXTB-M10
M12	8mm	9mm	3-1/4	BTNM12	ZEXTB-M12



Button-Head Extractors Sets

Extractors for Screw Sizes	No. of Extractors included	Steel Black Ox Part Number
No. 6, No. 8, No. 10, 1/4	4	ZEXTB-SET6-14
1/4, 5/16, 3/8, 7/16, 1/2	5	ZEXTB-SET14-12
1/4, 5/16, 3/8, 1/2, 5/8	5	ZEXTB-SET14-58
M3, M4, M5, M6	4	ZEXTB-SETM3-M6
M6, M8, M10, M12	4	ZEXTB-SETM6-M12

QUICK OUTS™ Socket-Screw Extractors — Inch & Metric

Steel, Black Oxide



Flat-Head Socket Screw Extractors, Inch

For Screw Size	Recess Wd.	Across the Flats	O'all Length	Engraved Size	Steel Black Ox Part Number
No. 6	5/64	5/16	2-1/4	FLH6	ZEXTF-6
No. 8	3/32	5/16	2-1/4	FLH8	ZEXTF-8
No. 10	1/8	5/16	2-1/4	FLH10	ZEXTF-10
1/4	5/32	5/16	2-1/4	FLH14	ZEXTF-14
5/16	3/16	5/16	3/4	FLH51	ZEXTF-51
3/8	7/32	5/16	3	FLH38	ZEXTF-38
7/16	1/4	5/16	3-1/4	FLH71	ZEXTF-71
1/2	5/16	3/8	3-1/2	FLH12	ZEXTF-12
5/8	3/8	7/16	3.625	FLH58	ZEXTF-58
3/4	1/2	9/16	3.625	FLH34	ZEXTF-34
7/8	9/16	5/8	3.625	FLH78	ZEXTF-78
1	5/8	3/4	3.625	FLH01	ZEXTF-01

Flat-Head Socket Screw Extractors, Metric

For Screw Size	Recess Wd.	Across the Flats	O'all Length	Engraved Size	Steel Black Ox Part Number
M3	2mm	8mm	2-1/4	FLHM3	ZEXTF-M3
M4	2.5mm	8mm	2-1/4	FLHM4	ZEXTF-M4
M5	3mm	8mm	2-1/4	FLHM5	ZEXTF-M5
M6	4mm	8mm	2-1/4	FLHM6	ZEXTF-M6
M8	5mm	8mm	2-3/4	FLHM8	ZEXTF-M8
M10	6mm	8mm	3-1/4	FLHM10	ZEXTF-M10
M12	8mm	9mm	3-1/2	FLHM12	ZEXTF-M12
M14	10mm	9mm	3-1/2	FLHM14	ZEXTF-M14



Flat-Head Socket Screw Extractors Sets

Set contains following extractors	No. of Extractors included	Steel Black Ox Part Number
No. 6, No. 8, No. 10, 1/4	4	ZEXTF-SET6-14
1/4, 5/16, 3/8, 7/16, 1/2	5	ZEXTF-SET14-12
5/8, 3/4	2	ZEXTF-SET58-34
7/8, 1	2	ZEXTF-SET78-01
M3, M4, M5, M6	4	ZEXTF-SETM3-M6
M6, M8, M10, M12, M16	5	ZEXTF-SETM6-M14

QUICK OUTS™ Socket-Screw Extractors — Inch & Metric

Steel, Black Oxide



Socket Set Screw Extractors, Inch

For Screw Size	Recess Wd.	Across the Flats	O'all Length	Engraved Size	Steel Black Ox Part Number
No. 6	1/16	5/16	2-1/4	SET6	ZEXTS-6
No. 8	5/64	5/16	2-1/4	SET8	ZEXTS-8
No. 10	3/32	5/16	2-1/4	SET10	ZEXTS-10
1 /4	1/8	5/16	2-1/4	SET14	ZEXTS-14
5/16	5/32	5/16	2-3/4	SET51	ZEXTS-51
3/8	3/16	5/16	3	SET38	ZEXTS-38
7/16	7/32	5/16	3-1/4	SET71	ZEXTS-71
1/2	1/4	5/16	3-1/2	SET12	ZEXTS-12
5/8	5/16	3/8	3-5/8	SET58	ZEXTS-58
3/4	3/8	7/16	3-5/8	SET34	ZEXTS-34
7/8	1/2	9/16	3-5/8	SET78	ZEXTS-78
1	9/16	5/8	3-5/8	SET01	ZEXTS-01

Socket Set Screw Extractors Metric

For Screw Size	Recess Wd.	Across the Flats	O'all Length	Engraved Size	Steel Black Ox Part Number
M3	1.5mm	8mm	2-1/4	SETM3	ZEXTS-M3
M4	2mm	8mm	2-1/4	SETM4	ZEXTS-M4
M5	2.5mm	8mm	2-1/4	SETM5	ZEXTS-M5
M6	3mm	8mm	2-1/4	SETM6	ZEXTS-M6
M8	4mm	8mm	2-3/4	SETM8	ZEXTS-M8
M10	5mm	8mm	3-1/4	SETM10	ZEXTS-M10
M12	6mm	8mm	3-1/2	SETM12	ZEXTS-M12
M14	6mm	8mm	3-1/2	SETM14	ZEXTS-M14
M16	8mm	9mm	3-5/8	SETM16	ZEXTS-M16



Socket Set Screw Extractors Sets

Set contains following extractors	No. of Extractors included	Steel Black Ox Part Number
No. 6, No. 8, No. 10, 1 /4	4	ZEXTS-SET6-14
1 /4, 5/16, 3/8, 7/16, 1/2	5	ZEXTS-SET14-12
5/8, 3/4	2	ZEXTS-SET58-34
7/8, 1	2	ZEXTS-SET78-01
M3, M4, M5, M6	4	ZEXTS-SETM3-M6
M6, M8, M10, M12, M16	5	ZEXTS-SETM6-M16

Threaded Hole Transfer Punches — Inch & Metric

1144 Stress-Proof Steel | Black Oxide (body)
18-8 Stainless Steel (cap)

Product Information

Also known as transfer screws, these punches can be used in any threaded hole to transfer the hole location. Each set includes six steel punches stored in the handle. Use the handle to screw a punch into a hole. Place your workpiece against the punch and strike it with a hammer to mark the hole location.

Useful for tool and machine maintenance, die making and other general repairs. Handles are engraved with thread size. Threaded Hole Transfer Punches are made from 1144 stress-proof steel while the caps are made from 18-8 stainless steel. Available in Inch and Metric sizes. Made in the USA.



Threaded Hole Transfer Punches — Inch



Threaded Hole Transfer Punches, Inch

Thread Size	Description	AMPG Part Number
1-64	(6) Heat Treated 1-64 Punches and (1) Handle/Wrench/Carrying Case	ZTP164
2-56	(6) Heat Treated 2-56 Punches and (1) Handle/Wrench/Carrying Case	ZTP256
3-48	(6) Heat Treated 3-48 Punches and (1) Handle/Wrench/Carrying Case	ZTP348
3-56	(6) Heat Treated 3-56 Punches and (1) Handle/Wrench/Carrying Case	ZTP356
4-40	(6) Heat Treated 4-40 Punches and (1) Handle/Wrench/Carrying Case	ZTP440
4-48	(6) Heat Treated 4-48 Punches and (1) Handle/Wrench/Carrying Case	ZTP448
5-40	(6) Heat Treated 5-40 Punches and (1) Handle/Wrench/Carrying Case	ZTP540
5-44	(6) Heat Treated 5-44 Punches and (1) Handle/Wrench/Carrying Case	ZTP544
6-32	(6) Heat Treated 6-32 Punches and (1) Handle/Wrench/Carrying Case	ZTP632
6-40	(6) Heat Treated 6-40 Punches and (1) Handle/Wrench/Carrying Case	ZTP640
8-32	(6) Heat Treated 8-32 Punches and (1) Handle/Wrench/Carrying Case	ZTP832
8-36	(6) Heat Treated 8-36 Punches and (1) Handle/Wrench/Carrying Case	ZTP836
10-24	(6) Heat Treated 10-24 Punches and (1) Handle/Wrench/Carrying Case	ZTP1024
10-32	(6) Heat Treated 10-32 Punches and (1) Handle/Wrench/Carrying Case	ZTP1032
12-24	(6) Heat Treated 12-24 Punches and (1) Handle/Wrench/Carrying Case	ZTP1224
12-28	(6) Heat Treated 12-28 Punches and (1) Handle/Wrench/Carrying Case	ZTP1228
3/16-24	(6) Heat Treated 3/16-24 Punches and (1) Handle/Wrench/Carrying Case	ZTP31624
3/16-32	(6) Heat Treated 3/16-32 Punches and (1) Handle/Wrench/Carrying Case	ZTP31632
1/4-20	(6) Heat Treated 1/4-20 Punches and (1) Handle/Wrench/Carrying Case	ZTP1420
1/4-28	(6) Heat Treated 1/4-28 Punches and (1) Handle/Wrench/Carrying Case	ZTP1428
5/16-18	(6) Heat Treated 5/16-18 Punches and (1) Handle/Wrench/Carrying Case	ZTP51618
5/16-24	(6) Heat Treated 5/16-24 Punches and (1) Handle/Wrench/Carrying Case	ZTP51624
3/8-16	(6) Heat Treated 3/8-16 Punches and (1) Handle/Wrench/Carrying Case	ZTP3816
3/8-24	(6) Heat Treated 3/8-24 Punches and (1) Handle/Wrench/Carrying Case	ZTP3824
7/16-14	(6) Heat Treated 7/16-14 Punches and (1) Handle/Wrench/Carrying Case	ZTP71614
7/16-20	(6) Heat Treated 7/16-20 Punches and (1) Handle/Wrench/Carrying Case	ZTP71620
1/2-13	(6) Heat Treated 7/16-14 Punches and (1) Handle/Wrench/Carrying Case	ZTP1213
1/2-20	(6) Heat Treated 1/2-20 Punches and (1) Handle/Wrench/Carrying Case	ZTP1220
9/16-12	(6) Heat Treated 9/16-12 Punches and (1) Handle/Wrench/Carrying Case	ZTP91612
9/16-18	(6) Heat Treated 9/16-18 Punches and (1) Handle/Wrench/Carrying Case	ZTP91618
5/8-11	(6) Heat Treated 5/8-11 Punches and (1) Handle/Wrench/Carrying Case	ZTP5811

Threaded Hole Transfer Punches — Inch



Threaded Hole Transfer Punches, Inch

Thread Size	Description	AMPG Part Number
5/8-18	(6) Heat Treated 5/8-18 Punches and (1) Handle/Wrench/Carrying Case	ZTP5818
3/4-10	(6) Heat Treated 3/4-10 Punches and (1) Handle/Wrench/Carrying Case	ZTP3410
3/4-16	(6) Heat Treated 3/4-16 Punches and (1) Handle/Wrench/Carrying Case	ZTP3416
7/8-9	(6) Heat Treated 7/8-9 Punches and (1) Handle/Wrench/Carrying Case	ZTP789
7/8-14	(6) Heat Treated 7/8-14 Punches and (1) Handle/Wrench/Carrying Case	ZTP7814
1-8	(6) Heat Treated 1-8 Punches and (1) Handle/Wrench/Carrying Case	ZTP1-8
1-14	(6) Heat Treated 1-14 Punches and (1) Handle/Wrench/Carrying Case	ZTP1-14
1-1/8-7	(6) Heat Treated 1-1/8-7 Punches and (1) Handle/Wrench/Carrying Case	ZTP118-7
1-1/8-12	(6) Heat Treated 1-1/8-12 Punches and (1) Handle/Wrench/Carrying Case	ZTP118-12
1-1/4-7	(6) Heat Treated 1-1/4-7 Punches and (1) Handle/Wrench/Carrying Case	ZTP114-7
1-1/4-12	(6) Heat Treated 1-1/412 Punches and (1) Handle/Wrench/Carrying Case	ZTP114-12
1-1/2-6	(6) Heat Treated 1-1/2-6 Punches and (1) Handle/Wrench/Carrying Case	ZTP112-6
1-1/2-12	(6) Heat Treated 1-1/2-12 Punches and (1) Handle/Wrench/Carrying Case	ZTP112-12





Threaded Hole Transfer Punches Sets, Inch

Description	AMPG Part Number
(4) 4-40, (4) 6-32, (4) 8-32, (4) 10-24 Punches, (1) Wrench, (1) Plastic Fitted Case	ZTPSET1
(4) 1/4-20, (4) 5/16-18, (4) 3/8-16, (4) 7/16-14 Punches, (1) Wrench, (1) Plastic Fitted Case	ZTPSET2
(4) 1/2-13, (4) 9/16-12, (4) 5/8-11, (4) 3/4-10 Punches, (1) Wrench, (1) Plastic Fitted Case	ZTPSET3

Threaded Hole Transfer Punches — Metric



Threaded Hole Transfer Punches, Metric

Thread Size	Description	AMPG Part Number
M2.5 x 0.45	(6) Heat Treated M2.5 x 0.45 Punches and (1) Handle/Wrench/Carrying Case	ZTPM2.5
M2.6 x 0.45	(6) Heat Treated M2.6 x 0.45 Punches and (1) Handle/Wrench/Carrying Case	ZTPM2.6
M3 x 0.50	(6) Heat Treated M3 x 0.5 Punches and (1) Handle/Wrench/Carrying Case	ZTPM3
M3.5 x 0.60	(6) Heat Treated M3.5 x 0.60 Punches and (1) Handle/Wrench/Carrying Case	ZTPM3.5
M4 x 0.70	(6) Heat Treated M4 x 0.70 Punches and (1) Handle/Wrench/Carrying Case	ZTPM4
M5 x 0.80	(6) Heat Treated M5 x 0.80 Punches and (1) Handle/Wrench/Carrying Case	ZTPM5
M6 x 1.00	(6) Heat Treated M6 x 1.00 Punches and (1) Handle/Wrench/Carrying Case	ZTPM6
M8 x 1.25	(6) Heat Treated M8 x 1.25 Punches and (1) Handle/Wrench/Carrying Case	ZTPM8
M10 x 1.50	(6) Heat Treated M10 x 1.50 Punches and (1) Handle/Wrench/Carrying Case	ZTPM10
M12 x 1.75	(6) Heat Treated M12 x 1.75 Punches and (1) Handle/Wrench/Carrying Case	ZTPM12
M14 x 2.00	(6) Heat Treated M14 x 2.00 Punches and (1) Handle/Wrench/Carrying Case	ZTPM14
M16 x 2.00	(6) Heat Treated M16 x 2.00 Punches and (1) Handle/Wrench/Carrying Case	ZTPM16
M18 x 2.50	(6) Heat Treated M18 x 2.50 Punches and (1) Handle/Wrench/Carrying Case	ZTPM18
M20 x 2.50	(6) Heat Treated M20 x 2.50 Punches and (1) Handle/Wrench/Carrying Case	ZTPM20
M22 x 2.50	(6) Heat Treated M22 x 2.50 Punches and (1) Handle/Wrench/Carrying Case	ZTPM22
M24 x 3.00	(6) Heat Treated M24 x 3.00 Punches and (1) Handle/Wrench/Carrying Case	ZTPM24
M27 x 3.00	(6) Heat Treated M27 x 3.00 Punches and (1) Handle/Wrench/Carrying Case	ZTPM27
M30 x 3.50	(6) Heat Treated M30 x 3.50 Punches and (1) Handle/Wrench/Carrying Case	ZTPM30

Threaded Hole Transfer Punches Sets, Metric

Description	AMPG Part Number
(4) M3 x 0.5, (4) M4 x 0.7, (4) M5 x 0.8, (4) M6 x 1.0 Punches, (1) Wrench, (1) Plastic Fitted Case	ZTPSET4
(4) M6 x 1.0, (4) M8 x 1.25, (4) M10 x 1.5, (4) M12 x 1.75 Punches, (1) Wrench, (1) Plastic Fitted Case	ZTPSET5
(4) M14 x 2.0, (4) M16 x 2.0, (4) M20 x 2.5, (4) M24 x 3.0 Punches, (1) Wrench, (1) Plastic Fitted Case	ZTPSET6



Drawbars for Milling Machines — Inch

Low Carbon Steel | Black Oxide

Product Information

Manufactured from low carbon steel, soft and black oxide plated. Drawbars are manufactured from two parts — the shaft and the hex.



Fits Milling Machine	Overall Length	Hex Length	Shaft Length	Thread & Length	Spacer Length	Part Number
Bridgeport & Copies						
2J Vari Speed Head	22-3/4	4-1/4	18-1/2	7/16-20 x 1-3/4	1/4	Z9005
1J Step Pulley Head	20-1/4	1-3/4	18-1/2	7/16-20 x 1-1/2	1/4	Z9004
Lagun						
Vari Speed Head	25-7/8	7-1/4	18-5/8	7/16-20 x 1-1/2	none	Z9005LAGR
Wells Index						
Vari Speed Head	24-1/2	5-1/4	19-1/4	7/16-20 x 2	none	Z9005WEL
Kondia						
Vari Speed Head	23-1/4	4-1/4	19	7/16-20 x 1	1/4	Z9005KON
Excello						
Vari Speed Head	23	3-1/2	19-1/2	7/16-20 x 1	1/4	Z9005EXC

The Universal Drawbar — Inch

Low Carbon Steel | Black Oxide

Product Information

AMPG's Universal Draw Bar was developed by our engineering staff in response to requests from many customers who were unable to find Drawbars to ft their machines. Both the Hex or wrench end, and the threaded end were designed with enough adjustments to ft almost any machine in use today. The Universal Drawbar is provided with a variety of spacers which allows the user to adjust the shaft length (measured from under the spacer to the end of the threaded shaft) from a maximum length of 20", down to 17-1/4". Sufficient spacers are included to allow shaft length adjustments by one quarter inch increments.

The 7/16-20 thread on the shaft is a full 1-1/2" long, and can be used with any R-8 collet. The Hex head measures 7-1/4" long, which will accommodate a wide range of milling machines. All the above attributes give a wide range of flexibility and allow this drawbar to be fitted onto a wide variety of milling machines. The overall length of the drawbar is 27-1/2". Material is low carbon steel, unhardened, with black oxide finish.



Part Number
Z9005UNIV

Drawbars for Milling Machines w/Right Angle Attachments — Inch

Low Carbon Steel | Black Oxide



Fits Milling Machine	Overall Length	Hex Length	Shaft Length	Thread Size	Spacer Length	Part Number
Bridgeport & Kondia	26-1/4	7-3/4	18-1/2	7/16-20	1/4	Z9005R1
Index & Lagun	29	10-3/4	18-1/4	7/16-20	1/4	Z9005R2
Alliant & Sharp	27-1/4	9	18-1/4	7/16-20	1/4	Z9005R3

Quill Feed Handles — Inch

Steel | Zinc Plated

Product Information

Quill Feed Handle for Bridgeport Mills Machines. Speeds up all quill operations. A flick of the wrist retracts the pin from the quill feed index plate, allowing you to move the handle to any desired position. Eliminates the slow process of pulling off the standard quill feed handle, and resetting it for different positions.



Fits Milling Machine	Part Number
Bridgeport Mills	Z9900

Spider Handle — Inch

Aluminum | Plain (Machined Center)
Steel | Black Oxide (Spokes)

Product Information

A quality USA made Spider Handle that replaces the standard quill feed handle on most milling machines. Perfect for all drilling operations. Sturdy construction features a solid aluminum machined center (not a casting), with a 1" bore and a 3" diameter. (3) heavy duty solid steel spokes and knobs extend approx. 6-1/2" from the center. Plated finish.





Part Number
Z9910

Precision Adjustable Mill Stop — Inch

Steel | Black Oxide

Product Information

A rigid stop for milling set ups. Mounts to the table. This time saving and handy accessory was designed for use on Milling Machines, Jig Borers, and for horizontal and vertical milling set ups. Use with Angle Plates, Vises, Jigs, etc. to serve as a rigid stop.

- 1/2" hole for T Slot mounting
- 3/8" Diameter Rod x 7" Long
- Base 2" x 4-1/2"
- Overall height: 7"
- Steel, Black Oxide Plated
- Weight— 3lbs.





Quill Stop — Inch

Aluminum | Plain

Product Information

For All Milling Machines—Quickly Sets Quill Depth. To insure a perfectly aligned Quill Stop, we assemble each stop, then face it off, drill and tap it. This process is expensive but it guarantees you the finest Quill Stop.

- Quick Action Clipping
- Rapid Depth Setting
- Easily and Quickly Removable
- Extra Strong Spring
- Easily Positioned
- Sturdy Aluminum Knobs
- Positive Locking Action
- Unconditionally Guaranteed

Description	Part Number
1/2-20 threads for Mills	Z9006
1/4-20 threads for Drill Presses	Z9006A
3/8-24 threads for Drill Presses	Z9006B



Z9006



Z9006A



Z9006B

Shell End Mill Arbor Screws — Inch

Steel | Black Oxide and Oiled

Product Information

Fits Style "C" and other styles of Shell End Mill Arbor. Cold Rolled Steel heat treated to Carbonized to Rc C45-50.





Thread Sizes	Head Diameter	Head Height	Thread Length	Part Number
1/4-28	5/8	17/64	1/2	Z1500
3/8-24	7/8	19/64	5/8	Z1501
1/2-20	1-3/16	5/16	13/16	Z1502
5/8-18	1-1/2	5/16	61/64	Z1503
3/4-16	1-7/8	23/64	1-1/8	Z1504
1-14	2-1/2	7/16	1-1/4	Z1505

Milling Machine Arbor Spacers — Inch

Steel | Hardened

Product Information

Ground for parallel and perpendicular surfaces to insure that Milling Cutters mounted on a Milling Arbor operates correctly.



Thickness	ID	OD	Keyway	Part Number
1/4	1	1-1/2	1/4	ARB112
	1-1/4	1-3/4	5/16	ARB113
	1-1/2	2-1/8	3/8	ARB114
	2	2-3/4	1/2	ARB115
3/8	1	1-1/2	1/4	ARB212
	1-1/4	1-3/4	5/16	ARB213
	1-1/2	2-1/8	3/8	ARB214
	2	2-3/4	1/2	ARB215



Thickness	ID	OD	Keyway	Part Number
1/2	1	1-1/2	1/4	ARB312
	1-1/4	1-3/4	5/16	ARB313
	1-1/2	2-1/8	3/8	ARB314
	2	2-3/4	1/2	ARB315
3/4	1	1-1/2	1/4	ARB412
	1-1/4	1-3/4	5/16	ARB413
	1-1/2	2-1/8	3/8	ARB414
	2	2-3/4	1/2	ARB415
1	1	1-1/2	1/4	ARB512
	1-1/4	1-3/4	5/16	ARB513
	1-1/2	2-1/8	3/8	ARB514
	2	2-3/4	1/2	ARB515

5C Fixture Mounts — Inch

LIMITED SUPPLY

Low Carbon Steel

Product Information

A lathe tool for use in place of face plate fixturing. Has a 5C back for quick mounting, and a soft face for ease of machining to your workpiece. Used on Lathes with 5C spindles — for turning or boring odd shaped parts that cannot go into a collet. Useful for turning any off center holes, or odd shapes. Machinable soft face allows you to mill the fixture mount to accept the work piece, then drill and tap holes to clamp the part onto the fixture mount. Boring off-center holes is the perfect application. Mount the work piece with clamps to the fixture mount off-center, to perform the required bore, which would line up to the lathe center point. Excellent for working on castings. Mounts and dismounts very quickly — takes the same amount of time as mounting a 5C collet. You can design the clamping system to hold your part, so that by loosening a few screws, you can mount and dismount your parts for production.

The longer lengths are used for long parts. Boring into the fixture mount allows you to nest the long part inside, increasing the rigidity of the part being machined. The longer heads can be faced off after one part is done, presenting a fresh face for reuse! Also can be used on Mills— 5C Collet fixtures can use this for fixturing parts for measuring, or any secondary operations on the Mills.



Face Diameter	Face Length	Overall Length	Part Number
2	1	4-1/2	Z9560
2	3	6-1/2	Z9561
3	1	4-1/2	Z9564
3	3	6-1/2	Z9565
4	1	4-1/2	Z9569
5	1	4-1/2	Z9575

5C Mount Precision Chucks — Inch

Steel

Product Information

These handy accessories for Lathe Collets eliminates tearing down a collet set up on a lathe when working with material diameters that you don't have the correct size collets for. Our 5C precision chucks work with any 5C tooling! To mount your own 3" or 4" Chucks, see our Fixture Mounts. Chuck is imported, adapter back is manufactured in the USA.



Chuck Diameter	O.D Clamping Range	I.D Holding Range	Hole Size 5C Back	Hole Size Thru Chuck	T.I.R Repeatability	Weight	Part Number
3" 3-Jaw, Self-Centering (Extra Chuck Jaws & Chuck Key included)	5/64 thru 2-15/32	63/64 thru 2-3/4	3/4	5/8	.003	5 lbs	Z9550
3" 4-Jaw, Independent (Chuck Key included)	5/8 thru 2-1/2	45/64 thru 2-1/2	3/4	57/64	.003	5lbs	Z9551
4" 3-Jaw, Self-Centering (Chuck Jaws & Chuck Key included)	5/64 thru 3-5/32	1-3/16 thru 3-35/64	3/4	7/8	.003	9 lbs	Z9552

5C Adapter Body — Inch

Steel | Black Oxide

Part Number
Z1140



Product Information

Used to customize for your exact workpiece. Works anywhere a 5C Collet can be used. Insert the Expander Pin, bore, mill , or step out to size, remove the pin, and go! 5C Adapter body takes steel or aluminum heads.

Soft Collet Heads — Inch

Steel | Black Oxide
Aluminum | Natural

Product Information

Each Soft Collet Head comes with one expander pin and fits the Z1140 5 C Adapter Body shown above.





Head Diameter	Head Thickness	Steel Part Number	Aluminum Part Number
1-1/2"	7/8	Z1153	Z1157
2	3/4	Z1145	Z1149
2	1-1/4	Z1154	Z1158
2-1/2	1	Z1146	Z1150
2-1/2	1-1/2	Z1155	Z1159
3	1	Z1147	Z1151
3	1-5/8	Z1156	Z1160
4	1	Z1148	Z1152

Internal Expanding Collet Heads — Inch

Steel | Black Oxide

LIMITED SUPPLY



Collet Dia Range	Collet Length	Part Number
5/16 to 9/16	5/8	Z1105
1/2 to 1	1	Z1106
1/2 to 1	1-3/4	Z1107
1/2 to 1-1/2	1	Z1108
1/2 to 1-1/2	1-3/4	Z1109
1/2 to 2	1	Z1110
1/2 to 2	1-3/4	Z1111
1/2 to 2-1/2	1	Z1112
1/2 to 2-1/2	1-3/4	Z1113
1/2 to 2-15/16	1	Z1114
1/2 to 3-15/16	1	Z1115
1/2 tp 4-15/16	1	Z1116

Product Information

Internal expanding collet heads offer a time-saving solution for machinists who frequently change workpieces. Unlike traditional chucks that require a complete stop to exchange parts, these collets allow for mid-cycle changes with the spindle still running. This is achieved through a conventional draw bar mechanism that expands the collet internally while the machine operates. The collet itself is designed to securely grip the workpiece without risk of pushing out or pulling in during operation, maintaining precise dimensional accuracy throughout the process.

Adjustable Collet Stop — Inch

Steel | Black Oxide



Part Number
Z9002

Product Information

Adjustable Stop has fine threaded stud for incremental positioning. Screwdriver slot in stud allows for quick and accurate setting. Stud is 4" inch.

Universal 5C Collet Stop — Inch

Steel | Black Oxide

LIMITED SUPPLY



Part Number
Z9003

Product Information

5 piece set converts standard 1" Lathe Collets into solid or ejector stop collets. Comes complete with all attachments and sprints.

5C Extra Length Collet Stop — Inch

Steel | Black Oxide

LIMITED SUPPLY

Part Number
Z8997



Product Information

For chucking parts to a depth of 7-1/2" from collet face. Stop stud is 7/16" diameter.

5C "Finger" Collet Stop — Inch

Steel | Black Oxide

Product Information

5 piece set is versatile with quick adjusting.



Part Number
Z8996

Complete set includes:
(1) Stop body
(1) Extra 1/8" diameter end rod
(1) Extra 1/2" diameter end rod
(1) Extra 3/4" diameter end rod
(1) Extra 1" diameter end rod

Reducer Bushing for Air Die Grinders — Inch

Brass | Natural

Product Information

1/4" to 1/8" Reducer Bushing
A quick change solution that allows the use of any tool with a 1/8" shank tool in a 1/4" Collet. Precision USA made split brass bushing grips tightly.



Part Number
Z2100

Slitting Saw Arbors — Inch

Steel | Case Hardened | Black Oxide

LIMITED SUPPLY

Product Information

Long, Precision Ground, extra rigid Arbors are manufactured by AMPG here in the USA. We grind the shanks after machining and heat treating for best results. 6 sizes with ground Weldon Flat shanks. Bodies are ground to match the caps.

Tolerances:
+/- .003 concentricity from shank to mating bore of cap.
+/- .001 square from shank to clamping surface of cap.





*Saw blade not included

Fits Saw ID	OD	Cap Height	Body Length	Shank Length	Shank Diameter	Part Number
3/8	5/8	.080	1-3/16	1.700	1/2	Z1305
1/2	3/4	.095	1-3/8	1.700	1/2	Z1310
5/8	1	.122	1-1/2	2.030	3/4	Z1315

3 Pc. Slitting Saw Arbor Set — Inch

Steel | Case Hardened | Black Oxide

LIMITED SUPPLY

Product Information

Fits Saws 5/8", 1", 1-1/4".

Part Number
Z1335



8 Piece Expanding Arbor Set — Inch

Low Carbon Steel | Black Oxide

Product Information

Chuck the Expanding Arbor in your Machine Tool, tighten the expansion screw, and the Arbor expands by up to 0.002". Machine the Arbor to your correct part holding dimensions. Back off the Expansion screw reducing the Arbor diameter, position your part on the Arbor, and re-tighten. Includes one plastic organizer block.

Part Number
Z9125

8 Piece Set Includes:
(1) 1/4" Arbor (Z9110)
(1) 3/8" Arbor (Z9111)
(1) 1/2" Arbor (Z9112)
(1) 5/8" Arbor (Z9113)
(1) 3/4" Arbor (Z9114)
(1) 7/8" Arbor (Z9115)
(1) 1" Arbor (Z9116)
(1) 1-1/4" Arbor (Z9117)
(1) AMPG Organizer Block



3 Pc. Expanding Arbor Set — Inch

Low Carbon Steel | Black Oxide

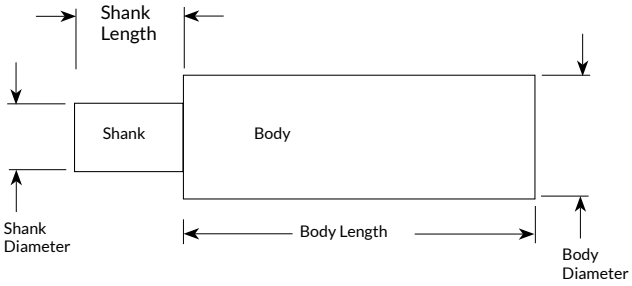
3 Piece Set Includes:
(1) 1-1/2" Arbor (Z9118)
(1) 1-3/4" Arbor (Z9119)
(1) 2" Arbor (Z9120)
(1) AMPG Organizer Block

Part Number
Z9121



Individual Expanding Arbors — Inch

Low Carbon Steel | Black Oxide





Body Diameter	Body Length	Shank Diameter	Shank Length	Replacement Screw	Part Number
1/4	4	none	none	Z9110-2	Z9110
3/8	4	none	none	Z9111-2	Z9111
1/2	4	none	none	Z9111-2	Z9112
5/8	4	none	none	Z9113-2	Z9113
3/4	4	none	none	Z9113-2	Z9114
7/8	4	none	none	Z9115-2	Z9115
1	4	none	none	Z9115-2	Z9116
1-1/4	2-1/2	1	1-7/16	Z9115-2	Z9117
1-1/2	2-1/2	1	1-7/16	Z9118-2	Z9118
1-3/4	2-1/2	1	1-7/16	Z9118-2	Z9119
2	2-1/2	1	1-7/16	Z9118-2	Z9120
2-1/2	2-1/2	1	1-7/16	Z9118-2	Z9122
3	2-1/2	1	1-7/16	Z9118-2	Z9123

Vise Speed Handles — Inch

Aluminum | Natural
Steel | Black Oxide

Product Information

For All Sizes of Milling Machine Vises. Quality made in our shop, we offer this Speed Handle with a choice of Hub Centers. New design nests the steel arms inside the solid aluminum hub for a much stronger unit.

- Hub is machined Aluminum.
- (3) Arms project about 4-1/2" inches from hub, and are cold rolled steel, with a plated finish.
- Hub height is aprox. 1-9/16".
- Handle weighs 1.7 Lbs.





Description	Part Number
9/16" Hex Broach - Fits 4" Vise	Z9022
5/8 Hex Broach - Fits 5 Vise	Z9024
3/4 Hex Broach - Fits 6 Vise	Z9021
7/8 Hex Broach - Fits 8 Vise	Z9025
5/8 Square Broach - Fits Imports	Z9023

Aluminum Soft Jaws for Vises — Inch

LIMITED SUPPLY

Aluminum | Natural

Product Information

Aluminum Vise Jaws create a larger, machinable, and customizable holding jaw on your vise. Create steps, pockets, and custom shapes to hold all types of odd shaped workpieces. May be machined over and over again for use on many jobs.



Fits Vise	Length	Height	Thickness	Bolt Size	Part Number
4	4	1-1/2	3/4	3/8	Z1190
5	5	1-1/2	3/4	7/16	Z1191
6	6	2	3/4	1/2	Z1192
6	6	2-1/2	1	1/2	Z1193
6	6	3	1	1/2	Z1194
6	6	3	1-1/2	1/2	Z1195
7	7	2	1-1/4	1/2	Z1196

Hand E-Key Chuck Keys — Inch

Aluminum | Anodized Finish

Product Information

Patented. Handle Material: 6061T6 Aluminum with protective anodized finish.



Chuck Key Size	Part Number
K0	Z0360
K1	Z0361
K2	Z0362
K3	Z0365
K7	Z0366
K30	Z0367
K32	Z0368

Work Stop for Milling Machine Vises — Inch

Steel | Black Oxide

Product Information

For quick and easy position of workpieces.

- Bolts on to Vise without any modifications.
- Secure and rigid stopping action.
- Works right or left hand location, any jaw height.
- Quick adjusting, perfect for production runs.

Main Body:
7/8" square x 9.5" overall length
Stop Rod: 3/4" round x 6" overall length
Weight: 2-1/2 Lbs each

Desciption	Part Number
fits 3-4" Vises	Z9017
fits 5-6" Vises	Z9018
fits 8" Vises	Z9015



E-Z Vise Stop — Inch

Hardened Steel | Black Oxide

Product Information

Attaches to any Vise jaw (1/2" thru 1" wide) with one screw adjustment. Stop is 1" wide by 1-7/16" long.

Part Number
Z9030





Mini Vise Stop — Inch

Hardened Steel | Black Oxide

Product Information

Has the capacity to accept jaws up to 0.740" wide, and the three socket screws provide a secure stop.

Part Number
Z9029



Mini Stop — Inch

Hardened Steel | Black Oxide

Product Information

Can be used on vise jaws up to .740" wide.

Part Number
Z9031



Arbor Press Work Stop — Inch

Hardened Steel | Black Oxide

Product Information

This is a handy stop that fits most standard Arbor Presses. A quick and secure double set screw mounting system provides a positive lock, that stops the ram of the arbor press at your pre-set point. An adjustment screw allows fine adjustment of the ram travel. Speeds up and improves the quality of production and prototype operations.





Fits	OD	Part Number
3/4 Square Ram	2	Z1197
1 Square Ram	2-1/8	Z1198
1-1/4 Square Ram	2-1/4	Z1199

Lathe Mandrels — Inch

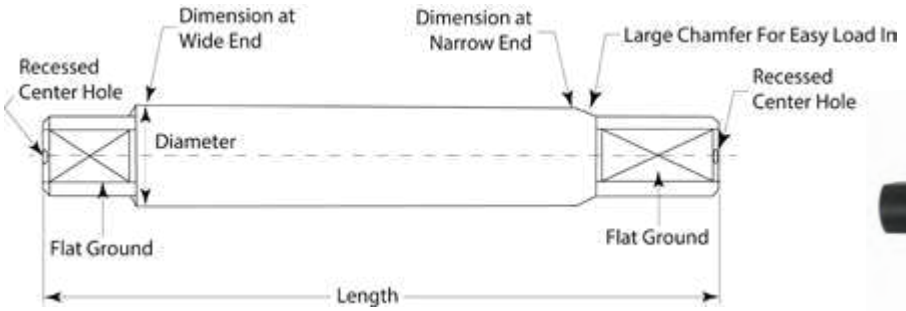
Alloy Steel —Black Oxide

Product Information

These Mandrels are ground to a .0005 per inch taper – starting at the nominal to .0005 under size at the small end. The undersized end has ground flats and a large chamfer for easy lead in of the bore. Use an Arbor Press to press a workpiece securely on, starting at the narrow end with ground flat.

100% Made in USA. Alloy Steel Hardened to Rc C30-C40 and precision ground. Packed in protective tubes with rust preventative paper.

- AMPG products are made in the USA, precision machined from DFARS compliant material, and lot traceable.
- Ends have a black oxide finish that offers mild resistance from rust.





Lathe Mandrels, Inch

Diameter	Length	Dimension at Narrow End	Dimension at Wide End	Alloy Steel Part Number
1/8	2-1/2	.1250 - .1245	.1251 - .1261	ZLM1252500
3/16	3	.1875 - .1870	.1890 - .1900	ZLM1873000
1/4	3-3/4	.2500 - .2495	.2502 - .2512	ZLM2503750
5/16	4	.3125 - .3120	.3145 - .3155	ZLM3124000
3/8	4-1/4	.3750 - .3745	.3760 - .3770	ZLM3754250
7/16	4-1/2	.4375 - .4370	.4395 - .4405	ZLM4374500
1/2	5	.5000 - .4995	.5025 - .5035	ZLM5005000
9/16	5-1/4	.5625 - .5620	.5645 - .5655	ZLM5625250
5/8	5-1/2	.6250 - .6245	.6280 - .6290	ZLM6255500
3/4	6	.7500 - .7495	.7530 - .7540	ZLM7506000
7/8	6-1/2	.8750 - .8745	.8780 - .8790	ZLM8756500
1	7	1.000 - .9995	1.0035 - 1.0045	ZLM10007000

Handle and Extension Rod Kits for Threaded-Shank Tube Brushes — Inch

18-8 SS | Natural

Product Information

Add length to your brush and get a better grip. T-Handle with Six Extension Rods, One Wiper and One 8-32 To 5/16 Adapter.



T-Handle with Extension Rods, Inch

Product Description	Continuous Max Length	18-8 SS Part Number
T-Handle with Extension Rods for Tube Brushes - (6) Extensions, (1) Handle, (1) Wiper, (1) 8-32 to 5/16-27 Adapter	30	Z0009
Straight Handle and Extension Rod Kit for Cotton-Bristle Brushes - (6) Extensions, (1) Straight Handle, (1) Tube Brush Wiper Tip, (1) 8-32 Thread Adapter	40	Z0003

Longevity

Since 1995, Accurate Manufactured Products Group (AMPG) has been a stocking manufacturer of precision components, hard-to-find fasteners and industrial products.

Strategic Location

AMPG's 121,600 square foot facility is located in the Heart of the Midwest which gives us access to high-quality machinists/employees as well as being strategically located for fast delivery.

Advanced Equipment

Our manufacturing facility operates 24/7, producing precision parts on state-of-the-art CNC Swiss Lathes. Parts are made from high quality materials with a superior machined finish.

Superior Quality

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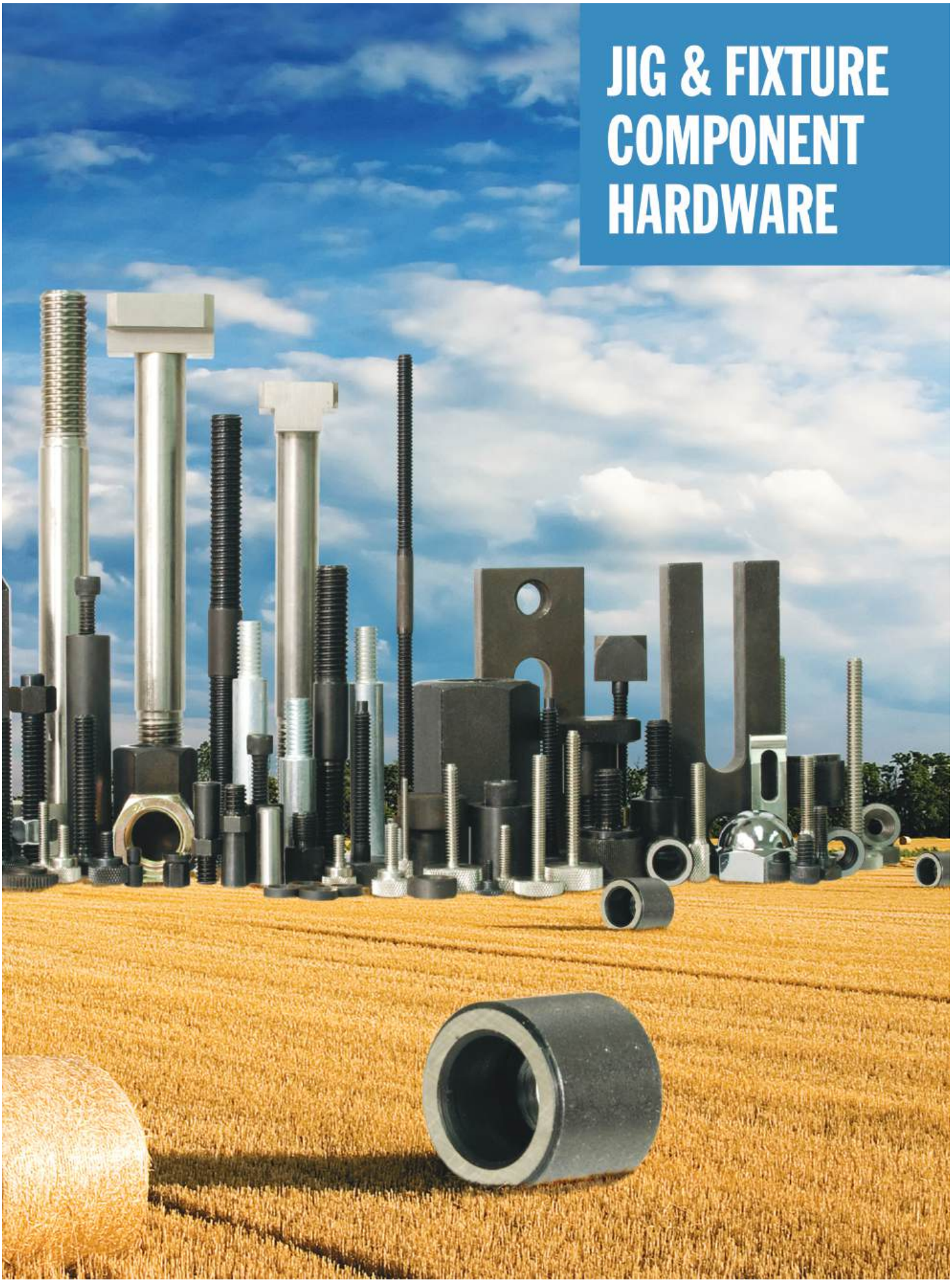
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JIG & FIXTURE COMPONENT HARDWARE



Special Thumb Screw Order Form

❑ **QUOTE FOR:** Name: _____

❑ **ORDER FOR:** Company: _____

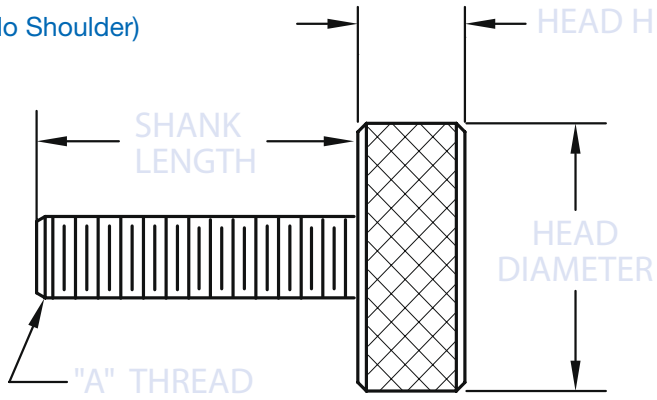
Address: _____

QUANTITY: _____ City: _____ State: _____ Zip: _____

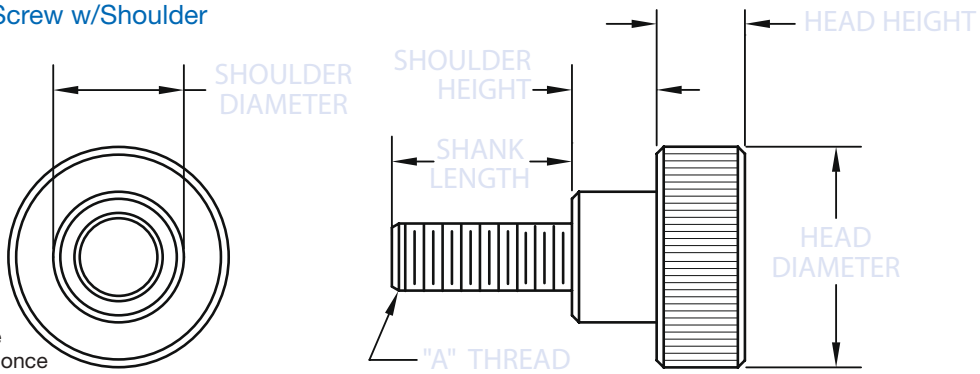
Phone #: _____ Email Address: _____

FILL IN YOUR DIMENSIONS—write directly over light blue type*—write clearly and legibly

❑ Thumb Screw (No Shoulder)



❑ Thumb Screw w/Shoulder



* Light Blue Type will not appear once form is faxed.

Materials

❑ 12L14 Low Carbon Steel
❑ 18-8 Stainless Steel
❑ Type 316 Stainless Steel
❑ Commercial Brass
❑ Other _____

Knurl on Head

❑ Diamond Knurl
❑ Straight Knurl
❑ None

❑ Slotted Head
❑ No Slot in Head

NOTES

_____
_____
_____

FAX TO: 317-472-9010

Accurate Manufactured Products Group

Special Thumb Screw Order Form

❑ **QUOTE FOR:** Name: _____

❑ **ORDER FOR:** Company: _____

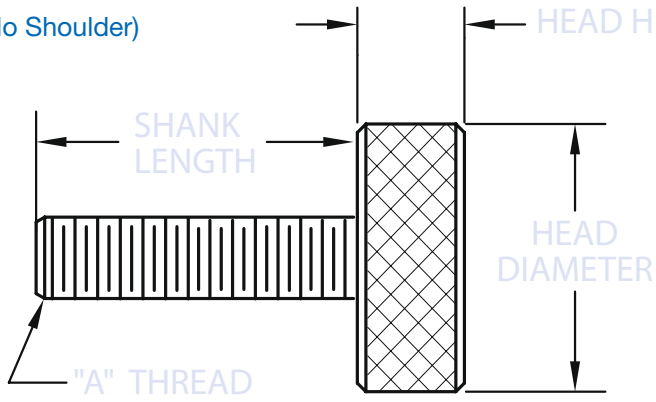
Address: _____

QUANTITY: _____ City: _____ State: _____ Zip: _____

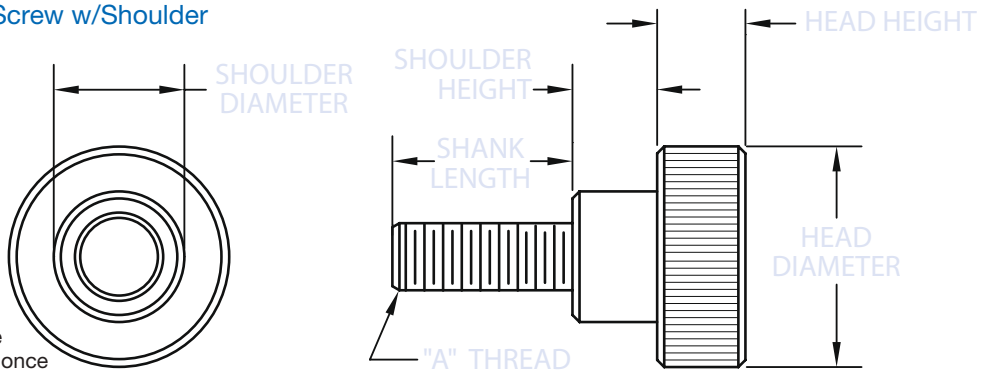
Phone #: _____ Email Address: _____

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❑ Thumb Screw (No Shoulder)



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Materials

❑ 12L14 Low Carbon Steel
❑ 18-8 Stainless Steel
❑ Type 316 Stainless Steel
❑ Commercial Brass
❑ Other _____

Knurl on Head

❑ Diamond Knurl
❑ Straight Knurl
❑ None

❑ Slotted Head
❑ No Slot in Head

NOTES _____

_____

_____

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FAX TO: 317-472-9010

Acorn Nuts

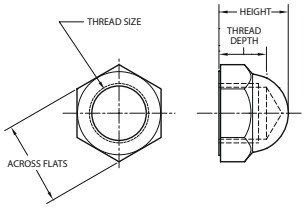
USA MADE

Giant Standard Acorn Nuts



Materials:
- Brass—Nickel or Chrome Plated
- Type 316 Stainless Steel
- Made In The USA

For 3/4" & 1" Bolts



Giant Standard Acorn Nuts						
Size	Across Flats	Height	Thread Depth	Material	Finish	Order Number
3/4-10	1-1/16	7/8	1/2	Brass	Chrome Plated	NUT80434CC
3/4-10	1-1/16	7/8	1/2	Brass	Nickel Plated	NUT80434CN
3/4-10	1-1/16	1-5/32	3/4	316 St/St	None	NUT80534C
3/4-16	1-1/16	7/8	1/2	Brass	Nickel Plated	NUT80434FN
1-8	1-7/16	1-1/4	5/8	Brass	Chrome Plated	NUT80401CC
1-8	1-7/16	1-1/4	5/8	Brass	Nickel Plated	NUT80401CN

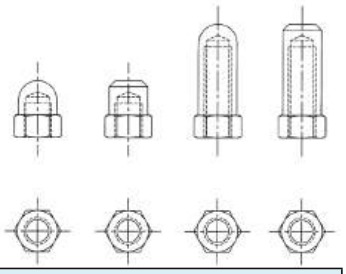
USA MADE

"Too Tall" Acorn Nuts



3/8 and 1/2 Bolt sizes are the most common Quick Bolt type installs for Hand Rails and Post and Panel Signage. Most concrete pads are 4X4, 6X6, or 8X8, and using a bolt that is too large will increase the possibility of the concrete pad cracking or chipping. Best to use the smallest bolt size possible.

Materials & Finishes: • 18-8 Stainless Steel • 18-8 Stainless—High Polish • Type 316 Stainless Steel • Aluminum



"Too Tall" Acorn Nuts									
Thread Size	Width	Height	Thread Depth	Form		18-8 S/S	18-8 HIGH POLISH	TYPE 316 ST/ST	ALUMINUM
3/8-16	.551-.562	.781	15/32	Standard Hi Crown	Standard Acorn Shape	Z0326-188	Z0326-188EP	Z0326-316	Z0326-ALU
3/8-16	.551-.562	1.062	3/4	higher	Standard Acorn Shape	Z0327-188	Z0327-188EP	Z0327-316	Z0327-ALU
3/8-16	.551-.562	1-5/16	1	higher	Standard Acorn Shape	Z0328-188	Z0328-188EP	Z0328-316	Z0328-ALU
3/8-16	.551-.562	1-9/16	1-1/4	higher	Standard Acorn Shape	Z0329-188	Z0329-188EP	Z0329-316	Z0329-ALU
3/8-16	.551-.562	.781	15/32	Standard Hi Crown	Flattened Acorn Shape	Z0330-188	Z0330-188EP	Z0330-316	Z0330-ALU
3/8-16	.551-.562	1.062	3/4	higher	Flattened Acorn Shape	Z0331-188	Z0331-188EP	Z0331-316	Z0331-ALU
3/8-16	.551-.562	1-5/16	1	higher	Flattened Acorn Shape	Z0332-188	Z0332-188EP	Z0332-316	Z0332-ALU
3/8-16	.551-.562	1-9/16	1-1/4	higher	Flattened Acorn Shape	Z0333-188	Z0333-188EP	Z0333-316	Z0333-ALU
1/2-13	.736-.750	1.031	5/8	Standard Hi Crown	Standard Acorn Shape	Z0334-188	Z0334-188EP	Z0334-316	Z0334-ALU
1/2-13	.736-.750	1-7/16	1	higher	Standard Acorn Shape	Z0335-188	Z0335-188EP	Z0335-316	Z0335-ALU
1/2-13	.736-.750	1-3/4	1-1/4	higher	Standard Acorn Shape	Z0336-188	Z0336-188EP	Z0336-316	Z0336-ALU
1/2-13	.736-.750	2	1-1/2	higher	Standard Acorn Shape	Z0337-188	Z0337-188EP	Z0337-316	Z0337-ALU
1/2-13	.736-.750	1.031	5/8	Standard Hi Crown	Flattened Acorn Shape	Z0338-188	Z0338-188EP	Z0338-316	Z0338-ALU
1/2-13	.736-.750	1-7/16	1	higher	Flattened Acorn Shape	Z0339-188	Z0339-188EP	Z0339-316	Z0339-ALU
1/2-13	.736-.750	1-3/4	1-1/4	higher	Flattened Acorn Shape	Z0347-188	Z0347-188EP	Z0347-316	Z0347-ALU
1/2-13	.736-.750	2	1-1/2	higher	Flattened Acorn Shape	Z0348-188	Z0348-188EP	Z0348-316	Z0348-ALU

USA MADE

Acorn Nuts



Material: Brass—Nickel Plated

Acorn Nuts				
Size	Across Flats	Height	Thread Depth	Order Number
10-32	.365"	.318"	.265"	Z8220-3

Jig & Fixture Acorn Nuts

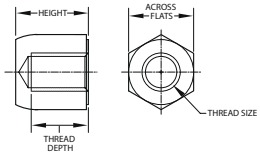


- Milled from C1018 Steel, Case Hardened .005/.010 depth
- Black Oxide Plated

Jig and Fixture Acorn Nuts				
Size	Across Flats	Height	Thread Depth	Order Number
5/16-18	5/8"	5/8"	3/8"	Z0295
3/8-16	3/4	3/4	1/2	Z0296
1/2-13	7/8	15/16	5/8	Z0297
5/8-11	1-1/16	1-3/16	15/16	Z0298

USA MADE

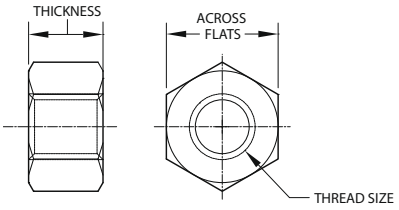
LIMITED SUPPLY ITEMS



Hex Nuts

Heavy Duty "Grade 8" Component Hex Nuts

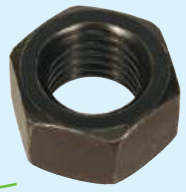
- Medium Carbon Steel
- Thru Hardened to Rc C24–C36
- Black Oxide Plated



IMPORT

Heavy Duty "Grade 8" Component Hex Nuts			
Size	Across Flats	Thickness	Order Number
1/4-20	7/16"	7/32"	Z0265
5/16-18	1/2	17/64	Z0266
3/8-16	9/16	21/64	Z0267
1/2-13	3/4	7/16	Z0268
5/8-11	15/16	35/64	Z0269
3/4-10	1-1/8	41/64	Z0270
7/8-9	1-5/16	3/4	Z0271
1-8	1-1/2	55/64	Z0272

LIMITED SUPPLY ITEMS



Giant Hex Nuts

- Forged Nut
- Made in USA
- Low Carbon Steel or Grade 2H Steel
- Plain Finish
- Made to ASME/ANSI B18.2.2 1987/R 1999 Heavy Hex Nut

USA MADE

Giant Hex Nuts			
Size	Across the Flats	Thickness	Order Number
3-1/2 - 4"	5-3/8"	3-7/16"	Z0990
3-1/2 - 8	5-3/8	3-7/16	Z0991
4 - 4	6	4	Z0992
4 - 8	6	4	Z0993



Hex Jam Nuts

Materials:
- 18/8 Stainless Steel
- 18/8 Stainless Steel–Black Oxide Plated
- 6061-T6 Aluminum

USA MADE

Hex Jam Nuts					
			Order Number		
Size	Across Flats	Thickness	18-8 St/St	18-8 St/St Black Ox Plated	6061-T6 Aluminum
1/4-20	7/16	5/32	NUT25214C	NUT25214C-B	NUT70114C
1/4-28	7/16	5/32	NUT25214F	NUT25214F-B	NUT70114F
5/16-18	1/2	3/16	NUT25251C	NUT25251C-B	NUT70151C
5/16-24	1/2	3/16	NUT25251F	NUT25251F-B	NUT70151F
3/8-16	9/16	7/32	NUT25238C	NUT25238C-B	NUT70138C
3/8-24	9/16	7/32	NUT25238F	NUT25238F-B	NUT70138F
7/16-14	11/16	1/4	NUT25271C	NUT25271C-B	—
7/16-20	11/16	1/4	NUT25271F	NUT25271F-B	—
1/2-13	3/4	5/16	NUT25212C	NUT25212C-B	NUT70112C
1/2-20	3/4	5/16	NUT25212F	NUT25212F-B	NUT70112F
5/8-11	15/16	3/8	NUT25258C	NUT25258C-B	NUT70158C
5/8-18	15/16	3/8	NUT25258F	NUT25258F-B	NUT70158F



Hex Machine Screw Nuts

- 6061-T6 Aluminum

USA MADE

Hex Machine Screw Nuts			
			Order Number
Size	Across Flats	Thickness	6061-T6 Aluminum
2-56	3/16	1/16	NUT70002C
2-64	3/16	1/16	NUT70002F
3-48	3/16	1/16	NUT70003C
3-56	3/16	1/16	NUT70003F
4-40	1/4	3/32	NUT70004C
4-48	1/4	3/32	NUT70004F
5-40	5/16	7/64	NUT70005C
5-44	5/16	7/64	NUT70005F
6-32	5/16	7/64	NUT70006C
6-40	5/16	7/64	NUT70006F
8-32	11/32	1/8	NUT70008C
8-36	11/32	1/8	NUT70008F
10-24	3/8	1/8	NUT70010C
10-32	3/8	1/8	NUT70010F



Hex Nuts

Hex Panel Nuts



Materials:
- Brass
- Brass–Nickel Plated
- 18-8 Stainless Steel

USA MADE

Special Threads

Hex Panel Nuts

Thread Size	Across Flats	Thickness	Order Numbers 18-8 St/St	Brass	Brass Nickel	Steel Zinc	Nylon
1/8-27 NPS	1/2"	1/8"	—	—	Z0202	—	—
1/8-27 NPS	5/8	1/8	Z0215	Z0200	—	Z0180	Z0230
1/8-27 NPS	5/8	3/16	Z0216	Z0201	—	Z0181	Z0231
1/4-32 NEF	5/16	5/64	Z0196-SS	Z0196-BR	Z0196	Z0196-STL	—
1/4-32 NEF	3/8	3/32	Z0195-SS	Z0195-BR	Z0195	Z0195-STL	—
1/4-32 NEF	7/16	7/32	Z0425-SS	—	—	—	—
1/4-40 NS	5/16	1/16	—	—	Z0197	—	—
1/4-40 NS	5/8	3/16	Z0218	Z0203	—	Z0183	Z0233
5/16-32 NEF	7/16	7/64	Z0204-SS	Z0204-BR	Z0204	Z0204-STL	—
5/16-32 NEF	1/2	17/64	Z0426-SS	—	—	—	—
3/8-32 NEF	1/2	3/32	—	—	Z0209	—	—
3/8-32 NEF	9/16	21/64	Z0427-SS	—	—	—	—
3/8-32 NEF	5/8	3/32	Z0220	Z0205	—	Z0185	Z0235
3/8-32 NEF	5/8	1/2	Z0221	Z0206	—	Z0186	Z0236
3/8-32 NEF	5/8	9/16	Z0222	Z0207	—	Z0187	Z0237
7/16-28 NEF	5/8	3/32	Z0446-SS	—	—	—	—
7/16-28 NEF	11/16	3/8	Z0428-SS	—	—	—	—
15/32-32 NEF	9/16	5/64	Z0199-SS	Z0199-BR	Z0199	Z0199-STL	—
15/32-32 NEF	9/16	3/32	—	—	Z0198	—	—
15/32-32 NEF	5/8	3/32	Z0225	Z0210	—	Z0190	Z0240
15/32-32 NEF	5/8	9/16	Z0226	Z0211	—	Z0191	Z0241
1/2-28 NEF	5/8	3/32	Z0447-SS	—	—	—	—
1/2-28 NEF	5/8	1/8	—	—	Z0212	—	—
1/2-28 NEF	3/4	3/8	Z0429-SS	—	—	—	—
5/8-24 NEF	15/16	3/8	Z0430-SS	—	—	—	—
5/8-27 NS	3/4	1/8	Z0228	Z0213	Z0213-BRN	Z0192	Z0243
11/16-24 NEF	1	27/64	Z0431-SS	—	—	—	—
3/4-20 NEF	1	27/64	Z0432-SS	—	—	—	—
7/8-20 NEF	1-5/16	31/64	Z0433-SS	—	—	—	—

Finished Hex Nuts



Materials:
- 18/8 Stainless Steel
- 18/8 Stainless Steel–Black Oxide Plated
- 6061-T6 Aluminum
- Brass

Finished Hex Nuts

Size	Across Flats	Thickness	Order Number 18-8 St/St	18-8 St/St Black Ox Plated	6061-T6 Aluminum
1/4-20	7/16	7/32	NUT20214C	NUT20214C-B	NUT70014C
1/4-28	7/16	7/32	NUT20214F	NUT20214F-B	NUT70014F
5/16-18	1/2	17/64	NUT20251C	NUT20251C-B	NUT70051C
5/16-24	1/2	17/64	NUT20251F	NUT20251F-B	NUT70051F
3/8-16	9/16	21/64	NUT20238C	NUT20238C-B	NUT70038C
3/8-24	9/16	21/64	NUT20238F	NUT20238F-B	NUT70038F
7/16-14	11/16	3/8	NUT20271C	NUT20271C-B	NUT70071C
7/16-20	11/16	3/8	NUT20271F	NUT20271F-B	NUT70071F
1/2-13	3/4	7/16	NUT20212C	NUT20212C-B	NUT70012C
1/2-20	3/4	7/16	NUT20212F	NUT20212F-B	NUT70012F
5/8-11	15/16	35/64	NUT20258C	NUT20258C-B	NUT70058C
5/8-18	15/16	35/64	NUT20258F	NUT20258F-B	NUT70058F
3/4-10	1-1/8	41/64	NUT20234C	NUT20234C-B	NUT70034C
3/4-16	1-1/8	41/64	NUT20234F	NUT20234F-B	NUT70034F

Large Hex Nuts

Size	Across Flats	Thickness	Material	Order Number
1-1/2-12	2-1/4	27/32	Brass	NUT2031.512

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Knurled Round Nuts, Lock Nuts, & Check Nuts

Knurled Round Panel Nuts

• Available in Steel Zinc, Brass, Stainless Steel, and Black Nylon

USA MADE

Round Panel Nuts

Thread Size	O.D.	Thickness	Order Number Steel Zinc	Brass	Stainless Steel	Black Nylon
1/8-27NPT	5/8	1/8	**Z0100**	**Z0120**	**Z0140**	**Z0160**
1/8-27NPT	5/8	3/16	**Z0101**	**Z0121**	**Z0141**	**Z0161**
1/4-40NEF	5/8	3/16	**Z0103**	**Z0123**	**Z0143**	**Z0163**
3/8-32NEF	5/8	3/32	**Z0105**	**Z0125**	**Z0145**	**Z0165**
3/8-32NEF	5/8	1/2	**Z0106**	**Z0126**	**Z0146**	**Z0166**
3/8-32NEF	5/8	9/16	**Z0107**	**Z0127**	**Z0147**	**Z0167**
15/32-32NEF	5/8	3/32	**Z0110**	**Z0130**	**Z0150**	**Z0168**
15/32-32NEF	5/8	9/16	**Z0111**	**Z0131**	**Z0151**	**Z0171**
5/8-27NS	3/4	1/8	**Z0115**	**Z0132**	**Z0152**	**Z0172**



Knurled Round Nuts with Wrench Flats

- 12L14 Low Carbon Steel
- Case Hardened
- Black Oxide Plated
- Finger tighten or use a wrench
- Made In The USA

Knurled Round Nuts w/Flats

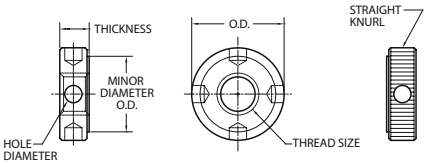
Thread Size	O.D.	Thickness	Across Flats	Order Number
2-56	1/4"	1/16"	3/16"	**Z0640**
4-40	1/4	3/32	3/16	**Z0641**
5-40	5/16	7/64	1/4	**Z0642**
6-32	5/16	7/64	1/4	**Z0643**
8-32	11/32	1/8	5/16	**Z0644**
10-32	3/8	1/8	5/16	**Z0645**
1/4-20	7/16	3/16	3/8	**Z0646**
5/16-18	9/16	7/32	1/2	**Z0647**

USA MADE



Knurled Lock Nuts

- 12L14 Low Carbon Steel
- Case Hardened .005/.010 depth
- Black Oxide Plated
- Made In The USA



Knurled Lock Nuts

Thread Size	O. D.	Thickness	Minor Diameter O.D.	Holes	Order Number
3/8-16	1"	3/8"	3/4"	(4) .188"	**Z0285**
1/2-13	1-1/4	7/16	1	(4) .257	**Z0286**
5/8-11	1-3/8	7/16	1-1/8	(4) .257	**Z0287**
3/4-10	1-3/4	9/16	1-1/2	(4) .316	**Z0288**
1-8	2"	9/16	1-3/4	(4) .316	**Z0289**

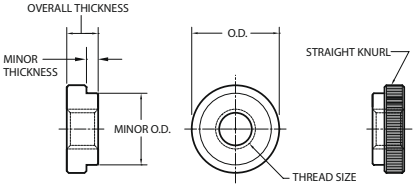
LIMITED SUPPLY ITEMS

USA MADE



Check/Thumb Nuts

- 12L14 Low Carbon Steel
- Case Hardened .005/.010 depth
- Black Oxide Plated
- Made In The USA
- ⋆ Z0274 is 18-8 SS, with Diamond Knurl



Check Nuts

Thread Size	O. D.	Overall Thickness	Minor Thickness	Minor Diameter O.D.	Order Number
10-24	3/4"	7/32"	1/16"	1/2"	**Z0275**
1/4-20	3/4	7/32	1/16	1/2	**Z0276**
5/16-18	3/4	5/16	1/16	1/2	**Z0277**
3/8-16	3/4	5/16	1/16	1/2	**Z0278**
1/2-13	1	3/8	1/8	3/4	**Z0279**
M4 X 0.7	16MM	9.5MM	6MM	8MM	**Z0274 ***

USA MADE



T Slot Bolts & Quarterturn Screws

USA MADE

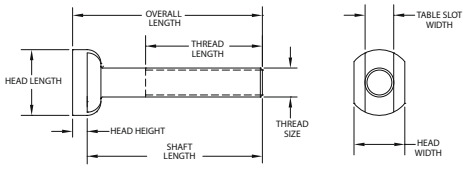


Machined from Solid

T Slot Bolts

18-8 Stainless Steel USA MADE

Used in machine tables with a T Slot, these 18-8 Stainless Steel T Slot Bolts are corrosion resistant. Heads are designed to fit in the T Slot, and will not twist or jam. Coarse threads.

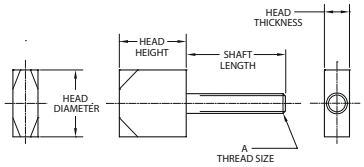


T Slot Bolts — Stainless Steel

Threads	Shaft Length	Fits Table Slot	Thread Length	Head Height Over Table	Head Width	Head Length	Order Number
3/8-16	1"	3/8"	5/8"	3/16"	11/16"	3/4"	**Z1400**
3/8-16	1-1/4	3/8	7/8	3/16	11/16	3/4	**Z1401**
3/8-16	1-1/2	3/8	1-1/8	3/16	11/16	3/4	**Z1402**
3/8-16	2	3/8	1-1/2	3/16	11/16	3/4	**Z1403**
3/8-16	2-1/2	3/8	1-1/2	3/16	11/16	3/4	**Z1404**
1/2-13	1-1/4	1/2	3/4	9/32	7/8	1-1/8	**Z1405**
1/2-13	1-1/2	1/2	1	9/32	7/8	1-1/8	**Z1406**
1/2-13	1-3/4	1/2	1-1/4	9/32	7/8	1-1/8	**Z1407**
1/2-13	2	1/2	1-1/2	9/32	7/8	1-1/8	**Z1408**
1/2-13	2-1/4	1/2	1-1/2	9/32	7/8	1-1/8	**Z1409**
1/2-13	2-1/2	1/2	1-1/2	9/32	7/8	1-1/8	**Z1410**
1/2-13	3	1/2	1-1/2	9/32	7/8	1-1/8	**Z1411**
1/2-13	3-1/2	1/2	2	9/32	7/8	1-1/8	**Z1412**
1/2-13	4	1/2	2	9/32	7/8	1-1/8	**Z1413**
5/8-11	2	5/8	1-1/2	11/32	1-3/32	1-5/16	**Z1414**
5/8-11	2-1/2	5/8	1-1/2	11/32	1-3/32	1-5/16	**Z1415**
5/8-11	3	5/8	1-1/2	11/32	1-3/32	1-5/16	**Z1416**
5/8-11	3-1/2	5/8	2	11/32	1-3/32	1-5/16	**Z1417**
5/8-11	4	5/8	2	11/32	1-3/32	1-5/16	**Z1418**
5/8-11	6	5/8	2	11/32	1-3/32	1-5/16	**Z1419**
3/4-10	4	3/4	2	7/16	1-1/4	1-1/2	**Z1420**
3/4-10	4-1/2	3/4	2	7/16	1-1/4	1-1/2	**Z1421**
3/4-10	5	3/4	2	7/16	1-1/4	1-1/2	**Z1422**
3/4-10	5-1/2	3/4	2	7/16	1-1/4	1-1/2	**Z1423**
3/4-10	6	3/4	2	7/16	1-1/4	1-1/2	**Z1424**
3/4-10	7	3/4	2	7/16	1-1/4	1-1/2	**Z1425**



Quarterturn Screws—Latch Bolts



Materials:
18/8 Stainless Steel or Steel–Black Oxide Plated

Quarterturn Screws

"A" Thread	Shaft Length	"B" Head Diameter	Head Height	Head Thickness	Order Number Steel	Order Number 18-8 St/St
10-24	1"	1/2"	1/2"	3/16"	**Z1085**	**Z1085-SS**
10-32	1	1/2	1/2	3/16	**Z1086**	**Z1086-SS**
10-32	1-1/2	1/2	1/2	3/16	**Z1087**	**Z1087-SS**
1/4-20	1-1/4	3/4	5/8	1/4	**Z1088**	**Z1088-SS**
1/4-20	1-3/4	3/4	5/8	1/4	**Z1089**	**Z1089-SS**
5/16-18	1-1/2	1	3/4	5/16	**Z1090**	**Z1090-SS**
5/16-18	2	1	3/4	5/16	**Z1091**	**Z1091-SS**
3/8-16	1-1/2	1	1	3/8	**Z1092**	**Z1092-SS**
3/8-16	2	1	1	3/8	**Z1093**	**Z1093-SS**
1/2-13	1-3/4	1-1/4	1	1/2	**Z1094**	**Z1094-SS**
1/2-13	2-1/4	1-1/4	1	1/2	**Z1095**	**Z1095-SS**

SPECIAL ORDERS AVAILABLE—
Small Quantities to Large Volume

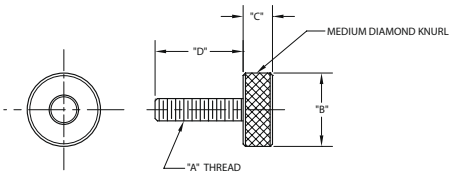
USA MADE

Thumb Screws—Low Head

USA MADE

Thumb Screws—Knurled Head

18-8 Stainless Steel





Thumb Screws—Stainless Steel				
"A" Thread	"D" Shaft Length	"B" Head Diameter	"C" Head Height	Order Number
4-40	5/16"	5/16"	3/16"	**Z2360**
4-40	3/8	5/16	3/16	**Z2361**
4-40	3/8	3/8	1/8	**Z2362**
4-40	1/2	5/16	3/16	**Z2363**
4-48	5/16"	5/16"	3/16"	**Z2395-SS**
4-48	3/8	5/16	3/16	**Z2396-SS**
4-48	1/2	5/16	3/16	**Z2397-SS**
6-32	3/8	5/16	3/16	**Z2364**
6-32	1/2	1/4	1/2	**Z2365**
6-32	1/2	5/16	3/16	**Z2366**
6-32	3/8	3/8	3/16	**Z2367**
6-48	3/8	5/16	3/16	**Z2398-SS**
6-48	1/2	5/16	3/16	**Z2399-SS**
8-32	3/8	3/8	3/16	**Z2368**
8-32	1/2	3/8	1/8	**Z2369**
8-32	5/8	3/8	3/16	**Z2370**
8-32	3/4	3/8	3/16	**Z2371**
8-40	3/8	3/8	3/16	**Z0765-SS**
8-40	1/2	3/8	3/16	**Z0767-SS**
8-40	5/8	3/8	3/16	**Z0768-SS**
8-40	3/4	3/8	3/16	**Z0769-SS**
10-24	3/4	3/8	3/16	**Z2372**
10-24	3/4	1/2	3/16	**Z2373**
10-24	3/4	3/4	3/16	**Z2374**
10-24	1	3/8	3/16	**Z2375**
10-24	1-1/2	3/4	3/16	**Z2376**
10-24	1-1/2	5/8	3/16	**Z2377**
10-24	2	5/8	3/16	**Z2378**
10-32	3/8	7/16	3/16	**Z2380**
10-32	1/2	3/8	3/16	**Z2381**
10-32	1/2	7/16	3/16	**Z2382**
10-32	5/8	7/16	3/16	**Z2383**
10-32	3/4	7/16	3/16	**Z2384**
10-32	3/4	1/2	3/16	**Z2385**
10-32	3/4	3/4	3/16	**Z2386**
10-32	1	1/2	3/16	**Z2387**
10-32	1-1/4	1/2	3/16	**Z2388**
10-32	1-1/4	3/4	3/16	**Z2390**
10-32	1-1/2	5/8	3/16	**Z2392**
10-32	2	5/8	3/16	**Z2394**

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Thumb Screws—Low Head

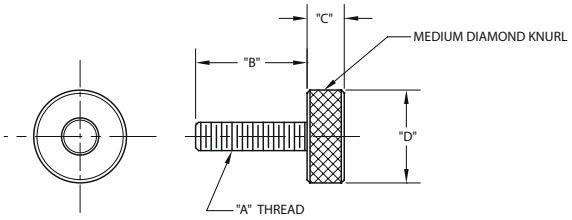
USA MADE



Extra Length Thumb Screws

Extra long thread for increased reach and adjustability
Materials:

- 18/8 Stainless Steel
- Steel–Black Oxide Plated



Thumb Screws—Extra Length

"A" Thread	"B" Length	"D" Head Diameter	"C" Head Height	Steel B/Ox Order Number	18-8 St/St Order Number
10-32	1-1/2"	5/8"	3/16"	**Z0670**	—
10-32	2	5/8	3/16	**Z0671**	—
10-24	1-1/2	5/8	3/16	**Z0672**	—
10-24	2	5/8	3/16	**Z0673**	—
1/4-20	1-1/2	11/16	7/32	**Z0674**	**Z0687**
1/4-20	2-1/2	11/16	7/32	**Z0675**	**Z0688**
1/4-28	1-1/2	11/16	7/32	**Z0683**	**Z0683-SS**
1/4-28	2-1/2	11/16	7/32	**Z0684**	**Z0684-SS**
5/16-18	1-3/4	3/4	1/4	**Z0676**	**Z0689**
5/16-18	2-1/4	3/4	1/4	**Z0677**	**Z0690**
5/16-18	3	3/4	1/4	**Z0678**	**Z0691**
5/16-24	1-3/4	3/4	1/4	**Z0685**	**Z0685-SS**
5/16-24	2-1/4	3/4	1/4	**Z0686**	**Z0686-SS**
5/16-24	3	3/4	1/4	**Z0696**	**Z0696-SS**
3/8-16	2	7/8	5/16	**Z0679**	**Z0692**
3/8-16	2-1/2	7/8	5/16	**Z0680**	**Z0693**
3/8-16	3	7/8	5/16	**Z0681**	**Z0694**
3/8-24	2	7/8	5/16	**Z0697**	**Z0697-SS**
3/8-24	2-1/2	7/8	5/16	**Z0698**	**Z0698-SS**
3/8-24	3	7/8	5/16	**Z0699**	**Z0699-SS**
1/2-13	3	1	3/8	**Z0682**	**Z0695**
1/2-20	3	1	3/8	**Z0708**	—

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SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Thumb Screws—Narrow Head

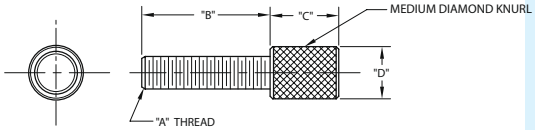
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Extra Length Narrow Head Thumb Screws

18-8 Stainless Steel

Available With or Without Slotted Head

Extra long head for increased reach and adjustability







Thumb Screws—Extra Length—Long Head

"A" Thread	"B" Length	"C" Head Height	"D" Head Diameter	Material	Order Number	
					No Slot	Slotted
4-40	3/8"	1/8"	1/4"	St/St	Z0730	Z0730SL
4-40	1/2	3/8	3/16	St/St	Z0732	Z0732SL
4-40	3/4	3/8	3/16	St/St	Z0734	Z0734SL
4-40	1	3/8	3/16	St/St	Z0736	Z0736SL
4-40	1/2	1/2	1/4	St/St	Z0738	Z0738SL
4-40	3/4	1/2	1/4	St/St	Z0740	Z0740SL
4-40	1	1/2	1/4	St/St	Z0742	Z0742SL
4-48	1/2	1/2	1/4	St/St	Z0739	Z0739SL
4-48	3/4	1/2	1/4	St/St	Z0741	Z0741SL
4-48	1	1/2	1/4	St/St	Z0743	Z0743SL
6-32	1/2	3/8	3/16	St/St	Z0744	—
6-32	3/4	3/8	3/16	St/St	Z0746	—
6-32	1	3/8	3/16	St/St	Z0748	Z0748SL
6-32	1/2	1/2	1/4	St/St	Z0752	Z0752SL
6-32	3/4	1/2	1/4	St/St	Z0754	Z0754SL
6-48	1/2	1/2	1/4	St/St	Z0756	Z0756SL
6-48	3/4	1/2	1/4	St/St	Z0757	Z0757SL
6-48	1	1/2	1/4	St/St	Z0758	Z0758SL
8-32	1/2	3/8	3/16	St/St	Z0760	Z0760SL
8-32	1	3/8	3/16	St/St	Z0762	Z0762SL
8-32	1/2	1/2	1/4	St/St	Z0764	Z0764SL
8-32	1	1/2	1/4	St/St	Z0766	Z0766SL
8-40	1/2	1/2	1/4	St/St	Z0767	Z0767SL
8-40	3/4	1/2	1/4	St/St	Z0768	Z0768SL
8-40	1	1/2	1/4	St/St	Z0769	Z0769SL
10-24	1/2	1/2	1/4	St/St	Z0770	Z0770SL
10-24	1	1/2	1/4	St/St	Z0772	Z0772SL
10-32	1/2	1/2	1/4	St/St	Z0774	Z0774SL
10-32	1	1/2	1/4	St/St	Z0776	Z0776SL
1/4-20	1/2	1/2	5/16	St/St	Z0780	Z0780SL
1/4-20	1	1/2	5/16	St/St	Z0782	Z0782SL
1/4-20	1-1/2	1/2	5/16	St/St	Z0783	Z0783SL
1/4-28	1/2	1/2	5/16	St/St	Z0784	Z0784SL
1/4-28	1	1/2	5/16	St/St	Z0785	Z0785SL
1/4-28	1-1/2	1/2	5/16	St/St	Z0786	Z0786SL
5/16-18	1/2	5/8	3/8	St/St	Z0787	Z0787SL
5/16-18	1	5/8	3/8	St/St	Z0788	Z0788SL
5/16-18	1-1/2	5/8	3/8	St/St	Z0789	Z0789SL
5/16-24	1/2	5/8	3/8	St/St	Z0795	Z0795SL
5/16-24	1	5/8	3/8	St/St	Z0796	Z0796SL
5/16-24	1-1/2	5/8	3/8	St/St	Z0797	Z0797SL

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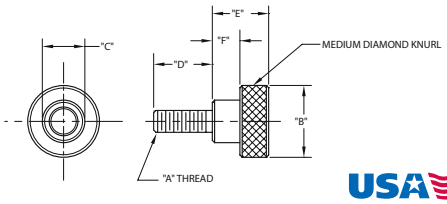
Thumb Screws—High Head

USA MADE

Shoulder Thumb Screws with High Heads

Materials:
- 18/8 Stainless Steel
- Steel–Black Oxide Plated





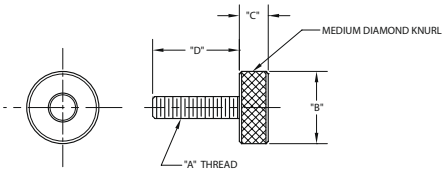
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Shoulder Thumb Screws							
"A" Thread	"D" Shaft Length	"B" Head Diameter	"C" Shoulder Diameter	"F" Shoulder Length	"E" Total Height	Order Number Steel	Order Number Stainless
4-40	1/4"	3/8"	1/4"	3/32"	3/16"	Z2300	Z2300SS
4-40	3/8	3/8	1/4	3/32	3/16	Z2301	Z2301SS
4-48	1/4"	3/8"	1/4"	3/32"	3/16"	Z2302	Z2302-SS
4-48	3/8	3/8	1/4	3/32	3/16	Z2303	Z2303-SS
4-48	7/16	3/8	1/4	3/32	5/16	Z2304	Z2304-SS
6-32	7/16	7/16	3/8	3/32	5/16	Z2305	Z2305SS
6-32	9/16	7/16	3/8	3/32	5/16	Z2307	Z2307SS
8-32	5/16	7/16	3/8	3/32	5/16	Z2312	Z2312SS
8-32	3/8	7/16	3/8	3/32	5/16	Z2313	Z2313SS
8-32	7/16	7/16	3/8	3/32	5/16	Z2314	Z2314SS
8-32	1/2	7/16	3/8	3/32	5/16	Z2315	Z2315SS
8-32	9/16	7/16	3/8	3/32	5/16	Z2316	Z2316SS
8-32	5/16	1/2	3/8	3/32	5/16	Z2320	Z2320SS
8-32	3/8	1/2	3/8	3/32	5/16	Z2321	Z2321SS
8-32	7/16	1/2	3/8	3/32	5/16	Z2322	Z2322SS
8-32	1/2	1/2	3/8	3/32	5/16	Z2323	Z2323SS
8-32	5/8	1/2	3/8	3/32	5/16	Z2325	Z2325SS
10-32	5/16	1/2	3/8	3/32	5/16	Z2330	Z2330SS
10-32	3/8	1/2	3/8	3/32	5/16	Z2331	Z2331SS
10-32	7/16	1/2	3/8	3/32	5/16	Z2332	Z2332SS
10-32	1/2	1/2	3/8	3/32	5/16	Z2333	Z2333SS
10-32	9/16	1/2	3/8	3/32	5/16	Z2334	Z2334SS
10-32	5/8	1/2	3/8	3/32	5/16	Z2335	Z2335SS
1/4-20	1/2	1/2	3/8	1/8	3/8	—	Z2340SS
1/4-20	5/8	1/2	3/8	1/8	3/8	—	Z2342SS
1/4-20	1	1/2	3/8	1/8	3/8	—	Z2346SS

Knurled-Type Thumb Screws with High Heads

Steel–Black Oxide Plated





Knurled-Type Thumb Screws—Large Head				
"A" Thread	"D" Thread Length	"B" Head Diameter	"C" Head Height	Order Number
1/4-20	1/2"	5/8"	1/2"	Z2125
1/4-20	3/4	5/8	1/2	Z2126
5/16-18	3/4	3/4	9/16	Z2127
5/16-18	1	3/4	9/16	Z2128
3/8-16	3/4	7/8	11/16	Z2129
3/8-16	1	7/8	11/16	Z2130
1/2-13	3/4	1	1	Z2131
1/2-13	1	1	1	Z2132

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SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

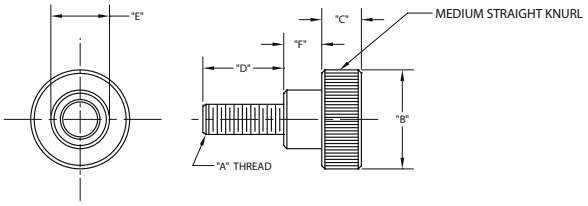
Thumb Screws—Low Head

USA MADE

Straight Knurled-Type Thumb Screws with Shoulder

Materials:

- 18/8 Stainless Steel
- Steel–Black Oxide Plated





Specials Available—Small Quantities & Quick Turn-around

Knurled-Type Thumb Screws with Shoulder							
"A" Thread	"D" Thread Length	"B" Head Diameter	"C" Head Height	"E" Shoulder OD	"F" Shoulder Length	Order Number Steel	Order Number Stainless
1/4-20	5/16	1	1/4	1/2	3/8	**Z1060**	**Z1060SS**
1/4-20	3/8	1	1/4	1/2	3/8	**Z1061**	**Z1061SS**
1/4-20	1/2	1	1/4	1/2	3/8	**Z1062**	**Z1062SS**
1/4-20	5/8	1	1/4	1/2	3/8	**Z1063**	**Z1063SS**
1/4-20	3/4	1	1/4	1/2	3/8	**Z1064**	**Z1064SS**
1/4-20	1	1	1/4	1/2	3/8	**Z1065**	**Z1065SS**
1/4-28	5/16	1	1/4	1/2	3/8	**Z1066**	**Z1066-SS**
1/4-28	3/8	1	1/4	1/2	3/8	**Z1067**	**Z1067-SS**
1/4-28	1/2	1	1/4	1/2	3/8	**Z1074**	**Z1074-SS**
1/4-28	5/8	1	1/4	1/2	3/8	**Z1075**	**Z1075-SS**
1/4-28	3/4	1	1/4	1/2	3/8	**Z1081**	**Z1081-SS**
1/4-28	1	1	1/4	1/2	3/8	**Z1082**	**Z1082-SS**
5/16-18	1/2	1-1/4	1/4	5/8	1/2	**Z1068**	**Z1068SS**
5/16-18	5/8	1-1/4	1/4	5/8	1/2	**Z1069**	**Z1069SS**
5/16-18	3/4	1-1/4	1/4	5/8	1/2	**Z1070**	**Z1070SS**
5/16-18	1	1-1/4	1/4	5/8	1/2	**Z1071**	**Z1071SS**
5/16-18	1-1/4	1-1/4	1/4	5/8	1/2	**Z1072**	**Z1072SS**
5/16-18	1-1/2	1-1/4	1/4	5/8	1/2	**Z1073**	**Z1073SS**
5/16-24	1/2	1-1/4	1/4	5/8	1/2	**Z1083**	**Z1083-SS**
5/16-24	5/8	1-1/4	1/4	5/8	1/2	**Z1084**	**Z1084-SS**
5/16-24	3/4	1-1/4	1/4	5/8	1/2	**Z1096**	**Z1096-SS**
5/16-24	1	1-1/4	1/4	5/8	1/2	**Z1097**	**Z1097-SS**
5/16-24	1-1/4	1-1/4	1/4	5/8	1/2	**Z1098**	**Z1098-SS**
5/16-24	1-1/2	1-1/4	1/4	5/8	1/2	**Z1099**	**Z1099-SS**
3/8-16	5/8	1-3/8	5/16	3/4	11/16	**Z1076**	**Z1076SS**
3/8-16	3/4	1-3/8	5/16	3/4	11/16	**Z1077**	**Z1077SS**
3/8-16	1	1-3/8	5/16	3/4	11/16	**Z1078**	**Z1078SS**
3/8-16	1-1/4	1-3/8	5/16	3/4	11/16	**Z1079**	**Z1079SS**
3/8-16	1-1/2	1-3/8	5/16	3/4	11/16	**Z1080**	**Z1080SS**
3/8-24	5/8	1-3/8	5/16	3/4	11/16	**Z2001**	**Z2001-SS**
3/8-24	3/4	1-3/8	5/16	3/4	11/16	**Z2002**	**Z2002-SS**
3/8-24	1	1-3/8	5/16	3/4	11/16	**Z2003**	**Z2003-SS**
3/8-24	1-1/4	1-3/8	5/16	3/4	11/16	**Z2004**	**Z2004-SS**
3/8-24	1-1/2	1-3/8	5/16	3/4	11/16	**Z2005**	**Z2005-SS**

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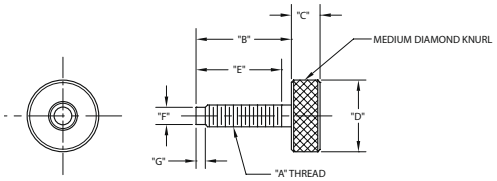
Thumb Screws—Low Head

USA MADE

DOG Point Thumb Screws—Low Head

18-8 Stainless Steel





Thumb Screws—DOG Point
18-8 Stainless Steel

"A" Thread Size	"B" Length	"C" Head Thickness	"D" Head Dia.	"E" Thread Length	"F" Dog Point Diameter	"G" Dog Point Length	Order Number
10-24	1-1/4"	5/16"	3/4"	1.063"	.125"	.047"	**Z2180**
10-24	1-5/8	5/16	3/4	1.438	.125	.047	**Z2182**
10-24	2	5/16	3/4	1.813	.125	.047	**Z2184**
1/4-20	1	5/16	1	.875	.156	.063	**Z2186**
1/4-20	2-1/2	5/16	1	2.30	.156	.063	**Z2188**
5/16-18	1-1/2	3/8	1-1/8	1.30	.203	.078	**Z2190**
5/16-18	2-1/4	3/8	1-1/8	2.00	.203	.078	**Z2192**
5/16-18	2-3/4	3/8	1-1/8	2.50	.203	.078	**Z2194**
3/8-16	2	7/16	1-1/4	1.80	.250	.094	**Z2196**
3/8-16	3	7/16	1-1/4	2.75	.250	.094	**Z2198**
1/2-13	3-1/2	1/2	1-1/4	3.25	.344	.125	**Z2200**

USA MADE

DOG Point Thumb Screws—Low Head

Steel—Case Hard, Black Oxide Finish



Thumb Screws—DOG Point
Steel, Case Hard, Black Oxide

"A" Thread Size	"B" Length	"C" Head Thickness	"D" Head Diameter	"F" Dog Point Diameter	"G" Dog Point Length	Order Number
10-24	1"	1/4"	3/4"	1/8"	3/32"	**Z2140**
10-24	1-1/2	1/4	3/4	1/8	3/32	**Z2141**
10-24	2	1/4	3/4	1/8	3/32	**Z2142**
10-32	1	1/4	3/4	1/8	1/8	**Z2143**
10-32	1-1/2	1/4	3/4	1/8	1/8	**Z2144**
10-32	2	1/4	3/4	1/8	1/8	**Z2145**
1/4-20	1	1/4	3/4	5/32	1/8	**Z2148**
1/4-20	1-1/2	5/16	1	5/32	1/8	**Z2149**
1/4-20	2	5/16	1	5/32	1/8	**Z2150**
1/4/20	2-1/2	5/16	1	5/32	1/8	**Z2151**
5/16-18	1	3/8	1-1/8	13/64	5/32	**Z2155**
5/16-18	1-1/2	3/8	1-1/8	13/64	5/32	**Z2156**
5/16-18	2	3/8	1-1/8	13/64	5/32	**Z2157**
5/16-18	2-1/2	3/8	1-1/8	13/64	5/32	**Z2158**
5/16-18	3	3/8	1-1/8	13/64	5/32	**Z2159**
3/8-16	1-1/2	7/16	1-1/4	1/4	3/16	**Z2165**
3/8-16	2	7/16	1-1/4	1/4	3/16	**Z2166**
3/8-16	2-1/2	7/16	1-1/4	1/4	3/16	**Z2167**
3/8-16	3	7/16	1-1/4	1/4	3/16	**Z2168**
3/8-16	3-1/2	7/16	1-1/4	1/4	3/16	**Z2169**
3/8-16	4	7/16	1-1/4	1/4	3/16	**Z2170**

USA MADE

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Threaded Inserts

USA MADE

Vibration Resistant Wedge Ramp Thread Form Inserts

Type 303 Stainless Steel

A thoroughly tested and superior threaded insert that is vibration resistant and completely re-usable.



These Threaded Inserts are designed to be used with standard (60 degree thread form) male hardware, in either Class 2A or 3A. The special 30 Degree Wedge Ramp internal thread form eliminates the loosening from vibration that is present with standard thread forms. The tight fit of the wedge ramp thread form eliminates most transverse motion that is typically induced by vibration. This fit is what inhibits the male fastener from backing out. This product is completely re-usable, as there are no deformed threads or nylon locking elements to wear or interfere with assembly and dis-assembly.

- External Nylon Locking Pellet locks Insert in place
- Type 303 Stainless Steel
- Made in USA

Threaded Inserts—Vibration Resistant

30° Wedge Ramp Threads & External Nylon Pellet

Internal Thread	External Thread	Length	Tap Drill Size	Order Number
4-40	10-32	7/32"	21	**Z0655**
6-32	12-28	1/4	14	**Z0656**
8-32	1/4-28	9/32	3	**Z0657**
10-24	5/16-24	5/16	I	**Z0658**
10-32	5/16-24	5/16	I	**Z0659**
1/4-20	3/8-24	3/8	Q	**Z0660**
5/16-18	7/16-20	7/16	25/64	**Z0661**
3/8-16	1/2-20	15/32	29/64	**Z0662**
1/2-13	5/8-18	19/32	37/64	**Z0663**
5/8-11	3/4-16	11/16	11/16	**Z0664**
3/4-10	1-8	25/32	7/8	**Z0665**

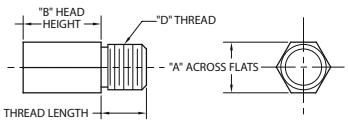
USA MADE

Rest Buttons, Finger Handles, & Clamp Rests

USA MADE

Threaded Hex Rest Buttons—Fine Threads





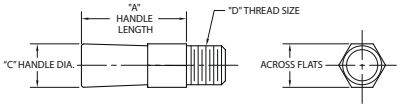
Threaded Hex Rest Buttons—Fine Threads				
"D" Thread	Thread Length	"A" Hex A/F	"B" Head Height	Order Number
8-32	3/16"	1/4"	3/16"	**Z2431**
10-32	1/4	5/16	3/16	**Z2433**
1/4-28	5/16	3/8	3/16	**Z2435**
1/4-28	5/16	3/8	1/4	**Z2420**
1/4-28	5/16	3/8	3/8	**Z2422**
1/4-28	5/16	3/8	1/2	**Z2424**
1/4-28	3/8	3/8	3/4	**Z2425**
1/4-28	3/8	3/8	1	**Z2426**
3/8-24	7/16	1/2	1/4	**Z2430**
3/8-24	7/16	1/2	3/8	**Z2432**
3/8-24	7/16	1/2	1/2	**Z2434**
3/8-24	7/16	1/2	3/4	**Z2436**
3/8-24	1/2	1/2	1/2	**Z2437**
3/8-24	1/2	1/2	3/4	**Z2438**
3/8-24	1/2	1/2	1	**Z2439**
1/2-20	9/16	3/4	3/8	**Z2440**
1/2-20	9/16	3/4	1/2	**Z2442**
1/2-20	9/16	3/4	1	**Z2444**
1/2-20	1/2	5/8	1/2	**Z2445**
1/2-20	1/2	5/8	3/4	**Z2446**
1/2-20	1/2	5/8	1	**Z2447**
5/8-18	11/16	1	1/2	**Z2450**
5/8-18	11/16	1	1-1/2	**Z2452**

- Low Carbon Steel, Case Hardened, Black Oxide Plated.
- Unground Hex Head is left +.010 to +.015 for custom finishing.
- Made In The USA

USA MADE

Finger Handles





Finger Handles				
"A" Handle Length	"C" Handle Diameter	"D" Thread Size	Across Flats	Order Number
7/16"	1/4"	10-24	1/4"	**Z0005**
7/16	1/4	10-32	1/4	**Z0006**
7/8	3/8	5/16-18	3/8	**Z0007**

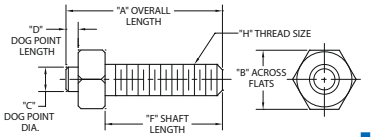
- Low Carbon Steel, Soft
- Black Oxide Plated
- Made In The USA

USA MADE

Clamp Rests



- 12L14 Low Carbon Steel
- Black Oxide Plated
- Hex Nut is Steel Zinc
- Made In The USA



USA MADE

Clamp Rests							
"A" Overall Length	"B" Across Flats	"C" Dog Point Diameter	"D" Dog Point Length	"F" Shaft Length	"H" Thread Size	Hex Nut	Order Number
3/4"	3/8"	5/32"	5/64"	.50	10-24	3/8AF X 11/64	**Z1289**
1-1/4	7/16	5/32	5/64	1.00	1/4-20	7/16AF X 11/64	**Z1280**
2-1/2	9/16	11/32	5/32	2.00	3/8-16	9/16AF X 11/32	**Z1282**
3-1/2	7/8	11/32	3/16	2.812	3/4-10	7/8AF X 1/2THK	**Z1288**

LIMITED SUPPLY ITEMS

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

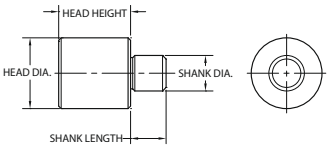
Rest Buttons

USA MADE

Rest Buttons—Unground Steel

Components used for support and positioning. The head is left oversize and unground for customization. Shank diameter is held oversize by .0005 to .001"

- 12L14 Low Carbon Steel
- Case Hardened .005/.010 depth
- Black Oxide Plated
- Made In The USA



USA MADE

Rest Buttons—Unground Steel

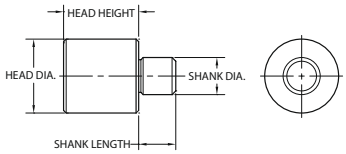
Head Diameter	Head Height	Shank Length	Shank Diameter	Order Number
1/4"	.260-.265	.219	.1885-.1880"	**Z2610**
3/8	.260-.265	.219	.1885-.1880	**Z2612**
3/8	.385-.390	.219	.1885-.1880	**Z2614**
3/8	.510-.515	.219	.1885-.1880	**Z2616**
1/2	.260-.265	.469	.2510-.2505	**Z2618**
1/2	.385-.390	.469	.2510-.2505	**Z2620**
1/2	.510-.515	.469	.2510-.2505	**Z2622**
5/8	.260-.265	.469	.3760-.3755	**Z2624**
5/8	.385-.390	.469	.3760-.3755	**Z2626**
5/8	.448-.453	.469	.3760-.3755	**Z2628**
5/8	.510-.515	.469	.3760-.3755	**Z2630**
5/8	.635-.640	.469	.3760-.3755	**Z2632**
5/8	.760-.765	.469	.3760-.3755	**Z2634**
7/8	.385-.390	.594	.5010-.5005	**Z2636**
7/8	.448-.453	.594	.5010-.5005	**Z2638**
7/8	.510-.515	.594	.5010-.5005	**Z2640**
7/8	.635-.640	.594	.5010-.5005	**Z2642**
7/8	.760-.765	.594	.5010-.5005	**Z2644**
1	.385-.390	.719	.6260-.6255	**Z2646**
1	.448-.453	.719	.6260-.6255	**Z2648**
1	.510-.515	.719	.6260-.6255	**Z2650**
1	.635-.640	.719	.6260-.6255	**Z2652**
1	.760-.765	.719	.6260-.6255	**Z2654**
1-1/4	.385-.390	.844	.7510-.7505	**Z2656**
1-1/4	.448-.453	.844	.7510-.7505	**Z2658**
1-1/4	.510-.515	.844	.7510-.7505	**Z2660**
1-1/4	.635-.640	.844	.7510-.7505	**Z2662**
1-1/2	.760-.765	1.219	1.001-1.0005	**Z2664**



LIMITED SUPPLY ITEMS

Press Fit Rest Buttons

- Precision Manufactured.
- "A" Button Length is held to +.001/-0.00"
- "C" Shank Diameter is +0.00/-0.0005"
- Material: Low Carbon Steel, Case Hardened, Black Oxide Plated
- Made In The USA



Press Fit Rest Buttons

"D" Button Diameter	"A" Button Length	"C" Shank Diameter	"B" Shank Length	Order Number
1/4"	.125-.126	.1260-.1265	7/32"	**Z2421**
3/8	.125-.126	.1260-.1265	7/32	**Z2423**
3/8	.250-.251	.1880-.1885	3/8	**Z1344**
3/8	.250-.251	.2505-.2510	1/2	**Z2428**
1/2	.125-.126	.1260-.1265	7/32	**Z2427**
1/2	.375-.376	.2505-.2510	1/2	**Z1348**
1/2	.500-.501	.2505-.2510	1/2	**Z1350**
5/8	.250-.251	.3755-.3760	1/2	**Z1340**
5/8	.750-.751	.3755-.3760	1/2	**Z1352**



LIMITED SUPPLY ITEMS

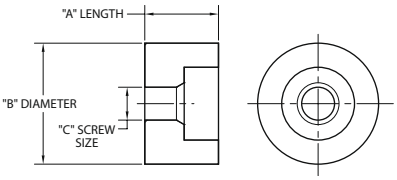
USA MADE

Jig Feet

USA MADE

Jig Feet Buttons—Circular Head Supports





- The length of these Jig Feet is held to within 0.001".
- ID is counterbored for Socket Head Cap Screws.
- Low Carbon Steel, Case hardened to .005/.010 depth
- Black Oxide Plated
- Made in USA

Jig Feet Buttons

"A" Length	"B" Diameter	Fits Screw Size	Order Number
.1560-.1570	5/16	#2 82 Deg Flat Hd Skt Cap	Z1296
.2500-.2501	3/8	#6 Standard Skt Cap	Z1298
.2500-.2501	3/8	#8 Standard Skt Cap	Z1299
.3750-.3760	5/8	1/4" Socket Cap	Z1291
.5000-.5010	5/8	1/4" Socket Cap	Z1292
.7500-.7510	5/8	1/4" Socket Cap	Z1293
1.000-1.0010	5/8	1/4" Socket Cap	Z1294

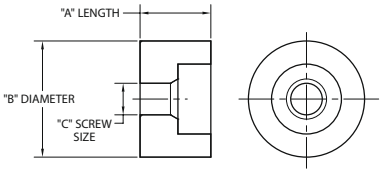
LIMITED SUPPLY ITEMS

USA MADE

USA MADE

Jig Feet—Ground





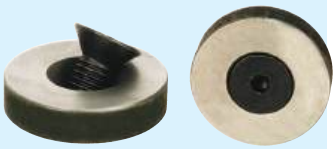
Jig Feet — Ground

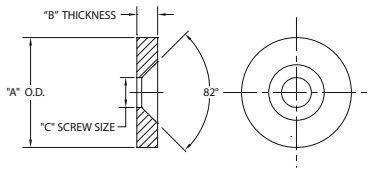
"A" Height	"B" O.D.	Socket Cap Include	Order Number
.8750-.8755	5/8	1/4-20 X 7/8	Z2673
1.0000-1.0005	5/8	1/4-20 X 1	Z2674
.6250-.6255	7/8	5/16-18 X 5/8	Z2676
.8750-.8755	7/8	5/16-18 X 7/8	Z2678
1.1250-1.1255	7/8	5/16-18 X 1-1/4	Z2680
.7500-.7505	1-1/4	3/8-16 X 3/4	Z2682
.8750-.8755	1-1/4	3/8-16 X 7/8	Z2683

LIMITED SUPPLY ITEMS

- Material: 12L14 Low Carbon Steel
- Case Hardened to .005-.010 depth
- Black Oxide Plated
- Alloy Socket Head Cap Screw is inlcuded.
- Made in USA

Flat Feet—Ground





Flat Feet — Ground

"A" OD	"B" Thickness	"C" Flat Socket Cap Size	Order Number
1/2	.1250-.1255	8-32 x 3/8	Z1030
1/2	.2500-.2505	8-32 x 1/2	Z1031
5/8	.2500-.2505	10-32 x 5/8	Z1032
7/8	.3750-.3755	1/4-20 X 3/4	Z1033
1-1/4	.3750-.3755	5/16-18 X 3/4	Z1034
1-5/8	.3750-.3755	3/8-16 X 3/4	Z1035

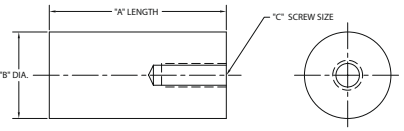
- Material: 12L14 Low Carbon Steel
- Case Hardened to .005-.010 depth
- Black Oxide Plated
- Flat Head Socket Cap Screw is inlcuded.
- Made in USA

USA MADE

Jig Legs & Clamps

USA MADE

Jig Legs





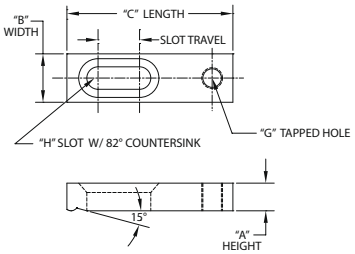
- Used in conjunction with the Jig Feet Buttons above, or by themselves.
- The overall length is held to within 0.001".
- Low Carbon Steel, case hard to .005/.010 depth.
- Black Oxide Plated.
- Made in USA

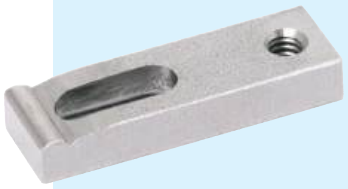
Jig Legs			
"A" Length	"B" Diameter	Screw Included	Order Number
1.000-1.001	5/8	1/4-20 X 1 Socket Cap	**Z1360**
2.000-2.001	5/8	1/4-20 X 1 Socket Cap	**Z1362**
3.000-3.001	5/8	1/4-20 X 1 Socket Cap	**Z1364**
5.000-5.001	7/8	3/8-16X1-3/4 Socket Cap	**Z1368**

LIMITED SUPPLY ITEMS

USA MADE

Stainless Steel Strap Clamps





- Milled from Solid 300 Series Stainless Steel
- Made In The USA

Strap Clamps — Stainless Steel					
"A" Height	"B" Width	"C"	"G" Tapped Hole	"H" Slot	Order Number
1/4"	1/2"	1-1/2"	10-32	7/32"	**Z0091**
1/4	1/2	1-3/4	10-32	7/32	**Z0092**
5/16	5/8	2	1/4-20	9/32	**Z0093**
3/8	3/4	2	5/16-18	11/32	**Z0095**
3/8	3/4	3	5/16-18	11/32	**Z0096**
1/2	7/8	3	3/8-16	13/32	**Z0097**

LIMITED SUPPLY ITEMS

USA MADE

Fixture Clamp Sets

These Cam Action Fixture Clamps provide quick, strong clamping. These simple clamps are made up of two components: a steel socket head screw with an eccentric head and a hexagonal brass washer.



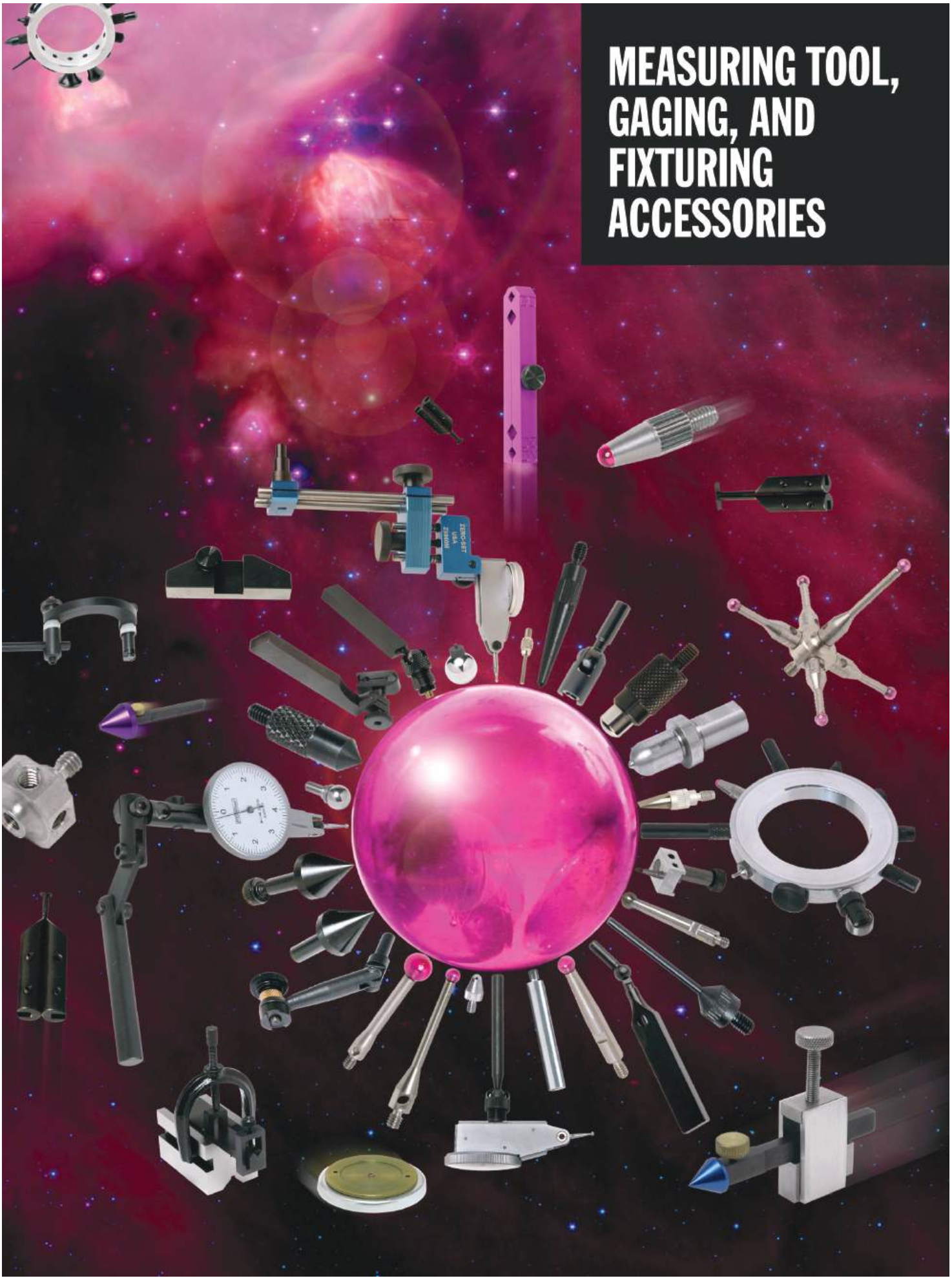


- The low profile makes for easy computer programming
- Cam action makes clamping simple & strong
- Small size allows more parts per load
- Inexpensive Simple design

Fixture Clamp Sets						
Thread Size	Screw Length	Screw Qty in Set	Brass Hex Washer A/F	Washer Thickness	Washer Qty in Set	Order Number
8-32	3/8	10 pcs	5/16	.110"	10 pcs	**MIT0200SET**
10-32	3/8	10 pcs	1/2	.160	10 pcs	**MIT0205SET**
1/4-20	1/2	10 pcs	5/8	.190	10 pcs	**MIT0210SET**
5/16-24	1/2	12 pcs	13/16	.190	12 pcs	**MIT0215SET**
5/16-18	1/2	12 pcs	13/16	.190	12 pcs	**MIT0220SET**
3/8-16	3/4	10 pcs	13/16	.250	10 pcs	**MIT0225SET**
1/2-13	1	8 pcs	1	.375	8 pcs	**MIT0230SET**
5/8-11	1-1/4	4 pcs	1-3/16	.500	4 pcs	**MIT0235SET**

USA MADE

MEASURING TOOL, GAGING, AND FIXTURING ACCESSORIES



AGD Drop Dial Indicator Points

USA MADE

Dial Indicator Points

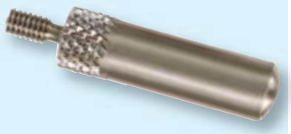
Our wide range of styles and sizes of contact points fit all AGD 1,2,3,4 series Dial Indicators **with 4-48 threads**. **All items Made In USA**.

Please call us for special and custom sizes and designs, as we can manufacture to your print or specifications. We are constantly adding new contacts, and can cross reference from most other manufacturers part numbers.

Material: Corrosion Resistant 303 Stainless Steel



Flat Point



Ball Point



Cone Point

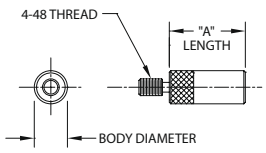
SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

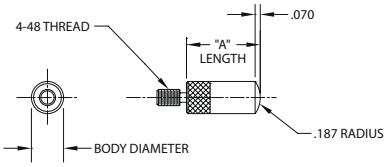
AGD Drop Dial Indicator Points

Type	Body Diameter	Length	Order Number
Flat	7/32"	1/8"	**Z9307SS**
Flat	5/16	.175	**Z9309SS**
Flat	7/32	.175	**Z9310SS**
Flat	7/32	1/4	**Z9311SS**
Flat	7/32	3/8	**Z9312SS**
Flat	7/32	1/2	**Z9313SS**
Flat	7/32	5/8	**Z9314SS**
Flat	7/32	3/4	**Z9315SS**
Flat	7/32	7/8	**Z9316SS**
Flat	7/32	.895	**Z9317SS**
Flat	7/32	1	**Z9308SS**
Flat	7/32	1-1/4	**Z9318SS**
Flat	7/32	1-1/2	**Z9319SS**
Flat	7/32	1-3/4	**Z9358SS**
Flat	7/32	2	**Z9359SS**
Ball	7/32	7/32	**Z9320SS**
Ball	7/32	13/32	**Z9321SS**
Ball	7/32	5/8	**Z9322SS**
Ball	7/32	13/16	**Z9324SS**
Ball	7/32	7/8	**Z9323SS**
Ball	3/16	1	**Z9325SS**
Cone	7/32	1/2	**Z9332SS**
Cone	7/32	5/8	**Z9329SS**
Cone	7/32	3/4	**Z9328SS**
Cone	7/32	7/8	**Z9327SS**
Cone	7/32	1	**Z9361SS**
Cone	7/32	1-1/4	**Z9362SS**

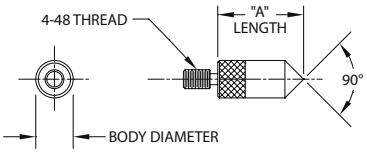
Flat Point



Ball Point



Cone Point



(Cone points have 90 degree angle. Length does not include threads.)

USA MADE

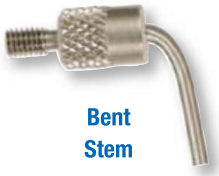
AGD Drop Dial Indicator Points

USA MADE

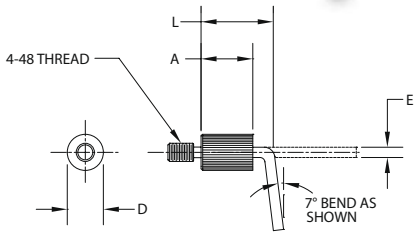
Stem Indicator Points

Specially designed for user modifications. These single and double stem indicator points can be shaped for your special application. The reduced diameter stem can be angled and positioned for hard to reach areas. Please note that these points can vary, and dimensions are approximate.

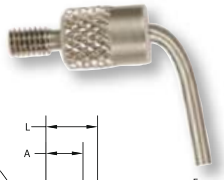
- **AGD Standard 4-48 Threads**
- **Type 303 Stainless Steel**
- **Corrosion Resistant**
- **Made in USA**

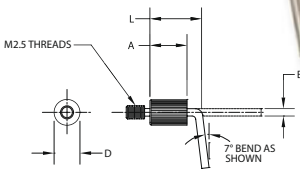


Bent Stem



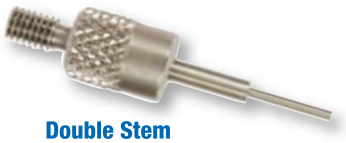
NOW AVAILABLE IN METRIC M2.5 THREADS



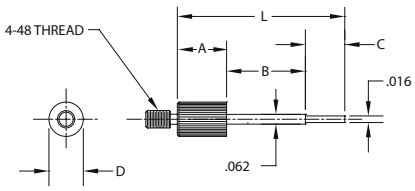


METRIC Bent Stem

Order Number
Z8985

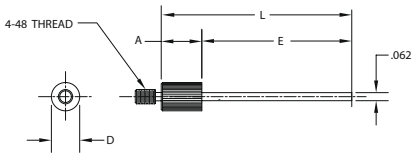


Double Stem





Single Stem



Stem Indicator Points							
Type	D	A	E	L	C	B	Order Number
Bent Stem	7/32"	5/16"	1/16"	7/16"	n/a	n/a	**Z9333SS**
Double Stem	7/32	5/16	n/a	45/64	1/8	1/4	**Z9334SS**
Double Stem	7/32	1/4	n/a	31/32	3/32	19/32	**Z9336SS**
Double Stem	7/32	1/4	n/a	31/32	15/64	15/32	**Z9337SS**
Double Stem	3/16	5/16	n/a	3/4	7/64	19/64	**Z9349SS**
Single Stem	3/16	3/16	1/16 Dia x 1-5/32 Lth	1-23/64	n/a	n/a	**Z9338LSS**
Single Stem	7/32	3/16	1/16 Dia x 3/4 Lth	15/16	n/a	n/a	**FOW-52-525-112**

USA MADE

AGD Drop Dial Indicator Point Kits

USA MADE

Select–A–Point Kit



22 pieces of the most popular indicator points, including flat, ball, cone, and stems.
Fits all AGD 1,2,3 and 4 style drop indicators.
All Points have 4-48 thread and are made from **corrosion resistant Type 303 Stainless Steel.**
Made in USA

KIT INCLUDES:
(1) Z9310SS—Flat Point 7/32" Dia X 11/64" Lth
(1) Z9311SS—Flat Point 7/32" Dia X 1/4" Lth
(1) Z9312SS—Flat Point 7/32" Dia X 3/8" Lth
(1) Z9313SS—Flat Point 7/32" Dia X 1/2" Lth
(1) Z9314SS—Flat Point 7/32" Dia X 5/8" Lth
(1) Z9315SS—Flat Point 7/32" Dia X 3/4" Lth
(1) Z9316SS—Flat Point 7/32" Dia X 7/8" Lth
(1) Z9317SS—Flat Point 7/32" Dia X 57/64" Lth
(1) Z9318SS—Flat Point 7/32" Dia X 1-1/4" Lth
(1) Z9320SS—Ball Point 7/32" Dia X 7/32" Lth
(1) Z9321SS—Ball Point 7/32" Dia X 25/64" Lth
(1) Z9322SS—Ball Point 7/32" Dia X 5/8" Lth
(1) Z9323SS—Ball Point 7/32" Dia X 7/8" Lth
(1) Z9324SS—Ball Point 7/32" Dia X 53/64" Lth
(1) Z9327SS—Cone Point 7/32" Dia X 7/8" Lth
(1) Z9328SS—Cone Point 7/32" Dia X 3/4" Lth
(1) Z9329SS—Cone Point 7/32" Dia X 5/8" Lth
(1) Z9332SS—Cone Point 7/32" Dia X 1/2" Lth
(1) Z9333SS—Bent Stem Point 1/16" Dia X 5/16" Lth
(1) Z9336SS—Double Stem Point 1/16" Dia X 15/16" Lth
(1) Z9338SS—Stem Point 1/16" Dia X 21/32" Lth
(1) Z9337SS—Double Stem Point 1/16" Dia X 61/64" Lth

Order Number
Z9000SS

USA MADE





Mini–Point Kit

A smaller version of our Select-A-Point Kit.

This version consists of 11 points.
One stem point and 10 Flat, Ball, and Cone, points.
All Points have 4-48 thread and are made from **corrosion resistant Type 303 Stainless Steel.**
Made in USA

KIT INCLUDES:
(1) Z9311SS—Flat Point 7/32" Dia X 1/4" Lth
(1) Z9312SS—Flat Point 7/32" Dia X 3/8" Lth
(1) Z9313SS—Flat Point 7/32" Dia X 1/2" Lth
(1) Z9314SS—Flat Point 7/32" Dia X 5/8" Lth
(1) Z9316SS—Flat Point 7/32" Dia X 7/8" Lth
(1) Z9318SS—Flat Point 7/32" Dia X 1-1/4" Lth
(1) Z9320SS—Ball Point 7/32" Dia X 7/32" Lth
(1) Z9322SS—Ball Point 7/32" Dia X 5/8" Lth
(1) Z9329SS—Cone Point 7/32" Dia X 5/8"Lth
(1) Z9328SS—Cone Point 7/32" Dia X 3/4" Lth
(1) Z9333SS—Bent Stem 1/16" Dia X 5/16" Lth



Order Number
Z9001

USA MADE

SPECIAL ORDERS AVAILABLE—
Small Quantities to Large Volume

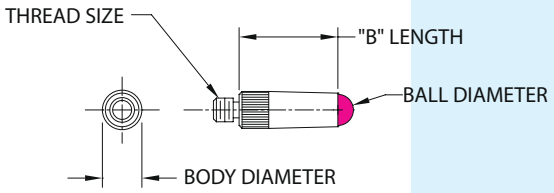
AGD Drop Dial Indicator Points

USA MADE

Ruby Ball Points

Body Material: Corrosion Resistant
303 Stainless Steel



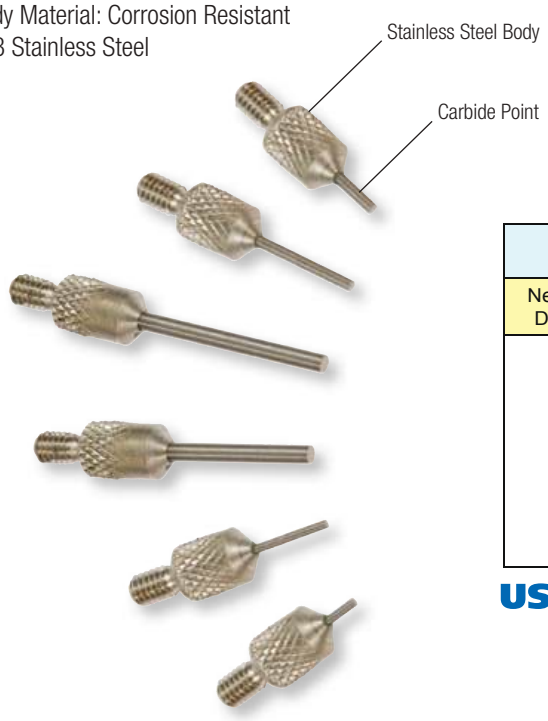


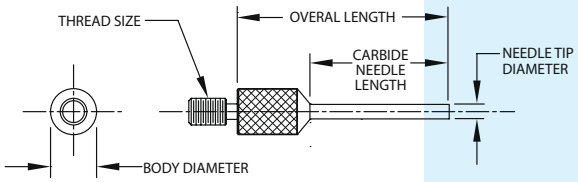
Ruby Ball Point				
Ball Diameter	"B" Length Ball Center to End of Body	Body Diameter	4-48 Threads Order Number	Metric M2.5 Threads Order Number
2mm	.250	.187	**Z7025**	**Z7026**
3mm	.250	.187	**Z6972**	**Z6973**
4mm	.250	.187	**Z6978**	**Z6979**
2mm	.500	.187	**Z7027**	**Z7028**
3mm	.500	.187	**Z6974**	**Z7029**
4mm	.500	.187	**Z6980**	**Z7030**
2mm	.750	.187	**Z7031**	**Z7032**
3mm	.750	.187	**Z6976**	**Z7033**
4mm	.750	.187	**Z6982**	**Z7034**
2mm	1.00	.187	**Z7035**	**Z7036**
3mm	1.00	.187	**Z7037**	**Z7038**
4mm	1.00	.187	**Z7039**	**Z7040**

USA MADE

Flat Carbide Needle Points

Body Material: Corrosion Resistant
303 Stainless Steel





Flat Needle Point — Carbide Tip				
Needle Tip Diameter	Needle Length	Overall Length	Thread	Order Number
.015	.120	.400	4-48	**Z7041**
.031	.120	.400	4-48	**Z7042**
.031	.500	.780	4-48	**Z7043**
.062	.500	.800	4-48	**Z7044**
.062	1.00	1.300	4-48	**Z7045**
.078	1.00	1.300	4-48	**Z7046**
.062	.500	.780	4-48	**MTI131279**
.062	.500	.780	M2.5	**MTI120064**
.031	.120	.400	4-48	**MTI131280**
.031	.120	.400	M2.5	**MTI131280M**

USA MADE

NOW AVAILABLE IN METRIC M2.5 THREADS

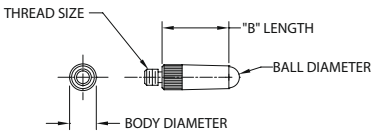
AGD Drop Dial Indicator Points

USA MADE

Carbide Ball Points



Body Material: Corrosion Resistant
303 Stainless Steel



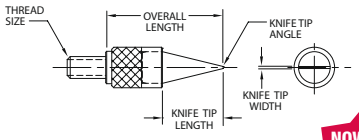
Carbide Ball Point				
Ball Diameter	"B" Length Ball Center to End of Body	Body Diameter	4-48 Threads Order Number	M2.5 Threads Order Number
2mm	.250	.187	**Z6963**	**Z6965**
3mm	.250	.187	**Z6960**	**Z6961**
4mm	.250	.187	**Z6966**	**Z6967**
3mm	.300	.190	**MTI131262**	**MTI120049**
2mm	.500	.187	**Z6969**	**Z6971**
3mm	.500	.187	**Z6962**	**Z6975**
4mm	.500	.187	**Z6968**	**Z6977**
2mm	.750	.187	**Z6981**	**Z7016**
3mm	.750	.187	**Z6964**	**Z7017**
4mm	.750	.187	**Z6970**	**Z7018**
2mm	1.00	.187	**Z7019**	**Z7020**
3mm	1.00	.187	**Z7021**	**Z7022**
4mm	1.00	.187	**Z7023**	**Z7024**

USA MADE

Carbide Knife Points



Body Material: Corrosion Resistant
303 Stainless Steel



NOW AVAILABLE IN METRIC M2.5 THREADS

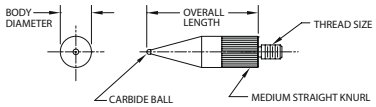
Knife Point — Carbide Tip					
Knife Tip Angle	Knife Length	Knife Width	Overall Length	Thread	Order Number
25 Degrees	.300	.160	.600	4-48	**MTI131282**
25 Degrees	.300	.160	.600	M2.5	**MTI120067**

USA MADE

Carbide Ball Points



Body Material: Corrosion Resistant
303 Stainless Steel



Carbide Ball Points				
Ball Diameter	Body Diameter	Overall Length	Thread	Order Number
.5MM	.25"	.895"	4-40	**JL0197RADTIP**
1MM	.25	.895	4-40	**JL020RADTIP**

USA MADE

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

AGD Drop Dial Indicator Points

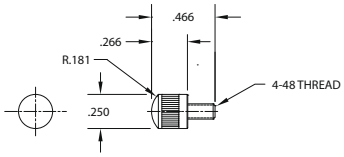
USA MADE

Popular Specialized Contacts for Dial Indicators

4-48 threads to fit all AGD Groups 1,2,3,4 Indicators. **Made In USA**

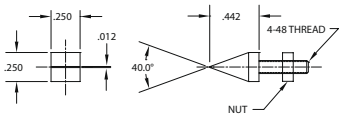


Radius Contact Z9380



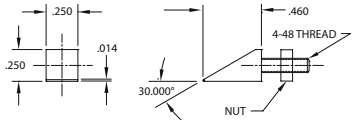


Chisel Contact Z9381



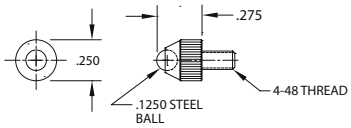


Offset Chisel Contact Z9382



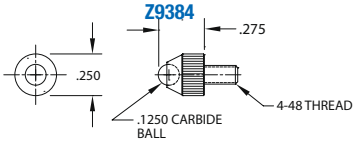


1/8" Steel Ball Z9383



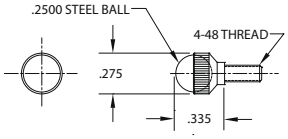


1/8" Carbide Ball Z9384



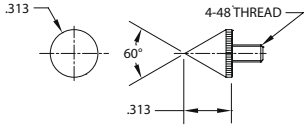


1/4" Steel Ball Z9385



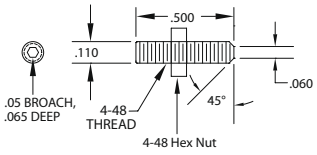


Cone Point Z9386





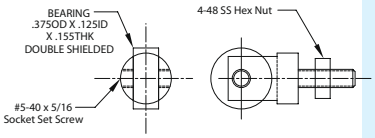
Needle Stud Z9387





Roller Anvil Z9388

NOW AVAILABLE IN METRIC M2.5 THREADS



Special Dial Indicator Contacts			
Contact Type	Description	S-T Industries Functional Equivalent	Order Number
Radius Contact	1/4" Dia. x 17/64" Length	50-5008-00	**Z9380**
Chisel Contact	.250 tapering to .012" tip, .442 Overall Length	50-5011-00	**Z9381**
Offset Chisel	.250 tapering to .014" tip, .460 Overall Length	50-5012-00	**Z9382**
1/8" Steel Ball	1/4" Dia. x .275" Overall Length 1/8" colleted ball	50-5014-00	**Z9383**
1/8" Carbide Ball	1/4" Dia. x .275" Overall Length 1/8" colleted ball	50-5015-00	**Z9384**
1/4" Steel Ball	.335 Lth., 4-48 thread	—	**Z9385**
5/16" Cone Point	5/16" Dia. x 5/16" Length	50-5018-00	**Z9386**
1/16" Needle Stud	.110" Dia. x .500 Lth., 4-48 thread, .060" Dia. Needle Tip	50-5019-00	**Z9387**
Roller Anvil	3/8" Roller, 4-48 thread	50-5026-00	**Z9388**
Roller Anvil	3/8" Roller, M2.5 threads		**Z9388M**
Cone Point	13/64" Dia., 9/32" Length, 4-48 Thread, Hardened Steel	Starrett PT06632/10	**Z9361**

USA MADE

AGD Drop Dial Indicator Points

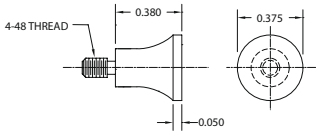
USA MADE

All-New Specialized Contacts for Dial Indicators

Fit all AGD Groups 1,2,3,4 Indicators. **Made In USA**

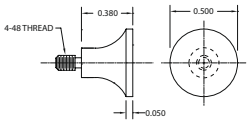


Flat Contact Z9492



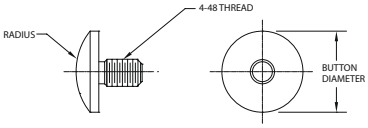


Flat Contact Z9491



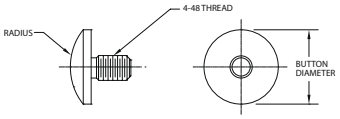


Button Contact Z9356



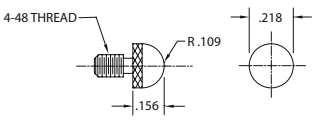


Button Contact Z9355



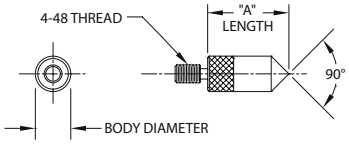


Button Contact Z9496



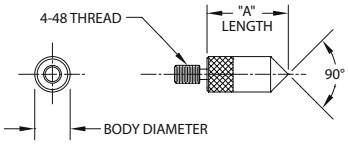


Cone Point Z9332



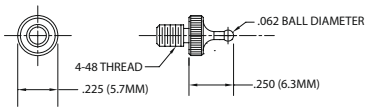


Cone Point Z9361



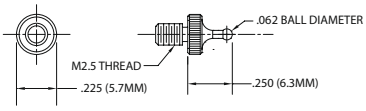


Ball Contact Z9398





Ball Contact Z9399



Special Dial Indicator Contacts			
Contact Type	Description	Functional Equivalent	Order Number
Flat Contact	3/8 Ground, 3/8" Lth, 4-48 Thds	Starrett PT06632/2 - 70790	**Z9492**
Flat Contact	3/8 Ground, 3/8" Lth, M2.5 Thds	Starrett PT06632/2 - 70790	**Z9492M**
Flat Contact	1/2 Ground, 3/8" Lth, 4-48 Thds	Starrett PT06632/3 - 70791	**Z9491**
Flat Contact	1/2 Ground, 3/8" Lth, M2.5 Thds	Starrett PT06632/3 - 70791	**Z9491M**
Button Contact	1/2" Button, 4-48 Thds., Steel Black Oxide	Starrett PT06632/4 - 70792	**Z9356**
Button Contact	3/8" Button, 4-48 Thds., Steel Black Oxide	Starrett PT06632/5 - 70793	**Z9355**
Button Contact	13/64" Dia X 5/32" Lth, 4-48 Thds., Steel Black Oxide	Starrett #28 - 50199	**Z9496**
Button Contact	13/64" Dia X 5/32" Lth, M2.5 Thds., Steel Black Oxide	Starrett #28 - 50199	**Z9496M**
Cone Point	1/2" Lth, 90 Degree, 4-48 Thds., Steel Black Oxide	Starrett PT06632/6 - 70794	**Z9332**
Cone Point	9/32 Lth, Stl Hard, 4-48 Thds, Black Oxide	Starrett PT06632/10	**Z9361**
Ball Contact	1/16" Ball, 1/4" Lth, 4-48 Thds., Steel Black Oxide	Starett PT06632/7 - 70795	**Z9398**
Ball Contact	1/16" Ball, 1/4" Lth, M2.5 Thds., Steel Black Oxide	Starett PT06632/7 - 70795	**Z9398M**
Ball Contact	1/16" Ball, 1/4" Lth, M2.5, Steel Black Oxide	Starrett PT06632/8 - 70796	**Z9399**

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

USA MADE

AGD Drop Dial Indicator Points

USA MADE

All-New Specialized Contacts for Dial Indicators

Fit all AGD Groups 1,2,3,4 Indicators. **Made In USA**



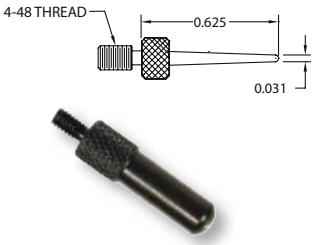
Tapered Contact Z9497



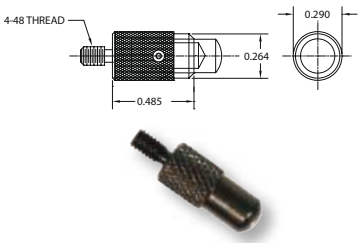
Shock Absorbing Z9490



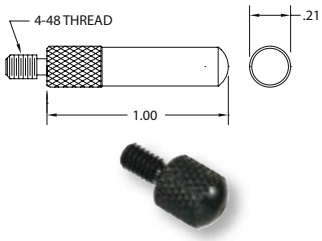
Radius Point Z9362



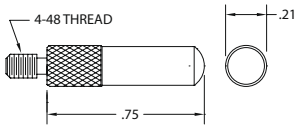
Radius Point Z9363

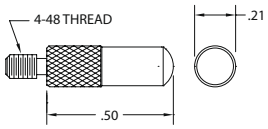


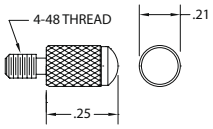
Radius Point Z9364



Radius Point Z9397







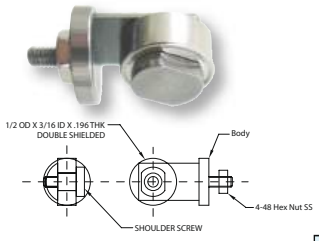
Special Dial Indicator Contacts

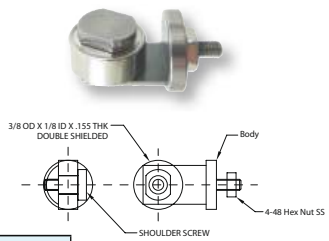
Contact Type	Description	Functional Equivalent	Order Number
Tapered Contact	5/8" Lth, 4-48 Thds., Steel Black Oxide	Starrett PT06632/9 - 70797	**Z9497**
Tapered Contact	5/8" Lth, M2.5 Thds., Steel Black Oxide	—	**Z9497M**
Shock Absorbing	4-48 Threads	—	**Z9490**
Shock Absorbing	M2.5 Threads	—	**Z9490M**
Radius Point	1" Lth, 4-48 Thds, Stl Hard Black Oxide	Starrett PT06677B	**Z9362**
Radius Point	3/4" Lth, 4-48 Thds, Steel Black Oxide	Starrett PT06677A	**Z9363**
Radius Point	1/2" Lth, 4-48 Thds, Steel Black Oxide	Starrett PT06677	**Z9364**
Radius Point	1/4" Lth, 4-48 Thds, Steel Black Oxide	Starrett PT07215	**Z9397**

USA MADE

Special CNC-Qualified Series Roller Bearing Points

Specially manufactured Roller Bearing Points in 3/8" and 1/2" bearing sizes.
Points are constructed to allow the changing of the roller bearings, for unlimited life.
4-48 threads to fit all AGD standard Indicators





Special CNC Qualified Series Roller Bearing Points	Order Number
3/8" Bearing Size	**Z9389**
3/8" Bearing Size (M2.5 threads)	**Z9388M**
1/2 Bearing Size	**Z9390**

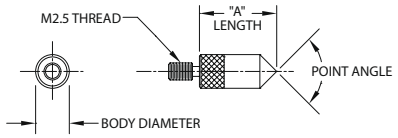
USA MADE

AGD Drop Dial Indicator Points

USA MADE

Metric Cone Points

All Points St/St and have M2.5 Threads
Corrosion Resistant Type 303 Stainless Steel



90° Cone Point
Z8965



60° Cone Point
Z8966



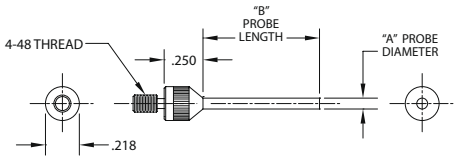
Metric Cone Points				
Point Angle	Length	Body Diameter	Material	Order Number
90°	5mm	5mm	St/St	**Z8965**
60°	10mm	5mm	St/St	**Z8966**
60°	15mm	5mm	St/St	**Z8967**
60°	20mm	5mm	St/St	**Z8968**

USA MADE



Mini Probe Points for Dial Indicators

A handy way to measure the depth of small diameter holes, pockets, and other hard to reach part features.
Steel, Black Oxide Plated.
Made in USA



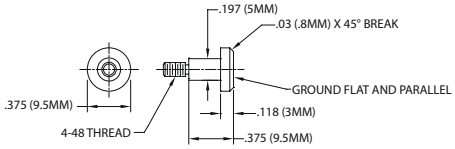
Mini Probe Points			
"A" Probe Diameter	"B" Probe Length	"C" Body Length	Order Number
.020"	1/4"	1/4"	**Z2410**
.030	1/2	1/4	**Z2412**
.050	3/4	1/4	**Z2414**
.070	3/4	1/4	**Z2416**
.090	1"	1/4	**Z2418**

USA MADE



Bell Shaped Flat Contact

3/8" wide ground flat bottom contact point. 3/8" long, measuring face is .118" thick.
Steel, case hardened, nickel plated and then ground flat and parallel on the measuring surface.
Made in USA



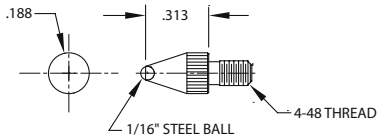
Order Number
MTI101189

USA MADE



Standard Ball Tip

Replacement point for all standard AGD 4-48 Dial Indicators.
3/16" major diameter X 5/16" long with steel ball tip.
Steel with Black Oxide plating.
Made in USA



Order Number
Z9396

USA MADE

SPECIAL ORDERS AVAILABLE—
Small Quantities to Large Volume

Accurate Manufactured Products Group

AGD Drop Dial Indicator Points

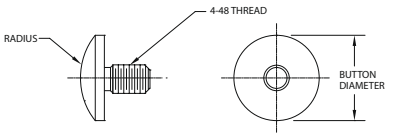
USA MADE

Button Indicator Contacts—Steel & Stainless Steel

Low Carbon Steel, Case Hard, Black Oxide Plated, or 300 series Stainless

Button Indicator Contacts					
			Overall	Order Number	
Diameter	Threads	Radius	Length	Steel	Stainless Steel
3/8	4-48	.373	.300	Z9355	Z9355SS
3/8	M2.5	.373	.300	Z9355M	Z9355MSS
3/8	4-48	.373	.320	Z9400	—
1/2	4-48	.500	.355	Z9356	Z9356SS
1/2	M2.5	.500	.355	Z9356M	Z9356MSS
3/4	4-48	.750	.410	Z9357	Z9357SS
3/4	M2.5	.750	.410	Z9357M	Z9357MSS
3/4	4-48	.870	.320	Z9402	—

NOW AVAILABLE IN METRIC M2.5 THREADS

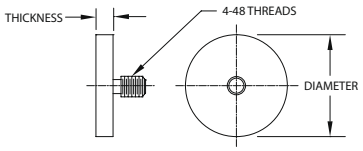




Flat Indicator Contacts—Steel & Stainless Steel

Low Carbon Steel, Case Hard, Black Oxide Plated, or 300 series Stainless

Flat Indicator Contacts				
Diameter	Threads	Thickness	Steel Order Number	Stainless Steel Order Number
1/4"	4-48	.112"	Z9365	Z9365SS
1/4	M2.5	.112	Z9365M	Z9365MSS
3/8	4-48	.093	Z9366	Z9366SS
3/8	M2.5	.093	Z9366M	Z9366MSS
1/2	4-48	.100	Z9367	Z9367SS
1/2	M2.5	.100	Z9367M	Z9367MSS
1/2	4-48	.160	Z9367TH	
5/8	4-48	.100	Z9368	Z9368SS
5/8	M2.5	.100	Z9368M	Z9368MSS
3/4	4-48	.100	Z9370	Z9370SS
3/4	M2.5	.100	Z9370M	Z9370MSS
1	4-48	.125	Z9369	Z9369SS
1	M2.5	.125	Z9369M	Z9369MSS
1-1/2	4-48	.125	Z9371	Z9371SS
2	4-48	.125	Z9372	Z9372SS
2-1/2	4-48	.125	Z9373	—





NOW AVAILABLE IN METRIC M2.5 THREADS





Flat Indicator Contact—2" OD w/Screw

Low Carbon Steel, Case Hard, Black Oxide Plated, .125" Thick
Drilled through Center, comes with 4-48 screw

Order Number
Z9372RT



AGD Drop Dial Indicator Points

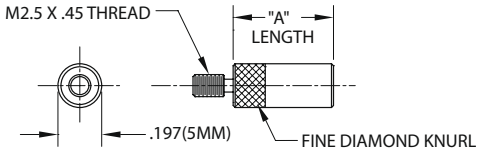
USA MADE

Flat End Indicator Points—18-8 Stainless Steel—Metric

Corrosion Resistant Type 303 Stainless Steel, M2.5 Threads



Flat End Indicator Points			
"A" Length	Body Diameter	Thread	Order Number
5MM	5MM	M2.5	**Z8970**
10MM	5MM	M2.5	**Z8971**
15MM	5MM	M2.5	**Z8972**
20MM	5MM	M2.5	**Z8973**
25MM	5MM	M2.5	**Z8974**
30MM	5MM	M2.5	**Z8975**



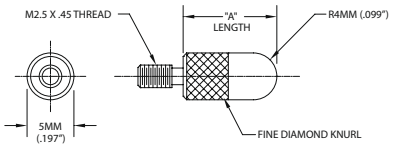
USA MADE

Shell End Indicator Points—18-8 Stainless Steel—Metric

Corrosion Resistant Type 303 Stainless Steel, M2.5 Threads



Shell End Indicator Points			
"A" Length	Body Diameter	Thread	Order Number
5MM	5MM	M2.5	**Z8980**
10MM	5MM	M2.5	**Z8981**
15MM	5MM	M2.5	**Z8982**
20MM	5MM	M2.5	**Z8983**
25MM	5MM	M2.5	**Z8984**



USA MADE

Tapered Indicator Contacts—18-8 Stainless Steel

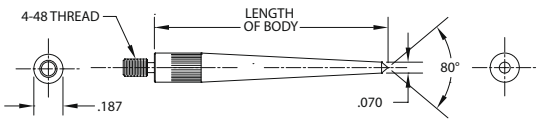
Corrosion Resistant Type 303 Stainless Steel



Tapered Indicator Contacts		
Body Length	Threads	Stainless Steel Order Number
1/2"	4-48	**Z9379SS**
5/8	4-48	**Z9374SS**
13/32	4-48	**Z9375SS**
13/32	M2.5	**Z9375MSS**
1	4-48	**Z9376SS**
1	M2.5	**Z9376MSS**
1-1/4	4-48	**Z9400SS**
1-1/2	4-48	**Z9377SS**
1-1/2	M2.5	**Z9377MSS**
2	4-48	**Z9378SS**
2	M2.5	**Z9378MSS**

NOW AVAILABLE IN METRIC M2.5 THREADS

USA MADE



SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

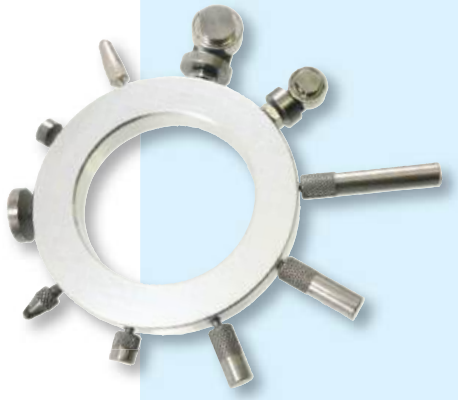
Contact Point Rings/Sets

USA MADE

Accurate 10 Pc. Contact Point Set

A top quality contact assortment for the professionally equipped dial indicator. Includes the following contacts, secured in a machined ring suitable for workbench or flat storage.

10 Stainless Steel Contacts in Aluminum ring stand.
Made in USA



Accurate Contact Point Ring—Set		
Qty	Description	Order Number
1	3/8 CNC Qualified Roller Bearing	Z9389
1	1/2 CNC Qualified Roller Bearing	Z9390
1	3MM Ruby Tip x 1/2" long	Z6974
1	Flat Steel Point 7/32 diameter X 1/4 long	Z9311
1	Flat Steel Point 7/32 diameter X 1/2 long	Z9313
1	Flat Steel Point 7/32 diameter X 3/4 long	Z9315
1	Flat Steel Point 7/32 diameter X 1-1/4 long	Z9318
1	Flat Contact 1/4 wide	Z9365
1	Flat Contact 1/2 wide	Z9367
1	.060 Steel Ball Tip, 5/16 long	Z9396

Set Order Number
Z9013



USA MADE

Accurate 14 Pc. Contact Point Set

Functional Equivalent to Starrett Set 25R

Set Order Number
Z9414

14 Contacts in metal ring stand. **Made in USA**
A top quality contact assortment for the professionally equipped dial indicator.
Includes the following contacts, secured in a machined ring suitable for workbench or flat storage.



Starrett Contact Point Ring—Set 25R			
Qty	Description	Fuctional Equivalent	Order Number
1	3/8 Ground Flat Bottom Contact, 3/8" Lth, 4-48 Thds	Starrett PT06632/2 - 70790	Z9492
1	1/2 Ground Flat Bottom Contact, 3/8" Lth, 4-48 Thds	Starrett PT06632/3 - 70791	Z9491
1	1/2 Button Contact, 4-48, Steel Black Oxide	Starrett PT06632/4 - 70792	Z9356
1	3/8 Button Contact, 4-48, Steel Black Oxide	Starrett PT06632/5 - 70793	Z9355
1	1/2" Lth 90 Degree Cone Point Contact, 4-48, Steel Black Oxide	Starrett PT06632/6 - 70794	Z9332
1	1/16" Ball Contact, 1/4" Lth, 4-48 Steel Black Oxide	Starrett PT06632/7 - 70795	Z9398
1	5/8" Lth Tapered Contact, 4-48, Steel Black Oxide	Starrett PT06632/8 - 70796	Z9497
1	Button Contact, 13/64" Dia X 5/32" Lth, 4-48, Steel Black Oxide	Starrett PT06632/9 - 70797	Z9496
1	Shock Abosorbing Contact Point, 4-48	Starrett #28 - 50199	Z9490
1	9/32 Lth Cone Point, Stl Hard, Black Ox, 4-48 Thds	Starrett PT06632/10	Z9361
1	1" Lth Polished Radius Point, Stl Hard Black Ox, 4-48 Thds	Starrett PT06677B	Z9362
1	3/4" Lth Polished Radius Point, Steel Black Ox, 4-48 Thds	Starrett PT06677A	Z9363
1	1/2" Lth Polished Radius Point, Steel Black Ox, 4-48 Thds	Starrett PT06677	Z9364
1	1/4" Lth Polished Radius Point, Steel Black Ox, 4-48 Thds	Starrett PT07215	Z9397

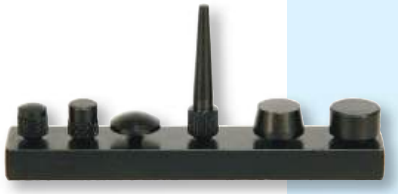
USA MADE



Fowler 6 Pc. Contact Point Set

Made in USA

Set Order Number
FOW52-525-065



USA MADE

Gage Ball Tips

USA MADE

Gage Balls—Chrome Alloy Steel



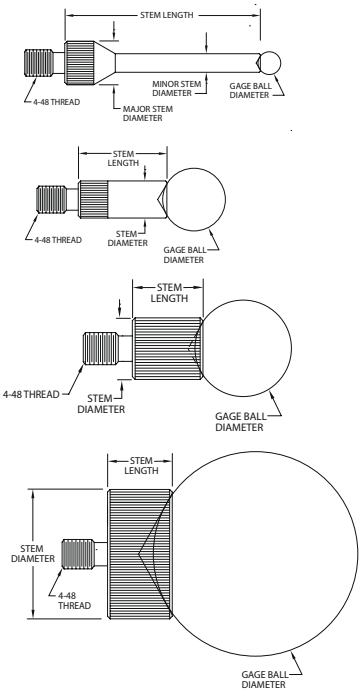
A complete line of Grade 25 (accurate to 25 millionths) Chrome Alloy Steel Gage Balls, mounted on our stems with 4-48 threads.

These Gage Ball Tips attach directly to Dial Indicators, or use the attachments listed on the following page to attach them to Calipers.

Ball is Chrome Alloy Steel. Bodies are made from corrosion resistant Type 303 Stainless Steel.
Made in USA

Gage Ball Tips

Gage Ball Diameter	Stem Length	Major Stem Diameter	Minor Stem Diameter	Thread	Order Number
0.0310"	.600"	.156"	.025"	4-48	**Z6931**
0.0460	.710	.156	.040	4-48	**Z6932**
0.0625	.710	.156	.040	4-48	**Z6933**
0.0780	.830	.156	.058	4-48	**Z6934**
0.0938	.830	.156	.058	4-48	**Z6935**
0.1250	.800	.156	.100	4-48	**Z6936**
0.1562	.800	.156	.100	4-48	**Z6937**
0.1562	.800	.156	.100	M2.5	**Z6937M**
0.1875	.375	.156	.156	4-48	**Z6938**
0.2188	.375	.156	.156	4-48	**Z6939**
0.2500	.250	.218	.218	4-48	**Z6940**
0.2812	.250	.218	.218	4-48	**Z6941**
0.3125	.250	.218	.218	4-48	**Z6942**
0.3438	.250	.218	.218	4-48	**Z6943**
0.3750	.250	.218	.218	4-48	**Z6944**
0.4060	.250	.218	.218	4-48	**Z6945**
0.4060	.250	.218	.218	M2.5	**Z6945M**
0.4370	.250	.218	.218	4-48	**Z6946**
0.4680	.250	.218	.218	4-48	**Z6947**
0.5000	.250	.218	.218	4-48	**Z6948**
0.5310	.250	.218	.218	4-48	**Z6950**
0.5625	.250	.312	.312	4-48	**Z6951**
0.5937	.250	.312	.312	4-48	**Z6952**
0.6250	.250	.312	.312	4-48	**Z6953**
0.6250	.250	.312	.312	M2.5	**Z6953M**
0.6560	.250	.312	.312	4-48	**Z6954**
0.6870	.250	.312	.312	4-48	**Z6955**
0.7180	.250	.312	.312	4-48	**Z6956**
0.7500	.250	.312	.312	4-48	**Z6957**
0.7812	.250	.312	.312	4-48	**Z7100**
0.8125	.250	.312	.312	4-48	**Z7101**
0.8750	.250	.500	.500	4-48	**Z7102**
0.9375	.250	.500	.500	4-48	**Z7103**
1.0000	.250	.500	.500	4-48	**Z7104**
1.0625	.250	.500	.500	4-48	**Z7105**
1.1250	.250	.500	.500	4-48	**Z7106**
1.1875	.250	.500	.500	4-48	**Z7107**
1.2500	.250	.500	.500	4-48	**Z7108**



USA MADE

Note: *These tips are designed for use as an indicator point, and are not to be used for sizing and gaging applications where side pressure is present.*

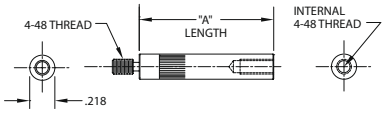
SPECIAL ORDERS AVAILABLE—
Small Quantities to Large Volume

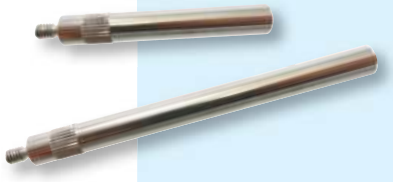
Drop Dial Indicator Extension Points USA MADE

Indicator Extension Points—Stainless Steel

Use to gain extra length. 7/32" diameter points have 4-48 internal and 4-48 external threads.
Made from corrosion resistant Type 303 Stainless Steel.

Indicator Extension Points	
Length	Order Number
1/2"	Z9391SS
3/4	Z9392SS
1	Z9339SS
1-1/4	Z9393SS
1-1/2	Z9343SS
1-3/4	Z9394SS
2	Z9340SS
2-1/2	Z9351SS
3	Z9341SS
4	Z9352SS
6	Z9353SS



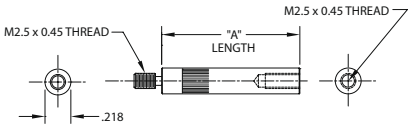


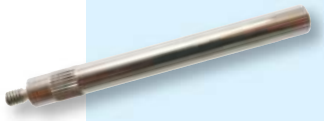
USA MADE

Metric Indicator Extension Points

Use to gain extra length. 7/32" diameter points have M2.5 X 0.45 Internal and M2.5 X 0.45 External threads.
Made from corrosion resistant Type 303 Stainless Steel.

Metric Extension Points	
Length	Order Number
1/2"	Z9391SS-M
3/4	Z9392SS-M
1	Z9339SS-M
1-1/4	Z9393SS-M
1-1/2	Z9343SS-M
1-3/4	Z9394SS-M
2	Z9340SS-M
2-1/2	Z9351SS-M
3	Z9341SS-M
4	Z9352SS-M
6	Z9353SS-M

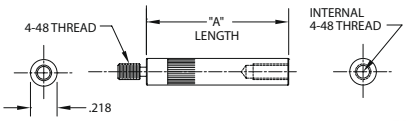


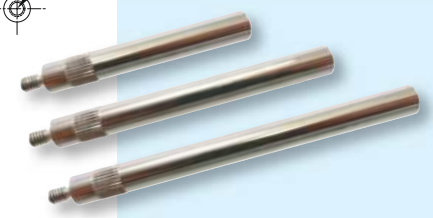


USA MADE

Extension Point Kit

Handy kit of the most used Extension Points with 4-48 internal and external threads. Contains 1 each of 1", 2", and 3" extensions. Packaged in clear plastic tube.
Made from corrosion resistant Type 303 Stainless Steel.





Order Number
Z9350SS

USA MADE

Indicator Conversion Points & Accessories

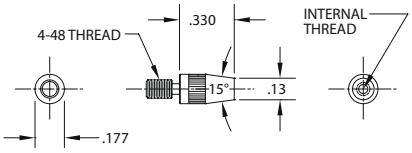
USA MADE



Adapt-A-Tip

Converts Test Indicator Tips to 4-48 Threads

This point converts any Test Indicator Tip to a 4-48 thread, enabling it to be used on any standard AGD Dial Indicator. Allows you to measure small pockets, grooves, recesses, and holes.
Low Carbon Steel, Nickel Plated.
Made in USA



Adapt–A–Tip Converts Test Indicator Tips to 4-48 Threads					
Fits Test Indicator Tips	Internal Thread	External Thread	Diameter	Length	Order Number
Tesa, Brown & Sharpe, Girod	M1.4 X 0.30	4-48	3/16"	.330"	**Z6995**
Interapid, Teclock, Peacock, Mitutoyo	M1.7 X .35	4-48	3/16	.330	**Z6996**

USA MADE

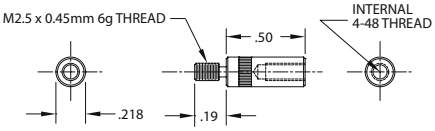


Metric to English Conversion Point

4-48 Internal Threads to M2.5 External Threads. Use your standard Inch AGD points in Dial Indicators with Metric threads.
Point is 7/32" diameter, 1/2" length, with 4-48 internal tap and M2.5 X 0.45 male stud.
Corrosion Resistant Type 303 Stainless Steel
Made in USA

Order Number
Z9344SS

USA MADE



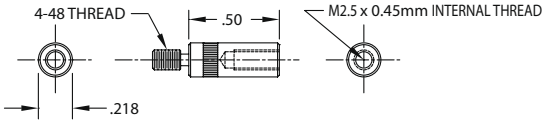


English to Metric Conversion Point

M2.5 X 0.45 Internal Threads to 4-48 External Threads. Use your Metric AGD points in Standard Dial Indicators.
Point is 7/32" diameter, 1/2" length, with M2.5 X 0.45 internal tap and 4-48 male stud.
Corrosion Resistant Type 303 Stainless Steel
Made in USA

Order Number
Z9342SS

USA MADE





Indicator Chuck

- Low Carbon Steel, black oxide plated
- .014–.040 chucking capacity

Made in USA

Thread	Order Number
4-48	Z1020
M2.5	Z1020M



Dial Indicator and stand not included

USA MADE

SPECIAL ORDERS AVAILABLE—
Small Quantities to Large Volume

Dial Indicator Backs

USA MADE



Z0256
Flat Back



Z0376
Lug Back



Z0303
Post Back



Z0325
Adjustable Back



Z0324
Screw Back



Z0258
Offset Lug Back

Indicator Backs—Black Anodized Aluminum	
Description	**Order Number**
Flat Back for Accu Pro AGD 2	**Z0256**
Lug Back for Accu Pro AGD 2	**Z0257**
Offset Lug Back for Accu Pro AGD 2	**Z0258**
Post Back for Accu Pro AGD 2	**Z0259**
Adjustable Back for Accu Pro AGD 2	**Z0261**
Flat Back for Fowler Chinese Indicator	**Z0300**
Lug Back for Fowler Chinese Indicator	**Z0301**
Offset Lug Back for Fowler Chinese Indicator 52-525-010	**Z0302**
Post Back for Fowler Chinese Indicator 52-525-020	**Z0303**
Screw Back for Fowler Chinese Indicator	**Z0304**
Flat Back for Fowler Sylvac Indicator	**Z0310**
Lug Back for Fowler Sylvac Indicator 52-525-005	**Z0311**
Offset Lug Back for Fowler Sylvac Indicator 52-525-010	**Z0312**
Post Back for Fowler Sylvac Indicator 52-525-020	**Z0313**
Screw Back (1/4-20) for Fowler Sylvac Indicator 52-525-025	**Z0314**
Flat Back for Fowler Baker AGD 2 Drop Indicator (3 Hole)	**Z0316**
Lug back for Fowler Baker Indicator	**Z0317**
Offset Lug Back for Fowler Baker Indicator	**Z0318**
Post Back for Fowler Baker Indicator 52-525-020	**Z0323**
Screw Back for Fowler Baker Indicator 52-525-025	**Z0324**
Adjustabel Back for Fowler Baker Indicator 52-525-030	**Z0325**
Flat Back for Teclock Indicator AGD 1	**Z0370**
Lug Back for Teclock Indicator AGD 1	**Z0371**
Lug Back for Teclock Indicator AGD 2	**Z0376**
Flat Back for B&S Indicator AGD 2 (3 Hole)	**Z0822**

USA MADE

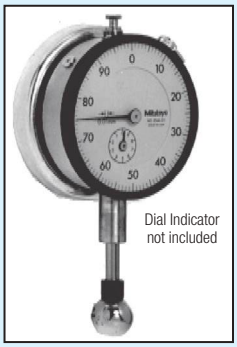
Magnetic Back System for Dial Indicators

USA MADE

A versatile, secure, and time saving system for mounting any Dial Indicator to any metal surface.

Applications include mounting on machine tools for in process gaging applications, set ups, and many other uses.

System consists of our standard magnetic mounting base, with interchangeable backs to fit most AGD group 1 and 2 Dial Indicators.
Made in USA

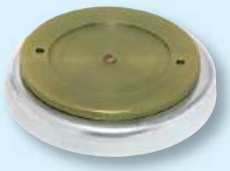




Z2692-Universal Back



Z2700-Mag Base & Indicator Back



Z2705-Mag Base & Indicator Back



Z2690-Magnetic Base

Magnetic Back System for Dial Indicators	
Description	Order Number
Mag Base ONLY—with 8-36 Mounting Stud	**Z2690**
Plain Back—2" Aluminum Flat Back—NO HOLES (you drill to fit your indicator)	**Z2691**
Universal Back—4 elongated holes for non standard Indicator Backs	**Z2692**
Sets—Mag Base + Indicator Back	
AGD 1 - Fits Peacock, MTI, Enco	**Z2700**
AGD 1 - Fits Enco (00468371)	**Z2701**
AGD 2 - Fits Ames	**Z2705**
AGD 2 - Fits SPI (Inch)	**Z2706**
AGD 2 - Fits SPI (Metric)	**Z2707**
AGD 2 - Fits Brown & Sharpe (3 hole pattern)	**Z2710**
AGD 2 - Fits Federal	**Z2715**
AGD 2 - Fits Helios	**Z2720**
AGD 2 - Fits Kaefer	**Z2725**
AGD 2 - Fits MTI, Peacock, Enco	**Z2730**
AGD 2 - Fits Starrett	**Z2735**
AGD 2 - Fits Teclock	**Z2740**
AGD 2 - Fits Scherr Tumico (S-T) & Sears	**Z2745**
AGD 2 - Fits SPI 24-300 series	**Z2750**
AGD 2 - Fits SPI Amtos Chinese Indicators	**Z2755**
AGD 2 - Fits Brown & Sharpe black face (4 hole pattern)	**Z2760**
AGD 2 - Universal Back + Magnet	**Z2765**
AGD 2 - Fits Brown & Sharpe 14.82023 Indicator	**Z2770**
AGD 2 - Fits Fowler Chinese Indicator	**Z2772**
AGD 2 - Fits Fowler Baker Indicator	**Z2773**
AGD 2 - Fits Fowler British Indicator Gage	**Z2774**

Base dimensions:
2" round X .340 Thick with 60 Lb Pull
Aluminum Backs made from 1/8" thick
Aluminum, anodized.

USA MADE

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Indicator Bases, Stands, & Accessories

USA MADE

Dial Indicator Depth Bases

Precision hardened and ground Depth Base accepts any standard AGD Dial Indicator with 3/8" stem. Ground flat and parallel on both top and bottom surfaces. Set screw in bases holds Indicator in place. Black Oxide plated.

Made in USA



Dial Indicator & V Block not included



Dial Indicator Depth Base	
Description	Order Number
2-1/2" Long Base, 3/4" High, 5/8" Thick	Z9228
4" Long Base, 3/4" High, 5/8" Thick	Z9229

USA MADE

Dial Indicator Depth Bases—Metric

Accepts Dial Indicators with 8mm stem.
Ground flat and parallel on both top and bottom surfaces.
Set screw in bases holds Indicator in place.
Black Oxide plated.

Metric Dial Indicator Depth Base	
Description	Order Number
65mm Long Base, 19mm High, 16mm Thick	Z9228M
100mm Long Base, 19mm High, 16mm Thick	Z9229M

USA MADE

Indicator Measuring Stand

Perfect for turning any standard AGD Dial Indicator with 3/8" diameter stem into a thickness measuring device, or special gaging device. Perfect for measuring wall thickness and most conical measurement applications.

Features:

- Lightweight and sturdy bench tool.
- Non skid bottom prevents rocking or tipping of stand.
- Anodized aluminum resists corrosion.
- Measuring anvil marked to facilitate repetitive measurements.
- 3-3/4" maximum height for measurements.
- 1-5/8" maximum length for measurements.

Base: 4" long x 2-1/2" wide.
3-3/8" maximum clearance from Indicator Stem to upright rod.

Anvil: 1/8" diameter tapers to .074 diameter
2-5/16" length
Anvil made from Stainless Steel





Dial Indicator not included

Indicator Measuring Stand	
Description	Order Number
Dial Indicator Measuring Stand	Z8200
Anvil Tip Only	Z8201

USA MADE

Indicator Stem Bushing

- Brass. Split one side for entire length.
- 5/32" ID to 3/8" OD.
- 19/32" overall length.



Order Number
Z2107

USA MADE

Metric Indicator Stem Bushing

Accepts 8MM Indicator stem — converts to 3/8" diameter stem.



- Brass. Split one side for entire length.
- 5/8" head OD x .065" thick.
- 9/16" overall length.

Order Number
Z2105

USA MADE

Straight Metric Indicator Stem Bushing

For Metric Dial Indicators with 8MM shanks.
Allows use in any holding device built for AGD standard 3/8 Shanks.

- Accepts 8MM stem, converts to 3/8" diameter stem.
- Straight bushing, no head.
- .600" length.
- Brass, Nickel Plated.

Order Number
Z2106

USA MADE

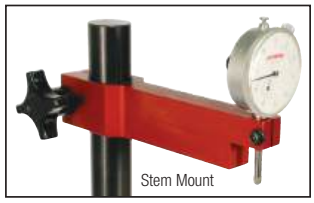


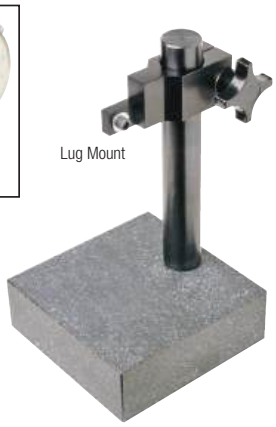
Granite Gage Stands

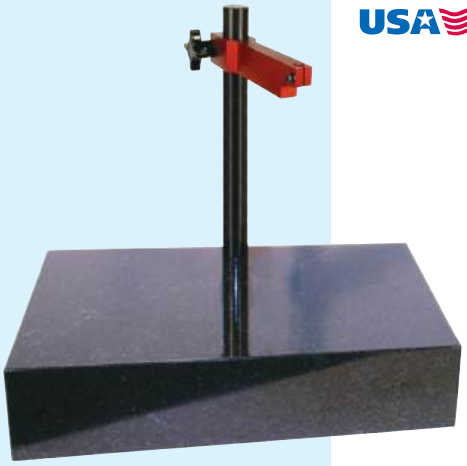
Granite Gage Stands

- USA Components
- Imported Granite
- Grade A Surface Accuracy = +/- 0.0001"
- 6" x 6" Stand comes in Lug Mount or Stem Mount

USA MADE





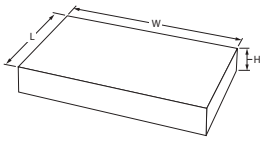








Granite Dial Indicator Stands						
"L" Granite Length	"W" Granite Width	"H" Granite Height	Rod Diameter	Rod Height	Indicator Mount	**Order Number**
6"	6"	2"	1.25"	8"	Lug Mount	**STA-662**
6	6	2	1.25	8	3/8 Stem Mount	**STA-662-SM**
8	12	2	1.25	12	3/8 Stem Mount	**STA-8122**
12	18	4	1.25	12	3/8 Stem Mount	**STA-12184**



All Components made in USA—Imported Granite

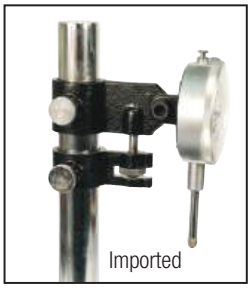


Granite Gage Stand

- Ebony Granite
- 2" thick X 6" Square
- 1" nominal diameter Post X 8" Height
- Flatness specification on the granite base is 0.0005".
- Clamp with fine adjustment fits all AGD 1,2, and 3 Indicators.
- Imported

Order Number
STA-621IMP

IMPORT



Dial Indicator not included

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Surface Plate Cleaner & Vee Blocks

Precision Surface Plate Cleaner

An exclusive formulation that is extremely effective for the cleaning and care of Granite Surface Plates.
It is also easy to ship via UPS or Common Carriers.
MSDS sheets are shipped with each order.

Made in USA

Precision Surface Plate Cleaner		
Description	Number per Case	**Order Number**
Pint	12	**Z9412**
Pint Spray Pump	12	**Z9406**
Quart	—	**Z9407**
1/2 Gallon	—	**Z9408**
Gallon	4	**Z9409**
5 Gallon	—	**Z9410**

USA MADE

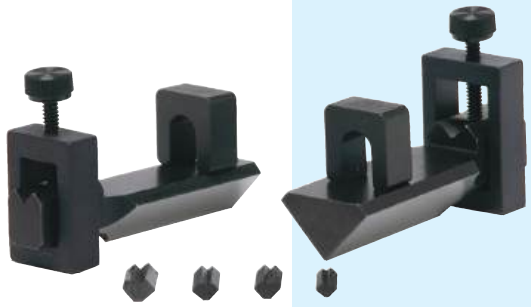


A safe and effective formula originally invented over 10 years ago to specifications developed by a leading metrologist and marine biologist, our "Precision Surface Plate Cleaner" has been one of the most widely used for over 10 years. Works quickly and effectively, leaves no residue on the granite.

Mini Vee Block Set

A universal holding tool for miniature parts, used in conjunction with larger V-blocks. Ideal for grinding and/or indexing punches and pins, EDM tooling, comparator fixturing.

- Fully hardened and precision ground
- Squareness and parallelism within .0002"
- Capacity .030 to 9/32"
- **Made in USA**



Fitted Case Includes:

(1) Mini V Block – up to 5/32" capacity – with clamp,
– Fits into a ¾" and larger V Block

(1) Mini V Block – holds up to 9/32" capacity – with clamp
– Fits into a 1" and larger V Block

(2) Bridges – clamping screw from the regular V Block will contact this part, securely mounting the Mini V Block in the V, and not interfering with the part being clamped in the Mini V System.

(5) Fingers – lay on top of the cylinder being fixtured in the mini V system. The clamp contacts the finger to hold the workpiece in place.



Large V Block & Large Clamp not included.



Order Number
Z1000

USA MADE

Caliper Accessories

USA MADE

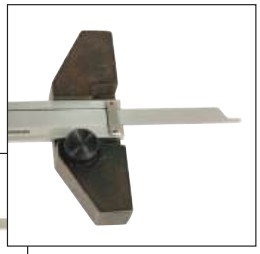


Depth Base Attachment for Calipers

This handy attachment transforms your Dial, Vernier, or Digital Caliper into a depth measurement device, without the expense of standalone Depth Micrometers.

- Fits all brands of Calipers
- Precision Ground Base
- Screw Locking Clamp
- Cold Rolled Steel
- Case Hardened .005/.010 deep
- Black Oxide Plated
- **Made in USA**





Caliper not included

Depth Base Attachment for Calipers				
Description	Base Width	Base Height	Slot Width	**Order Number**
3" Base - Fits 4-6" Calipers	1/2"	1"	0.675"	**Z9225**
4" Base - Fits 4-6" Calipers	1/2"	1"	0.675"	**Z9226**
5" Base - Fits 12" Calipers	1/2"	1"	0.820"	**Z9227**

USA MADE

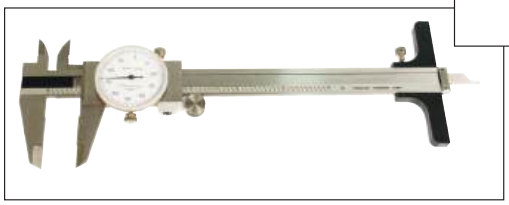
Fits most new electronic calipers with bar at the end of the beam.



T-Bar Depth Base Attachment

This handy attachment transforms your Dial, Vernier, or Digital Caliper into a depth measurement device, without the expense of standalone Depth Micrometers.

- Fits all brands of Calipers
- Locking Screw
- Case Hardened Steel
- Black Oxide Plated
- **Made in USA**





Caliper not included

T-Bar Depth Base Attachment				
Description	Base Width	Base Height	Slot Width	**Order Number**
3" Base - Fits 4-6" Calipers	.210"	.975"	0.620"	**Z9223**

USA MADE

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Caliper Accessories

USA MADE

Jaw Clamp On

- Clamps on to Caliper jaws, allows attachment of Standard Gage Balls & Depth Probes.
- Available in 3 sizes for different size Calipers.
- Right Angle Adaptor also available, which fits any of the 3 sizes of Jaw Clamp Ons.
- Steel, Black Oxide plated.
- **Made in USA**





Calipers not included



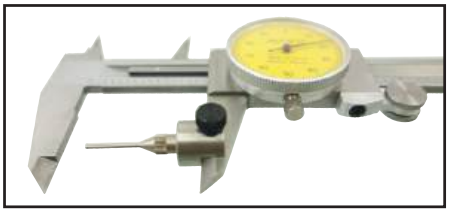


Caliper Jaw Mounting Attachments Jaw Clamp On & Right Angle Attachment	
Description	**Order Number**
Jaw Clamp On for 6" Calipers (.133 max jaw width)	**Z6958**
Jaw Clamp on for 12" Calipers (.186 max jaw width)	**Z6959**
Jaw Clamp on for 18" Calipers (.245 max jaw width)	**Z6983**
Right Angle Adaptor fits any of the above Jaw Clamp Ons	**Z6988**

USA MADE

Depth Probes

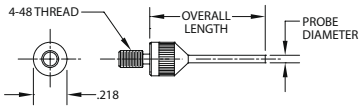
- Attach these Depth probes to 6", 12", or 18" Calipers using our Jaw Clamp Ons above.
- Available in 5 different lengths.
- Can also be attached to the Right Angle Adaptor.
- Stainless Steel
- **Made in USA**



Caliper and clamp on not included



Depth Probe		
Overall Length	Probe Diameter	**Order Number**
1/2"	0.049"	**Z6989**
3/4	0.049	**Z6990**
1"	0.062	**Z6985**
1-1/2	0.062	**Z6986**
2"	0.062	**Z6987**



USA MADE

Anvil Jaw Attachment

Use our Mic Anvils on your 4-6-8" Calipers

- Clamps on to Caliper jaws, allows attachment of Standard Mic Anvils.
- Steel, Black Oxide plated.
- **Made in USA**



Caliper and anvil not included



Order Number
Z9050

USA MADE

Caliper Accessories

USA MADE

Groove Measurement Caliper Jaws

A complete range of accessory jaws that fit on any 6" Caliper, for measuring grooves.
Finds many uses, including undercuts, and grooves of all types.

Works with Dial, Vernier, and Electronic tools, with measuring capacity from 0.200" to 6" in diameter.
Bodies are self aligning, as they have an alignment pin built in to each pair.

Manufactured in the USA of cold rolled Steel, Black Oxide finished for protection.
Sets come in plastic fitted case.

Made in USA



Z9510 Z9511



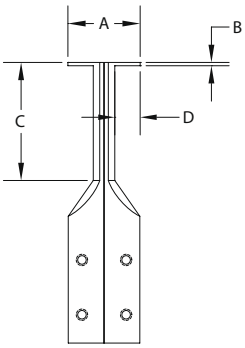
Z9512 Z9513



Z9514

Caliper not included





Bodies have .125" wide slot to admit Caliper Jaws

Groove Measurement Caliper Jaws				
Minimum Measurement Diameter (A)	Width of Feet (B)	Maximum Depth (C)	Groove Depth (D)	Order Number
0.200"	.015"	.400"	.050"	**Z9510**
0.300	.015	.625	.070	**Z9511**
0.600	.025	1.00	.200	**Z9512**
0.725	.040	1.25	.255	**Z9513**
External Measurement	.024	3.00	.375	**Z9514**

USA MADE



Z9500



Z9505

Groove Measurement Caliper Jaw Sets		
Set	Description	Order Number
3 Pair Set	Includes Max. Depth of .400, .625, & 1" (Z9510, Z9511, Z9512)	**Z9500**
5 Pair Set	Includes All Jaws Pictured Above (Z9510, Z9511, Z9512, Z9513, Z9514)	**Z9505**

USA MADE

SPECIAL ORDERS AVAILABLE—

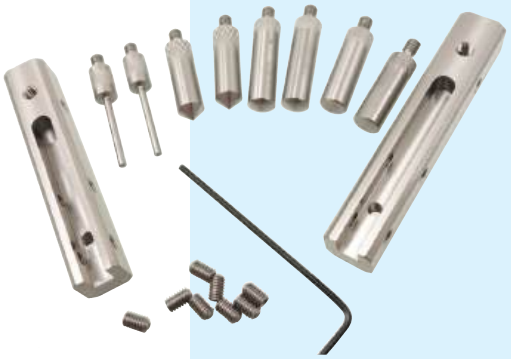
Small Quantities to Large Volume

Caliper Accessories

USA MADE

Universal Caliper Accessory Kit

The original caliper jaw attachment accessory.
The square bodies attach to the jaws of any 4", 6", 8" Caliper. Threaded holes are located in the front, both sides, and the bottoms of the bodies, allowing the use of the points on any side. Measures slots, grooves, shoulders, holes, pockets, and takes ID and OD measurements.
Corrosion Resistant Type 303 Stainless Steel



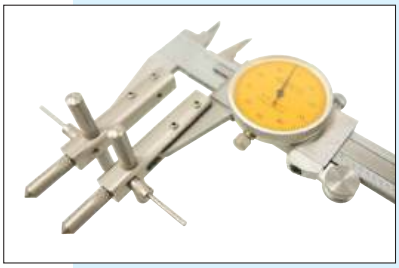
Universal Caliper Accessory Kit	
Kit contains:	Description
(2) Universal Caliper Bodies	3/8" square x 2" length. Slot for Caliper jaws is .147 wide. 4-40 holes for set screws fasten the body to the caliper jaw
(2) Flat Points	3/16 diameter x .810 length. 4-48 threads
(2) Cone Points	3/16 diameter x .810 length. 4-48 threads
(2) Stem Points	3/16 body diameter, .084 stem diameter x .820 length. 4-48 threads
(2) Ball Points	3/16 diameter x .810 length. 4-48 threads

Set Order Number
Z9020

USA MADE



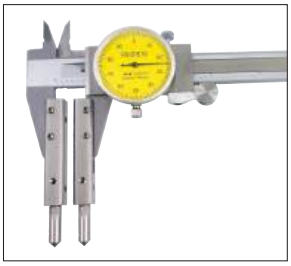
Caliper not included



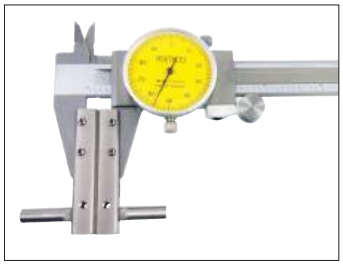
Caliper not included



Jaw attachments are 3/4" across both attachments, and add aprox. 1" in depth to your caliper jaws.



Minimum center to center measurement that can be made with this configuration is 3/8"

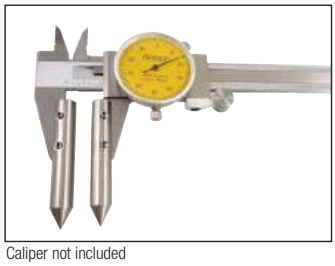


Minimum hole diameter for these attachments is 2-3/8"

Centerline Gages

- Measures centerline distances.
- Easily attaches to Dial, Vernier, and Digital Calipers.
- 60 Degree Conical Points.
- Hardened Steel with Black Oxide finish.
- Attaches in seconds with Set Screws.
- Supplied in High Impact Tubes with Allen Wrench.
- User friendly instructions.
- **Made in USA**

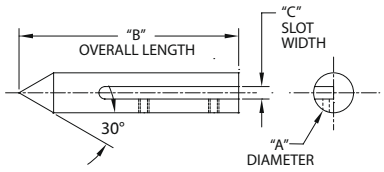
USA MADE



Caliper not included



Centerline Gages			
"A" Diameter	"B" Overall Length	"C" Slot Width	Order Number
.375"	2-5/16"	.127"	Z9009
.500"	2.762"	.144"	Z9010



Z9009 Fits 4", 6", and 8" Calipers—Closest center to center hole dimension that can be measured is 3/8".
Z9010 fits 12" Calipers—New Size!!—Closest center to center hole dimension that can be measured is 1/2".

Caliper Accessories

USA MADE

Caliper Extender Attachments



Caliper not included

A unique Caliper accessory that extends the range of your 6" Caliper **up to 91"!**
Allows both inside and outside measurements of up to 51" with your 6" Dial, Vernier, or Digital Caliper. These Extender Kits allow you to perform measuring operations without the expense of purchasing a stand alone Caliper, which could cost thousands of dollars! For the occasional measuring situation, these Kits provide the answer at a reasonable cost!

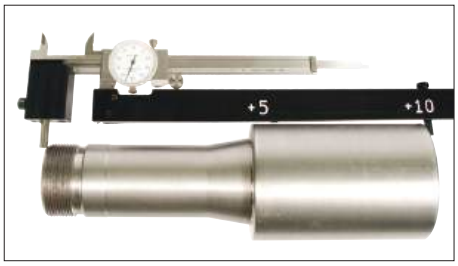
Extension bars are manufactured from high grade Aluminum, and Black Anodized with white numerals for clarity and protection. The 91" model is clear anodized, with white numerals. All mounting hardware and calibration rods are included. **Made in the USA.**

Complete instructions accompany this easy to use kit. Choose the model that fits the range of measurements you need.

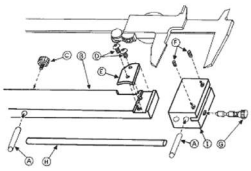
Caliper Extender Attachment		
Description	In addition to the tolerance on caliper, for cumulative accuracy, add the following tolerances:	Order Number
26" Extension Kit	+/- 0.003"	**Z2526**
36" Extension Kit	+/- 0.003"	**Z2536**
51" Extension Kit	+/- 0.004"	**Z2551**
71" Extension Kit	+/- 0.005"	**Z2571**
91" Extension Kit*	+/- 0.006"	**Z2591**

USA MADE





EASY TO INSTALL





Calibration Standard for Caliper Extenders

6" calibration standard for calibrating any of the Cal Extender units.
This Standard is also included with each Caliper Extender Kit.

Order Number
Z2526-4

USA MADE

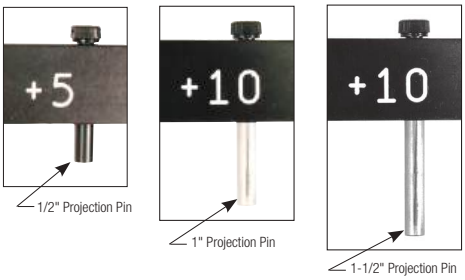
SPECIAL ORDERS AVAILABLE—
Small Quantities to Large Volume

Caliper Accessories

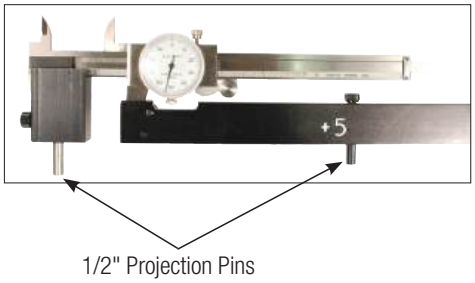
USA MADE

Projection Pins for Caliper Extenders

All Caliper Extender Kits come equipped with 1/2" projection length pins. These pins extend 1/2" under the Extender Bar. You can order replacements for the originals included with your kit (Part # Z2526-10), or order the optional longer pins for added clearance. (Part #s Z2526-11 and -12)



Caliper & Extender Bar not included



1/2" Projection Pins



Z2526-10 (pair)

Z2526-11 (pair)



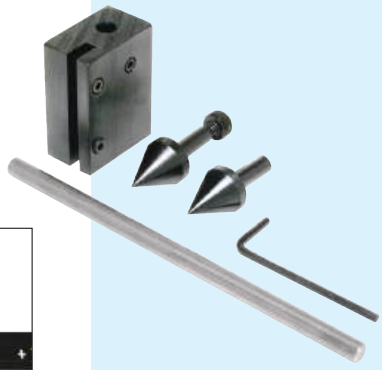
Z2526-12 (pair)

Projection Pins	
Description	Order Number
1/2" Projection Pins (pair)	Z2526-10
1" Projection Pins (pair)	Z2526-11
1-1/2" Projection Pins (pair)	Z2526-12

USA MADE

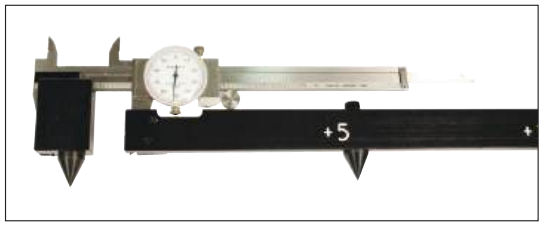
Centerline Gage Pins for Caliper Extenders

For measuring centerline distances between hole centers.
Kit includes special end block, 2 points (.620 diameter tapers to a sharp point), special 6" centerline calibration bar, hex key, and complete instructions.



Order Number
Z2526-CG

USA MADE

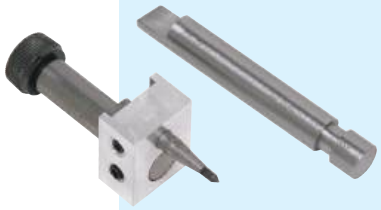


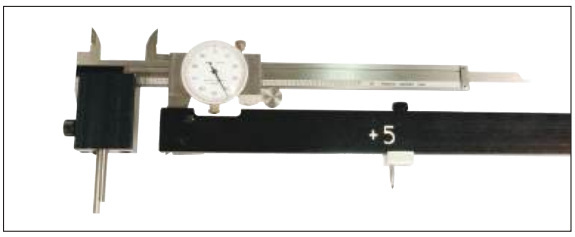
Caliper & Extender Bar not included

Layout Kit for Caliper Extenders

A specially adapted carbide scriber point allows you to scribe and make markings with the caliper.

The special carbide scribing point attachs to the Extender Bar, and the special projection pin with a milled flat goes into the block attached to the movable jaw of the caliper. The flat of the pin goes against the edge of your material, and you scribe the line with the scriber's carbide point.





Caliper & Extender Bar not included

Order Number
Z2526-LK

USA MADE

Indicator Holders & Caliper Accessories

USA MADE



Universal Dovetail Indicator Holder

Steel & Stainless Steel Models

1/4" shank diameter with 3" reach.
This spring loaded holder locks in any of (4) 90 degree quadrants, and allows many variable angles of holding.

- Brass contact will not scar Indicator.
- Fits all dovetail equipped Indicators.
- **Made in USA**

Order Number
Z9008SS



Indicator not included



Indicator, stand, & clamp not included

USA MADE



Dual Action Dovetail Indicator Holders

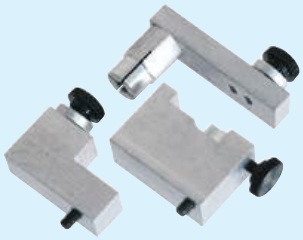
- Steel with Black Oxide finish
- **Made in USA**

Dual Action Dovetail Indicator Holders		
Description		Order Number
8MM Dia. Shank x 18mm Lth	1-1/2" Overall Lth	Z9645
5/32" Dia. Shank X 11/16" Lth	1-1/2 Overall Lth	Z9646
7/32 Di.a Shank X 11/16 Lth	1-1/2 Overall Lth	Z9647
3/8 Dia. Shank X 11/16 Lth	1-1/2 Overall Lth	Z9648
3/8 Dia. Shank X 2" Lth	3" Overall Lth	Z9649

USA MADE



Indicator, stand, & clamp not included



Z Axis Caliper Mounting Kit for Mills

Holds all common Digital Calipers, for mounting on the Z axis of most Milling Machines. Simple installation with minor machining. Full instructions and all mounting hardware included.

After the initial installation, the Caliper can be mounted and taken off quickly and easily.
Made in USA

Order Number
Z9040



Caliper not included

USA MADE



SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Indicator Holders & Accessories

USA MADE

Axial Support Bracket

Steel & Stainless Steel Models

- Used for mounting Indicators with dovetails or rods.
- 3/8" diameter body for secure clamping, with 5-1/2" overall reach.
- Bends in many directions!
- **Made in USA**

Axial Support Bracket	
Order Number	
Steel	Stainless Steel
Z9610	Z9610SS

USA MADE



Indicator not included





Dovetail Stems

A complete range of Dovetail Stems to fit all applications.
Stem has screw driver slot in bottom, and screws up through the dovetail to safely and securely clamp the Indicator.

- Dovetail dimension: .205" top to .220" bottom.
- Overall Length: .900"
- Corrosion Resistant Type 303 SS
- **Made in USA**

Dovetail Stems	
Shaft Diameter	Order Number
5/32"	Z7500SS
3/16	Z7504SS
7/32	Z7501SS
1/4	Z7502SS
5/16	Z7503SS



Indicator, stand, & clamp not included



Single-Jointed Dovetail Holder

Brass Setting Nut allows orientation of the indicator in a full 360 degrees, with secure clamping.
It also allows a fine adjustment for the indicator of .060 up and down.

- 1/4" diameter body for clamping
- 2-3/4" overall reach
- Fits all dovetail equipped Indicators
- **Made in USA**

Order Number
Z9660

USA MADE



Indicator, stand, & clamp not included



Double-Jointed Dovetail Holder

Brass Setting Nut allows orientation of the indicator in a full 360 degrees, with secure clamping.
It also allows a fine adjustment for the indicator of .060 up and down.

- 3/8" diameter body for secure clamping
- 4-1/2" overall reach
- Fits all dovetail equipped Indicators
- **Made in USA**

Order Number
Z9665

USA MADE



Indicator, stand, & clamp not included



Indicator Holders & Accessories

USA MADE



Indicator Swivel Clamp

Use for clamping any indicator that has a ¼" Rod

- Rod is ¼" diameter X 3-1/2 Long
- Clamp accepts ¼" rods
- Large thumb nut for easy tightening
- **Made in USA**

Order Number
Z1018

Clamps with Dovetails

For any Indicator equipped with rods or dovetails.
Used to fixture Indicators on Surface Gages, Gage Stands, Magnetic Bases, Height Gages, Transfer Stands, and many others.

- Steel with Black Oxide finish
- **Made in USA**

Indicators & stands not included


Z9620


Z9618

Clamps with Dovetails	
Mounting Holes	Order Number
3/8" and 7/32"	Z9600
3/8 and 1/4	Z9601
3/8 and 5/32	Z9602
7/32 and 5/32	Z9620SS
1/4 and 1/8 plus adjustable hole up to 1/4	Z9618

USA MADE


Z9600


Z9601



Z9620SS


Z9618

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Accurate Manufactured Products Group

Indicator Holders & Accessories

USA MADE

Test Indicator Body Clamp

For Starrett Indicators
Functional Equivalent of Starrett PT 07101F, 711-28-29-30

- Clamps to any diameter rod from 1/8–1/4"
- Steel with Black Oxide finish

Order Number
Z1010

USA MADE



Indicator & stand not included



Use with Z1004
Long & Short Arm Attachment

Long & Short Arm Attachment

For Starrett Indicators
Functional Equivalent of Starrett PT 07104F

- Dimensions: 3/16" Dia. arms that are 13/16" & 1-3/16" in Length
- Steel with Black Oxide finish

Order Number
Z1004

USA MADE



Use with Z1010 Body Clamp

Double-Jointed Attachment

For Starrett Indicators
Functional Equivalent of Starrett PT13301, 711-48

- Dimensions: 3/8" Dia. on one end, 1/4" Dia. on other end.
- Steel with Black Oxide finish

Order Number
Z1007

USA MADE

Use with Z1010 Body Clamp



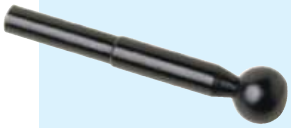
Ball Shank Attachment

For Starrett Indicators
Functional Equivalent of Starrett PT05119

- Replaces the ball shank of the Starrett No. 711EA Attachment
- Allows Starrett No. 711G & No. 711L Indicators to be used on holders with smaller clamp holes.
- Steel with Black Oxide finish

Order Number
Z1001

USA MADE



3/16" ID Coupling

For Starrett Holders PT07104F & PT13175
Functional Equivalent of Starrett PT05116, 711-46

- Dimensions: 3/16" ID x 1"
- Steel with Black Oxide finish

Order Number
Z1003

USA MADE



Swivel Support

A swivel mount for any Indicator equipped with dovetails. The Spring loaded dovetail adjusts to fit any size.

- 3/8" diameter shank features secure clamping.
- Available with 1" long shank or extra length 3-5/8" shank.

USA MADE

Swivel Support	
Description	Order Number
1" Long Shank	Z9635SS
3-5/8 Long Shank	Z9636SS



Indicator Holders & Accessories

USA MADE

Universal Friction Holder



For Starrett Indicators
Functional Equivalent of Starrett PT13175

- 3/16" (4.8mm) Diameter Shank will fit into Starrett No. 57 & No. 257 Surface Gages, as well as chucks.
- Inserts at top of Indicator body in place of end plug
- Steel with Black Oxide finish

Order Number
Z1005

USA MADE

Universal Shank



For Starrett Indicators
Functional Equivalent of Starrett PT07103A

- Includes Long & Short Arm Attachment Z1004
- Shank Dimensions: 1/4" x 1/2"
- Steel with Black Oxide finish

Order Number
Z1006

USA MADE

Surface Gage Adapter



For Gem-type Test Indicators

Functional Equivalent of Gem #515
- Overall Length:
- Steel with Black Oxide finish

Order Number
Z1017

USA MADE

Angle Attachment



Accepts all Dial Indicators with standard 3/8" stem.
- 3/8" mounting hole
- 3/8" diameter by 1" long shank
- Aluminum Black Anodized
- **Made in USA**

Order Number
Z9640

USA MADE

Round Bar



- 7/32" diameter with .163" stepped clamping end
- 2-7/8" overall length
- .220" diameter stud
- Steel Black Oxide plated
- **Made in USA**

Order Number
Z9630

USA MADE

Half Round Combination Holder



A versatile holder for test indicators equipped with stems or dovetails.

- 1/4" x 2" long holding bar.
- Accepts 5/32" stem or a complete range of dovetails.
- 3 1/2" effective measuring range.
- **Made in USA**

Order Number
Z7800

USA MADE

The versatile connector has a hole that accepts a 5/32" stem, but also has an adjustable slot that connects to a complete range of dovetails.



Indicator not included



Indicator & stand not included

Indicator & Height Gage Accessories USA MADE

Height Gage Bar & Universal Clamp Set

Popular set combining Z9627 Height Gage Bar with Z9620 Universal Clamp.
This set is one of the most widely used for Height Gage measurement applications. Holds all instruments equipped with dovetails or 7/32" diameter pins.

(OEM Part # Interapid AI-310 74.106331)



Indicator not included

Order Number
Z9627SET

USA MADE





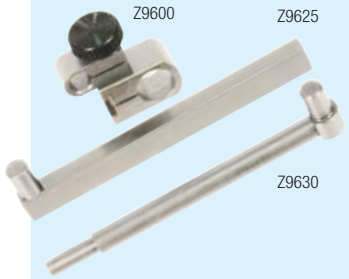
Height Gage Bar & Clamp Set

3 Pc. set combining Z9625 & 9630 Height Gage Bars with Z9600 Clamp.

This set is one of the most widely used for Height Gage measurement applications. Holds all instruments equipped with dovetails or 7/32" diameter pins.

Order Number
Z9600SET

USA MADE

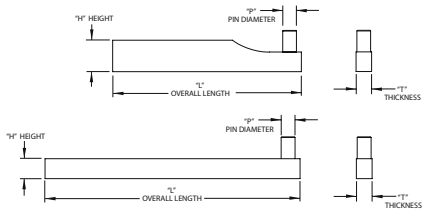


Rectangular Bars

For use with all height gages.

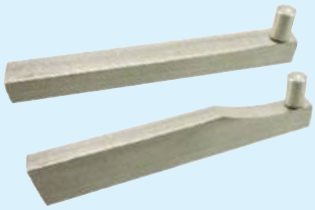
- All bars are manufactured from corrosion resistant Type 303 SS





Rectangular Bars				
"T" Thickness	"H" Height	"L" Overall Length	"P" Pin Diameter	Order Number
3/16"	5/16"	3"	.220"	Z9625
5/16	5/16	4	.220	Z9626
1/4	1/2	3	.220	Z9627
1/4	1/2	3	.250	Z9628

USA MADE



Accurate Monorail Indicator Holder

For use in Milling Machines or Holders. Reach is 5-1/2". Mounting is secure and rock solid. 5/32" hole in shaft accepts Dovetail Holder with 5/32" stem (See page 183, Item Z7500). An excellent device for set ups and measurements.

Specifications:

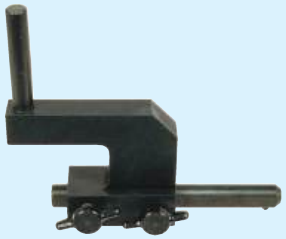
- Aluminum Body
- 5-1/2" Reach
- Accepts 5/32" Dovetail Stems
- Locking shaft for secure mounting



Indicator not included

Order Number
Z9861

USA MADE



Inside/Outside Diameter Groove Gages

A quick way to inspect steps, counterbores, keyways, and O-Ring grooves.

- Available in 0-6" and 6-12" ranges
- Black Anodized Aluminum



Indicator not included





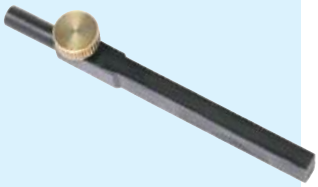
USA MADE

Inside/Outside Diameter Groove Gages	
Description	Order Number
0-6" Range	Z0001
6-12 Range	Z0002

Indicator & Height Gage Accessories

USA MADE

Holding Bar with Pin

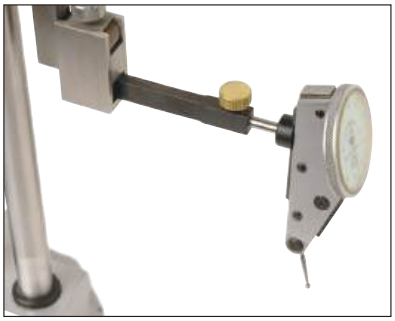


Popular accessory for use with Height Gages and other measuring stands.

- Bar is 3/16" wide by 5/16" high and 3" long.
- Adjustable pin is 7/32" diameter, which fits several of the most widely used clamps.

USA MADE

Holding Bar with Pin	
Description	Order Number
Holding Bar with Pin Holding Bar only Holding Pin only 7/32" and 5/32" dia.	**Z9611** **Z9611-1F** **Z9611-3E**



Indicator & height gage not included

Height Gage Attachment



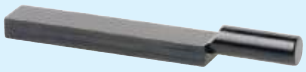
For Starrett Height Gages
Functional Equivalent of Starrett PT 24706, 711-45

- Shank Dimensions: 3/16" x 11/32"
- Steel with Black Oxide finish

Order Number
Z1008

USA MADE

Height Gage Attachement



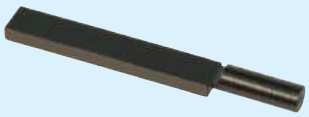
For Starrett Height Gages
Functional Equivalent of Starrett PT 08054

- Dimensions: 3/16" x 3/8"
- Steel with Black Oxide finish

Order Number
Z1002

USA MADE

Height Gage Attachement



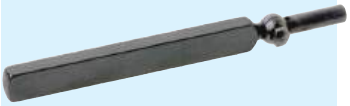
For Starrett Height Gages
Functional Equivalent of Starrett PT 07127

- Dimensions: 1/8" x 5/16"
- Steel with Black Oxide finish

Order Number
Z1009

USA MADE

Universal Shank Holder



For Gem-type Test Indicators

Functional Equivalent of Gem #35
- Overall Length:
- Steel with Black Oxide finish

Order Number
Z1016

USA MADE

Indicator & Height Gage Accessories USA MADE

Height Gage Universal Clamp Set

The #1 problem when using any height gage accessory—every manufacturer has different size clamps on their scribers, which means many accessories cannot be clamped—the operator has to hunt through the shop for something that fits.

PROBLEM SOLVED— A universal clamp set that adjusts from 1.075" down to .575". This means that 99.9% of all attachments can be used with any height gage, whether it's Chinese, Swiss, or German. Every shop with a height gage needs one of these sets.



Set Includes:
(1) Master Clamp
(1) 1/8" Ht Riser
(1) 1/4" Ht Riser
(1) 3/8" Ht Riser
(1) 1/2" Ht Riser
(1) 1/4" Ht Riser with V for accomodating Round Shafts
(1) 3/8" Ht Riser with V for accomodating Round Shafts

7 Total Items + 1 Mahogany Box

Order Number
Z9607





Height gage & scribe not included

USA MADE

Height Gage Probe Kit

Attach Probe Styli for fine measurements

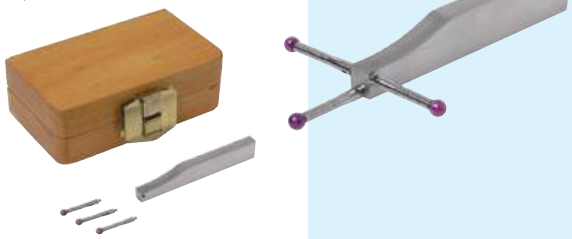
- This Height Gage Attachment lets you use any M2 threaded CMM Probe in your Height Gage
- Holder comes with (3) Ruby Ball CMM Probes—2MM Ruby Ball x 20MM Length (Z3100)
- Packed in Fitted Wood Box

Set Includes:
(1) Attachment Bar
(3) Z3100-Ruby Ball CMM Probes

4 Total Items + 1 Mahogany Box

Order Number
Z9609

USA MADE



Height Gage Centering Cone Set

Quickly and easily establish the distance between two hole centers using a height gage.

- Locates the hole center as the cone is inserted into a hole.
- Measures holes from 1/16" to 1-1/16" ID
- Packed in Fitted Wood Box

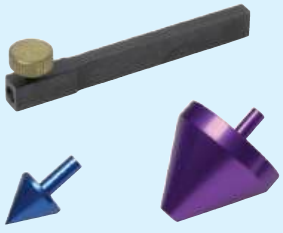
Set Includes:
(1) Holding Bar
(2) Centering Cones

3 Total Items
+ 1 Mahogany Box

Order Number
Z9608







ZeroSet Indicator Set-Up Attachments

USA MADE

ZeroSet

Perfect for Milling Machines, Magnetic Bases, and all Measuring Set Ups

A precision measuring accessory designed for any test indicator with dovetails, to quickly align the center of round work-pieces in relationship to your cutting head. Attach the ZeroSet to the collet with the hardened clamping post equipped with 1/4", 3/8", and 1/2" diameters. You can reach anywhere within an 8" radius, and you can adjust by approx. 3/8" with the fine adjustment mechanism.

Made in USA



Body mounts both ways

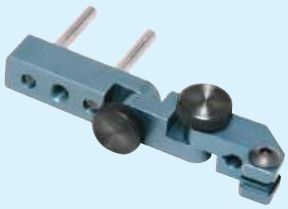


Indicator not included

Order Number
Z9860M

USA MADE





ZeroSet Universal Attachment

A unique attachment for our standard ZeroSet Indicator Accessory.

- Allows the placement of any Test Indicator with dovetails in a multitude of positions.
- Angles up to 90 degrees on either side.
- Bends both forward and backward.
- Allows for an infinite range of measurements over an extensive area.
- Attaches in seconds to our Z9860.
- **Made In USA**



Indicator and ZeroSet not included

Order Number
Z9865M

USA MADE



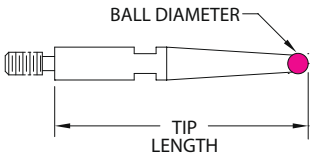
SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Replacement Tips for Test Indicators USA MADE

BROWN & SHARPE Replacement Tips

Manufactured to fit BROWN & SHARPE				
M1.4 x 0.3 Threads		Order Number		
Ball Diameter	Tip Length	Steel Ball	Carbide Ball	Ruby Ball
.015	1/2"	—	Z6594	—
.040	1/2	Z6149	Z6595	—
.080	1/2	Z6205	Z6730	—
2mm	1/2	—	—	Z6300
.120	1/2	Z6295	Z6905	—
.080	11/16	—	Z6830	—
.015	1-7/16	—	Z6644	—
.040	1-7/16	—	Z6645	—
.080	1-7/16	Z6230	Z6802	—
2mm	1-7/16	—	—	Z6301
.120	1-7/16	—	Z6918	—



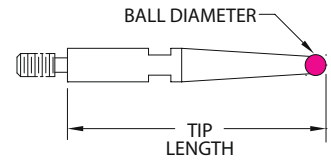


USA MADE

Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

PEACOCK Replacement Tips

Manufactured to fit PEACOCK				
M1.7 x 0.35 Threads		Order Number		
Ball Diameter	Tip Length	Steel Ball	Carbide Ball	Ruby Ball
.031"	3/8"	—	Z6523	—
.038	3/8	Z6112	—	—
.078	3/8	Z6117	—	—
.080	3/8	—	Z6723	—
2mm	3/8	—	—	Z6335
.125	3/8	Z6122	—	—
.038	3/4	Z6062	—	—
.078	3/4	Z6067	—	—
2mm	3/4	—	—	—
.125	3/4	Z6072	—	—
.038	1-3/4	Z6092	—	—
.078	1-3/4	Z6097	—	—
2mm	1-3/4	—	—	—
.125	1-1/2	Z6102	—	—





USA MADE

Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

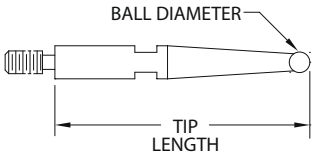
Replacement Tips for Test Indicators

USA MADE

PROCHECK Replacement Tips



Manufactured to fit PROCHECK				
			Order Number	
Ball Diameter	Tip Length	Thread	Steel Ball	Carbide Ball
.080	.500	M2	**Z6220**	—
.080	.535	M1.4	—	**Z6726**



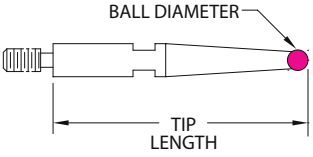
Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

USA MADE

TESA Replacement Tips



Manufactured to fit TESA				
M1.4 x 0.3 Threads		Order Number		
Ball Diameter	Tip Length	Steel Ball	Carbide Ball	Ruby Ball
.015	1/2"	—	**Z6530**	—
.031	1/2	**Z6032**	—	—
.040	1/2	**Z6033**	**Z6532**	—
.060	1/2	**Z6034**	—	—
.080	1/2	**Z6035**	**Z6534**	—
2mm	1/2	—	—	**Z6312**
.090	1/2	**Z6036**	—	—
.120	1/2	**Z6042**	**Z6536**	—
.015	1-1/2	—	**Z6538**	—
.031	1-1/2	**Z6044**	—	—
.040	1-1/2	**Z6045**	**Z6540**	—
.060	1-1/2	**Z6046**	—	—
.080	1-1/2	**Z6047**	**Z6542**	—
2mm	1-1/2	—	—	**Z6313**
.090	1-1/2	**Z6048**	—	—
.120	1-1/2	**Z6050**	**Z6544**	—



Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

USA MADE

TESA Equivalents			
AMPG	Steel Ball	Carbide Ball	Ruby Ball
Z6032	—	—	—
Z6033	18.60101	—	—
Z6034	—	—	—
Z6035	18.60102	—	—
Z6036	—	—	—
Z6042	18.60103	—	—
Z6044	—	—	—
Z6045	18.60111	—	—
Z6046	—	—	—
Z6047	18.60112	—	—
Z6048	—	—	—
Z6050	18.60113	—	—
Z6312	—	—	108-080R
Z6313	—	—	109-080R
Z6530	—	108-015	—
Z6532	18.60201	108-040	—
Z6534	18.60202	108-080	—
Z6536	18.60203	—	—
Z6538	—	109-015	—
Z6540	18.60211	109-040	—
Z6542	18.60212	109-080	—
Z6544	18.60213	—	—

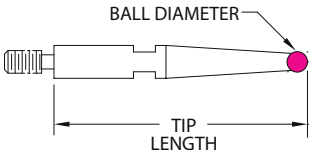
SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Replacement Tips for Test Indicators USA MADE

INTERAPID Replacement Tips

Manufactured to fit INTERAPID				
M1.7 x 0.35 Threads		Order Number		
Ball Diameter	Tip Length	Steel Ball	Carbide Ball	Ruby Ball
.015	11/16"	—	Z6510	—
.031	11/16	Z6105	Z6520	—
.060	11/16	Z6200	Z6690	—
.080	11/16	Z6204	Z6738	—
2.0MM	11/16	—	—	Z6305
.093	11/16	—	Z6206	—
0.8MM	18MM	Z6804	Z6798	—
1.5MM	18MM	Z6801	Z6797	—
2.0MM	18MM	Z6800	Z6795	—
.015	13/16	—	Z6689	—
.031	13/16	Z6106	Z6525	—
.060	13/16	Z6201	Z6692	—
.080	13/16	Z6225	Z6739	—
2.0MM	13/16	—	—	Z6306
0.8MM	21MM	Z6811	Z6807	—
1.5MM	21MM	Z6810	Z6805	—
2.0MM	21MM	Z6808	Z6526	—
.031	1.450	—	Z6524	—
.080	1.450	—	Z6809	—
0.8MM	37MM	—	Z6799	—
2.0MM	37MM	—	Z6796	—
.015	1-3/4	—	Z6521	—
.031	1-3/4	—	Z6522	—
.080	1-3/4	—	Z6742	—
2.0MM	1-3/4	—	—	Z6307
0.8MM	45MM	—	Z6813	—
2.0MM	45MM	—	Z6812	—
.080	2-3/4	—	Z6879	—
.100	2-3/4	—	Z6884	—



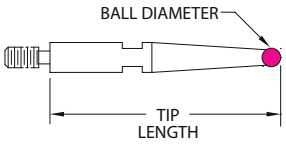


USA MADE

Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

COMPAC Replacement Tips

Manufactured to fit COMPAC			
M1.6 x 0.35 Threads		Order Number	
Ball Diameter	Tip Length	Carbide Ball	Ruby Ball
.080"	.675"	Z6737	—
.080	.720	Z6757	—
2mm	.720	—	Z6317
.120	.720	Z6915	—
.080	1.44	Z6806	—
2mm	1.44	—	Z6318
.120	1.44	Z6922	—





USA MADE

Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

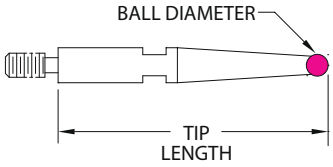
Replacement Tips for Test Indicators

USA MADE

TECLOCK Replacement Tips



Manufactured to fit TECLOCK			
M1.7 x 0.35 Threads		Order Number	
Ball Diameter	Tip Length	Steel Ball	Ruby Ball
.038"	5/8"	**Z6110**	—
.078	5/8	**Z6115**	—
2mm	5/8	—	**Z6325**
.125	5/8	**Z6120**	—
.038	3/4	**Z6060**	—
.078	3/4	**Z6065**	—
2mm	3/4	—	**Z6326**
.125	3/4	**Z6070**	—
.038	1-1/2	**Z6090**	—
.078	1-1/2	**Z6095**	—
2mm	1-1/2	—	**Z6327**
.125	1-1/2	**Z6100**	—



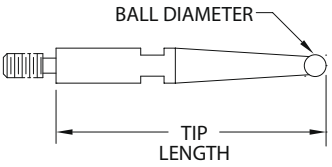
USA MADE

Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

FOWLER Replacement Tips



Manufactured to fit FOWLER			
M1.6 x 0.35 Threads		Order Number	
Ball Diameter	Tip Length	Steel Ball	Carbide Ball
.080"	.416"	**Z6216**	—
.040	.500	—	**Z6590**
.080	.500	—	**Z6725**
.120	.500	—	**Z6860**
.030	.768	**Z6028**	—
.040	.780	—	**Z6610**
.080	.780	**Z6222**	**Z6785**
.120	.780	—	**Z6895**
.040	1.500	—	**Z6649**
.080	1.500	—	**Z6820**
.120	1.500	—	**Z6920**
.080	2.930	**Z6236**	—
.080	3.077	**Z6650**	—



USA MADE

Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

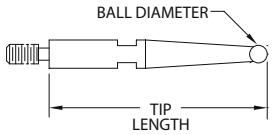
Replacement Tips for Test Indicators USA MADE

MITUTOYO Replacement Tips

Manufactured to fit MITUTOYO			
M1.7 x 0.35 Threads		Order Number	
Ball Diameter	Tip Length	Steel Ball	Carbide Ball
.040"	.500	—	Z6588
.015	.606	—	Z6814
.031	.606	Z6821	Z6815
.040	.606	Z6822	Z6823
.062	.606	Z6214	Z6816
.080	.606	Z6824	Z6817
.093	.606	—	Z6818
.120	.606	Z6825	Z6819
.015	.643	—	Z6838
.031	.643	Z6844	Z6839
.040	.643	Z6845	Z6840
.062	.643	Z6846	Z6788
.080	.643	Z6847	Z6841
.093	.643	Z6848	Z6842
.120	.643	Z6849	Z6843
.080	.670	—	Z6786
.040	.700	Z6150	—
.080	.700	Z6215	Z6740
.120	.700	Z6400	—

Chart continued on right

Manufactured to fit MITUTOYO			
M1.7 x 0.35 Threads		Order Number	
Ball Diameter	Tip Length	Steel Ball	Carbide Ball
.015	.900	—	Z6826
.031	.900	Z6833	Z6732
.040	.900	Z6834	Z6827
.062	.900	Z6835	Z6828
.080	.900	Z6836	Z6829
.093	.900	—	Z6831
.120	.900	Z6837	Z6832
.040	1	Z6180	—
.080	1	Z6223*	Z6790
.120	1	Z6410	—
.015	1.195	—	Z6850
.031	1.195	Z6856	Z6851
.040	1.195	Z6857	Z6852
.062	1.195	Z6793	Z6853
.080	1.195	Z6858	—
.093	1.195	—	Z6792
.120	1.195	—	Z6855
.040	1.438	—	Z6646
.080	1.438	—	Z6527
.040	1.500	Z6190	—
.080	1.500	Z6231	—
.120	1.500	Z6420	Z6789



* Z6223 is manufactured for Mitutoyo 513-118 Indicators with M1.7 Threads. This was discontinued and replaced by 513-518T which has a M1.8 X .35 Thread. P/N Z6224 is for this newer Indicator.

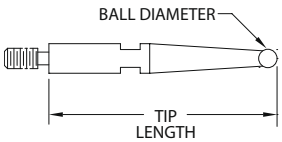


Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

USA MADE

STARRETT Replacement Tips

Manufactured to fit STARRETT					
Ball Diameter	Tip Length	Ball Type	OEM Part Number	To Fit Starrett Model #	Order Number
1MM	13/16"	Carbide	PT23942	Starrett	Z6010
2MM	13/16	Carbide	PT23914	708, 708M	Z6011
3MM	13/16	Carbide	PT23943	709, 709M	Z6012
2MM	5/8	Carbide	PT23953	Series	Z6013
0.032	5/8"	Steel	PT23062		Z6015
0.032	5/8	Carbide	PT23062X		Z6016
0.078	5/8	Steel	PT22315	For Starrett	Z6017
0.078	5/8	Carbide	PT23953	811, 811M	Z6018
0.032	1/5/16	Steel	PT23064	Series	Z6019
0.032	1-5/16	Carbide	PT23064X		Z6020
0.078	1-5/16	Steel	PT23011		Z6021
0.078	1-5/16	Carbide	PT23011X		Z6022





USA MADE

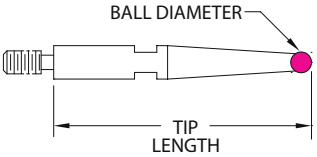
Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

Replacement Tips for Test Indicators

USA MADE

GIROD Replacement Tips





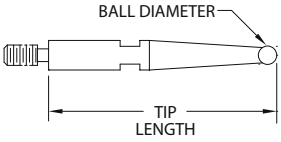
Manufactured to fit GIROD				
Ball Diameter	Tip Length	Ball Type	Thread Size	Order Number
.040	1/2"	Carbide		**Z6591**
.080	1/2	Carbide		**Z6728**
.120	1/2	Carbide	M1.6 x 0.35	**Z6911**
.040	1-7/16	Carbide	Threads	**Z6648**
.080	1-7/16	Carbide		**Z6803**
.120	1-7/16	Carbide		**Z6917**
.040	1/2"	Carbide		**Z6532**
.080	1/2	Carbide	after 1999	**Z6730**
.120	1/2	Carbide	M1.4 x 0.3	**Z6905**
.040	1-7/16	Carbide	Threads	**Z6645**
.080	1-7/16	Carbide		**Z6802**
.120	1-7/16	Carbide		**Z6918**
2MM	1/2"	Ruby	pre 1999	**Z6340**
2MM	1-7/16	Ruby	M1.6 x 0.35	**Z6341**
2MM	1-1/2	Ruby	Threads	**Z6342**
2MM	1/2"	Ruby	after 1999	**Z6300**
2MM	1-7/16	Ruby	M1.4 x 0.3	**Z6301**
2MM	1-1/2	Ruby	Threads	**Z6313**

Note: Lengths are approximate. Tips are manufactured to fit the specific indicator.

USA MADE

KAFER Replacement Tips





Manufactured to fit KAFER		
M1.6 x 0.35 Threads		Order Number
Ball Diameter	Tip Length	Carbide Ball
.015"	.438"	**Z6866**
.040	.438	**Z6006**
.080	.438	**Z6867**
.015	.469	**Z6868**
.040	.469	**Z6869**
.080	.469	**Z6005**

USA MADE

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Micrometer Accessories

USA MADE

Multi-Mike Micrometer Anvil Attachment Kit

Turns your Micrometer into 7 different Tools!
At last a kit for the machinist who must measure odd workpieces. The "MULTI-MIKE" Kit measures Shoulders, Webs, Angles, Slots, Grooves, Holes and many other hard to reach places.

This handy kit contains seven of the most sought after Accessories for outside Micrometers!

Each Anvil Attachment is held on with its own reinforced Neoprene Boot. Made in the USA to exacting standards, this kit will fit any 1-12" Micrometer, English or Metric, and all brands too!



Micrometer not included

- All 7 anvils come packaged in a protective hinged case.
- Individual Replacement Anvils are available from stock.
- Can be used singly or in pairs.
- All Anvils are 1/2" long.
- Ball Attachments are 0.200" Diameter, manufactured from Chrome Alloy Steel.
- All Anvils securely index to the Micrometer face with our heavy duty rubber holding boot.

Kit Contains:
(1) Z9301 Knife Anvil Attachment
(1) Z9302 Comparator Anvil Attachment
(1) Z9303 Super Spline Anvil Attachment
(1) Z9304 Spline Anvil Attachment
(1) Z9305 Disc Anvil Attachment
(1) Z9306 Blade Anvil Attachment
(2) .200" Diameter Ball Attachments (z9300)



All Anvils are hardened Steel with Black Oxide plating.
Fits .235 and .250 spindle diameters.

Order Number
Z9012

USA MADE

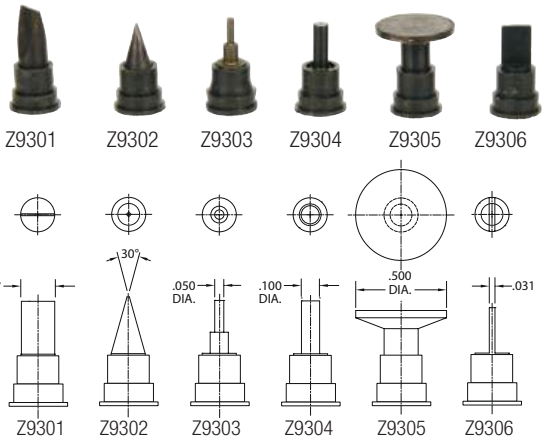


Z9301 Z9302 Z9303 Z9304 Z9305 Z9306 Z9300

Individual Micrometer Anvil Attachments

A must accessory for every Micrometer.
Each Anvil is 1/2" long. Comes with reinforced holding boot, and will fit on any 1-12" Micrometer.

- Anvils are hardened Steel w/Black Oxide plating
- Fits .235 and .250 spindle diameters
- **Made In USA**



Micrometer Anvil Attachments		
Anvil Type	Specifications	Order Number
Super Spline	.050" face	**Z9303**
Spline	.100 face	**Z9304**
Blade	.300 thick	**Z9306**
Disc	.500 face	**Z9305**
Knife	30 degrees	**Z9301**
Comparator	30 degrees	**Z9302**

USA MADE

Ball Attachment

The most commonly used Micrometer accessory. Allows measurement of cylindrical wall thickness and single point contact on round parts.

Fits .235, .250. & .270 diameter Spindles. Chrome Alloy Ball, 0.200" diameter for Inch version, and 5mm ChromeAlloy Ball in the metric version.
- All come with one attachment boot and (2) balls.

Ball Attachment	
Description	Order Number
.200 Inch	**Z9300**
5 mm Metric	**Z9300M**





Micrometer Accessories

USA MADE

Caliper Jaw Attachment for Anvils

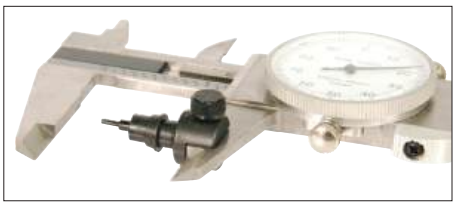
Use our Mic Anvils on your 4-6-8" Calipers



Caliper Jaw Attachment is fastened to your Caliper jaw, and the Mic Anvil fits onto the Jaw Attachment.

- **Made In USA**

Order Number
Z9050



Caliper & Anvil Not Included

USA MADE

Thread Measuring Triangle Set



Checks for Class of Thread on all 60 degree threads. Perfect for checking thread dimensions when copying parts. Made of hardened steel with a black oxide finish.
Made in USA

Set includes:

- 2 Thread Triangles,
- 2 rubber Micrometer Holding Straps
- Comes in a protective hinged plastic case with a Unified Thread Chart

Order Number
Z9035

USA MADE



Micrometer & threaded rod not included

Thread Measuring Triangles



Checks for Class of Thread on all 60 degree threads. Perfect for checking thread dimensions when copying parts. Made of hardened steel with a black oxide finish.
Made in USA

Can be operated with one hand—
does not need to be attached to your Mic.

Order Number
Z9034

USA MADE

Micrometer Stand—Imported



Designed to hold round and irregular shapes for measuring, machining, grinding, and other operations.

Sturdy cast iron Micrometer Stand.
Position and viewing angle are adjustable.
Base is 6-5/8" long and 4-1/2" wide.

Order Number
STA-MIC1

Imported



Micrometer not included

Features:

- Rubber clamp faces make sure that your Mic is not marked when clamped.
- Sturdy ribbed plastic tightening knobs insure quick and secure action.
- 3/4" Maximum clamp opening.
- Spring loaded clamp keeps jaws apart, and maintain pressure.
- Rubber feet on bottom of base keep stand from moving.
- Cast Iron, with black baked enamel painted finish.

Measuring Accessories

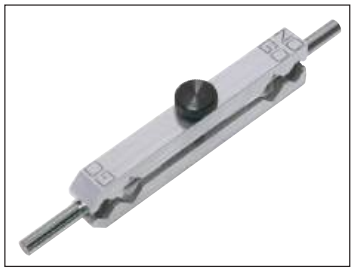
USA MADE

Pin Gage Handle

Machined from solid aluminum, this premium handle can hold diameters from 1/32" to 1/2".

- Go and No Go marked on gage.
- Completely self contained, does not use any bushings.
- Available in plain Aluminum, or Green, Purple, Red, or Yellow Anodized Aluminum
- **Made in USA**

Pin Gage Handles	Order Number
Aluminum	**Z2800**
Green Anodized Aluminum	**Z2800-GREEN**
Purple Anodized Aluminum	**Z2800-PURPLE**
Red Anodized Aluminum	**Z2800-RED**
Yellow Anodized Aluminum	**Z2800-YELLOW**





USA MADE

Dial Depth Gage Extensions Rods

- 4-48 Internal and External Thread.
- 3/16" diameter points.
- Knurling at the internally tapped end.
- Fits all Depth Gages with AGD standard 4-48 threads.
- Steel

USA MADE

Dial Depth Gage Extension Rods	
Length	**Order Number**
1"	**Z9590**
1-1/2	**Z9591**
2	**Z9592**
3	**Z9593**
4	**Z9594**
5	**Z9595**
6	**Z9596**
Set of Six 1", 1-1/2", 2", 3", 4", and 6" Points	**Z9599**



Magnetic Single Edge Finder

Firmly attaches to workpiece with integral magnet.

- **Made in USA** to exacting specifications.
- Precision ground to ± 0001".
- Case Hardened and Plated.

Order Number
Z2500

USA MADE



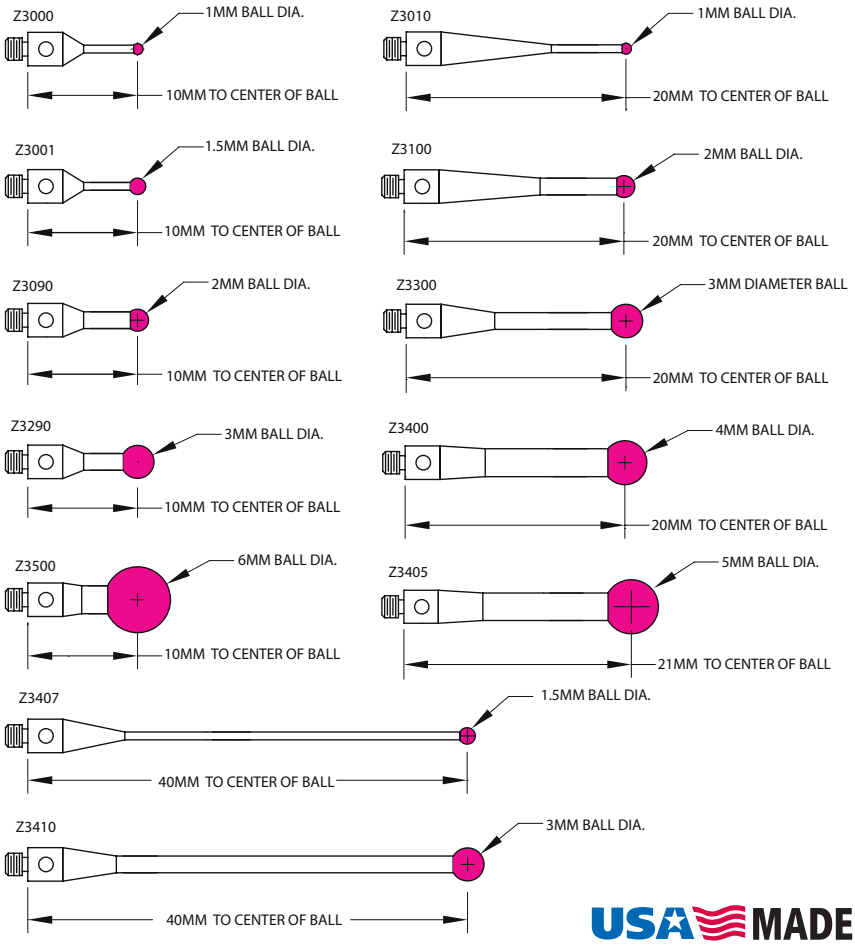
CMM Styli

USA MADE



M2 Thread Styli

CMM Styli—M2 Thread							
Ball Size	Length	Renishaw Functional Equivalent		Carbide Probes	Fowler	Q Mark	Order Number
1MM Ruby	10MM			265-1R	54-772-300	TM2-1010	**Z3000**
1.5MM Ruby	10MM	PS24R	A/5000/7802	—	—	TM2-1510	**Z3001**
2MM Ruby	10MM	PS8R	A/5000/7807	—	54-772-309	TM2-2010	**Z3090**
3MM Ruby	10MM	PS1R	A/5000/3604	—	54-772-329	TM2-3010	**Z3290**
6MM Ruby	10MM	PS14R	A/5000/4156	265-6R	54-772-350	TM2-6010	**Z3500**
8MM Ruby	12MM	PS15R	A/5000/4158	265-8R	54-772-360	TM2-8015	**Z3600**
1MM Ruby	20MM	PS23R	A/5000/7808	266-1R	54-772-301	TM2-1020-07	**Z3010**
1.5MM Ruby	20MM						**Z3011**
2MM Ruby	20MM	PS2R	A/5000/3603	266-2R	54-772-310	TM2-2020	**Z3100**
3MM Ruby	20MM	PS16R	A/5000/4160	266-3R	54-772-330	TM2-3020	**Z3300**
4MM Ruby	20MM	PS17R	A/5000/4161	266-4R	54-772-340	TM2-4020	**Z3400**
5MM Ruby	21MM						**Z3405**
1.5MM Ruby	40MM						**Z3407**
3MM Ruby	40MM						**Z3410**



SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

USA MADE

CMM Styli

USA MADE

M3 Thread Styli

CMM Styli—M3 Thread							
Ball Size	Length	Renishaw Functional Equivalent		Carbide Probes	Fowler	Q Mark	Order Number
1MM Ruby	10MM						**Z3000M3**
6MM Ruby	10MM						**Z3500M3**
8MM Ruby	12MM						**Z3600M3**
1MM Ruby	20MM	PS1-9R	A/5000/3551	261-1R	—	TM3-1020	**Z3010M3**
2MM Ruby	20MM	PS1-10R	A/5000/3552	261-2R	—	TM3-2020	**Z3100M3**
3MM Ruby	20MM	PS1-11R	A/5000/3553	261-3R	—	TM3-3020	**Z3300M3**
4MM Ruby	20MM	PS1-12R	A/5000/7606	261-4R	—	TM3-4020	**Z3400M3**
5MM Ruby	21MM	PS1-13R	A/5000/7630	—	—	TM3-5020	**Z3405M3**



USA MADE

M4 Thread Styli

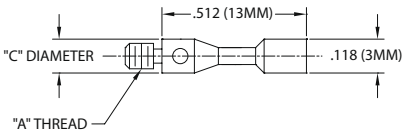
CMM Styli—M4 Thread							
Ball Size	Length	Renishaw Functional Equivalent		Carbide Probes	Fowler	Q Mark	Order Number
1MM Ruby	10MM						**Z3000M4**
6MM Ruby	10MM						**Z3500M4**
8MM Ruby	12MM						**Z3600M4**
1MM Ruby	20MM	PS2-3R	A/5000/7545	840-1R	TM4-1020	—	**Z3010M4**
2MM Ruby	20MM	PS2-4R	A/5000/7547	840-2R	TM4-2020	—	**Z3100M4**
3MM Ruby	20MM	PS2-5R	A/5000/7549	840-3R	TM4-3020	—	**Z3300M4**
4MM Ruby	20MM	PS2-6R	A/5000/7551	840-4R	TM4-4020	—	**Z3400M4**
5MM Ruby	21MM						**Z3405M4**



USA MADE

Cylinder Styli

Cylinder CMM Styli				
Thread	Cylinder Diameter	Styli Length	"C" Base Diameter	Order Number
M2 x .4	3M	13MM	3M	**Z3999**
M3 x .5	3M	13MM	3M	**Z3999M3**
M4 x .7	3M	13MM	4.75M	**Z3999M4**





USA MADE

CMM Styli Sets & Extensions

USA MADE

Fowler 11 Pc. CMM Styli Set in Plastic Case



Made in USA

Kit Contains:

(1) Z3000 1MM RUBY CMM TRACER TIP 10 MM LTH M2X.4 THDS
(1) Z3010 1MM RUBY BALL CMM TRACER TIP 20 MM LTH M2 X.4 THDS
(1) Z3090 2MM RUBY BALL CMM TRACER TIP 10 MM LTH M2 X .4 THD
(1) Z3100 2MM RUBY BALL CMM TRACER TIP 20 MM LTH M2 X .4 THD
(1) Z3290 3MM RUBY BALL CMM TRACER TIP 10 MM LTH M2 X .4 THD
(1) Z3300 3MM RUBY BALL CMM TRACER TIP 20 MM LTH M2 X .4 THD
(1) Z3820 CMM EXTENSION - 20MM LTH M2 X .4 THREADS ST/ST
(1) Z3840 CMM EXTENSION - 40MM LTH M2 X .4 THREADS ST/ST
(1) Z3860 8MM CMM PROBE SWIVEL M2 X .4 THREADS ST/ST
(1) Z3864 CMM X-HEAD 6.5 X 6.5MM X 3MM THK,(5)M2 FEM, ST/ST
(1) Z2999 STYLI WRENCH .050 OD TIP X 1-13/16 OAL S/S

Order Number
FOW54-772-000

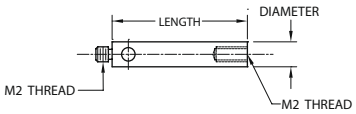


USA MADE

M2 Thread Extensions



Stainless Steel • Made in USA

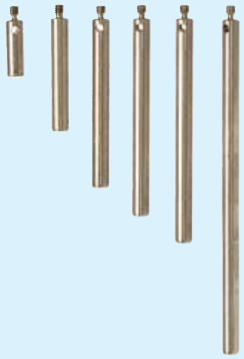


M2 Thread Extensions — Stainless Steel

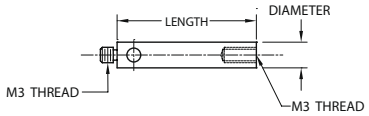
Length	Diameter	Renishaw Functional Equivalent		Carbide Probes	Fowler	Q Mark	Order Number
5MM	3MM						**Z3805**
10MM	3MM	SE4	M/5000/3647	265-E10	54-772-810	VM2-10	**Z3810**
20MM	3MM	SE5	M/5000/3648	265-E20	54-772-820	VM2-20	**Z3820**
30MM	3MM	SE6	M/5000/4162	265-E30	54-772-830	VM2-30	**Z3830**
35MM	3MM	—	—	—	—	—	**Z3835**
40MM	3MM	SE18	M/5000/7779	265-E40	54-772-840	VM2-40	**Z3840**
60MM	3MM	—	—	—	—	—	**Z3849**

USA MADE

M3 Thread Extensions



Stainless Steel • Made in USA



M3 Thread Extensions — Stainless Steel

Length	Diameter	Renishaw Functional Equivalent		Carbide Probes	Fowler	Q Mark	Order Number
10MM	4MM	SE8	M/5000/7633	261-E10	—	VM3-10	**Z3810M3**
20MM	4MM	SE2	M/5000/3592	261-E20	—	VM3-20	**Z3820M3**
30MM	4MM	—	—	261-E30	—	—	**Z3830M3**
35MM	4MM	—	M/5000/3593	261-E35	—	VM3-35	**Z3835M3**
40MM	4MM	—	M/5000/3593	—	—	—	**Z3840M3**
60MM	4MM	—	—	—	—	—	**Z3849M3**

USA MADE

SPECIAL ORDERS AVAILABLE—

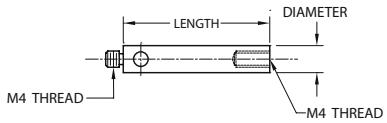
Small Quantities to Large Volume

CMM Extensions & Accessories

USA MADE

M4 Thread Extensions

Stainless Steel • Made in USA





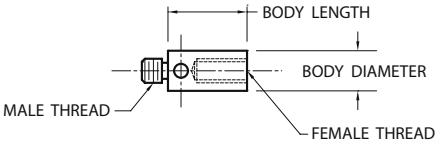
M4 Thread Extensions — Stainless Steel

Length	Diameter	Renishaw Functional Equivalent		Carbide Probes	Fowler	Q Mark	Order Number
10MM	6.3MM	—	—	823-E10	—	VM4-10	**Z3810M4**
20MM	6.3MM	—	—	823-E20	—	VM4-20	**Z3820M4**
30MM	6.3MM	—	—	823-E30	—	VM4-30	**Z3830M4**
35MM	6.3MM	—	—	—	—	—	**Z3835M4**
40MM	6.3MM	—	—	—	—	—	**Z3840M4**
60MM	6.3MM	—	—	—	—	—	**Z3849M4**

USA MADE

Adaptor Tips—Stainless Steel

Converts your probe head to a different thread size, allowing multiple uses of CMM Styli or accessories.





Adaptor Tips — Stainless Steel

Male Thread	Female Thread	Body Diameter	Body Length	Renishaw Functional Equivalent		Carbide Probes	Fowler	Q Mark	Order Number
M3 X .5	M2 X .4	4MM	5MM	SA3	M/5000/4163	261-AD5	54-772-850	RM3-M2	**Z3850**
M2 X .4	M3 X .5	4MM	10MM	SA2	M/5000/4164	265-AD7	54-772-851	RM2-M3	**Z3851**
M4 X .7	M2 X .4	6.3MM	5MM	SA5	M/5000/6622	399	54-772-852	—	**Z3852**
M2 X .4	M4 X .7	6.3MM	15MM	—	—	—	54-772-853	RM4-M2	**Z3853**
M4 X .7	M3 X .5	6.3MM	10MM	SA6	M/5000/6714	—	54-772-854	—	**Z3854**

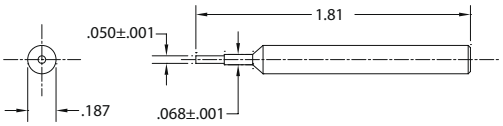
USA MADE

CMM Styli Universal Wrench

Fits all Styli

Order Number
Z2999

USA MADE



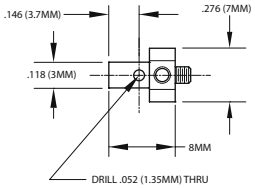


CMM Accessories

USA MADE

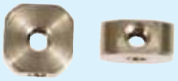
CMM Crossheads



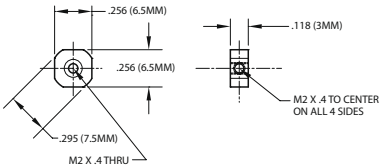


Order Number
Z3865

USA MADE



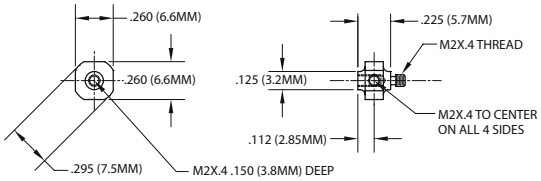
- 6.5mm square
- 3mm thick
- M2 thru thread
- M2 on all four sides



Order Number
Z3864

USA MADE

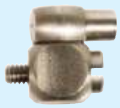


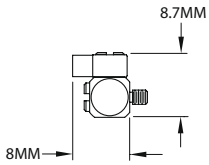


Order Number
Z3864T

USA MADE

CMM Styli Knuckles





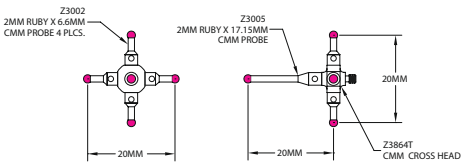
Order Number
Z3860

USA MADE



CMM Star Styli

6 Piece Set:
(1) Z3864T CMM Crosshead
(1) Z3005 2MM x 17.2MM Ruby Ball Probe
(4) Z3002 2MM x 6.6MM Ruby Ball Probe



Order Number
Z3862

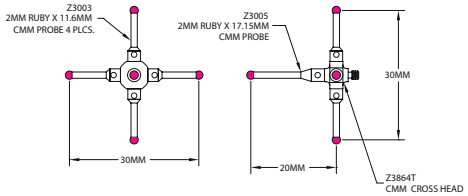
USA MADE



6 Piece Set:
(1) Z3864T CMM Crosshead
(1) Z3005 2MM x 17.2MM Ruby Ball Probe
(4) Z3003 2MM x 11.6MM Ruby Ball Probe

Order Number
Z3863

USA MADE



SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Gage Balls & Hardness Penetrators

USA MADE

Grade 25 Chrome Alloy Steel Balls

Diameter Tolerance: +/- .0001" — Sphericity of .000025"

Grade 25 Chrome Alloy Steel Balls							
Diameter Tolerance: +/- .0001" — Sphericity of .000025"							
Diameter	Order Number	Diameter	Order Number	Diameter	Order Number	Diameter	Order Number
1/32"	BAL200CA031	3/8"	BAL200CA375	3/4"	BAL200CA750	1MM	BAL200CA039MM
3/64	BAL200CA046	13/32	BAL200CA406	25/32	BAL200CA781	3MM	BAL200CA118
1/16	BAL200CA062	7/16	BAL200CA437	13/16	BAL200CA812	5MM	BAL200CA05MM
5/64	BAL200CA078	15/32	BAL200CA468	7/8	BAL200CA875	7MM	BAL200CA275MM
				15/16	BAL200CA937		
3/32	BAL200CA093	1/2	BAL200CA500				
5/32	BAL200CA156	17/32	BAL200CA531	1	BAL200CA1000		
3/16	BAL200CA187	9/16	BAL200CA562	1-1/16	BAL200CA1062		
7/32	BAL200CA218	9/32	BAL200CA593	1-1/8	BAL200CA1125		
				1-3/16	BAL200CA1187		
1/4	BAL200CA250	5/8	BAL200CA625	1-1/4	BAL200CA1250		
9/32	BAL200CA281	21/32	BAL200CA656				
5/16	BAL200CA312	11/16	BAL200CA687				
11/32	BAL200CA343	23/32	BAL200CA718				



Grade 25 Tungsten Carbide Gage Balls

Metric & Inch Sizes

Grade 25 Tungsten Carbide Gage Balls Metric & Inch Sizes			
Diameter	Order Number	Diameter	Order Number
.031"	BAL25TC031	2mm	BAL25TC2MM
.040	BAL25TC040	3mm	BAL25TC3MM
.062	BAL25TC062	4mm	BAL25TC4MM
.080	BAL25TC080		
.093	BAL25TC093		



Hardness Tester Penetrators

Hardness Tester Penetrators	
Description	Order Number
1/16" Ball Penetrator with 50 extra Balls 1/4 Shank with Flat	Z0790
1/8 Ball Penetrator with 8 extra Balls 1/4 Shank with Flat	Z0791
1/4 Ball Penetrator with 2 extra Balls 1/4 Shank with Flat	Z0792
1/2 Ball Penetrator with 1 extra Ball	Z0793





USA MADE

Diamond Penetrator

Order Number
Z9970-1



Parallel Sets

IMPORT



Thin Parallel Value Set

Our 1/8" thick 10 Pair Parallel Set, in custom fitted plastic box with carrying handle.

10 Pairs in Set
Hardened Steel, 6" Length X 1/8" Thick.
Heights: 1/2", 5/8", 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2", 1-5/8"

- Parallel within 0.0008" each pair. (+/- .0004")
- Heights matched within +/- 0.001 each pair

Thin Parallel Value Set

Height	Length	Thickness	Order Number
1/2"	6"	1/8"	Z9980-1P
5/8"	6"	1/8"	Z9980-2P
3/4"	6"	1/8"	Z9980-3P
7/8"	6"	1/8"	Z9980-4P
1"	6"	1/8"	Z9980-5P
1-1/8"	6"	1/8"	Z9980-6P
1-1/4"	6"	1/8"	Z9980-7P
1-3/8"	6"	1/8"	Z9980-8P
1-1/2"	6"	1/8"	Z9980-9P
1-5/8"	6"	1/8"	Z9980-10P
10 Pair Set			Z9980B



1/4" Parallel Set

9 Pair Set, in custom fitted plastic box with carrying handle.

9 Pairs in Set
Hardened Steel, 6" Length X 1/4" Thick.
Heights: 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2", 1-5/8", 1-3/4"

- Parallel within +/- 0.0005" each pair.
- Heights matched within +/- 0.001" each pair.

1/4" Parallel Set

Height	Length	Thickness	Order Number
3/4"	6"	1/4"	Z9985-1P
7/8"	6"	1/4"	Z9985-2P
1"	6"	1/4"	Z9985-3P
1-1/8"	6"	1/4"	Z9985-4P
1-1/4"	6"	1/4"	Z9985-5P
1-3/8"	6"	1/4"	Z9985-6P
1-1/2"	6"	1/4"	Z9985-7P
1-5/8"	6"	1/4"	Z9985-8P
1-3/4"	6"	1/4"	Z9985-9P
9 Pair Set			Z9985



Ultra Thin 1/32" Thick 20 Pair Parallel Set

Ultra Thin Parallels are 1/32" Thick, 6" long, and heights from 1/2" thru 1-11/16".

Specifications:
+/- 0.0001" in Parallelism
Paired in Height to +/- 0.0001"
Height matched to nominal within +/- 0.001"

Ultra Thin—1/32" Thick 20 Pair Parallel Set

Height	Length	Thickness	Order Number
1/2"	6"	1/32"	Z9981-1P
9/16	6	1/32	Z9981-2P
5/8	6	1/32	Z9981-3P
11/16	6	1/32	Z9981-4P
3/4	6	1/32	Z9981-5P
13/16	6	1/32	Z9981-6P
7/8	6	1/32	Z9981-7P
15/16	6	1/32	Z9981-8P
1	6	1/32	Z9981-9P
1-1/16	6	1/32	Z9981-10P
1-1/8	6	1/32	Z9981-11P
1-3/16	6	1/32	Z9981-12P
1-1/4	6	1/32	Z9981-13P
1-5/16	6	1/32	Z9981-14P
1-3/8	6	1/32	Z9981-15P
1-7/16	6	1/32	Z9981-16P
1-1/2	6	1/32	Z9981-17P
1-9/16	6	1/32	Z9981-18P
1-5/8	6	1/32	Z9981-19P
1-11/16	6	1/32	Z9981-20P
20 Pair Kit			Z9981

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

1/4" Tight Tolerance Parallels

IMPORT

Matched Pairs

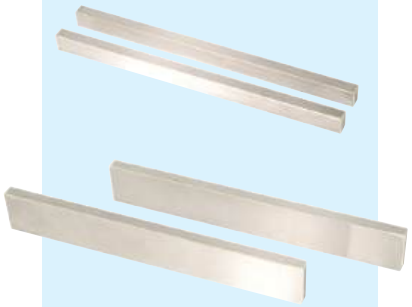
1/4" Parallel Pairs.
Precision ground in matched pairs, on two sides.

Hardened Steel, 6" Length X 1/4" Thick.

Tolerances:
Height +/- .001" from nominal
Parallelism over entire Length +/- .0001"
Total matched size tolerance in pair +/- .0001"

Individual Pairs of Parallels

Height	Length	Thickness	Order Number
3/8"	6"	1/4"	**Z9983-06**
7/16	6	1/4	**Z9983-07**
1/2	6	1/4	**Z9983-08**
9/16	6	1/4	**Z9983-09**
5/8	6	1/4	**Z9983-10**
11/16	6	1/4	**Z9983-11**
3/4	6	1/4	**Z9983-12**
13/16	6	1/4	**Z9983-13**
7/8	6	1/4	**Z9983-14**
15/16	6	1/4	**Z9983-15**
1	6	1/4	**Z9983-16**
1-1/16	6	1/4	**Z9983-18**
1-1/8	6	1/4	**Z9983-20**
1-3/16	6	1/4	**Z9983-22**
1-1/4	6	1/4	**Z9983-24**
1-5/16	6	1/4	**Z9983-26**
1-3/8	6	1/4	**Z9983-28**
1-7/16	6	1/4	**Z9983-30**
1-1/2	6	1/4	**Z9983-32**
1-9/16	6	1/4	**Z9983-34**
1-5/8	6	1/4	**Z9983-36**
1-11/16	6	1/4	**Z9983-38**
1-3/4	6	1/4	**Z9983-40**
1-13/16	6	1/4	**Z9983-42**
1-7/8	6	1/4	**Z9983-44**
1-15/16	6	1/4	**Z9983-46**
2	6	1/4	**Z9983-48**



Parallel Sets in Custom Fitted Cases

1/4" Parallel Sets.
Precision ground in matched pairs, on two sides.

Hardened Steel, 6" Length X 1/4" Thick.
Wooden cases are manufactured in the USA to conform to these large Sets.
Foam inserts are molded to hold and protect each Parallel pair.

Tolerances:
Height +/- .001" from nominal
Parallelism over entire Length +/- .0001"
Total matched size tolerance in pair +/- .0001"





Sets in Custom Fitted Cases

Description	Order Number
9 Pair Set — 3/8" thru 7/8" 3/8", 7/16", 1/2", 9/16", 5/8",11/16", 3/4", 13/16, 7/8"	**Z9983-SET1**
9 Pair Set - 15/16" thru 1-7/16" 15/16", 1", 1-1/16", 1-1/8", 1-3/16", 1-1/4", 1-5/16", 1-3/8", 1-7/16"	**Z9983-SET2**
9 Pair Set — 1-1/2" thru 2" 1-1/2", 1-9/16", 1-5/8", 1-11/16", 1-3/4", 1-13/16", 1-7/8", 1-15/16", 2"	**Z9983-SET3**
22 Pair Set - 1/2" thru 1-13/16" 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1-1/16", 1-1/8", 1-3/16", 1-1/4", 1-5/16", 1-3/8", 1-7/16", 1-1/2", 1-9/16", 1-5/8", 1-11/16", 1-3/4", 1-13/16"	**Z9983-SET4**




Architectural
Components
by AMPG
• Structural Standoffs
• Custom Architectural Components
• Button and Flat Head Bolts
• Low Profile Connectors
• Cable Rail Fittings
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USA
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Panel Standoff Systems

USA MADE

The standoff base and cap system is used to design and build creative and visually pleasing living, office and retail environments.

Combine glass and metal to connect panels, mount directories and signs, display merchandise, and mount artwork to walls.

We manufacture and stock standoff bases and caps, round or square, plus we can manufacture custom designs per your description or blue print. (Please see our custom part "Special Standoff Order Forms" on pages xvi and xvii).

Great attention is paid to fit and finish in the manufacturing process. These products are manufactured in our shop in Indiana, USA.

Finish—all products are finished to match standard architectural finishes, as called out by BHMA (Builders Hardware Manufacturers Association) and ANSI (American National Standards Institute).





Base Material	Plating Description	ANSI Code	US Equal
Brass	Bright Brass Clear Coat	605	US3
Brass	Chrome	625	US26
Aluminum	Clear Anodized	628	US28
Aluminum	Black Anodized	—	—
Stainless Steel	Bright	629	US32
Stainless Steel	Satin	630	US32D

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Panel Standoff Systems

USA MADE

Accurate provides the most diversified and complete selection of Standoff products available anywhere. Our 1/2" (12.7 mm) diameter Standoffs are a favorite for lighter weight glass displays or signage. 3/4" (19 mm) diameter Standoffs are the perfect design element for industrial projects such as exhibit building or retail display projects. Our 1-1/4" (31.7 mm) diameter Standoffs are designed to provide solutions for a vast variety of projects. Used to support heavier thicknesses of glass, the applications for this product are only limited by your imagination.

- **Available in Six Distinct Finishes to Accommodate Any Project Requirement**
- **Accomplish Your Design Objective by Selecting Any of Nine Different Lengths**
- **Perfect for ADA, Wayfinding, Office Environment Signage**
- **Sleek, Modern Look**

An assortment of lengths make our 1/2" (12.7 mm) Standoff Base and Cap Assemblies the ideal solution for lighter weight glass displays or signage. Panels require 5/16" (8 mm) holes for assembly. Standoff bases and caps are available in Clear Coat Brass, Chrome Plated Brass, Bright Stainless, Satin Stainless, Clear Anodized Aluminum, or Black Anodized Aluminum.



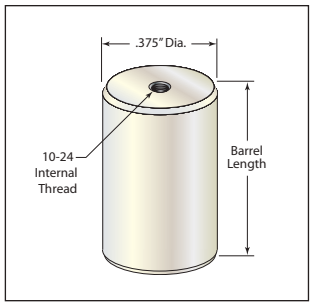
See pages xvi and xvii for our "Special Standoff Order Forms"

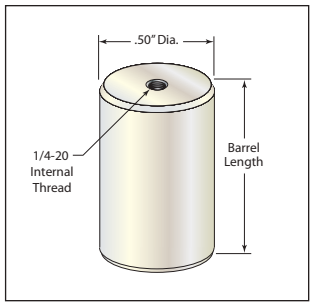
Standoff Bases

USA MADE



Round







Standoff bases that are 1/4", 1/2", 3/4", and 1" in length are tapped thru the full length with the thread size shown in the drawings above. Bases with lengths of 1-1/4" and 1-1/2" have a 1/2" thread depth. Bases with lengths of 2", 3" and 4" have a 3/4" thread depth.

STANDOFF BASES— .375" (9.52mm) Outer Diameter

LENGTH	THREAD DEPTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
		Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	THRU	ZA0100-BR26	ZA0100-BR3	ZA0100-AL28	ZA0100-ALBLK	ZA0100-SS32	ZA0100-SS32D
1/2"	THRU	ZA0102-BR26	ZA0102-BR3	ZA0102-AL28	ZA0102-ALBLK	ZA0102-SS32	ZA0102-SS32D
3/4"	THRU	ZA0104-BR26	ZA0104-BR3	ZA0104-AL28	ZA0104-ALBLK	ZA0104-SS32	ZA0104-SS32D
1"	THRU	ZA0106-BR26	ZA0106-BR3	ZA0106-AL28	ZA0106-ALBLK	ZA0106-SS32	ZA0106-SS32D
1-1/4"	1/2"	ZA0108-BR26	ZA0108-BR3	ZA0108-AL28	ZA0108-ALBLK	ZA0108-SS32	ZA0108-SS32D
1-1/2"	1/2"	ZA0110-BR26	ZA0110-BR3	ZA0110-AL28	ZA0110-ALBLK	ZA0110-SS32	ZA0110-SS32D
2"	3/4"	ZA0112-BR26	ZA0112-BR3	ZA0112-AL28	ZA0112-ALBLK	ZA0112-SS32	ZA0112-SS32D
3"	3/4"	ZA0114-BR26	ZA0114-BR3	ZA0114-AL28	ZA0114-ALBLK	ZA0114-SS32	ZA0114-SS32D
4"	3/4"	ZA0116-BR26	ZA0116-BR3	ZA0116-AL28	ZA0116-ALBLK	ZA0116-SS32	ZA0116-SS32D

STANDOFF BASES— .50" (12.7mm) Outer Diameter

LENGTH	THREAD DEPTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
		Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	THRU	ZA0120-BR26	ZA0120-BR3	ZA0120-AL28	ZA0120-ALBLK	ZA0120-SS32	ZA0120-SS32D
1/2"	THRU	ZA0122-BR26	ZA0122-BR3	ZA0122-AL28	ZA0122-ALBLK	ZA0122-SS32	ZA0122-SS32D
3/4"	THRU	ZA0124-BR26	ZA0124-BR3	ZA0124-AL28	ZA0124-ALBLK	ZA0124-SS32	ZA0124-SS32D
1"	THRU	ZA0126-BR26	ZA0126-BR3	ZA0126-AL28	ZA0126-ALBLK	ZA0126-SS32	ZA0126-SS32D
1-1/4"	1/2"	ZA0128-BR26	ZA0128-BR3	ZA0128-AL28	ZA0128-ALBLK	ZA0128-SS32	ZA0128-SS32D
1-1/2"	1/2"	ZA0130-BR26	ZA0130-BR3	ZA0130-AL28	ZA0130-ALBLK	ZA0130-SS32	ZA0130-SS32D
2"	3/4"	ZA0132-BR26	ZA0132-BR3	ZA0132-AL28	ZA0132-ALBLK	ZA0132-SS32	ZA0132-SS32D
3"	3/4"	ZA0134-BR26	ZA0134-BR3	ZA0134-AL28	ZA0134-ALBLK	ZA0134-SS32	ZA0134-SS32D
4"	3/4"	ZA0136-BR26	ZA0136-BR3	ZA0136-AL28	ZA0136-ALBLK	ZA0136-SS32	ZA0136-SS32D

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

USA MADE

Phone: 317-472-9000 • FAX: 317-472-9010 • *email: sales@ampg.com* • www.arch.ampg.com

Accurate
Manufactured
Products
Group

Standoff Bases

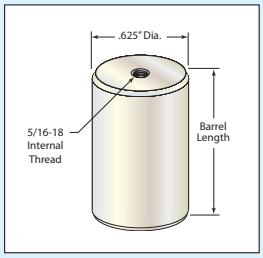
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Round

STANDOFF BASES— .625" (15.8mm) Outer Diameter

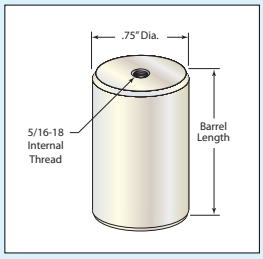
LENGTH	THREAD DEPTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
		Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	THRU	ZA0140-BR26	ZA0140-BR3	ZA0140-AL28	ZA0140-ALBLK	ZA0140-SS32	ZA0140-SS32D
1/2"	THRU	ZA0142-BR26	ZA0142-BR3	ZA0142-AL28	ZA0142-ALBLK	ZA0142-SS32	ZA0142-SS32D
3/4"	THRU	ZA0144-BR26	ZA0144-BR3	ZA0144-AL28	ZA0144-ALBLK	ZA0144-SS32	ZA0144-SS32D
1"	THRU	ZA0146-BR26	ZA0146-BR3	ZA0146-AL28	ZA0146-ALBLK	ZA0146-SS32	ZA0146-SS32D
1-1/4"	1/2"	ZA0148-BR26	ZA0148-BR3	ZA0148-AL28	ZA0148-ALBLK	ZA0148-SS32	ZA0148-SS32D
1-1/2"	1/2"	ZA0150-BR26	ZA0150-BR3	ZA0150-AL28	ZA0150-ALBLK	ZA0150-SS32	ZA0150-SS32D
2"	3/4"	ZA0152-BR26	ZA0152-BR3	ZA0152-AL28	ZA0152-ALBLK	ZA0152-SS32	ZA0152-SS32D
3"	3/4"	ZA0154-BR26	ZA0154-BR3	ZA0154-AL28	ZA0154-ALBLK	ZA0154-SS32	ZA0154-SS32D
4"	3/4"	ZA0156-BR26	ZA0156-BR3	ZA0156-AL28	ZA0156-ALBLK	ZA0156-SS32	ZA0156-SS32D





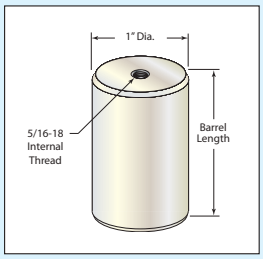
STANDOFF BASES— .75" (19.05mm) Outer Diameter

LENGTH	THREAD DEPTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
		Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	THRU	ZA0160-BR26	ZA0160-BR3	ZA0160-AL28	ZA0160-ALBLK	ZA0160-SS32	ZA0160-SS32D
1/2"	THRU	ZA0162-BR26	ZA0162-BR3	ZA0162-AL28	ZA0162-ALBLK	ZA0162-SS32	ZA0162-SS32D
3/4"	THRU	ZA0164-BR26	ZA0164-BR3	ZA0164-AL28	ZA0164-ALBLK	ZA0164-SS32	ZA0164-SS32D
1"	THRU	ZA0166-BR26	ZA0166-BR3	ZA0166-AL28	ZA0166-ALBLK	ZA0166-SS32	ZA0166-SS32D
1-1/4"	1/2"	ZA0168-BR26	ZA0168-BR3	ZA0168-AL28	ZA0168-ALBLK	ZA0168-SS32	ZA0168-SS32D
1-1/2"	1/2"	ZA0170-BR26	ZA0170-BR3	ZA0170-AL28	ZA0170-ALBLK	ZA0170-SS32	ZA0170-SS32D
2"	3/4"	ZA0172-BR26	ZA0172-BR3	ZA0172-AL28	ZA0172-ALBLK	ZA0172-SS32	ZA0172-SS32D
3"	3/4"	ZA0174-BR26	ZA0174-BR3	ZA0174-AL28	ZA0174-ALBLK	ZA0174-SS32	ZA0174-SS32D
4"	3/4"	ZA0176-BR26	ZA0176-BR3	ZA0176-AL28	ZA0176-ALBLK	ZA0176-SS32	ZA0176-SS32D



STANDOFF BASES— 1.00" (25.4mm) Outer Diameter

LENGTH	THREAD DEPTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
		Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	THRU	ZA0180-BR26	ZA0180-BR3	ZA0180-AL28	ZA0180-ALBLK	ZA0180-SS32	ZA0180-SS32D
1/2"	THRU	ZA0182-BR26	ZA0182-BR3	ZA0182-AL28	ZA0182-ALBLK	ZA0182-SS32	ZA0182-SS32D
3/4"	THRU	ZA0184-BR26	ZA0184-BR3	ZA0184-AL28	ZA0184-ALBLK	ZA0184-SS32	ZA0184-SS32D
1"	THRU	ZA0186-BR26	ZA0186-BR3	ZA0186-AL28	ZA0186-ALBLK	ZA0186-SS32	ZA0186-SS32D
1-1/4"	1/2"	ZA0188-BR26	ZA0188-BR3	ZA0188-AL28	ZA0188-ALBLK	ZA0188-SS32	ZA0188-SS32D
1-1/2"	1/2"	ZA0190-BR26	ZA0190-BR3	ZA0190-AL28	ZA0190-ALBLK	ZA0190-SS32	ZA0190-SS32D
2"	3/4"	ZA0192-BR26	ZA0192-BR3	ZA0192-AL28	ZA0192-ALBLK	ZA0192-SS32	ZA0192-SS32D
3"	3/4"	ZA0194-BR26	ZA0194-BR3	ZA0194-AL28	ZA0194-ALBLK	ZA0194-SS32	ZA0194-SS32D
4"	3/4"	ZA0196-BR26	ZA0196-BR3	ZA0196-AL28	ZA0196-ALBLK	ZA0196-SS32	ZA0196-SS32D



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Standoff Bases

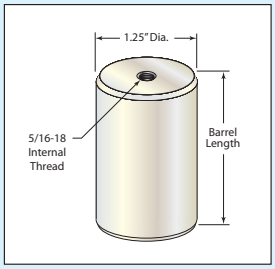
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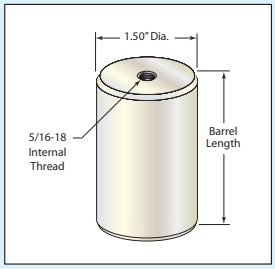
Round











STANDOFF BASES— 1.25" (31.7mm) Outer Diameter

LENGTH	THREAD DEPTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
		Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	THRU	ZA0200-BR26	ZA0200-BR3	ZA0200-AL28	ZA0200-ALBLK	ZA0200-SS32	ZA0200-SS32D
1/2"	THRU	ZA0202-BR26	ZA0202-BR3	ZA0202-AL28	ZA0202-ALBLK	ZA0202-SS32	ZA0202-SS32D
3/4"	THRU	ZA0204-BR26	ZA0204-BR3	ZA0204-AL28	ZA0204-ALBLK	ZA0204-SS32	ZA0204-SS32D
1"	THRU	ZA0206-BR26	ZA0206-BR3	ZA0206-AL28	ZA0206-ALBLK	ZA0206-SS32	ZA0206-SS32D
1-1/4"	1/2"	ZA0208-BR26	ZA0208-BR3	ZA0208-AL28	ZA0208-ALBLK	ZA0208-SS32	ZA0208-SS32D
1-1/2"	1/2"	ZA0210-BR26	ZA0210-BR3	ZA0210-AL28	ZA0210-ALBLK	ZA0210-SS32	ZA0210-SS32D
2"	3/4"	ZA0212-BR26	ZA0212-BR3	ZA0212-AL28	ZA0212-ALBLK	ZA0212-SS32	ZA0212-SS32D
3"	3/4"	ZA0214-BR26	ZA0214-BR3	ZA0214-AL28	ZA0214-ALBLK	ZA0214-SS32	ZA0214-SS32D
4"	3/4"	ZA0216-BR26	ZA0216-BR3	ZA0216-AL28	ZA0216-ALBLK	ZA0216-SS32	ZA0216-SS32D

STANDOFF BASES— 1.50" (38.1mm) Outer Diameter

LENGTH	THREAD DEPTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
		Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	THRU	ZA0220-BR26	ZA0220-BR3	ZA0220-AL28	ZA0220-ALBLK	ZA0220-SS32	ZA0220-SS32D
1/2"	THRU	ZA0222-BR26	ZA0222-BR3	ZA0222-AL28	ZA0222-ALBLK	ZA0222-SS32	ZA0222-SS32D
3/4"	THRU	ZA0224-BR26	ZA0224-BR3	ZA0224-AL28	ZA0224-ALBLK	ZA0224-SS32	ZA0224-SS32D
1"	THRU	ZA0226-BR26	ZA0226-BR3	ZA0226-AL28	ZA0226-ALBLK	ZA0226-SS32	ZA0226-SS32D
1-1/4"	1/2"	ZA0228-BR26	ZA0228-BR3	ZA0228-AL28	ZA0228-ALBLK	ZA0228-SS32	ZA0228-SS32D
1-1/2"	1/2"	ZA0230-BR26	ZA0230-BR3	ZA0230-AL28	ZA0230-ALBLK	ZA0230-SS32	ZA0230-SS32D
2"	3/4"	ZA0232-BR26	ZA0232-BR3	ZA0232-AL28	ZA0232-ALBLK	ZA0232-SS32	ZA0232-SS32D
3"	3/4"	ZA0234-BR26	ZA0234-BR3	ZA0234-AL28	ZA0234-ALBLK	ZA0234-SS32	ZA0234-SS32D
4"	3/4"	ZA0236-BR26	ZA0236-BR3	ZA0236-AL28	ZA0236-ALBLK	ZA0236-SS32	ZA0236-SS32D

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

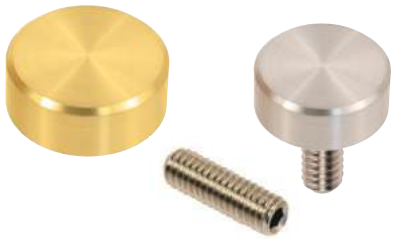
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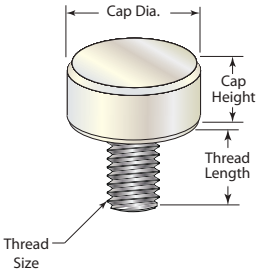
Standoff Cap Assemblies

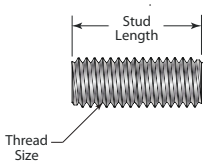
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Round

See pages xvi and xvii for our "Special Standoff Order Forms"









CAP ASSEMBLIES

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CAP DIAMETER Inches (mm)	CAP HEIGHT	THREAD SIZE & LENGTH	THREAD TYPE (Attached or Separate Stud)	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
				Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
3/8" (9.52)	1/4"	10-24 x 1/2"	Separate Stud	ZA0240-BR26	ZA0240-BR3	ZA0240-AL28	ZA0240-ALBLK	ZA0240-SS32	ZA0240-SS32D
3/8" (9.52)	3/8"	10-24 x 1"	Separate Stud	ZA0241-BR26	ZA0241-BR3	ZA0241-AL28	ZA0241-ALBLK	ZA0241-SS32	ZA0241-SS32D
1/2" (12.7)	7/16"	1/4-20 x 1/2"	Separate Stud	ZA0243-BR26	ZA0243-BR3	ZA0243-AL28	ZA0243-ALBLK	ZA0243-SS32	ZA0243-SS32D
1/2" (12.7)	1/2"	1/4-20 x 1-1/2"	Separate Stud	ZA0244-BR26	ZA0244-BR3	ZA0244-AL28	ZA0244-ALBLK	ZA0244-SS32	ZA0244-SS32D
5/8" (15.8)	5/16"	5/16-18 x 1/2"	Separate Stud	—	—	ZA0245-AL28	ZA0245-ALBLK	—	—
5/8" (15.8)	7/16"	5/16-18 x 1/2"	Separate Stud	ZA0246-BR26	ZA0246-BR3	ZA0246-AL28	ZA0246-ALBLK	ZA0246-SS32	ZA0246-SS32D
5/8" (15.8)	1/2"	5/16-18 x 1-1/2"	Separate Stud	ZA0247-BR26	ZA0247-BR3	ZA0247-AL28	ZA0247-ALBLK	ZA0247-SS32	ZA0247-SS32D
3/4" (19.05)	7/16"	5/16-18 x 1/2"	Separate Stud	ZA0249-BR26	ZA0249-BR3	ZA0249-AL28	ZA0249-ALBLK	ZA0249-SS32	ZA0249-SS32D
3/4" (19.05)	1/2"	5/16-18 x 1-1/2"	Separate Stud	ZA0250-BR26	ZA0250-BR3	ZA0250-AL28	ZA0250-ALBLK	ZA0250-SS32	ZA0250-SS32D
1" (25.4)	7/16"	5/16-18 x 1/2"	Separate Stud	ZA0252-BR26	ZA0252-BR3	ZA0252-AL28	ZA0252-ALBLK	ZA0252-SS32	ZA0252-SS32D
1" (25.4)	1/2"	5/16-18 x 1-1/2"	Separate Stud	ZA0253-BR26	ZA0253-BR3	ZA0253-AL28	ZA0253-ALBLK	ZA0253-SS32	ZA0253-SS32D
1-1/4" (31.7)	7/16"	5/16-18 x 1/2"	Separate Stud	ZA0255-BR26	ZA0255-BR3	ZA0255-AL28	ZA0255-ALBLK	ZA0255-SS32	ZA0255-SS32D
1-1/4" (31.7)	1/2"	5/16-18 x 1-1/2"	Separate Stud	ZA0256-BR26	ZA0256-BR3	ZA0256-AL28	ZA0256-ALBLK	ZA0256-SS32	ZA0256-SS32D
1-1/2" (38.1)	7/16"	5/16-18 x 1/2"	Separate Stud	ZA0260-BR26	ZA0260-BR3	ZA0260-AL28	ZA0260-ALBLK	ZA0260-SS32	ZA0260-SS32D
1-1/2" (38.1)	1/2"	5/16-18 x 1-1/2"	Separate Stud	ZA0261-BR26	ZA0261-BR3	ZA0261-AL28	ZA0261-ALBLK	ZA0261-SS32	ZA0261-SS32D

1/4" DIA. BUMPOFF CAPS (with Attached Studs)

Available in 4 Different Thread Sizes



CAP DIAMETER Inches (mm)	CAP HEIGHT	THREAD SIZE	THREAD LENGTH	STUD LENGTH	OVERALL LENGTH	BRASS	ALUMINUM	18-8 ST/ST	STEEL
						ZINC-PLATED	PLAIN	PLAIN	ZINC-PLATED
1/4" (6.35)	1/4"	4-40	1/4"	3/8"	5/8"	ZA0070-BRASZC	ZA0070-ALUM	ZA0070-188	ZA0070-STLZC
1/4" (6.35)	1/4"	6-32	1/4"	3/8"	5/8"	ZA0072-BRASZC	ZA0072-ALUM	ZA0072-188	ZA0072-STLZC
1/4" (6.35)	1/4"	8-32	1/4"	3/8"	5/8"	ZA0074-BRASZC	ZA0074-ALUM	ZA0074-188	ZA0074-STLZC
1/4" (6.35)	1/4"	10-32	1/4"	3/8"	5/8"	ZA0076-BRASZC	ZA0076-ALUM	ZA0076-188	ZA0076-STLZC

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Slot Mount & Edge Mount Standoffs

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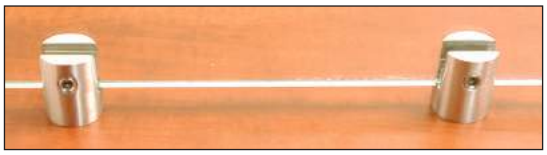
Round (For 1/4", 3/8", and 1/2" Thick Panels)

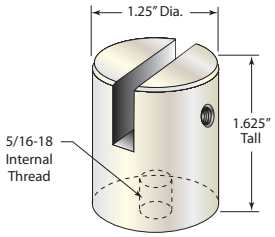


Slot Mount Standoffs

Slot Mount Standoffs are designed to be mounted either vertically or horizontally, and can be used for installing partition panels, shelving or signage without drilling holes in the material. Nylon tip set screws hold panels firmly in place without damaging panel material or glass. These 1-1/4" (31.7 mm) diameter Standoff Bases are available in Clear Coat Brass, Chrome Plated Brass, Bright Stainless, Satin Stainless, Clear Anodized Aluminum, or Black Anodized Aluminum.

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SLOT MOUNT STANDOFFS— 1.25" Round Dia. x 1.625" Tall—5/16-18 Threads

FITS PANEL THICK-NESS	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
	Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	Z0600-BR26	Z0600-BR3	Z0600-AL28	Z0600-ALBLK	Z0600-SS32	Z0600-SS32D
3/8"	Z0602-BR26	Z0602-BR3	Z0602-AL28	Z0602-ALBLK	Z0602-SS32	Z0602-SS32D
1/2"	Z0604-BR26	Z0604-BR3	Z0604-AL28	Z0604-ALBLK	Z0604-SS32	Z0604-SS32D

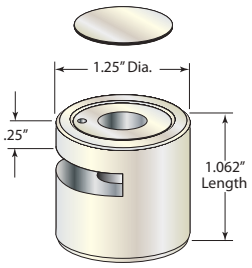
set screw included



Edge Grip Standoffs

Edge Grips provide flexibility in attaching decorative panels or signage to walls. The Edge Grip allows material to be held to the wall without drilling holes in the face material. This allows for quick installation or adjustment of panels mounted in Edge Grips. 1-1/4" (31.7 mm) diameter Edge Grips are available in Clear Coat Brass, Chrome Plated Brass, Bright Stainless, Satin Stainless, Clear Anodized Aluminum, or Black Anodized Aluminum.

We recommend Edge Grips be used at the top, bottom, and sides of heavier panels for maximum support.



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EDGE MOUNT STANDOFFS— 1.25" Round Dia. x 1.062" Length—5/16-18 Threads

FITS PANEL THICK-NESS	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
	Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	Z0610-BR26	Z0610-BR3	Z0610-AL28	Z0610-ALBLK	Z0610-SS32	Z0610-SS32D
3/8"	Z0615-BR26	Z0615-BR3	Z0615-AL28	Z0615-ALBLK	Z0615-SS32	Z0615-SS32D
1/2"	Z0620-BR26	Z0620-BR3	Z0620-AL28	Z0620-ALBLK	Z0620-SS32	Z0620-SS32D

all hardware included

SPECIAL ORDERS AVAILABLE—

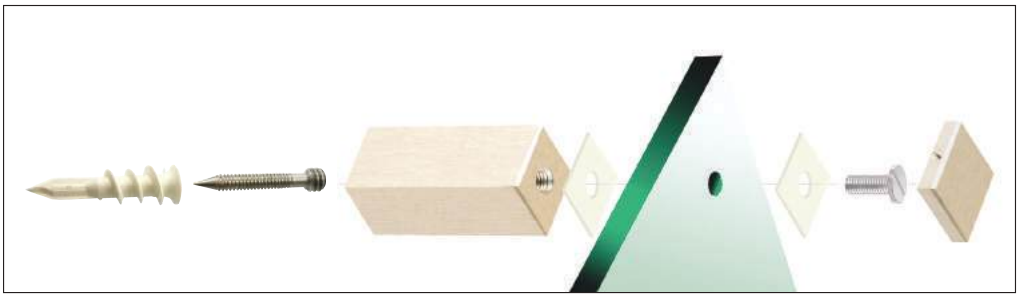
Small Quantities to Large Volume

Standoff Bases

USA MADE

Square

Unique square standoffs are great for office furniture and reception desks. See page 20 for our "Special Square Standoff Order Form". Our .375" and .5" Square Standoffs are for use with 1/8" thick glass or plexiglass only.



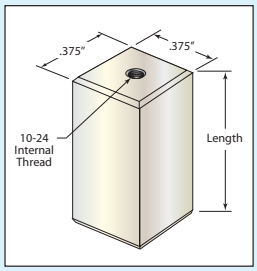


STANDOFF BASES— .375" (9.52mm) Square*

LENGTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
	Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	ZA0300-BR26	ZA0300-BR3	ZA0300-AL28	ZA0300-ALBLK	ZA0300-SS32	ZA0300-SS32D
1/2"	ZA0302-BR26	ZA0302-BR3	ZA0302-AL28	ZA0302-ALBLK	ZA0302-SS32	ZA0302-SS32D
3/4"	ZA0304-BR26	ZA0304-BR3	ZA0304-AL28	ZA0304-ALBLK	ZA0304-SS32	ZA0304-SS32D
1"	ZA0306-BR26	ZA0306-BR3	ZA0306-AL28	ZA0306-ALBLK	ZA0306-SS32	ZA0306-SS32D
1-1/4"	ZA0308-BR26	ZA0308-BR3	ZA0308-AL28	ZA0308-ALBLK	ZA0308-SS32	ZA0308-SS32D
1-1/2"	ZA0310-BR26	ZA0310-BR3	ZA0310-AL28	ZA0310-ALBLK	ZA0310-SS32	ZA0310-SS32D
2"	ZA0312-BR26	ZA0312-BR3	ZA0312-AL28	ZA0312-ALBLK	ZA0312-SS32	ZA0312-SS32D
3"	ZA0314-BR26	ZA0314-BR3	ZA0314-AL28	ZA0314-ALBLK	ZA0314-SS32	ZA0314-SS32D
4"	ZA0316-BR26	ZA0316-BR3	ZA0316-AL28	ZA0316-ALBLK	ZA0316-SS32	ZA0316-SS32D

* Our .375" Square Standoffs are for use with 1/8" thick glass or plexiglass only.

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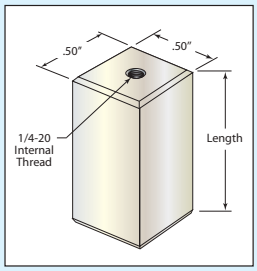


STANDOFF BASES— .50" (12.7mm) Square*

LENGTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
	Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	ZA0320-BR26	ZA0320-BR3	ZA0320-AL28	ZA0320-ALBLK	ZA0320-SS32	ZA0320-SS32D
1/2"	ZA0322-BR26	ZA0322-BR3	ZA0322-AL28	ZA0322-ALBLK	ZA0322-SS32	ZA0322-SS32D
3/4"	ZA0324-BR26	ZA0324-BR3	ZA0324-AL28	ZA0324-ALBLK	ZA0324-SS32	ZA0324-SS32D
1"	ZA0326-BR26	ZA0326-BR3	ZA0326-AL28	ZA0326-ALBLK	ZA0326-SS32	ZA0326-SS32D
1-1/4"	ZA0328-BR26	ZA0328-BR3	ZA0328-AL28	ZA0328-ALBLK	ZA0328-SS32	ZA0328-SS32D
1-1/2"	ZA0330-BR26	ZA0330-BR3	ZA0330-AL28	ZA0330-ALBLK	ZA0330-SS32	ZA0330-SS32D
2"	ZA0332-BR26	ZA0332-BR3	ZA0332-AL28	ZA0332-ALBLK	ZA0332-SS32	ZA0332-SS32D
3"	ZA0334-BR26	ZA0334-BR3	ZA0334-AL28	ZA0334-ALBLK	ZA0334-SS32	ZA0334-SS32D
4"	ZA0336-BR26	ZA0336-BR3	ZA0336-AL28	ZA0336-ALBLK	ZA0336-SS32	ZA0336-SS32D

* Our .50" Square Standoffs are for use with 1/8" thick glass or plexiglass only.

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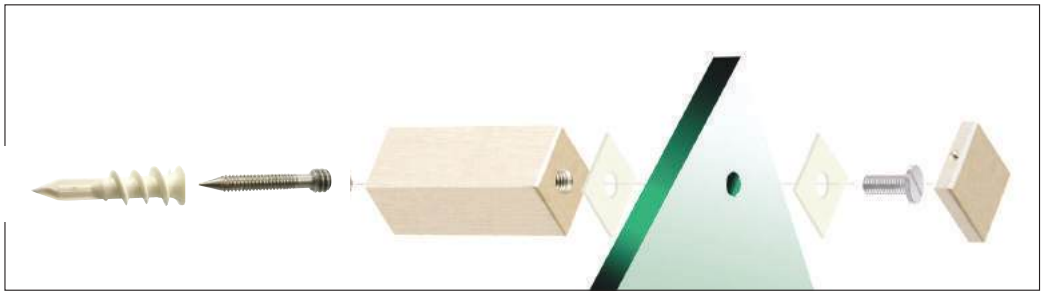
Standoff Bases

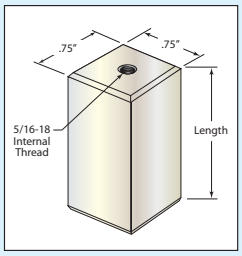
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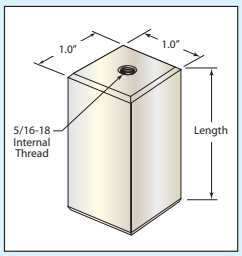
Square



Unique square standoffs are great for office furniture and reception desks. See page 20 for our "Special Square Standoff Order Form". Our .375" and .5" Square Standoffs are for use with 1/8" thick glass or plexiglass only.







STANDOFF BASES— .75" (19.05mm) Square

LENGTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
	Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	ZA0340-BR26	ZA0340-BR3	ZA0340-AL28	ZA0340-ALBLK	ZA0340-SS32	ZA0340-SS32D
1/2"	ZA0342-BR26	ZA0342-BR3	ZA0342-AL28	ZA0342-ALBLK	ZA0342-SS32	ZA0342-SS32D
3/4"	ZA0344-BR26	ZA0344-BR3	ZA0344-AL28	ZA0344-ALBLK	ZA0344-SS32	ZA0344-SS32D
1"	ZA0346-BR26	ZA0346-BR3	ZA0346-AL28	ZA0346-ALBLK	ZA0346-SS32	ZA0346-SS32D
1-1/4"	ZA0348-BR26	ZA0348-BR3	ZA0348-AL28	ZA0348-ALBLK	ZA0348-SS32	ZA0348-SS32D
1-1/2"	ZA0350-BR26	ZA0350-BR3	ZA0350-AL28	ZA0350-ALBLK	ZA0350-SS32	ZA0350-SS32D
2"	ZA0352-BR26	ZA0352-BR3	ZA0352-AL28	ZA0352-ALBLK	ZA0352-SS32	ZA0352-SS32D
3"	ZA0354-BR26	ZA0354-BR3	ZA0354-AL28	ZA0354-ALBLK	ZA0354-SS32	ZA0354-SS32D
4"	ZA0356-BR26	ZA0356-BR3	ZA0356-AL28	ZA0356-ALBLK	ZA0356-SS32	ZA0356-SS32D

STANDOFF BASES— 1.00" (25.4mm) Square

LENGTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
	Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	ZA0360-BR26	ZA0360-BR3	ZA0360-AL28	ZA0360-ALBLK	ZA0360-SS32	ZA0360-SS32D
1/2"	ZA0362-BR26	ZA0362-BR3	ZA0362-AL28	ZA0362-ALBLK	ZA0362-SS32	ZA0362-SS32D
3/4"	ZA0364-BR26	ZA0364-BR3	ZA0364-AL28	ZA0364-ALBLK	ZA0364-SS32	ZA0364-SS32D
1"	ZA0366-BR26	ZA0366-BR3	ZA0366-AL28	ZA0366-ALBLK	ZA0366-SS32	ZA0366-SS32D
1-1/4"	ZA0368-BR26	ZA0368-BR3	ZA0368-AL28	ZA0368-ALBLK	ZA0368-SS32	ZA0368-SS32D
1-1/2"	ZA0370-BR26	ZA0370-BR3	ZA0370-AL28	ZA0370-ALBLK	ZA0370-SS32	ZA0370-SS32D
2"	ZA0372-BR26	ZA0372-BR3	ZA0372-AL28	ZA0372-ALBLK	ZA0372-SS32	ZA0372-SS32D
3"	ZA0374-BR26	ZA0374-BR3	ZA0374-AL28	ZA0374-ALBLK	ZA0374-SS32	ZA0374-SS32D
4"	ZA0376-BR26	ZA0376-BR3	ZA0376-AL28	ZA0376-ALBLK	ZA0376-SS32	ZA0376-SS32D

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SPECIAL ORDERS AVAILABLE—

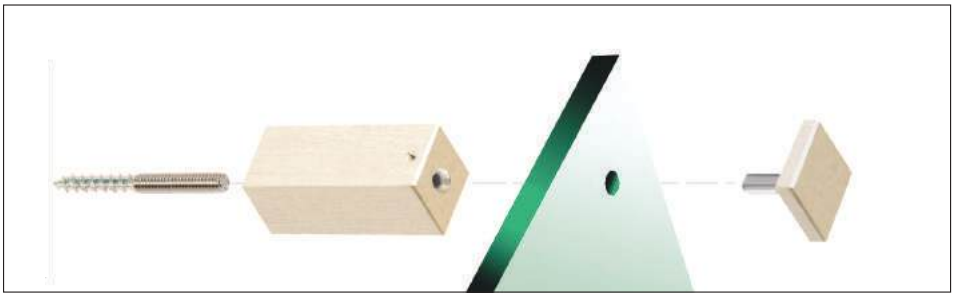
Small Quantities to Large Volume

Standoff Bases

USA MADE

Square

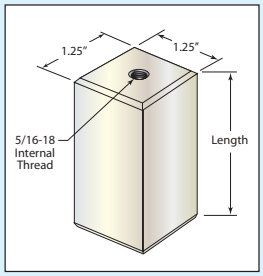
Unique square standoffs are great for office furniture and reception desks. See page 20 for our "Special Square Standoff Order Form". Our .375" and .5" Square Standoffs are for use with 1/8" thick glass or plexiglass only.





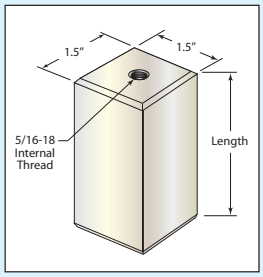
STANDOFF BASES— 1.25" (31.7mm) Square

LENGTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
	Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	ZA0380-BR26	ZA0380-BR3	ZA0380-AL28	ZA0380-ALBLK	ZA0380-SS32	ZA0380-SS32D
1/2"	ZA0382-BR26	ZA0382-BR3	ZA0382-AL28	ZA0382-ALBLK	ZA0382-SS32	ZA0382-SS32D
3/4"	ZA0384-BR26	ZA0384-BR3	ZA0384-AL28	ZA0384-ALBLK	ZA0384-SS32	ZA0384-SS32D
1"	ZA0386-BR26	ZA0386-BR3	ZA0386-AL28	ZA0386-ALBLK	ZA0386-SS32	ZA0386-SS32D
1-1/4"	ZA0388-BR26	ZA0388-BR3	ZA0388-AL28	ZA0388-ALBLK	ZA0388-SS32	ZA0388-SS32D
1-1/2"	ZA0390-BR26	ZA0390-BR3	ZA0390-AL28	ZA0390-ALBLK	ZA0390-SS32	ZA0390-SS32D
2"	ZA0392-BR26	ZA0392-BR3	ZA0392-AL28	ZA0392-ALBLK	ZA0392-SS32	ZA0392-SS32D
3"	ZA0394-BR26	ZA0394-BR3	ZA0394-AL28	ZA0394-ALBLK	ZA0394-SS32	ZA0394-SS32D
4"	ZA0396-BR26	ZA0396-BR3	ZA0396-AL28	ZA0396-ALBLK	ZA0396-SS32	ZA0396-SS32D



STANDOFF BASES— 1.50" (38.1mm) Square

LENGTH	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
	Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
1/4"	ZA0400-BR26	ZA0400-BR3	ZA0400-AL28	ZA0400-ALBLK	ZA0400-SS32	ZA0400-SS32D
1/2"	ZA0402-BR26	ZA0402-BR3	ZA0402-AL28	ZA0402-ALBLK	ZA0402-SS32	ZA0402-SS32D
3/4"	ZA0404-BR26	ZA0404-BR3	ZA0404-AL28	ZA0404-ALBLK	ZA0404-SS32	ZA0404-SS32D
1"	ZA0406-BR26	ZA0406-BR3	ZA0406-AL28	ZA0406-ALBLK	ZA0406-SS32	ZA0406-SS32D
1-1/4"	ZA0408-BR26	ZA0408-BR3	ZA0408-AL28	ZA0408-ALBLK	ZA0408-SS32	ZA0408-SS32D
1-1/2"	ZA0410-BR26	ZA0410-BR3	ZA0410-AL28	ZA0410-ALBLK	ZA0410-SS32	ZA0410-SS32D
2"	ZA0412-BR26	ZA0412-BR3	ZA0412-AL28	ZA0412-ALBLK	ZA0412-SS32	ZA0412-SS32D
3"	ZA0414-BR26	ZA0414-BR3	ZA0414-AL28	ZA0414-ALBLK	ZA0414-SS32	ZA0414-SS32D
4"	ZA0416-BR26	ZA0416-BR3	ZA0416-AL28	ZA0416-ALBLK	ZA0416-SS32	ZA0416-SS32D



USA MADE

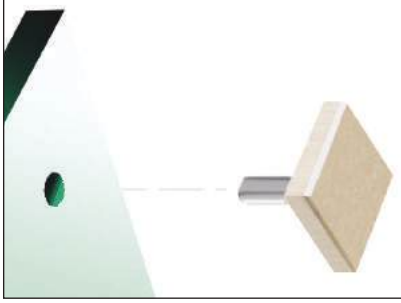
Standoff Cap Assemblies

USA MADE

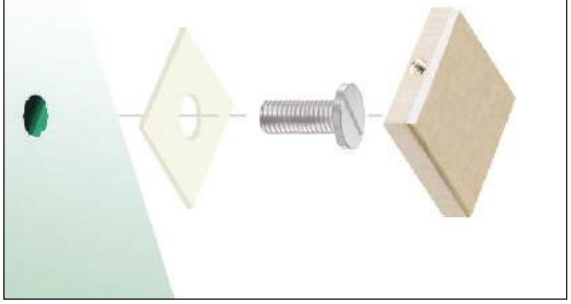
Square



3/8" and 1/2" Square Caps have an attached 3/8" long unthreaded stud with flat side to automatically align cap with base and accomodate set screw



3/4" thru 1-1/2" Square Caps come with a threaded stud with a slotted flat head. Once installed, the square cap fits over the slotted head, aligned with base, and then secured with a set screw.



CAP ASSEMBLIES

CAP ACROSS FLATS Inches (mm)	CAP HEIGHT	THREAD SIZE & STUD LENGTH	THREAD TYPE (Attached or Separate Stud)	BRASS		ALUMINUM		18-8 STAINLESS STEEL	
				Chrome Plated (ANSI 625, US26)	Clear Coat (BHMA 605, US3)	Clear Anodized (BHMA 628, US28)	Black Anodized	Bright Stainless (BHMA 629, US32)	Satin Stainless (BHMA 630, US32D)
3/8" (9.52)*	1/8"	3/8" unthreaded	Attached	ZA0420-BR26	ZA0420-BR3	ZA0420-AL28	ZA0420-ALBLK	ZA0420-SS32	ZA0420-SS32D
3/8" (9.52)*	1/4"	3/8" unthreaded	Attached	ZA0422-BR26	ZA0422-BR3	ZA0422-AL28	ZA0422-ALBLK	ZA0422-SS32	ZA0422-SS32D
1/2" (12.7)*	1/8"	3/8" unthreaded	Attached	ZA0426-BR26	ZA0426-BR3	ZA0426-AL28	ZA0426-ALBLK	ZA0426-SS32	ZA0426-SS32D
1/2" (12.7)*	5/16"	3/8" unthreaded	Separate Stud	ZA0428-BR26	ZA0428-BR3	ZA0428-AL28	ZA0428-ALBLK	ZA0428-SS32	ZA0428-SS32D
3/4" (19.05)	1/8"	5/16-18 x 1/2"	Attached	ZA0432-BR26	ZA0432-BR3	ZA432-AL28	ZA0432-ALBLK	ZA0432-SS32	ZA0432-SS32D
3/4" (19.05)	5/16"	5/16-18 x 1-1/2"	Separate Stud	ZA0434-BR26	ZA0434-BR3	ZA0434-AL28	ZA0434-ALBLK	ZA0434-SS32	ZA0434-SS32D
1" (25.4)	5/32"	5/16-18 x 1/2"	Attached	ZA0438-BR26	ZA0438-BR3	ZA0438-AL28	ZA0438-ALBLK	ZA0438-SS32	ZA0438-SS32D
1" (25.4)	3/8"	5/16-18 x 1-1/2"	Separate Stud	ZA0440-BR26	ZA0440-BR3	ZA0440-AL28	ZA0440-ALBLK	ZA0440-SS32	ZA0440-SS32D
1-1/4" (31.7)	1/4"	5/16-18 x 1/2"	Attached	ZA0444-BR26	ZA0444-BR3	ZA0444-AL28	ZA0444-ALBLK	ZA0444-SS32	ZA0444-SS32D
1-1/4" (31.7)	1/2"	5/16-18 x 1-1/2"	Separate Stud	ZA0446-BR26	ZA0446-BR3	ZA0446-AL28	ZA0446-ALBLK	ZA0446-SS32	ZA0446-SS32D
1-1/2" (38.1)	1/4"	5/16-18 x 1/2"	Attached	ZA0500-BR26	ZA0500-BR3	ZA0500-AL28	ZA0500-ALBLK	ZA0500-SS32	ZA0500-SS32D
1-1/2" (38.1)	1/2"	5/16-18 x 1-1/2"	Separate Stud	ZA0502-BR26	ZA0502-BR3	ZA0502-AL28	ZA0502-ALBLK	ZA0502-SS32	ZA0502-SS32D

*Our 3/8" and 1/2" Square Standoffs are for use with 1/8" thick glass or plexiglass only.

USA MADE

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Standoff Base & Cap Sets

USA MADE

Square Sets

Each Set includes 1 Standoff Base, 1 Threaded Stud, 1 Matching Cap with set screw, and 1 Hanger Bolt. Available in Clear Anodized Aluminum and Black Anodized Aluminum.



STANDOFF & CAP ACROSS FLATS Inches (mm)	STANDOFF HEIGHT	CAP HEIGHT	THREAD SIZE	STUD SIZE & LENGTH	INCLUDED HANGER BOLT SIZE	ALUMINUM CLEAR ANODIZED	ALUMINUM BLACK ANODIZED
3/8" (9.52)	1/2"	3/8"	10-24 thru	10-24 x 1/2"	10-24 x 1"	ZA0302SET-AL28	ZA0302SET-ALBLK
3/8" (9.52)	3/4"	3/8"	10-24 thru	10-24 x 3/4"	10-24 x 1"	ZA0304SET-AL28	ZA0304SET-ALBLK
3/8" (9.52)	1"	3/8"	10-24 thru	10-24 x 1"	10-24 x 1"	ZA0306SET-AL28	ZA0306SET-ALBLK
3/8" (9.52)	2"	3/8"	10-24 x 3/4" deep each end	10-24 x 1"	10-24 x 1"	ZA0312SET-AL28	ZA0312SET-ALBLK
1/2" (12.7)	1/2"	3/8"	1/4-20 thru	1/4-20 x 1/2"	1/4-20 x 1-1/4"	ZA0322SET-AL28	ZA0322SET-ALBLK
1/2" (12.7)	3/4"	3/8"	1/4-20 thru	1/4-20 x 3/4"	1/4-20 x 1-1/4"	ZA0324SET-AL28	ZA0324SET-ALBLK
1/2" (12.7)	1"	3/8"	1/4-20 thru	1/4-20 x 1"	1/4-20 x 1-1/4"	ZA0326SET-AL28	ZA0326SET-ALBLK
1/2" (12.7)	2"	3/8"	1/4-20 x 3/4" deep each end	1/4-20 x 1"	1/4-20 x 1-1/4"	ZA0332SET-AL28	ZA0332SET-ALBLK
1/2" (12.7)	3"	3/8"	1/4-20 x 3/4" deep each end	1/4-20 x 1"	1/4-20 x 1-1/4"	ZA0334SET-AL28	ZA0334SET-ALBLK
1" (25.4)	1/2"	3/8"	5/16-18 thru	5/16-18 x 3/4"	5/16-18 x 1-1/2"	ZA0362SET-AL28	ZA0362SET-ALBLK
1" (25.4)	3/4"	3/8"	5/16-18 thru	5/16-18 x 1"	5/16-18 x 1-1/2"	ZA0364SET-AL28	ZA0364SET-ALBLK
1" (25.4)	1"	3/8"	5/16-18 thru	5/16-18 x 1"	5/16-18 x 1-1/2"	ZA0366SET-AL28	ZA0366SET-ALBLK
1" (25.4)	2"	3/8"	5/16-18 x 3/4" deep each end	5/16-18 x 1"	5/16-18 x 1-1/2"	ZA0372SET-AL28	ZA0372SET-ALBLK
1" (25.4)	3"	3/8"	5/16-18 x 3/4" deep each end	5/16-18 x 1"	5/16-18 x 1-1/2"	ZA0374SET-AL28	ZA0374SET-ALBLK

USA MADE

Custom Order Architectural Hardware

SPECIAL HARDWARE

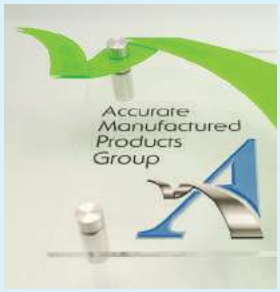
Our fully equipped machine shop can bring to life your special Fasteners or Architectural components; either from blueprint, or from discussions with you. Our Engineers and skilled machinists have years of experience in manufacturing small runs of quality components in a short amount of time.

We have the most modern CNC Swiss Lathes and Milling Centers, and can go from drawing to part quickly. Parts are manufactured in our Indianapolis facility, which can expedite your shipments.



Standoff Mounting Hardware

USA MADE





ACCURATE'S ALL NEW MOUNTING HARDWARE

Accurate has developed an easy way to mount standoffs into drywall. A simple 3-STEP process, using standard philips drive and hex key. Accurate's new FastMount Adapters are available in sizes to fit the entire line of panel standoffs.



1



Install the EZ Anchor into the drywall

2



Using a hex key, thread the FastMount Adapter into the EZ Anchor until the larger threaded head sits flush to the anchor

3



Screw on standoff base

FASTMOUNT ADAPTER	STANDOFF DIAMETER AND LENGTHS	STANDOFF INTERNAL THREAD	EZ ANCHOR SIZE	HEX KEY SIZE	WEIGHT RATING PER ANCHOR
ZA0525	3/8" Diameter Standoffs, Any Length	10-24	#6	3/32"	25 Lbs
ZA0526	1/2" Diameter Standoffs, Any Length	1/4-20	#8	5/32"	50 Lbs
ZA0527	5/8" and Larger Diameters, Under 1/2" in Length	5/16-18	#8	5/32"	50 Lbs
ZA0528	5/8" and Larger Diameters, Over 1/2" in Length	5/16-18	#8	5/32"	50 Lbs

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

USA MADE

Hanger Bolts are also available for heavy duty applications where standoffs are being installed into wood studs or joists. Larger standoffs will screw directly onto the back of the hanger bolt.



Structural Standoff Bases

USA MADE

This line of Bases is designed for the larger architectural project. Manufactured in Type 303 Stainless Steel, they provide excellent strength and a massive look in keeping with a large scale project.

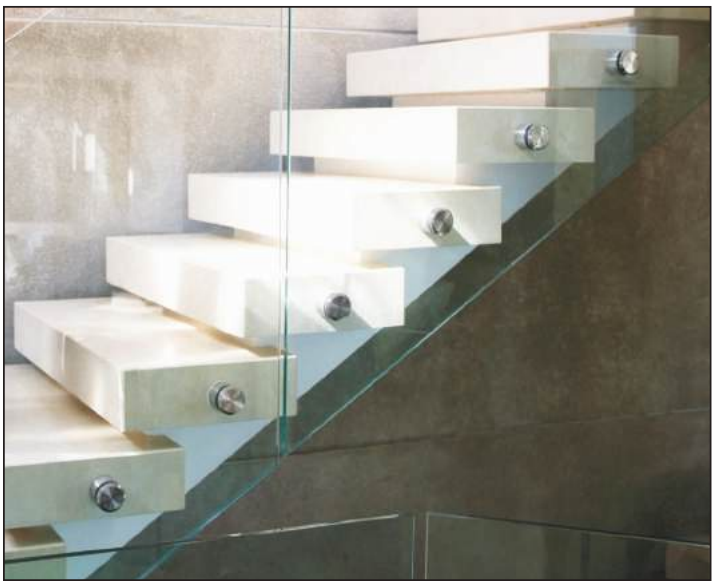
Available from stock in a Plain Machine Turned Finish. 1/2-13 tap is our standard, but other thread sizes can be ordered on request. Threads completely through the part allow for use with embedded Studs.

STRUCTURAL STANDOFFS BASES

OUTER DIAMETER	LENGTH	303 ST/ST
2.0"	1/2"	ZA0600-188
2.0"	3/4"	ZA0601-188
2.0"	1"	ZA0602-188
2.0"	1-1/2"	ZA0603-188
2.0"	2"	ZA0604-188
2.5"	1/2"	ZA0610-188
2.5"	3/4"	ZA0611-188
2.5"	1"	ZA0612-188
2.5"	1-1/2"	ZA0613-188
2.5"	2"	ZA0614-188
3.0"	1/2"	ZA0618-188
3.0"	3/4"	ZA0619-188
3.0"	1"	ZA0620-188
3.0"	1-1/2"	ZA0621-188
3.0"	2"	ZA0622-188

USA MADE







CAPS AND BASES SOLD SEPARATELY. SEE NEXT PAGE FOR AVAILABLE CAPS.

Structural Standoff Caps

USA MADE

This line of caps is designed for the larger architectural project and for use with our structural bases on page 99. Manufactured in Type 303 Stainless Steel, they provide excellent strength and a massive look in keeping with a large scale project.

Available from stock in a Plain Machine Turned Finish. 1/2-13 tap is our standard, but other thread sizes can be ordered on request.

Caps have a locking set screw through the side that allow tightening on the stud to resist vibration and the casual theft attempt.



STRUCTURAL STANDOFFS CAPS

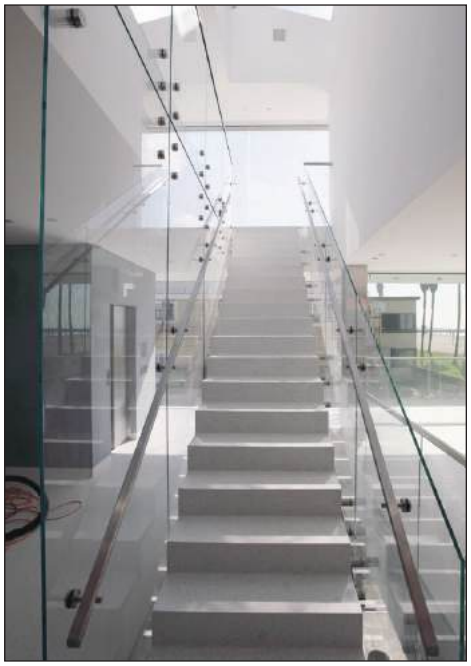
OUTER DIAMETER	LENGTH	303 ST/ST
2.0"	1/2"	ZA0625-188
2.0"	3/4"	ZA0626-188
2.0"	1"	ZA0627-188
2.5"	1/2"	ZA0630-188
2.5"	3/4"	ZA0631-188
2.5"	1"	ZA0632-188
3.0"	1/2"	ZA0635-188
3.0"	3/4"	ZA0636-188
3.0"	1"	ZA0637-188

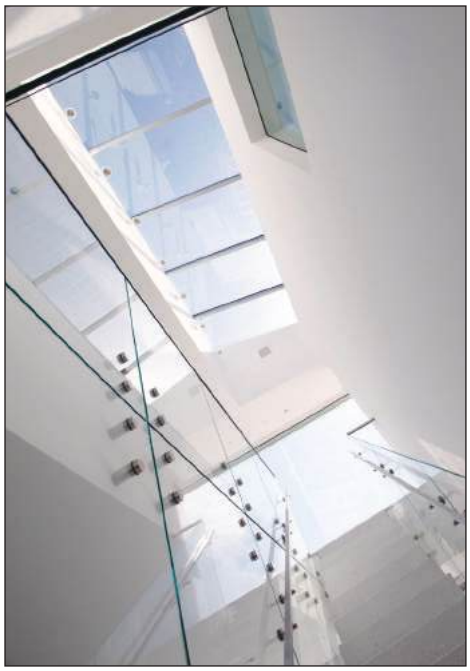


USA MADE

CAPS AND BASES SOLD SEPARATELY. SEE PREVIOUS PAGE FOR AVAILABLE BASES.







SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

Round Angled Spacers

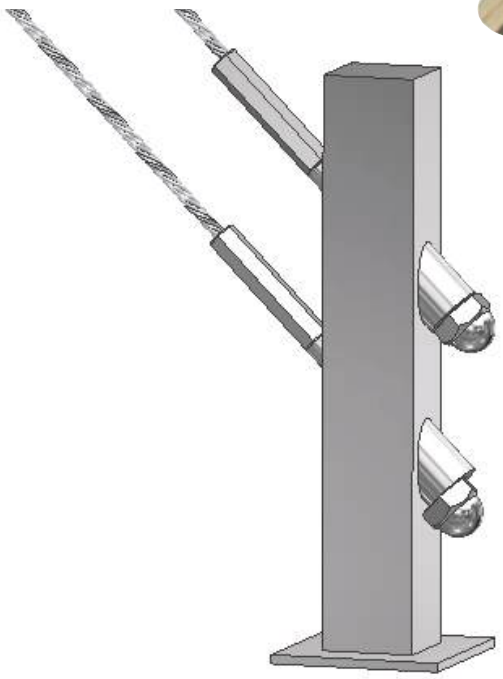
USA MADE

45° Angle, Unthreaded

For attaching end fittings on angled holes at stair end posts.

USA MADE







UNTHREADED ROUND SPACERS for Angled Surfaces—45°							12L14 LOW CARBON STEEL	18-8 STAINLESS STEEL	TYPE 316 STAINLESS STEEL	NYLON 6/6 WHITE
Inch Bolt Size	**Metric Bolt Size**	**Inside Diameter**	**Outside Diameter**	**"A" Dimension -Lowest Point**	**"B" Dimension**	**Overall Length**	**Steel Plain Order Number**	**18-8 Stainless Steel Order Number**	**Type 316 Stainless Steel Order Number**	**Nylon 6/6 White Order Number**
#4	M3	0.129	0.315	0.118	0.276	7/16"	ZA005-STL	ZA005-188	ZA005-316	ZA005-NYL
#6	M4	0.169	0.394	0.118	0.315	1/2"	ZA007-STL	ZA007-188	ZA007-316	ZA007-NYL
#10	M5	0.216	0.394	0.118	0.315	1/2"	ZA009-STL	ZA009-188	ZA009-316	ZA009-NYL
1/4"	M6	0.287	0.512	0.118	0.374	5/8"	ZA011-STL	ZA011-188	ZA011-316	ZA011-NYL
5/16"	M8	0.334	0.709	0.118	0.472	13/16"	ZA013-STL	ZA013-188	ZA013-316	ZA013-NYL
3/8"	M10	0.413	0.866	0.118	0.551	31/32"	ZA015-STL	ZA015-188	ZA015-316	ZA015-NYL
1/2"	M14	0.571	0.945	0.118	0.591	1-5/64"	ZA017-STL	ZA017-188	ZA017-316	ZA017-NYL
5/8"	M16	0.669	1.26	0.118	0.748	1-3/8"	ZA019-STL	ZA019-188	ZA019-316	ZA019-NYL
3/4"	M20	0.826	1.26	0.118	0.748	1-3/8"	ZA021-STL	ZA021-188	ZA021-316	ZA021-NYL

Signage Hardware

USA MADE

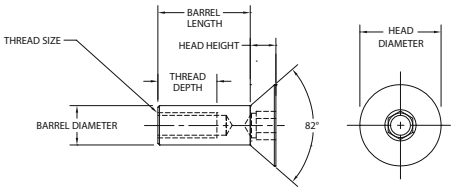


82° SOCKET HEAD BARREL BOLT

These large headed Barrel Bolts sit flush in countersunk holes, and the hex drive allows for quick and positive tightening.

- 18-8 Stainless Steel
- Also available as a special order with no drive

USA MADE



BARREL DIAMETER	OVERALL LENGTH	THREAD SIZE	THREAD DEPTH	HEAD DIAMETER	HEAD HEIGHT	ORDER NUMBER
1/4"	3/8"	10-24	3/16"	33/64"	11/64"	Z1640
1/4	1/2	10-24	5/16	33/64	11/64	Z1642
1/4	3/4	10-24	3/8	33/64	11/64	Z1644
1/4	1	10-24	3/8	33/64	11/64	Z1646
1/4	1-1/4	10-24	3/8	33/64	11/64	Z1648
3/8	1/2	1/4-20	3/8	3/4	15/64	Z1650
3/8	3/4	1/4-20	3/8	3/4	15/64	Z1652
3/8	1	1/4-20	3/8	3/4	15/64	Z1654
1/2	1/2	3/8-16	3/8	7/8	1/4	Z1660
1/2	3/4	3/8-16	3/8	7/8	1/4	Z1662
1/2	1	3/8-16	3/8	7/8	1/4	Z1664

See Full Line on pages A32-A33



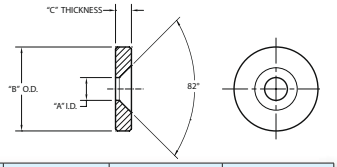
DRESS (COUNTERSUNK) FLAT WASHERS

Designed to accept the head of standard 82 degree flat head screws. This allows the screw to seat flush, and presents a finished or dressed appearance. Used to hold handles, hand wheels, covering shafts, and many more applications.

- 300 Series Stainless Steel

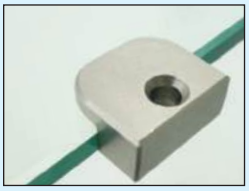
Tolerances:
Inch: +/- .010 Metric: +/- .3mm

USA MADE



SCREW SIZE	"A" ID	"B" OD	"C" THICKNESS	ORDER NUMBER
#8	3/16"	3/4"	1/8"	Z9930SS
#8	3/16	1	1/8	Z9931SS
#10	13/64	13/16	9/64	Z9932SS
#10	13/64	1-1/8	9/64	Z9933SS
#10	13/64	1-1/4	9/64	Z9934SS
1/4"	9/32	1-1/4	9/32	Z9935SS
1/4"	9/32	1-3/8	9/32	Z9936SS
1/4"	9/32	1-1/2	9/32	Z9937SS
1/4"	9/32	1-3/4	9/32	Z9938SS
1/4"	9/32	2	9/32	Z9939SS

See Full Line on page D13



ZCLIPS

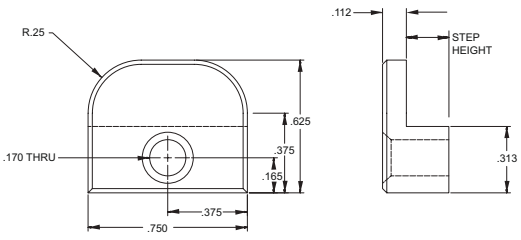
Type 303 Stainless Steel

Z Clips were invented to fasten sheets of plexiglass, punched/ perforated metal sheets, glass, mirrors, thick screening, panels, and other flat products to walls or doors. Machined on all sides, there are no sharp edges as all outside surfaces are beveled. Screw hole is countersunk to accept a #8 countersunk flat or oval head screw.





Available in different step heights to accommodate different thickness materials. Machined from Type 303 Stainless for strength and corrosion resistance.



GAGE THICKNESS	DECIMAL EQUIVALENT	STEP HEIGHT	SCREW SIZE	ORDER NUMBER
22	.030"	.027-.033"	#8	ZCL0001
20	.036	.033-.039	#8	ZCL0002
16	0.06	.055-.065	#8	ZCL0003
14	0.074	.068-.082	#8	ZCL0004
11	0.12	.110-.130	#8	ZCL0005
3/16"	0.187	.177-.197	#8	ZCL0006
1/4"	0.25	.240-.260	#8	ZCL0007

Signage Hardware

USA MADE

GIANT STANDARD ACORN NUTS

Materials:
- Brass—Nickel or Chrome Plated
- Type 316 St/St

USA MADE

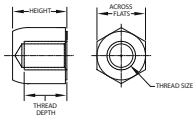
SIZE	ACROSS FLATS	HEIGHT	THREAD DEPTH	MATERIAL	FINISH	ORDER NUMBER
3/4-10	1-1/16"	7/8"	1/2"	BRASS	CHROME PLATED	NUT80434CC
3/4-10	1-1/16	7/8	1/2	BRASS	NICKEL PLATED	NUT80434CN
3/4-10	1-1/16	1-5/32	3/4	316 ST/ST	NONE	NUT80434C
3/4-16	1-1/16	7/8	1/2	BRASS	NICKEL PLATED	NUT80434FN
1-8	1-7/16	1-1/4	5/8	BRASS	CHROME PLATED	NUT80401CC
1-8	1-7/16	1-1/4	5/8	BRASS	NICKEL PLATED	NUT80401CN



BLACK OXIDE ACORN NUTS

- Milled from C1018 Steel
- Case Hardened .005/.010 depth
- Black Oxide Plated

USA MADE

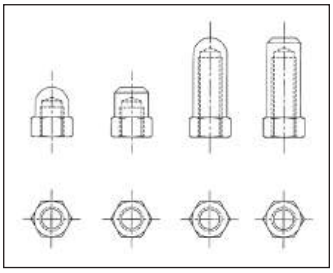


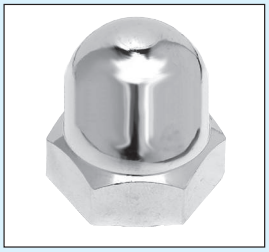
SIZE	ACROSS FLATS	HEIGHT	THREAD DEPTH	ORDER NUMBER
5/16-18	5/8"	5/8"	3/8"	Z0295
3/8-16	3/4	3/4	1/2	Z0296
1/2-13	7/8	15/16	5/8	Z0297
5/8-11	1-1/16	1-3/16	15/16	Z0298



"TOO TALL" ACORN NUTS

Our tall acorn nuts are taller than any item availabe on the market right now! Perfect for cleaning up exposed threads on embedment applications, great for post and panel signs or floor-mounted directories or stanchions. 3/8 and 1/2 Bolt sizes are the most common Quick Bolt type installs for Hand Rails and Post and Panel Signage, so we offer a complete selection of "Too Tall" acorn nuts in those sizes.





Materials & Finishes: 18-8 Stainless Steel • 18-8 Stainless—High Polish • Type 316 Stainless Stee • Aluminum

SIZE	ACROSS FLATS	HEIGHT	THREAD DEPTH	CROWN HEIGHT	SHAPE	18-8 ST/ST ORDER NUMBER	18-8 ST/ST HIGH-POLISH ORDER NUMBER	TYPE 316 ST/ST ORDER NUMBER	ALUMINUM ORDER NUMBER
3/8-16	.551-.562"	.781"	15/32"	Standard	Standard Acorn Shape	Z0326-188	Z0326-188EP	Z0326-316	Z0326-ALU
3/8-16	.551-.562	1-1/16	3/4	Tall	Standard Acorn Shape	Z0327-188	Z0327-188EP	Z0327-316	Z0327-ALU
3/8-16	.551-.562	1-5/16	1	Taller	Standard Acorn Shape	Z0328-188	Z0328-188EP	Z0328-316	Z0328-ALU
3/8-16	.551-.562	1-9/16	1-1/4	Tallest	Standard Acorn Shape	Z0329-188	Z0329-188EP	Z0329-316	Z0329-ALU
3/8-16	.551-.562	.781"	15/32	Standard	Flat-Top Acorn Shape	Z0330-188	Z0330-188EP	Z0330-316	Z0330-ALU
3/8-16	.551-.562	1-1/16	3/4	Tall	Flat-Top Acorn Shape	Z0331-188	Z0331-188EP	Z0331-316	Z0331-ALU
3/8-16	.551-.562	1-5/16	1	Taller	Flat-Top Acorn Shape	Z0332-188	Z0332-188EP	Z0332-316	Z0332-ALU
3/8-16	.551-.562	1-9/16	1-1/4	Tallest	Flat-Top Acorn Shape	Z0333-188	Z0333-188EP	Z0333-316	Z0333-ALU
1/2-13	.736-.750	1-1/32	5/8	Standard	Standard Acorn Shape	Z0334-188	Z0334-188EP	Z0334-316	Z0334-ALU
1/2-13	.736-.750	1-7/16	1	Tall	Standard Acorn Shape	Z0335-188	Z0335-188EP	Z0335-316	Z0335-ALU
1/2-13	.736-.750	1-3/4	1-1/4	Taller	Standard Acorn Shape	Z0336-188	Z0336-188EP	Z0336-316	Z0336-ALU
1/2-13	.736-.750	2	1-1/2	Tallest	Standard Acorn Shape	Z0337-188	Z0337-188EP	Z0337-316	Z0337-ALU
1/2-13	.736-.750	1-1/32	5/8	Standard	Flat-Top Acorn Shape	Z0338-188	Z0338-188EP	Z0338-316	Z0338-ALU
1/2-13	.736-.750	1-7/16	1	Tall	Flat-Top Acorn Shape	Z0339-188	Z0339-188EP	Z0339-316	Z0339-ALU
1/2-13	.736-.750	1-3/4	1-1/4	Taller	Flat-Top Acorn Shape	Z0347-188	Z0347-188EP	Z0347-316	Z0347-ALU
1/2-13	.736-.750	2	1-1/2	Tallest	Flat-Top Acorn Shape	Z0348-188	Z0348-188EP	Z0348-316	Z0348-ALU

USA MADE

Cable Rail by VIEWRAIL

USA MADE

Viewrail is an exciting new Cable Rail System for exterior or interior applications. The elegance is in our hidden fasteners—the hidden fasteners which are inside the post so that your view is preserved and the eye is not distracted.

This system maintains open views and allows superior ventilation as compared to the use of glass. The cable rails create an industrial aesthetic that complements a modern style home. Installers find cable railing the most flexible and easiest solution.

Viewrail Parts and Tools

This section of our guide will introduce you to our cable rail bundles, components, posts, and tools.

BUNDLES

Standard Fitting Bundle
This kit contains one (1) Fixed End Fitting, one (1) Threaded Crimp Fitting, and one (1) Tension Receiver.



Wood Single Inside Post Fitting Bundle
This kit contains one (1) Wood Inside Post Mount, two (2) Threaded Crimp Fittings, and one (1) Tension Receiver.



Steel Single Inside Post Fitting Bundle
This kit contains one (1) Steel Inside Post Mount, one (1) Threaded Crimp Fitting, and one (1) Tension Receiver.



Wood Dual Inside Post Fitting Bundle
This kit contains two (2) Wood Inside Post Mounts, (2) Threaded Crimp Fittings, and one (1) Cable Stop.



COMPONENTS

Stainless Steel Cable
Our 5/32" 316SS marine-grade stainless steel cable is suitable for residential and commercial applications. It is made from 7 bundles of 7 strands each. The multiple bundles makes it very flexible and easy to turn corners.



Tension Receiver
This part is threaded inside to receive the Threaded Crimp Fitting. An allen wrench is used to turn the Tension Receiver to tighten a cable.



Threaded Crimp Fitting
This part is crimped to the end of a cable so it can be terminated in a Tension Receiver or Inside Post Mount.



Fixed End Fitting
This part is crimped to the end of a cable and used at the opposite end of a Tension Receiver in our Standard Fitting Bundle.



SPECIAL ORDERS AVAILABLE—
Small Quantities to Large Volume

AMPG manufactures all components for the ViewRail cable system. Viewrail is distributed by Stair Supplies. Please call 866-226-6536 or visit www.stairsupplies.net for more information

COMPONENTS

Wood Inside Post Mount
These parts are used to mount cable to wood posts when mounting through the post is not desirable.



Steel Inside Post Mount
This part is crimped to the end of a cable and used to mount the cable to special steel posts with an embedded keyhole mount when mounting through the post is not desirable.



Insert Sleeve
This part is an optional way to cover the hole wherever cable exits a post, creating a clean and elegant look. Insert sleeves are required for certain corner applications.



Angle Insert Sleeve
This part serves the same purpose as the straight Insert Sleeve, except it is used whenever cable passes through a post at an angle. (as with stairs, etc.)



Long Angle Insert Sleeve
This part serves the same purpose as the Angled Insert Sleeve, except it is used specifically with wood post systems.



Washer and Oval Washer
Washers are recommended whenever a Fixed End Fitting or a Tension Receiver is used in a softwood or vinyl application. Oval washers are for use in an angled application.



Angle Washer
Angle washers are recommended whenever a Fixed End Fitting or a Tension Receiver is used in an angled application.



Cable Stop
This part is crimped to the end of a cable to provide a free-spinning termination used at one end of the Dual Inside Post Mount.



Rental Tool Kit
Our specialized tool kit has everything you'll need to install your cable rail system. These are contractor-grade tools that have been hand selected to make your installation work as efficient as possible.



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Cable Rail by VIEWRAIL

USA MADE

Steel Posts

Our steel posts are available in powder coat black or stainless steel in 3 sizes (36″, 39″, and 42″). Side Mount, Angle Foot, and surface mounting options as well as custom drilling ensure that our system has the flexibility your project needs.

THIS PRODUCT EXCEEDS IRC 2012 CODE REGULATIONS

Square Posts with a Universal Top
(shown in powder coat black and stainless steel)



U

Flat Top Post



F

Angle Foot Post



A

Round Post



R

Side Mount Post



S

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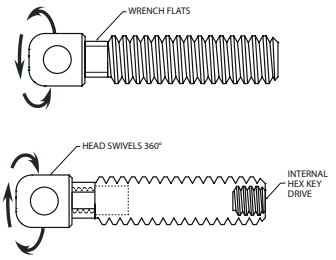
Cable Rail Wire Anchors

USA MADE

SWIVEL WIRE ANCHORS—

Z-Swivel Wire Anchors—Swivel Anchor Points for Cable Wire Rail Systems
18-8 Stainless Steel • Made in USA • Patented

Designed in two ways to make adjustments to the Anchor—you can use the wrench flats on the top side to tighten or loosen, or use a hex key from the bottom of the Anchor.






Swivel Wire Anchor—18-8 St/St

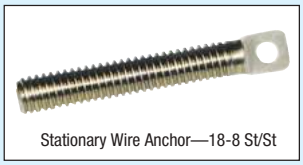
THREAD	OVERALL LENGTH	THREADED SHANK LENGTH	HEAD HEIGHT	HOLE DIAMETER	CENTERLINE OF HOLE TO TOP OF HEAD	MATERIAL	ORDER NUMBER
1/4-20	1-1/4	.875	.250	.150	.130	18-8 Stainless Steel	Z20058SS
3/8-16	1-5/8	1.125	.360	.220	.180	18-8 Stainless Steel	Z20065SS

USA MADE

STATIONARY WIRE ANCHORS—

Wire Anchors—Anchor Points for Cable Wire Rail Systems
18-8 Stainless Steel • Made in USA

THREAD	OVERALL LENGTH	THREADED SHANK LENGTH	HEAD HEIGHT	HOLE DIAMETER	CENTERLINE OF HOLE TO TOP OF HEAD	MATERIAL	ORDER NUMBER
1/4-20	1-1/4	.875	.250	.150	.130	18-8 Stainless Steel	Z20010SS
1/4-28	1-1/4	.875	.250	.150	.130	18-8 Stainless Steel	Z20011SS
3/8-16	1-5/8	1.125	.360	.220	.180	18-8 Stainless Steel	Z20014SS
3/8-24	1-5/8	1.125	.360	.220	.180	18-8 Stainless Steel	Z20015SS


Stationary Wire Anchor—18-8 St/St

USA MADE

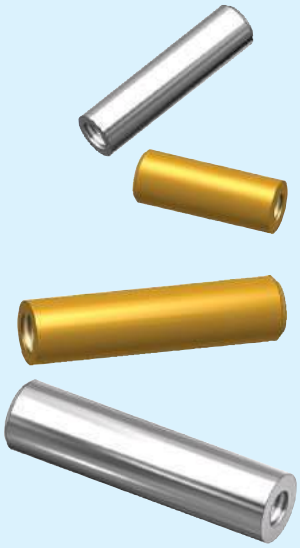


USA MADE

Threaded Bump Offs

Creates space between the wood bottom and plexiglass or glass covering.
For use with male bump offs on page 109.

- Available in Bright Stainless or Polished Brass
- Accomplish Your Design Objective by Selecting Any of Three Different Lengths
- Perfect for Glass, Plexiglass, or Acrylic
- Sleek, Modern Look



1/4" DIAMETER BASES

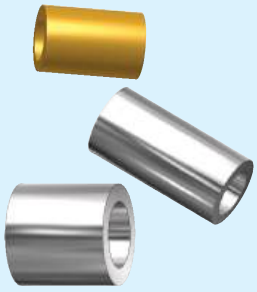
LENGTH	THREAD SIZE	THREAD DEPTH	MATERIAL	
			316 STAINLESS STEEL	BRASS
1”	8-32	1/2"	ZA0550-316	ZA0550-BR
1-1/2”	8-32	1/2"	ZA0551-316	ZA0551-BR
2”	8-32	1/2"	ZA0552-316	ZA0552-BR

USA MADE

3/8" DIAMETER BASES

LENGTH	THREAD SIZE	THREAD DEPTH	MATERIAL	
			316 STAINLESS STEEL	BRASS
1	10-24	1/2"	ZA0553-316	ZA0553-BR
1-1/2”	10-24	1/2"	ZA0554-316	ZA0554-BR
2”	10-24	1/2"	ZA0555-316	ZA0555-BR

USA MADE



Unthreaded Bump Offs

Creates space between the wood bottom and plexiglass or glass covering.
For use with male bump offs on page 109.

- Available in Bright Stainless or Polished Brass
- Accomplish Your Design Objective by Selecting Any of Three Different Lengths
- Perfect for Glass, Plexiglass, or Acrylic
- Sleek, Modern Look

USA MADE

1/4" DIAMETER BUMP OFFS

LENGTH	MATERIAL	
	316 STAINLESS STEEL	BRASS
1/4”	ZA0558-316	ZA0558-BR
3/8”	ZA0559-316	ZA0559-BR
1/2”	ZA0560-316	ZA0560-BR

5/16" DIAMETER BUMP OFFS

LENGTH	MATERIAL	
	316 STAINLESS STEEL	BRASS
1/4”	ZA0562-316	ZA0562-BR
3/8”	ZA0563-316	ZA0563-BR
1/2”	ZA0564-316	ZA0564-BR

SPECIAL ORDERS AVAILABLE—

Small Quantities to Large Volume

The Art Dart™ Patented

USA MADE



Introducing the ART DART™

A new, (Patented) convenient and safe way to mount printed information in Art Galleries, Museums, Retail Stores, Offices, and anywhere that a traditional StandOff Mount would damage or put large holes in the wall or mounting surface.

A revolutionary design that turns a standard push pin into a contemporary architectural mounting statement. Upgrade the look of any display with these handsome mounts. Made in the USA.

Using the push pin as the mounting method means that there will only be a small hole in your wall or surface, and these are safe to use anywhere a thumb tack could go. The ½" diameter Art Dart looks substantial, and stands off the wall a minimum of ¾". There is room for .070" thick stock to be mounted under the threaded cap.

Manufactured on CNC Swiss Lathes from Grade 6061T6 Aluminum, the Art Dart comes assembled onto the push pin, and has a removable threaded cap. Grip your sign by the edge, or mount directly through a hole punched in the sign.

Design Parameters:
Push Pin Tack Length: 1/2"
Art Dart Body Diameter: 1/2"
Art Dart Body Length: 3/4"
Art Dart Cap Body Diameter: 1/2"
Art Dart Cap Height: 1/8"
Art Dart Cap Thread Length: 1/8"

The Art Dart comes packaged in Packs of 4, which includes the Push Pin assembled into the Art Dart.
INCLUDES:
- 4 Art Dart Bodies assembled onto Push Pins
- 4 Art Dart Threaded Caps

Part Number: Z0004-PAK

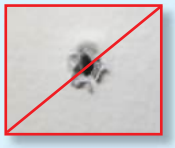


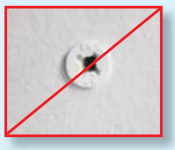


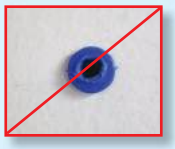




Stop Ruining Your Walls











Use the Art Dart...



