

MASTER PRODUCT CATALOG

Jergens®



MANUFACTURING EFFICIENCY

WWW.JERGENSINC.COM



WORKHOLDING SOLUTIONS



SPECIALTY FASTENERS



LIFTING SOLUTIONS



MASTER PRODUCT CATALOG

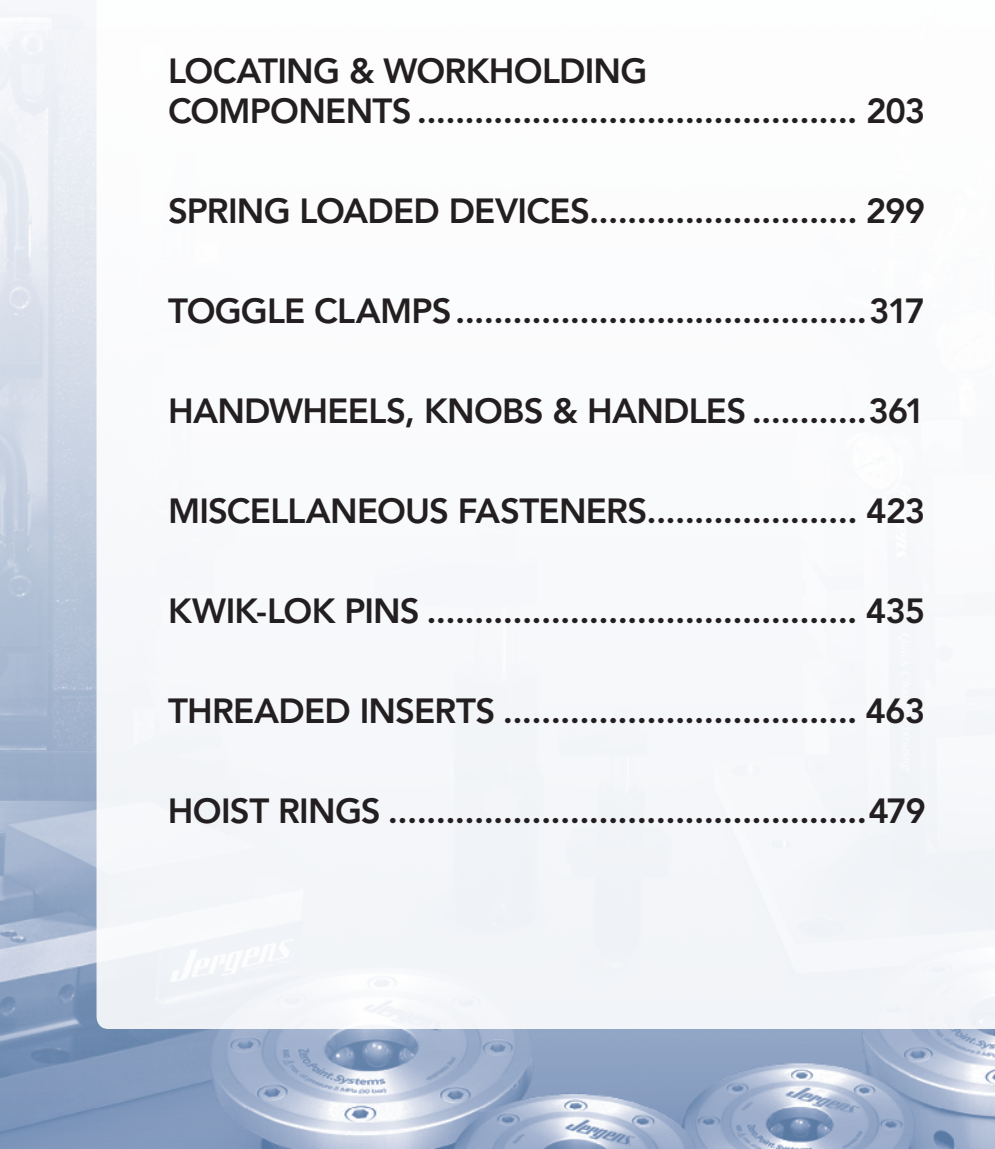
Manufacturing Efficiency.

Since our founding Jergens, Inc. has grown to comprise 3 distinct business units: Workholding Solutions, Lifting Solutions and Specialty Fasteners. Building on its reputation of uncompromising quality standards, Jergens is committed to helping its customers achieve leaner, more profitable manufacturing, and continues to add products and engineered solutions for an integrated approach to “Manufacturing Efficiency.”

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We manufacture over 80% of what we sell right here in our 130,000 sq. ft. Cleveland, OH facility, guaranteeing you high quality, competitive pricing and immediate availability (or fast turnaround times on special items). We are a big user of our own products and can set up lean cells to accommodate lot sizes from 1 to 10,000, thanks to our own tooling components and engineered products like the Ball Lock® Mounting System.

So when it comes to lean manufacturing we practice what we preach here at Jergens... Manufacturing Efficiency.





Jergens Company Profile

Jergens Inc. was founded in 1942 by Jack Schron, Sr. and his father Christy, to provide standard components for building jigs and fixtures. Today the fourth generation of family involvement continues stronger than ever. Throughout its sixty-year history the company has grown into four separate operating divisions: Tooling Component Division (TCD), Jergens Industrial Supply (JIS), Acme Industrial Company (AIC), and Advanced Systems Group (ASG) Division of Jergens. While all divisions are vital to the Jergens family, the TCD Division is the centerpiece of our manufacturing capabilities. In June 1999, Jergens moved into a new 110,000 square foot facility and prides itself by manufacturing over 80% of its product offering, as well as setting the standard for producing the highest quality components in our industry.

Jergens Tooling Component Division now comprises 3 distinct business units: Workholding Solutions, Lifting Solutions and Specialty Fasteners. Building on its reputation of uncompromising quality standards, Jergens is committed to helping its customers achieve leaner, more profitable manufacturing, and continues to add products and engineered solutions for an integrated approach to “Manufacturing Efficiency.”

Today, you’ll find our tooling components, fasteners and hoist rings at work in just about every industry on every continent. And our innovative Quick Change Workholding Solutions like Ball Lock[®] Mounting System have changed the way manufacturers worldwide think about productivity.

Jergens actively supports global, multinational and internationally based customers with metric dimensioned product offerings as well as many inch threaded products that are common in aerospace and industrial applications around the world. In important manufacturing markets in Canada, Europe, Asia and Latin America, Jergens representatives and stocking distributors have represented Jergens for more than 30 years. Our international representatives are trained technically on our products and provide expertise to customers and sub dealers in applying Jergens technologies to local industries. In recent years, two wholly owned affiliates were formed to serve the Chinese and Indian markets. Jergens (Shanghai) Commercial Co., Ltd. opened in 2006 and Jergens India Private Ltd., Navi Mumbai India opened in 2009. These fully registered trading subsidiaries employ trained multi-lingual engineers and commercial managers who provide marketing and importing, warehousing, distribution and technical support to our customers, distributors and local representatives.

Additionally, we offer a wide range of metalworking tools, clamps, and supplies to manufacturers in Northeastern Ohio, through our JIS Division. Acme Industrial, located in Carpentersville, Illinois, is a premium manufacturer of precision drill bushings and keylocking thread inserts. Our ASG Division specializes in products for light assembly ranging from torque-controlled electric screwdrivers to automation systems.

In addition to our unique product designs, we lead the industry with unparalleled customer service and delivery. Our website is a good example of our commitment to be the most innovative company in our industry. Customers and distributors can check stock and order on-line, view the Jergens catalog, and even download 2D, 3D and solid model CAD drawings in a variety of formats. Visit our website at www.jergensinc.com for the latest news and product information, as well as links to our other divisions. The Jergens family thanks you for your business.

Distribution of Jergens Products

Jergens is proud to be represented by a network of qualified distributors throughout the world. If you do not know the name of the distributor nearest you, please call Jergens Customer Service at 1-877-486-1454 or visit www.jergensinc.com.

Quality Policy

Jergens, Inc. manufactures and supplies only *quality* products. Our quality system is ISO 9001: 2008 Certified. Center-Pull and Side-Pull Hoist Rings are CE Certified. If there is a problem with any of our products, please contact your local Jergens Distributor or contact our Customer Service Department.

Design Aids

Jergens, Inc. offers several CAD drawing formats for use in fixture design. Our Fixture Pro® software is available on CD. Our internet site (www.jergensinc.com) offers our complete catalog with hot links to CAD drawings on most of our products. We also offer 3D solid models of our products via the internet.

Application Assistance

Jergens Inc. maintains a complete Technical Sales Department to work with you. Please feel free to call upon their knowledge and experience. Application videos are available for the Ball Lock® Mounting System, 5-Axis Fixture Pro®, Spinner-Grip™ Flange Nuts, and Hydraulic Vise Column products at www.jergensinc.com or www.youtube.com/users/jergensinc.

Engineering Changes

Product improvement is a continuing process at Jergens, Inc. Specifications and engineering data are subject to change without notice. **If current information is critical to your design, it is suggested that you contact the Jergens Customer Service Department, or download the most current drawing from our website*, to verify any dimensions or specifications.**

* 3D Solid Models are available in multiple formats from www.jergensinc.com

Bar Coding

Jergens' boxed and bagged products are fully bar coded for automatic identification. The bar code labels contain the ASCII Code 39 format, which was chosen as being suitable for most bar code readers. Jergens' bar codes will identify part numbers and manufacturer's codes.

Specials

Jergens, Inc. will modify any item that is similar to our standard component parts. Please contact your Jergens Distributor with your request for a quote. Prints or sketches should be furnished if possible.

TCMA Standards

Products throughout this catalog meet the standards of the Tooling Component Manufacturers' Association. The items are asterisked and are interchangeable with other tooling component manufacturer's products.

Material and Finish Specifications

Stressproof®: A severely cold worked, furnace treated steel bar. Produced by LaSalle patented process to obtain high strength, free machinability, good wear, and minimum warpage in the bar.

Alloy Steel - 4140 or equivalent

Low Carbon Steel - Free Machining 1215, 1018, or equivalent

52100: QQS-624

Zinc Plate: ASTM B633, Type III, Class FE/ZN 5

Cadmium Plate: AMS-QQ-P-416, Class 3, Type 1

Black Oxide: MIL-DTL-13924 and AMS-2485

Black Anodize: per Mil. Spec. MIL-A-8625, Type II, Class 2 and AMS-2472

Passivate: AMS 2700

Alternate Finishes available upon request.

Jergens, Inc.
Manufacturing Number: 697830
FSCM #94882

ISO 9001: 2008
Registration #00010133

QUICK CHANGE FIXTURING



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We Put It All Together... In Seconds.



Maximize productivity levels and dramatically increase throughput with Ball Lock®.

Looking to realize the full benefits of lean manufacturing? Then you need the one system that puts it all together, so you can put it all together...and that's Ball Lock®.

Ball Lock® is the industry's most popular quick-change, fixturing-flexible mounting system that can be configured to create lean-optimized solutions for your most demanding needs.

The original quick change system for fast set-ups and machine changeover.



SHANKS



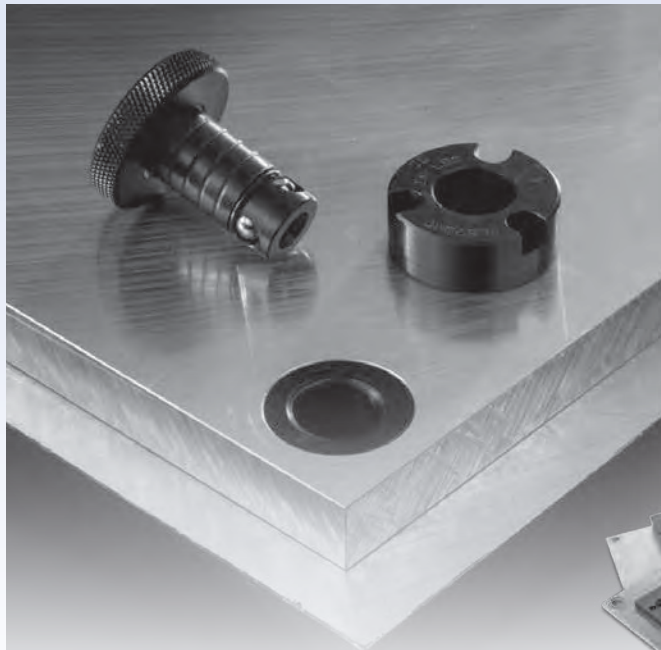
RECEIVERS



FIXTURE PLATES & SUBPLATES

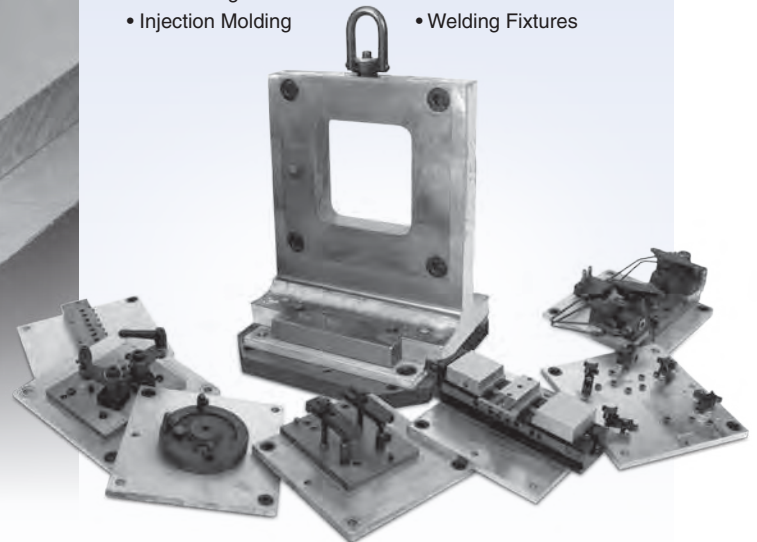


VICES



The Ball Lock® Mounting System is used as a Quick Change Solution on the following:

- CNC Machines
- Palletized Fixtures
- Stamping
- Fabricating
- Injection Molding
- Packaging Machines
- Assembly Machines
- EDM
- Robotics
- Welding Fixtures



QUICK CHANGE FIXTURING » BALL LOCK® MOUNTING SYSTEM



Lean Manufacturing and Set Up Reduction Applications

Accurately Locate and Lock Fixture Plates to Subplates in Seconds... With No Indicating Required.

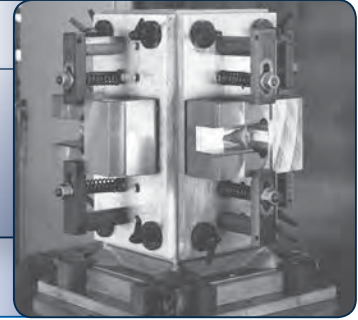
Machining Cast Part

Previous Set Up Method:
Located part with dowel pins, bolted part to tombstone fixture. Indicated part to zero datum point.

Set Up Using Ball Lock® System:
Mount parts to fixture plate while machining other parts. Mount fixture plate to tombstone using Ball Lock® shanks. No indicating required because system provides ±0.0005 (±0.013mm) repeatability.

Previous Set-Up Time:
15 minutes

Set Up Time With Ball Lock® System:
60 seconds



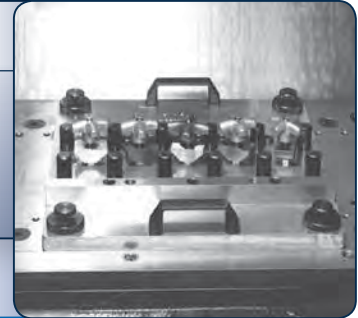
CNC Machine Base:

Drilling and reaming forged part.
Previous Set Up Method:
Fixture plate located with dowel pins bolted to machine base. Fixture plate and parts indicated.

Set Up Using Ball Lock® System:
Parts are pre-mounted on fixture plate, which is then mounted to machine base using Ball Lock® shanks. No need to indicate.

Previous Set Up Time:
7 minutes

Set Up Time with Ball Lock® System:
60 seconds



CNC Vertical Machining Center

Machining aircraft valve parts
Previous Set Up Method: New Project. New Machine. No Prior History.

Set Up Using Ball Lock® System: Using Ball Lock® Jig Saw Plate on Multi-Purpose Subplate enables operator to mount two more vises on the fixture. No indicating needed.

Previous Set Up Time:
New Set Up.

Set Up Time With Ball Lock® System:
80 seconds setting up six vises.



Two-Sided Tombstone

Drilling and tapping cylindrical bodies.
Previous Set Up Method:
Fixture located and bolted to tombstone. Had to be indicated.

Set Up Using Ball Lock® System:
Fixture plate mounted and located with Ball Lock® shanks. No need to indicate.

Previous Set Up Time:
12 minutes

Set Up Time with Ball Lock® System:
45 seconds



QUICK CHANGE FIXTURING » BALL LOCK® MOUNTING SYSTEM



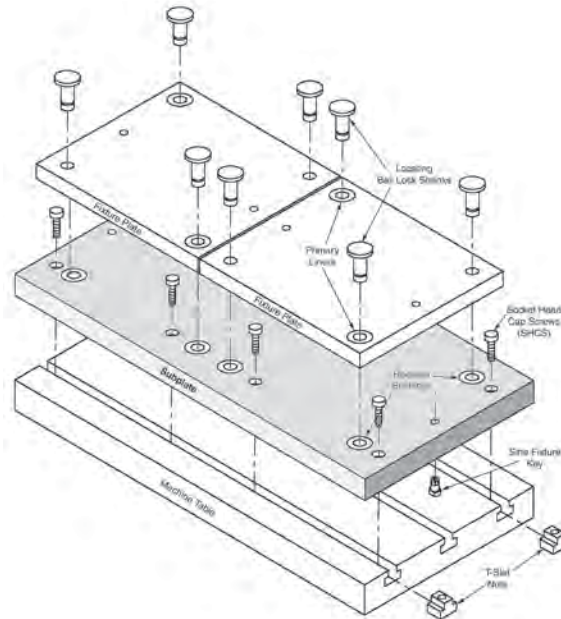
Locates

The Ball Lock® System accurately positions your fixture plate with a repeatability of $\pm 0.0005"$ ($\pm 0.013\text{mm}$) or better, minimizing the need to indicate your fixture.



Locks

The Ball Lock® System securely holds fixture plates to subplates with up to 20,000 lbs. (9000 Kg) of hold-down force per shank.



The Ball Lock® Mounting System is designed to speed the accurate locating and locking of fixture plates to subplates. The system consists of three parts: a Locating Shank, a Liner Bushing, and a Receiver Bushing. Using the Ball Lock® Mounting System is a simple process: Install a subplate with receiver bushings on your machine table; add your fixture plate with two locating liner

bushings; then insert two locating shanks through the liners and into the receiver bushings to provide accurate location. $2\frac{1}{2}$ turns of the set screw in each of the locating shanks provides positive holding force. Additional Ball Lock® Shanks are inserted through clearance holes in the fixture plate and set screws tightened for additional holding force distributed across

the fixture plate.

It is recommended that the use of the Ball Lock® Mounting System for locating and clamping of fixture plates be incorporated in a systematic process. All fixture plates should have two locating points positioned as far apart as possible. There is no advantage to having more than two

The Ball Lock® Mounting System

provides a method of quickly and accurately locating fixtures onto machine tables. The Ball Lock® Mounting System has done for machining centers what the Japanese SMED concept did for presses. Instead of single minute exchange of dies, Ball Lock® provides single minute exchange of fixtures. Fixtures can often be exchanged in less than a minute and with position repeatability of $\pm 0.0005"$ ($\pm 0.013\text{mm}$). Fixtures can be exchanged between different machines when both are using the Jergens Ball Lock® Mounting System.

Commonly Asked Questions

Q. What is the Ball Lock® Mounting System?

A. It is a means of locating and locking two flat surfaces together, normally a fixture plate and a sub-plate.

Q. How does it locate?

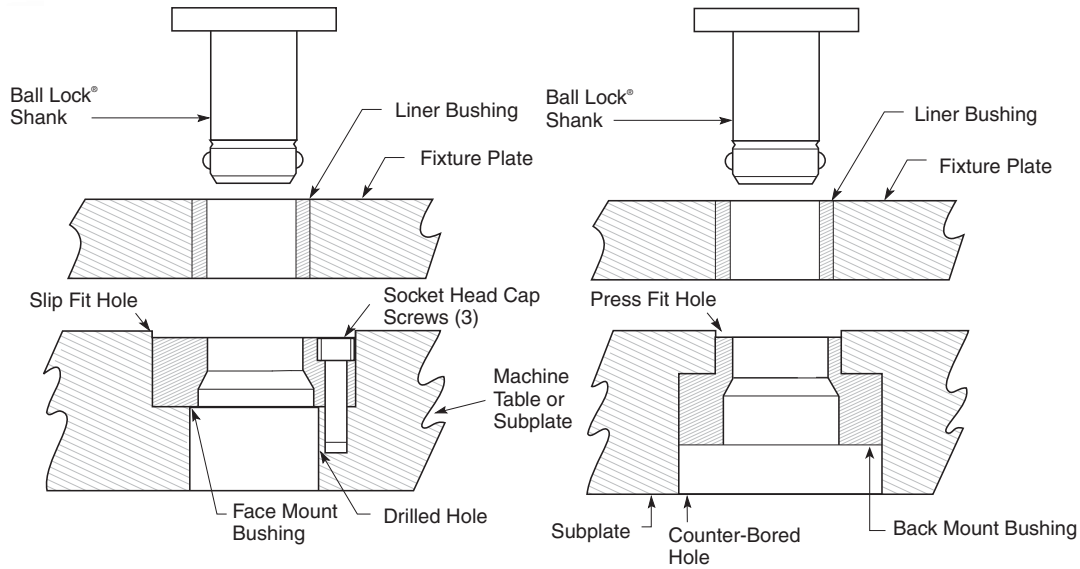
A. Similar to locating pins, two Ball Lock® shanks (pins) pass through two precision liner bushings on the fixture plate and into two precision receiver bushings on the subplate.

Q. How does it lock?

A. Inside the shank are three balls that expand into a tapered groove in the receiver bushing. This action draws the plates together. The locking balls are activated by turning a setscrew in the head of the shank, which pushes a 4th ball to distribute the clamping forces between the 3 locking balls.

Q. How many shanks are required to locate and lock each fixture?

A. Only two shanks, passing through bushings in the fixture plates, are required for location. However, additional shanks passing through clearance holes in the fixture plate will provide additional holding force distributed across the plate.



Mounting Method With Face Mount Bushing

Mounting Method With Back Mount Bushing

locating points. If more than two flanged shanks are required to provide additional hold-down force, omit liner bushings in the additional holes in the fixture plate and allow 0.030" (0.76mm) over the nominal size. The additional clearance will insure that these holes have no influence on the locating holes.

How accurate should positioning be?
The center distance of the receiver bushings in the machine table, tombstone, or subplate should be as accurate as possible $\pm 0.0002"$ ($\pm 0.005\text{mm}$) recommended. Accurate location will assure interchangeability of numerous fixture plates. For accurate repeatability within

$\pm 0.0005"$ ($\pm 0.013\text{mm}$) of true position, both liner bushings in the fixture plate should be *primary* liners and the center distance tolerance should be $\pm 0.0002"$ ($\pm 0.005\text{mm}$). For a slightly looser fit, repeatability within $\pm 0.0015"$ ($\pm 0.04\text{mm}$) of true position, use one *primary* and one *secondary* liner with a center distance tolerance of $\pm 0.001"$ ($\pm 0.03\text{mm}$).

Q. Is there a preferable location for the liner bushing?

A. System repeatability is improved if the liners are located at opposite corners of a rectangular fixture plate. For consistency, we recommend locating the liner bushings at top left and bottom right.

Q. What are the advantages of using the Ball Lock® System over the conventional method of dowel pins and cap screws?

A. Both locating and locking are accomplished in the same motion. Ball Lock® shanks require only 2.5 turns to lock a 1/2–13 (M12) screw

with 3/4" (18mm) of thread engagement require 10 turns to lock. On CNC machines, the repeatability of fixture locations makes indicating of the fixture unnecessary.

Q. How do I recess the fixtureplate for a clear surface ?

A. Counterbore the fixture plate to a diameter large enough to allow easy removal of the shank.

Note: The thickness of the plate section under the head of the shank is critical and must conform to mounting instructions .

Q. What if my plate is thinner than the recommended thickness?

A. By adjusting the depth of the counterbore for the receiver bushing in the subplate, you can still use the Ball Lock® System. If there are any questions on this type of application, please call 1-877-426-2504.

Q. Can I use the shanks in a heated environment?

A. The shank is made of alloy steel, heat treated to 40-45 Rc and should with stand temperatures up to 400°F. (200°C).

Note: Thermal expansion of fixture plates may affect the center distance tolerance and repeatability.



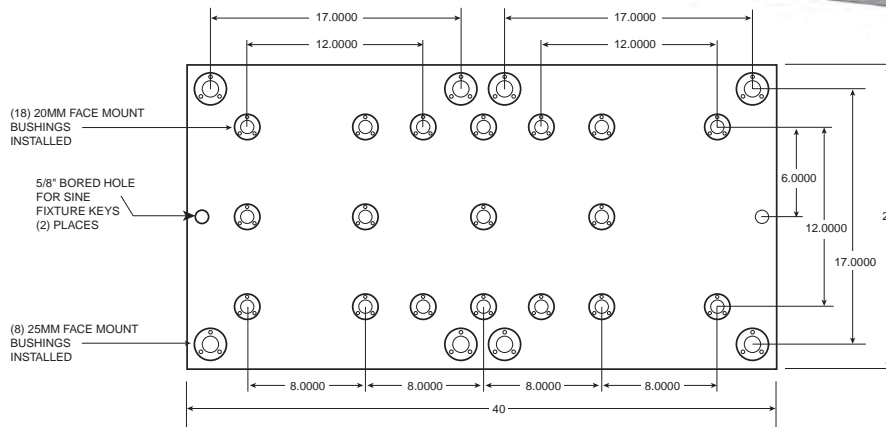
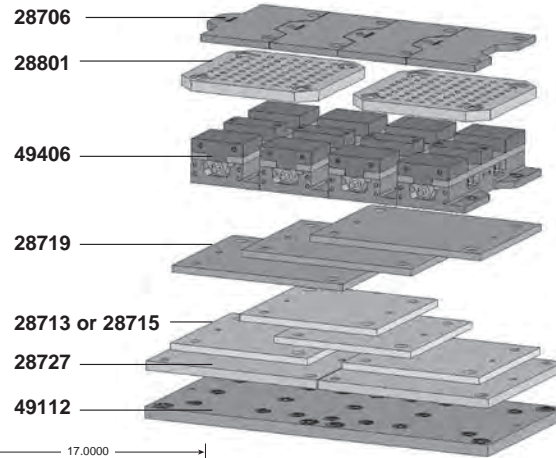
Multi-Purpose Subplates

40x20 Multi-Purpose Subplate

Part Number	Wt. (lbs)
49112	285

The Jergens Multi-Purpose Subplate accommodates a wide variety of fixture plates and vises. This versatility facilitates using the same VMC for diverse products in repetitive runs, long and short batch sizes.

- FreMax™ 15 Steel or Equivalent
- Thickness: 1 1/4" ±0.005"
- Parallel within 0.001"



Fixture Plate Options for Multi-Purpose Subplates – Aluminum or Steel

Fixture Plate*/Vise Part Number	Thickness of Fixture Plate	Number of Fixture Plates/Vises That Mount on Multi-Purpose Subplate	Receiver Bushing Center Distance	Receiver Bushing Size	Required Ball Lock® Shank Part Number	Number of Shanks Required Per Fixture Plate/Vise
28713 (14 x 14) Fixture Plate	3/4"	2	12 x 12	20 mm	49601	4
28715 (16 x 16) Fixture Plate	3/4"	2	12 x 12	20 mm	49601	4
28801 (16 x 16) Modular Grid Plate	1 1/8"***	2	12 x 12	20 mm	49602	4
28706 Jigsaw Interlocking Plate	3/4"	4	8 x 12	20 mm	49601	3
28727 (20 x 20) Fixture Plate	1"	2	17 x 17	25 mm	49612	4
28719 (20 x 16) Fixture Plate	3/4"	1	16 x 12	20 mm	49601	4
49406 6" Jigsaw Base Vise	3/4"	4	8 x 12	20 mm	49601	3

* See next page for dimensional data on fixture plates. Part numbers shown for aluminum plates, also available in steel.

**Counterbored to 1" at mounting holes.

QUICK CHANGE FIXTURING » BALL LOCK® MOUNTING SYSTEM



Fixture Plates for Multi-Purpose Subplate

14x14x3/4" Fixture Plate

Aluminum Plate Part Number	Wt. (lbs)
28713	14

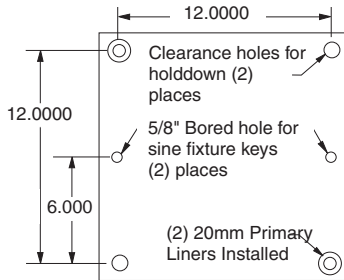
Steel Plate Part Number	Wt. (lbs)
28813	42

16x16x3/4" Fixture Plate

Aluminum Plate Part Number	Wt. (lbs)
28715	18

Steel Plate Part Number	Wt. (lbs)
28815	55

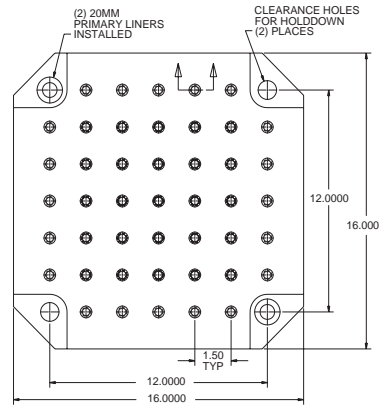
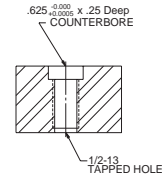
- Cast Aluminum or FreMax™ 15 Steel or equivalent
- Thickness: 3/4" ±0.005"
- Parallel within 0.001" Steel
- Mounts to subplates with Ball Lock® Shank 49601 (20 x 3/4")



16x16 Modular Grid Fixture Plate

Steel Plate Part Number	Wt. (lbs)
28801	80

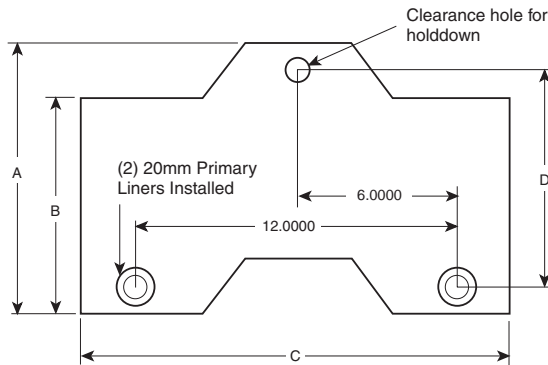
- FreMax™ 15 Steel or equivalent
- Thickness: 1 1/8" ±0.005"
- Parallel within 0.001"
- Mounts to subplates with Ball Lock® Shank 49602 (20 x 1")



Jigsaw Interlocking Fixture Plate

Aluminum Plate Part No	Wt.	Steel Plate Part No	Wt.	A	B	C	Jergens D	Vise P/N
28705	6	—	—	7.97	5.97	15.00	6.0000	49401
28706	11	28806	34	9.97	7.97	16.00	8.0000	49402

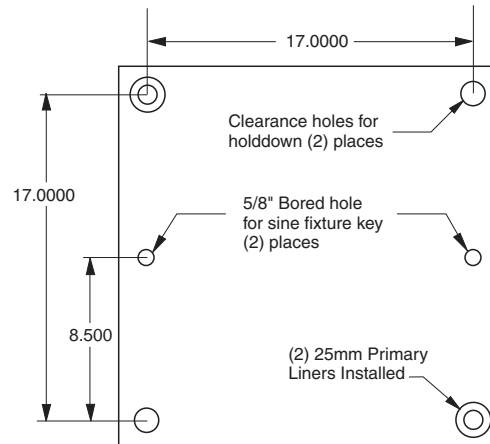
- Cast Aluminum or FreMax™ 15 Steel or equivalent
- Thickness: 3/4" ±0.005"
- Parallel within 0.001" Steel
- For use with narrow base 4" or 6" vise models
- Design allows close vise spacing for more parts per run
- Easily mounts to Subplates using the Ball Lock® Shank 49601 (20 x 3/4")
- Useful for high density fixturing of small parts



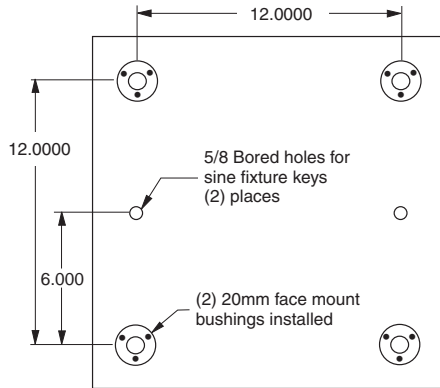
20x20x1" Fixture Plate

Aluminum Plate Part Number	Wt. (lbs)	Steel Plate Part Number	Wt. (lbs)
28727	38	28827	114

- Cast Aluminum or FreMax™ 15 Steel or equivalent
- Thickness: 1" ±0.005"
- Parallel within 0.001" Steel
- Mounts to subplates with Ball Lock® Shank 49612 (25 x 1")



Ball Lock® Standard Subplates



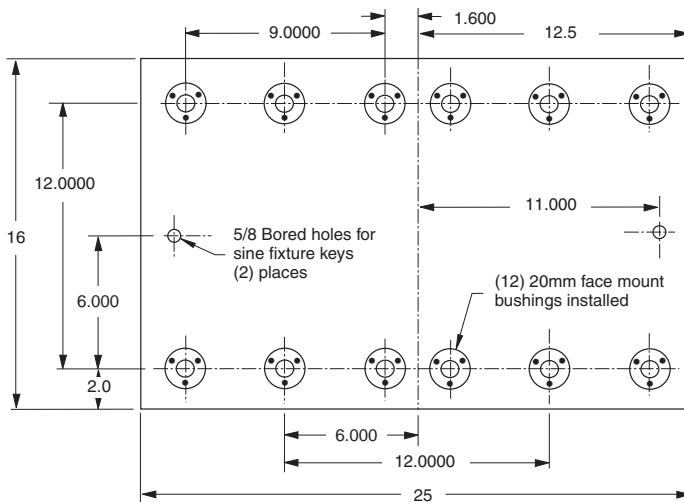
16x16 Subplate

Part Number	Wt (lbs)
49101	81

Equipped with four 20mm receiver bushings for use with 14x14 or 16x16 fixture plates. Ideal for horizontal machining centers or multiple pallet machining centers.

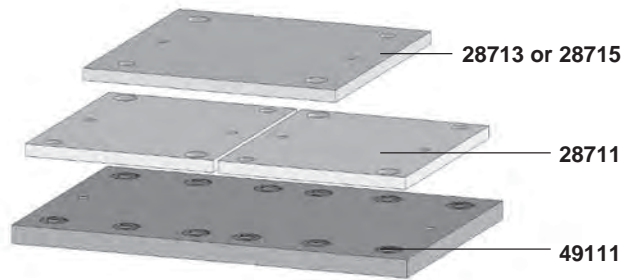
- Fremax™ 15 steel plate or equivalent
- Thickness: 1-1/8" ±0.005"
- Parallel within 0.001"

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25x16 Dual Station Subplate

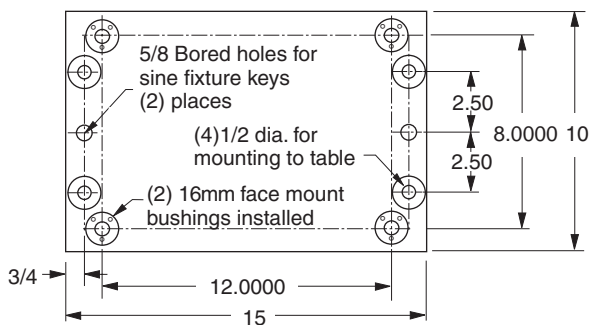
Part Number	Wt (lbs)
49111	128



Equipped with twelve installed 20mm receiver bushings to easily locate and mount Jergens Standard Fixture Plates:

- Fremax™ 15 steel plate or equivalent
- Thickness: 1-1/8" ±0.005"
- Parallel within 0.001"

Aluminum Plate Part Number	Steel Plate Part Number	Number of Fixture Plates	Plate Width and Length
28713	28813	1	14"x14"
28715	28815	1	16"x16"
28711	28811	2	12"x14"



15x10 Bridgeport™ – Style Subplate

Part Number	Wt (lbs)
49121	32

Equipped with four installed 16mm receiver bushings and 1/2" mounting holes. Used with the Bridgeport™ style fixture plates 28731 or 28831.

- Thickness: 3/4" ±0.005"
- Parallel within 0.001"

Ball Lock® Quick Change Kits include all components needed in a single package. See page 17 for details.



Ball Lock® Fixture Plates

- Cast Aluminum or FreeMax™ 15 Steel or equivalent
- Thickness tolerance ±0.005"
- Parallel within 0.001" Steel
- 6061-T-651 Aluminum plates, within .001 available upon request

Aluminum Ball Lock® Fixture Plates with 2 Primary Liners Installed

Plate Part Number Aluminum	Weight (lbs)	Plate Part Number Steel	Weight (lbs)	Plate Dimensions (in.)	Plate Thickness (in.) ±0.005	Ball Lock®	
						Shank Size Dia. (mm)	Shank Part Number
28706	9	28806	34	9.97 x 16	3/4	20	49601
28711	12	28811	36	12 x 14	3/4	20	49601
28713	14	28813	42	14 x 14	3/4	20	49601
28715	18	28815	55	16 x 16	3/4	20	49601
28722	16	28822	48	12 x 14	1	25	49612
28724	19	28824	56	14 x 14	1	25	49612
28726	24	28826	73	16 x 16	1	25	49612
28719	23	28819	68	20 x 16	3/4	20	49601
28727	38	28827	114	20 x 20	1	25	49612
28731	11	28831	32	15 x 10	3/4	16	49608
—	—	28801	80	16 x 16	1 1/8	20	49602

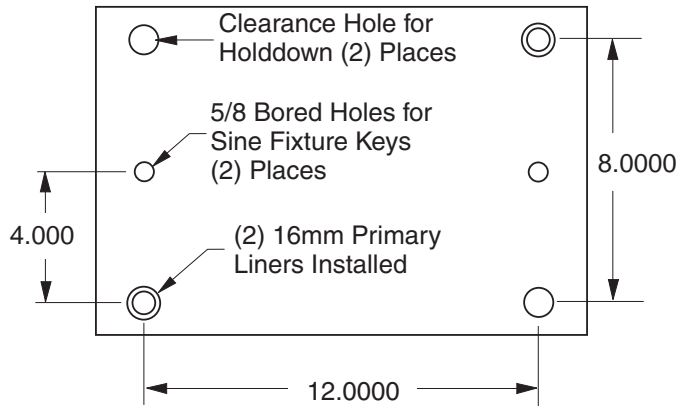
- Machined to close tolerances
- Repeatability ±0.0005" or better
- Reduces fixture set-up and assembly time
- Provided with 5/8" bored holes for sine fixture keys
- For horizontal or vertical machining centers, Tool Room Mills, or multiple pallet machining centers

Custom Sizes Available

Jergens will make Ball Lock® fixture plate or subplates to your specifications. Call 1-877-426-2504 for further information.

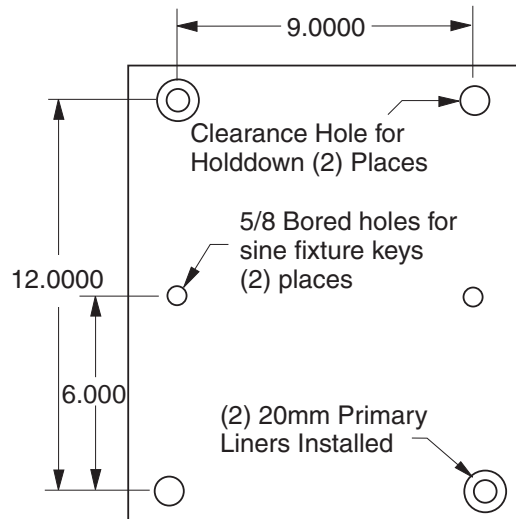
15x10x3/4" Fixture Plate Bridgeport™ Style

Aluminum Plate Part Number	Wt. (lbs)	Steel Plate Part Number	Wt. (lbs)
28731	11	28831	32



12x14x3/4" Fixture Plate

Aluminum Plate Part Number	Wt. (lbs)	Steel Plate Part Number	Wt. (lbs)
28711	12	28811	36



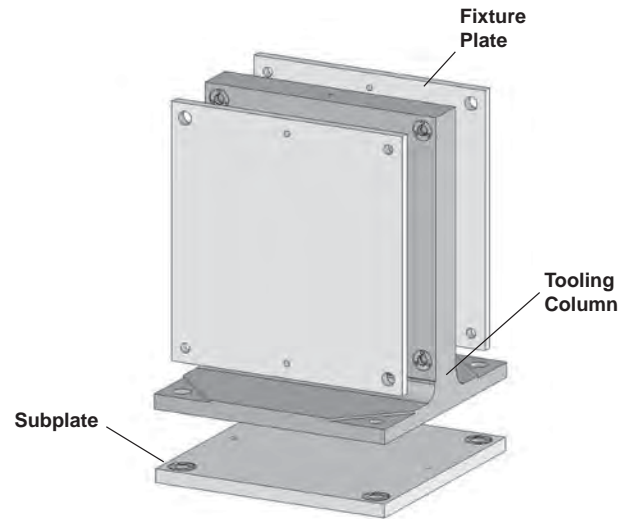


Ball Lock® T-Columns

- Class 40 Cast Iron
- Also available in Aluminum
- Ball Lock® Receiver Bushings and Liner Bushings installed
- Perpendicularity is 0.001" per foot

Custom Sizes Available with or without Ball Lock®

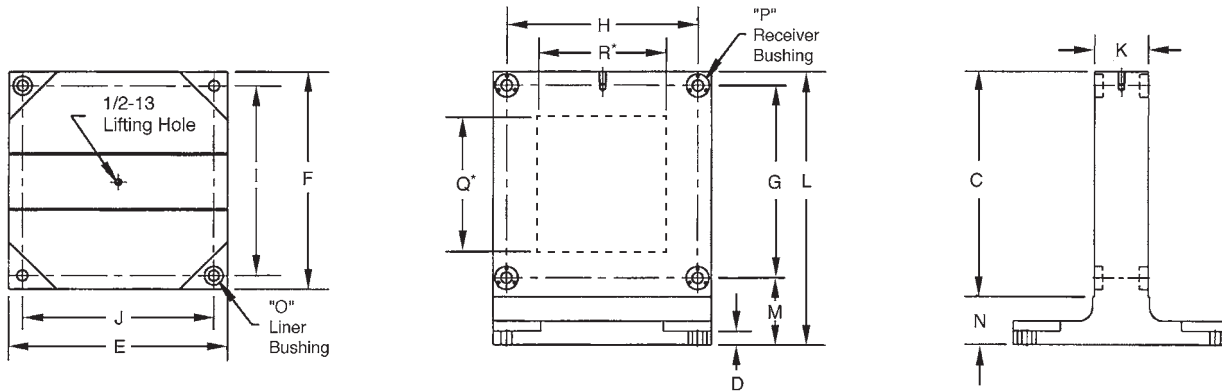
We are able to quote you on your special requirement with or without the Ball Lock® Mounting System. Call 1-877-426-2504 for design specification information.



Cast Iron T-Columns With Ball Lock® Receiver Bushings Installed

See page 16 for Fixture Plates and Subplates

Pallet Size (mm)	Part Number	C	D	E	F	G	H	I	J	K	L	M	N	O (mm)	P (mm)	Wt. (lbs)
400	69101	16.375	1	16	16	14	14	14	14	4	19.875	4.875	3.5	20	20	425
500	69111	22.375	1	20	20	19	17	17	17	4.7	25.875	5.375	3.5	25	25	700
630	69121	26.375	1.5	25	25	23	22	21	21	4	29.875	5.375	3.5	35	25	1125



*Note: Window sections are also available on T-Columns. Specify window size and location (Q and R Dimensions).

Corresponding Fixture Plates, Subplates and Ball Lock® Shanks

Pallet Size (mm)	T-Column Part Number	Aluminum Fixture Plate Part Number	Steel Fixture Plate Part Number	Fixture Plate Size	Fixture Plate Ball Lock® Shank Part Number	Shank Size	Subplate Part Number	Subplate Ball Lock® Shank Part Number	Shank Size
400	69101	28717	28817	16 x 16	49601	20mm x 3/4	49102	49602	20mm x 1
500	69111	28745	28845	20 x 22	49612	25mm x 1	49103	49612	25mm x 1
630	69121	28746	28846	25 x 26	49612	25mm x 1	49104	49633	35mm x 1-1/2

Use Hoist Ring 23411, see page 484 for lifting and handling – Order separately.

Engineering Changes

Product improvement is a continuing process at Jergens. Specifications and engineering data are subject to change after publishing. Contact Jergens Technical Sales Department to verify any dimensions or specifications.

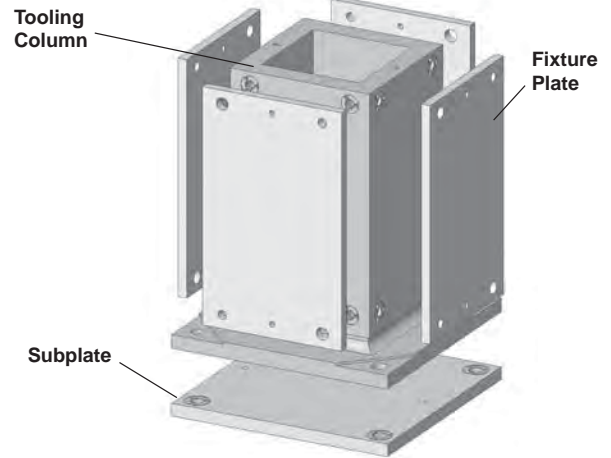


Ball Lock® 4-Sided Tooling Columns

- Class 40 Cast Iron
- Also available in Aluminum
- Ball Lock® Receiver Bushings and Liners installed
- Provides accurate fixturing base for CNC machining centers
- Perpendicularity is 0.001" per foot

Custom Sizes Available with or without Ball Lock®

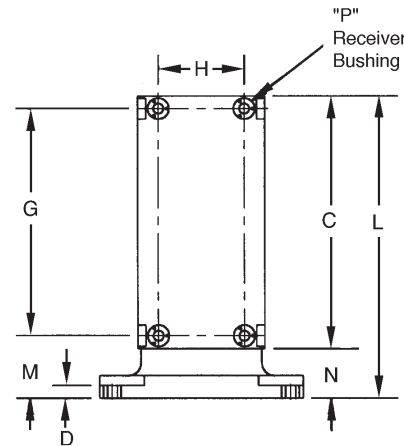
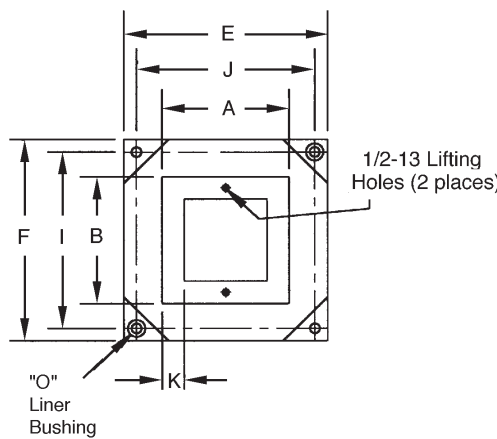
We are able to quote you on your special requirement with or without the Ball Lock® Mounting System. Call 1-877-426-2504 for design specification information.



Cast Iron 4-Sided Tooling Columns With Ball Lock® Receiver Bushings Installed

See page 16 for Fixture Plates and Subplates

Pallet Size (mm)	Part Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O (mm)	P (mm)	Wt. (lbs)
400	69001	10	10	20	1	16	16	18	6.75	14	14	1.75	23.875	4.875	3.875	20	20	510
500	69011	12	12	25	1	20	20	22	8	17	17	1.625	28.875	5.375	3.875	25	25	736
630	69021	16	16	26	1.5	25	25	23	11.50	21	21	2	29.875	5.375	3.875	35	25	1122



Corresponding Fixture Plates, Subplates and Ball Lock® Shanks

Pallet Size (mm)	T-Column Part Number	Aluminum Fixture Plate Part Number	Steel Fixture Plate Part Number	Fixture Plate Size	Fixture Plate Ball Lock® Shank Part Number	Shank Size	Subplate Part Number	Subplate Ball Lock® Shank Part Number	Shank Size
400	69001	28741	28841	10 x 20	49601	20mm x 3/4	49102	49602	20mm x 1
500	69011	28742	28842	12 x 25	49612	25mm x 1	49103	49612	25mm x 1
630	69021	28743	28843	16 x 26	49612	25mm x 1	49104	49633	35mm x 1-1/2

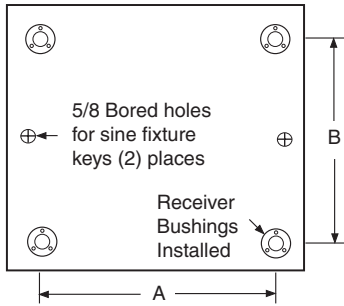
Use Hoist Ring 23411, see page 484 for lifting and handling – Order separately.

Engineering Changes

Product improvement is a continuing process at Jergens. Specifications and engineering data are subject to change after publishing. Contact Jergens Technical Sales Department to verify any dimensions or specifications.



Subplates For Tooling Columns and Fixture Plates

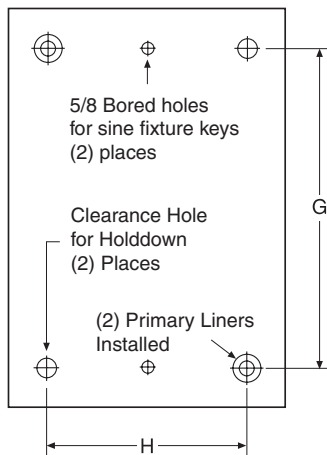


Standard Steel Subplates for Tooling Columns

Subplate mounting holes can be provided per customer specification. Supplied with Ball Lock® Receiver Bushings installed.

Part Number	Pallet Size (mm)	For Tooling Columns	Ball Lock® Pattern		Receiver Size (mm)	Thickness of Subplate (in.) ±0.005	Wt (lbs)
			A (in.)	B (in.)			
49102	400	69001, 69101	14	14	20	1 1/8	79
49103	500	69011, 69111	17	17	25	1 1/4	137
49103-C*	500	69101, 69001	14/17	14/17	20/25	1 1/4	137
—	—	69111, 69011	Dual	Dual	Dual	1 1/4	—
49104	630	69021, 69121	21	21	35	1 3/8	240

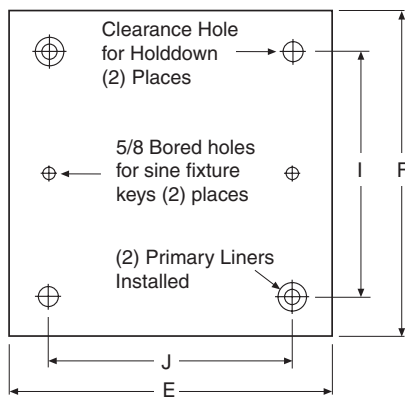
*49103-C is a dual pattern subplate. Please contact Jergens Technical Service at 1-877-426-2504 for design specific information.



Fixture Plates for Standard Tooling Columns and T-Columns

Supplied with 2 primary Ball Lock® Liner Bushings installed.

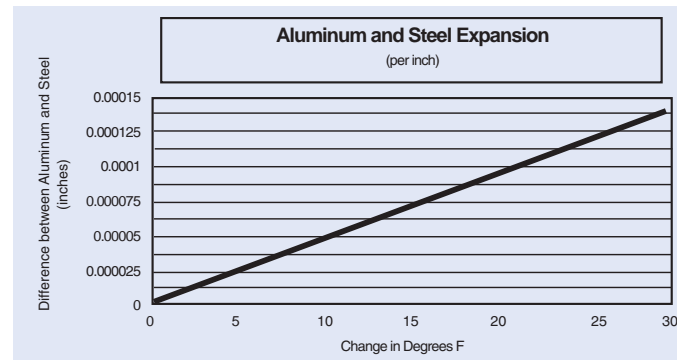
Pallet Size (mm)	Part Number			For Tooling Columns	Type	Fixture Plate Size (in.)	Fixture Plate Thickness ±0.005"	Ball Lock® Pattern		Liner Size (mm)	
	Aluminum	(lbs)	Steel					(lbs)	H (in.)		G (in.)
400	28741	14	28841	43	69001	4-S	10x20	3/4	6.75	18	20
500	28742	28	28842	85	69011	4-S	12x25	1	8	22	25
630	28743	39	28843	118	69021	4-S	16x26	1	11.50	23	25
400	28717	18	28817	55	69101	T	16x16	3/4	14	14	20
500	28745	41	28845	125	69111	T	20x22	1	17	19	25
630	28746	61	28846	184	69121	T	25x26	1	22	23	25



Fixture Plates for Tooling Column Subplates

Supplied with 2 primary Ball Lock® Liner Bushings installed.

Pallet Size (mm)	Part Number				For Subplate	Plate Dim.		Fixture Plate Thickness ±0.005"	Ball Lock® Pattern		Liner Size (mm)
	Aluminum	(lbs)	Steel	(lbs)		E (in.)	F (in.)		I (in.)	J (in.)	
400	28717	18	28817	55	49102	16	16	3/4	14	14	20
500	28727	38	28827	114	49103	20	20	1	17	17	25
630	28732	58	28832	177	49104	25	25	1	21	21	35



NOTE: Aluminum and steel expand at different rates. Please take this information into consideration when creating your own Ball Lock® fixture and subplates.

QUICK CHANGE FIXTURING » BALL LOCK® MOUNTING SYSTEM



Quick Change Kits

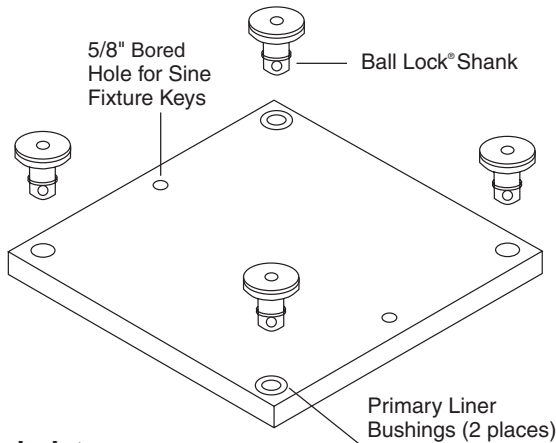


The Jergens Ball Lock® Quick Change Kits speed fixture changeover in all types of manufacturing operations. Each kit includes two aluminum fixture plates with two primary liner bushings installed; one steel subplate with receiver bushings installed, and four 20mm Ball Lock® shanks with working loads of 3000 lbs. each. While one fixture plate is on the machine, the operator can load parts on the other. This minimizes downtime for true set-up reduction. To enable the subplate to be mounted on a slotted table without the need to indicate the subplate, sine fixture keys can be used. The sine fixture key bored holes are oriented parallel to the receiver bushings on the subplate and to the liner bushings on the fixture plate. These also allow the fixture plate to be mounted on a toolroom mill without the need to indicate it. This is extremely useful when machining location points on your fixture.

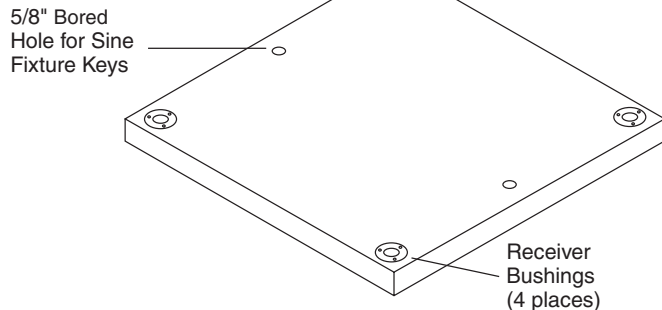


Everything You Need to Change Fixtures in Less Than One Minute

Aluminum Fixture Plate



Steel Subplate

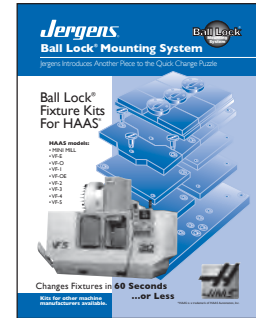
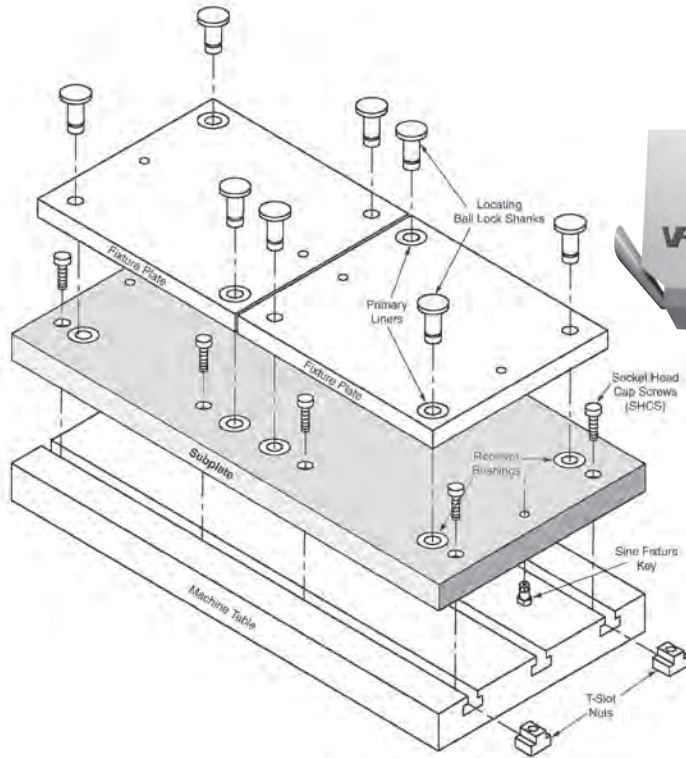


Quick Change Kits

Part No.	Kit Includes
49001	2 - 28713 (14"x14"x3/4") aluminum fixture plates with 20mm liner bushings installed 1 - 49101 (16"x16"x1-1/8") steel subplate with receiver bushings installed 4 - 49601 (20mm) Ball Lock® Shanks
49002	2 - 28715 (16"x16"x3/4") aluminum fixture plates with 20mm liner bushings installed 1 - 49101 (16"x16"x1-1/8") steel subplate with receiver bushings installed 4 - 49601 (20mm) Ball Lock® Shanks
49004	Bridgeport™-Style 2 - 28731 (10"x15"x3/4") aluminum fixture plates with 16mm liner bushings installed 1 - 49121 (10"x15"x3/4") steel subplate with receiver bushings installed 4 - 49608 (16mm) Ball Lock® Shanks



Pre-Engineered Ball Lock® Fixture Kits for HAAS*



Pre-Engineered HAAS Kits available. PDF Catalog Available at www.jergensinc.com

These kits include:

- Steel Subplate with receiver bushings
- Aluminum Fixture Plate(s) with 2 primary liner bushings
- Pre installed receiver and Liner Bushings
- Ball Lock® Shanks
- T-Slot nuts for mounting subplate to machine table
- 2 Sine Fixture Keys for accurate subplate locating
- Socket head cap screws

Benefits:

- Save time specifying and ordering
- Saves installation time and cost
- Eliminates potential installation errors

Try the Ball-Lock® Wizard Configurator for Customized Workholding Solutions

<http://jergens.configurators.com>

Ask about these other machine manufacturers where Ball Lock® kits can be utilized.

Call customer support at 1-877-426-2504

Acer	Fanuc Robodrill	Kira Mill	Miyano
Bridgeport	HAAS	Kitamura	Mori-Seiki
Brother	Hardinge	Leadwell	OKK
Chevalier	Hitachi	MAG	Okuma
Chiron	Hitachi Seiki	Makino	Republic Lagun
DMG	Hurco	Matsuura	Toyoda
Enshu	Hyundai-Kia	Mazak	Tree
Excel	Johnsford	Milltronics	YCI

*HAAS is a trademark of HAAS Automation, Inc.

QUICK CHANGE FIXTURING » BALL LOCK® MOUNTING SYSTEM



Set-Up Reduction Worksheet Benefits of Set-Up Reduction (Capacity)

Current Method		Example (actual case study):
Minutes per set-up	= _____ minutes	60 minutes
Number of set-ups per 8 hour shift	= _____ set-ups	1.5 set-ups
Total minutes of set-up per shift (set-up minutes x number of set-ups)	= _____ minutes	90 minutes

Using the Ball Lock® System		
Minutes per set-up	= _____ minutes	8 minutes
Number of set-ups per 8 hour shift	= _____ set-ups	1.5 set-ups
Total minutes of set-up per shift (set-up minutes x number of set-ups)	= _____ minutes	12 minutes
Increased capacity per machine per shift (current method – Ball Lock® method)	= _____ minutes	78 minutes
Savings per machine per shift	= _____ minutes	78 minutes
Increased capacity (number of minutes / 60)	= _____ hours	1.3 hours

Benefits of Set-Up Reduction (Profit)		
Machine cost per hour	= \$ _____	\$80.00
Increased production hours per shift (increased capacity from above)	= _____ hours	1.3 hours
Savings (profit) per machine per shift (machine cost per hour x increased production hours)	= \$ _____ per machine per shift	\$104.00 per machine per shift

QUICK CHANGE FIXTURING » BALL LOCK® MOUNTING SYSTEM

Ball Lock® For 4th Axis Rotary Indexers

Problem:

Rotary indexers increase the versatility of vertical machining centers, yet they offer one major challenge: set-up is so time-consuming that it may limit a machine's flexibility. In many cases, machinists dedicate their 4th Axis tool to a single machine to avoid the agony of an extended set-up and changeover.

Benefits:

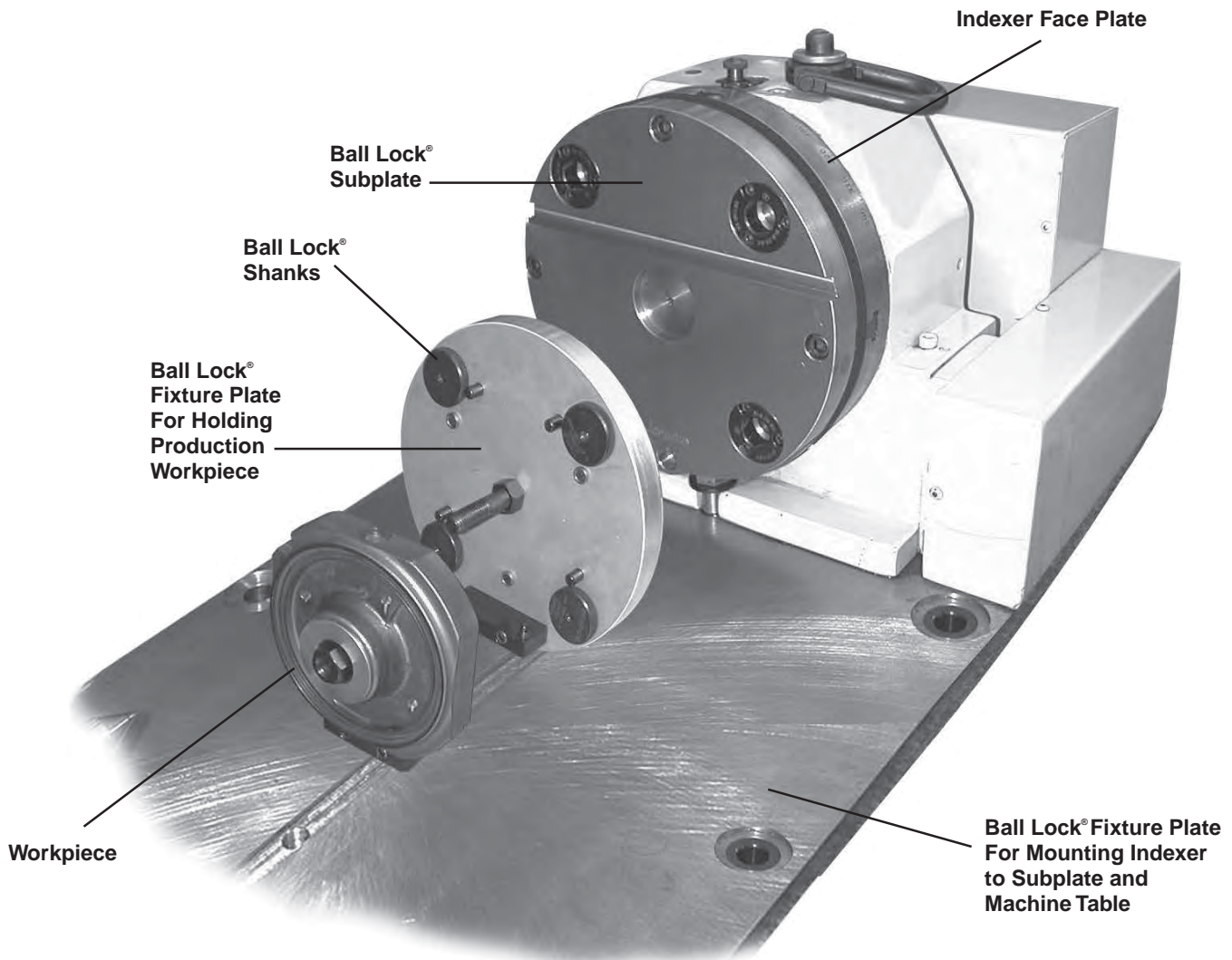
- Maximize indexer utilization
- Eliminate lengthy set-ups
- Accurate fixture plate changeover in seconds

Jergens' Solution:

Ball Lock® Mounting System for Indexers provides a double solution.

First, Ball Lock® mounting plates free up your machine for additional work by allowing a fast and accurate installation and removal of the complete indexer. Avoid hours of set up. The Ball Lock® System does it in minutes, with repeatability at $\pm 0.0005"$ ($\pm 0.013\text{mm}$). Low profile, positive clamping, proven in over many years of field use.

Second, the Ball Lock® System provides your fixture plate changeover. By mounting the round subplate to the indexer faceplate, you'll "plug-in" new fixtures in record time (less than 60 seconds).



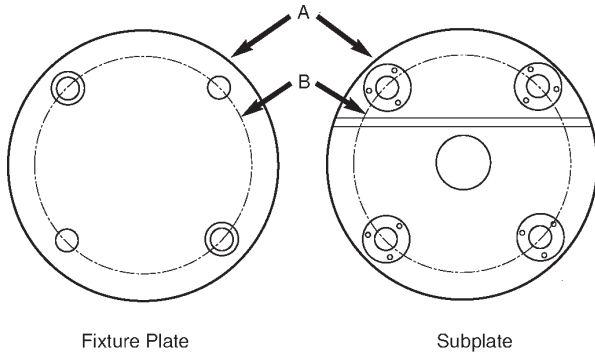
Subplates and fixture plates come with bushings pre-installed.

QUICK CHANGE FIXTURING » BALL LOCK® MOUNTING SYSTEM



Round Ball Lock® Fixture Plates and Subplates

Standard Round



Cast Aluminum, FreeMax™ or Steel equivalent

Fixture Plate

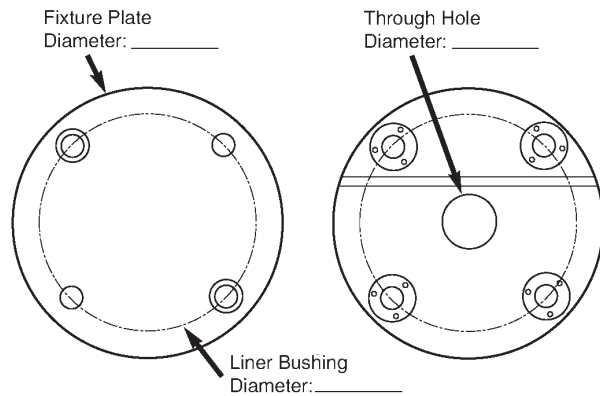
Part No.	A	B	Thickness ±0.005"	Ball Lock® Liner	Ball Lock® Shank	Weight (lbs)
28707	8"	6"	3/4	16mm	49608	3.5
28708	10"	8"	1	20mm	49602	7.0
28709	12"	10"	1	20mm	49602	11.0

Subplate

Part No.	A	B	Thickness ±0.005"	Ball Lock® Receiver	Center Hole	Weight (lbs)
49107	8"	6"	3/4	16mm	1.00"	11.0
49108	10"	8"	1	20mm	2.00"	21.0
49109	12"	10"	1	20mm	2.00"	33.0

Metric sizes also available; please call for information.

Custom Round Plates



Indexer:

Make: _____

Model: _____

Diameter: _____

Light Duty or Heavy Duty: _____

Through Hole Bore: _____

CNC Machine:

Make: _____

Model: _____

Weight Capacity: _____

Indexer Faceplate:

T-Slot Size: _____

Configuration/Orientation: _____

or

Drilled Tapped Hole Size: _____

Configuration/Orientation: _____

Engineering Changes

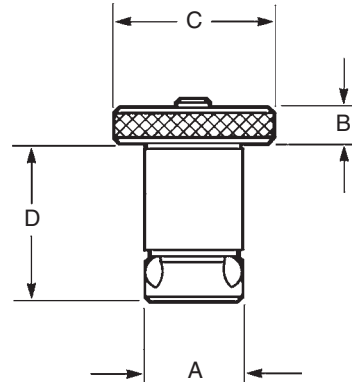
Product improvement is a continuing process at Jergens. Specifications and engineering data are subject to change without notice. If current information is critical to your design, it is suggested that you contact Jergens Technical Sales Department to verify any dimensions or specifications.

Locating and Clamping Shanks



- Material: Shank/Bushing, 4340
Liner, 52100
- Finish: Black Oxide
- Heat Treat: Shanks, RC 40-45
Bushings, RC 50-54
Liners, RC 62-64
- Operating Temperature Range
-20° to 400°F, -30° to 200°C

Stainless Steel available.



Ball Lock® Repair Kits



- Each Kit Includes:
- Replacement Screw
 - Locking Balls
 - Drive Ball
 - O-Ring

Any Ball Lock® application requires at least two sets of shanks, receiver bushings and liners. The liners are placed into the fixture plate to insure extremely accurate positioning. If more than two shanks are required (to provide additional hold down force), omit the liner bushing so that these additional holes will not interfere with your primary locating holes.

See page 26 for Fast Acting Shanks.

Locating and Clamping Shank Dimensions

Shank Diameter (mm) A	Fixture Plate Thickness ±0.005	Shank Part Number	Head of Shank		Length Under Head D	Hex Wrench Size for Set Screw	Maximum		Recommended		Shank Repair Kit Part Number
			Height B	Diameter C			Screw Torque (Ft/lb)	Hold-Down Force (lbs)	Screw Torque (Ft/lb)	Hold-Down Force (lbs)	
13	0.50	49605	0.25	0.87	1.08	3/32	1.2	750	1	625	49905
—	0.75	49606	—	—	1.33	—	—	—	—	—	49906
16	0.50	49607	0.32	1.50	1.15	1/8	3	1200	2	800	49907
—	0.75	49608	—	—	1.40	—	—	—	—	—	49908
20	0.75	49601	0.38	1.75	1.53	1/8	4	3000	3	2250	49901
—	1.00	49602	—	—	1.78	—	—	—	—	—	49902
25	0.75	49611	0.38	2.00	1.70	5/32	9	7000	7	5444	49911
—	1.00	49612	—	—	1.95	—	—	—	—	—	49912
30	0.75	49621	0.50	2.25	1.88	3/16	15	10000	12	8000	49921
—	1.00	49622	—	—	2.13	—	—	—	—	—	49922
35	0.75	49631	0.50	2.25	1.97	1/4	25	15500	19	11780	49931
—	1.00	49632	—	—	2.22	—	—	—	—	—	49932
—	1.50	49633	—	—	2.72	—	—	—	—	—	49933
—	2.00	49634	—	—	3.22	—	—	—	—	—	49934
50	0.75	49641	0.75	3.00	2.45	3/8	50	20000	38	15200	49941
—	1.00	49642	—	—	2.70	—	—	—	—	—	49942
—	1.50	49643	—	—	3.20	—	—	—	—	—	49943
—	2.00	49644	—	—	3.70	—	—	—	—	—	49944

QUICK CHANGE FIXTURING » BALL LOCK® MOUNTING SYSTEM



Receiver Bushings



Face Mount

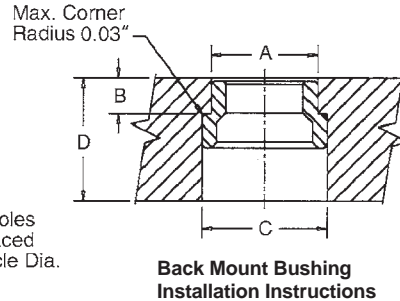
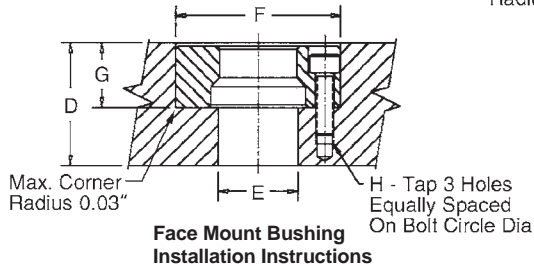


Back Mount

Two styles of receiver bushings are available. Generally, the face mount receiver bushing is utilized in blind hole applications (Slip Fit). The back mount receiver bushing is used in through hole applications (Light Press Fit).

Note: Installed bushings should be approximately .012" below subplate surface.

See reference below for installation of back mount style bushings.



Installation Dimensions

Face Mount

Shank Dia. (mm)	Face Mount Part Number	Actual O.D. +0.0000 -0.0004	Clearance Drill Diameter E	Bore +0.0005 -0.0000 F	Depth +0.002 -0.000 G	Tap Size & Depth ¹ H	Bolt Circle Diameter 3 PL Equally Spaced	Min. Subplate Thickness D
13	49506	1.3750	11/16	1.3750	0.469	8-32x5/16	0.984	3/4
16	49507	1.4370	13/16	1.4370	0.469	8-32x5/16	1.125	3/4
20	49501	1.6873	13/16	1.6873	0.637	10-32x3/8	1.362	1
25	49502	2.0623	1	2.0623	0.799	1/4-28x1/2	1.644	1-1/4
30	49503	2.2654	1 3/16	2.2654	0.871	1/4-28x3/4	1.876	1-3/8
35	49504	2.6873	1 9/16	2.6873	0.904	5/16-24x7/8	2.178	1-1/2
50	49505	3.4998	2 5/32	3.4998	1.239	3/8-24x1	2.916	2

Back Mount

Shank Dia. (mm)	Back Mount Part Number	Actual O.D. +0.0000 -0.0004 A	Depth +0.000 -0.002 B	C-Bore ±0.006 C	Min. Subplate Thickness D
13	49516	0.7870	.277	1.000	3/4
16	49517	0.8760	.285	1.155	3/4
20	49511	1.0950	.345	1.280	7/8
25	49512	1.3763	.416	1.593	1
30	49513	1.6264	.432	1.906	1-1/4
35	49514	1.8764	.493	2.155	1-5/16
50	49515	2.6269	.621	2.988	1-3/4

¹Cap Screws Supplied with Face Mount Bushings.

Liner Bushings for Fixture Plates



Locating repeatability will determine if one primary and one secondary or two primary liners are needed. With two primary liners, repeatability of ±0.0005" can be maintained if the two holes for receiver bushings are held to a centerline distance of ±0.0002" tolerance.

Note on Installation of Press Fit Liners & Back Mount Style Receiver Bushings:

To alleviate the possibility of binding the shank in the bore, the maximum interference fit between bore and bushing O.D. should not exceed .0005".

Liner Dimensions

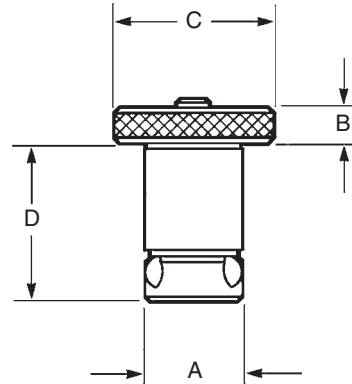
Fixture Plate Thickness ±0.005	Shank Diameter (mm)	Primary Liner Part Number	Secondary Liner Part Number	Liner O.D. +0.0000 -0.0004
.50	13	49705	49805	0.7518
.75	13	49706	49806	0.7518
.50	16	49707	49807	1.0018
.75	16	49708	49808	1.0018
.75	20	49701	49801	1.3772
1.00	20	49702	49802	1.3772
.75	25	49711	49811	1.3772
1.00	25	49712	49812	1.3772
.75	30	49721	49821	1.7523

Fixture Plate Thickness ±0.005	Shank Diameter (mm)	Primary Liner Part Number	Secondary Liner Part Number	Liner O.D. +0.0000 -0.0004
1.00	30	49722	49822	1.7523
.75	35	49731	49831	1.7523
1.00	35	49732	49832	1.7523
1.50	35	49733	49833	1.7523
2.00	35	49734	49834	1.7523
.75	50	49741	49841	2.5025
1.00	50	49742	49842	2.5025
1.50	50	49743	49843	2.5025
2.00	50	49744	49844	2.5025

Stainless Steel Locating and Clamping Shanks



- Material: 17-4 PH Stainless Steel
- Heat Treat: Rc 40-45



Ball Lock® Repair Kits



Each Kit Includes:

- Replacement Screw
- Locking Balls
- Drive Ball
- O-Ring

Any Ball Lock® application requires at least two sets of shanks, receiver bushings and liners. The liners are placed into the fixture plate to insure extremely accurate positioning. If more than two shanks are required (to provide additional hold down force), omit the liner bushing so that these additional holes will not interfere with your primary locating holes.

Stainless Steel Locating and Clamping Shank Dimensions

Shank Diameter (mm) A	Fixture Plate Thickness ±0.005	Shank Part Number	Head of Shank		Length Under Head D	Hex Wrench Size for Set Screw	Maximum		Recommended		Shank Repair Kit Part Number
			Height B	Diameter C			Screw Torque (Ft/lb)	Hold-Down Force (lbs)	Screw Torque (Ft/lb)	Hold-Down Force (lbs)	
13	0.50	49605SS	0.25	0.87	1.08	3/32	1.2	750	1	625	49905SS
—	0.75	49606SS	—	—	1.33	—	—	—	—	—	49906SS
16	0.50	49607SS	0.32	1.50	1.15	1/8	3	1200	2	800	49907SS
—	0.75	49608SS	—	—	1.40	—	—	—	—	—	49908SS
20	0.75	49601SS	0.38	1.75	1.53	1/8	4	3000	3	2250	49901SS
—	1.00	49602SS	—	—	1.78	—	—	—	—	—	49902SS
25	0.75	49611SS	0.38	2.00	1.70	5/32	9	7000	7	5444	49911SS
—	1.00	49612SS	—	—	1.95	—	—	—	—	—	49912SS
30	0.75	49621SS	0.50	2.25	1.88	3/16	15	10000	12	8000	49921SS
—	1.00	49622SS	—	—	2.13	—	—	—	—	—	49922SS
35	0.75	49631SS	0.50	2.25	1.97	1/4	25	15500	19	11780	49931SS
—	1.00	49632SS	—	—	2.22	—	—	—	—	—	49932SS
—	1.50	49633SS	—	—	2.72	—	—	—	—	—	49933SS
—	2.00	49634SS	—	—	3.22	—	—	—	—	—	49934SS
50	0.75	49641SS	0.75	3.00	2.45	3/8	50	20000	38	15200	49941SS
—	1.00	49642SS	—	—	2.70	—	—	—	—	—	49942SS
—	1.50	49643SS	—	—	3.20	—	—	—	—	—	49943SS
—	2.00	49644SS	—	—	3.70	—	—	—	—	—	49944SS



Stainless Steel Receiver Bushings



Face Mount

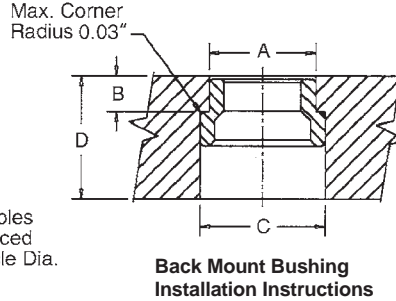
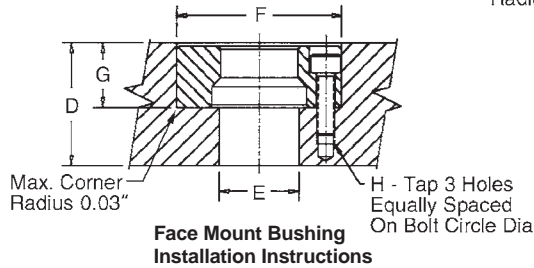


Back Mount

Two styles of receiver bushings are available. Generally, the face mount receiver bushing is utilized in blind hole applications (Slip Fit). The back mount receiver bushing is used in through hole applications (Light Press Fit).

Note: Installed bushings should be approximately .012" below subplate surface.

See reference below for installation of back mount style bushings.



Installation Dimensions

Face Mount

Shank Dia. (mm)	Face Mount Part Number	Actual O.D. +0.0000 -0.0004	Clearance Drill Diameter E	Bore +0.0005 -0.0000 F	Depth +0.002 -0.000 G	Tap Size & Depth H	Bolt Circle Diameter 3 PL Equally Spaced	Min. Subplate Thickness D
13	49506SS	1.3750	11/16	1.3750	0.469	8-32x5/16	0.984	3/4
16	49507SS	1.4370	13/16	1.4370	0.469	8-32x5/16	1.125	3/4
20	49501SS	1.6873	13/16	1.6873	0.637	10-32x3/8	1.362	1
25	49502SS	2.0623	1	2.0623	0.799	1/4-28x1/2	1.644	1-1/4
30	49503SS	2.2654	1 3/16	2.2654	0.871	1/4-28x3/4	1.876	1-3/8
35	49504SS	2.6873	1 9/16	2.6873	0.904	5/16-24x7/8	2.178	1-1/2
50	49505SS	3.4998	2 5/32	3.4998	1.239	3/8-24x1	2.916	2

Back Mount

Shank Dia. (mm)	Back Mount Part Number	Actual O.D. +0.0000 -0.0004 A	Depth +0.000 -0.002 B	C-Bore ±0.006 C	Min. Subplate Thickness D
13	49516SS	0.7870	.277	1.000	3/4
16	49517SS	0.8760	.285	1.155	3/4
20	49511SS	1.0950	.345	1.280	7/8
25	49512SS	1.3763	.416	1.593	1
30	49513SS	1.6264	.432	1.906	1-1/4
35	49514SS	1.8764	.493	2.155	1-5/16
50	49515SS	2.6269	.621	2.988	1-3/4

Cap Screws Supplied with Face Mount Bushings.

Stainless Steel Liner Bushings for Fixture Plates



Locating repeatability will determine if one primary and one secondary or two primary liners are needed. With two primary liners, repeatability of ±0.0005" can be maintained if the two holes for receiver bushings are held to a centerline distance of ±0.0002" tolerance.

Note on Installation of Press Fit Liners & Back Mount Style Receiver Bushings:

To alleviate the possibility of binding the shank in the bore, the maximum interference fit between bore and bushing O.D. should not exceed .0005".

Liner Dimensions

Fixture Plate Thickness ±0.005	Shank Diameter (mm)	Primary Liner Part Number	Secondary Liner Part Number	Liner O.D. +0.0000 -0.0004
.50	13	49705SS	49805SS	0.7518
.75	13	49706SS	49806SS	0.7518
.50	16	49707SS	49807SS	1.0018
.75	16	49708SS	49808SS	1.0018
.75	20	49701SS	49801SS	1.3772
1.00	20	49702SS	49802SS	1.3772
.75	25	49711SS	49811SS	1.3772
1.00	25	49712SS	49812SS	1.3772
.75	30	49721SS	49821SS	1.7523

Fixture Plate Thickness ±0.005	Shank Diameter (mm)	Primary Liner Part Number	Secondary Liner Part Number	Liner O.D. +0.0000 -0.0004
1.00	30	49722SS	49822SS	1.7523
.75	35	49731SS	49831SS	1.7523
1.00	35	49732SS	49832SS	1.7523
1.50	35	49733SS	49833SS	1.7523
2.00	35	49734SS	49834SS	1.7523
.75	50	49741SS	49841SS	2.5025
1.00	50	49742SS	49842SS	2.5025
1.50	50	49743SS	49843SS	2.5025
2.00	50	49744SS	49844SS	2.5025



Accessories

Tapered Caps and Plugs

Keep debris out of your subplate's receiver bushings when not in use. Polyethylene caps snap in and out easily.



Packaged 10 per pack.

Receiver Bushing Diameter	Part Number
13	49201
16	49202
20	49203
25	49204
30	49205
35	49206
50	49207



Lifting Handles

For easy handling of fixture plates up to 500 lbs.

Part Number	Length	Ht.	W	Mounting Distance
33701	4.21	1.42	0.83	3.68

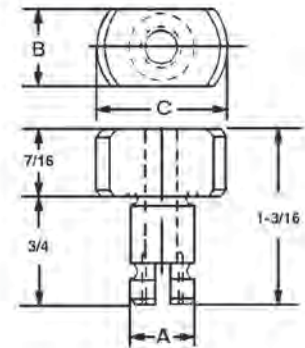
Sine Fixture Keys



Locate subplates or fixture plates to slotted machine tables without having to slot the plate. Available in inch sizes from 1/2" to 7/8" slots, and in metric sizes from 14mm to 22mm slots.

NOTE: See page 221 for dimensions.

Part Number	A +0.000 -0.0005	B Table Slot Size +0.000 -0.0005	C	Part Number	A +0.000 -0.0005	B Table Slot Size (mm) +0.000 -0.013	C
39501	.625	1/2	1	39552	.625	14	1
39502	.625	9/16	1	39553	.625	16	1
39503	.625	5/8	1	39554	.625	18	1
39504	.625	11/16	1	39555	.625	20	1-1/8
39505	.625	3/4	1-1/8	39556	.625	22	1-1/8
39506	.625	13/16	1-1/8	—	—	—	—
39507	.625	7/8	1-1/8	—	—	—	—



Fast Acting Ball Lock® Shanks

Ball Lock® Shank Diameter (mm)	Fixture Plate Thickness (in.)	FAST ACTING			
		Jergens Ball Lock® Shank w/Jergens Thumb Screw		Jergens Ball Lock® Shank Adjustable Handle	
		Part Number		Part Number	
		Assembly	T-Screw	Assembly	Handle
13	1/2	49605-S	43900	N/A	—
—	3/4	49606-S	43900	N/A	—
16	1/2	49607-S	43904	49607-H	34314
—	3/4	49608-S	43904	49608-H	34315
20	3/4	49601-S	43904	49601-H	34315
—	1	49602-S	43905	49602-H	34316
25	3/4	49611-S	43907	49611-H	34328
—	1	49612-S	43908	49612-H	34329
30	3/4	49621-S	43910	49621-H	34334
—	1	49622-S	43911	49622-H	34335
35	3/4	49631-S	43913	49631-H	34339
—	1	49632-S	43913	49632-H	34339
—	1-1/2	49633-S	43914	N/A	—
—	2	49634-S	43914	N/A	—



Thumb Screw

- Fast acting thumb screws 2 1/2 turns. No tools needed.



Adjustable Handle

- Handle can be moved out of the work area to avoid interference.

QUICK CHANGE FIXTURING » BALL LOCK® MOUNTING SYSTEM

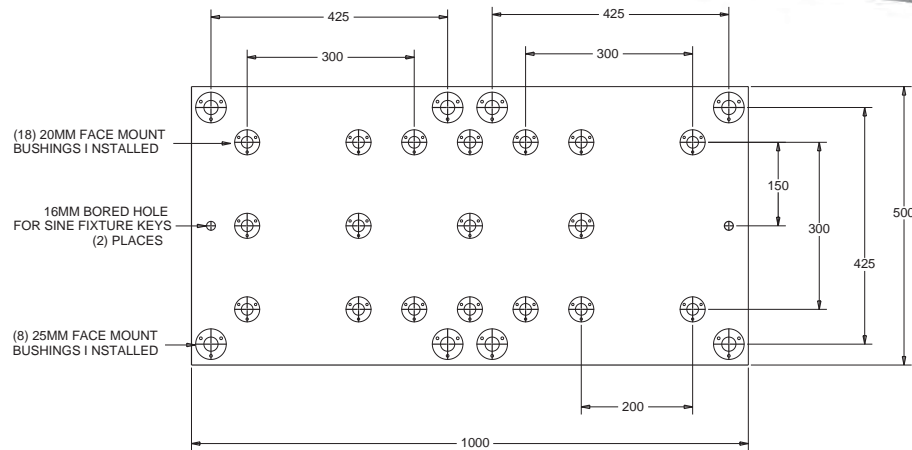
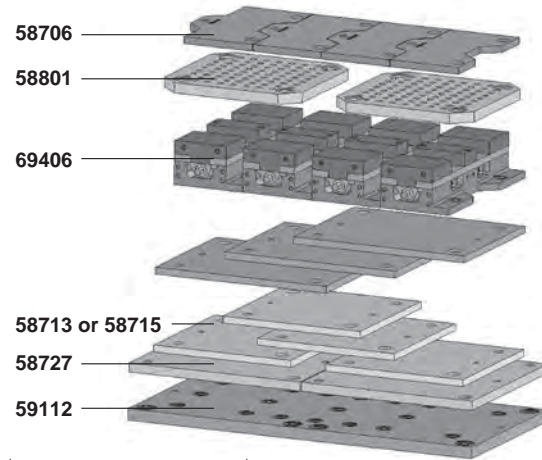


Multi-Purpose Subplates 1000x500 Multi-Purpose Subplate

Part Number	Wt. (Kg)
59112	130

The Jergens Multi-Purpose Subplate accommodates a wide variety of fixture plates and vises. This versatility facilitates using the same VMC for diverse products in repetitive runs-long and short batch sizes.

- FreMax™ 15 Steel or Equivalent
- Thickness: 31.75mm ±0.13mm
- Parallel within 0.025mm



Fixture Plate Options for Multi-Purpose Subplates – Aluminum or Steel

Fixture Plate*/Vise Part Number	Thickness of Fixture Plate	Number of Fixture Plates/Vise That Mount on Multi-Purpose Subplate	Receiver Bushing Center Distance	Receiver Bushing Size	Required Ball Lock® Shank Part Number	Number of Shanks Required Per Fixture Plate/Vise
58713 (350 x 350) Fixture Plate	20mm	2	300 x 300	20 mm	49651	4
58715 (400 x 400) Fixture Plate	20mm	2	300 x 300	20 mm	49651	4
58801 (400 x 400) Modular Grid Plate	30mm**	2	300 x 300	20 mm	49652	4
58706 Jigsaw Interlocking Plate	20mm	4	300 x 200	20 mm	49651	3
58727 (500 x 500) Fixture Plate	25mm	2	425 x 425	25 mm	49662	4
69406 150mm Jigsaw Vise	20mm	4	300 x 200	20 mm	49651	3

* See next page for dimensional data on fixture plates. Part numbers shown for aluminum plates, also available in steel.
** Counterbored to 25mm at mounting holes.



Fixture Plates for Use on Multi-Purpose Subplate

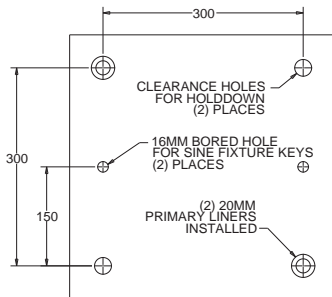
350x350x20mm Fixture Plate

Aluminum Plate Part Number	Wt. (Kg)	Steel Plate Part Number	Wt. (Kg)
58713	6	58813	19

400x400 Fixture Plate

Aluminum Plate Part Number	Wt. (Kg)	Steel Plate Part Number	Wt. (Kg)
58715	8	58815	25

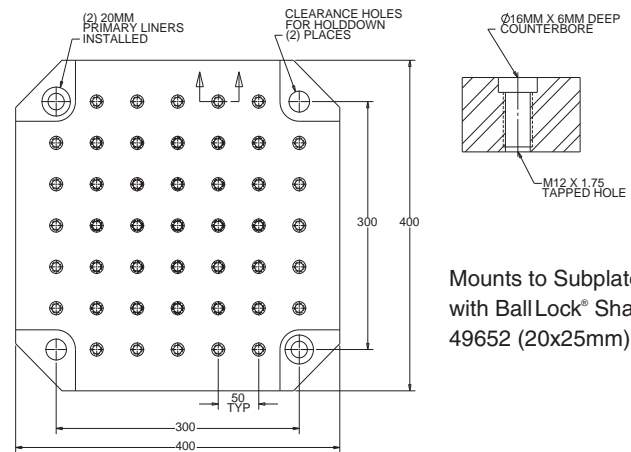
- Cast Aluminum or FreMax™ 15 Steel or equivalent
- Thickness: 20mm ±0.13mm
- Parallel within 0.025mm Steel
- Mounts to subplates with BallLock® Shank 49651 (20x20mm)



400x400 Modular Grid Fixture Plate

Aluminum Plate Part Number	Wt. (Kg)
58801	38

- FreMax™ 15 Steel or equivalent
- Thickness: 28.57mm ±0.13mm
- Parallel within 0.025mm Steel

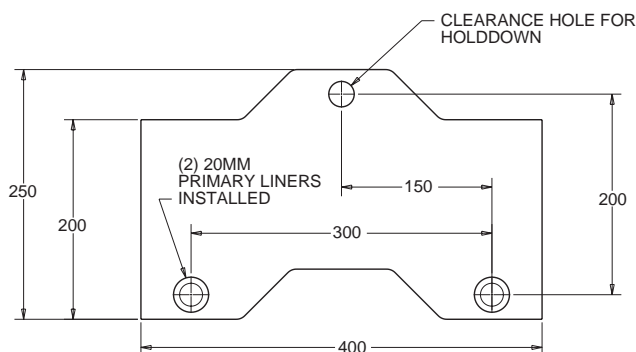


Mounts to Subplate with BallLock® Shank 49652 (20x25mm)

Jigsaw Interlocking Fixture Plate

Aluminum Plate Part Number	Wt. (Kg)	Steel Plate Part Number	Wt. (Kg)
58706	4	58806	12

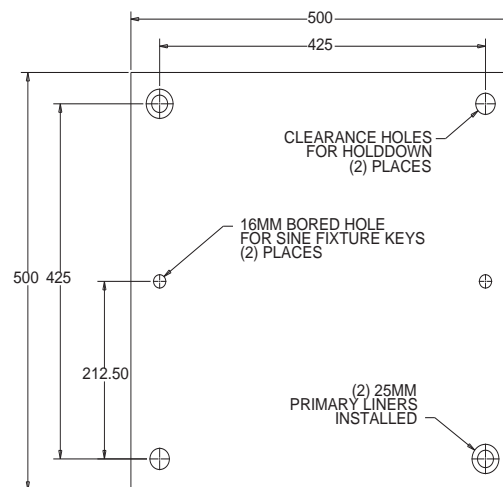
- Material: Cast Aluminum or FreMax™ 15 Steel or equivalent
- Thickness: 20mm ±0.13mm
- Parallel within 0.025mm Steel
- For use with narrow base 100mm or 150mm vise models
- Design allows close spacing of vises for more parts per run
- Mounts to Subplates using Ball Lock® Shank 44651 (20x20mm)
- Useful for high density fixturing



500x500x25mm Fixture Plate

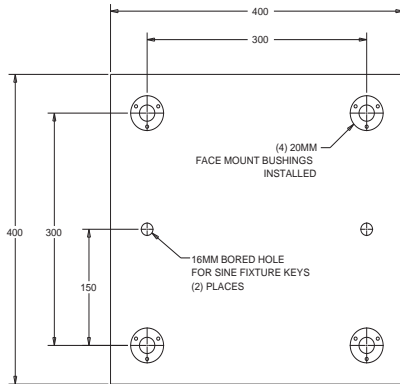
Aluminum Plate Part Number	Wt. (Kg)	Steel Plate Part Number	Wt. (Kg)
58727	17	58827	48

- Cast Aluminum or FreMax™ 15 Steel or equivalent
- Thickness: 25mm ±0.13mm
- Parallel within 0.025mm Steel
- Mounts to Subplates using Ball Lock® Shank 49662 (25x25mm)





Pre-Machined Ball Lock® Steel Subplate

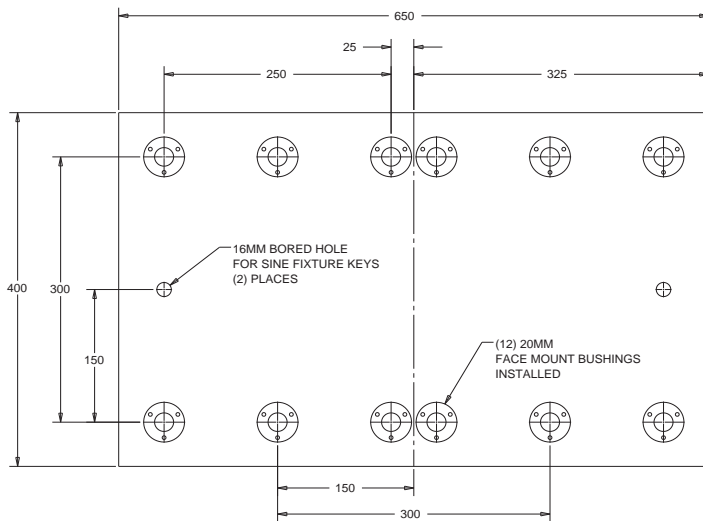


400 x400 Subplate

Part Number	Wt. (Kg)
59101	37

Equipped with four 20mm receiver bushings for use with 350x350 or 400x400 (mm) fixture plates. Ideal for horizontal machining centers or multiple pallet machining centers.

- FreMax™ 15 steel plate or equivalent
- Thickness: 28.57mm ±0.13mm
- Parallel within 0.025mm



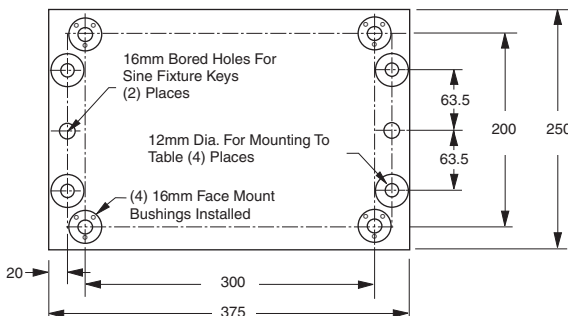
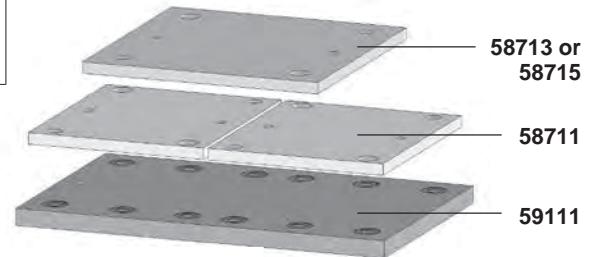
650x400 Dual Station Subplate

Part Number	Wt. (Kg)
59111	58

Equipped with twelve installed 20mm receiver bushings to easily locate and mount Jergens Standard Fixture Plates.

- Ideal for vertical machining centers
- Thickness: 28.57mm ±0.13mm
- Parallel within 0.025mm

Aluminum Plate Part Number	Steel Plate Part Number	Number of Fixture Plates	Plate Width and Length (mm)
58713	58813	1	350x350
58715	58815	1	400x400
58711	58811	2	300x350



250x375 Bridgeport™ - Style Subplate

Part Number	Wt. (Kg)
59121	15

Equipped with four installed 16mm receiver bushings and 12mm mounting holes. Used with the Bridgeport™ style fixture plates 58731 or 58831.

- Thickness: 19.05mm ±0.13mm
- Parallel within 0.025mm

Ball Lock® Quick Change Kits include all components needed in a single package. See page 31 for details.



Ball Lock® Fixture Plates

- Cast Aluminum; or FreMax™ 15 Steel or equivalent
- Thickness $\pm 0.13\text{mm}$
- Parallel within .025mm Steel
- 6061-T-651 plates, flat within 0.03mm available upon request

Ball Lock® Fixture Plates with 2 Primary Liners Installed

Part Number				Plate Dimensions (mm)	Plate Thickness $\pm 0.13\text{(mm)}$	Ball Lock® Shank Size (mm)	Ball Lock® Shank Part Number
Aluminum	Weight (Kgs)	Steel	Weight (Kgs)				
58706	4	58806	12	250 x 400	20	20	49651
58711	5	58811	16	300 x 350	20	20	49651
58713	6	58813	19	350 x 350	20	20	49651
58715	8	58815	25	400 x 400	20	20	49651
58727	17	58827	48	500 x 500	25	25	49662
—	—	58801	38	400 x 400	28.57	20	49652
58731	5	58831	15	375 x 250	20	16	49657

- Machined to close tolerances
- Repeatability $\pm 0.013\text{mm}$ or better
- Reduces fixture set-up and assembly time
- Provided with 16mm bored holes for sine fixture keys
- For horizontal or vertical machining centers, Tool Room Mills machines, or multiple pallet machining centers

Custom Sizes Available

Jergens will make Ball Lock® fixture plates or subplates to your specifications. Call 1-877-426-2504 for further information.

375x250x20mm Fixture Plate Bridgeport™ Style

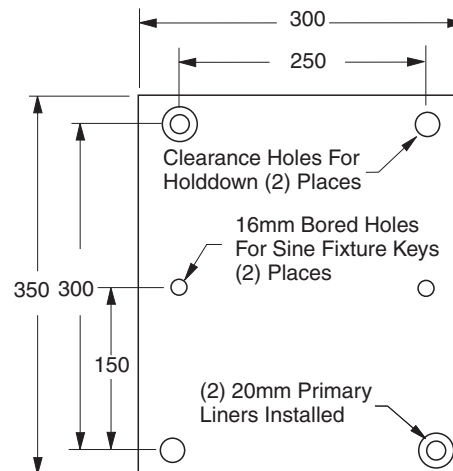
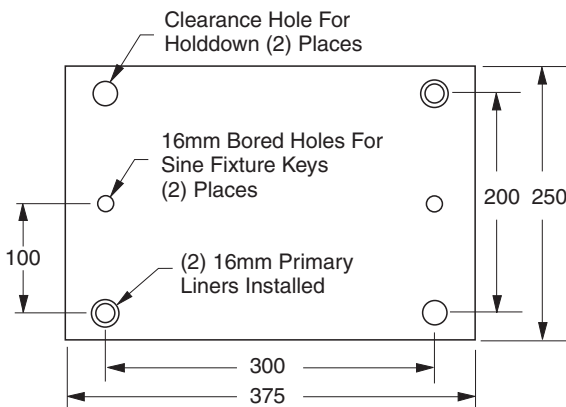
Aluminum Plate Part Number	Wt. (Kg)
58731	5

Steel Plate Part Number	Wt. (Kg)
58831	15

300x350x20mm Fixture Plate

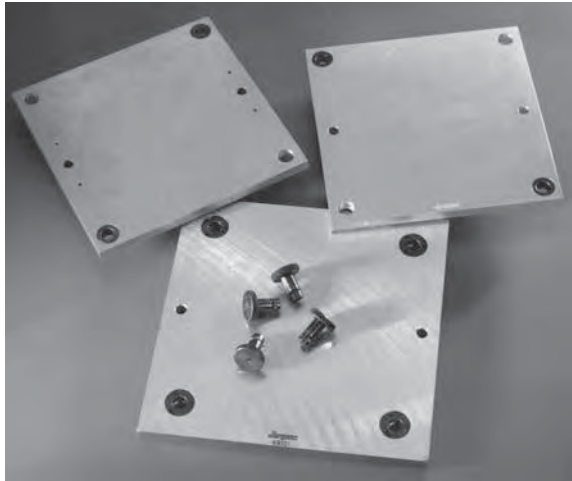
Aluminum Plate Part Number	Wt. (Kg)
58711	5

Steel Plate Part Number	Wt. (Kg)
58811	16





Quick Change Kits

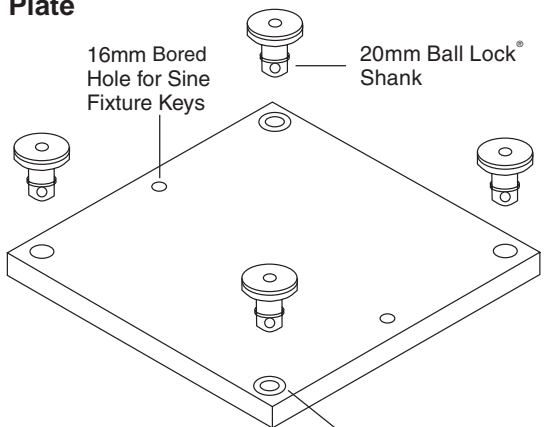


The Jergens Ball Lock® Quick Change Kits speed fixture changeover in all types of manufacturing operations. Each kit includes two aluminum fixture plates with 2 primary liner bushings installed; one steel subplate with receiver bushings installed, and four 20mm Ball Lock® shanks with working loads of 3000 lbs. each. While one fixture plate is on the machine, the operator can load parts on the other. This minimizes downtime for true set-up reduction. To enable the subplate to be mounted on a slotted table without the need to indicate the subplate, sine fixture keys can be used. The sine fixture key reamed holes are oriented parallel to the receiver bushings on the subplate and to the liner bushings on the fixture plate. These also allow the fixture plate to be mounted on a toolroom mill without the need to indicate it. This is extremely useful when machining location points on your fixture.

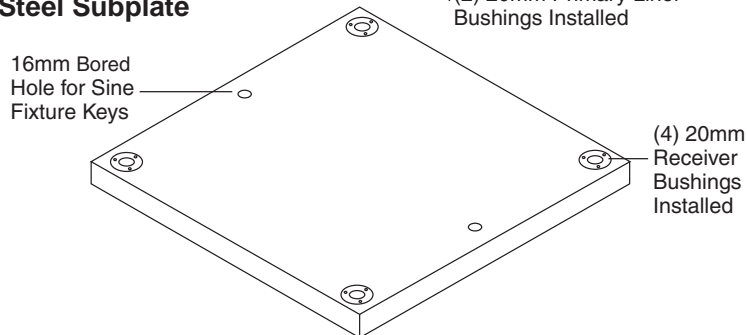


Everything You Need to Change Fixtures in Less Than One Minute

Aluminum Fixture Plate



Steel Subplate



Quick Change Kits

Part No.	Kit Includes
59002	2 - 58715 (400x400x20) aluminum fixture plates with 20mm liner bushings installed
	1 - 59101 (400x400x25) steel subplate with receiver bushings installed
	4 - 20mm Ball Lock® Shanks (49651)

Custom Kits Available

Jergens manufactures ready to use kits including Ball Lock® subplate and fixture plates.

For a special kit tailored to your CNC machine, please provide:

- Name and Type of Machine _____
- Travel of Machine Table (x, y, z) _____
- Dimensions of Machine Table (x and y) _____
- Maximum Weight allowed on Machine Table _____
- T-slot Width and Center to Center Distance _____

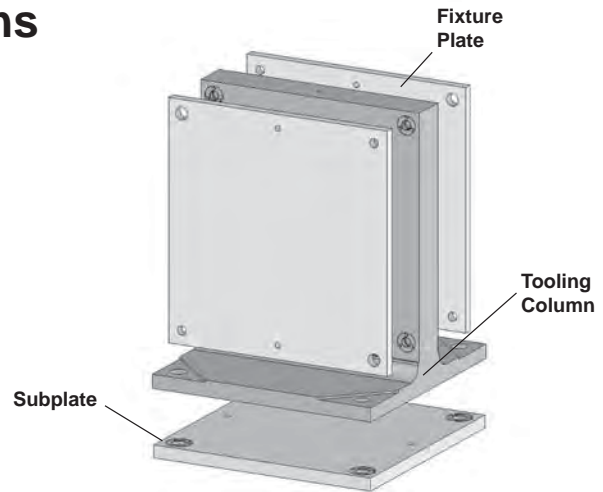


Pre-Machined Ball Lock® T-Columns

- Class 40 Cast Iron
- Also available in Aluminum
- Ball Lock® Receiver Bushings and Liners installed
- Provides accurate fixturing base for CNC machining centers
- Perpendicularity is 0.025 mm per 250 mm

Custom Sizes Available with or without Ball Lock®

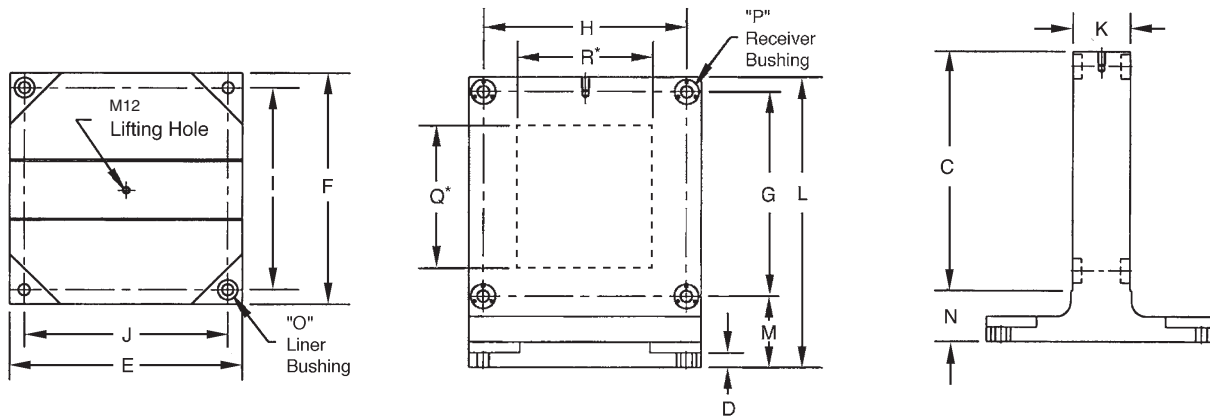
We are able to quote you on your special requirement with or without the Ball Lock® Mounting System. Call 1-877-426-2504 for design specification information.



Cast Iron T-Columns With Ball Lock® Receiver Bushings Installed

See page 34 for Metric Fixture Plates and Subplates

Pallet Size (mm)	Part Number	C	D	E	F	G	H	I	J	K	L	M	N	O (mm)	P (mm)	Wt. (Kg)
400	69151	410	25	400	400	350	350	350	350	100	500	125	90	20	20	190
500	69161	560	25	500	500	475	425	425	425	120	650	137.5	90	25	25	310
630	69171	660	40	630	630	575	550	525	525	100	750	137.5	90	35	25	500



*Note: Window sections are also available on T-Columns. Specify window size and location (Q and R Dimensions).

Corresponding Fixture Plates, Subplates and Ball Lock® Shanks

Pallet Size (mm)	T-Column Part Number	Aluminum Fixture Plate Part Number	Steel Fixture Plate Part Number	Fixture Plate Size	Fixture Plate Ball Lock® Shank Part Number	Shank Size	Subplate Part Number	Subplate Ball Lock® Shank Part Number	Shank Size
400	69151	58717	58817	400 x 400	49651	20 x 20	59102	49652	20 x 25
500	69161	58745	58845	500 x 550	49662	25 x 25	59103	49662	25 x 25
630	69171	58746	58846	625 x 650	49662	25 x 25	59104	49683	35 x 40

Use Hoist Ring **23462**, see page 485 for lifting and handling – Order separately.

Engineering Changes

Product improvement is a continuing process at Jergens. Specifications and engineering data are subject to change after publishing. Contact Jergens Technical Sales Department to verify any dimensions or specifications.

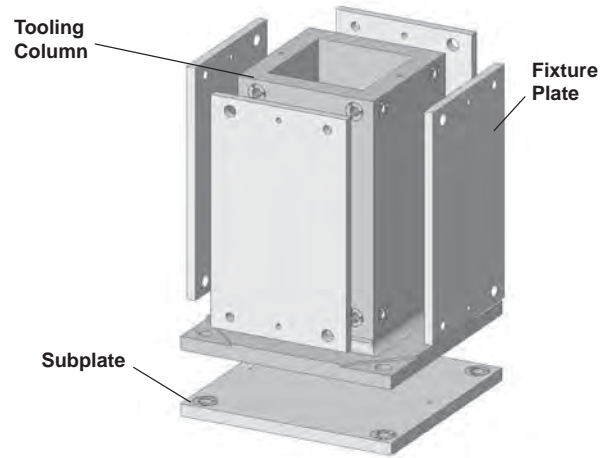


Pre-Machined Ball Lock® 4-Sided Tooling Columns

- Class 40 cast iron
- Also available in Aluminum
- Ball Lock® Receiver Bushings and Liner Bushings installed
- Provides accurate fixturing base for CNC machining centers
- Perpendicularity is 0.025 mm per 250 mm

Custom Sizes Available with or without Ball Lock®

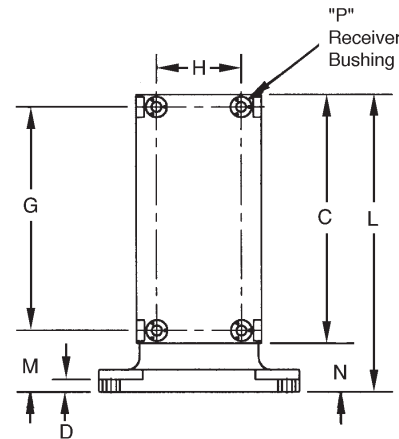
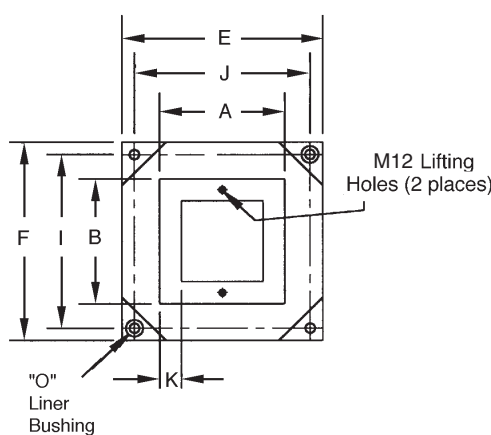
We are able to quote you on your special requirement with or without the Ball Lock® Mounting System.
Call 1-877-426-2504 for design specification information.



Cast Iron 4-Sided Tooling Columns With Ball Lock® Receiver Bushings Installed

See page 32 for Metric Fixture and Subplates

Pallet Size (mm)	Part Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O (mm)	P (mm)	Wt. (Kg)
400	69051	250	250	505	25	400	400	450	150	350	350	40	600	125	95	20	20	225
500	69061	300	300	630	25	500	500	550	175	425	425	40	725	137.5	95	25	25	320
630	69071	400	400	655	40	630	630	575	275	525	525	45	750	137.5	95	35	25	495



Corresponding Fixture Plates, Subplates and Ball Lock® Shanks

Pallet Size (mm)	T-Column Part Number	Aluminum Fixture Plate Part Number	Steel Fixture Plate Part Number	Fixture Plate Size	Fixture Plate Ball Lock® Shank Part Number	Shank Size	Subplate Part Number	Subplate Ball Lock® Shank Part Number	Shank Size
400	69051	58741	58841	250 x 500	49651	20 x 20	59102	49652	20 x 25
500	69061	58742	58842	300 x 625	49662	25 x 25	59103	49662	25 x 25
630	69071	58743	58843	400 x 650	49662	25 x 25	59104	49683	35 x 40

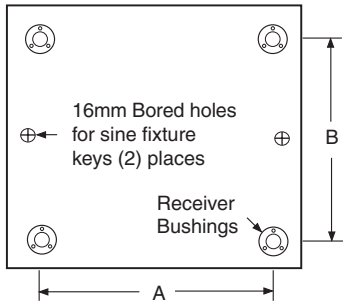
Use Hoist Ring **23462**, see page 485 for lifting and handling – Order separately.

Engineering Changes

Product improvement is a continuing process at Jergens. Specifications and engineering data are subject to change after publishing. Contact Jergens Technical Sales Department to verify any dimensions or specifications.



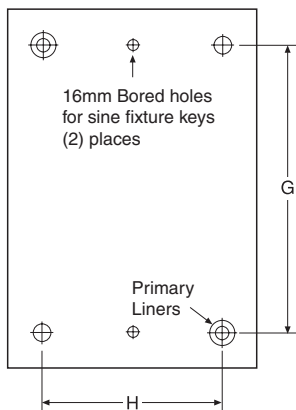
Subplates for Tooling Columns and Fixture Plates



Standard Steel Subplates for Tooling Columns

Subplate Mounting holes can be provided per customer specification. Supplied with Ball Lock® Receiver Bushings installed.

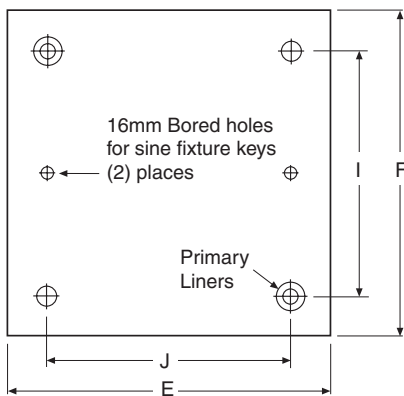
Part Number	Pallet Size (mm)	For Tooling Columns	Ball Lock® Pattern		Receiver Size (mm)	Thickness of Subplate (mm) ±0.13	Wt (Kgs)
			A (mm)	B (mm)			
59102	400	69151, 69051	350	350	20	28.57	31
59103	500	69161, 69061	425	425	25	31.75	59
59103-C*	500	69151, 69051	350/425	350/425	20/25	31.75	59
—	—	69161, 69061	Dual	Dual	Dual	—	—
59104	630	69171, 69071	525	525	35	34.92	124



Fixture Plates for Standard Tooling Columns and T-Columns

Supplied with 2 primary Ball Lock® Liner Bushings installed.

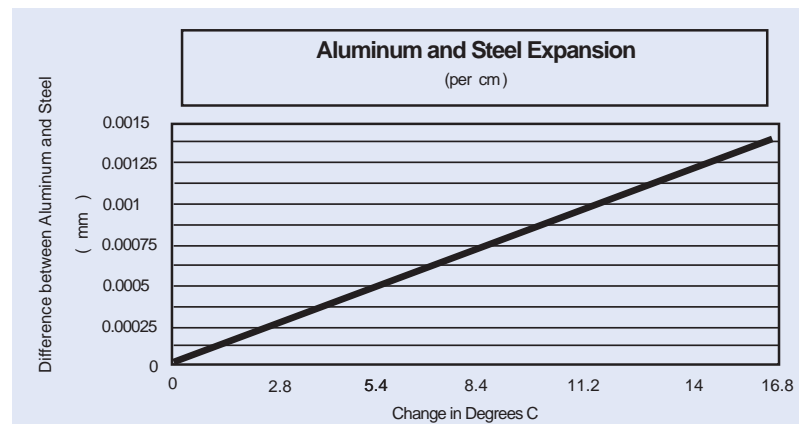
Pallet Size (mm)	Part Number				For Tooling Columns	Type	Fixture Plate Size (mm)	Fixture Plate Thickness (mm) ±0.13	Ball Lock® Pattern		Liner Size (mm)
	Aluminum	(Kg)	Steel	(Kg)					H (mm)	G (mm)	
400	58741	7	58841	19	69051	4-S	250x500	20	150	450	20
500	58742	13	58842	36	69061	4-S	300x625	25	175	550	25
630	58743	18	58843	50	69071	4-S	400x650	25	275	575	25
400	58717	8	58817	25	69151	T	400x400	20	350	350	20
500	58745	19	58845	53	69161	T	500x550	25	425	475	25
630	58746	27	58846	63	69171	T	625x650	25	550	575	25



Fixture Plates for Tooling Column Subplates

Supplied with 2 primary Ball Lock® Liner Bushings installed.

Pallet Size (mm)	Part Number				For Subplate	Plate Dim.		Fixture Plate Thickness ±0.13 (mm)	Ball Lock® Pattern		Liner Size (mm)
	Aluminum	(Kg)	Steel	(Kg)		E (mm)	F (mm)		I (mm)	J (mm)	
400	58717	8	58817	25	59102	400	400	20	350	350	20
500	58727	17	58827	48	59103	500	500	25	425	425	25
630	58732	27	58832	76	59104	630	630	25	525	525	35



NOTE: Aluminum and steel expand at different rates. Please take this information into consideration when creating your own Ball Lock® fixture and subplates.



Ball Lock® For 4th Axis Rotary Indexers

Problem:

Rotary indexers increase the versatility of vertical machining centers, yet they offer one major challenge: set-up is so time-consuming that it may limit a machine's flexibility. In many cases, machinists dedicate their 4th Axis tool to a single machine to avoid the agony of an extended set-up and changeover.

Benefits:

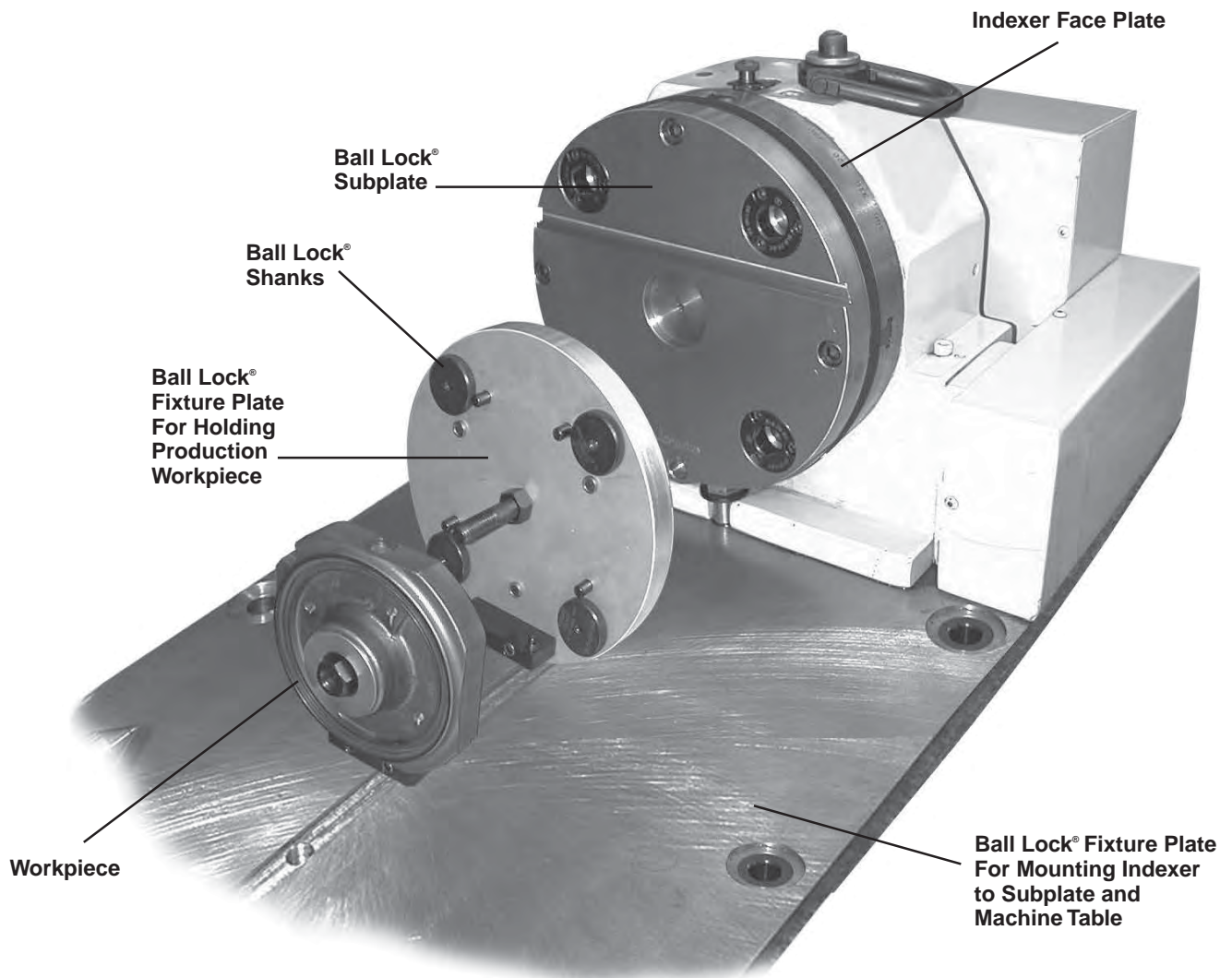
- Maximize indexer utilization
- Eliminate lengthy set-ups
- Accurate fixture plate changeover in seconds

Jergens' Solution:

Ball Lock® Mounting System for Indexers provides a double solution.

First, Ball Lock® mounting plates free up your machine for additional work by allowing a fast and accurate installation and removal of the complete indexer. Avoid hours of set up. The Ball Lock® System does it in minutes, with repeatability at $\pm 0.0005"$ ($\pm 0.013\text{mm}$). Low profile, positive clamping, proven in over many years of field use.

Second, the Ball Lock® System provides your fixture plate changeover. By mounting the round subplate to the indexer faceplate, you'll "plug-in" new fixtures in record time (less than 60 seconds).

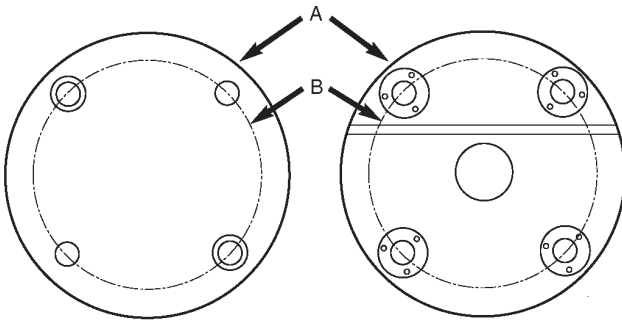


Subplates and fixture plates come with bushings pre-installed.



Round Ball Lock® Fixture Plates and Subplates

Standard Round



Fixture Plate

Subplate

Cast Aluminum, FreeMax™ or Steel equivalent

Fixture Plate (mm)

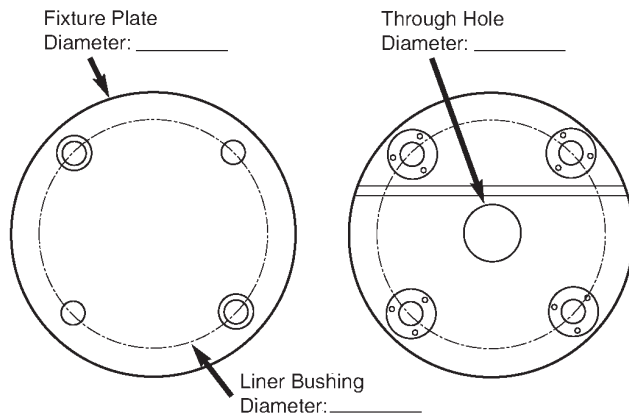
Part No.	A	B	Thickness	Ball Lock® Liner	Ball Lock® Shank	Weight (Kgs)
58707	200	150	20	16	49657	1.6
58708	250	200	25	20	49652	3.2
58709	300	250	25	20	49652	5.0

Subplate(mm)

Part No.	A	B	Thickness	Ball Lock® Receiver	Center Hole	Weight (Kgs)
59107	200	150	20	16	25	5.0
59108	250	200	25	20	50	9.6
59109	300	250	25	20	50	15.0

Note: Equivalent system available in inch dimensions.

Custom Round Plates



Indexer:

Make: _____

Model: _____

Diameter: _____

Light Duty or Heavy Duty: _____

Through Hole Bore: _____

CNC Machine:

Make: _____

Model: _____

Weight Capacity: _____

Indexer Faceplate:

T-Slot Size: _____

Configuration/Orientation: _____

or

Drilled Tapped Hole Size:

Configuration/Orientation: _____

Engineering Changes

Product improvement is a continuing process at Jergens. Specifications and engineering data are subject to change without notice. If current information is critical to your design, it is suggested that you contact Jergens Technical Sales Department to verify any dimensions or specifications.

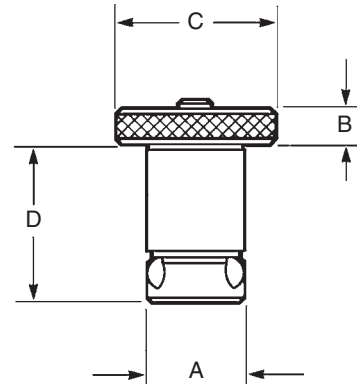


Locating and Clamping Shanks



- Material: Shank/Bushing, AISI 4340
Liner, 52100
- Finish: Black Oxide
- Heat Treat: Shanks, RC 40-45
Bushings, RC 50-54
Liners, RC 62-64
- Operating Temperature Range:
-30°C to 200°C
- Stainless Steel available

U.S. Patents: 3,498,653
4,135,418



Repair Kits



Each Kit Includes:

- Replacement Screw
- Locking Balls
- Drive Ball
- O-Ring

Any Ball Lock® application requires at least two sets of shanks, receiver bushings and liners. The liners are placed into the fixture plate to insure extremely accurate positioning. If more than two shanks are required (to provide additional hold down force), omit the liner bushing so that these additional holes will not interfere with your primary locating holes.

See page 41 for Fast Acting Shanks.

Locating and Clamping Shank Dimensions

Shank Diameter (mm) A	Fixture Plate Thickness ±0.13mm	Shank Part Number	Head of Shank			Hex Wrench Size For Set Screw	Maximum		Recommended		Shank Repair Kit Part Number
			Height B	Diameter C	D		Screw Torque (N.m)	Holddown Force (KN)	Screw Torque (N.m)	Holddown Force (KN)	
13	13	49655	6	22	27.6	2.5	1.2	3.3	1	2.7	49955
—	20	49656	—	—	34.6	—	—	—	—	—	49956
16	20	49657	8	32	36.5	3	4.5	5.3	3	3.5	49957
—	25	49658	—	—	41.5	—	—	—	—	—	49958
20	20	49651	10	40	39.5	3	5.3	13.3	4	10	49951
—	25	49652	—	—	44.5	—	—	—	—	—	49952
25	20	49661	10	45	44.0	4	11	30	9	23	49961
—	25	49662	—	—	49.0	—	—	—	—	—	49962
30	20	49671	13	50	49.0	5	18	44	15	35	49971
—	25	49672	—	—	54.0	—	—	—	—	—	49972
35	20	49681	13	60	51.0	6	33	68	25	52	49981
—	25	49682	—	—	56.0	—	—	—	—	—	49982
—	40	49683	—	—	71.0	—	—	—	—	—	49983
—	50	49684	—	—	81.0	—	—	—	—	—	49984
50	20	49691	20	75	64.0	10	65	88	50	67	49991
—	25	49692	—	—	69.0	—	—	—	—	—	49992
—	40	49693	—	—	84.0	—	—	—	—	—	49993
—	50	49694	—	—	94.0	—	—	—	—	—	49994

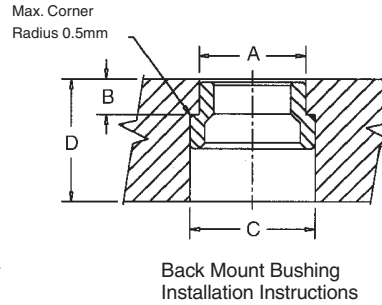
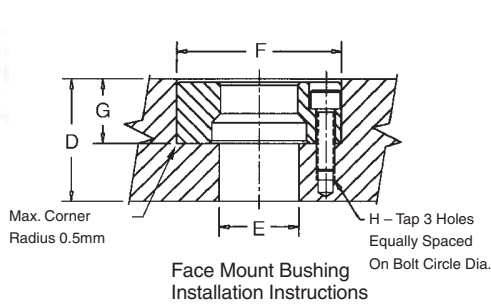


Receiver Bushings

Two styles of receiver bushings are available. Installed bushings should be approximately 0.3mm below subplate surface.



Face Mount



Back Mount

Generally, the face mount receiver bushing is utilized in blind hole applications (Slip Fit).

The back mount receiver bushing is used in through hole applications (Light Press Fit).

Installation Dimensions

Face Mount

Shank Dia. (mm)	Face Mount Part Number	Actual O.D. -0.01 -0.02	Clearance Drill Diameter E	Bore +0.010 +0.003 F	Depth +0.025 -0.025 G	Tap Size & Depth ¹ H	Bolt Circle Diameter 3 PL Equally Spaced	Min. Subplate Thickness D
13	49556	35	13.5	35	11.91	M4x0.7 x 7	25	20
16	49557	37	21.0	37	11.91	M4x0.7 x 7	29	20
20	49551	45	21.0	45	16.21	M5x0.8 x 9	35	25
25	49552	55	25.5	55	20.32	M6x1.0 x 10	42	30
30	49553	60	30.5	60	22.15	M6x1.0 x 11	48	35
35	49554	70	40.0	70	22.99	M8x1.25 x 17	56	40
50	49555	92	55.0	92	31.50	M10x1.5 x 18	75	50

Back Mount

Shank Dia. (mm)	Back Mount Part Number	Actual O.D. +0.04 +0.03 A	Depth +0.025 -0.025 B	C-Bore ±0.15 C	Min. Subplate Thickness D
13	49566	20	6.92	26	20
16	49567	22	7.24	29	20
20	49561	28	8.74	33	25
25	49562	35	10.54	41	25
30	49563	42	10.95	49	30
35	49564	48	12.50	55	35
50	49565	67	15.75	76	45

¹Cap Screws Supplied with Face Mount Bushings.

Liner Bushings for Fixture Plates



Locating repeatability will determine if one primary and one secondary or two primary liners are needed. With two primary liners, repeatability of ±0.013 mm can be maintained if the two holes for receiver bushings are held to a centerline distance of ±0.005 mm tolerance.

Note on Installation of Press Fit Liners & Back Mount Style Receiver Bushings:

To alleviate the possibility of binding the shank in the bore, the maximum interference fit between bore and bushing O.D. should not exceed 0.013 mm.

Liner Dimensions

Shank Diameter (mm)	Fixture Plate Thickness +0.13 -0.13	Primary Liner		Secondary Liner		Liner O.D. +0.00 -0.01
		Part Number	I.D.	Part Number	I.D.	
13	13	49755	13.01	49855	13.04	19.040
—	20	49756	—	49856	—	19.040
16	20	49757	16.01	49857	16.04	25.042
—	25	49758	—	49858	—	25.042
20	20	49751	20.01	49851	20.04	35.042
—	25	49752	—	49852	—	35.042
25	20	49761	25.01	49861	25.04	35.042
—	25	49762	—	49862	—	35.042
30	20	49771	30.01	49871	30.04	45.042
—	25	49772	—	49872	—	45.042
35	20	49781	35.01	49881	35.04	45.042
—	25	49782	—	49882	—	45.042
—	40	49783	—	49883	—	45.042
—	50	49784	—	49884	—	45.042
50	20	49791	50.01	49891	50.04	63.546
—	25	49792	—	49892	—	63.546
—	40	49793	—	49893	—	63.546
—	50	49794	—	49894	—	63.546

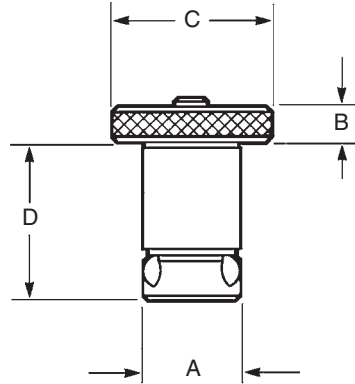


Stainless Steel Locating and Clamping Shanks



- Material: 17-4 PH Stainless Steel
- Heat Treat: Rc 40-45
- Operating Temperature Range: -30°C to 200°C

U.S. Patents: 3,498,653
4,135,418



Replacement Kits



Each Kit Includes:

- Replacement Screw
- Locking Balls
- Drive Ball
- O-Ring

Any Ball Lock® application requires at least two sets of shanks, receiver bushings and liners. The liners are placed into the fixture plate to insure extremely accurate positioning. If more than two shanks are required (to provide additional hold down force), omit the liner bushing so that these additional holes will not interfere with your primary locating holes.

Stainless Steel Locating and Clamping Shank Dimensions

Shank Diameter (mm) A	Fixture Plate Thickness ±0.13mm	Shank Part Number	Head of Shank			Hex Wrench Size For Set Screw	Maximum		Recommended		Shank Repair Kit Part Number
			Height B	Diameter C	D		Screw Torque (N.m)	Holddown Force (KN)	Screw Torque (N.m)	Holddown Force (KN)	
13	13	49655SS	6	22	27.6	2.5	1.2	3.3	1	2.7	49955SS
—	20	49656SS	—	—	34.6	—	—	—	—	—	49956SS
16	20	49657SS	8	32	36.5	3	4.5	5.3	3	3.5	49957SS
—	25	49658SS	—	—	41.5	—	—	—	—	—	49958SS
20	20	49651SS	10	40	39.5	3	5.3	13.3	4	10	49951SS
—	25	49652SS	—	—	44.5	—	—	—	—	—	49952SS
25	20	49661SS	10	45	44.0	4	11	30	9	23	49961SS
—	25	49662SS	—	—	49.0	—	—	—	—	—	49962SS
30	20	49671SS	13	50	49.0	5	18	44	15	35	49971SS
—	25	49672SS	—	—	54.0	—	—	—	—	—	49972SS
35	20	49681SS	13	60	51.0	6	33	68	25	52	49981SS
—	25	49682SS	—	—	56.0	—	—	—	—	—	49982SS
—	40	49683SS	—	—	71.0	—	—	—	—	—	49983SS
—	50	49684SS	—	—	81.0	—	—	—	—	—	49984SS
50	20	49691SS	20	75	64.0	10	65	88	50	67	49991SS
—	25	49692SS	—	—	69.0	—	—	—	—	—	49992SS
—	40	49693SS	—	—	84.0	—	—	—	—	—	49993SS
—	50	49694SS	—	—	94.0	—	—	—	—	—	49994SS

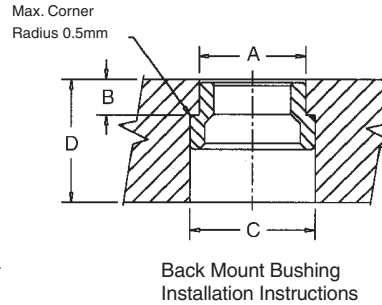
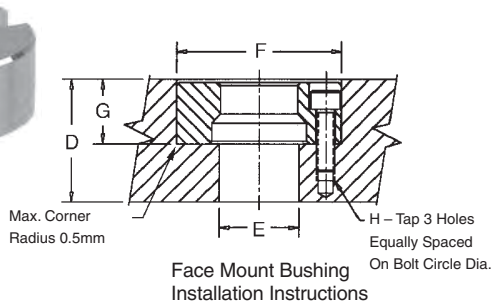


Stainless Steel Receiver Bushings

Two styles of receiver bushings are available. Installed bushings should be approximately 0.3mm below subplate surface.



Face Mount



Back Mount

Generally, the face mount receiver bushing is utilized in blind hole applications (Slip Fit).

The back mount receiver bushing is used in through hole applications (Light Press Fit).

Installation Dimensions

Face Mount

Shank Dia. (mm)	Face Mount Part Number	Actual O.D. -0.01 -0.02	Clearance Drill Diameter E	Bore +0.010 +0.003 F	Depth +0.025 -0.025 G	Tap Size & Depth H	Bolt Circle Diameter 3 PL Equally Spaced	Min. Subplate Thickness D
13	49556SS	35	13.5	35	11.91	M4x0.7 x 7	25	20
16	49557SS	37	21.0	37	11.91	M4x0.7 x 7	29	20
20	49551SS	45	21.0	45	16.21	M5x0.8 x 9	35	25
25	49552SS	55	25.5	55	20.32	M6x1.0 x 10	42	30
30	49553SS	60	30.5	60	22.15	M6x1.0 x 11	48	35
35	49554SS	70	40.0	70	22.99	M8x1.25 x 17	56	40
50	49555SS	92	55.0	92	31.50	M10x1.5 x 18	75	50

Back Mount

Shank Dia. (mm)	Back Mount Part Number	Actual O.D. +0.04 +0.03 A	Depth +0.025 -0.025 B	C-Bore ±0.15 C	Min. Subplate Thickness D
13	49566SS	20	6.92	26	20
16	49567SS	22	7.24	29	20
20	49561SS	28	8.74	33	25
25	49562SS	35	10.54	41	25
30	49563SS	42	10.95	49	30
35	49564SS	48	12.50	55	35
50	49565SS	67	15.75	76	45

Cap Screws Supplied with Face Mount Bushings.

Stainless Steel Liner Bushings for Fixture Plates



Locating repeatability will determine if one primary and one secondary or two primary liners are needed. With two primary liners, repeatability of ±0.013 mm can be maintained if the two holes for receiver bushings are held to a centerline distance of ±0.005 mm tolerance.

Note on Installation of Press Fit Liners & Back Mount Style Receiver Bushings:

To alleviate the possibility of binding the shank in the bore, the maximum interference fit between bore and bushing O.D. should not exceed 0.013 mm.

Liner Dimensions

Shank Diameter (mm)	Fixture Plate Thickness +0.13 - 0.13	Primary Liner		Secondary Liner		Liner O.D. +0.00 - 0.01
		Part Number	I.D.	Part Number	I.D.	
13	13	49755SS	13.01	49855SS	13.04	19.040
—	20	49756SS	—	49856SS	—	19.040
16	20	49757SS	16.01	49857SS	16.04	25.042
—	25	49758SS	—	49858SS	—	25.042
20	20	49751SS	20.01	49851SS	20.04	35.042
—	25	49752SS	—	49852SS	—	35.042
25	20	49761SS	25.01	49861SS	25.04	35.042
—	25	49762SS	—	49862SS	—	35.042
30	20	49771SS	30.01	49871SS	30.04	45.042
—	25	49772SS	—	49872SS	—	45.042
35	20	49781SS	35.01	49881SS	35.04	45.042
—	25	49782SS	—	49882SS	—	45.042
—	40	49783SS	—	49883SS	—	45.042
—	50	49784SS	—	49884SS	—	45.042
50	20	49791SS	50.01	49891SS	50.04	63.546
—	25	49792SS	—	49892SS	—	63.546
—	40	49793SS	—	49893SS	—	63.546
—	50	49794SS	—	49894SS	—	63.546



Accessories

Tapered Caps and Plugs

Keep debris out of your subplate's receiver bushings when not in use. Polyethylene caps snap in and out easily.



Packaged 10 per pack.

Receiver Bushing Diameter	Part Number
13	49201
16	49202
20	49203
25	49204
30	49205
35	49206
50	49207



Lifting Handles

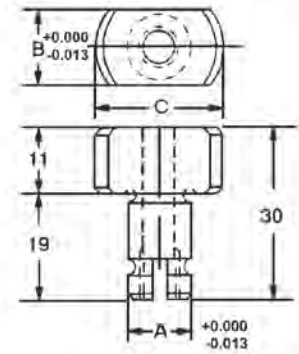
For easy handling of fixture plates up to 500 lbs.

Part Number	Length	Ht.	W	Mounting Distance
33701	107mm	36mm	.38 Kg	93.47mm

Sine Fixture Keys



Part Number	Shank Size A	Slot Size B	C	Weight (Kg)	Recommended Hole Diameter
39550	16	10	25	.04	16mm Shank Size: 16.01 ± 0.01
39551	16	12	25	.04	
39552	16	14	25	.05	
39553	16	16	25	.05	
39554	16	18	29	.05	
39555	16	20	29	.06	
39556	16	22	29	.06	20mm Shank Size: 20.01 ± 0.01
39557	20	24	35	.07	
39558	20	28	35	.10	
39559	20	32	40	.10	



Locate subplates or fixture plates to slotted machine tables without having to slot the plate. Available in sizes from 12mm to 32mm slots.

Fast Acting Ball Lock® Shanks

Ball Lock® Shank Diameter (mm)	Fixture Plate Thickness (mm)	FAST ACTING BALL LOCK® SHANKS			
		Shank with Thumb Screw		Shank with Adjustable Handle	
		Part Number		Part Number	
		Assenbly	T-Screw	Assenbly	Handle
13	13	49655-S	43971	49655-H	34360
—	20	49656-S	43972	49656-H	34361
16	20	49657-S	43974	49657-H	34365
—	25	49658-S	43975	49658-H	34365
20	20	49651-S	43974	49651-H	34365
—	25	49652-S	43975	49652-H	34365
25	20	49661-S	43977	49661-H	34378
—	25	49662-S	43978	49662-H	34379
30	20	49671-S	43980	49671-H	34385
—	25	49672-S	43980	49672-H	34385
35	20	49681-S	43985	49681-H	34393
—	25	49682-S	43985	49682-H	34393



Thumb Screw

- Fast acting thumb screws 2 1/2 turns. No tools needed.



Adjustable Handle

- Handle can be moved out of the work area to avoid interference.

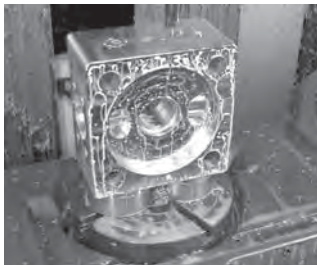


Features of the Jergens Zero Point Mounting System

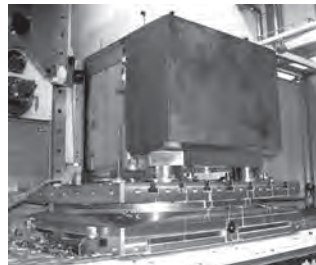
- Positioning and clamping in one operation
- High repeatability and accuracy
- Low cost solution for quick pallet changing

Typical applications for the Jergens Zero Point System:

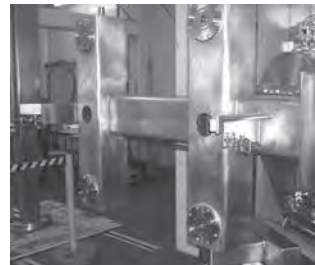
- Milling
- Assembly
- Welding
- Injection Molding
- Grinding
- Measuring



Pull Studs can also be installed directly into the workpieces, making 5-sided processing possible.



Best results with large and heavy workpieces.



Jergens Zero Point clamping systems are made exclusively of rust-free materials and so are ideally suited for use in the food-service area as well as in the pharmaceutical and chemical industry.



Through different dimensions, the advantage of the Zero Point clamping system are optimally used.



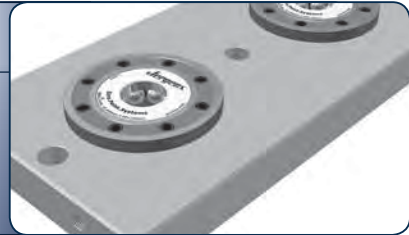
Pull Studs and Engagement Screws

Pages 48–49



Clamping Plates with Built-In Modules

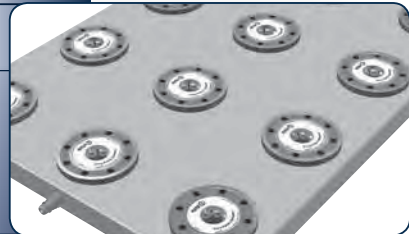
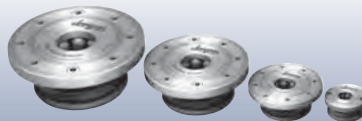
Pages 46–47



Clamping Modules

Pages 50–52

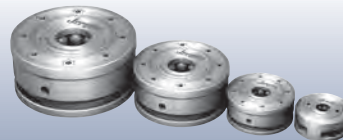
- Machine tables
- Plates
- 4-axis/5-axis machining
- Columns
- Pallets



Surface/Mounted Clamping Modules

Pages 53–54

- For large & heavy workpieces
- Pull Studs installed directly into workpiece



Flange Type Module with Centering & Cover Rings

Page 55–56

- Used to fasten surface-mounted clamping modules on the machine table
- Hydraulic release with or without blowout



Horizontal Rapid-Clamping Module

Page 57

- For easy handling of heavy fixtures



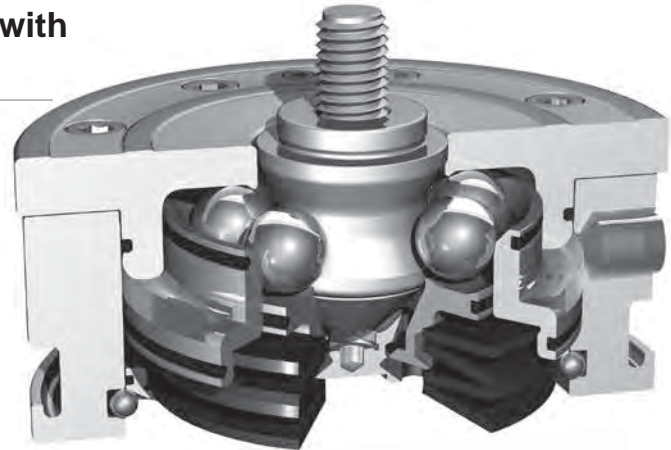


Jergens' Zero Point Mounting System – Cut Set-up Times by Up to 90%.

Fix, Position and Clamp in a Single Step with Jergens' Zero Point Mounting System.

Jergens is proud to introduce the best-engineered Zero Point Mounting System (ZPS) on the market. This revolutionary technology cuts set-up time by up to 90% by combining fixing, positioning and clamping in a single operation. Available with either pneumatic or hydraulic release, these positive locking locating modules allow operators to quickly change out large and small machine fixtures with extreme accuracy and minimal effort. Other features include:

- Repeatability <0.005mm (0.0002")
- Minimizes set-up time
- Hardened stainless (AISI 440B) steel construction
- Integrated safety system
- Compact design
- Positive locking
- High retaining force



Smart Features for Process Improvement

Reduce set-up times and increase both accuracy and repeatability with design features exclusive to the Jergens ZPS:

Self Guiding

The self-guiding, tapered profile of the mounting stud allows heavy plates to be installed more easily.



Alignment

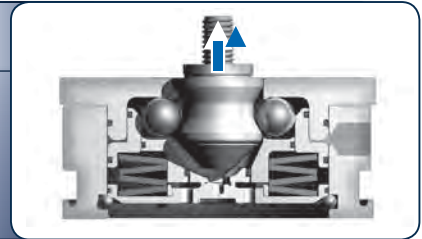
Unique design eliminates the need for perfect lifts on entry and exit.





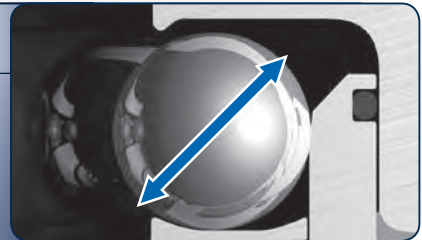
Mechanical Locking System

Experience high holding force without the need to maintain hydraulic pressure.



Large Ball Diameter

Provides increased strength and even load distribution.



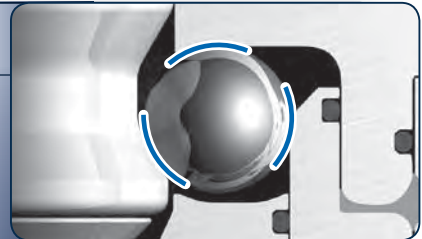
No Ball Cage

Free movement of the bearing balls reduces friction.



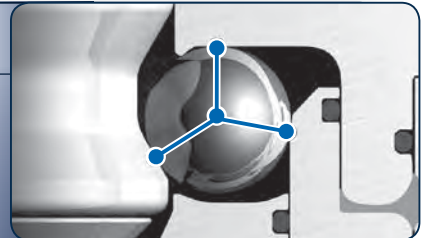
Form Fit Ball Channel

Tapered contact areas eliminate point loads and reduce failures.



Three-Point Load Distribution

Equal load spacing optimizes force distribution.



Integrated Safety System

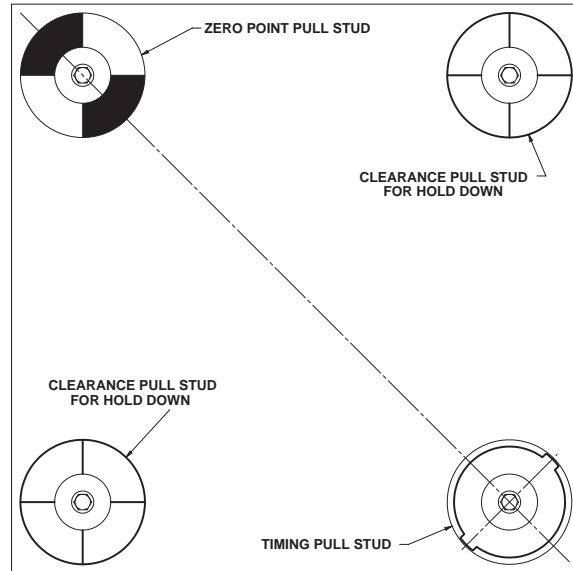
Process-sure clamping module can always be opened, eliminating the need to forcibly remove modules if a failure should occur.



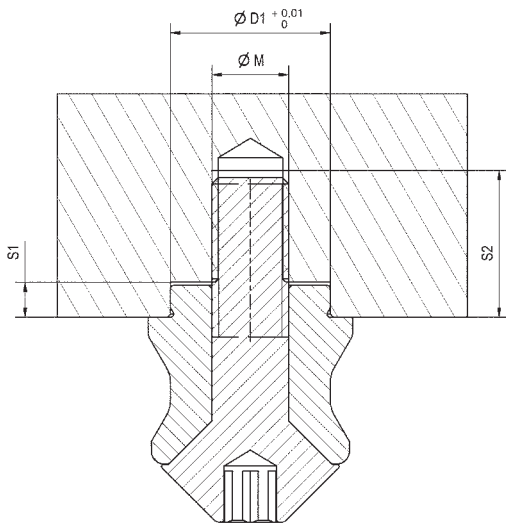
Clamping and Positioning

On each fixture use:

- 1 – Zero Point Pull Stud
- 1 – Timing Pull Stud
- The Zero Point and Timing Stud should be perpendicular
- Use any combination of clearance and/or protection Pull Stud



Dimensions for machining pull stud mountings



Size	$\varnothing D1$	$\varnothing M$	S1	S2
K5	10	M6	2.5	12
K10	15	M8	3.5	16
K20	25	M12	5.5	23
K40	25	M16	5.5	30

Note:

- Pull Stud with internal thread for clamping from above
- Pull Studs with different diameter D1, preventing interchange of the Zero Point, timing and clearance Pull Stud during installation.
- Pull Stud for series production, (notch type), Floating Pull Stud for compensation of thermal expansion
- Automatic lifting of the pallet / fixture

Figure:

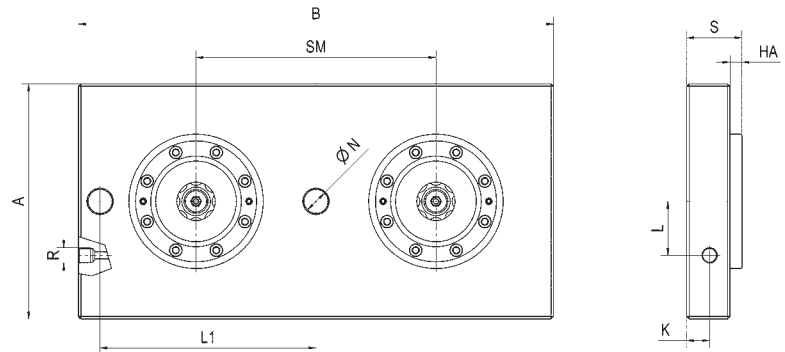
Shown with Pull Stud and engagement screw

QUICK CHANGE FIXTURING » ZERO POINT MOUNTING SYSTEM



2-Way Clamping Station Hydraulic Unlocking

Repeatability < 0.005 mm (0.0002")



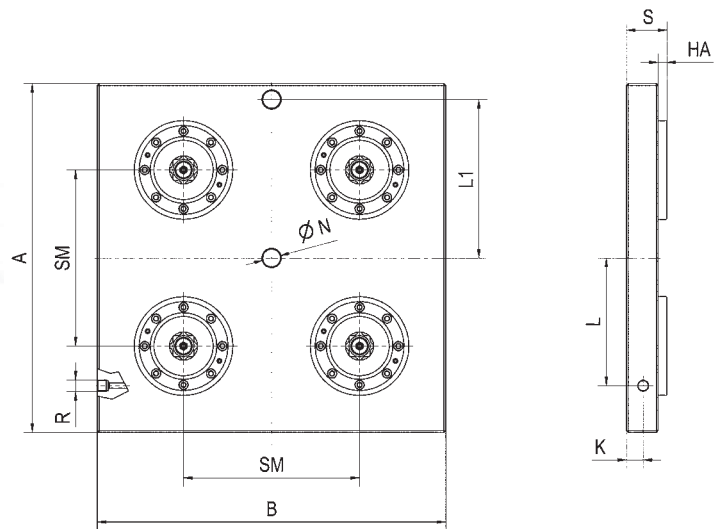
Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	A	B	HA	K	L	L1	ØN	R	S	SM	Kg
303289	20	2 x 20 / (2 x 4500)	196	396	10	19	45	180	20	G1/4	46	200	21.9
303297	40	2 x 40 / (2 x 9000)	296	546	15	26	57	250	25	G1/4	61	320	59.5

All linear dimensions in (mm)

Note: On request, we can incorporate mounting holes to your requirements in the base plate. Other dimensions, gauges and number of clamping module layouts on request.

4-Way Clamping Station Hydraulic Unlocking

Repeatability < 0.005 mm (0.0002")



Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	A	B	HA	K	L	L1	ØN	R	S	SM	Kg
303321	20	4 x 20 / (4 x 4500)	396	396	10	18	148	180	20	G1/4	46	200	44.0
303339	40	4 x 40 / (4 x 9000)	546	546	15	26	217	250	25	G1/4	61	320	110.0

All linear dimensions in (mm)

Note: On request, we can incorporate mounting holes to your requirements in the base plate. Other dimensions, gauges and number of clamping module layouts on request.

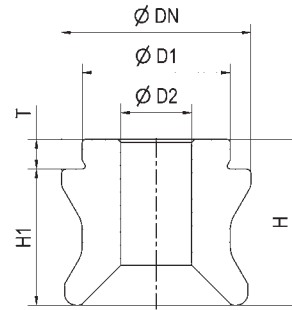
QUICK CHANGE FIXTURING » ZERO POINT MOUNTING SYSTEM



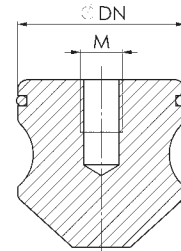
Pull Studs

K5 Modules

Hardened Stainless Steel, for hydraulic and pneumatic clamping modules



Zero Point Timing Clearance



Protection Pull Stud

Part Number	Size	Description	ØDN	ØD1	ØD2	H	H1	M	T	g	Engagement Screw PN
306019	K5	Zero Point Stud	15.0	10	6	12.7	10.2	—	2.5	15	306092
306035	K5	Timing Stud	15.0	10	6	12.7	10.2	—	2.5	15	306092
306050	K5	Clearance Stud	14.8	10	6	12.7	10.2	—	2.5	15	306092
306076	K5	Protection Plug	14.8	—	—	10.2	—	M 6	8.0	12	—

K10 Modules

Hardened Stainless Steel, for hydraulic and pneumatic clamping modules

Part Number	Size	Description	ØDN	ØD1	ØD2	H	H1	M	T	g	Engagement Screw PN
303610	K10	Zero Point Stud	22.0	15	8	19	16	—	3	30	303578
303636	K10	Timing Stud	22.0	15	8	19	16	—	3	30	303578
304519	K10	Clearance Stud	21.8	15	8	19	16	—	3	30	303578
304535	K10	Protection Plug	21.8	—	—	16	—	M 8	12	30	—

K20 Modules

Hardened Stainless Steel, for hydraulic and pneumatic clamping modules

Part Number	Size	Description	ØDN	ØD1	ØD2	H	H1	M	T	g	Engagement Screw PN
303149	K20	Zero Point Stud	32.0	25	12	28	23	—	5	110	303222
303156	K20	Timing Stud	32.0	25	12	28	23	—	5	110	303222
303164	K20	Clearance Stud	31.8	25	12	28	23	—	5	110	303222
303172	K20	Protection Plug	31.8	—	—	23	—	M8	16	110	—

K40 Modules

Hardened Stainless Steel, for hydraulic and pneumatic clamping modules

Part Number	Size	Description	ØDN	ØD1	ØD2	H	H1	M	T	g	Engagement Screw PN
303180	K40	Zero Point Stud	40.0	25	16	34	29	—	5	180	303230
303198	K40	Timing Stud	40.0	25	16	34	29	—	5	180	303230
303206	K40	Clearance Stud	39.8	25	16	34	29	—	5	180	303230
303214	K40	Protection Plug	39.8	—	—	29	—	M8	20	180	—

QUICK CHANGE FIXTURING » ZERO POINT MOUNTING SYSTEM

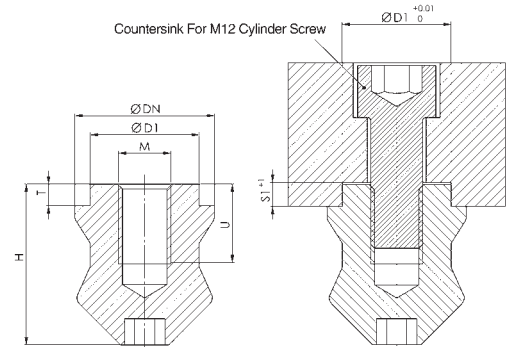


Pull Stud With Internal Thread

Hardened for hydraulic and pneumatic clamping modules



Part Number	Size	Description	ØDN	ØD1	ØD2	M	S1	U	T	g
427021	K20	Zero Point Stud	32.0	25	37	M12	5.5	18	5	136
427047	K20	Timing Stud	32.0	25	37	M12	5.5	18	5	136
427062	K20	Clearance Stud	31.6	25	37	M12	5.5	18	5	136



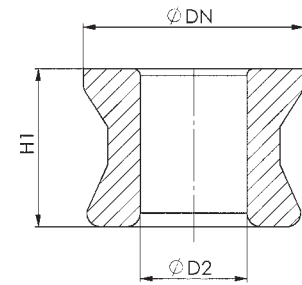
Floating Pull Stud

Hardened for hydraulic and pneumatic clamping modules



Part Number	Size	Description	ØDN	ØD2	H1	g
340059	K10	Zero Point Stud	21.8	12.0	16	25
305912	K20	Timing Stud	31.8	15.5	23	80
426882	K40	Clearance Stud	39.8	20.0	29	160

Note: The floating pull stud is supported by bearings so that it is axially mobile and is used when large distance and angle tolerances between the stud holes have to be compensated. The stud has only a holding function and does not take on any lateral load.

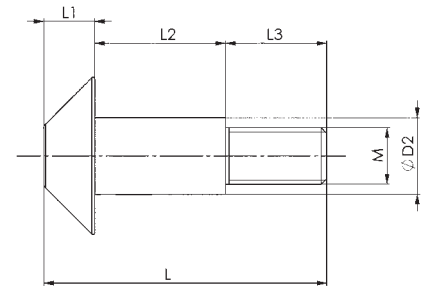


Engagement Screw For Floating Pull Stud

Strength class 10.9



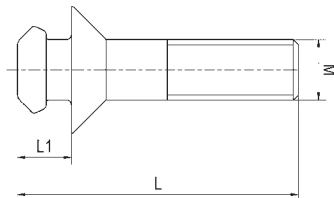
Part Number	Size	Description	ØD2	M	L	L1	L2	L3	g
340034	K10	Zero Point Stud	11.0	M8	35	6	16.1	12.9	24
305938	K20	Timing Stud	13.5	M10	50	9	23.1	17.9	55
426908	K40	Clearance Stud	17.0	M12	59	10	29.1	19.9	100



Horizontal Engagement Screws

Strength class 10.9

For horizontal rapid clamping cylinder on page 57

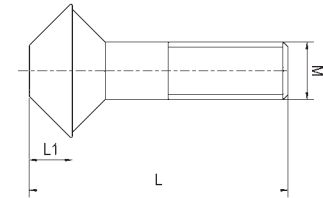


Part Number	Size	M	L	L1	g
303248	K20	M12	56	10.5	100
303255	K40	M16	73	13.0	200

Engagement Screws For Pull Studs

Strength class 10.9

For installation and surface mounted clamping modules



Part Number	Size	M	L	L1	g
306092	K5	M6	25	3.4	18
303578	K10	M8	37	6.0	30
303222	K20	M12	54	9.0	70
303230	K40	M16	69	10.0	130

Threaded Clamping Modules (K5)

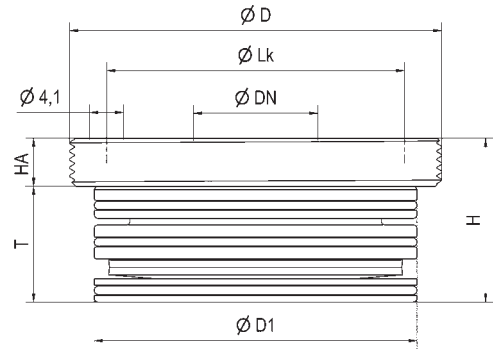
Screw-In Version Hydraulic Unlocking

Cover and piston hardened.
Repeatability < 0.005 mm (0.0002")



With a small footprint for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	ØD	ØDN	ØD1	H	HA	ØLK	T	g
480244	K5	5 / (1100)	13 / (2900)	M45 x 1	15	39	19.8	5.8	36	14	300

All linear dimensions in (mm)

Note: Threaded clamping module with a low installation height of 19.8 mm and an installation diameter of 45 mm (M45 x 1). Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The threaded clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage. The contact surface is the upper surface of the housing. The hydraulic design has 1 connection: 1 x unclamping

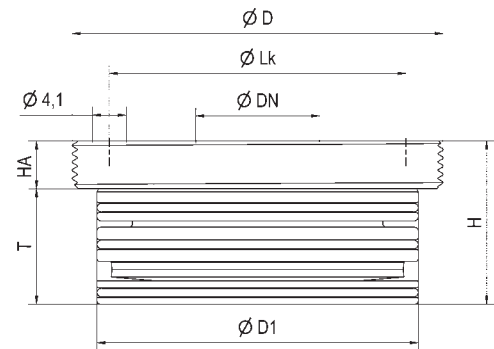
Screw-in Version Pneumatic Unlocking

Cover and piston hardened.
Repeatability < 0.005 mm (0.0002")



With a small footprint for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets. Pneumatic modules are optimally suited for use in the food, pharmaceutical and chemical industries, as well as in oil-free applications.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	ØD	ØDN	ØD1	H	HA	ØLK	T	g
480343	K5	1.5 / (330)	13 / (2900)	M45 x 1	15	39	19.8	5.8	36	14	300

All linear dimensions in (mm)

Note: Threaded clamping module with a low installation height of 19.8 mm and an installation diameter of 45 mm (M45 x 1). Pneumatic pressure is needed for unclamping (min 8 bar/ 116 psi, max 12 bar/ 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The threaded clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.



Installation Clamping Modules (K10, K20, K40)

Hydraulic Unlocking

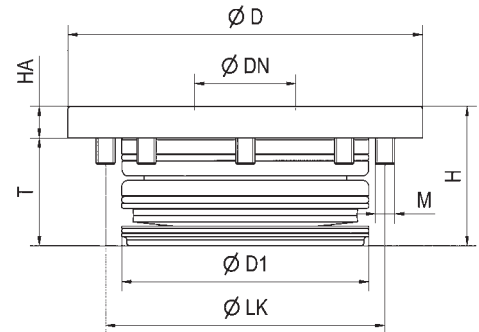
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



With a small foot-print for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-in/locking force up to kN / (lbs)	Holding force kN / (lbs)	Blow out	ØD	ØDN	ØD1	H	HA	ØLK	M	T	Kg
480228	K10	10 / (2250)	25 / (5620)	Yes	78	22	50	30	7	60	M5	23	0.45
480186	K20	20 / (4500)	55 / (12350)	Yes	112	32	78	44	10	88	M6	34	1.40
480525	K40	40 / (9000)	105 / (23600)	Yes	148	40	102	57	15	118	M8	42	3.40

All linear dimensions in (mm)

Note: Threaded installation clamping modules have high holding and pull-in forces with very small installation dimensions. Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The threaded clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage. The contact surface is the upper surface of the housing. The hydraulic design has 1 connection: 1 x unclamping

Pneumatic Unlocking

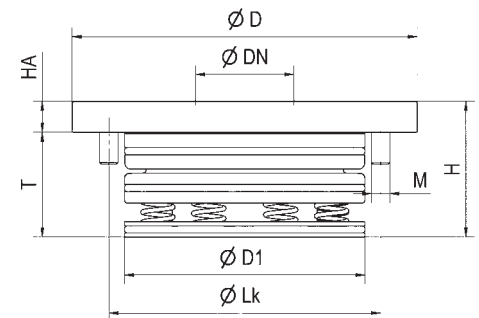
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



With a small footprint for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØD	ØDN	ØD1	H	HA	ØLK	M	T	Kg
480202	K10	8 / (1800)	25 / (5620)	Yes	78	22	50	30	7	60	M5	23	0.45
480160	K20	17 / (3800)	55 / (12350)	Yes	112	32	78	44	10	88	M6	34	1.40
480541	K40	30 / (6700)	105 / (23600)	Yes	148	40	102	57	15	118	M8	42	3.40

All linear dimensions in (mm)

Note: The installation clamping modules have high holding and pull-in forces with very small installation dimensions. Pneumatic pressure is needed for unclamping (min 8 bar/ 116 psi, max 12 bar/ 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.



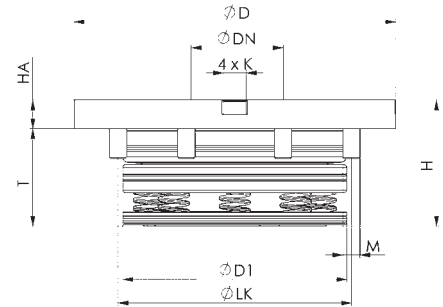
Installation Clamping Modules (K10, K20) with Indexing Low Pressure Pneumatic Unlocking

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



With a small footprint for installation in base plates, machine tables, clamping profiles, columns and towers, swivel bridges, machine pallets and clamping pallets



Part Number	Size	Pull-in/Locking Force up to [kN]	Holding Force [kN]	Blow Out	Weight [Kg]	ØD	ØDN	ØD1	H	HA	K F6	ØLK	M	T
511139	K10.3	10	25	Yes	1.4	112	22	78	35	10	8	88	6xM6	25
511154	K20.3	17	55	Yes	2.6	138	32	102	49	15	10	115	8xM6	34

All linear dimensions in (mm)

Note: The installation clamping modules have high holding and pull-in forces with very small installation dimensions. Pneumatic pressure is needed for unclamping (min 4.5 bar/ 66 psi). The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines or dangers of leakage.

The pneumatic design has 1 connection for unclamping and 1 optional connection for blowout.



Surface/Mounted Clamping Modules (K5)

Hydraulic Unlocking

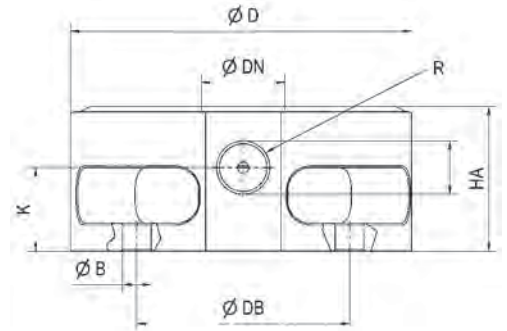
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



For mounting on machine tables, clamping profiles, columns and towers, measuring machines, assembly stations.

- Installation diagrams on request



Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	ØB	ØD	ØDB	ØDN	HA	K	R	g
480566	K5	5 / (1100)	13 / (2900)	5.8	62	54	15	26	15	G1/8	300

All linear dimensions in (mm)

Note: Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The contact surface is the upper surface of the housing. The hydraulic design has 1 connection: 1 x unclamping

Pneumatic Unlocking

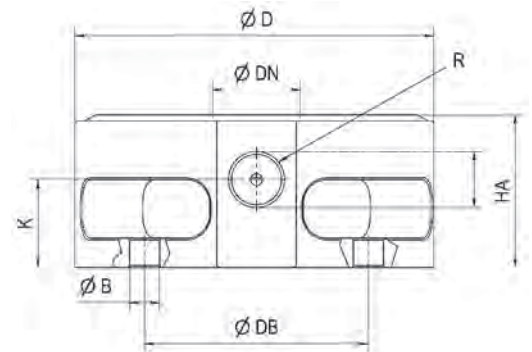
Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



For mounting on machine tables, clamping profiles, columns and towers, measuring machines, assembly stations.

- Installation diagrams on request



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	ØB	ØD	ØDB	ØDN	HA	K	R	g
480582	K5	1.5 / (330)	13 / (2900)	5.8	62	54	15	26	15	G1/8	300

All linear dimensions in (mm)

Note: Pneumatic pressure is needed for unclamping (min 8 bar/ 116 psi, max 12 bar/ 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.



Surface/Mounted Clamping Modules (K10, K20, K40)

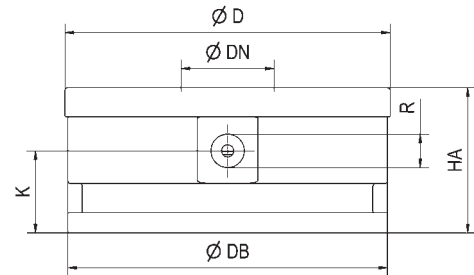
Hydraulic Unlocking

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



For mounting on machine tables, clamping profiles, columns and towers, measuring machines, assembly stations in connection with **clamping bracket** on page 55.



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØD	ØDB	ØDN	HA	K	R	Kg
480608	K10	10 / (2250)	25 / (5620)	Yes	78	77.5	22	30	16.50	G1/8	0.90
480624	K20	20 / (4500)	55 / (12350)	Yes	112	110.0	32	50	28.25	G1/4	2.70
480640	K40	40 / (9000)	105 / (23600)	Yes	148	146.0	40	62	32.50	G1/4	3.80

All linear dimensions in (mm)

Note: Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. Further more, there are no cumbersome lines and no danger of leakage. The contact surface is the upper surface of the housing. The hydraulic design has 1 connection: 1 x unclamping

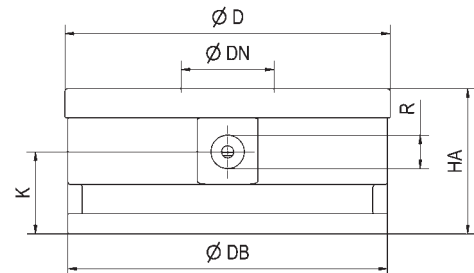
Pneumatic Unlocking

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



For mounting on machine tables, clamping profiles, columns and towers, measuring machines, assembly stations in connection with **clamping bracket** on page 55.



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØD	ØDB	ØDN	HA	K	R	Kg
480665	K10	8 / (1800)	25 / (5620)	Yes	78	77.5	22	30	16.50	G1/8	0.90
480681	K20	17 / (3800)	55 / (12350)	Yes	112	110.0	32	50	28.25	G1/4	2.60
480707	K40	30 / (6700)	105 / (23600)	Yes	148	146.0	40	62	32.50	G1/4	6.40

All linear dimensions in (mm)

Note: Pneumatic pressure is needed for unclamping (min 8 bar/ 116 psi, max 12 bar/ 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.

QUICK CHANGE FIXTURING » ZERO POINT MOUNTING SYSTEM



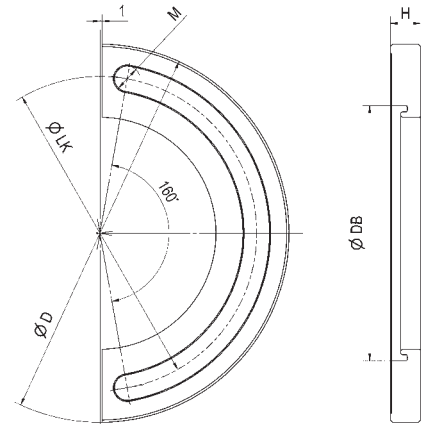
Clamping Bracket for Surface/Mounted Clamping Modules

Black Nitrided



Clamping flanges are used to fasten raised/mounted clamping modules on the machine table. See pages 53–54.

- Special clamping flanges for various T-slot tables
- Clamping flange and housing manufactured as a single piece



Stainless Steel

Part Number	Size	Pieces Per Module	ØD	ØDB	H	ØLK	M	g
303495	10	2	114	77.5	7.75	94	8.5	180
302901	20	2	164	110.0	13.00	136	11.0	400
302919	40	2	202	146.0	16.00	172	13.0	550

All linear dimensions in (mm)

Flange Type Installation Modules with Centering and Cover Rings



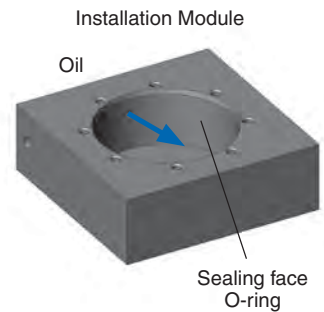
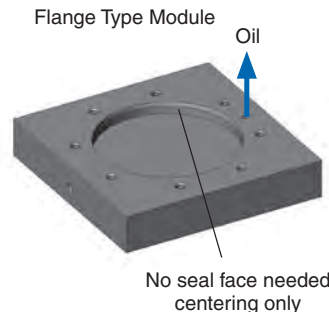
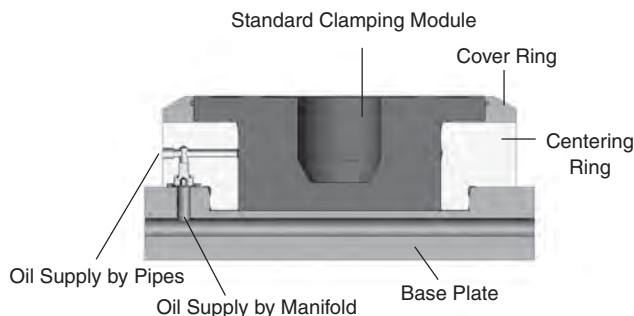
Features:

- Oil supply by pipes or manifolds
- Integrated centering
- Provided as assembled unit

Benefits:

- Simple design and manufacturing of adaptor plate
- Weight saving due to less thickness for adaptor plate
- Easy to adapt to existing mounting angles and cubes

Installation comparison



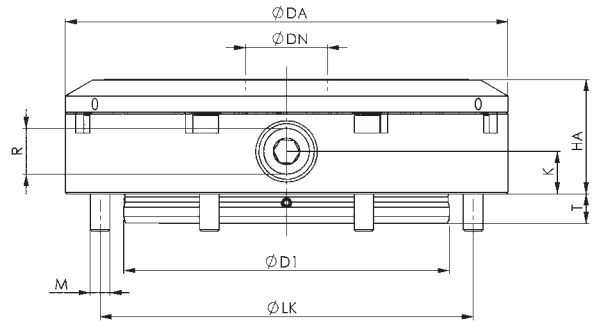


Flange Type Installation Modules with Centering and Cover Rings

Hydraulic Release

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØDA	ØDN	ØD1	HA	K	ØLK	M	R	T	Kg
480301	K10	10 / (2250)	25 / (5620)	Yes	100	22	67	24	9	90	M5	G1/8	5.9	1.35
480269	K20	20 / (4500)	55 / (12350)	Yes	136	32	100	35	13	124	M6	G1/8	8.9	3.76
480723	K40	40 / (9000)	105 / (23600)	Yes	180	40	120	45	15	163	M8	G1/8	11.9	4.97

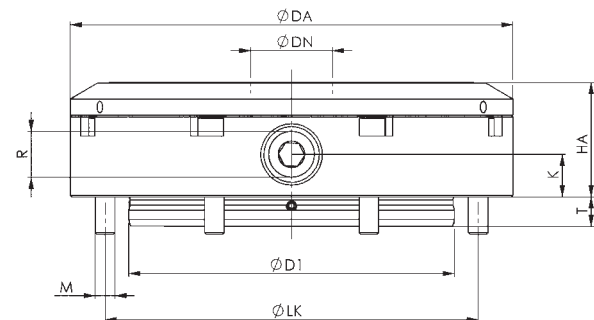
All linear dimensions in (mm)

Note: Combines features of the Threaded Module and Raised/Mounted module. Especially designed when installation space is limited and base plate or angle plate has relatively thin dimensions. The positioning of the module is simple and accurate when using the precision flange diameter. Hydraulic supply is possible by manifolds or pipes/hoses. Hydraulic supply and pressure is only needed for unclamping (min. 50 bar / 725psi, max. 60 bar / 870psi). The module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The hydraulic design has 1 connection: 1 x unclamping

Pneumatic Release

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



Hardened Stainless Steel

Part Number	Size	Pull-In/Locking force up to kN / (lbs)	Holding Force kN / (lbs)	Blow out	ØDA	ØDN	ØD1	HA	K	ØLK	M	R	T	Kg
480327	K10	8 / (1800)	25 / (5620)	—	100	22	67	24	9	90	M5	G1/8	5.9	1.35
480285	K20	17 / (3800)	55 / (12350)	—	136	32	100	35	13	124	M6	G1/8	8.9	4.97
480749	K40	30 / (6700)	105 / (23600)	—	180	40	120	45	15	163	M6	G1/8	11.9	4.97

All linear dimensions in (mm)

Note: Combines features of the Threaded Module and Raised/Mounted module. Especially designed when installation space is limited and base plate or angle plate has relatively thin dimensions. The positioning of the module is simple and accurate when using the precision flange diameter. Pneumatic supply is possible by manifolds or pipes/hoses. Pneumatic pressure is needed for unclamping (min 8 bar/ 116 psi, max 12 bar/ 175 psi). For **clamping** process pneumatic pressure of min 5 bar / 75 psi, max 6 bar / 90 psi is required briefly in order to achieve defined pull-in force. The installation clamping module is mechanically locked in the clamped position. The unique mechanical locking system results in virtually no vibration even with extensive machining forces. The pneumatic design has 2 connections: 1 x unclamping / 1 x clamping.

QUICK CHANGE FIXTURING » ZERO POINT MOUNTING SYSTEM



Horizontal Rapid-Clamping Cylinder Hydraulic Unlocking

Cover and piston hardened.

Repeatability < 0.005 mm (0.0002")



- For easy handling of heavy fixtures
- Makes palletization very quick by hooking into a hole at the top and moving downwards
- No searching for the holes
- No damage to Zero Point bore or pull studs

Hardened Stainless Steel

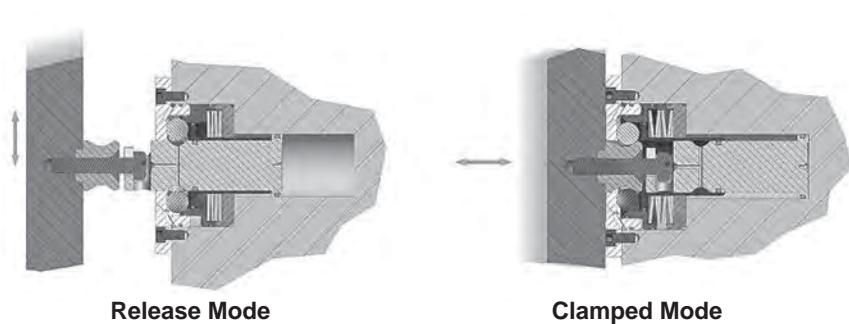
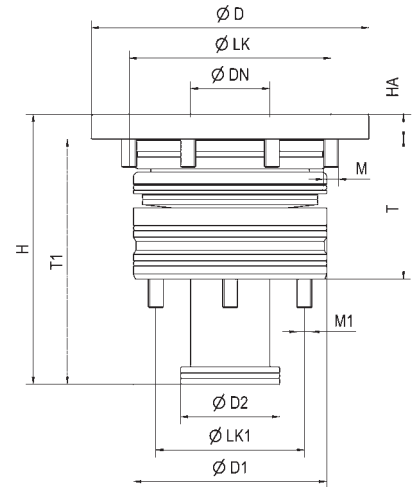
Part Number	Size	Pull-In/Locking Force up to kN / (lbs)	Holding Force kN / (lbs)	Blow Out	Advance Motion, Hydr. Suspension Piston	Kg
303065	K20	20 / (4500)	55 / (12350)	—	—	2.1
306217	K20	20 / (4500)	55 / (12350)	—	Yes	2.1
303107	K40	40 / (9000)	105 / (23600)	—	—	5.2
306258	K40	40 / (9000)	105 / (23600)	—	Yes	5.2

Dimensions (mm)

Part Number	ØD	ØDN	ØD1	ØD2	H	HA	ØLK	ØLK1	M	M1	T	T1
303065	112	32	78	40	109	10	88	60	M6	M6	56.5	99
306217	112	32	78	40	109	10	88	60	M6	M6	56.5	99
303073	112	32	78	40	109	10	88	60	M6	M6	56.5	99
306233	112	32	78	40	109	10	88	60	M6	M6	56.5	99
303107	148	40	102	48	144	15	118	76	M8	M6	73	129
306258	148	40	102	48	144	15	118	76	M8	M6	73	129
303115	148	40	102	48	144	15	118	76	M8	M6	73	129
306274	148	40	102	48	144	15	118	76	M8	M6	73	129

All linear dimensions in (mm)

Note: As standard, there is a manual or hydraulic advance motion of the suspension piston.



QUICK CHANGE FIXTURING » ZERO POINT MOUNTING SYSTEM

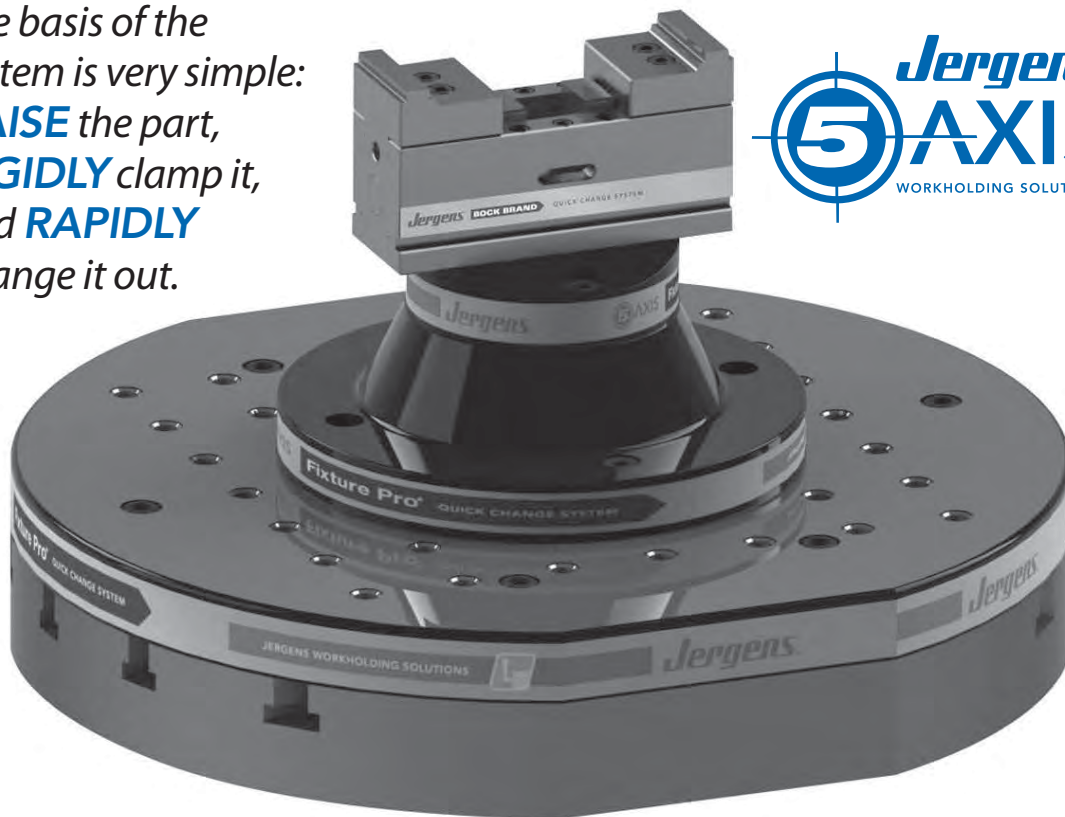


Maximize the Benefits of Your 5-Axis Machine

Getting your spindle and cutting tool close to the workpiece without running into obstructions is a challenge on a 5-axis machine. Jaws and other vise components, and even the machine table itself, can restrict your access and prevent you from machining multi-sided parts. Your only choice is stopping the machine and repositioning your part...

...until now.

The basis of the system is very simple: **RAISE** the part, **RIGIDLY** clamp it, and **RAPIDLY** change it out.



Jergens' unique modular system features a variety of riser sizes and styles to get your part off the table and allow unrestricted access. This system was built with rigidity in mind, from uniquely designed pull studs to 5-axis vises and dovetail clamps. This added rigidity helps maintain accuracy, even in your most aggressive roughing and finishing operations.

Best of all, you can integrate this system with our best-selling Ball Lock® Mounting System, for quick change capabilities even at the subplate level.



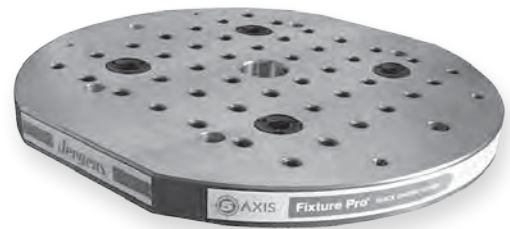
QUICK CHANGE FIXTURING » FIXTURE PRO® 5-AXIS QUICK CHANGE FIXTURING



SYSTEM FEATURES & BENEFITS

Modular approach designed for 5-axis machining

- Unrestricted access to the part
- Extremely customizable to your application



Uniquely designed pull studs and vises with high clamping forces

- Added rigidity for aggressive operations
- Higher cutting rates



Quality construction – Components made from high strength steel and aluminum

- Long life & durability



Integration of unique quick change elements at virtually every level of your setup

- Complete part to part changeover in under 60 seconds
- Maximizes your machine table
- Provides additional productivity gains



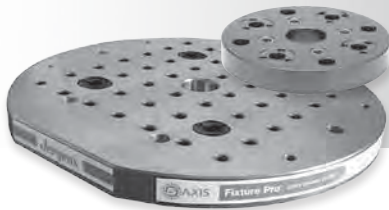
QUICK CHANGE FIXTURING » FIXTURE PRO® 5-AXIS QUICK CHANGE FIXTURING



How Does It Work?

STEP 1: KNOW YOUR MACHINE TABLE

Jergens' 5-Axis Quick Change Fixturing System provides incredible flexibility. The Fixture Pro® System can mount to any machine or rotary table. Contact Jergens customer service at 877-426-2504 to help you select the components for your application.

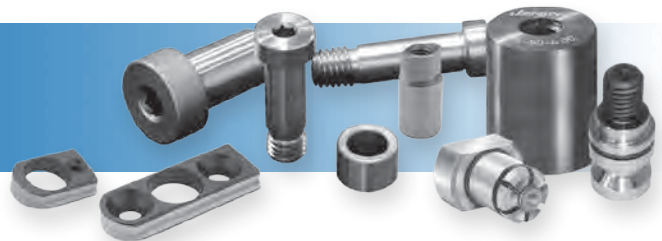


STEP 2: SELECT YOUR SUBPLATE

Subplates can be configured with either the Ball Lock® Mounting System or the QLS for quick fixture changeover at the subplate level.

STEP 3: SELECT YOUR MOUNTING COMPONENTS

- Center locating pins
- Timing pins
- QLS bolts
- Locating Keys



STEP 4: SELECT YOUR RISER, TOP PLATES AND MINI PALLET

Get your part off the table and allow tool clearance by selecting the right riser for your application. Rectangle, square, cone and mini risers are available in a variety of sizes. Adapter plates and the patent pending Drop & Lock™ Pallet Changer allow for lightning fast part to part changeover.

QUICK CHANGE FIXTURING » FIXTURE PRO® 5-AXIS QUICK CHANGE FIXTURING



STEP 5: SELECT YOUR TOP TOOLING

Choose from a variety of incredibly strong clamping products, from dovetail vises to self-centering vises specially designed for 5-axis workholding applications.



5-Axis Vise or Dovetail Vise



Quick Change Element! Drop & Lock™ Pallet Changer

You can use a simple adapter plate instead of the Drop & Lock™ Pallet Changer



Choose from a range of risers



Accessories and hardware help you customize



Quick Change Element! Choose from a variety of standard subplates. Configure with Ball Lock® or QLS for quick change capabilities at the subplate level.

Feature Focus: The Drop & Lock™ Pallet Changer

Simply install 2 or 4 pull studs into the bottom of your fixture or vise and literally drop it into the pallet changer. In less than two quick turns of a hex wrench, you can switch out your workpiece without re-indicating.

Drop it, lock it, and go!

Install pull studs into your fixture or vise.

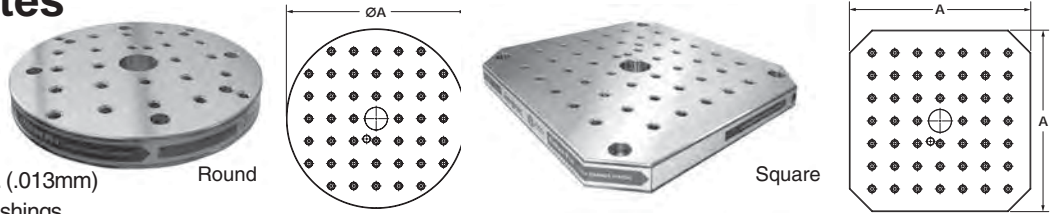
Drop your fixture or vise into the Vise Adapter.

Two quick turns of a hex wrench and you're ready to machine. No re-indicating!



5-Axis Subplates

- Material: 1018 Steel
- Thickness Tolerance ± 0.005
- Flat & Parallel within .0005"/Ft. (.013mm)
- Includes Pre-Installed QLS Bushings



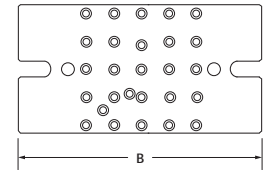
Part Number	Style	A (mm)	B (mm)	Thickness of Subplate (mm)	Locating	Mounting Type	Mounting Grid	Weight lbs (Kgs)
5SP130	Round	130	130	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	6.3 (2.86)
5SP160	Round	160	160	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	10.36 (4.7)
5SP210	Round	210	210	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	18.83 (8.54)
5SP250	Round	250	250	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	26.5 (12)
5SP310	Round	310	310	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	41.89 (19)
5SP400	Round	400	400	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	70.44 (31.95)
5SP500	Round	500	500	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	110.9 (50.3)
5SP630	Round	630	630	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	176.8 (80.2)
5SP800	Round	800	800	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	296.3 (134.4)

Part Number	Style	A (mm)	B (mm)	Thickness of Subplate (mm)	Locating	Mounting Type	Mounting Grid	Weight lbs (Kgs)
5SP400S	Square	400	400	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	88 (39.9)
5SP500S	Square	500	500	35	Center (50H7), Timing Pin	12mm SHCS	12mm x 50mm	139.3 (63.2)

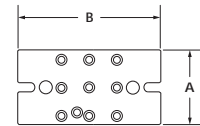
Part Number	Style	A (mm)	B (mm)	Thickness of Subplate (mm)	Locating	Mounting Type	Mounting Grid	Weight lbs (Kgs)
5QP130020	VMC	130	250	35	Center (12mm), Timing Pin	12mm SHCS	12mm x 50mm	19.86 (9.01)
5QP250020	VMC	250	340	35	Center (12mm), Timing Pin	12mm SHCS	12mm x 50mm	51.75 (23.47)



VMC 250mm



Used for mounting risers & other Fixture Pro® items to a Vertical Machining Center



VMC 130mm

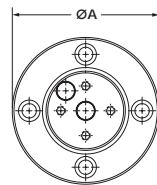
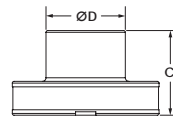
5-Axis Risers, Mini & Barbell Style – Steel or Aluminum

Fixture Pro® 5-Axis Risers raise, position and locate the part off the machine or rotary table so the part is accessible for machining all 5 sides. Mounts to tables with Sine Fixture Keys, SHCS or QLS Grids.

- Material: 1018 Steel
- Thickness Tolerance ± 0.002 (.05mm)
- Flat & Parallel within: .0005"/Ft. (.013mm)
- Finish: Black Oxide or Aluminum



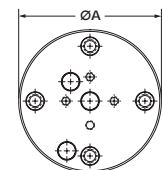
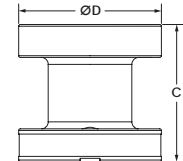
Aluminum Mini



Mini Risers – Designed for use with small pallet machine tools and the 75mm platform top tooling.



130mm Barbell



Part Number		Style	A (mm)	B (mm)	C (mm)	D (mm)	Locating Keyway, Timing Pin	Mounting Type	Mounting Grid	Weight lbs (Kgs)	
Steel	Aluminum									Steel	Aluminum
5RS130001	5RS130004	Mini	130	—	75	70.3	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	8.21 (3.72)	2.84 (1.29)
5RS130002	5RS130005	Barbell Low	130	—	75	130	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	12.82 (5.82)	4.44 (2.01)
5RS130003	5RS130006	Barbell Tail	130	—	125	130	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	16.8 (7.62)	5.82 (2.64)
5RS250001	5RS250005	Barbell Low	250	—	75	250	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	88.6 (40.2)	20.5 (9.3)
5RS250002	5RS250006	Barbell Tail	250	—	125	250	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	93.3 (42.3)	25.34 (11.5)



250mm Barbell

QUICK CHANGE FIXTURING » FIXTURE PRO® 5-AXIS QUICK CHANGE FIXTURING

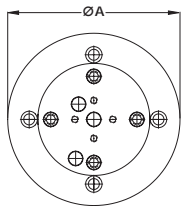
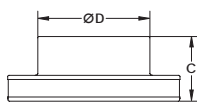
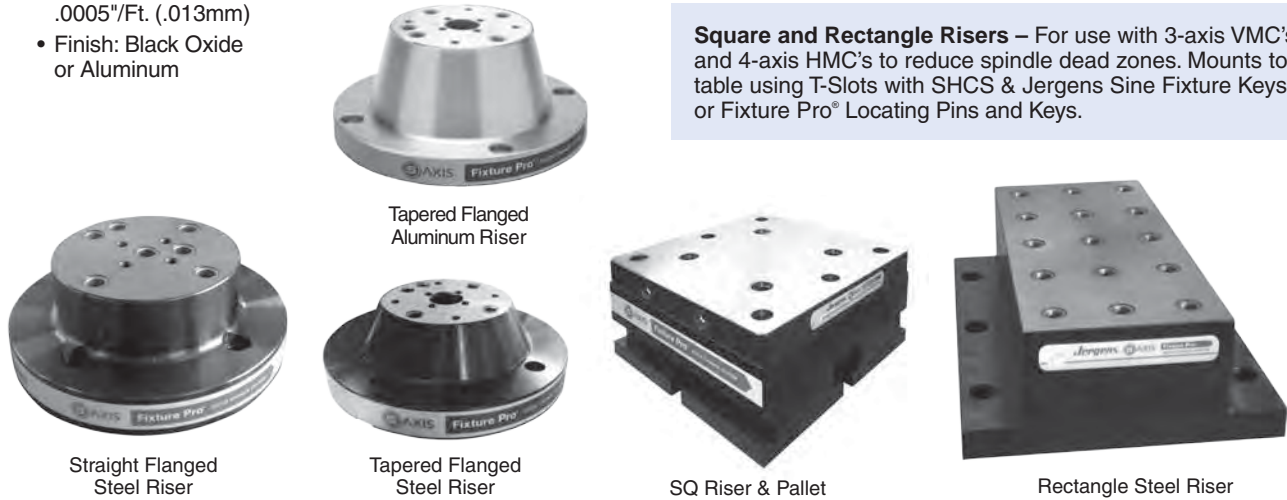


5-Axis Risers, Flanged, Rectangle or Square Style – Steel or Aluminum

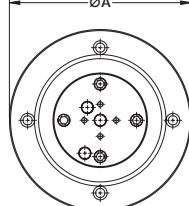
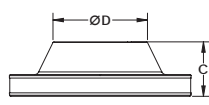
Fixture Pro® 5-Axis Risers raise, position and locate the part off the machine or rotary table so the part is accessible for machining all 5 sides. Mounts to tables with Sine Fixture Keys, Fixture Pro® Machine Keys, SHCS or QLS Grids.

- Material: 1018 Steel
- Thickness Tolerance ± 0.002 (.05mm)
- Flat & Parallel within: .0005"/Ft. (.013mm)
- Finish: Black Oxide or Aluminum

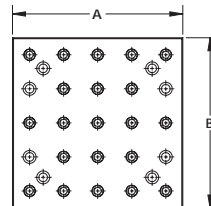
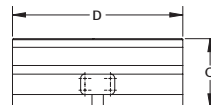
Square and Rectangle Risers – For use with 3-axis VMC's and 4-axis HMC's to reduce spindle dead zones. Mounts to table using T-Slots with SHCS & Jergens Sine Fixture Keys, or Fixture Pro® Locating Pins and Keys.



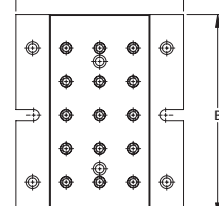
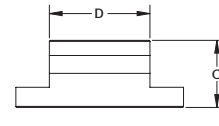
Straight Flanged Riser



Tapered Flanged Riser



Square Riser



Rectangle Riser

Part Number		Style	A (mm)	B (mm)	C (mm)	D (mm)	Locating Keyway, Timing Pin	Mounting Type	Mounting Grid	Weight lbs (Kgs)	
Steel	Aluminum									Steel	Aluminum
5RS250003	5RS250007	Tapered Flanged	250	—	75	130	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	36.8 (16.7)	12.75 (5.78)
5RS250004	5RS250008	Tapered Flanged	250	—	125	130	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	53.2 (24.1)	18.42 (8.36)
5RS150001	5RS150002	Rectangle	250	300	100	150	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	87.0 (39.5)	30.67 (13.9)
5RS250009	5RS250010	Square	250	250	100	250	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	77.3 (35.1)	28.0 (12.7)

Rotary Table Risers

Part Number		Style	A (mm)	B (mm)	C (mm)	D (mm)	Locating Keyway, Timing Pin	Mounting Type	Mounting Grid	Weight lbs (Kgs)	
Steel	Aluminum									Steel	Aluminum
5RS200007*	5RS200010*	Straight Flanged	200	—	75	130	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	24.0 (10.9)	8.4 (3.8)
5RS200008*	5RS200011*	Straight Flanged	200	—	125	130	Center (50H7)	QLS, 12mm SHCS	12mm x 50mm	36.0 (16.4)	12.4 (5.6)

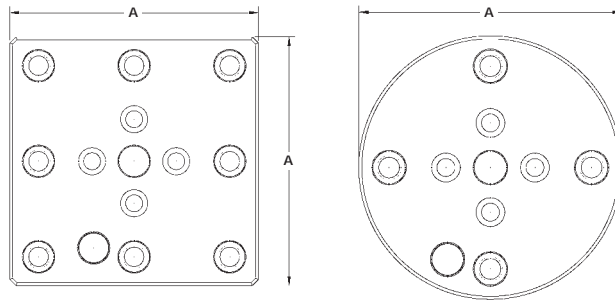
* 200mm risers are designed to work with rotary tables. If intended for use on Fixture Pro® subplates, 4 extra mounting holes are needed. Call 877-426-2504 for assistance.



5-Axis Riser Top Plates



Convert the riser into a QLS grid for precision mounting of any workholding fixture, including the entire family of Fixture Pro® Top Tooling. Available in square or round styles.

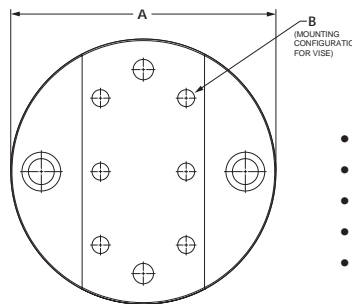


- Material: 1018 Steel
- Thickness Tolerance ± 0.005 (.13mm)
- Flat & Parallel within: .0005"/Ft. (.013mm)
- Includes: Hardened Bushings

Part Number	Style	A (mm)	Thickness of Plate (mm)	Locating	Mounting Type	Mounting Grid	Weight lbs (Kgs)
5TP130002	Round	130	35	Center, Timing Pin	8mm SHCS	12mm x 50mm	7.09 (3.22)
5TP250002	Round	250	35	Center, Timing Pin	8mm SHCS	12mm x 50mm	27.02 (12.26)
5TP130001	Square	130	35	Center, Timing Pin	8mm SHCS	12mm x 50mm	8.97 (4.07)
5TP250001	Square	250	35	Center, Timing Pin	8mm SHCS	12mm x 50mm	34.81 (15.79)

5-Axis Vise Adapter Plates

Convert the Jergens 5-axis vise into a QLS grid for precision mounting of any Fixture Pro® modular system part that requires a match with the QLS grid.



- Material: 1018 Steel
- Thickness Tolerance ± 0.005 (.13mm)
- Flat & Parallel within: .0005"/Ft. (.013mm)
- Includes: Hardened Bushings
- Vise Adapter Pin Required 5LP25M10

Part Number	Style	A (mm)	B (Vise Part. No.)	Thickness of Plate (mm)	Locating	Mounting Type	Mounting Grid	Weight lbs (Kgs)
5VA130001	Round	130	80000, 80400	35	QLS, Dowel Pin	12mm SHCS	12mm x 50mm	6.9 (3.1)
5VA250001	Round	250	80100	35	Center, Timing, QLS	12mm SHCS	12mm x 50mm	27 (12.2)
5VA130002	Round	130	80000, 80400	35	Quick Change Stud	20mm QCS	60mm x 60mm	7.4 (3.4)
5VA250002	Round	250	80100	35	Quick Change Stud	20mm QCS	120mm x 120mm	27.5 (12.5)

Vise Locator Adapter Pin 5LP25M10 Available. Please call 877-426-2504 for more information.

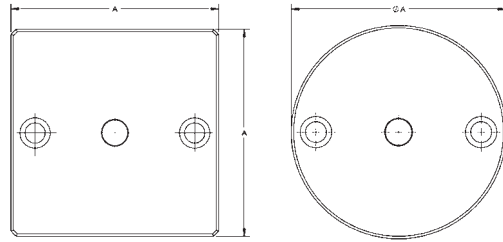


5-Axis Blank Fixture Plates



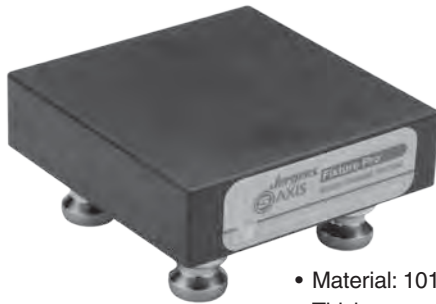
- Material: 1018 Steel
- Thickness Tolerance ± 0.005 (.13mm)
- Flat & Parallel within: .0005"/Ft. (.013mm)
- Includes: Hardened Bushings

Mount fixtures that already have mounting holes that do not match the QLS grid. Available in round and square styles.



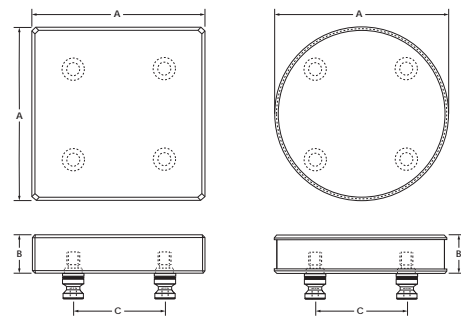
Part Number	Style	A (mm)	Thickness of Plate (mm)	Locating	Mounting Type	Weight lbs (Kgs)
5FP130002	Round	130	35	Center, Timing Pin	12mm SHCS	7.41 (3.36)
5FP250002	Round	250	35	Center, Timing Pin	12mm SHCS	28.65 (13)
5FP130001	Square	130	35	Center, Timing Pin	12mm SHCS	9.62 (4.36)
5FP250001	Square	250	35	Center, Timing Pin	12mm SHCS	36.78 (16.68)

5-Axis Machinable Blanks



- Material: 1018 Steel/6061 Aluminum
- Thickness: ± 0.005 (.13mm)
- Includes: Hardened Bushing
- Pull Studs Not Included

Designed for 2nd operation machining. Blanks can be machined to accept parts and clamping systems.

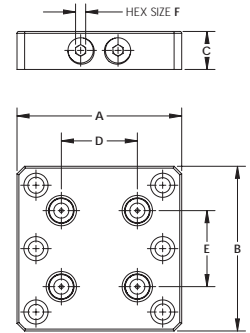
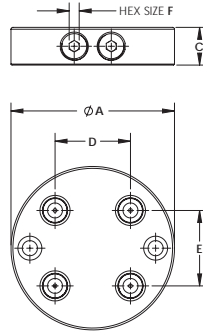


Steel Part Number	Aluminum Part Number	Style	A (mm)	B (mm)	C (mm)	Locating	Mounting Type	Mounting Grid	Weight Steel (lbs/kg)	Weight Alum (lbs/kg)	Pull Stud Size	Pull Stud Part Number
5MB130002	5MB130004	Square	130	30	60	Quick Change Studs	20mm QCS	60mm x 60mm	9.9 (4.5)	3.4 (1.6)	20	5QP020
5MB130003	5MB130005	Round	130	30	60	Quick Change Studs	20mm QCS	60mm x 60mm	7.7 (3.5)	2.7 (1.2)	20	5QP020
5MB130006	-	Square	130	75	60	Quick Change Studs	20mm QCS	60mm x 60mm	21.6 (9.8)	-	20	5QP020
-	5MB130007	Square	130	130	60	Quick Change Studs	20mm QCS	60mm x 60mm	-	13.0 (5.9)	20	5QP020
5MB160002	5MB160004	Square	160	30	60	Quick Change Studs	20mm QCS	60mm x 60mm	15.2 (6.9)	5.2 (2.4)	20	5QP020
5MB160003	5MB160005	Round	160	30	60	Quick Change Studs	20mm QCS	60mm x 60mm	11.8 (5.4)	4.1 (1.8)	20	5QP020
5MB210002	5MB210004	Square	210	30	60	Quick Change Studs	20mm QCS	60mm x 60mm	26.3 (11.9)	9.1 (4.1)	20	5QP020
5MB210003	5MB210005	Round	210	30	60	Quick Change Studs	20mm QCS	60mm x 60mm	20.6 (9.3)	7.1 (3.2)	20	5QP020
5MB210006	5MB210008	Square	210	30	120	Quick Change Studs	20mm QCS	120mm x 120mm	26.3 (11.9)	9.1 (4.1)	20	5QP020
5MB210007	5MB210009	Round	210	30	120	Quick Change Studs	20mm QCS	120mm x 120mm	20.6 (9.3)	7.1 (3.2)	20	5QP020
5MB250002	5MB250004	Square	250	30	120	Quick Change Studs	20mm QCS	120mm x 120mm	37.4 (17.0)	12.9 (5.9)	20	5QP020
5MB250003	5MB250005	Round	250	30	120	Quick Change Studs	20mm QCS	120mm x 120mm	29.3 (13.3)	10.1 (4.6)	20	5QP020
5MB310002	5MB310004	Square	310	30	120	Quick Change Studs	20mm QCS	120mm x 120mm	57.7 (26.2)	19.9 (9.0)	20	5QP020
5MB310003	5MB310005	Round	310	30	120	Quick Change Studs	20mm QCS	120mm x 120mm	45.2 (20.5)	15.6 (7.1)	20	5QP020



5-Axis Drop & Lock™ Pallet Changer

Mount parts or fixtures quickly to a machine. Available in Round and Square styles. Drop a Fixture or Vise into the Pallet Changer using the Fixture Pro® pull stud system. With two quick turns of a hex wrench it's ready to machine. Drop it, Lock it, and go!



- Material: A2 Steel
- Hardness: 58-62 Rc
- Flatness: Ground .0002"/Ft.
- Thickness Tolerance: ±0.002
- Finish: Black Oxide

Pull Studs

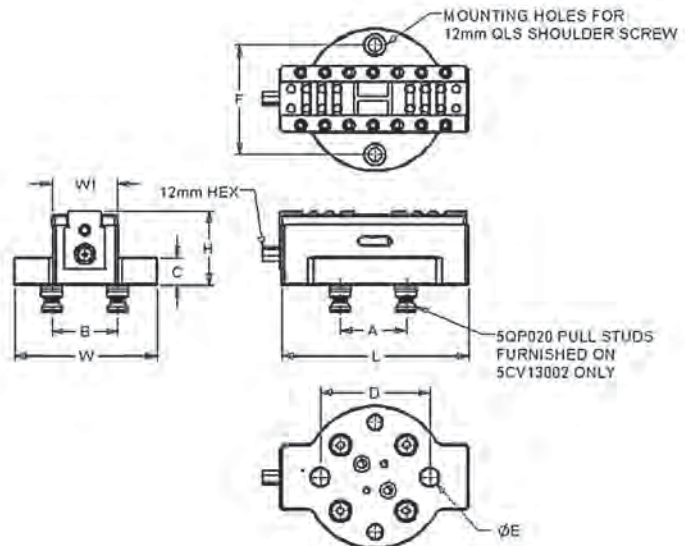
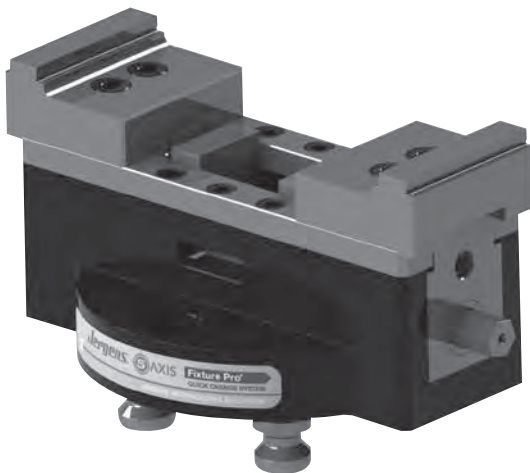
Adapt any machinable part or fixture directly to the part. Use with our quick change Drop & Lock™ Pallet Changer.



- Material: A2 Steel
- Hardness: 50-54 Rc

Part Number	Style	Configuration of Pins	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Hex Size F (mm)	Locating	Mounting Type	Weight lbs (Kgs)	Pull Stud	
												Size (mm)	Part Number
5QP130002	Round	4	130	—	30	60	60	8	Center, Timing Pin, QLS	QLS, 12mm SHCS	5.8/2.6	20	5QP020
5QP250002	Round	4	250	—	30	120	120	8	Center, Timing Pin, QLS	QLS, 12mm SHCS	23.9/10.8	20	5QP020
5QP130001	Square	4	130	130	30	60	60	8	Center, Timing Pin, QLS	QLS, 12mm SHCS	7.2/3.3	20	5QP020
5QP250001	Square	4	250	250	30	120	120	8	Center, Timing Pin, QLS	QLS, 12mm SHCS	30.4/13.8	20	5QP020
5QP130003	Round	2	130	—	30	—	60	8	Center, Timing Pin, QLS	QLS, 12mm SHCS	6.0/2.7	20	5QP020
5QP130004	Square	2	130	130	30	—	60	8	Center, Timing Pin, QLS	QLS, 12mm SHCS	7.6/3.5	20	5QP020

Self Centering 60mm Vise



Part Number	Pull Studs	Size	Clamping Force (kN/Torque Nm)	Weight (Kg)	L (mm)	W (mm)	H (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
5CV13001		60mm	15/50	5.6	170	130	67.6	60	60	25	100	16	100
5CV13002	4 Included	60mm	15/50	5.6	170	130	67.6	60	60	25	100	16	100

QUICK CHANGE FIXTURING » FIXTURE PRO® 5-AXIS QUICK CHANGE FIXTURING



5-Axis Top Tooling – 130mm Dovetail Vises



Light Duty



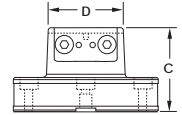
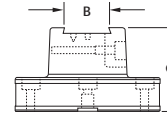
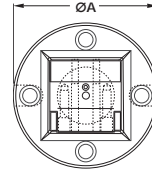
Heavy Duty

Mounts directly to a rotary table, Fixture Pro® Riser or any QLS Grid. Reduces distortion of parts. Requires 0.060" or less material to clamp.

Cutting a 10° angle cut in the bottom surface of a machinable part allows for extremely high clamping forces while leaving all 5 sides accessible. The heavy duty 130mm version has higher torque and tilting moments than the standard 130mm Fixture Pro® Dovetail Vise.

Dovetail cutter (part number 5DC3) available.

- Material: 1018 Steel
- Flat & Parallel within: .002"/Ft. (.05mm)
- Includes: Hardened Bushings
- Includes Center Locator Pin



Part Number	Description	A (mm)	B (mm)	C (mm)	D (mm)	Locating	Mounting Type	Mounting Grid	Weight lbs (Kgs)	Dovetail Cutter P/N
5DV130002	130mm L.D. Dovetail Vise, Steel	130	25	75	50	Center, Timing Pin, QLS	12mm SHCS	12mm X 50mm	7.36 (3.34)	5DC3
5DV130003	130mm H.D. Dovetail Vise, Steel	130	25	75	65	Center, Timing Pin, QLS	12mm SHCS	12mm X 50mm	7.21 (3.27)	5DC3
5DV130004	130mm H.D. Dovetail Vise, Steel	130	25	75	65	Center, Timing Pin, QLS (& Quick Change Stud)	12mm SHCS (& 20mm QCS)	12mm X 50mm (60mm X 60mm)	6.2 (2.8)	5DC3

5-Axis Top Tooling – Block Dovetail Vises



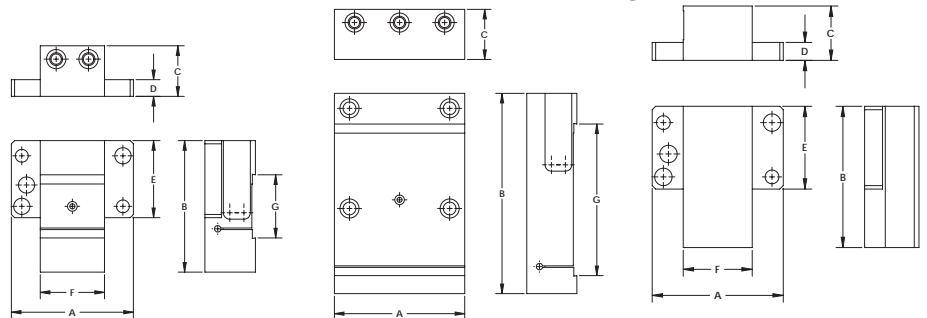
Mounts directly to a rotary table, Fixture Pro® Riser or any QLS Grid. Reduces distortion of parts. Requires 0.060" or less material to clamp.

By cutting a 10° angle cut in the bottom surface of a machinable part it allows for extremely high clamping forces while leaving all 5 sides accessible.

Dovetail cutter (part number 5DC3) available.



- Material: 1018 Steel
- Flatness: .002"/Ft.
- Flat & Parallel within: .002"/Ft. (.05mm)
- Includes: Hardened Bushings



See additional 5-Axis top tooling on pages 122-133

Part Number	Description	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Locating	Mounting Type	Mounting Grid	Weight lbs (Kgs)	Dovetail Cutter P/N
5DV200	Dovetail Pre-Cut Vise, Steel	120.7	130	50	16.5	76.2	63.5	62.5	Center, Timing Pin, QLS	12mm SHCS	12mm X 50mm	7.4 (3.3)	5DC3
5DV400	Dovetail Pre-Cut Vise, Steel	120.7	130	50	16.5	76.2	63.5	100.6	Center, Timing Pin, QLS	12mm SHCS	12mm X 50mm	7.2 (3.3)	5DC3
5DV600	Dovetail Pre-Cut Vise Steel	130	200	50	151.4	—	—	151.4	Center, Timing Pin, QLS	12mm SHCS	12mm X 50mm	19.7 (8.9)	5DC3
5MB250	Machinable Blank Steel	120.7	130	50	16.5	76.2	63.5	—	Center, Timing Pin, QLS	12mm SHCS	12mm X 50mm	8.0 (3.6)	5DC3

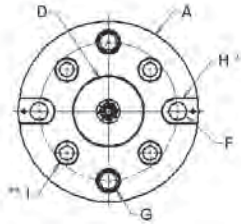
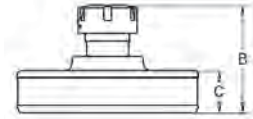


5-Axis ER Collet Fixtures

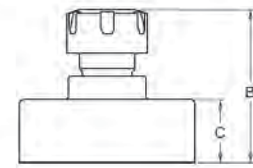
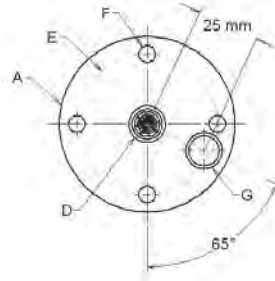


- Hardened alloy steel
- Excellent workholder for cylindrical parts
- Use with your existing ER Collets
- Direct interface with other Jergens Fixture-Pro® products
- Optional mounting styles available

ER130 Series



ER70 Series



Part Number	Collet Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	Wt. lbs. (kg)	Tightening (ft/lbs) over/under 1/16" (2 mm) Collets ID
5ER07001	16	70	61.0	25	12	56	M6	12	N/A	N/A	1.9 (0.9)	42/30
5ER07002	20	70	61.9	25	12	56	M6	12	N/A	N/A	1.9 (0.9)	59/24
5ER07003	25	70	62.4	25	12	56	M6	12	N/A	N/A	2.1 (0.9)	77/77
5ER13001	25	130	77.0	30	50	100	M12	12	18	20	6.3 (2.9)	77/77
5ER13002	32	130	78.0	30	50	100	M12	12	18	20	6.7 (3.0)	100/100
5ER13003	40	130	80.0	30	50	100	M12	12	18	20	7.3 (3.3)	130/130



Please call 877-426-2504 for special order of Multi-Platform Fixture

QUICK CHANGE FIXTURING » FIXTURE PRO® 5-AXIS QUICK CHANGE FIXTURING



5-Axis Locating Pins

Locates subplates to machine rotary tables, risers to subplates, and mounts Fixture Pro® Top Tooling directly to a rotary table.

Center Locating Pins - Metric

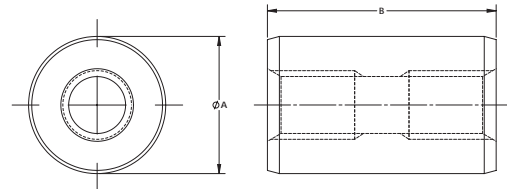
Part Number	A (mm)	B (mm)	Thread	Weight lbs (Kgs)
5LP1220	12	20	M6	0.03 (.014)
5LP1224	12	24	M6	0.04 (.018)
5LP1225	12	25	M6	0.04 (.018)
5LP1230	12	30	M6	0.05 (.023)



- Material: 1018 Steel
- Tolerance: ±0.0002 (.005mm)

Center Locating Pins - Inch

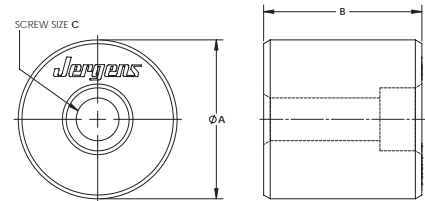
Part Number	A (mm)	B (mm)	Thread	Weight lbs (Kgs)	Extraction Tool
5LP50075	0.5	0.75	1/4-20	0.03 (.014)	5HW004
5LP500100	0.5	1	1/4-20	0.04 (.018)	5HW004
5LP500125	0.5	1.25	1/4-20	0.05 (.023)	5HW004



Center Locator Pins

Center Locator Pins, Long

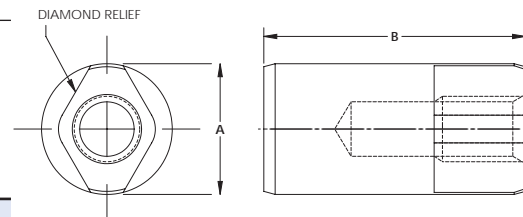
Part Number	A (mm)	B (mm)	C Screw Size	Weight lbs (Kgs)
5LP5050	50	50	M12, 1/2 SHCS	1.49 (.68)
5LP5070	50	70	M12, 1/2 SHCS	2.11 (.96)
5LP5090	50	90	M12, 1/2 SHCS	2.73 (1.24)
5LP50110	50	110	M12, 1/2 SHCS	3.35 (1.52)



Center Locator Pins, Long

Diamond Timing Pins - Metric

Part Number	A (mm)	B (mm)	Thread	Weight lbs (Kgs)
5LP1220001	12	20	M6	0.03 (.014)
5LP1224001	12	24	M6	0.04 (.018)
5LP1225001	12	25	M6	0.04 (.018)
5LP1230001	12	30	M6	0.05 (.023)



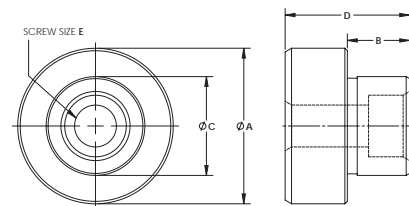
Diamond Timing Pins

Diamond Timing Pins - Inch

Part Number	A (mm)	B (mm)	Thread	Weight lbs (Kgs)	Extraction Tool
5LP50075001	0.5	0.75	1/4-20	0.03 (.014)	5HW004
5LP500100001	0.5	1	1/4-20	0.04 (.018)	5HW004
5LP500125001	0.5	1.25	1/4-20	0.05 (.023)	5HW004

Center Step Locator

Part Number	A (mm)	B (mm)	C (in. mm)	D (mm)	E Screw Size	Weight lbs (kg)
5LP1255020	50	20	1.25 (31.75)	40	M12, 1/2 SHCS	0.8 (.36)
5LP12512	1.25" (31.8 mm)	12	.472 (12)	27	N/A	0.2 (0.10)
5LP5050001	50	22	2.00 (50.8)	50	M12, 1/2 SHCS	1.5 (0.7)
5LP5050002	50	26	1.5 (38.1)	50	M12, 1/2 SHCS	1.2 (0.52)



Center Step Locator

QUICK CHANGE FIXTURING » FIXTURE PRO® 5-AXIS QUICK CHANGE FIXTURING



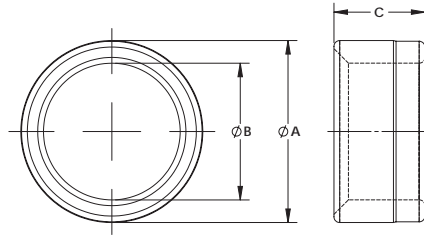
5-Axis Quick Locating System (QLS) Bushings



Part Number	A (mm)	B (mm)	C (mm)	Weight lbs (Kgs)
5BS1210	16	12	10	.01 (.005)
5BS1212	16	12	12	.02 (.009)
5BS1216	16	12	16	.02 (.009)
5BS1232	16	12	32	.05 (.023)

Part Number	A (in)	B (in)	C (in)	Weight lbs (Kgs)
5BS500375	0.75	0.5	0.375	.01 (.005)
5BS500500	0.75	0.5	0.5	.02 (.009)
5BS500625	0.75	0.5	0.625	.02 (.009)
5BS5001375	0.75	0.5	1.375	.05 (.023)

- Hardened and Ground
- Concentric within 0.0002" (0.005mm)



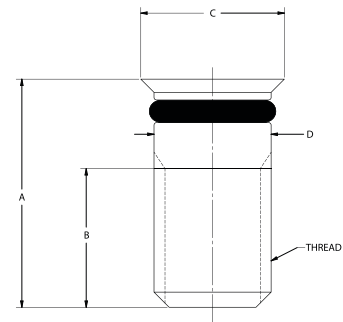
5-Axis Quick Locating System (QLS) Chip Plug*



* O-ring included.

Part Number	A (mm)	B (mm)	C (mm)	D (mm)	Thread Size (mm)	Weight lbs (Kgs)
5PL12002	12	7	14.5	11.8	M12 X 1.75	.02 (.01)
5PL23002	23	14	14.5	11.8	M12 X 1.75	.04 (.02)
5PL30002	30	16	14.5	11.8	M12 X 1.75	.05 (.023)

Part Number	A (in)	B (in)	C (in)	D (in)	Thread Size (in)	Weight lbs (Kgs)
5PL500001	0.5	0.3	0.57	0.50	1/2-13	.03 (.014)
5PL500002	1.0	0.6	0.57	0.50	1/2-13	.05 (.023)



Aluminum Chip Plug



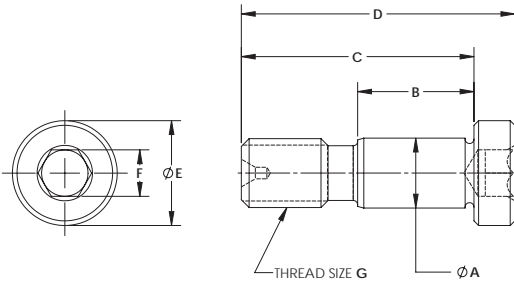
Part Number	C Bore Hole Size (mm)	C (mm)	D (mm)	Weight (lbs/kgs)	Chip Plug Extractor Part Number
5PL12001	12	12.98	11.96	0.004 (0.002)	HW004
5PL15001	15	15.98	14.96	0.007 (0.003)	HW004
5PL16001	16	16.97	15.95	0.008 (0.004)	HW004
5PL17001	17	18.01	16.99	0.009 (0.004)	HW004
5PL18001	18	19.02	18.01	0.011 (0.005)	HW004
5PL19001	19	20.02	19	0.012 (0.005)	HW004
5PL20001	20	20.98	19.96	0.013 (0.006)	HW004
5PL25001	25	25.98	25.97	0.021 (0.010)	HW004



5-Axis Quick Locating System (QLS) Shoulder Screws



- Hardened and Ground
- "A" Diameter $\pm 0.0003"$ (0.008mm)



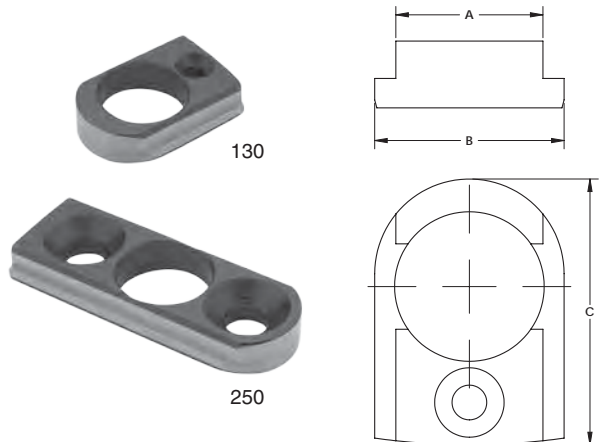
Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Hex Size F (mm)	Thread Size G (mm)	Weight lbs (Kgs)
5SH1220	12	20	40	47	18	8	M12 X 1.75	.09 (.04)
5SH1225	12	25	45	52	18	8	M12 X 1.75	.1 (.045)
5SH1230	12	30	50	57	18	8	M12 X 1.75	.11 (.05)
5SH1235	12	35	55	62	18	8	M12 X 1.75	.12 (.054)
5SH1240	12	40	60	67	18	8	M12 X 1.75	.13 (.06)
5SH1245	12	45	65	72	18	8	M12 X 1.75	.14 (.064)
5SH1250	12	50	70	77	18	8	M12 X 1.75	.15 (.07)

Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	Hex Size F (in)	Thread Size G (in)	Weight lbs (Kgs)
5SH50075	0.5	0.75	1.375	1.625	0.74	0.313	1/2-13	.09 (.04)
5SH500100	0.5	1	1.625	1.875	0.74	0.313	1/2-13	.1 (.045)
5SH500125	0.5	1.25	1.875	2.125	0.74	0.313	1/2-13	.11 (.05)
5SH500150	0.5	1.5	2.125	2.375	0.74	0.313	1/2-13	.13 (.06)
5SH500175	0.5	1.75	2.375	2.625	0.74	0.313	1/2-13	.14 (.064)
5SH500200	0.5	2	2.625	2.875	0.74	0.313	1/2-13	.15 (.07)

5-Axis Locating Keys

Part Number	Mounts to Riser Size (mm)	A in (mm)	B in (mm)	C (mm)	Weight lbs (kgs)
5LK1301812	130	.472 (12)	.709 (18)	25.26	.02 (.009)
5LK1301814	130	.551 (14)	.709 (18)	25.26	.02 (.009)
5LK1301816	130	.630 (16)	.709 (18)	25.26	.02 (.009)
5LK1301818	130	.709 (18)	.709 (18)	25.26	.03 (.014)
5LK13018500	130	.500 (12.7)	.709 (18)	25.26	.02 (.009)
5LK13018562	130	.562 (14.3)	.709 (18)	25.26	.02 (.009)
5LK13018625	130	.625 (15.9)	.709 (18)	25.26	.02 (.009)
5LK13018687	130	.687 (17.4)	.709 (18)	25.26	.03 (.014)
5LK2501812	250	.472 (12)	.709 (18)	48	.04 (.018)
5LK2501814	250	.551 (14)	.709 (18)	48	.05 (.023)
5LK2501816	250	.630 (16)	.709 (18)	48	.05 (.023)
5LK2501818	250	.709 (18)	.709 (18)	48	.06 (.027)
5LK25018500	250	.500 (12.7)	.709 (18)	48	.05 (.023)
5LK25018562	250	.562 (14.3)	.709 (18)	48	.05 (.023)
5LK25018625	250	.625 (15.9)	.709 (18)	48	.05 (.023)
5LK25018687	250	.687 (17.4)	.709 (18)	48	.06 (.027)

Used to adapt any of the Fixture Pro® elements with bottom keyway slots for alignment to your machine table slots. Unique design accommodates socket head cap screws, which will tighten a T-nut to the T-slot in your machine.



- Case Hardened: 60 Rc
- Thickness Tolerance: +0, -.0005
- Finish: Black Oxide

Fixture Pro® components allow you to mount directly to a T-slot with our special through-hole machine keys, QLS bushings, and QLS shoulder screws. All hardware mounting methods can quickly be converted over and mounted to a different machine tool the next time you use the components.

NOTES

PRODUCTION VISES

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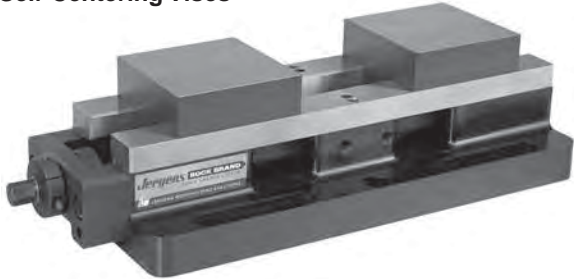


MANUFACTURING EFFICIENCY



Jergens Production Vise System

Self-Centering Vises



- Quick, simple fixturing for concentric machining

Dual Station Vises



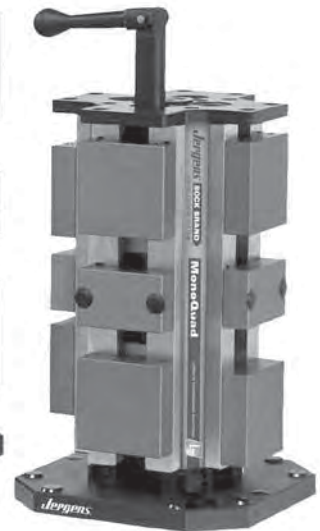
- Maximum Holding Power**
- Jaws machined to the contour of your workpiece maximizing holding force.

Production Vise Columns

2, 4, 6, 8, 12 and 16 station models available.



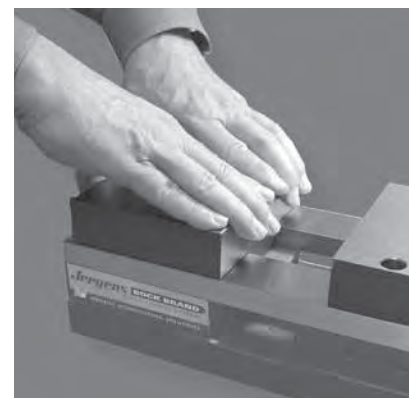
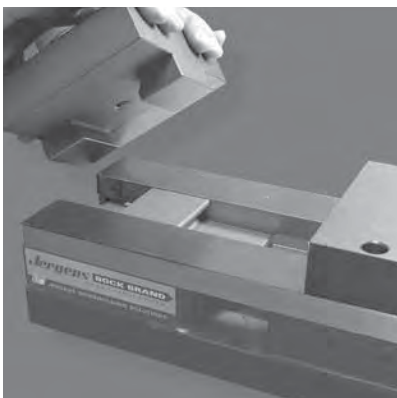
6" (150mm) MonoQuad



4" (100mm) MonoQuad

- Quick change reverseable soft jaws
- Single station adapter plate included
- Multiple base designs to meet any requirement

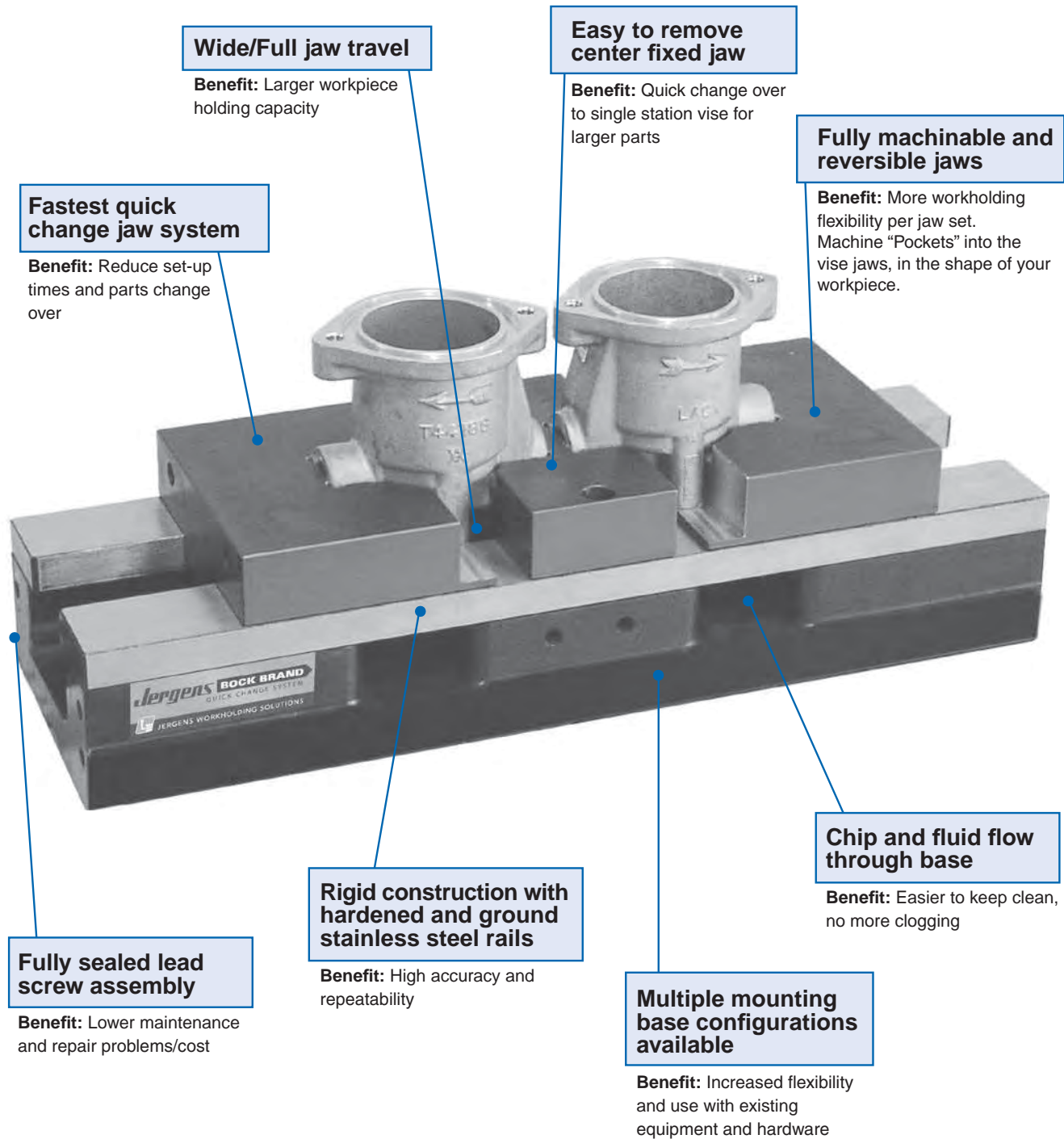
Fastest Quick Change Jaw System





Jergens Production Vises

Features and Benefits:



Wide/Full jaw travel

Benefit: Larger workpiece holding capacity

Easy to remove center fixed jaw

Benefit: Quick change over to single station vise for larger parts

Fully machinable and reversible jaws

Benefit: More workholding flexibility per jaw set. Machine "Pockets" into the vise jaws, in the shape of your workpiece.

Fastest quick change jaw system

Benefit: Reduce set-up times and parts change over

Chip and fluid flow through base

Benefit: Easier to keep clean, no more clogging

Rigid construction with hardened and ground stainless steel rails

Benefit: High accuracy and repeatability

Fully sealed lead screw assembly

Benefit: Lower maintenance and repair problems/cost

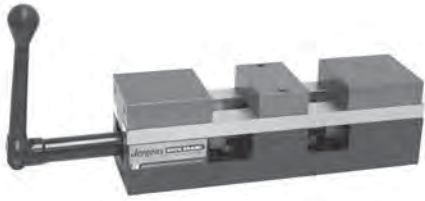
Multiple mounting base configurations available

Benefit: Increased flexibility and use with existing equipment and hardware

PRODUCTION VISES



Vertical Machine Solutions



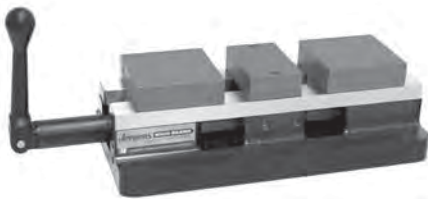
Narrow Base Production Vises Pages 81 & 83

The small footprint allows maximum density of vises on your fixture or table. Best choice for applications where parts are held in multiple vises.



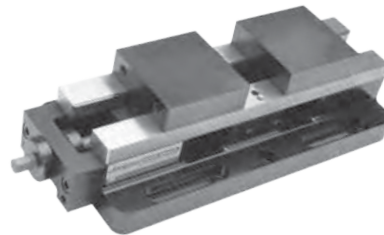
Ball Lock® Base Production Vises Pages 80 & 82

The mounting flange is cut into a jigsaw pattern to allow vises to nest closely together. Designed for use with Jergens Ball Lock® Mounting System.



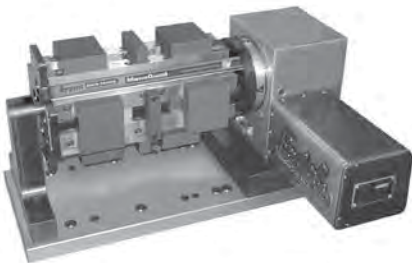
Universal Base Production Vises Pages 81 & 83

The mounting flange has slotted holes to allow mounting on any machine table.



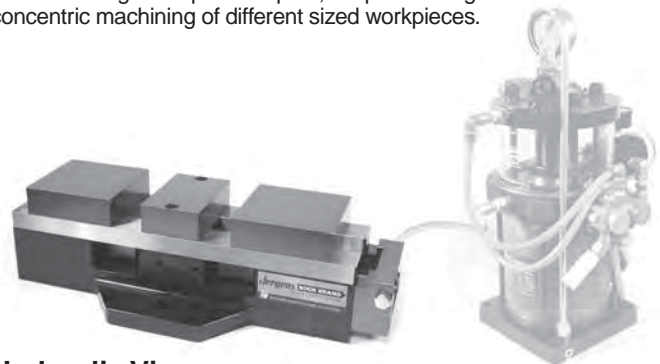
Self Centering Vises (3 Base Styles) Pages 84–87

Self-Centering vises provide quick, simple fixturing for concentric machining of different sized workpieces.



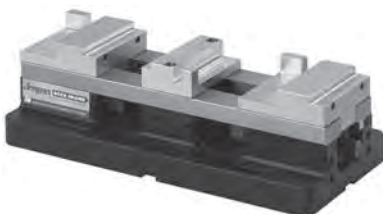
Indexer Systems Page 89

Indexer solutions can be customized to your requirements. Choose either three or four sided columns.



Hydraulic Vise Pages 96–98

Innovative compact design. Reduced set-up time. Internal Slide Assembly with Hydraulic Clamping Cylinder.



Bock Brand Quick Change System Pages 114–121

Bock Brand vises combine with alpha-numeric locator plates and Dex-Loc™ pins for maximum quick change efficiency.



5-Axis Production Vises Pages 122–133

5-Axis production vises and accessories rigidly clamp parts without obstructing access to multiple part faces.

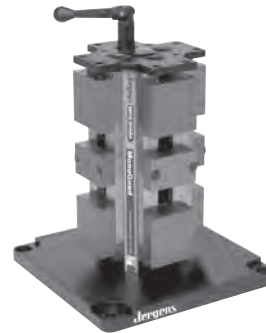


Horizontal Machine Solutions



3-Sided Production Vise Columns Pages 89 & 91

For machining 3 faces of production parts on HMC's. Large spindle noses can access the workpiece. **Allows for up to 240° workpiece accessibility.**



4-Sided Production Vise Columns Pages 88 & 90

Available with bases to fit directly onto machine table pallets or to a Ball Lock® sub-plate.



6-Sided Production Vise Columns Page 92

Increase the number of parts per load, while maintaining a small footprint. Available with bases to fit directly onto machine tables or to a Ball Lock® sub-plate.



4-Sided Production Vise Multi-Columns Pages 93 & 94

Multiple columns mounted on a single base provide 12 or 16 workstations. Available with bases to fit directly onto your machine table or to a Ball Lock® sub-plate.



Hydraulic Vise Columns Pages 99–105

Innovative compact design. Reduced set-up times, faster workpiece change overs.



Multi-Vise Fixtures Pages 81, 83, 85, 87 & 97

To maximize productivity, mount multiple narrow body vises onto a single fixture plate. Mount the fixture plate onto the tombstones with the Jergens Ball Lock® Mounting System.



Ball Lock® Fixture Mounting System for Jergens Production Vises



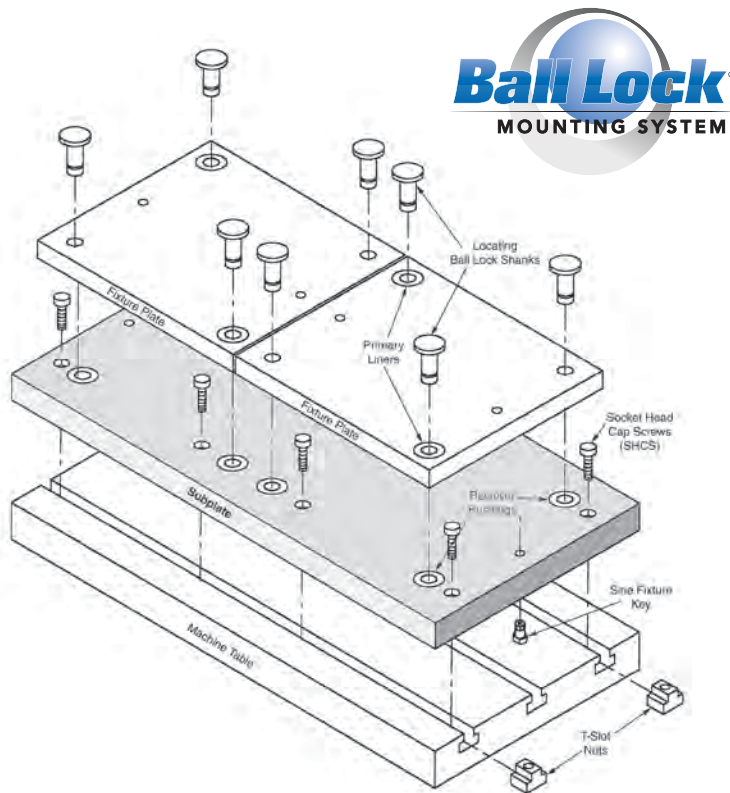
Locates

The Ball Lock® System accurately positions your fixture plate...to within $\pm 0.0005"$ ($\pm 0.013\text{mm}$) repeatability or better, minimizing the need to indicate your fixture.



Locks

The Ball Lock® System securely holds fixture plates to subplates with up to 20,000 lbs (88kN) of hold-down force per shank.



The Ball Lock® Mounting System provides a method of quickly and accurately locating fixtures onto machine tables. The Ball Lock® Mounting System has done for machining centers what the Japanese SMED (Single Minute Exchange of Die) concept did for presses. Instead of SMED, Ball Lock® provides single minute exchange of fixtures. Fixtures can often be exchanged in less than a minute with position repeatability of $\pm 0.0005"$ ($\pm 0.013\text{mm}$). Fixtures can be exchanged between different machines when both are using the Jergens Ball Lock® Mounting System.

Commonly Asked Questions

Q. What is the Ball Lock® Mounting System?

A. It is a means of locating and locking two flat surfaces together, normally a fixture plate to a sub-plate.

Q. How does it locate?

A. Similar to locating pins, two Ball Lock® shanks (pins) pass through two precision liner bushings on the fixture plate and into two precision receiver bushings on the subplate.

Q. How does it lock?

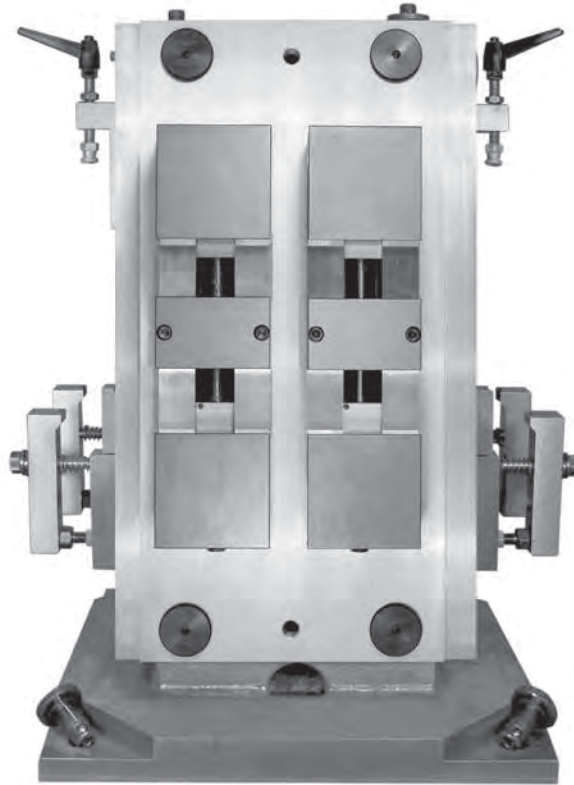
A. Inside the shank are three balls that expand into a tapered groove in the receiver bushing. This action draws the plates together. The locking balls are activated by turning a setscrew in the head of the shank, which pushes a 4th ball to distribute the clamping forces between the 3 locking balls.

Q. How many shanks are required to locate and lock each fixture?

A. Only two shanks, passing through bushings in the fixture plates, are required for location. However, additional shanks passing through clearance holes in the fixture plate will provide additional holding force distributed across the plate.



Unmatched Setup Speed and Workholding Flexibility



Q. Is there a preferable location for the liner bushing?

A. System repeatability is improved if the liners are located at opposite corners of a rectangular fixture plate. For consistency, we recommend locating the liner bushings at top left and bottom right.

Q. What are the advantages of using the Ball Lock® System over the conventional method of dowel pins and cap screws?

A. Both locating and locking are accomplished in the same motion. Ball Lock® shanks require only 2.5 turns to lock a 1/2–13 (M12) screw

with 3/4" (18mm) of thread engagement requires 10 turns to lock. On CNC machines, the repeatability of fixture locations makes indicating of the fixture unnecessary.

Q. How do I recess the fixtureplate for a clear surface ?

A. Counterbore the fixture plate to a diameter large enough to allow easy removal of the shank.

Note: The thickness of the plate section under the head of the shank is critical and must conform to mounting instructions .

Q. What if my plate is thinner than the recommended thickness?

A. By adjusting the depth of the counterbore for the receiver bushing in the subplate, you can still use the Ball Lock® System. If there are any questions on this type of application, please call 1-877-426-2504.

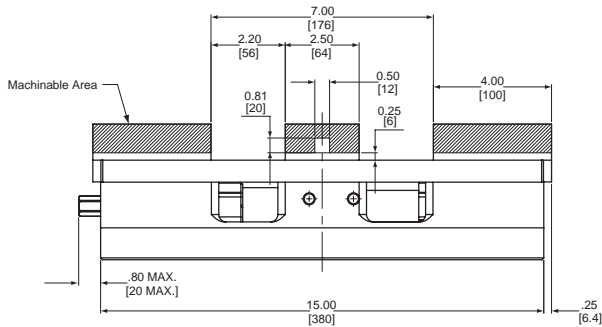
Q. Can I use the shanks in a heated environment?

A. The shank is made of alloy steel, heat treated to 40-45Rc and should with stand temperatures up to 400°F. (200°C).

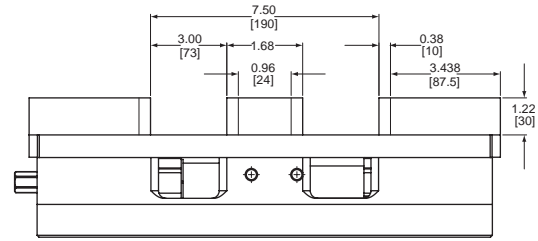
Note: Thermal expansion of fixture plates may affect the center distance tolerance and repeatability.



Production Vises – 4" (100mm)



Vise With Machinable Soft Jaws



Vise With Hard Jaw Carrier Set and hardened steel inserts

Features and Benefits:

- Compact design in 3 extruded aluminum base styles for easy setup and to reduce weight on worktable.
- Fully sealed, patented lead screw assembly for long maintenance free service. Openings allow chips to flow out of the vise base.
- Hardened stainless steel rails, ground within $\pm 0.001"$ (0.025mm) provide precise location, resist wear and provide strong support to jaws.

- Supplied with aluminum soft jaws, fully machineable and reversible. Additional jaws can be ordered separately, see page 108. Alternate jaw types can be ordered with the vise base by adding the following suffix to the part numbers:
 - H for Jaw Carrier Set with Hardened Steel Inserts
 - S for machineable Steel Jaws
 - T for extra Tall aluminum jaws sets
 - W for extra Wide aluminum jaw sets

Clamping Force Jergens 4" (100mm)

Torque		Clamping Force	
ft. lbs	N•m	lbs	kgf
20	27	3,600	1,630
30	41	4,500	2,040
40	54	5,300	2,400
50	68	6,200	2,800
60	81	7,200*	3,250*

*Recommended Maximum

Maximum Clamping Range With Shaped Jaws

Dual Station: 6.75" (170mm)
Single Station: 14.40" (365mm)

Ball Lock® Base

The **Ball Lock® Base Vise** is for use with the Jergens Ball Lock® Quick Change Mounting System. The base has a "jig saw" pattern to allow the vises to be mounted close to each other. For more information about Ball Lock®, see pages 78–79.

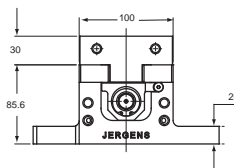
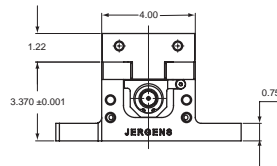
Inch

Part No.	Wt.	Ball Lock® Shank Part No.	Shank Size
49405	31 lbs	49601	20mm x 3/4"

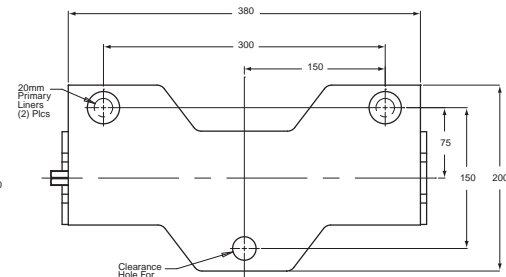
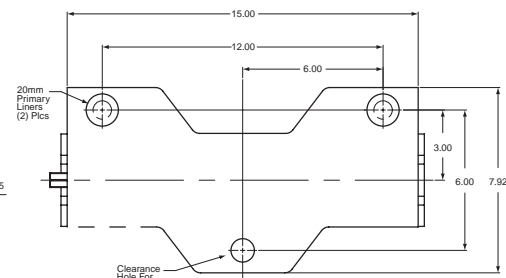


Metric

Part No.	Wt.	Ball Lock® Shank Part No.	Shank Size
69405	14 Kg	49651	20mm x 20mm



Mounting Dimensions

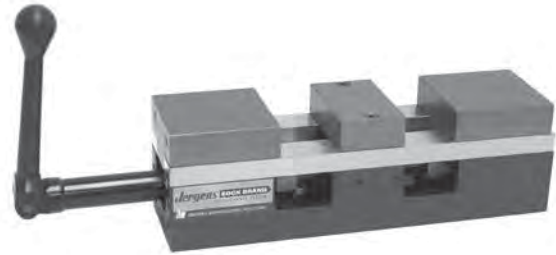




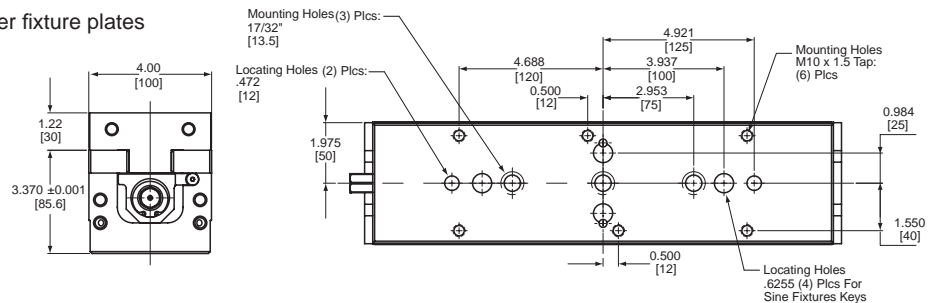
Production Vises – 4" (100mm) Narrow Base

Part Number	Wt. lbs/Kg
49401	30/14

The **Narrow Base Vise** can be mounted as a stand-alone vise with traditional strap clamps. The narrow base has 2 locating holes for 12mm dowel pins and 2 locating holes for sine fixture keys to align vise in T-slots. Keys for inch and metric T-slots shown on page 112. Recessed mounting holes (3) are also provided for top mounting to fixture plates with socket head cap screws. Tapped mounting holes (6) are provided for bottom mounting. The slim design allows a high density of vises on machine tables, tombstones, or columns. Maximize flexibility by utilizing the Jergens Ball Lock® Quick Change Mounting System. See page 78.



- Easy to mount to Ball Lock® or other fixture plates



Mounting Dimensions

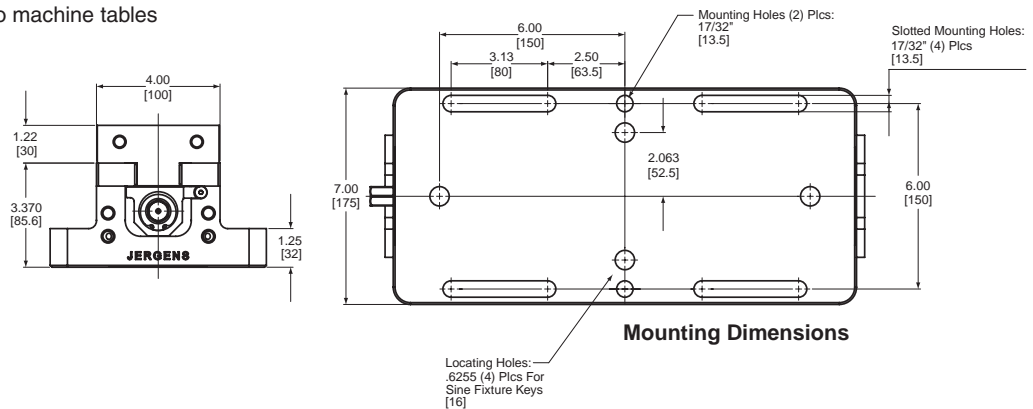
Universal Base

Part Number	Wt. lbs/Kg
49471	31/14

The **Universal Base Vise** is easily mounted directly to machine tool tables. Slotted mounting holes will match almost any table slot pattern. Location holes are provided for Jergens Sine Fixture Keys, to provide easy and accurate alignment with table slots.



- Easy to mount directly to machine tables

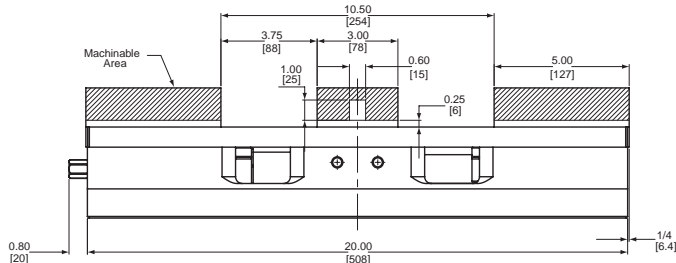


Mounting Dimensions

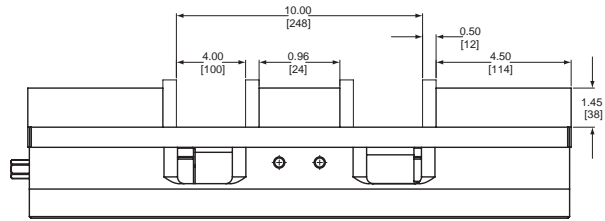
PRODUCTION VISES



Production Vises – 6" (150mm)



Vise With Machinable Soft Jaws



Vise With Hard Jaws Carrier Set and hardened steel inserts

Features and Benefits:

- Compact design in 3 extruded aluminum base styles for easy setup and to reduce weight on worktable.
- Fully sealed, patented lead screw assembly for long maintenance free service. Openings allow chips to flow out of the vise base.
- Hardened stainless steel rails, ground within $\pm 0.001"$ (0.025mm) provide precise location, resist wear and provide strong support to jaws.
- Supplied with aluminum soft jaws, fully machineable and reversible. Additional jaws can be ordered separately, see page 108. Alternate jaw types can be ordered with the vise base by adding the following suffix to the part numbers:
 - H for Jaw Carrier Set with Hardened Steel Inserts
 - S for machineable Steel Jaws
 - T for extra Tall aluminum jaws sets
 - W for extra Wide aluminum jaw sets

Clamping Force Jergens 6" (150mm)

Torque		Clamping Force	
ft. lbs	N•m	lbs	kgf
20	27	3,600	1,630
30	41	4,500	2,040
40	54	5,300	2,400
50	68	6,200	2,800
60	81	7,200	3,250
70	95	8,400	3,800
80	108	9,200	4,150
90	122	10,100*	4,550*

*Recommended Maximum

Maximum Clamping Range With Shaped Jaws

Dual Station: 9.2" (233mm)
Single Station: 19.5" (495mm)

Ball Lock® Base

The **Ball Lock® Base Vise** is for use with the Jergens Ball Lock® Quick Change Mounting System. The base has a "jigsaw" pattern to allow the vises to be mounted close to each other. For more information about Ball Lock®, see pages 78–79.

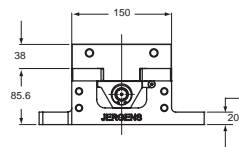
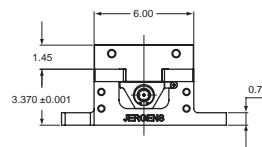
Inch

Part No.	Wt.	Ball Lock® Shank Part No.	Shank Size
49406	68 lbs	49601	20mm x 3/4"

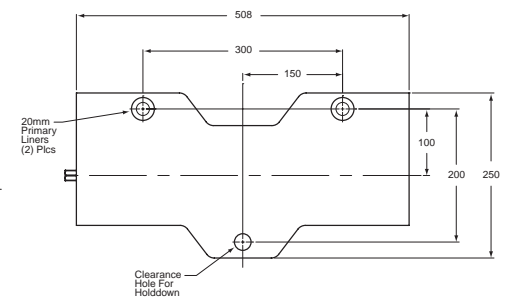
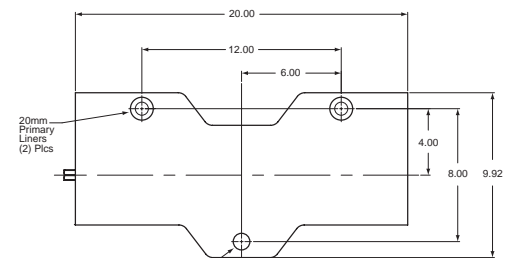


Metric

Part No.	Wt.	Ball Lock® Shank Part No.	Shank Size
69406	31 Kg	49651	20mm x 20mm



Mounting Dimensions

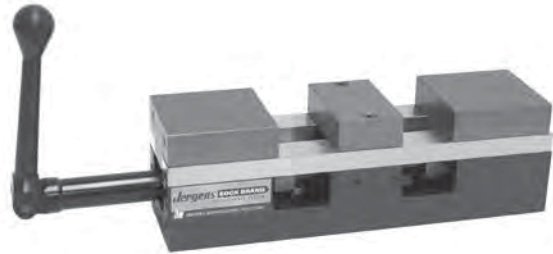




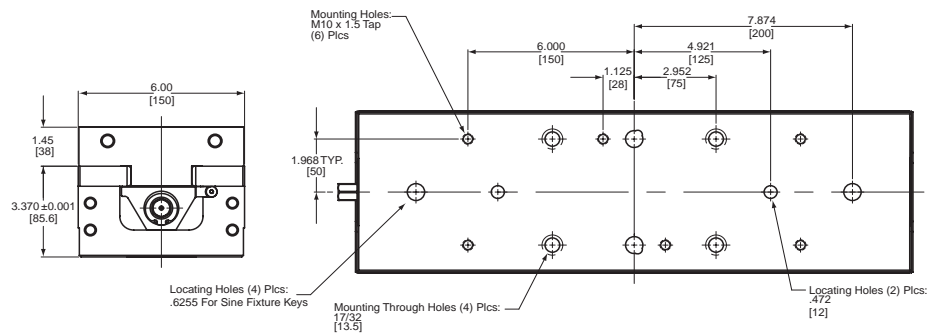
Production Vises – 6" (150mm) Narrow Base

Part Number	Wt. lbs/Kg
49402	66/30

The **Narrow Base Vise** can be mounted as a stand-alone vise or mounted to a fixture plate. The slim design allows a high density of vises on machine tables, tombstones, or columns. Maximize flexibility by utilizing the Jergens Ball Lock® Quick Change Mounting System. See pages 78–79.



- Easy to mount to Ball Lock® or other fixture plates



Mounting Dimensions

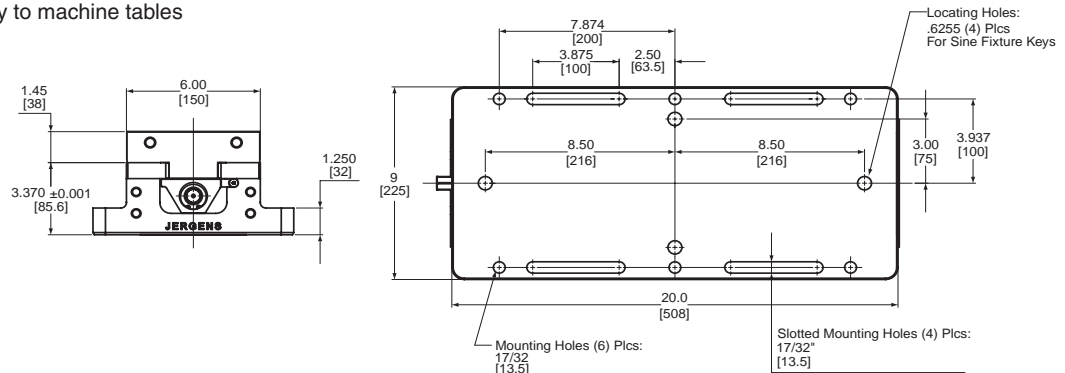
Universal Base

Part Number	Wt. lbs/Kg
49472	68/31

The **Universal Base Vise** is easily mounted directly to machine tool tables. Slotted mounting holes will match almost any table slot pattern. Location holes are provided for Jergens Sine Fixture Keys, to provide easy and accurate alignment with table slots.



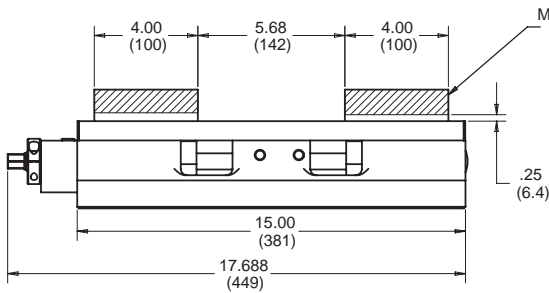
- Easy to mount directly to machine tables



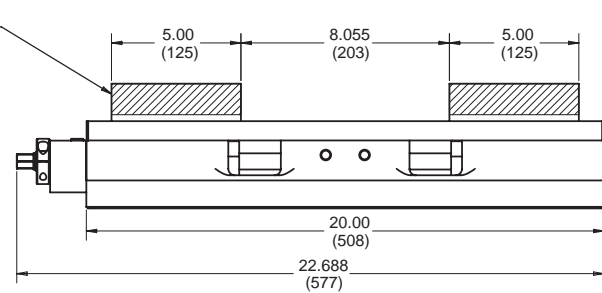
Mounting Dimensions



Self-Centering Precision Production Vises



4" (100mm) Self-Centering Vises



6" (150mm) Self-Centering Vises

Features and Benefits:

- Self-Centering vises provide quick, simple fixturing for concentric machining of different sized workpieces.
- Adjustable gib design increases accuracy.
- Compact design in 3 extruded aluminum base styles for easy setup and to reduce weight on worktable.
- Fully sealed, patented lead screw assembly for long maintenance free service. Openings allow chips to flow out of the vise base.
- Hardened stainless steel rails, ground within $\pm 0.001"$ (0.025mm) provide precise location, resist wear and provide strong support to jaws.
- Supplied with aluminum soft jaws, fully machineable and reversible. Additional jaws can be ordered separately, see page 108. Alternate jaw types can be ordered with the vise base by adding the following suffix to the part numbers:

Technical Specifications:

Maximum jaw opening (Unmachined jaws)
 4" (100mm) model: 5.6" (142mm)
 6" (150mm) model: 8" (200mm)
 Repeatability: 0.0002" (0.005mm)
 Maximum Clamping Force: 4600lbs (2000kgf)
 Centering accuracy per 1 inch (25mm) of jaw travel: 0.0002" (0.005mm)

Maximum Clamping Range

With Shaped Jaws
 4" Vise: 13" (330mm)
 6" Vise: 17.5" (440mm)

Clamping Force

Jergens 4" (100mm) & 6" (150mm) Self-Centering Vises

Torque		Clamping Force	
ft. lbs	N*m	lbs	kgf
20	27	1100	500
30	41	1500	680
40	54	2200	1000
50	68	2700	1220
60	81	3100	1400
70	95	3800	1720
80	108	4200*	1900*

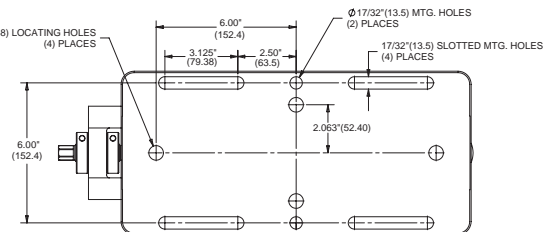
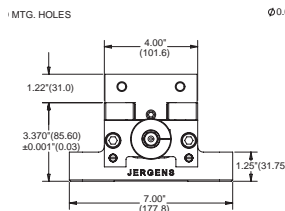
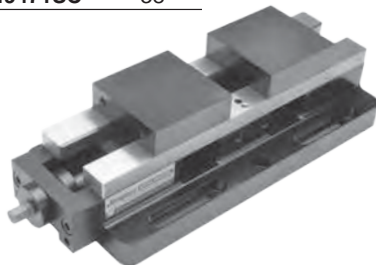
*Recommended Maximum

- H for Jaw Carrier Set with Hardened Steel Inserts
- S for machineable Steel Jaws
- T for extra Tall aluminum jaws sets
- W for extra Wide aluminum jaw sets

Self-Centering Vises – 4" (100mm) Universal Base

- Easy to mount directly to machine tables
- Slotted mounting holes fit most machinable centers

Part Number	Wt. (lbs)
49471SC	38

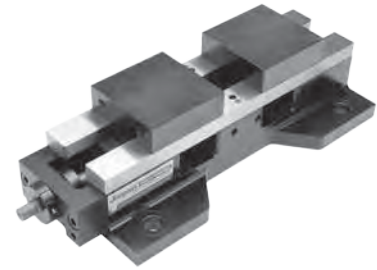


- Shown in Universal Base, also available in Narrow Bases and Ball Lock® Mounting Base.



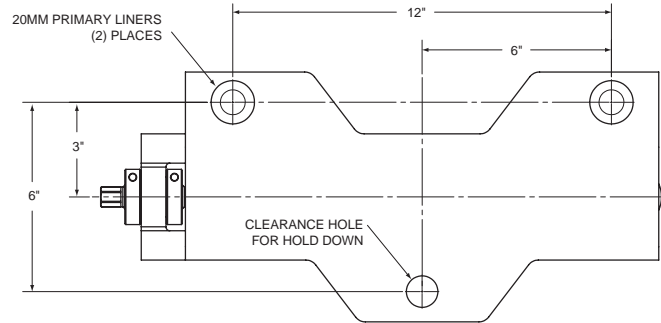
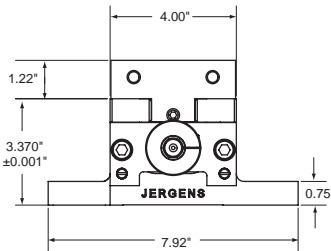
Self-Centering Vises – 4" (100mm) Ball Lock®

- Integrates with the Jergens Ball Lock® mounting system
- Jigsaw pattern allows for "nesting" on Jergens Ball Lock® subplates



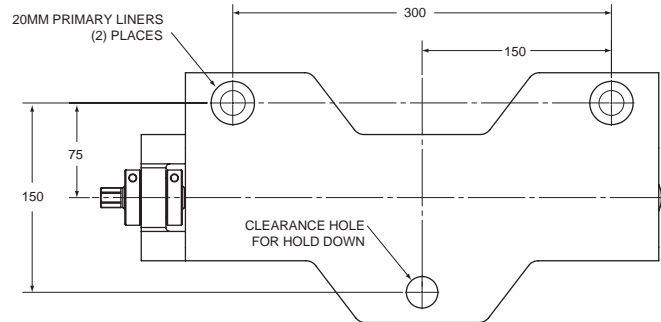
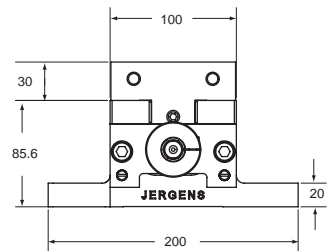
Inch

Part Number	Wt. lbs
49405SC	36



Metric

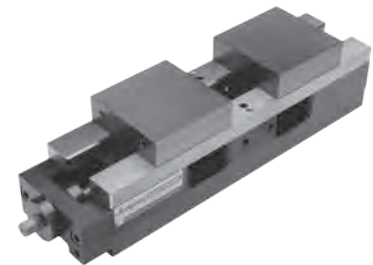
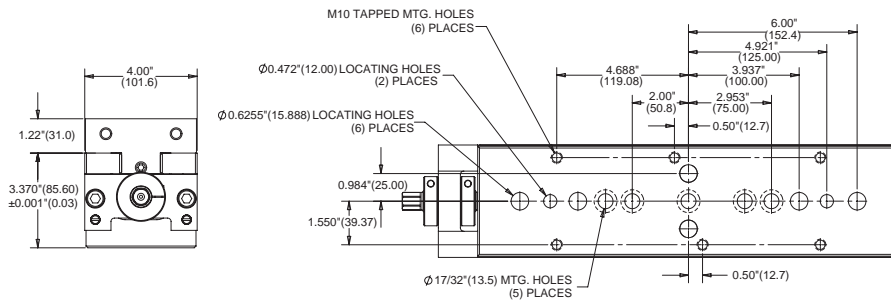
Part Number	Wt. Kg
69405SC	17



Narrow Base

- Designed for stand alone or fixture plate mounting
- Slim design enables high density mounting

Part Number	Wt. (lbs)
49401SC	34

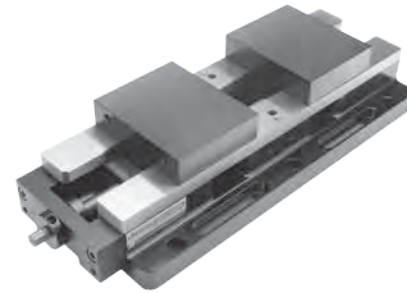




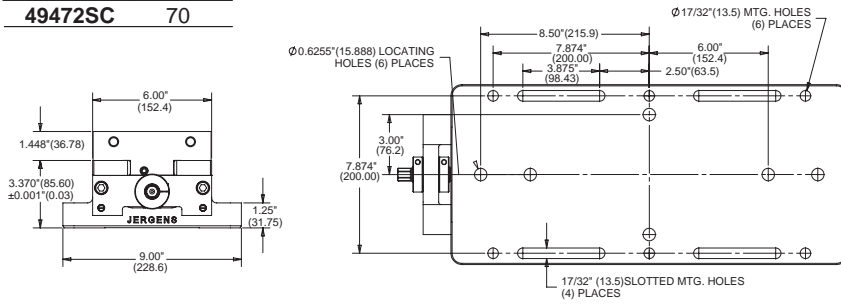
Self-Centering Vises – 6" (150mm)

Universal Base

- Easy to mount directly to machine tables
- Slotted mounting holes fit most machinable centers

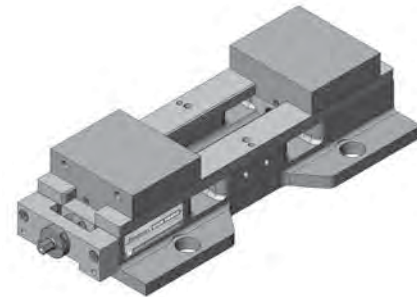


Part Number	Wt. (lbs)
49472SC	70



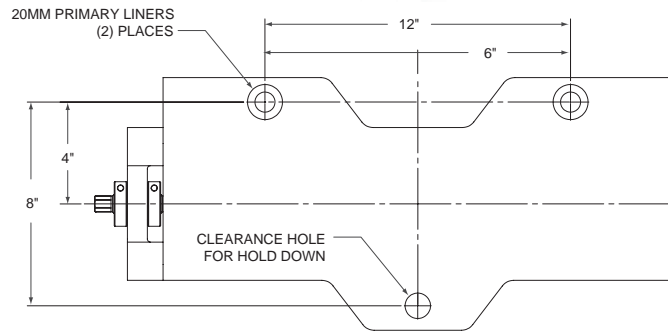
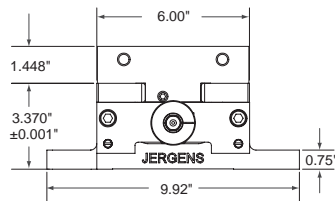
Ball Lock® Base

- Integrates with the Jergens Ball Lock® mounting system
- Jigsaw pattern allows for “nesting” on Jergens Ball Lock® subplates



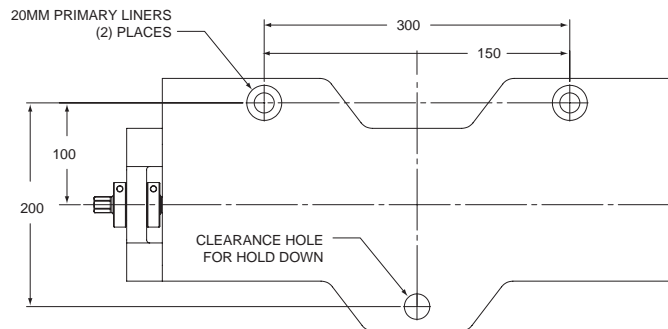
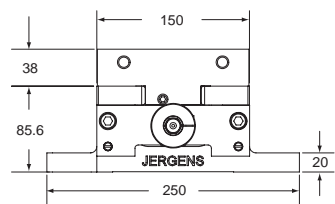
Inch

Part No.	Wt. lbs
49406SC	66



Metric

Part No.	Wt. Kg
69406SC	30



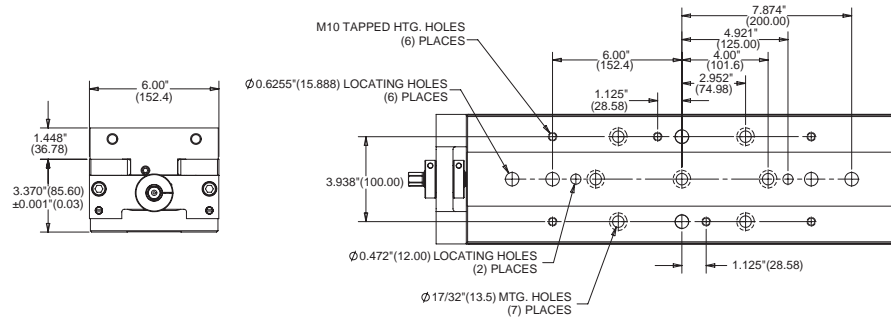
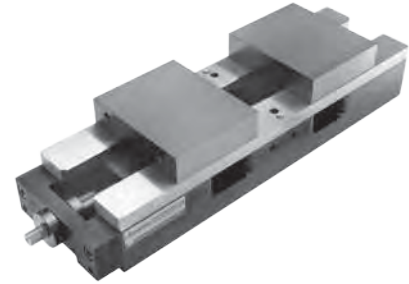


Self-Centering Vises – 6" (150mm)

Narrow Base

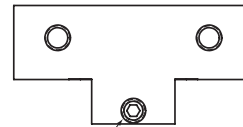
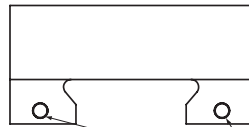
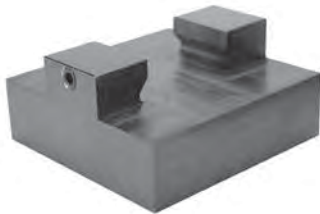
Part Number	Wt. (lbs)
49402SC	64

- Designed for stand alone or fixture plate mounting
- Slim design enables high density mounting



Self Centering Vise Accessories Jaws with Adjustable Gib Screw*

- Better location accuracy than conventional Jergens Quick Change Vise Jaws



GIB PINS

GIB ADJUSTMENT SCREW (BOTH ENDS)
3/16" HEX.

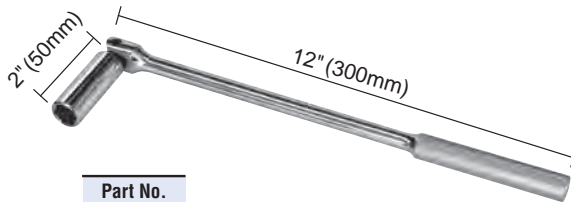
*Jergens Standard Jaws fully compatible, see complete selection on page 108.

To order Jergens Production Vise Jaws with Adjustable Gib Screw, use standard jaw part no. followed by "SC".

Handle

Self-Centering Vise Handle

One Piece Included with 4" (100mm) & 6" (150mm) Self-Centering Vises



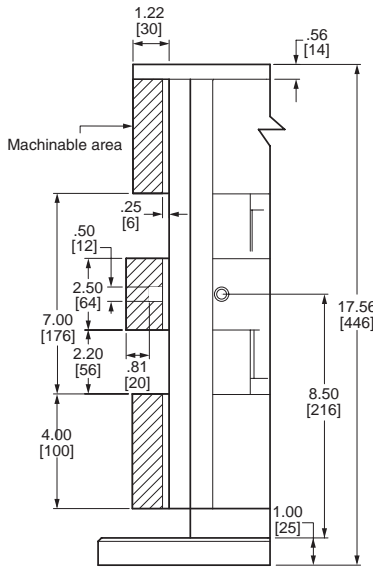
Part No.
49442SC

- Ergonomic hinge handle.
- Specification: Chrome Plated Steel, 9/16 Hex Socket

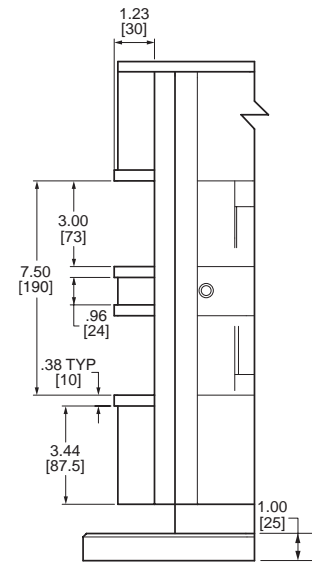


Production Vise Columns – 4" (100mm)

- 3 or 4-Sided Columns
- Multiple mounting systems
- Fastest quick-change jaw system
- Full jaw travel
- Hardened stainless steel rails support jaws and resist wear
- Fully sealed lead screw assembly
- Supplied with machinable soft jaws
- Available with hard jaws



Column With Soft Jaws



Column With Hard Jaws

Clamping Force

Jergens 4" (100mm)

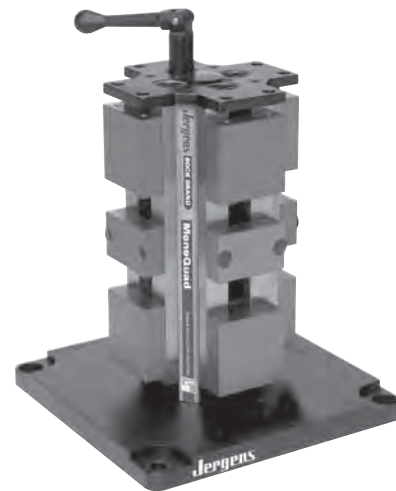
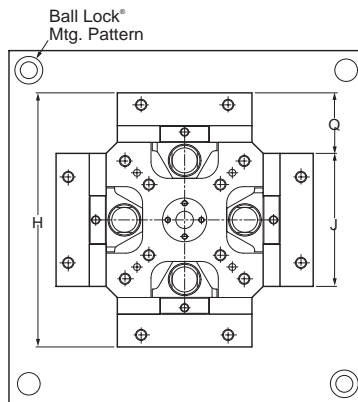
Torque		Clamping Force	
ft. lbs	N•m	lbs	kgf
20	27	3,600	1,630
30	41	4,500	2,040
40	54	5,300	2,400
50	68	6,200	2,800
60	81	7,200*	3,250*

*Recommended Maximum

Production Vise Columns – 4" (100mm) 4-Sided

The 4-Sided Columns have eight stations for holding parts. Two standard bases and custom mounting patterns are available. The universal base mounts directly to most HMC tables using the provided mounting holes on 80mm or 100mm centers.

Further reduce set-up times by adding the Jergens Ball Lock® Mounting System to your HMC. Exchange your vise columns and any other fixture in less than a minute. Location of all fixtures will repeat within ±0.0005" (±0.013mm) or better. Please contact Jergens Customer Service for more information.



4-Sided 4" Vise Columns

Mounting	Part No.	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Wt. (lbs)	Ball Lock® Part No.	Shank Size
Ball Lock®	49403	9.56	4.00	2.80	15.75	15.75	14 x 14	n/a	n/a	132	49602	20mm x 1"
Universal	49475	9.56	4.00	2.80	11.81	11.81	n/a	80mm	100mm	122	—	—

4-Sided 100mm Vise Columns Metric Bases

Mounting	Part No.	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Wt. (Kg)	Ball Lock® Part No.	Shank Size
Ball Lock®	69403	240	100	70	400	400	350 x 350	n/a	n/a	60	49652	20mm x 25mm
Universal	49475	240	100	70	300	300	n/a	80mm	100mm	55	—	—

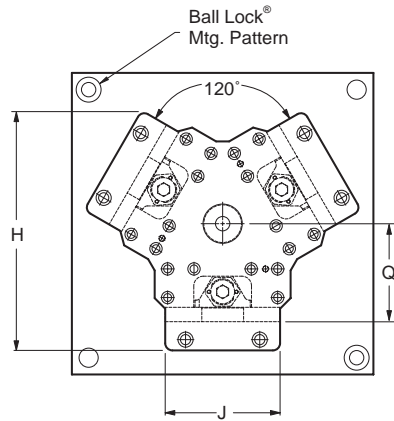
* Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request.



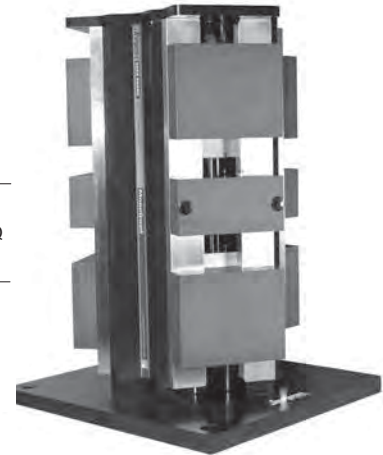
Production Vise Columns – 4" (100mm) 3-Sided

The 3-Sided Columns have six workstations, and may provide greater access to three or more sides of your work pieces. This design is especially beneficial on machining centers with large spindles. No need to sacrifice tool rigidity for access, by having tools extended too far from the tool holders. The universal base mounts directly to most HMC tables using the provided mounting holes on 80mm or 100mm centers.

Further reduce set-up time with the Jergens Ball Lock® Mounting System to your HMC. Exchange your vise columns and all other fixtures in less than a minute. Location of all fixtures will repeat within ±0.0005" (±0.013mm) or better.



Tri-column design allows up to 240° accessibility



3-Sided 4" Vise Columns

Mounting	Part No.	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Wt. (lbs)	Ball Lock® Part No.	Shank Size
Ball Lock®	49409	9.55	4.00	4.22	15.75	15.75	14 x 14	n/a	n/a	125	49602	20mm x 1"
Universal	49473	9.55	4.00	4.22	11.81	11.81	n/a	80mm	100mm	115	—	—

3-Sided 100mm Vise Columns Metric Bases

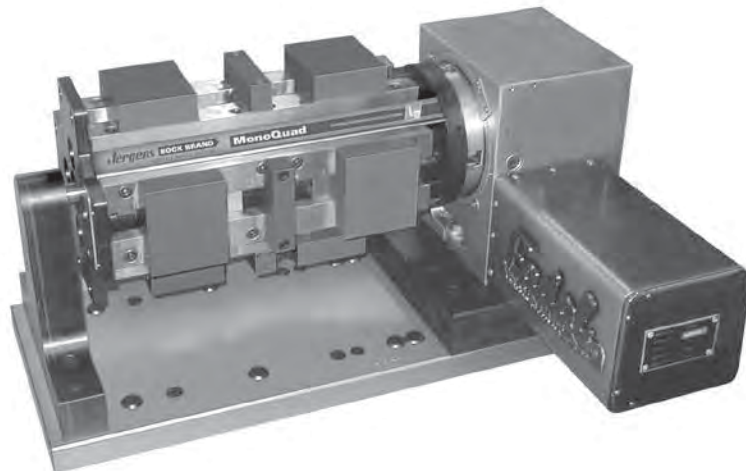
Mounting	Part No.	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Wt. (Kg)	Ball Lock® Part No.	Shank Size
Ball Lock®	69409	225	100	90	400	400	350 x 350	n/a	n/a	57	49652	20mm x 25mm
Universal	49473	225	100	90	300	300	n/a	80mm	100mm	52	—	—

* Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request.

Indexer Systems

Maximize the productivity of your Vertical Machining Center. Jergens Production Columns can be mounted onto most any indexer. Columns can be attached directly to an indexer or become part of a quick-change system by adding the Jergens Ball Lock® Mounting System. **Contact Jergens Technical Service for help designing a system for your application.**

- Add capabilities to your VMC
- Reduce set-ups
- Mounts to most rotary table/indexer
- Hold 4, 6, or 8 parts in each load.
- Use standard jaws and accessories





Production Vise Columns – 6" (150mm)

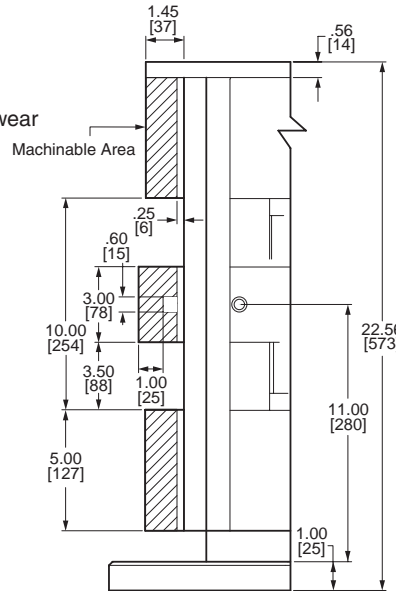
- 3 or 4-Sided Columns
- Multiple mounting systems
- Fastest quick-change jaw system
- Full jaw travel
- Hardened stainless steel rails support jaws and resist wear
- Fully sealed lead screw assembly
- Supplied with machinable soft jaws
- Available with hard jaws

Clamping Force

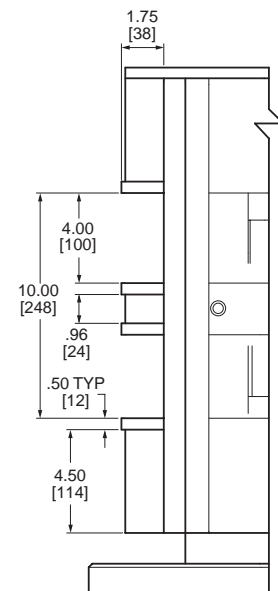
Jergens 6" (150mm)

Torque		Clamping Force	
lbs ft.	N•m	lbs	kgf
20	27	3,600	1,630
30	41	4,500	2,040
40	54	5,300	2,400
50	68	6,200	2,800
60	81	7,200	3,250
70	95	8,400	3,800
80	108	9,200	4,150
90	122	10,100*	4,550*

*Recommended Maximum



Column With Soft Jaws

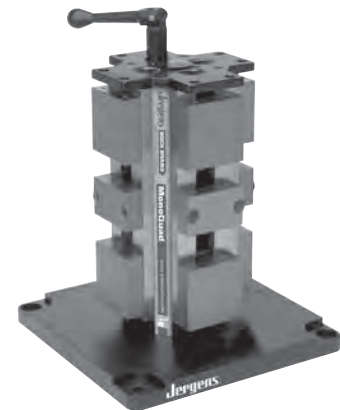
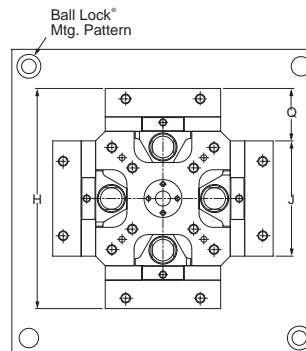


Column With Hard Jaws

Production Vise Columns – 6" (150mm) 4-Sided

The 4-Sided Columns are the workhorses of the Jergens Production Vise Columns. They have eight stations for holding your parts. Two standard bases are available. The universal base will mount directly to most HMC tables, using the provided mounting holes on 80mm or 100mm centers.

Further reduce set-up times by adding the Jergens Ball Lock® Mounting System to your HMC. Exchange your vise columns and any other fixture in less than a minute. Location of all fixtures will repeat within ±0.0005" (±0.013mm) or better.



4-Sided 6" (150mm) Vise Columns

Mounting	Part No.	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Wt. (lbs)	Ball Lock® Part No.	Shank Size
Ball Lock®	49412	11.50	6.00	2.75	15.75	15.75	14 x 14	n/a	n/a	244	49602	20mm x 1"
Ball Lock®	49404	11.50	6.00	2.75	19.68	19.68	17 x 17	n/a	n/a	258	49612	25mm x 1"
Universal	49476	11.50	6.00	2.75	15.75	15.75	n/a	80mm	100mm	235	—	—

4-Sided 150mm Vise Columns Metric Bases

Mounting	Part No.	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Wt. (Kg)	Ball Lock® Part No.	Shank Size
Ball Lock®	69412	290	150	70	400	400	350 x 350	n/a	n/a	111	49652	20mm x 25mm
Ball Lock®	69404	290	150	70	500	500	425 x 425	n/a	n/a	117	49662	20mm x 25mm
Universal	49476	290	150	70	400	400	n/a	80mm	100mm	107	—	—

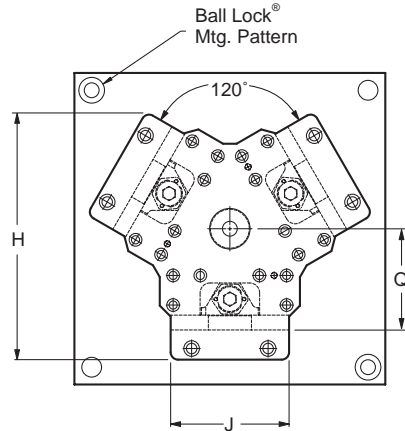
* Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request.



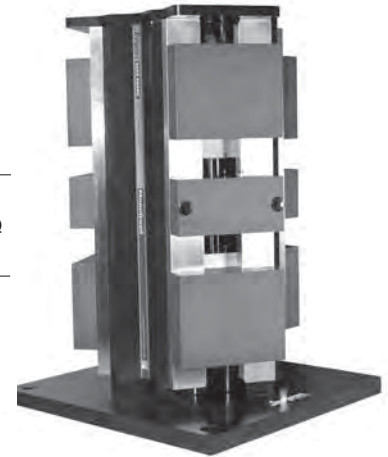
Production Vise Columns – 6" (150mm) 3-Sided

The 3-Sided Columns have only six workstations, but provide much greater access to three or more sides of your work pieces. This design is especially beneficial on machining centers with large spindle noses. No need to sacrifice tool rigidity for access, by having tools extended too far from the tool holders. The universal base will mount directly to most HMC tables, using the provided mounting holes on 80mm or 100mm centers.

Further reduce your set-up time by adding the Jergens Ball Lock® Mounting system to your HMC. Exchange your vise columns and all other fixtures in less than a minute. Location of all fixtures will repeat within $\pm 0.0005"$ ($\pm 0.013\text{mm}$) or better.



Tri-column design allows up to 240° accessibility



3-Sided 6" Vise Columns

Mounting	Part No.	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Wt. (lbs)	Ball Lock® Part No.	Shank Size
Ball Lock®	49408	12.57	6.00	5.12	15.75	15.75	14 x 14	n/a	n/a	252	49602	20mm x 1"
Ball Lock®	49410	12.57	6.00	5.12	19.68	19.68	17 x 17	n/a	n/a	266	49612	25mm x 1"
Universal	49474	12.57	6.00	5.12	19.68	19.68	n/a	80mm	100mm	240	—	—

3-Sided 150mm Vise Columns Metric Bases

Mounting	Part No.	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Wt. (Kg)	Ball Lock® Part No.	Shank Size
Ball Lock®	69408	318	150	130	400	400	350 x 350	n/a	n/a	115	49652	20mm x 25mm
Ball Lock®	69410	318	150	130	500	500	425 x 425	n/a	n/a	121	49662	25mm x 25mm
Universal	49474	318	150	130	500	500	n/a	80mm	100mm	109	—	—

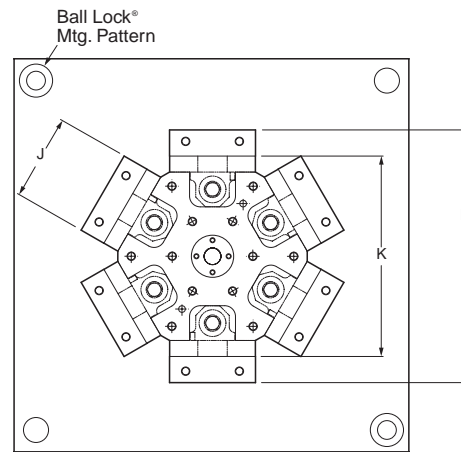
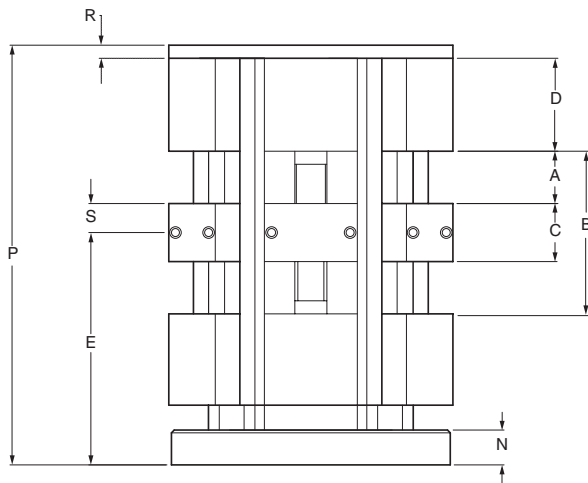
* Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request.



Production Vise Columns 12 Station Hex

Jergens Hex Production Vise Columns provide 12 stations to maximize the number of parts per load. Available with bases to fit directly onto your machine table, or to a Ball Lock® sub-plate.

- Reduce part processing costs by machining 3 sides of 12 parts
- Increase unattended machine time
- Improve part throughput
- One piece column with hardened steel guide ways
- Full jaw travel permits clamping a larger variety of parts



Hex Production Vise Columns (Inch & Metric)

Dimensions	Ball Lock® Base		Universal Base		Ball Lock® Base		Universal Base	
	49413	49414	49477	49478	69413	69414	69477	69478
Vise Size	4"/100mm	6"/150mm	4"/100mm	6"/150mm	100mm	150mm	100mm	150mm
A Max Jaw Opening*	2.25	3.50	2.25	3.50	56	88	56	88
B Max Jaw Opening (1 station)*	7.00	10.00	7.00	10.00	178	254	178	254
C Fixed Jaw Width	2.50	3.00	2.50	3.00	64	78	64	78
D Moveable Jaw Length	4.00	5.00	4.00	5.00	100	127	100	127
E Base to Center of Fixed Jaw	8.50	11.00	8.50	11.00	241	305	241	305
H Overall Width	11.81	16.91	11.81	16.91	300	432	300	432
J Jaw Width	4.00	6.00	4.00	6.00	100	150	100	150
K Outside Rail to Rail	9.37	14.01	9.37	14.01	238	356	238	356
N Base Plate Thickness	1.00	1.00	1.00	1.00	25	25	25	25
P Overall Height	17.56	22.56	17.56	22.56	446	573	446	573
R Top Plate Thickness	0.56	0.56	0.56	0.56	14	14	14	14
S Center to Face	1.25	1.50	1.25	1.50	32	39	32	39
Base Length & Width	15.75	19.68	15.75	19.68	400	500	400	500
Ball Lock® Mounting Pattern	14x14	17x17	n/a	n/a	350x350	425x425	n/a	n/a
Mounting Pattern 1**	n/a	n/a	80mm	80mm	n/a	n/a	80mm	80mm
Mounting Pattern 2**	n/a	n/a	100mm	100mm	n/a	n/a	100mm	100mm
Weight	206 lbs	355 lbs	206 lbs	355 lbs	94 Kg	161 Kg	94 Kg	161 Kg

* Larger parts can be clamped by machining jaws to fit workpiece.

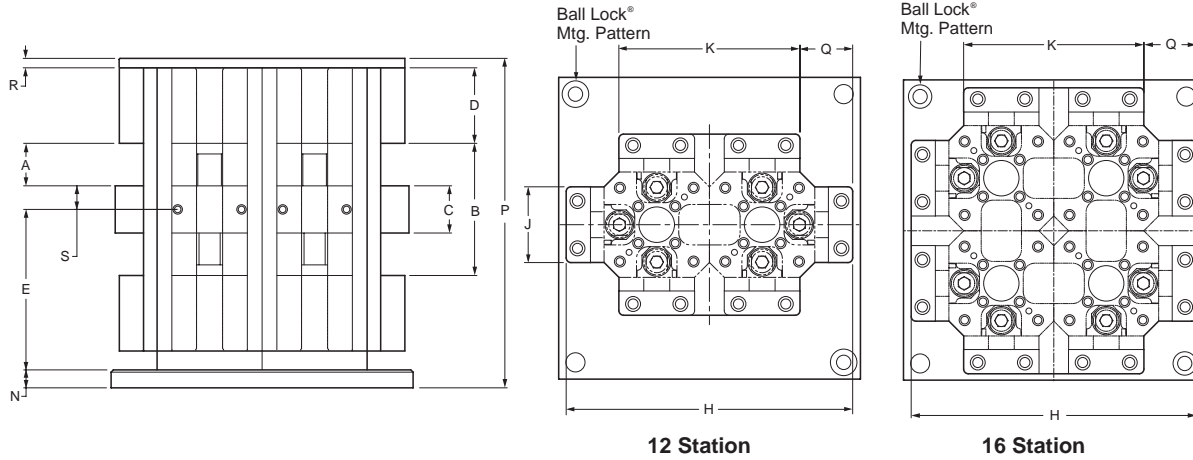
**Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request.



Production Vise Columns 12 & 16 Station Multi-Quads

Jergens Multi-Quad Production Vise Columns provide 12 or 16 stations to maximize the number of parts per load. Available with bases to fit directly onto your machine table, or to a Ball Lock® sub-plate.

- Machine more parts per set-up
- Reduce changeover time
- Hold larger parts
- Reduce cost per part
- Run longer without operator involvement



Inch Multi-Quad Production Vise Columns

Dimensions		12 Station				16 Station			
		Ball Lock® Base		Universal Base		Ball Lock® Base		Universal Base	
		49415 4"/100mm	49416 6"/150mm	49479 4"/100mm	49480 6"/150mm	49417 4"/100mm	49418 6"/150mm	49481 4"/100mm	49482 6"/150mm
A	Max Jaw Opening (2 station)*	2.25	3.50	2.25	3.50	2.25	3.50	2.25	3.50
B	Max Jaw Opening (1 station)*	7.00	10.00	7.00	10.00	7.00	10.00	7.00	10.00
C	Fixed Jaw Width	2.50	3.00	2.50	3.00	2.50	3.00	2.50	3.00
D	Moveable Jaw Length	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00
E	Base to Center of Fixed Jaw	8.50	11.00	8.50	11.00	8.50	11.00	8.50	11.00
H	Overall Width	11.81	16.91	11.81	16.91	11.81	16.91	11.81	16.91
J	Jaw Width	4.00	6.00	4.00	6.00	4.00	6.00	4.00	6.00
K	Outside Rail to Rail	9.37	14.01	9.37	14.01	9.37	14.01	9.37	14.01
N	Base Plate Thickness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P	Overall Height	17.56	22.56	17.56	22.56	17.56	22.56	17.56	22.56
Q	Clearance	2.80	2.75	2.80	2.75	2.80	2.75	2.80	2.75
R	Top Plate Thickness	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
S	Center to Face	1.25	1.50	1.25	1.50	1.25	1.50	1.25	1.50
	Base Length & Width	15.75	19.68	15.75	19.68	15.75	19.68	15.75	19.68
	Ball Lock® Mounting Pattern	14x14	17x17	n/a	n/a	14x14	17x17	n/a	n/a
	Mounting Pattern 1**	n/a	n/a	80mm	80mm	n/a	n/a	80mm	80mm
	Mounting Pattern 2**	n/a	n/a	100mm	100mm	n/a	n/a	100mm	100mm
	Weight (lbs)	190	380	190	380	360	720	360	720

* Larger parts can be clamped by machining jaws to fit workpiece.

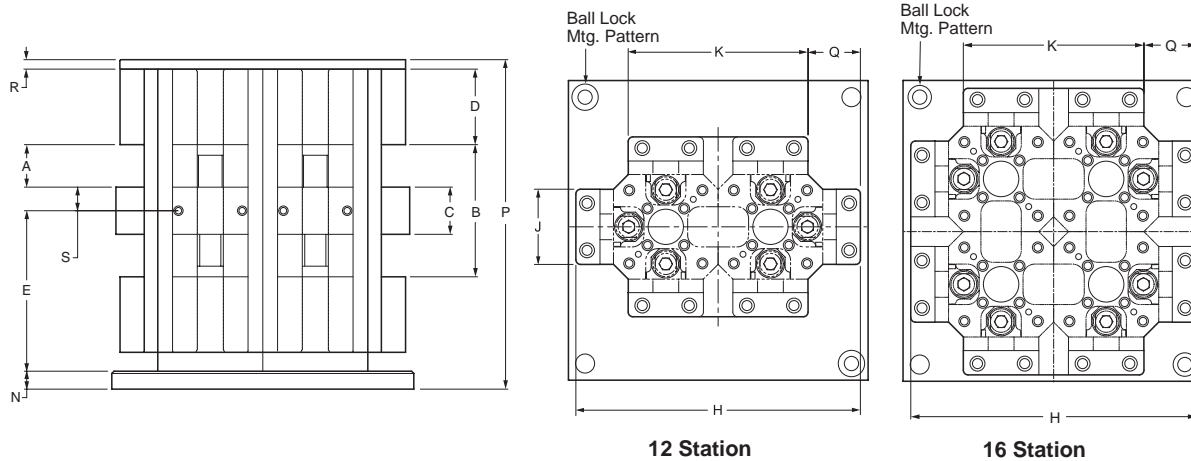
** Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request. Contact Jergens Technical Service for more information.



Production Vise Columns 12 & 16 Station Multi-Quads

Jergens Multi-Quad Production Vise Columns provide 12 or 16 stations to maximize the number of parts per load. Available with bases to fit directly onto your machine table, or to a Ball Lock® sub-plate.

- Machine more parts per set-up
- Reduce changeover time
- Hold larger parts
- Reduce cost per part
- Run longer without operator involvement



Metric Multi-Quad Production Vise Columns

Dimensions	12 Station				16 Station			
	Ball Lock® Base		Universal Base		Ball Lock® Base		Universal Base	
	69415	69416	69479	69480	69417	69418	69481	69482
Vise Size	100mm	150mm	100mm	150mm	100mm	150mm	100mm	150mm
A Max Jaw Opening (2 station)*	56	88	56	88	56	88	56	88
B Max Jaw Opening (1 station)*	176	254	176	254	176	254	176	254
C Fixed Jaw Width	64	78	64	78	64	78	64	78
D Moveable Jaw Length	100	127	100	127	100	127	100	127
E Base to Center of Fixed Jaw	216	280	216	280	216	280	216	280
H Overall Width	383	470	383	470	383	470	383	470
J Jaw Width	100	150	100	150	100	150	100	150
K Outside Rail to Rail	243	330	243	330	243	330	243	330
N Base Plate Thickness	25	25	25	25	25	25	25	25
P Overall Height	446	573	446	573	446	573	446	573
Q Clearance	70	70	70	70	70	70	70	70
R Top Plate Thickness	14	14	14	14	14	14	14	14
S Center to Face	32	39	32	39	32	39	32	39
Base Length & Width	400	500	400	500	400	500	400	500
Ball Lock® Mounting Pattern	350x350	425x425	n/a	n/a	350x350	425x425	n/a	n/a
Mounting Pattern 1**	n/a	n/a	80mm	80mm	n/a	n/a	80mm	80mm
Mounting Pattern 2**	n/a	n/a	100mm	100mm	n/a	n/a	100mm	100mm
Weight (Kgs)	86	172	86	172	164	326	164	326

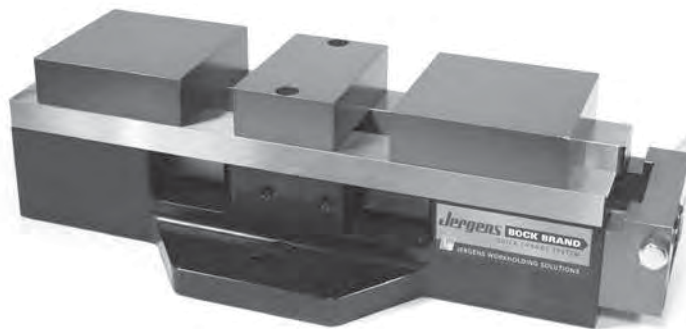
* Larger parts can be clamped by machining jaws to fit workpiece.

**Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request. Contact Jergens Technical Service for more information.



Hydraulic Production Vises

- Innovative compact design
- Internal hydraulics
- 4,700 lbs (2,100 Kg) clamping force
- Operates on lower input pressure
- Fully machinable jaws
- Fastest quick-change jaw system
- Hardened stainless steel wear rails
- Easy-Flow™ base design



Hydraulic Power Sources Available



Technical Specifications:

Hydraulic Clamping Stroke: 1/4" (6.3mm)
 Operating Volume: 0.4 Cu In (6.7 cm³)
 Maximum Input Pressure: 4000 P.S.I. (275 bar)
 Minimum Input Pressure: 500 P.S.I. (35 bar)
 Input Port: #4 SAE (7/16-20 UNF-2B)

Clamping Force (lbs) = Input Pressure x 1.19
Clamping Force (Kg) = Input Pressure Bars x 7.67

Operation:

Using the Jergens Hydraulic Vise handle part number 49445, tighten vise jaws so the workpieces touch the fixed jaw. Next, turn the handle back 1/2 turn and activate the hydraulic cylinder. Handle included with vise.

Note: Only use the Jergens Hydraulic Vise Handle Part No. 49445 for adjustment purpose, do not use to operate vise.

Jergens hydraulic vises are available in 3 different base configurations. They offer the same unique features as Jergens manual vises.

Clamping Force

Input Pressure		Clamping Force	
PSI	Bars	lbs	kgf
500	35	595	268
1,000	70	1,190	537
2,000	140	2,380	1,075
3,000	210	3,570	1,612
4,000	275*	4,760*	2,110*

*Recommended Maximum

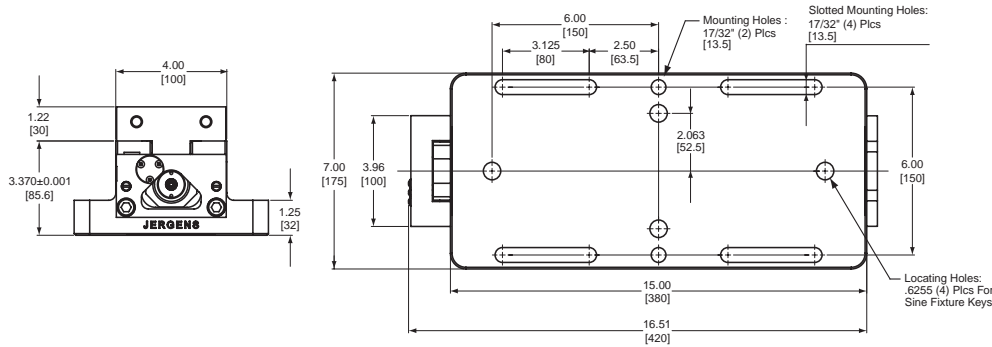
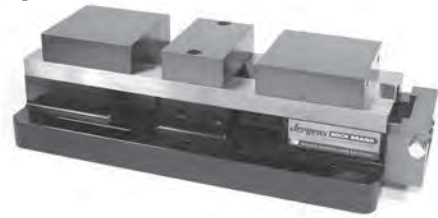


Hydraulic Production Vises – 4" (100mm)

Universal Base

Part Number	Wt. lbs/Kg
49483	35/16

- Easy to mount directly to machine tables
- Slotted mounting holes fit most machines



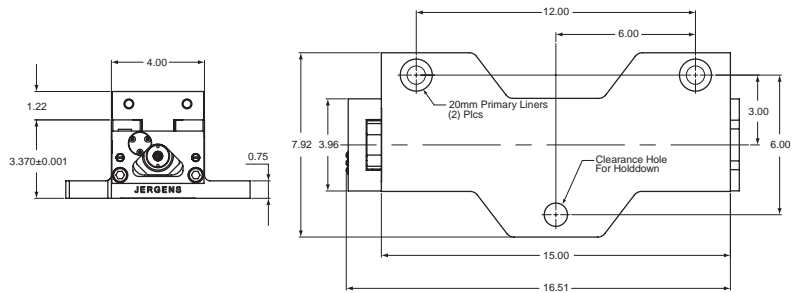
Ball Lock® Base

- Designed for use with the Jergens Ball Lock® mounting system
- Jigsaw pattern allows for “nesting” on Jergens Ball Lock® subplates



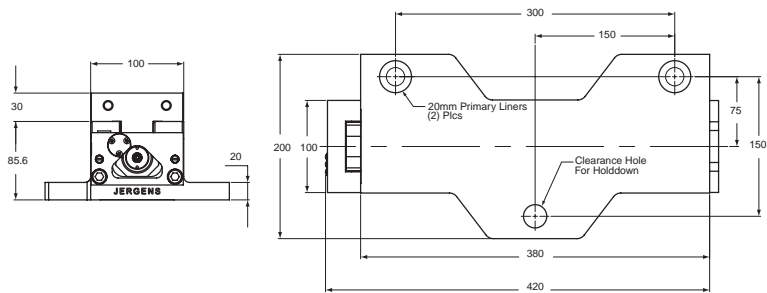
Inch

Part No.	Wt.	Ball Lock® Shank Part No.	Shank Size
49485	32 lbs	49601	20mm x 3/4"



Metric

Part No.	Wt.	Ball Lock® Shank Part No.	Shank Size
69485	15 Kg	49651	20mm x 20mm

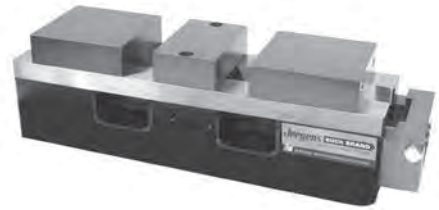
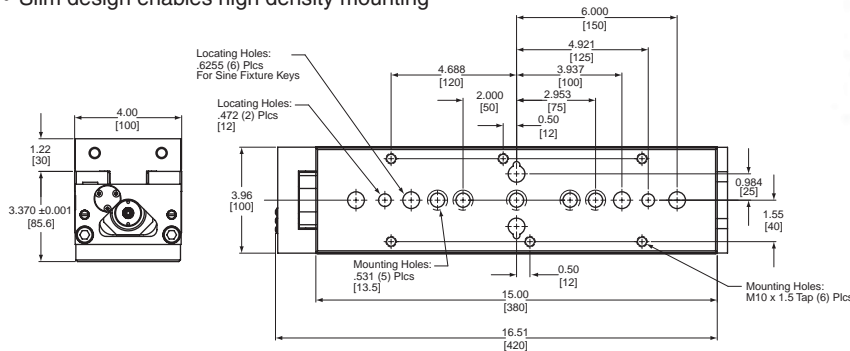




Hydraulic Production Vises – 4" (100mm)

Narrow Base

- Designed for stand alone or fixture plate mounting
- Slim design enables high density mounting

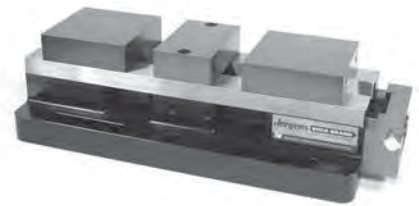
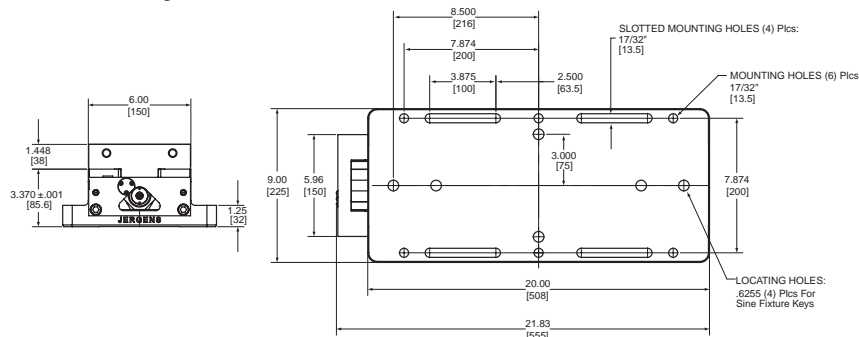


Part Number	Wt. lbs/Kg
49487	30/14

Hydraulic Production Vises – 6" (150mm)

Universal Base

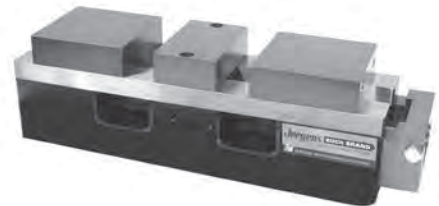
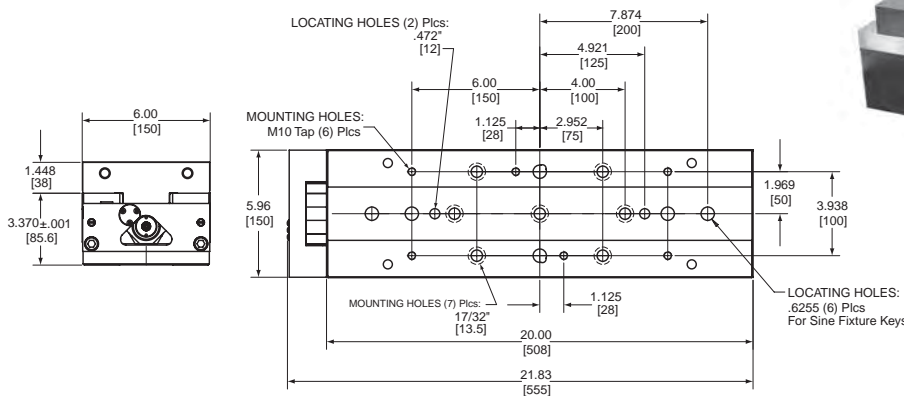
- Easy to mount directly to machine tables
- Slotted mounting holes fit most machines



Part Number	Wt. lbs/Kg
49484	65/29

Narrow Base

- Designed for stand alone or fixture plate mounting
- Slim design enables high density mounting on fixture plates



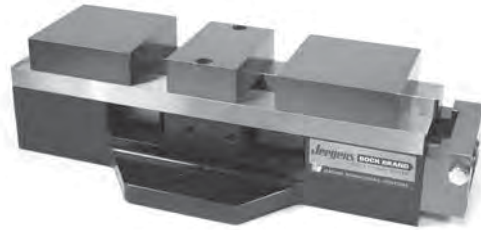
Part Number	Wt. lbs/Kg
49488	60/27



Hydraulic Production Vises – 6" (150mm)

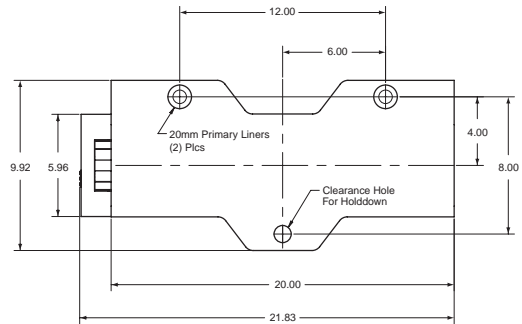
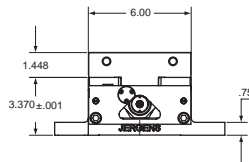
Ball Lock® Base

- Designed for use with the Jergens Ball Lock® mounting system
- Jigsaw pattern allows for “nesting” on Jergens Ball Lock® subplates



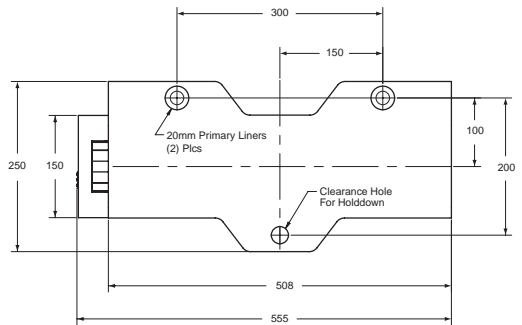
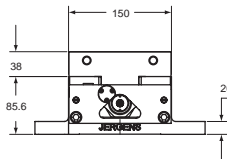
Inch

Part No.	Wt.	Ball Lock® Shank Part No.	Shank Size
49486	62 lbs	49601	20mm x 3/4"



Metric

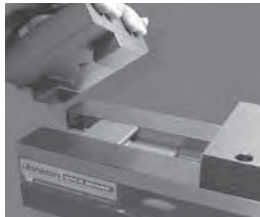
Part No.	Wt.	Ball Lock® Shank Part No.	Shank Size
69486	28 Kg	49651	20mm x 20mm





Hydraulic Vise Column

- Innovative compact design.
- Consistent clamping force:
 - 595 – 4,760 lbs
 - 268 – 2,110 Kgs
- Available in 4" (100mm) and 6" (150mm) sizes, 3-sided and 4-sided models.



Fully Machinable and Reversible Aluminum/Steel Jaws

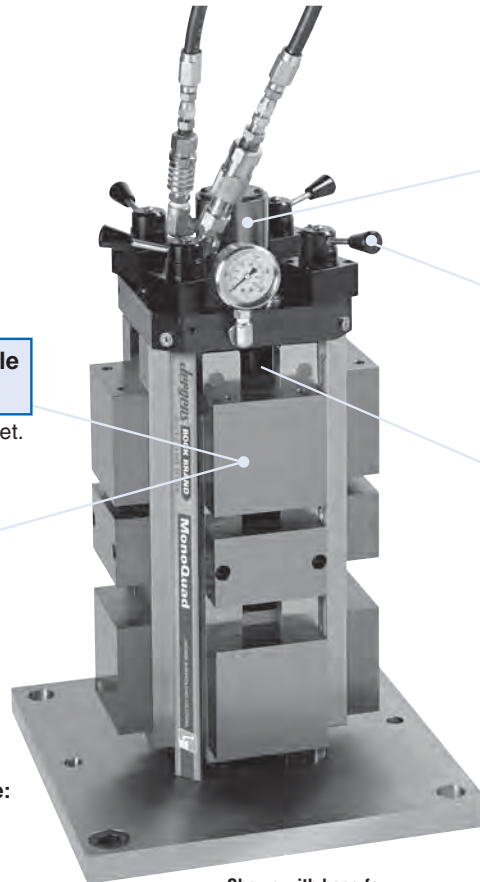
More workholding flexibility per jaw set.

Fastest Quick-Change Jaw Mechanism.

Reduce set-up times, faster workpiece change over.

Hydraulic Vise Column Kits Include:

- Control Valves for each side.
- Rotary Coupler Dual Passage.
- Internal Accumulator.
- Pressure Gauge: 500–4000 PSI (35–275 Bar).
- Adjustment Handle included with all columns.



Shown with base for



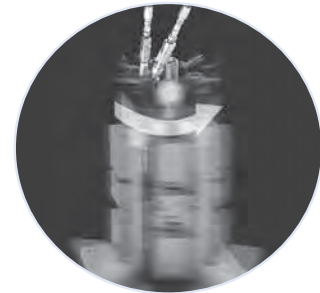
Other bases offered.

Technical Specifications:

Hydraulic Clamping Stroke: 1/4" (6.3 mm) total for both sides.
 Operating Volume: 0.4 cu in (6.6 cm³) – per station.
 Input Pressure: 500–4000 psi (35–275 bar).
 Dual station with center jaw for location; Cannot be used as a single station vise.

Setup & Operation:

- 1) Prepare machinable aluminum jaws or steel jaws to fit the workpiece.
- 2) Using the Jergens Hydraulic Vise adjustment handle to tighten vise jaws until the workpieces touch the fixed jaw.
- 3) Next, turn the handle back 1/2 to 2 revolutions to set opening.
- 4) Actuate the hydraulic source to operate control valves for each face.



Rotary Hydraulic Union Dual Passage

Allows vise to rotate while hoses remain stationary.

Individual Control Valves

Operate Vises one at a time.

Built-in Accumulator with Check Valves

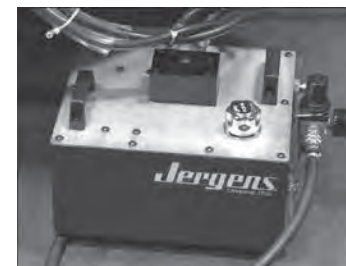
Permits easy disconnection when clamped.

Clamping Force Measured at Jaws

Input Pressure		Clamping Force	
psi	bars	lbs	Kg
500	35	595	268
1,000	70	1,190	537
2,000	140	2,380	1075
3,000	210	3,570	1612
4,000*	275*	4,760	2110

*Recommended Maximum

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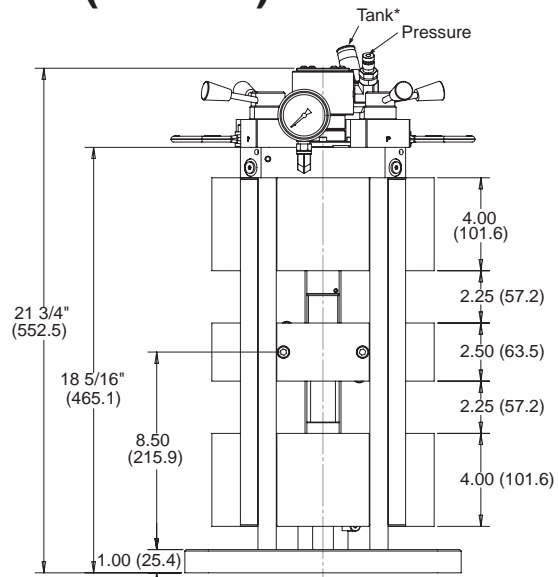
See page 106 for Air Powered Hydraulic Pump

Hydraulic Vise Tooling Columns – 4" (100mm)

- Individual valving allows each vise to operate independently.
- Hydraulic vise ensures repeatable results with minimal effort when compared to manual vises.
- Fast quick-change jaw mechanism.
- Hydraulic Vise Columns supplied with 4" (100mm) wide machinable aluminum jaws. Extra wide jaws, extra tall jaws and hardened jaw sets and all steel jaws are standard options. 3-sided and four-sided models available.
- All Jergens vises include machinable, reversible jaws; hardened stainless steel rails; and fully sealed lead screw assembly.

Standard and Custom Bases Available

* Tank Quick Disconnect Sleeve Part Number **718241**

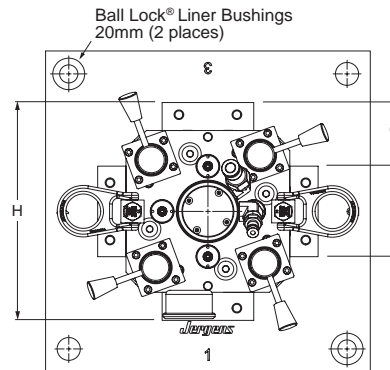


**Column With Soft Jaws
(Hard Jaws available)**

4-Sided – 4" (100mm) wide

The 4-Sided Columns have eight stations for holding workpieces. Two standard bases are shown and custom mounting patterns and special base dimensions available. The universal base will mount directly to most HMC tables, using the provided mounting holes on 80mm or 100mm centers.

Further reduce set-up times by adding the Jergens Ball Lock® Mounting System to your HMC. Exchange your vise columns and any other fixture in less than a minute. Location of fixtures will repeat within ±0.0005" (0.013mm) or better.



Top View with Ball Lock® Base shown

4-Sided 4" Vise Columns

Mounting	Part Number	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Ball Lock® Shank Part No.	Wt. (lbs)
Ball Lock®	51403	9.56	4.00	2.80	15.75	15.75	14 x 14	n/a	n/a	49602	150
Universal	51475	9.56	4.00	2.80	11.81	11.81	n/a	80mm	100mm	N/A	148

4-Sided 100mm Vise Columns Metric Bases

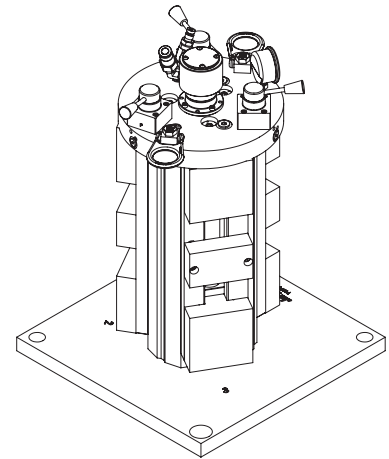
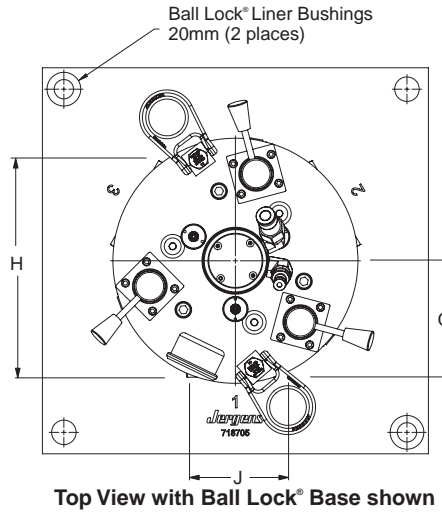
Mounting	Part Number	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Ball Lock® Shank Part No.	Wt. (Kgs)
Ball Lock®	51453	242.8	101.6	71.1	400	400	350 x 350	n/a	n/a	49652	68
Universal	51475	242.8	101.6	71.1	300	300	n/a	80mm	100mm	N/A	67

* Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request.



Hydraulic Vise Tooling Columns 3-Sided – 4" (100mm) wide

- Provide greater access to three or more sides of the workpiece.
- Design is beneficial on machining centers with large spindle noses.
- Reduce any sacrifice of tool rigidity for access.
- The universal base will mount directly to most HMC tables, using the provided mounting holes on 80mm or 100mm centers.
- Further reduce set-up times by adding the Jergens Ball Lock® Mounting System to your HMC. Exchange your vise columns and all other fixtures in less than a minute. Location of all fixtures will repeat within $\pm 0.0005"$ (0.013mm) or better.



Allows for up to 240° accessibility.

3-Sided 4" Vise Columns

Mounting	Part Number	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Ball Lock® Shank Part No.	Wt. (lbs)
Ball Lock®	51409	9.55	4.00	4.22	15.75	15.75	14 x 14	n/a	n/a	49602	160
Universal	51473	9.55	4.00	4.22	11.81	11.81	n/a	80mm	100mm	N/A	145

3-Sided 100mm Vise Columns Metric Bases

Mounting	Part Number	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Ball Lock® Shank Part No.	Wt. (Kgs)
Ball Lock®	51459	242.6	101.6	107.2	400	400	350 x 350	n/a	n/a	49652	72
Universal	51473	242.6	101.6	107.2	300	300	n/a	80mm	100mm	N/A	66

* Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request.

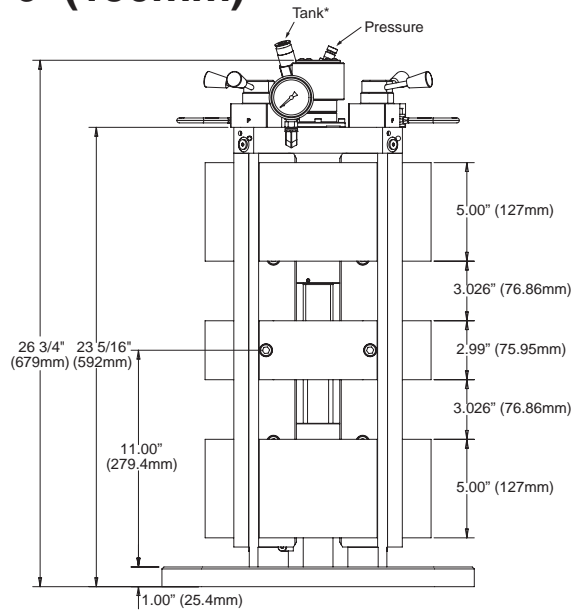


Hydraulic Vise Tooling Columns – 6" (150mm)

- Individual valving allows each vise to operate independently.
- Hydraulic vise ensures repeatable results with minimal effort when compared to manual vises.
- Fast quick-change jaw mechanism.
- Hydraulic Vise Columns supplied with 6" (150mm) wide machinable aluminum jaws. Extra wide jaws, extra tall jaws and hardened jaw sets and all steel jaws are standard options. 3-sided and four-sided models available.
- All Jergens vises include machinable, reversible jaws; hardened stainless steel rails; and fully sealed lead screw assembly.

Standard and Custom Bases Available

* Tank Quick Disconnect Sleeve Part Number **718241**

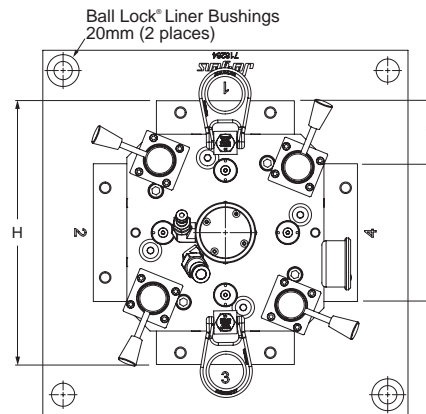


**Column With Soft Jaws
(Hard Jaws available)**

4-Sided – 6" (150mm) wide

The 4-Sided Columns have eight stations for holding workpieces. Two standard bases are available. The universal base will mount directly to most HMC tables, using the provided mounting holes on 80mm or 100mm centers.

Further reduce set-up times by adding the Jergens Ball Lock® Mounting System to your HMC. Exchange your vise columns and any other fixture in less than a minute. Location of fixtures will repeat within ±0.0005" (0.013mm) or better.



Top View with Ball Lock® Base shown

4-Sided 6" Vise Columns

Mounting	Part Number	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Ball Lock® Shank Part No.	Wt. (lbs)
Ball Lock®	51412	11.50	6.00	2.75	15.75	15.75	14 x 14	n/a	n/a	49602	270
Ball Lock®	51404	11.50	6.00	2.75	19.68	19.68	17 x 17	n/a	n/a	49612	285
Universal	51476	11.50	6.00	2.75	15.75	15.75	n/a	80mm	100mm	N/A	270

4-Sided 150mm Vise Columns Metric Bases

Mounting	Part Number	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Ball Lock® Shank Part No.	Wt. (Kgs)
Ball Lock®	51462	292.1	152.4	69.9	400	400	350 x 350	n/a	n/a	49652	122
Ball Lock®	51454	292.1	152.4	69.9	500	500	425 x 425	n/a	n/a	49662	130
Universal	51476	292.1	152.4	69.9	400	400	n/a	80mm	100mm	N/A	122

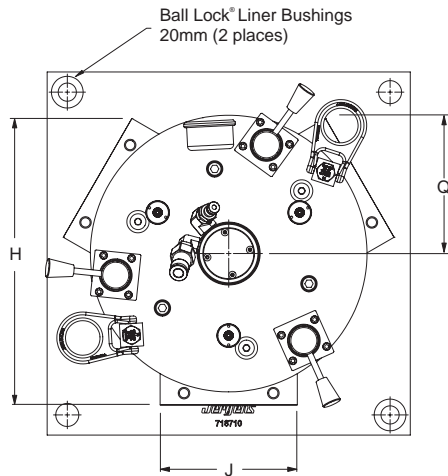
* Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request.



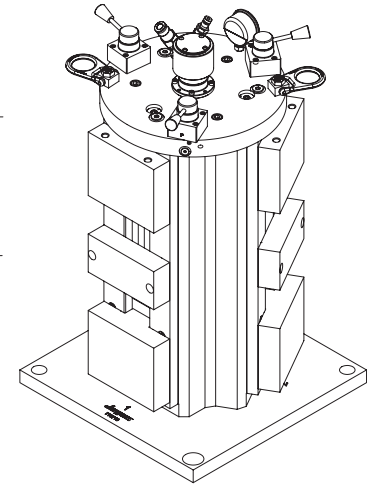
Hydraulic Vise Tooling Columns 3-Sided – 6" (150mm) wide

The 3-Sided Columns have six workstations to provide greater access to three or more sides of the workpiece. This design is especially beneficial on machining centers with large spindle noses. This can reduce any sacrifice of tool rigidity for access, by having tools extended too far from the tool holders. The universal base will mount directly to most HMC tables, using the provided mounting holes on 80mm or 100mm centers.

Further reduce set-up times by adding the Jergens Ball Lock® Mounting System to your HMC. Exchange your vise columns and all other fixtures in less than a minute. Location of all fixtures will repeat within ±0.0005" (0.013mm) or better.



Top View with Ball Lock® Base shown



Allows for up to 240° accessibility.

3-Sided 6" Vise Columns

Mounting	Part Number	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Ball Lock® Shank Part No.	Wt. (lbs)
Ball Lock®	51408	12.57	6.00	5.12	15.75	15.75	14 x 14	n/a	n/a	49602	300
Ball Lock®	51410	12.57	6.00	5.12	19.68	19.68	17 x 17	n/a	n/a	49612	320
Universal	51474	12.57	6.00	5.12	19.68	19.68	n/a	80mm	100mm	N/A	320

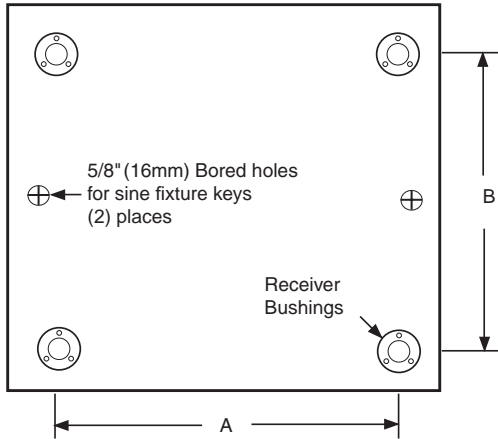
3-Sided 150mm Vise Columns Metric Bases

Mounting	Part Number	H	J	Q	Base Width	Base Length	Ball Lock® Mtg Pattern	Mounting Pattern 1*	Mounting Pattern 2*	Ball Lock® Shank Part No.	Wt. (Kgs)
Ball Lock®	51458	319.3	152.4	130	400	400	350 x 350	n/a	n/a	49652	136
Ball Lock®	51460	319.3	152.4	130	500	500	425 x 425	n/a	n/a	49662	145
Universal	51474	319.3	152.4	130	500	500	n/a	80mm	100mm	N/A	145

* Bases on Universal Columns are provided with two sets of mounting holes, to fit grids or T-Slots on 80mm and 100mm centers. Custom mounting patterns and base sizes are available upon request.



Hydraulic Vise Tooling Columns Standard Subplates



Standard Steel Subplates for Vise Columns

Part Number	Pallet Size (mm)	For Vise Columns	A (in.)	B (in.)	Receiver Size (mm)	Thickness of Subplate (in.)	Wt (lbs)
49102	400	51403, 51409 51412, 51408	14	14	20	1.125	79
49103	500	51404, 51410	17	17	25	1.25	137
49103-C	500	All above	14	14	20	1.25	137
Combination Subplate			17	17	25		

Metric Steel Subplates for Vise Columns

Part Number	Pallet Size (mm)	For Vise Columns	A (mm)	B (mm)	Receiver Size (mm)	Thickness of Subplate Wt. (in.)(Kg)	
59102	400	51453, 51459 51462, 51458	350	350	20	28.57	31
59103	500	51454, 51460	425	425	25	31.75	59
59103-C	500	All above	350	350	20	31.75	59
Combination Subplate			425	425	25		



Hydraulic Production Vise Accessories Pre-Fill Boosters Kit



Patent No. 3839866

Part Number
61725

Jergens Booster Kit provides a complete compact power source for hydraulic vises. The kit includes a Jergens 30:1 pre-fill self-bleeding booster with filter regulator, 4 way push button actuation valve, plumbed with all fittings and hoses.

This air operated booster provides enough hydraulic volume to power up to 8 Jergens Hydraulic vises.

- Self Bleeding
- Easy View Reservoir
- 30:1 Boost Ratios

Kit 61725 Includes

- Jergens Pre-Fill Booster 61705 (see above)
- Filter Regulator
- Actuator Valve

Specifications

Part Number	61705
Reservoir Capacity (cu. in.) / Liters	50 / 0.8
High Pressure Volume (cu. in.) / cm ³	3 3/4 / 61
Minimum Input (psi) / bar	40 / 2.7
Maximum Input (psi) / bar	125 / 8.6
Boost Ratio	30:1 / 30:1
Maximum Output (psi) / bar	3,750 / 258.5
Weight (lbs) / Kg	28 / 13

Handle

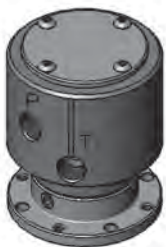


Part Number
49445

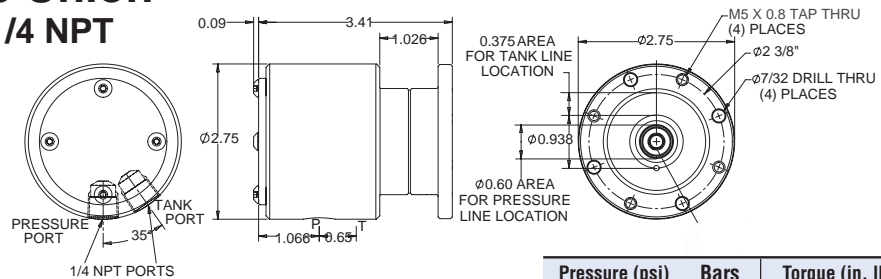
- Ergonomic design
- Aluminum handle
- 1/4" Steel Drive Hex for Jergens Hydraulic Vises

Handle for Hydraulic Vises, 4" (100mm) and 6" (150mm)

Rotary Hydraulic Union Dual Passage, Ports 1/4 NPT



Part Number
61999



Max input pressure of Tank Port: 150 psi (10 bar)
 Max input pressure of Pressure Port: 4000 psi (275 bar)
 Max RPM: 30

Pressure (psi)	Bars	Torque (in. lbs)	Nm
0	0	10	1.1
2000	140	25	2.8
4000	275	40	4.5



Hydraulic Production Vise Accessories

Air-Powered Hydraulic Pumps

Shoebox™ Pumps



Part Number
61759

The “Shoebox” Pump is a low cost, compact unit used on smaller hydraulic circuits. Its small size offers the versatility of mounting on wheels (such as a workcart) and moving the pump from workstation to workstation. The “Shoebox” is a cost effective power source for hydraulic tooling column vises.

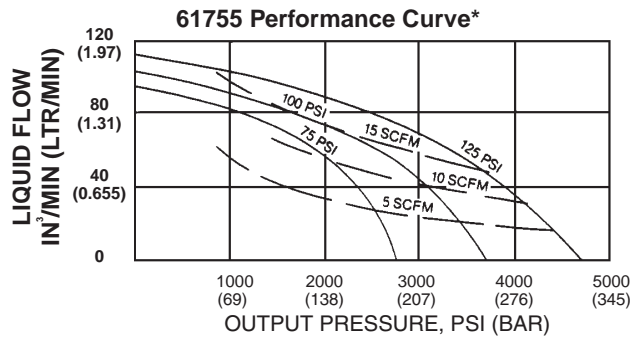
Specifications

Part Number	61755
Reservoir Capacity	300 cu. in. (4.9 liter)
Minimum Input	25 psi (1.7 Bar)
Maximum Input	125 psi (8.5 Bar)
Boost Ratio	36:1
Maximum Output	4500 psi (306 Bar)
Free Flow @ 100 psi (6.8 Bar)	100 cu.in./min. (1.64 liter/min.)
Weight	24 lbs (11Kg)

Note: Do not use more than 4,000 PSI input pressure on Jergens Vises

Kit Includes

- 61755** 36:1 Pump
- 61643** Remote four-way zero-leakage valve with subplate
- 60703** 6000psi (414 Bar) gauge



Quick Disconnect Couplers

Hydraulic Coupler

Sleeve	Nipple
1/4 NPT Female 61916	1/4 NPT Male 61966

Hydraulic couplers have dual checks.

Air Couplers

Sleeve	Nipple
1/8 NPT Female 61904	1/8 NPT Male 61950
1/4 NPT Female 61905	1/4 NPT Male 61951
	1/4 NPT Female 61954

Air couplers have checks on sleeves only.

Adapters & Elbows

Adapter for BSP	Elbows
1/4 Male NPT 60221	1/4 NPT x 1/4 Tube 61004
1/4 Female BSP	

Air Hose

Low pressure flexible PVC air hose is sold by the foot in bulk lengths. Order the total footage and number of push-on fittings required by using the number to the right.

Low Pressure Air Hose

Hose I.D.	1/4"	3/8"	1/2"
Hose			
Part Number	61106	61108	61110
Fitting			
Part Number	61107	61109	61111

Hydraulic Hose



High pressure hose is supplied assembled and to lengths indicated. Lengths are measured from end of coupling to end of coupling. Hose is 3/8" ID and available in 4000 psi or 7000 psi rating. 3/8" female tubing fittings on each end.

High Pressure Hydraulic Hose

Length	12"	18"	24"	36"	72"
Part Number					
4000 psi	61201	61202	61203	61204	61205
Part Number					
7000 psi	61211	61212	61213	61214	61215

*Also available in 5000 psi.

Hydraulic Hose (Build Your Own)

Length	25'	Hose Ends	Hose Ends
Part Number	61221	61226	61227
2750 psi	1/4 Hose	1/4 Npt Male	1/4 37° JIC Swivel Female

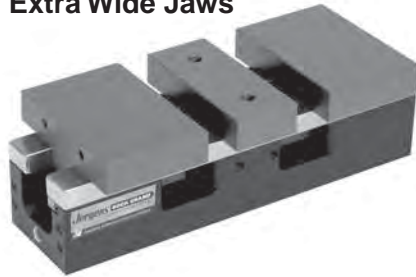


Jergens Production Vise System Flexible Clamping – Flexible Production

Variable batch sizes? Many different types of workpieces? Frequent set-ups?

The Jergens Production Vise System is the answer for these manufacturing flexibility issues!

Extra Wide Jaws



Dual Station with Hard Jaw



Full Face Vise Plate



Single Workpiece with Hard Jaws



Aluminum jaws can be completely milled, therefore a high degree of adaptability to the workpiece shape. For clamping, stop, and supporting surfaces.



Hard coated base made of high-strength, light-weight, aluminum extrusion. Guideway Rails made of hardened stainless steel.



Completely sealed lead screw assembly for trouble-free operation, power transmission through inserted steel nut, large slide stroke.



The clamping system consists of only a few components, for quick dismantling and minimum maintenance.

Aluminum or steel jaws suitable for milling:

- Milling of stop, supporting and clamping surfaces
- Quick set-up for formed parts and workpieces with complex clamping contours
- Significant reduction in expenditure on fixtures

Jaws change in a few seconds:

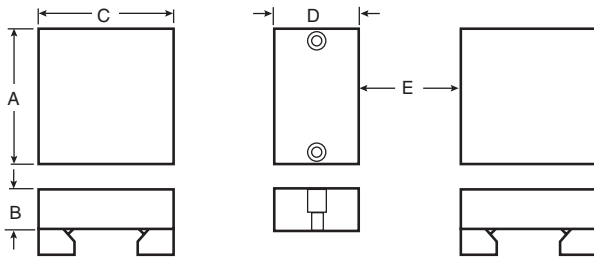
- Rapid changeover from one workpiece to the next
- Machine downtimes are minimized

High versatility:

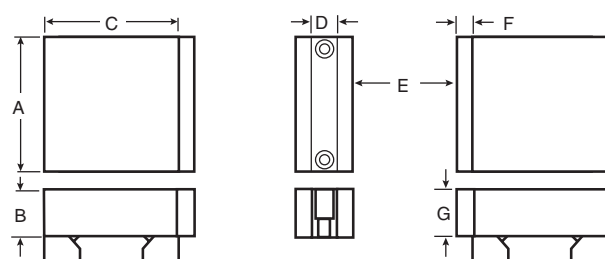
- The clamping element can be made available for simple and complex clamping applications in a very short time



Production Vise Jaws



Soft Jaws



Hard Jaw Carrier Set with hardened steel inserts

• Standard Jaws are machinable aluminum.

Jaws for 4" (100mm) Production Vises

Part Number	Description	A	B	C	D	E ⁽¹⁾	F	G
49420	Standard Machinable Soft Jaw Set (3pcs.)	3.95	1.22	4.00	2.50	2.20		
49421*	Pair of Std Moveable Jaws Only (2pcs.)	3.95	1.22	4.00				
49422	Std Fixed Jaw Only (1pc.)	3.95	1.22		2.50			
49423	Extra Wide Machinable Soft Jaw Set (3pcs.)	5.95	1.22	4.00	2.50	2.20		
49424*	Pair of Wide Moveable Jaws Only (2pcs.)	5.95	1.22	4.00				
49425	Wide Fixed Jaw Only (1pc.)	5.95	1.22		2.50			
49450	Extra Tall Machinable Soft Jaw Set (3pcs.)	3.95	2.00	5.00	2.50	1.70		
49451*	Pair of Tall Moveable Jaws Only (2pcs.)	3.95	2.00	5.00				
49452	Tall Fixed Jaw Only (1pc.)	3.95	2.00		2.50			
49426	Hard Jaw Carrier Set ⁽²⁾ (3pcs.)	3.95	1.22	3.44	.96	2.88		
	⁽²⁾ Steel Jaw Plates not included							
49428*	Pair of Moveable Hard Jaws Only (2pcs.)	3.95	1.22	3.44				
49427	Fixed Hard Jaw Only (1pc.)	3.95	1.22		.96			
49429	Hardened Steel Jaw Insert ⁽³⁾ (4pcs.)	4.00					.35	1.23
	⁽³⁾ Steel Jaw Plates have black-oxide finish, and are hardened to Rc 54/58.							

⁽¹⁾ Mounted Dimensions

Jaws for 6" (150mm) Production Vises

Part Number	Description	A	B	C	D	E ⁽¹⁾	F	G
49430	Standard Machinable Soft Jaw Set (3pcs.)	5.95	1.45	5.00	3.00	3.50		
49431*	Pair of Std Moveable Jaws Only (2pcs.)	5.95	1.45	5.00				
49432	Std Fixed Jaw Only (1pc.)	5.95	1.45		3.00			
49433	Extra Wide Machinable Soft Jaw Set (3pcs.)	7.95	1.45	5.00	3.00	3.50		
49434*	Pair of Wide Moveable Jaws Only (2pcs.)	7.95	1.45	5.00				
49435	Wide Fixed Jaw Only (1pc.)	7.95	1.45		3.00			
49455	Extra Tall Machinable Soft Jaw Set (3pcs.)	5.95	2.50	6.00	3.00	3.00		
49453*	Pair of Tall Moveable Jaws Only (2pcs.)	5.95	2.50	6.00				
49454	Tall Fixed Jaw Only (1pc.)	5.95	2.50		3.00			
49436	Hard Jaw Carrier Set ⁽²⁾ (3pcs.)	5.95	1.48	4.50	.96	4.00		
	⁽²⁾ Steel Jaw Plates not included							
49438*	Pair of Moveable Hard Jaws Only (2pcs.)	5.95	1.48	4.50				
49437	Fixed Hard Jaw Only (1pc.)	5.95	1.48		.96			
49439	Hardened Steel Jaw Insert Set ⁽³⁾ (4pcs.)	6.00					.48	1.75
	⁽³⁾ Steel Jaw Plates have black-oxide finish, and are hardened to Rc 54/58.							

⁽¹⁾ Mounted Dimensions

Note: Steel available for all soft jaw sets, add -S to the base part number. Example: 49420-S

*For Self Centering Vises. Moveable jaw sets available with gibs for tighter tolerances within rails. Add "SC" to part number.

Example: 49421SC



Production Vise Accessories Jaws & Fixture Plates

Jaws

- **Standard** fully machinable soft jaws, as supplied on the Production Vises and Columns
- **Extra Wide** fully machinable soft jaws. (-W)
- **Extra Tall** fully machinable soft jaws. (-T)
- **Hard Jaw Carriers** are drilled and tapped to accept hard jaw plates. (-H)
- **Hard Jaw Plates** are hardened steel plates that bolt onto the hard jaw carriers. (-H)

Jaws are offered three ways:

- **Jaw Sets** include two moveable jaws and one fixed jaw.
- **Moveable Jaws** are sold in pairs
- **Fixed Jaws** are sold separately.

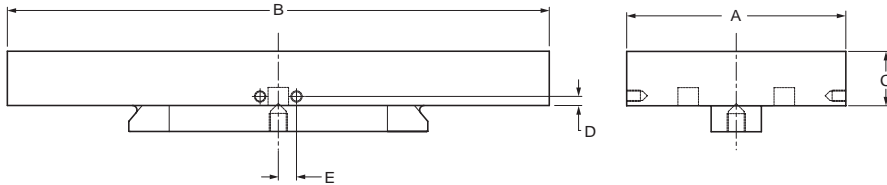


Machinable Soft Jaws
(Standard Sets included with Vises)

Hard Jaw Carriers
With Steel Inserts*

Quick Change Fixture Plates

Fixture plates provide an alternative to holding parts in the jaws. Build dedicated fixtures on the plates, and then just snap onto a vise or column. Switch between jaws and fixture plates without removing the vise or column from the machine.



Quick Change
Fixture Plate

Quick Change Fixture Plates for 4" (100mm) Production Vises

Part No.	Description	A	B	C	D	E
49446	Standard Fixture Plate	4	14.90	1.475	.25	.50
49448	Wide Fixture Plate	6	14.90	1.475	.25	.50

Quick Change Fixture Plates for 6" (150mm) Production Vises

Part No.	Description	A	B	C	D	E
49447	Standard Fixture Plate	6	19.90	1.475	.25	.688
49449	Wide Fixture Plate	8	19.90	1.475	.25	.688



Vise Conversion Plates

Part No.	Vise Size
49440	4"/100mm
49441	6"/150mm

NOTE: Conversion plates include mounting screws.

- Allows for easy conversion from twin station to single station vise
- Hard coat anodized aluminum



Vise Handles

Part No.	Vise Size
49442	4"/100mm
49443	6"/150mm

- Ergonomic Design
- 5/8" Hex Size



Vise Work Stop

Part No.	Type
49444	Double Pivot
49459	Single Pivot

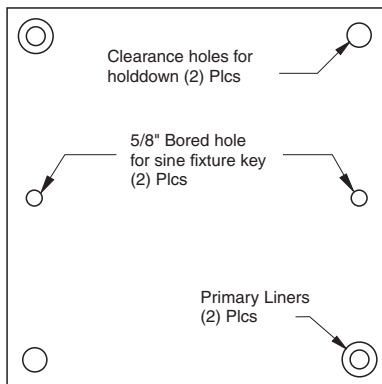
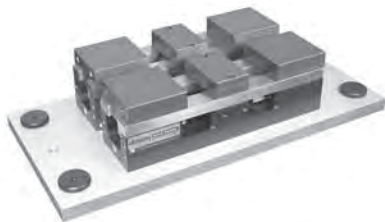
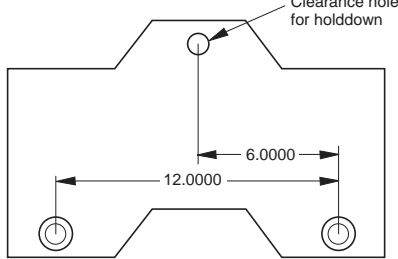
- Easily mounts to side of twin vise
- Allows for precise part location



Production Vise Ball Lock® Accessories – Inch



Jigsaw Fixture Plate



Ball Lock® Shanks

Shank Diameter	Fixture Plate Thickness	Standard Shank	Shank with Thumbscrew
20	3/4	49601	49601-S
20	1"	49602	49602-S
25	3/4	49611	49611-S
25	1"	49612	49612-S



Standard Shank

Thumb Screw

Jigsaw Interlocking Fixture Plates

Plate Part No.	Jig Saw Pattern	Plate Thickness	Outer Dimensions	Use With Vise No.	Wt. (lbs)
28705	6 x 12	3/4	8 x 15	49401	9
28706	8 x 12	3/4	10 x 16	49402	9

Ball Lock® Fixture Plates for Multiple Production Vises

Jergens manufactures standard Ball Lock® Fixture Plates for various applications. A small sample is listed below. These fixture plates will accept multiple Jergens Production Vises. However, the Jergens Ball Lock® Mounting System can provide the greatest benefits, when designed for your specific applications and your machine tools. Please contact Jergens Technical Service to select the proper fixture and sub-plate for your applications.

Plate Part No.	Ball Lock® Pattern	Shank Diameter	Plate Thickness	Outer Dimensions	Vises/Plate	Use With Vise No.	Wt. (lbs)
28713	12 x 12	20mm	3/4	14 x 14	2	49401	14
28715	12 x 12	20mm	3/4	16 x 16	2	49401	18
28727	17 x 17	25mm	1"	20 x 20	3	49401	38
28727	17 x 17	25mm	1"	20 x 20	2	49402	38
*28742	8 x 22	25mm	1"	12 x 25	2	49401	28

*Fits Jergens Tooling Column 69011

Ball Lock® Sub-Plates for Ball Lock® Vises, Columns, and Fixture Plates

Jergens manufactures standard sub-plates for popular machine tools. Three standard plates are shown. These sub-plates will accept Jergens Ball Lock® Vises, Columns and Fixture Plates. Some of the sub-plates have multiple mounting patterns that will allow multiple sizes and styles

of fixture plates and vises to be used on the same machine. However, the Jergens Ball Lock® Mounting System can provide the greatest benefits, when designed for your specific applications and your machine tools. Please contact Jergens Technical Service to select the proper sub-plate for your machine.

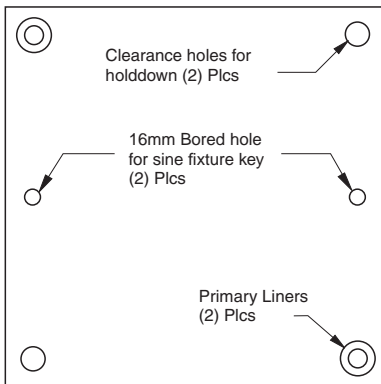
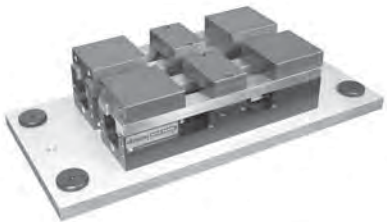
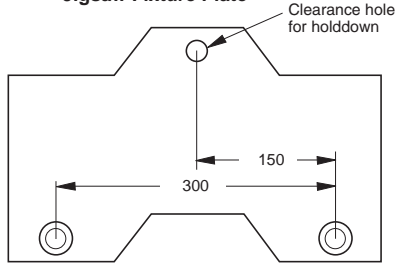
Plate Part Number	Machine Type	Table Size	Ball Lock® Pattern	Applications
49102	HMC	400mm	14x14	Vise Columns, Tooling Columns, Other
49103-C	HMC	500mm	17x17&14x14	Vise Columns, Tooling Columns, Other
49112	VMC	20x40	Multiple Patterns	Jigsaw Vises & Plates, Multiple Vise Fixtures, Other



Production Vise Ball Lock® Accessories – Metric



Jigsaw Fixture Plate



Ball Lock® Shanks

Shank Diameter	Fixture Plate Thickness	Standard Shank	Shank with Thumbscrew
20	20	49651	49651-S
20	25	49652	49652-S
25	20	49661	49661-S
25	25	49662	49662-S



Standard Shank

Thumb Screw

Jigsaw Interlocking Fixture Plates

Plate Part No.	Jig Saw Pattern	Plate Thickness	Outer Dimensions	Use With Vise No.	Wt. (Kg)
58706	200 x 300	20	250 x 400	49402	4

Ball Lock® Fixture Plates for Multiple Production Vises

Jergens manufactures standard Ball Lock® Fixture Plates for various applications. A small sample is listed below. These fixture plates will accept multiple Jergens Production Vises. However, the Jergens Ball Lock® Mounting System can provide the greatest benefits, when designed for your specific applications and your machine tools. Please contact Jergens Technical Service to select the proper fixture and sub-plate for your applications.

Plate Part No.	Ball Lock® Pattern	Shank Diameter	Plate Thickness	Outer Dimensions	Vises/Plate	Use With Vise No.	Wt. (Kg)
58713	300 x 300	20mm	20	350 x 350	2	49401	6
58715	300 x 300	20mm	20	400 x 400	2	49401	8
58727	425 x 425	25mm	25	500 x 500	3	49401	18
58727	425 x 425	25mm	25	500 x 500	2	49402	18
58742	175 x 550	25mm	25	300 x 625	2	49401	12

Ball Lock® Sub-Plates for Ball Lock® Vises, Columns, and Fixture Plates

Jergens manufactures standard sub-plates for popular machine tools. Three standard plates are shown. These sub-plates will accept Jergens Ball Lock® Vises, Columns and Fixture Plates. Some of the sub-plates have multiple mounting patterns that will allow multiple sizes and styles

of fixture plates and vises to be used on the same machine. However, the Jergens Ball Lock® Mounting System can provide the greatest benefits, when designed for your specific applications and your machine tools. Please contact Jergens Technical Service to select the proper sub-plate for your machine.

Plate Part Number	Machine Type	Table Size	Ball Lock® Pattern	Applications
59102	HMC	400mm	350 x 350	Vise Columns, Tooling Columns, Other
59103-C	HMC	500mm	350 x 350 425 x 425	Vise Columns, Tooling Columns, Other
59112	VMC	500 x 1000	Multiple Patterns	Jigsaw Vises & Plates, Multiple Vise Fixtures, Other

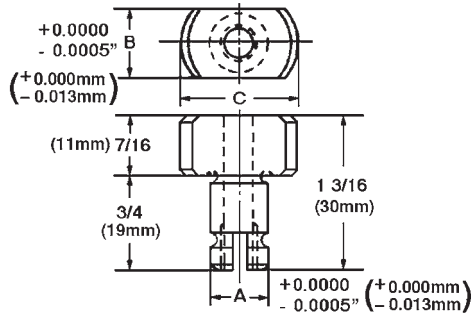


Production Vise Accessories

Sine Fixture Keys for Vises



Locate subplates or fixture plates to T-slotted machine tables. Available in inch sizes for 1/2" to 7/8" slots, and in metric sizes for 12mm to 22mm slots.



Inch – 5/8" Shanks for Inch T-Slots

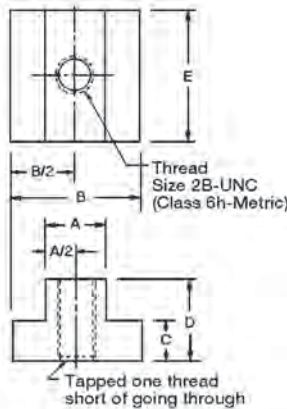
Part Number	Shank Size A	Table Slot Size B	C	Wt. (lbs)
39501	0.625	0.4995	1	.09
39502	0.625	0.562	1	.11
39503	0.625	0.6245	1	.11
39504	0.625	0.687	1	.11
39505	0.625	0.7495	1 1/8	.13
39506	0.625	0.812	1 1/8	.14
39507	0.625	0.8745	1 1/8	.15

Metric – 5/8" Shanks for Metric T-Slots

Part Number	Shank Size A	Table Slot Size (mm) B	C	Wt. (Kg)
39561	0.625	12	1	.04
39562	0.625	14	1	.04
39563	0.625	16	1	.05
39564	0.625	18	1 1/8	.05
39565	0.625	20	1 1/8	.06
39566	0.625	22	1 1/8	.07

Note: Complete offering of Inch/Metric Sine Fixture Keys available on page 220-221.

T-Slot Nuts



Inch

Part Number	Thread	T-Slot Width A	B	C	D	E	Wt. (lbs) 10 Pcs.
*43302**	3/8-16	7/16	11/16	7/32	1/2	7/8	0.50
*43303**	3/8-16	1/2	7/8	9/32	1/2	7/8	0.70
43301	3/8-16	9/16	7/8	1/4	1/2	7/8	0.70
*43305**	1/2-13	9/16	7/8	11/32	5/8	1 1/8	1.20
*43306	1/2-13	5/8	1	11/32	5/8	1 1/8	1.50
*43304	1/2-13	11/16	1 1/8	7/16	3/4	1 1/4	2.10
*43308**	5/8-11	11/16	1 1/8	7/16	3/4	1 1/4	1.14
*43309	5/8-11	3/4	1 1/4	15/32	3/4	1 1/4	1.60
*43307	5/8-11	13/16	1 1/4	9/16	1	1 1/2	3.11

*Conforms to TCMA. **Not Hardened

Metric

Part Number	Thread	T-Slot Width A	B	C	D	E	Wt. (Kg) 10 pcs.
43372	M10 x 1.5	12	19	7	13	25	0.25
43373	M10 x 1.5	14	22	9	16	29	0.35
43374	M10 x 1.5	16	25	9	16	29	0.35
43375	M12 x 1.75	14	22	9	16	29	0.60
43376	M12 x 1.75	16	25	9	16	29	0.75
43377	M12 x 1.75	18	29	11	19	32	1.1
43378	M16 x 2.0	18	29	11	19	32	0.57
43379	M16 x 2.0	20	32	14	25	38	0.80
43380	M16 x 2.0	22	35	14	25	38	1.56

Note: Complete offering of T-Slot Nuts available on page 264



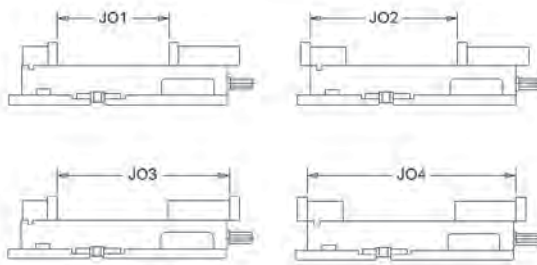
Heavy Duty Machine Vise



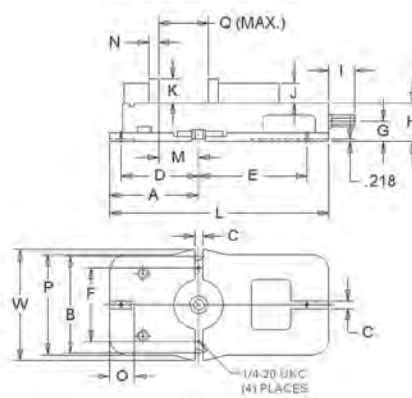
Characteristics

Jergens' newest machine vise is built to be more than tough enough for your most demanding, rugged applications, while delivering exacting precision and versatility.

- Made in USA
- Single Station
- Available in 6" and 8"
- Cast Iron Base
- Soft jaws are interchangeable with common industry styles



Part Number	J01	J02	J03	J04
80075	8.000	10.750	13.500	16.250
80082	9.850	13.250	17.300	20.500



Part Number	Size	Full Opening	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
80075	6"	10"	6.78	7.652	0.688	5.97	8.345	5.50	1.54	2.875	2.00	1.485	1.735	16.75	3.00	0.725	2.00	8.25	7.94
80082	8"	10"	8.00	7.00	0.812	6.50	11.50	7.00	1.865	3.312	2.875	1.965	2.22	21.625	3.675	1.075	3.06	11.00	10.00

Jergens BOCK

QUICK CHANGE SYSTEM

BRAND

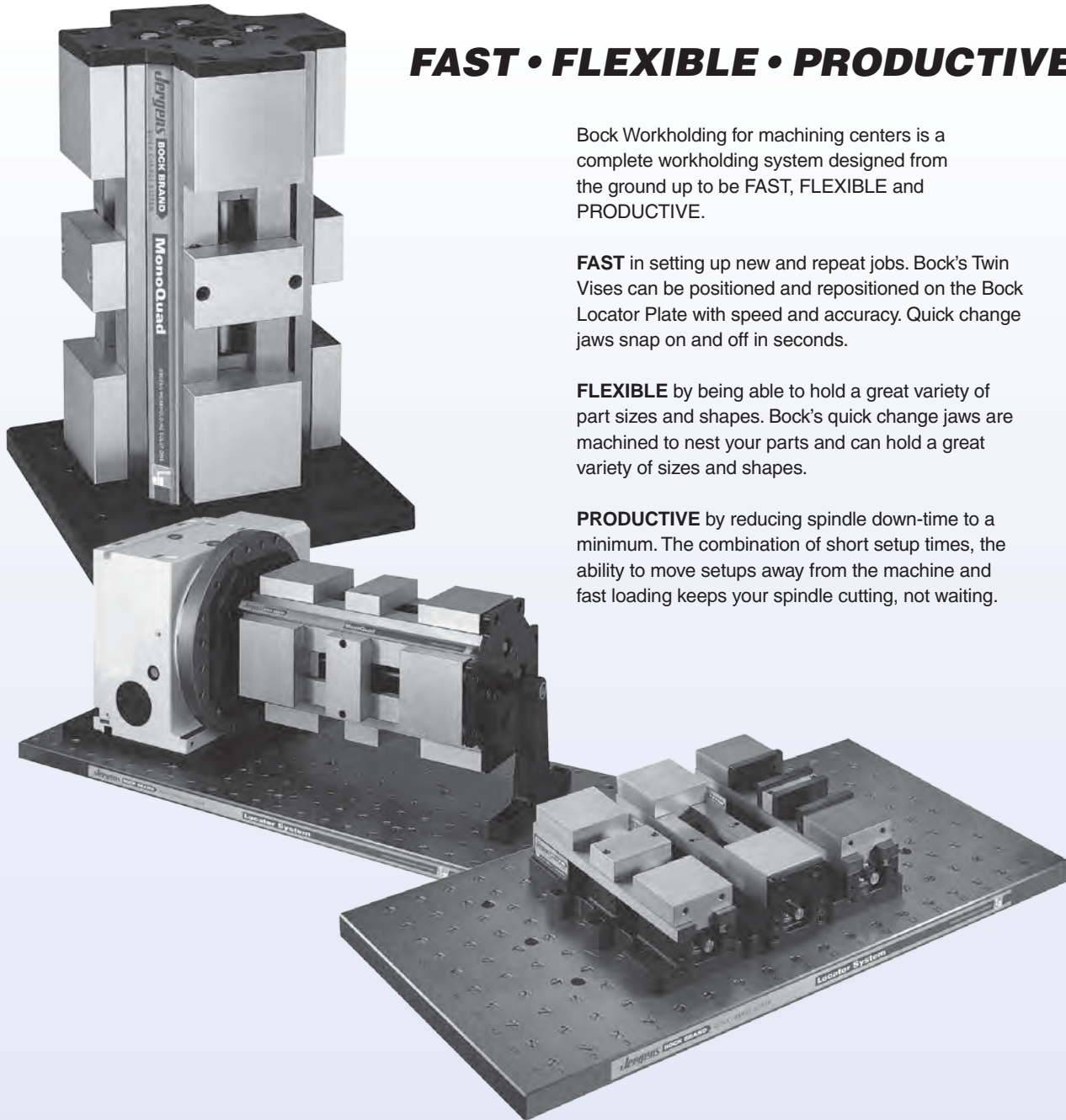
FAST • FLEXIBLE • PRODUCTIVE

Bock Workholding for machining centers is a complete workholding system designed from the ground up to be FAST, FLEXIBLE and PRODUCTIVE.

FAST in setting up new and repeat jobs. Bock's Twin Vises can be positioned and repositioned on the Bock Locator Plate with speed and accuracy. Quick change jaws snap on and off in seconds.

FLEXIBLE by being able to hold a great variety of part sizes and shapes. Bock's quick change jaws are machined to nest your parts and can hold a great variety of sizes and shapes.

PRODUCTIVE by reducing spindle down-time to a minimum. The combination of short setup times, the ability to move setups away from the machine and fast loading keeps your spindle cutting, not waiting.



PRODUCTION VISES » JERGENS-BOCK QUICK CHANGE SYSTEM

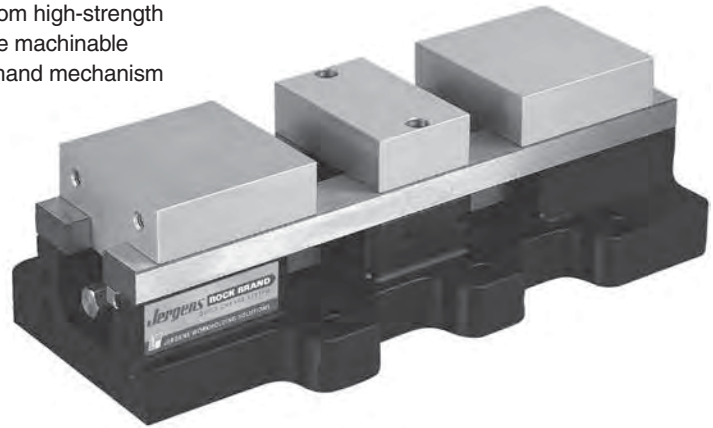


System Overview



1 Bock Twin Vise System

The Bock Twin Vise is the key component of the complete Bock Workholding system. A variety of body styles made from high-strength aluminum, ground steel guides, snap-on quick-change machinable aluminum jaws and a solid clamping screw and third hand mechanism combine for fast, flexible and productive milling.

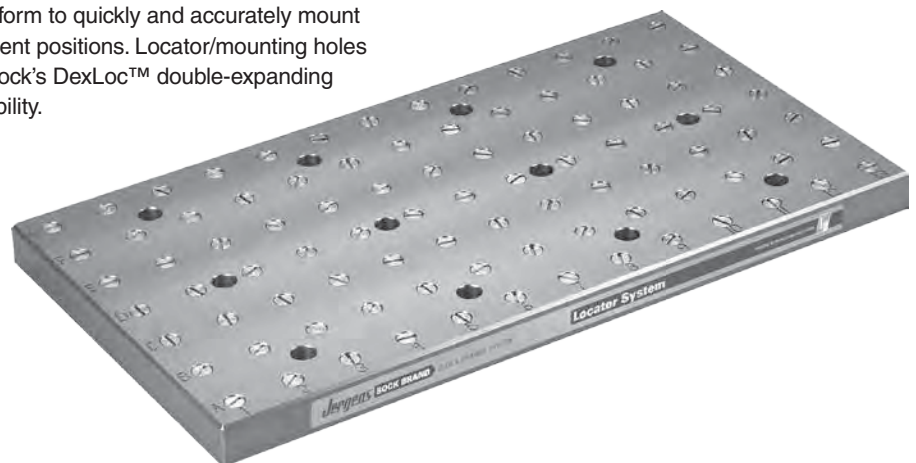


2 DexLoc™ Locator Pins

Patented DexLoc™ double-expanding locator pins allow for fast and accurate location of twin vises on locator plates.

3 Bock Locator Plate System

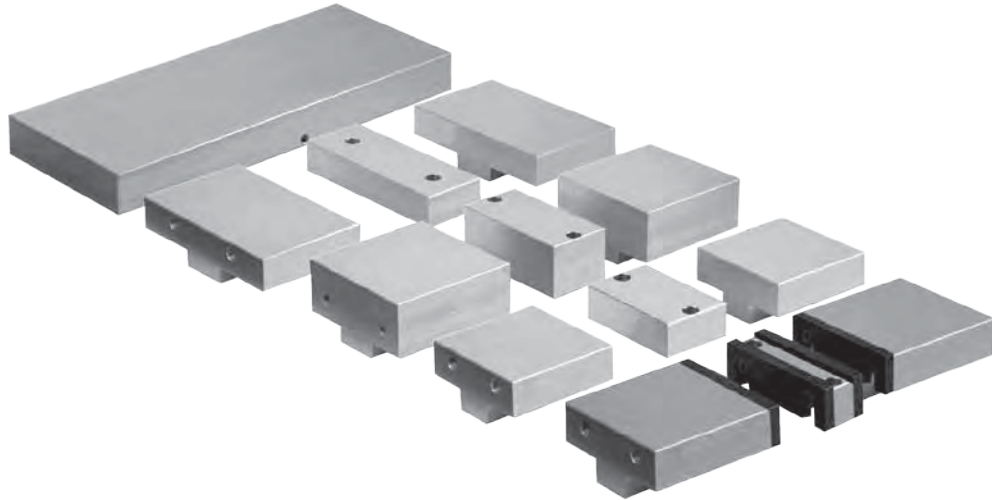
Bock Locator Plates are a great platform to quickly and accurately mount your Twin Vises in a number of different positions. Locator/mounting holes with alpha-numeric identifiers and Bock's DexLoc™ double-expanding locators give you +/- .0005" repeatability.





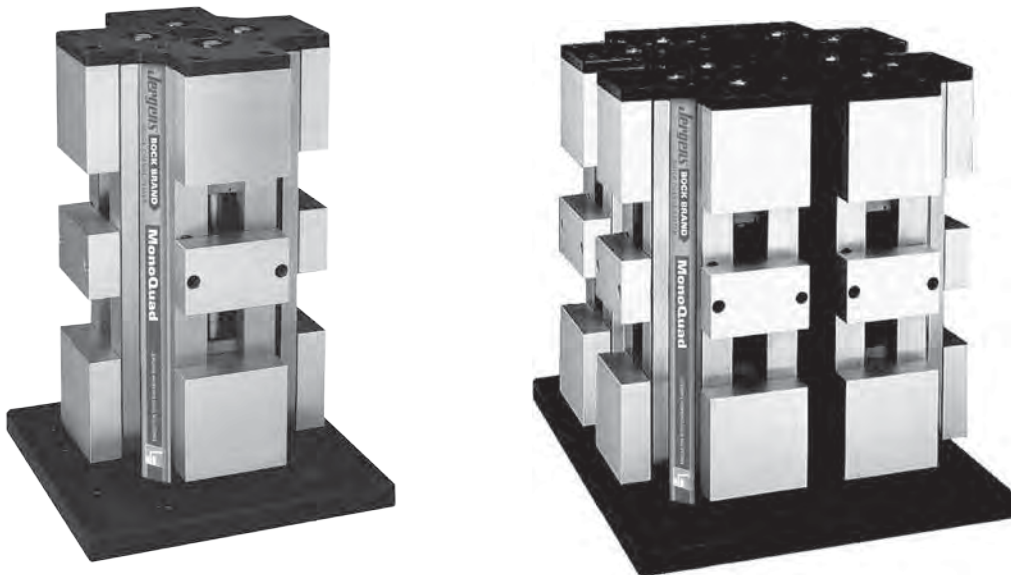
4 Bock Jaw System

An assortment of snap-on jaws and face plates gives you the ability to hold most parts.



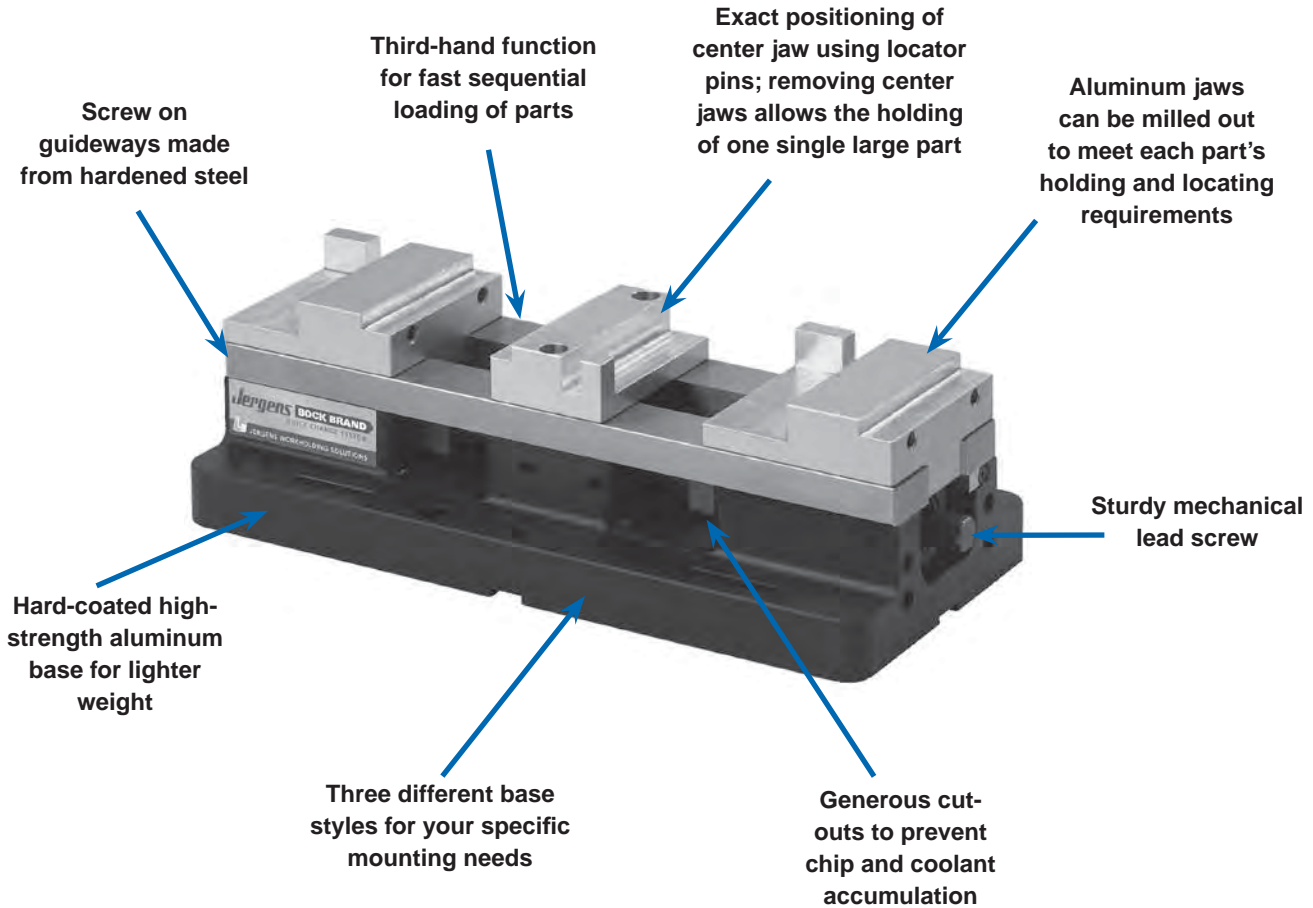
5 Bock Mono-Quad System

Bock Mono-Quad vises are the extension of the Bock System for horizontal machining centers. Available in models that can hold 6, 8, 12 and 16 parts in one clamping to give you maximum productivity.

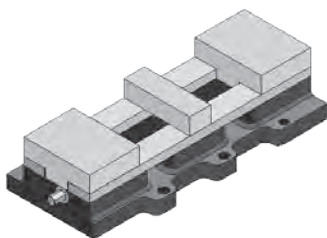




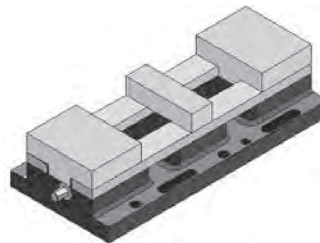
Bock Twin Vise System



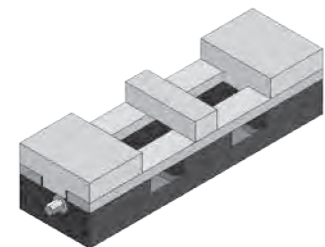
Bock's Twin Vises are available in 100mm (4") and 150mm (6") models, with three different base types:



Standard interlocking base for fast mounting on Bock Locator Plates



Straight base for use on Bock Locator Plates or with toe clamps



Slim-Line for high density mounting on Bock Locator Plates



Bock Jaw System



1

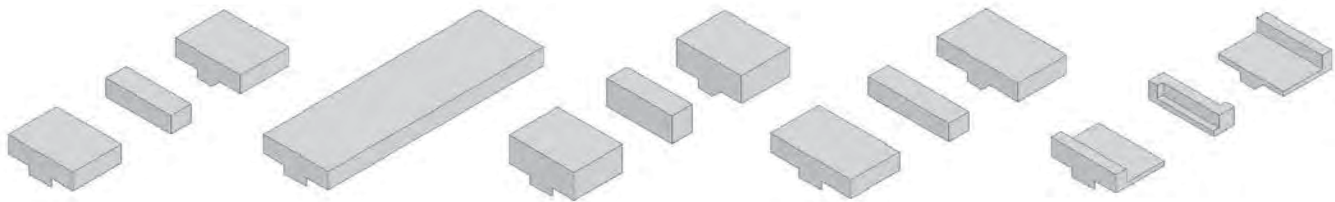


2



3

Bock Machinable Jaws are made from high-strength aircraft grade anodized aluminum. Once machined to hold a specific part they become quick-change dedicated fixtures ideal for holding even complex shapes.



STANDARD JAWS
snap on and off in seconds and can be machined to nest most any part.

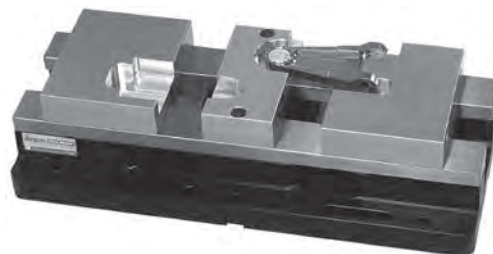
QUICK CHANGE FACE PLATES
can be converted to snap-on snap-off fixtures holding many small parts.

TALL JAWS
to hold larger parts.

WIDE JAWS
to hold several smaller parts or wide parts.

UNIQUE SNAP-ON MECHANISM
holds the jaws from below the bed and allows the industry's most generous machining area.

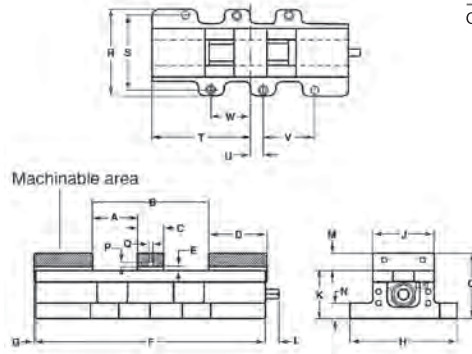
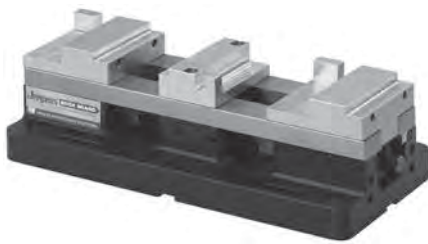
To order jaws, please refer to page 109.



PRODUCTION VISES » JERGENS-BOCK QUICK CHANGE SYSTEM



Bock Twin Vises



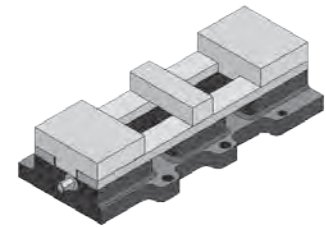
- Screw-on guideways made from hardened steel
- Third-hand function for fast sequential loading of parts
- Exact positioning of center jaw using locator pins; removing center jaws allows the holding of one single large part
- Aluminum jaws can be milled out to meet each part's holding and locating requirements.
- Sturdy mechanical lead screw
- Generous cut-outs to prevent chip and coolant accumulation
- Three different base styles
- Hard-coated, high-strength, lighter weight aluminum base

Dimensions and Capacities – Soft Jaw

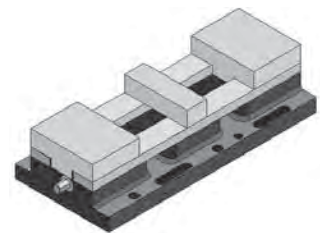
Dimensions	TV4S in	TV100S mm	TV6S in	TV150S mm
A Jaw Capacity*	2.20	56	3.50	89
B Single Station Capacity*	7.00	178	10.00	254
C Fixed Jaw Width	2.50	64	3.00	76
D Jaw Carrier Length	4.00	102	5.00	127
E Jaw Plate Thickness	0.25	6	0.25	6
F Base Length	15.00	381	20.00	508
G Jaw Overhang	0.10	3	—	—
H Base Width	7.00	177	9.00	227
O Base Height	4.63	118	4.88	124
J Jaw Width	4.00	102	6.00	152
K Height Base to Rail	3.37	86	3.37	86
L Lead Screw	0.80 max	20 max	0.80 max	20 max
M Height	1.25	32	1.50	38
N Base Flange Thickness	1.25	32	1.25	32
P Non Machineable Area	0.81	21	1.00	25
Q Non Machineable Area	0.50	13	0.60	15
R Base Width	7.00	177	9.00	227
S Center Distance	6.00	150	8.00	200
T Center Line to End	7.50	191	10.00	254
U Center to Bolt Hole	1.00	25	1.00	25
V Center Bolt/dowel	4.00	100	2.00	50
W Center Line to bolt hole	3.00	75	2.00	50
Weight	30 lbs	14 Kg	65 lbs	30 Kg

* unmachined jaw capacity

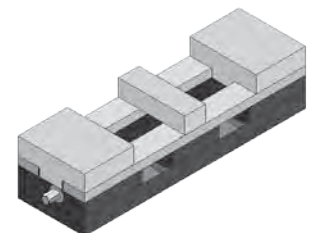
Base Types:



Standard Interlocking



Straight Base



Slim-Line

PRODUCTION VISES » JERGENS-BOCK QUICK CHANGE SYSTEM



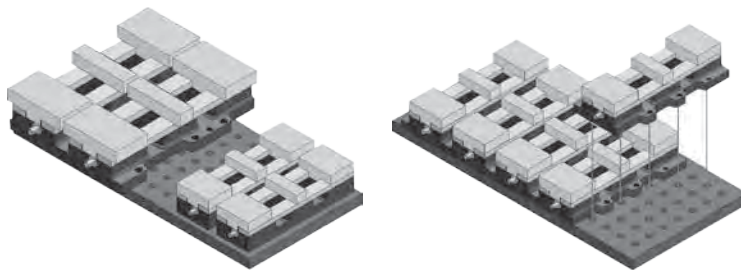
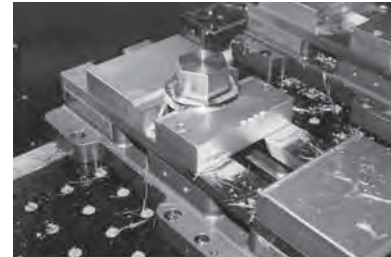
Bock Brand Locator Plate System

Bock Locator Plates give you the ability to mount and locate Bock Twin Vises, and to change their size, type, number and position in minutes. Using Bock's DexLoc™ Double-Expanding Locator Pins gives you repeatability of +/- .0005".

Bock Locator Plates are made from precision machined aluminum or steel with a grid of locating/mounting holes. Each hole is identified by a letter and a number.

Bock Twin Vises with standard interlocking base gives you great flexibility at tremendous setup speeds while Bock SlimLine Twin Vises give you the possibility to mount vises very close to each other for maximum number of parts in the machine.

Each Locator Plate is custom-made for your particular application. Need a prompt quote? Call (877) 426-2504 with your specifications.



Bock Brand Locator Plates



- Repeat setups to within +/- .001"
- Locator Plates are available in a wide array of sizes, both in inch and metric dimensions.
- Jergens Bock Brand Locator Plates are made of hard coated aluminum for a durable surface
- Alpha-numeric coded holes for an accurate and repeatable baseline reference
- Every hole precision bored to fit Dex-Loc™ locating pins and threaded through for maximum versatility
- Brass protection plugs included for every hole
- Eliminate time consuming "dialing in" for every setup

Part Number	Compatible Machine	Thickness (in)	Size (in)	Material
933804	HAAS VF-2	1.42	14 x 36	Aluminum
933956	Robodril	1.42	15.35 x 27.5	Aluminum
934204	Mazak VTC200B	1.42	20 x 57.5	Aluminum
934340	HAAS VE-2YT	1.42	18 x 36	Aluminum

DexLoc™ Locator Pins



Patented DexLoc™ double-expanding locator pins allow for fast and accurate location of twin vises on locator plates.

- Self-centering pins relocate within +/- .0005"
- Available in a wide variety of standard sizes and materials

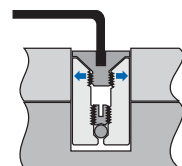
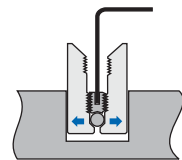
To order DexLoc™ Locator Pins in other sizes, please refer to page 209.

Standard

Part Number	Diameter	Height	Hex Key Size (in)	
			Top	Bottom
29404	5/8	1-1/4	7/32	3/16

Metric

Part Number	Diameter	Height	Hex Key Size (mm)	
			Top	Bottom
29454	16	32	6	5



PRODUCTION VISES » JERGENS-BOCK QUICK CHANGE SYSTEM



Bock Mono-Quad System



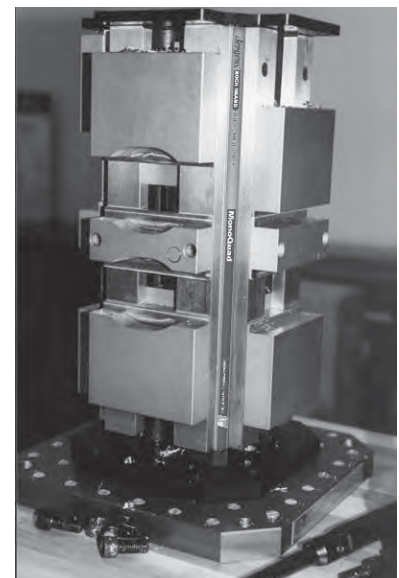
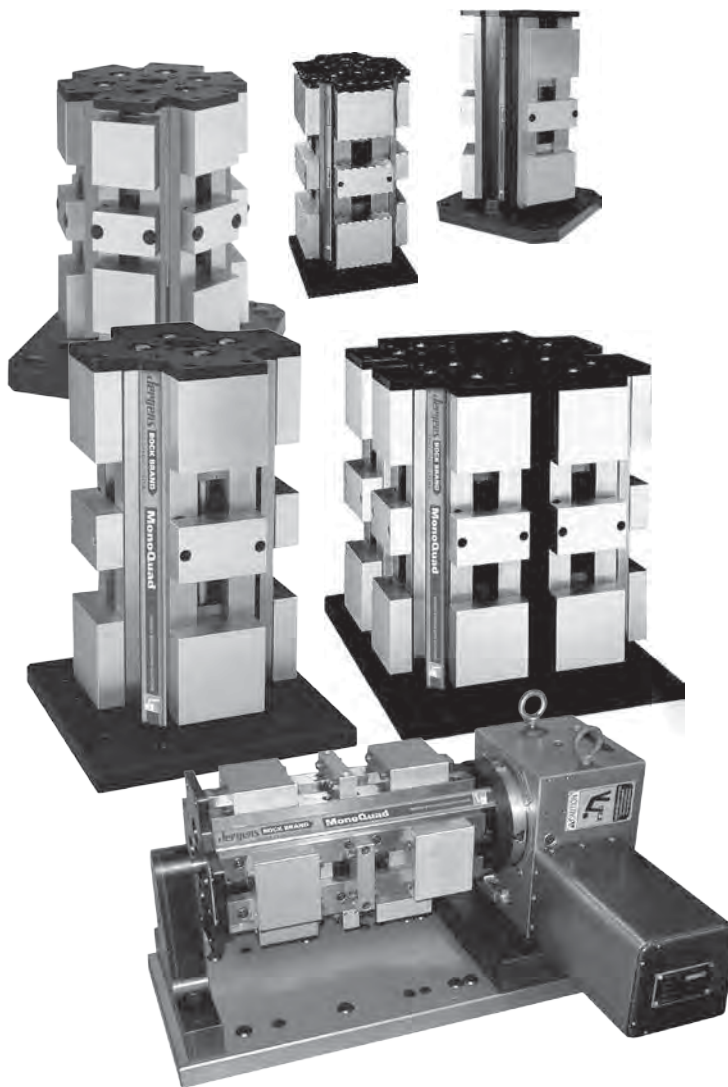
This complete range of Mono-Quad vises are designed to hold a multitude of parts and give access to several part sides in one clamping – a tremendous productivity booster on your horizontal machining center or on an indexer.

Hold 6 parts with 240°, 8 parts with 180°, 12 parts with 120°, or 16 with 90° tool access.

Mono-Quad vises are made with a high-strength aluminum column and use the same steel guides, screw mechanism and jaws as Bock's Twin Vises.

Available in 100mm (4") and 150mm (6") models and with custom base plates to fit your machine's pallet.

To order, please refer to pages 88–94.



PRODUCTION VISES » JERGENS-BOCK QUICK CHANGE SYSTEM



5-Axis Machining Designed to Improve Productivity by Providing:

- High Clamping Force
- Accurate Repeatability
- Fast Set-Up and Changeovers
- High Productivity Capacity
- For Complex Components/Materials

5-Axis Workholding Solutions

PRODUCTION VISES » JERGENS 5-AXIS



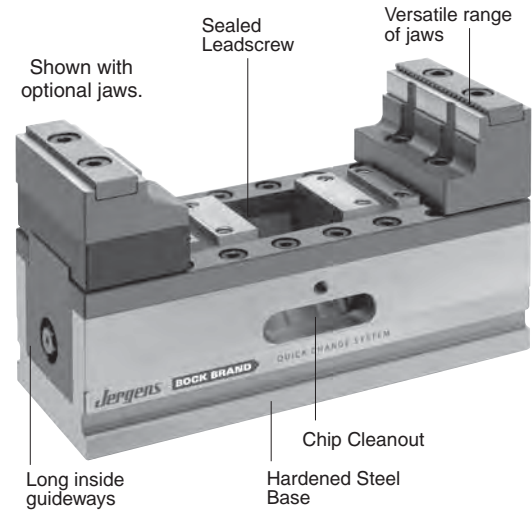
5-Axis Self Centering Vises

This series is suitable for many clamping tasks on 5-Axis machining centers and pallet systems. Whether the workpieces are angular or round, the concentric clamping system provides the same zero position.

The compact design, high stability and versatile selection of jaws (grip jaws, plain jaws, soft jaws, pendulum jaws, V-Type jaws) are additional features tailored for 5-Axis machining.

The 40, 60, 100 and 125 clamping systems are suitable for I.D. to O.D. clamping.

- Designed for 5-Axis machining
- Free access to the workpiece, allowing the use of short standard tools
- Simple, robust construction, smooth surfaces for easy cleaning
- Also suitable as a module for standard devices
- Comprehensive jaw selection



Customized design for positioning and fastening in the base on request.

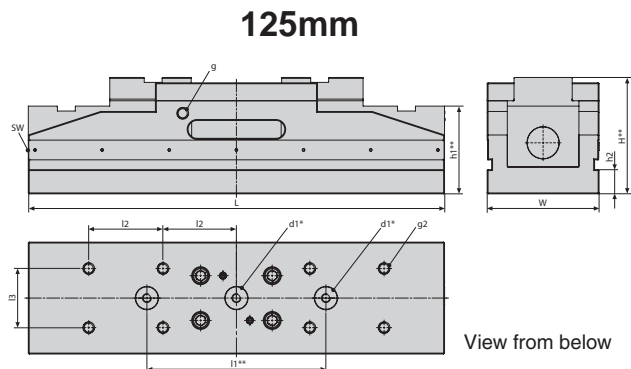
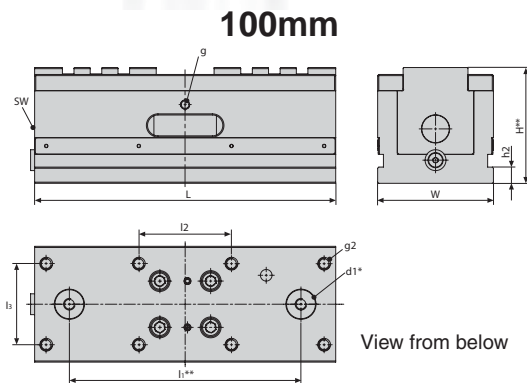
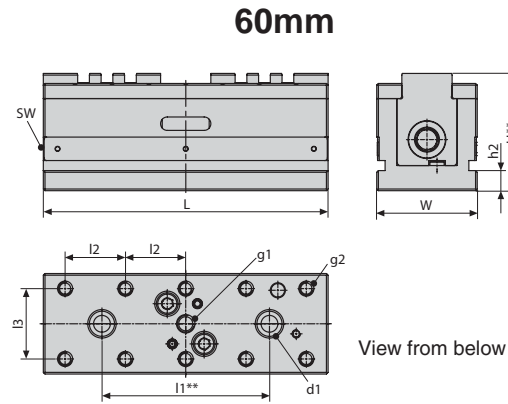
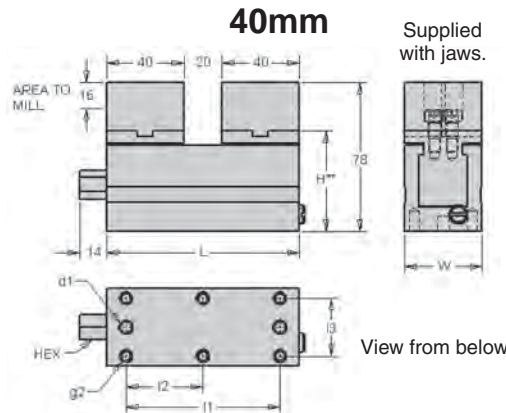
Part Number	Size	Clamping Force: (kN/Torque Nm)	Weight (Kg)	Dimensions (mm)											Hex (mm)		
				L	W	H**	d1*	g	g1	g2	h1**	h2	l1*	l2		l3	
81600	40mm	7.5 / 23	2.0	100	40	53	6H7 x8	-	-	M6 x 8	-	-	80	40.0	30	13	Male
80000	60mm	15 / 50	3.8	170	60	70	10F7	-	M10 x 11	M8 x 12	-	12	100	36.0	42	12	Male
80100	100mm	25 / 80	18.0	260	100	100	25 x 5/ M10 x 14	M8 x 11	-	M10 x 14	-	14	200	80.0	70	14	Male
80200	125mm	35 / 200	49.0	465	125	130	25 x 5/ M10 x 14	M12 x 16	-	M12 x 16	98	27	200	82.5	66	19	Male

Note: Vise handles included with each Jergens 5-Axis Vise

* Kg x 2.205= lbs Nm x 8.85= in. lbs

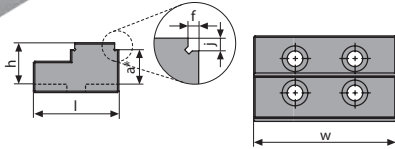
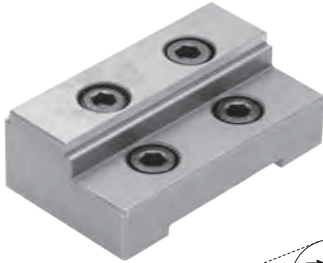
* Tolerance ±0.01mm

** Tolerance ±0.02mm



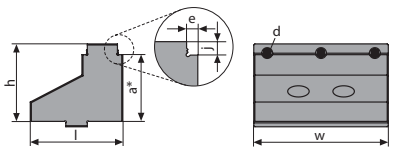


5-Axis Self Centering Jaws



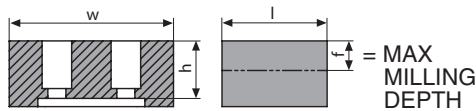
Reversible step jaw, 2 steps, hardened

Part Number	Vise(s)	Dimensions (mm)						Clamping Range min./max. (mm)
		l	w	h	a*	f	j	
80010	80000	49	60	23	18	3	5	6 – 150
80110	80100	60	100	30	25	3	5	6 – 204



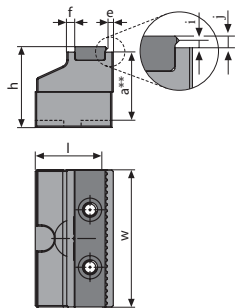
Reversible step jaw with interchangeable grip insert

Part Number	Vise	Dimensions (mm)							Clamping Range min./max. (mm)
		l	w	h	a*	d	e	j	
80210	80200	86	125	72	62	6x d10	5	10	10 – 400



Soft jaw for milling workpiece contours

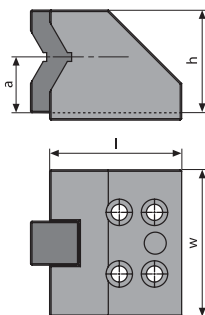
Part Number	Vise(s)	Dimensions (mm)			
		l	w	h	f
80015	80000	42	60	25	8
80115	80100	64	100	35	18
80215	80200	88	125	55	32



Pendulum jaw with interchangeable insert, hardened

For safe clamping of one workpiece with non-parallel clamping surfaces or two workpieces with different tolerances.

Part Number	Vise(s)	Dimensions (mm)								Clamping Range min./max. (mm)
		l	w	h	a**	e	f	i	j	
80120	80100	56	100	54	50	4.5	6	2.5	4	12 – 204
80220	80200	88	125	66	62	4.5	6	2.5	4	12 – 400



V-Type jaw with clamping inserts

Part Number	Vise(s)	Dimensions (mm)				Clamping Range min./max. (mm)
		l	w	h	a	
80030	80000	60	60	70	40	D10-76 (1)
80130	80100	64	100	70	38	D12-80 (2)

- (1) = D10 – 20, D20 – 58, D58 – 76
- (2) = D12 – 26, D25 – 54, D53 – 80

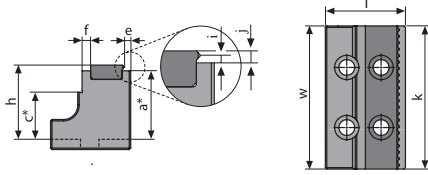
* Tolerance ±0.01mm
** Tolerance ±0.02mm

PRODUCTION VISES » JERGENS 5-AXIS



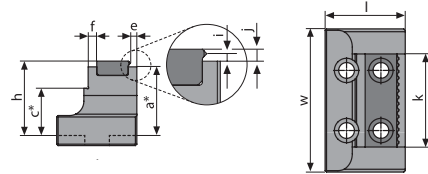
5-Axis Self Centering Step Jaws

Step Jaw with Hardened Jaw Insert (Wide)



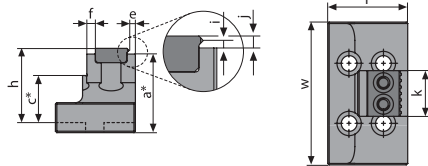
Part Number	Vise(s)	Dimensions (mm)										Clamping Range min./max.
		l	w	h	a*	c*	e	f	i	j	k	
80035	80000	56	60	34	30		4.5	6	2.5	4	60	12 – 126
80135	80100 / 80900	56	100	54	50	35	4.5	6	2.5	4	100	12 – 204
80235	80200	88	125	66	62	42	4.5	6	2.5	4	125	12 – 400

Step Jaw with Hardened Jaw Insert (Medium)



Part Number	Vise(s)	Dimensions (mm)										Clamping Range min./max.
		l	w	h	a*	c*	e	f	i	j	k	
80040	80000	56	60	34	30		4.5	6	2.5	4	35	12 – 126
80140	80100 / 80900	56	100	54	50	35	4.5	6	2.5	4	65	12 – 204
80240	80200	88	125	66	62	42	4.5	6	2.5	4	80	12 – 400

Step Jaw with Hardened Jaw Insert (Narrow)



Part Number	Vise(s)	Dimensions (mm)										Clamping Range min./max.
		l	w	h	a*	c*	e	f	i	j	k	
80145	80100 / 80900	56	100	54	50	35	4.5	6	2.5	4	32	12 – 204

* Tolerance ±0.01mm

5-Axis Self Centering Accessories

Positioning Pins, Various Diameters, for Grid Plate, set of 2



Part Number	Vise(s)	Ø (mm)
80060	80000	10/12
80160	80100 / 80200	25/12
80165	80100 / 80200	25/16

Positioning Pins, Various Diameters, for Table with T-Slots, Set of 2



Part Number	Vise(s)	Ø (mm)
80065	80000	10/14
80260	80100 / 80200	25/14
80265	80100 / 80200	25/18

Torque wrench

Part Number	Vise(s)	Torque (Nm)
80070	80000	5 – 60
80170	80100	20 – 120
80270	80200	40 – 200

Socket

Part Number	Vise(s)	Torque (Nm)
80071	80000	12
80171	80100	14
80271	80200	19

Clamping Claws, Set of 4, Including Screws

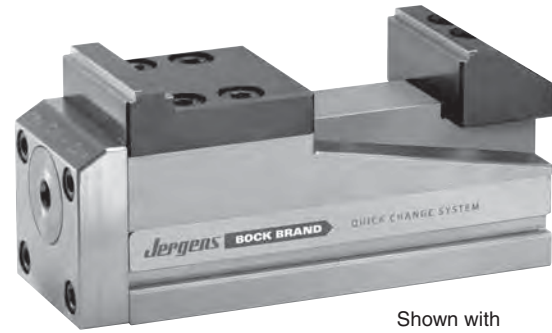
Part Number	Vise(s)	Torque (Nm)
80050	80000	M10
80053	80000	M12
80150	80100	M12
80250	80200	M12
80253	80200	M16



Jergens 5-Axis Fixed Jaw Vise

Designed especially for multi-face machining with a single clamping operation. Ideal for machining complicated workpieces in a single clamping operation, such as in mold making. These vises are small, but have a large holding capacity. A variety of jaw options increase the range of applications. Grip jaws and V-type jaws enhance the retention force of the workpiece. The hydraulic version provides automatic power clamping with exact force.

- Designed for 5-Axis machining
- Free access to the workpiece, allowing the use of short standard tools
- Simple and robust construction, smooth surfaces, easy cleaning
- Also suitable as a module for standard devices
- Comprehensive jaw selection



Shown with optional jaws.

Part Number	Size	Clamping Force‡ (kN/Torque Nm)	Weight (Kg)	Dimensions (mm)													Hex (mm)
				Stroke	L	W	H**	d1	g	g1	g2	h2	l1**	l2	l3	l4*	
80300	40mm	8.0 / 15 Nm	1.3	–	117	40	44	6H7	M5 x 6	–	M6 x 7	–	80	40	30	10	6 Female
80400	60mm	15.0 / 25 Nm	3.3	–	168	60	57	10F7	M6 x 10	M10 x 11	M8 x 12	12	100	36	42	17	8 Female
80500	60mm Hyd	15.0 / 260 bar	3.8	4	185	60	57	10F7	M6 x 10	M10 x 11	M8 x 12	12	100	36	42	17	8 Female

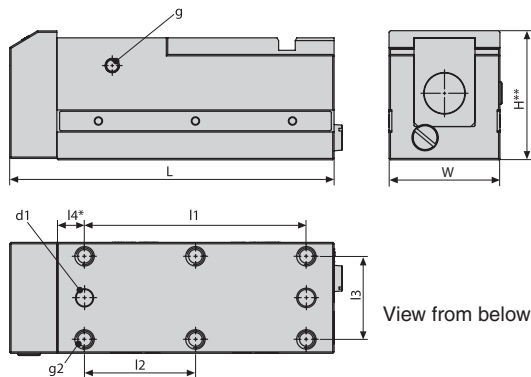
Note: Vise handles included with each Jergens 5-Axis Vise

* Kg x 2.205= lbs Nm x 8.85= in. lbs

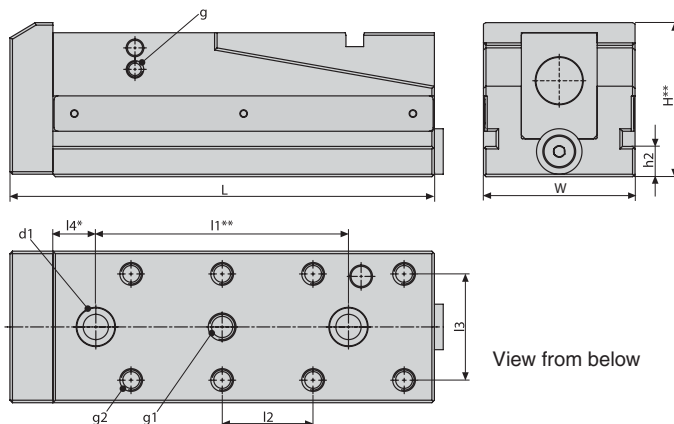
* Tolerance ±0.01mm

** Tolerance ±0.02mm

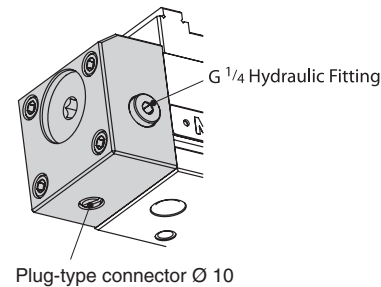
40mm



60mm / 60mm Hyd



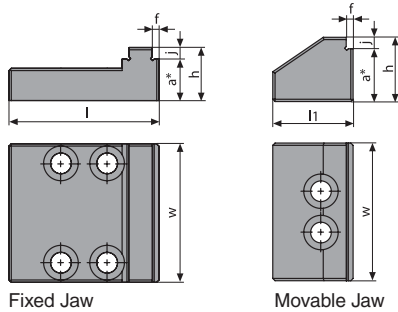
Hydraulic Drive Unit
60 HVD



PRODUCTION VISES » JERGENS 5-AXIS



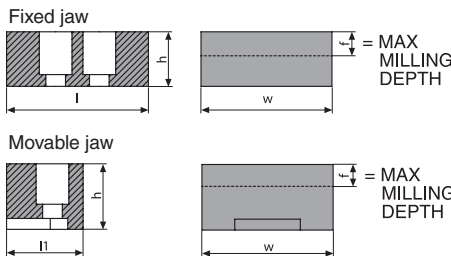
5-Axis Jaws for Fixed Jaw Vises



Step Jaw, Reversible

Part Number Fixed jaw	Part Number Movable jaw	Dimensions (mm)								Clamping Range min./max.
		Vise(s)	l	l1	w	h	a*	f	j	
80310	80315	80300	40	34	40	15	12	3	3	6 – 70
80410	80415	80400	65	35	60	23	18	3	5	6 – 106

l1 only for movable jaw



Block Jaw, Soft for Milling Workpiece Contours

Part Number Fixed jaw	Part Number Movable jaw	Dimensions (mm)					
		Vise	l	l1	w	h	f
80420	80425	80400	65	35	60	25	11

l1 only for movable jaw

* Tolerance ±0.01mm

5-Axis Fixed Jaw Accessories

Positioning Pins, Various Diameters, for Grid Plate, set of 2

Part Number	Vise(s)	Ø (mm)
80060	80400/80500	10/12

Positioning Pins, Various Diameters, for Table with T-Slots, Set of 2

Part Number	Vise(s)	Ø (mm)
80065	80400/80500	10/14

Torque Wrench

Part Number	Vise(s)	Torque (Nm)
80070	80300/80400	5 – 60

Socket

Part Number	Vise(s)	SW
80380	80300	6
80430	80400	8

Socket Wrench

Part Number	Vise	SW
80531	80500	8

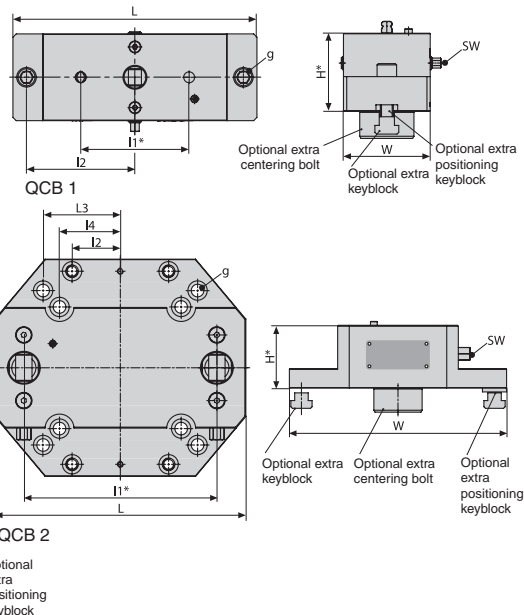
Clamping Claws, set of 4, Including Screws

Part Number	Vise(s)	Thread
80050	80400/80500	M10
80053	80400/80500	M12

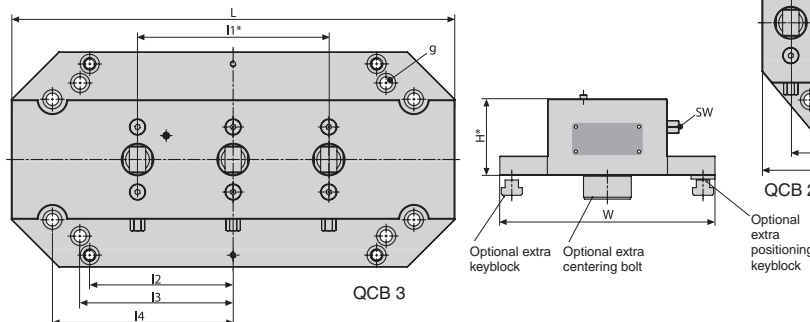
5-Axis Quick Clamping Block

The Jergens 5-Axis Quick Change System (QCB) is an ideal partner for the Jergens 5-Axis Clamping System. The QCB changes the workpiece position on 5-Axis machining centers. This helps reduce interference for the tool.

Rapid and precise change of clamping elements optimize efficiency. The QCB with its integral mechanical Zero-Point Clamping System provides you with the ability to increase productivity and lower costs.



* Tolerance ±0.01mm



Model	Part Number	L	W	H*	g	I1*	I2	I3	I4	Socket Wrench	Feeding force (kN / Nm)	Weight (Kg)
QCB 1	80600	225	80	72	KM12	100	100			8	12 / 60	9
QCB 2	80700	260	225	65	KM12	200	50	80	63	13	2x 20 / 80	18
QCB 3	80800	464	225	80	KM12	200	150	160	189	13	3x 20 / 80	42

Accessories: Fastening and Positioning

Centering Bolts for QCB 1, 2, 3

Part Number	Ø mm	L
80610	D 30 g6	25 / 48
80615	D 32 g6	25 / 48
80620	D 50 g6	25 / 48
80625	D 50 g6	18 / 41

Centering Bolts, Set

Part Number	Models
80630	QCB 1 / 80000 + 81000
80710	QCB 2 / 80100 + 81100
80810	QCB 3 / 80200

Positioning Keyblock with Screw

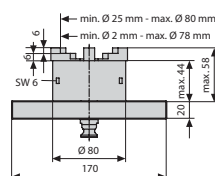
Part Number	T-Slot (mm)
80640	DIN 6322, 1 pc.

Positioning pin for QCB 2, 1 pc.

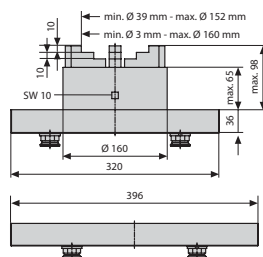
Part Number	Ø (mm)
80065	10/14

Keyblock with Screws

Part Number	T-Slot (mm)
80650	DIN 508, 4 pcs.



80655 Adapter Plate for QCB 1 with Self-Centering Chuck DIN 6350-1 with pull-in bolt, plate 170 x 80 mm



80715 Adapter Plate for QCB 2 with Self-Centering Chuck DIN 6350-1 with pull-in bolt, plate 320 x 160 mm

80716 Adapter Plate for QCB 2 with pull-in bolt, parallelism 0.008/100 mm can be customized by the user



80656 Adapter Plate for QCB 1 with Pull-In Bolt, Parallelism 0.008/100 mm can be customized by the user

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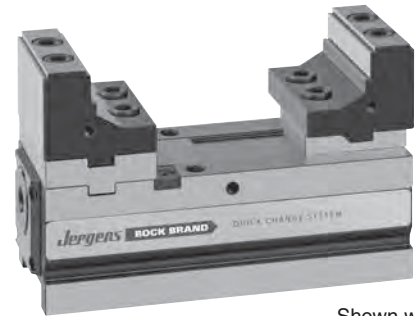


5-Axis Compact Vises

New machining technologies and manufacturing methods call for the development of new solutions in clamping technology. The Jergens 5-Axis Compact Vise, with its short base and easy movement of the fixed jaw, is ideal for 5-sided machining.

The well balanced design of the guide between the base and the moveable jaw allows the use of high clamping jaws, for performing machining operations close to the workpiece.

The base is made from cast steel for rigidity and dimensional stability. All sides are hardened and ground.



Shown with optional jaws.

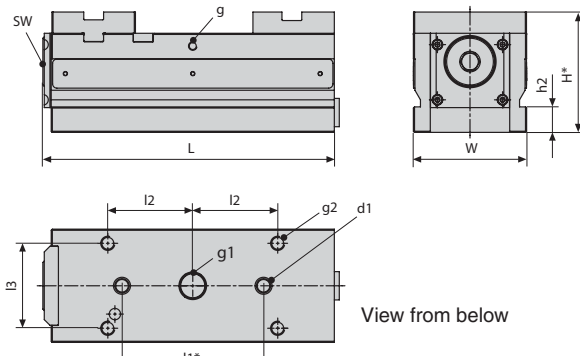
Part Number	Size	Clamping Force* (kN/Torque Nm)	Weight (Kg)	Dimensions (mm)													Hex (mm)
				Stroke	L	W	H*	d1*	g	g1	g2	h2	l1*	l2	l3		
81000	80mm Man	25/ 60 Nm	8.8	–	206	80	85	10F7	M6 x 10	M10 x 11	M10 x 16	18	100	60	60	12 Female	
81100	120mm Man	40/100 Nm	18.4	–	260	120	100	25 x 5/ M10 x 14	M8 x 15		M12 x 18	18	200	100	80	14 Female	
81200	80mm Hyd	20/310 bar	9.0	4	227	80	85	10F7	M6 x 10	M10 x 11	M10 x 16	18	100	60	60	12 Female	
81300	120mm Hyd	40/270 bar	20.4	4	282	120	100	25 x 5/ M10 x 14	M8 x 15		M12 x 18	18	200	100	80	14 Female	

Note: Vise handles included with each Jergens 5-Axis Vise

* Tolerance ±0.01mm

* Kg x 2.205= lbs Nm x 8.85= in. lbs

80mm / 80mm Hyd



- High degree of freedom for spindle and tools; low risk of collision
- Well suited for short standard tools
- Repeatable and controllable clamping forces of up to 25 kN Compact 80 and 40 kN Compact 120
- Jaw with a special grip for maximum holding force (factor 3 as compared with standard jaw)

120mm / 120mm Hyd

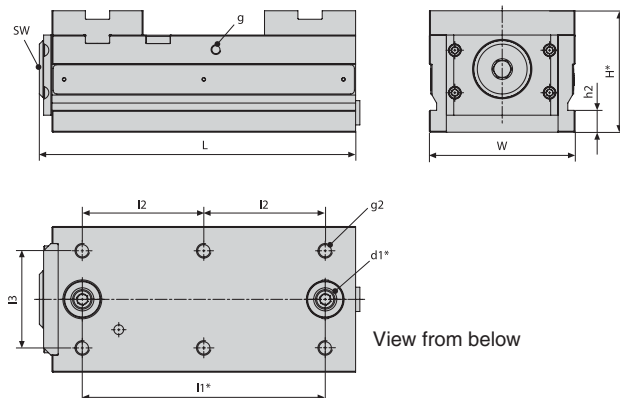
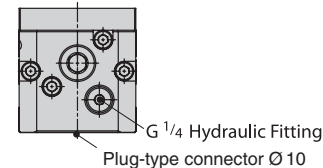
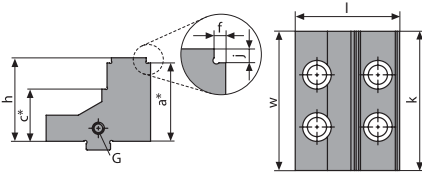


Figure: Hydraulic drive unit C80, C120



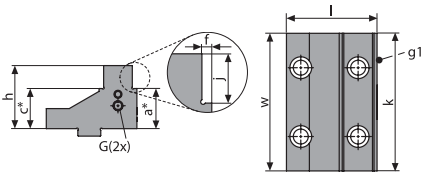


5-Axis Compact Vise Jaws



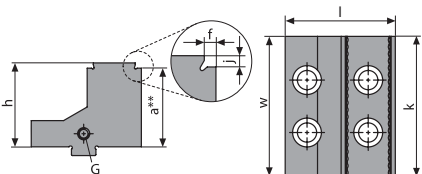
Precision Step Reversible Jaw for 81000 / 81200

Part Number	Dimensions mm									Clamping Range min./max.
	l	w	h	a*	c*	f	G	j	k	
81010	60	50	48	45	30	2.5	M6 x 10	3	25	5 – 155
81015	60	50	48	45	30	2.5	M6 x 10	3	50	5 – 155
81020	60	80	48	45	30	2.5	M6 x 10	3	80	5 – 155



Precision Step Reversible Jaw for 81100 / 81300

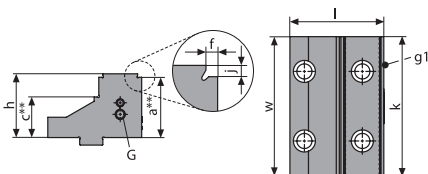
Part Number	Dimensions (mm)									Clamping Range min./max.	
	l	w	h	a*	c*	f	G	g1	j		k
81110	79	84	55	35	35	4	M8 x 14	M4 x 7	20	40	8 – 200
81120	79	84	55	35	35	4	M8 x 14	M4 x 7	20	84	8 – 200
81125	79	120	55	35	35	4	M8 x 14	M4 x 7	20	120	8 – 200



Special Grip Jaw for 81000 / 81200

Provides maximum retaining force

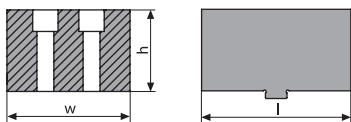
Part Number	Dimensions (mm)									Clamping Range min./max.
	l	w	h	a**	f	G	j	k		
81025	63	50	48	45	3.5	M6 x 10	3	25	7 – 151	
81030	63	50	48	45	3.5	M6 x 10	3	50	7 – 151	
81040	63	80	48	45	3.5	M6 x 10	3	80	7 – 151	



Special Grip Jaw for 81100 / 81300

Provides maximum retaining force

Part Number	Dimensions (mm)									Clamping Range min./max.	
	l	w	h	a**	c**	f	G	g1	j		k
81130	81	84	55	52	35	3.5	M8 x 14	M4 x 7	3	40	7 – 195
81135	81	84	55	52	35	3.5	M8 x 14	M4 x 7	3	84	7 – 195
81140	81	120	55	52	35	3.5	M8 x 14	M4 x 7	3	120	7 – 195



Soft Jaws

Part Number	Vise(s)	Dimensions (mm)			Material
		l	w	h	
81045	81000 / 81200	97	80	53	Steel C 45
81050	81000 / 81200	97	80	53	Aluminium
81145	81100 / 81300	97	120	53	Steel C 45
81150	81100 / 81300	97	120	53	Aluminium

* Tolerance ±0.01mm

** Tolerance ±0.02mm

PRODUCTION VISES » JERGENS 5-AXIS



5-Axis Compact Vise Accessories



Positioning Pins, Various Diameters, for Grid Plate, set of 2

Part Number	Vise(s)	Ø (mm)
80060	81000 / 81200	10/12
80160	81100 / 81300	25/12
80165	81100 / 81300	25/16



Positioning Pins, Various Diameters, for Table with T-Slots, set of 2

Part Number	Vise(s)	Ø (mm)
80065	81000 / 81200	10/14
80260	81100 / 81300	25/14
80265	81100 / 81300	25/18

Clamping Claws, set with M10 Fastening Screws

Part Number	Vise(s)	Qty.
81075	81000 / 81200	4
81180	81100 / 81300	6

Double Clamping Claws, set with M10 Fastening Screws

Part Number	Vise(s)	Qty.
81080	81000 / 81200	4
81185	81100 / 81300	6

Torque Wrench

Part Number	Vise(s)	Clamping Force (Nm)
80070	81000	5 – 60
80170	81100	20 – 120

Socket for Torque Wrench

Part Number	Vise(s)	SW
81060	81000	12, 3/8"
81160	81100	14, 1/2"



C80



C120

Workstops

Part Number	Vise(s)
81090	81000 / 81200
81195	81100 / 81300



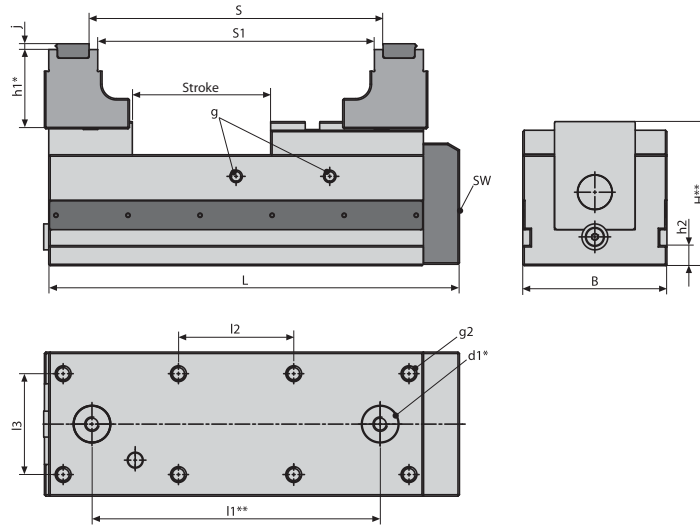
Jergens 5-Axis Fixed Jaw Vise with Reversible and Interchangeable Inserts



With reversible (1 face flat, 1 face with grip) and interchangeable inserts, as well as round inserts (with grip), this vise allows machining of both machined and un-machined parts. Insert design minimizes change over time and an all-steel construction guarantees a long service life and high stability. With pre-drilled holes in the base for positioning and fastening, the vise is ideal for use with Jergens' Zero Point System and Ball Lock® Quick Change System.

- Suitable for clamping both un-machined and machined parts
- Interchangeable inserts allow machining of the 6th face with minimal set up
- Free access to the workpiece, allowing the use of standard tools
- Minimal clamping edge reduces material losses

Part Number	Size	Clamping Force (kN/Nm)	Weight (Kg)	Stroke (mm)	S	S1	L	B	H	d1	g	g2	h1	h2	l1	l2	l3	j	SW
80900	100mm	25/60	19.6	96	18-204	6-192	285	100	100	25 x 5/M10 x 14	M8 x 15	M10 x 15	50	14	200	80	70	4	12



Jergens 5-Axis Fixed Jaw Vise Accessories

Clamping Claws

Set of 4 pieces, with nuts

Part Number	Vise	Thread
80150	80900	M12

Torque Wrench

Part Number	Vise	Torque (Nm)
80070	80900	5-60

Socket for Torque Wrench

Part Number	Vise	Width Across Flats
81060	80900	12

Workpiece Stop

Part Number	Vise
81195	80900

PRODUCTION VISES » JERGENS 5-AXIS



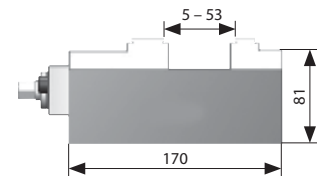
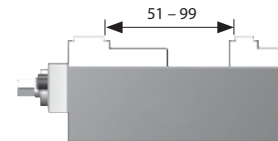
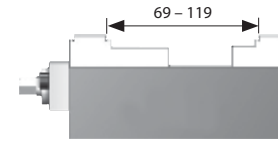
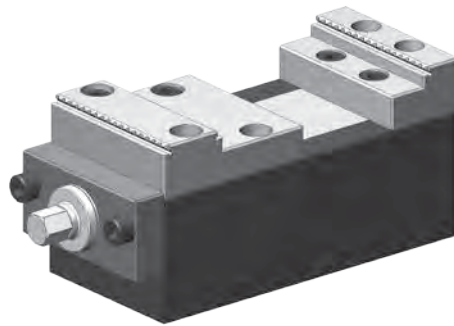
Jergens 5-Axis Pallet Clamps

Jergens pallet clamps (comprised of clamping jaws with a grip structure) can be used either for concentric clamping or for clamping to the fixed jaw. These pallet clamps are an effective, affordable clamping solution.

- 2 designs available: concentric clamping or clamping to a fixed jaw
- Highest quality, compact, all-steel construction
- Precise clamping
- Easy to dismantle and clean

Fixed Pallet Clamp

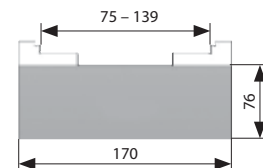
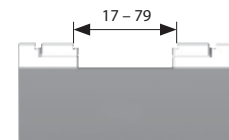
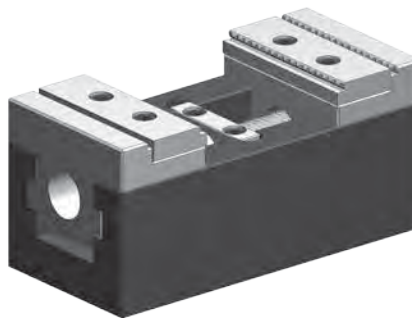
Clamping to the fixed jaw
Clamping jaws with a grip structure



Part Number	Clamping Principle	Jaw Width (mm)	Clamping Force (kN)	Clamping Width (mm)	Clamping Step (mm)	Weight (Kg)
81400	Against the fixed jaw	80	20 at 60 Nm	5 – 119	4 x 4	6.9

Concentric Pallet Clamp

Concentric clamping
Clamping jaws with a grip structure



Part Number	Clamping Principle	Jaw Width (mm)	Clamping Force (kN)	Clamping Width (mm)	Clamping Step (mm)	Weight (Kg)
81500	Concentric clamping	80	20 at 60 Nm	15 – 139	4 x 4	6.4

POWER CLAMPING

Power Clamping

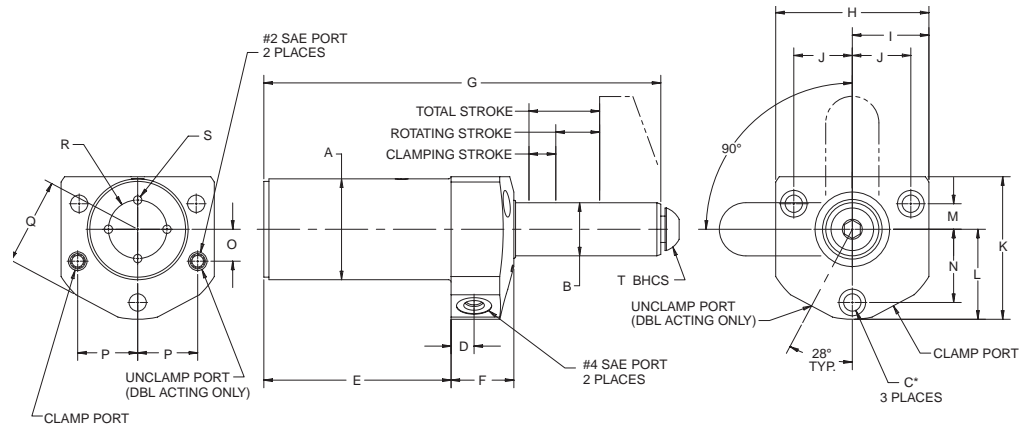
Air Circuit Controls – 2-Hand No Tie Down	191	Repair Kits.....	201
Booster Clamping Kit.....	181	Rotary Couplers	196
Boosters, High Pressure/Volume.....	179	Swing Cylinder Arms.....	138
Boosters Installation Kits	180	Swing Cylinder – Bottom Flange	137
Boosters, Pre-Fill.....	176	Swing Cylinder – Top Flange	136
Boosters, Pre-Fill Accessories.....	177	Tubing, Steel.....	200
Boosters, Standard & Accessories	178	Valves, Air Circuit.....	190–191
Clamps, Toe	144–145	Valves, Flow Control.....	189, 194
Cylinders, Block	158–159	Valves, Flow Limit.....	174
Cylinders, Double Acting	155	Work Supports	146–147
Cylinders, Flange Mount	160	Air-Powered Hydraulic Pumps.....	183–184
Cylinders, Hollow Rod	148–149	Block Clamp.....	172
Cylinders, Intensifier	161–162	Breadbox™ Pump	184
Cylinders, Miniature.....	150	Proximity Switch.....	168–169
Cylinders, Single Acting	154	Pump Kits and Accessories	183–186
Cylinders, Swing	136–141	Sensor Interlock.....	167
Cylinders, Threaded.....	150–152	Shoebox™ Pump	183
Fittings.....	198–199	Staylock Clamps.....	164–175
Hoses – Air & Hydraulic	200	Valves, Flow Limit.....	174
Hydraulic Fluids	195	Valves and Subplates for Air Powered Hydraulic Pumps	186
Hydraulic Gauges	191		
Hydraulic Intensifier.....	182		
Inserts, Toe.....	144		
Jam Nuts.....	153		
Manifolds	196		
Mounting Brackets - Cylinders.....	156		
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Pallet Decoupler Valve	188		
Piston Buttons.....	153		
Pumps, Air – Breadbox™	184		
Pumps, Manual	187		
Pumps, Shoebox™	183		
Power Pac, Pre-Fill.....	181		
Quick Disconnects Air & Hydraulic	200		

Jergens®

MANUFACTURING EFFICIENCY



Swing Cylinder – Top Flange/Manifold Mount



The piston rotates 90° to the right, but may be ordered with 90° left rotation (add - LH to clamp part no.) or no rotation (add - SP to clamp part no.)

- Clamping capacity from 1,100-5,000 lbs. max.
- Versatile manifold mount or conventionally plumbed
- Single and Double Acting available
- Available in three body sizes
- Assortment of Clamping Arms (sold separately) See page 138
- Popular top flange mounting design

These popular and highly adaptable swing style cylinders contain built in features, which allow users to simplify the design process. They are directly interchangeable with competitive products.

Specifications	Single Acting			Double Acting		
	60660	60662	60664	60670	60672	60674
Maximum Output Force (lbs)	1100	2600	5000	1100	2600	5000
Stroke (in) Total	.79	1.16	1.66	.76	1.16	1.66
Rotating	.48	.66	1.03	.45	.64	1.03
Clamping	.31	.50	.63	.31	.52	.63
Operating Volume Clamp (cu in)	.23	.72	1.95	.23	.72	1.98
Operating Volume Unclamp (cu in)	N/A	N/A	N/A	0.46	1.43	4.00
Minimum Operating Pressure (psi)	750	750	750	500	500	500
Maximum Operating Pressure (psi)	5000	5000	5000	5000	5000	5000
Effective Piston Area (sq in)	.30	.62	1.18	.30	.62	1.18

Part No.	*Counter Bore Size
60660 60670	1/4" S.H.C.S.
60662 60672	5/16" S.H.C.S.
60664 60674	3/8" S.H.C.S.

* Mounting Hole Counter Bore

WARNING:

All swing cylinders must be used with flow limit valves to dampen the rotating action. Please see maximum flow rate shown below. See page 142.

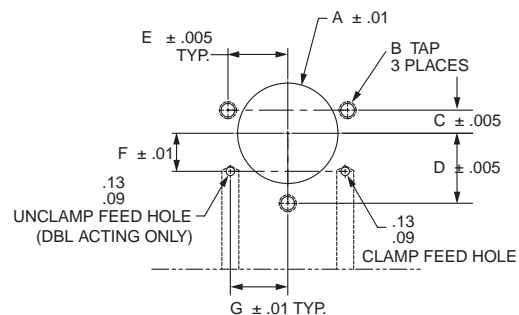
CAUTION! DON'T ALLOW SWING ARM TO CONTACT THE WORKPIECE OR FIXTURE WHILE ROTATING.

Top Flange Mount

Single Acting Part No.	Double Acting Part No.	A	B	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
60660	60670	1.43	0.623	0.38	2.57	1.03	5.28	2.31	1.16	0.88	2.06	1.32	0.34	1.03	0.56	.845	1.23	0.66	0.136	3/8-24 x 5/8
60662	60672	1.75	0.874	0.41	3.35	1.06	6.78	2.69	1.35	1.00	2.53	1.63	0.44	1.25	0.53	1.05	1.53	1.00	0.196	1/2-20 x 3/4
60664	60674	2.37	1.247	0.54	4.40	1.48	9.33	3.60	1.80	1.38	3.35	2.12	0.60	1.72	0.75	1.41	2.04	1.38	0.196	5/8-18 x 1

Manifold Mounting Dimensions - Top Flange

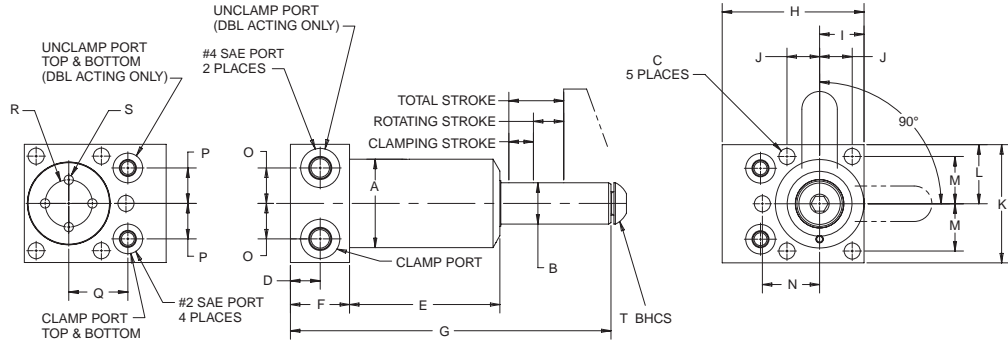
Single Acting Part No.	Double Acting Part No.	A	B	C	D	E	F	G
60660	60670	1.476	1/4-20	0.340	1.030	0.880	0.560	0.845
60662	60672	1.809	5/16-18	0.440	1.250	1.000	0.530	1.050
60664	60674	2.433	3/8-16	0.600	1.720	1.375	0.750	1.410



Inch to metric fittings available – see page 199.



Swing Cylinder – Bottom Flange/Manifold Mount



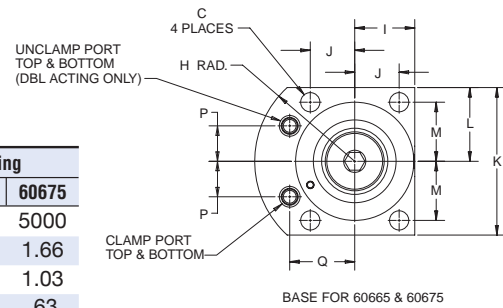
- Clamping capacity from 1,100-5,000 lbs. max.
- Manifold mounting or standard plumbing
- Single and Double Acting available
- Highly adaptable flange mount design (Clamping Arms sold separately)

The piston rotates 90° to the right, but may be ordered with 90° left rotation (add - LH to clamp part no.) or no rotation (add - SP to clamp part no.)

Bottom Flange Swing Cylinders offer versatility as a through hole bottom mount or top plate mounting device.

Specifications	Single Acting			Double Acting		
	60661	60663	60665	60671	60673	60675
Maximum Output Force (lbs)	1100	2600	5000	1100	2600	5000
Stroke (in) Total	.79	1.16	1.66	.76	1.16	1.66
Rotating	.48	.66	1.03	.45	.64	1.03
Clamping	.31	.50	.63	.31	.52	.63
Operating Volume Clamp (cu in)	.23	.72	1.96	.23	.72	1.98
Operating Volume Unclamp (cu in)	N/A	N/A	N/A	0.46	1.43	4.00
Minimum Operating Pressure (psi)	750	750	750	500	500	500
Maximum Operating Pressure (psi)	5000	5000	5000	5000	5000	5000
Effective Piston Area (sq in)	.30	.62	1.18	.30	.62	1.18

CAUTION! DON'T ALLOW SWING ARM TO CONTACT THE WORKPIECE OR FIXTURE WHILE ROTATING.



BASE FOR 60665 & 60675

WARNING:

All swing cylinders must be used with flow limit valves to dampen the rotating action. Please see maximum flow rate shown below. See page 142.

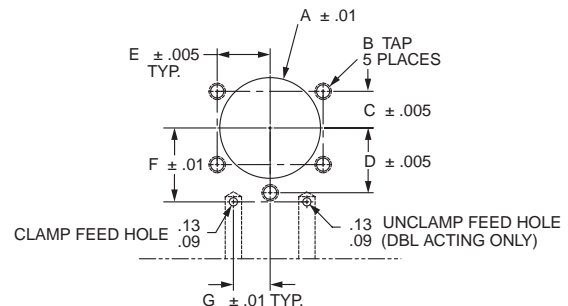
Bottom Flange Mount

Single Acting Part No.	Double Acting Part No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
60661	60671	1.50	0.623	0.28	0.63	2.40	1.25	5.29	2.50	0.75	0.56	2.00	1.00	0.81	0.99	0.56	0.56	1.13	0.66	0.136	3/8-24 x 5/8
60663	60673	1.87	0.874	0.34	0.63	3.18	1.25	6.78	3.00	0.94	0.69	2.50	1.25	1.00	1.21	0.75	0.75	1.25	1.00	0.196	1/2-20 x 3/4
60665	60675	2.50	1.247	0.41	0.74	4.39	1.50	9.34	3.39	1.27	0.94	3.12	1.56	1.25	-	-	0.75	1.38	1.38	0.196	5/8-18 x 1

Manifold Mounting Dimensions - Bottom Flange

Single Acting Part No.	Double Acting Part No.	A	B	C	D	E	F	G
60661	60671	1.540	1/4-20	0.560	0.990	0.810	1.130	0.562
60663	60673	1.920	5/16-18	0.690	1.210	1.000	1.250	0.750
60665	60675	2.550	3/8-16	0.940	-	1.250	1.375	0.750

Inch to metric fittings available – see page 199.

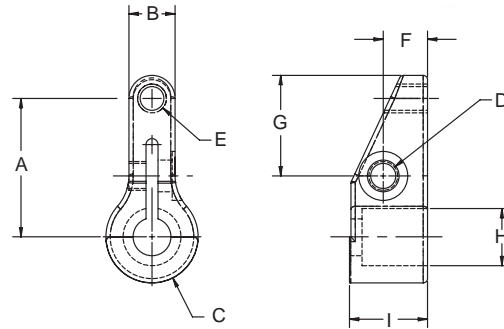




Swing Cylinder Arms



- Material: Cast 4140
- Heat Treatment: Hardened and Drawn Rc 32-36

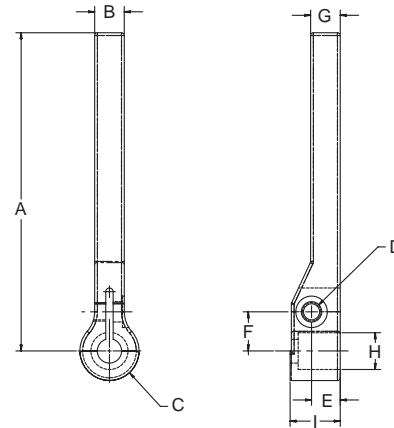


Single Arms - Standard Length

Part No.	A	B	C	D	E	F	G	H	I
60930	1 1/2	1/2	1	5/16-24	5/16-18	31/64	1 3/32	.6255/.6275	27/32
60931	2	3/4	1 3/8	3/8-24	3/8-16	43/64	1 9/16	.8755/.8775	1 5/32
60932	2 1/2	1 1/4	1 7/8	5/8-18	5/8-11	7/8	1 7/8	1.2505/1.2525	1 21/32



- Material: Cast 4140
- Heat Treatment: Hardened and Drawn Rc 32-36

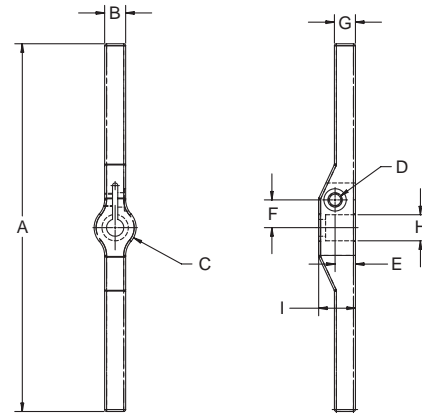


Single Arms - Long

Part No.	A	B	C	D	E	F	G	H	I
60933	5 3/8	1/2	1	5/16-24	31/64	21/32	1/2	.6255/.6275	27/32
60934	6 3/8	3/4	1 3/8	3/8-24	43/64	13/16	5/8	.8755/.8775	1 5/32
60935	6 1/2	1 1/4	1 7/8	5/8-18	7/8	1 1/4	3/4	1.2505/1.2525	1 21/32



- Material: Cast 4140
- Heat Treatment: Hardened and Drawn Rc 32-36



Double Arms - Long

Part No.	A	B	C	D	E	F	G	H	I
60936	8 3/4	1/2	1	5/16-24	31/64	21/32	1/2	.6255/.6275	7/8
60937	10 3/4	3/4	1 3/8	3/8-24	43/64	13/16	5/8	.8755/.8775	1 13/64
60938	11	1 1/4	1 7/8	5/8-18	7/8	1 1/4	3/4	1.2505/1.2525	1 45/64



Swing Cylinder - Application Information

- Arm length can effect clamping pressure - See Chart and Data
- Weight should be considered when utilizing modified or special arms, other than those provided by Jergens. Excessive weight and length may damage external rotating components.
- Speed of operation is a major consideration. All swing cylinders **MUST BE USED WITH FLOW LIMIT VALVES** to show the rotation action.
- Full second rotation time is recommended.
- Care should be used when select hydraulic power sources - be aware of maximum operating pressures.

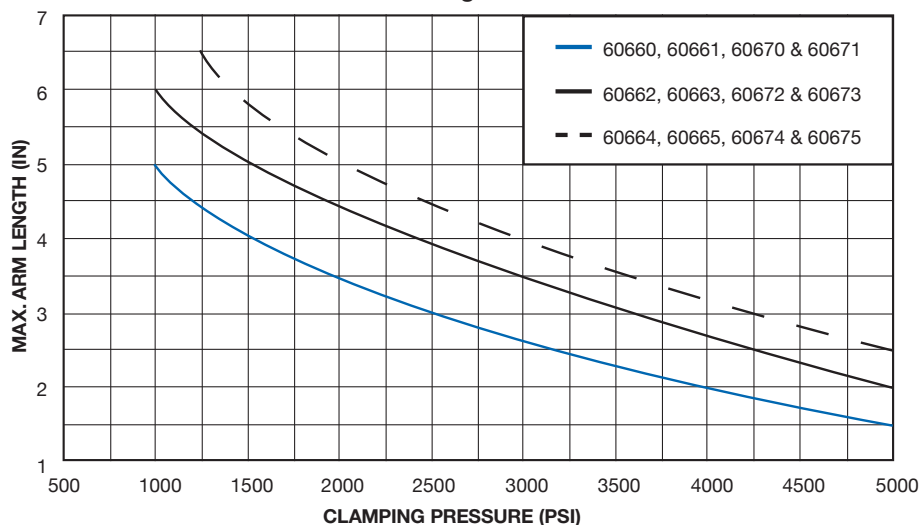
Swing Cylinder Arm Ratings

Small Cylinders (1,100#) p/n's 60660, 60670, 60661, & 60671	
input pressure (psi)	max. arm length (in)
1,500	5.0
1,750	4.3
2,000	3.8
2,250	3.3
2,500	3.0
2,750	2.7
3,000	2.5
3,250	2.3
3,500	2.1
3,750	2.0
4,000	1.9
4,250	1.8
4,500	1.7
4,750	1.6
5,000	1.5

Medium Cylinders (2,600#) p/n's 60662, 60672, 60663, & 60673	
input pressure (psi)	max. arm length (in)
1,666	6.0
1,750	5.7
2,000	5.0
2,250	4.4
2,500	4.0
2,750	3.6
3,000	3.3
3,250	3.1
3,500	2.9
3,750	2.7
4,000	2.5
4,250	2.4
4,500	2.2
4,750	2.1
5,000	2.0

Large Cylinders (5,000#) p/n's 60664, 60674, 60665, & 60675	
input pressure (psi)	max. arm length (in)
1,923	6.5
2,000	6.3
2,250	5.6
2,500	5.0
2,750	4.5
3,000	4.2
3,250	3.8
3,500	3.6
3,750	3.3
4,000	3.1
4,250	2.9
4,500	2.8
4,750	2.6
5,000	2.5

Max. Arm Length vs. Pressure





Swing Cylinders



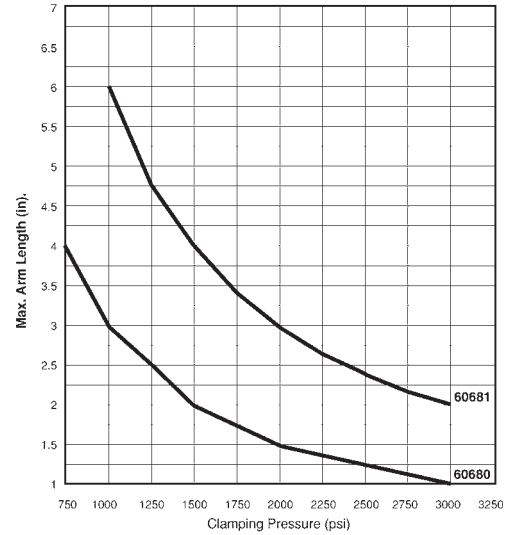
These versatile swing cylinders/clamps can be used as single or double acting rotating clamps, or push/pull cylinders. The piston in the Swing Cylinders rotate 90° to the right, but may easily be changed to 90° left rotation, or to no rotation at all.

WARNING:

All swing cylinders must be used with flow limit valves to dampen the rotating action. Please see maximum flow rate shown below. See page 142.

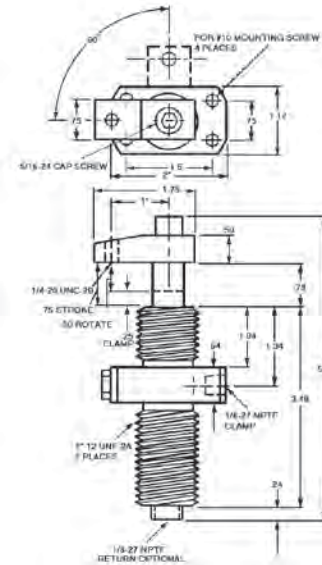
- Standard with an arm
- Can be mounted using four #10 cap screws or the 1"-12 thread on the O.D. of the cylinder
- Optional components include the threaded mounting bracket and jam nut shown below
- Can be used as a non-rotating clamp
- Maximum recommended flow rate is 20 cubic inches per minute per clamp (approximately 1 second clamp time)
- **Note: Arm length can affect clamping pressures. See chart at right for more information.**
- Available in Fixture Pro® Design Software

Maximum Arm Length Vs. Pressure
Swing Cylinder with Single Arm



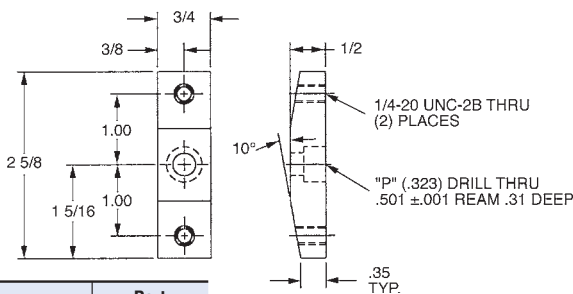
Specifications

60680 Swing Cylinder	Clamp (pull)	Return (push)
Operating Volume (cu in)	.18	.33
Effective Piston Area (sq in)	.24	.44
Minimum Operating Pressure (psi)	120	-
Maximum Operating Pressure (psi)	3000	3000
Maximum Output Force (lbs)	730	1320
Stroke (in): Full	.75	.75
Rotating	.50	.50
Clamping	.25	.25
Weight (lbs)	1	1



Accessories

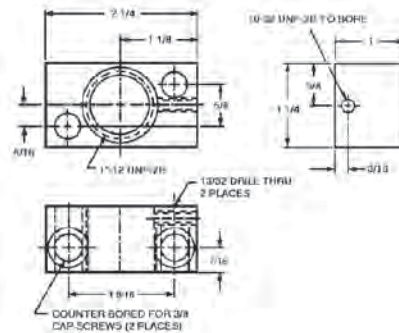
Double Arm



Description	Part Number
Mounting Block	60953
Hex Jam Nut	60964
Optional Double Arm	60923

See page 153.

Mounting Block



Inch to metric fittings available – see page 199.

POWER CLAMPING



Swing Cylinders Large



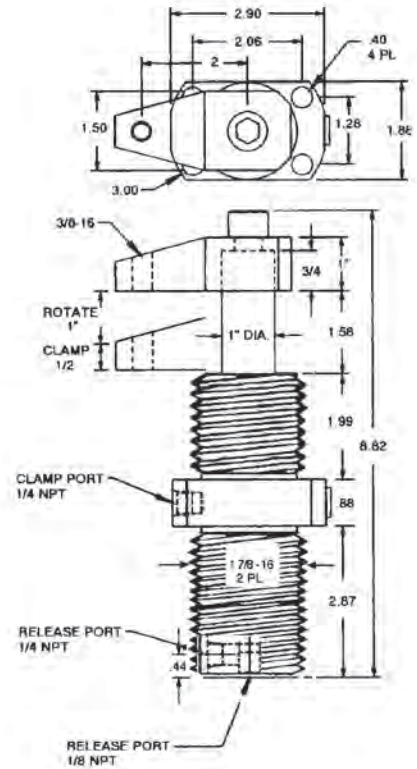
- Standard without an arm.
- Socket Head Cap Screw is included.
- Single or double arms are available.
- Can be mounted using four 3/8" cap screws, or the 1 7/8"-16 O.D. thread of the cylinder.
- Optional components include a jam nut or a mounting bracket to replace old Jergens part number 60621.
- Can be used as a non-rotating clamp.
- Maximum recommended flow rate is 90 cubic inches per minute per clamp. (Approximately 1 second clamp time.)
- **Note: Arm length can affect clamping pressures. See chart, page 140, for more information.**
- Available in Fixture Pro® Design Software

Specifications

60681 Swing Cylinder	Clamp (pull)	Return (push)
Operating Volume (cu in)	1.5	2.7
Effective Piston Area (sq in)	.98	1.77
Minimum Operating Pressure (psi)	200	—
Maximum Operating Pressure (psi)	3000	3000
Maximum Output Force (lbs)	2900	5300
Stroke (in): Full	1.5	1.5
Rotating	1	1
Clamping	.50	.50
Weight (lbs)	5	5

WARNING:

All swing cylinders must be used with flow limit valves (see page 142) to dampen the rotating action. Please see maximum flow rate shown above.



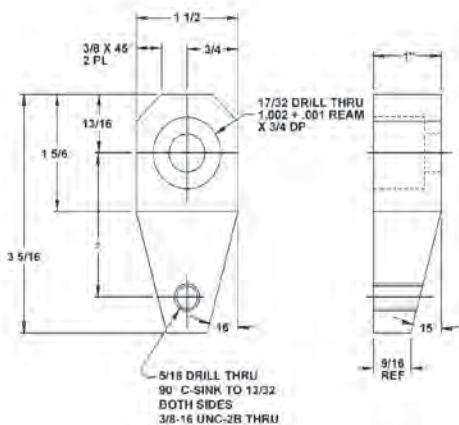
Jam Nut
Part
Number
60967

See page 153.

Accessories

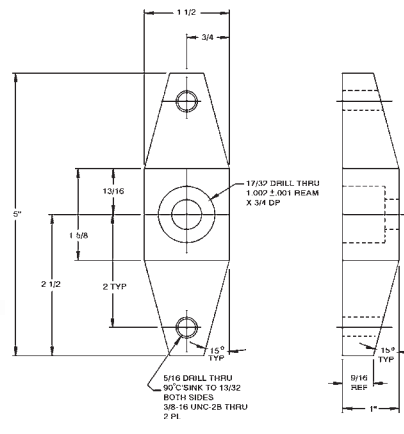
Single Arm
Part
Number

60921



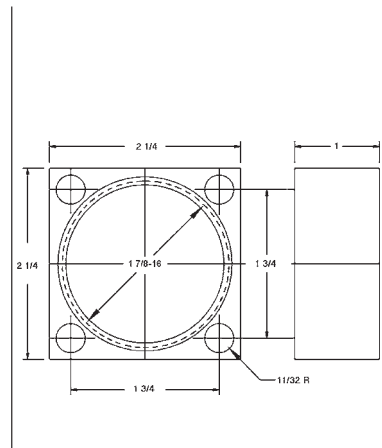
Double Arm
Part
Number

60922



Mounting Bracket
Part
Number

60954



Inch to metric fittings available – see page 199.



Swing Clamps



Jergens Swing Clamps are designed to swing 80° away from the workpiece to allow easy accessibility for part insertion or removal. Swing Clamps may be used in any attitude. The clamping arm may be positioned to swing either to the left or right by repositioning one cap screw. The right hand swing is standard.

- Right or Left Hand Swing
- 4800 lbs. Clamping Force
- Operates in any position
- Clamp arm has 1/4" of vertical travel
- Can be used with flood coolant
- Available in Fixture Pro® Design Software

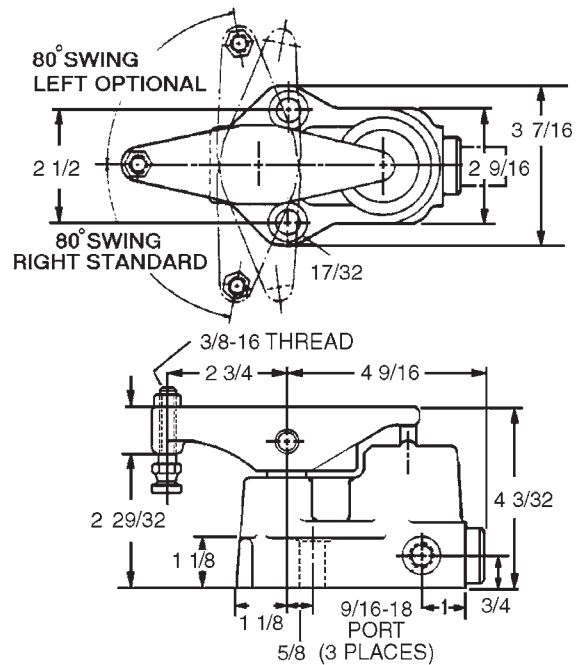
Specifications

Part Number	60685
Operating Volume (Cu. In.)	1.6
Minimum Operating Pressure (psi)	80*
Maximum Operating Pressure (psi)	3000
Maximum Output Force (lbs.)	4800
Weight (lbs.)	9.25

*80 psi to swing, 200 psi to clamp.

IMPORTANT:

Jergens Swing Clamps are built to operate on pre-fill systems allowing much larger circuits to be used. To use a Jergens Swing Clamp with a standard booster or with any other power source you **must** use the Flow Limit Valve shown below.

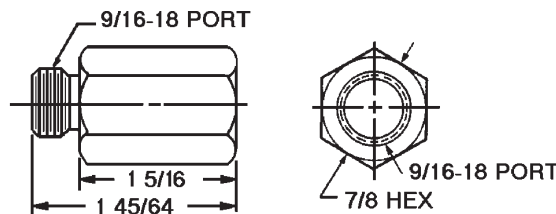


Flow Limit Valves



The Flow Limit Valve restricts the flow of oil to dampen the rotating action of the Swing Clamp. Flow Limit Valves are not needed with 36:1 or 71:1 Air Powered Hydraulic Pumps. (Part Number 61755 or 61756).

Part Number	61648
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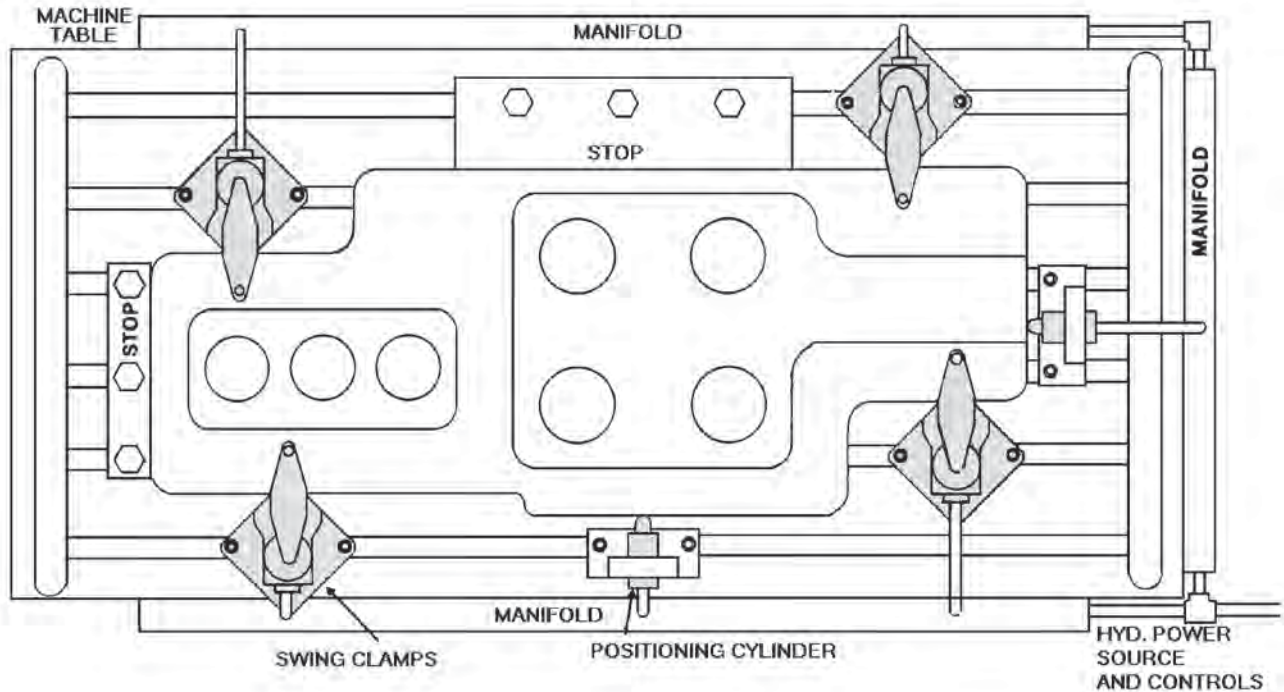


Inch to metric fittings available – see page 199.

POWER CLAMPING



Swing Clamp Application



For hydraulic clamping directly on the machine table, use Jergens Swing Clamps and Mounting Plates. The workpiece is positioned using Threaded Cylinders and fixed stops. Manifolds at the edges of the table, with hydraulic quick disconnects, allow any number of clamps to be used.

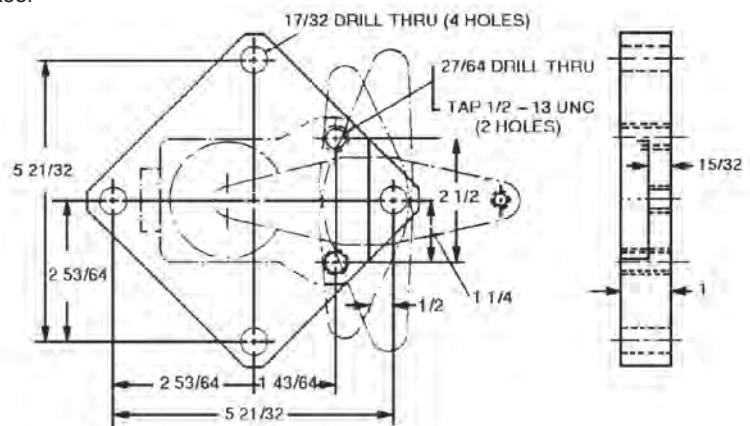
Mounting Plates



- Material: Low Carbon Steel
- Finish: Black Oxide
- Available in Fixture Pro® Design Software

Part Number
60971

Mounting plates are subplates for Swing Clamps and are designed to save fixturing cost and allow versatility in set-ups. Mounting Plates may be bolted directly to your machine table and moved to any location on the table. Each mounting plate has pre-drilled mounting holes or can be easily adapted to your machine table or application.





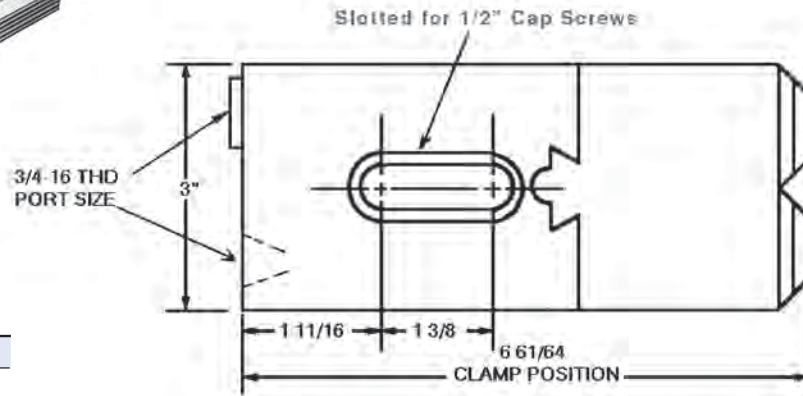
Toe Clamps



Features

- Single Acting
- Low Profile
- Direct Mounting
- 3/16" Stroke
- 3000 lbs. Force
- Steel or Brass Toe Insert Available
- Available in Fixture Pro® Design Software

U.S. Patents:
No. 4406445

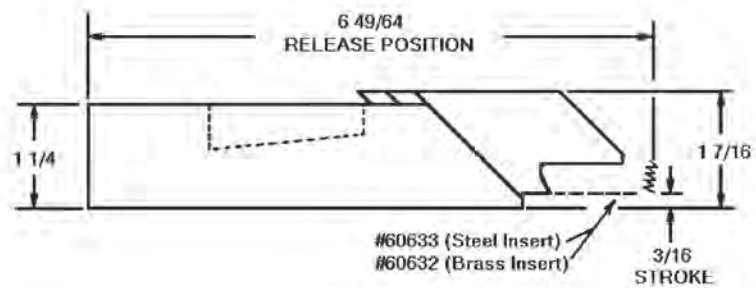


Specifications

Part Number	60631
Operating Volume (cu. in.)	.115
Minimum Operating Pressure (psi)	200
Maximum Output Force (lbs.)	3000
Overall Stroke	3/16

A washer (60636), to prevent damage by the cap screw, is included with each clamp.

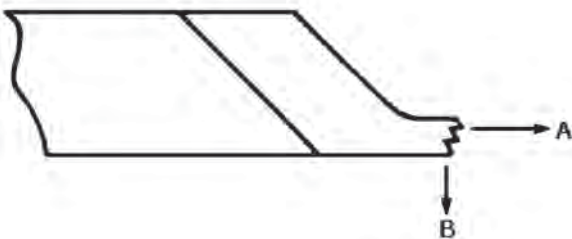
Toe Insert is not supplied with the Toe Clamp. See below to order the Toe Inserts.



Toe Inserts

Part Number	Insert
60633	Steel
60632	Brass

Hydraulic Pressure	Force in Pounds	
	A	B
1500	900	750
3000	1800	1500
5000	3000	2500

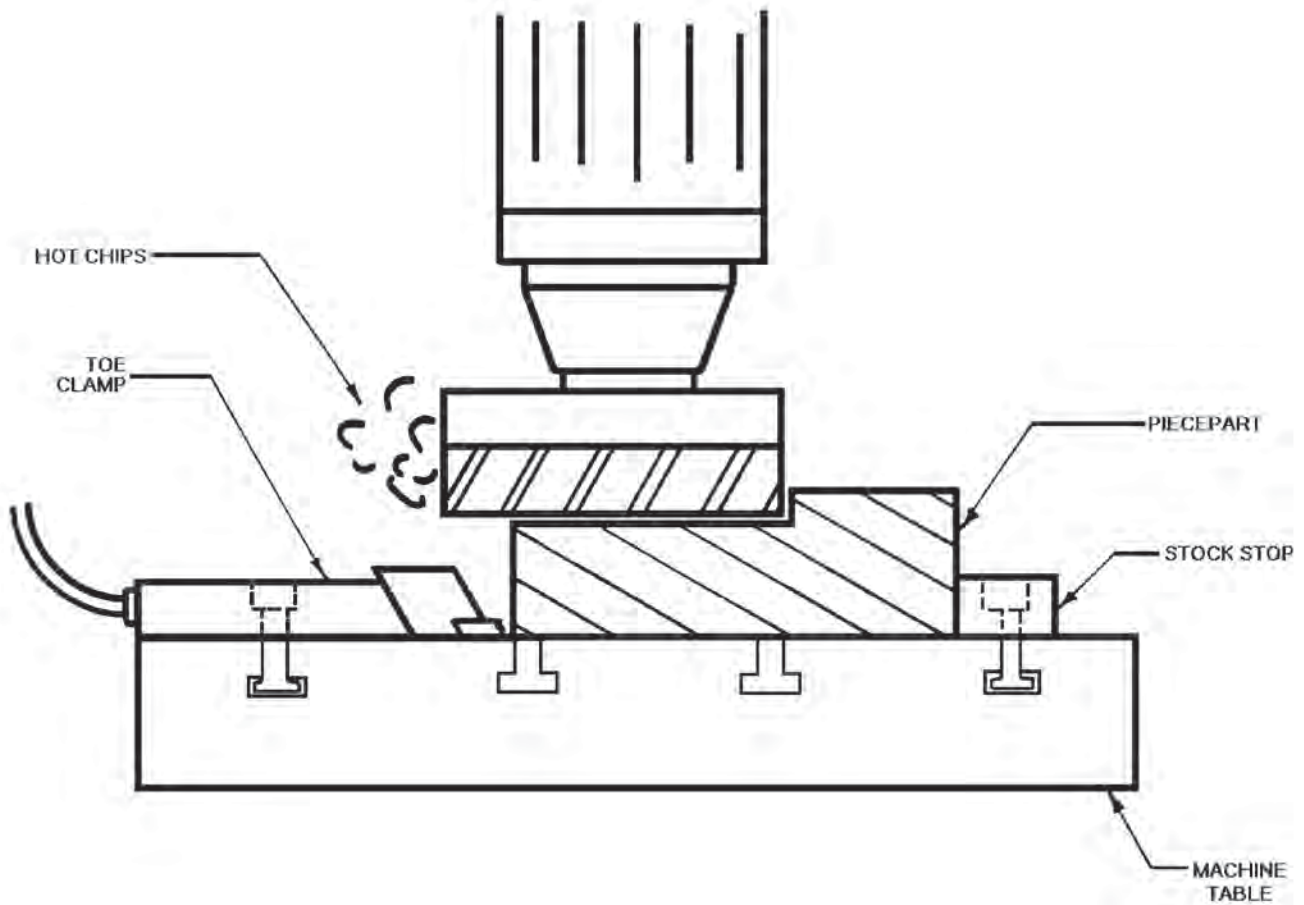


Inch to metric fittings available – see page 199.

POWER CLAMPING



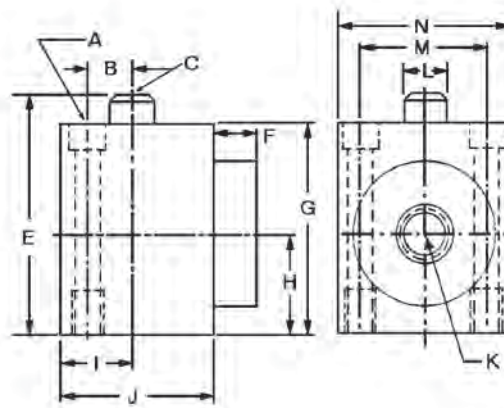
Toe Clamp Application



A Toe Clamp is used in applications where clamps cannot be on top of the workpiece due to the fact that the cutter must pass over that area. The clamp holds the workpiece against stop and down on the table. T-Slot mounting gives clamping versatility.



Work Supports



Part Number	Bolt Size		B	Tap C	Height E		F	G	H	I	J	Port K	L	M	N
	Thru A	Tapped A			Min	Max									
60513	1/4	5/16-24	.50	1/4-20	2.45	2.70	.49	2.36	1.12	.81	1.75	9/16-18	.5	1.5	2

Hydraulically-locked Work Supports differ from clamps and vises in that they do not actually exert force upon the workpiece. Rather, they are used to support the part being machined, offering resistance to any clamping forces acting counter to the direction of travel of the piston.

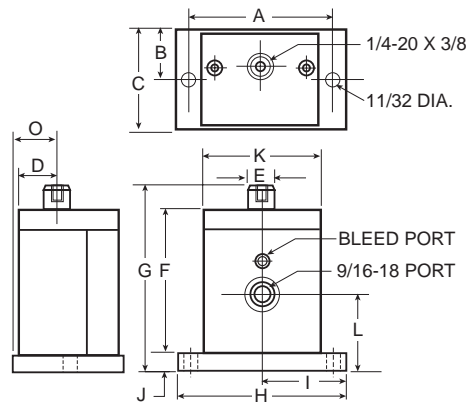
In a typical application, a large, thin casting is located on several tooling point pads for positioning. Work Supports will automatically adjust to support the delicate sections of the casting. When hydraulic pressure is applied, the floating pistons within the Work Support are locked in position and resist any downward movement exerted on the casting. After the casting is removed, the floating pistons return to their fully-raised position.

Specifications

Part Number	60513	60512
Operating Volume (cu. in.)	.04	.06
Support to Pressure Ratio	1.6:1	3.3:1
Minimum Operating Pressure (psi)	500	500
Maximum Operating Pressure (psi)	3000	3000
Maximum Support Capacity (lbs.)	5000	10000
Plunger Spring Force (lbs.)	Start: 2 Finish: 7	14 40
Weight (lbs.)	2.0	5.5



• Available in Fixture Pro® Design Software

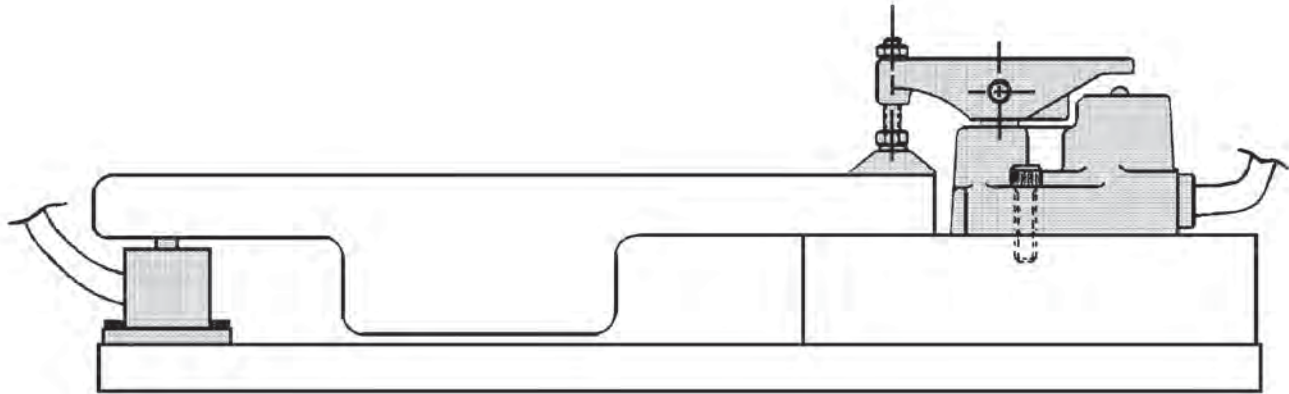


Part Number	A	B	C	D	E	F	G		H	I	J	K	L	O
							Min	Max						
60512	3 9/16	1 3/8	2 3/4	.990	5/8	3.69	4.15	4.65	4 3/16	2 3/32	3/8	3	1 7/8	1.07

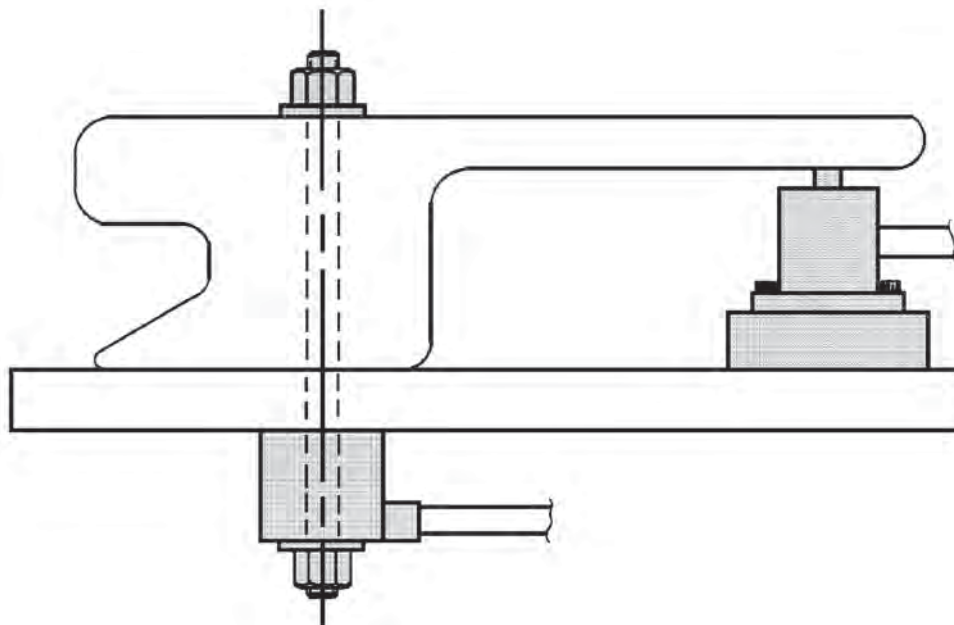
Inch to metric fittings available – see page 199.



Work Support Applications



The workpiece is located and clamped on the right end by a Jergens Swing Clamp. The Work Support resists the machining forces applied to the other end of the casting. Variations between castings are compensated for by the floating support plunger in the Work Support.



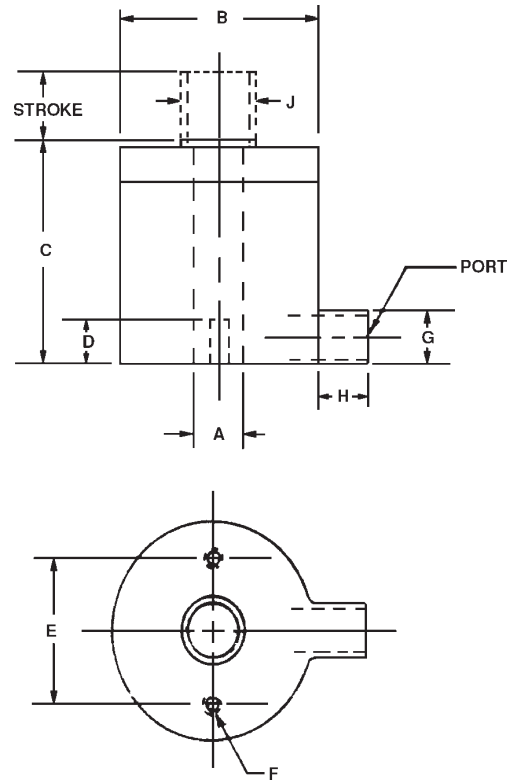
The top and bottom surfaces of the large casting must be machined to be flat, parallel, and at a fixed distance from each other. Jergens Work Supports eliminate deflection at the outer edge while compensating for variations between castings. A Jergens Hollow Rod Cylinder, stud and "C" washer are used to hold the casting.



Hollow Rod Cylinders



Hollow Rod Cylinders are ideal for converting existing fixtures to power clamping. Replaces clamps which use double cams, flange nuts, draw bars, or other mechanical devices. Generally, no special machining is required, just a longer stud.



Specifications

Part Number	60403	60401	60405
		60404	60402
	60413	60410	
	60414	60411	
		60412	
Specifications			
Operating Stroke (in.)	.24	.31	.64
Operating Volume (cu. in.)	.3	.7	3.2
Effective Piston Area (sq. in.)	.96	1.9	5
Min. Oper. Pressure (psi)*	100	100	100
Max. Oper. Pressure (psi)	5000	5000	5000
Max Output Force (lbs.)	4800	9850	25000

* With Spring Installed

Hollow Rod Cylinders can either push or pull. Two styles are available, either Through Hole or Tapped Hole. In the Through Hole style, the piston rod is hollow to accept a bolt. The Tapped Hole cylinders accept a bolt threaded into the piston. Because of the piston design, the Tapped Hole style cannot gain stroke. Removing the return springs make the Hollow Rod Cylinders suitable for air operation.

- Available in Fixture Pro® Design Software

Through Hole Cylinders

Part Number	A	B	C†	D	E	F	G	H	Rod Dia. J	Port Size	Wt. (lbs)
*60403	13/32	1 15/16	1 7/8	5/16	1 5/8	10-32	3/4	1/2	7/8	7/16-20	1.0
*60404	17/32	1 15/16	1 7/8	5/16	1 5/8	10-32	3/4	1/2	7/8	7/16-20	1.0
60401	21/32	2 1/2	2 3/16	5/16	2 7/32	10-32	7/8	3/8	1 1/4	9/16-18	2.5
60402	25/32	2 1/2	2 3/16	5/16	2 7/32	10-32	7/8	7/8	1 1/4	9/16-18	2.5
60405	1 1/64	4	3 9/16	5/8	3 1/2	1/4-28	No Boss		2 1/8	9/16-18	10.5

*Cannot increase stroke

† Measured over piston in the retracted position.

Tapped Hole Cylinders

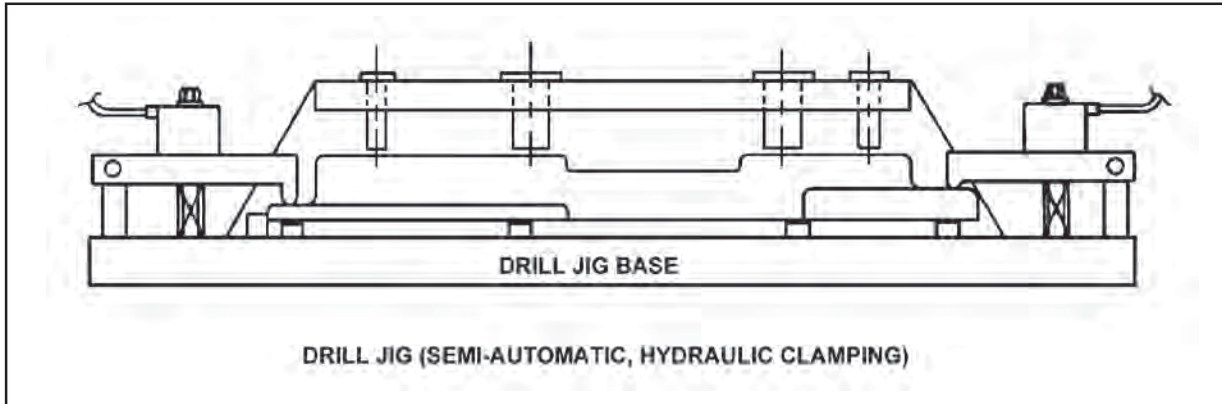
Part Number	A	B	C	Thd. Depth D	E	F	G	H	J	Port Size	Wt. (lbs)
60413	3/8-16	1 15/16	1 13/16	5/16	1 5/8	10-32	3/4	1/2	7/8	7/16-20	1.0
60414	1/2-13	1 15/16	1 13/16	5/16	1 5/8	10-32	3/4	1/2	7/8	7/16-20	1.0
60410	1/2-13	2 1/2	2 3/16	5/16	2 7/32	10-32	7/8	7/8	1 1/4	9/16-18	2.5
60411	5/8-11	2 1/2	2 3/16	5/16	2 7/32	10-32	7/8	7/8	1 1/4	9/16-18	2.5
60412	3/4-10	2 1/2	2 3/16	5/16	2 7/32	10-32	7/8	7/8	1 1/4	9/16-18	2.5

Inch to metric fittings available – see page 199.

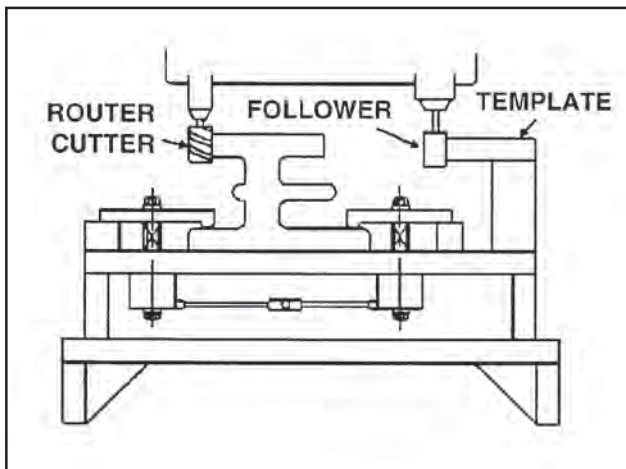
POWER CLAMPING



Hollow Rod Cylinder Applications



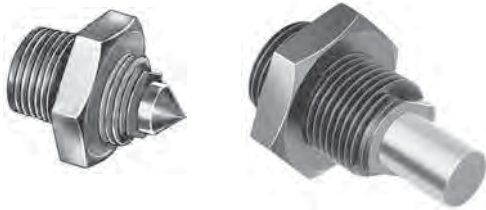
Typical, low cost conversion from manual clamping to Hollow Rod Cylinders can be accomplished by using the existing drill jig clamps and changing the stud to a longer length. Besides clamping faster than the manual method, the Hollow Rod Cylinders allow for uniform clamping forces on all strap clamps.



The Hollow Rod Cylinder is ideal for “close to the machine base” strap clamping. By mounting the clamps under the work table, a manual clamping set-up can be easily and economically converted to hydraulic clamping.



Threaded Cylinders Pressure Points

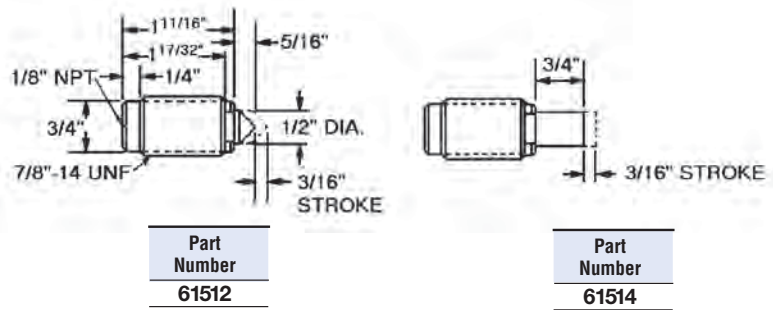


Jergens Pressure Points may be used with any power source and are designed to be used in restricted areas where space is at a minimum. Pressure Points can be used to eliminate part distortion during machining operations or to hold large diameter castings or rings in place while machining the upper surface. Pressure Points have hardened tool steel tips (50-60Rc). Jam nuts are included. Not suitable for air operation.

Specifications

Part Number	61512	61514
Operating Stroke (in.)	3/16	3/16
Operating Volume (cu. in.)	.037	.037
Effective Piston Area (sq. in.)	.20	.20
Minimum Operating Pressure (psi)	400	400
Maximum Operating Pressure (psi)	5000	5000
Maximum Output Force (lbs.)	1000	1000
Weight (lbs.)	.5	.6

- Available in Fixture Pro® Design Software



Miniature Cylinders

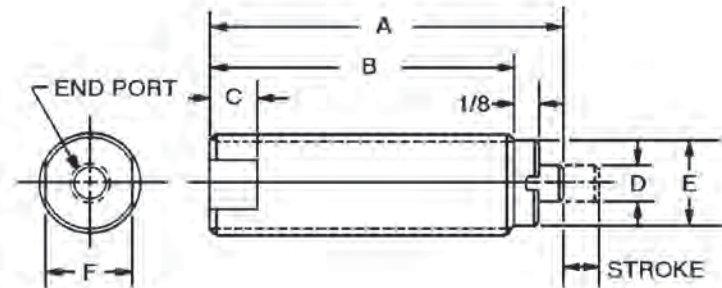


Small, fully-threaded bodies ensure easy mounting and simple length adjustments. Their small size provides high workholding forces in tight places. Threaded Cylinders have hardened piston rods, steel bodies, alloy springs and Teflon® back-up rings which ensure trouble-free operation and long life. Not suitable for air operation. For mounting, see brackets on page 156. Jam nuts are included.

Specifications

Part Number	60461	60462
Operating Stroke (in.)	3/16	1/2
Operating Volume (cu. in.)	.018	.049
Effective Piston Area (sq. in.)	.096	.196
Minimum Operating Pressure (psi)	200	300
Maximum Operating Pressure (psi)	10000	10000
Maximum Output Force (lbs.)	960	1960
Weight (lbs.)	.5	.7

- Available in Fixture Pro® Design Software



Part Number	Stroke	Body Thread	A	B	C	D	E	F	End Port
60461	3/16	1/2-20	1 13/16	1 9/16	1/4	3/16	3/8	7/16	1/16-27 NPTF
60462	1/2	3/4-16	2 3/8	2	5/16	1/4	21/32	5/8	1/8-27 NPTF

POWER CLAMPING



Manifold Mount Cylinders

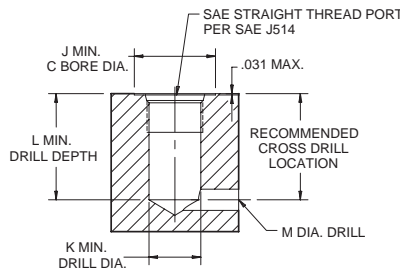
- Provides for clean installation
- Eliminates exposed fittings and plumbing
- Well suited for use in custom design fixtures



Specifications

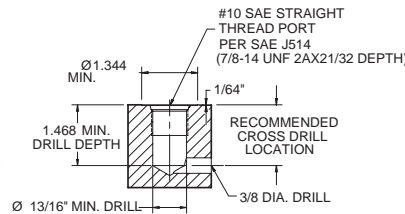
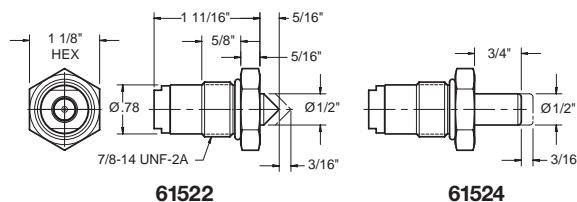
Part Number	60481	60482	60483	60484	60485	60486
Operating Stroke (in.)	3/16	1/2	1/2	1	1/2	1
Operating Volume (cu. in.)	0.017	0.098	0.393	0.785	0.884	1.767
Effective Piston Area (sq. in.)	0.093	0.196	0.785	0.785	1.767	1.767
Minimum Operating Pressure (psi)	200	200	200	200	200	200
Maximum Operating Pressure (psi)	5000	5000	5000	5000	5000	5000
Maximum Output Force (lbs.)	465	980	3925	3925	8835	8835
Weight (lbs.)	0.5	0.7	1	1.5	2	2.5

Part No.	Body Thread	Stroke	A	B	C	D	E Dia.	F	G Dia.	H Dia.	I Hex.
60481	9/16-18 UNF	3/16	1 13/32	.375	1/2	1/8	3/8	1/4	3/16	.48	3/4
60482	3/4-16 UNF-2A	1/2	1 23/32	.375	9/16	1/8	41/64	3/8	1/4	.66	7/8
60483	1 5/16-12 UN-2A	1/2	2 1/2	.615	3/4	1/4	1 7/32	5/16	3/4	1.19	1 1/2
60484	1 5/16-12 UN-2A	1"	3	.615	3/4	1/4	1 7/32	5/16	3/4	1.19	1 1/2
60485	1 7/8-12 UN-2A	1/2	2 1/2	.615	3/4	1/4	1 47/64	5/16	1 1/4	1.75	2 1/8
60486	1 7/8-12 UN-2A	1"	3	.615	3/4	1/4	1 47/64	5/16	1 1/4	1.75	2 1/8



Part No.	SAE No.	Thread Size	Thread Depth	J	K	L	M
60481	6	9/16-18 UNF	1/2	.970	1/2	1.09	1/4
60482	8	3/4-16 UNF-2A	9/16	1.19	11/16	1.41	5/16
60483	16	1 5/16-12 UN-2A	3/4	1.91	1 7/32	2.00	1/2
60484	15	1 5/16-12 UN-2A	3/4	1.91	1 7/32	2.50	1/2
60485	24	1 7/8-12 UN-2A	3/4	2.56	1 13/16	2.00	9/16
60486	24	1 7/8-12 UN-2A	3/4	2.56	1 13/16	2.50	9/16

Pressure Points



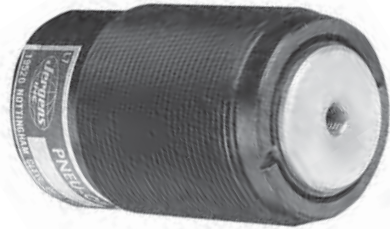
Specifications

Part Number	61522	61524
Operating Stroke (in.)	3/16	3/16
Operating Volume (cu. in.)	0.049	0.049
Effective Piston Area (sq. in.)	0.261	0.261
Minimum Operating Pressure (psi)	400	400
Maximum Operating Pressure (psi)	5000	5000
Maximum Output Force (lbs.)	1305	1305
Weight (lbs.)	0.5	0.5



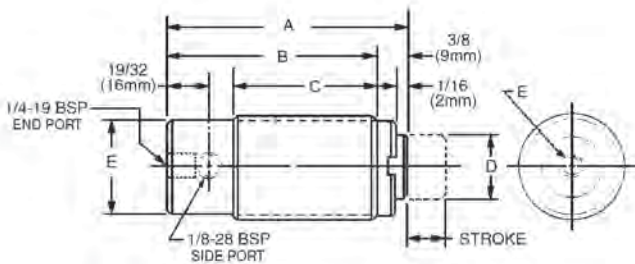
Threaded Cylinders

Heavy-Duty



Full-threaded bodies ensure easy mounting and simple length adjustments. Their small size provides high work holding forces in tight places. Threaded Cylinders have hardened piston rods, steel bodies, alloy springs and Teflon® back-up rings which ensure trouble-free operation and long life. Not suitable for air operation. For mounting, see bracket and jam nuts on page 153.

- Compact Design
- Easy Installation
- Side and Rear Ports
- Tapped Piston



Specifications - Inch

Part Number	60463	60464	60465	60466
Operating Stroke (in.)	1/2	1	1/2	1
Operating Volume (cu. in.)	.392	.785	.883	1.767
Effective Piston Area (sq. in.)	.785	.785	1.767	1.767
Minimum Operating Pressure (psi)	200	200	200	200
Maximum Operating Pressure (psi)	5000	5000	5000	5000
Maximum Output Force (lbs.)	3925	3925	8835	8835
Weight (lbs.)	1.0	1.5	2.0	2.5

Specifications - Metric

Part Number	63213	63214	63215	63216
Operating Stroke (mm)	13	25	13	25
Operating Volume (cu. Cm.)	6.4	12.8	14.5	29
Effective Piston Area (cm ²)	5	5	11.4	11.4
Maximum Oper. Pressure (bars)	340	340	340	340
Minimum Oper. Pressure (bars)	14	14	14	14
Maximum Output Force (kg)	1780	1780	4007	4007
Weight (kg)	.45	.68	.90	1.13

Inch

Part Number	Stroke	Body Thread	A	B	C	D	E	F	Input Ports	
									End	Side
60463	1/2	1 5/16-16	3 1/4	2 7/8	2	3/4	1/4-28 x 1/4	1 7/32	7/16-20 SAE	1/8-NPT
60464	1	1 5/16-16	3 3/4	3 3/8	2 1/2	3/4	1/4-28 x 1/4	1 7/32	7/16-20 SAE	1/8-NPT
60465	1/2	1 7/8-16	3 1/4	2 7/8	2	1 1/4	1/4-28 x 1/4	1 25/32	7/16-20 SAE	1/8-NPT
60466	1	1 7/8-16	3 3/4	3 3/8	2 1/2	1 1/4	1/4-28 x 1/4	1 25/32	7/16-20 SAE	1/8-NPT

Cylinders are supplied with a plug installed in the side port.
To use side port, remove plug and install part number 61060 (7/16-20 pipe plug) to plug end port.

Metric

Part Number	Stroke	Body Thread	A	B	C	D	E	F	Input Ports	
									End	Side
63213	13	M36 x 1.5	82	73	51	19	M6 x 1.0 x 6	31	1/4 - 19 BSP	1/8 - 28 BSP
63214	25	M36 x 1.5	95	86	64	19	M6 x 1.0 x 6	31	1/4 - 19 BSP	1/8 - 28 BSP
63215	13	M48 x 1.5	82	73	51	32	M6 x 1.0 x 6	44	1/4 - 19 BSP	1/8 - 28 BSP
63216	25	M48 x 1.5	95	86	64	32	M6 x 1.0 x 6	44	1/4 - 19 BSP	1/8 - 28 BSP

Cylinders are supplied with a plug installed in the side port.

POWER CLAMPING



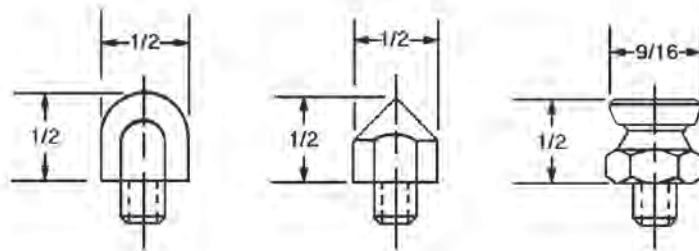
Threaded Cylinders

Piston Buttons

1/4 - 28 Thread



Hardened steel buttons for use on 60463 thru 60466 cylinders.



60471

60472

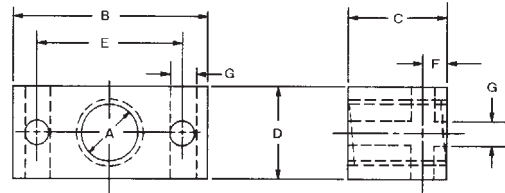
60473

Threaded Cylinders

Block Mountings



- Material: Low Carbon Steel
- Finish: Black Oxide



Inch

Part Number	A	B	C	D	E	F	G	Wt. (lbs)
60950	1/2-20	1 3/8	3/4	5/8	15/16	1/4	1/4	.125
60951	3/4-16	1 5/8	1 1/8	1	1 1/8	1/4	1/4	.375
60959	7/8-14	2	3/4	1 1/2	1 1/2	3/8	21/64	.40
60956	1 5/16-16	3	1 1/4	1 13/16	2 1/8	7/16	25/64	1.27
60957	1 9/16-16	3 1/4	1 1/2	2	2 7/16	7/16	25/64	1.95
60958	1 7/8-16	4	2	2 3/8	3	1/2	33/64	—

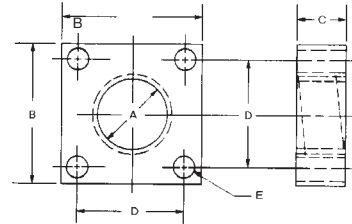
Metric

Part Number	A	B	C	D	E	F	G	Wt. (kg)
60997	M36 x 1.5 6H	82.6	38.1	50.8	62	12	10.8	.86
60998	M48 x 1.5 6H	101.6	38.1	60.3	76	12	13	1.13

Flange Mountings



- Material: Low Carbon Steel
- Finish: Black Oxide



Inch

Part Number	A	B	C	D	E	Wt. (lbs)
60952	1 5/16-16	1 5/8	1/2	1 1/4	17/64	.18
60955	1 9/16-16	2	1	1 1/2	17/64	.56
60954	1 7/8-16	2 1/4	1	1 3/4	21/64	.625

Metric

Part Number	A	B	C	D	E	Wt. (kg)
60995	M36 x 1.5 6H	50.8	25.4	38	6.7	.30
60994	M48 x 1.5 6H	63.5	25.4	50	8.8	.42

Jam Nuts



Part Number	60961	60962	60963	60964	60965	60966	60967
Thread	1/2-20	3/4-16	7/8-14	1-12	1 5/16-16	1 9/16-16	1 7/8-16
Thickness	5/16	3/8	5/16	35/64	25/64	25/64	7/16
Width Across Flats	3/4	1 1/8	1 5/16	1 5/8	1 7/8	2 1/4	3



Standard Cylinders Single Acting



These single-acting, spring-return cylinders will operate on air or oil; all have a 1" stroke.

Single-acting cylinders are especially applicable to large circuits where cylinders are plumbed into the air side of the circuit and used to align parts in the fixture prior to hydraulic clamping. These applications are primarily pushing type operations where the cylinder return spring pulls only the piston rod.

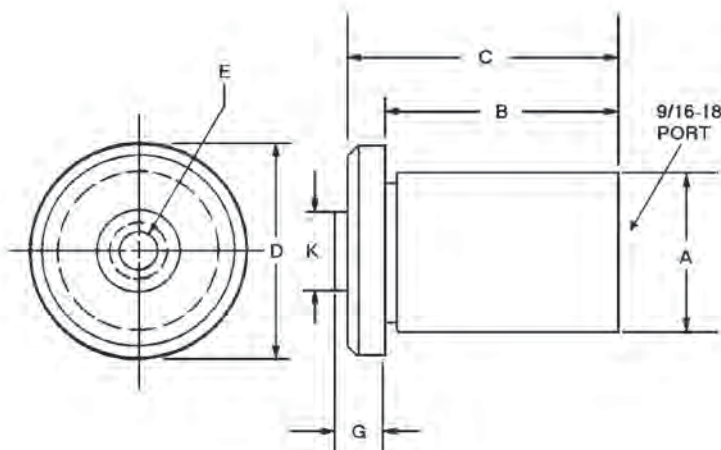
- Available in Fixture Pro® Design Software

NOTE: Not recommended for applications where coolant or chips are prevalent. Use double acting style (next page) for these applications

Specifications

Part Number	60301	60307	60303
Operating Stroke (in.)	1	1	1
Operating Volume (cu. in.)	.44	1.22	3.14
Effective Piston Area (sq. in.)	.44	1.22	3.14
Minimum Operating Pressure (psi)	32	25	25
Maximum Operating Pressure (psi)	3000	3000	3000
Maximum Output Force (lbs.)	1320	3660	9300
Weight (lbs.)	.5	1	3

Bore Tolerances: +.0005
-.0010



Dimensions

Part Number	A	B	C	D	Tap E	G	K
60301	1.000	2 3/8	2 5/8	1 15/64	1/4-20 x 1/2	7/16	3/8
60307	1.500	2 3/8	2 5/8	1 47/64	3/8-16 x 3/4	7/16	1/2
60303	2.500	2 3/8	2 5/8	2 47/64	3/8-16 x 3/4	7/16	3/4

Inch to metric fittings available – see page 199.



Standard Cylinders Double Acting

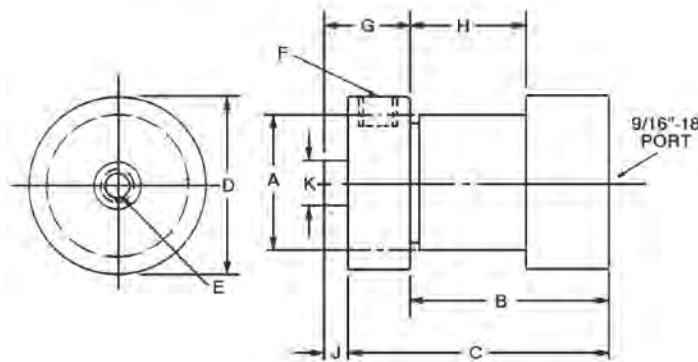


Double Acting Cylinders can be used for clamping, holding positioning, staking, punching...anywhere that a heavy duty cylinder is needed. If the cylinder is mounted in the fixture (as opposed to using mounting brackets), the fixture should be bored to between .0005 and .0010 over the "A" dimension. Doing so will prevent an out-of-round condition of the cylinder body which could damage the piston. They may be returned by air or by hydraulic pressure.

- Available in Fixture Pro® Design Software

Specifications

Part Number	60345	60341	60350	60351	60360	60361	
Operating Stroke (in.)	1	1	2	2	3	3	
Operating Volume (cu. in.)	1.1	3.14	2.2	6.28	3.31	9.42	
Effective Piston Area (sq. in.)	-Push -Pull	1.1 .912	3.14 2.699	1.1 .956	3.14 2.699	1.1 .956	3.14 2.699
Minimum Operating Pressure (psi)	20	20	20	20	20	20	
Maximum Operating Pressure (psi)	3000	3000	3000	3000	3000	3000	
Maximum Output Force (lbs.)	3300	9300	3300	9300	3300	9300	
Weight (lbs.)	2.5	4.5	3.5	6.0	4.75	6.2	



Dimensions

Part Number	A	B	C	D	Tap E	Return Port F	G	H	J	K
60345	1.500	2 7/16	3 1/8	2 15/32	3/8-16 x 3/4	7/16-20	31/32	1 9/32	1/4	1/2
60341	2.500	2 11/16	3 3/8	2 31/32	3/8-16 x 3/4	7/16-20	31/32	1 9/32	1/4	3/4
60350	1.500	3 1/2	4 1/2	2 15/32	1/4-20 x 1/2	9/16-18	1 7/32	2 11/32	1/4	7/16
60351	2.500	3 3/4	4 23/32	2 31/32	3/8-16 x 3/4	9/16-18	1 3/16	2 11/32	1/4	3/4
60360	1.500	4 1/2	5 1/2	2 15/32	1/4-20 x 1/2	9/16-18	1 7/32	3 11/32	1/4	7/16
60361	2.500	4 3/4	5 23/32	2 31/32	3/8-16 x 3/4	9/16-18	1 3/16	3 11/32	1/4	3/4

Inch to metric fittings available – see page 199.



Standard Cylinders Mounting Brackets



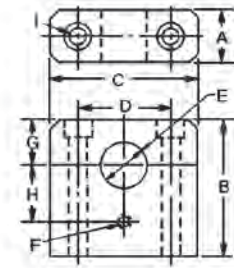
Mounting Brackets are designed to save you time and money when laying out your fixture.

All Mounting Brackets are made of low carbon steel, which is not heat-treated. This allows you to custom fit or weld the brackets into your fixture. The cylinder clamping area is concentric to the OD of the various cylinders to avoid distortion of the cylinder walls which may cause damage to the piston.

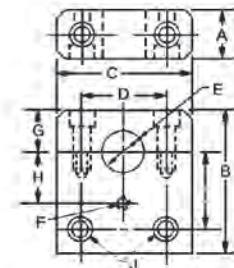
Spacers may be used to add height to the cylinders when using Jergens Mounting Brackets.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Bore Tolerances: +.0005
 -.0010
- Available in Fixture Pro® Design Software

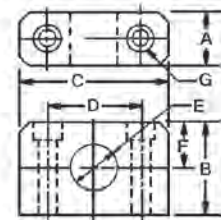
Part Number	A	B	C	D	E	Tap F	G	H	(2 Bolts Supplied) I	Wt. (lbs)
60901	1 1/4	3 3/4	2 3/8	1 1/2	1.00	1/2-13	3/4	2	3/8-16 x 4	2.75
60902	1 1/4	4	3 1/2	2 1/8	1.50	3/4-10	1	2	1/2-13 x 4 1/2	3.5
60903	1 1/4	4 1/2	4 3/8	3 1/4	2.50	3/4-10	1 1/2	2	5/8-11 x 5	4.75



Part Number	A	B	C	D	E	Tap F	G	H	I	(2 Bolts Supplied) J	Wt. (lbs)
60904	1 1/4	3 3/4	2 3/8	1 1/2	1.00	1/2-13	3/4	2	2 9/16	3/8-16 x 1 1/2	2.7
60905	1 1/4	4	3 1/8	2 1/8	1.50	3/4-10	1	2	2 1/2	1/2-13 x 1 1/2	3.5
60906	1 1/4	4 1/2	4 3/8	3 1/4	2.50	3/4-10	1 1/2	2	2 7/16	5/8-11 x 1 1/2	4.7



Part Number	A	B	C	D	E	F	(2 Bolts Supplied) G	Wt. (lbs)
60907	1 1/4	1 1/2	2 3/8	1 1/2	1.00	3/4	3/8-16 x 1 3/4	.95
60908	1 1/4	2	3 1/8	2 1/8	1.50	1	1/2-13 x 2 1/4	1.50
60909	1 1/4	3	4 3/8	3 1/4	2.50	1 1/2	5/8-11 x 3 1/4	2.75

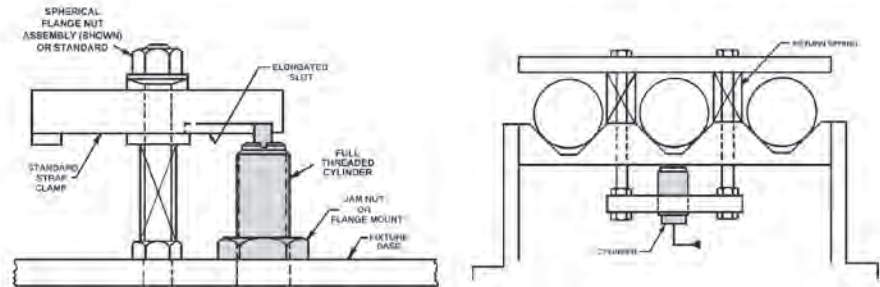




Threaded Cylinder Applications

By replacing step blocks or similar mechanical devices with a threaded cylinder, manual clamping is easily adaptable into a more productive hydraulic clamping set-up.

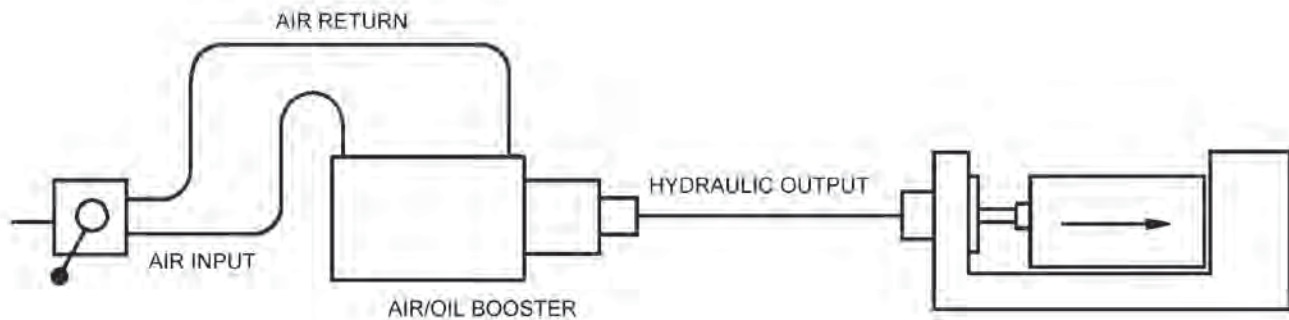
This principle of “building block” components can be combined with various Jergens cylinders, standard components and mounting blocks or strap clamps; thus allowing an almost infinite method of production clamping.



Standard Cylinder Applications

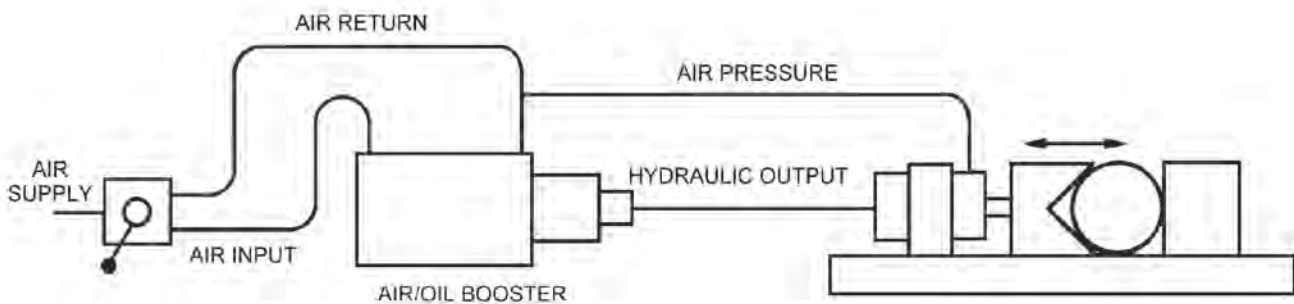
Holding Fixture

A Single Acting Cylinder is used to locate and clamp the workpiece in a channel fixture. The cylinder rod automatically returns when the booster pressure is released.



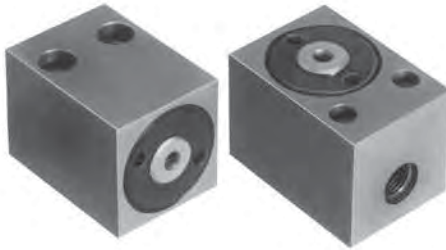
Vise Fixture

A Double Acting Cylinder is being used to operate a Vee Jaw in the above fixture. Hydraulic pressure is used to clamp and unclamp the jaw. Air pressure, used to return the Double Acting Cylinder, is connected to the air return line of the Booster. Jergens Double Acting Cylinders will operate with as little as 10 psi of air pressure or up to 3000 psi of hydraulic pressure.

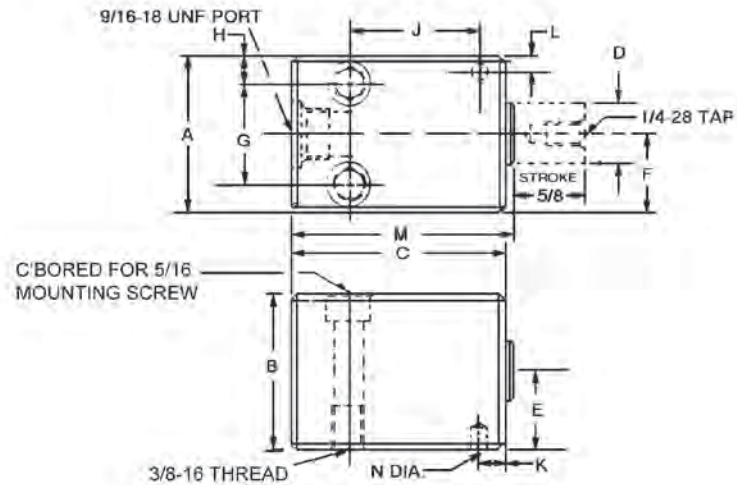




Block Cylinders Single Acting Horizontal



- Vertical and Horizontal Styles
- Simple Mounting
- Compact Design



Dimensions (Horizontal Style)

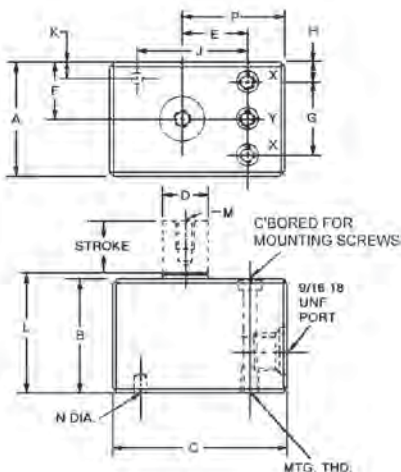
Part Number	A	B	C	D	E	F	G	H	J	K	L	M	N
60372*	1 3/4	1 3/4	2 7/16	11/16	7/8	7/8	1	3/8	1 15/32	9/32	3/16	2 1/2	.194

Dimensions (Vertical Style)

Part Number	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Mtg. Screw Size	Mtg. Thread
60371*	1 3/4	1 3/4	2 1/2	11/16	1	7/8	1 1/8	5/16	1 11/16	1/4	1 13/16	1/4-28 UNF	.194	1 9/16	#10	1/4-20 UNC
60373	2 1/2	2 1/2	3 3/16	1 1/2	1 11/32	1 1/4	—	—	2 3/32	7/16	2 11/16	3/8-24 UNF	.257	1 15/16	5/16	3/8-16 UNC
60374	3 1/2	3	4	2	1 1/2	1 3/4	1 3/4	7/8	—	—	3 3/8	1/2-20 UNF	—	2 1/4	5/16	3/8-16 UNC

*Not recommended for applications where coolant or chips are prevalent.

Single Acting Vertical



Specifications (Both Styles)

Part Number	60371	60372	60373	60374
Operating Stroke (in.)	5/8	5/8	1/2	1/2
Operating Volume (cu. in.)	.77	.77	1.1	1.96
Effective Piston Area (sq. in.)	-Push 1.22	-Push 1.22	-Push 1.77	-Push 3.14
	-Pull Spring Return	-Pull Spring Return	-Pull Spring Return	-Pull Spring Return
Maximum Operating Pressure (psi)	5000	5000	5000	5000
Maximum Output Force (lbs.)	6100	6100	8850	15700
Weight (lbs.) Approx.	2	2	5	11
Mounting Location	X Position	As Shown	Y Position	X Position

"X" refers to double mounting hole style.

"Y" refers to single mounting hole style.

Inch to metric fittings available – see page 199.



Block Cylinders Heavy Duty Double Acting

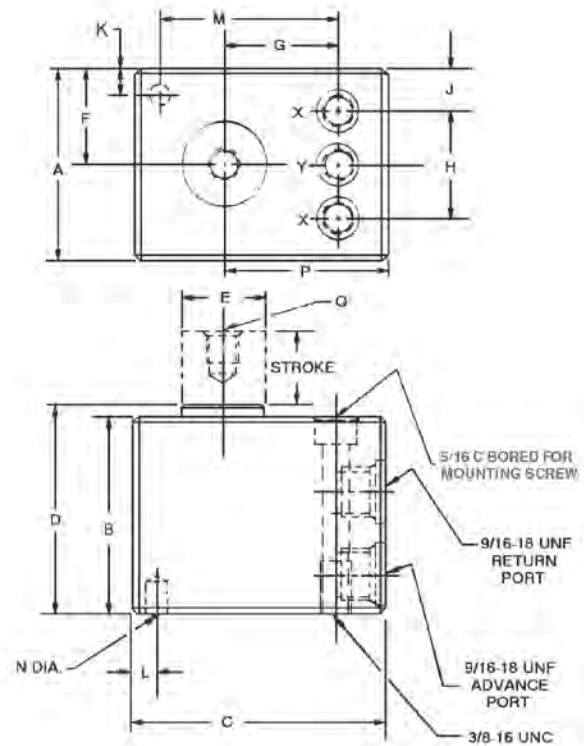


- Simple Mounting
- Compact Design
- High Output Forces

Specifications

Part Number	60381	60382	60383	60384
Operating Stroke (in.)	1/2	1	1/2	1
Operating Volume (cu. in.)	.88	1.77	1.57	3.14
Effective Piston -Push Area (sq. in.)	1.77	1.77	3.14	3.14
-Pull	.98	.98	1.37	1.37
Minimum Operating Pressure (psi)	20	20	20	20
Maximum Operating Pressure (psi)	5000	5000	5000	5000
Maximum Output Force (lbs.)	8850	8850	15700	15700
Weight (lbs.) Approx.	4	4.8	10.5	12.1
Mounting Location	Y Position		X Position	

“X” refers to double mounting hole style.
“Y” refers to single mounting hole style.



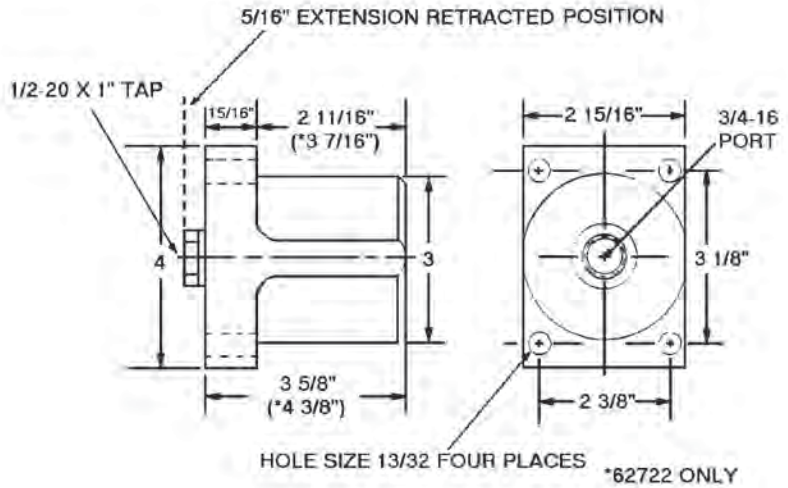
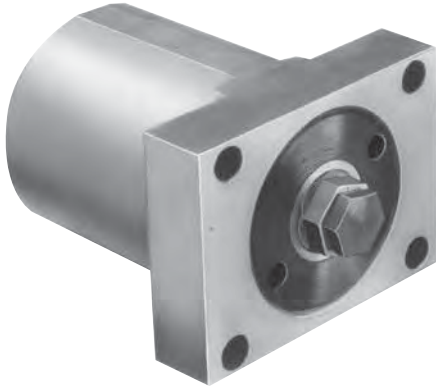
Dimensions

Part Number	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Stroke	Q
60381	2 1/4	2 5/16	3	2 7/16	1	1 1/8	1 11/32	—	—	5/16	5/16	2 3/32	.257	1 15/16	1/2	3/8-24 UNF-2B
60382	2 1/4	2 13/16	3	2 15/16	1	1 1/8	1 11/32	—	—	5/16	5/16	2 3/32	.257	1 15/16	1	3/8-24 UNF-2B
60383	3 1/4	3 1/4	3 3/4	3 3/8	1 1/2	1 5/8	1 1/2	1 3/4	3/4	—	—	—	—	2 1/4	1/2	1/2-20 UNF-2B
60384	3 1/4	3 3/4	3 3/4	3 7/8	1 1/2	1 5/8	1 1/2	1 3/4	3/4	—	—	—	—	2 1/4	1	1/2-20 UNF-2B

Inch to metric fittings available – see page 199.



Flange Mount Cylinders



- Easy Mounting
- Heavy Duty
- High Output Forces
- Long Lasting
- Available in Fixture Pro® Design Software

The Jergens Heavy Duty Flange Mount Cylinders mount through holes on the flange of the cylinder body. This feature eliminates the need for separate mounting brackets. The cylinders can provide high forces for clamping, lifting and pressing. Not recommended with flood coolant applications.

Specifications

Part Number	62721	62722
Operating Stroke (in.)	1/2	1
Operating Volume (cu. in.)	1.9	3.9
Effective Piston Area (sq. in.)	3.9	3.9
Minimum Operating Pressure (psi)	100	100
Maximum Operating Pressure (psi)	5000	5000
Maximum Output Force (lbs.)	19880	19880
Weight (lbs.)	5.0	6.5

Inch to metric fittings available – see page 199.



Intensifier Cylinders



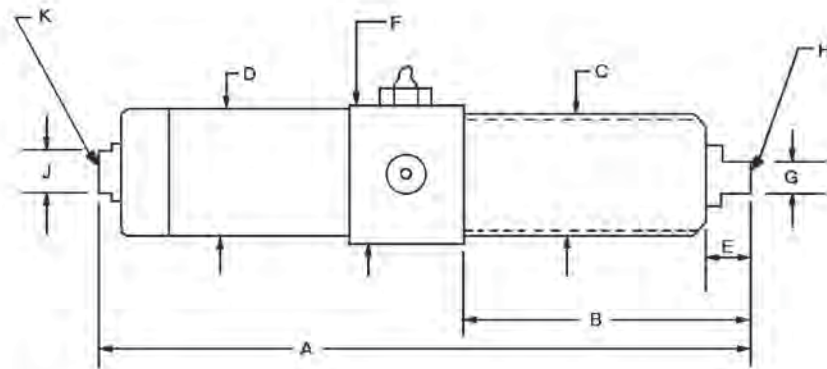
Intensifier Cylinders are combination air-hydraulic cylinders. An air powered cylinder is driven into a small oil reservoir which produces a nominal 8:1 or 30:1 power boost ratio, depending upon air pressure and the cylinder used. These miniature, self-contained power sources are ideal where fast action (100 operations per minute), a short stroke and high power are needed.

- 8:1 and 30:1 Boost Ratios
- Self-Contained
- Fast Acting
- Air Controlled
- Easy Recharge Without Disassembly
- Available in Fixture Pro® Design Software

For Mounting Brackets see page 156.

Specifications

Part Number	60596	60598
Operating Stroke (in.)	1/4	1/4
Force (lbs.) at Inlet Air Pressure 125 psi Max.	950	3700
100 psi	700	2900
75 psi	450	2100
50 psi	250	1300
25 psi Min.	50	450
Weight (lbs.)	2.2	4.5
Ratio	8:1	30:1



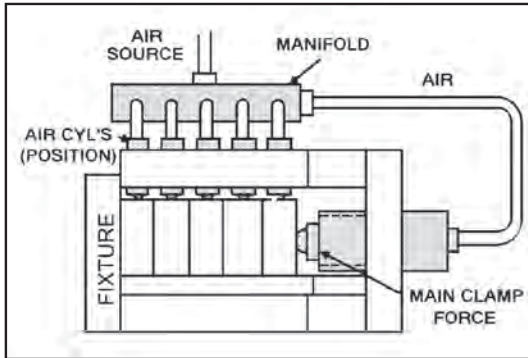
Dimensions

Part Number	A	B	Thread C	D	E	F	Across Flats G	Tap H	Across Flats J	Port K
60596	7 1/4	2 13/16	1 9/16-16	1 3/4	23/32	2	3/4	5/16-24 x 1/2	7/8	9/16-18
60598	9 5/16	3 15/16	1 7/8-16	2 1/2	23/32	2 1/2	3/4	5/16-24 x 1/2	7/8	9/16-18

Inch to metric fittings available – see page 199.

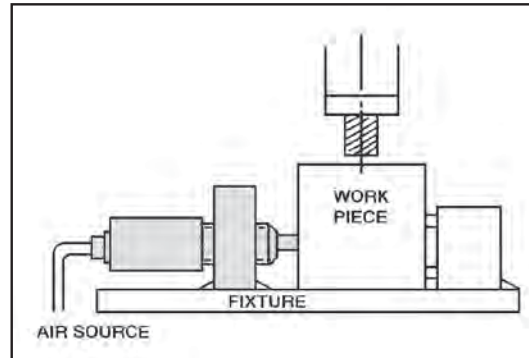


Intensifier Cylinder Applications



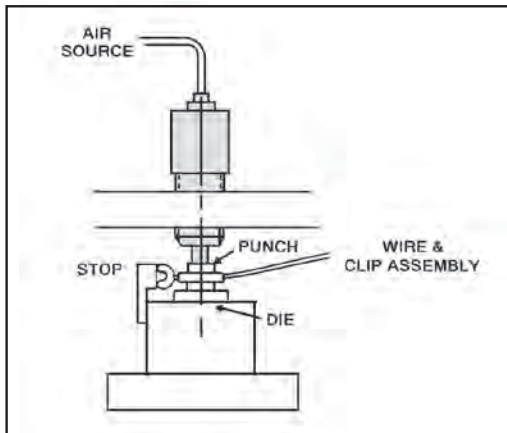
Positioning

A series of plates are gang loaded into the fixture. Air operation of the intensifier assures fast and positive positioning of the plates, after which the multiple hydraulic cylinders are used to clamp.



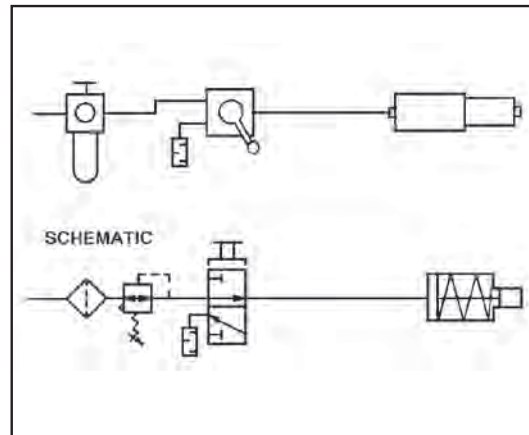
Clamping

Installed in a Jergens Mounting Bracket, the Intensifier Cylinder provides efficient, versatile, yet economical clamping.



Crimping

The intensifiers may be installed at any attitude. Mounted in a vertical attitude (as shown), up to 1 1/2 tons of force is available for crimping, punching, or notching.



Circuit Diagrams

A filter/regulator and a 3-way hand valve are all that is required to control an Intensifier Cylinder. Installation is as simple as an air cylinder but the resulting force is much greater.



How to Design Your Own Hydraulic System

1. Calculate the force used to hold the workpiece during machining.
To convert the torque applied to a fastener into holding force use the following formula:

$$P = \frac{T}{KD}$$

Where: P = Holding Force (lbs.)
 T = Torque (in. lbs.)
 D = Nominal Thread Diameter (in.)
 K = Friction Factor
 (K Varies with material, finish, and lubrication, .19 to .25)

Example: 1/2-13 bolt tightened to 30 ft. lbs
 (360 in. lbs.) provides 3600 lbs. of force.

$$P = \frac{360}{(.2 \times .5)} = 3600$$

2. Calculate the force required at each work unit.

$$\frac{\text{Total Force}}{\text{Number of work units}} = \text{Force per unit}$$

3. Select the style of work unit to be used at each location. Select units which can be easily mounted and will allow access for loading and unloading of the workpiece.
4. Compare the force required by each work unit with the maximum force available from the unit selected. If the required force is greater than the available force, substitute larger work units or increase the number of work units to be used.
5. Calculate the hydraulic pressure required to provide the force needed at each work unit. To determine pressure, divide the force required at the work unit by the effective piston area of the unit selected.

$$\frac{\text{Force}}{\text{Area}} = \text{Pressure}$$

The unit requiring the highest pressure determines the requirement for the entire system.

6. Determine the total volume of oil required to operate all of the work units (Volume = Piston Area x Stroke).
Operating volume requirements for work units are listed in the specifications chart for the item.
7. Select a power source which will provide the required pressure, using the available air pressure. To determine if a power source will provide the required pressure from available air pressure, multiply the available air pressure by the boost ratio of the power source.

Example: (90 psi air pressure) (15:1 boost ratio) = 1350 psi hydraulic pressure

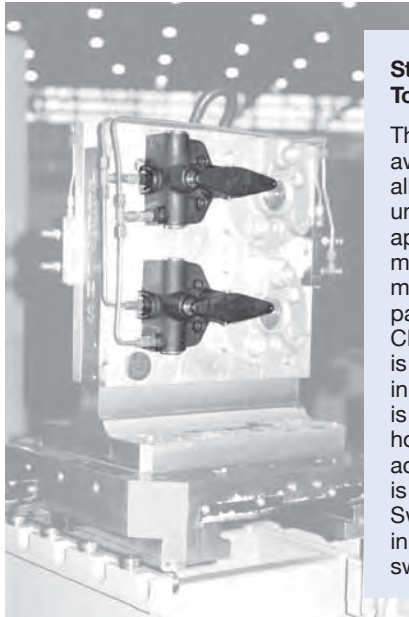
The power source must also provide the total volume of oil required by the system. When using a standard booster, the high pressure volume of the unit must exceed the system requirement.

8. If you need help, call Jergens Technical Sales at: 1-877-426-2504.



Staylock Clamps

Stays Mechanically Locked— Even When Disconnected from Hydraulic Pressure



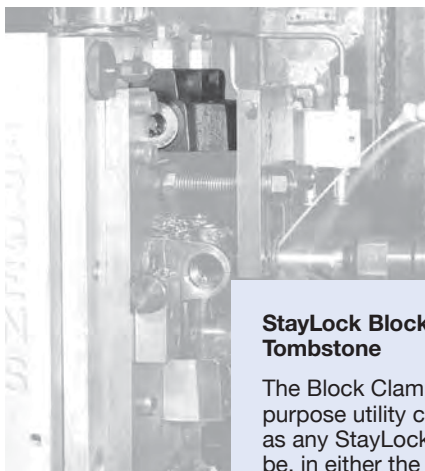
StayLock Swing Clamp on a Tombstone Fixture

The Swing Clamp rotates 80° away from the workpiece, allowing easy loading and unloading of the part. In this application, the tombstone is mounted on a double pallet machining center. When the pallet rotates, the StayLock Clamp remains clamped. There is no need for an accumulator in the hydraulic system. Nor is there a chance of hydraulic hoses getting tangled or accidentally cut while the part is being machined. StayLock Swing Clamps are available in left-hand or right-hand swing styles.

StayLock Clamps ...the Hydraulic clamp with the mechanical advantage! With conventional power clamping, when pressure is put to the clamp, it clamps... take the pressure away (on purpose or not), it unclamps. With the StayLock Clamp's patented internal locking mechanism, hydraulic pressure is needed to clamp...and to unclamp!

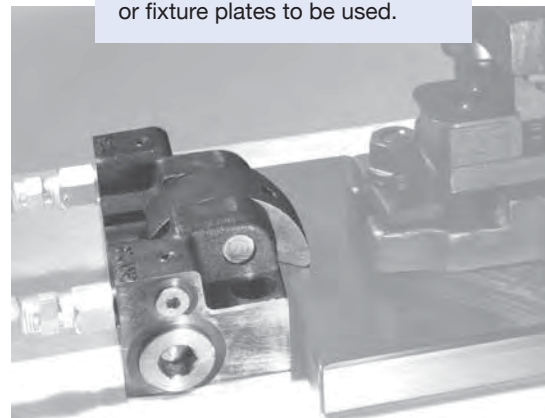
StayLock Rocker Clamp Holding a Die

The Rocker Clamp is ideal for quick change clamping on dies, molds, and fixture plates where a standard height subplate is employed. Because of the unique body design of the Rocker Clamp, it can easily be adapted with a T-slot nut mounted on the bottom. This enables the Rocker Clamp to slide in and out, making part removal easier, plus it allows for various widths of subplates or fixture plates to be used.



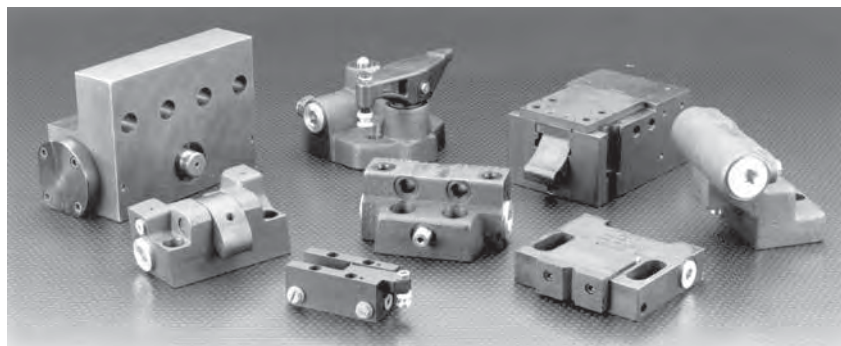
StayLock Block Clamp on a Tombstone

The Block Clamp is a multi-purpose utility clamp, utilized, as any StayLock Clamp can be, in either the horizontal or vertical clamping positions. In this application, the Block Clamp (at the top of the tombstone) is replacing step blocks and tedious manual clamping.





Staylock Clamps



Positive Mechanical Lock

Jergens StayLock Clamps offer a breakthrough in clamping flexibility! These mechanically locked clamps are activated and released by hydraulic pressure. Once activated, the clamps automatically lock and will not release until hydraulic pressure is applied to the release port.

Once clamped, you can:

- disconnect your hydraulic power source
- move the fixture, with the part still clamped, to other machines
- not worry about your part unclamping due to hydraulic power failure, a cut line, or leaks in the hydraulic system

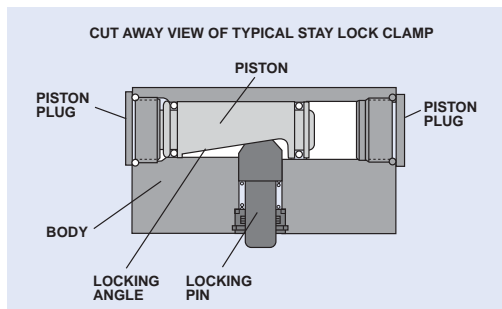
Patented positive mechanical lock minimizes:

- reclamping
- set-up costs
- parts accidentally becoming unclamped

Jergens StayLock Clamps can provide solutions to many clamping problems. They are designed for use on:

- palletized fixtures
- transfer machines
- machining centers
- any power clamping application
- quick change on molds and dies

Use the StayLock Clamps with Jergens Air-Operated Hydraulic Pumps (described on pages 183–184). One Hydraulic Pump can service several machines because there is no need to maintain hydraulic pressure when clamping StayLock Clamps. Once StayLock Clamps are in a clamping position, the hydraulic hoses can be disconnected, and the part will remain clamped indefinitely. Once the machining cycle is completed, applying hydraulic pressure to the release port unclamps the part.



Most Commonly Asked Questions

Q. Does the StayLock Clamp lose pressure?

A. No, it does not. Because of a patented mechanical lock, a positive locking wedge is activated when pressure is applied to the clamp port. There is no need to maintain hydraulic pressure; therefore, the power source can be disconnected. There is no pressure to lose.

Q. How do I lock StayLock Clamps in place?

A. Applying hydraulic pressure to the clamp port of a StayLock Clamp drives two internal wedges together. The two wedges form a mechanical lock and will not retract until hydraulic pressure is applied to the release port.

Q. Can these clamps be used with air?

A. No. Air pressure does not apply enough force to lock or unlock the internal wedge mechanism.

Q. How much hydraulic pressure is needed to activate the clamps?

A. The minimum pressure required on most of the StayLock Clamps is 500 psi. The minimum and maximum pressure requirements are specified for each clamp on the following pages.

Q. What is needed to set up a hydraulic system using StayLock Clamps?

A. Typically, a system includes several clamps (depending on individual requirements); a power source; a four-way, three-position, zero-leakage control valve (see page 186); and hydraulic hose and fittings. There is no need for an accumulator in the system.

Q. Can an air/oil booster be used with StayLock Clamps?

A. No. Boosters typically are used with standard hydraulic clamps because pressure is needed to activate and maintain the clamp in the clamping position. With a Booster set-up, there is only one hydraulic line that provides the pressure needed. StayLock Clamps need pressure to clamp and unclamp; therefore, a Booster would not provide the needed pressure to the release port to unclamp the part.

Q. Can I get technical assistance from Jergens when designing a StayLock Clamping system?

A. Yes. Jergens will assist you by providing a CAD schematic drawing of your system, including all of the part numbers needed to order the system.

For assistance, call 1-877-426-2504.



Staylock Clamps

Die/Mold Clamps

Four models of Die/Mold Clamps are available. Part number 62801 provides 4000 lbs. of output pressure. It is only available in the T-Slot mounting style. The T-Slot mount allows the clamp to be mounted on a machine base via a T-Slot nut, thus allowing the clamp to slide to and from the workpiece. Part number 62802 provides 10,000 lbs. of clamping force. It employs standard mounting bolts for permanent mounting to the machine base, subplate, or fixture plate. Part number 62803 also provides 10,000 lbs. of clamping force. This clamp is provided with a Sensor Interlock which, when wired to a control panel, indicates

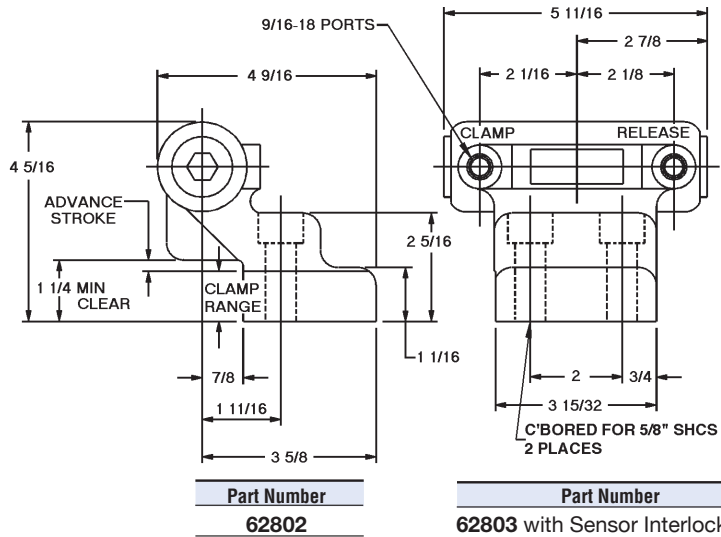
whether the clamp is locked or not. Sensor Interlocks are available as an accessory for part numbers 62801 and 62802. Part number 62804 is similar to part number 62802, except it has a greater clamping range. It does not have mounting holes for the Sensor Interlock. Die/Mold Clamps are available with Viton® seals for high temperature applications.

Ideal for:

- Injection molding machines
- Die casting machines
- Punch presses
- Machining centers



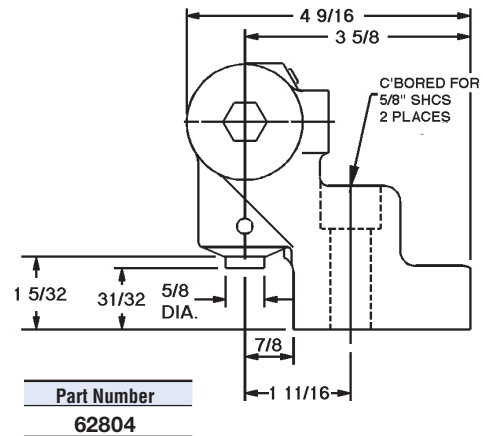
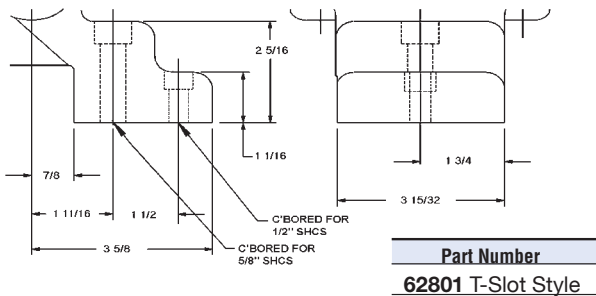
U.S. Patents:
No. 4,511,127
No. 4,471,293



Specifications

Part Number	62801	62802	62803	62804
Operating Volume (cu. in.)	1	1	1	1
Min Operating Pressure (psi)	500	500	500	500
Max Operating Pressure (psi)	2000	5000	5000	5000
Force to Pressure Ratio	2:1	2:1	2:1	2:1
Clamping Range (in.)	1.03/.95	1.03/.95	1.03/.95	1.15/.97
Max Output Force (lbs)	4000	10000	10000	10000
Weight (lbs)	9.5	9.5	9.5	9.5

- Available in Fixture Pro® Design Software



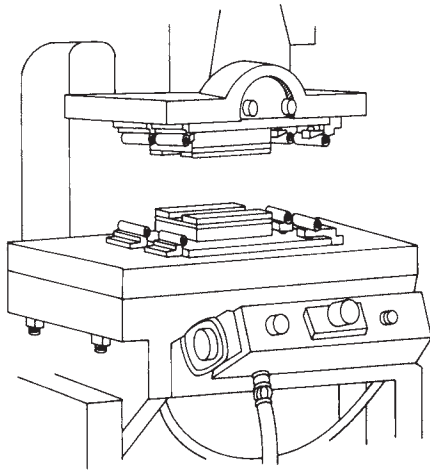
Inch to metric fittings available – see page 199.



Staylock Clamps

Die/Mold StayLock® Clamp Applications

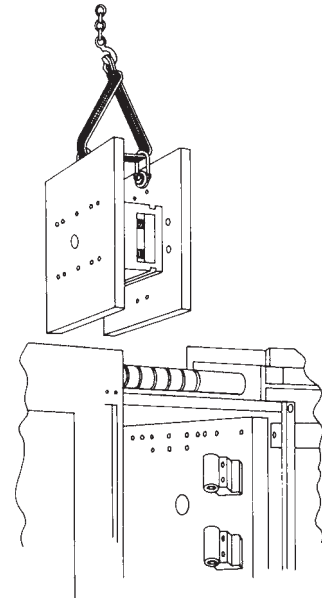
Punch Press



The Die/Mold Clamp is mounted (either permanently, or by using T-Slots) on the injection molding machine platen. The mold is mounted on subplates. By standardizing on subplates with the same height and width, several different molds can be used on one injection molding machine. The mold is lowered into the machine, the Die/Mold Clamps are activated, hydraulic connections are removed, and the job is run. A Sensor Interlock can be added to indicate to the operator that the Die/Mold Clamp is clamping. If molds are used that have a clamping slot, either a StayLock Retractable Clamp or a StayLock Rocker Clamp can be used. Die/Mold Clamps are mounted on the Punch Press table either permanently or by using T-Slots. The top and bottom dies are slid into place, hydraulic connections are removed and the job is run.

At changeover time, the hydraulic quick disconnect fittings are reconnected, the die is removed and replaced with the next die, and the process is repeated. In some applications on punch presses, the Die/Mold Clamp may create a shut height problem. If this is the case, the StayLock Rocker Clamp is an excellent substitute.

Injection Molding Press



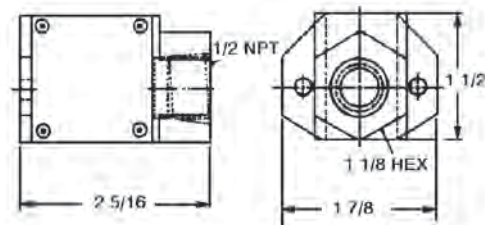
Sensor Interlock



- Available in Fixture Pro® Design Software

The Sensor Interlock (62816) can be mounted on the Die/Mold Clamp and is used to indicate that the clamping piston is engaged or disengaged. Because of the minimal movement of the clamping piston, some applications may require more than a visual method of determining if the Die/Mold Clamp is in the clamping position. The Sensor Interlock is a normally open, 110 volt, 6 amp switch. It is supplied with a six foot long wire and mounting hardware to mount in the control panel of a machine. The switch contacts on the Sensor Interlock will only close when the clamping piston is within the clamping range of the Die/Mold Clamp. It is included with Part Number 62803.

Part Number
62816





Staylock Clamps

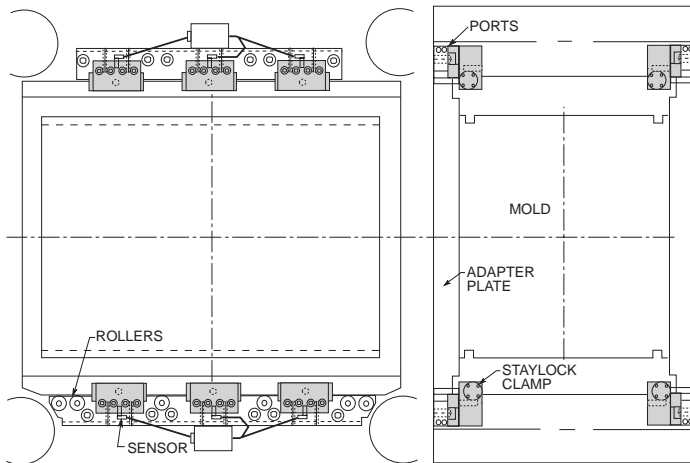
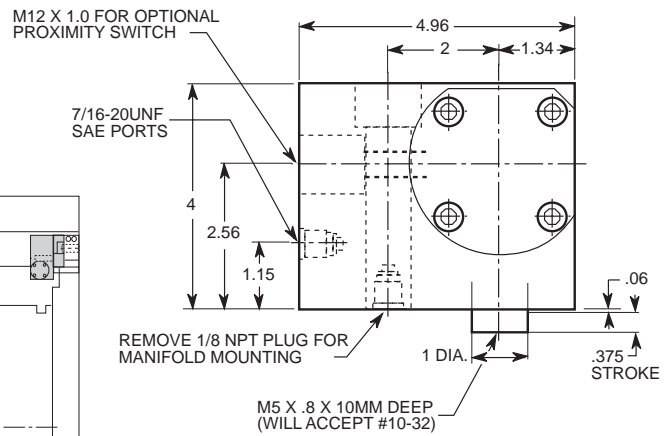
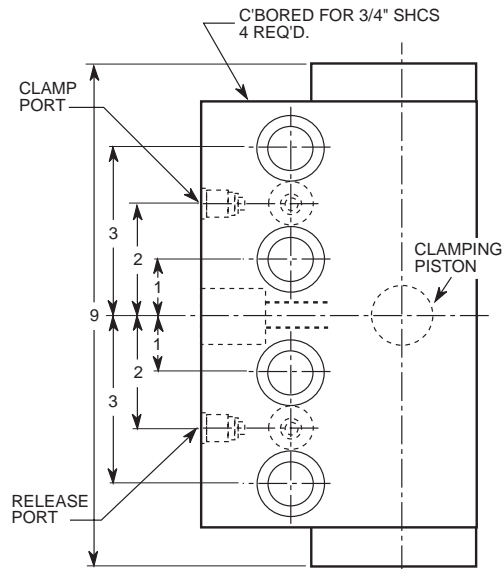
Large Capacity Mold Clamp



The Jergens Large Capacity Mold Clamp is used on molding machines and wherever heavy clamping forces are required. It has a clamping force of 28,000 lbs. The clamp can be mounted either individually or in series on a manifold.

Specifications

Part Number	62806
Operating Volume (cu. in.)	7
Minimum Operating Pressure (psi)	500
Maximum Operating Pressure (psi)	3500
Force to Pressure Ratio	8:1
Clamping Stroke	.38
Maximum Output Force (lbs.)	28,000
Weight (lbs.)	43



Typical StayLock Manifold Layout on Injection Molding Machine



Part Number
62817

Proximity Switch

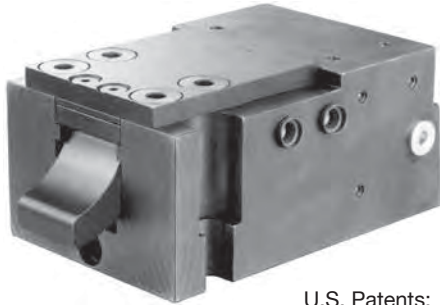
The Proximity Switch indicates the clamp's piston position. A single switch is required for each Large Capacity Clamp. Stainless steel construction with 16' cord, 10-30 VDC.

Inch to metric fittings available – see page 199.

POWER CLAMPING



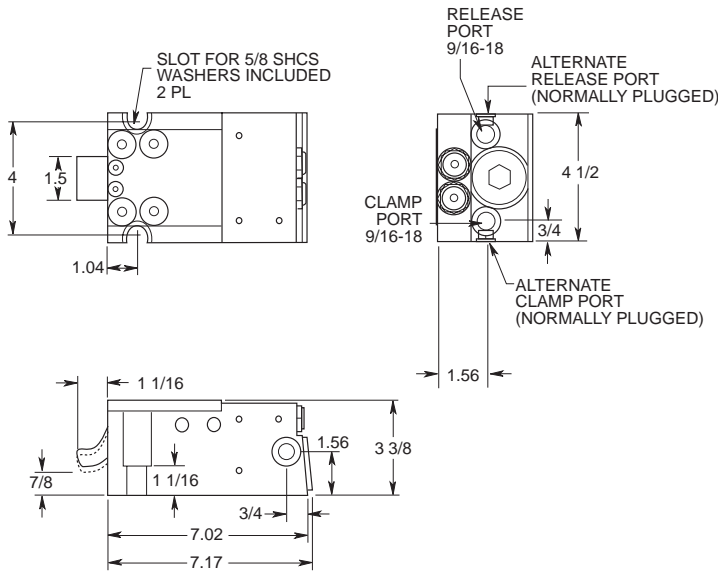
Staylock Clamps Retractable Clamps



U.S. Patents:
No. 4,511,127
No. 4,471,293

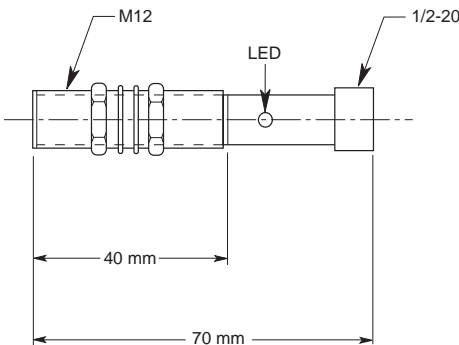
Jergens StayLock Retractable Clamps are designed to allow quick change of molds in injection molding machines and die casting machines. The locking arm, which retracts into the clamp body for easy loading and unloading of a mold, is adaptable to clamp many standard mold slots. The Retractable Clamp is double acting and includes alternate clamp and release ports for easier hydraulic plumbing set-up. A Proximity Switch, which indicates the Retractable Clamp is in the extended or retracted position, is also available (see below).

High temperature version available, contact Technical Sales for more information



Specifications

Part Number	62852
Operating Volume (in ³)	1.6
Minimum Operating Pressure (psi)	500
Maximum Operating Pressure (psi)	2500
Force to Pressure Ratio	2:1
Clamping Stroke	.13
Maximum Output Force (lbs.) @ 2500 (psi)	5000
Weight (lbs.)	23



Proximity Switch

The Proximity Switch senses the position of the clamping arm within the Retractable Clamp. Two Proximity Switches are required for each clamp. They have a stainless steel housing and are mounted in the Retractable Clamp. One Switch senses the arm extended; the other, the arm retracted. A sixteen foot cord is included with each Proximity Switch, 35-250 VAC.

Part Number
62857

Inch to metric fittings available – see page 199.

Staylock Clamps Rocker Clamps



Part Number
62841

U.S. Patents:
No. 4,511,127
No. 4,471,293



Part Number
62842

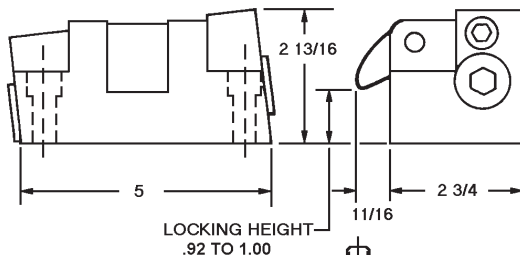
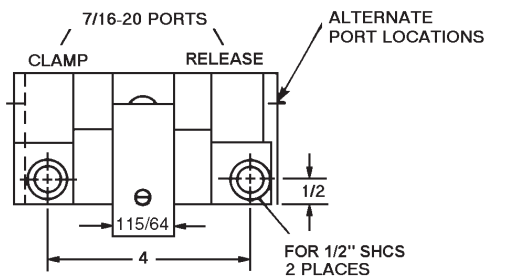
Compact design and dual mounting capability make the Jergens StayLock Rocker Clamp versatile for many applications. The Rocker Clamps come in two styles. Part number 62841 is typically used with standard height subplates upon which the die, mold, or fixture plate is mounted. Part number 62842 has an adjustable spindle which adapts to the height of the workpiece. Both styles of Rocker Clamps have drilled and tapped holes on the bottom of the clamp for mounting T-Slot nuts for use on slotted tables. This method of mounting allows the operator to slide the clamp to and from the workpiece for easier part loading and unloading. Bolt down mounting holes are also provided. For mounting applications, contact the Jergens Technical Sales Department. Ideal for:

- Holding dies on punch presses
- Molds on injection molding machines
- Dies on die casting machines
- Use on hydraulic fixtures
- Available in Fixture Pro® Design Software

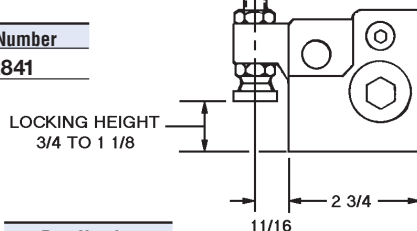
Specifications

Part Number	62841	62842
Operating Volume (cu. in.)	.67	.67
Minimum Operating Pressure (psi)	500	500
Maximum Operating Pressure (psi)	2,000	2,000
Force to Pressure Ratio	1.9:1	1.9:1
Clamping Range (in.)	.92 to 1.00	.10*
Maximum Output Force (lbs.) @2,000 psi	3,800	3,800
Weight (lbs.)	7.5	7.6

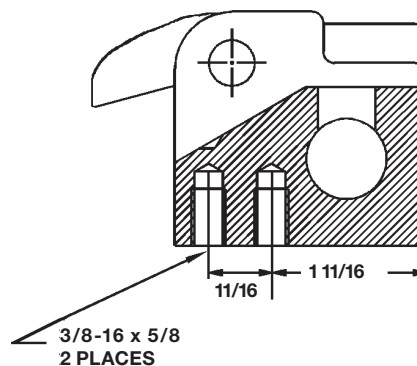
*After adjustment for height.



Part Number
62841



Part Number
62842



Mounting holes for T-Slot applications.

Inch to metric fittings available – see page 199.

POWER CLAMPING

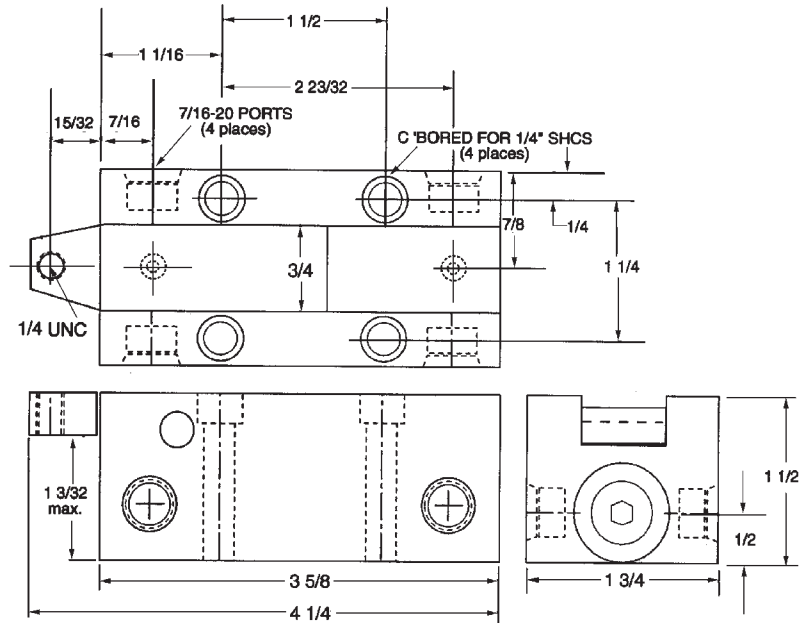


Staylock Clamps

Mini-Rocker Clamps



The StayLock Mini-Rocker Clamp is designed for small parts workholding. Like the other StayLock Clamps, the Mini-Rocker can be mounted at any angle. Clamping forces range from 200 lbs. to 700 lbs. The Mini-Rocker can be used as a single clamp; or because of its unique port arrangement, it can be manifold mounted.



Socket Toggle Screw

Part Number
33302

Set Screw/Jam Nut not included.

See page 246.



Optional Toggle Pad
(Shown in picture)

Part Number
43502

See page 247.

Specifications

Part Number	62845*	62846**
Operating Volume (cu. in.)	.08	.08
Minimum Operating Pressure (psi)	500	500
Maximum Operating Pressure (psi)	3,500	3,500
Force to Pressure Ratio	.2:1	.2:1
Clamping Range	.09	.09
Clamping Force @ 3500 psi	700 lbs	700 lbs
Clamping Force @ 1000 psi	200 lbs	200 lbs
Weight (lbs.)	2.1	2.1

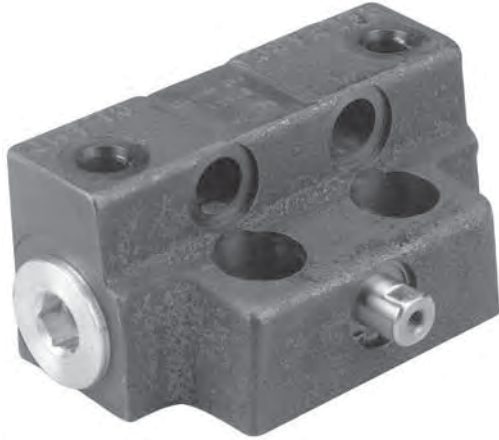
* Includes four plugs & two O-Rings, SAE style, for manifold mounting

** Includes two plugs

Inch to metric fittings available – see page 199.



Staylock Clamps Block Clamps

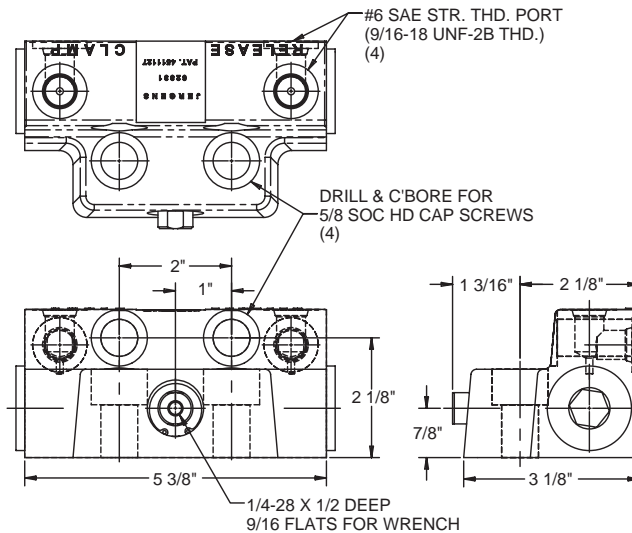


Jergens StayLock Block Clamps are multi-purpose utility clamps designed for many versatile applications. Block Clamps may be mounted for either vertical or horizontal clamping. They may be used with strap clamps or similar workholding devices for maximum adaptability (see illustration below). The Block Clamp plunger has a 1/4 - 28 thread on the I.D. for use with various contact points.

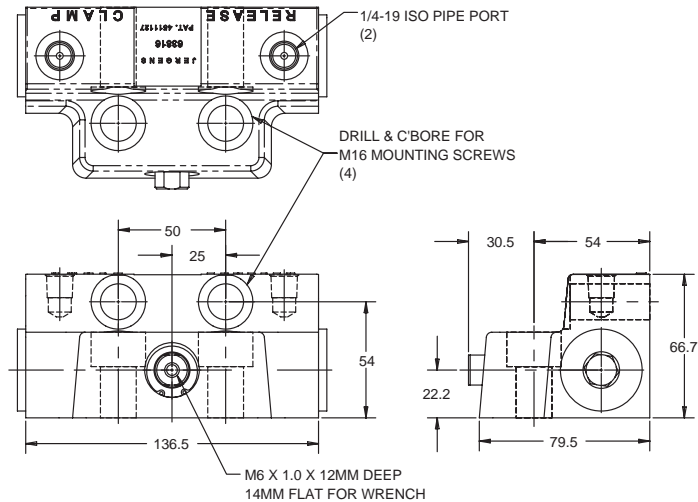
- Available in Fixture Pro® Design Software

U.S. Patents:
No. 4,511,127
No. 4,471,293

Specifications	Inch
Part Number	62831
Operating Volume (cu. in.)	1.1
Minimum Operating Pressure (psi)	500
Maximum Operating Pressure (psi)	5,000
Force to Pressure Ratio	2:1
Clamping Stroke (in.)	.18
Maximum Output Force (lbs.) @ 5,000 psi	10,000
Weight (lbs.)	6.5



Specifications	Metric
Part Number	63816
Operating Volume (cu. cm)	18
Minimum Operating Pressure (kg/cm ²)	14
Maximum Operating Pressure (kg/cm ²)	350
Force to Pressure Ratio	12.8:1
Clamping Stroke (mm)	4.7
Maximum Output Force (kg) @ 351(kg/cm ²)	4,500
Weight (kg)	2.93



Inch to metric fittings available – see page 199.

POWER CLAMPING



Staylock Clamps Toe Clamps



Low Toe Style

Part Number
62811

U.S. Patents:
No. 4,511,127
No. 4,471,293

Specifications

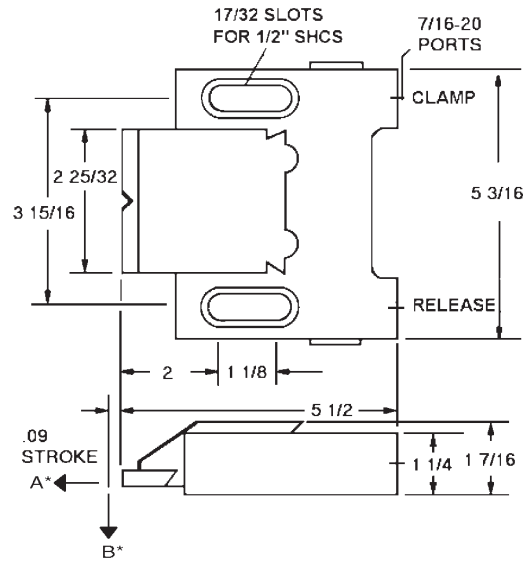
Part Number	62811	
Part Number	62812	
Operating Volume (cu. in.)	.5	
Minimum Operating Pressure (psi)	500	
Maximum Operating Pressure (psi)	3,000	
Hydraulic Pressure (psi)	Force in Pounds	
	A*	B*
1,500	1,200	800
3,000	2,500	1,800
Clamping Stroke	.09	
Maximum Output Force (lbs.) @3,000 psi	2,500	
Weight (lbs.)	6.7	

- Two special washers which prevent damage by the cap screws are included with each toe clamp. To order washers separately, order Part Number 60636.
- Toe is moved back by spring.
- Available in Fixture Pro® Design Software



High Toe Style

Part Number
62812

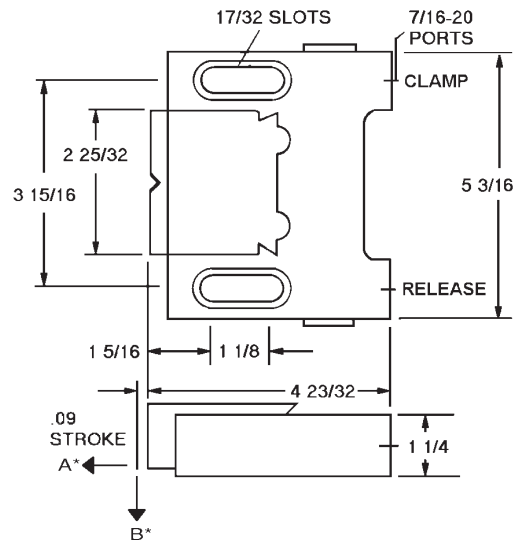


Jergens StayLock Toe Clamps are designed for edge gripping of parts when the clamp height must be kept at a minimum, such as in a milling operation. They are available in Low Toe (62811) or High Toe (62812) styles.

Toe Clamps provide two directional clamping forces: one pushes the work-piece against a positive stop, the other pushes it down against the table or fixture. A brass or steel insert is available on the low toe style Toe Clamp. The inserts must be ordered separately.

IMPORTANT: Jergens 62811 Toe Clamp is supplied without toe insert. Please order one of the inserts below.

Part Number	Insert
60633	Steel
60632	Brass

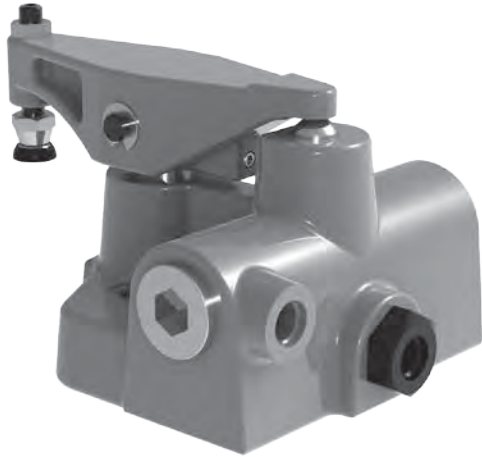


Inch to metric fittings available – see page 199.



Staylock Clamps

Swing Clamps (Metric)



U.S. Patents:
No. 4,511,127
No. 4,471,293

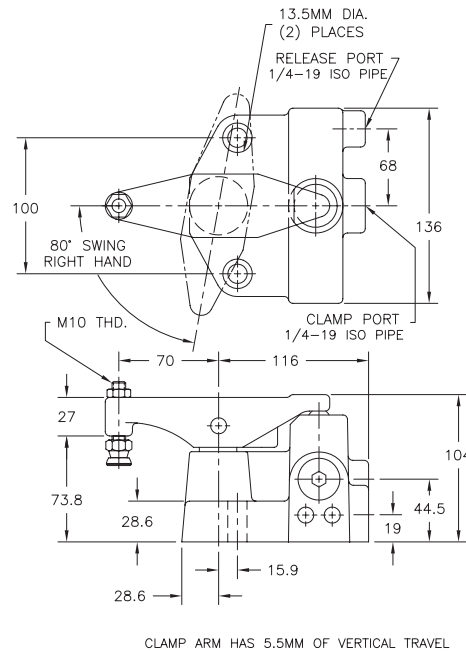
Specifications

Part Number (Right Swing)	63801
Part Number (Left Swing)	63802
Operating Volume (cm ³)	20.5
Minimum Operating Pressure (bar)	6*7
Maximum Operating Pressure (bar)	200
Force to Pressure Ratio	8.5:1
Clamping Stroke (mm)	5.5
Maximum Output Force (kN) @ 200 bar	18
Effective Piston Area (cm ²)	8.6
Weight (kg)	5.5

*5.4 bar to swing, 7 bar to clamp.

Jergens StayLock Swing Clamps are designed to be used when accessible loading and unloading of a workpiece is required. The clamping arm rotates 80° away from the workpiece. The Swing Clamp operates in any position and is sealed so it can be used with coolant applications.

Important: When using the High Volume Air-Powered Hydraulic Pumps (61761 and 61762), the Flow Limit Valve (shown below) must be used to limit the flow of hydraulic oil going to the clamp port of the Swing Clamp. This will extend the life of the clamp by minimizing the clamp arm from slamming into the clamping position.

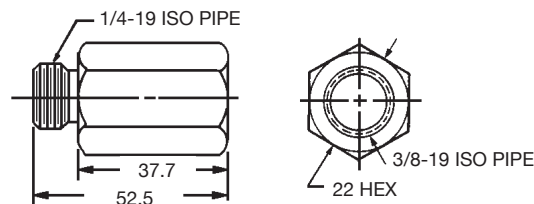


The Flow Limit Valve restricts the flow of oil to dampen the rotating action of the Swing Clamp. It is recommended that the Flow Limit Valve be used with the High Volume Air-Powered Hydraulic Pump (61761 or 61762). It is not needed with the lower volume “Shoebox” Pumps (61755 or 61756).

Flow Limit Valves



Part Number
63603



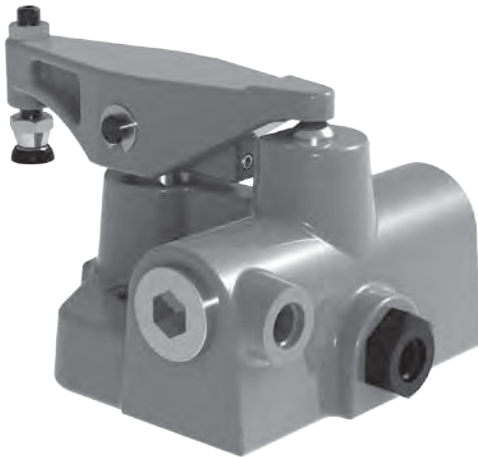
• Available in Fixture Pro® Design Software

POWER CLAMPING



Staylock Clamps

Swing Clamps



U.S. Patents:
No. 4,511,127
No. 4,471,293

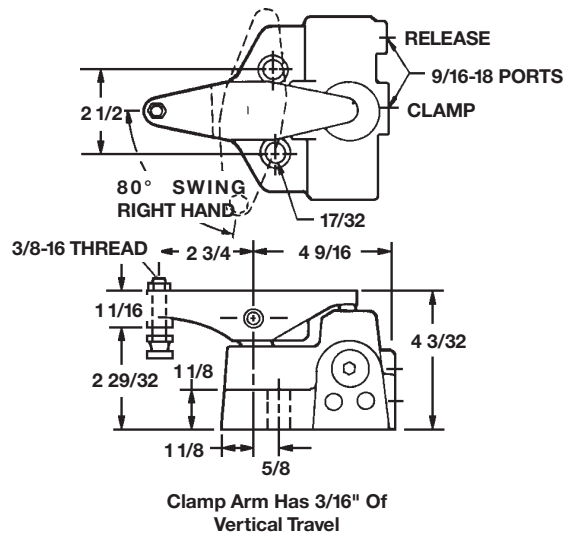
Specifications

Part Number (Right Swing)	62823
Part Number (Left Swing)	62824
Operating Volume (cu. in.)	1
Minimum Operating Pressure (psi)	80*/300
Maximum Operating Pressure (psi)	3,000
Force to Pressure Ratio	1.3:1
Clamping Stroke (in.)	.18
Maximum Output Force (lbs.) @ 3,000 psi	3,900
Weight (lbs.)	11

*80 psi to swing, 300 psi to clamp.

Jergens StayLock Swing Clamps are designed to be used when accessible loading and unloading of a workpiece is required. The clamping arm rotates 80° away from the workpiece. The Swing Clamp operates in any position and is sealed so it can be used with coolant applications.

Important: When using the High Volume Air-Powered Hydraulic Pumps (61761 and 61762), the Flow Limit Valve (shown below) must be used to limit the flow of hydraulic oil going to the clamp port of the Swing Clamp. This will extend the life of the clamp by minimizing the clamp arm from slamming into the clamping position.

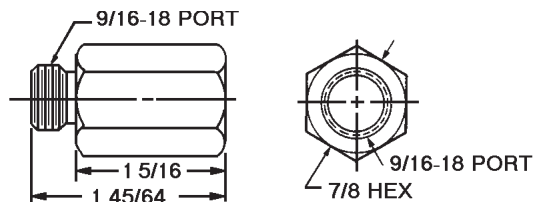


The Flow Limit Valve restricts the flow of oil to dampen the rotating action of the Swing Clamp. It is recommended that the Flow Limit Valve be used with the High Volume Air-Powered Hydraulic Pump (61761 or 61762). It is not needed with the lower volume "Shoebox" Pumps (61755 or 61756).

Flow Limit Valves



Part Number
61648



• Available in Fixture Pro® Design Software



Pre-Fill Boosters



- Self Bleeding
- Easy View Reservoir
- 15:1, 30:1, and 54:1 Boost Ratios

These units offer many more advantages than conventional boosters, while maintaining the same basic simplicity. The pre-fill booster has two automatic cycles. The first cycle pre-fills the work circuit using low pressure with a large reservoir to provide volume. The second cycle then automatically provides high pressure, as needed. These units also provide automatic bleeding of the work circuit. This self-bleeding feature negates the need to “bleed the lines” after it is set up.

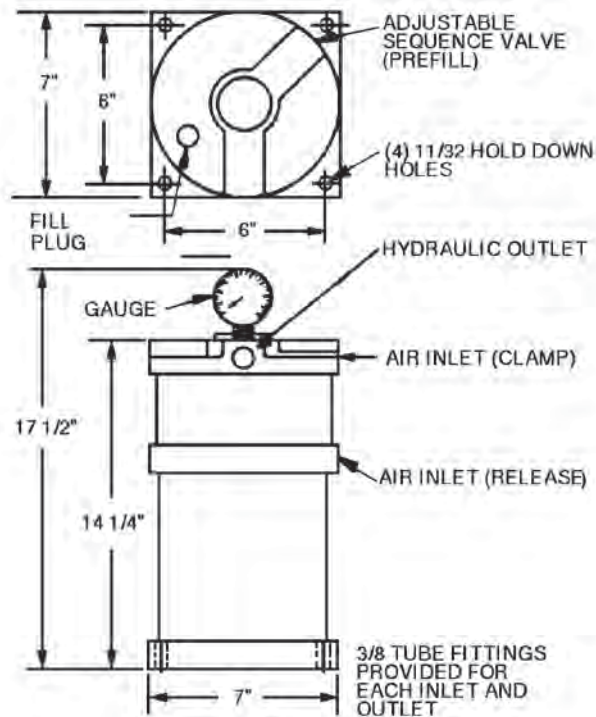
The pre-fill booster is ideal for any general use production system requiring maximum efficiency with minimum effort! Pre-fill boosters must be used in the upright (vertical) position.

- Installation Kits Available. See page 180.
- See page 177 for Rapid Exhaust and Rapid Advance Kits, Handles, and Mounting Bases.

Patent No. 3839866

Specifications

Part Number	61704	61705	61706
Reservoir Capacity (cu. in.)	50	50	55
High Pressure Volume (cu. in.)	7 1/2	3 3/4	2
Minimum Input (psi)	40	40	40
Maximum Input (psi)	125	125	75
Boost Ratio	15:1	30:1	55:1
Maximum Output (psi)	1875	3750	4100
Weight (lbs.)	28	28	28

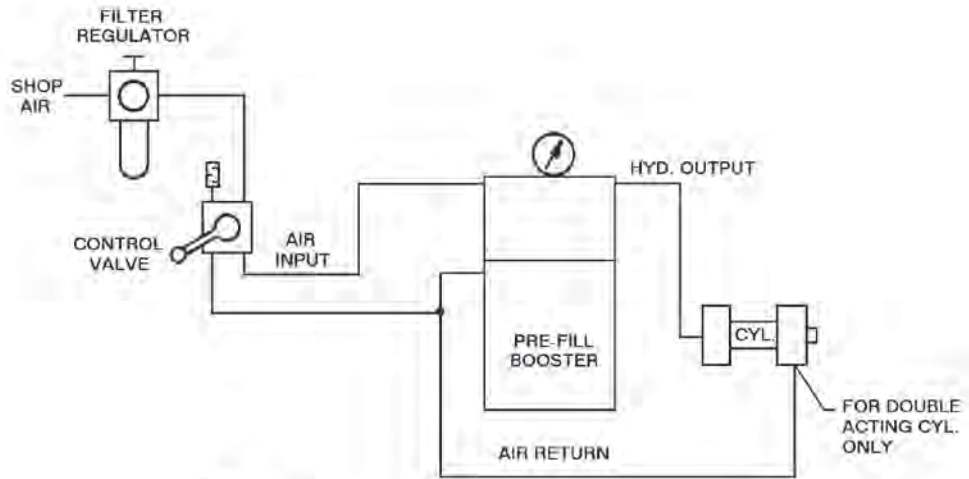


Inch to metric fittings available – see page 199.

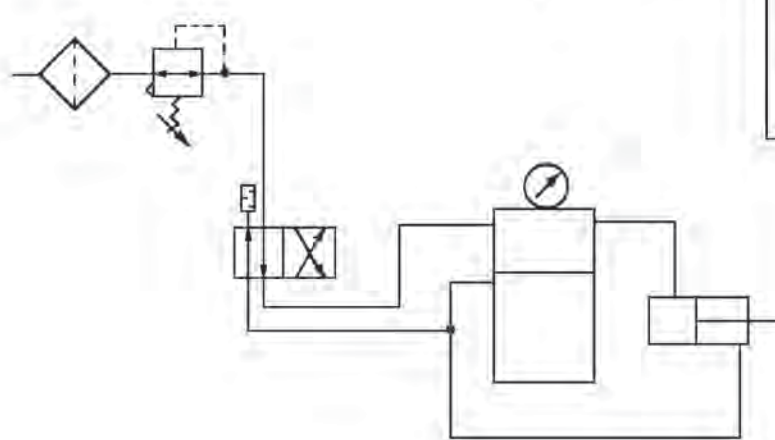


Boosters Circuit Diagrams

Graphic



Schematic



Accessories

Rapid Exhaust and Advance Kits



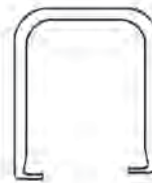
Rapid Exhaust Part Number
62214

Rapid Advance Part Number
62215

These kits include everything needed to convert a standard Pre-Fill Booster to high speed operation. Fittings, pre-bent tubing, and the quick exhaust valve are included.

Valve Only
61641

Handle



Part Number
62621

Convert your Pre-Fill Booster to a portable power source. The 62621 handle is for use when the hydraulic gage is mounted on the top of the booster.



Standard Boosters



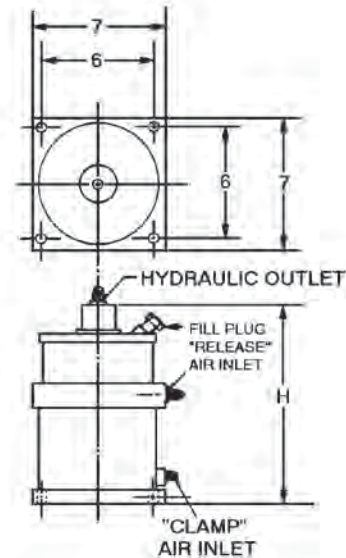
Standard Boosters are ideal for permanent fixtures, special machines or O.E.M. applications.

The volume of oil available to operate the work circuit depends upon the high pressure capacity of the booster. Work circuits using standard boosters require manual bleeding.

- Easy to view reservoir
- 15:1 and 30:1 boost ratios
- May be mounted vertically or horizontally

Specifications

Part Number	61709	61710	61711
Reservoir Capacity (cu. in.)	15	15	18
High Pressure Volume (cu. in.)	4	7 1/2	3 3/4
Minimum Input (psi)	20	20	20
Maximum Input (psi)	125	125	125
Boost Ratio	15:1	15:1	30:1
Maximum Output (psi)	1875	1875	3750
Weight (lbs.)	20	24	22
Height (H)	10 7/16	14 7/16	14 7/16



3/8" TUBE FITTING PROVIDED FOR EACH INLET AND OUTLET PORT.

Accessories

Mounting Bases



Part Number
60973

Base 60973 can be used to mount Jergens Boosters 61709 thru 61711 in a horizontal position.

Rapid Exhaust Kit



Part Number
62215

The Rapid Exhaust Kit includes a valve, muffler, and fittings needed to convert Booster numbers 61709 thru 61711 to high speed operation.

Installation Kits
See page
180

Valve Only
61641

Inch to metric fittings available – see page 199.

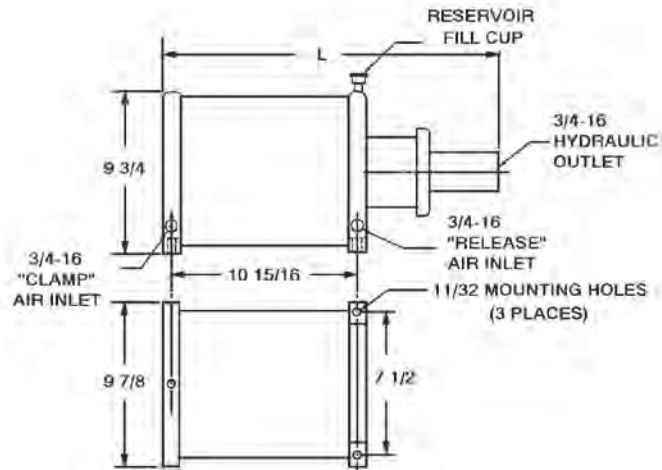


High Pressure/Volume Boosters



- Available in 26:1, 37:1, and 64:1 boost ratios.
- High output pressure
- High pressure volume

Unit must be used only in the **horizontal position**

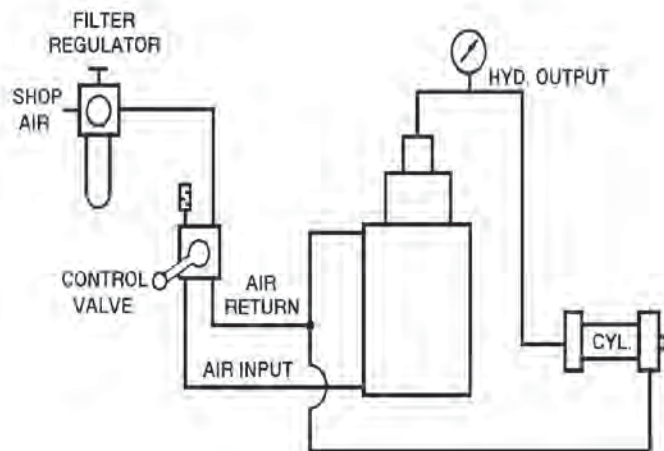


Specifications

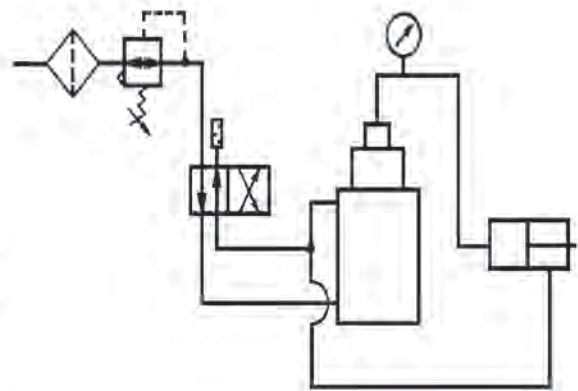
Part Number	61720	61721	61722
Reservoir Capacity (cu. in.)	17	17	17
High pressure Volume (cu. in.)	12.9	9.1	5.3
Minimum Input (psi)	10	10	10
Maximum Input (psi)	125	125	125
Boost Ratio	26:1	37:1	64:1
Maximum Output (psi)	3250	4625	8000
Length (L)	19 11/16	19 5/8	19 1/2
Weight (lbs.)	28	28	28

Circuit Diagrams

GRAPHIC



SCHEMATIC



Inch to metric fittings available – see page 199.



Boosters Installation Kits

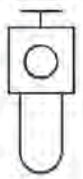



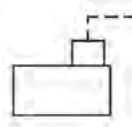


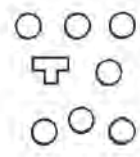
Jergens offers four kits to simplify the installation of your Jergens booster. The kits may be used with any Jergens booster.

62203 — This kit is recommended for most applications. The kit includes everything needed to connect your air line to the booster and everything needed to connect the booster to your fixture.

62204 — This kit should be used when the protection of a pilot check valve is not required, as in punching or staking applications.

62205 — This kit is the same as kit 62203 except the hand valve has been eliminated. Use this kit when the system will be activated by a foot valve, solenoid or pilot operated valve.

62206 — This kit should be used for punching or other applications where no check valve is required and the system will be activated by a foot valve.

							
Filter/ Regulator 61617 (1) See page 189	4-Way Hand Valve 61615 (2) See page 190	Muffler 62613 (3) See page 189	Air Hose (18 Ft.) 61108 (4) See page 200	Pilot Check Valve 61629 (5) See page 194	Hydraulic Hose (6 Ft.) 61205 (6) See page 200	Quick Disconnect Couplings 61915 61965 (7) See page 200	Fittings as Req'd. (8)

Selection Data

Part Number	Items Included In Kit
62203	1, 2, 3, 4, 5, 6, 7, 8
62204	1, 2, 3, 4, 6, 7, 8
62205	1, 3, 4, 5, 6, 7, 8
62206	1, 3, 4, 6, 8

Jergens recommends the use of a gage kit with any standard booster.



Gage Kit

Part Number	PSI
60711	3000 psi
60712	6000 psi
60713	10000 psi



3 Second Clamping Kit



To simplify the installation of Jergens power clamps, Jergens offers its 3 SECOND Clamping Kit. The Kits contain everything required to convert your shop air pressure to hydraulic power for your clamping fixture.

61717 — This kit contains a 61711 booster, control valve, gage, hoses and fittings. This kit should be used for fixtures which will remain on a machine for long periods of time, such as a vise on a milling machine.

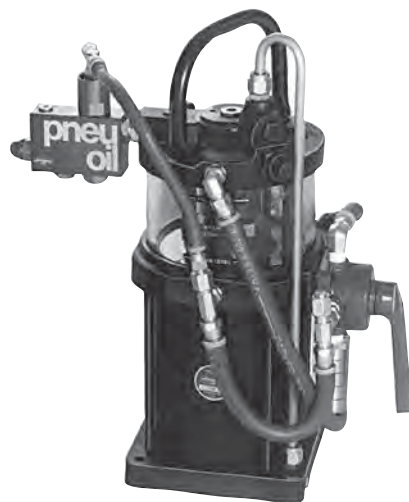
61719 — This kit contains a 61705 booster, control valve, filter-regulator, pilot check valve, quick disconnects and all hose and fittings required. This kit should be used on machines where the fixture changes frequently. The 61705 booster eliminates the need to bleed each fixture after it is connected. To change the fixture, simply switch the hydraulic hose from one fixture to the other using quick disconnect fittings.

Selection Data

Part Number	Included in Kit	
	Booster	Accessories*
61717	61711	2, 3, 4, 6, 8, 9
61719	61705	1, 2, 3, 4, 5, 6, 7, 8
61716	61710	2, 3, 4, 6, 8, 9
61718	61704	1, 2, 3, 4, 5, 6, 7, 8

*As shown on page 176.

Pre-Fill Power Pacs



Jergens Pre-Fill Power Pacs provide a complete portable power source. Everything required to power and control your hydraulic fixture is included. Connect your shop air to the filter/regulator, and your fixture to the hydraulic hose. The self bleeding feature and the hydraulic quick disconnects (provided) make these units the ideal power sources for job shops and production lines.

- Completely Assembled
- Self Contained
- Portable
- Self Bleeding
- Fast Set-Up

Selection Data

Part Number	Included In Power Pac	
	Booster	Accessories*
61714	61704	1, 2, 3, 5, 6, 7, 8
61715	61705	1, 2, 3, 5, 6, 7, 8

*As shown on page 176.



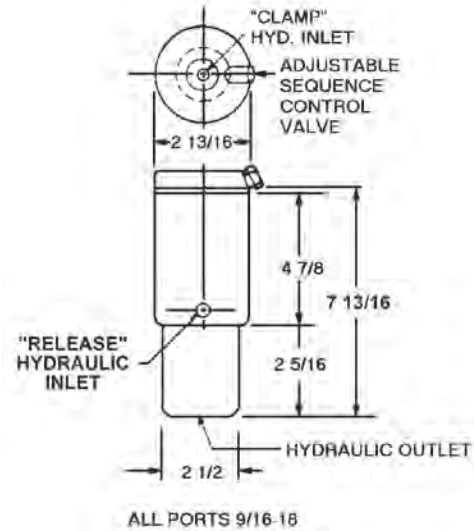
Hydraulic Intensifier



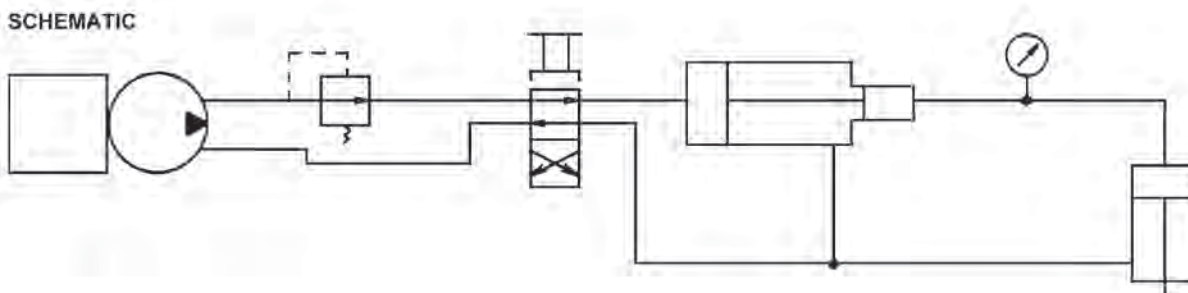
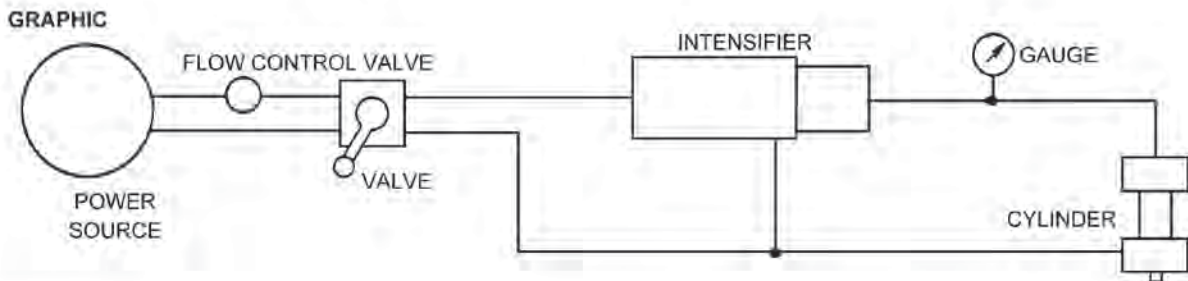
This unit is designed to be used on any machine tool with its own hydraulic system where higher pressures are needed. Jergens Intensifiers will pre-fill your circuit at approximately 200 psi maximum. Once the Intensifier sequences over to its high pressure mode, it will deliver one cubic inch of working oil at seven times the input pressure.

Specifications

Part Number	61701
High Pressure Volume (cu. in.)	1
Minimum Input (psi)	50
Maximum Input (psi)	710
Boost Ratio	7:1
Maximum Output (psi)	5000
Prefill (psi) Adjustments	50-200
Weight (lbs.)	4.4



Circuit Diagrams



Inch to metric fittings available – see page 199.

POWER CLAMPING



Air-Powered Hydraulic Pumps Shoebox™ Pumps



The “Shoebox” Pump is a low cost, compact unit used on smaller hydraulic circuits. Its small size offers the versatility of mounting on wheels (such as a workcart) and moving the pump from workstation to workstation. Like the High Volume Pump, this pump allows independent control of multiple workstations.

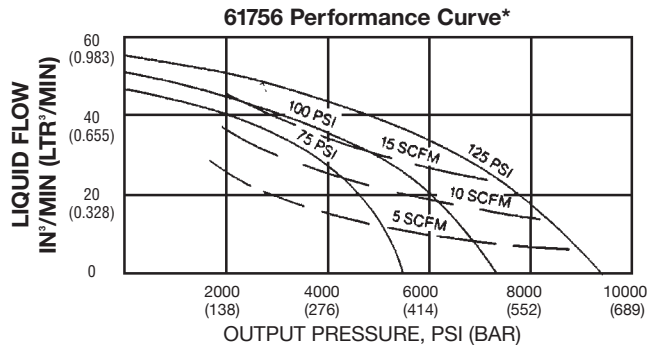
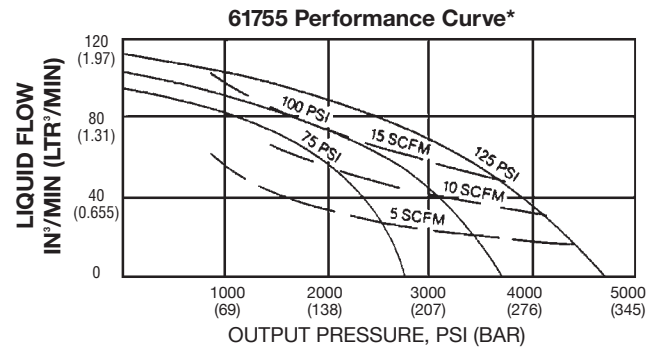
Jergens Air-Powered Hydraulic Pumps are used as a power source to activate Hydraulic Clamps. Shop air is introduced into the Filter/Regulator and converted to hydraulic pressure. These pumps are available in two styles: the High Volume Pump (61761 and 61762) with Boost Ratios of 20:1 and 50:1 and the standard, more compact “shoebox” pump (61755 and 61756) with Boost Ratios of 36:1 and 71:1. The Air-Powered Hydraulic Pumps are easy to use, energy efficient, versatile and affordable. They are completely self-contained and do not require any external reservoirs or motors.

NOTE: See page 186 for Valve and Subplate options.

Specifications

Part Number	61755	61756
Reservoir Capacity (cu.in.)	300	300
Minimum Input (psi)	25	25
Maximum Input (psi)	125	85
Boost Ratio	36:1	71:1
Maximum Output	4500	6000
Free Flow (psi)		
@100 psi (cu.in./min.)	100	50
Weight (lbs.)	24	24

A ten cubic inch accumulator (Part Number 62601) is available to increase the clamping speed if needed. Contact our Technical Sales Department for details.



* Air Drive Pressure (SOLID Lines) /
Air Drive Flow (DASHED Lines)

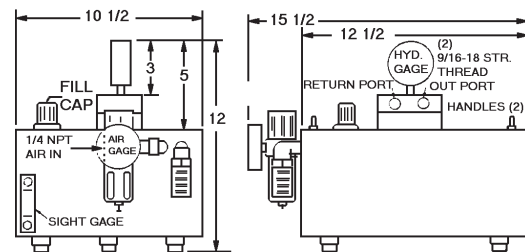
Pump Kits

The 61757 Pump Kit includes a 61755 Pump (36:1 Ratio), a 61642 Four-Way, Zero-Leakage Valve, a 61647 Subplate, and a 60703 gauge (6000 psi). The valve, subplate and gauge are supplied mounted on the pump.

The 61758 Pump Kit includes a 61756 Pump (71:1 Ratio), a 61642 Four-Way, Zero-Leakage Valve, a 61647 Subplate, and a 60706 gauge (10,000 psi). The valve, subplate and gauge are supplied mounted on the pump.

Part Number 61757 includes:	Part Number 61758 includes:
61755 36:1 Pump	61756 71:1 Pump
61642 Four-way, zero-leakage valve	61642 Four-way, zero-leakage valve
61647 Subplate	61647 Subplate
60703 6000 psi gauge	60706 10,000 psi gauge

Inch to metric fittings available – see page 199.





Air-Powered Hydraulic Pumps Breadbox™ Pumps



High Volume Air-Powered Hydraulic Pump

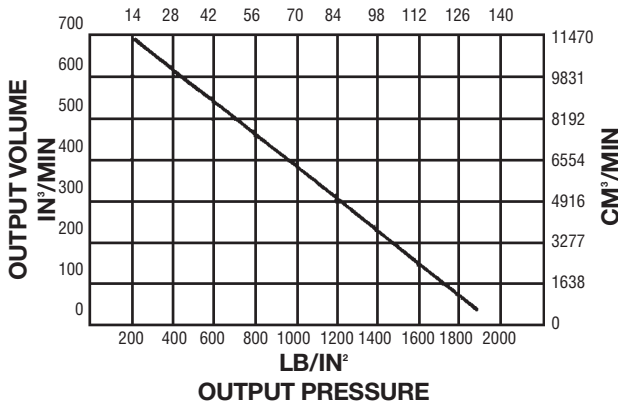
The Jergens High Volume Air-Powered Hydraulic Pump converts standard and accessible low pressure shop air to hydraulic pressure up to 5000 psi. These pumps offer large reservoir capacities and allow independent control of multiple work stations. They are designed to provide high volume output throughout the pump's entire pressure range.

Specifications

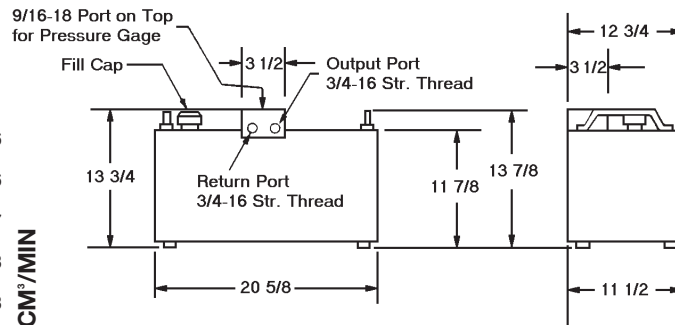
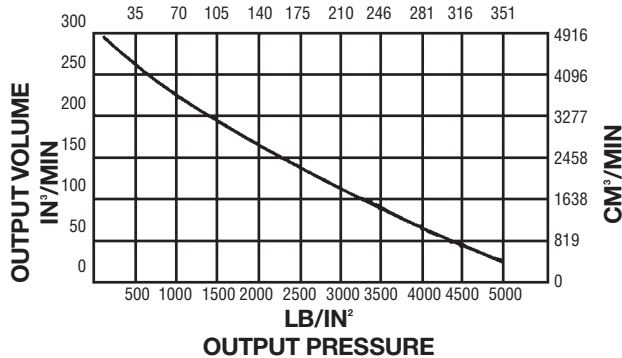
Part Number	61761	61762
Reservoir Capacity (cu.in.)	440	440
Minimum Input (psi)	40	40
Maximum Input (psi)	125	100
Boost Ratio	20:1	50:1
Maximum Output (psi)	2500	5000
Free Flow @ 100 psi (cu.in./min.)	700	300
Weight (lbs)	100	100

A ten cubic inch accumulator (Part Number 62601) is available to increase the clamping speed if needed. Contact our Technical Sales Department for details.

61761 Performance Curve
KGS/CM²



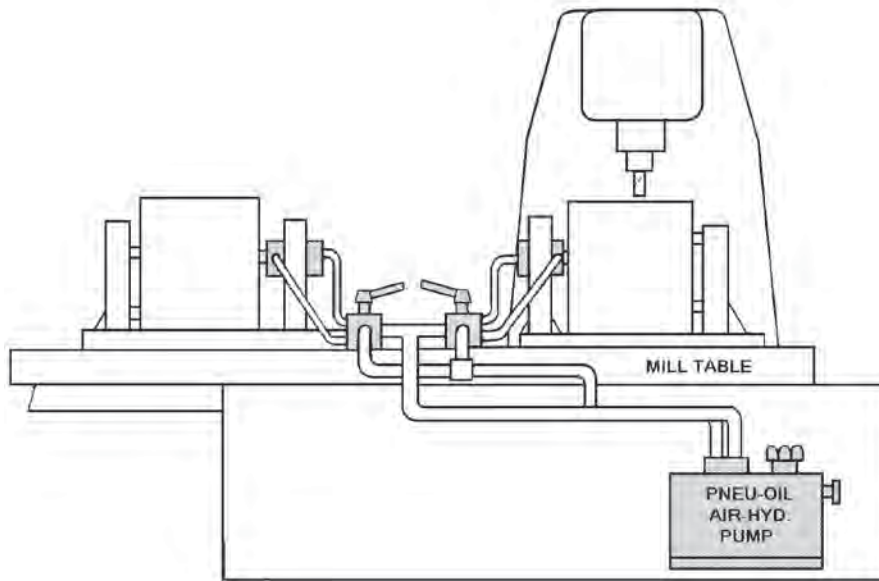
61762 Performance Curve
KGS/CM²



Inch to metric fittings available – see page 199.

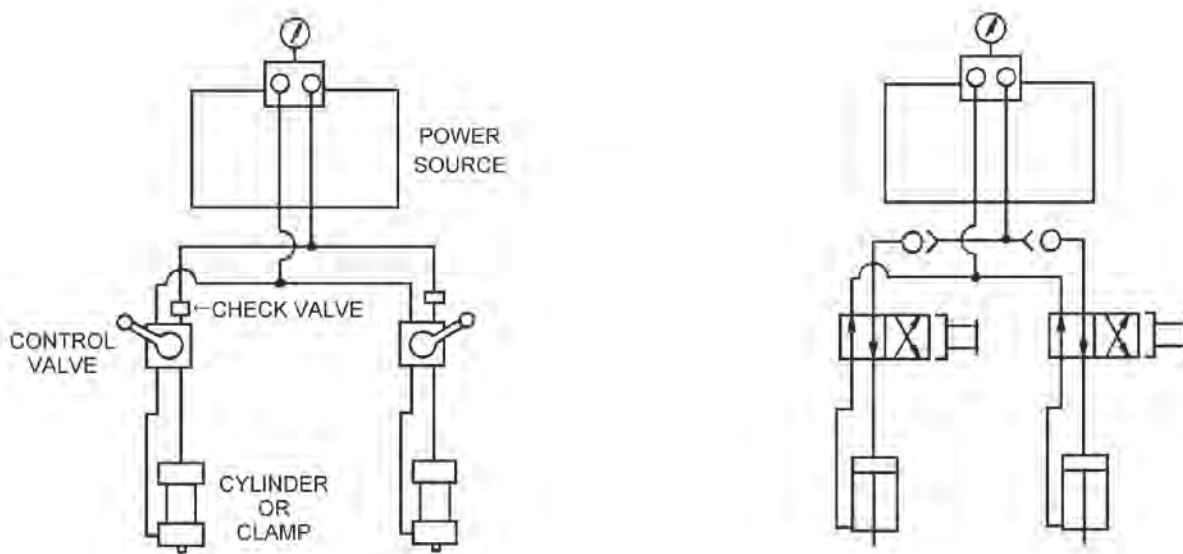


Typical Hydraulic Circuit Application



Typical Installation — Two Station Milling Operation

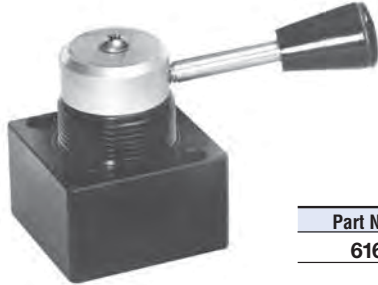
Circuit Diagram





Valves and Subplates for Air Powered Hydraulic Pumps

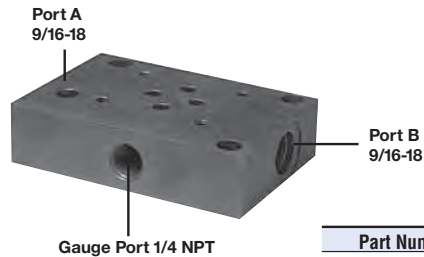
Zero-Leakage Valve



Part Number
61642

For inline applications, use the 61642 Valve mounted on a 61646 Subplate (Order Part Number 61643). This set-up is also recommended for use with High Volume Air-Powered Hydraulic Pumps (61761, 61762) in StayLock and standard applications. For D03 manifold mounting, directly on the pump, the 61647 Subplate and 61642 Valve are recommended. Because the Jergens Air-Powered Hydraulic Pump provides only the necessary hydraulic pressure to clamp and unclamp the StayLock Clamps, the Four-Way, Zero-Leakage Valve is recommended to prevent the unnecessary running of the pump, thus minimizing pump maintenance and wear.

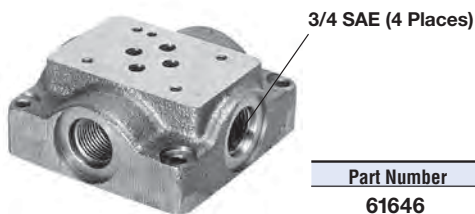
Subplate for Shoebox Pump



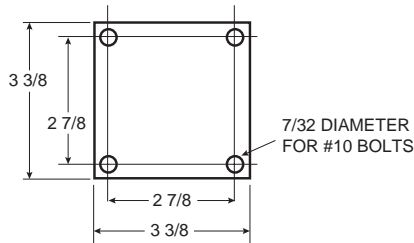
Part Number
61647

- For 61642 (D03 Pad)

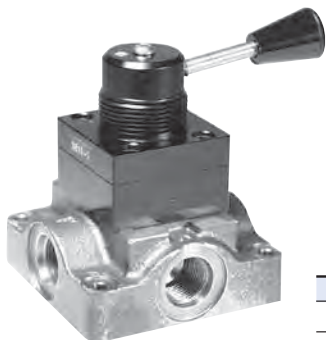
Inline Subplate



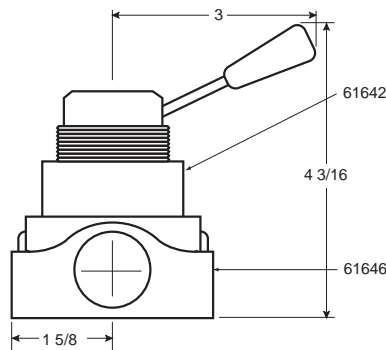
Part Number
61646



Valve and Inline Subplate Assembly



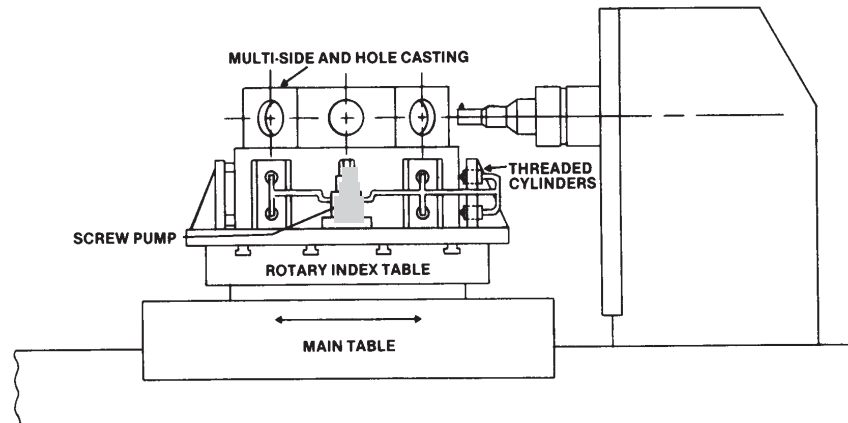
Part Number
61643



Inch to metric fittings available – see page 199 (except 61642).

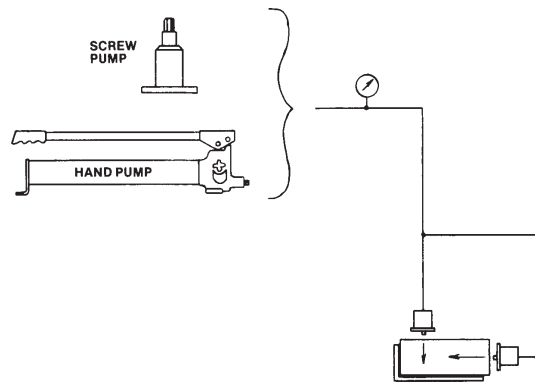


Manual Pumps Application



Typical Manual Pump application on a boring mill. The clamping is a self-contained set-up for rotary indexing for large multi-side castings.

Circuit Diagram





Pallet Decoupler Valve



Part Number
62605

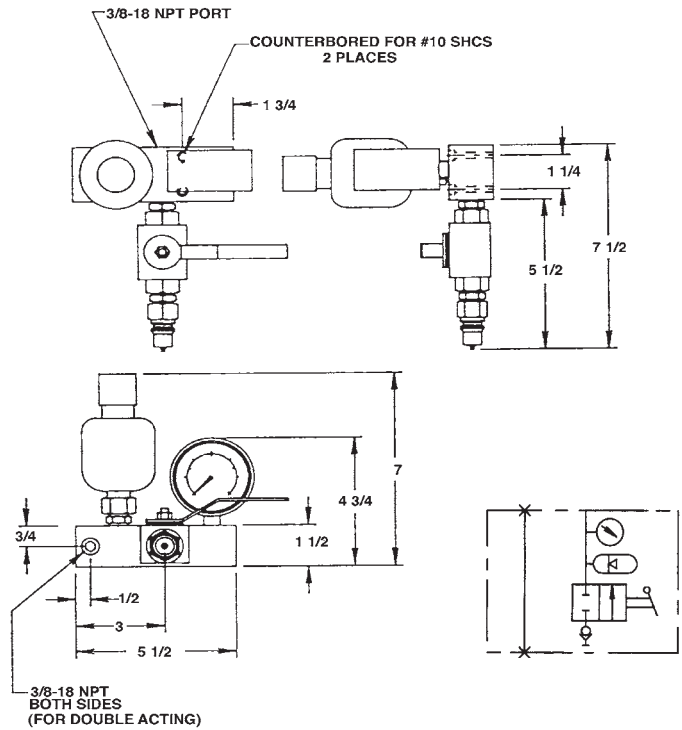
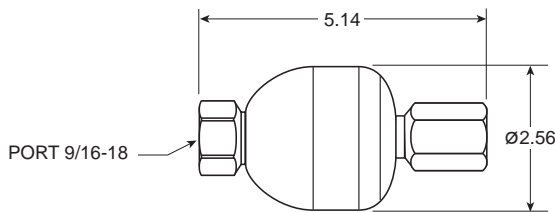
The Pallet Decoupler Valve allows hydraulically clamped tooling fixtures to maintain pressure when disconnected from their power source. The built-in pre-charged accumulator maintains pressure within a hydraulic system, compensating for slow leaks. The Pallet Decoupler Valve adds a level of security to fixtures that must be disconnected from a power source while being moved. Ideal for use with palletized fixtures and machining centers.

- Manifold
- Accumulator
- Hydraulic Connections
- Hydraulic Gauge
- Manual Ball Valve

Accumulator

Part Number	Max. Pressure	Pre-Charge Pressure	Volume	Weight (lbs)
62603	3600 psi	1500 psi	5 cu. in.	1.5

*Other Accumulators and pre-charge pressure are available upon request.

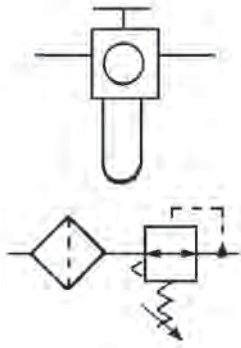


To order components separately

Ball Valve	Male Quick Disconnect	Coupler Sleeve	Hydraulic Gage
61639	61965	61915	60703



Air Circuit Controls Filter/Regulators



The filter element removes the solid impurities and condensates before the compressed air enters the regulator. The regulator valve supplies a preset pressure regardless of main circuit pressure as long as pressure in the main circuit is higher than that in the secondary.

Specifications

Part Number	61616	61617
Port Size	1/4 NPT	3/8 NPT
SCFM Rating	53 SCFM	80 SCFM
Weight (lbs)	1.6	3.2

Gauges

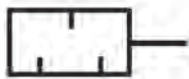


When sizing a pressure gauge, the maximum output of the system should be approximately 2/3 of the gauge capacity.

Specifications

Part Number	160 PSI		
	60701	60702	60705
Thread Size	1/8 NPT	1/4 NPT	1/4 NPT
Location	Back	Bottom	Back
Weight (lbs)	.16	.25	.25

Mufflers

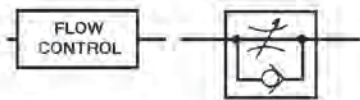


Used to reduce air flow noise. Installation is recommended at exhaust ports of Air Control Valves.

Specifications

Part Number	62612	62613
Thread Size	1/4 NPT	3/8 NPT
Weight (lbs)	.06	.22

Flow Control Valve



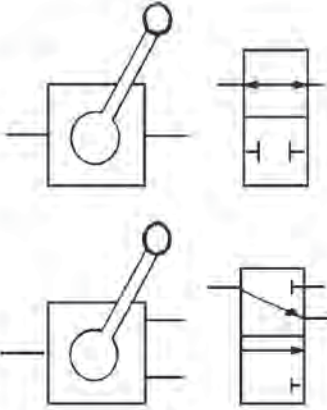
Manually adjusted control of input pressures. Allows the regulation of pressures into a work circuit. Reverse flow is unrestricted. Used for throttling or metering a circuit so that actuator speed meets work requirements.

Specifications

Part Number	61603
Port Size	1/4 NPT
Weight (lbs)	.31



Air Circuit Controls 2-Way and 3-Way Valves

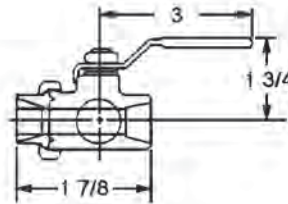


Specifications

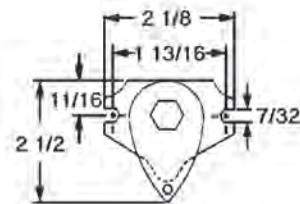
Part Number	61601	61634
Type	2-way	3-way
Port Size	3/8 NPT	1/8 NPT
Weight (lbs)	.81	.22

2-way valves are in-line ball valves. They are used as a shut-off valve in simple circuits.

3-way valves are similar to 2-way valves but have a third port which is generally used as a vent or exhaust.

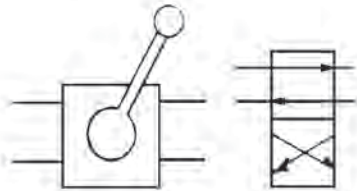


Part Number
61601



Part Number
61634

4-Way Valves

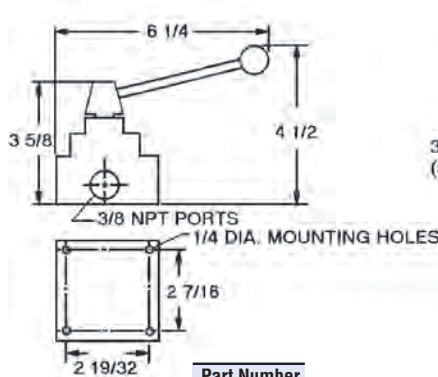


A variety of directional control valves are offered. Manual valves are normally two position, detented. Solenoid valves are 115V-60 Hz; other voltages are available.

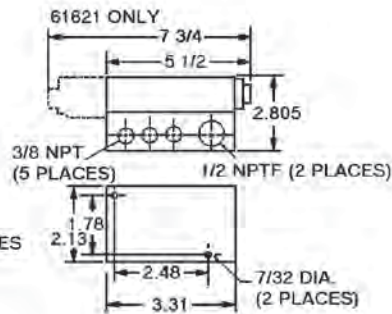
Specifications

Part Number	61615	61620	61621	61630	61631*
Actuator Type	Hand	Solenoid	Solenoid	Treadle	Pedal
Return Actuator	Hand	Spring	Solenoid	Treadle	Spring
Port Size	3/8 NPT	3/8 NPT	3/8 NPT	3/8 NPT	3/8 NPT
CV Rating	1.5	1.0	1.0	2.3	2.3
Weight (lbs)	2.75	5.0	5.5	4.0	3.5

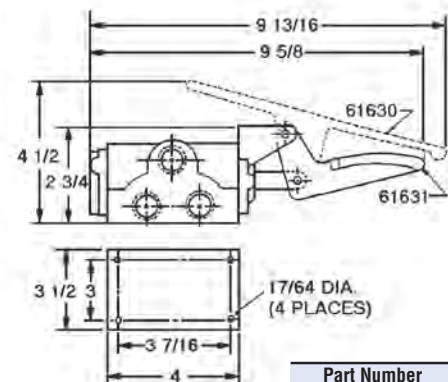
*Foot Guard for 61631 Valve; Part Number 61632



Part Number
61615



Part Number
61620 & 61621



Part Number
61630 & 61631

POWER CLAMPING



Air Circuit Controls 2-Hand No Tie Down

Requires the operator to use both hands when activating a work circuit. Two counterbored finger buttons are installed at a minimum center distance.

Specifications

Part Number	61304
Medium	Clean, dry compressed air only
Working Range	50 to 100 psi
Temperature Range	-30° to 180°F
Air Flow (with Modular Valves)	10 CFM at 100 psi
Exhaust	To atmosphere through holes in plate
Mounting	7/32 holes provided in subplate
Materials	Clear Acrylic, brass
Filtration	40 Micron required
Lubrication	Recommended

Hydraulic Circuit Controls Gauges



Recommended as a visual pressurized monitoring gauge to be used on all pressuring systems.

When sizing a pressure gauge, the maximum output of the system should equal approximately 2/3 of the gauge capacity.

Gauges are filled with glycerine in order to dampen internal movement.

Gauge blocks facilitate the installation of pressure gauges on standard boosters.

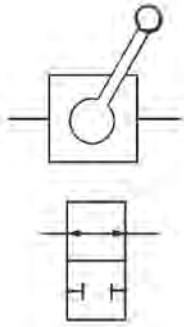
Selection Data

	Part Number		
	3000 Psi	6000 Psi	10000 Psi
Gauge Only	60704	60703	60706
Block Only	61055	61055	61055
Gauge Kit*	60711	60712	60713

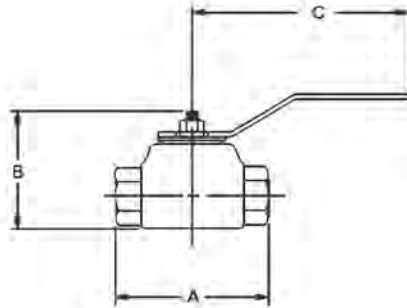
* Gauge, Block and Fittings included in kits. All Gauges 1/4" NPT, bottom ported.



Hydraulic Circuit Controls 2-Way Valves



2-way valves are in-line ball valves. They are used as a shut-off valve in simple circuits.



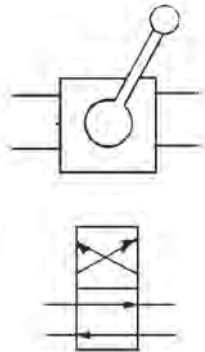
Specifications

Part Number	61610	61639
Port Size	1/4 NPT	3/8 NPT
Pressure Rating (psi)	3000	5000

Dimensions

Part Number	A	B	C
61610	2 11/16	2 5/8	5 1/4
61639	3	2	4 1/4

4-Way Valves

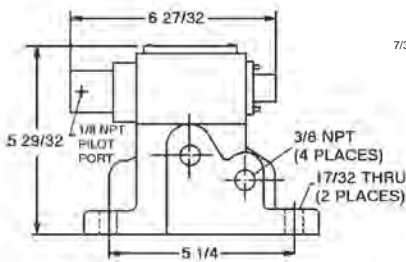


A variety of directional control valves are offered. Manual valves are normally two position, detented. Solenoid valves are 115V-60 Hz; other voltages are available.

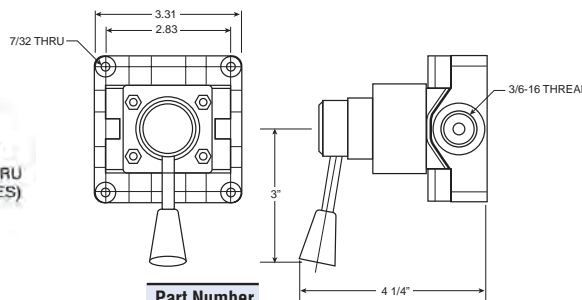
Specifications

Part Number	61643	61644	61636	61637	61638
Actuator Type	Hand	Solenoid (115 VAC)	Solenoid (115 VAC)	Solenoid (115 VAC)	Air
Return Actuator	Hand	Solenoid (115 VAC)	Spring	Solenoid (115 VAC)	Spring
Port Size	3/4-16	DO3 MT6	3/4-16	3/4-16	3/8 NPT
Flow Rating	5 GPM	3 GPM	5 GPM	5 GPM	12 GPM
Pressure Rating (psi)	5000	6000	5000	5000	5000
Weight (lbs)	3.75	3	6.75	7.3	17.5

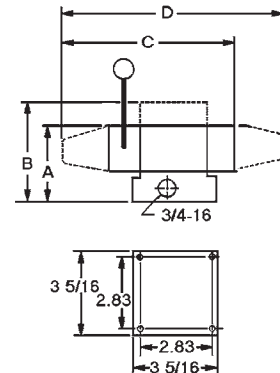
For 4-Way, Zero Leakage Valves, see page 186.



Part Number
61638



Part Number
61643



Dimensions

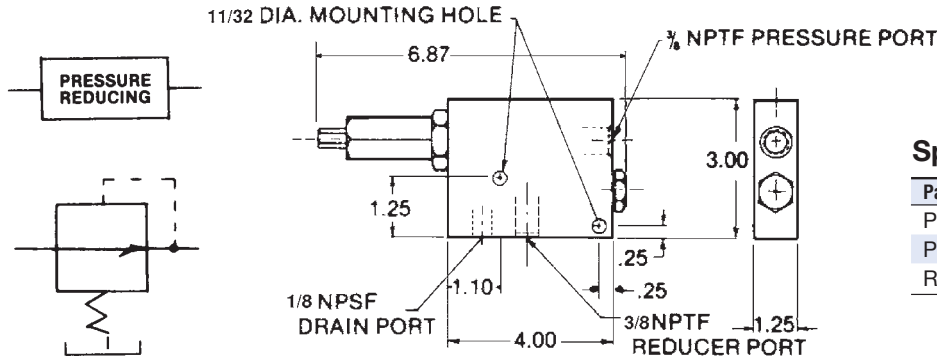
Part Number	A	B	C	D
61636	3 1/4	5 5/64	5 21/32	—
61637	3 1/4	5 5/64	—	8 3/8
61644	2 3/8	—	—	8 3/16

POWER CLAMPING



Hydraulic Circuit Controls Pressure Reducing Valve

Allow individual cylinders or clamps to operate at different pressures from the same power source.



Specifications

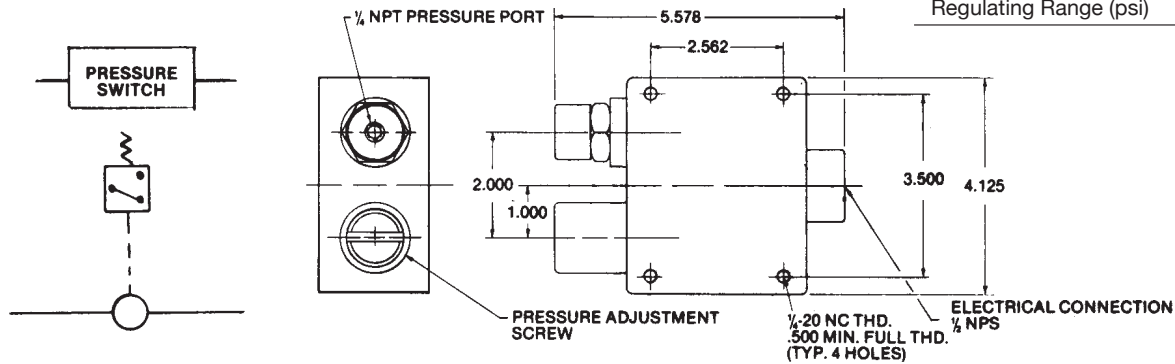
Part Number	61619
Port Size	3/8 NPT
Pressure Rating (psi)	5000
Regulating Range (psi)	500-4500

Pressure Switch

Senses pressure in a circuit and may be used to start or shut down a system. A pressure switch can be used to remove the cutting tool and turn off machine in the event of loss of clamping pressure.

Specifications

Part Number	61633
Port Size	1/4 NPT
Pressure Rating (psi)	10000
Regulating Range (psi)	350-5000



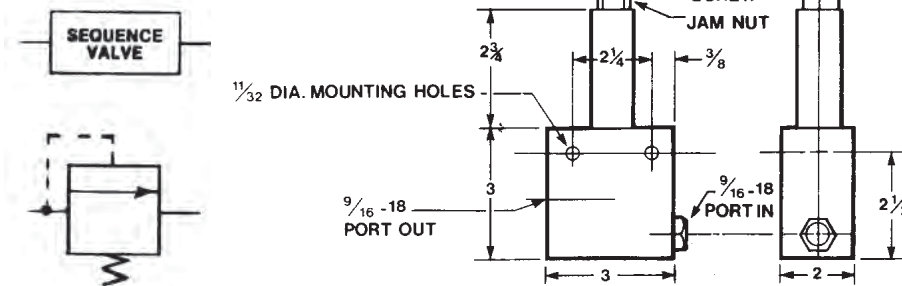
Sequence Valve

With adjustable opening pressure, this valve may be used to control the sequence of work devices in a common circuit.

Specifications

Part Number	61640
Port Size	9/16-18
Pressure Rating (psi)	5000
Sequence Range* (psi)	500-3000

* Factory Adjusted to sequence at 1000 psi.





Hydraulic Circuit Controls

Pilot Operated Check Valve

Specifications

Part Number	61629
Hydraulic	
Ports	3/4-16
Pilot Port	7/16-20
Pressure Rating (psi)	5000

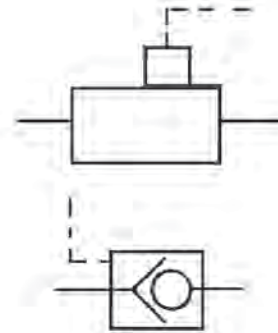
- Minimum operating pressure 500 psi
- 50:1 differential pressure
- Pilot not to exceed 125 psi

A two-way valve used to lock pressure in a working circuit. Automatic free return flow is provided via air pilot operation. Designed so that loss of shop air line pressure will have no effect on the hydraulic circuit in booster applications.

Specifications

	Part Number
Valve only	61629
Valve with Installation Kit	62211*

* Includes hose, fittings and valves

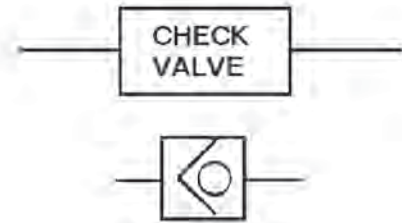


Check Valve

Specifications

Part Number	61607
Port Size	3/8 NPT
Pressure Rating (psi)	5000
Flow Rating	CV .83
Weight (lbs)	.63

Allows pressure flow in one direction only.

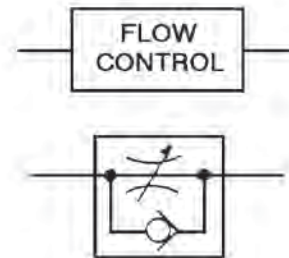


Flow Control Valve

Specifications

Part Number	61609
Port Size	3/8 NPT
Pressure Rating (psi)	5000
Flow Rating	CV .78
Weight (lbs)	.63

Used to control the flow of pressure in a system, to slow the movement of individual cylinders, or decrease shock.



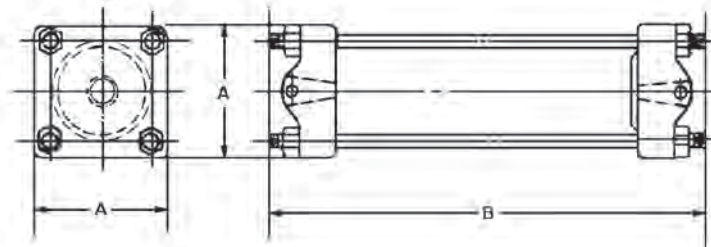
- Recommended for use with Jergens Swing Clamps



Oil Reservoirs



Can be used with air pressure on top of oil to do work in your system, such as returning double acting cylinders with hydraulic pressure. The acrylic reservoir allows easy monitoring of oil level. Special baffle plates in the top of the reservoir distribute incoming air pressure evenly against the top surface of the oil.



Part Number	A	B	Capacity (Cu. In.)	Side Ports	End Ports	Wt (lbs)
61750	2 7/8	9 1/2	18	9/16-18	9/16-18	3.0
61751	4 13/16	8 1/2	55	NONE	9/16-18	6.8

• Maximum air operating pressure rating 125 PSI.

Inch to metric fittings available – see page 199.

Hydraulic Fluids

Hydraulic Oil

Jergens Hydraulic Oil is specially formulated to minimize foaming and to protect metal parts from rust. It is an aircraft type oil with high wetting out and film strength characteristics.

Its viscosity is 170/190 at 100F and it maintains functional characteristics down to 25F below zero.

- One Quart.....60801
- One Gallon.....60802
- Five Gallon..... 60803
- 55 Gallon Drum 60804

Food Grade Hydraulic Oil

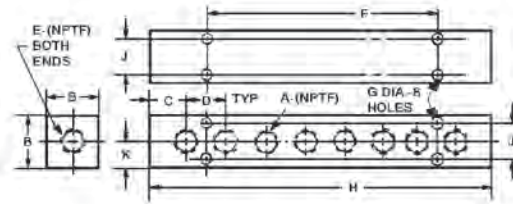
Jergens Food Grade Hydraulic Oil is a blend of food grade lubricants designed for use as a hydraulic media in food packaging and other similar equipment. It is composed of 100% chemically produced synthetic lubricants and contains no petroleum hydrocarbons.

Its viscosity is 140 SUS at 100F and 725 SUS at 35F.

- One Quart.....60813
- One Gallon.....60812
- 55 Gallon Drum60811



Manifold Strip

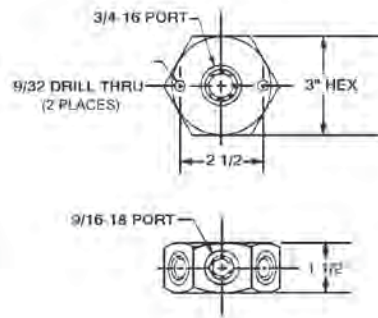


Dimensions

Part Number	Number Of Side Ports	Ports A	B	C	D	End Ports E	F	G	H	J	K	Wt. (lbs)
61801	4	1/4	1 1/2	5/8	7/8	3/8	1 3/4	13/64	3 7/8	1 1/64	3/4	.75
61802	8	1/4	1 1/2	5/8	7/8	3/8	5 1/4	13/64	7 3/8	1 1/64	3/4	1.50

NOTE: Maximum operating pressure is 3000 PSI for all aluminum manifolds.

Hex

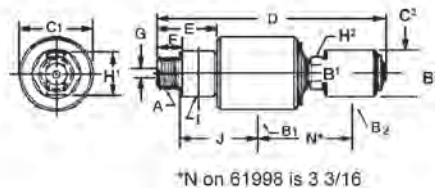


The six port hex manifold, with SAE straight thread ports, can be mounted in the center of several work units or used with a **61031** union (see page 199) to mount the manifold directly to the output port of your Jergens Booster.

- Material: Aluminum
- Finish: Black Oxide

Part Number
61805

Rotary Coupler Single and Dual Passage



*N on 61998 is 3 3/16

Specifications

Maximum Air Pressure (psi)	150
Maximum Vacuum (Hg.)	28"
Maximum Hydraulic Pressure (psi)	3000
Maximum Temperature	250°F
Maximum Speed (rpm)	250

Dimensions

Part Number	Rotor Thread A	Tap B1	Tap B2	C1	C2	D	E	F	Rotor Port G	Hex H1	Hex H2	Tap I	Lockup J	Wt. (lbs)
61997	3/8 NPT	1/4 NPT	—	1 1/2	—	3 1/4	1 1/8	5/8	5/16	7/8	—	—	1 25/32	.5
61998	3/4 NPT	1/2 NPT	1/4 NPT	2 3/4	1 1/2	7 11/16	1 15/16	7/8	1/4	1 3/8	7/8	1/4 NPT	2 7/8	3.0



Installation Tips for Plumbing Hydraulic Systems

Hose

The use of hydraulic hose is only recommended when the need for flexibility exists. Generally, the only hydraulic hose in an application is that used to connect the power source to the fixture.

All hydraulic hoses expand under pressure. This uses costly energy as well as volume. Some hoses expand at a greater rate than others, even though size remains the same.

Generally speaking, an 8 foot length of hydraulic hose will expand at a rate absorbing one cubic inch of high pressure oil at 3000 p.s.i.

When applying hose, the following is recommended:

Do Not:

- Overextend bend radius of hose.
- Put unnecessary strain at fitting ends.
- Subject hose to abrasive conditions.
- Use hose that hasn't been identified.

Do:

- Use a minimum size of 3/8" I.D.
- Check with factory for alternate brands.
- Use firesleeve protective covering in applications where flame is present (like weld fixtures).
- Make sure power source has enough high pressure volume to compensate for hose expansion.

Tubing

Whenever possible use 3/8" diameter steel fluid line tubing for hydraulic lines. This is a low carbon, soft tube and readily available. Depending on the application, two types are recommended:

- 3/8" diameter x .049 wall thickness for pressures to 3000 p.s.i.
- 3/8" diameter x .065 wall thickness for pressures to 5000 p.s.i.

When rigid tubing is applied to air circuitry, use copper tube. This will reduce the corrosive effect of water most likely found in your air lines. Caution: Do not use copper in a high pressure hydraulic circuit!

Fittings

Pipe Thread Fittings

Upon installation, apply a good sealing compound on threads of fitting only. When Teflon tape is used, overlap threads 1-1/2 to two turns tightly in direction of thread. Be careful not to extend tape over end of fitting. Do not overtighten pipe threads as they may put unnecessary strain on pressure vessels.

Straight Thread Fittings (SAE J514)

These fittings require no sealing material as the built-in o-ring provides a positive seal. The threads are a Class 2 straight thread with no taper. Before installation, be sure to lubricate the o-ring. Tighten these fittings to approximately 50-150 ft./lbs.

The Tube Flare

Cut tube squarely and remove any burrs. Split flares may be caused by the tube being too hard, opening up of scratches and draw marks, or failure to deburr tube end.

Place nut, then sleeve onto tube with open end of nut and toe end of sleeve toward end of tube.

Flare to standard 37° angle (maximum diameter of flare is equal to maximum diameter of sleeve). A correct flare should extend beyond the inside diameter of toe on sleeve but not beyond outside diameter of toe on sleeve.

Never attempt to spring tube to force alignment using the fitting installed. This can damage the flare and wrinkle, kink or flatten the tube. This can be avoided by using the correct tools.



Fittings



37° Flare Fittings

Sleeve

Part Number	Item	Tube
61001	Sleeve	1/4
61015	Sleeve	3/8
61049	Sleeve	1/2



Nuts

Part Number	Item	Tube
61002	Nuts	1/4
61016	Nuts	3/8
61050	Nuts	1/2

Caps

Part Number	Item	Tube
61056	Caps	1/4
61057	Caps	3/8



Plugs

Part Number	Item	Tube
61058	Plugs	1/4
61059	Plugs	3/8

Reducer

Part Number	Item	Tube
61063	Reducer	1/4 Tube 3/8 Female



Tee Nut Fittings

Part Number	Thread	Tube
61051	Swivel Nut Branch Tees	1/4
61062	Swivel Nut Branch Tees	3/8
61023	Union Tee	3/8



Male Connectors

Part Number	Thread Type	Thread/Tube
61007	Pipe	1/8 NPT x 1/4 Tube
61054	Pipe	1/8 NPT x 3/8 Tube
61008	Pipe	1/4 NPT x 1/4 Tube
61020	Pipe	1/4 NPT x 3/8 Tube
61028	Pipe	3/8 NPT x 1/4 Tube
61034	Pipe	3/8 NPT x 3/8 Tube
61048	Pipe	3/8 NPT x 1/2 Tube
61009	Straight	7/16-18 x 1/4 Tube
61030	Straight	9/16-18 x 1/4 Tube
61021	Straight	9/16-18 x 3/8 Tube
61046	Straight	3/4-16 x 3/8 Tube
61047	Straight	3/4-16 x 1/2 Tube



Male Elbows

Part Number	Type	Thread/Tube
61003	Pipe Thread	1/8 NPT x 1/4 Tube
61004	Pipe Thread	1/4 NPT x 1/4 Tube
61017	Pipe Thread	1/4 NPT x 3/8 Tube
61064	Pipe Thread	3/8 NPT x 3/8 Tube
61045	Pipe Thread	3/8 NPT x 1/2 Tube
61072	45 Elbow	3/8 NPT x 3/8 Tube
61005	Straight Thread	7/16-20 x 1/4 Tube
61029	Straight Thread	9/16-18 x 1/4 Tube
61018	Straight Thread	9/16-18 x 3/8 Tube
61044	Straight Thread	3/4-16 x 1/2 Tube



Male Branch Tees

Part Number	Type	Thread/Tube
61014	Pipe Thread	1/8 NPT x 1/4 Tube
61027	Pipe Thread	1/4 NPT x 3/8 Tube
61043	Pipe Thread	3/8 NPT x 1/2 Tube
61040	Straight Thread	7/16-20 x 1/4 Tube
61041	Straight Thread	9/16-18 x 3/8 Tube
61042	Straight Thread	3/4-16 x 1/2 Tube
61032	Male Run Tees	7/16-20 x 1/4 Tube
61061	Male Run Tees	9/16-18 x 3/8 Tube

Flareless Fittings



These fittings are the most common types needed to plumb Pressure Points and Screw Pumps. Use 1/8" Heavy Duty High Pressure, Fluid Line Steel Tube.

Ferrule 1/8 Tube	Nut 1/8 Tube	Male Connector 1/8 NPT x 1/8 Tube	Male Elbow 1/8 Tube	Union Tee 1/8 Tube
60201	60202	60204	60205	60207

POWER CLAMPING



Fittings



Adapters

Part Number	Thread Type	Male	Female
61075	Pipe	1/16 NPT	1/4 NPT
61076	Pipe	1/8 NPT	1/4 NPT
60221	Mixed	1/4 NPT	1/4 BSP
61082	Mixed	7/16-20	1/4 NPT
61081	Mixed	9/16-18	1/4 NPT
60211	Mixed	9/16-18	3/8 Tube
60217	Mixed	3/8 Tube	1/4 NPT
60222	Mixed	3/8 NPT	3/8 BSP
61035	Mixed	3/4-16	1/4 NPT
61036	Mixed	3/4-16	3/8 NPT
61077	Metric	7/16-20	1/8 ISO
61078	Metric	9/16-18	1/4 ISO
61079	Metric	3/4-16	3/8 ISO
61150	Mixed	7/16-20	1/8 BSPP
61151	Mixed	7/16-20	1/4 BSPP
61153	Mixed	9/16-18	3/8 BSPP
61152	Mixed	9/16-18	1/4 BSPP
61154	Mixed	3/4-16	1/4 BSPP
61155	Mixed	3/4-16	3/8 BSPP



Elbows

Part Number	Thread
61095	1/8 NPT Female —
61070	1/8 NPT Straight —
61096	1/4 NPT Female —
61071	1/4 NPT Straight —
61097	3/8 NPT Female —
61066	3/8 NPT Male —
61098	1/2 NPT Female —
61065	3/4-16 Male 3/8 NPT Female



Tees

Part Number	Thread
61087	1/8 NPT Female
61088	1/4 NPT Female
61089	3/8 NPT Female
61090	1/2 NPT Female



Reducers/Expanders

Part Number	Thread Type	Male	Female
61074	Pipe	1/4 NPT	1/8 NPT
61025	Pipe	3/8 NPT	1/4 NPT
61038	Pipe	1/2 NPT	3/8 NPT
61067	Pipe	3/4 NPT	3/8 NPT
61039	Pipe	3/4 NPT	1/2 NPT
61033	Straight	9/16-18	7/16-20
61080	Straight	7/16-20	9/16-18
61037	Straight	3/4-16	9/16-18



Nipples

Part Number	Thread
61083	1/8 NPT
61084	1/4 NPT
61085	3/8 NPT
61086	1/2 NPT
61052	1/8 NPT x 3/8 NPT
61053	1/4 NPT x 3/8 NPT
60210	9/16-18 Union
61031	3/4-16 Union



Plugs

Part Number	Thread
61091	1/8 NPT
61092	1/4 NPT
61093	3/8 NPT
61094	1/2 NPT
61060	7/16-20
61068	9/16-18
61069	3/4-16



Quick Disconnect Couplers

Hydraulic Coupler

Sleeve	Nipple
3/8 NPT Female 61915	3/8 NPT Female 61965
1/4 NPT Female 61916	1/4 NPT Male 61966

Hydraulic couplers have dual checks.

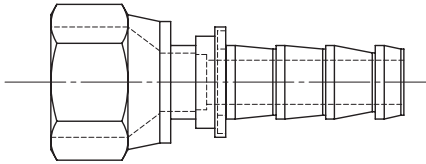
Air Couplers

Sleeve	Nipple
1/8 NPT Female 61904	1/8 NPT Male 61950
1/4 NPT Female 61905	1/4 NPT Male 61951
	1/4 NPT Female 61954

Air couplers have checks on sleeves only.

Flexible Hose

Low pressure air hose is sold by the foot in bulk lengths. Order the total footage and number of push-on fittings required by using the number to the right.



Low Pressure Air Hose

Hose I.D.	1/4	3/8	1/2
Hose			
Part Number	61106	61108	61110
Fitting			
Part Number	61107	61109	61111
Thread Size	7/16-20	9/16-18	3/4-16

Hydraulic Hose



High pressure hose is supplied assembled and to lengths indicated. Lengths are measured from end of coupling to end of coupling. Hose is 3/8" ID and available in 4000 psi or 7000 psi rating. 3/8" female tubing fittings on each end.

High Pressure Hydraulic Hose

Length	12"	18"	24"	36"	72"
Part Number					
4000 psi	61201	61202	61203	61204	61205
Part Number					
7000 psi	61211	61212	61213	61214	61215

*Also available in 5000 psi.

Hydraulic Hose (Build Your Own)

Length	25'	Hose Ends	Hose Ends
Part Number	61221	61226	61227
2750 psi	1/4 Hose	1/4 Npt Male	1/4 37° JIC Swivel Female

Simple Tools: Adjustable wrench and saw with steel blade.

Steel Tubing

Whenever possible, 3/8" diameter steel tubing should be used for hydraulic lines. Jergens tubing is low carbon soft tube with .065 wall thickness. The tubing is rated at 5000 psi.

Steel Tubing

Part Number	Description
60209	3/8 DIA. x 5 Ft.

POWER CLAMPING



Hydraulic Product Repair Kits with Replacement Seals

Hydraulic Part Number	Repair Kit Number	Hydraulic Part Number	Repair Kit Number	Hydraulic Part Number	Repair Kit Number	Hydraulic Part Number	Repair Kit Number	Hydraulic Part Number	Repair Kit Number
60302	62102	60414	62195	—	62162 (3)	61709	62109	62824	62184
60303	62103	60461	62125	60651	62105 (2)	61710	62109	62831	62187
60307	62102	60462	62126	—	62162 (3)	61711	62110	62841	62185
60340	62104	60463	62127	60660	62360	61714	62107	62842	62185
60341	62105	60464	62128	60661	62360	61715	62108	62845	62303
60345	62189	60465	62129	60662	62362	61720	62173	62846	62303
60350	62120	60466	62130	60663	62362	61721	62174	62852	62199
60351	62121	60511	62139	60664	62364	61722	62175	63101	62101
60360	62120	60512	62140	60665	62364	61736	62159	63103	62103
60361	62121	60513	62194	60670	62360	61737	62160	63107	62102
60371	62167	60554	62151	60671	62360	61755	62197	63113	62105
60372	62167	60555	62151	60672	62362	61756	62198	63117	62104
60373	62168	60593	62145 (1)	60673	62362	61761	62144	63123	62106
60374	62169	60594	62146 (1)	60674	62364	61762	62144	63201	62134
60381	62170	60595	62147 (1)	60675	62364	61997	62165	63202	62134
60382	62170	60596	62177	60680	62190	61998	62166	63212	62126
60383	62171	60597	62178	60681	62196	62721	62161	63213	62127
60384	62171	60598	62179	60685	62131	62722	62161	63214	62128
60401	62106	60601	62102 (2)	61501	62133	62801*	62172	63215	62129
60402	62106	—	62162 (3)	61612	62134	62802*	62172	63216	62130
60403	62195	60602	62103 (2)	61514	62134	62803*	62172	63302	62140
60404	62195	—	62162 (3)	61623	62163	62804*	62172	63303	62194
60405	62124	60621	62154	61629	62123	62805	62301	63801	62184
60410	62106	60622	62155	61640	62164	62806	62302	63802	62184
60411	62106	60631	62156	61701	62132	62811	62183	—	—
60412	62106	60650	62104 (4)	61704	62107	62812	62183	—	—
60413	62195	—	62189 (5)	61705	62108	62823	62184	—	—

(1) Special tools required: use 62148 tool for 60556, use 62149 tool for 60597 or 60598.
 (2) Cylinder Kit (3) Mechanical Kit (4) Kit for cylinder with 3/8" piston (5) Kit for cylinder with 1/2" piston
 (*) Tool kit 62176 required for 62801, 62802, 62803, 62804

Recommendation – when replacing seals in hydraulic cylinders, we recommend replacing all seals at the same time.

Technical Assistance



Jergens maintains a qualified staff whose primary responsibility is to provide technical assistance to our distributors and customers.

Your direct connection number for dimensional questions, circuit assistance and troubleshooting is:

1-877-426-2504

OR

E-mail: workholding@jergensinc.com

THE **Jergens** DIFFERENCE

Swing Cylinders

OURS



Squared Tracks and Pin Engagement
Internal piston is driven by a pin designed for close tolerance with squared track. Larger load-bearing surface results in a more durable assembly.

THEIRS



V-grooves and Ball-bearing Engagement
Internal piston is driven by a ball bearing that rolls in a rounded track on only two points. Less surface contact leads to more wear and reduced product life.



JERGENS CLAMPING SWING CYLINDERS

VS.

OTHER CLAMPING SWING CYLINDERS

Precision machined for close tolerance between piston groove and pin. Better fit results in smoother motion and a more durable swing cylinder assembly.

Less surface area between bearing and track combined with severe conditions within the clamp body result in deforming of the bearing and assembly breakdown.

Free-floating pin design matches the shape of the groove. More contact area and less wear "keeps the pin in the pocket."

Ball bearings can "pop out" of the track—a common failure of traditional swing clamps—causing the piston to seize.

Heavy-duty, low-friction rod seal features "double-lip" sealing—virtually leak-free even under severe operating conditions. Plus, lubricant is retained in the cavity formed by secondary lip—increases performance and quiets operation.

Seals may be more prone to wear and "dry run." Failure of traditional seals is the primary failure of swing cylinder clamps.

High-pressure, low-friction, bi-directional piston seal is easier to turn and reduces leaks.

Breakdown of traditional seals is the primary failure of swing cylinder clamps. Galled seals cause contaminants, accelerating breakdown and increasing downtime.

Jergens

The Standard Components with the Highest Standards™

15700 S. Waterloo Road • Cleveland, OH 44110 • 877-426-2504 • www.jergensinc.com

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Kwik-Strip® Stripper Bolts

A New Perspective on Stripper Plates

Today's more complex dies require more time to service. The advantage of time saving devices such as ball and roll lock punches is minimized unless the stripper plate can be removed first.

The patented Jergens Kwik-Strip Stripper Bolts provide an inexpensive, simple method of stripper plate removal. The stripper can be removed with the die still mounted in the press!

Installation

Step 1: Drill a through hole 1/32" larger than the nominal body diameter of the bolt to be used.

Step 2: Using a Jergens Drill Jig, drill the auxiliary 1/4" hole. The 1/4" hole may be located radially at any position on the periphery of the body hole. Drill the 1/4" hole slightly deeper than the proposed counterbore.

Step 3: Using a standard counterboring tool, counterbore to required depth. See counterbore selection chart for proper size.

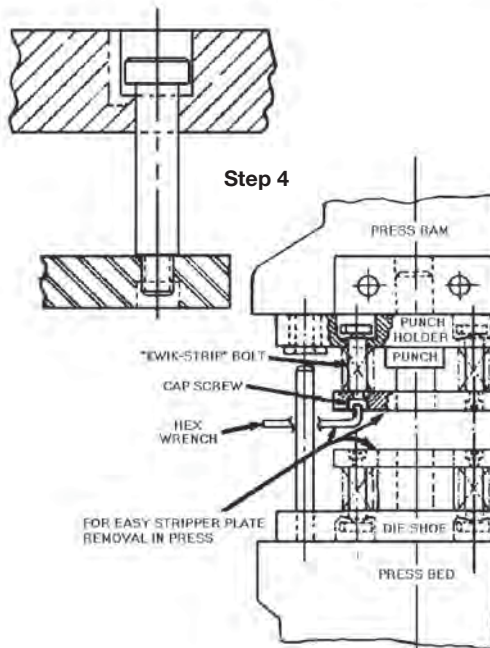
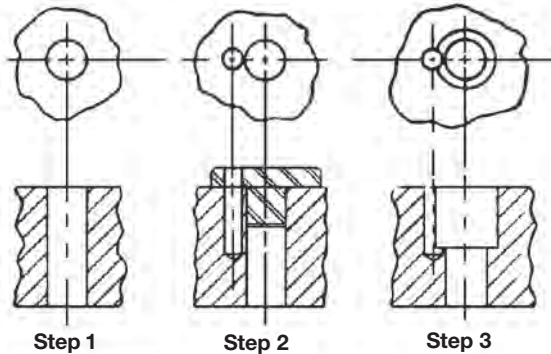
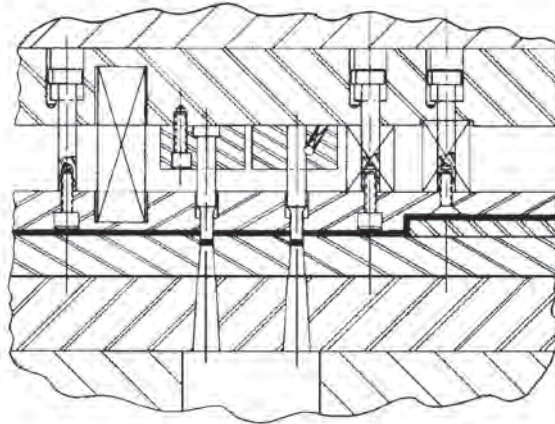
Step 4: Drill and counterbore the stripper plate for a socket head cap screw.

Installation in Existing Dies

To convert an existing die for use with Jergens Kwik-Strip Stripper Bolts, simply mill a 1/4" slot down the side of the stripper counterbore, then drill and counterbore the stripper plate. If the same size thread must be maintained, the through hole and counterbore in the punch holder will have to be increased.

Disassembly in the Press

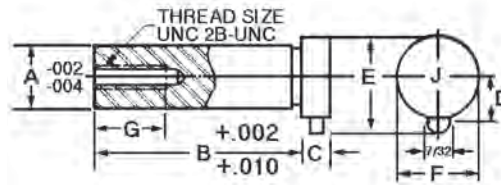
Block the stripper plate in position, remove the cap screws using a hex wrench, then carefully remove stripper plate. Replace stripper plate after completion of required service.



LOCATING COMPONENTS



Kwik-Strip® Stripper Bolts



- Material: Alloy Steel
- Heat Treat: Rc 32-36
- Available in Fixture Pro® Design Software

Selection of Sizes

Size selections should be based upon thread size. For example, if your application calls for a 1/2" stripper bolt (with a 3/8" thread) use a 5/8" Kwik-Strip bolt (with a 3/8" thread). Kwik-Strip bolts may be shortened by 1/4" and still have sufficient thread depth for the cap screw.

Part Number	A	B	C	D	E	F	G	Thread Size	Wt. (lbs)
46601	1/2	2	5/16	.409	57/64	3/4	1	5/16-18	.14
46602	1/2	2 1/2	5/16	.409	57/64	3/4	1	5/16-18	.17
46603	1/2	3	5/16	.409	57/64	3/4	1	5/16-18	.20
46604	1/2	3 1/2	5/16	.409	57/64	3/4	1	5/16-18	.23
46605	1/2	4	5/16	.409	57/64	3/4	1	5/16-18	.26
46606	1/2	4 1/2	5/16	.409	57/64	3/4	1	5/16-18	.29
46607	1/2	5	5/16	.409	57/64	3/4	1	5/16-18	.32
46608	5/8	2	3/8	.472	1 1/64	7/8	1 1/8	3/8-16	.18
46609	5/8	2 1/2	3/8	.472	1 1/64	7/8	1 1/8	3/8-16	.23
46610	5/8	3	3/8	.472	1 1/64	7/8	1 1/8	3/8-16	.27
46611	5/8	3 1/2	3/8	.472	1 1/64	7/8	1 1/8	3/8-16	.32
46612	5/8	4	3/8	.472	1 1/64	7/8	1 1/8	3/8-16	.36
46613	5/8	4 1/2	3/8	.472	1 1/64	7/8	1 1/8	3/8-16	.41
46614	5/8	5	3/8	.472	1 1/64	7/8	1 1/8	3/8-16	.45
46615	3/4	2	1/2	.534	1 9/64	1	1 1/4	1/2-13	.26
46616	3/4	2 1/2	1/2	.534	1 9/64	1	1 1/4	1/2-13	.33
46617	3/4	3	1/2	.534	1 9/64	1	1 1/4	1/2-13	.39
46618	3/4	3 1/2	1/2	.534	1 9/64	1	1 1/4	1/2-13	.46
46619	3/4	4	1/2	.534	1 9/64	1	1 1/4	1/2-13	.52
46620	3/4	4 1/2	1/2	.534	1 9/64	1	1 1/4	1/2-13	.59
46621	3/4	5	1/2	.534	1 9/64	1	1 1/4	1/2-13	.65

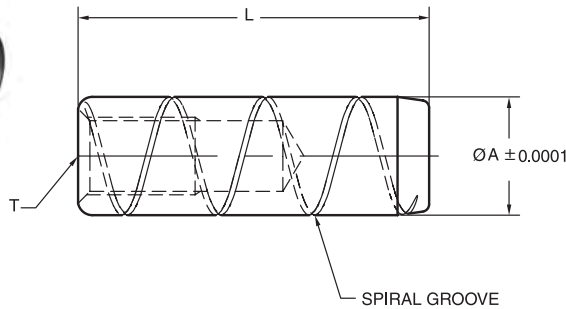


Alloy Steel Pull Dowel Pins

Jergens Offers 3 Styles of Precision Ground Pull Dowels



Spiral Groove
(Grooves Help to Relieve Trapped Air)

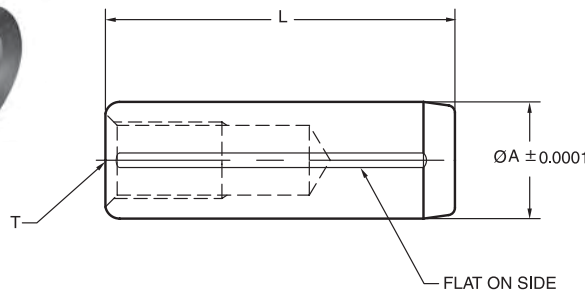


Features, Applications & Benefits

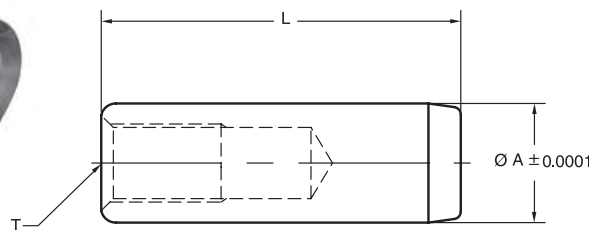
- Internally threaded hole allows removal of pull dowels with a standard screw.
- Standard Round Pull Dowels are typically used in applications featuring a through hole.
- Spiral Groove Pull Dowels feature a groove cut to allow trapped air to be released.
- Flat Vent Pull Dowels feature a ground flat on one side to release trapped air.
- Spiral Groove and Flat Vent Pull Dowels are typically used in blind hole applications.
- All of Jergens Precision Ground Pull Dowels are constructed of heat treated alloy steel.



Flat Vent
(Ground Flat Helps to Relieve Trapped Air)



Standard Round
(Non-Vented)



LOCATING COMPONENTS



Precision Ground Pull Dowels

Spiral Groove	Flat Vent	Standard Round	Nominal	Actual	Length	Internal Thread
31800	31400	31600	1/4	.2502	1/2	8 - 32
31801	31401	31601	1/4	.2502	3/4	8 - 32
31802	31402	31602	1/4	.2502	1	8 - 32
31803	31403	31603	1/4	.2502	1-1/4	8 - 32
31804	31404	31604	1/4	.2502	1-1/2	8 - 32
31805	31405	31605	1/4	.2502	1-3/4	8 - 32
31806	31406	31606	1/4	.2502	2	8 - 32
31807	31407	31654	1/4	.2502	2-1/4	8 - 32
31808	31408	31607	1/4	.2502	2-1/2	8 - 32
31809	31409	31608	5/16	.3127	3/4	10 - 32
31810	31410	31609	5/16	.3127	1	10 - 32
31811	31411	31610	5/16	.3127	1-1/4	10 - 32
31812	31412	31611	5/16	.3127	1-1/2	10 - 32
31813	31413	31612	5/16	.3127	2	10 - 32
31814	31414	31613	5/16	.3127	2-1/4	10 - 32
31815	31415	31614	5/16	.3127	2-1/2	10 - 32
31816	31416	31615	3/8	.3752	3/4	10 - 32
31817	31417	31616	3/8	.3752	1	10 - 32
31818	31418	31617	3/8	.3752	1-1/4	10 - 32
31819	31419	31618	3/8	.3752	1-1/2	10 - 32
31820	31420	31619	3/8	.3752	1-3/4	10 - 32
31821	31421	31620	3/8	.3752	2	10 - 32
31822	31422	31621	3/8	.3752	2-1/4	10 - 32
31823	31423	31622	3/8	.3752	2-1/2	10 - 32
31824	31424	31623	3/8	.3752	3	10 - 32
31825	31425	31624	7/16	.4377	1	1/4 - 20
31826	31426	31625	7/16	.4377	1-1/2	1/4 - 20
31827	31427	31626	7/16	.4377	2	1/4 - 20
31828	31428	31627	1/2	.5002	3/4	1/4 - 20
31829	31429	31628	1/2	.5002	1	1/4 - 20
31830	31430	31629	1/2	.5002	1-1/4	1/4 - 20
31831	31431	31630	1/2	.5002	1-1/2	1/4 - 20
31832	31432	31631	1/2	.5002	1-3/4	1/4 - 20
31833	31433	31632	1/2	.5002	2	1/4 - 20
31834	31434	31633	1/2	.5002	2-1/4	1/4 - 20
31835	31435	31634	1/2	.5002	2-1/2	1/4 - 20
31836	31436	31635	1/2	.5002	3	1/4 - 20
31837	31437	31636	1/2	.5002	3-1/2	1/4 - 20
31838	31438	31637	1/2	.5002	4	1/4 - 20
31839	31439	31638	5/8	.6252	1-1/4	1/4 - 20
31840	31440	31639	5/8	.6252	1-1/2	1/4 - 20
31841	31441	31640	5/8	.6252	2	1/4 - 20
31842	31442	31641	5/8	.6252	2-1/4	1/4 - 20
31843	31443	31642	5/8	.6252	2-1/2	1/4 - 20
31844	31444	31643	5/8	.6252	3	1/4 - 20
31845	31445	31644	5/8	.6252	4	1/4 - 20
31846	31446	31645	3/4	.7502	1-1/2	5/16 - 18
31847	31456	31655	3/4	.7502	1-3/4	5/16 - 18
31848	31447	31646	3/4	.7502	2	5/16 - 18
31849	31448	31647	3/4	.7502	2-1/2	5/16 - 18
31850	31449	31648	3/4	.7502	3	5/16 - 18
31851	31450	31649	3/4	.7502	4	5/16 - 18
31856*	31451	31656	1	1.0002	1-3/4	5/16 - 18
31852*	31452	31650	1	1.0002	2	5/16 - 18
31853*	31453	31651	1	1.0002	2-1/2	5/16 - 18
31854*	31454	31652	1	1.0002	3	5/16 - 18
31855*	31455	31653	1	1.0002	4	5/16 - 18

*3/8-16 Internal Thread

Technical Data

Material:

Alloy Steel

Length Tolerance:

± .010"

Core Hardness:

47 - 58 Rockwell C

Diameter Tolerance:

± .0001"

Surface Hardness:

60 - 64 Rockwell C

Recommended Hole Size:

.0005" under Nom. Dia.

Surface Finish:

8 Micro-Inch

Specification:

ASME B18.8.2

Spiral Groove



Flat Vent



Standard Round



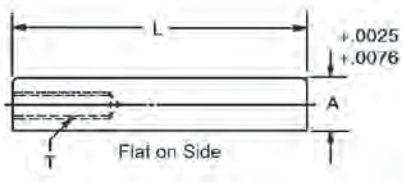


Pull Dowels Metric



- Material: Low Carbon Steel
- Heat Treat: Case Hardened
- Available in Fixture Pro® Design Software

Flat ground on the side for air release in blind holes.



Part Number	A	L	T
31751	8	20	M5 x 1.0
31753	8	30	M5 x 1.0
31755	8	40	M5 x 1.0
31759	10	20	M6 x 1.0
31761	10	30	M6 x 1.0
31763	10	40	M6 x 1.0
31765	10	50	M6 x 1.0
31767	10	70	M6 x 1.0
31769	12	20	M6 x 1.0
31771	12	30	M6 x 1.0
31773	12	40	M6 x 1.0

Part Number	A	L	T
31775	12	50	M6 x 1.0
31776	12	60	M6 x 1.0
31777	12	70	M6 x 1.0
31780	16	40	M8 x 1.25
31782	16	50	M8 x 1.25
31783	16	60	M8 x 1.25
31784	16	70	M8 x 1.25
31787	20	50	M10 x 1.6
31788	20	60	M10 x 1.6
31789	20	70	M10 x 1.6

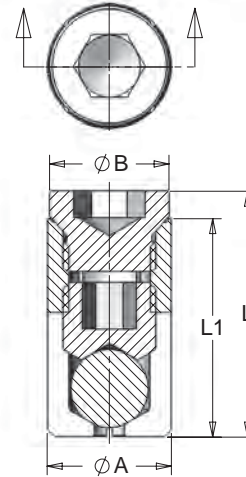
Button head screw not included.



Precision Expanding Dowels



- Material: Alloy Steel, case hardened to 50-55 Rockwell C
- Self-Centering and Repeatable within +/- 0.0005" (0.013mm)
- Top and bottom half of dowel expand separately
- Patented



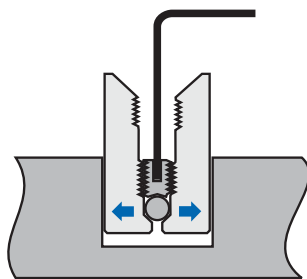
Inch

Part Number	Nominal Diameter Inch	Nominal Length (L) Inch	Recommended Hole Diameter +0.001/-0.000"				Hex Key Sizes	
				A Diameter	B Diameter	L1	Bottom	Top
				+0.000/-0.001"	+0.000/-0.010"	±0.005"	Step 1	Step 2
29401	1/4	1/2	0.250	0.249	0.245	0.428	5/64	3/32
29402	3/8	3/4	0.375	0.374	0.370	0.634	1/8	5/32
29403	1/2	1	0.500	0.499	0.495	0.881	5/32	3/16
29404	5/8	1 1/4	0.625	0.624	0.620	1.162	3/16	7/32
29405	3/4	1 1/2	0.750	0.749	0.745	1.390	1/4	5/16
29406	1	2	1.000	0.999	0.995	1.758	3/8	1/2

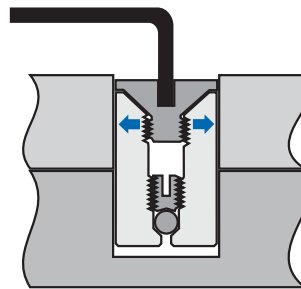
Metric

Part Number	Nominal Diameter (mm)	Nominal Length (L) (mm)	Recommended Hole Diameter +0.025/-0.00mm				Hex Key Sizes	
				A Diameter	B Diameter	L1	Bottom	Top
				+0.00/-0.025mm	+0.00/-0.25mm	±0.13mm	Step 1	Step 2
29451	10	20	10	9.98	9.88	17.45	3	4
29452	12	25	12	11.98	11.89	22.48	4	5
29453	14	28	14	13.97	13.89	24.74	4	5
29454	16	32	16	15.98	15.90	29.51	5	6
29455	20	38	20	19.98	19.89	35.31	6	8

Installation Instructions



Step 1
Remove the top screw, insert the dowel into the locating hole of the first part, and expand the bottom half with a hex wrench.



Step 2
Replace the top screw, slide the locating hole of the second part over the dowel and expand top half with a hex wrench.



Lanyards

- To attach lanyard to L or T Pins order Split Ring **890000**
- To permanently attach Lanyard to L or T Pins add -C to Lanyard part number
- For Lanyard & Tab drawings see page 452

Ordering Lanyards When Supplied Separately Without Pins

Lanyards with Tabs

Length		Round Tab	Oval Tab
inch	mm	Stainless Steel	Aluminum
4	102	890054*	890104*
6	152	890056*	890106*
8	203	890058*	890108*
10	254	890060*	890110*
12	305	890062*	890112*
16	406	890066*	890116*
20	508	890070*	890120*
24	610	890074*	890124*

Table 1 Tab Hole Size

Tab Mounting Hole Diameter		
Inch	mm	Size Letter
0.131	3.3	P
0.196	4.9	Q
0.257	6.5	R
0.283†	7.1†	S
0.320†	8.1†	T
0.379†	9.6†	U
0.406†	10.3†	V
0.468†	11.8†	W
0.515†	13.1†	Y

Lanyards without Tabs

Length		2 Loops	1 Loops (Pin)
inch	mm		
4	102	890204	890254
6	152	890206	890256
8	203	890208	890258
10	254	890210	890260
12	305	890212	890262
16	406	890216	890266
20	508	890220	890270
24	610	890224	890274

Lanyard

Loop/Eyelet

For Screw Size	
#10	M5
890304	890404
890306	890406
890308	890408
890310	890410
890312	890412
890316	890416
890320	890420
890324	890424

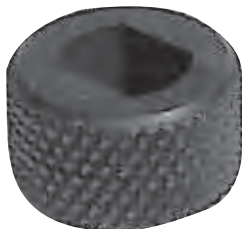
Substitute the asterisk (*) with the proper hole size letter from Table 1.

(†) These sizes only available in stainless steel round tabs

Slotted Locator Bushing



- Use with L Pins to align two holes without binding.
- Available for 3/16" through 1" diameter pins (6mm-25mm in metric sizes).
- Tool Steel, heat treated to Rc 58-62
- Supplied with Roll Pin: Locate within ±.002" of slot centerline.



Press Fit

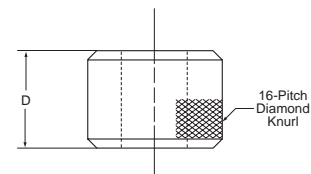
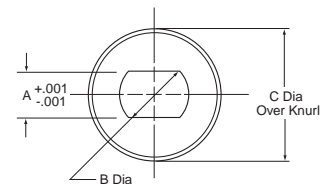
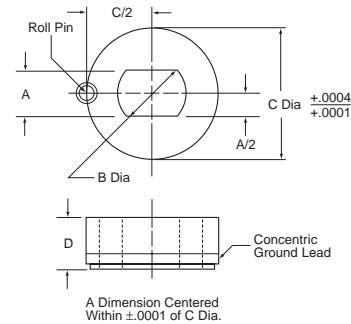
Part Number	Pin Dia	A	Dia B	Dia C	D
24301	3/16	.1876/.1882	0.312	0.75	0.400
24302	1/4	.2501/.2507	0.375	0.75	0.400
24303	1/4	.2501/.2507	0.375	1	0.400
24304	5/16	.3126/.3132	0.437	1	0.400
24305	3/8	.3751/.3757	0.5	1	0.400
24306	1/2	.5001/.5007	0.625	1	0.400
24307	1/2	.5001/.5007	0.625	1	0.900
24308	5/8	.6251/.6257	.075	1.25	0.900
24309	3/4	.7501/.7510	0.812	1.5	1.0000
24310	7/8	.8751/.8760	1	1.5	1.0000
24311	1	1.0001/1.0010	1.062	1.5	1.0000

Press Fit Metric

Part Number	Pin Dia	A	Dia B	Dia C	D
24351	6mm	6.00/6.03	9.0	20.000	9.0
24352	8mm	8.00/8.03	11.0	24.000	9.0
24353	10mm	10.00/10.03	13.0	24.000	9.0
24354	12mm	12.00/12.03	15.0	24.000	14.0
24355	16mm	16.00/16.03	18.0	30.000	12.0
24356	20mm	20.00/20.03	22.0	35.999	19.0
24357	25mm	25.00/25.03	27.0	40.000	19.0

Knurled

Part Number	Pin Dia	A	Dia B	Dia C	D
24331	3/16	0.188	0.312	0.565	.50
24332	1/4	0.25	0.375	0.64	.50
24333	5/16	0.313	0.437	0.765	.50
24334	3/8	0.375	0.5	0.89	.50



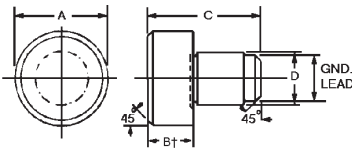
LOCATING COMPONENTS



Rest Buttons Ground and Unground



- Material:
Ground, Low Carbon Steel
Unground, 52100
- Finish: Black Oxide
- Heat Treat:
Ground, Case Hardened
75-77 R30N
Unground, 58-62 Rc
- Available in Fixture Pro®
Design Software



†“B” dimension for ground style is $+0.0005/-0.000$, unground $+0.010/+0.015$

The Closest Tolerances in the Industry...

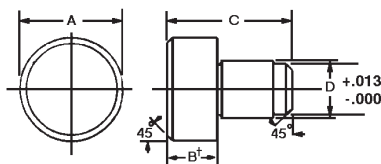
Jergens is proud of the close tolerances held on the “B” dimension of our Ground Rest Buttons. When it becomes necessary through constant wear to replace rest buttons, they can be replaced with the assurance of being within $.0005$ ($.013\text{mm}$)

of the original location. Where replacement is not going to be a problem, we recommend the use of the Unground Buttons, which have a $+0.010$ ($.25\text{mm}$) grinding stock to be ground after the fixture is assembled.

Part Number “B” Ground†	Part Number “B” Unground†	A	B	C	D	Wt. (lbs) 10 Pcs.
—	45719	1/4	1/4	15/32	.1885-.188	.05
34701*	45721	3/8	1/4	15/32	.1885-.188	.08
34702*	45722	3/8	3/8	19/32	.1885-.188	.16
34703*	45723	3/8	1/2	23/32	.1885-.188	.16
34704*	45724	1/2	1/4	23/32	.251-.2505	.16
34705*	45725	1/2	3/8	27/32	.251-.2505	.21
34706*	45726	1/2	1/2	31/32	.251-.2505	.31
34707*	45727	5/8	1/4	23/32	.376-.3755	.31
34708*	45728	5/8	3/8	27/32	.376-.3755	.47
—	45729	5/8	7/16	29/32	.376-.3755	.50
34709*	45730	5/8	1/2	31/32	.376-.3755	.55
34710*	45731	5/8	5/8	1 3/32	.376-.3755	.62
34711	45732	5/8	3/4	1 7/32	.376-.3755	.78
—	45733	7/8	3/8	31/32	.501-.5005	.68
34712	45734	7/8	7/16	1 1/32	.501-.5005	.78
—	45735	7/8	1/2	1 3/32	.501-.5005	.94
34713*	45736	7/8	5/8	1 7/32	.501-.5005	1.10
34714	45737	7/8	3/4	1 11/32	.501-.5005	1.25
—	45738	1	3/8	1 3/32	.626-.6255	1.20
34715	45739	1	7/16	1 5/32	.626-.6255	1.45
34716*	45740	1	1/2	1 7/32	.626-.6255	1.65
—	45741	1	5/8	1 11/32	.626-.6255	2.00
—	45742	1	3/4	1 15/32	.626-.6255	2.50
—	45743	1 1/4	3/8	1 7/32	.751-.7505	1.80
—	45744	1 1/4	7/16	1 9/32	.751-.7505	2.10
—	45745	1 1/4	1/2	1 11/32	.751-.7505	2.50
34717*	45746	1 1/4	5/8	1 15/32	.751-.7505	3.10
34718	45747	1 1/2	3/4	1 31/32	1.001-1.0005	6.90

*Conforms to TCMA

Rest Buttons Metric Ground and Unground



“B” Ground† Part Number	“B” Unground† Part Number	A	B	C	D
34751	45771	10	6	12	5
34754	45774	13	6	18	6
34757	45777	16	6	18	10
34758	45778	16	10	22	10
34759	45780	16	12	25	10
34763	45786	22	16	31	12
34766	45790	25	12	30	16

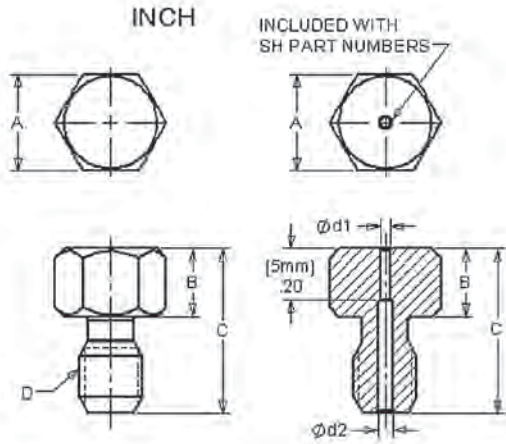
†“B” Dimension for ground style is $+0.013/-0.000\text{mm}$, ungrounded style is $+0.25/+0.38\text{mm}$.



Threaded Rest Buttons



- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened 75-77 R30N
- Thread: 2A-UNF
- Available in Fixture Pro® Design Software



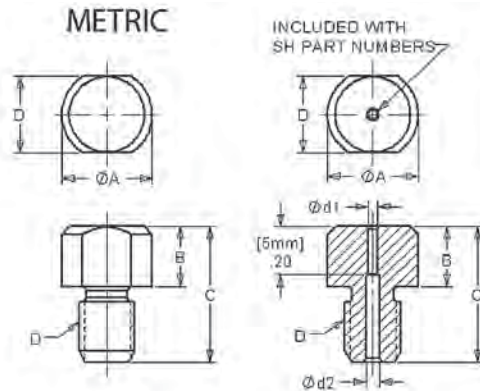
Thread into job instead of press fit. "B" dimension left with .010-.015 for finishing after assembly. For cutter setting blocks on milling fixtures, grind to your own specifications. Case hardened to approximately .030 deep.

Part Number w/o Sensor Hole	Part Number w/ Sensor Hole	A (in.)	B (in.)	C (in.)	D	Thread Pitch	d1 in (mm)	d2 in. (mm)	wt/lbs 10 pcs
21501	21501-SH	3/8	1/4	5/8	1/4-28	Fine	0.04 (1.0mm)	0.06 (1.5mm)	0.16
21521	21521-SH	3/8	1/4	5/8	1/4-20	Coarse	0.04 (1.0mm)	0.06 (1.5mm)	0.16
21502	21502-SH	3/8	3/8	3/4	1/4-28	Fine	0.04 (1.0mm)	0.06 (1.5mm)	0.16
21522	21522-SH	3/8	3/8	3/4	1/4-20	Coarse	0.04 (1.0mm)	0.06 (1.5mm)	0.16
21503	21503-SH	3/8	1/2	7/8	1/4-28	Fine	0.04 (1.0mm)	0.06 (1.5mm)	0.16
21523	21523-SH	3/8	1/2	7/8	1/4-20	Coarse	0.04 (1.0mm)	0.06 (1.5mm)	0.16
21504	21504-SH	1/2	1/4	11/16	3/8-24	Fine	0.06 (1.5mm)	0.13 (3.2mm)	0.24
21524	21524-SH	1/2	1/4	11/16	3/8-16	Coarse	0.06 (1.5mm)	0.13 (3.2mm)	0.24
21505	21505-SH	1/2	3/8	13/16	3/8-24	Fine	0.06 (1.5mm)	0.13 (3.2mm)	0.31
21525	21525-SH	1/2	3/8	13/16	3/8-16	Coarse	0.06 (1.5mm)	0.13 (3.2mm)	0.31
21506	21506-SH	1/2	1/2	15/16	3/8-24	Fine	0.06 (1.5mm)	0.13 (3.2mm)	0.47
21526	21526-SH	1/2	1/2	15/16	3/8-16	Coarse	0.06 (1.5mm)	0.13 (3.2mm)	0.47
21507	21507-SH	1/2	3/4	1 3/16	3/8-24	Fine	0.06 (1.5mm)	0.13 (3.2mm)	0.47
21527	21527-SH	1/2	3/4	1 3/16	3/8-16	Coarse	0.06 (1.5mm)	0.13 (3.2mm)	0.47
21508	21508-SH	3/4	3/8	15/16	1/2-20	Fine	0.06 (1.5mm)	0.17 (4.3mm)	0.78
21528	21528-SH	3/4	3/8	15/16	1/2-13	Coarse	0.06 (1.5mm)	0.17 (4.3mm)	0.78
21509	21509-SH	3/4	1/2	1 1/16	1/2-20	Fine	0.06 (1.5mm)	0.17 (4.3mm)	0.94
21529	21529-SH	3/4	1/2	1 1/16	1/2-13	Coarse	0.06 (1.5mm)	0.17 (4.3mm)	0.94
21510	21510-SH	3/4	3/4	1	1 9/16	Fine	0.06 (1.5mm)	0.17 (4.3mm)	1.56
21530	21530-SH	3/4	1	1 9/16	1/2-13	Coarse	0.06 (1.5mm)	0.17 (4.3mm)	1.56
21511	21511-SH	1	1/2	1 3/16	5/8-18	Fine	0.06 (1.5mm)	0.17 (4.3mm)	1.72
21531	21531-SH	1	1/2	1 3/16	5/8-11	Coarse	0.06 (1.5mm)	0.17 (4.3mm)	1.72
21512	21512-SH	1	1 1/2	2 3/16	5/8-18	Fine	0.06 (1.5mm)	0.17 (4.3mm)	4.10
21532	21532-SH	1	1 1/2	2 3/16	5/8-11	Coarse	0.06 (1.5mm)	0.17 (4.3mm)	4.10

LOCATING COMPONENTS



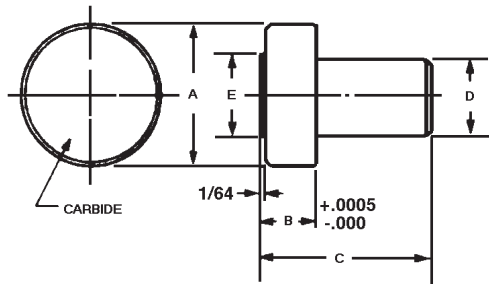
Threaded Rest Buttons Metric



- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened 75-77 R30N
- Thread: Class 6g

Part Number w/o Sensor Hole	Part Number W/ Sensor Hole	A (mm)	B (mm)	C (mm)	D	Across Flats E (mm)	d1 (mm)	d2 (mm)	wt/lbs 10 pcs
21551	21551-SH	10	6	14	M6x1.0	8	1.0	1.5	0.10
21554	21554-SH	13	6	14	M10X1.5	10	1.5	3.2	0.20
21558	21558-SH	16	10	25	M12X1.75	14	1.5	4.3	0.60
21561	21561-SH	25	12	30	M16X2.0	20	1.5	4.3	1.52

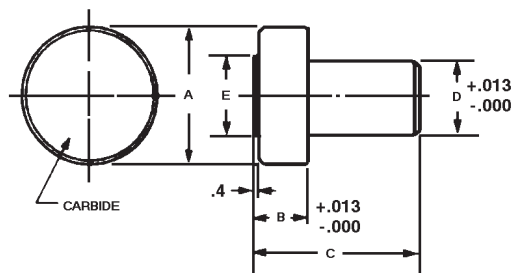
Carbide Insert Rest Buttons



- Material: Body, Low Carbon Steel
Insert, Carbide
- Available in Fixture Pro® Design Software

Part Number	A	B	C	D	E	Wt. (lbs) 10 Pcs.
34901	1/2	.250	23/32	.2505/.2510	3/8	.25
34902	5/8	.250	23/32	.3755/.3760	3/8	.42
34903	5/8	.375	27/32	.3755/.3760	3/8	.58
34904	3/4	.4375	1 1/32	.5005/.5010	1/2	.92
34905	1	.4375	1 5/32	.6255/.6260	3/4	1.80

Metric Carbide Insert Rest Buttons

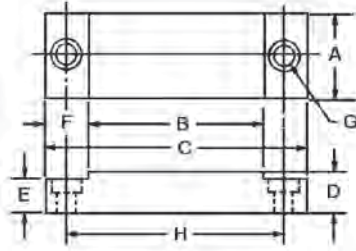


- Material: Body, Low Carbon Steel
Insert, Carbide

Part Number	A	B	C	D	E
34951	13	6	18	6	10
34953	16	10	22	10	10
34955	25	12	30	16	19



Rest Pad



Jergens Feature:

By holding close tolerances on the "D" dimension, when replacement becomes necessary, your original tolerances are maintained within .0005 (.013)

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened 75-77 R30N
- Available in Fixture Pro® Design Software

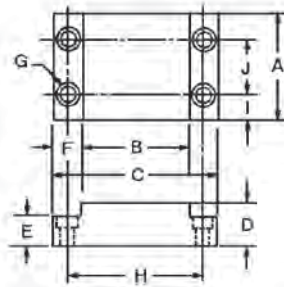
Rest Pads are designed to be used when you need a larger hardened wearing surface for heavy duty applications. Rest Pads can also be used as hardened work rests or as wear plates on your jigs and fixtures.

Part Number	A	B	C	+0.0005 -0.000 D	E	F	G	H	Wt. (lbs)
35901	1	1	2	.475	3/8	1/2	#10	1 1/2	.22
35902	1 1/2	1 1/2	2 1/2	.600	1/2	1/2	1/4	2	.58
35904	1	2	3 1/2	.720	5/8	3/4	5/16	2 3/4	.63
35905	1	3	4 1/2	.720	5/8	3/4	5/16	3 3/4	.84
35906	1	4	5 1/2	.720	5/8	3/4	5/16	4 3/4	1.06

Metric

Part Number	A	B	C	+0.013 -0.000 D	E	F	G	H
35951	25	25	50	12	10	13	M5	38
35952	25	38	64	15	13	13	M6	50
35954	25	50	89	18	16	19	M8	70

Rest Pad



Rest Pads are designed to be used when you need a larger hardened wearing surface for heavy duty applications. Rest Pads can also be used as hardened work rests or as wear plates on your jigs and fixtures.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened 75-77 R30N
- Available in Fixture Pro® Design Software

Part Number	A	B	C	+0.0005 -0.000 D	E	F	G	H	I	J	Wt. (lbs)
35903	2	2	3	.725	1/2	1/2	1/4	2 1/2	1/2	1	1.06

Metric

Part Number	A	B	C	+0.013 -0.000 D	E	F	G	H	I	J
35953	50	50	75	18	12	13	M6	64	13	25

LOCATING COMPONENTS



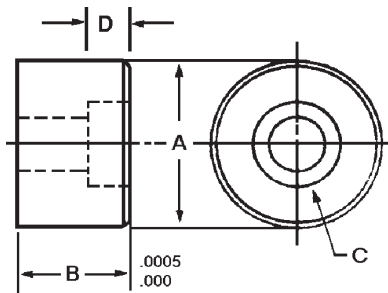
Jig Feet



- Material: Low Carbon Steel
- Finish: Black Oxide
- Cap Screw included
- Heat Treat: Case Hardened 75-77 R30N
- Available in Fixture Pro® Design Software

Jergens Feature:

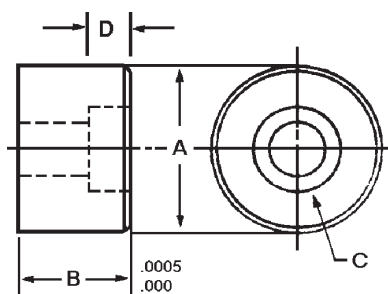
By holding close tolerances on the "B" dimension, when replacement becomes necessary, your original tolerances are maintained within .0005 (.013)



Part Number	A	+0.0005 -0.000 B	Socket Head Capscrew C	D	Wt. (lbs) 10 Pcs.
25701*	5/8	3/8	1/4-20 x 3/8	9/32	.31
25702*	5/8	1/2	1/4-20 x 1/2	9/32	.31
25703*	5/8	5/8	1/4-20 x 5/8	9/32	.47
25704*	5/8	3/4	1/4-20 x 3/4	9/32	.55
25705	5/8	7/8	1/4-20 x 7/8	9/32	.62
25706	5/8	1	1/4-20 x 1	9/32	.78
25707*	7/8	1/2	5/16-18 x 1/2	11/32	.78
25708*	7/8	5/8	5/16-18 x 5/8	11/32	.94
25709*	7/8	3/4	5/16-18 x 3/4	11/32	1.03
25710	7/8	7/8	5/16-18 x 7/8	11/32	1.12
25711*	7/8	1	5/16-18 x 1	11/32	1.15
25712	7/8	1 1/8	5/16-18 x 1 1/4	11/32	1.17
25713	7/8	3/4	3/8-16 x 3/4	13/32	1.11
25714*	1 1/4	3/4	3/8-16 x 3/4	13/32	2.50
25715	1 1/4	7/8	3/8-16 x 7/8	13/32	2.70
25716*	1 1/4	1	3/8-16 x 1	13/32	3.30
25717*	1 1/4	1 1/2	3/8-16 x 1 1/2	13/32	5.00
25718	1 1/4	2	3/8-16 x 2	13/32	6.60
25719	1 5/8	1 1/4	1/2-13 x 1 1/2	17/32	7.00
25720	1 5/8	1 3/4	1/2-13 x 1 3/4	17/32	9.80
25721	1 5/8	2 1/4	1/2-13 x 2 1/2	17/32	13.75

*Conforms to TCMA

Metric Jig Feet



Part Number	A	+0.013 -0.000 B	Socket Head Capscrew C	D
25751	16	10	M6 x 10	7
25752	16	12	M6 x 12	7
25754	16	20	M6 x 20	7
25757	22	12	M8 x 12	9
25759	22	20	M8 x 20	9
25761	22	24	M8 x 25	9
25766	32	24	M10 x 25	11

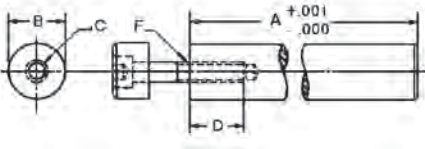


Jig Legs



The Jergens Jig Legs are ideal for cutting costs in simple jig plates. They assure lasting accuracy in your jig plate with a larger bearing surface at the top of the leg. The large diameter rest button provides more bearing surface for spot facing or counterboring on the bottom side. Both legs and rest buttons are hardened for long life.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened 75-77 R30N
- Cap Screw Included
- Available in Fixture Pro® Design Software



Part Number	A	B	C	D	Cap Screw F	Wt. (lbs)
25301	1	5/8	1/4-20	5/8	1/4-20 x 1	.13
25302	2	5/8	1/4-20	5/8	1/4-20 x 1	.20
25303	3	5/8	1/4-20	7/8	1/4-20 x 1	.28
25304	4	7/8	3/8-16	7/8	3/8-16 x 1 3/4	.81
25305	5	7/8	3/8-16	7/8	3/8-16 x 1 3/4	1.00
25306	6	7/8	3/8-16	7/8	3/8-16 x 1 3/4	1.10

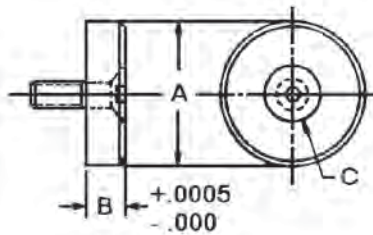
Flat Feet



- Material: Low Carbon Steel
- Heat Treat: Case Hardened 75-77 R30N
- Cap Screw Included
- Available in Fixture Pro® Design Software

Jergens Feature:

By holding close tolerances on the "B" dimension, when replacement becomes necessary, your original tolerances are maintained within .0005 (.013mm)



Part Number	A	+0.0005 -0.000 B	Flat Head Screw C	Wt. (lbs) 10 Pcs
19301	1/2	1/8	8-32 x 3/8	.06
19302	1/2	1/4	8-32 x 1/2	.16
19303	5/8	1/4	10-32 x 5/8	.21
19304	7/8	3/8	1/4-20 x 3/4	.62
19305	1 1/4	3/8	5/16-18 x 3/4	1.25
19306	1 5/8	3/8	3/8-16 x 3/4	2.20

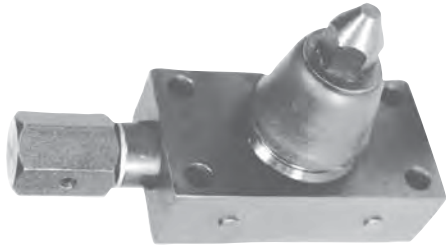
Metric

Part Number	A	+0.013 -0.000 B	Flat Head Screw C	Wt. (Kg) 10 Pcs
19351	13	3	M4 x 10	.03
19352	13	6	M4 x 12	.09
19353	16	6	M5 x 16	.11
19354	22	10	M6 x 20	.33
19355	31	10	M8 x 20	.47

LOCATING COMPONENTS

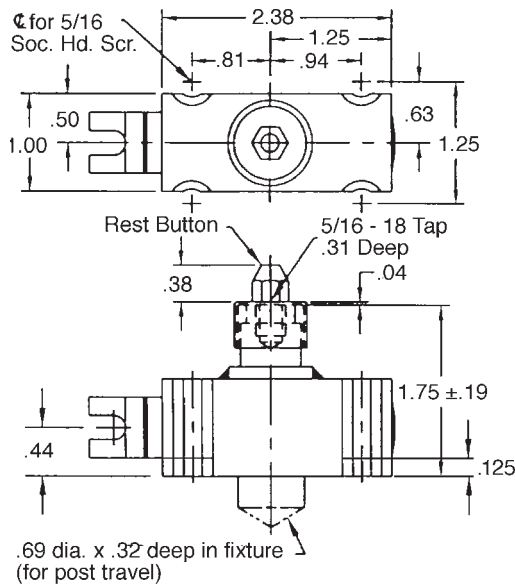


Work Support Jacks



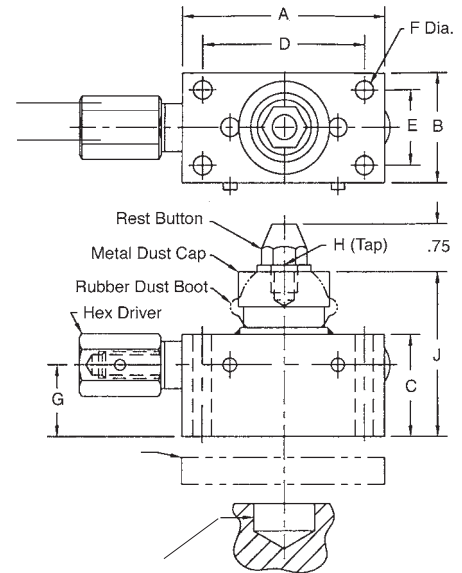
The Jergens Spring Loaded Work Jacks provide consistent support and rigidity to odd shaped workpieces. They are designed to prevent workpiece deflection under forces created during machining operations. Precision mated locking jaws grip the jackpost from both sides creating a vise-like action.

- Load capacities 300-4500 lbs.
- Rugged design
- Quality construction
- Dual jaw locking action
- Rubber boot or dust cap models available



25201

Riser Optional on Part Number 25207 & 25208	
1/4"	25211
1/2"	25212
3/4"	25213

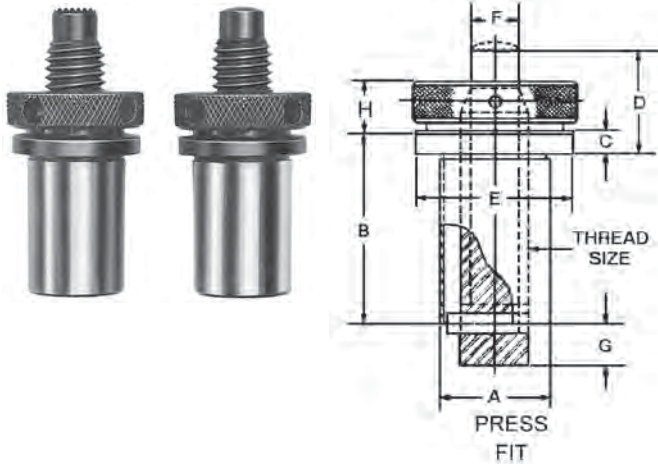


If risers are not used, hole must be provided in fixture base:
1.12" dia. x .50" deep for Part No.'s 25207 & 25208

Part Number	Load Rating	Type Of Dust Protector	Type Of Driver	A	B	C	D	E	Dia. F	G	Tap H	Jackpost J	
												Mean Ht.	Travel
25201	300 lbs at 10 ft-lbs Torque	Cap		Slotted, See Detailed View for Dimensions								1.75	±.19
25203	1400 lbs	Cap	.750 Hex	3.75	2.00	2.00	3.00	1.38	11/32	1.13	3/8-16 .44 Deep	3.31	±.25
25207	2500 lbs	Cap	.750 Hex	3.75	2.00	1.12	3.00	1.38	11/32	.56	3/8-16 .44 Deep	2.38	±.25
25205	4500 lbs	Cap	.937 Hex	4.54	2.50	2.50	3.50	1.88	13/32	1.63	1/2-13 .59 deep	4.13	±.38



Fixture Jacks

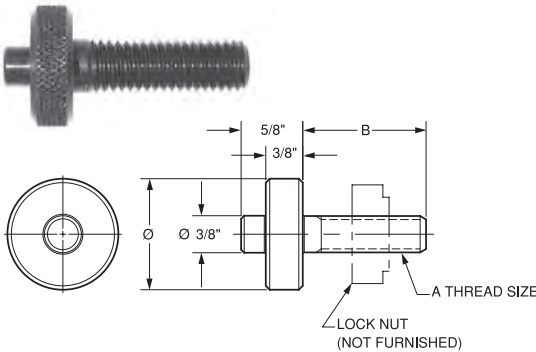


Designed as a positive locking jack for irregular clamping to achieve various heights requiring a positive pressure stop. Adjustable to fit height irregularities of milling operations. Available in either a smooth radius head or a hardened tool steel serrated gripping surface. Elevates vertically, no rotation. Outer diameter of bushing ground for press-fit.

- Material: Bushing, Low Carbon Steel
Radius Stem, Low Carbon Steel
Serrated Stem, 4140
- Finish: Bushing, Black Oxide
Radius Stem, Black Oxide
Serrated Stem, Black Oxide
- Heat Treat: Bushing, Case Hardened
74-77 R30N
Radius Stem, Case Hardened
Serrated Stem, Rc 45-48
- Available in Fixture Pro® Design Software

Part Number Radius	Part Number Serrated	Press Fit A	B	C	D		E	F	G	H	Thread Size	Wt. (lbs)
					Min.	Max.						
24901	25101	5/8	1 3/16	3/16	9/16	1 1/2	1	1/4	5/32	3/8	3/8-16	.19
24902	25102	1	1 5/8	3/16	7/8	2 7/16	1 5/16	15/32	7/16	7/16	5/8-11	.55
24903	25103	1 1/2	2 3/4	3/16	7/8	3 1/2	1 3/4	13/16	1/2	9/16	1-8	1.90

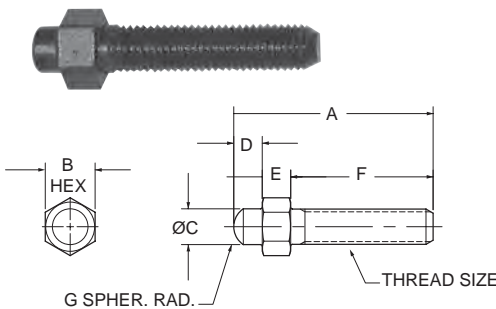
Adjustable Jack Screws



- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Screw/Stem Case Hardened 87-92 R15N

Part Number	A	B	C	Wt. (lbs)	Lock Nut (Not Included)
25001	3/8-16	1-1/4	1-1/8	0.15	28101
25003	3/8-16	2	1-1/8	0.18	28101
25005	1/2-13	1-5/8	1-1/8	0.20	28102
25007	1/2-13	2-1/2	1-1/8	0.25	28102
25009	5/8-11	2	1-3/8	0.34	28103
25011	5/8-11	3	1-3/8	0.43	28103

Adjustable Locating Buttons



- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened 87-92 R15N

Part Number	Thread Size	A	B	C	D	E	F	G
21401	10-32	1	1/4	3/16	1/8	1/8	3/4	1/8
21402	1/4-28	1 1/2	3/8	1/4	3/16	3/16	1 1/8	3/16
21403	5/16-24	1 3/4	7/16	5/16	1/4	1/4	1 1/4	3/16
21404	3/8-24	2	1/2	3/8	1/4	1/4	1 1/2	1/4
21405	1/2-20	2 1/2	5/8	1/2	5/16	5/16	1 7/8	5/16
21406	5/8-18	3	3/4	5/8	3/8	3/8	1 1/4	3/8
21407	3/4-16	3 1/2	7/8	3/4	7/16	7/16	2 5/8	7/16

LOCATING COMPONENTS



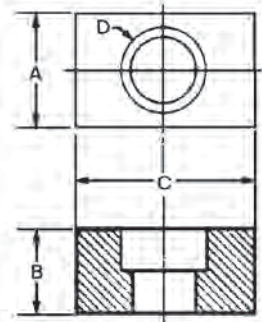
Standard Fixture Keys



- Material: C-1018
- Finish: Black Oxide
- Heat Treat: Case Hardened 74-77 R30N
- Available in Fixture Pro® Design Software

Part Number	-0.0005 -0.0010 A	B	C	Socket Head Screw D	Wt. (lbs) 10 Pcs.
19701*	.5000	1/2	3/4	1/4	.14
19702*	.5625	1/2	3/4	1/4	.65
19703*	.6250	1/2	3/4	5/16	.68
19704*	.6875	1/2	1	5/16	.98
19705	.7500	1/2	1 1/4	5/16	1.10
19706	.8125	1/2	1 1/4	5/16	1.25

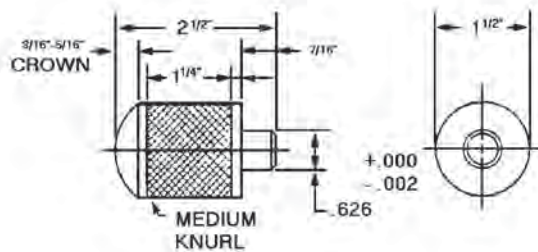
*Conforms to TCMA



Metric

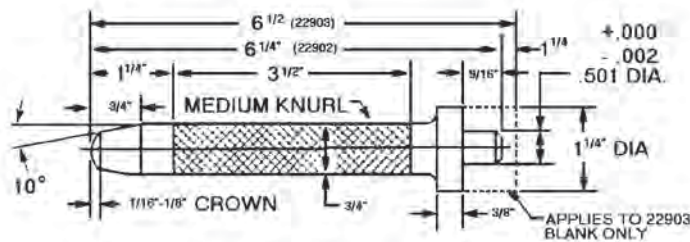
Part Number	-0.0013 -0.0026 A	B	C	Socket Head Screw D
19751	12	13	19	M5
19752	14	14	22	M6
19753	16	13	22	M6
19754	18	14	22	M6
19755	20	13	22	M6
19756	22	13	32	M6

Drift Handles



Part Number	Wt. (lbs)
22901	1.0

- Material: AISI-S7
- Finish: Black Oxide
- Heat Treat: Rc 44-48
- Available in Fixture Pro® Design Software

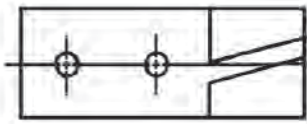


Part Number	Wt. (lbs)
22902	1.1
22903	1.2

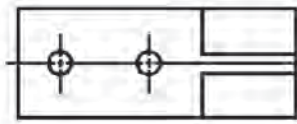


Compare The Jergens Sine Fixture Key Method To The Standard Method

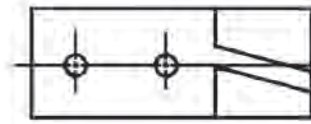
Construct a fixture to mill slots in castings A, B, and C. The locator pins to be common.



A



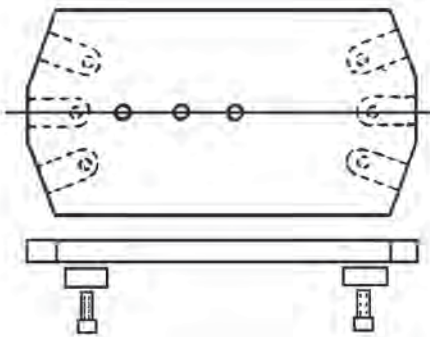
B



C

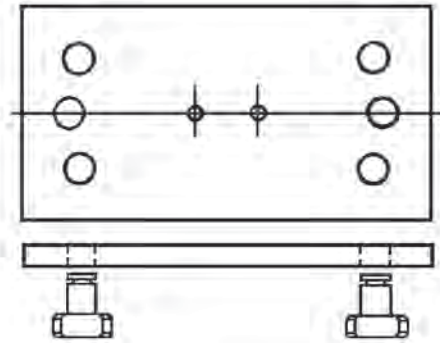
Present Method

A total of 11.2 hours was required to complete this fixture base with finished edge, milled fixture key slots, bored locator pin holes and drilled and tapped set screw holes.



Jergens Method

It took only 5 1/2 hours to complete this fixture with bored sine fixture key holes and bored locator pin holes



PRESENT METHOD

TIME

1. Finish one edge.	.5 hours
2. Locate on jig bore and bore locating point and two locator pin holes	1.75 hours
3. Relocate, position and mill two fixture key slots.	1.75 hours
4. Relocate and, by use of sine bar or other positioning device, establish and mill two fixture key slots.	2.35 hours
5. For opposite slots-same as above	2.35 hours
6. Drill and tap six holes for holding fixture keys in slots.	1.5 hours
7. Set up and perform inspection-if inaccurate, reroute for reworking.	1.0 hours
TOTAL TIME REQUIRED	11.2 hours

JERGENS METHOD

TIME

1. Eliminated.	
2. One set-up serves for establishing locator holes and sine fixture keys.	4.5 hours
3. Eliminated.	
4. Eliminated	
5. Eliminated.	
6. Eliminated.	
7. Inspect on original set-up.	1.0 hours
TOTAL TIME REQUIRED	5.5 hours

ON THIS PARTICULAR FIXTURE - SAVE OVER 50% OF SET-UP TIME!

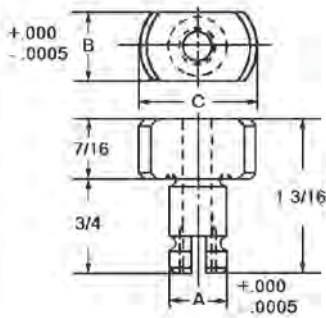
LOCATING COMPONENTS



Sine Fixture Keys



- Material: 4140
- Heat Treat: 26-30
- Available in Fixture Pro® Design Software
- Reduce fixture costs
- Cut extra set-up time
- Completely interchangeable
- Fits many table slot sizes



Jergens Feature:

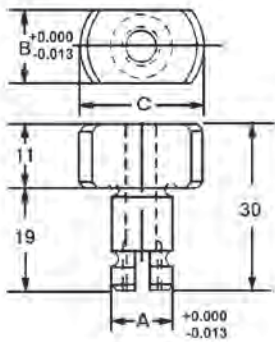
Full 360° contact for more accurate locating.

Sine Fixture Keys locate jigs and fixtures on machine tool tables and position the part in one operation. They eliminate the need to slot fixture bases, make step fixture keys, or drill and tap keys. Simply ream two holes, depending upon the shank size shown in the table below.

The unique expansion shaft allows the key to be locked in the fixture from either the top or the bottom using a standard hex wrench.

Part Number	Shank Size A	Slot Size B	C	Wt. (lbs)	Recommended Hole Diameter
39501	.625	.4995	1	.09	.625 Shank Size: 0.6255 ± 0.0005
39502	.625	.562	1	.11	
39503	.625	.6245	1	.11	
39504	.625	.687	1	.11	
39505	.625	.7495	1 1/8	.13	
39506	.625	.812	1 1/8	.14	
39507	.625	.8745	1 1/8	.15	
39509	.750	.9995	1 3/8	.22	.75 Shank Size: 0.7505 ± 0.0005
39510	.750	1.062	1 3/8	.23	

Metric Sine Fixture Keys



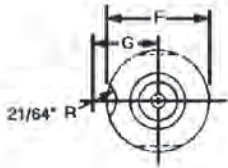
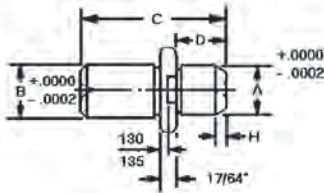
Part Number	Shank Size A	Slot Size B	C	Wt. (kg)	Recommended Hole Diameter
39550	16	10	25	.04	16mm Shank Size: 16.01 ± 0.01
39551	16	12	25	.04	
39552	16	14	25	.05	
39553	16	16	25	.05	
39554	16	18	29	.05	
39555	16	20	29	.06	
39556	16	22	29	.06	20mm Shank Size: 20.01 ± 0.01
39557	20	24	35	.07	
39558	20	28	35	.10	
39559	20	32	40	.10	

Metric Slot/Inch Shank

Used primarily for adapting existing fixtures with inch locating holes to metric table slots.

Part Number	Shank Size A	Slot Size (Mm) B	C	Wt. (lbs)	Recommended Hole Diameter
39561	.625	12	1	.09	0.6255 ± 0.0005
39562	.625	14	1	.09	
39563	.625	16	1	.11	
39564	.625	18	1 1/8	.11	
39565	.625	20	1 1/8	.14	
39566	.625	22	1 1/8	.15	

Locating Pins-Slip Fit Round



- Material: Low Carbon Steel
- Heat Treat: Case Hardened 74-77 R30N
- Available in Fixture Pro® Design Software

- Sizes range from 1/8" to 1" head diameters
- Concentricity in both diameters is held within .0002
- For special applications we will grind the "A" dimension to your specifications
- Quick turnaround on specials
- May be used in bushing applications or press fit with Lock Screws.

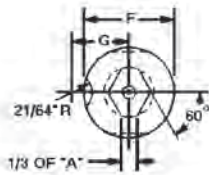
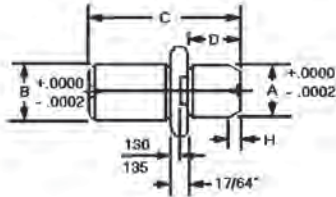
Part Number	A	B	C	D	F	G	H	Wt. (lbs)
Round	10 Pcs.							
29101*	.1245	5/16	1 3/16	7/16	5/8	33/64	1/32	.31
29102	.1401	5/16	1 3/16	7/16	5/8	33/64	1/32	.31
29103*	.1558	5/16	1 3/16	7/16	5/8	33/64	3/64	.31
29104	.1714	5/16	1 3/16	7/16	5/8	33/64	3/64	.31
29105*	.1870	5/16	1 3/16	7/16	5/8	33/64	1/16	.31
29106	.2026	5/16	1 3/16	7/16	5/8	33/64	1/16	.31
29107*	.2183	5/16	1 3/16	7/16	5/8	33/64	5/64	.31
29108	.2339	5/16	1 3/16	7/16	5/8	33/64	3/32	.31
29109*	.2495	5/16	1 3/16	7/16	5/8	33/64	3/32	.31
29110	.2651	5/16	1 3/16	7/16	5/8	33/64	3/32	.31
29111*	.2808	5/16	1 3/16	7/16	5/8	33/64	3/32	.36
29112	.2964	5/16	1 3/16	7/16	5/8	33/64	3/32	.36
29113*	.3120	5/16	1 3/16	7/16	5/8	33/64	3/32	.36
29114*	.3115	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29115	.3271	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29116*	.3428	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29117	.3584	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29118*	.3740	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29119	.3896	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29120*	.4053	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29121	.4209	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29122*	.4365	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29123	.4521	1/2	1 1/2	1/2	7/8	41/64	1/8	.95
29124*	.4678	1/2	1 1/2	1/2	7/8	41/64	1/8	.95
29125	.4834	1/2	1 1/2	1/2	7/8	41/64	1/8	1.00
29126*	.4990	1/2	1 1/2	1/2	7/8	41/64	1/8	1.00
29127*	.4980	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.0
29128*	.5293	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.0
29129*	.5605	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29130*	.5918	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29131*	.6230	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29132*	.6543	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29133*	.6855	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29134*	.7168	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29135*	.7480	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29136*	.7480	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29137*	.7793	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29138*	.8105	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29139*	.8418	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29140*	.8730	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29141*	.9043	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29142*	.9355	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29143*	.9668	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29144*	.9980	1	2 5/8	1	1 1/2	61/64	9/32	5.0

* Conforms to TCMA
See page 224 for Liners and Lock Screws.

LOCATING COMPONENTS



Locating Pins-Slip Fit Relieved



- Material: Low Carbon Steel
- Heat Treat: Case Hardened 74-77 R30N
- Available in Fixture Pro® Design Software

- Sizes range from 1/8" to 1" head diameters
- Concentricity in both diameters is held within .0002
- For special applications we will grind the "A" dimension to your specifications
- Quick turn-around on specials
- May be used in bushing applications or press fit with lock screws.

Part Number	A	B	C	D	F	G	H	Wt. (lbs)
Relieved								
29301*	.1245	5/16	1 3/16	7/16	5/8	33/64	1/32	.31
29302	.1401	5/16	1 3/16	7/16	5/8	33/64	1/32	.31
29303*	.1558	5/16	1 3/16	7/16	5/8	33/64	3/64	.31
29304	.1714	5/16	1 3/16	7/16	5/8	33/64	3/64	.31
29305*	.1870	5/16	1 3/16	7/16	5/8	33/64	1/16	.31
29306	.2026	5/16	1 3/16	7/16	5/8	33/64	1/16	.31
29307*	.2183	5/16	1 3/16	7/16	5/8	33/64	5/64	.31
29308	.2339	5/16	1 3/16	7/16	5/8	33/64	3/32	.31
29309*	.2495	5/16	1 3/16	7/16	5/8	33/64	3/32	.31
29310	.2651	5/16	1 3/16	7/16	5/8	33/64	3/32	.31
29311*	.2808	5/16	1 3/16	7/16	5/8	33/64	3/32	.36
29312	.2964	5/16	1 3/16	7/16	5/8	33/64	3/32	.36
29313*	.3120	5/16	1 3/16	7/16	5/8	33/64	3/32	.36
29314*	.3115	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29315	.3271	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29316*	.3428	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29317	.3584	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29318*	.3740	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29319	.3896	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29320*	.4053	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29321	.4209	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29322*	.4365	1/2	1 1/2	1/2	7/8	41/64	1/8	.90
29323	.4521	1/2	1 1/2	1/2	7/8	41/64	1/8	.95
29324*	.4678	1/2	1 1/2	1/2	7/8	41/64	1/8	.95
29325	.4834	1/2	1 1/2	1/2	7/8	41/64	1/8	1.00
29326*	.4990	1/2	1 1/2	1/2	7/8	41/64	1/8	1.00
29327*	.4980	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.0
29328*	.5293	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.0
29329*	.5605	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29330*	.5918	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29331*	.6230	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29332*	.6543	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29333*	.6855	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29334*	.7168	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29335*	.7480	3/4	1 15/16	11/16	1 1/8	49/64	3/16	2.5
29336*	.7480	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29337*	.7793	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29338*	.8105	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29339*	.8418	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29340*	.8730	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29341*	.9043	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29342*	.9355	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29343*	.9668	1	2 5/8	1	1 1/2	61/64	9/32	5.0
29344*	.9980	1	2 5/8	1	1 1/2	61/64	9/32	5.0

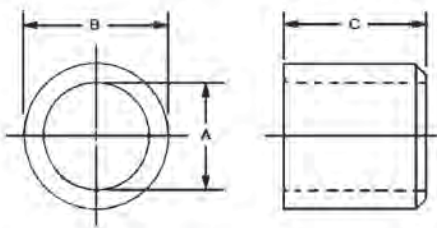
* Conforms to TCMA
See page 224 for Liners and Lock Screws.



Locating Pin Liners



• Material: 52100 Steel

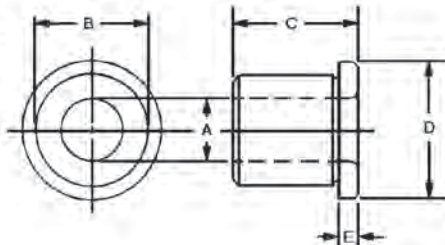


Part Number	A	B	C	Wt. (lbs) 10 Pcs.
28501	.3129	.5017	1/2	.16
	.3126	.5014		
28502	.5005	.7518	3/4	.47
	.5002	.7515		
28503	.7506	1.0018	1	.94
	.7503	1.0015		
28504	1.0007	1.3772	1 3/8	2.80
	1.0004	1.3768		

Locating Pin Shoulder Liners



• Material: 52100 Steel

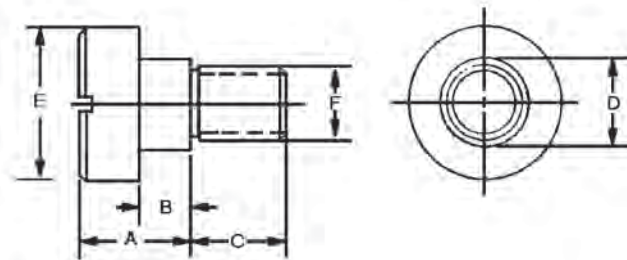


Part Number	A	B	C	D	E	Wt. (lbs) 10 Pcs.
40901	.3129	.5017	1/2	5/8	3/32	.16
	.3126	.5014				
40902	.5005	.7518	3/4	7/8	3/32	.47
	.5002	.7515				
40903	.7506	1.0018	1	1 1/8	1/8	.94
	.7503	1.0015				
40904	1.0007	1.3772	1 3/8	1 1/2	1/8	2.65
	1.0004	1.3768				

Locating Pin Lock Screws



- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Thread: 2A-UNC

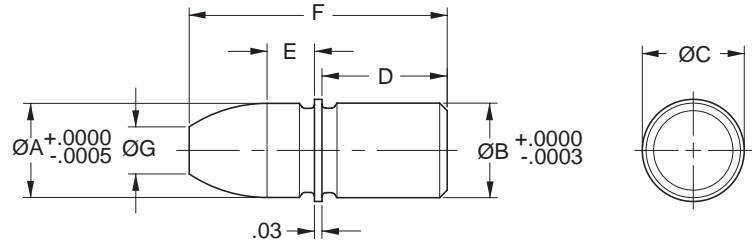


Part Number	A	B	C	D	E	F	Wt. (lbs) 10 Pcs.
10101	1/4	.135	3/8	3/8	5/8	5/16-18	.16

LOCATING COMPONENTS



Bullet Nose Dowels

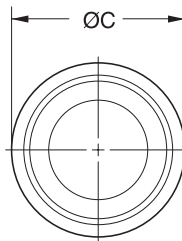
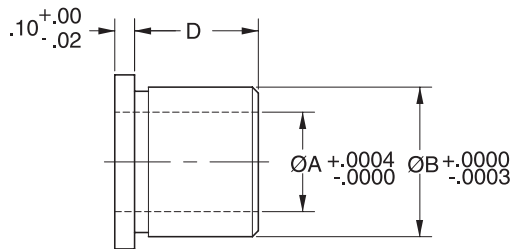


Bullet Nose Dowels are used for aligning two pieces of a fixture together.

- Pin and head centric within .0005 TIR
- Bushing ID and OD concentric within .0003 TIR
- Material: Low carbon steel
- Heat Treat: Case hardened 72-82 R30N
- Ground finish

Bullet-Nose Dowels

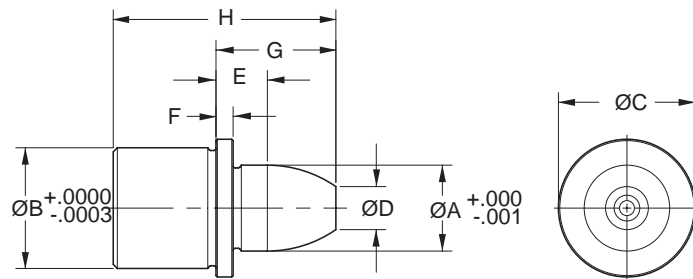
Part Number	A	B	C	D	E	F	G
29221	.2499	.2516	.280	1/2	.12	.90	1/8
29222	.3124	.3141	.344	1/2	.16	.94	5/32
29223	.3749	.3766	.407	1/2	.19	1.03	3/16
29224	.4999	.5017	.532	1/2	.19	1.09	1/4



Bullet-Nose Dowel Liners (Bushings)

Part Number	A	B	C	D
40921	.2501	.5017	5/8	3/8
40922	.3126	.5017	5/8	3/8
40923	.3751	.6267	3/4	1/2
40924	.5001	.7518	7/8	5/8

Pilot Locating Pins



- Material: Low carbon steel
- Heat Treat: Case hardened 72-82 R30N
- Ground finish

Pilot Locating Pins

Part Number	A	B	C	D	E	F	G	H
29231	.249	.4078	9/16	5/32	9/32	3/32	15/32	27/32
29232	.312	.5017	5/8	3/16	9/32	3/32	15/32	27/32
29233	.624	.8768	1	5/16	3/8	1/8	7/8	1 5/8



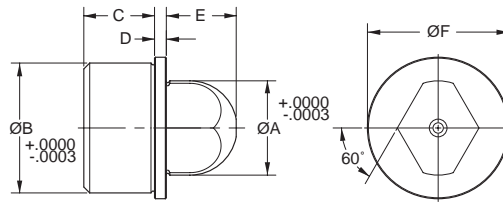
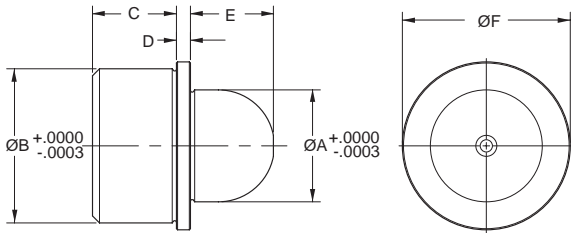
Bullet Nose Pins



Bullet-Nose Pins – Round



Bullet-Nose Pins – Relieved



Bullet-Nose Pins – Round

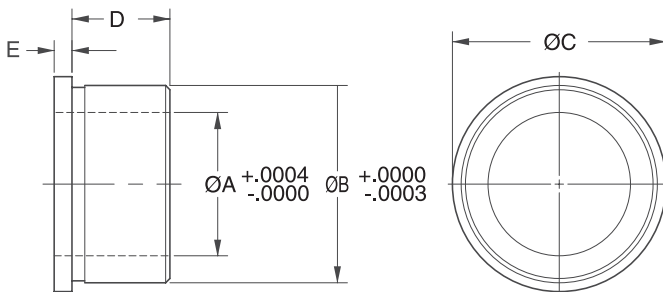
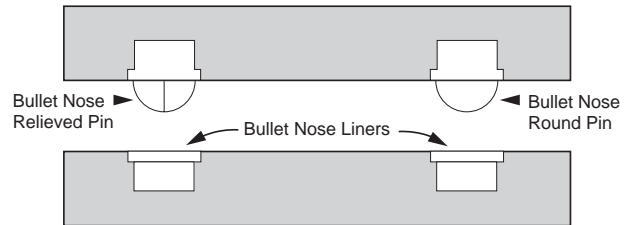
Part Number	A	B	C	D	E	F
29201	.2499	.4078	3/8	1/16	7/32	9/16
29202	.3124	.5017	3/8	1/16	9/32	5/8
29203	.3749	.6267	1/2	1/16	5/16	3/4
29204	.4998	.7518	1/2	1/16	13/32	7/8
29205	.7498	1.0018	3/4	1/8	9/16	1 1/8
29206	.9998	1.3771	3/4	1/8	3/4	1 1/2

Bullet-Nose Pins – Relieved

Part Number	A	B	C	D	E	F
29211	.2499	.4078	3/8	1/16	7/32	9/16
29212	.3124	.5017	3/8	1/16	9/32	5/8
29213	.3749	.6267	1/2	1/16	5/16	3/4
29214	.4998	.7518	1/2	1/16	13/32	7/8
29215	.7498	1.0018	3/4	1/8	9/16	1 1/8
29216	.9998	1.3771	3/4	1/8	3/4	1 1/2

Bullet Nose Pins are used for aligning two pieces of a fixture together. The round and relieved style are used in conjunction with a matching bushing to locate radially on the round pin. The flats on the relieved pin prevents binding, yet allows a high degree of accuracy to be maintained.

- Material: Low carbon steel
- Heat Treat: Case hardened 72-82 R30N
- Ground finish



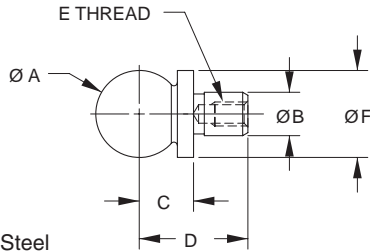
Bullet Nose Pins Liners (Bushings)

Part Number	A	B	C	D	E
40911	.2501	.4078	9/16	7/16	1/16
40912	.3126	.5017	5/8	7/16	1/16
40913	.3751	.6267	3/4	7/16	1/16
40914	.5001	.7518	7/8	1/2	1/16
40915	.7502	1.0018	1 1/8	1/2	1/8
40916	1.0002	1.3771	1 1/2	1 11/16	1/8

LOCATING COMPONENTS



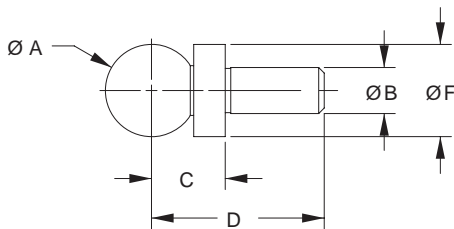
Inspection Balls Premium Short Shank



- Material: 8620 Steel
- Case Hardened
- Used as reference points for inspection applications in conjunction with Coordinate Measuring Machines to accurately measure the workpiece.
- Concentricity of Ball to Shank - 0.0001 T.I.R.
- One-piece construction

Part Number	+0.0000 -0.0002 A	+0.0000 -0.0002 B	±0.0002 C	D	Thread E	Dia. F	Weight (lbs) 10 Pcs.
29060	0.2500	0.1247	0.2000	0.58		1/4	.1
29061	0.3750	0.1872	0.3000	0.75		3/8	.1
29062	0.3750	0.3125	0.3000	0.74	8-32	1/2	.3
29063	0.5000	0.2497	0.3125	0.63	6-32	1/2	.3
29064	0.5000	0.2497	0.4000	0.93	6-32	1/2	.3
29065	0.5000	0.2497	0.5000	0.88	6-32	1/2	.3
29066	0.5000	0.3750	0.3750	1.31	10-24	5/8	.6
29067	0.6250	0.3122	0.4500	1.08	8-32	5/8	.6
29068	0.6250	0.3750	0.4500	1.42	10-24	5/8	.7
29069	0.6875	0.3750	0.5000	1.47	10-24	3/4	.9
29070	0.7500	0.3750	0.5625	1.53	10-24	3/4	1.3
29071	1.0000	0.5000	0.7000	1.64	10-24	1	2.5

Precision Slip Fit



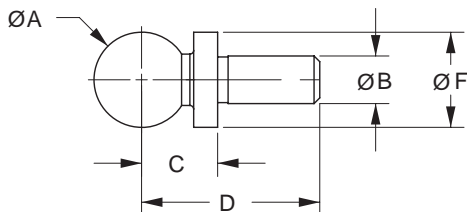
- Used as reference points for inspection applications in conjunction with Coordinate Measuring Machines to accurately measure the workpiece.
- Concentricity of Ball to Shank - 0.0002 T.I.R.
- Hardened and ground steel (440 Stainless)
- Two-piece construction

Part Number	±0.0005 A	+0.0000 -0.0002 B	±0.0002 C	D	Dia F	Weight (lbs) 10 Pcs.
29075	0.2500	0.1247	0.2000	9/16	1/4	.1
29076	0.3750	0.1872	0.3000	3/4	3/8	.1
29077	0.5000	0.2497	0.4000	15/16	1/2	.3
29078	0.6250	0.3122	0.4500	1 1/16	5/8	.6
29079	0.7500	0.3747	0.5000	1 1/4	3/4	1.0
29080	0.8750	0.4372	0.6000	1 7/16	3/4	.7
29081	1.0000	0.4997	0.7000	1 5/8	1	2.4

One Piece with Shoulder



- One Piece Construction
- Close Tolerances – 0.0002 T.I.R.
- 8620 Steel Hardened Rc58-62



Slip Fit

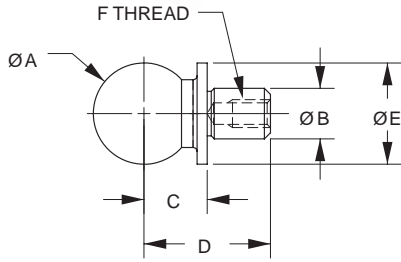
Part Number	±0.0002 A	+0.0000 -0.0004 B	±0.0002 C	D	Dia F	Weight (lbs) 10 Pcs.
29041	.2500	.1250	.2000	9/16	1/4	.1
29042	.3750	.1875	.3000	3/4	3/8	.1
29043	.5000	.2500	.4000	15/16	1/2	.3
29044	.5000	.2500	.5000	1 3/8	1/2	.4
29045	.7500	.3750	.5000	1 1/4	3/4	1.0

Press Fit

Part Number	±0.0002 Dia A	+0.0003 -0.0000 B	±0.0002 C	D	Dia F	Wt. (lbs) 10 Pcs.
29085	0.2500	.1253	.2000	9/16	1/4	.1
29086	0.3750	.1878	.3000	3/4	3/8	.1
29087	0.5000	.2503	.4000	15/16	1/2	.3
29088	0.5000	.2503	.5000	1 3/8	1/2	.4
29089	0.7500	.3753	.5000	1 1/4	3/4	1.0



Construction Balls-Tapped, One-Piece Construction



- Heavy-Duty, Resists Lateral Forces
- Close Tolerances – 0.0002 T.I.R.
- 8620 Steel Hardened Rc58-62

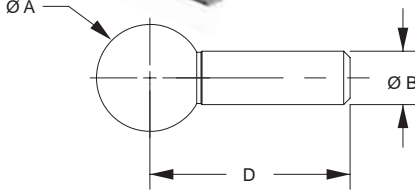
Inch

Part Number	±0.0002 A	+0.0000 -0.0004 B	±0.0002 C	D	Dia. E	F	Weight (lbs) 10 Pcs
29051	0.5000	0.2500	.3125	5/8	.490	6-32 x 1/4	.3
29052	0.5000	0.2500	.3125	5/8	.490	Not Tapped	.3

Metric

Part Number	±0.005mm A	+0.000 -0.010mm B	±0.005mm C	D	Dia. E	F	Weight (kgs) 10 Pcs
29090	6mm	3mm	6mm	16mm	6mm	Not Tapped	.05
29091	10mm	5mm	10mm	20mm	10mm	Not Tapped	.15
29092	12mm	6mm	12mm	22mm	12mm	Not Tapped	.15

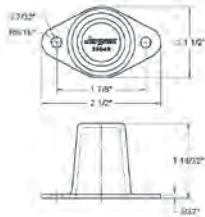
Tooling Balls - Standard Tolerance, One-Piece Construction



- One Piece Construction
- Close Tolerances – 0.0002 T.I.R.
- 8620 Steel Hardened Rc58-62

Part Number	±0.0002 A	+0.0000 -0.0004 B	D	Weight (lbs) 10 Pcs
29031	.2500	.1250	9/16	.1
29032	.3750	.1875	3/4	.1
29033	.5000	.2500	15/16	.3
29034	.5000	.2500	1 1/2	.3
29035	.5000	.3750	1 1/2	.8

Tooling/Inspection Ball Covers

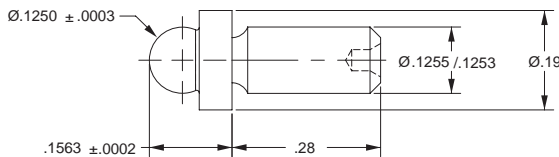


- Mounts directly to the fixture with two number 10 (M4) screws.
- Fits most tooling balls up to 3/4".

Part Number	Mounting Hole-Center to Center ±0.005	Mounting Hole Diameter	Overall Height
29049	1.875	7/32	1.590

Carbide

Part Number
29099



- Two-piece construction
- Used as reference points for inspection applications in conjunction with Coordinate Measuring Machines to accurately measure the workpiece.
- Concentricity of Ball to Shank - 0.0002 T.I.R.
- Hardened and ground
- Material: Ball - Carbide
Shank - 440 Stainless
- Weight per 10 pcs. 0.1 lbs.

LOCATING COMPONENTS



Tooling Balls

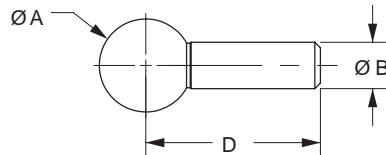


NOTE: The weld between the ball and the shank is made so that the ball will drop off if subjected to unusually heavy lateral forces. This prevents setup and inspection errors that might occur because of accidental bending of the shank.

Fixture Balls (plain shank)

These Tooling balls are assembled by a welding technique that retains the initial high precision and fine finish of the balls.

- Material: Type 440-C Stainless Steel hardened to Rc 58-62
- Eccentricity, ball to shank, 0.0002 T.I.R. maximum
- Two Piece Welded Construction



Part Number	A ±0.0001	B +0.0000 -0.0003	C ±0.005
29001	0.2500	0.1247	0.560
29002	0.3750	0.1872	0.750
29003	0.5000	0.2497	0.940
29004	0.6250	0.3122	1.060
29005	0.7500	0.3747	1.250
29006	0.8750	0.4372	1.440
29007	1.0000	0.4997	1.620

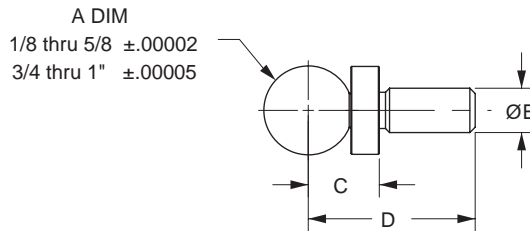
*Metric available if requested



Checking Balls (with reference shoulders)

High precision stainless steel checking balls are made to closer tolerances and avoid excessive side forces. The accurately located shoulder provides for positive positioning, re-positioning, or replacement.

- Material: Type 440-C Stainless Steel hardened to Rc 58-62
- Eccentricity, ball to shank, 0.0002 T.I.R. maximum
- Two Piece Welded Construction



Part Number	A	B +0.0000 -0.0002	C ±0.0002	D -0.005
*29010	0.1250	0.1255	0.0938	0.375
29011	0.2500	0.1247	0.2000	0.560
29012	0.3750	0.1872	0.3000	0.750
29013	0.5000	0.2497	0.4000	0.940
29014	0.6250	0.3122	0.4500	1.060
29015	0.7500	0.3747	0.5000	1.250
29016	0.8750	0.4372	0.6000	1.440
29017	1.0000	0.4997	0.7000	1.620

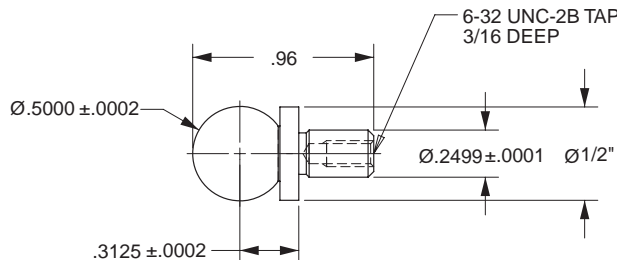
*29010 is supplied with tungsten carbide ball only, with Rockwell hardness 91.5 - 92.5
**Metric available if requested



Checking Balls (with reference shoulder and tapped shank)

This Checking Ball can be pulled into a hole or bushing from below without applying pressure on the ball (accomplished by using a cap screw in the tapped hole in the shank).

- Material: Type 440-C Stainless Steel hardened to Rc 58-62
- Eccentricity, ball to shank, 0.0002 TIR max.
- Two Piece Welded Construction



Part Number
29021



Jergens Workholding Solutions Group... Your Uptime Consultants

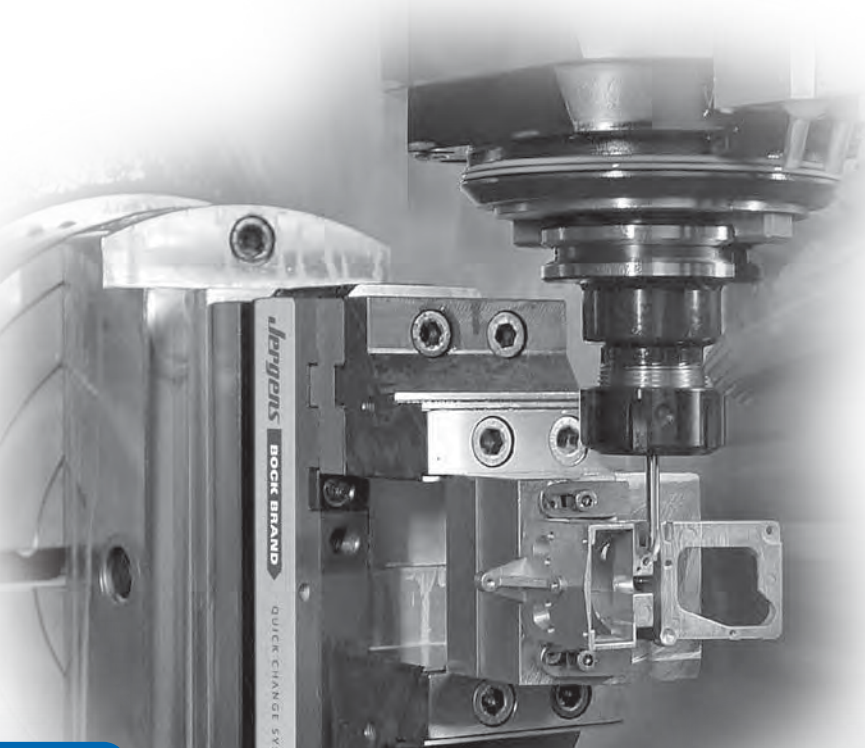
To compete in today's global industry you need to accommodate shorter lead times, smaller batch sizes and frequent set up changes.

Get more savings by changing what's UNDER the spindle, not ON it.

Shave 90% from your set up times by implementing a quick change fixturing system for a fraction of the cost of your cutting tool investment. Jergens' workholding efficiency improvement process helps:

- Increase spindle uptime
- Speed implementation of lean manufacturing
- Improve productivity
- Optimize workholding
- Reduce downtime
- Maximize cost savings
- Eliminate setup errors and inefficiencies
- Faster part-to-part changeover

Jergens
SAVINGS
UNDER THE SPINDLE



"The applications of the Ball Lock® System are basically limitless – you're completely free from the design limitations of common tooling. We have increased utilization rates 75% – 90%."

Jergens Ball Lock® Customer

WORKHOLDING COMPONENTS

Workholding Components

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Micro Clamps, Edge	296	Toggle Screws, Hand Knob	245
Micro Clamps, Expanding	293	Toggle Screws, Socket Toggle	246
Micro Clamp, Knife Edge	292	Toggle Screws, Thumb	246
Micro Clamp, Low Profile.....	289	U-Straps, Long Slot	276
Micro Clamps, Machinable Expanding.....	294	Washers, “C”	266
Micro Clamps	292	Washers, Equalizing “C”.....	266
Micro Clamps, T-Slot.....	295	Washers, Equalizing Swing “C” Assembly.....	267
Micro Clamps, Toe	295	Washers, Equalizing Swing “C”	266
Modular Mini Vise	297	Washers, Flat	265
Nuts, Acorn	263	Washers, Heavy Duty Flat.....	265
Nuts, Check.....	262	Washers, Heavy Duty Square	267
Nuts, Coupling	262	Washers, Self Aligning	268
Nuts, Equalizing Hex Head.....	260	Washer, USAE	269
Nuts, Flange	259	Yokes.....	251–252
Nuts, Heavy Duty Hex	260		
Nuts, Knurled Equalizing.....	263		
Nuts, Knurled Lock.....	262		
Nuts, Spherical Flange	261		

Jergens®

MANUFACTURING EFFICIENCY

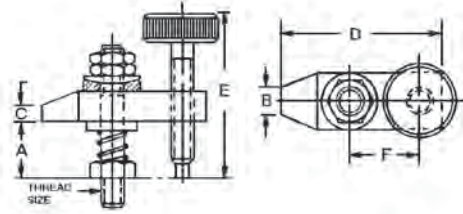


Clamp Assemblies

Miniature Flat



Fast-acting clamp for light-duty holding. Includes strap, knurled thumb screw, spherical washer, stud, plain flat radius washer, three hex jam nuts and spring. Features free swinging adjustments for positioning the assembly without interference.

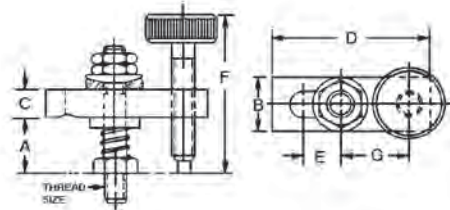


Part Number	A	B	C	D	E	F	Thread Size	Wt. (lbs)
12901	5/8	1/4	1/8	1 1/2	1 9/16	11/16	10-24	.19
12902	5/8	1/4	1/8	2	1 9/16	15/16	1/4-20	.22
12903	9/16	1/4	1/8	2 1/2	1 9/16	1 3/16	1/4-20	.25

Miniature Radius



A light-duty clamp assembly for clamping close to the edge. Complete with radius strap, double jam nuts with spherical washers, finger tip, quick-action knurled thumb screw heel rest, stud, spring and washer. The latter allows free swinging and lateral adjustments for easier set-ups.

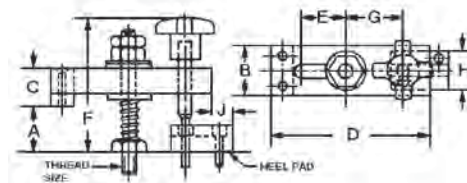


Part Number	A	B	C	D	E	F	G	Thread Size	Wt. (lbs)
13101	1/2	1/2	1/4	1 1/2	7/16	1 9/16	9/16	10-24	.20
13102	1/2	1/2	1/4	1 3/4	9/16	1 9/16	11/16	10-24	.22
13103	1/2	1/2	1/4	2	11/16	1 9/16	13/16	10-24	.24

Heel Pad



In one movement this clamp assembly can be moved into place and tightened; recommended where hand pressure clamping is suitable for the application.



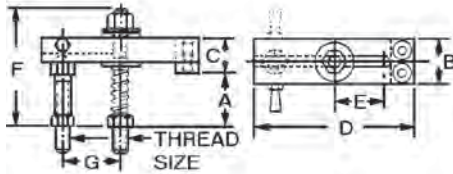
Part Number	A	B	C	D	E	F	G	H	Heel Pad	J	Thread Size	Wt. (lbs)
13301	5/8	5/8	1/2	2	5/8	1 15/16	25/32	3/4	13701	1/2	1/4-20	.38
13312	9/16	7/8	11/16	2 1/2	3/4	2 9/16	15/16	1	13703	5/8	5/16-18	.69
13306	13/16	1 1/4	7/8	3 1/2	1	2 7/8	1 7/16	1	13703	1/2	3/8-16	1.38
13308	13/16	1 1/4	7/8	4 1/2	1 5/8	2 7/8	1 13/16	1	13703	1/2	3/8-16	1.68
13313	1 1/4	1 1/2	1	4 1/2	1 1/4	3 7/8	1 15/16	1 1/2	13705	1 1/8	1/2-13	2.20

WORKHOLDING COMPONENTS



Clamp Assemblies Flange Nut

Heavy-duty clamping with spherical flange nut and spherical washer for greater flexibility. Extra long, true milled slot allows more clearance for placing and removing work. Brass and plastic pads are available, see page 237.



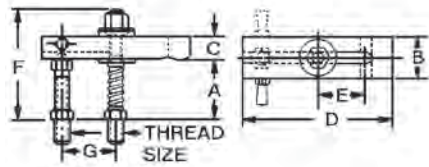
Use where great clamping pressures are needed and vibration is a problem.

Part Number	A	B	C	D	E	F	G*	Thread Size	Wt. (lbs)
12701†	3/4	5/8	1/2	2	5/8	1 5/8	7/8	1/4-20	.27
12703	1 1/2	1 1/4	7/8	3 1/2	1 1/8	2 15/16	1 7/16	3/8-16	1.12
12705	1 1/2	1 1/4	7/8	4 1/2	1 5/8	2 15/16	1 15/16	3/8-16	1.38
12707	1 1/8	1 1/2	1 1/8	4 1/2	1 1/4	3	2 1/8	1/2-13	2.12
12710	1 1/8	1 1/2	1 1/8	6	2	3	2 7/8	1/2-13	2.62
12711	2 5/8	1 3/4	1 3/8	5	1 1/2	5 1/16	2 1/8	5/8-11	3.50
12713	2 5/8	1 3/4	1 3/8	7	2 1/2	5 1/16	3 1/8	5/8-11	4.12
12714	1 3/4	1 3/4	1 1/2	5	1 1/2	4 3/8	2 1/8	3/4-10	4.12
12716	1 3/4	1 3/4	1 1/2	7	2 1/2	4 3/8	3 1/8	3/4-10	4.87

*G dimension represents an optimum dimension.
† Does not include finger handle. See page 236.

Radius End Flange Nut

Heavy-duty clamping of plain surfaces with spherical flange nut and spherical washer for angular flexibility. Long, true milled slot allows greater clearance for placing and removing work. Spring-loaded stud for quick release.

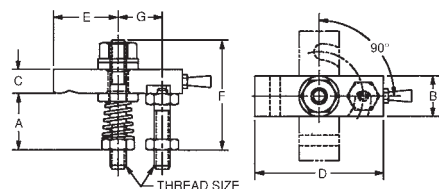


Part Number	A	B	C	D	E	F	G*	Thread Size	Wt. (lbs)
14103†	7/8	5/8	3/8	2	5/8	1 5/8	7/8	1/4-20	.25
14104†	7/8	5/8	3/8	2 1/2	1	1 5/8	7/8	1/4-20	.28
14117†	1 1/8	7/8	1/2	2 1/2	3/4	2 1/4	15/16	5/16-18	.75
14118†	1 1/8	7/8	1/2	3 1/2	1 1/4	2 1/4	15/16	5/16-18	.85
14105	1 3/4	1 1/4	5/8	3 1/2	1 1/8	2 15/16	1 7/16	3/8-16	1.10
14119	1 3/4	1 1/4	5/8	4 1/2	1 5/8	2 15/16	1 7/16	3/8-16	1.20
14108	1 1/2	1 1/2	3/4	4 1/2	1 1/4	3	1 7/8	1/2-13	2.00
14110	1 1/2	1 1/2	3/4	6	1 1/2	3	1 7/8	1/2-13	2.44
14111	3 1/8	1 3/4	7/8	5	1 1/2	5 1/16	2	5/8-11	3.25
14113	3 1/8	1 3/4	7/8	7	2 1/2	5 1/16	2	5/8-11	3.88
14114	2 1/4	1 3/4	1	5	1 1/2	4 3/8	2 1/8	3/4-10	3.88
14116	2 1/4	1 3/4	1	7	2 1/2	4 3/8	2 1/8	3/4-10	4.85

*G dimension represents an optimum dimension.
† Does not include finger handle. See page 236.

Radius Swing Clamp

Features fast-action, light-duty holding of plain surface work where quick movements are required in a restricted space. Radial milled slots allows for 90° swing. Ideally suited for placing and removing workpiece.

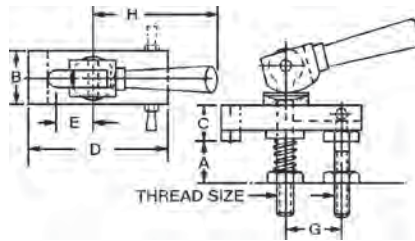


Part Number	Thread Size	A	B	C	D	E	F	G	Wt. (lbs)
14123*	1/4-20	7/8	5/8	3/8	2	1	1 5/8	11/16	.25
14125	3/8-16	1 3/4	1 1/4	5/8	3 1/2	1 1/2	2 15/16	1 1/4	1.10
14128	1/2-13	1 1/2	1 1/2	3/4	4 1/2	1 13/16	3	1 15/16	2.00
14131	5/8-11	3 1/8	1 3/4	7/8	5	2 1/16	5 1/16	2 3/16	3.25
14134	3/4-10	2 1/4	1 3/4	1	5	2 1/16	4 3/8	2 3/16	3.88

*Does not include finger handle. See page 236.



Clamp Assemblies Double Cam

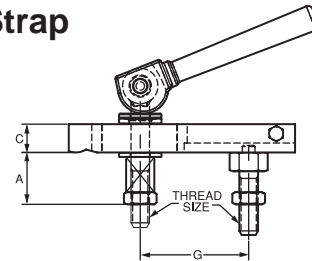
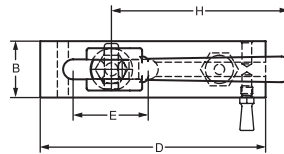


Features fast-action, light-duty holding of plain surface work where quick movements are required in a restricted space. Long end slot for lateral adjustment. Spring-loaded stud member under sturdy double-cam lever. Plastic and brass pads available for protecting workpiece, see page 237.

Part Number	A	B	C	D	E	G*	H	Thread Size	Wt. (lbs)
12501†	5/8	5/8	1/2	2	5/8	7/8	2 1/2	1/4-20	.40
12502	1 5/16	1 1/4	7/8	3 1/2	1 1/8	1 7/16	3 7/16	3/8-16	1.50
12503	1	1 1/2	1 1/8	4 1/2	1 1/4	1 7/8	5	1/2-13	3.00
12504	2 1/8	1 3/4	1 3/8	5	1 1/2	1 15/16	5 1/16	5/8-11	4.70

*G dimension represents an optimum dimension.
† Does not include finger handle. See page 236.

Double Cam Clamp Assemblies W/Radius Nose Strap

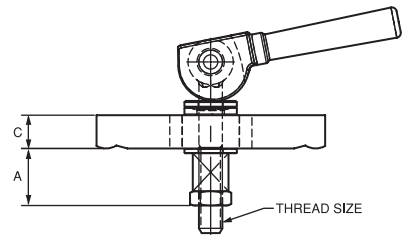
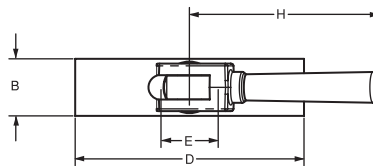


Same fast-action as Standard Double Cam Clamp but with a radius strap.

Part Number	A	B	C	D	E	G*	H	Thread Size	Wt. (lbs)
12511†	3/4	5/8	3/8	2	5/8	7/8	2 1/2	1/4-20	0.35
12512†	3/4	5/8	3/8	2 1/2	1	7/8	2 1/2	1/4-20	0.40
12513†	1 1/8	7/8	1/2	2 1/2	3/4	1 1/4	3 7/16	5/16-18	1.25
12514†	1 1/8	7/8	1/2	3 1/2	1 1/4	1 1/4	3 7/16	5/16-18	1.40
12515	1 1/2	1 1/4	5/8	3 1/2	1 1/8	1 7/16	3 7/16	3/8-16	1.50
12516	1 1/2	1 1/4	5/8	4 1/2	1 5/8	1 7/16	3 7/16	3/8-16	1.80
12517	1 3/8	1 1/2	3/4	4 1/2	1 1/4	1 7/8	5	1/2-13	3.00
12518	1 3/8	1 1/2	3/4	6	2	1 7/8	5	1/2-13	3.40
12519	1 5/8	1 3/4	7/8	5	1 1/2	1 15/16	5 1/16	5/8-11	4.70

*G dimension represents an optimum dimension.
† Does not include finger handle. See page 236.

Double Cam Clamp Assemblies W/Double End Radius Nose Strap

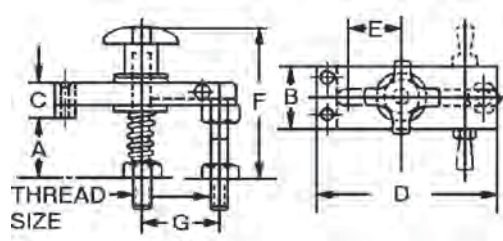


Double Cam Clamp featuring a radius at both ends of the strap.

Part Number	A	B	C	D	E	H	Thread Size	Wt. (lbs)
12523	1 3/8	1 1/2	3/4	4	1 1/4	5	1/2-13	2.50
12524	1 3/8	1 1/2	3/4	5	1 1/4	5	1/2-13	3.00
12526	1 5/8	1 5/8	7/8	6	1 1/2	5 1/16	5/8-11	5.30



Clamp Assemblies Knob



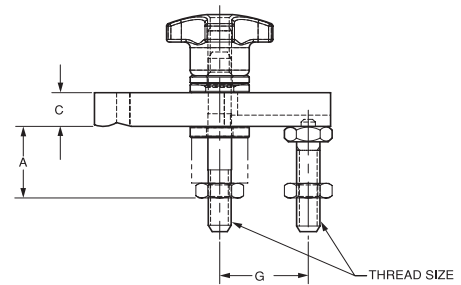
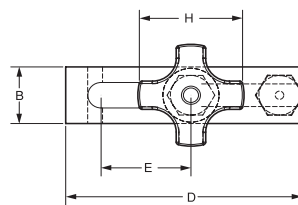
Designed for light-duty clamping, the hand knob eliminates wrenching for faster work changes. Spherical washer allows for clamping irregular surfaces.

- Interchangeable pad option
- Steel pad standard, brass and plastic pads are available, see page 237
- Pads machinable to part configuration

Part Number	A	B	C	D	E	F	G*	Thread Size	Wt. (lbs)
13501†	3/4	5/8	1/2	2	5/8	2 5/16	1	1/4-20	.35
13503	1 1/2	1 1/4	7/8	3 1/2	1 1/8	3 19/32	1 7/16	3/8-16	1.22

*G dimension represents an optimum dimension.
† Does not include finger handle. See page 236.

Knob Clamp Assemblies w/Radius Nose Strap



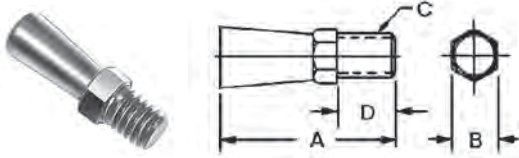
Part Number	A	B	C	D	E	G*	H	Thread Size	Wt. (lbs)
13512†	7/8	5/8	3/8	2 1/2	1	2 1/4	7/8	1/4-20	.32
13515	1 3/4	1 1/4	5/8	3 1/2	1 1/8	3 1/2	1 7/16	3/8-16	1.10
13516	1 3/4	1 1/4	5/8	4 1/2	1 5/8	3 1/2	1 7/16	3/8-16	1.30

*G dimension represents an optimum dimension.
† Does not include finger handle. See page 236.



Clamp Assemblies Components

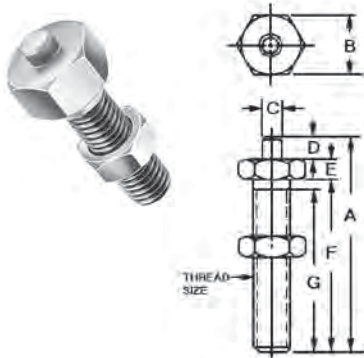
Finger Handles



Part Number	A	B	C	D	Wt. (lbs) 10 Pcs.
19501	3/4	1/4	10-32	1/4	.08
19502	1 3/16	3/8	5/16-18	5/16	.31

- Material: Low Carbon Steel
- Finish: Black Oxide

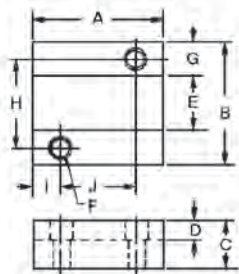
Clamp Rests



Part Number	A	B	C	D	E	F	G	Thread Size	Wt. (lbs) 10 Pcs.
21301	3/4	3/8	5/32	5/64	11/64	1/2	13/32	10-24	.19
21302	1 1/4	7/16	5/32	5/64	11/64	1	29/32	1/4-20	.22
21307	1 7/8	1/2	7/32	3/16	7/32	1 15/32	1 5/16	5/16-18	.60
21308	3 1/4	1/2	7/32	3/16	7/32	2 27/32	2 11/16	5/16-18	1.25
21303	2 1/2	9/16	11/32	5/32	11/32	2	1 13/16	3/8-16	.70
21313	3 7/8	9/16	11/32	5/32	11/32	3 3/8	3 3/16	3/8-16	2.80
21304	2 3/8	7/8	11/32	3/16	1/2	1 11/16	1 1/2	1/2-13	1.88
21314	3 7/8	7/8	11/32	3/16	1/2	3 3/16	3	1/2-13	3.50
21315	2 5/8	7/8	11/32	3/16	1/2	1 15/16	1 11/16	5/8-11	2.25
21305	3 27/32	7/8	11/32	3/16	1/2	3 5/32	2 15/16	5/8-11	3.60
21316	2 3/4	7/8	11/32	3/16	1/2	2 1/16	1 7/8	3/4-10	2.75
21306	3 1/2	7/8	11/32	3/16	1/2	2 13/16	2 3/8	3/4-10	4.70

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Thread: 2A-UNC

Clamp Assembly Guide Blocks



Part Number	A	B	C	D	E	Soc. Hd. Cap F	G	H	I	J	Wt. (lbs) 10 Pcs.
13701	7/8	3/4	5/16	1/8	7/32	5-40	1/8	1/2	3/16	1/2	.06
13703	1 1/8	1	1/2	3/16	9/32	8-32	3/16	5/8	1/4	5/8	.12
13705	1 5/8	1 1/2	5/8	1/4	13/32	1/4-20	1/4	1	3/8	7/8	.38

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened 74-77 R30N
- Mounting Screws Supplied with Heel.

Hand Knob Screws



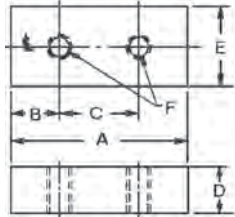
- Material: Stem, Stressproof® Head, Cast Iron
- Finish: Stem, Black Oxide Head, Zinc Plate
- Thread: 2A-UNC

Part Number	A	B	C	D	E	F	Radius G	Wt. (lbs) 10 Pcs.
13901	1/4-20	3/4	11/64	1/4	1 1/8	7/8	1/8	.78
13902	5/16-18	1 1/16	7/32	5/16	1 1/2	1	1/4	1.57
13903	3/8-16	1 3/16	1/4	5/16	2	1 1/8	1/4	1.87
13904	1/2-13	1 5/8	3/8	3/8	2 1/2	1 1/2	3/8	4.00
13905	5/8-11	1 3/4	15/32	3/8	3	2	3/8	12.50

Designed for applications where thumb screws are too light, and a heavier, larger unit is needed. Cast iron knob, dog point end.



Strap Pads-Steel, Plastic & Brass



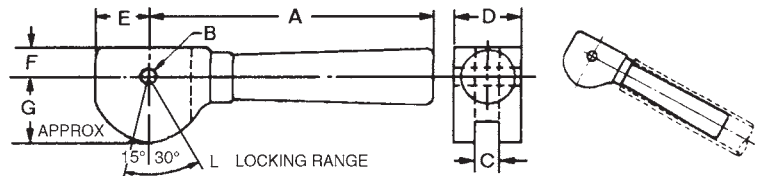
- Material: Steel, Low Carbon Steel
Plastic, Paper Filled Bakelite
Brass
- Finish: Steel Pad Only, Black Oxide
- Heat Treat: Steel Pad Only,
Case Hardened 74-77 R30N

Plastic Pads

Resistant to oil and cutting fluids, allows high clamping pressures, yet protects the soft materials from being scratched or marred.

Steel Pads		Plastic Pads		Brass Pads		A	B	C	D	E	F
Part Number	Wt. (lbs) 10 Pcs.	Part Number	Wt. (lbs) 10 Pcs.	Part Number	Wt. (lbs) 10 Pcs.						
17101	.05	17102	.02	17103	.06	5/8	9/64	11/32	1/8	1/4	5-40
17104	.16	17105	.03	17106	.18	7/8	3/16	1/2	3/16	3/8	8-32
17107	.40	17108	.08	17109	.43	1 1/4	5/16	5/8	1/4	1/2	10-24
17110	.90	17111	.16	17112	.93	1 1/2	3/8	3/4	3/8	5/8	1/4-20
17113	1.50	—	—	—	—	1 3/4	1/2	3/4	1/2	3/4	1/4-20

Double Cams



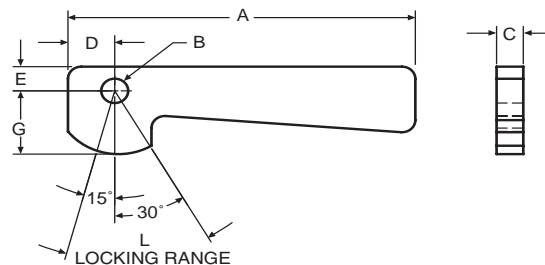
Forged, heat-treated for abrasion-resistance and longer life. Designed for quick change clamping which requires greater holding pressures than are available with single cams. Mean clamping point pressure angle is from 3 1/2' to 4', which makes for stronger workholding.

Slip standard pipe over handle for more leverage. Snug fit at handle collar and end.

- Finish: Black Oxide
- Material: C1020
- Heat Treat: Case Hardened 74-77 R30N

Part Number	A	B	C	D	E	F	G	L	Wt. (lbs)
18101	2 1/2	3/16	17/64	5/8	3/8	1/4	.437	.015	.14
18102	3 7/16	5/16	25/64	7/8	19/32	23/64	.679	.019	.34
18103	5	3/8	33/64	1 1/8	5/8	15/32	.755	.031	.83
18104	5 1/16	5/8	41/64	1 1/4	7/8	5/8	1.040	.043	1.00

Single Cams



- Finish: Black Oxide
- Material: 1018
- Heat Treat: Case Hardened Rc 58-62

Part Number	A	B	C	D	E	G	L	Wt. (lbs)
12101	2 3/8	5/32	3/16	3/8	3/16	17/32	.015	0.62
12102	3 1/4	1/4	1/4	7/16	1/4	21/32	.022	1.40
12103	4 1/2	5/16	3/8	3/4	3/8	29/32	.031	4.00
12104	5	3/8	1/2	7/8	7/16	1 5/64	.031	6.90

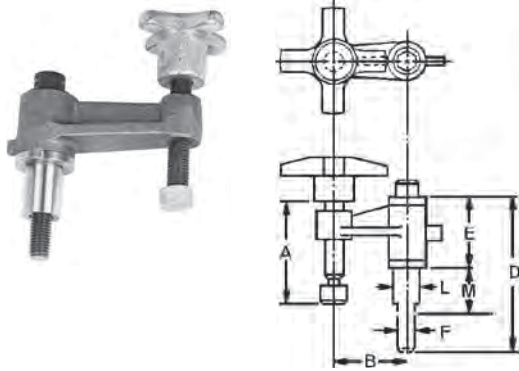


Revolving Clamp Assemblies

Quick hold-down of workpiece with hand tightening, then loosen and revolve out of the way. Saves time for moderate-duty clamping.

Malleable cast iron body. Case-hardened swivel pad uses "tru-center" feature to maintain even, in-line pressure on work-piece.

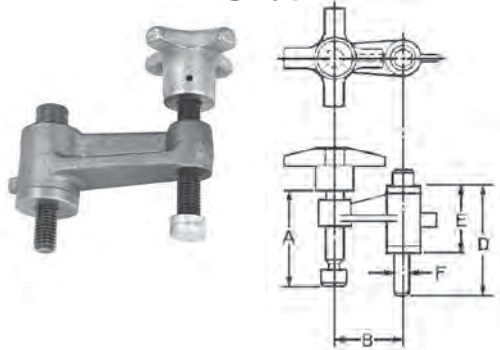
Long Bushing Type



- Body Material: Malleable ASTM A47, GR32510
- Finish: Black Oxide
- Bushings: Hardened & Ground Rc 56-60

Part Number	A	B	D	E	F	L	M	Wt. (lbs)
						.5610/		
35119	2	1 1/2	3	1 1/2	5/16-18	.5595	5/8	0.8
						.6235/		
35103	2	1 1/2	3 1/4	1 1/2	3/8-16	.6220	3/4	0.8
						.8735/		
35116	3 3/8	3	5	2 1/4	1/2-13	.8720	1 1/4	4.5
						1.1235/		
35106	3 3/4	3	5	2 1/4	5/8-11	1.1220	1 1/2	4.8
						1.1235/		
35109	3 3/4	4	5	2 1/4	5/8-11	1.1220	1 1/2	5.0

Short Bushing Type

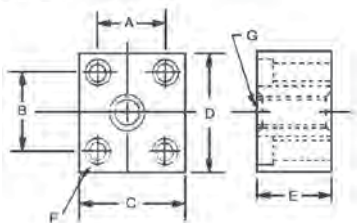


- Body Material: Malleable ASTM A47, GR32510
- Finish: Black Oxide
- Bushings: Hardened & Ground Rc 56-60

Part Number		A	B	D	E	F	Wt. (lbs)	Base Part Number
Clamp Only	Clamp w/ Base							
35117	35118	2	1 1/2	2	1 1/2	5/16-18	0.7	35113
35101	35102	2	1 1/2	3 1/4	1 1/2	3/8-16	0.7	35110
35114	35115	3 3/8	3	5	2 1/4	1/2-13	4.3	35112
35104	35105	3 3/4	3	3	2 1/4	5/8-11	4.5	35111
35107	35108	3 3/4	4	5	2 1/4	5/8-11	4.8	35111

Revolving Clamp Base

(for use with Short Bushing Type only)

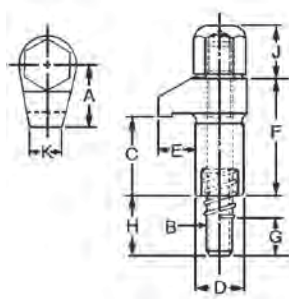


- Stop pin supplied with each base.

Part Number	A	B	C	D	E	F	Mtg. Bolt Size G	Wt (lbs)
35113	3/4	1	1 7/16	1 1/2	1	#10	5/16-18	0.5
35110	7/8	1	1 7/16	1 1/2	1	#10	3/8-16	0.6
35112	1 1/8	1 3/8	2 1/4	2 1/4	1 1/4	1/4	1/2-13	1.2
35111	1 1/4	1 1/2	2 1/4	2 1/4	1 1/4	3/8	5/8-11	1.7



Hook Clamp Assemblies 829



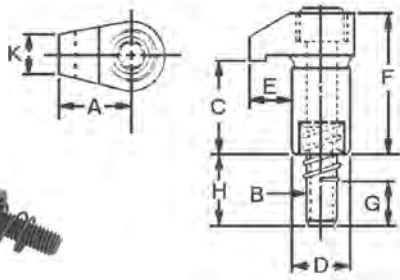
Moderate to heavy-duty holding power in close quarters. When released, the hook clamp swings quickly and easily out of the way for fast maneuvering of work. Spring-loaded shank for speedy clamp release.

- Material: Cast Steel Body, 4140
- Finish: Black Oxide
- Heat Treat: Rc 42-46
- Stud: Furnished

Part Number	A	Stud Size B	C	D	E	F	G	H	J	K	Wt. (lbs)	Max. Torque (Ft/lbs)
41901*	11/16	5/16-18 x 2 1/2	7/8	.624/.625	3/8	1 3/8	5/16	3/4	5/8	3/8	.21	25
41908	1	3/8-16 x 4	1 5/8	.874/.875	9/16	2 1/4	3/4	1 1/4	3/4	5/8	.59	40
41902*	1	1/2-13 x 4	1 5/8	.874/.875	9/16	2 1/4	5/8	1 1/8	15/16	5/8	.64	100
41903	1 7/16	5/8-11 x 5	1 13/16	1.124/1.125	7/8	2 3/4	7/8	1 3/8	1 3/16	3/4	1.38	180

*Conforms to TCMA

Hook Clamp Assemblies 829



Alternative to the above assembly, features flush-mounted socket screw instead of acorn nut. Designed for limited space applications and moderate holding power.

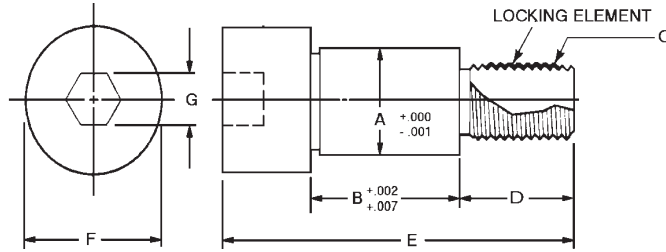
- Material: Cast Steel Body, 4140
- Finish: Black Oxide
- Heat Treat: Rc 42-46
- Screw: Furnished

Part Number	A	Cap Screw B	C	D	E	F	G	H	K	Wt. (lbs)	Max. Torque (Ft/lbs)
41904*	11/16	5/16-18 x 1 3/4	7/8	.624/.625	3/8	1 3/8	1/4	5/8	3/8	.14	25
41905*	1	3/8-16 x 3	1 5/8	.874/.875	9/16	2 1/4	5/8	1 1/16	5/8	.44	40
41907	1	1/2-13 x 3	1 5/8	.874/.875	9/16	2 1/4	5/8	1 1/8	5/8	.47	100
41906	1 7/16	5/8-11 x 3 1/2	1 13/16	1.124/1.125	7/8	2 3/4	13/16	1 9/16	3/4	1.00	180

*Conforms to TCMA



Socket Shoulder Screws Nylon Locking



Socket Shoulder Screws are held to much closer tolerances than on standard Strip-per Bolts. The “B” dimension is always a plus to eliminate the binding on movable plates. The “A” dimension is held closer for bearing-type locating. You’ll get more positive holding power and greater turning leverage. Ideal for all sliding mechanisms. Nylon locking element is incorporated in all Jergens Shoulder Screws.

- Material: 4140
- Heat Treat: Rc 38-42
- Thread: 2A-UNC

Diameter A	B	Part Number	Thread Size C	D	E	F	Hex Size G	Wt. (lbs) 10 Pcs.
.249	1/4	41701*	10-24	3/8	13/16	3/8	1/8	.09
.249	3/8	41702*	10-24	3/8	15/16	3/8	1/8	.12
.249	1/2	41703*	10-24	3/8	1 1/16	3/8	1/8	.13
.249	5/8	41704*	10-24	3/8	1 3/16	3/8	1/8	.15
.249	3/4	41705*	10-24	3/8	1 5/16	3/8	1/8	.16
.249	7/8	41706*	10-24	3/8	1 7/16	3/8	1/8	.19
.374	1/4	41707*	5/16-18	1/2	1	9/16	3/16	.30
.374	3/8	41708*	5/16-18	1/2	1 1/8	9/16	3/16	.32
.374	1/2	41709*	5/16-18	1/2	1 1/4	9/16	3/16	.38
.374	5/8	41710*	5/16-18	1/2	1 3/8	9/16	3/16	.41
.374	3/4	41711*	5/16-18	1/2	1 1/2	9/16	3/16	.45
.374	7/8	41712*	5/16-18	1/2	1 5/8	9/16	3/16	.48
.499	3/8	41713*	3/8-16	5/8	1 5/16	3/4	1/4	.68
.499	1/2	41714*	3/8-16	5/8	1 7/16	3/4	1/4	.73
.499	5/8	41715*	3/8-16	5/8	1 9/16	3/4	1/4	.78
.499	3/4	41716*	3/8-16	5/8	1 11/16	3/4	1/4	.86
.499	7/8	41717*	3/8-16	5/8	1 13/16	3/4	1/4	.93
.624	1/2	41718*	1/2-13	3/4	1 5/8	7/8	5/16	1.22
.624	5/8	41719*	1/2-13	3/4	1 3/4	7/8	5/16	1.36
.624	3/4	41720*	1/2-13	3/4	1 7/8	7/8	5/16	1.41
.624	7/8	41721*	1/2-13	3/4	2	7/8	5/16	1.56
.624	1	41722*	1/2-13	3/4	2 1/8	7/8	5/16	1.85
.749	5/8	41723*	5/8-11	7/8	2	1	3/8	2.25
.749	3/4	41724*	5/8-11	7/8	2 1/8	1	3/8	2.47
.749	7/8	41725*	5/8-11	7/8	2 1/4	1	3/8	2.60
.749	1	41726*	5/8-11	7/8	2 3/8	1	3/8	2.75
.749	1 1/4	41727*	5/8-11	7/8	2 5/8	1	3/8	2.90
.999	1	41728	3/4-10	1	2 5/8	1 3/8	1/2	5.47
.999	1 1/2	41729	3/4-10	1	3 1/8	1 3/8	1/2	6.56
.999	2	41730	3/4-10	1	3 5/8	1 3/8	1/2	7.66

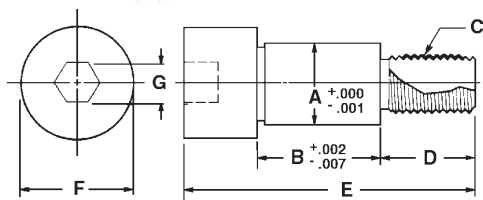
*Conforms to TCMA



Socket Head Shoulder Screws Stainless Steel



• Material: 303 Stainless



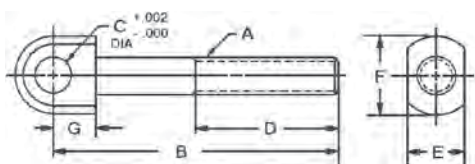
Socket Shoulder Screws are held to much closer tolerances than on standard Stripper Bolts. The “B” dimension is always a plus to eliminate the binding on movable plates. The “A” dimension is held closer for bearing-type locating. You’ll get more positive holding power and greater turning leverage. Ideal for all sliding mechanisms. Nylon locking element is incorporated in all Jergens Shoulder Screws.

Part Number	Diam. A	B	C	D	E	F	Hex Size G	Wt. (lbs) 10 Pcs.
41801	1/4	1/4	10-24	3/8	13/16	3/8	1/8	.09
41802	1/4	3/8	10-24	3/8	15/16	3/8	1/8	.12
41803	1/4	1/2	10-24	3/8	1 1/16	3/8	1/8	.13
41804	1/4	5/8	10-24	3/8	1 3/16	3/8	1/8	.15
41805	1/4	3/4	10-24	3/8	1 5/16	3/8	1/8	.16
41806	1/4	1	10-24	3/8	1 9/16	3/8	1/8	.19
41807	3/8	1/4	5/16-18	1/2	1	9/16	3/16	.30
41808	3/8	3/8	5/16-18	1/2	1 1/8	9/16	3/16	.32
41809	3/8	1/2	5/16-18	1/2	1 1/4	9/16	3/16	.38
41810	3/8	5/8	5/16-18	1/2	1 3/8	9/16	3/16	.41
41811	3/8	3/4	5/16-18	1/2	1 1/2	9/16	3/16	.45
41812	3/8	1	5/16-18	1/2	1 3/4	9/16	3/16	.48
41813	1/2	3/8	3/8-16	5/8	1 5/16	3/4	1/4	.68
41814	1/2	1/2	3/8-16	5/8	1 7/16	3/4	1/4	.73
41815	1/2	5/8	3/8-16	5/8	1 9/16	3/4	1/4	.78
41816	1/2	3/4	3/8-16	5/8	1 11/16	3/4	1/4	.86
41817	1/2	1	3/8-16	5/8	1 15/16	3/4	1/4	.93
41818	5/8	1/2	1/2-13	3/4	1 5/8	7/8	5/16	1.22
41819	5/8	5/8	1/2-13	3/4	1 3/4	7/8	5/16	1.36
41820	5/8	3/4	1/2-13	3/4	1 7/8	7/8	5/16	1.41
41822	5/8	1	1/2-13	3/4	2 1/8	7/8	5/16	1.85

Swing Bolts (Latch Bolt)



- Material: 4140
- Finish: Black Oxide
- Heat Treat: Rc 36-40
- Thread: Class 2A-UNC



Part Number	Thread Size A	B	C	D	E	F	G	Wt. (lbs) 10 Pcs.
29501*	3/8-16	2 1/2	3/8	1 3/8	1/2	3/4	3/8	.93
29502	3/8-16	3 1/4	3/8	1 3/4	1/2	3/4	3/8	1.25
29513	1/2-13	2 5/8	3/8	1 1/2	5/8	1	7/16	1.95
29504*	1/2-13	3 1/8	1/2	1 3/4	5/8	1	7/16	2.04
29505	1/2-13	4 1/8	1/2	2 1/4	5/8	1	7/16	2.64
29516	5/8-11	3 3/4	1/2	2	3/4	1 1/8	1/2	3.64
29507	5/8-11	3 1/2	5/8	1 3/4	3/4	1 1/8	1/2	3.67
29508	5/8-11	4 3/4	5/8	2 1/2	3/4	1 1/8	1/2	4.75
29509	3/4-10	4 3/8	3/4	2 1/2	7/8	1 3/8	11/16	6.10
29510	3/4-10	6 1/2	3/4	3 1/4	7/8	1 3/8	11/16	8.85

*Conforms to TCMA.

Not to be used for lifting.

Swing Bolts (Latch Bolt) Stainless Steel

- Material: 303 Stainless
- Thread: Class 2A-UNC

Part Number	Thread Size A	B	C	D	E	F	G	Wt. (lbs) 10 Pcs.
29601	3/8-16	2 1/2	3/8	1 3/8	1/2	3/4	1/2	1.1
29602	3/8-16	3 1/2	3/8	2	1/2	3/4	1/2	1.4
29603	1/2-13	3 1/8	1/2	1 5/8	5/8	1	5/8	2.6
29604	1/2-13	4-1/8	1/2	2 1/2	5/8	1	5/8	3.0
29605	5/8-11	3 1/2	5/8	1 5/8	3/4	1 1/4	3/4	4.6
29606	5/8-11	4 3/4	5/8	2 1/2	3/4	1 1/4	3/4	5.5

*B dimension indicates minimum length.

Not to be used for lifting.

WORKHOLDING COMPONENTS

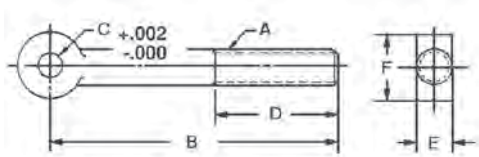


Rod Ends Threaded



- Material: Alloy Steel
- Finish: Black Oxide
- Heat Treat: 32-36 Rc
- Thread: Class 2A-UNC
- * 150,000 PSI Tensile

Rod Ends are forged and finished for applications not requiring flat contact with the head. All holes are reamed. Rod Ends can be used with spherical flange assemblies, flange nuts and clamp assemblies.



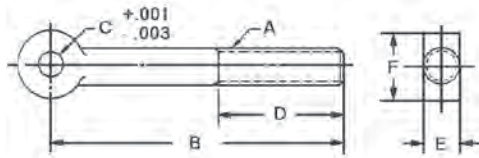
Part Number	Thread A	B	C	D Minimum	E	F	Wt. (lbs)
35301*	1/4-20	2	3/16	3/4	1/4	1/2	.04
35302	1/4-20	2	1/4	3/4	1/4	1/2	.03
35318*	5/16-18	3	1/4	1 1/2	5/16	5/8	.08
35319*	5/16-18	3	5/16	1 1/2	5/16	5/8	.08
35303*	3/8-16	3	5/16	1 1/2	3/8	3/4	.11
35320	3/8-16	4	5/16	1 3/4	3/8	3/4	.11
35304	3/8-16	2 3/16	3/8	1 1/4	3/8	3/4	.08
35305*	3/8-16	3	3/8	1 1/2	3/8	3/4	.11
35306*	3/8-16	5	3/8	2 1/2	3/8	3/4	.12
35307*	1/2-13	3 3/4	3/8	1 1/2	1/2	1	.25
35308	1/2-13	2 11/16	1/2	1 1/2	1/2	1	.19
35309	1/2-13	3 3/4	1/2	1 1/2	1/2	1	.24
35310	1/2-13	5	1/2	1 1/2	1/2	1	.31
35311	5/8-11	3 11/16	5/8	2	5/8	1 1/4	.40
35312*	5/8-11	4 1/2	5/8	2	5/8	1 1/4	.46
35314*	5/8-11	6	5/8	2 1/2	5/8	1 1/4	.60
35315*	3/4-10	4 1/2	3/4	2	3/4	1 1/2	.73
35321*	3/4-10	6	3/4	2 1/2	3/4	1 1/2	1.00
35317	1-8	8	1	3	1	2	2.25

*Conforms to TCMA. Not to be used for lifting.

Rod Ends Stainless Steel



- Material: 303 Stainless
- Thread Class 2A-UNC

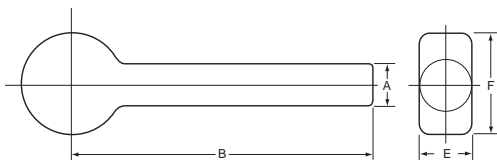


Part Number	Ref. A	B	Ref. C	D	E	F
35721	1/4-20	2 1/8	3/16	7/8	1/4	1/2
35722	1/4-20	2 1/8	1/4	7/8	1/4	1/2
35723	5/16-18	3 1/2	1/4	1 1/2	5/16	5/8
35724	5/16-18	3 1/2	5/16	1 1/2	5/16	5/8
35725	3/8-16	3 1/2	3/8	1 1/2	3/8	3/4
35726	3/8-16	5	3/8	2 1/2	3/8	3/4
35727	1/2-13	3 3/4	1/2	1 1/2	1/2	1
35728	1/2-13	5	1/2	2	1/2	1
35729	5/8-11	4 1/2	5/8	2	5/8	1 1/4
35730	5/8-11	6	5/8	3	5/8	1 1/4
35731	3/4-10	4 1/2	3/4	2	3/4	1 1/2
35732	3/4-10	6	3/4	2 1/2	3/4	1 1/2

Not to be used for lifting.

Rod Ends Blank Forging

- Material: Standard, Alloy Steel Forging
Stainless, 18-8 Forging
- * Not Heat Treated



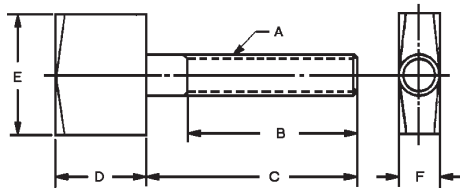
Part Number		A	B*	E	Ref. F	Wt. (lbs)
Standard	Stainless Steel					
35511	35701	1/4	2	1/4	1/2	.04
35512	35702	3/8	5	3/8	3/4	.13
35513	35703	1/2	6	1/2	1	.44
35514	35704	5/8	6	5/8	1 1/4	.70
35515	—	3/4	6	3/4	1 1/2	1.8
35516	—	1	8	1	2	2.5

*B dimension indicates minimum length. Not to be used for lifting.

Blank Rod Ends can be machined to your specifications; please send prints for quotation. Maximum thread length 1/2" from head.



Quarter Turn Screws



- Material: Stem, Low Carbon Steel
Head, Low Carbon Steel
- Finish: Black Oxide
- Thread: 2A-UNC (inch); Class 6g (Metric)
2A-UNF (10-32)

The diamond on all four corners of the Jergens Quarter Turn and Half Turn Screws, makes the opening and closing of jig lids easier. Ideally suited for clamping lids, covers and swing-away type bushing arms. Quarter Turn and Half Turn Screws may be machined for finishing requirements.

Part Number	A	B	C	D	E	F	Wt. (lbs) 10 Pcs.
34501*	10-32	7/8	1	1/2	1/2	3/16	.31
34502*	1/4-20	1	1 1/4	5/8	3/4	1/4	.47
34503	1/4-20	1 1/2	1 3/4	5/8	3/4	1/4	.48
34504*	5/16-18	1 1/4	1 1/2	3/4	1	5/16	.90
34505	5/16-18	1 3/4	2	3/4	1	5/16	1.10
34506*	3/8-16	1 1/4	1 1/2	1	1	3/8	1.25
34507	3/8-16	1 3/4	2	1	1	3/8	1.45
34508*	1/2-13	1 1/2	1 3/4	1	1 1/4	1/2	2.35
34509	1/2-13	2	2 1/4	1	1 1/4	1/2	2.65

*Conforms to TCMA

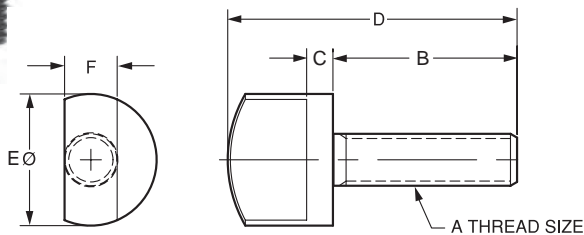
Part Number	A	B	C	D	E	F	Wt. (kg) 10 Pcs.
34571	M5 x 0.8	22	25	13	13	5	.14
34573	M6 x 1.0	25	32	16	19	6	.21
34575	M8 x 1.25	32	38	19	25	8	.41
34577	M10 x 1.5	32	38	25	25	10	.57
34579	M12 x 1.75	38	44	25	32	13	1.06

Half Turn Screws



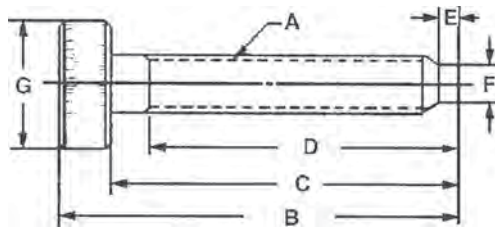
- Material: Low Carbon Steel
- Finish: Black Oxide
- Thread: 2A-UNF (10-32)
2A-UNC (other sizes)

Part Number	Thread A	B	C	D	E	F	Wt. (lbs) 10 Pcs.
34521	10-32	1	3/16	1-11/16	3/4	3/16	.3
34522	1/4-20	1-1/4	3/16	2	3/4	1/4	.3
34523	5/16-18	1-1/4	3/16	2-1/16	1	5/16	.3
34524	3/8-16	1-3/4	1/4	1-11/16	1-1/16	3/8	.3
34525	1/2-13	1-3/4	1/4	2-3/4	1-1/4	1/2	.3





Screws Thumb Screws



- Materials: 1215 Steel with black oxide finish, 303 Stainless
- Thread: 2A-UNC
2A-UNF (10-32)

The half-dog point protects the threads in case of peening.

Part No. Steel	Part No. Stainless	A	B	C	D	E	F	G	Wt. (lbs)
43901	—	10-24	1 9/16	1 1/4	1 1/16	3/64	1/8	3/4	.44
43902	—	10-24	1 5/16	1 5/8	1 7/16	3/64	1/8	3/4	.47
43903*	—	10-24	2 5/16	2	1 13/16	3/64	1/8	3/4	.48
—	44001	10-32	1 3/16	1	3/4	7/32	3/16	3/4	.45
—	44002	10-32	1 7/16	1 1/4	1	7/32	3/16	3/4	.45
43900	—	10-32	1-3/4	1 1/2	1 3/8	7/32	3/16	3/4	.45
—	44004	1/4-20	1 5/16	1	25/32	3/32	11/64	1	.75
43904*	44005*	1/4-20	1 13/16	1 1/2	1 1/4	1/16	5/32	1	.78
43905*	44006	1/4-20	2 5/16	2	1 3/4	1/16	5/32	1	.86
43906*	—	1/4-20	2 13/16	2 1/2	2 1/4	1/16	5/32	1	.91
43907	44008	5/16-18	2 1/8	1 3/4	1 7/16	5/64	13/64	1 1/8	1.30
43908	44009	5/16-18	2 5/8	2 1/4	1 15/16	5/64	13/64	1 1/8	1.36
43909	44010	5/16-18	3 1/8	2 3/4	2 7/16	5/64	13/64	1 1/8	1.50
43910*	44011	3/8-16	2 7/16	2	1 5/8	3/32	1/4	1 1/4	1.93
43911*	44012*	3/8-16	2 15/16	2 1/2	2 1/8	3/32	1/4	1 1/4	2.00
43912*	44013*	3/8-16	3 7/16	3	2 5/8	3/32	1/4	1 1/4	2.20
43913	—	1/2-13	2 15/16	2 1/2	2 1/8	1/8	11/32	1 1/4	2.55
—	44014	1/2-13	3	2 1/2	2	1/4	3/8	1 1/4	2.55
43914*	—	1/2-13	3 7/16	3	2 5/8	1/8	11/32	1 1/4	2.80
—	44015	1/2-13	3 1/2	3	2 1/2	1/4	3/8	1 1/4	3.00
43915*	—	1/2-13	3 15/16	3 1/2	3 1/8	1/8	11/32	1 1/4	3.10
—	44016	1/2-13	4	3 1/2	3	1/4	3/8	1 1/4	3.10

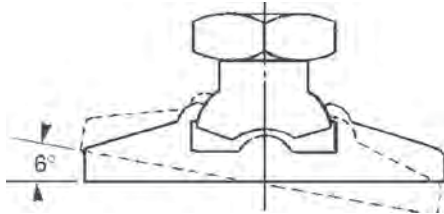
* Conforms to TCMA

Metric

Part Number	A	B	C	D	E	F	G	Wt. (Kg)
43971	M5x0.8	30	25	20	1.2	3	20	0.20
43972	M5x0.8	45	40	35	1.2	3	20	0.21
43973	M5x0.8	55	50	45	1.2	3	20	0.22
43974	M 6 x 1.0	50	40	35	1.5	4	25	0.35
43975	M 6 x 1.0	60	50	45	1.5	4	25	0.39
43976	M 6 x 1.0	75	65	55	1.5	4	25	0.41
43977	M8 x 1.25	50	40	35	2.4	5	30	0.59
43978	M8 x 1.25	60	50	45	2.4	5	30	0.62
43979	M8 x 1.25	75	65	60	2.4	5	30	0.68
43980	M10 x 1.5	60	50	45	2.4	6	30	0.88
43981	M10 x 1.5	75	65	60	2.4	6	30	0.91
43982	M10 x 1.5	85	75	70	2.4	6	30	1.00
43983	M 12 x 1.75	90	75	70	3	11	30	1.27
43984	M 12 x 1.75	105	90	85	3	11	30	1.41
43985	M 12 x 1.75	80	65	55	3	11	30	1.25



Tru-Center™ Toggle Products



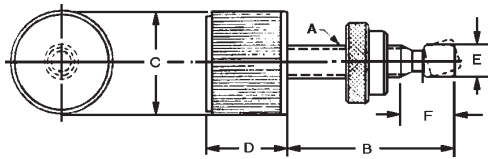
The Jergens patented "Tru-Center" products are the only pad type on the market to provide true center line clamping. The cut-away drawing illustrates how this works. The center line of the pad and the center line of the nut always intersect at the point of contact between the pad and the workpiece.

Adjustable Torque Toggle Screws



Perfect for delicate and fine clamping. Once the end holding force is reached, the head breaks free. Larger radius, straight knurled head for easy turning.

- Material: Stem, Stressproof® Pad, 4140
- Finish: Stem, Black Oxide Head, Chrome Plate
- Thread: 2A-UNC
- Pad: Angular movement either side of center (total 16°)

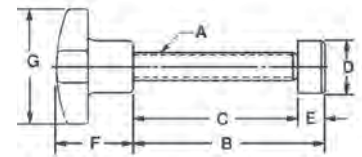


Part Number	A	B	C	D	E	F	End Force (lbs)	Wt. (lbs) 10 Pcs.
31101	10-24	1 1/4	1	23/32	.140	3/16	0-50	1.7
31102	1/4-20	1 1/2	1	23/32	.185	15/64	0-50	1.7
31103	1/4-20	2 1/2	1	23/32	.185	15/64	0-50	1.8
31104	5/16-18	1 3/4	1	23/32	.240	9/32	0-50	1.9
31105	5/16-18	2 3/4	1	23/32	.240	9/32	0-50	2.1
31106	3/8-16	2	1 1/4	25/32	.294	11/32	0-60	3.0
31107	1/2-13	3	1 1/4	25/32	.400	7/16	0-60	4.2

Hand Knob Toggle Screws



For clamping of irregular surfaces while the swivel shoe prevents marring of polished surfaces. Shoe is hardened for longer life. The cast iron hand knob is included for hand tightening. To remove pad for installation, pull and turn counter-clockwise.



- Material: Stem, Stressproof® Pad, 4140 Head, Cast Iron
- Finish: Stem, Black Oxide Pad, Zinc Plate Head, Cadmium Plate
- Thread: 2A-UNC
- Pad: Angular movement either side of center (total 16°)

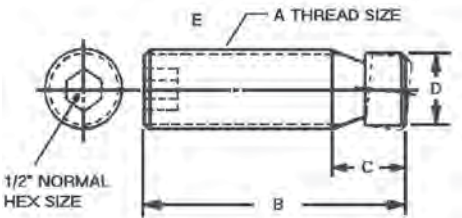
Part Number	A	B	C	D	E	F	G	Wt. (lbs) 10 Pcs.
36301	3/8-16	2	1 21/32	11/16	3/8	1 1/8	2	.21
36302	3/8-16	2 3/4	2 13/32	11/16	3/8	1 1/8	2	.24
36303	3/8-16	3 5/8	3 9/32	11/16	3/8	1 1/8	2	.25
36304	1/2-13	2 1/8	1 21/32	13/16	15/32	1 1/2	2 1/2	.44
36305	1/2-13	2 3/4	2 9/32	13/16	15/32	1 1/2	2 1/2	.48
36306	1/2-13	3 3/8	2 29/32	13/16	15/32	1 1/2	2 1/2	.52
36307	1/2-13	4	3 17/32	13/16	15/32	1 1/2	2 1/2	.55
36308	5/8-11	3	2 17/32	15/16	1/2	2	3	1.38
36309	5/8-11	3 3/4	3 9/32	15/16	1/2	2	3	1.50
36310	3/4-10	4 7/8	4 11/32	1 1/8	19/32	2	3	1.56



Tru-Center™ Toggle Products Socket Toggle Screws



- Material: 4140
- Finish: Black Oxide
- Heat Treat: 38-42 Rc
- Screws may be inserted without removing pads.



Part Number	Thread Size A	B	C	D	E Hex Size	Wt. (lbs) 10 Pcs.
33301*	1/4-20	1/2	15/64	.185	1/8	.03
33302*	1/4-20	1	15/64	.185	1/8	.09
33303*	5/16-18	3/4	9/32	.240	5/32	.09
33304*	5/16-18	1 1/2	9/32	.240	5/32	.24
33305*	3/8-16	1	11/32	.294	3/16	.20
33306*	3/8-16	2	11/32	.294	3/16	.45
33307*	1/2-13	1	7/16	.400	1/4	.30
33308*	1/2-13	2	7/16	.400	1/4	.78
33310*	5/8-11	2	17/32	.507	5/16	1.25

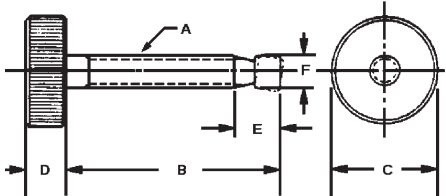
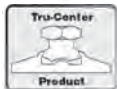
*Conforms to TCMA

Toggle Thumb Screws



Same as our standard Thumb Screw only with the addition of our patented swivel pad on the end.

- Material: Stem and Head 1215, Pad, 4140
- Finish: Black Oxide
- Thread: 2A-UNC



Part Number	Thread Size A	B	C	D	E	F	Wt. (lbs) 10 Pcs.
33501	10-24	1	3/4	5/16	3/16	.140	.31
33502	10-24	1 1/2	3/4	5/16	3/16	.140	.47
33503*	1/4-20	1 1/2	1	5/16	15/64	.185	.78
33504*	1/4-20	2	1	5/16	15/64	.185	.94
33505*	5/16-18	1 1/2	1 1/8	3/8	9/32	.240	1.05
33506*	5/16-18	2	1 1/8	3/8	9/32	.240	1.25
33507*	5/16-18	2 1/2	1 1/8	3/8	9/32	.240	1.40
33508*	3/8-16	1 1/2	1 1/4	7/16	11/32	.294	1.70
33509*	3/8-16	2	1 1/4	7/16	11/32	.294	1.88
33510*	3/8-16	2 1/2	1 1/4	7/16	11/32	.294	2.04
33511*	3/8-16	3	1 1/4	7/16	11/32	.294	2.20

*Conforms to TCMA

Plastic Pad Covers



- Material: Nylon

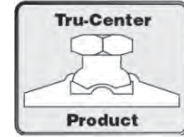
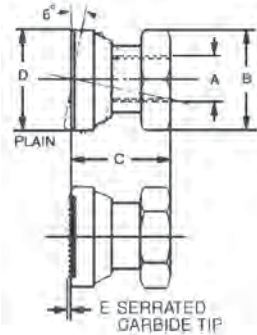
Where soft material with fine finished surfaces must be clamped with relatively high pressures, we recommend the use of the Jergens Plastic Pad Covers. Resistant to oils and cutting compounds, they snap over the swivel end of our Hand Knob Toggle Screws, Socket Toggle Screws, Toggle Thumb Screws, Toggle Pads and adjustable Torque Thumb Screws.

Part Number	To Fit Over O.D. of Pad	O.D. of Plastic Pad	Part Number	To Fit Over O.D. of Pad	O.D. of Plastic Pad
32901	.140	.250	32907	9/16	.625
32902	.185	.250	32908	5/8	.750
32903	.240	.312	32909	11/16	.812
32904	.294	.375	32910	13/16	.937
32905	.400	.500	32911	15/16	1.062

Plastic Pad Covers snap over outside diameter of Jergens swivel pads.



Tru-Center™ Toggle Products Toggle Pads



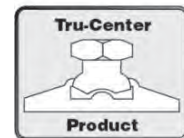
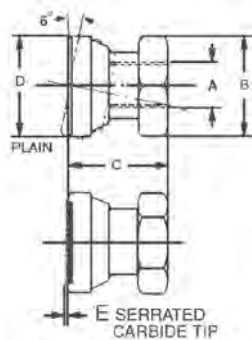
Carbide Tipped Toggle Pads provide multiple point contact to compensate for surfaces that are rough or out-of-round. Points will embed themselves in the workpiece, which assures positive gripping. It eliminates possible radial load on the workpiece.

- Material: 4140 or Carbide Insert Tip
- Finish: Black Oxide
- Heat Treat: Plain Pad Rc 36-40
- Thread: 2B-UNC

Part Number		Thread Size A	Across Flats B	Plain C	Serrated C	D	E	Wt. (lbs) 10 Pcs.
Plain	Serrated							
43502	43702	1/4-20	1/2	1/2	9/16	9/16	.055	.20
43503	43703	5/16-18	9/16	11/16	3/4	5/8	.055	.28
43504	43704	3/8-16	5/8	25/32	3/4	11/16	.055	.41
43505	43705	1/2-13	3/4	7/8	15/16	13/16	.055	.62
43506	43706	5/8-11	7/8	1	1 1/32	15/16	.086	.94
43507*	43707	3/4-10	1 1/16	1 5/32	1 1/4	1 1/8	.086	1.60

*Plastic Pad is not available for this item.

Toggle Pads Metric



- Material: 4140 or Carbide Insert Tip
- Finish: Black Oxide
- Heat Treat: Plain Pad Rc36-40
- Thread class: 6h

Part Number		Thread Size A	Across Flats B	Plain C	Serrated C	D	E	Wt. (kg) 10 Pcs.
Plain	Serrated							
43552	43752	M6 x 1.0	12	13	14.4	14	1.4	.09
43553	43753	M8 x 1.25	14	17	18.4	16	1.4	.13
43554	43754	M10 x 1.5	16	18	20.4	18	1.4	.19
43555	43755	M12 x 1.75	22	22	23.4	21	1.4	.28
43556	43756	M16 x 2.0	26	25	26.4	24	2.2	.43
43557	43757	M20 x 2.5	30	29	31.2	28	2.2	.73

Note: Metric Toggle Pads have two flats instead of a hex configuration on the head.

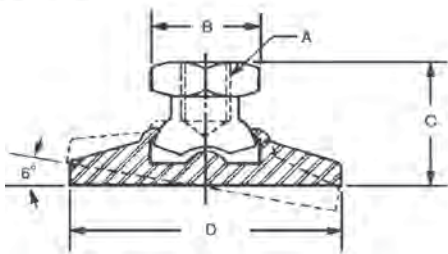


Leveling Pads

Provides a greater surface area where heavy loads are to be applied or where heavy pressures must be exerted on flex-

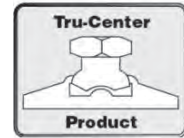
ible or softer materials. Pad face swivels and aligns with no damage to the uneven surfaces.

Tapped



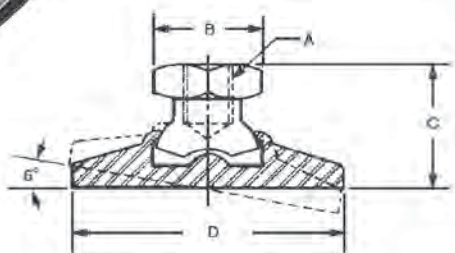
SWIVELS 6° EACH SIDE OF CENTER

- Material: 4140
- Finish: Zinc Plated
- Heat Treat: Rc 36-40
- Thread: UNC-2B



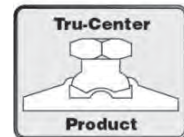
Part Number	Thread Size A	Across Flats B	C	D	Load Capacity (lbs)	Wt. (lbs)
32501	3/8-16	5/8	3/4	1 1/4	2300	.10
32502	1/2-13	3/4	1	1 7/8	4200	.22
32503	5/8-11	7/8	1 1/8	2 1/4	6600	.42
32504	3/4-10	1 1/16	1 7/16	3	10,000	.84

Metric Tapped



SWIVELS 6° EACH SIDE OF CENTER

- Material: 4140
- Finish: Zinc Plated
- Heat Treat: Rc36-40
- Thread class: 6h



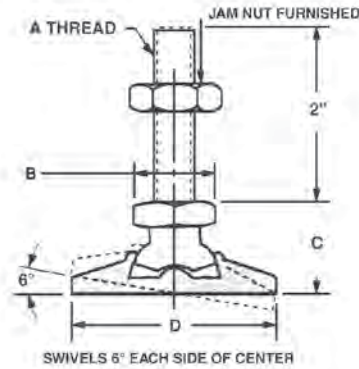
Part Number	Thread Size A	Across Flats B	C	D	Load Capacity (kg)	Wt. (kg)
32551	M10 x 1.5	16	21	32	1000	.05
32552	M12 x 1.75	22	27	48	1900	.10
32553	M16 x 2.0	26	31	57	2900	.19
32554	M20 x 2.5	30	39	76	4500	.38

Note: Metric Toggle Pads have two flats instead of a hex configuration on the head.

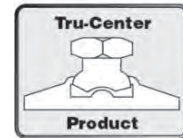


Leveling Pads

Threaded



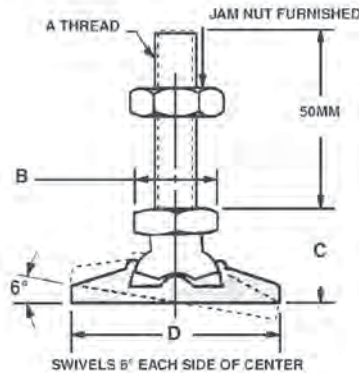
- Material: 4140
- Finish: Zinc Plated Pad
- Heat Treat: Rc 36-40
- Thread: UNC-2A



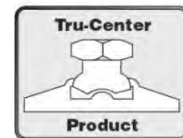
Part Number	Thread Size A	Across Flats B	C	D	Load Capacity (lbs)	Wt. (lbs)
32521	3/8-16	5/8	3/4	1 1/4	2300	.16
32522	1/2-13	3/4	1	1 7/8	4200	.37
32523	5/8-11	7/8	1 1/8	2 1/4	6600	.58
32524	3/4-10	1 1/16	1 7/16	3	10,000	1.22

Jam nut is furnished.

Metric Threaded



- Material: 4140
- Finish: Zinc Plated
- Heat Treat: Rc36-40
- Thread class: 6g



Part Number	Thread Size A	Across Flats B	C	D	Load Capacity (kg)	Wt. (kg)
32571	M10 x 1.5	16	21	32	1000	.07
32572	M12 x 1.75	22	27	48	1900	.17
32573	M16 x 2.0	26	31	57	2900	.26
32574	M20 x 2.5	30	39	76	4500	.55

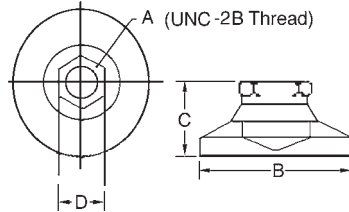
Note: Metric Toggle Pads have two flats instead of a hex configuration on the head.



Leveling Mounts

- Material: 1214 Steel
- Non-Skid Material: Neoprene
- Case hardened, file hard
- Swivels 20°, ±10° from center in all directions
- Available with non-skid on base
- Available in stainless steel, or with a delrin pad, and in larger sizes upon request.

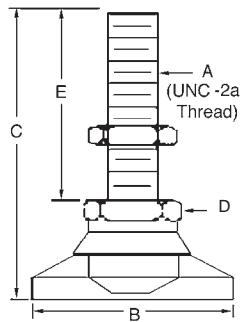
Tapped



Part Number		A	B	C*	Across Flats D	Maximum Load (lbs)	
Standard	Non-skid					Standard	Non-skid
32601	32651	10-32	3/4	1 17/32	3/8	700	550
32602	32652	1/4-20	1	45/64	1/2	1000	825
32606	32656	3/8-16	1 1/4	7/8	5/8	3750	2820
32608	32658	1/2-13	1 7/8	1 1/8	3/4	5000	3750
32610	32660	5/8-11	2 1/2	1 1/4	7/8	6000	5000
32612	32662	3/4-10	3	1 1/2	1 1/16	7400	6000
32616	32666	1-8	4	1 7/8	1 3/8	21000	16500

*Add 1/8" to C Dimension for non-skid style.

Threaded



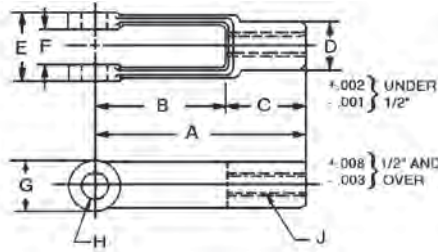
Part Number		A	B	C*	Across Flats D	E	Maximum Load (lbs)	
Standard	Non-skid						Standard	Non-skid
32621	32671	10-32	3/4	1 17/32	3/8	1	700	550
32623	32673	1/4-20	1	1 61/64	1/2	1 1/4	1000	825
32626	32676	3/8-16	1 1/4	2 7/8	5/8	2	3750	2850
32629	32679	1/2-13	1 7/8	3 1/8	3/4	2	5000	3750
32632	32682	5/8-11	2 1/2	3 1/4	7/8	2	6000	4350
32635	32685	3/4-10	3	3 1/2	1 1/16	2	7400	5500
32640	32690	1-8	4	5 3/8	1 3/8	3 1/2	20000	16500

*Add 1/8" to C Dimension for non-skid style.

WORKHOLDING COMPONENTS



Yokes Tapped



- Material: C-1021 Forging
- Finish: Black Oxide
- Thread: 2B

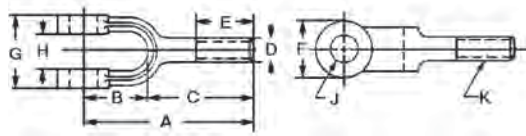
Jergens offers these yokes for attaching to threaded linkage at stem end. The forged holes are reamed and faced-off parallel inside and outside the yoke ends.

Part Number Coarse Pitch	UNC J	Part Number Fine Pitch	UNF J	A	B	C	D	E	F	G	H	Wt. (lbs) 10 Pcs.
		45501	10-32	1 9/16	1	9/16	5/16	7/16	3/16	3/8	3/16	.21
45302	1/4-20	45502	1/4-28	2	1 1/4	3/4	7/16	5/8	9/32	1/2	1/4	.62
45303	5/16-18	45503	5/16-24	2 1/4	1 7/16	13/16	1/2	3/4	11/32	19/32	5/16	.94
45304	3/8-16	45504	3/8-24	2 1/2	1 5/8	7/8	5/8	7/8	7/16	11/16	3/8	1.45
45305	7/16-14	45505	7/16-20	2 7/8	1 7/8	1	23/32	1	1/2	13/16	7/16	2.35
45306	1/2-13	45506	1/2-20	3	1 7/8	1 1/8	13/16	1 1/8	9/16	15/16	1/2	3.10
45307	1/2-13	45507	1/2-20	4 3/16	3 1/16	1 1/8	13/16	1 1/8	9/16	15/16	1/2	4.35
45308	5/8-11	45508	5/8-18	4 15/16	3 11/16	1 1/4	1 1/16	1 3/8	11/16	1 3/16	5/8	8.10
45309	3/4-10	45509	3/4-16	4	2 3/4	1 1/4	1 1/8	1 1/2	11/16	1 3/8	5/8	7.50
45310	3/4-10	—	—	6 1/16	4 9/16	1 1/2	1 1/4	1 5/8	13/16	1 7/16	3/4	15.00
45312	1-8	—	—	8	6	2	1 5/8	2 1/8	1 1/16	1 15/16	1	32.50



Yokes

Threaded

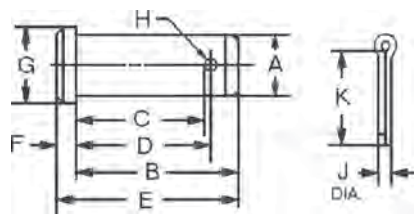


- Material: C-1021 Forging
- Finish: Black Oxide
- Thread: 2A-UNC

This style yoke is similar to the above except the stem is threaded for attaching to tapped linkage.

Part Number	K	A	B	C	D	E	F	G	H	J	Wt. (lbs) 10 Pcs.
45902	1/4-20	1 3/4	5/8	1 1/8	1/4	3/4	1/2	5/8	9/32	1/4	.47
45903	5/16-18	2	3/4	1 1/4	5/16	3/4	19/32	3/4	11/32	5/16	.85
45904	3/8-16	2 1/8	27/32	1 9/32	3/8	3/4	11/16	7/8	7/16	3/8	1.10
45906	1/2-13	2 1/2	1 1/8	1 3/8	1/2	3/4	15/16	1 1/8	9/16	1/2	2.35
45907	5/8-11	2 7/8	1 7/16	1 7/16	5/8	3/4	1 3/16	1 3/8	11/16	5/8	4.20
45908	3/4-10	3 5/8	1 11/16	1 15/16	3/4	1 1/4	1 7/16	1 5/8	13/16	3/4	7.35
45910	1-8	4 1/2	2 1/2	2	1	1 1/8	1 15/16	2 1/8	1 1/16	1	17.50

Clevis Pins



- Material: Low Carbon Steel
- All Clevis Pins supplied with cotter pins.

Part Number	A	B	C	D	E	F	G	H	J	K	Wt. (lbs) 10 Pcs.
32701	3/16	37/64	29/64	31/64	41/64	1/16	5/16	5/64	1/16	1/2	.08
32702	1/4	49/64	41/64	43/64	55/64	3/32	3/8	5/64	1/16	1/2	.15
32703	5/16	15/16	49/64	13/16	1 1/32	3/32	7/16	7/64	3/32	1/2	.30
32704	3/8	1 1/16	57/64	15/16	1 3/16	1/8	1/2	7/64	3/32	5/8	.45
32705	7/16	1 3/16	1 1/64	1 1/16	1 11/32	5/32	9/16	7/64	3/32	5/8	.60
32706	1/2	1 23/64	1 9/64	1 13/64	1 33/64	5/32	5/8	9/64	1/8	1	1.00
32707	5/8	1 39/64	1 25/64	1 29/64	1 13/16	13/64	13/16	9/64	1/8	1	1.18
32708	5/8	1 3/4	1 33/64	1 19/32	1 63/64	13/64	13/16	9/64	1/8	1	1.82
32709	3/4	1 29/32	1 41/64	1 23/32	2 5/32	1/4	15/16	11/64	5/32	1 1/2	3.00
32711	1	2 13/32	2 9/64	2 7/32	2 3/4	11/32	1 3/16	11/64	5/32	1 1/2	7.00

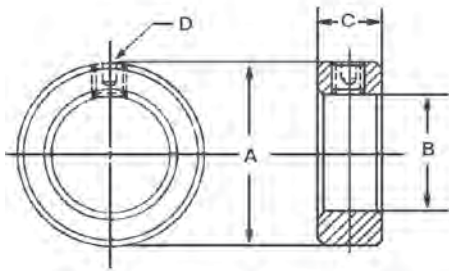
WORKHOLDING COMPONENTS



Steel Shaft Collars

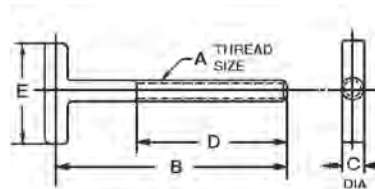


- Material: Low Carbon Steel
- Finish: Zinc Plate
- Set Screws Furnished
- Tolerances on I.D. +.005
-.000



Part Number	A	B	C	D	Wt. (lbs) 10 Pcs.
40101	5/8	1/4	3/8	10-32	0.21
40102	5/8	5/16	3/8	10-32	0.21
40103	3/4	3/8	7/16	1/4-28	0.4
40104	7/8	1/2	1/2	1/4-28	0.6
40105	1 1/8	5/8	1/2	1/4-28	0.94
40106	1 1/4	3/4	1/2	5/16-18	1
40107	1 3/8	7/8	9/16	5/16-18	1.13
40108	1 1/2	1	9/16	5/16-18	1.5
40109	1 3/4	1 1/8	9/16	5/16-18	2
40110	2	1 1/4	11/16	3/8-16	3.5
40111	2 1/4	1 3/8	3/4	3/8-16	4
40112	2 1/4	1 1/2	3/4	3/8-16	4.3
40113	2 7/8	1 3/4	7/8	1/2-13	10.9
40114	3	2	7/8	1/2-13	9.5

Tee Strap Bolts

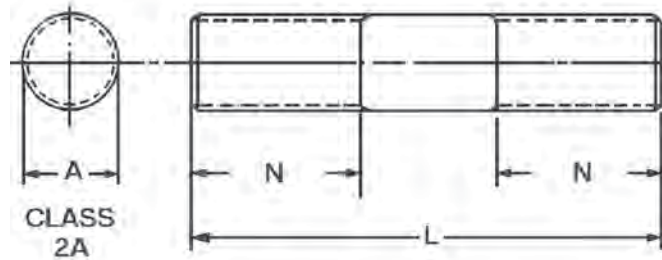


- Material: C-1021 Forging
- Finish: Black Oxide
- Thread: 2A-UNC

Part Number	Thread Size A	B	C	D	E	Wt. (lbs)
43101	1/4-20	2 1/2	1/4	1 1/2	1 1/4	.09
43102	3/8-16	5	3/8	4	1 3/4	.19
43103	1/2-13	6	1/2	5	3	.44



Alloy Steel Studs



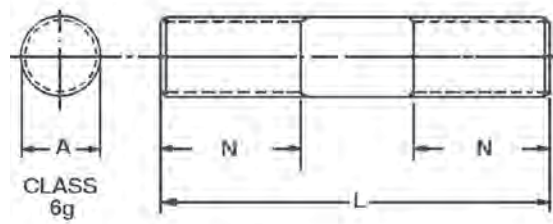
- Material: Stressproof® (125,000 psi Min.) Tensile (100,000 psi Min.) Yield
- Finish: Black Oxide
- Available in metric sizes. See the next page.

Longer or special studs are available upon request. Please send your print or sketch to our Customer Service Department.

Thread A	L	Part Number	N	Wt. (lbs) 10 Pcs.	Thread A	L	Part Number	N	Wt. (lbs) 10 Pcs.
1/4-20	1 1/2	37720	7/16	.21	5/8-11	2 1/2	38520	13/16	2.12
1/4-20	2	37721	11/16	.28	5/8-11	3	38521	1 1/16	2.55
1/4-20	2 1/2	37722	15/16	.35	5/8-11	3 1/2	38522	1 5/16	2.97
1/4-20	3	37723	1	.42	5/8-11	4	38523	1 9/16	3.40
1/4-20	3 1/2	37724	1	.49	5/8-11	4 1/2	38524	1 3/4	3.82
1/4-20	4	37725	1	.56	5/8-11	5	38525	1 3/4	3.25
5/16-18	1 1/2	37920	7/16	.33	5/8-11	5 1/2	38526	1 3/4	4.68
5/16-18	2	37921	11/16	.44	5/8-11	6	38527	1 3/4	5.10
5/16-18	2 1/2	37922	15/16	.55	5/8-11	7	38529	1 3/4	5.90
5/16-18	3	37923	1 1/8	.66	5/8-11	8	38531	1 3/4	6.80
5/16-18	3 1/2	37924	1 1/8	.77	5/8-11	9	38532	1 3/4	7.60
5/16-18	4	37925	1 1/8	.88	5/8-11	10	38533	1 3/4	8.50
3/8-16	1 1/2	38120	3/8	.54	5/8-11	12	38534	1 3/4	10.20
3/8-16	2	38121	5/8	.62	3/4-10	3	38721	15/16	3.75
3/8-16	2 1/2	38122	7/8	.77	3/4-10	3 1/2	38722	1 3/16	4.35
3/8-16	3	38123	1 1/8	.93	3/4-10	4	38723	1 7/16	5.00
3/8-16	3 1/2	38124	1 1/4	1.10	3/4-10	4 1/2	38724	1 11/16	5.60
3/8-16	4	38125	1 1/4	1.24	3/4-10	5	38725	1 15/16	6.20
3/8-16	4 1/2	38126	1 1/4	1.39	3/4-10	5 1/2	38726	2	6.90
3/8-16	5	38127	1 1/4	1.55	3/4-10	6	38727	2	7.50
3/8-16	5 1/2	38128	1 1/4	1.71	3/4-10	7	38729	2	8.75
3/8-16	6	38129	1 1/4	1.86	3/4-10	8	38731	2	10.00
3/8-16	7	38131	1 1/4	2.27	3/4-10	10	38733	2	12.50
3/8-16	8	38133	1 1/4	2.48	3/4-10	12	38734	2	15.00
1/2-13	2	38321	5/8	1.10	7/8-9	4	38922	1 13/32	6.80
1/2-13	2 1/2	38322	7/8	1.37	7/8-9	5	38923	1 29/32	8.50
1/2-13	3	38323	1 1/8	1.65	7/8-9	6	38924	2 1/4	10.20
1/2-13	3 1/2	38324	1 3/8	1.92	7/8-9	8	38925	2 1/4	13.60
1/2-13	4	38325	1 1/2	2.20	7/8-9	10	38926	2 1/4	17.00
1/2-13	4 1/2	38326	1 1/2	2.47	7/8-9	12	38927	2 1/4	20.40
1/2-13	5	38327	1 1/2	2.75	1-8	4	39122	1 3/8	8.80
1/2-13	5 1/2	38328	1 1/2	3.02	1-8	5	39123	1 7/8	11.00
1/2-13	6	38329	1 1/2	3.30	1-8	6	39124	2 3/8	13.20
1/2-13	7	38331	1 1/2	3.85	1-8	8	39125	2 1/2	17.60
1/2-13	8	38333	1 1/2	4.40	1-8	10	39126	2 1/2	22.00
1/2-13	9	38334	1 1/2	4.95	1-8	12	39127	2 1/2	26.40
1/2-13	10	38335	1 1/2	5.50					
1/2-13	12	38336	1 1/2	6.60					



Studs Metric



- Material: Stressproof®
862 Tensile (MPa)
689 Yield (MPa)
- Finish: Black Oxide
- Longer or special studs are available on request

Thread A	L	Part Number	N	Wt. kg
M6 x 1.0	50	37771	18	.04
M6 x 1.0	66	37772	25	.06
M6 x 1.0	81	37773	28	.06
M6 x 1.0	96	37774	28	.09
M8 x 1.25	50	37971	18	.09
M8 x 1.25	66	37972	25	.11
M8 x 1.25	81	37973	32	.13
M8 x 1.25	96	37974	32	.15
M8 x 1.25	111	37975	32	.18
M10 x 1.5	50	38171	16	.13
M10 x 1.5	66	38172	23	.18
M10 x 1.5	80	38173	30	.20
M10 x 1.5	95	38174	35	.24
M10 x 1.5	110	38175	35	.29
M10 x 1.5	125	38176	39	.31
M10 x 1.5	140	38177	39	.35
M10 x 1.5	155	38178	39	.40
M12 x 1.75	50	38371	16	.18
M12 x 1.75	66	38372	23	.24
M12 x 1.75	81	38373	31	.29
M12 x 1.75	95	38374	40	.33
M12 x 1.75	111	38375	40	.40
M12 x 1.75	125	38376	40	.46
M12 x 1.75	141	38377	40	.53
M12 x 1.75	156	38378	40	.55
M16 x 2.0	80	38571	29	.51
M16 x 2.0	95	38572	36	.59
M16 x 2.0	110	38573	44	.70
M16 x 2.0	125	38574	47	.81
M16 x 2.0	150	38575	47	1.00
M16 x 2.0	175	38576	47	1.17
M16 x 2.0	200	38577	47	1.36
M20 x 2.5	81	38771	30	.84
M20 x 2.5	96	38772	37	1.0
M20 x 2.5	111	38773	45	1.14
M20 x 2.5	126	38774	52	1.25
M20 x 2.5	151	38775	48	1.54
M20 x 2.5	176	38776	56	1.85
M20 x 2.5	201	38777	56	2.16

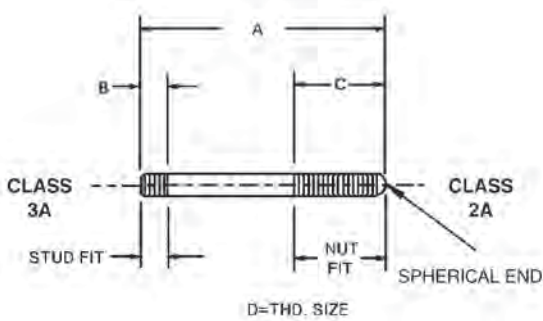
All Dimensions in Millimeters.



Fixture Studs Stainless Steel



• Material: 303 Stainless

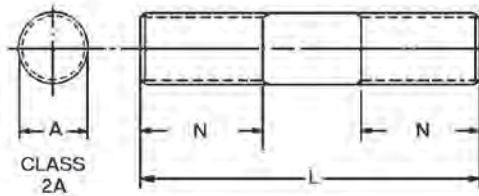


Part Number	A	Stud Fit B	Nut Fit C	Thread
37601	1	7/32	1/2	10-32
37602	1 1/2	7/32	3/4	10-32
37603	2	7/32	3/4	10-32
37802	1 1/2	9/32	5/8	1/4-20
37804	2	9/32	3/4	1/4-20
37806	2 1/2	9/32	3/4	1/4-20
37808	3	9/32	1	1/4-20
38002	1 1/2	11/32	5/8	5/16-18
38004	2	11/32	1	5/16-18
38006	2 1/2	11/32	1 1/4	5/16-18
38008	3	11/32	1 3/8	5/16-18
38009	3 1/2	11/32	1 1/2	5/16-18
38010	4	11/32	1 1/2	5/16-18
38201	1 5/8	11/32	3/4	3/8-16
38202	2	11/32	1	3/8-16
38204	2 1/2	11/32	1 1/4	3/8-16
38206	3	11/32	1 3/8	3/8-16
38207	3 1/2	11/32	1 1/2	3/8-16
38208	4	11/32	1 1/2	3/8-16

Set-Up Studs Stainless Steel



• Material: 303 Stainless



Part Number	Thread A	L	N
38421	1/2-13	2	3/4
38422	1/2-13	2 1/2	1 1/8
38423	1/2-13	3	1 3/8
38424	1/2-13	3 1/2	1 1/2
38425	1/2-13	4	1 1/2
38426	1/2-13	4 1/2	1 1/2
38427	1/2-13	5	1 1/2
38428	1/2-13	5 1/2	1 1/2
38429	1/2-13	6	1 1/2
38431	1/2-13	7	1 1/2
38433	1/2-13	8	1 1/2
38434	1/2-13	9	1 1/2
38435	1/2-13	10	1 1/2
38436	1/2-13	12	1 1/2

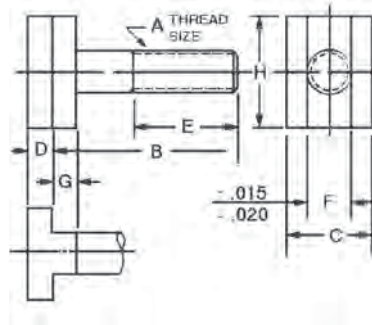
Part Number	Thread A	L	N
38620	5/8-11	2 1/2	1 1/8
38621	5/8-11	3	1 3/8
38622	5/8-11	3 1/2	1 3/4
38623	5/8-11	4	1 3/4
38624	5/8-11	4 1/2	1 3/4
38625	5/8-11	5	1 3/4
38626	5/8-11	5 1/2	1 3/4
38627	5/8-11	6	1 3/4
38629	5/8-11	7	1 3/4
38631	5/8-11	8	1 3/4
38632	5/8-11	9	1 3/4
38633	5/8-11	10	1 3/4
38634	5/8-11	12	1 3/4

Part Number	Thread A	L	N
38821	3/4-10	3	1 3/8
38822	3/4-10	3 1/2	1 1/2
38823	3/4-10	4	1 3/4
38824	3/4-10	4 1/2	2
38825	3/4-10	5	2
38826	3/4-10	5 1/2	2
38827	3/4-10	6	2
38829	3/4-10	7	2
38831	3/4-10	8	2
38833	3/4-10	10	2
38834	3/4-10	12	2

WORKHOLDING COMPONENTS



T-Slot Bolts



Jergens Feature:

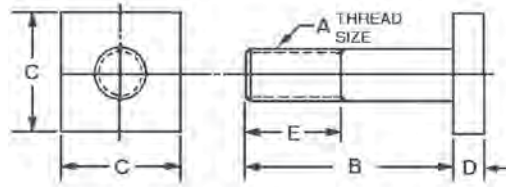
Protect your expensive machine table slots with Jergens T-Slot Bolts. The completely finished machined head provides at least 50% more bearing surface under your table slot. T-Slot Bolts outlast T-Bolts in wearability in most applications.

- Material: Alloy Steel
- Finish: Black Oxide
- Heat Treat: Rc 34-38
- Thread: 2A-UNC
- Available in lengths up to 24"

Part Number	Thread Size A	B	C	D	E	F	G	H	Wt. (lbs)
44101	1/2-13	2	7/8	5/16	1	1/2	9/32	1 1/4	.22
44102	1/2-13	2 1/2	7/8	5/16	1 1/4	1/2	9/32	1 1/4	.25
44103	1/2-13	3	7/8	5/16	1 1/2	1/2	9/32	1 1/4	.27
44104	1/2-13	3 1/2	7/8	5/16	1 1/2	1/2	9/32	1 1/4	.30
44105	1/2-13	4	7/8	5/16	1 1/2	1/2	9/32	1 1/4	.33
44106	1/2-13	5	7/8	5/16	2	1/2	9/32	1 1/4	.37
44107	1/2-13	6	7/8	5/16	2	1/2	9/32	1 1/4	.44
44108	1/2-13	8	7/8	5/16	2	1/2	9/32	1 1/4	.53
44301	5/8-11	2	1 1/8	3/8	1 1/4	5/8	3/8	1 1/2	.39
44302	5/8-11	2 1/2	1 1/8	3/8	1 1/4	5/8	3/8	1 1/2	.41
44303	5/8-11	3	1 1/8	3/8	1 1/2	5/8	3/8	1 1/2	.44
44304	5/8-11	3 1/2	1 1/8	3/8	1 1/2	5/8	3/8	1 1/2	.50
44305	5/8-11	4	1 1/8	3/8	1 1/2	5/8	3/8	1 1/2	.55
44306	5/8-11	5	1 1/8	3/8	1 1/2	5/8	3/8	1 1/2	.62
44307	5/8-11	6	1 1/8	3/8	1 1/2	5/8	3/8	1 1/2	.72
44308	5/8-11	8	1 1/8	3/8	3	5/8	3/8	1 1/2	.85
44309	5/8-11	10	1 1/8	3/8	3	5/8	3/8	1 1/2	1.00
44310	5/8-11	12	1 1/8	3/8	3	5/8	3/8	1 1/2	1.25
44502	3/4-10	2 1/2	1 5/16	7/16	1 1/4	3/4	7/16	1 3/4	.64
44503	3/4-10	3	1 5/16	7/16	1 1/2	3/4	7/16	1 3/4	.70
44504	3/4-10	3 1/2	1 5/16	7/16	1 1/2	3/4	7/16	1 3/4	.77
44505	3/4-10	4	1 5/16	7/16	1 1/2	3/4	7/16	1 3/4	.85
44506	3/4-10	5	1 5/16	7/16	1 1/2	3/4	7/16	1 3/4	.95
44507	3/4-10	6	1 5/16	7/16	1 1/2	3/4	7/16	1 3/4	1.05
44508	3/4-10	8	1 5/16	7/16	3	3/4	7/16	1 3/4	1.25
44509	3/4-10	10	1 5/16	7/16	3	3/4	7/16	1 3/4	1.45
44510	3/4-10	12	1 5/16	7/16	3	3/4	7/16	1 3/4	1.75
44701	1-8	3 1/2	1 11/16	1/2	2	1	1/2	2 1/4	1.25
44702	1-8	4	1 11/16	1/2	2	1	1/2	2 1/4	1.50
44703	1-8	4 1/2	1 11/16	1/2	2 1/2	1	1/2	2 1/4	1.62
44704	1-8	5	1 11/16	1/2	2 1/2	1	1/2	2 1/4	1.75
44705	1-8	6	1 11/16	1/2	2 1/2	1	1/2	2 1/4	2.00
44706	1-8	8	1 11/16	1/2	3	1	1/2	2 1/4	2.40
44707	1-8	10	1 11/16	1/2	3	1	1/2	2 1/4	2.75
44708	1-8	12	1 11/16	1/2	3	1	1/2	2 1/4	3.10



T-Bolts



- Material: Alloy Steel
- Finish: Black Oxide
- Heat Treat: Rc 34-38
- Thread: 2A-UNC
- Available in lengths up to 24"

Part Number	Thread Size A	B	C	D	E	Wt. (lbs)
42101	3/8-16	1 1/2	11/16	1/4	3/4	.07
42102	3/8-16	2	11/16	1/4	1 1/4	.08
42103	3/8-16	2 1/2	11/16	1/4	1 1/4	.09
42104	3/8-16	3	11/16	1/4	1 1/2	.11
42105	3/8-16	3 1/2	11/16	1/4	1 1/2	.12
42106	3/8-16	4	11/16	1/4	1 1/2	.14
42301	1/2-13	1 1/2	7/8	1/4	3/4	.12
42302	1/2-13	2	7/8	1/4	1 1/4	.14
42303	1/2-13	2 1/2	7/8	1/4	1 1/4	.17
42304	1/2-13	3	7/8	1/4	1 1/2	.20
42305	1/2-13	3 1/2	7/8	1/4	1 1/2	.22
42306	1/2-13	4	7/8	1/4	2	.25
42307	1/2-13	4 1/2	7/8	1/4	2	.27
42308	1/2-13	5	7/8	1/4	2	.30
42309	1/2-13	5 1/2	7/8	1/4	2	.33
42310	1/2-13	6	7/8	1/4	2	.36
42502	5/8-11	2	1 1/8	3/8	1 1/4	.28
42503	5/8-11	2 1/2	1 1/8	3/8	1 1/4	.33
42504	5/8-11	3	1 1/8	3/8	1 1/2	.37
42505	5/8-11	3 1/2	1 1/8	3/8	1 1/2	.41
42506	5/8-11	4	1 1/8	3/8	1 1/2	.44
42507	5/8-11	5	1 1/8	3/8	1 1/2	.53
42508	5/8-11	6	1 1/8	3/8	1 1/2	.61
42509	5/8-11	8	1 1/8	3/8	3	.78
42510	5/8-11	10	1 1/8	3/8	3	.97
42511	5/8-11	12	1 1/8	3/8	3	1.13

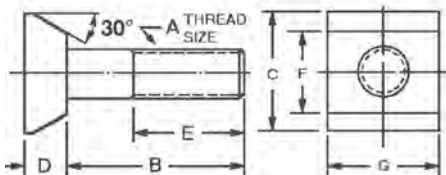
Part Number	Thread Size A	B	C	D	E	Wt. (lbs)
42701	3/4-10	2 1/2	1 1/4	1/2	1 1/4	.48
42702	3/4-10	3	1 1/4	1/2	1 1/2	.55
42703	3/4-10	3 1/2	1 1/4	1/2	1 1/2	.61
42704	3/4-10	4	1 1/4	1/2	1 1/2	.66
42705	3/4-10	5	1 1/4	1/2	1 1/2	.78
42706	3/4-10	6	1 1/4	1/2	1 1/2	.90
42707	3/4-10	8	1 1/4	1/2	3	1.17
42708	3/4-10	10	1 1/4	1/2	3	1.38
42709	3/4-10	12	1 1/4	1/2	3	1.62
42901	1-8	4	1 11/16	11/16	2 1/2	1.25
42902	1-8	5	1 11/16	11/16	2 1/2	1.50
42903	1-8	6	1 11/16	11/16	2 1/2	1.75
42911	1-8	7	1 11/16	11/16	2 1/2	1.88
42904	1-8	8	1 11/16	11/16	3	2.00
42912	1-8	9	1 11/16	11/16	3	2.25
42905	1-8	10	1 11/16	11/16	3	2.50
42906	1-8	12	1 11/16	11/16	3	3.00
42907	1-8	14	1 11/16	11/16	3	3.50
43003	1 1/4-7	8	1 7/8	7/8	5	3.65
43004	1 1/4-7	9	1 7/8	7/8	5	4.00
43005	1 1/4-7	10	1 7/8	7/8	5	4.35
43006	1 1/4-7	12	1 7/8	7/8	5	5.05
43007	1 1/4-7	14	1 7/8	7/8	5	5.75
43008	1 1/4-7	16	1 7/8	7/8	5	6.45
43009	1 1/4-7	18	1 7/8	7/8	5	7.15
43011	1 1/4-7	22	1 7/8	7/8	5	8.20
43012	1 1/4-7	24	1 7/8	7/8	5	9.25

Dovetail Bolts



Dovetail Bolts can be used for clamping guide members on the front of press brakes.

- Material: Alloy Steel
- Finish: Black Oxide
- Heat Treat: Rc 34-38
- Thread: 2A-UNC



Part Number	Thread Size A	B	C	D	E	F	G	Wt. (lbs) 10 Pcs.
17901	5/8-11	1 1/4	1 1/16	3/8	3/4	3/4	1 1/8	2.00
17902	5/8-11	2	1 1/16	3/8	1 1/8	3/4	1 1/8	2.30
17903	5/8-11	2 3/4	1 1/16	3/8	1 1/2	3/4	1 1/8	3.10
17904	5/8-11	3 3/4	1 1/16	3/8	1 1/2	3/4	1 1/8	5.15
17905	5/8-11	4 1/2	1 1/16	3/8	3/4	3/4	1 1/8	6.10

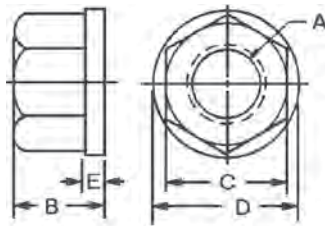


Flange Nuts



Where heavy clamping pressures and vibrations could cause trouble, the wide face surface of the flange nut holds through with greater friction.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Thread: 2B-UNC



- Material: 303 Stainless Steel

Carbon Steel

Part Number	Coarse Pitch		Fine Pitch		B	C	D	E	Wt. (lbs) 10 Pcs.
	A	Part Number	A						
19901	10-24	-	-		5/16	3/8	1/2	7/64	0.15
19902*	1/4-20	20101	1/4-28		5/16	1/2	5/8	7/64	0.15
19903*	5/16-18	20102	5/16-24		3/8	9/16	3/4	7/64	0.19
19904*	3/8-16	20103	3/8-24		1/2	11/16	7/8	1/8	0.51
19905*	7/16-14	20104	7/16-20		9/16	3/4	15/16	1/8	0.62
19906*	1/2-13	20105	1/2-20		11/16	7/8	1 1/8	5/32	1.10
19907*	5/8-11	20106	5/8-18		13/16	1 1/16	1 3/8	3/16	1.75
19908*	3/4-10	20107	3/4-16		1	1 1/4	1 5/8	1/4	3.20
19909*	7/8-9	20108	7/8-14		1 1/8	1 7/16	1 3/4	1/4	4.20
19910*	1-8	20109	1-14		1 1/4	1 5/8	2	1/4	6.00
19911	1 1/8-7	20110	1 1/8-12		1 3/8	1 13/16	2 1/4	1/4	8.00
19912	1 1/4-7	20111	1 1/4-12		1 3/8	1 13/16	2 1/4	1/4	7.60
19913	1 1/2-6	20112	1 1/2-12		1 1/2	2 3/16	2 3/4	1/4	11.90

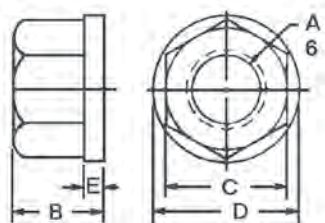
*Conforms to TCMA

Stainless Steel

Part Number	A	B	C	D	E	Wt. (lbs) 10 Pcs.
20002	1/4-20	5/16	1/2	5/8	3/32	.15
20003	5/16-18	3/8	9/16	3/4	3/32	.19
20004	3/8-16	1/2	11/16	7/8	1/8	.51
20006	1/2-13	11/16	7/8	1 1/8	5/32	1.10
20007	5/8-11	13/16	1 1/16	1 3/8	3/16	1.75
20008	3/4-10	1	1 1/4	1 5/8	1/4	3.20

Flange Nuts Metric

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Thread: Class 6h



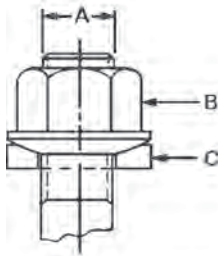
Part Number	Thread A	B	C	D	E	Wt. (kg) 10 pcs.
19952	M6 x 1.0	8	10	16	2	.07
19953	M8 x 1.25	10	13	19	2	.09
19954	M10 x 1.5	13	17	22	3	.23
19955	M12 x 1.75	17	19	25	5	.50
19957	M16 x 2.0	21	24	32	5	.79
19959	M20 x 2.5	25	30	38	6	1.45



Spherical Flange Assemblies



Same advantages as Spherical Washers but with the addition of a nut to replace the top section of the washers. Convex bottom of nut nests into the concave bottom section for full floating action.

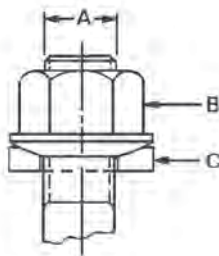


- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened

Part Number	A	Nut P/N B	Washer P/N C	Wt. (lbs) 10 Pcs.
39301	10-24	39701	41301	.12
39302	1/4-20	39702	41302	.16
39303	5/16-18	39703	41303	.31
39304	3/8-16	39704	41304	.65
39305	1/2-13	39705	41305	1.45
39306	5/8-11	39706	41306	2.44
39307	3/4-10	39707	41307	4.10
39308	7/8-9	39708	41308	6.00
39309	1-8	39709	41309	8.10
39311	1 1/4-7	39711	41311	13.40
39312	1 1/2-6	39712	41312	15.70

Spherical Flange Assemblies

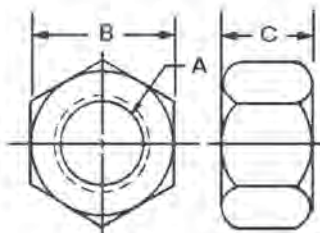
Metric



- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened

Part Number	A	Across Flats B	Washer P/N C	Wt. (kg) 10 pcs.
39352	M6 x 1.0	10	41302	.07
39353	M8 x 1.25	13	41303	.14
39354	M10 x 1.5	17	41304	.30
39355	M12 x 1.75	19	41305	.66
39356	M16 x 2.0	24	41306	1.10
39357	M20 x 2.5	30	41357	1.80

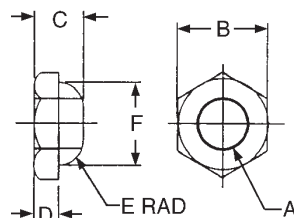
Heavy Duty Hex Nuts



- Finish: Black Oxide
- Grade 8, Hardness HRC of 28-38

Part Number	A	B	C	Wt. (lbs) 100 Pcs.
20711	1/4-20	7/16	7/32	.74
20712	5/16-18	1/2	17/64	1.10
20713	3/8-16	9/16	21/64	1.60
20714	1/2-13	3/4	7/16	3.75
20716	5/8-11	15/16	35/64	7.33
20717	3/4-10	1 1/8	41/64	11.90
20718	7/8-9	1 5/16	3/4	19.00
20719	1-8	1 1/2	55/64	28.30

Stainless Steel Hex Head Equalizing Nuts



- Material: 303 Stainless

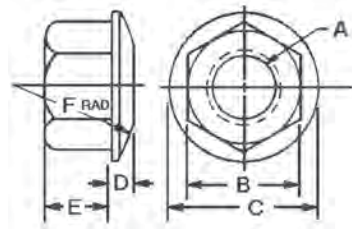
Part Number	A	B	C	D	E	F
12311	10-32	7/16	5/16	5/32	1/8	3/8
12312	1/4-20	1/2	5/16	5/32	1/8	7/16
12313	5/16-18	9/16	5/16	5/32	1/8	1/2
12314	3/8-16	11/16	3/8	3/16	3/16	5/8



Spherical Flange Nuts



- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Thread: 2B-UNC, Class 6h

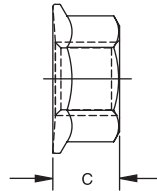
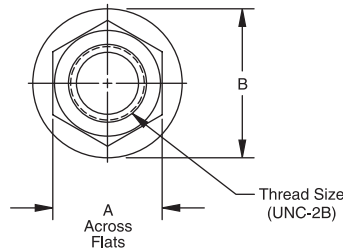


Part Number	A	B	C	D	E	F	Wt. (lbs) 10 Pcs.
39701	10-24	3/8	1/2	3/32	1/4	3/4	.10
39702*	1/4-20	1/2	5/8	3/32	1/4	1	.12
39703*	5/16-18	9/16	3/4	1/8	9/32	1	.21
39704*	3/8-16	11/16	7/8	1/8	13/32	1 1/2	.50
39705*	1/2-13	7/8	1 1/8	3/16	1/2	2	1.00
39706*	5/8-11	1 1/16	1 3/8	7/32	5/8	2 1/4	1.82
39707*	3/4-10	1 1/4	1 5/8	1/4	3/4	2 1/2	3.10
39708*	7/8-9	1 7/16	1 3/4	1/4	7/8	2 1/2	4.35
39709*	1-8	1 5/8	2	1/4	1	3 1/2	5.90
39711	1 1/4-7	1 13/16	2 1/4	5/16	1 1/16	4	7.20
39712	1 1/2-6	2 3/16	2 3/4	5/16	1 3/16	4 1/2	11.60

*Conforms to TCMA.

Part Number	A	B	C	D	E	F	Wt. (kg) 10 pcs.
39752	M6 x1.0	10	16	2	6	25	.05
39753	M8 x 1.25	13	19	3	7	25	.10
39754	M10 x 1.5	17	22	4	10	38	.23
39755	M12 x 1.75	19	25	5	13	51	.50
39756	M16 x 2.0	24	32	6	16	57	.83
39757	M20 x 2.5	30	38	6	19	64	1.41

Spinner-Grip™ Flange Lock Nuts



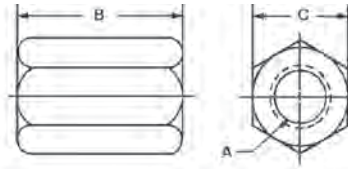
- Free spinning installation eliminates the need to wrench the nut down the fastener.
- Locks to the part, not to the threads.
- Grade 8 strength and quality, and will work with any grade fastener.
- Hardness of 28 – 38 HRC: more effective at maintaining clamp load under vibration.
- Greater temperature range than nylon insert locknuts, and will not be effected by humidity.
- Flat washers are not needed, unless in a slotted application.
- Spinner-Grips™ are not limited to 5 reuses, unlike most prevailing torque lock nuts.
- Jergens maintains inventory of Zinc plated product, as well as plain finished (un-plated) product so you can specify your plating of choice. (Please allow 2 – 3 weeks lead time for plating.)

Part Number			Thread Size	A	B	C
Plain Finish	Zinc Plated	Stainless Steel				
19800	19820	19880	1/4-20	7/16	19/32	1/4
19801	19821	19881	5/16-18	1/2	11/16	9/32
19802	19822	19882	3/8-16	9/16	3/4	11/32
19803	19823	19883	7/16-14	11/16	15/16	3/8
19804	19824	19884	1/2-13	3/4	1	7/16
19805	19825	19885	5/8-11	15/16	1 1/4	9/16
19806	19826	19886	3/4-10	1 1/4	1 1/2	11/16
Metric						
19807	19827	19887	M6-1.00	10	15.1	6.0
19808	19828	19888	M8-1.25	13	19.0	8.8
19809	19829	19889	M10-1.50	15	24.1	10.0
19810	19830	19890	M12-1.75	19	25.5	11.6
19811	19831	19891	M16-2.00	24	38.0	17.2

Note: Additional charges apply to plated product. Charges vary by plating type.



Coupling Nuts



- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Thread: 2B-UNC

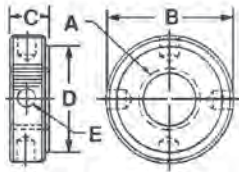
Part Number	A	B	C	Wt. (lbs) 10 Pcs.
18711*	3/8-16	1	1 1/16	.94
18712*	1/2-13	1 1/4	7/8	2.00
18713*	5/8-11	1 5/8	1 1/16	3.40
18714*	3/4-10	1 7/8	1 1/4	5.65
18715	7/8-9	2 1/4	1 7/16	8.60
18716	1-8	2 1/2	1 5/8	12.50

*Conforms to TCMA.

Metric

Part Number	A	B	C	Wt. (kg) 10 Pcs.
18761	M10	25	16	.05
18762	M12	32	19	.81
18763	M16	41	24	1.55
18764	M20	51	27	2.6

Knurled Lock Nuts

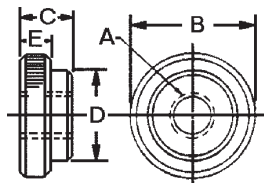


Most convenient for quick thread locking on your jig and fixture work. Straight knurled radius provides sure, non-slip finger grip in oily conditions. Faces are square with threads which assures a large locking surface.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Thread: 2B-UNC

Part Number	A	B	C	D	E	Wt. (lbs) 10 Pcs.
28101	3/8-16	1	3/8	3/4	.188	.62
28102	1/2-13	1 1/4	7/16	1	.257	1.10
28103	5/8-11	1 3/8	7/16	1 1/8	.257	1.10
28104	3/4-10	1 3/4	9/16	1 1/2	.316	2.50
28105	1-8	2	9/16	1 3/4	.316	3.10

Check Nuts



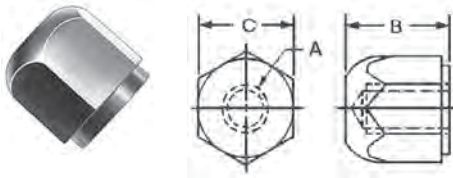
Multi-use Locknut for hand tightening applications

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Thread: 2B-UNC

Part Number	A	B	C	D	E	Wt. (lbs) 10 Pcs.
16901	10-24	3/4	7/32	1/2	5/32	.15
16902	1/4-20	3/4	7/32	1/2	5/32	.15
16903	5/16-18	3/4	5/16	1/2	1/4	.21
16904	3/8-16	3/4	5/16	1/2	1/4	.21
16905	1/2-13	1	3/8	3/4	1/4	.47



Acorn Nuts

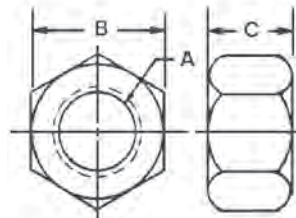


Acorn nuts are used to cover threaded ends to protect them from dirt, grit or damage to the thread.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Thread: 2B-UNC

Part Number	A	B	C	Wt. (lbs) 10 Pcs.
10501	5/16-18	5/8	5/8	.44
10502	3/8-16	3/4	3/4	.78
10503	1/2-13	15/16	7/8	1.25
10504	5/8-11	1 3/16	1 1/16	2.35

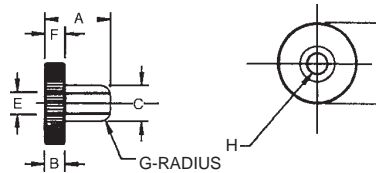
Stainless Steel Nuts



- Material: 300 Series Stainless Steel

Part Number	A	B	C
12321	10-32	3/8	1/8
12322	1/4-20	7/16	3/16
12323	5/16-18	1/2	9/32
12324	3/8-16	9/16	11/32

Stainless Steel Knurled Equalizing Nuts

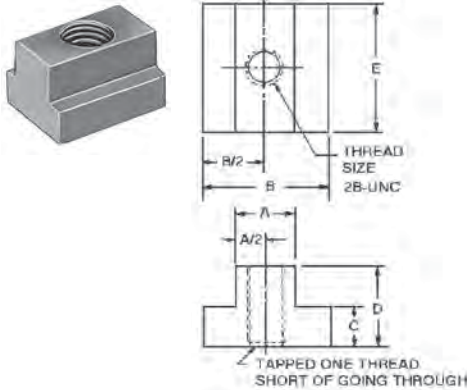


For use with stainless steel equalizing "C" washer. See page 266.

Part Number	A	B	C	D	E	F	G	H
12301	3/4	3/16	3/8	3/4	13/64	1/4	1/8	10-32
12302	13/16	1/4	7/16	1	17/64	1/4	1/8	1/4-20



T-Slot Nuts



- Material: Low Carbon Steel, 303 Stainless
- Finish: Black Oxide
- Threads: 2B-UNC (Inch); Class 6h (Metric)
- Heat Treat: Case Hardened
- Available in metric sizes. See below.

Part Number	Thread	T-slot Width A	B	C	D	E	Wt. (lbs) 10 Pcs.
*43302**	3/8-16	7/16	11/16	7/32	1/2	7/8	0.50
*43303**	3/8-16	1/2	7/8	9/32	1/2	7/8	.070
43301	3/8-16	9/16	7/8	1/4	1/2	7/8	0.70
*43305**	1/2-13	9/16	7/8	11/32	5/8	1 1/8	1.20
*43306	1/2-13	5/8	1	11/32	5/8	1 1/8	1.50
*43304	1/2-13	11/16	1 1/8	7/16	3/4	1 1/4	2.10
*43308**	5/8-11	11/16	1 1/8	7/16	3/4	1 1/4	1.14
*43309	5/8-11	3/4	1 1/4	15/32	3/4	1 1/4	1.60
*43307	5/8-11	13/16	1 1/4	9/16	1	1 1/2	3.11
*43311**	3/4-10	13/16	1 1/4	9/16	1	1 1/2	3.60
43312	3/4-10	7/8	1 1/2	9/16	1	1 1/2	4.10
*43310	3/4-10	1 1/16	1 5/8	1 1/16	1 1/4	2	7.20
43313**	7/8-9	1	1 5/8	5/8	1 1/4	2	7.30
43314	7/8-9	1 1/16	1 3/4	5/8	1 1/4	2	8.00

*Conforms to TCMA.
**Not Hardened

Jergens Feature:

Jergens Table-Saver design provides a safety-stop feature to prevent turning stud into tableways.

Metric

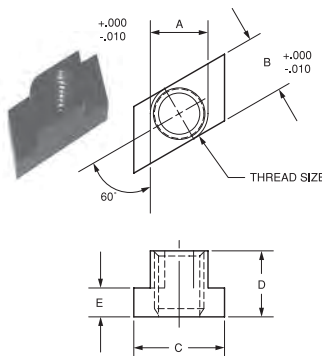
Part Number	Thread	T-slot Width A	B	C	D	E	Material
43372	M10x1.5	12	19	7	13	25	Steel
43373	M10x1.5	14	22	9	16	29	Steel
43374	M10x1.5	16	25	9	16	29	Steel
43375	M12x1.75	14	22	9	16	29	Steel
43376	M12x1.75	16	25	9	16	29	Steel
43377	M12x1.75	18	29	11	19	32	Steel
43378	M16x2.0	18	29	11	19	32	Steel
43379	M16x2.0	20	32	14	25	38	Steel
43380	M16x2.0	22	35	14	25	38	Steel
43381	M20x2.5	22	35	14	25	38	Steel
43382	M20x2.5	24	38	16	25	44	Steel
43383	M20x2.5	28	41	18	29	51	Steel

Stainless Steel

Part Number	Thread	T-slot Width A	B	C	D	E
43402	3/8-16	7/16	3/4	7/32	1/2	1
43403	3/8-16	1/2	7/8	1/4	5/8	7/8
43405	1/2-13	9/16	7/8	5/16	3/4	1 1/4
43406	1/2-13	5/8	1	3/8	3/4	1 1/4
43408	5/8-11	11/16	1 1/4	15/32	1	1 1/2
43409	5/8-11	3/4	1 1/4	17/32	1 1/4	1 1/2
43411	3/4-10	13/16	1 1/2	9/16	1	1 3/4
43410	3/4-10	1 1/16	1 5/8	9/16	1	1 3/4

Kwik-Turn T-Slot Nuts

- 1/4 turn design allows the Kwik-Turn to be installed from the top of the T-Slot, in order to avoid uninstallation of set-ups when additional nuts and studs are required
- Material: Low Carbon Steel,
- Finish: Black Oxide
- Threads: 2B-UNC (Inch)
- Heat Treat: Case Hardened



Part Number	Thread	T-Slot	A	B	C	D	E	Wt. (lbs) 10 pcs
43332**	3/8-16	7/16	.432	.432	11/16	1/2	7/32	0.27
43333	3/8-16	1/2	.495	.495	7/8	1/2	9/32	0.45
43334**	1/2-13	11/16	.683	.683	1-1/8	3/4	7/16	0.58
43335	1/2-13	9/16	.562	.562	7/8	5/8	11/32	0.79
43336	1/2-13	5/8	.620	.620	1	5/8	11/32	1.26
43338**	5/8-11	11/16	.683	.683	1-1/8	3/4	7/16	1.08
43339	5/8-11	3/4	.745	.745	1-1/4	3/4	15/32	1.44
43345	3/4-10	1	.995	.995	1-5/8	1	5/8	3.50

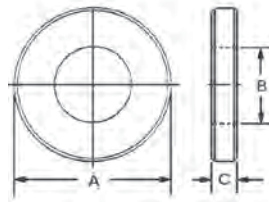
Jergens Feature:

Jergens Table-Saver design provides a safety-stop feature to prevent turning stud into tableways.

**Not Hardened



Flat Washers



- Material: Cold Rolled Low Carbon Steel, 303 Stainless
- Finish: Black Oxide
- Heat Treat: Carbon Nitride to 60
- Flat and parallel within .005

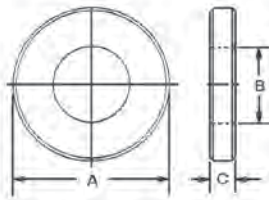
Part Number	A	B	C	Bolt Size	Wt. (lbs) 10 Pcs.
31901	1/2	13/64	3/32	3/16	.04
31902*	5/8	9/32	1/8	1/4	.05
31903*	3/4	11/32	1/8	5/16	.10
31904*	7/8	13/32	1/8	3/8	.21
31905*	1 1/8	17/32	1/8	1/2	.42
31906*	1 3/8	21/32	1/8	5/8	.63
31907*	1 5/8	25/32	5/32	3/4	1.10
31908*	1 3/4	29/32	5/32	7/8	1.20
31909*	2	1 1/32	3/16	1	1.70
31910	2 1/2	1 9/32	9/32	1 1/4	2.20

*Conforms to TCMA

Stainless Steel

Part Number	A	B	C	Bolt Size
32001	7/16	.196	5/64	3/16
32002	5/8	17/64	3/32	1/4
32003	11/16	11/32	1/8	5/16
32004	7/8	25/64	1/8	3/8
32005	1 1/8	17/32	1/8	1/2
32006	1 1/4	21/32	1/8	5/8
32007	1 1/2	25/32	5/32	3/4

Heavy Duty Flat Washers



Jergens Feature:

Made from high-carbon through-hardened steel which makes them up to 50% stronger than standard heavy duty washers. Also more fracture resistant under heavy loads.

- Material: High Carbon Steel
- Finish: Black Oxide
- Heat Treat: Rc 40-45 (Through Hardened)
- Flat & Parallel within .005 (.01mm)

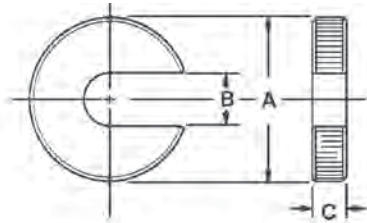
Part Number	A	B	C	Bolt Size	Wt. (lbs) 10 Pcs.
31967	5/8	9/32	3/16	1/4	0.72
31968	3/4	11/32	3/16	5/16	0.79
31969	7/8	13/32	3/16	3/8	0.87
31960	1 1/2	17/32	7/32	1/2	1.00
31961	1 1/2	21/32	7/32	5/8	0.88
31962	1 7/8	25/32	1/4	3/4	1.61
31963	2 1/8	29/32	1/4	7/8	2.31
31964	2 1/2	1 1/16	1/4	1	3.56
31965	2 1/2	1 5/16	1/4	1 1/4	3.98
31966	2 3/4	1 9/16	1/4	1 1/2	4.20

Metric Dimensions

Part Number	A	B	C	Bolt Size	Wt. (kg) 10 Pcs.
31961	38	17	5.5	16	0.40
31962	48	20	6.5	18	0.73
31963	54	23	6.5	20	1.05
31964	64	27	6.5	24	1.62



Washers "C" Washers



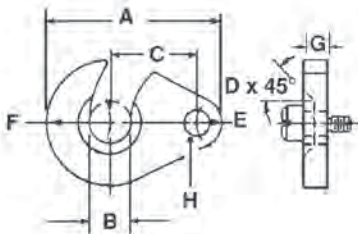
The "C" Washers are ground parallel on both surfaces with a knurled O.D.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Faces: Ground Parallel

Part Number	A	B	C	Wt. (lbs)
17701*	3/4	9/32	1/4	.02
17702*	1	9/32	1/4	.04
17703*	1 1/4	9/32	1/4	.07
17704*	1 1/4	13/32	3/8	.09
17705*	1 1/2	13/32	3/8	.14
17706*	1 3/4	13/32	3/8	.20
17707*	1 7/8	17/32	3/8	.17
17708*	2 1/4	17/32	3/8	.35
17709*	2 1/8	21/32	3/8	.32
17710	2 1/2	21/32	3/8	.53
17711*	2 1/2	25/32	7/16	.55

*Conforms to TCMA

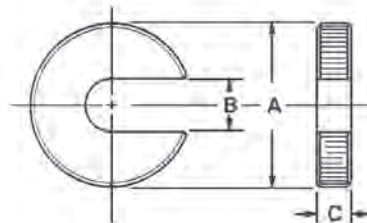
Equalizing Swing "C" Washer Stainless Steel



Part Number	A	B	C	D	Radius		+.0000 -.0015 G	+.0005 -.0000 H
					E	F		
12341	1 1/8	13/64	9/16	5/64	3/16	3/8	.1870	.1875
12342	1 1/4	17/64	5/8	3/32	3/16	7/16	.1870	.1875
12343	1 1/2	21/64	3/4	1/8	1/4	1/2	.2495	.250
12344	1 3/4	25/64	7/8	1/8	1/4	5/8	.2495	.250

- Material: 303 Stainless

Equalizing "C" Washers Stainless Steel

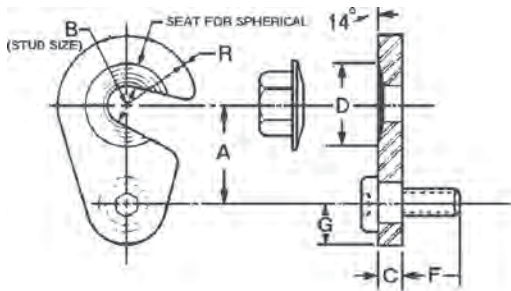


Part Number	A	B	C	Wt. lbs
12331	3/4	7/32	3/16	.02
12332	7/8	9/32	3/16	.04
12333	1	11/32	1/4	.04
12334	1 1/4	13/32	5/16	.04

- Material: 303 Stainless



Washers Swing "C" Washer Assembly



The Swing "C" Washer has a concave center for self-locating around the stud, which prevents creeping while tightening, and allows acceptance of the mating spherical flange nuts. The Spherical Flange Nut assures that the washer cannot back out either during clamping or due to vibration during the operation. The shoulder screw has a nylon lock to prevent loosening of the screw during operation.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened

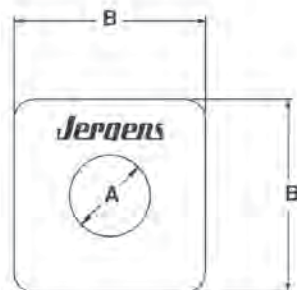
Part Number	A	Stud Size B	C	D	E	F	G	R	Part Number		Wt. (lbs)
									Shoulder Screw	Spherical Flange Nut	
37301*	1	3/8	1/4	13/16	5/16-18	1/2	3/8	3/4	41707	39704	.12
37302	1 1/4	1/2	3/8	1 1/8	5/16-18	1/2	1/2	1	41708	39705	.30
37303*	1 1/2	5/8	3/8	1 5/16	3/8-16	5/8	9/16	1 1/8	41713	39706	.39
37304*	1 3/4	3/4	1/2	1 9/16	3/8-16	5/8	5/8	1 1/4	41714	39707	.72

*Conforms to TCMA

Heavy Duty Square Washers



- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened



Part Number	±.010 A	±.010 B	Bolt Size	Thickness
31920	11/32	1 3/8	5/16	3/16
31921	13/32	1 3/8	3/8	3/16
31932	17/32	1 3/8	1/2	1/4
31933	17/32	2	1/2	1/4
31934	21/32	2	5/8	1/4
31935	13/16	2	3/4	1/4
31922	15/16	2	7/8	1/4
31936	13/16	2 1/2	3/4	1/4
31923	15/16	2 1/2	7/8	1/4
31937	1 1/16	2 1/2	1	1/4
31924	13/16	3	3/4	5/16
31925	15/16	3	7/8	5/16
31926	1 1/16	3	1	5/16
31927	1 1/16	3	1	3/8
31928	1 5/16	3	1 1/4	3/8
31929	1 9/16	3	1 1/2	3/8



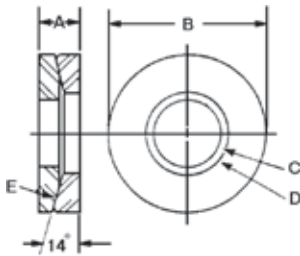
Washers Self Aligning Washers (Two-Piece)

Upper



Lower

These washers are ideally suited for joining machine sections which are out of parallel. They adjust themselves for a positive, firm base. With radius "E" and the angular 14° combination, line contact is formed around the two mating washer surfaces, allowing the two washers the ability to seek misalignment in the companion clamping members. The heat treated I.D. of the bottom concave piece is larger than the I.D. of the top convex section for free action. It is precision ground and the sharp edges are removed.



Part Number	A	B	C	D	E	Bolt Size	Wt. (lbs)	Part Number	
								Upper	Lower
41101	3/16	1/2	13/64	15/64	3/4	3/16	.01	41501	41301
41102	3/16	5/8	17/64	19/64	1	1/4	.01	41502	41302
41103	7/32	3/4	11/32	23/64	1	5/16	.01	41503	41303
41104	7/32	7/8	13/32	15/32	1 1/2	3/8	.03	41504	41304
41105	9/32	1 1/8	17/32	19/32	2	1/2	.08	41505	41305
41106	3/8	1 3/8	21/32	23/32	2 1/4	5/8	.13	41506	41306
41107	13/32	1 5/8	25/32	27/32	2 1/2	3/4	.20	41507	41307
41108	17/32	1 3/4	29/32	31/32	2 1/2	7/8	.33	41508	41308
41109	9/16	2	1 1/32	1 3/32	3 1/2	1	.41	41509	41309
41110	5/8	2 1/4	1 5/32	1 7/32	3 1/2	1 1/8	.77	41510	41310
41111	5/8	2 1/4	1 9/32	1 11/32	4	1 1/4	.62	41511	41311
41112	11/16	2 3/4	1 17/32	1 19/32	4 1/2	1 1/2	.85	41512	41312

Part Number	
Upper	Lower
41501	41301
41502	41302
41503	41303
41504	41304
41505	41305
41506	41306
41507	41307
41508	41308
41509	41309
41510	41310
41511	41311
41512	41312

Metric Two-Piece Assemblies

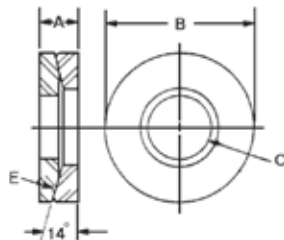
Part Number	A	B	C	D	E	Bolt Size	Wt. (kg)
41102	5	16	6.5	7.5	25	M6	.01
41103	5.5	19	8.5	9	25	M8	.01
41104	5.5	22	10.5	12	38	M10	.01
41105	7	28	13.5	15	51	M12	.03
41106	9.5	35	17	18	57	M16	.06
41157	10.5	41	21	21.5	63.5	M20	.09

Single Units

Part Number	
Upper	Lower
41502	41302
41503	41303
41504	41304
41505	41305
41506	41306
41557	41357

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened

Self Aligning Washers (Two-Piece) Stainless Steel



- Material: 303 Stainless

Part Number	A	B	C	E	Bolt Size	Wt. (lbs)
41202	3/16	5/8	9/32	3/4	1/4	.01
41203	1/4	3/4	11/32	1	5/16	.01
41204	1/4	7/8	13/32	1 1/4	3/8	.03
41205	5/16	1 1/8	17/32	1 1/2	1/2	.08
41206	5/16	1 3/8	21/32	1 3/4	5/8	.13
41207	3/8	1 5/8	25/32	2 1/4	3/4	.20



USAE™ Heavy Duty Flat Washers



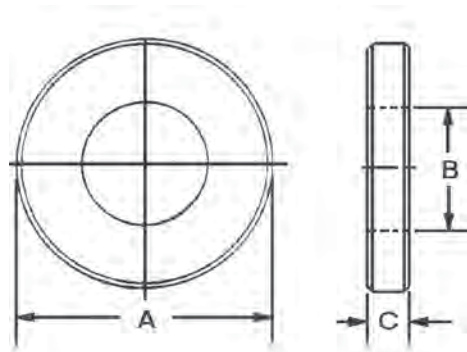
USS + SAE = USAE

What is a USAE™ Washer?

- It is a simple but effective idea that is long overdue.
- The Outside Diameter conforms to USS standards. This provides a washer that is up to 36% larger than standard hardened washers.

More Contact Area = More Holding Power

- The Inside Diameter conforms to SAE standards. The small ID provides a more precise fit on bolts, studs, etc.
- USAE Washers are also up to 37% thicker than standard hardened washers for greater strength.
- Washers are made from mild steel. They are case hardened to 60 HRc and have a black oxide finish.
- Bolt size is stamped on each washer for easy identification.



USAE™ Heavy Duty Flat Washers

Part No.	Bolt Size	A (OD)	B (ID)	C (Thickness)
FW00001	1/4	3/4	9/32	9/64
FW00002	5/16	7/8	11/32	9/64
FW00003	3/8	1	13/32	9/64
FW00004	1/2	1-3/8	17/32	5/32
FW00005	5/8	1-3/4	21/32	5/32
FW00006	3/4	2	13/16	1/4
FW00007	1	2-1/2	1-1/16	1/4

*Tolerances for all dimensions are +/- .010"



Replaceable Grippers Tapered – Hardened Steel

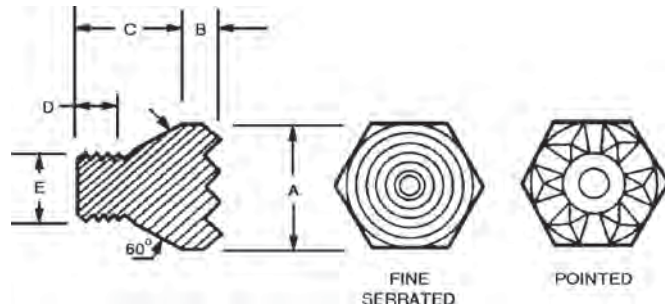


Pointed

Fine Serrated

- Material: 8620
- Finish: Black Oxide
- Heat Treat: Case Hardened
- Available in FixturePro™ Design Software

Jergens introduces a new concept in replaceable grippers. It is now easier to modify soft top jaws, strap clamps, or fixtures to hold irregularly shaped material. The grippers can be installed from one side, using a combination center drill, a tap, and a box wrench. There is no need to drill through holes from difficult to reach locations. Simply drill, tap, and install.



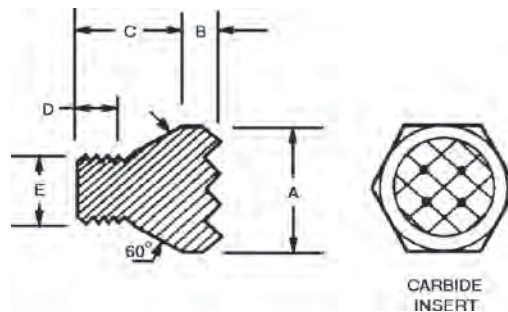
Hardened Steel Grippers

Part Number		Hex A	B	C	D	Thread E	Center Drill	Drill To Diameter
Serrated	Pointed							
23801	23811	5/16	.093	.32	.19	8-32	No. 4	.310
23802	23812	1/2	.125	.46	.25	1/4-28	No. 6	.498
23803	23813	3/4	.187	.70	.38	3/8-16	No. 8	.745

Tapered – Carbide Tipped



- Material: Body 8620
Insert, Carbide
- Finish: Zinc Plate
- Available in FixturePro™ Design Software



Carbide Tipped Grippers

Part Number	Hex A	B	C	D	Thread E	Center Drill	Drill To Diameter
23822	1/2	.125	.46	.25	1/4-28	No. 6	.498
23823	3/4	.187	.70	.38	3/8-16	No. 8	.745



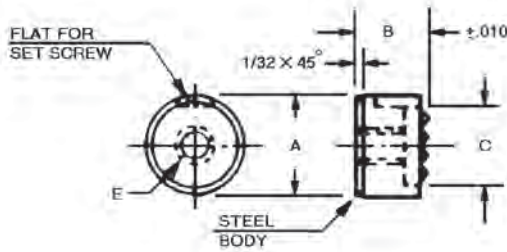
Replaceable Grippers



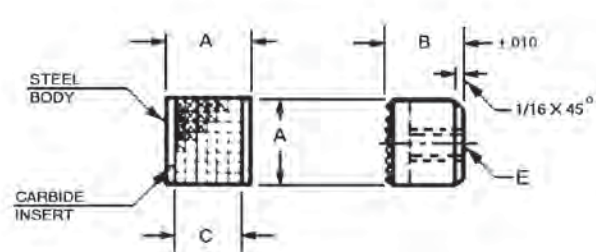
The Jergens Replaceable Grippers are available in Hardened High Speed Tool Steel or with Carbide Inserts. The points of the grippers embed themselves into the work piece giving greater holding power with less actual pressure. Jergens Grippers may be held in place using either a set screw on the flat of the gripper or the threaded hole in the back of the gripper.

Use Jergens Grippers to make hardened serrated jaws from Jergens soft top jaws or add the grippers to Jergens strap clamps for extra holding power. Use Jergens replaceable grippers anywhere that rough surfaces are being held in position for machining.

ROUND GRIPPERS



SQUARE GRIPPERS



- Material: Body, Low Carbon Steel
Insert, Carbide
- Finish: Zinc Plate
- Serrations: .09" x 90°
- Available in FixturePro™ Design Software

Carbide Tipped Grippers

Part Number	Style	A	B	C	E	Wt. (lbs) 10 Pcs.
23708	Round	3/8	3/8	5/16	10-32 x 7/32	.15
23707	Round	1/2	3/8	3/8	10-32 x 7/32	.20
23702	Round	1/2	1/2	3/8	10-32 x 11/32	.22
23703	Round	1/2	21/32	3/8	10-32 x 7/16	.30
23704	Round	5/8	3/8	1/2	1/4-28 x 7/32	.36
23705	Round	3/4	3/8	5/8	1/4-28 x 7/32	.44
23706	Square	1/2	3/8	13/32	10-32 x 1/4	.30

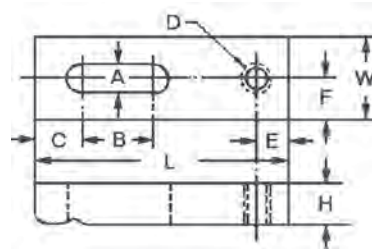
- Material: High Speed Tool Steel
- Finish: Black Oxide
- Heat Treat: Rc 60-62
- Serrations: .09" x 90°
- Available in FixturePro™ Design Software

Hardened Tool Steel Grippers

Part Number	Style	A	B	C	E	Wt. (lbs) 10 Pcs.
23710	Round	3/8	3/8	3/8	10-32 x 3/8	.15
23711	Round	1/2	3/8	1/2	10-32 x 3/8	.20
23712	Round	1/2	1/2	1/2	10-32 x 1/2	.22
23713	Round	1/2	21/32	1/2	10-32 x .651	.30
23714	Round	5/8	3/8	5/8	1/4-28 x 3/8	.36
23715	Round	3/4	3/8	3/4	1/4-28 x 3/8	.44
23716	Square	1/2	3/8	1/2	10-32 x 3/8	.30



Miniature Straps – Radius

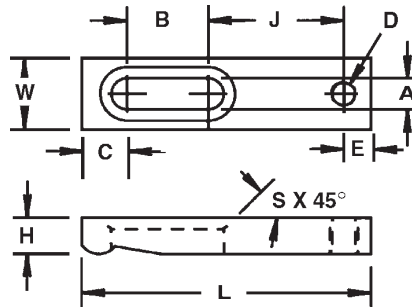


A light-duty strap with a specially designed radius end provides maximum pressure for extreme close-to-the-edge clamping. Features a tapped hole in the rear for knurled head thumb screw and a long slot for lateral adjustment.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
Rockwell 30N Scale 59-69

Part Number	Bolt Size	A	B	C	Thread Size D	E	F	W	H	L	Wt. (lbs) 10 Pcs.
29704	#10 or M5	7/32	7/16	5/16	10-24	3/16	1/4	1/2	1/4	1 1/2	.44
29705	#10 or M5	7/32	9/16	5/16	10-24	3/16	1/4	1/2	1/4	1 3/4	.44
29706	#10 or M5	7/32	11/16	5/16	10-24	3/16	1/4	1/2	1/4	2	.44

Tapped Radius Straps Stainless Steel

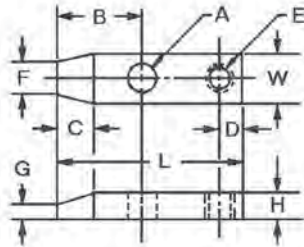


- Material: 303 Stainless

Part Number	Bolt Size	A	B	C	D	H	J	L	S	W
12211	#10 or M5	7/32	5/16	5/16	10-32	1/4	11/16	1 1/2	5/64	1/2
12212	#10 or M5	7/32	7/16	5/16	10-32	1/4	13/16	1 3/4	5/64	1/2
12213	1/4 or M6	9/32	1/2	3/8	1/4-20	5/16	7/8	2	3/32	5/8
12214	1/4 or M6	9/32	11/16	3/8	1/4-20	5/16	1 3/16	2 1/2	3/32	5/8
12215	5/16 or M8	11/32	1/2	7/16	5/16-18	3/8	1 3/16	2	1/8	3/4
12216	5/16 or M8	11/32	7/8	7/8	5/16-18	3/8	1 3/8	3	1/8	3/4
12217	3/8 or M10	13/32	3/4	9/16	3/8-16	1/2	1 5/16	3	1/8	7/8
12218	3/8 or M10	13/32	1 1/8	1/2	3/8-16	1/2	2	4	1/8	7/8



Miniature Straps – Flat

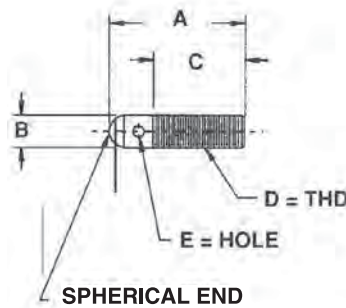


A "chisel nose", flat strap for light-duty holding where clamping is restricted. Features a tapped hole in back for heel rest and a drilled hole for stud clearance.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened
Rockwell 30N Scale 59-69

Part Number	A	B	C	D	Thread Size E	F	G	W	H	L	Wt. (lbs) 10 Pcs.
29701	7/32	5/8	3/8	3/16	10-24	1/4	1/8	1/2	1/4	1 1/2	.47
29702	9/32	7/8	3/8	3/16	10-24	1/4	1/8	1/2	1/4	2	.62
29703	9/32	1 1/8	3/8	3/16	10-24	1/4	1/8	1/2	5/16	2 1/2	.94

Adjustable Clamp Rests Stainless Steel

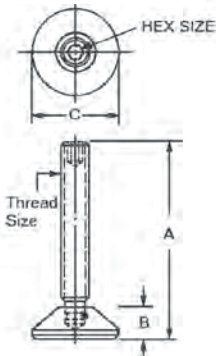


- Material: 303 Stainless

Part Number	A	B	C	D	E
12231	3/4	.190	1/2	10-32	1/16
12232	1 1/4	.190	1	10-32	1/16
12233	1	1/4	11/16	1/4-20	5/64
12234	1 1/2	1/4	1 3/16	1/4-20	5/64
12235	1 3/8	5/16	1 1/8	5/16-18	3/32
12236	1 7/8	5/16	1 5/8	5/16-18	3/32
12237	1 5/8	3/8	1 3/8	3/8-16	1/8
12238	2 1/8	3/8	1 7/8	3/8-16	1/8



Adjustable Clamp Heels



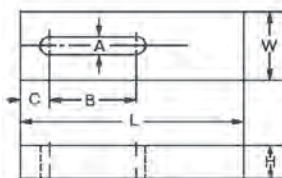
- Material: Stud, Stressproof® Pad, Low Carbon Steel
- Finish: Black Oxide
- Thread: 2B-UNC (Inch); 6h (Metric)

Part Number	Thread Size	A	B	C	Hex Key Size	Wt. (lbs)
47213	3/8-16	2	5/8	1 1/4	3/16	.20
47214	3/8-16	3	5/8	1 1/4	3/16	.30
47215	3/8-16	4	5/8	1 1/4	3/16	.40
47201	1/2-13	3	5/8	1 1/2	1/4	.40
47202	1/2-13	4	5/8	1 1/2	1/4	.50
47203	1/2-13	5	5/8	1 1/2	1/4	.60
47204	5/8-11	4	3/4	1 3/4	5/16	.70
47205	5/8-11	5	3/4	1 3/4	5/16	.80
47206	5/8-11	6	3/4	1 3/4	5/16	.90
47207	3/4-10	5	7/8	2	3/8	1.20
47208	3/4-10	6	7/8	2	3/8	1.35
47209	3/4-10	7	7/8	2	3/8	1.50
47210	1-8	4	1	2 1/2	9/16	1.90
47211	1-8	6	1	2 1/2	9/16	2.30

Metric

Part Number	Thread Size	A	B	C	Hex Size	Wt. (kg)
47263	M10 x 1.5	50	16	32	5	.09
47264	M10 x 1.5	75	16	32	5	.11
47265	M10 x 1.5	100	16	32	5	.11
47251	M12 x 1.75	75	16	38	6	.11
47252	M12 x 1.75	100	16	38	6	.13
47253	M12 x 1.75	125	16	38	6	.15
47254	M16 x 2.0	100	19	44	8	.25
47255	M16 x 2.0	125	19	44	8	.29
47256	M16 x 2.0	150	19	44	8	.32
47257	M20 x 2.5	125	22	50	10	.44
47258	M20 x 2.5	150	22	50	10	.46
47259	M20 x 2.5	175	22	50	10	.55
47260	M24 x 3.0	100	25	64	14	.44
47261	M24 x 3.0	150	25	64	14	.50

Plain Straps



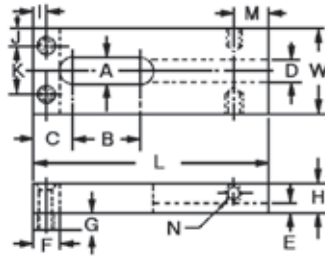
- Material: Low Carbon Steel, 2024 Aluminum

Part Number		Bolt Size	A	B	C	Width		H	L	Wt. (lbs)
Steel	Aluminum					Steel	Aluminum			
33111	33001	1/4 or M6	9/32	5/8	3/8	5/8	3/4	3/8	2	.09
33113	—	5/16 or M8	11/32	3/4	9/16	7/8	—	1/2	2 1/2	.18
33114	33004	5/16 or M8	11/32	1 1/4	9/16	7/8	1	1/2	3 1/2	.25
33115	—	3/8 or M10	13/32	1 1/8	11/16	1 1/4	—	5/8	3 1/2	.61
33116	33006	3/8 or M10	13/32	1 5/8	11/16	1 1/4	1 1/2	5/8	4 1/2	.90
33117	—	1/2 or M12	17/32	1 1/4	7/8	1 1/2	—	3/4	4 1/2	1.12
33118	33008	1/2 or M12	17/32	2	7/8	1 1/2	2	3/4	6	1.60
33119	—	5/8 or M16	21/32	1 1/2	1 1/16	1 3/4	—	7/8	5	1.75
33120	—	5/8 or M16	21/32	2 1/2	1 1/16	1 3/4	—	7/8	7	2.60
33121	—	3/4 or M19	25/32	1 1/2	1 1/8	1 3/4	—	1	5	2.00
33122	—	3/4 or M19	25/32	2 1/2	1 1/8	1 3/4	—	1	7	2.90

WORKHOLDING COMPONENTS



Padded Straps



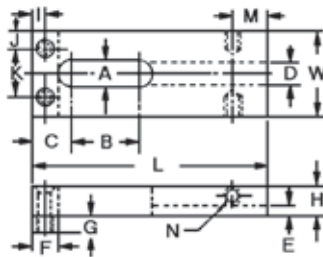
Jergens Feature:
The elongated slot allows for greater clamping force on the part. A steel pad is standard. Plastic or brass pads may be ordered separately for both inch and metric straps. See page 237.

- Material: Low Carbon Steel
- Finish: Low Carbon Steel
- Heat Treat: Case Hardened
Rockwell 30N Scale 59-69

Part Number	Bolt Size	A	B	C	D	E	F	G	I	J	K	M	N	W	H	L	Wt. (lbs)
37101	1/4 or M6	9/32	5/8	3/8	1/4	1/8	1/4	1/8	9/64	9/64	11/32	—	—	5/8	3/8	2	.09
37103	3/8 or M10	13/32	1 1/8	11/16	3/8	3/16	1/2	1/4	1/4	5/16	5/8	1/2	5/16-18	1 1/4	5/8	3 1/2	.65
37105	3/8 or M10	13/32	1 5/8	11/16	3/8	3/16	1/2	1/4	1/4	5/16	5/8	1/2	5/16-18	1 1/4	5/8	4 1/2	.83
37107*	1/2 or M12	17/32	1 1/4	7/8	3/8	1/4	5/8	3/8	5/16	3/8	3/4	1/2	5/16-18	1 1/2	3/4	4 1/2	1.24
37110*	1/2 or M12	17/32	2	7/8	3/8	1/4	5/8	3/8	5/16	3/8	3/4	1/2	5/16-18	1 1/2	3/4	6	1.63
37111*	5/8 or M16	21/32	1 1/2	1 1/16	3/8	1/4	3/4	1/2	3/8	1/2	3/4	3/4	5/16-18	1 3/4	7/8	5	1.88
37113*	5/8 or M16	21/32	2 1/2	1 1/16	3/8	1/4	3/4	1/2	3/8	1/2	3/4	3/4	5/16-18	1 3/4	7/8	7	2.63
37114*	3/4 or M20	25/32	1 1/2	1 1/8	3/8	1/4	3/4	1/2	3/8	1/2	3/4	3/4	5/16-18	1 3/4	1	5	2.12
37116*	3/4 or M20	25/32	2 1/2	1 1/8	3/8	1/4	3/4	1/2	3/8	1/2	3/4	3/4	5/16-18	1 3/4	1	7	2.88

*Carbide Gripper Kits are available, contact Technical Sales Department for details. Gripper Part #23704.

Padded Straps Metric



- Material: Low Carbon Steel
- Finish: Low Carbon Steel
- Heat Treat: Case Hardened
Rockwell 30N Scale 59-69

Metric

Part Number	Bolt Size	A	B	C	D	E	F	G	M	N	W	H	I	J	K	L	Wt (kg)
37151	M6	7	16	10	6	3	6	3	—	—	16	9	4	4	9	50	.04
37153	M8	10	28	17	10	5	13	6	13	M8	32	16	6	8	16	89	.29
37157	M10	13	32	22	10	6	16	10	13	M8	38	19	8	10	19	114	.38
37161	M16	17	38	27	10	6	19	13	19	M8	44	22	10	13	19	127	1.19
37164	M20	20	38	29	10	6	19	13	19	M8	44	25	10	13	19	127	1.31

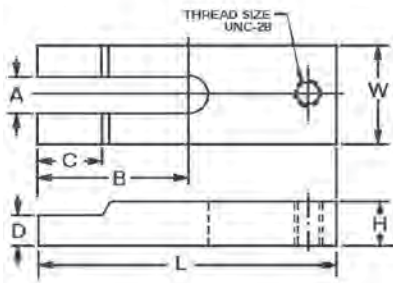
WORKHOLDING COMPONENTS



Long Slot U-Straps



- Material: Low Carbon Steel
- Finish: Black Oxide
- Thread: UNC-2B (Inch); 6h (Metric)
- Heat Treat: Case Hardened Rockwell 30N Scale 59-69
- Designed to be used with Adjustable Clamp Heels, found on page 274, and Clamp Assembly Heels on page 232

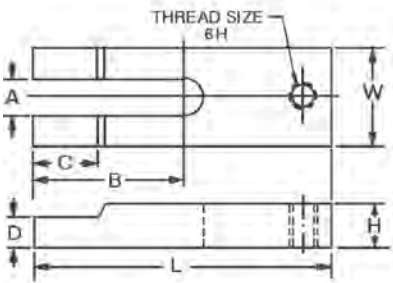


Part Number	Bolt Size	A	B	C	D	Thread Size	W	H	L	Wt. (lbs)
47021	1/2 or M12	17/32	2 1/2	—	—	1/2-13	1 1/2	3/4	4	1.18
47022	1/2 or M12	17/32	3 1/2	—	—	1/2-13	1 1/2	3/4	6	1.92
47023	5/8 or M16	21/32	2 7/16	5/8	3/4	5/8-11	1 3/4	7/8	4	1.52
47024	5/8 or M16	21/32	3 15/16	5/8	3/4	5/8-11	1 3/4	7/8	7	2.73
47025	3/4 or M20	25/32	3 1/2	5/8	3/4	3/4-10	2	1	6	2.96
47026	3/4 or M20	25/32	5	5/8	3/4	3/4-10	2	1 1/4	8	3.99
47027	1 or M24	1 1/16	5 1/2	5/8	3/4	1-8	2 1/2	1 1/2	10	8.12

Long Slot U-Straps Metric



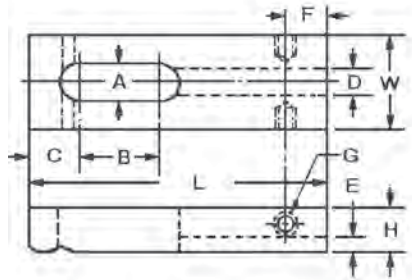
- Material: Low Carbon Steel
- Finish: Black Oxide
- Thread: UNC-2B (Inch); 6h (Metric)
- Heat Treat: Case Hardened Rockwell 30N Scale 59-69
- Designed to be used with Adjustable Clamp Heels, found on page 274, and Clamp Assembly Heels on page 232



Part Number	Bolt Size	A	B	C	D	Thread Size	W	H	L	Wt (kg)
47071	M12	13	64	—	—	M12	38	19	100	.54
47072	M12	13	89	—	—	M12	38	19	150	.87
47073	M16	17	62	16	19	M16	44	22	100	.70
47074	M16	17	100	16	19	M16	44	22	175	1.24
47075	M20	20	89	16	19	M20	50	25	150	1.34
47076	M20	20	127	16	19	M20	50	32	200	1.81
47077	M24	27	140	16	19	M24	64	38	250	3.68



Radius Straps



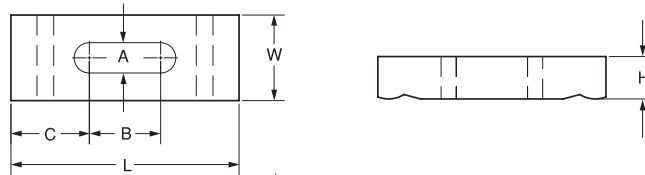
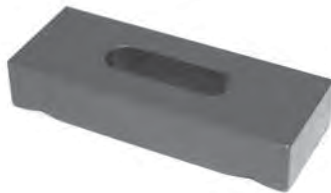
Jergens Feature:

The elongated slot allows for greater clamping force on the part.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened Rockwell 30N Scale 59-69

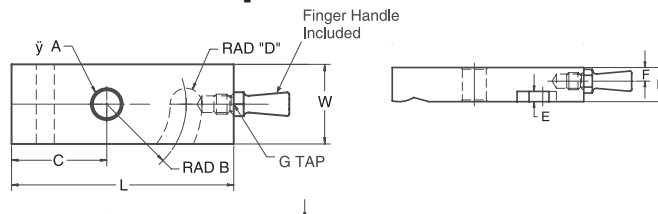
Part Number	Bolt Size	A	B	C	D	E	F	G	W	H	L	Wt. (lbs)
36703	1/4 or M6	9/32	5/8	3/8	1/4	1/8	—	—	5/8	3/8	2	0.09
36708	1/4 or M6	9/32	1	3/8	1/4	1/8	—	—	5/8	3/8	2-1/2	0.11
36717	5/16	11/32	3/4	9/16	1/4	1/4	—	—	7/8	1/2	2-1/2	0.20
36718	5/16	11/32	1-1/4	9/16	1/4	1/4	—	—	7/8	1/2	3-1/2	0.25
36704	3/8 or M10	13/32	1-1/8	11/16	3/8	3/16	1/2	5/16-18	1-1/4	5/8	3-1/2	0.61
36719	3/8 or M10	13/32	1-5/8	11/16	3/8	3/16	1/2	5/16-18	1-1/4	5/8	4-1/2	0.71
36705	1/2 or M12	17/32	1-1/4	7/8	3/8	1/4	1/2	5/16-18	1-1/2	3/4	4-1/2	1.12
36714	1/2 or M12	17/32	2	7/8	3/8	1/4	1/2	5/16-18	1-1/2	3/4	6	1.56
36706	5/8 or M16	21/32	1-1/2	1-1/16	3/8	1/4	3/4	5/16-18	1-3/4	7/8	5	1.75
36715	5/8 or M16	21/32	2-1/2	1-1/16	3/8	1/4	3/4	5/16-18	1-3/4	7/8	7	2.44
36707	3/4	25/32	1-1/2	1-1/8	3/8	1/4	3/4	5/16-18	1-3/4	1	5	2.00
36716	3/4	25/32	2-1/2	1-1/8	3/8	1/4	3/4	5/16-18	1-3/4	1	7	2.70

Double End Radius Strap



Part Number	Bolt Size	A	B	C	H	W	L	Wt (lbs)
36728	1/2 or M12	17/32	1-1/4	1-3/8	3/4	1-1/2	4	0.80
36729	1/2 or M12	17/32	1-1/2	1-3/4	3/4	1-1/2	5	1.25
36730	5/8 or M16	21/32	1-1/2	2-1/4	7/8	1-3/4	6	2.20

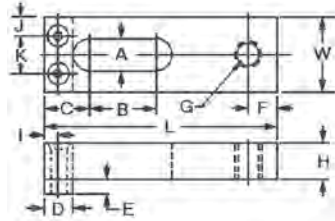
Swing Style Radius Nose Straps



Part Number	Bolt Size	A	B	C	D	E	F	G	W	H	L	Wt (lbs)
36723	1/4	5/16	11/16	1	1/8	1/8	n/a	n/a	5/8	3/8	2	0.09
36724	3/8	7/16	1-1/4	1-1/2	1/4	3/16	1/4	5/16-18	1-1/4	5/8	3-1/2	0.61
36725	1/2	9/16	1-7/8	1-3/16	1/4	1/4	1/4	5/16-18	1-1/2	3/4	4-1/2	1.12
36726	5/8	11/16	2-3/16	2-1/16	1/4	1/4	1/4	5/16-18	1-3/4	7/8	5	1.75
36727	3/4	13/16	2-3/16	2-1/16	1/4	1/4	1/4	5/16-18	1-3/4	1	5	2.00



Tapped Straps



Jergens Feature:

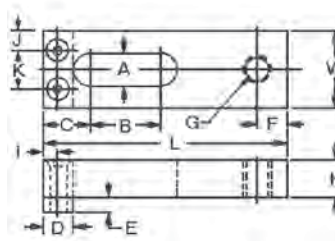
The elongated slot allows for greater clamping force on the part. A steel pad is standard. Plastic or brass pads may be ordered separately, see page 237.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Thread: 2B-UNC
- Heat Treat: Case Hardened
Rockwell 30N Scale 59-69
- Tapped for use with adjustable clamp heel found on page 274

Part Number	Bolt Size	A	B	C	D	E	F	Thread Size G	I	J	K	W	H	L	Wt. (lbs)
36911	1/4 or M6	9/32	5/8	3/8	1/4	1/8	7/32	1/4-20	9/64	9/64	11/32	5/8	3/8	2	.10
36913	5/16 or M8	11/32	3/4	9/16	3/8	3/16	1/4	5/16-18	3/16	3/16	1/2	7/8	1/2	2 1/2	.20
36914	5/16 or M8	11/32	1 1/4	9/16	3/8	3/16	1/4	5/16-18	3/16	3/16	1/2	7/8	1/2	3 1/2	.27
36915	3/8 or M10	13/32	1 1/8	11/16	1/2	1/4	3/8	3/8-16	1/4	5/16	5/8	1 1/4	5/8	3 1/2	.69
36916	3/8 or M10	13/32	1 5/8	11/16	1/2	1/4	3/8	3/8-16	1/4	5/16	5/8	1 1/4	5/8	4 1/2	.88
36917*	1/2 or M12	17/32	1 1/4	7/8	5/8	3/8	7/16	1/2-13	1/4	3/8	3/4	1 1/2	3/4	4 1/2	.70
36918*	1/2 or M12	17/32	2	7/8	5/8	3/8	7/16	1/2-13	1/4	3/8	3/4	1 1/2	3/4	6	.90

* Carbide Gripper Kits are available, contact Technical Sales Department for details. Gripper Part #23704.

Tapped Straps Metric



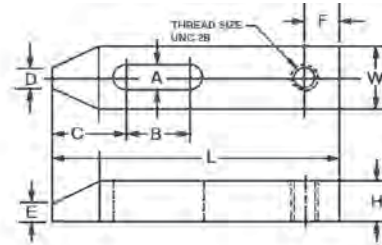
- Material: Low Carbon Steel
- Finish: Black Oxide
- Thread: 6h
- Heat Treat: Case Hardened
Rockwell 30N Scale 59-69
- Tapped for use with adjustable clamp heel found on page 274

Part Number	Bolt Size	A	B	C	D	E	F	Thread Size 6h G	I	J	K	W	H	L	Wt. (Kg)
36961	M6	7	16	9	6	3	5	M6	4	4	9	16	9	50	.05
36963	M8	9	19	14	9	5	6	M8	5	5	12	22	13	63	.11
36965	M10	10	28	17	13	6	9	M10	6	8	16	32	16	88	.37
36967	M12	13	31	22	16	9	11	M12	6	9	19	38	19	113	.47

* Carbide Gripper Kits are available, contact Technical Sales Department for details. Gripper Part #23704.



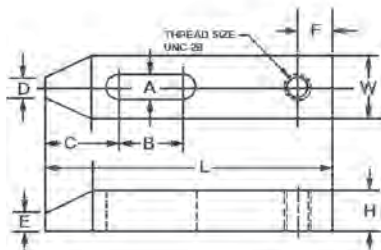
Taper Nose Straps



- Material: Low Carbon Steel
- Finish: Black Oxide
- Thread: UNC-2B
- Heat Treat: Case Hardened Rockwell 30N Scale 59-69
- Designed to be used with Adjustable Clamp Heels, found on page 274

Part Number	Bolt Size	A	B	C	D	E	F	Thread Size	W	H	L	Wt. (lbs)
47119	3/8 or M10	13/32	1/2	13/16	3/8	3/16	7/16	3/8-16	1	1/2	3	.55
47120	3/8 or M10	13/32	1	15/16	3/8	3/16	7/16	3/8-16	1 1/4	5/8	4	.75
47123	3/8 or M10	13/32	1 1/2	15/16	3/8	3/16	7/16	3/8-16	1 1/4	5/8	5	.90
47124	1/2 or M12	17/32	1/2	1 1/16	1/2	1/4	7/16	1/2-13	1 1/4	5/8	3 1/2	.80
47125	1/2 or M12	17/32	1 1/4	1 3/16	1/2	1/4	7/16	1/2-13	1 1/4	3/4	4 1/2	1.10
47126	1/2 or M12	17/32	2	1 5/16	1/2	1/4	7/16	1/2-13	1 1/4	7/8	6	1.60
47127	5/8 or M16	21/32	1/2	1 3/16	5/8	1/4	1/2	5/8-11	1 1/4	5/8	4	1.80
47128	5/8 or M16	21/32	1 1/4	1 3/16	5/8	3/8	1/2	5/8-11	1 1/2	3/4	5	2.20
47129	5/8 or M16	21/32	2	1 5/16	5/8	3/8	1/2	5/8-11	1 1/2	7/8	7	3.10
47130	3/4 or M20	25/32	3/4	1 5/16	5/8	3/8	9/16	3/4-10	1 1/2	3/4	5	2.85
47131	3/4 or M20	25/32	1 1/2	1 1/2	5/8	3/8	9/16	3/4-10	1 1/2	1	6	3.40
47132	3/4 or M20	25/32	2 1/4	1 5/8	5/8	3/8	9/16	3/4-10	1 3/4	1 1/8	8	4.70
47134	1 or M24	1 1/16	2	2 5/8	7/8	5/8	11/16	1-8	2	1 1/2	10	9.55

Metric Taper Nose Straps



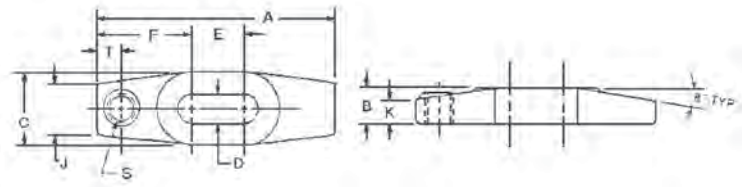
- Material: Low Carbon Steel
- Finish: Black Oxide
- Thread: 6h
- Heat Treat: Case Hardened Rockwell 30N Scale 59-69
- Designed to be used with Adjustable Clamp Heels, found on page 274

Part Number	Bolt Size	A	B	C	D	E	F	Thread Size	W	H	L	Wt. (Kg)
47169	M10	11	13	21	10	5	11	M10 x 1.5	25	13	75	.30
47175	M12	13	33	30	13	10	11	M12 x 1.75	32	19	114	.60
47179	M16	17	50	33	16	10	13	M16 x 2.0	38	22	175	1.70
47182	M20	21	57	41	16	10	14	M20 x 2.5	44	29	200	2.53
47184	M24	26	50	67	22	16	17	M24 x 3.0	50	38	250	5.15



Forged Strap Clamps

Heel Clamp



• Material: C-1030 or C-1035

Standard & Tapped Heel Clamps

Part Number		Bolt Size	A	B	C	D	E	F	J	K	S*	T	Wt. (lbs)
Standard	Tapped												
37201	37202	5/8 or M16	4	3/4	1 5/8	11/16	11/16	1 21/32	1 3/16	1/2	1/2-13	1/2	1.00
37203	37204	5/8 or M16	6	7/8	1 3/4	11/16	1 3/8	2 5/16	1 1/4	9/16	5/8-11	5/8	1.75
37205	37206	3/4 or M20	8	1 1/8	2 1/8	13/16	2	3	1 1/2	3/4	3/4-10	3/4	3.75
37207	37208	7/8 or M20	10	1 3/8	2 1/2	15/16	2 3/4	3 5/8	1 3/4	15/16	7/8-9	7/8	7.00

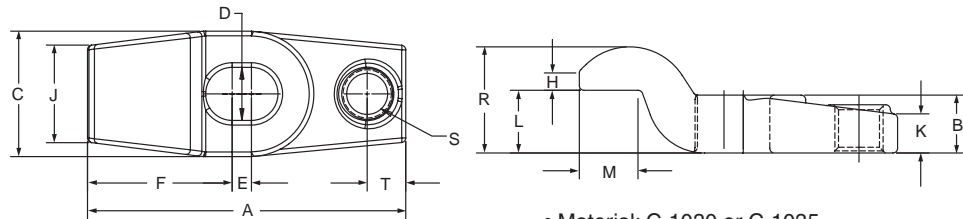
*Applicable to Tapped Clamp Only

Metric Standard & Tapped Heel Clamps

Part Number		Bolt Size	A	B	C	D	E	F	J	K	S*	T	Wt. (Kg)
Standard	Tapped												
37201	37252	M16	100	19	41	17	17	42	30	13	M12 x 1.75	13	.53
37203	37254	M16	150	22	44	17	35	59	32	14	M16 x 2.0	16	.94
37205	37256	M20	200	29	54	21	50	75	38	19	M20 x 2.5	19	2.0
37207	37258	M20	250	35	63	24	70	92	44	24	M24 x 3.0	22	3.8

*Applicable to Tapped Clamp Only

Gooseneck Clamp



• Material: C-1030 or C-1035

Standard & Tapped Gooseneck Clamps

Part Number		Bolt Size	A	B	C	D	E	F	H	J	K	L	M	R	S*	T	Wt. (lbs)
Standard	Tapped																
37211	37212	5/8	4	3/4	1 5/8	11/16	1/4	1 7/8	3/8	1 3/16	1/2	13/16	3/4	1 7/16	5/8-11	1/2	1.00
37213	37214	5/8	6	7/8	1 3/4	11/16	1	2 1/2	7/16	1 1/4	9/16	15/16	1 1/8	1 9/16	5/8-11	5/8	2.00
37215	37216	3/4	8	1 1/8	2 1/8	13/16	1 5/8	3 3/16	9/16	1 1/2	3/4	1 1/8	1 1/4	2 1/16	5/8-11	1	4.25

*Applicable to Tapped Clamp Only

Part Number		Bolt Size	A	B	C	D	E	F	H	J	K	L	M	R	S*	T	Wt. (Kg)
Standard	Tapped																
37211	37262	M16	100	19	41	17	6	48	10	30	13	20	19	37	M16 x 2.013		.53
37213	37264	M16	150	22	44	17	25	63	11	32	14	24	28	40	M16 x 2.016		1.4
37215	37266	M20	200	29	54	21	41	81	14	38	19	28	32	52	M16 x 2.025		2.3

*Applicable to Tapped Clamp Only

WORKHOLDING COMPONENTS

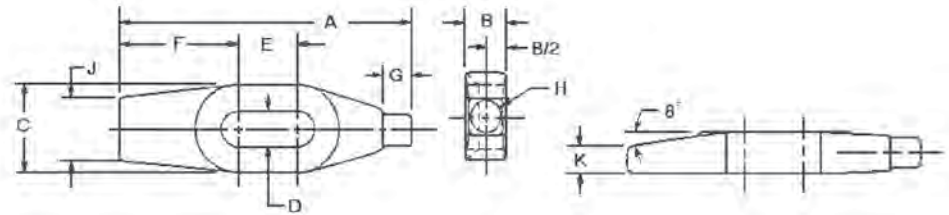


Forged Strap Clamps

Finger Clamp



• Material: C-1030 or C-1035



Part Number	Bolt Size	A	B	C	D	E	F	G	H	J	K	Wt. (lbs)
37221	5/8 or M16	4	3/4	1 5/8	11/16	11/16	1 21/32	1/2	1/2	1 3/16	7/16	.75
37223	5/8 or M16	6	7/8	1 3/4	11/16	1 1/4	2 3/8	5/8	5/8	1 1/4	1/2	1.50
37225	3/4 or M20	8	1 1/8	2 1/8	13/16	1 3/4	3 1/8	3/4	3/4	1 1/2	5/8	3.00

Metric

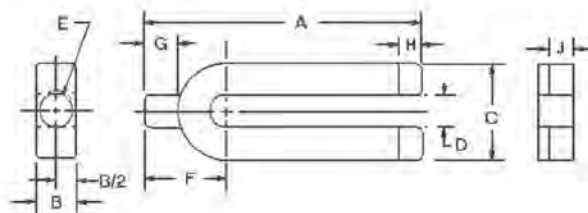
Part Number	Bolt Size	A	B	C	D	E	F	G	H	J	K	Wt. (Kg)
37221	M16	100	19	41	17	17	42	13	13	30	11	.40
37223	M16	150	22	44	17	32	59	16	16	32	13	.81
37225	M20	200	29	54	21	44	79	19	19	38	16	1.6

Forged Strap Clamps

“U” Clamp



• Material: C-1030 or C-1035



Part Number	Bolt Size	A	B	C	D	E	F	G	H	J	Wt. (lbs)
37231	5/8 or M16	4	3/4	1 3/4	11/16	9/16	1 7/16	9/16	1/2	1/2	1.00
37232	5/8 or M16	6	7/8	2	11/16	11/16	1 11/16	11/16	5/8	9/16	2.00
37233	3/4 or M20	8	1 1/8	2 3/8	13/16	13/16	2	13/16	3/4	11/16	4.00
37234	7/8 or M24	10	1 1/4	2 3/4	15/16	15/16	2 5/16	15/16	7/8	3/4	6.50
37235	1 or M24	12	1 3/8	3 1/4	1 1/16	1 1/16	2 11/16	1 1/16	1	13/16	9.00

Part Number	Bolt Size	A	B	C	D	E	F	G	H	J	Wt. (Kg)
37231	M16	100	19	44	17	14	37	14	13	13	.53
37232	M16	150	22	50	17	17	43	17	16	14	1.1
37233	M20	200	29	59	21	21	50	21	19	17	2.2
37234	M24	250	32	70	24	24	59	24	22	19	3.5
37235	M24	300	35	83	27	27	68	27	25	21	4.9



Forged Adjustable Clamps



Forged Adjustable Clamps automatically compensate for clamping height changes within their clamping ranges (see chart for ranges). The swivel bushing is permanently mounted in the clamp which alleviates lost or missing parts. The standard brass heel plate protects the machine table.



Forged Adjustable Clamp holding one side of a hydraulic vise on a milling machine table.

- Material: 1137 Forged Steel, Heat Treated
- Finish: Black Oxide
- One Piece Construction
- Versatile Clamping Height
- Made in U.S.A.

Features high quality forging providing superior clamping strength.

Part Number	Bolt Size	Clamping Range	W	T	L	X	Maximum Torque (ft-lbs)	Max Holding* Force (lbs)	Wt. (lbs)
19101	1/2	0-2	1 3/4	1 1/2	4 1/4	2 1/2	90	6800	1.1
19102	5/8	0-2 3/8	2	1 5/8	5	3	180	10600	1.7
19103	3/4	0-2 3/4	2 1/2	1 3/4	6 1/4	3 3/4	300	16000	3.0
19104	7/8	0-3 1/2	3	2 3/8	7	4 1/4	500	21800	5.3
19104	1	0-3 1/2	3	2 3/8	7	4 1/4	760	28600	5.3

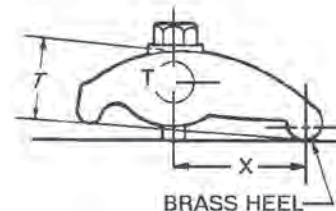
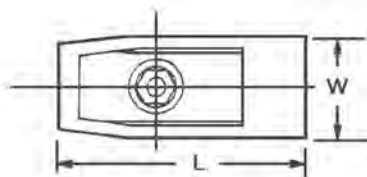
Metric

Part Number	Bolt Size	Clamping Range	W	T	L	X	Maximum Torque (N.m)	Max Holding* Force (Kgf)	Wt. (Kg)
19101	M12	0-50	44	38	108	63	100	2800	0.60
19102	M16	0-60	50	41	125	75	260	5250	0.92
19103	M20	0-70	63	44	159	95	500	8250	1.60
19104	M24	0-89	75	60	175	108	870	11850	2.90

* Note: Holding forces are based on using Jergens heat treated alloy steel T-slot bolts, Studs, T-nuts and Flange nuts in order at the recommended torque.

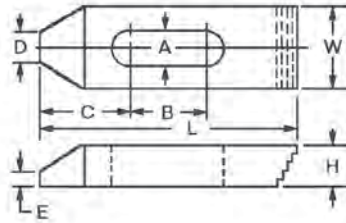
Accessories Available

T-Slot Bolts	Flange Nuts	T-Slot Nuts	Studs	Washers
Page 257	Page 259	Page 264	Page 254	Page 265





Steel Heel Straps Coarse Pitch

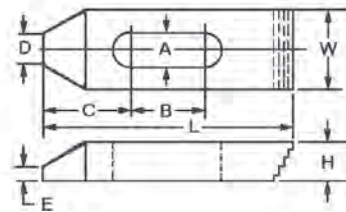
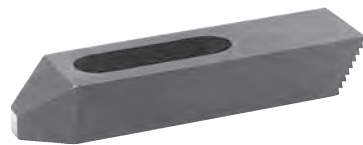


The step teeth of the Coarse Pitch Steel Heel Straps match the Jergens Aluminum Step Blocks. These straps facilitate easier height adjustments on set-ups.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened Rockwell 30N 50-54

Part Number	Bolt Size	A	B	C	D	E	H	L	W	Wt. (lbs)
46814	1/2 or M12	17/32	1/2	1 1/16	1/2	1/4	5/8	2 1/2	1 1/4	.46
46815	1/2 or M12	17/32	1 1/4	1 3/16	1/2	1/4	3/4	4	1 1/4	.65
46816	1/2 or M12	17/32	2	1 5/16	1/2	1/4	7/8	6	1 1/4	.95
46817	5/8 or M16	21/32	1/2	1 3/16	5/8	1/4	5/8	3	1 1/4	.66
46818	5/8 or M16	21/32	1 1/4	1 3/16	5/8	3/8	3/4	5	1 1/2	.93
46819	5/8 or M16	21/32	2	1 5/16	5/8	3/8	7/8	7	1 1/2	1.36
46820	3/4 or M20	25/32	3/4	1 5/16	5/8	3/8	3/4	4	1 1/2	1.39
46821	3/4 or M20	25/32	1 1/2	1 1/2	5/8	3/8	1	6	1 1/2	1.94
46822	3/4 or M20	25/32	2 1/4	1 5/8	5/8	3/8	1 1/8	8	1 3/4	2.48

Fine Pitch



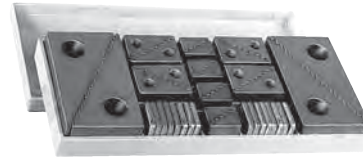
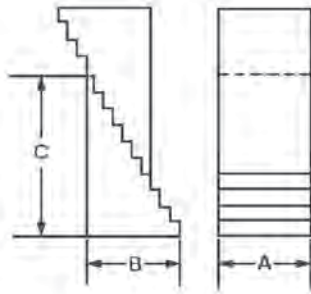
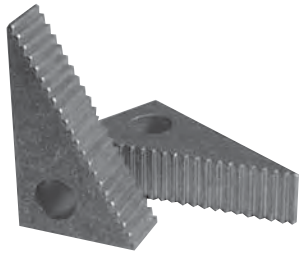
The step teeth of the Fine Pitch Steel Heel Straps match the Jergens Steel Step Blocks. These straps facilitate easier height adjustment on set-ups.

- Material: Low Carbon Steel
- Finish: Black Oxide
- Heat Treat: Case Hardened Rockwell 30N 50-54

Part Number	Bolt Size	A	B	C	D	E	H	L	W	Wt. (lbs)
46834	1/2 or M12	9/16	1/2	1 1/16	1/2	1/4	1/2	2 1/2	1 1/8	.46
46835	1/2 or M12	9/16	1 1/4	1 3/16	1/2	1/4	3/4	4	1 1/4	.65
46836	1/2 or M12	9/16	2	1 5/16	1/2	1/4	7/8	6	1 1/4	.95
46837	5/8 or M16	11/16	1/2	1 3/16	5/8	1/4	5/8	2 1/2	1 1/4	.66
46838	5/8 or M16	11/16	1 1/4	1 3/16	5/8	3/8	3/4	4	1 1/2	.93
46839	5/8 or M16	11/16	2	1 5/16	5/8	3/8	7/8	6	1 1/2	1.36
46840	3/4 or M20	13/16	3/4	1 5/16	5/8	3/8	3/4	4	1 1/2	1.39
46841	3/4 or M20	13/16	1 1/2	1 1/2	5/8	3/8	1	6	1 5/8	1.94
46842	3/4 or M20	13/16	2 1/4	1 5/8	5/8	3/8	1 1/8	8	1 3/4	2.48



Adjustable Step Blocks Aluminum — Coarse Pitch



1" & 2" Wide Adjustable Step Block Kits

Step blocks are made of aluminum to prevent damage to machine table surfaces.

Tooth design has no sharp edges which helps to prevent burrs and chip build-up in the steps. Blocks are completely interchangeable with each other, and with the Jergens Coarse Pitch Step Straps.

Standard (1" Width) Kit

21701

Included in Kit:

Qty Per Kit	Part Number (Blocks Only)	A	B	C	Step Elevation	Wt. (lbs)
8	21705	1	5/8	1 1/16	11/64	.03
8	21702	1	1	1 3/4	11/64	.09
4	21703	1	2 3/16	3 3/4	11/64	.39
16	21706	Protective Pad			11/64	.02

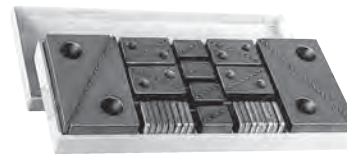
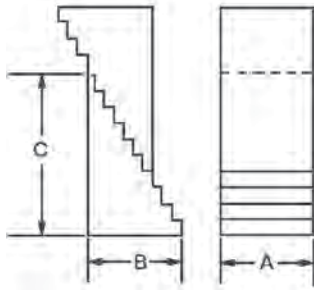
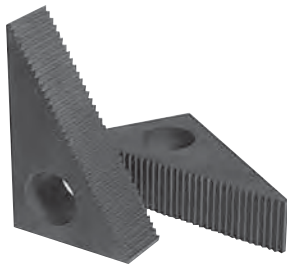
Heavy Duty (2" Width) Kit

21711

Included in Kit:

Qty Per Kit	Part Number (Blocks Only)	A	B	C	Step Elevation	Wt. (lbs)
8	21712	2	5/8	1 1/16	11/64	.06
8	21713	2	1	1 3/4	11/64	.18
4	21714	2	2 3/16	3 3/4	11/64	.78
16	21715	Protective Pad			11/64	.04

Steel — Fine Pitch



Adjustable Step Block Kit

21821

Included in Kit:

Qty Per Kit	Part Number (Blocks Only)	A	B	C	Step Elevation	Wt. (oz)
8	21831	1	5/8	1 1/8	3/32	2
8	21832	1	1 1/16	1 3/4	3/32	4
4	21833	1	2 3/8	3 7/8	3/32	14
16	21706	Protective Aluminum Pad				

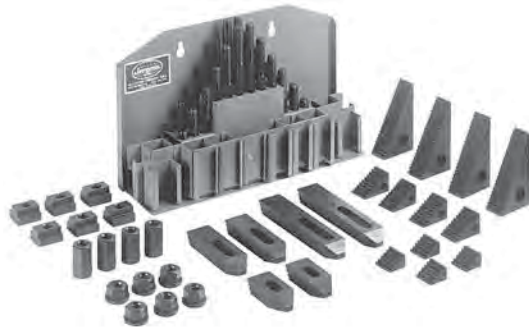
Step Blocks sold individually.

Adjustable Step Block Kit

Blocks are completely interchangeable with each other, and with the Jergens Fine Pitch Step Straps.



60-Piece Set-Up Kits Aluminum Step Blocks



Kit with Metal Holder

Each 60-Piece Set-Up Kit is supplied with either a non-marring wooden base or a heavy duty steel holder. Tooth design has no sharp edges, which helps to prevent burrs and chips from building up on the steps. The aluminum blocks will not mar precision machine tables.

Each Set-Up-Kit Includes:

- Six Table Saver T-Nuts
- Six Flange Nuts
- Six Step Heel Straps
- Four Coupling Nuts
- Twenty-four Studs:
Four each of 3", 4", 5", 6" 7", 8" lengths
- Twelve Course Pitch Aluminum Step Blocks
- One T-Slot Cleaner
- One Metal Holder

Part Number Metal Holder	Stud T-Slot Width	Thread Size	Strap Lengths	Wt (lbs)
45105	9/16	1/2-13	2 1/2, 4, 6	20
45106	5/8	1/2-13	2 1/2, 4, 6	20
45104	11/16	1/2-13	2 1/2, 4, 6	20
45108	11/16	5/8-11	3, 5, 7	30
45109	3/4	5/8-11	3, 5, 7	30
45107	13/16	5/8-11	3, 5, 7	30

Metal kit holders are also sold separately. Same holder used for both kits.

1/2" Metal Holder
45116

5/8" Metal Holder
45117

60-Piece Set-Up Kits Steel Step Blocks

Each 60-Piece Set-Up Kit is supplied with either a non-marring wooden base or a heavy duty steel holder. The fine pitch steel blocks are compatible with other standard step blocks and straps.

NOTE: The fine pitch blocks are not compatible with the Jergens course pitch aluminum blocks.

Each Set-Up Kit Includes:

- Six Table Saver T-Nuts
- Six Flange Nuts
- Six Step Heel Straps
- Four Coupling Nuts
- Twenty-four Studs:
Four each 3", 4", 5", 6", 7", 8" lengths
- Twelve Fine Pitch Steel Step Blocks
- One Metal Holder

Part Number Metal Holder	Stud T-Slot Width	Thread Size	Strap Lengths	Wt. (lbs)
45205	9/16	1/2-13	2 1/2, 4, 6	20
45206	5/8	1/2-13	2 1/2, 4, 6	20
45204	11/16	1/2-13	2 1/2, 4, 6	20
45208	11/16	5/8-11	2 1/2, 4, 6	30
45209	3/4	5/8-11	2 1/2, 4, 6	30
45207	13/16	5/8-11	2 1/2, 4, 6	30



40-Piece Clamping Kit



Contains the same quality components as the larger kits but without the step blocks and step heel straps. This Clamping Kit includes taper nose straps, T-nuts, coupling nuts, flange nuts, clamping heels and studs.

Each Clamping Kit Includes:

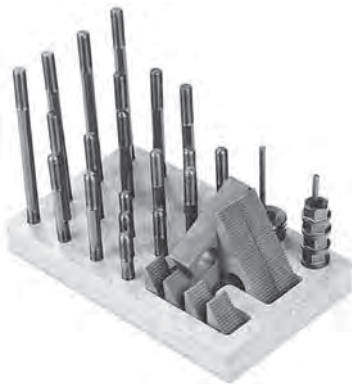
- Four Table Saver T-Nuts
- Twenty Studs:
Four Each 4", 5", 6", 7", 8" lengths
- Four Adjustable Clamp Heels
- Four Flange Nuts
- Four Coupling Nuts
- Four Taper Nose Straps
- One T-Slot Cleaner
- One Wooden Holder (†)

Part Number	T-Slot Width	Stud Thread Size	Strap Clamp	Adjustable Clamp Heel	Wt. (lbs)
45022†	7/16*	3/8-16	5/8 x 1 1/4 x 5	3/8-16 x 3	12
45023†	1/2	3/8-16	5/8 x 1 1/4 x 5	3/8-16 x 3	12
45021	9/16	3/8-16	5/8 x 1 1/4 x 5	3/8-16 x 3	12
45025	9/16*	1/2-13	7/8 x 1 1/4 x 6	1/2-13 x 4	20
45026	5/8	1/2-13	7/8 x 1 1/4 x 6	1/2-13 x 4	20
45024	11/16	1/2-13	7/8 x 1 1/4 x 6	1/2-13 x 4	20
45028†	11/16*	5/8-11	7/8 x 1 1/2 x 7	5/8-11 x 5	30
45029†	3/4	5/8-11	7/8 x 1 1/2 x 7	5/8-11 x 5	30
45027†	13/16	5/8-11	7/8 x 1 1/2 x 7	5/8-11 x 5	30
45031	13/16*	3/4-10	1 x 1 1/2 x 6	3/4-10 x 6	40
45032	7/8	3/4-10	1 x 1 1/2 x 6	3/4-10 x 6	40
45030	1 1/16	3/4-10	1 x 1 1/2 x 6	3/4-10 x 6	40

*T-Nuts not hardened due to thin wall.
† Includes Wood Holder.

WORKHOLDING COMPONENTS

Die Set-Up Kits



These Die Set-Up Kits can be used with any of the Jergens heavy duty straps; however, the kits are best suited **for use with forged strap clamps** found on pages 280 thru 282.

Each Kit includes:

- Four Flange Nuts
- Four Heavy Duty Washers
- Twelve Steel Step Blocks
- Twenty Studs
- One Wooden Holder

Thread Size	Part Number	Stud Lengths
1/2-13	44921	3, 4, 5, 6, 8
5/8-11	44922	3, 4, 5, 6, 8
3/4-10	44923	4, 5, 6, 8, 10



Toe Clamps Small

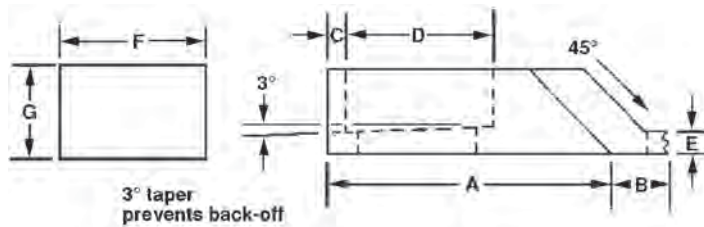


- Steel or brass toe and special washer are included with each clamp
- Slotted for 5/16 or M8 Cap Screws
- Case hardened for maximum wear
- Black Oxide finish

Jergens Feature:

3° Taper Prevents Back-off

Toe Clamps are powerful, low profile clamps that grip on the side of the workpiece leaving the top surface open. This minimizes interference with cutting tools or measuring instruments. Ideal for use on mills, planers, jig borers, drill presses, and faceplates.



Part Number	Toe Material	Toe Style	A	B	C	D	E	F	G	Wt. (lbs)	Toe Only
46921	STEEL	STANDARD	1 1/2	1/2	1/16	3/4	1/8	1	5/8	.24	46952
46961	BRASS	STANDARD	1 1/2	1/2	1/16	3/4	1/8	1	5/8	.24	46946
46971	STEEL	HIGH GRIP	1 1/2	1/2	1/16	3/4	5/8	1	5/8	.26	46948
46981	BRASS	HIGH GRIP	1 1/2	1/2	1/16	3/4	5/8	1	5/8	.26	46950
46922	STEEL	STANDARD	2	1/2	1/16	1 1/4	1/8	1	5/8	.30	46952
46962	BRASS	STANDARD	2	1/2	1/16	1 1/4	1/8	1	5/8	.30	46946
46972	STEEL	HIGH GRIP	2	1/2	1/16	1 1/4	5/8	1	5/8	.32	46948
46982	BRASS	HIGH GRIP	2	1/2	1/16	1 1/4	5/8	1	5/8	.32	46950
46923	STEEL	STANDARD	2 1/2	1/2	1/16	1 3/4	1/8	1	5/8	.35	46952
46963	BRASS	STANDARD	2 1/2	1/2	1/16	1 3/4	1/8	1	5/8	.35	46946
46973	STEEL	HIGH GRIP	2 1/2	1/2	1/16	1 3/4	5/8	1	5/8	.37	46948
46983	BRASS	HIGH GRIP	2 1/2	1/2	1/16	1 3/4	5/8	1	5/8	.37	46950

* Replacement Parts available, contact customer service.

Small Toe Clamp Kits



Each Clamp Kit Includes:

- Six Toe Clamps: Two of each length (1 1/2", 2", 2 1/2")
- Six Low Grip Steel Toes
- Six Toe Clamp Nuts
- Six Protective Washers
- One T-Wrench
- One Wooden Holder

Part Number	Table Slot	Toe Clamps	Toe Clamp Nuts	Washers	lbs Per Kit
44901	3/8	46921, 46922, 46923	46931	46942	3
44902	7/16	46921, 46922, 46923	46932	46942	3
44903	1/2	46921, 46922, 46923	46933	46942	3
44904	9/16	46921, 46922, 46923	46934	46942	3
44905	5/8	46921, 46922, 46923	46935	46942	3

Slotted for 5/16" or M8 Socket Head Cap Screws

* Replacement Parts available, contact customer service.



Toe Clamps Large

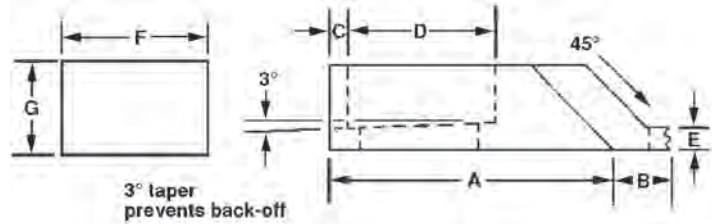


Jergens Feature:

3° Taper Prevents Back-off

Toe Clamps are powerful, low profile clamps that grip on the side of the workpiece leaving the top surface open. This minimizes interference with cutting tools or measuring instruments. Ideal for use on mills, planers, jig borers, drill presses, and faceplates.

- Steel or brass toe and special washer are included with each clamp.
- Slotted for 1/2" or M12 Cap Screws
- Low Carbon Steel hardened for maximum wear
- Black Oxide finish



Part Number	Toe Material	Toe Style	A	B	C	D	E	F	G	Wt. (lbs)	Toe Only
46926	STEEL	STANDARD	3 1/4	13/16	1/8	2	1/4	1 1/2	7/8	1.0	46953
46966	BRASS	STANDARD	3 1/4	13/16	1/8	2	1/4	1 1/2	7/8	1.0	46947
46976	STEEL	HIGH GRIP	3 1/4	13/16	1/8	2	7/8	1 1/2	7/8	1.3	46949
46986	BRASS	HIGH GRIP	3 1/4	13/16	1/8	2	7/8	1 1/2	7/8	1.3	46951
46927	STEEL	STANDARD	4 11/16	13/16	1/2	2 3/4	1/4	1 1/2	7/8	1.4	46953
46967	BRASS	STANDARD	4 11/16	13/16	1/2	2 3/4	1/4	1 1/2	7/8	1.4	46947
46977	STEEL	HIGH GRIP	4 11/16	13/16	1/2	2 3/4	7/8	1 1/2	7/8	1.7	46949
46987	BRASS	HIGH GRIP	4 11/16	13/16	1/2	2 3/4	7/8	1 1/2	7/8	1.7	46951
46928	STEEL	STANDARD	6 5/8	13/16	1	3 3/4	1/4	1 1/2	7/8	2.0	46953
46968	BRASS	STANDARD	6 5/8	13/16	1	3 3/4	1/4	1 1/2	7/8	2.0	46947
46978	STEEL	HIGH GRIP	6 5/8	13/16	1	3 3/4	7/8	1 1/2	7/8	2.3	46949
46988	BRASS	HIGH GRIP	6 5/8	13/16	1	3 3/4	7/8	1 1/2	7/8	2.3	46951

* 5/8 or M16 Cap Screw Slot and replacement parts available, contact customer service.

Large Toe Clamp Kits



Each Clamp Kit Contains:

- Six Toe Clamps: Two of each length (3 1/4", 4 11/16", 6 5/8")
- Four Low Grip Steel Toes
- Six Toe Clamp Nuts
- Six Protective Washers
- One T-Wrench
- One Wooden Holder

Part Number	Table Slot	Toe Clamps	Toe Clamp Nuts	Washers	lbs Per Kit
44906	9/16	46926, 46927, 46928	46936	46943	11
44907	5/8	46926, 46927, 46928	46937	46943	12
44909	11/16	46926, 46927, 46928	46938	46943	12
44910	13/16	46926, 46927, 46928	46939	46943	13
44911	7/8	46926, 46927, 46928	46940	46943	14
44912	1	46926, 46927, 46928	46941	46943	15

Slotted for 1/2" or M12 Socket Head Cap Screws

* 5/8 or M16 Cap Screw Slotted Kits and replacement parts available, contact customer service.



Lo-Profile Micro™ Clamps

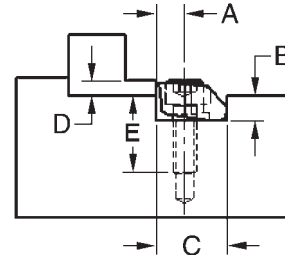


Problem: You require a clamping device which can grip low on a work piece, has exceptional horizontal *and* vertical holding force, and can be mounted below the fixture plate surface.

Solution: Jergens new Lo-Profile Micro clamps are the answer!

Material:

- Available in tool steel or brass
- Extraordinary horizontal and vertical force
- Extremely low profile
- Very small foot print
- High resistance to pull-out
- Choose among three sizes with inch or metric screws
- Knife and blunt edge styles



Lo-Profile Micro™ Clamps

Part Number	Description	A	B	C	D*	E	Clamp Width	Screw Size	Torque (ft/lbs)	Max. Holding Force (lbs)	Total Throw	Clamps Per Package
13201	Tool Steel, Knife Edge	.150	.140	.375	.075	.260	.375	4-40	1.30	650	.0075	8
13202	Tool Steel, Blunt Edge	.150	.140	.375	.075	.260	.375	4-40	1.30	650	.0075	8
13203	Brass, Blunt Edge	.150	.140	.375	.075	.220	.375	4-40	.41	200	.0075	8
13211	Tool Steel, Knife Edge	.200	.187	.500	.100	.390	.500	8-32	3.70	1500	.0160	8
13212	Tool Steel, Blunt Edge	.200	.187	.500	.100	.390	.500	8-32	3.70	1500	.0160	8
13213	Brass, Blunt Edge	.200	.187	.500	.100	.340	.500	8-32	2.00	400	.0160	8
13221	Tool Steel, Knife Edge	.300	.280	.750	.150	.570	.750	1/4-20	14.50	3600	.0240	6
13222	Tool Steel, Blunt Edge	.300	.280	.750	.150	.570	.750	1/4-20	14.50	3600	.0240	6
13223	Brass, Blunt Edge	.300	.280	.750	.150	.440	.750	1/4-20	4.10	950	.0240	6
13224	Tool Steel, Knife Edge	.400	.450	1.000	.250	.710	1.000	3/8-16 x 1"	30.00	6,000	0.050	4
13225	Tool Steel, Blunt Edge	.400	.450	1.000	.250	.710	1.000	3/8-16 x 1"	30.00	6,000	0.050	4
13226	Tool Steel, Knife Edge	.600	.640	1.500	.375	.710	1.500	1/2-13 x 1 1/4"	108.30	12,000	0.075	2
13227	Tool Steel, Blunt Edge	.600	.640	1.500	.375	.710	1.500	1/2-13 x 1 1/4"	108.30	12,000	0.075	2

* Combination horizontal and vertical force.

Metric Lo-Profile Micro™ Clamps

Part Number	Description	A	B	C	D*	E	Clamp Width	Screw Size	Max. Holding Force (N)	Torque (Nm)	Total Throw	Clamps Per Package
13251	Tool Steel, Knife Edge	3.81	3.55	9.52	1.90	9.52	9.52	M2.5	2800	1.8	.190	8
13252	Tool Steel, Blunt Edge	3.81	3.55	9.52	1.90	9.52	9.52	M2.5	2800	1.8	.190	8
13253	Brass, Blunt Edge	3.81	3.55	9.52	1.90	9.52	9.52	M2.5	875	.56	.190	8
13261	Tool Steel, Knife Edge	5.08	4.75	12.70	2.54	12.70	12.70	M4	6600	5.6	.406	8
13262	Tool Steel, Blunt Edge	5.08	4.75	12.70	2.54	12.70	12.70	M4	6600	5.6	.406	8
13263	Brass, Blunt Edge	5.08	4.75	12.70	2.54	12.70	12.70	M4	1750	2.8	.406	8
13271	Tool Steel, Knife Edge	7.62	7.11	19.05	3.81	19.05	19.05	M6	16000	22.5	.610	6
13272	Tool Steel, Blunt Edge	7.62	7.11	19.05	3.81	19.05	19.05	M6	16000	22.5	.610	6
13273	Brass, Blunt Edge	7.62	7.11	19.05	3.81	19.05	19.05	M6	4200	5.6	.610	6
13274	Tool Steel, Knife Edge	10.16	11.43	25.40	6.350	18.03	25.40	M10 x 25mm	26,000	40.6	1.270	4
13275	Tool Steel, Blunt Edge	10.16	11.43	25.40	6.350	18.03	25.40	M10 x 25mm	26,000	40.6	1.270	4
13276	Tool Steel, Knife Edge	15.24	16.26	38.10	9.520	19.56	38.10	M12 x 30mm	50,000	145.0	1.900	2
13277	Tool Steel, Blunt Edge	15.24	16.26	38.10	9.520	19.56	38.10	M12 x 30mm	50,000	145.0	1.900	2

* Combination horizontal and vertical force.



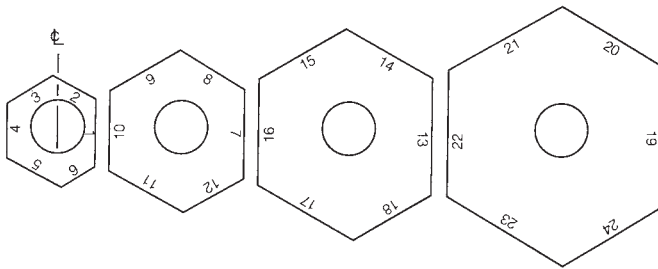
Adjustable Micro™ Clamps



Measured from the centerline, each face of these low profile clamps increases 1mm (.0394) from the smallest to the largest face.

Adjustable Micro Clamps decrease design and set-up times for modular fixtures, work cubes, and standard fixtures. Without changing hole locations, clamping range from 12mm to 35mm can be achieved.

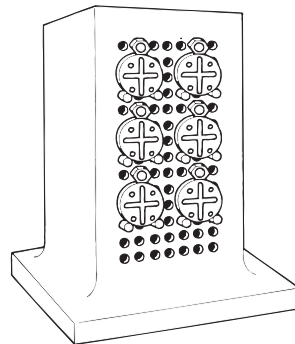
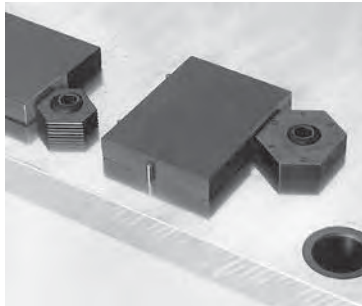
The clamps are available with either smooth or serrated faces which make them ideal for clamping machined parts, castings, and rough cut stock. The clamps work with a cam action, always following the contour of the workpiece for maximum surface contact.



- Cam action
- Low profile
- Available in four sizes
- Heat treated and plated
- Serrated or smooth edges
- Adjustable clamps and stops
- Includes Cam Screw*

Face #	Distance From Center Line	Face #	Distance From Center Line	Face #	Distance From Center Line	Face #	Distance From Center Line
1	.....12mm (.4724)	7	.....18mm (.7086)	13	.....24mm (.9449)	19	.....30mm (1.1811)
2	.....13mm (.5118)	8	.....19mm (.7480)	14	.....25mm (.9842)	20	.....31mm (1.2205)
3	.....14mm (.5512)	9	.....20mm (.7874)	15	.....26mm (1.0236)	21	.....32mm (1.2598)
4	.....15mm (.5906)	10	.....21mm (.8268)	16	.....27mm (1.0630)	22	.....33mm (1.2992)
5	.....16mm (.6299)	11	.....22mm (.8661)	17	.....28mm (1.1024)	23	.....34mm (1.3386)
6	.....17mm (.6693)	12	.....23mm (.9055)	18	.....29mm (1.1417)	24	.....35mm (1.3780)

Locking Screw is 1/2-13 for inch sizes and 12M for metric sizes; total distance of movement is .100".



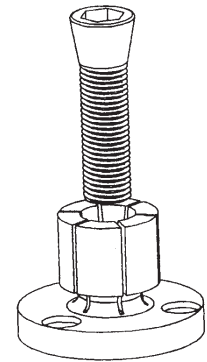
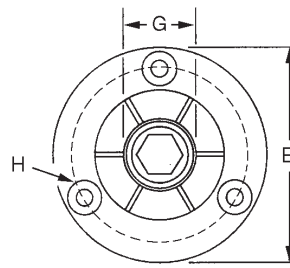
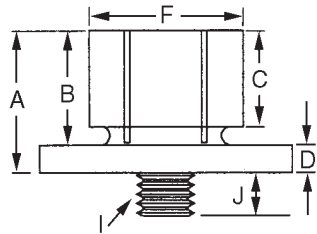
Inch Part Number	Metric Part Number	Description
68601	68651	1-6 smooth
68602	68652	7-12 smooth
68603	68653	13-18 smooth
68604	68654	19-24 smooth
68611	68661	1-6 serrated
68612	68662	7-12 serrated
68613	68663	13-18 serrated
68614	68664	19-24 serrated

All clamps include a cam screw. Clamps are 10mm (.394) thick.

Part Number	Thread	Max. Torque Holding Force
68202	Cam Screw 1/2-13	65 Ft/lbs. – 4000 lbs.
68199	Cam Screw M12	88N.M. – 17,800 N.



ID Expansion Clamp

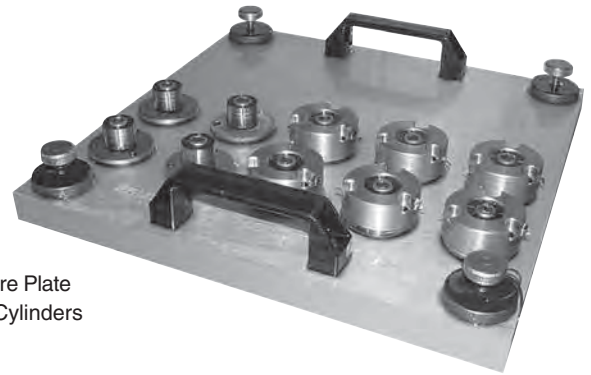


The ID expansion clamp is the ideal way to hold parts on an inside diameter for multiple machining on a vertical or horizontal machining center.

The larger diameter of the clamp is held to a close tolerance for precision locating in a machined pocket on work cubes and fixture plates.

The customer machines the mild steel clamp to match the bore of the part ensuring proper fit. Often times the clamps can be remachined for different size jobs.

- Body Material: Mild Steel
- Low Profile
- Ideal for Secondary Operations on Lathe Parts
- Easily Machined to Size on Lathe or Mill
- Excellent for Palletized Setups
- Allows More Parts Per Workcube or Fixture Plate
- Tighten with Hex Key or Hydraulic Pull Cylinders (Drill clearance hole for longer bolt into hydraulic cylinder)
- Instructions included with each clamp



Part Number	A	B	C	D	+0.000 -0.002 E	F	G*	H*	I	J	Torque (ft/lbs)	Holding Force (lbs)	Replacement Screw
68401	.42	.30	.24	.12	.787	.29	.16	2-56 on .540 BHC	2-56	.16	.05	250	68900
68402	.86	.63	.59	.23	1.170	.49	.28	6-32 on .825 BHC	8-32	.30	3.6	950	68901
68403	.98	.75	.59	.23	1.240	.56	.48	6-32 on .910 BHC	1/4-20	.50	13.3	1900	68902
68404	.98	.75	.59	.23	1.476	.79	.53	6-32 on 1.140 BHC	5/16-18	.56	27.6	2500	68903
68405	1.13	.88	.69	.25	1.968	1.06	.71	8-32 on 1.550 BHC	3/8-16	.71	49.3	4500	68904
68406	1.25	1.0	.81	.25	2.205	1.39	.90	8-32 on 1.790 BHC	1/2-13	.71	120.0	5900	68905
68407	1.56	1.25	1.06	.31	2.736	1.65	1.15	10-32 on 2.200 BHC	5/8-11	.79	224.0	10000	68906
68408	1.56	1.25	1.06	.31	2.972	2.03	1.15	10-32 on 2.515 BHC	5/8-11	.79	224.0	10000	68906
68409	1.79	1.48	1.27	.31	4.232	3.06	1.15	1/4-20 on 3.646 BHC	5/8-11	.79	224.0	10000	68907
68410	1.79	1.48	1.27	.31	5.232	4.06	1.15	1/4-20 on 4.648 BHC	5/8-11	.79	224.0	10000	68907
68411	1.79	1.48	1.27	.31	5.232	6.89	1.15	1/4-20 on 4.648 BHC	5/8-11	.79	224.0	10000	68907
68412	1.79	1.48	1.27	.31	6.000	9.85	1.15	1/4-20 on 5.250 BHC	5/8-11	.79	125.0	6000	68907

Metric

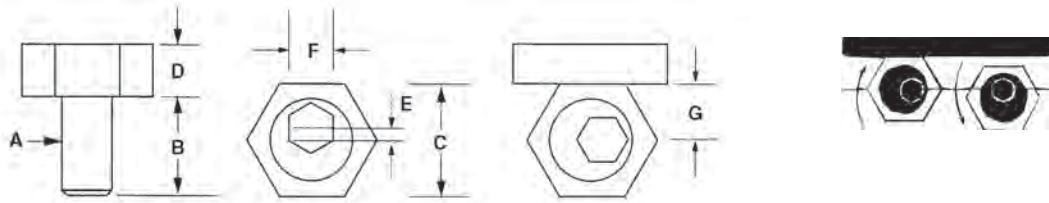
Part Number	A	B	C	D	+0.00 -0.05 E	F	G*	H*	I	J	Torque (Nm)	Holding Force (N.)	Replacement Screw
68829	10.7	7.6	6.1	3.0	20.0	7.4	4.1	M2 on 13.7 BHC	M2	4.1	.70	1,113	68909
68830	21.8	16.0	15.0	5.9	29.72	12.4	8.0	M3 on 20.95 BHC	M4	7.2	5.00	4,228	68910
68831	24.9	19.0	15.0	5.9	31.5	14.2	12.2	M3 on 23.1 BHC	M6	11.2	17.00	8,455	68911
68832	24.9	19.0	15.0	5.9	37.5	20.0	13.5	M3 on 29.0 BHC	M8	13.2	34.00	11,125	68912
68833	28.6	22.2	17.5	6.4	50.0	27.0	18.0	M4 on 39.4 BHC	M10	16.3	60.00	20,025	68913
68834	31.8	25.4	20.6	6.4	56.0	35.3	23.0	M4 on 45.5 BHC	M12	20.3	150.00	26,255	68914
68835	39.6	31.8	27.0	7.9	69.5	42.0	29.3	M5 on 55.9 BHC	M16	21.4	280.00	44,500	68915
68836	39.6	31.8	27.0	7.9	75.5	51.5	29.3	M5 on 63.9 BHC	M16	21.4	280.00	44,500	68915
68837	45.5	37.6	32.3	7.9	107.5	77.7	29.3	M6 on 92.6 BHC	M16	19.3	280.00	44,500	68917
68838	45.5	37.6	32.3	7.9	132.90	103.0	29.3	M6 on 188.06 BHC	M16	19.3	280.00	44,500	68916
68839	45.5	37.6	32.3	7.9	132.90	175.0	29.3	M6 on 188.06 BHC	M16	19.3	280.00	44,500	68916
68850	45.5	37.6	32.3	7.9	152.40	250.2	29.3	M6 on 133.35 BHC	M16	19.3	170.00	26,000	68916

* (3) Mounting Screws Included

* Minimum diameter the "F" dimension can be machined too.



Micro™ Clamps



Jergens Micro™ Clamps feature both high hold down forces and low profiles, which makes them ideal for building fixtures on Ball Lock® fixturing plates. Two simple components make them work: a hardened steel socket cap screw with an offset head and a hexagonal washer. A half turn tightens or loosens the workpiece.

- Low profile makes computer programming easier
- Cam action provides fast, strong clamping
- Small size allows more parts per load
- Requires only a tapped hole in your fixture
- Available in stainless steel
- Note clockwise rotation recommended workpiece stop should be on the right of the Clamp.

Part Number Steel	Part Number Stainless	A	B	C	D	Total Distance of Measurement E	Key Size F	G*	Maximum Holding Force (lbs)
68501	–	8-32	.350	.312	.110	.030	5/64	.150	205
68502	–	10-32	.340	.500	.160	.040	3/32	.250	350
68503	68513	1/4-20	.470	.625	.190	.040	1/8	.308	800
68505	–	5/16-24	.460	.812	.190	.040	3/16	.400	750
68506	68515	5/16-18	.460	.812	.190	.040	3/16	.400	750
68507	–	3/8-16	.710	.812	.250	.050	3/16	.400	2,000
68509	–	1/2-13	.900	1.000	.375	.100	5/16	.500	4,000
68511	–	5/8-11	1.125	1.187	.500	.100	3/8	.590	6,000

* This measurement is the correct location to drill and tap the hole from the edge of the work piece.

Metric

Part Number Steel	Part Number Stainless	A	B	C	D	Total Distance of Measurement E	Key Size F	G*	Maximum Holding Force (N)
68571	–	M4x0.7	9.6	7.93	2.8	.76	3	3.8	910
68572	68551	M6x1.0	11.2	15.86	4.75	1.01	4	7.8	3,558
68573	68553	M8x1.25	15.0	20.61	4.75	1.01	5	10.15	3,355
68574	–	M10x1.5	19.0	20.61	6.35	1.52	7	10.15	8,895
68575	–	M12x1.75	22.8	25.38	9.52	2.03	8	12.7	17,790
68576	–	M16x2.0	28.5	30.13	12.69	2.54	12	15.0	26,680

* This measurement is the correct location to drill and tap the hole from the edge of the work piece.

Replacement Screws available, contact customer service for more information.

Knife Edge Clamps



Knife edge clamps can be used for clamping rough cut stock, castings, or any material that requires a hardened clamping element. Hardened steel, brass-plated.

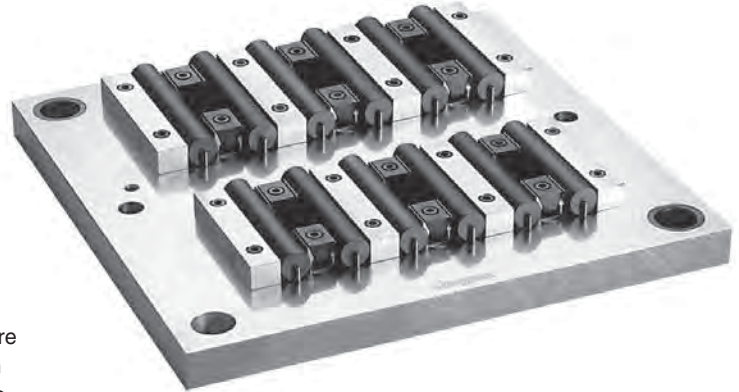
Replacement Screws available, contact customer service for more information.

Part Number	A	B	C	D	E	F	G*	Torque (ft. lbs)	Max. Holding Force (lbs)
68547	3/8-16	3/16	0.812	0.250	0.050	0.710	0.400	16.6	2,000
68548	1/2-13	5/16	1.000	0.375	0.100	0.900	0.500	52.0	4,000
68549	5/8-11	3/8	1.187	0.500	0.100	1.125	0.590	80.0	6,000
Metric								(Nm)	(N)
68840	M10	7M	1.52	20.60	6.35	19.0	10.15	28	8,895
68841	M12	8M	2.03	25.40	9.52	22.8	12.70	88	17,790
68842	M16	12M	2.54	30.15	12.70	28.5	15.00	135	26,680

* This measurement is the correct location to drill and tap the hole from the edge of the work piece.

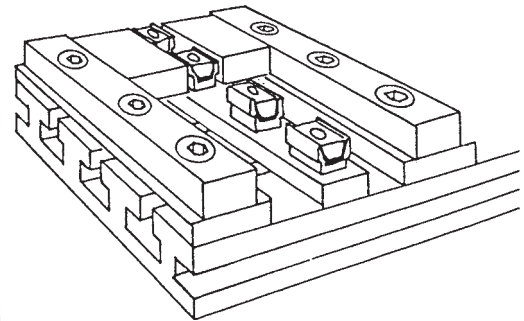
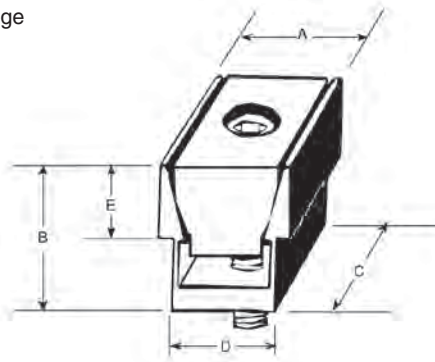
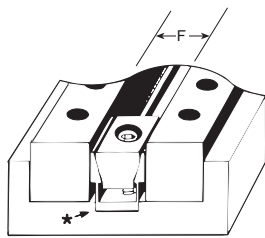


Expanding Micro™ Clamps



Jergens Expanding Micro Clamps allow you to fixture more parts on your fixture plates. The unique expanding design can hold two parts at once when used with a positive stop.

- Minimizes tool changes
- Holds two parts with equilateral clamping action
- Ideal for clamping flat or round work pieces
- Reduces wasted space
- Aluminum Housing, Steel Wedge



*A shallow slot, a little wider than D dimension, will insure clamp remains in line with workpiece.

Part Number	A	B	C	D*	E	F	Thread Size	Maximum Spread	Maximum Holding Force (lbs)	Key Size
68706	.240	.250	.320	.210	.100	.250	2-56	.265	200	5/64
68707	.360	.380	.470	.310	.185	.375	4-40	.395	310	3/32
68701	.485	.500	.625	.410	.220	.500	8-32	.540	500	9/64
68702	.735	.750	.940	.632	.375	.750	1/4-20	.800	1500	3/16
68703	.980	1.00	1.250	.820	.500	1.000	5/16-18	1.060	2000	1/4
68704	1.470	1.50	1.875	1.215	.750	1.500	1/2-13	1.590	3500	3/8
68705	1.960	2.00	2.500	1.625	1.000	2.000	5/8-11	2.100	6000	1/2

Metric

Part Number	A	B	C	D*	E	F	Thread Size	Maximum Spread	Maximum Holding Force (N)	Key Size
68716	6.1	6.9	8.1	5.3	3.6	6.4	M2	6.7	880	1.5
68717	9.1	9.7	11.9	7.9	4.7	9.5	M2.5	10	1,350	2
68711	12.3	14.5	15.9	10.4	5.6	12.7	M4	13.2	2,224	3
68712	18.6	19.0	23.8	16.1	9.5	19.0	M6	20.3	6,670	5
68713	24.8	25.9	31.7	20.8	12.7	25.4	M8	26.9	8,895	6
68714	37.3	38.6	47.6	30.8	19.0	38.1	M12	39.9	15,565	10
68715	49.7	51.5	63.5	41.2	25.4	50.8	M16	53.0	26,690	14

*F is the distance needed between workpieces for clamp clearance. Drill and tap mounting hole on the center of F dimension.



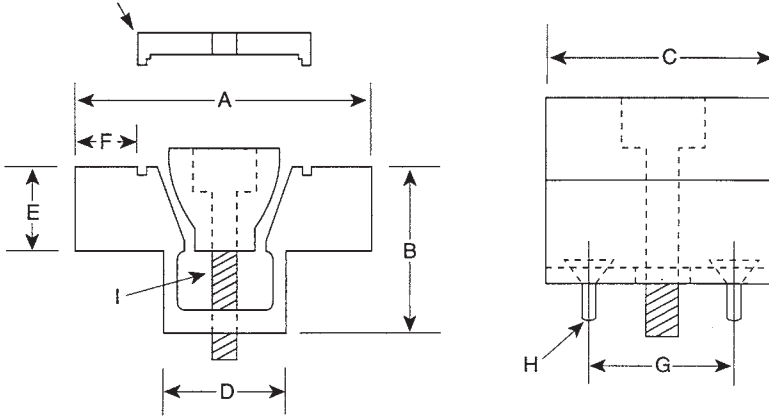
Machinable Expanding Micro™ Clamps



The compact Machinable Expanding Micro™ Clamp is available with extra material on the clamping jaw so it can be machined to conform to the shape of your workpiece – enabling you to fixture unusual applications easily. The specially designed steel wedge spreads the clamping force uniformly on both sides of the aluminum channel. Clamps may be ordered with a unique locking plate to make the clamp rigid while machining the jaw to your specifications, without vibration.

- Material: Channel 7075-76 Aluminium
- Mounting Screws Included
- Compact Design
- Allows more parts to be mounted on Fixture

NOTE: Locking plate is used only to machine jaws, remove to clamp workpiece.



Part No. With Locking Plate	Part No. Without Locking Plate	A*	B	C	D	E	F†	G	Mounting Screw **H	I
68770	68771	1.125	0.50	0.62	0.420	0.18	0.18	0.400	2-56	8-32
68772	68773	1.500	0.75	0.94	0.632	0.37	0.26	0.624	6-32	1/4-20
68774	68775	2.000	1.00	1.25	0.820	0.50	0.39	0.812	6-32	5/16-18
68776	68777	3.000	1.50	1.87	1.215	0.75	0.62	1.200	10-32	1/2-13
68778	68779	4.000	2.00	2.50	1.625	1.00	0.80	1.625	1/4-20	5/8-11

* The distance needed between workpieces for clamp clearance, drill and tap mounting holes on the center of "A" dimension.

† The amount of machinable stock on jaws.

** Mounting Screws Included

Metric

Part No. With Locking Plate	Part No. Without Locking Plate	A*	B	C	D	E	F†	G	Mounting Screw **H	I
68870	68871	28.6	12.7	15.7	10.67	6.3	4.6	10.16	M2	M4
68872	68873	38.1	19.1	23.9	16.05	9.4	6.6	15.87	M4	M6
68874	68875	50.8	25.4	31.8	20.83	12.7	9.9	20.62	M4	M8
68876	68877	76.2	38.1	47.5	30.86	19.1	15.7	30.48	M5	M12
68878	68879	101.6	50.8	63.5	41.28	25.4	20.3	41.28	M6	M16

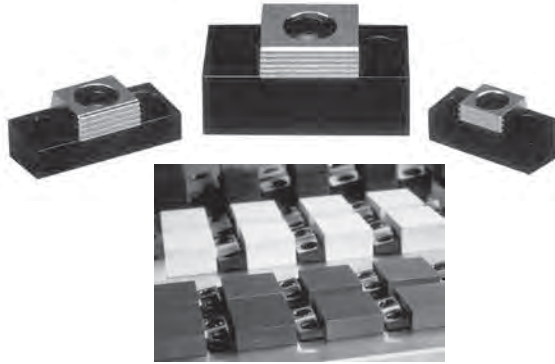
* The distance needed between workpieces for clamp clearance, drill and tap mounting holes on the center of "A" dimension.

† The amount of machinable stock on jaws.

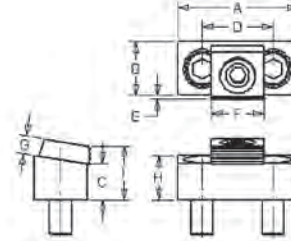
** Mounting Screws Included



Micro™ Toe Clamps



This cam action fixture clamp provides positive down force while using very little space on the fixture. Workpieces can be clamped in series by using the back surface of a clamp to locate the next workpiece. The hardened steel clamping element has both a smooth surface for machined workpieces and a serrated clamping surface for rougher work. The height of the clamp can be adjusted by milling the slot deeper in the fixture plate.



Part Number	A	B	C	D	E†	F	G	H	I	Cam Screw	Distance of Movement	Mounting Screws	Torque (ft/lbs)	Holding Force(lbs)
68731	1.70	.75	.50	1.00	.090	.75	.25	.62	.845	68527	.050	5/16-18 x 3/4 LH	20.8	2000
68732	2.12	1.00	.45	1.32	.110	1.00	.38	.62	.960	68529	.100	3/8-16 x 3/4 LH	65.0	4000
68733	2.95	1.50	.99	2.00	.130	1.50	.50	1.25	1.70	68531	.100	1/2-13 x 1 1/4 SHCS	100.0	6000

† "E" is the distance needed between the front of the clamp base and the workpiece.

Metric

Part Number	A	B	C	D	E†	F	G	H	Cam Screw	Distance of Movement	Mounting Screws Included	Torque (N-m)	Holding Force(N)
68781	43.2	19.0	12.7	25.4	2.3	19.0	6.4	15.75	M10	1.6	M8	28.0	8900
68782	54.0	25.4	11.4	33.5	2.8	25.4	9.7	15.75	M12	2.0	M10	88.0	17800
68783	75.0	38.1	25.2	50.8	3.3	38.1	12.7	2.5	M16		M12		

† "E" is the distance needed between the front of the clamp base and the workpiece.

Micro™ T-Slot Toe Clamps



This clamp is like the Micro Toe Clamp, only it is designed to be used in the T-slots of machine tables. It provides positive down force while maintaining a low profile. The hardened steel clamping element has both a smooth surface for machined work pieces and a serrated clamping surface for rougher work.

Inch

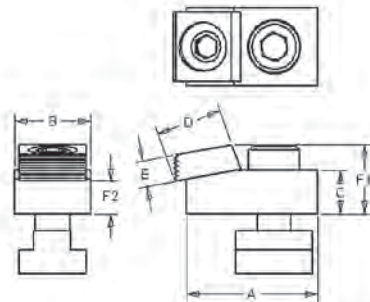
Part Number	T-Slot Size	A	B	C	D	E	F ¹	F ²	Max. Torque/Holding Force (Ft Lbs/Lbs)
68750	No T-nut or Mtg. Screw	1.94	1.12	0.62	1.00	0.38	1.00	0.875	65/4,000
68741	9/16	1.94	1.12	0.62	1.00	0.38	1.00	0.875	65/4,000
68742	5/8	1.94	1.12	0.62	1.00	0.38	1.00	0.875	65/4,000
68743	11/16	1.94	1.12	0.62	1.00	0.38	1.00	0.875	65/4,000
68744	3/4	1.94	1.12	0.62	1.00	0.38	1.00	0.875	65/4,000

Metric

Part Number	T-Slot Size	A	B	C	D	E	F ¹	F ²	Max Torque/Holding Force (N.m./N.)
68791	14	50	28.5	15.7	25.4	9.6	25.4	22.2	88.00/17800
68792	16	50	28.5	15.7	25.4	9.6	25.4	22.2	88.00/17800
68793	18	50	28.5	15.7	25.4	9.6	25.4	22.2	88.00/17800
68794	No T-nut or Mtg. Screw	50	28.5	15.7	25.4	9.6	25.4	22.2	88.00/17800

F¹ - The distance from the top of the back of the washer to the bottom of the clamp body.

F² - The distance from the top of the front of the washer to the bottom of the clamp body.



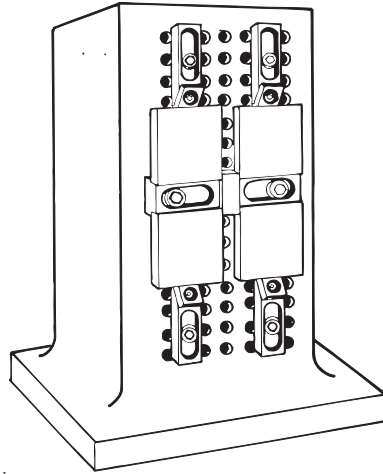
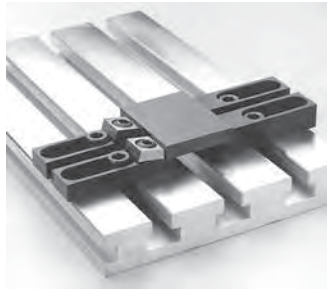
Metric

Part Number	T-Slot Size	Part Number	T-Slot Size
68750	No T-nut or Mtg. Screw	68791	14
68741	9/16	68792	16
68742	5/8	68793	18
68743	11/16	68794	No T-nut or Mtg. Screw
68744	3/4		

Torque mounting bolt to 110 Ft/Lbs (150 N.m.)

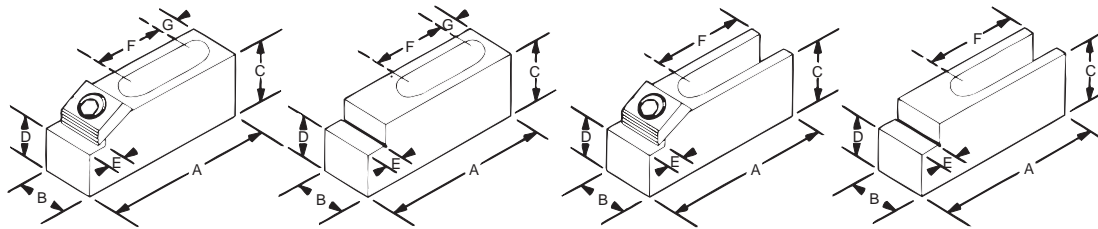


Micro™ Edge Clamps



The Micro Edge Clamp offers increased versatility through its unique elevated clamping abilities.

- Workpiece is elevated for through milling and drilling
- Cam action provides positive holddown force
- Provides flexible set-ups for hard to hold parts
- Works in plates, both with tapped hole layouts or T-slot configurations
- Can be mounted vertically or horizontally
- Built-in stops locate workpiece for repeat positioning
- Larger sizes are ideal for mold shop applications
- Tapered mounting slot prevents movement when clamping pressure is applied
- Hardened steel clamping element, low carbon steel body



Closed slot style

Open slot style

Inch

Part Number	Item	A	B	C	+ .0000 - .0005 D	E	F	G	Cam Screw Part Number	Mounting Screw	Slot
68721	Clamp	2.50	.75	.62	.4600	.31	.83	.53	68527	5/16	Closed
68722	Stop	2.50	.75	.75	.4600	.31	1.11	.53	N/A	5/16	Closed
68723	Clamp	3.75	1.12	.62	.4800	.37	1.68	.50	68529	1/2	Closed
68724	Stop	3.75	1.12	.87	.4800	.37	1.68	.50	N/A	1/2	Closed
68725	Clamp	4.21	1.50	1.62	1.3780	.37	1.82	N/A	68535	5/8	Open
68726	Stop	4.21	1.50	2.00	1.3780	.37	1.82	N/A	N/A	5/8	Open

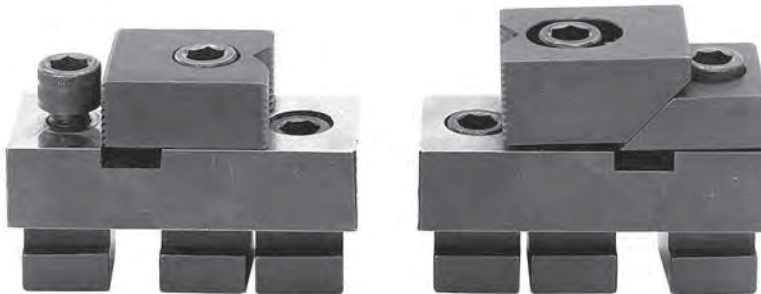
Metric

Part Number	Item	A	B	C	+ .0000 - .0130 D	E	F	G	Cam Screw Part Number	Mounting Screw	Slot
68821	Clamp	63.5	19.1	15.8	11.68	8.0	21.1	13.5	68532	M8	Closed
68822	Stop	63.5	19.1	19.1	11.68	8.0	28.2	13.5	NA	M8	Closed
68823	Clamp	95.3	28.5	15.8	12.19	9.4	42.7	12.7	68534	M12	Closed
68824	Stop	95.3	28.5	22.1	12.19	9.4	42.7	12.7	NA	M12	Closed
68825	Clamp	107.0	38.1	41.2	35.00	9.4	46.2	NA	68535	M16	Open
68826	Stop	107.0	38.1	50.8	35.00	9.4	46.2	NA	NA	M16	Open

WORKHOLDING COMPONENTS



Modular Mini Vise



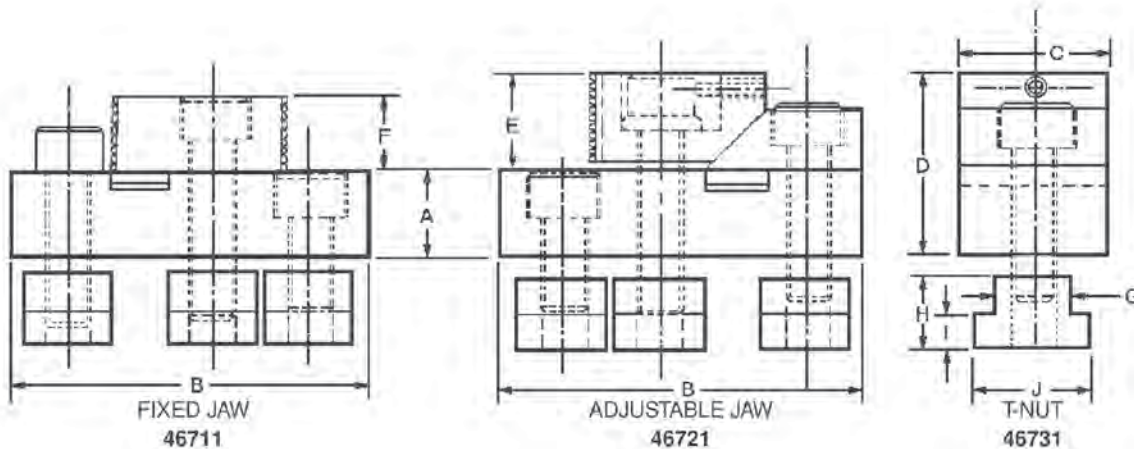
- Material: C-1018
- Finish: Black Oxide
Case Hardened 58-62 Rc

Description	Part Number
Fixed Jaw Clamp	46711
Adj. Jaw Clamp	46721
T-Slot Nut	46731

The Jergens Modular Mini Vise provides accurate location and positive holding. The bases are hardened and ground to the same height as Jergens Rest Pads for accurate location. The jaws are serrated and hardened to provide positive holding. These versatile clamps may be used as shown, or the jaws may be reversed to allow the workpiece to rest on the machine table or fixture base. The clamps can be made part of a dedicated fixture by removing the T-nuts and fastening the 3/8-16" cap screws directly to the fixture.

To use the Jergens Modular Mini Vise: position the fixed jaw clamp and tighten all three cap screws to secure the clamp. Position the adjustable clamp and tighten the outside capscrews. Insert the workpiece and tighten the center cap screw. The adjustable jaw will force the workpiece down against the base and over against the fixed jaw clamp.

The 46711 clamp has a fixed jaw for locating. The 46721 clamp has an adjustable jaw for clamping. Each clamp is supplied with three 3/8-16" cap screws and three 46731 T-nuts.



+ .0000 - .0005 A	B	C	Maximum Height D	E	F	Table Slot G	H	I	J
.7205	3	1 1/4	1-9/16	3/4	5/8	5/8	5/8	11/32	1

SPRING LOADED DEVICES

Spring Loaded Devices

Plungers:

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Jergens Spring & Ball Plungers Last Longer

...And Here's Why!

Spring Plungers

Spring Plunger tips are manufactured using case hardened steel. This means they have a protective shell, about .10" deep.

Jergens Spring and Ball Plungers have accurate end forces, are easy to install, and are competitively priced. They are manufactured in the U.S.A. in a ISO 9001:2008 certified quality system.

And if these aren't enough reasons to specify Jergens Spring and Ball Plungers, here are a few more:

Better Point of Contact

The Jergens plungers are turned and the tips generated in one smooth continuing process. This results in a constant radius tip, perfectly tangent to the point where the tip joins the shaft. Conventional two step, turn and grind operations, can leave ridges on the shaft at the tip junction and can also produce out-of-round tips. These, in turn, can gouge or score finely finished parts or can cause detent cams to hang up or stick.

Extra Length Springs for Longer Life

The longer the spring, the longer its life. Jergens goes to extra lengths to minimize the thickness of the base flanges on all of its plungers. That allows us to use longer springs with less chance for fatigue and breakage.

Improved Plunger to Body Alignment

The long base flange allows for a larger bearing surface. This means improved plunger-to-body alignment, truer travel, and much improved side load characteristics.

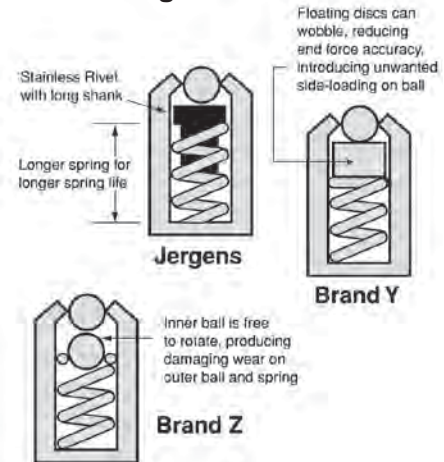
Tighter Fit Resists Contamination

Closer machining tolerances, minimum plunger-to-body clearance, and smoother plunger finish make Jergens plungers fit more snugly in the plunger bore. This improves plunger alignment and provides extra resistance to contaminant entry. The results: dirt and grit cannot get to the bearing surfaces to shorten the life of the plunger.

Better Plunger Adjustment

The Solid Drive Design assures that during removal or adjustment of the plunger, the whole plunger is moving, not just the set screw. This means no lost parts or springs falling out of the plunger.

Ball Plungers



Positive Control of Spring Pressure

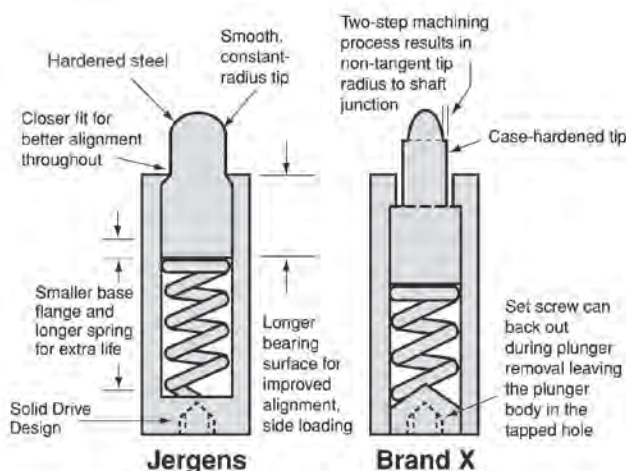
Accurate spring alignment is maintained by using a stainless rivet with a long shank on larger sizes of Jergens Ball Plungers. This precisely positions the spring for more accurate ball travel and provides positive control of spring pressure. Conventional floating discs are easily misaligned, while the rotation of the inner ball on dual-ball plungers results in less wearability on both the spring and the ball.

Longer Spring Life

By minimizing the lining pin head thickness, Jergens is able to use the longest possible springs. This, of course, means less fatigue and longer spring life.

Uniform Ball Projection

The distance by which the ball projects from the body of the plunger must be uniform from plunger to plunger. This uniformity is maintained by precisely controlling the crimping pressure applied to the neck of the plunger. Accurate machine controls plus rigid inspection procedures keep variances in ball projection to within $\pm .005$ ".



SPRING LOADED DEVICES



Quick Reference



- Spring Plungers302–305
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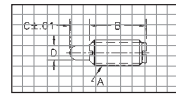
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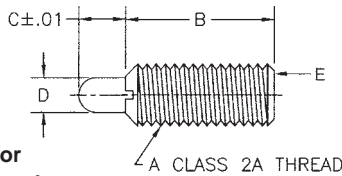
Spring Plungers Inch



- Single unit construction
- No set screw to separate from plunger body
- Better reliability
- Steel tips are case hardened steel
- Close tolerance between tip and body

- Material: Body – Low Carbon Steel, Black Oxide or 303-Stainless Steel
Tip – Steel or Stainless Steel
- Thread: 2A-UNC
- 3D Solid Models are available in multiple formats from www.jergensinc.com
- Conforms to TCMA dimensional standards

Plunger tips are color coded to indicate light or heavy force:
 Silver = Steel Tip, Light Force
 Black = Steel Tip, Heavy Force



Hex drive in rear for spring plunger insertion.

Unlike conventional spring plungers, the body of a Jergens Solid Drive Plunger is machined in one piece. The spring is assembled from the top so that there is no need for a set screw. Solid Drive Plungers do not have a set screw which can loosen or separate from the plunger body. The advantage is no lost springs, no need for "easy-out" tools. When adjusting Solid Drive, you can be sure the plunger body is turning and not a set screw.

Specials available, see page 310 for Plunger Quote Request worksheet.

Inch – Steel & Stainless Steel Tip With Locking Element

Without Locking Element

SS Part Number	Steel Part Number	Thread Size A	Initial Force (lbs)	Final Force (lbs)	B	C	D	Hex Size E
27336	27321	6-32	0.5	1.5	17/32	1/16	0.046	3/64
26936	26921	6-32	1.5	4.5	17/32	1/16	0.046	3/64
27337	27322	8-32	0.7	2.3	5/8	3/32	0.070	5/64
26937	26922	8-32	2.7	7.3	5/8	3/32	0.070	5/64
27338	27323	10-32	1.3	2.7	3/4	1/8	0.093	3/32
26938	26923	10-32	2.9	11.1	3/4	1/8	0.093	3/32
27339	27324	1/4-20	1.0	4.0	1	3/16	0.119	1/8
26939	26924	1/4-20	3.0	13.0	1	3/16	0.119	1/8
27340	27325	1/4-28	1.0	4.0	1	3/16	0.119	1/8
26940	26925	1/4-28	3.0	13.0	1	3/16	0.119	1/8
27341	27326	5/16-18	1.5	4.5	1	3/16	0.135	5/32
26941	26926	5/16-18	3.0	15.0	1	3/16	0.135	5/32
27342	27327	3/8-16	2.8	7.2	1 1/8	3/16	0.186	3/16
26942	26927	3/8-16	5.5	14.5	1 1/8	3/16	0.186	3/16
27343	27328	1/2-13	2.7	9.3	1 1/4	1/4	0.248	1/4
26943	26928	1/2-13	6.6	17.4	1 1/4	1/4	0.248	1/4
27344	27329	5/8-11	3.5	10.5	1 1/2	5/16	0.310	5/16
26944	26929	5/8-11	10.5	25.5	1 1/2	5/16	0.310	5/16
27345	27330	3/4-10	5.5	14.5	1 3/4	5/16	0.374	3/8
26945	26930	3/4-10	6.7	37.3	1 3/4	5/16	0.374	3/8
—	27311*	1-8	10.0	25.0	2 13/32	1/2	0.499	3/8
—	26911*	1-8	16.0	68.0	2 13/32	1/2	0.499	3/8

SS Part Number	Steel Part Number
27031	27221
27011	26821
27032	27222
27012	26822
27033	27223
27013	26823
27034	27224
27014	26824
27035	27225
27015	26825
27036	27226
27016	26826
27037	27227
27017	26827
27038	27228
27018	26828
27039	27229
27019	26829
27040	27230
27020	26830
—	27211*
—	26811*

* Not available in DRIVE construction.

NOTE: For easy insertion of Spring Plungers with locking elements, the tapped hole should be countersunk at least .030-.045" (0.76-1.14mm) larger than the major diameter of the plunger.

SPRING LOADED DEVICES



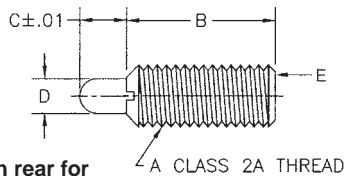
Spring Plungers Inch



- Single unit construction
- No set screw to separate from plunger body
- No need for "easy-out" tools
- Better reliability
- Steel tips are case hardened steel
- Close tolerance between tip and body

- Material: Body – Low Carbon Steel, Black Oxide or 303-Stainless Steel
Tip – Delrin
- Thread: 2A-UNC
- 3D Solid Models are available in multiple formats from www.jergensinc.com
- Conforms to TCMA dimensional standards

Plunger tips are color coded to indicate light or heavy force:
 White = Delrin Tip, Light Force
 Blue = Delrin Tip, Heavy Force



Hex drive in rear for spring plunger insertion.

Unlike conventional spring plungers, the body of a Jergens Solid Drive Plunger is machined in one piece. The spring is assembled from the top so that there is no need for a set screw. Solid Drive Plungers do not have a set screw which can loosen or separate from the plunger body. The advantage is no lost springs, no need for "easy-out" tools. When adjusting Solid Drive, you can be sure the plunger body is turning and not a set screw.

Specials available, see page 310 for Plunger Quote Request worksheet.

Inch – Delrin Tip With Locking Element

SS Part Number	Steel Part Number	Thread Size A	Initial Force (lbs)	Final Force (lbs)	B	C	D	Hex Size E
30936	30921	6-32	0.5	1.5	17/32	1/16	0.046	3/64
30536	30521	6-32	1.5	4.5	17/32	1/16	0.046	3/64
30937	30922	8-32	0.7	2.3	5/8	3/32	0.070	5/64
30537	30522	8-32	2.7	7.3	5/8	3/32	0.070	5/64
30938	30923	10-32	1.3	2.7	3/4	1/8	0.093	3/32
30538	30523	10-32	2.9	11.1	3/4	1/8	0.093	3/32
30939	30924	1/4-20	1.0	4.0	1	3/16	0.119	1/8
30539	30524	1/4-20	3.0	13.0	1	3/16	0.119	1/8
30940	30925	1/4-28	1.0	4.0	1	3/16	0.119	1/8
30540	30525	1/4-28	3.0	13.0	1	3/16	0.119	1/8
30941	30926	5/16-18	1.5	4.5	1	3/16	0.135	5/32
30541	30526	5/16-18	3.0	15.0	1	3/16	0.135	5/32
30942	30927	3/8-16	2.8	7.2	1 1/8	3/16	0.186	3/16
30542	30527	3/8-16	5.5	14.5	1 1/8	3/16	0.186	3/16
30943	30928	1/2-13	2.7	9.3	1 1/4	1/4	0.248	1/4
30543	30528	1/2-13	6.6	17.4	1 1/4	1/4	0.248	1/4
30944	30929	5/8-11	3.5	10.5	1 1/2	5/16	0.310	5/16
30544	30529	5/8-11	10.5	25.5	1 1/2	5/16	0.310	5/16
30945	—	3/4-10	5.5	14.5	1 3/4	5/16	0.374	3/8
30545	—	3/4-10	6.7	37.3	1 3/4	5/16	0.374	3/8

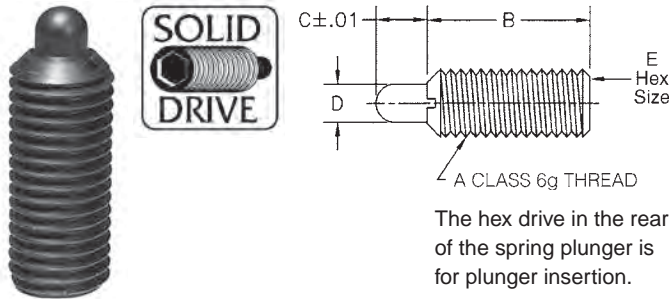
Without Locking Element

SS Part Number	Steel Part Number
30510	30821
30500	30421
30511	30822
30501	30422
30512	30823
30502	30423
30513	30824
30503	30424
30514	30825
30504	30425
30515	30826
30505	30426
30516	30827
30506	30427
30517	30828
30507	30428
30518	30829
30508	30429
30519	—
30509	—

NOTE: For easy insertion of Spring Plungers with locking elements, the tapped hole should be countersunk at least .030-.045" (0.76-1.14mm) larger than the major diameter of the plunger.



Spring Plungers Metric



The hex drive in the rear of the spring plunger is for plunger insertion.

Specials available, see page 310 for Plunger Quote Request worksheet.

- Material: Body – Low Carbon Steel, Black Oxide or 303-Stainless Steel
Tip – Steel or Stainless Steel
- Thread: 2A-UNC
- 3D Solid Models are available in multiple formats from www.jergensinc.com
- Conforms to TCMA dimensional standards

Unlike conventional spring plungers, the body of a Jergens Solid Drive Plunger is machined in one piece. The spring is assembled from the top so that there is no need for a set screw. Solid Drive Plungers do not have a set screw which can loosen or separate from the plunger body. The advantage is no lost springs, no need for “easy-out” tools. When adjusting Solid Drive, you can be sure the plunger body is turning and not a set screw.

Metric – Steel & Stainless Steel Tip With Locking Element

SS Part Number	Steel Part Number	Thread Size A	Initial Force (kg)	Final Force (kg)	B	C	D	Hex Size E	SS Part Number	Steel Part Number
30890	27250	M4 x 0.7	0.32	1.04	16	2.5	1.78	2.0	30880	27270
30490	26850	M4 x 0.7	1.22	3.29	16	2.5	1.78	2.0	30480	26870
30891	27251	M5 x 0.8	0.59	1.22	19	3.0	2.36	2.5	30881	27271
30491	26851	M5 x 0.8	1.31	5.00	19	3.0	2.36	2.5	30481	26871
30892	27252	M6 x 1.0	0.45	1.80	25	5.0	3.02	3.0	30882	27272
30492	26852	M6 x 1.0	1.35	5.85	25	5.0	3.02	3.0	30482	26872
30893	27253	M8 x1.25	0.68	2.03	25	5.0	3.43	4.0	30883	27273
30493	26853	M8 x1.25	1.35	6.75	25	5.0	3.43	4.0	30483	26873
30894	27254	M10 x 1.5	1.26	3.26	29	5.0	4.72	5.0	30884	27274
30494	26854	M10 x 1.5	2.48	6.53	29	5.0	4.72	5.0	30484	26874
30895	27255	M12 x 1.75	1.22	4.21	32	6.0	6.30	6.0	30885	27275
30495	26855	M12 x 1.75	2.97	7.83	32	6.0	6.30	6.0	30485	26875
30897	27257	M16 x 2.0	1.58	4.76	38	8.0	7.87	8.0	30887	27277
30497	26857	M16 x 2.0	4.73	11.48	38	8.0	7.87	8.0	30487	26877
30898	27258	M20 x 2.5	2.50	6.58	44	8.0	9.50	10.0	30888	27278
30498	26858	M20 x 2.5	3.05	16.95	44	8.0	9.50	10.0	30488	26878

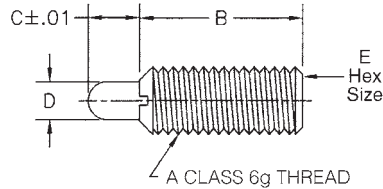
Without Locking Element

NOTE: For easy insertion of Spring Plungers with locking elements, the tapped hole should be countersunk at least .030-.045" (0.76-1.14mm) larger than the major diameter of the plunger.

SPRING LOADED DEVICES



Spring Plungers Metric – Delrin Tip



The hex drive in the rear of the spring plunger is for plunger insertion.

Specials available, see page 310 for Plunger Quote Request worksheet.

- Material: Body – Low Carbon Steel, Black Oxide Tip – Delrin
- Thread: 2A-UNC
- 3D Solid Models are available in multiple formats from www.jergensinc.com
- Conforms to TCMA dimensional standards

Unlike conventional spring plungers, the body of a Jergens Solid Drive Plunger is machined in one piece. The spring is assembled from the top so that there is no need for a set screw. Solid Drive Plungers do not have a set screw which can loosen or separate from the plunger body. The advantage is no lost springs, no need for “easy-out” tools. When adjusting Solid Drive, you can be sure the plunger body is turning and not a set screw.

Metric – Delrin Tip With Locking Element

Steel Part Number	Thread Size A	Initial Force (kg)	Final Force (kg)	B	C	D	Hex Size E	Steel Part Number
30850	M4 x 0.7	0.32	1.04	16	2.5	1.78	2.0	30870
30450	M4 x 0.7	1.22	3.29	16	2.5	1.78	2.0	30470
30851	M5 x 0.8	0.59	1.22	19	3.0	2.36	2.5	30871
30451	M5 x 0.8	1.31	5.00	19	3.0	2.36	2.5	30471
30852	M6 x 1.0	0.45	1.80	25	5.0	3.02	3.0	30872
30452	M6 x 1.0	1.35	5.85	25	5.0	3.02	3.0	30472
30853	M8 x1.25	0.68	2.03	25	5.0	3.43	4.0	30873
30453	M8 x1.25	1.35	6.75	25	5.0	3.43	4.0	30473
30854	M10 x 1.5	1.26	3.26	29	5.0	4.72	5.0	30874
30454	M10 x 1.5	2.48	6.53	29	5.0	4.72	5.0	30474
30855	M12 x 1.75	1.22	4.21	32	6.0	6.30	6.0	30875
30455	M12 x 1.75	2.97	7.83	32	6.0	6.30	6.0	30475
30857	M16 x 2.0	1.58	4.76	38	8.0	7.87	8.0	30877
30457	M16 x 2.0	4.73	11.48	38	8.0	7.87	8.0	30477
30858	M20 x 2.5	2.50	6.58	44	8.0	9.50	10.0	30878
30458	M20 x 2.5	3.05	16.95	44	8.0	9.50	10.0	30478

NOTE: For easy insertion of Spring Plungers with locking elements, the tapped hole should be countersunk at least .030-.045" (0.76-1.14mm) larger than the major diameter of the plunger.

Without Locking Element



Shortie Spring Plungers Inch



- Material: Body – Low Carbon Steel, Black Oxide
Tip – Delrin or Steel
- Thread: 2A-UNC
- 3D Solid Models are available in multiple formats from www.jergensinc.com
- Conforms to TCMA dimensional standards
- Thread: 2A-UNC
- Available in metric sizes. See page 307.

Jergens Feature:

Jergens Shortie Spring Plungers are made to the same quality standards as the Solid Drive
*Made with full standard spring plunger stroke in a short body. A screwdriver slot is substituted for the hex drive due to the smaller size.

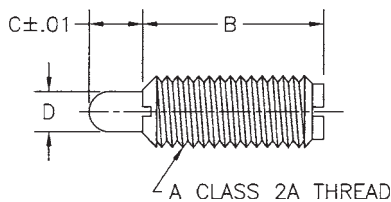
Inch – Shortie Spring Plunger With Locking Element

Without Locking Element

Steel Tip	Delrin Tip	Thread Size A	Initial Force (lbs)	Final Force (lbs)	B	C	D	Steel Tip	Delrin Tip
27101	30701	6-32	0.5	1.5	3/8	1/16	0.046	27001	30601
26701	30301	6-32	0.5	3.5	3/8	1/16	0.046	26601	30201
27102	30702	8-32	0.5	2.0	1/2	3/32	0.070	27002	30602
26702	30302	8-32	0.5	4.0	1/2	3/32	0.070	26602	30202
27103*	30703*	10-32	0.3	3.0	9/16	1/8	0.093	27003*	30603*
26703*	30303*	10-32	0.5	5.0	9/16	1/8	0.093	26603*	30203*
27104	30704	1/4-20	0.3	3.5	5/8	3/16	0.119	27004	30604
26704	30304	1/4-20	0.5	6.0	5/8	3/16	0.119	26604	30204
27105	30705	5/16-18	0.5	4.5	5/8	3/16	0.135	27005	30605
26705	30305	5/16-18	0.5	10.0	5/8	3/16	0.135	26605	30205
27106	30706	3/8-16	1.5	7.5	11/16	3/16	0.186	27006	30606
26706	30306	3/8-16	1.0	12.0	11/16	3/16	0.186	26606	30206
27107	30707	1/2-13	1.7	8.5	13/16	1/4	0.248	27007	30607
26707	30307	1/2-13	2.5	15.0	13/16	1/4	0.248	26607	30207
27108	30708	5/8-11	2.0	10.5	1 1/8	5/16	0.310	27008	30608
26708	30308	5/8-11	3.5	26.0	1 1/8	5/16	0.310	26608	30208

*Thread: UNF

Shortie Spring Plungers Stainless Steel (Short Travel)



The slot in the rear of the Shortie Spring Plunger is for insertion.

- Material:
Body, 303 Stainless
Spring, 303 Stainless
Nose, Stainless or Delrin
- Thread: 2A-UNC

Inch – Stainless Steel With Locking Element

Part Number		Thread Size A	Force, lbs.		B	C	D
Stainless Tip	Delrin Tip		Initial	Final			
27601	27621	8-32	.5	1.5	7/16	.052	.070
27602	27622	8-32	1.5	4.75	7/16	.052	.070
27603*	27623*	8-36	.5	1.5	7/16	.052	.070
27604*	27624*	8-36	1.5	4.75	7/16	.052	.070
27605	27625	10-32	.75	2.5	15/32	.065	.093
27606	27626	10-32	1.75	6.25	15/32	.065	.093
27607	27627	1/4-20	1.0	3.5	17/32	.078	.119
27608	27628	1/4-20	3.0	10.5	17/32	.078	.119
27609	27629	5/16-18	1.0	4.0	9/16	.084	.135
27610	27630	5/16-18	3.75	15.5	9/16	.084	.135
27611	27631	3/8-16	1.5	5.0	5/8	.110	.186
27612	27632	3/8-16	4.5	18.5	5/8	.110	.186
27613	27633	1/2-13	1.75	5.5	3/4	.151	.248
27614	27634	1/2-13	5.0	28.0	3/4	.151	.248

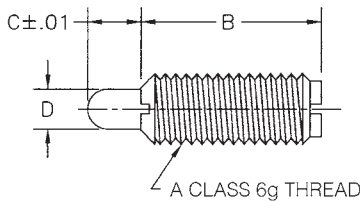
*Thread: UNF

Specials available, see page 310 for Plunger Quote Request worksheet.

SPRING LOADED DEVICES



Shortie Spring Plungers Metric



Specials available, see page 310 for Plunger Quote Request worksheet.

- Material: Body – Low Carbon Steel, Black Oxide
Tip – Delrin or Steel
- Thread: Class 6g
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Plunger Tips are color coded to indicate light or heavy force.

- White = Light Force
- Blue = Heavy Force

Jergens Feature:

Jergens Shortie Spring Plungers are made to the same quality standards as the Solid Drive
*Made with full standard spring plunger stroke in a short body. A screwdriver slot is substituted for the hex drive due to the smaller size.

*Carbon Steel body only

Metric – Shortie Spring Plungers With Locking Elements

Steel Tip	Delrin Tip	Thread Size A	Initial Force (kg)	Final Force (kg)	B	C	D
27170	30770	M4 x 0.7	0.23	0.91	13.0	2.5	1.78
26770	30370	M4 x 0.7	0.23	1.81	13.0	2.5	1.78
27171	30771	M5 x 0.8	0.14	1.36	14.5	3.0	2.36
26771	30371	M5 x 0.8	0.23	2.27	14.5	3.0	2.36
27172	30772	M6 x 1.0	0.14	1.59	16.0	4.7	3.02
26772	30372	M6 x 1.0	0.23	2.72	16.0	4.0	3.02
27173	30773	M8 x 1.25	0.23	2.04	16.0	5.0	3.43
26773	30373	M8 x 1.25	0.23	4.54	16.0	5.0	3.43
27174	30774	M10 x 1.5	0.68	3.4	17.5	4.7	4.72
26774	30374	M10 x 1.5	0.46	5.44	17.5	5.0	4.72
27175	30775	M12 x 1.75	0.77	3.86	20.5	6.5	6.30
26775	30375	M12 x 1.75	1.13	6.80	20.5	6.5	6.30
27177	30777	M16 x 2.0	0.91	4.76	28.5	8.0	7.87
26777	30377	M16 x 2.0	1.59	11.79	28.5	8.0	7.87

Plunger Wrenches

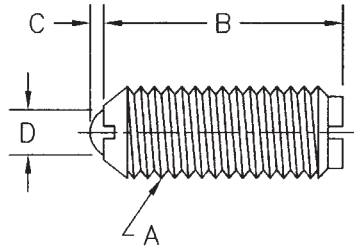


IMPORTANT: It is not recommended that a screwdriver be used to insert ball or spring plungers from the ball or plunger end. The tip of the screwdriver will force the ball or tip of the plunger below the surface of the end of the plunger. This may compress the spring to a solid, causing possible damage to the spring plunger. It is recommended that a Jergens Plunger Wrench be used or that a slot be ground in the end of a screwdriver to clear the height of the ball or tip for each size ball or plunger used.

Part Number	Thread Size of Plungers	
	Inch	Metric
27501	6-32	—
27502	8-32	M4
27503	10-32	M5
27504	1/4-20	M6
27505	5/16-18	M8
27506	3/8-16	M10
27507	1/2-13	M12
27508	5/8-11	M16
27509	3/4-10	M20
27510	1-8	M25



Ball Plungers Inch



- Body Material: Low Carbon Steel, or 303 Stainless Steel
- Ball Material: Stainless, 440
- Spring Material: Stainless, 17-7 PH
- Finish: Black Oxide on Body
- Thread: 2A
- Dimensionally conforms to TCMA standards
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Inch – Coarse Thread (UNC) With Locking Element

SS Part Number	Steel Part Number	Thread Size A	Initial Force (lbs)	Final Force (lbs)	B	C	D
11102	10927	5-40	0.25	0.75	1/4	0.020	0.062
11201	10701	10-24	0.50	1.50	33/64	0.025	0.093
11211	10711	10-24	1.50	3.00	33/64	0.025	0.093
11202	10702	10-24	2.00	5.00	33/64	0.025	0.093
11108	10904	1/4-20	2.00	4.00	17/32	0.035	0.125
11109	10905	1/4-20	3.00	7.00	17/32	0.035	0.125
11110	10906	1/4-20	4.00	12.00	17/32	0.035	0.125
11111	10907	5/16-18	2.00	4.50	37/64	0.040	0.156
11112	10908	5/16-18	4.00	9.00	37/64	0.040	0.156
11113	10909	5/16-18	6.00	17.00	37/64	0.040	0.156
11114	10910	3/8-16	2.50	5.00	5/8	0.048	0.187
11115	10911	3/8-16	5.00	10.00	5/8	0.048	0.187
11116	10912	3/8-16	6.00	21.00	5/8	0.048	0.187
11117	10913	1/2-13	3.00	6.00	3/4	0.072	0.281
11118	10914	1/2-13	6.00	12.00	3/4	0.072	0.281
11119	10915	1/2-13	6.00	30.00	3/4	0.072	0.281
11120	10916	5/8-11	4.50	9.00	1	0.096	0.375
11121	10917	5/8-11	9.00	18.00	1	0.096	0.375
11122	10918	5/8-11	7.00	50.00	1	0.096	0.375

Without Locking Element

SS Part Number	Steel Part Number
11002	10827
11221	10721
11231	10731
11222	10722
11008	10804
11009	10805
11010	10806
11011	10807
11012	10808
11013	10809
11014	10810
11015	10811
11016	10812
11017	10813
11018	10814
11019	10815
11020	10816
11021	10817
11022	10818

NOTE: For easy insertion of Ball plungers with locking elements, the tapped hole should be countersunk at least .030-.045 (0.76-1.14mm) larger than the major diameter of the plunger.

Inch – Fine Thread (UNF) With Locking Element

SS Part Number	Steel Part Number	Thread Size A	Initial Force (lbs)	Final Force (lbs)	B	C	D
11101	10926	4-48	0.12	0.50	3/16	0.020	0.062
11103	10928	6-40	0.50	1.00	5/16	0.023	0.078
11104	10929	8-36	0.50	1.25	11/32	0.025	0.093
11105	10901	10-32	0.50	1.50	33/64	0.025	0.093
11106	10902	10-32	1.50	3.00	33/64	0.025	0.093
11107	10903	10-32	2.00	5.00	33/64	0.025	0.093
11203	10703	1/4-28	2.0	4.0	17/32	0.035	0.125
11212	10712	1/4-28	3.0	7.0	17/32	0.035	0.125
11204	10704	1/4-28	4.0	12.0	17/32	0.035	0.125
11205	10705	5/16-24	2.0	4.5	37/64	0.040	0.156
11213	10713	5/16-24	4.0	9.0	37/64	0.040	0.156
11206	10706	5/16-24	6.0	17.0	37/64	0.040	0.156
11207	10707	3/8-24	2.5	5.0	5/8	0.048	0.187
11214	10714	3/8-24	5.0	10.0	5/8	0.048	0.187
11208	10708	3/8-24	6.0	21.0	5/8	0.048	0.187
11209	10709	1/2-20	3.0	6.0	3/4	0.072	0.281
11215	10715	1/2-20	6.0	12.0	3/4	0.072	0.281
11210	10710	1/2-20	6.0	30.0	3/4	0.072	0.281

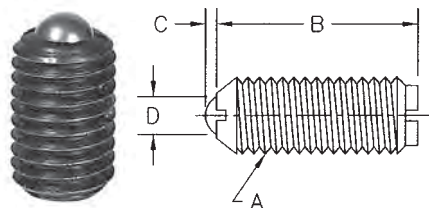
Without Locking Element

SS Part Number	Steel Part Number
11001	10826
11003	10828
11004	10829
11005	10801
11006	10802
11007	10803
11223	10723
11232	10732
11224	10724
11225	10725
11233	10733
11226	10726
11227	10727
11234	10734
11228	10728
11229	10729
11235	10735
11230	10730

SPRING LOADED DEVICES



Ball Plungers Metric



- Body Materials: Low Carbon Steel, Black Oxide or 303 Stainless Steel
- Ball: Stainless, 440
- Spring: Stainless, 17-7 PH
- Thread: Class 6g
- 3D Solid Models are available in multiple formats from www.jergensinc.com

NOTE: For easy insertion of Ball Plungers with locking elements, the tapped hole should be countersunk at least .030-.045 (0.76-1.14mm) larger than the major diameter of the plunger.

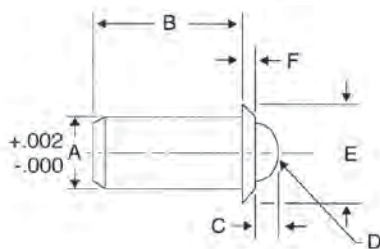
Metric – Steel & SS Tip With Locking Element

SS Part Number	Steel Part Number	Thread Size A	Initial Force (kg)	Final Force (kg)	B	C	D
11051	10971	M4 x 0.7	0.23	0.56	9.00	0.60	2.38
11052	10972	M5 x 0.8	0.23	0.68	13.00	0.60	2.38
11053	10973	M5 x 0.8	0.68	1.35	13.00	0.60	2.38
11054	10974	M5 x 0.8	0.90	2.25	13.00	0.60	2.38
11055	10975	M6 x 1.0	0.90	1.80	13.50	0.90	3.18
11056	10976	M6 x 1.0	1.35	3.15	13.50	0.90	3.18
11057	10977	M6 x 1.0	1.80	5.40	13.50	0.90	3.18
11058	10978	M8 x1.25	0.90	2.03	15.00	1.00	3.97
11059	10979	M8 x1.25	1.80	4.05	15.00	1.00	3.97
11060	10980	M8 x1.25	2.70	7.65	15.00	1.00	3.97
11061	10981	M10 x 1.5	1.13	2.25	16.00	1.20	4.76
11062	10982	M10 x 1.5	2.25	4.50	16.00	1.20	4.76
11063	10983	M10 x 1.5	2.70	9.45	16.00	1.20	4.76
11064	10984	M12 x 1.75	1.35	2.70	19.00	2.00	7.14
11065	10985	M12 x 1.75	2.70	5.40	19.00	2.00	7.14
11066	10986	M12 x 1.75	2.70	13.50	19.00	2.00	7.14
11067	10987	M16 x 2.0	2.00	4.00	25.40	2.40	9.50
11068	10988	M16 x 2.0	4.00	8.10	25.40	2.40	9.50
11069	10989	M16 x 2.0	3.10	22.70	25.40	2.40	9.50

Without Locking Element

SS Part Number	Steel Part Number
10951	10871
10952	10872
10953	10873
10954	10874
10955	10875
10956	10876
10957	10877
10958	10878
10959	10879
10960	10880
10961	10881
10962	10882
10963	10883
10964	10884
10965	10885
10966	10886
10967	10887
10968	10888
10969	10889

Press Fit Plungers



- Body Material: Low Carbon Steel
- Ball Material: Stainless, 400
- Spring Material: 17-7 PH
- Finish: Black Oxide on Body

Heavy Force

Part Number	Stainless Steel Part Number	Force (lbs)		A	B	C	Ball Dia. D	E	F
		Initial	Final						
10832	11032	2	5	.188	.405	.058	.156	.250	.035
10834	11034	3	7	.250	.481	.070	.187	.312	.044
10836	11036	5	14	.375	.785	.110	.312	.500	.078
10838	11038	8	18	.500	1.130	.161	.437	.688	.088

Light Force

Part Number	Stainless Steel Part Number	Force (lbs)		A	B	C	Ball Dia. D	E	F
		Initial	Final						
10831	11031	1	2.5	.188	.405	.058	.156	.250	.035
10833	11033	1.5	3.5	.250	.481	.070	.187	.312	.044
10835	11035	2.5	7	.375	.785	.110	.312	.500	.078
10837	11037	4	9	.500	1.130	.161	.437	.688	.088



Special Spring and Ball Plungers

If you don't see the exact spring or ball plunger to meet your application requirements, photocopy the form below, indicate your requirements, and mail to your Jergens Distributor or e-mail Jergens Specialty Fasteners at fasteners@jergensinc.com.

PLUNGER QUOTATION REQUEST WORKSHEET

<p>BALL</p> <p>SHORTIE</p> <p>SPRING</p>	<p>A dim. (See note below) _____ C dim. _____ B dim. _____ D dim. _____</p>
---	--

Application (describe): _____

Type of Plunger: Solid Drive Spring "Shortie" Ball Other (see sketch)

Thread or O.D. _____ (Class 2A Threads unless Otherwise Specified)

Length of Plunger Travel: _____

Initial Force Required: _____ Final Force Required: _____

Plastic Locking Patch: Required Not Required Tip/Ball Material: _____

Tip/Ball Finish: _____ Body Material: _____

Body Finish: _____ Spring Material: _____

Temperature Range: _____

Type of Environment (describe—corrosives, chemicals, contaminants, etc.): _____

Other Specifications: _____

Quantity Needed: _____ Delivery By: _____

NAME: _____ TITLE: _____

COMPANY: _____ ADDRESS: _____

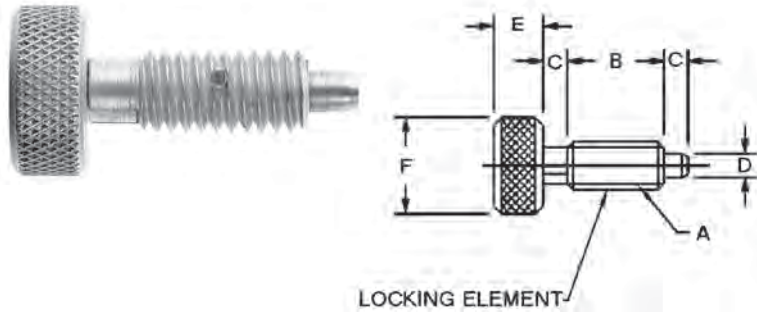
CITY: _____ STATE: _____ ZIP: _____

TELEPHONE: _____ FAX: _____

SPRING LOADED DEVICES



Retractable Plungers Hand Retractable Locking Style



- Improved design allows plunger pin to be locked in fully retracted position
- Used in machining applications as positioners, loading pins or indexing devices
- Plunger pin has slight taper on end to assure easy alignment
- Zinc Plated Carbon Steel, 303 Stainless Steel
- Phenolic Nose Prevents Marring of Soft Material
- Supplied with locking element

Inch – Hand Retractable Locking Style Plungers

Steel Part Number	Steel Phenolic Nose Part Number	Stainless Steel Part Number	Stainless Steel Phenolic Nose Part Number	A	End Force (lbs)		B	C	+.001 -.002 D	E	F	Net Wt. (lbs) 10 Pcs.
					Start	Full						
27426	27523	27826	27527	1/4-20	0.5	2.5	1/2	1/8	.124	1/4	1/2	.3
27421	27515	27821	27519	1/4-20	1.0	5.0	1/2	1/8	.124	1/4	1/2	.3
27427	27524	27827	27528	5/16-18	0.75	3.0	5/8	3/16	.155	9/32	5/8	.5
27422	27516	27822	27520	5/16-18	1.5	6.0	5/8	3/16	.155	9/32	5/8	.5
27428	27525	27828	27529	3/8-16	0.75	4.0	3/4	7/32	.186	5/16	3/4	.7
27423	27517	27823	27521	3/8-16	1.5	8.0	3/4	7/32	.186	5/16	3/4	.7
27429	27526	27829	27530	1/2-13	1.25	5.0	7/8	1/4	.249	3/8	1"	1.3
27424	27518	27824	27522	1/2-13	2.5	10.0	7/8	1/4	.249	3/8	1"	1.3

Metric – Hand Retractable Locking Style Plungers

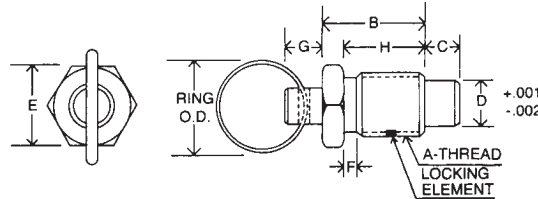
Steel Part Number	Class 6g ISO A	End Force (kg)		B	C	+.025 -.050 D	E	F	Net Wt. (kg) 10 Pcs.
		Start	Full						
27555	M6x1.0	0.225	1.135	12.50	3.17	3	6.3	12.7	.16
27551	M6x1.0	0.4	2.27	12.50	3.17	3	6.3	12.7	.16
27556	M8x1.25	0.34	1.36	16.00	4.75	4	7.0	15.8	.27
27552	M8x1.25	0.68	2.72	16.00	4.75	4	7.0	15.8	.27
27557	M10x1.5	0.34	1.815	19.00	5.50	5	7.9	19.0	.38
27553	M10x1.5	0.68	3.63	19.00	5.50	5	7.9	19.0	.38
27558	M12x1.75	0.565	2.27	22.00	6.35	6	9.4	25.4	.7
27554	M12x1.75	1.13	4.54	22.00	6.35	6	9.4	25.4	.7



Retractable Plungers Pull Ring Style



- For use in application with limited space
- Slight taper on end of plunger for easy alignment

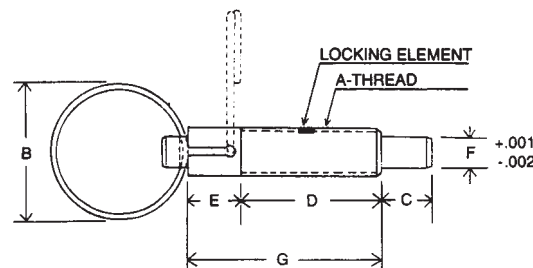


Pull Ring – Short Locking Plungers

Steel Part Number	Steel Phenolic Nose Part Number	Stainless Steel Part Number	Stainless Steel Phenolic Nose Part Number	A	Force, (lbs)		B	C	+.001 -.002 D	E	F	G	H	O.D.	Net Wt. (lbs) 10 Pcs.
					Initial	Final									
27441	27804	27800	27808	1/4-20	0.50	2.0	7/16	3/16	.156	1/4	1/32	5/32	9/32	3/4	.1
27442	27805	27801	27809	3/8-16	0.75	3.0	5/8	9/32	.250	3/8	1/8	3/16	7/16	3/4	.2
27443	27806	27802	27810	1/2-13	1.00	4.0	13/16	3/8	.312	1/2	5/32	1/4	9/16	1	.43
27444	27807	27803	27811	5/8-11	1.25	5.0	1	7/16	.375	5/8	5/32	5/16	11/16	1	.8



- For use in application with limited space
- Slight taper on end of plunger for easy alignment
- Turn ring to lock and extend plunger



Pull Ring – Standard Length – Locking Plungers

Steel Part Number	Steel Phenolic Nose Part Number	Stainless Steel Part Number	Stainless Steel Phenolic Nose Part Number	A	Force, (lbs)		B	C	+.001 -.002 D	E	F	G	Net Wt. (lbs) 10 Pcs.
					Initial	Final							
27446	27815	27812	27818	1/4-20	1.0	2.5	5/8	1/4	13/16	5/16	.156	1-1/8	.15
27447	27816	27813	27819	3/8-16	2.0	4.0	1	3/8	1-1/4	7/16	.233	1-11/16	.43
27448	27817	27814	27820	1/2-13	2.5	5.0	1-1/4	1/2	1-7/16	9/16	.312	2	.9

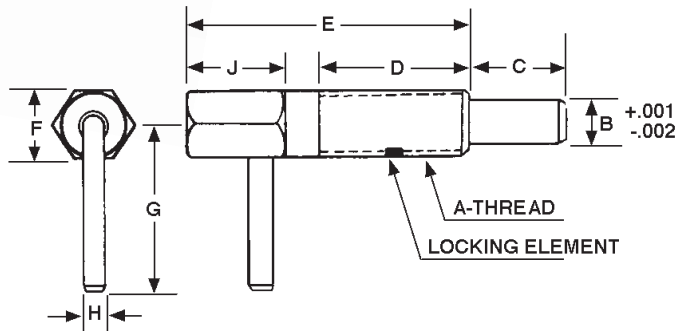
SPRING LOADED DEVICES



Retractable Plungers L Handle Hand Retractable Locking Style



- Hand retractable for easy removal or insertion
- Turn handle to unlock and extend plunger
- Slight taper on end of plunger for easy alignment
- Locking element standard on all sizes



Locking Plungers – Long Reach – Standard Length

Steel Part Number	Steel Phenolic Nose Part Number	Stainless Steel Part Number	Stainless Steel Phenolic Nose Part Number	A	Force (lbs)		+.001 -.002 B	C	D	E	F	G	H	J	Net Wt. (lbs) 10 Pcs.
					Initial	Final									
27436	27851	27836	27855	1/4-20	.50	2.5	.156	3/8	5/8	1-1/4	1/4	5/8	3/32	1/2	.15
27437	27852	27837	27856	3/8-16	.75	3.75	.250	9/16	1-1/16	2	3/8	15/16	9/64	11/16	.53
27438	27853	27838	27857	1/2-13	1.0	5.0	.312	3/4	1-1/8	2-1/8	1/2	1-1/4	3/16	3/4	1.03
27439	27854	27839	27858	5/8-11	1.0	5.0	.375	1	1-3/4	3	5/8	1-5/16	3/16	1-1/16	2.23

Locking Plungers – Long Reach – Short Length

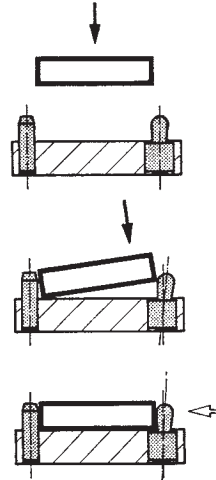
Steel Part Number	Steel Phenolic Nose Part Number	Stainless Steel Part Number	Stainless Steel Phenolic Nose Part Number	A	Force (lbs)		+.001 -.002 B	C	D	E	F	G	H	J	Net Wt. (lbs) 10 Pcs.
					Initial	Final									
27416	27859	27867	27863	1/4-20	.125	.50	.156	3/16	7/16	3/4	1/4	9/16	3/32	1/4	.1
27417	27860	27868	27864	3/8-16	.25	1.25	.250	5/16	5/8	1-1/8	3/8	3/4	9/64	3/8	.3
27418	27861	27869	27865	1/2-13	.50	2.0	.312	13/32	7/8	1-1/2	1/2	1	3/16	1/2	.7
27419	27862	27870	27866	5/8-11	.75	2.5	.375	1/2	1-1/8	1-7/8	5/8	1-3/16	3/16	5/8	1.35

Spring Locating Pins



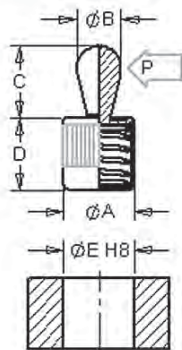
The Jergens Spring Locating Pins are designed for fixturing small parts in tight or compact space. Ideal for positioning and chucking flat parts and round parts and for profile clamping.

- Material: Body, aluminum
Pin, steel, plastic, or stainless steel
- Finish: Steel Pin, case hardened, zinc coated
Plastic Pin, delrin
Spring, steel
- Economical
- Easy to handle and mount
- Ideal for positioning flat or round pieces
- Maintains constant pressure on parts
- Minimizes fixturing space



Spring Locating Pins with Seal

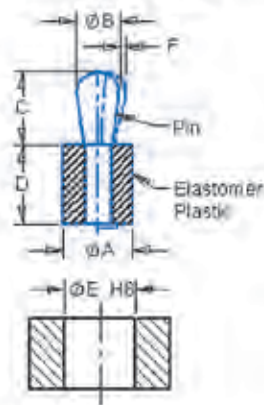
Locating Pin



Part Number		Diameter A	B	C	D	+.001 -.000 E ^{H8}	Force P (lbs)	X	Installation Tool
Steel Pin	Plastic Pin								
36201	36221	.250	.118	.158	.276	.250	2.2	.035	36295
36202	36222	.250	.118	.158	.276	.250	4.5	.035	36295
36203	—	.250	.118	.158	.276	.250	9.0	.035	36295
36204	36223	.438	.197	.236	.472	.438	4.5	.063	36296
36205	36224	.438	.197	.236	.472	.438	11.2	.063	36296
36206	—	.438	.197	.236	.472	.438	21.5	.063	36296
36207	36225	.438	.236	.394	.472	.438	9.0	.071	36297
36208	36226	.438	.236	.394	.472	.438	17.0	.071	36297
36209	—	.438	.236	.394	.472	.438	34.0	.071	36297
36210	36227	.500	.315	.512	.551	.500	11.2	.102	36298
36211	36228	.500	.315	.512	.551	.500	22.5	.102	36298
36212	—	.500	.315	.512	.551	.500	45.0	.102	36298
36213	36229	.625	.394	.625	.709	.625	22.5	.126	36299
36214	36230	.625	.394	.625	.709	.625	45.0	.126	36299
36215	—	.625	.394	.625	.709	.625	67.5	.126	36299

Spring Locating Pins with *Elastomer base

With Elastomer* Base



Part Number			Diameter A	B	C	D	+.001 -.000 E ^{H8}	Force P (lbs)	X	Installation Tool
Steel Pin	Plastic Pin	Stainless Steel Pin								
36231	36251	36271	.250	.118	.146	.295	.250	2.2	.039	36295
36232	36252	36272	.250	.118	.146	.295	.250	4.4	.039	36295
36233	36253	36273	.438	.197	.287	.354	.438	6.7	.063	36296
36234	36254	36274	.438	.197	.287	.354	.438	13.5	.063	36296
36235	36255	36275	.438	.197	.287	.354	.438	20.0	.063	36296
36236	36256	36276	.438	.236	.406	.354	.438	4.4	.075	36297
36237	36257	36277	.438	.236	.406	.354	.438	6.7	.075	36297
36238	36258	36278	.438	.236	.406	.354	.438	13.5	.075	36297
36239	—	36279	.438	.236	.406	.354	.438	20.0	.075	36297
36240	36259	36280	.500	.315	.520	.512	.500	11.1	.106	36298
36241	36260	36281	.500	.315	.520	.512	.500	22.2	.106	36298
36242	36261	36282	.625	.394	.654	.625	.625	17.5	.134	36299
36243	36262	36283	.625	.394	.654	.625	.625	35.0	.134	36299

*Uses elastomer plastic spring

SPRING LOADED DEVICES

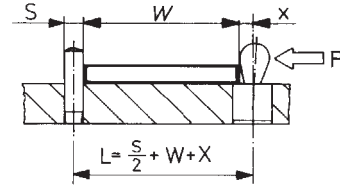


Spring Locating Pins Installation Data

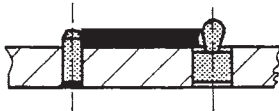
To determine mounting hole locations, use the following formula:

$$L = \frac{S}{2} + W + X$$

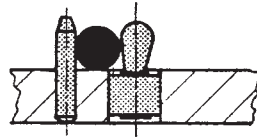
- L = Location
- S = Diameter of Locating Pin
- W = Width of Workpiece
- X = See Chart



Application Ideas



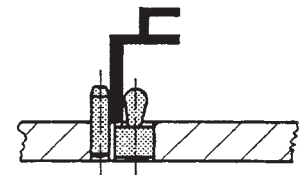
Position and hold flat parts.



Position and hold round parts.



Position and hold from the inside to the outside.

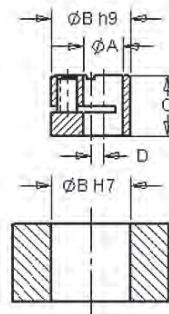


Position and hold various profiles of parts.

Eccentric Liners



Part Number	A	B	C	D
36291	.250	.500	.390	.079
36292	.438	.687	.469	.079
36293	.500	.750	.547	.079
36294	.625	1.000	.705	.118



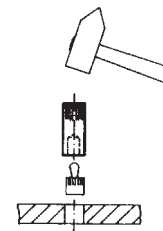
Eccentric Liners allow for adjustment of spring pin tension due to part material variations, different tolerance requirements, or force adjustment.

Installation Tools



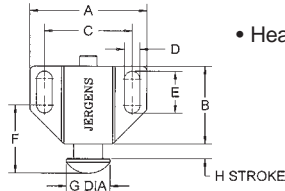
Locating Spring Pin Installation Tools are designed to make installation easier.

Refer to the charts on page 314 to determine which tool to use.





Spring Stops Button Type

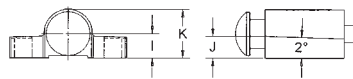


- Material: Body, Zinc Aluminum Alloy ZA-12
Plunger, Low Carbon Steel
- Heat Treat: Plunger Case Hardened
74-77 R30N

Jergens Features:

Set screw allows for adjustable plunger travel.

Angled mounting slot provides a more secure hold.



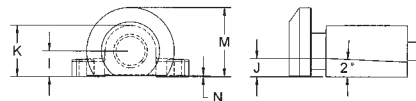
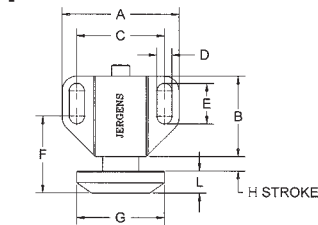
End Force (Half-Depressed)

36101, 36104, 36107 – 10 lbs./6.8 kg

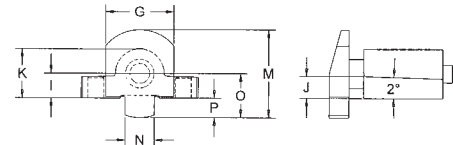
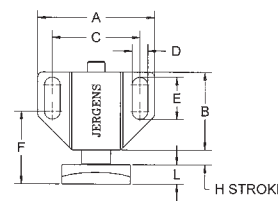
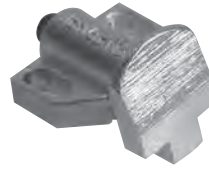
36102, 36105, 36111 – 14 lbs./13.6 kg

36103, 36106, 36109 – 32 lbs./18.14 kg

Flat Button Type



Tang Type



Jergens Spring Stops Dimension Tables

	Part. No.	A	B	C	D	E	F	G	Stroke H	I	J	K	L	M	N	O	P	Wt. (lbs) 10 Pcs.
Button	36101	15/16	11/16	21/32	0.14	0.35	21/32	3/8	1/8	7/32	7/32	13/32	—	—	—	—	—	0.2
	36102	1 1/2	1	1 1/8	0.2	0.54	29/32	9/16	3/16	5/16	9/32	5/8	—	—	—	—	—	0.9
	36103	2	1 3/8	1 1/2	0.257	0.69	1 5/16	13/16	1/4	7/16	5/16	7/8	—	—	—	—	—	1.85
Tang	36104	15/16	11/16	21/32	0.14	0.35	21/32	5/8	1/8	7/32	7/32	13/32	3/16	7/8	1/4	7/16	15/64	0.2
	36105	1 1/2	1	1 1/8	0.2	0.54	29/32	7/8	3/16	5/16	9/32	5/8	1/4	1 1/8	3/8	9/16	17/64	0.9
	36106	2	1 3/8	1 1/2	0.257	0.69	1 5/16	1 1/4	1/4	7/16	5/16	7/8	3/8	1 1/2	1/2	3/4	21/64	1.85
Flat	36107	15/16	11/16	21/32	0.14	0.35	21/32	3/4	1/8	7/32	7/32	13/32	3/16	7/8	1/64	—	—	0.2
	36111	1 1/2	1	1 1/8	0.2	0.54	29/32	1 1/8	3/16	5/16	9/32	5/8	1/4	1 1/8	1/64	—	—	0.9
	36109	2	1 3/8	1 1/2	0.257	0.69	1 5/16	1 1/2	1/4	7/16	5/16	7/8	3/8	1 1/2	1/64	—	—	1.85

Metric Dimensions (mm)

	Part. No.	A	B	C	D	E	F	G	Stroke H	I	J	K	L	M	N	O	P	Wt. (kg) 10 Pcs.
Button	36101	23.8	17.5	16.7	3.6	8.9	15.1	9.5	3.2	5.6	5.6	10.3	—	—	—	—	—	0.09
	36102	38.1	25.4	28.6	5.1	13.7	21.4	14.3	4.8	7.9	7.1	15.9	—	—	—	—	—	0.41
	36103	50.8	34.9	38.1	6.5	17.5	31	20.6	6.4	11.1	7.9	22.2	—	—	—	—	—	0.84
Tang	36104	23.8	17.5	16.7	3.6	8.9	15.1	15.9	3.2	5.6	5.6	10.3	4.8	22.2	6.4	11.1	6	0.09
	36105	38.1	25.4	28.6	5.1	13.7	21.4	22.2	4.8	7.9	7.1	15.9	6.4	28.6	9.5	14.3	6.7	0.41
	36106	50.8	34.9	38.1	6.5	17.5	31	31.8	6.4	11.1	7.9	22.2	9.5	38.1	12.7	19.1	8.3	0.84
Flat	36107	23.8	17.5	16.7	3.6	8.9	15.1	19.1	3.2	5.6	5.6	10.3	4.8	22.2	0.4	—	—	0.09
	36111	38.1	25.4	28.6	5.1	13.7	21.4	22.2	4.8	7.9	7.1	15.9	6.4	28.6	0.4	—	—	0.41
	36109	50.8	34.9	38.1	6.5	17.5	31	38.1	6.4	11.1	7.9	22.2	9.5	38.1	0.4	—	—	0.84

SPRING LOADED DEVICES

TOGGLE CLAMPS

Toggle Clamps

Adjustable Spindle Assemblies	335
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Heavy Duty Cam Swing Clamps (HDC Series)	355–356
Heavy Duty Magna Force Cam Clamps (HDC Series)	353–358
Heavy Duty Push-Pull Clamps (HDP Series)	347–351
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Horizontal Latch Clamps (HDL Series)	352
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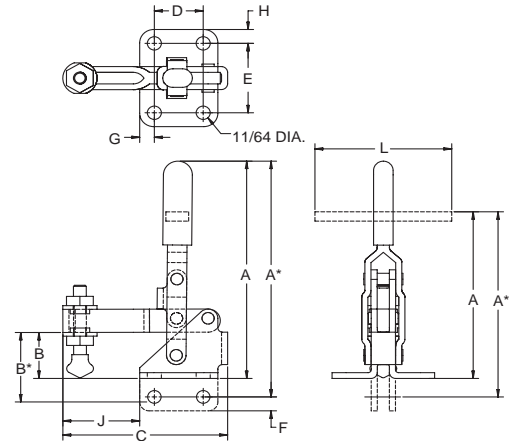
Hold Down Vertical



70310

This light duty U-Bar clamp accepts all 8-32 diameter spindles. It is supplied with a 70963 vinyl coated spindle assembly and washers. The vertical handle type is supplied with a blue vinyl handle.

- Holding capacity: 100 lbs. max.
- Weight: 2.5 oz.
- Handle moves 62°, bar 116°
- U-Bar: 5/16" height, 3/16" inside width
- Horizontal spindle adjustment: 11/16"
- Spindle Thread: 8-32



Part Number	S.S. Part No.	A	B	C	D	E	F	G	H	J	Handle Type	Bar Type	Base Type
70310	71012	2 7/8	5/8	2 1/8	5/8	15/16	—	3/16	3/16	1	Vertical	U-Bar	Flange
70315	71013	3 1/16	7/8	2 1/8	5/8	—	3/16	3/16	3/16	1	Vertical	U-Bar	Straight
70320	—	2 1/4	5/8	2 1/8	5/8	15/16	—	3/16	3/16	1	Tee	U-Bar	Flange
71014	—	2 11/16	7/8	2 1/8	5/8	—	3/16	3/16	3/16	1	Tee	U-Bar	Straight

*Straight base type dimension
Note: Width of tee handle is 1 5/8"

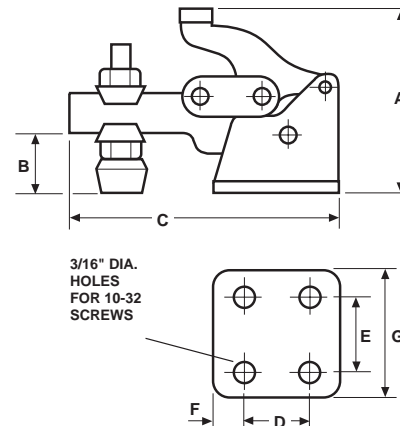
- U-Bar models include 2 flange washers



70280

This small compact clamp is equipped with a blue vinyl T-shaped grip handle; ideal for moderate to light duty clamping. It is supplied with a 70917 vinyl coated spindle assembly with washer.

- Holding capacity: 150 lbs.
- Weight: 2 oz.
- Handle moves 175°, bar 92°
- U-Bar: 5/16" height, 7/32" inside width
- Horizontal spindle adjustment: 5/8"
- Spindle Thread: 10-32
- Spindle Number: 70917



Part Number	S.S. Part No.	A	B	C	D	E	F	G
70280	71015	1 13/32	17/32	2 1/4	17/32	5/8	1/4	1 1/32

Note: Width of tee handle is 1 1/16"

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



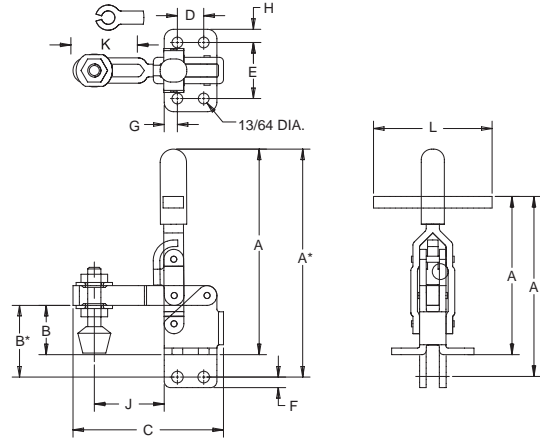
Hold Down Vertical



70330

This clamp has a narrow bar with a stationary spindle that accepts all 1/4-20 diameter spindles. Each clamp is supplied with a 70926 neoprene tipped spindle assembly. The vertical handle type is supplied with a blue vinyl handle.

- Holding capacity: 200 lbs. max.
- Weight: 6 oz.
- Handle moves 60°, bar 117°
- Solid Bar: 3/8" height, 7/32" wide
- Spindle Thread: 1/4-20



Part Number	A	B	C	D	E	F	G	H	J	Handle Type	Bar Type	Base Type
70330	3 3/4	15/16	2 9/16	1/2	1 1/16	—	1/4	1/4	1 1/16	Vertical	Solid	Flange
70335	3 15/16	1 1/8	2 9/16	1/2	—	1/4	1/4	1/4	1 1/16	Vertical	Solid	Straight
70340	2 13/16	15/16	2 9/16	1/2	1 1/16	—	1/4	1/4	1 1/16	Tee	Solid	Flange
71016	2 13/16	1 1/8	2 9/16	1/2	—	1/4	1/4	1/4	1 1/16	Tee	Solid	Straight

*Straight base type dimension
Note: Width of tee handle is 2 9/16"

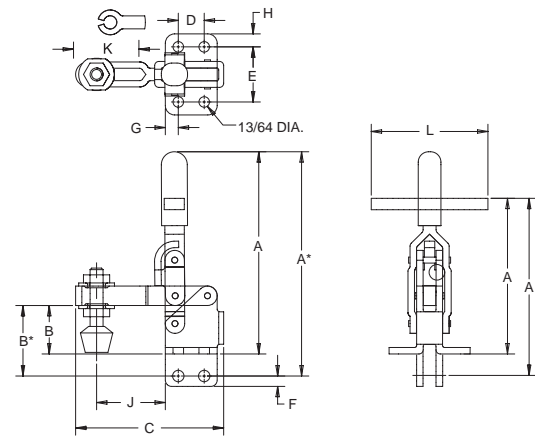
- Solid arm models include a bolt retainer
- U-Bar models include 2 flange washers



70342

This vertical clamp is equipped with a 1/4-20 spindle which has a tip, washers, and locknut for easy clamping. A blue vinyl handle is included. Each clamp is supplied with a 70926 vinyl coated spindle assembly with washer.

- Holding capacity: 250 lbs.
- Weight: 6 oz.
- Handle moves 64°, bar 104°
- U-Bar: 3/8" height, 1/4" inside width
- Horizontal spindle adjustment: 1 1/8"
- Spindle Thread: 1/4-20
- Spindle Number: 70926



Part Number	A	B	C	D	E	F	G	H	J	Handle Type	Bar Type	Base Type
70342	4	15/16	3	1/2	1 1/16	—	1/4	1/4	1 3/4	Vertical	U-Bar	Flange
71017	4	1 1/8	3	1/2	—	9/32	1/4	1/4	1 3/4	Vertical	U-Bar	Straight
71018	2 13/16	1 1/8	3	1/2	—	9/32	1/4	1/4	1 3/4	Tee	U-Bar	Straight
71019	2 13/16	15/16	3	1/2	1 1/16	—	1/4	1/4	1 3/4	Tee	U-Bar	Flange

*Straight base type dimension
Note: Width of tee handle is 2 9/16"

- Solid arm models include a bolt retainer
- U-Bar models include 2 flange washers

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



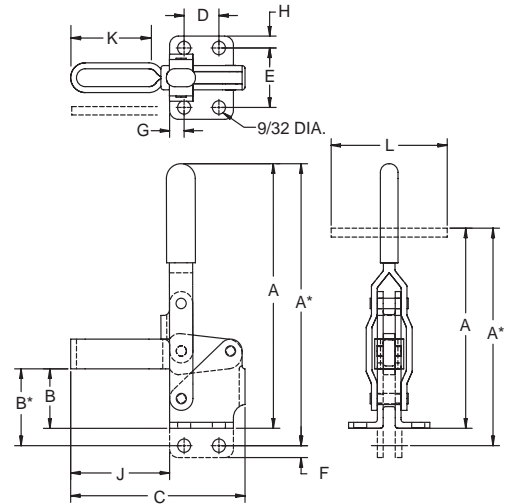
Hold Down Vertical



70350

This popular style of clamp includes solid bar and U-Bar construction. Each clamp accepts all 5/16-18 diameter spindles. Each clamp is supplied with a 70947 neoprene tipped spindle assembly. The vertical handle type is supplied with a blue vinyl handle.

- Holding capacity: 500 lbs. max.
- Weight: 11 oz.
- Handle moves 60°, bar 100°
- Solid Bar: 5/8" height, 1/4" wide
- U-Bar: 5/8" height, 21/64" inside width
- Horizontal spindle adjustment: 1 1/2"
- Spindle Thread: 5/16-18



Part Number	A	B	C	D	E	F	G	H	J	Handle Type	Bar Type	Base Type
70350	5 5/8	1 1/4	4	3/4	1.25	—	5/16	1/4	2.25	Vertical	Solid	Flange
70355	5 15/16	1 9/16	4	3/4	—	1/4	5/16	—	2.25	Vertical	Solid	Straight
70360	4 1/16	1 1/4	4	3/4	1.25	—	5/16	1/4	2.25	Tee	Solid	Flange
70365	5 5/8	1 1/4	5 1/4	3/4	1.25	—	5/16	1/4	3.4375	Vertical	Solid	Flange
71020	4 1/16	1 9/16	3 3/4	3/4	—	1/4	5/16	1/4	2 1/4	Tee	Solid	Straight
71021	5 5/8	1 9/16	4 1/8	3/4	—	1/4	5/16	1/4	3 7/16	Vertical	Solid	Straight
71022	4 1/16	1 9/16	4 1/8	3/4	—	1/4	5/16	1/4	3 7/16	Tee	Solid	Straight
71023	4 1/16	1 1/4	4 1/8	3/4	1.25	1/4	5/16	1/4	3 7/16	Tee	Solid	Flange
70380	5 5/8	1 1/4	4	3/4	1.25	—	5/16	1/4	2.25	Vertical	U-Bar	Flange
70385	6 5/16	1 9/16	4	3/4	—	1/4	5/16	—	2.25	Vertical	U-Bar	Straight
70390	4 1/16	1 1/4	4	3/4	1.25	—	5/16	1/4	2.25	Tee	U-Bar	Flange
70395	5 5/8	1 1/4	5 1/2	3/4	1.25	—	5/16	1/4	3.75	Vertical	U-Bar	Flange
71024	4 5/8	1 9/16	3 3/4	3/4	—	1/8	5/16	1/4	2 1/4	Tee	U-Bar	Straight
71025	6 5/16	1 9/16	4 7/16	3/4	—	1/8	5/16	1/4	3 3/4	Vertical	U-Bar	Straight
71026	4 5/8	1 9/16	4 7/16	3/4	—	1/8	5/16	1/4	3 3/4	Tee	U-Bar	Straight
71027	4 1/16	1 1/4	4 7/16	3/4	1.25	—	5/16	1/4	3 3/4	Tee	U-Bar	Flange

*Straight base type dimension. Note: Width of tee handle is 3 5/8".

- Solid arm models include a bolt retainer
- U-Bar models include 2 flange washers

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



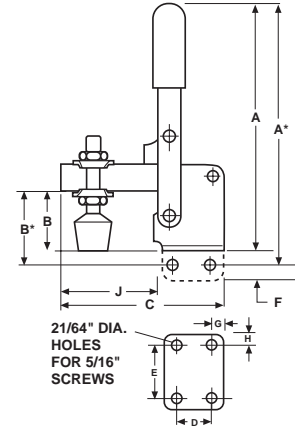
Hold Down Vertical



70440

This large capacity clamp is available in solid bar and U-Bar construction. It accepts all 3/8-16 diameter spindles. The solid bar clamp is supplied with a 70910 bolt retainer and 70915 neoprene tipped spindle assembly. The U-Bar style is supplied with 2 flanged washers and the 70915 spindle assembly. The vertical handle type is supplied with a blue vinyl handle.

- Holding capacity: 750 lbs. max.
- Weight: 1 lb., 5 oz.
- Handle moves 58°, bar 106°
- Solid Bar: 3/4" height, 5/16" wide
- U-Bar: 3/4" height, 7/16" inside width
- Horizontal spindle adjustment: 2 9/16"
- Spindle Thread: 3/8-16



Part Number	A	B	C	D	E	F	G	H	J	Handle Type	Bar Type	Base Type
70420	7 3/4	1 11/16	5 1/2	1 1/4	1 25/32	—	21/64	3/8	3 19/32	Vertical	Solid	Flange
70425	8 1/4	2 3/16	5 1/2	1 1/4	—	3/8	21/64	—	3 19/32	Vertical	Solid	Straight
70430	5 1/4	1 11/16	5 1/2	1 1/4	1 25/32	—	21/64	3/8	3 19/32	Tee	Solid	Flange
71028	6 1/8	2 3/16	5 1/2	1 1/4	—	3/8	21/64	—	3 19/32	Tee	Solid	Straight
70440	7 3/4	1 11/16	5 1/2	1 1/4	1 25/32	—	21/64	3/8	3 17/32	Vertical	U-Bar	Flange
70445	8 1/4	2 3/16	5 1/2	1 1/4	—	3/8	21/64	—	3 17/32	Vertical	U-Bar	Straight
70450	5 1/4	1 11/16	5 1/2	1 1/4	1 25/32	—	21/64	3/8	3 17/32	Tee	U-Bar	Flange
71029	6 1/8	2 3/16	5 1/2	1 1/4	—	3/8	21/64	—	3 17/32	Tee	U-Bar	Straight

*Straight base type dimension. Note: Width of tee handle is 5".

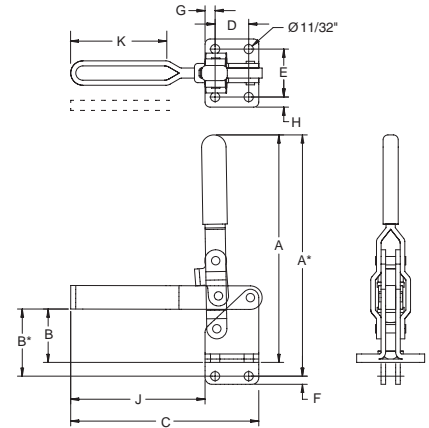
For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



70470

This heavy duty clamp is available with solid bar and U-Bar construction. It accepts all 1/2-13 diameter spindles. The solid bar model is supplied with a 70901 bolt retainer. The U-Bar model is supplied with 2-70902 flanged washers. **Spindle assembly 70903 must be ordered separately for both models.**

- Holding capacity: 1000 lbs. max.
- Weight: 2 lbs., 7 oz.
- Handle moves 67°, bar 120°
- Solid Bar: 7/8" height, 3/8" wide
- U-Bar: 7/8" height, 17/32" inside width
- Horizontal spindle adjustment: 3 1/8"
- Spindle Thread: 1/2-13



Part Number	A	B	C	D	E	F	G	H	J	Handle Type	Bar Type	Base Type
70460	9	2	7	1 1/4	1 25/32	—	3/8	3/8	5	Vertical	Solid	Flange
71030	9 1/2	2 1/4	7	1 1/4	—	3/8	3/8	—	5	Vertical	Solid	Straight
70470	9	2	7	1 1/4	1 25/32	—	3/8	3/8	5	Vertical	U-Bar	Flange
71031	9 1/2	2 1/4	7	1 1/4	—	3/8	3/8	—	5	Vertical	U-Bar	Straight

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



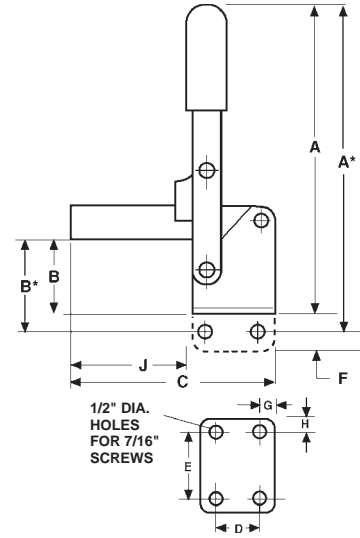
Hold Down Vertical



70480

This is the largest capacity vertical style clamp. It's available in solid bar or U-Bar construction and accepts all 5/8-11 diameter spindles. The solid bar is supplied with a 70940 bolt retainer. The U-Bar is supplied with 2-70941 flanged washers. **Spindle assembly 70942 must be ordered separately.** Each model is supplied with a blue vinyl handle.

- Holding capacity: 1200 lbs. max.
- Weight: 5 lbs., 2 oz.
- Handle moves 70°, bar 140°
- Solid Bar: 1 1/4" height, 3/8" wide
- U-Bar: 1 1/4" height, 21/32" inside width
- Horizontal spindle adjustment: 4"
- Spindle Thread: 5/8-11

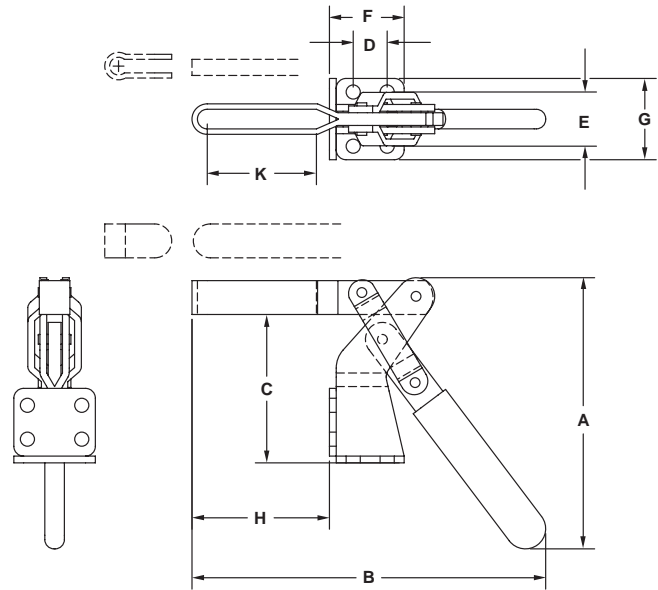


Part Number	A	B	C	D	E	F	G	H	J	Handle Type	Bar Type	Base Type
70480	12 1/8	3 1/4	9	2	2 3/4	—	1/2	1/2	5 7/8	Vertical	Solid	Flange
71032	13 3/8	4	9	2	—	1 1/4	1/2	—	5 7/8	Vertical	Solid	Straight
70490	12 1/8	3 1/4	9	2	2 3/4	—	1/2	1/2	5 7/8	Vertical	U-Bar	Flange
71033	13 3/8	4	9	2	—	1 1/4	1/2	—	5 7/8	Vertical	Solid	Straight

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



Hold Down Vertical



This clamp is available with a solid or U-Bar model. It features both a horizontal and vertical mounting surface. A neoprene tipped spindle assembly is included with both models. A bolt retainer is furnished with the solid bar model.

- Holding capacity: 220 lbs. max.
- U-Bar: 5/8" height, 1 1/32" inside width
- Spindle Thread: 5/16-18

Part Number	A	B	C	D	E	F	G	H	K	Bar Type	Wt (oz.)
70285	5 1/2	6 1/16	2 3/4	5/8	1	1 3/8	1 1/2	2 1/2	2	U-Bar	15
71037	5 1/2	6 7/16	2 3/4	5/8	1	1 3/8	1 1/2	2 1/2	—	Solid	16

- Solid arm models include a bolt retainer
- U-Bar models include 2 flange washers

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



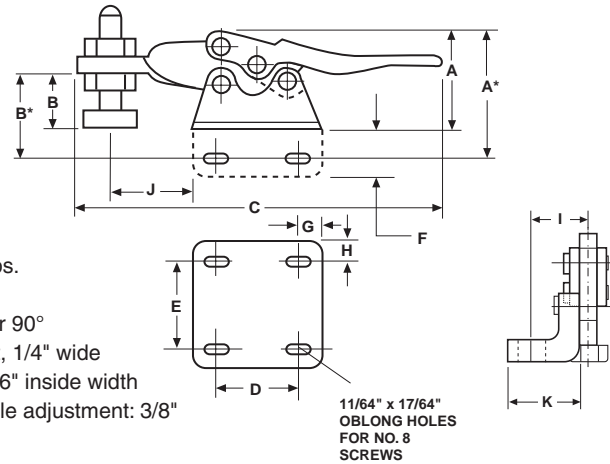
Hold Down Horizontal



70210

The small size of this clamp is ideal for jobs requiring minimal hold down force. Available in solid or U-Bar construction. All models are supplied with 70962 nylon spindle assemblies and blue vinyl handles.

- Holding capacity: 60 lbs.
- Weight: 1 oz.
- Handle moves 80°, bar 90°
- Solid Bar: 3/32" height, 1/4" wide
- U-Bar: 1/4" height, 3/16" inside width
- U-Bar horizontal spindle adjustment: 3/8"
- Spindle Thread: 8-32



Part Number	S.S. Part No.	A	B	C	D	E	F	G	H	J	I	K	Bar Type	Base Type
70210	—	3/4	13/32	2 3/4	5/8	5/8	—	5/32	5/32	11/16	—	—	Solid	Flange
70211	—	3/4	13/32	2 3/4	5/8	—	—	5/32	5/32	21/32	3/8	1/2	Solid	1/2 Flange-Left
71001	—	3/4	13/32	2 3/4	5/8	—	—	5/32	5/32	21/32	3/8	1/2	Solid	1/2 Flange-Right
70215	—	15/16	19/32	2 3/4	5/8	—	11/32	5/32	5/32	11/16	—	—	Solid	Straight
70230	71002	3/4	5/16	2 21/32	5/8	5/8	—	5/32	5/32	11/16	—	—	U-Bar	Flange
70231	—	3/4	5/16	2 3/4	5/8	—	—	5/32	5/32	21/32	3/8	1/2	U-Bar	1/2 Flange-Left
71003	—	3/4	5/16	2 3/4	5/8	—	—	5/32	5/32	21/32	3/8	1/2	U-Bar	1/2 Flange-Right
70235	—	15/16	1/2	2 21/32	5/8	—	11/32	5/32	5/32	11/16	—	—	U-Bar	Straight

*Straight base type dimension

Note: J dimension goes all the way to end of the U-Bar models

• Solid arm models include a bolt retainer

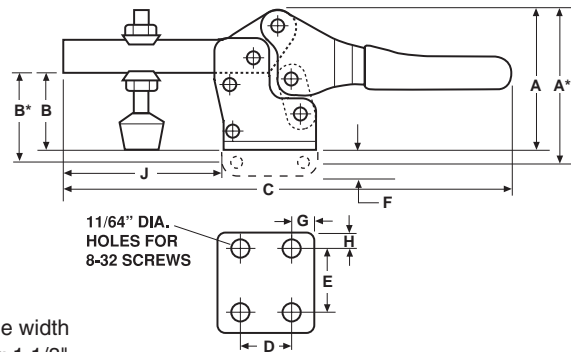
• U-Bar models include 2 flange washers



70260

This light duty clamp is designed with a large clearance area between the bar and handle when the clamps are in the full open position. A blue vinyl handle is included. Includes vinyl coated spindle assembly.

- Holding capacity: 150 lbs.
- Weight: 3 oz.
- Handle moves 60°, bar 90°
- U-Bar: 3/8" height, 7/32" inside width
- Horizontal spindle adjustment: 1 1/8"
- Spindle Thread: 10-32



Part Number	S.S. Part No.	A	B	C	D	E	F	G	H	J	Base Type
70260	71004	1 13/32	3/4	4 3/8	17/32	11/16	—	5/32	1/8	1 5/8	Flange
71005	—	1 3/4	13/16	4 3/8	17/32	—	3/8	5/32	1/8	1 5/8	Straight

*Straight base type dimension

Note: J dimension goes all the way to end of the U-Bar models

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



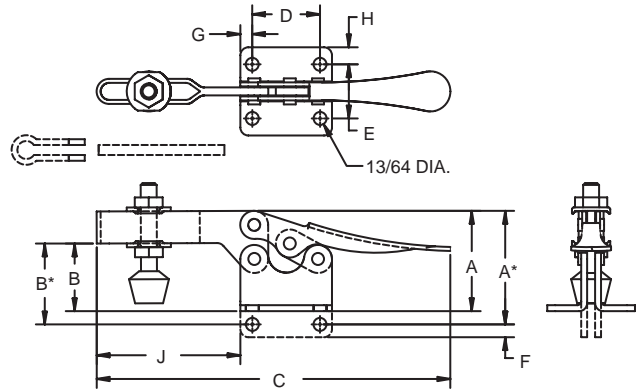
Hold Down Horizontal



70240

This medium duty clamp is ideal for limited space applications. It is supplied with a 70926 neoprene tipped spindle assembly.

- Holding capacity: 200 lbs.
- Weight: 5 oz.
- Handle moves 60°, bar 90°
- U-Bar: 1/2" height, 17/64" inside width
- Horizontal spindle adjustment: 1 1/4"
- Spindle Thread: 1/4-20



Part Number	S.S. Part No.	A	B	C	D	E	F	G	H	J	Bar Type	Base Type
70240	71006	1 1/2	1	5 7/16	1 1/16	7/8	—	3/16	17/64	2 1/4	U-Bar	Flange
70245	71007	1 45/64	1 1/4	5 7/16	1 1/16	—	15/32	3/16	17/64	2 1/4	U-Bar	Straight
71008	—	1 1/2	1	5 7/16	1 1/16	7/8	—	3/16	17/64	2 1/4	Soid	Flange
71009	—	1 45/64	1 1/4	5 7/16	1 1/16	—	15/32	3/16	17/64	2 1/4	Solid	Straight

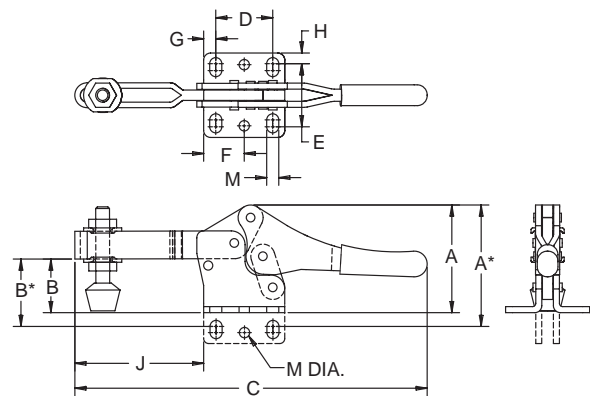
*Straight base type dimension • Solid arm models include a bolt retainer
• U-Bar models include 2 flange washers



70262

These medium and large capacity clamps have a large clearance area between the bar and the handle when the clamps are in the fully open position. A blue vinyl handle is included.

- For 70262
 - Holding capacity: 200 lbs.
 - Weight: 7 oz.
 - Handle moves 76°, bar 92°
 - U-Bar: 1/2" height, 1/4" inside width
 - Horizontal spindle adjustment: 1 21/32"
 - Spindle Number: 70926
- For 70264
 - Holding capacity: 500 lbs.
 - Weight: 16 oz.
 - Handle moves 62°, bar 92°
 - U-Bar: 9/16" height, 11/32" inside width
 - Horizontal spindle adjustment: 1 13/32"
 - Spindle Number: 70947



Part Number	A	B	C	D	E	F	G	H	J	K	M	Base Type
70262	2	15/16	6 15/32	1 1/32	1 3/32	23/32	7/32	3/32	2 3/8	1/4-20	7/32	Flange
70264	2 7/16	1 11/32	7 13/32	1 1/32	1 7/32	13/16	9/32	3/32	2 9/16	5/16-18	1/4	Flange
71010	2 9/16	1 3/16	6 15/32	1 1/32	—	23/32	7/32	3/32	2 3/8	1/4-20	7/32	Straight
71011	2 7/8	1 1/2	7 13/32	1 1/32	—	13/16	9/32	3/32	2 9/16	5/16-18	1/4	Straight

• Solid arm models include a bolt retainer
• U-Bar models include 2 flange washers

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



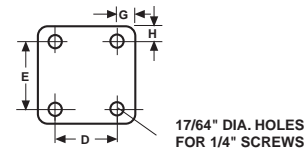
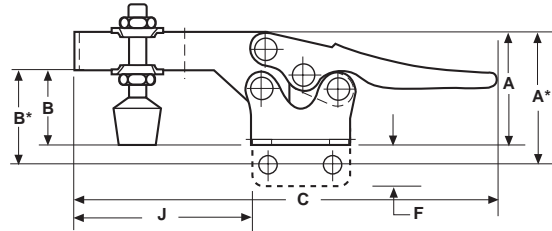
Hold Down Horizontal



70250

Similar to model 70240, except larger in overall size and capacity. Supplied with a 70947 neoprene tipped spindle assembly.

- Holding capacity: 500 lbs. max.
- Weight: 9 oz.
- Handle moves 65°, bar 90°
- U-Bar: 1/2" height, 21/64" inside width
- Horizontal spindle adjustment: 1 3/8"
- Spindle Thread: 5/16-18



Part Number	A	B	C	D	E	F	G	H	J	Bar Type	Base Type
70250	1 7/8	1 3/8	6 5/8	1	7/8	—	1/4	1/4	2 3/4	U-Bar	Flange
70255	2 1/8	1 5/8	6 5/8	1	—	1/2	1/4	1/4	2 3/4	U-Bar	Straight

*Straight base type dimension

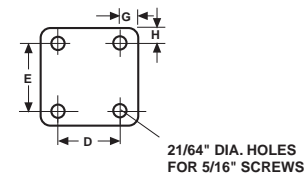
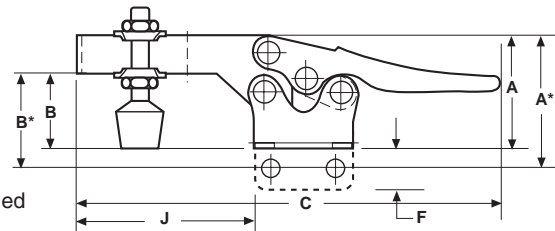
• U-Bar models include 2 flange washers



70270

This horizontal clamp is available with U-Bar construction in a flanged or straight base. Supplied with a 70915 neoprene tipped spindle assembly. Both models supplied with a blue vinyl handle.

- Holding capacity: 750 lbs. max.
- Weight: 1 lb., 8 oz.
- Handle moves 55°, bar 90°
- U-Bar: 3/4" height, 7/16" inside width
- Horizontal spindle adjustment: 2 1/4"
- Spindle Thread: 3/8-16



Part Number	A	B	C	D	E	F	G	H	J	Bar Type	Base Type
70270	2 1/2	1 3/4	10 1/4	1 5/8	1 5/8	—	5/16	5/16	4 1/8	U-Bar	Flange
70275	3 1/16	2 3/8	10 1/4	1 5/8	—	7/8	5/16	5/16	4 1/8	U-Bar	Straight

*Straight base type dimension

• U-Bar models include 2 flange washers

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.

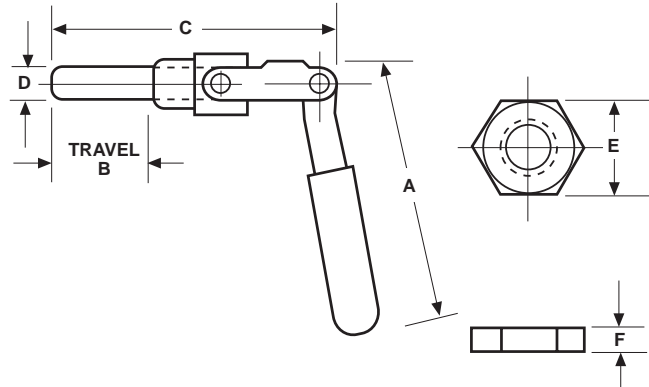


Flush Mount



70120

This clamp can be flush mounted using the hex locknut or it can be mounted directly into tapped hole. Either mounting allows 360° clamp rotation. The clamp locks in forward or reverse position. It is furnished with the hex locknut and a blue vinyl handle.

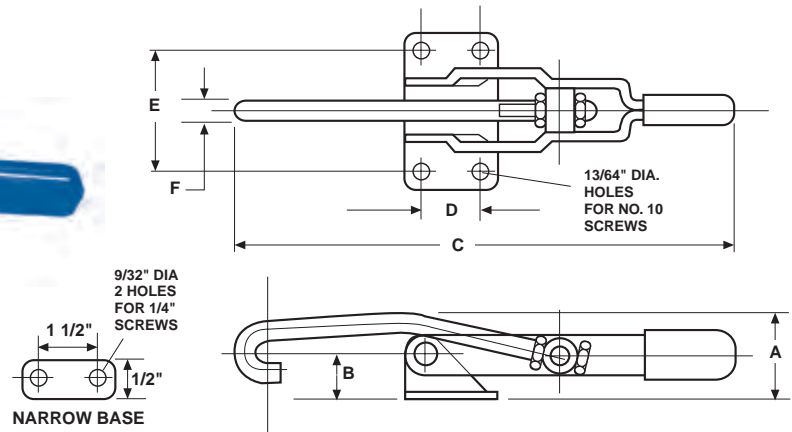


Part Number	A	Travel B	C	D	E	F	Thread	Holding Capacity (lbs)	Wt. (oz.)	Plunger Tapped
70118	2 7/8	3/4	2 7/16	3/8	15/16	1/4	5/8-18	200	3.5	1/4-20 x 19/32
70120	4	1 1/2	4 3/4	7/16	1	1/4	3/4-16 x 5/8	300	9	5/16-18 x 1
70140	5 1/4	2 5/8	6 11/16	5/8	1 1/2	1/4	1-14 x 7/8	700	27	3/8-16 x 1 1/4

Pull Action



70570



The adjustable hook is ideal for latching, locking or fastening doors, fixtures, pressure vessels, covers, and hatches on storage tanks. The hook bar has a 4" pull and is threaded for convenient adjustment. This clamp is furnished with a blue vinyl handle.

Note: Longer Hook Lengths Available Upon Request

Part Number	A	B	C	D	E	F	Drawing Movement	Holding Capacity (lbs)	Wt. (oz.)
70570	1 7/16	3/4	8 5/16	3/4	1 3/8	5/16	4	375	10
70580	1 7/16	3/4	8 5/16	1 1/2	—	5/16	4	375	10
71039	2 5/8	1 13/16	13 1/4	1 1/8	2 3/8	1/2	6 1/8	990	16

Note: 70580 is a narrow base 1/2" wide

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.

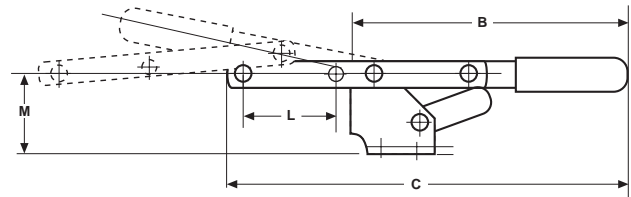
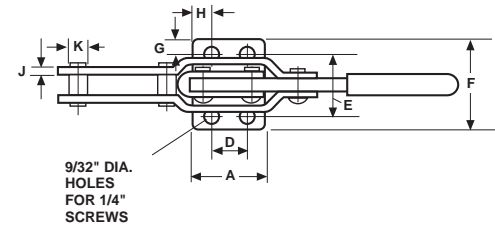


Pull Action



70550

Ideal for locking and fastening on fixtures. Adjustable stop permits positioning of handle to limit travel once the clamp is installed. 4" drawing movement valuable for a wide range of applications.

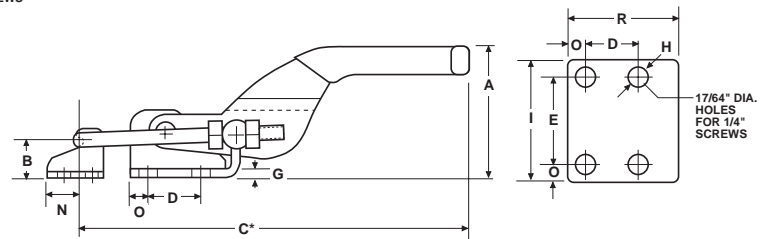
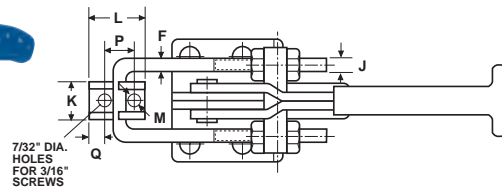


Part Number	A	B	C	D	E	F	G	H	J	K	L	M	Holding Capacity (lbs)	Wt. (oz.)
70550	1 3/8	5 11/16	8 5/16	3/4	1 1/4	1 3/4	1/4	5/16	1/8	3/8	1 7/8	1 5/8	375	12
70555	1 7/8	4 5/8	9 5/8	1 1/4	1 25/32	2 1/2	3/8	11/32	1/8	3/8	1 7/8	2 1/16	1,200	18



70560

The Jergens Latch Clamp is ideal for closure/release applications on covers, lids, doors, guards, and containers. The clamp's unique versatility is attributed to its adjustable U-Bar design. The clamp is supplied with a T-Handle vinyl grip and Latch Plate.



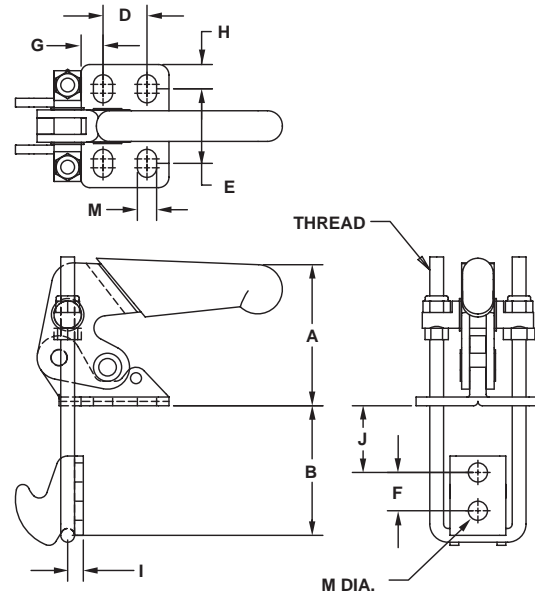
Part Number	S.S. Part No.	A	B	C*	D	E	F	G	H (Dia.)	I	J	K	L	M (Dia.)	N	O	P	Q	R	Holding Capacity (lbs)	Wt (oz.)
70558	71040	1 5/32	15/32	3 15/32	5/8	3/4	3/16	1/16	3/16	1 3/32	M4 x .7	17/32	25/32	3/16	7/16	7/32	13/32	1/4	1 1/32	360	2.5
70560	—	1 3/4	21/32	5 5/8	3/4	1 1/4	3/16	1/8	17/64	1 3/4	10-32	11/16	1 1/64	7/32	1/2	1/4	9/16	7/32	1 9/16	700	7
70562	—	2 3/4	15/16	6 3/4	1 5/8	1 1/2	5/16	5/32	11/32	2 1/8	M8 x 1.25	1 3/16	1 1/2	11/32	3/4	3/8	3/4	3/8	2 3/8	2000	21

*Adjusts 1/2"

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



Vertical Pull Action



This clamp is for vertical locking applications, where it is preferable to mount the clamp on a lid. The U-bolt allows for easy adjustment and provide a positive connection with the latch plate (included).

- Handle moves 145°

Part Number	A	U-Bolt Range B	C	D	E	F	G	H	I	U-Bolt Range J	M
71041	1 5/8	1-1 7/8	15/16	1/2	7/8	7/16	1/4	1/4	3/16	3/16-1 3/32	7/32
71042	2 7/16	1 5/16-2 13/32	1 7/32	3/4	1 1/8	9/16	5/16	3/8	1/4	9/32-1 3/8	1/4
70565	3 7/32	1 25/32-3 3/16	1 21/32	1/4	19/32	3/4	3/8	1/2	5/16	11/32-1 25/32	11/32

Part Number	Thread Size	Holding Capacity (lbs)	Wt. (oz.)
71041	M4 x 0.7	305	4
71042	M6 x 1.0	550	11
70565	M8 x 1.25	990	25

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



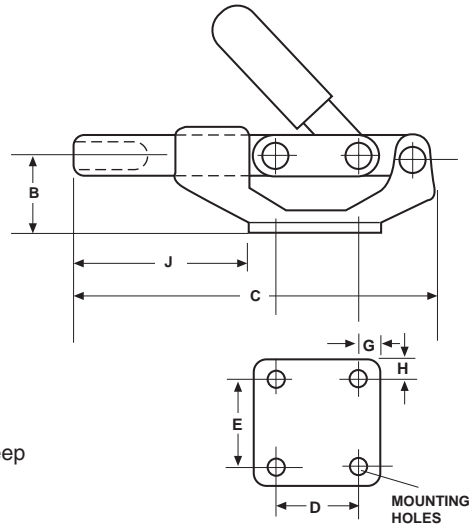
Straight Line



70810

This straight-line extra heavy duty clamp is constructed of malleable iron castings and cold rolled steel. The pivot joints are stainless steel. The mounting base is precision machined for flatness. A blue vinyl handle is included.

- Holding capacity: 500 lbs.
- Weight: 14 oz.
- Plunger travel: 1 3/16"
- Plunger tapped: 5/16-18 X 1 1/8" deep



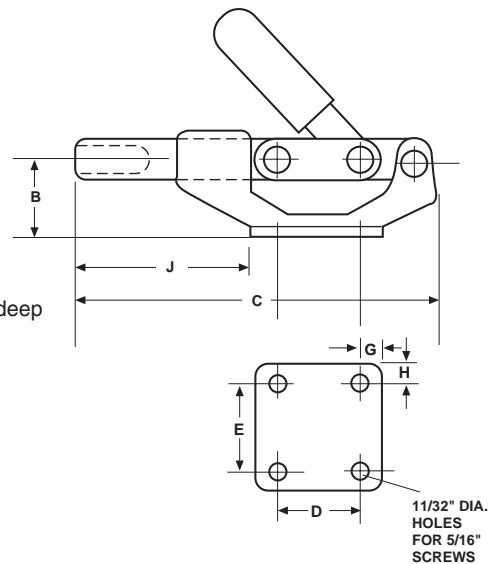
Part Number	B	C	D	E	G	H	J	Mounting Holes
70810	1	4 3/4	1 3/8	1 5/8	5/16	5/16	2 1/4	9/32
70815	1	4 3/4	1 7/16	1 5/16	5/16	5/16	2 1/4	7/32



70830

Same construction as 70810 with larger capacity. The base has 11/32" diameter holes for 5/16" screws. A blue vinyl handle is included.

- Holding capacity: 850 lbs.
- Weight: 1 lb., 4 oz.
- Plunger travel: 1 5/8"
- Plunger tapped: 3/8-16 X 1 1/8" deep



Part Number	B	C	D	E	G	H	J
70830	1 1/4	6 1/4	1 5/8	1 5/8	5/16	5/16	3

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



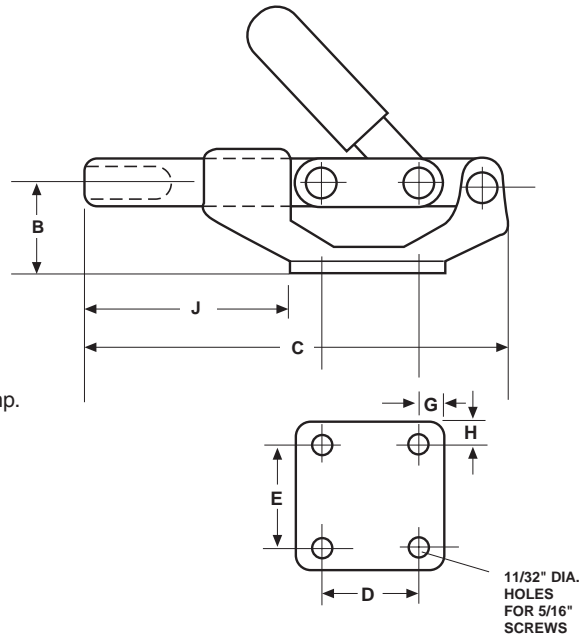
Straight Line



70850

Same construction as 70810 with three times the holding capacity. Our most powerful straight line action toggle clamp. A blue vinyl handle is included.

- Holding capacity: 1500 lbs.
- Weight: 3 lb.
- Plunger travel: 2 11/32"
- Plunger tapped: 1/2-13 X 1 1/2" deep



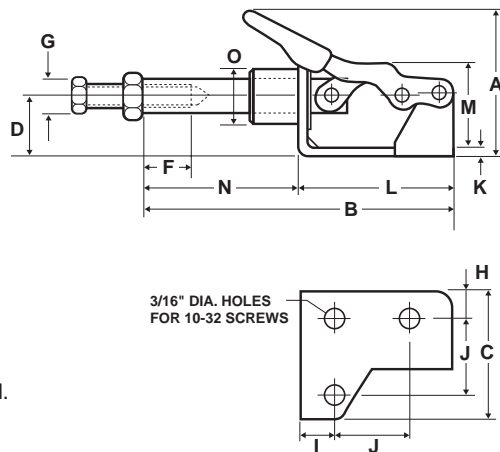
Part Number	B	C	D	E	G	H	J
70850	1 3/4	9 1/2	2	2	3/8	3/8	4 5/8



70818

This light duty clamp is equipped with an 8-32 tapped plunger. A blue vinyl handle is included.

- Holding capacity: 90 lbs.
- Weight: 1.5 oz.
- Plunger travel: 5/8"
- Plunger tapped: 8-32 X 15/32" deep



Part Number	A	B	C	D	F	G	H	I	J	K	L	M	N	O
70818	1 7/32	2 21/32	1 1/16	1/2	15/32	1/4	7/32	5/16	5/8	3/32	1 11/32	13/16	1 9/32	7/16

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



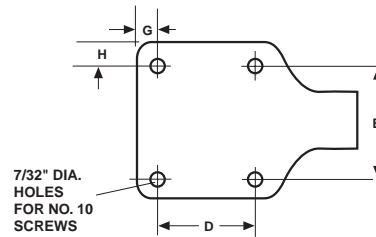
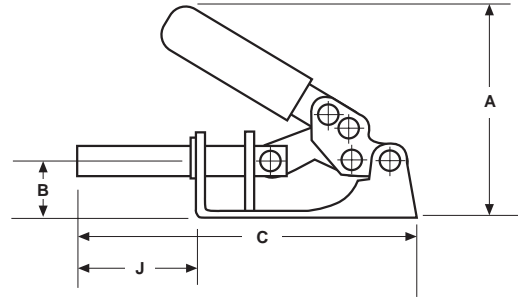
Straight Line



70820

This popular plunger style clamp can be used for push and pull clamping. The rivet in the handle can be removed allowing the clamp to be set in either the push or pull position. A blue vinyl handle is included.

- Holding capacity: 300 lbs.
- Weight: 10 oz.
- Plunger travel: 1 1/4"
- Plunger tapped: 5/16-18 X 1" deep



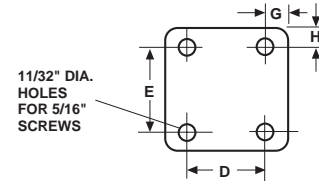
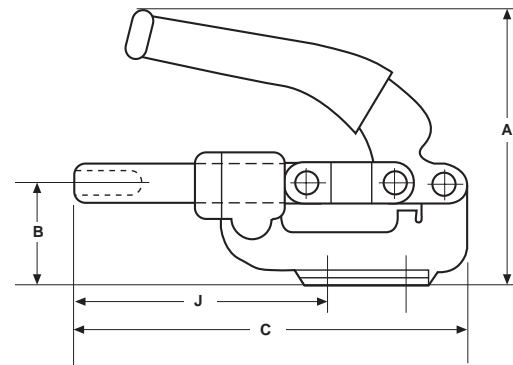
Part Number	A	B	C	D	E	G	H	J
70820	3 5/16	31/32	5 7/16	1 3/8	1 5/8	9/32	9/32	1 15/16



70840

The heavy duty construction of the clamp is ideal for hard to hold applications. The plunger locks in both push and pull positions with maximum pressure. A blue vinyl handle is included.

- Holding capacity: 800 lbs.
- Weight: 1 lb., 12 oz.
- Plunger travel: 1 5/8"
- Plunger tapped: 3/8-16 X 1" deep

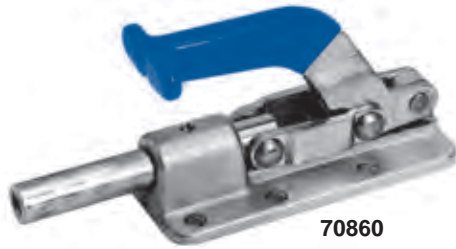


Part Number	A	B	C	D	E	G	H	J	Base Type
70840	4 9/16	1 3/4	6 3/4	1 5/8	1 5/8	5/16	5/16	4 3/16	Flange

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.



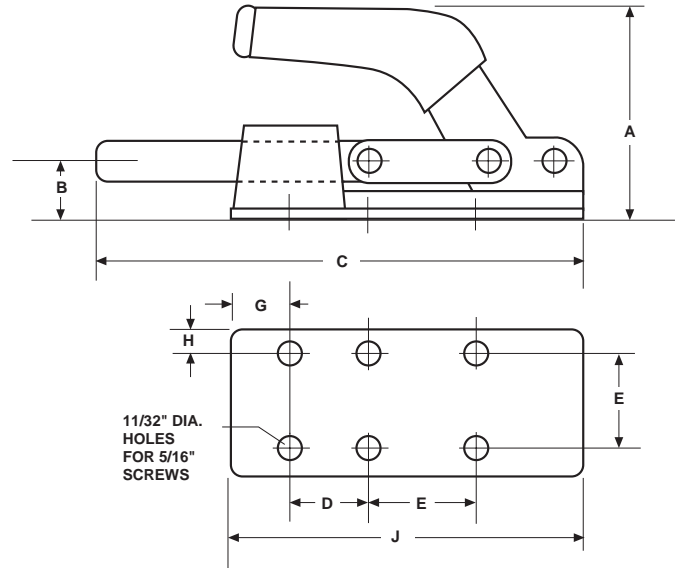
Straight Line



70860

The forged steel construction enables this powerful plunger-style clamp to perform on rugged, heavy duty applications. Handle locks in both push and pull positions. A blue vinyl handle is included.

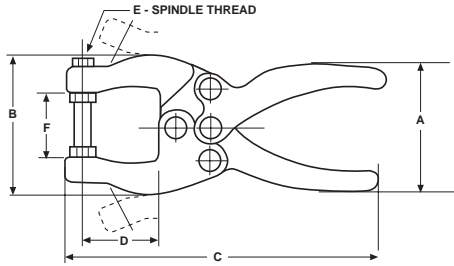
- Holding capacity: 2500 lbs.
- Weight: 2 lbs., 2 oz.
- Plunger travel: 2"
- Plunger tapped: 3/8-16 X 1 1/4" deep



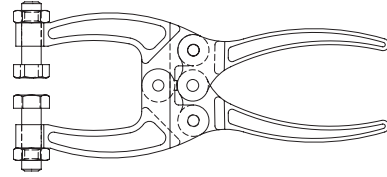
Part Number	A	B	C	D	E	G	H	J	Base Type
70860	2 7/8	13/16	7 1/16	1 3/8	1 5/8	1/2	5/16	5 1/16	Flange

For accessories see page 335. For interchangeability with other toggle clamps, see page 358.

Squeeze Action — Forged Jaws



These forged steel, squeeze action, plier clamps can be used in a wide range of applications. Ideal for clamping, fixturing, holding, processing, or positioning. All models are supplied with spindle assemblies.



2 Spindle Version

Part Number	2 Spindle Part Number	A	B	C	D	E	F	Holding Capacity (lbs.)	Spindle Type	Trigger Release	Wt. (oz.)
70710	71049	1 15/16	2 1/16	4 1/2	1 1/8	1/4-20	1	200	Standard	No	5
70720	71050	1 7/8	2 13/16	6	1 3/4	5/16-18	1 1/4	350	Standard	No	8
70730	—	2 11/16	2 7/8	8 1/16	2 9/32	5/16-18	1/2	700	Standard	Yes	16
70740	70745	2 11/16	4 1/4	8 1/2	2 3/4	3/8-16	1 3/4	700	Standard	Yes	19
70750	—	2 11/16	4 3/4	8 1/2	2 3/4	3/8-16	3	700	Standard	Yes	22

Note: F dimension will be less if spindle and locknut are used.



70710
Supplied with 70927 Spindle Assembly



70720
Supplied with 70946 Spindle Assembly



70730
Supplied with 70945 Spindle Assembly

71049 Supplied with 2 Spindle Assemblies (Not Shown)

71050 Supplied with 2 Spindle Assemblies (Not Shown)



70740
Supplied with 70913 Spindle Assembly



70745 (not shown)
Supplied with (2) 70912 Spindle Assembly



70750
Supplied with 70913 and 70914 Spindle Assemblies



Adjustable Spindle Assemblies

Hex Head Adjustable Spindle Assemblies



Vinyl Coated Hex Head Adjustable Spindle Assemblies



Neoprene Cap-Flat Tipped Adjustable Spindle Assemblies



Swivel Foot Adjustable Spindle Assemblies



Part Number	Description
70962	8-32 x 27/32 Nylon Hex Head
70916	8-32 x 3/4 Hex Head*
70945	5/16-18 x 1 1/8 Hex Head
70946	5/16-18 x 1 3/4 Hex Head
70912	3/8-16 x 1 1/4 Hex Head
70913	3/8-16 x 3 Hex Head
70903	1/2-13 x 3 Hex Head
70942	5/8-11 x 4 1/2 Hex Head
70963	8-32 x 1 1/4 Vinyl Coated Hex Head
70927	1/4-20 x 1 1/2 Vinyl Coated Hex Head
70926	1/4-20 x 1 3/4 Neoprene Cap Flat Tipped
70918	1/4-20 x 1 15/16 Neoprene Cap Flat Tipped
70947	5/16-18 x 2 1/4 Neoprene Cap Flat Tipped
70949	5/16-18 x 3 Neoprene Cap Flat Tipped
70915	3/8-16 x 3 1/4 Neoprene Cap Flat Tipped
70917	10-32 x 1 3/8 Neoprene Cap Flat Tipped
70948	5/16-18 x 2 3/4 Swivel Foot
70914	3/8-16 x 3 Swivel Foot

*Nuts not included

Flanged Washers for U-Bar Clamps Only

Flanged Washers for U-Bar Clamps



Part Number	Description
70960	#8 For Vertical Handle Models
70925	1/4
70944	5/16
70911	3/8
70902	1/2
70941	5/8

Bolt Retainer

Bolt Retainers For Solid Bar Clamps



Part Number	Description
70943	5/16
70910	3/8
70901	1/2
70940	5/8



HDV Series Heavy Duty Vertical Clamps



Features:

All HDV series clamps are designed to be adaptable and durable, and to withstand abuse in heavy duty applications.

The HDV series have a phosphated corrosion resistant finish.

Models HDV660WW, HDV1500WW, HDV2600WW and HDV5200WW comprise a basic toggle mechanism onto which can be welded at the desired angle the clamping arm and handle which can be specified as accessories. These models feature a swivel base which is welded at the desired angle to the mechanism, and then welded either directly to a fixture, or alternatively to a base which is offered as an accessory for bolt mounting.

Models HDV660SW, HDV1500SW, HDV2600SW and HDV5200SW share all the features of the above models, but with a straight base which can be directly bolt mounted or welded to a fixture, or alternatively to the accessory base for bolt mounting.

Models HDV660SS, HDV1500SS, HDV2600SS and HDV5200SS are similar to the type 'T' models, but with a handle with a PVC grip fitted vertically, and a longer stub clamping arm which can be modified and the spindle retainer supplied welded in the desired position.

Models HDV660FA, HDV1500FA, HDV2600FA and HDV5200FA feature a flanged base with holes for bolt mounting, a handle with PVC grip fitted vertically, and a fixed spindle or setscrew position which does not require welding.

Specifications:

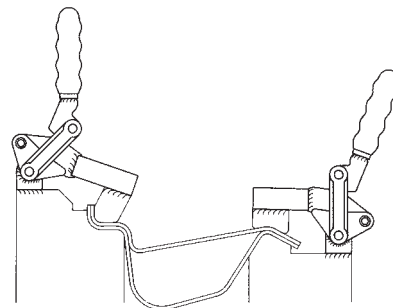
The main components are of steel, the forked lower handles being precision alloy steel castings, and all axles of hardened steel running in either hardened bushes or directly in the close-toleranced holes of hardened parts. The clamps are finished chemi-black.

Installation:

When welding the swivel base of the 'Stub Nose' models to the clamp mechanism ensure that the full length of the adjoining surfaces are welded. Ensure that welding spatter does not enter the slots which form the forward stop of the mechanism.

The handle pivot bolt may be adjusted if required to remove excess free play from the mechanism.

Frequent lubrication will extend the life of the clamp.





Hold Down Vertical



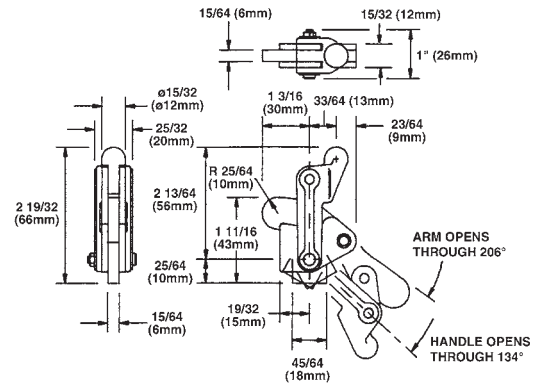
Model HDV660/WW

Arm: Stub nose for welded extension
Base: Swivel for welding in the desired position
Nominal Holding Force: 660 lbs.
Weight: 6 oz.

See "Features and Installation Information" on page 336 for Installation Instructions.

See page 339 for accessories and handles.

Part Number
72120



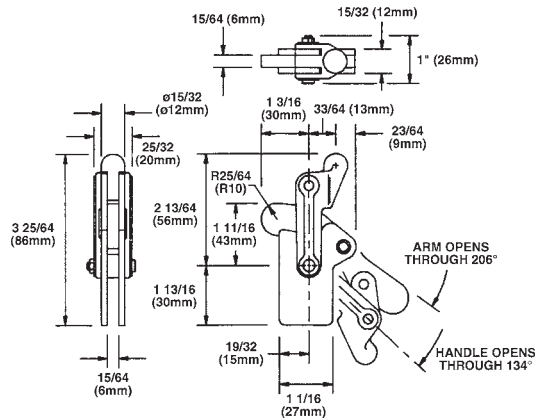
Model HDV660/SW

Arm: Stub nose for welded extension
Base: Straight
Nominal Holding Force: 660 lbs.
Weight: 6 oz.

See "Features and Installation Information" on page 336 for Installation Instructions.

See page 339 for accessories and handles.

Part Number
72101

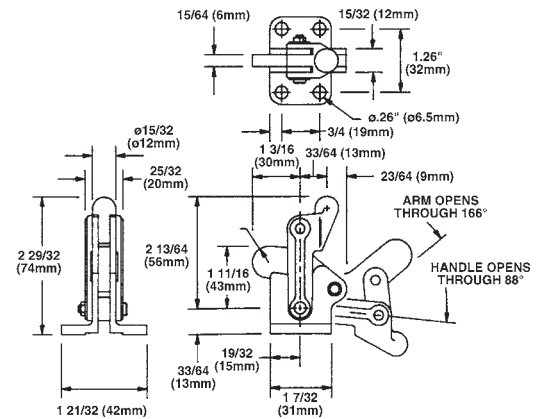


Model HDV660/FW

Arm: Stub nose for welded extension
Base: Flanged
Nominal Holding Force: 660 lbs.
Weight: 7 oz.

See page 339 for accessories and handles.

Part Number
72102



TOGGLE CLAMPS



Hold Down Vertical

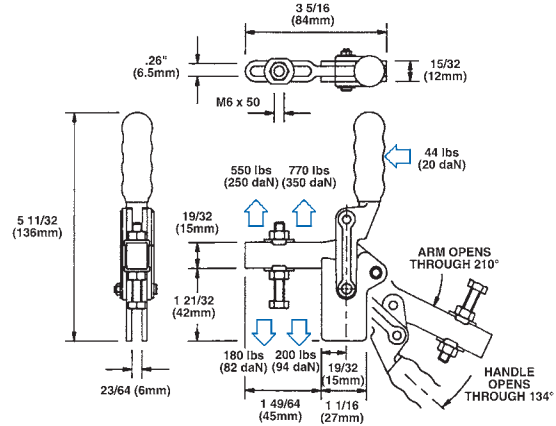


Part Number
72103

Model HDV660/SA

Arm: The spindle is adjustable along the arm
 Base: Straight
 Nominal Holding Force: 660 lbs.
 Weight: 9 oz.
 Supplied complete with: Set screw & nuts,
 Flanged washer

See page 339 for accessories and handles.

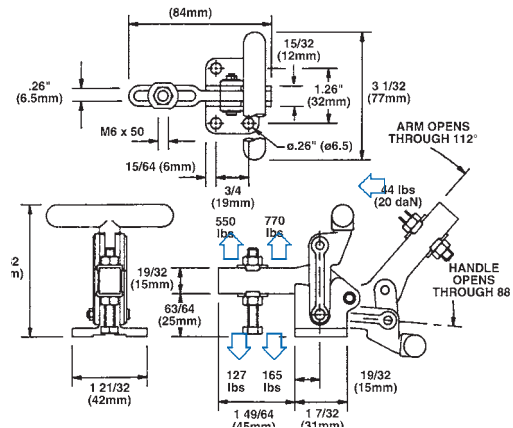


Part Number
72104

Model HDV660/FA

Arm: The spindle is adjustable along the arm
 Base: Flanged
 Nominal Holding Force: 660 lbs.
 Weight: 9 oz.
 Supplied complete with: Set screw & nuts,
 Flanged washer

See page 339 for accessories and handles.

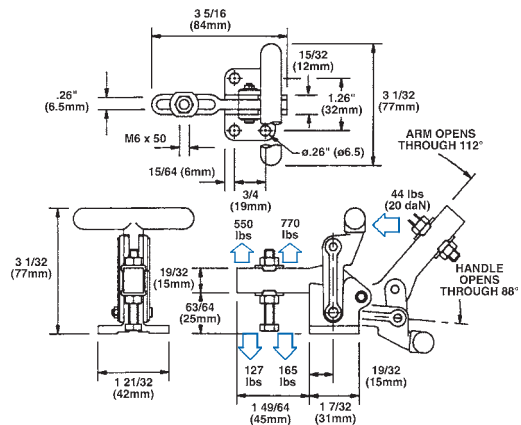


Part Number
72105

Model HDV660/FA2

Arm: The spindle is adjustable along the arm
 Base: Flanged
 Nominal Holding Force: 660 lbs.
 Weight: 9 oz.
 Supplied complete with: Set screw & nuts,
 Flanged washer

See page 339 for accessories and handles.





Hold Down Vertical

HDV660 Series Accessories



Part No. 72130

Handle: For welding at the desired angle to HDV660/WW & HDV660/SW
Weight: 2 oz.

Part No. 72131

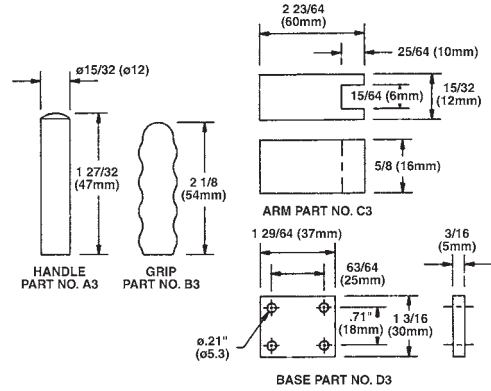
Grip: To fit Part No. 72130 handle
Weight: 0.5 oz.

Part No. 72132

Arm: For extending the stub arms of HDV660/WW & HDV660/SW
Weight: 3 oz.

Part No. 72133

Base: For bolt mounting HDV660/WW & HDV660/SW
Weight: 2 oz.

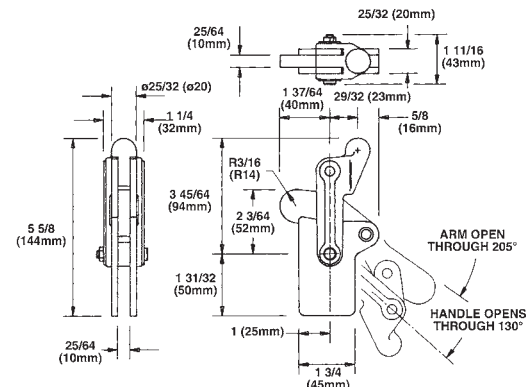


Model HDV1500/WW

Arm: Stub nose for welded extensions
Base: Swivel for welding in the desired position
Nominal Holding Force: 1,543 lbs.
Weight: 1lb 7 oz.

See "Features and Installation Information" on page 336 for Installation Instructions.

See page 340 for accessories and handles.



Part Number
72121

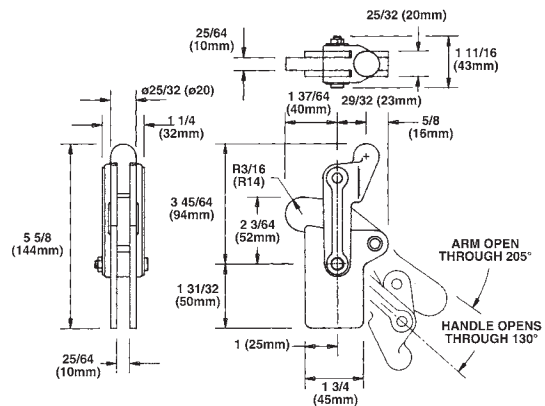


Model HDV1500/SW

Arm: Stub nose for welded extensions
Base: Straight
Nominal Holding Force: 1,543 lbs.
Weight: 1lb 9 oz.

See "Features and Installation Information" on page 336 for Installation Instructions.

See page 340 for accessories and handles.



Part Number
72106

TOGGLE CLAMPS



Hold Down Vertical

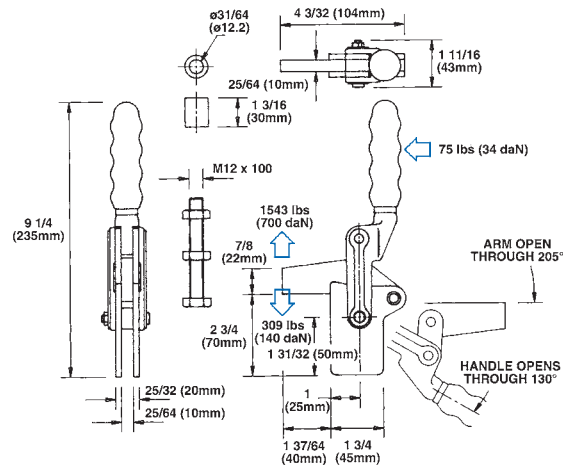


Part Number
72107

Model HDV1500/SS

Arm: Solid arm
 Base: Straight
 Nominal Holding Force: 1,543 lbs.
 Weight: 2 lbs 5 oz.
 Supplied complete with: Spindle retainer,
 Setscrew & nuts

See below for accessories and handles.

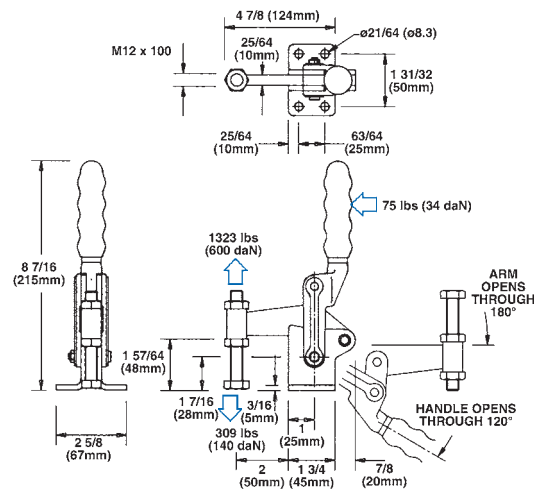


Part Number
72108

Model HDV1500/FA

Arm: The spindle is in a fixed position
 Base: Flanged
 Nominal Holding Force: 1,543 lbs.
 Weight: 2 lbs 9 oz.
 Supplied complete with: Setscrew & nuts

See below for accessories and handles.



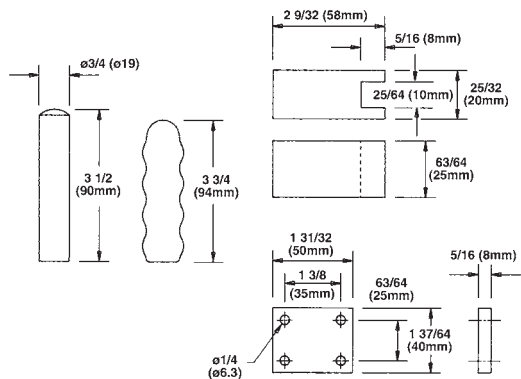
HDV1500 Series Accessories

Part No. 72140
 Handle: For welding at the desired angle to HDV1500/WW & HDV1500/SW
 Weight: 5.3 oz.

Part No. 72141
 Grip: To fit Part No. 72140 handle
 Weight: 0.3 oz.

Part No. 72142
 Arm: For extending the stub arms of HDV1500/WW & HDV1500/SW
 Weight: 5.5 oz.

Part No. 72143
 Base: For bolt mounting
 VHDV1500/WW & HDV1500/SW
 Weight: 3 oz.





Hold Down Vertical



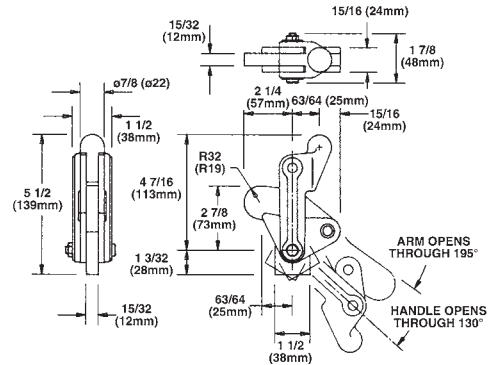
Part Number
72122

Model HDV2600/WW

Arm: Stub nose for welded extensions
Base: Swivel for welding in the desired position
Nominal Holding Force: 2,646 lbs.
Weight: 2 lbs 10 oz.

See "Features and Installation Information" on page 336 for Installation Instructions.

See page 342 for accessories and handles.



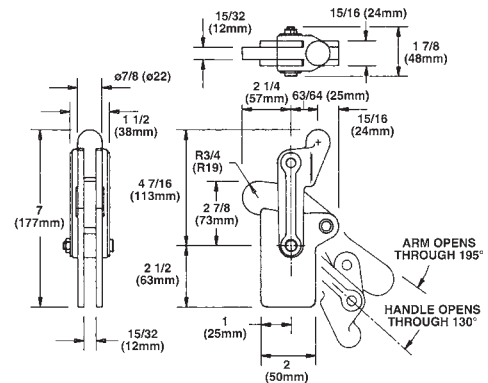
Part Number
72109

Model HDV2600/SW

Arm: Stub nose for welded extensions
Base: Straight
Nominal Holding Force: 2,646 lbs.
Weight: 3 lbs 2 oz.

See "Features and Installation Information" on page 336 for Installation Instructions.

See page 342 for accessories and handles.

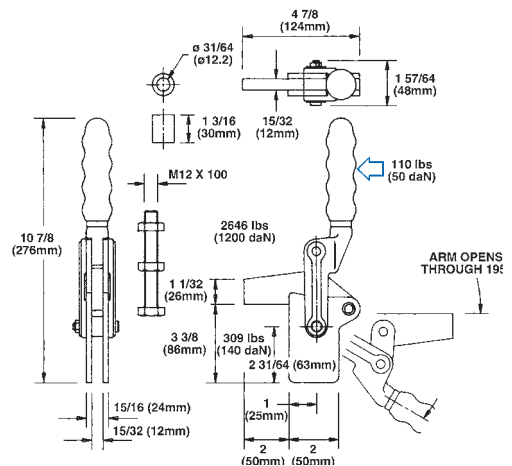


Part Number
72110

Model HDV2600/SS

Arm: Solid arm
Base: Straight
Nominal Holding Force: 2,646 lbs.
Weight: 4 lbs.
Supplied complete with: Spindle retainer,
Setscrew & nuts

See page 342 for accessories and handles.





Hold Down Vertical

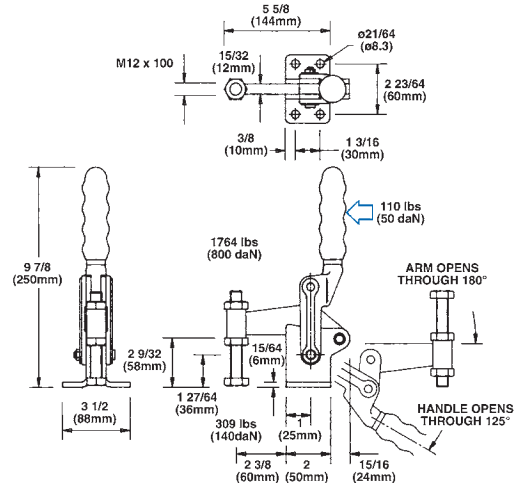


Part Number
72111

Model HDV2600/FA

Arm: The spindle is in a fixed position
 Base: Flanged
 Nominal Holding Force: 2,646 lbs.
 Weight: 4 lbs 4 oz.
 Supplied complete with: Setscrew & nuts

See below for accessories and handles.



HDV2600 Series Accessories

Part No. 72150

Handle: For welding at the desired angle to HDV2600/WW & HDV2600/SW
 Weight: 8 oz.

Part No. 72151

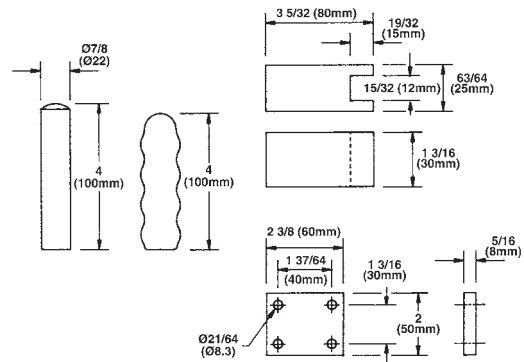
Grip: To fit Part No. 72150 handle
 Weight: 0.3 oz.

Part No. 72152

Arm: For extending the stub arms of HDV2600/WW & HDV2600/SW
 Weight: 11 oz.

Part No. 72153

Base: For bolt mounting
 HDV2600/WW & HDV2600/SW
 Weight: 4 oz.





Hold Down Vertical



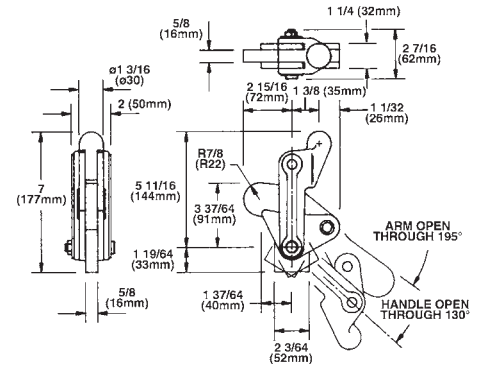
Part Number
72123

Model HDV5200/WW

Arm: Stub nose for welded extensions
Base: Swivel for welding in the desired position
Nominal Holding Force: 5,291 lbs.
Weight: 6 lbs 4 oz.

See "Features and Installation Information" on page 336 for Installation Instructions.

See page 344 for accessories and handles.



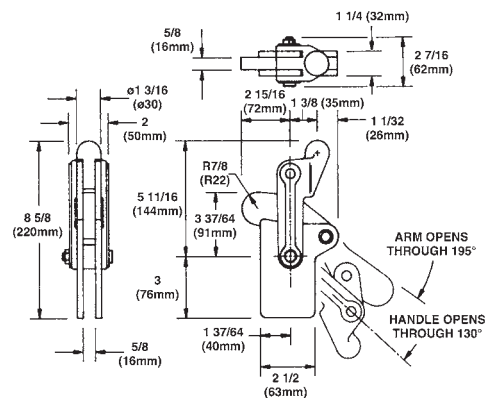
Part Number
72112

Model HDV5200/SW

Arm: Stub nose for welded extensions
Base: Straight
Nominal Holding Force: 5,291 lbs.
Weight: 7 lbs 1 oz.

See "Features and Installation Information" on page 336 for Installation Instructions.

See page 344 for accessories and handles.

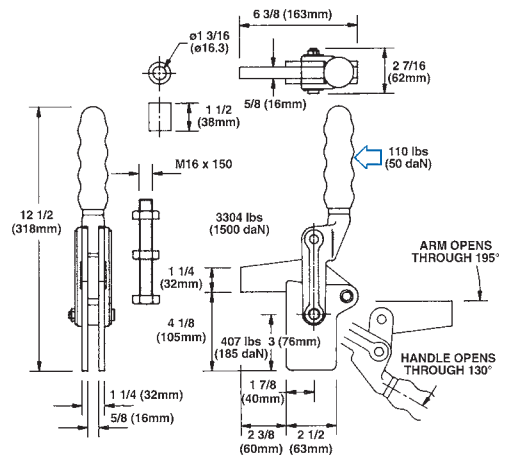


Part Number
72113

Model HDV5200/SS

Arm: Solid arm
Base: Straight
Nominal Holding Force: 5,286 lbs.
Weight: 8 lbs 3 oz.
Supplied complete with: Spindle retainer, Setscrew & nuts

See page 344 for accessories and handles.





Hold Down Vertical

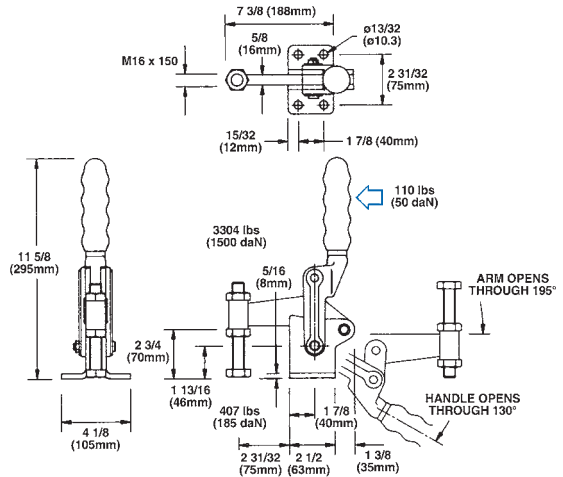


Part Number
72114

Model HDV5200/FA

Arm: The spindle is in a fixed position
 Base: Flanged
 Nominal Holding Force: 5,286 lbs
 Weight: 9 lbs.
 Supplied complete with: Setscrew & nuts

See below for accessories and handles.



HDV5200 Series Accessories

Part No. 72170

Handle: For welding at the desired angle to HDV5200/WW & HDV5200/SW
 Weight: 10.3 oz.

Part No. 72171

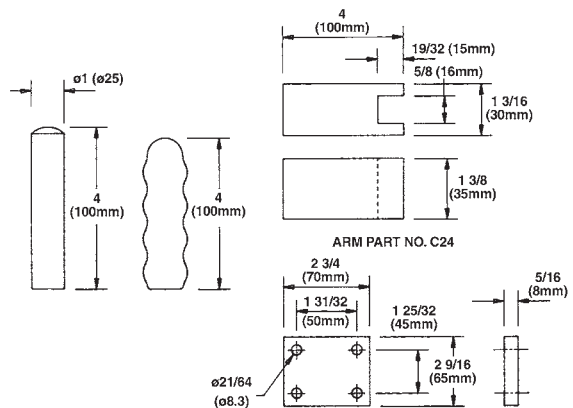
Grip: To fit Part No. 72170 handle
 Weight: 4 oz.

Part No. 72172

Arm: For extending the stub arms of HDV5200/WW & HDV5200/SW
 Weight: 1 lb 8 oz.

Part No. 72173

Base: For bolt mounting HDV5200/WW & HDV5200/SW
 Weight: 7 oz.





Vertical Cam Clamps



Features:

Cam clamps are similar to vertical clamps but the clamping force is generated not by a toggle linkage, but by the action of a roller on a cam.

The cam action allows components of differing thickness to be clamped without readjustment of the clamping spindle.

Model JCV155/FF can clamp parts with thickness varying by up to 1/16", and models JCV550/FF and JCV770/FF thickness varying by up to 5/64".

A comfortable, cushioned PVC handle grip is fitted to all three models of cam clamp.

Specifications:

The main components are of zinc plated and passivated steel, the cam and its roller being case hardened to resist wear.

Rivets are of stainless steel, which burnishes and work-hardens with use, the rivets of models JCV550/FF and JCV770/FF rotating in hardened bushes. The setscrews are made of steel.



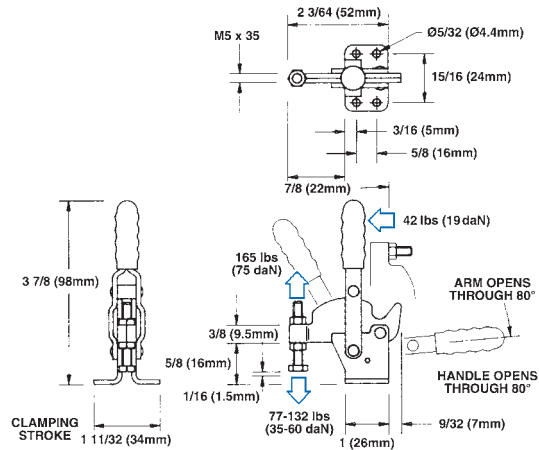
Vertical Cam Clamps



Part Number
72160

Model JCV/155/FF

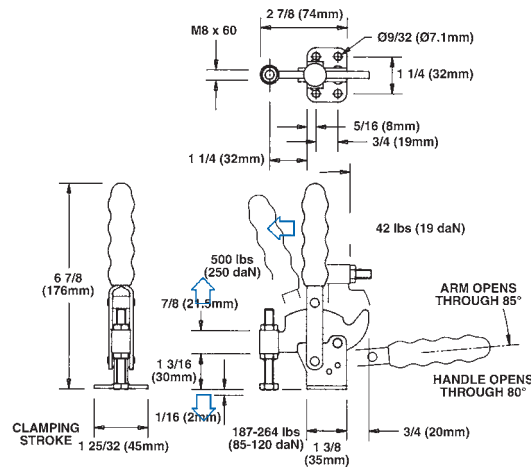
Arm: The spindle is in a fixed position
 Base: Flanged
 Nominal Holding Force: 165 lbs.
 Weight: 1.3 oz.
 Supplied complete with: Setscrew & nuts



Part Number
72161

Model JCV550/FF

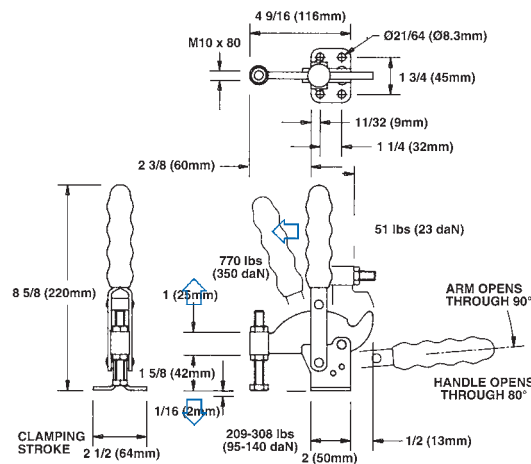
Arm: The spindle is in a fixed position
 Base: Flanged
 Nominal Holding Force: 550 lbs.
 Weight: 9 oz.
 Supplied complete with: Setscrew & nuts



Part Number
72162

Model JCV770/FF

Arm: The spindle is in a fixed position
 Base: Flanged
 Nominal Holding Force: 770 lbs.
 Weight: 1 lb 6 oz.
 Supplied complete with: Setscrew & nuts



TOGGLE CLAMPS



Heavy-Duty & Long-Handled Push-Pull Clamps

- Low profile handle
- Heavy duty link
- Ribbed housing provides extra protection against side impact
- Locks in both forward and rear position



Features:

These clamps are of exceptionally robust construction featuring cast and machined handles and bases. The clamps are designed with a low plunger height and with the mechanism guarded within the base to avoid finger traps.

Models HDP1300, HDP2600, HDP5500, and HDP11000 have handles of normal length for clamping. The long handled 'L' versions (HDP1300/L, HDP5500/L, and HDP11000/L) have their handles either to the front or rear of the clamp according to the application and produce high forces which make them suitable for clamping or for light work such as swaging, rivetting, press fitting components, etc. All models are fitted with a comfortable, cushioned PVC handle grip.

Specifications:

The bases of all models, and the handles of models HDP1300, HDP2600, HDP5500, and HDP11000 are machined cast iron.

The handles of the 'L' versions are of steel bar and mount in housings which are either machined steel castings or machined from steel bar.

The plungers are of steel, and their precision ground diameter runs in a close-toleranced hole in the base casting.

All axles are of hardened steel and run in either the cast iron of the handle, or in the close-toleranced holes of hardened parts.

All models are supplied with a steel setscrew.



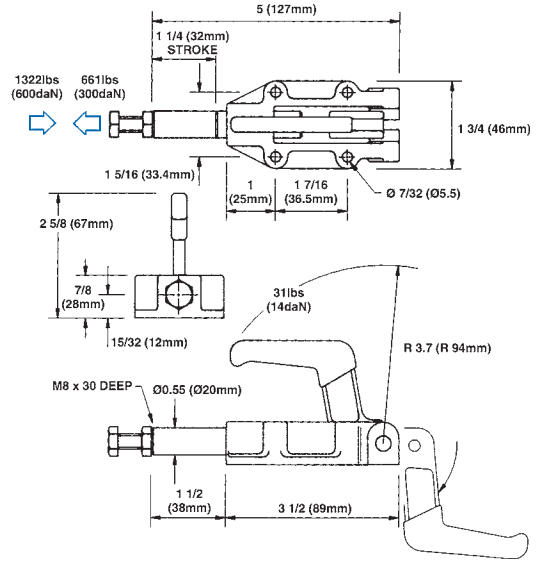
Heavy-Duty & Long-Handled Push-Pull Clamps



Part Number
72201

Model HDP1300

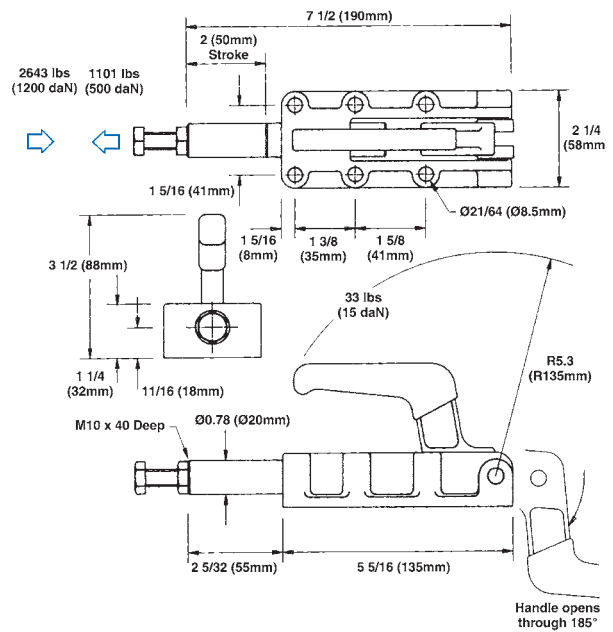
Plunger: Locks at both extended & retracted ends of the stroke
 Base: Body mounting
 Nominal Holding Force: 1,322 lbs.
 Weight: 1 lb
 Supplied complete with:
 Setscrew & nut



Part Number
72202

Model HDP2600

Plunger: Locks at both extended & retracted ends of the stroke
 Base: Body mounting
 Nominal Holding Force: 2,643 lbs.
 Weight: 3 lbs
 Supplied complete with:
 Setscrew & nut



TOGGLE CLAMPS



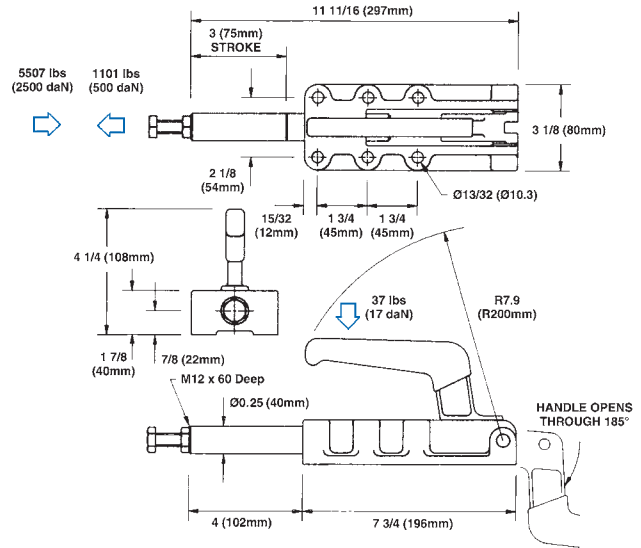
Heavy-Duty & Long-Handled Push-Pull Clamps



Part Number
72203

Model HDP5500

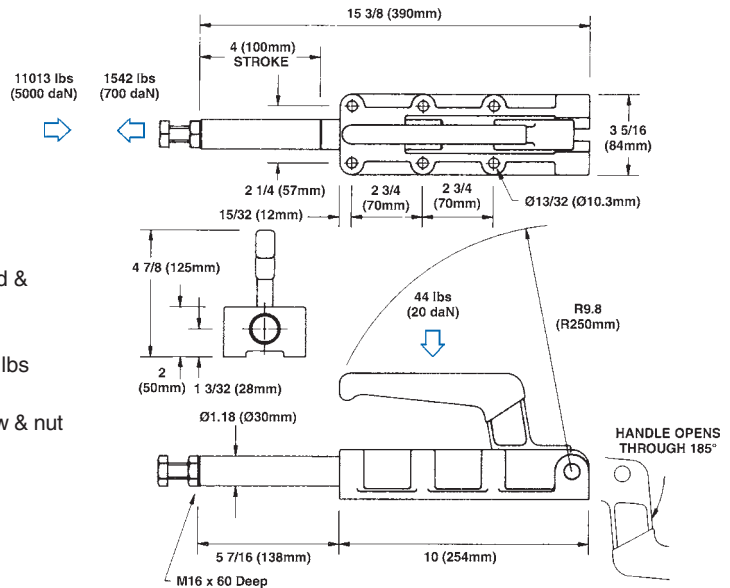
Plunger: Locks at both extended & retracted ends of the stroke
Base: Body mounting
Nominal Holding Force: 5,507 lbs
Weight: 8 lbs
Supplied complete with: Setscrew & nut



Part Number
72204

Model HDP11000

Plunger: Locks at both extended & retracted ends of the stroke
Base: Body mounting
Nominal Holding Force: 11,013 lbs
Weight: 13 lbs 6 oz.
Supplied complete with: Setscrew & nut



TOGGLE CLAMPS



Heavy-Duty & Long-Handled Push-Pull Clamps



Part Number
72205

Model HDP1300/L

With 31 lbs handle force the

output force is:	lbs
Fully retracted	1,035
0.197 extended	242
0.394	154
0.591	165
0.787	176
1.00	187
1.180	322
1.219	419
Fully extended	1,277

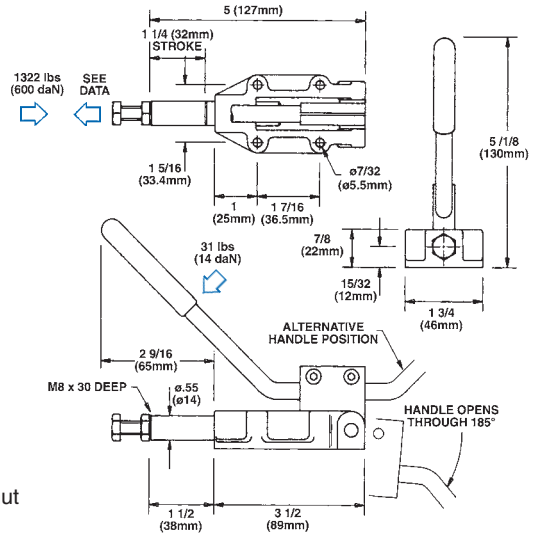
Plunger: Locks at both extended & retracted ends of the stroke

Base: Body mounting

Nominal Holding Force: 1,322 lbs

Weight: 1 lb 2 oz.

Supplied complete with: Setscrew & nut



Part Number
72206

Model HDP2600/L

With 33 lbs handle force the

output force is:	lbs
Fully retracted	1,553
0.197 extended	368
0.394	198
0.591	161
0.787	154
1.00	159
1.180	187
1.377	220
1.573	242
1.769	330
1.887	485
1.926	639
Fully extended	2,048

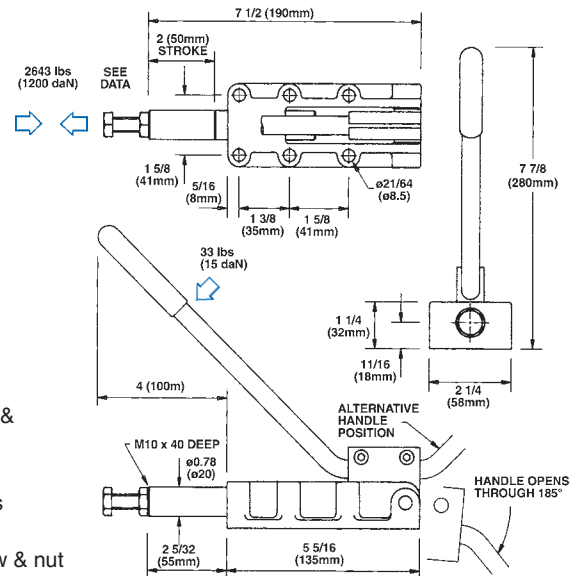
Plunger: Locks at both extended & retracted ends of the stroke

Base: Body mounting

Nominal Holding Force: 2,643 lbs

Weight: 3 lbs 6 oz.

Supplied complete with: Setscrew & nut





Heavy-Duty & Long-Handled Push-Pull Clamps



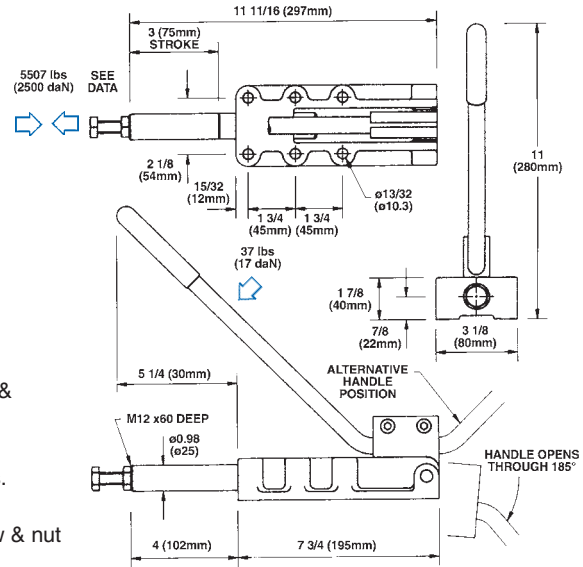
Part Number
72207

Model HDP5500/L

With 37 lbs handle force the output force is:

lbs	
Fully retracted	2,203
0.394 extended	220
0.787	159
1.180	132
1.573	154
1.970	194
2.364	260
2.758	419
2.836	507
2.915	778
Fully extended	2,423

Plunger: Locks at both extended & retracted ends of the stroke
 Base: Body mounting
 Nominal Holding Force: 5,507 lbs.
 Weight: 9 lbs 1 oz.
 Supplied complete with: Setscrew & nut



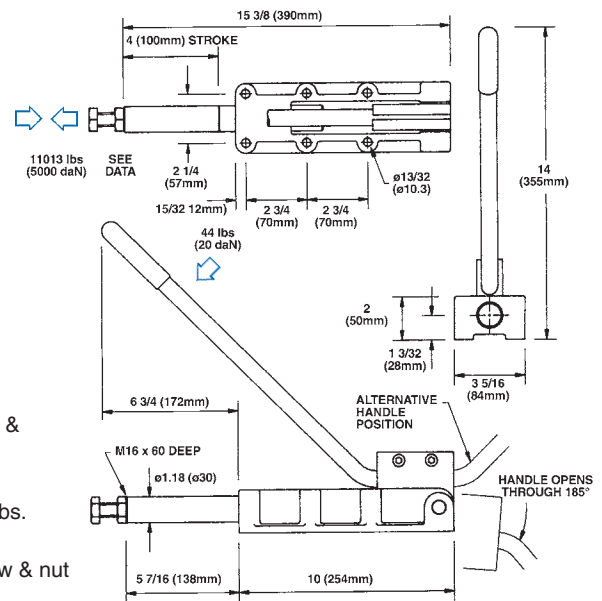
Part Number
72208

Model HDP11000/L

With 44 lbs handle force the output force is:

lbs	
Fully retracted	2,423
0.394 extended	397
0.787	242
1.180	165
1.573	176
1.970	181
2.364	220
2.758	220
3.152	286
3.546	419
3.743	551
3.821	683
3.900	991
Fully extended	2,665

Plunger: Locks at both extended & retracted ends of the stroke
 Base: Body mounting
 Nominal Holding Force: 11,013 lbs.
 Weight: 15 lbs 6 oz.
 Supplied complete with: Setscrew & nut





Horizontal Latch Clamps



Features:

Latch clamps are available in two sizes. Bracket holes will not elongate over time. They have a small footprint for space constrained applications.

All latch clamps are fitted with PVC handle grips.

Specifications:

The HDL Series clamps have precision cast steel bases and latch brackets with cast iron handles. The finish is black oxide.

Installation:

It is important that the clamp and latch bracket are in alignment when viewed from both the top and the side to ensure that the clamp locks over center correctly.

The 'U' bolt should be adjusted to ensure an equal pull on either side.

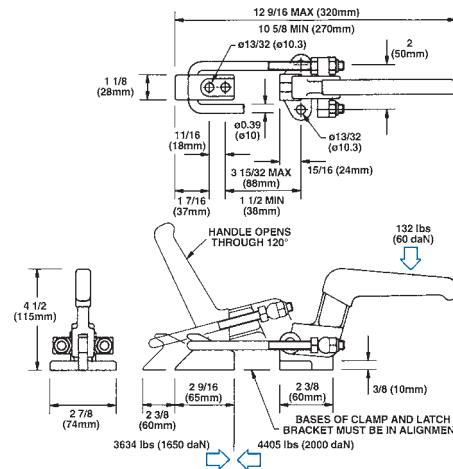
Horizontal Latch Clamps



Part Number
72301

Model HDL4400

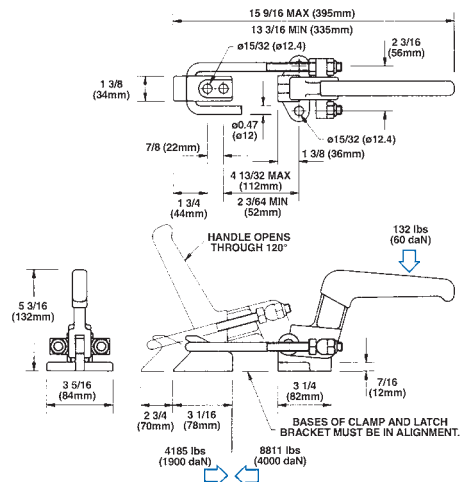
Nominal Holding Force: 4,405 lbs
Weight: 3 lbs 1 oz.
Supplied complete with: Latch Bracket as shown



Part Number
72302

Model HDL8800

Nominal Holding Force: 8,811 lbs
Weight: 5 lbs 9 ozs.
Supplied complete with: Latch Bracket as shown





Magna Force Heavy Duty Cam Clamps



- Unique, patented range of cam clamps
- Rugged build quality, ideal for machine shops
- Clamping forces from 660 lbs to 11,000 lbs
- Significant cost benefits over strap clamps in repetitive machining
- A fraction of the cost of hydraulic workholding



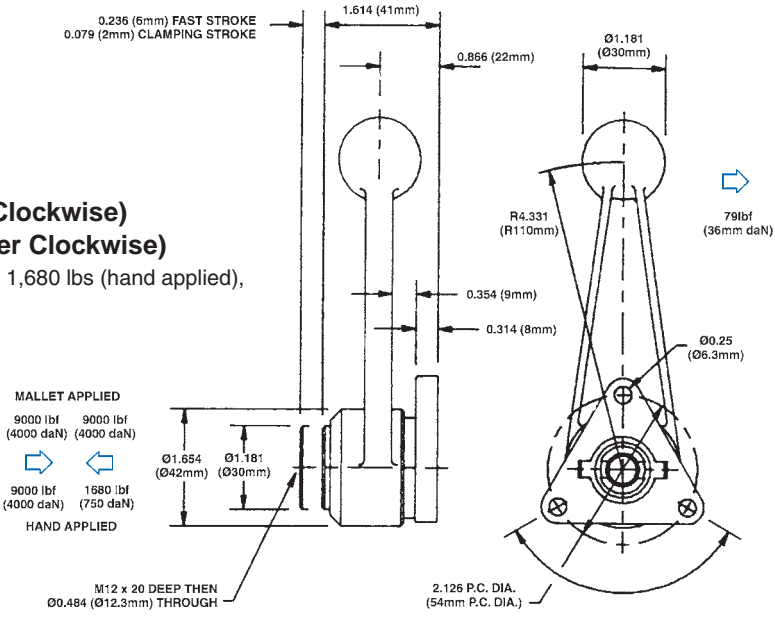
Heavy Duty Cam Clamps



Model HDC8800R (Clockwise)
HDC8800RB (Counter Clockwise)

Operating clamping force: 1,680 lbs (hand applied),
 9,000 lbs (mallet applied)
 Weight: 1.21 lbs

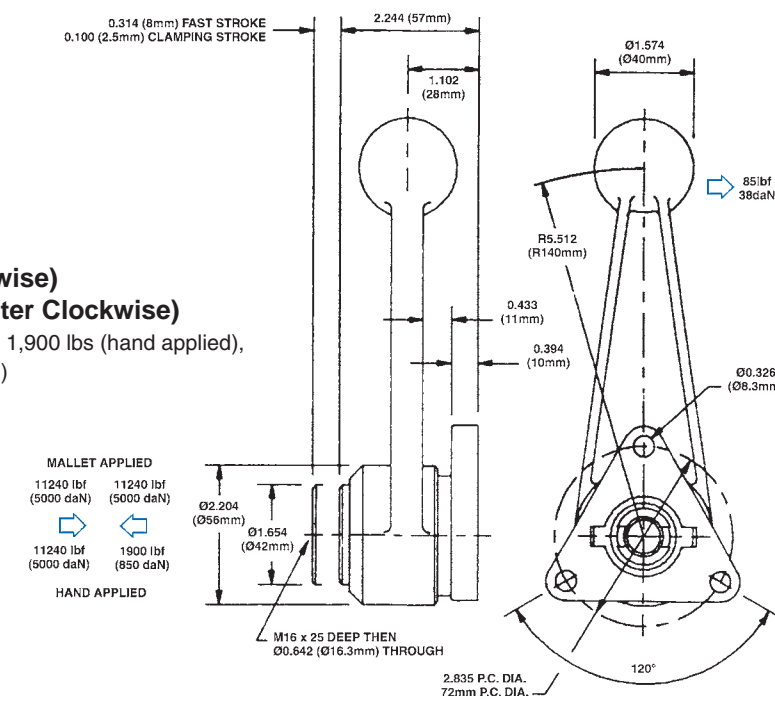
Part Number
72401
72402



Model HDC11000R (Clockwise)
HDC11000RB (Counter Clockwise)

Operating clamping force: 1,900 lbs (hand applied),
 11,240 lbs (mallet applied)
 Weight: 2.9 lbs

Part Number
72403
72404



Part Number	Applied Handle Force (Hand Push)	Clamping Force	Clamping Force using Mallet Blows	Daylight Travel	Clamping Travel
72401	81 lbs	1686 lbs	8992 lbs	0.236	0.079
72402	81 lbs	1686 lbs	8992 lbs	0.236	0.079
72403	85 lbs	1910 lbs	11240 lbs	0.315	0.100
72404	85 lbs	1910 lbs	11240 lbs	0.315	0.100

TOGGLE CLAMPS



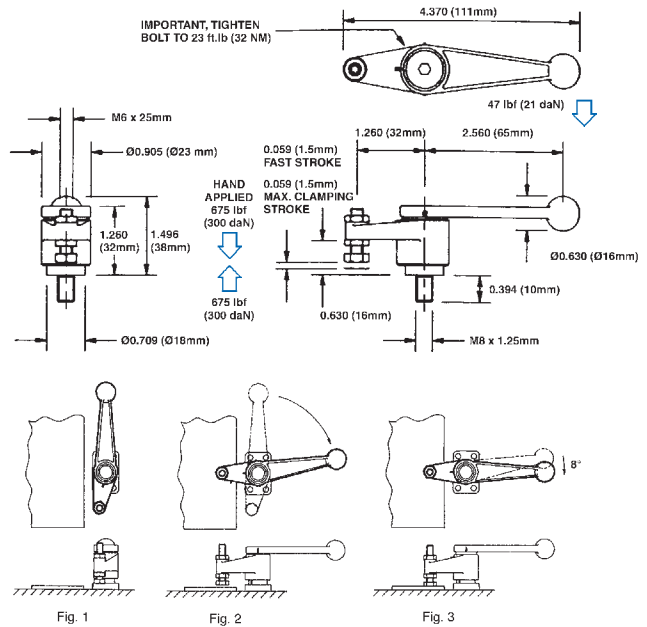
Heavy Duty Cam Swing Clamps



Part Number
72405
72406

Model
HDC675S (Clockwise)
HDC675SB (Counter Clockwise)

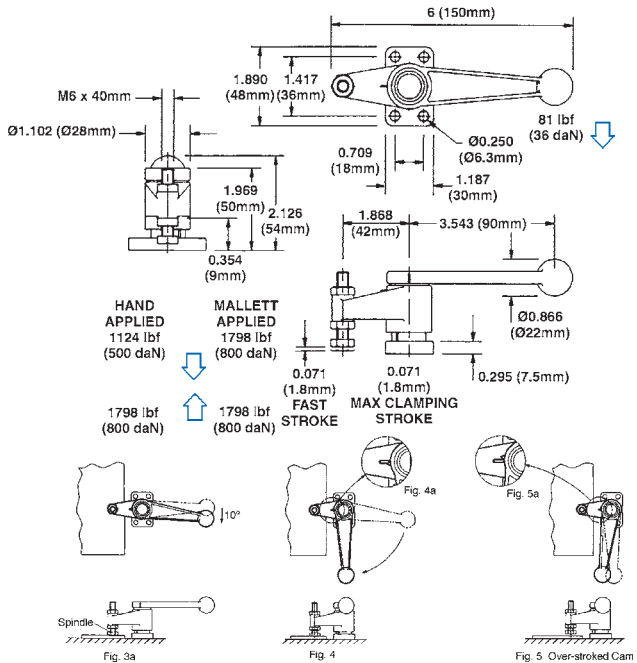
Operating clamping force: 675 lbs (hand applied)
Weight: 0.4 lbs
Supplied complete with: Set screw & nuts



Part Number
72407
72408

Model
HDC1800S (Clockwise)
HDC1800SB (Counter Clockwise)

Operating clamping force: 1,120 lbs (hand applied), 1,800 lbs (mallet applied)
Weight: 0.9 lbs
Supplied complete with: Set screw & nuts



Part Number	Applied Handle Force (Hand Push)	Clamping Force	Clamping Force using Mallet Blows	Daylight Travel	Clamping Travel
72405	47 lbs	674 lbs	N/A	0.059	0.059
72406	47 lbs	674 lbs	N/A	0.059	0.059
72407	81 lbs	1124 lbs	1800 lbs	0.070	0.070
72408	81 lbs	1124 lbs	1800 lbs	0.070	0.070

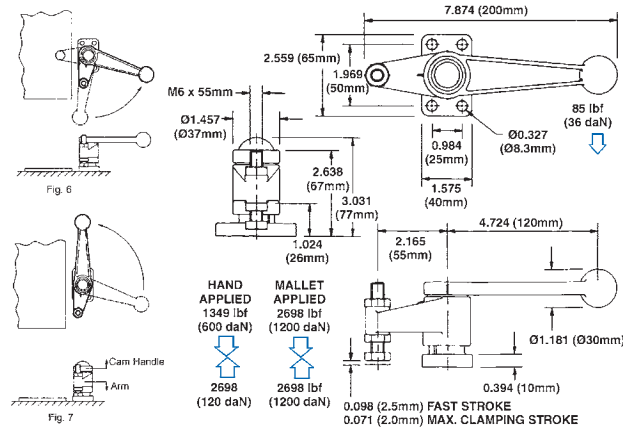
Heavy Duty Cam Swing Clamps



Part Number
72409
72410

Model
HDC2600S (Clockwise)
HDC2600SB (Counter Clockwise)

Operating clamping force:
1,350 lbs (hand applied),
2,700 lbs (mallet applied)
Weight: 2 lbs
Supplied complete with: Setscrew & nuts



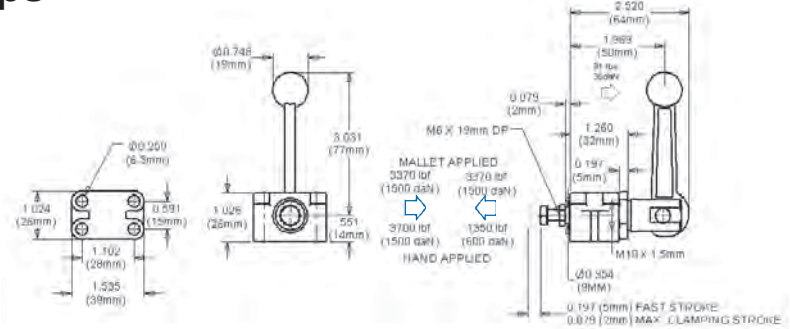
Heavy Duty Cam Push Clamps



Part Number
72411

Model HDC3300P

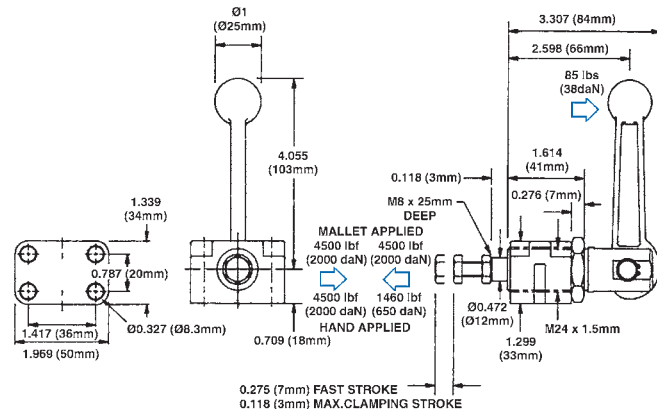
Operating clamping force:
3,370 lbs (mallet applied),
1,350 lbs (hand applied)
Weight: 0.6 lbs
Supplied complete with:
Set screw & nuts, Mounting
base and locknuts



Part Number
72412

Model HDC4400P

Operating clamping force:
4500 lbs (mallet applied),
1,460 lbs (hand applied)
Weight: 1.3 lbs
Supplied complete with:
Set screw & nuts
CMB24 Mounting base & locknuts



Part Number	Applied Handle Force (Hand Push)	Clamping Force	Clamping Force using Mallet Blows	Daylight Travel	Clamping Travel
72409	85 lbs	1350 lbs	2700 lbs	0.098	0.079
72410	85 lbs	1350 lbs	2700 lbs	0.098	0.079
72411	81 lbs	1350 lbs	3370 lbs	0.205	0.087
72412	85 lbs	1460 lbs	4500 lbs	0.276	0.118



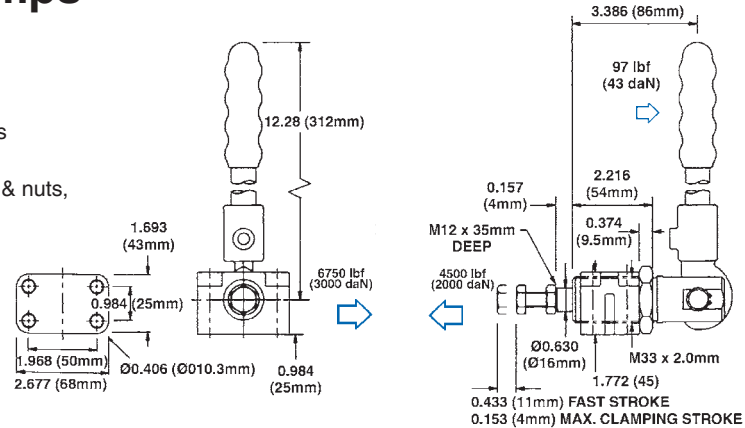
Heavy Duty Cam Push Clamps



Model HDC6750PL

Operating clamping force: 4,500 lbs
 Weight: 4.4 lbs
 Supplied complete with: Set screw & nuts,
 Mounting base & locknuts
 Nominal holding force: 6,740 lbs

Part Number
72416



Part Number	Applied Handle Force (Hand Push)	Clamping Force	Clamping Force using Mallet Blows	Daylight Travel	Clamping Travel
72416	97 lbs	4,500 lbs	N/A	0.433	0.157

Conversion Chart Part Numbers

Jergens	Carr Lane	Jergens	Carr Lane	Jergens	Carr Lane	Jergens	Carr Lane
70118	CL-150-TPC	70380	CL-450-VTC	71019	—	72109	—
70120	CL-250-TPC	70385	CL-451-VTC	71020	—	72110	—
70140	CL-350-TPC	70390	CL-452-VTC	71021	—	72111	—
70210	CL-150-HTC	70395	CL-453-VTC	71022	—	72112	—
70211	CL-153-HTC	70420	CL-550-VTC	71023	—	72113	—
70215	CL-151-HTC	70425	CL-551-VTC	71024	—	70745	CL-254-PL-2
70230	CL-250-HTC	70430	CL-552-VTC	71025	—	70750	CL-454-PL
70231	CL-253-HTC	70440	CL-650-VTC	71026	—	70810	CL-100-PC
70235	CL-251-HTC	70445	CL-651-VTC	71027	—	70815	—
70240	CL-350-HTC	70450	CL-652-VTC	71028	—	70818	CL-50-SPC
70245	CL-351-HTC	70460	CL-750-VTC	71029	—	70820	CL-150-SPC
70250	CL-450-HTC	70470	CL-850-VTC	71030	CL-751-VTC	70830	CL-200-PC
70255	CL-451-HTC	70480	CL-950-VTC	71031	CL-851-VTC	70840	CL-250-SPC
70260	CL-260-HTC	70490	CL-1050-VTC	71032	—	70850	CL-300-PC
70262	—	70550	CL-150-PA	71033	—	71042	CL-210-PA
70264	—	70555	CL-170-PA	71034	—	70860	CL-350-SPC
70270	CL-550-HTC	70558	CL-100-PA	71035	—	71001	CL-152-HTC
70275	CL-551-HTC	70560	CL-200-PA	71037	CL-375-HTC	71002	CL-250-HTC-S
70280	CL-200-VTC	70562	CL-300-PA	71039	CL-350-PA	71003	CL-252-HTC
70285	CL-475-HTC	70565	CL-310-PA	71040	CL-100-PA-S	71004	CL-260-HTC-S
70310	CL-150-VTC	70570	CL-250-PA	71041	CL-110-PA	71005	—
70315	CL-151-VTC	70575	CL-352-PL-S	71049	CL-50-PL-2	71006	CL-350-HTC-S
70320	CL-152-VTC	70580	CL-251-PA	71050	—	71007	—
70330	CL-250-VTC	70710	CL-50-PL	72101	—	71008	CL-300-HTC
70335	CL-251-VTC	70720	CL-150-PL	72102	—	71009	—
70340	CL-252-VTC	70730	—	72103	—	71010	—
70342	CL-253-VTC	70740	CL-254-PL	72104	—	71011	—
70350	CL-350-VTC	71015	CL-200-VTC-S	72105	—	71012	CL-151-VTC-S
70355	CL-351-VTC	71016	—	72106	—	71013	—
70360	CL-352-VTC	71017	—	72107	—	71014	—
70365	CL-353-VTC	71018	—	72108	—	—	—

TOGGLE CLAMPS



Conversion Chart Part Numbers

Jergens	De-Sta-Co	Jergens	De-Sta-Co	Jergens	De-Sta-Co	Jergens	De-Sta-Co
70118	602	70450	210-TU	71014	201-TB	72113	—
70120	604	70460	247-S	71015	305-USS	72114	—
70140	624	70470	247-U	71016	202-TB	72120	—
70210	205-S	70480	267	71017	202-UB	72121	—
70211	205-SL	70490	267-U	71018	202-TUB	72122	—
70215	205-SB	70550	301	71019	202-TU	72123	—
70230	205-U	70555	311	71020	207-TSB	72160	—
70231	205-UL	70558	323	71021	207-LB	72161	—
70235	205-UB	70560	331	71022	207-TLB	72162	—
70240	215-U	70562	341	71023	207-TL	72201	—
70245	215-UB	70565	344	71024	207-TUB	72202	—
70250	225-U	70570	351	71025	207-ULB	72203	—
70255	225-UB	70575	325	71026	207-TULB	72204	—
70260	123-U	70580	351-B	71027	207-TUL	72205	—
70262	217-U	70710	424	71028	210-TSB	72206	—
70264	227-U	70720	441	71029	210-TUB	72207	—
70270	235-U	70730	—	71030	247-SB	72208	—
70275	—	70740	462	71031	247-UB	72301	—
70280	305-U	70745	462-2	71032	268	72302	—
70285	317-U	70750	463	71033	268-U	72310	—
70310	201	70810	—	71034	—	72311	—
70315	201-B	70815	603	71035	—	72314	—
70320	201-T	70818	601	71037	317-S	72401	—
70330	202	70820	605	71039	381	72402	—
70335	202-B	70830	608	71040	323-MSS	72403	—
70340	202-T	70840	610	71041	324	72404	—
70342	202-U	70850	—	71042	334	72405	—
70350	207-S	70860	630	71049	424-2	72406	—
70355	207-SB	71001	205-SR	71050	441-2	72407	—
70360	207-TS	71002	205-USS	72101	—	72408	—
70365	207-L	71003	205-UR	72102	—	72409	—
70380	207-U	71004	213-USS	72103	—	72410	—
70385	207-UB	71005	213-UB	72104	—	72411	—
70390	207-TU	71006	215-USS	72105	—	72412	—
70395	207-UL	71007	215-UBSS	72106	—	72413	—
70420	210-S	71008	215-S	72107	—	72414	—
70425	210-SB	71009	215-SB	72108	—	72415	—
70430	210-TS	71010	217-UB	72109	—	72416	—
70440	210-U	71011	227-UB	72110	—	72501	—
70445	210-UB	71012	201-SS	72111	—	72502	—
—	—	71013	201-BSS	72112	—	72503	—



Conversion Chart Part Numbers

Jergens	Good Hand	Jergens	Good Hand	Jergens	Good Hand	Jergens	Good Hand
70118	36202	70460	10249	71015	13005-SS	72114	—
70120	36204	70470	10247	71016	12075	72120	—
70140	36224	70480	101JS	71017	—	72121	—
70210	201-A	70490	101-J	71018	—	72122	—
70211	201-AL	70550	43101	71019	—	72123	—
70215	201-AI	70555	—	71020	12146	72160	—
70230	201	70558	40323	71021	12147	72161	—
70231	201-L	70560	431	71022	12148	72162	—
70235	201-I	70562	40341	71023	12143	72201	—
70240	201-B	70565	40344	71024	12136	72202	—
70245	201-BI	70570	451	71025	12137	72203	—
70250	225-D	70575	80325	71026	12138	72204	—
70255	225-DI	70580	452	71027	12133	72205	—
70260	20752-B	70710	50350	71028	12300	72206	—
70262	21502-B	70720	50360	71029	12290	72207	—
70264	22502-B	70730	—	71030	10250	72208	—
70270	20235	70740	50380	71031	10248	72301	—
70275	—	70745	—	71032	—	72302	—
70280	13005	70750	50450	71033	—	72310	—
70285	20820	70810	304-C	71034	—	72311	—
70310	101-A	70815	36003	71035	—	72314	—
70315	101-AI	70818	301-A	71037	—	72401	—
70320	101-AT	70820	302-F	71039	43810	72402	—
70330	12050	70830	304-E	71040	40323-SS	72403	—
70335	12055	70840	36010	71041	40324	72404	—
70340	12070	70850	304-H	71042	40334	72405	—
70342	12050-U	70860	36330	71049	—	72406	—
70350	12140	71001	201-AR	71050	—	72407	—
70355	12145	71002	201-SS	72101	—	72408	—
70360	12141	71003	201-R	72102	—	72409	—
70365	12142	71004	—	72103	—	72410	—
70380	12130	71005	—	72104	—	72411	—
70385	12135	71006	201-BSS	72105	—	72412	—
70390	12131	71007	—	72106	—	72413	—
70395	12132	71008	201-BS	72107	—	72414	—
70420	12275	71009	201-BSI	72108	—	72415	—
70425	12280	71010	—	72109	—	72416	—
70430	12295	71011	—	72110	—	72501	—
70440	12265	71012	101-ASS	72111	—	72502	—
70445	12270	71013	—	72112	—	72503	—
70450	12285	71014	101-AIT	72113	—		

TOGGLE CLAMPS

HANDWHEELS

Handwheels

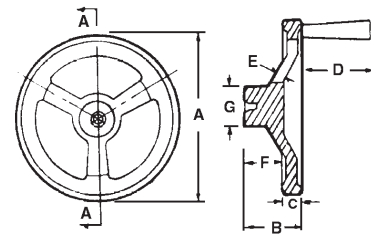
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Aluminum Angular Spoked Handwheel



- Diameters from 4" to 23" and 100mm to 575mm
- Lightweight, 319 Aluminum Alloy
- Rims machined to run concentric with center drill
- Available with or without handle
- Special bores and keyways quoted upon request
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Handwheels With Handle

Part Number	A	B	C	D	E	F	G	Number Of Spokes
22308	4	1 1/2	5/8	1 5/8	1/4	1	1 3/16	2
22301	6	2	3/4	2 9/16	5/16	1 7/16	1 1/2	3
22302	8	2 1/2	7/8	2 15/16	3/8	1 7/8	2	3
22303	10	3	7/8	3 5/16	7/16	2 1/8	2 3/8	3
22304	12	3 3/8	7/8	3 5/16	7/16	2 3/16	2 1/2	3
22305	14	3 13/16	1	3 5/16	7/16	2 17/32	2 3/4	5
22306	18	4 7/8	1 1/4	3 5/16	7/16	3 1/16	4 1/8	5
22307	23	7 1/8	1 1/4	3 5/16	7/16	4 3/8	4 1/2	6

Part Number	
Handwheel Only	Handle Only
22108*	21902
22101*	21904
22102*	21905
22103*	21906
22104*	21906
22105*	21906
22106*	21906
22107*	21906

*Not tapped for handle

Metric Handwheels With Handle

Part Number	A	B	C	D	E	F	G	Number Of Spokes
22358	100	38	16	41	6	25	30	2
22351	150	50	19	64	8	36	38	3
22352	200	63	22	73	9	47	50	3
22353	250	75	22	83	11	53	59	3
22354	300	84	22	83	11	55	63	3
22355	350	95	25	83	11	63	69	5
22356	450	122	31	83	11	77	103	5
22357	575	178	31	83	11	110	113	6

Part Number	
Handwheel Only	Handle Only
22108*	21952
22101*	21954
22102*	21955
22103*	21956
22104*	21956
22105*	21956
22106*	21956
22107*	21956

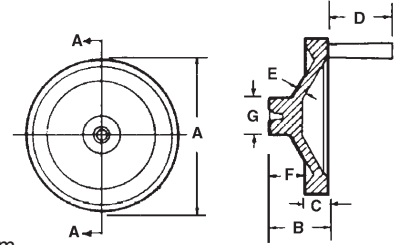
*Not tapped for handle



Aluminum Angular Solid Handwheel



- Diameters from 3" to 12" and 75mm to 300mm
- Lightweight, 319 Aluminum Alloy
- Rims machined to run concentric with center drill
- Available with or without handle
- Special bores and keyways quoted upon request
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Handwheels With Handle

Part Number	A	B	C	D	E	F	G
22702	3	1 11/16	5/8	1 5/8	1/4	1 7/32	1 1/4
22703	4	1 7/8	5/8	1 5/8	3/16	1 7/16	1 1/2
22704	5	2	11/16	2 1/16	3/16	1 1/4	1 1/2
22705†	6	2	3/4	2 9/16	3/16	1 3/8	1 1/2
22706†	8	2 1/2	7/8	2 15/16	3/16	1 3/4	2
22707†	10	3 1/4	1	3 5/16	3/16	2 7/32	2 5/16
22708†	12	3 1/2	1	3 5/16	1/4	2 1/4	2 1/2

†Finger grips formed behind solid wheel rim

Part Number	
Handwheel Only	Handle Only
22502*	21902
22503*	21902
22504*	21903
22505*†	21904
22506*†	21905
22507*†	21906
22508*†	21906

*Not tapped for handle

Metric Handwheels With Handle

Part Number	A	Ref. B	C	D	E	F	G
22752	75	42	16	41	6	30	31
22753	100	47	16	41	5	36	38
22754	125	50	17	52	5	31	38
22755	150	50	19	64	5	34	38
22756	200	63	22	73	5	44	50
22757	250	81	25	83	5	55	58
22758	300	88	25	83	6	56	63

*Not tapped for handle

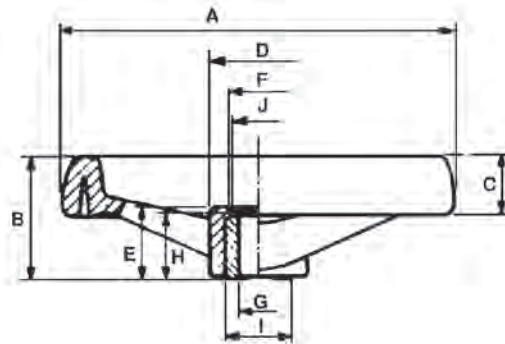
Part Number	
Handwheel Only	Handle Only
22502*	21952
22503*	21952
22504*	21953
22505*	21954
22506*	21955
22507*	21956
22508*	21956



Plastic Two-Spoked Handwheel ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



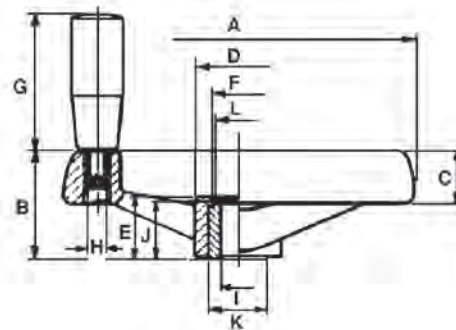
Handwheels Only

Part Number	A	B	C	D	E	F	Fractional G	H	I	J
22601	3.15	1.38	0.71	0.91	0.75	0.67	5/16	0.67	0.71	0.62
22602	3.90	1.46	0.79	0.98	0.75	0.67	3/8	0.67	0.71	0.63
22603	4.88	1.73	0.87	1.22	0.98	0.83	3/8	0.87	0.87	0.79
22604	6.30	2.01	0.98	1.57	1.14	0.98	1/2	1.06	1.02	0.94
22605	7.87	2.40	1.10	1.97	1.42	1.22	5/8	1.34	1.18	1.10
22606	8.84	2.76	1.26	2.32	1.57	1.34	5/8	1.50	1.32	1.30
22607	11.73	3.07	1.42	2.60	1.81	1.65	3/4	1.69	1.57	1.46
22608	14.67	3.23	1.50	2.72	1.81	1.65	3/4	1.69	1.57	1.46

Plastic Two-Spoked Handwheel With Revolving Handles ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



Handwheels With Revolving Handle

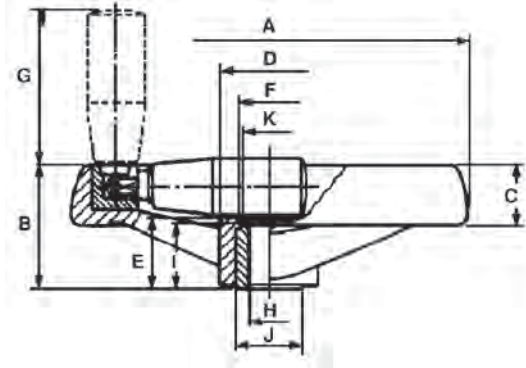
Part Number	A	B	C	D	E	F	G	H	I	J	K	L
22611	3.15	1.38	0.71	0.91	0.75	0.67	1.57	M6	0.312	0.67	0.71	0.63
22612	3.90	1.46	0.79	0.98	0.75	0.67	2.20	M6	0.375	0.67	0.71	0.63
22613	4.88	1.73	0.87	1.22	0.98	0.83	2.56	M8	0.375	0.87	0.87	0.79
22614	6.30	2.01	0.98	1.57	1.14	0.98	2.56	M8	0.500	1.06	1.02	0.94
22615	7.87	2.40	1.10	1.97	1.42	1.22	3.15	M8	0.625	1.34	1.18	1.10
22616	8.84	2.76	1.26	2.32	1.57	1.34	3.54	M10	0.625	1.50	1.38	1.30
22617	11.73	3.07	1.42	2.60	1.81	1.65	3.54	M10	0.750	1.69	1.57	1.46
22618	14.67	3.23	1.50	2.72	1.81	1.65	3.54	M10	0.750	1.69	1.57	1.46



Plastic Two-Spoked Handwheel With Revolving Fold-Away Handle ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

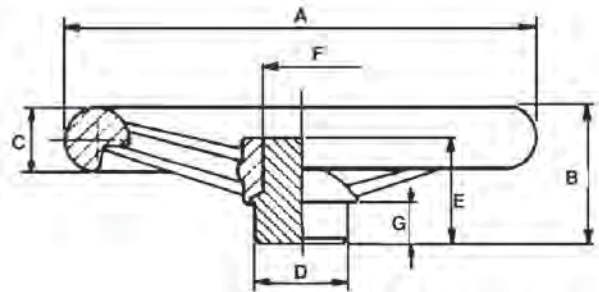


Part Number	A	B	C	D	E	F	G	H	I	J	K
22621	3.15	1.38	.71	.91	.75	.67	1.96	.312	.67	.71	.62
22622	3.90	1.46	.79	.98	.75	.67	2.20	.375	.67	.71	.63
22623	4.88	1.73	.87	1.22	.98	.83	2.56	.375	.87	.87	.79
22624	6.30	2.01	.98	1.57	1.14	.98	2.56	.500	1.06	1.02	.94
22625	7.87	2.40	1.10	1.97	1.42	1.22	3.15	.625	1.34	1.18	1.10
22626	8.84	2.76	1.26	2.32	1.57	1.34	3.54	.625	1.50	1.38	1.30

Plastic Three-Spoked Handwheel ELESA Original Design



- Material: High Strength Reinforced Duroplast
- Finish: Black Bright
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



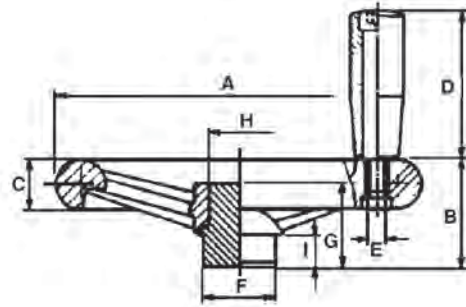
Part Number	A	B	C	D	E	F	G
22631	3.86	1.57	.55	.94	1.42	.79	.47
22632	4.88	1.77	.71	.94	1.42	.79	.47
22633	6.18	1.97	.87	1.26	1.50	.94	.59
22634	7.09	2.20	.94	1.57	1.69	1.22	.59
22635	7.80	2.20	.94	1.57	1.69	1.22	.59
22636	8.72	2.60	1.18	1.93	1.73	1.50	.59
22637	11.34	3.07	1.26	2.28	2.20	1.85	.71
22638	14.76	4.25	1.57	2.28	3.03	2.28	1.02



Plastic Three-Spoked Handwheel With Revolving Handle ELESA Original Design



- Material: High Strength Reinforced Duroplast
- Finish: Black Bright
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

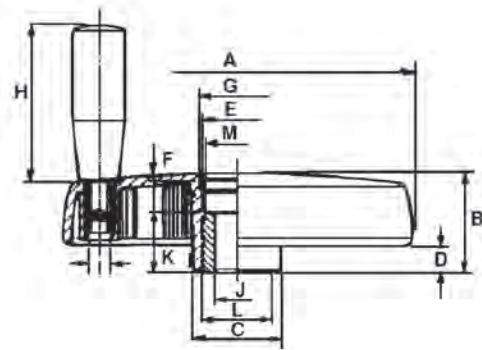


Part Number	A	B	C	D	E	F	G	H	I
22641	3.86	1.57	.55	1.57	M6	.94	1.42	.79	.47
22642	4.88	1.77	.71	1.97	M8	.94	1.42	.79	.47
22643	6.18	1.97	.87	2.56	M8	1.26	1.50	.94	.59
22644	7.09	2.20	.94	3.15	M10	1.57	1.69	1.22	.59
22645	7.80	2.20	.94	3.15	M10	1.57	1.69	1.22	.59
22646	8.72	2.60	1.18	3.54	M10	1.93	1.73	1.50	.59
22647	11.34	3.07	1.26	3.94	M12	2.28	2.20	1.85	.71
22648	14.76	4.25	1.57	3.94	M14	2.28	3.03	2.28	1.02

Plastic Solid Handwheel With Revolving Handle ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



Part Number	A	B	C	D	E	F	G	H	I	J	K	L	M
22801	3.27	1.14	.98	.35	.75	.31	.82	1.57	M6	.312	.67	.71	.63
22802	4.02	1.34	1.18	.39	.98	.35	1.06	1.97	M6	.375	.87	.87	.79
22803	4.92	1.54	1.38	.43	1.10	.31	1.22	2.20	M6	.375	1.06	1.02	.94
22804	5.91	1.73	1.50	.47	1.18	.39	1.34	2.56	M8	.500	1.18	1.02	.94
22805	6.93	1.93	1.73	.51	1.38	.63	1.54	3.15	M10	.500	1.10	1.38	1.30
22806	7.87	2.09	1.97	.55	1.57	.51	1.73	3.54	M10	.625	1.42	1.57	1.50
22807	8.84	2.36	2.24	.66	1.88	.75	1.97	3.54	M10	.625	1.42	1.57	1.50

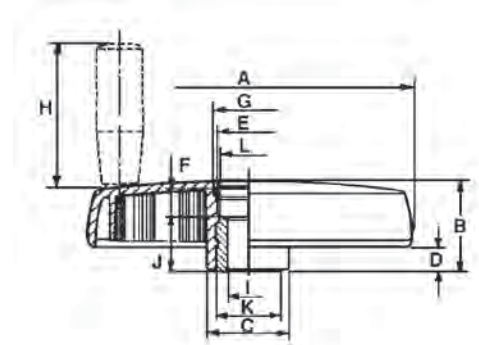


Plastic Solid Handwheel With Revolving, Fold-Away Handle ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

This type of handwheel with fold-away handle has been designed for applications where limited space or safety reasons demand that the handle be folded back flat after manual use.



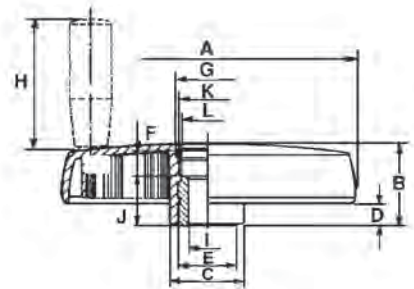
Part Number	A	B	C	D	E	F	G	H	I	J	K	L
22811	3.27	1.50	0.98	0.73	0.53	0.14	0.65	1.77	0.312	0.67	0.71	0.63
22812	4.02	1.34	1.18	0.39	0.98	0.35	1.06	1.97	0.375	0.87	0.87	0.79
22813	4.92	1.54	1.38	0.43	1.10	0.31	1.22	2.20	0.375	1.06	1.02	0.94
22814	5.91	1.73	1.50	0.47	1.18	0.39	1.34	2.56	0.50	1.18	1.02	0.94
22815	6.93	1.93	1.73	0.51	1.38	0.63	1.54	3.15	0.50	1.10	1.38	1.30
22816	7.87	2.09	1.97	0.55	1.57	0.51	1.73	3.54	0.625	1.42	1.57	1.50
22817	8.84	2.36	2.24	0.66	1.88	0.74	1.97	3.54	0.625	1.42	1.57	1.50

Plastic Solid Handwheel With Revolving, Spring Loaded, Fold-Away Handle ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

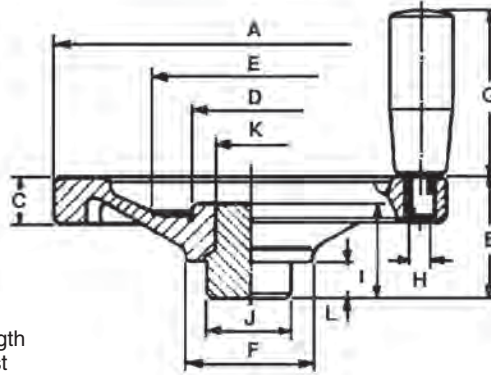
This handwheel has a special spring loaded handle which automatically folds down into the cavity of the handwheel when the operator releases it. The handle disengages only when the axial pressure exerted by the operator ceases.



Part Number	A	B	C	D	E	F	G	H	I	J	K	L
22825	6.93	1.93	1.73	.51	1.38	.63	1.54	3.15	.500	1.10	1.38	1.30
22826	7.87	2.09	1.97	.55	1.57	.51	1.75	3.54	.625	1.42	1.57	1.50
22827	8.84	2.36	2.24	.66	1.88	.74	1.96	3.54	.625	1.42	1.57	1.50



Plastic Solid Handwheel ELESA Original Design



- Material: High Strength Reinforced Duroplast
- Finish: Black Bright
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	F	G	H	I	J	K	L
22831	3.15	1.22	0.55	1.10	1.69	1.18	—	—	1.10	0.79	0.63	0.39
22841*	3.15	1.22	0.55	1.10	1.69	1.18	1.57	M6	1.10	0.79	0.63	0.39
22832	3.94	1.57	0.59	1.38	2.13	1.54	—	—	1.42	0.94	0.79	0.47
22842*	3.94	1.57	0.59	1.38	2.13	1.54	1.97	M6	1.42	0.94	0.79	0.47
22833	4.92	1.73	0.59	1.73	2.76	1.81	—	—	1.5	1.26	0.94	0.59
22843*	4.92	1.73	0.59	1.73	2.76	1.81	2.56	M8	1.5	1.26	0.94	0.59
22834	5.91	1.89	0.71	1.73	2.76	1.89	—	—	1.5	1.26	0.94	0.59
22844*	5.91	1.89	0.71	1.73	2.76	1.89	2.56	M8	1.5	1.26	0.94	0.59
22835	6.89	2.09	0.75	2.17	3.54	2.2	—	—	1.69	1.57	1.22	0.59
22845*	6.89	2.09	0.75	2.17	3.54	2.2	3.15	M10	1.69	1.57	1.22	0.59
22836	7.87	2.24	0.83	2.17	3.54	2.36	—	—	1.69	1.57	1.22	0.59
22846*	7.87	2.24	0.83	2.17	3.54	2.36	3.54	M10	1.69	1.57	1.22	0.59
22837	8.8	2.56	0.98	2.6	4.33	2.76	—	—	1.73	1.93	1.5	0.59
22847*	8.8	2.56	0.98	2.6	4.33	2.76	3.54	M10	1.73	1.93	1.5	0.59
22838	11.85	2.95	0.98	3.7	5.83	3.23	—	—	2.2	2.28	2.28	0.71
22848*	11.85	2.95	0.98	3.7	5.83	3.23	3.54	M10	2.2	2.28	2.28	0.71

* With Revolving Handle

Jergens offers 3D models

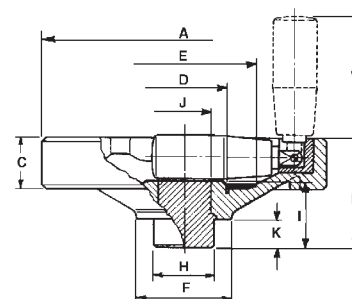
for all handles, knobs and handwheels
at www.jergensinc.com



Plastic Solid Handwheel With Finger Grips and Revolving Fold-Away Handle ELESA Original Design



- Material: High Strength Reinforced Duroplast
- Finish: Black Bright
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

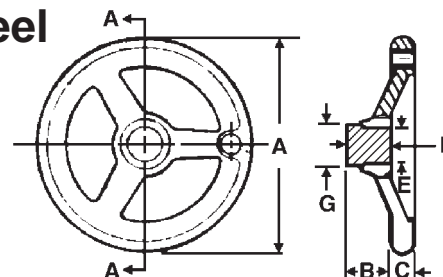


Part Number	A	B	C	D	E	F	G	H	I	J	K
22852	3.94	2.04	1.02	1.37	2.12	1.53	2.20	.94	1.29	.78	.47
22853	4.92	2.36	1.18	1.73	2.76	1.81	2.56	1.26	1.50	.94	.59
22854	5.91	2.48	1.26	1.73	2.76	1.89	2.56	1.26	1.50	.94	.59
22855	7.01	2.56	1.26	2.17	3.54	2.20	3.54	1.57	1.69	1.22	.59
22856	7.91	2.76	1.34	2.17	3.54	2.36	3.54	1.57	1.69	1.22	.59
22857	8.80	3.03	1.42	2.60	4.33	2.76	3.54	1.93	1.73	1.50	.59

Nylon Angular Three-Spoked Handwheel



- Material: Wheel, 6-6 Nylon
Hub, Cast Iron
- Finish: Wheel, Black
Hub, Black Oxide
- Threaded Brass Inserts have serrated O.D. for rigid union with Handwheel.
- All Wheels have three spokes
- 3D Solid Models are available in multiple formats from www.jergensinc.com

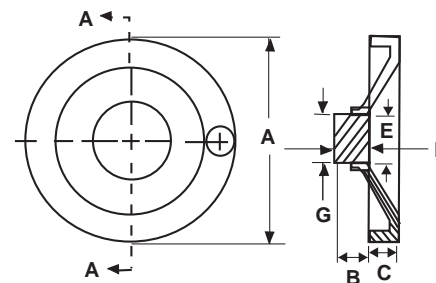


Part Number	A	B	C	E	F	G	Thread Size
34051	4	1 3/32	9/16	15/16	15/16	1 1/16	M8 x 1.25
34054	6	1 13/32	23/32	1 3/16	1 3/8	1 3/8	M10 x 1.50
34055	8	1 13/32	7/8	1 3/8	1 29/32	1 17/32	M10 x 1.50

Plastic Angular Solid Handwheel



- Material: Wheel, Acetal Co-Polymer
Hub, Cast Iron
- Finish: Wheel, Black
Hub, Black Oxide
- Threaded Brass Inserts have serrated O.D. for rigid union with Handwheel.
- Aluminum Center Plate can be imprinted with your company name, instructions, etc.
- 3D Solid Models are available in multiple formats from www.jergensinc.com



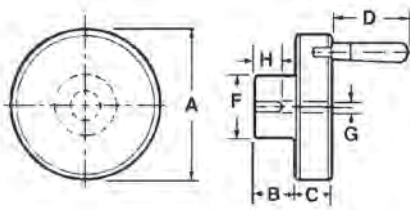
Part Number	A	B	C	E	F	G	Thread Size
34061	5	1 1/8	5/8	1	1 1/8	1 1/8	M8 x 1.25
34062	6	1 11/32	23/32	1 3/16	1 11/32	1 11/32	M10 x 1.50
34063	8	1 29/32	25/32	1 3/8	1 29/32	1 17/32	M10 x 1.50



Aluminum Finger Wheel



- Material: 2024 Aluminum
- Finish: Black Anodize
- Knurled O.D. for better gripping
- Revolving handle and reamed hole are included
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Finger Wheel With Handle

Part Number	A	B	C	D	F	G	H	Part Number	
								Wheel Only	Handle Only
22721	2	9/16	9/16	1 1/8	13/16	3/8	7/8	22521	21911

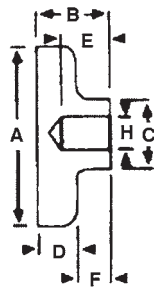
Metric Finger Wheel With Handle

Part Number	A	B	C	D	F	G	H	Part Number	
								Wheel Only	Handle Only
22771	50	14	14	28	20	10	22	22571*	21951

*Not tapped for handle

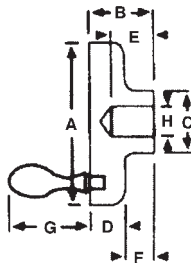
Aluminum Finger Wheel

- Material: 2024 Aluminum
- Finish: Clear anodized polished to a high luster
- Outer rim is knurled



Finger Wheels

Part Number	A	B	C	D	E	F	H
21280	1	13/16	1/2	3/8	—	7/16	Blank
21281	2	1 1/8	13/16	9/16	—	9/16	Blank
21282	3	1 1/4	1 1/4	11/16	—	9/16	Blank
21285	1	13/16	1/2	3/8	5/8	7/16	1/4
21286	2	1 1/8	13/16	9/16	7/8	9/16	3/8
21287	3	1 1/4	1 1/4	11/16	7/8	9/16	5/8



Finger Wheels With Handle

Part Number	A	B	C	D	E	F	G	H
21291	2	1 1/8	13/16	9/16	—	9/16	1 9/32	Blank
21292	3	1 1/4	1 1/4	9/16	—	9/16	1 15/16	Blank
21296	2	1 1/8	13/16	9/16	7/8	9/16	1 9/32	3/8
21297	3	1 1/4	1 1/4	9/16	7/8	9/16	1 15/16	5/8

Note: Also available in Stainless Steel

KNOBS

Knobs

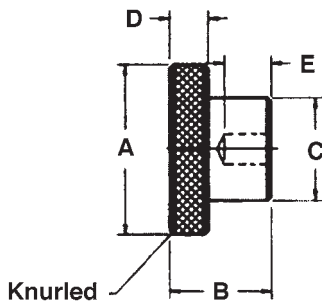
Aluminum Hand Knob.....	375–376	Quick Lock Hand Knob.....	373
Aluminum Hand Knob With Stud.....	375	Soft Touch Ball.....	380
Aluminum Palmgrip Knob.....	377	Soft Touch Oval Tapered Knob.....	396
Brass Ball.....	379	Soft Touch Tapered Knob.....	397
Cast Iron Hand Knob.....	374	Speed Bar Knob.....	378
Knurled Knob.....	392	Steel Knurled Control Knob.....	372
Knurled Knob With Stud.....	392	Steel Knurled Control Knob With Stud.....	373
Knurled Steel Knob.....	377	Thermoplastic Fluted Knob.....	385
Plain Steel Ball.....	379	Wing Nut.....	382
Plastic Ball.....	380	Wing Nut With Stud.....	382
Plastic Fluted Grip Knob.....	391		
Plastic Fluted Grip Knob With Stud.....	391		
Plastic Fluted Knob.....	385		
Plastic Four Prong Knob.....	383		
Plastic Four Prong Knob With Extended Prong.....	383		
Plastic Knurled Torque Knob.....	384		
Plastic Knurled Torque Knob With Stud.....	384		
Plastic Knurled Knob.....	386		
Plastic Knurled Knob With Stud.....	386		
Plastic Knurled Grip Knob.....	393		
Plastic Latch Type Lobe Knob.....	393		
Plastic Lift Knob.....	395		
Plastic Lobe Knob.....	387–389		
Plastic Lobe Knob With Stud.....	390		
Plastic Lobe Knob With Stainless Steel Stud.....	390		
Plastic Oval Tapered Knob.....	396		
Plastic Push/Pull Knob.....	398		
Plastic Tapered Knob.....	395		
Plastic T-Handle.....	394		
Plastic Three-Spoked Knob.....	398		
Plastic Wing Knob.....	381		
Plastic Wing Knob With Stud.....	381		
Polished Steel Ball.....	379		



Steel Knurled Control Knob



- Material: 1214 Steel
- Finish: Black Oxide
- Knurled Head



Part Number	A	B	C	D	E	Hole Diameter
21200	3/4	5/8	1/2	1/4	3/8	3/16 Ream
21201	3/4	5/8	1/2	1/4	3/8	10-24 Tap
21202	3/4	5/8	1/2	1/4	3/8	10-24 Thru Hole
21203	3/4	5/8	1/2	1/4	3/8	1/4 Ream
21204	3/4	5/8	1/2	1/4	3/8	1/4-20 Tap
21205	3/4	5/8	1/2	1/4	3/8	1/4-20 Thru Hole
21206	1	3/4	5/8	1/4	1/2	1/4 Ream
21207	1	3/4	5/8	1/4	1/2	1/4-20 Tap
21208	1	3/4	5/8	1/4	1/2	1/4-20 Thru Hole
21209	1	3/4	5/8	1/4	1/2	5/16 Ream
21210	1	3/4	5/8	1/4	1/2	5/16-18 Tap
21211	1	3/4	5/8	1/4	1/2	5/16-18 Thru Hole
21212	1 1/2	1	3/4	5/16	5/8	5/16 Ream
21213	1 1/2	1	3/4	5/16	5/8	5/16-18 Tap
21214	1 1/2	1	3/4	5/16	5/8	5/16-18 Thru Hole
21215	1 1/2	1	3/4	5/16	5/8	3/8 Ream
21216	1 1/2	1	3/4	5/16	5/8	3/8-16 Tap
21217	1 1/2	1	3/4	5/16	5/8	3/8-16 Thru Hole
21218	2	1 1/8	1	3/8	5/8	3/8 Ream
21219	2	1 1/8	1	3/8	5/8	3/8-16 Tap
21220	2	1 1/8	1	3/8	5/8	3/8-16 Thru Hole
21221	2	1 1/8	1	3/8	5/8	1/2 Ream
21222	2	1 1/8	1	3/8	5/8	1/2-13 Tap
21223	2	1 1/8	1	3/8	5/8	1/2-13 Thru Hole
21224	2 1/2	1 1/2	1 1/2	9/16	3/4	1/2 Ream
21225	2 1/2	1 1/2	1 1/2	9/16	3/4	1/2-13 Tap
21226	2 1/2	1 1/2	1 1/2	9/16	3/4	1/2-13 Thru Hole
21227	2 1/2	1 1/2	1 1/2	9/16	3/4	5/8 Ream
21228	2 1/2	1 1/2	1 1/2	9/16	3/4	5/8-11 Tap
21229	2 1/2	1 1/2	1 1/2	9/16	3/4	5/8-11 Thru Hole
21230	3	1 3/4	1 3/4	5/8	1	5/8 Ream
21231	3	1 3/4	1 3/4	5/8	1	5/8-11 Tap
21232	3	1 3/4	1 3/4	5/8	1	5/8-11 Thru Hole
21233	3	1 3/4	1 3/4	5/8	1	3/4 Ream
21234	3	1 3/4	1 3/4	5/8	1	3/4-10 Tap
21235	3	1 3/4	1 3/4	5/8	1	3/4-10 Thru Hole

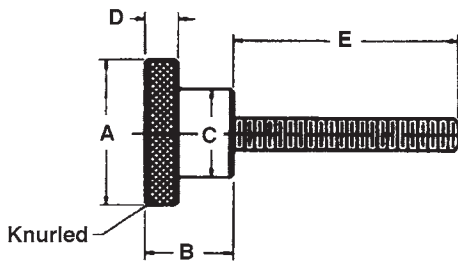
Note: Also available in Metric and Stainless Steel



Steel Knurled Control Knob With Stud

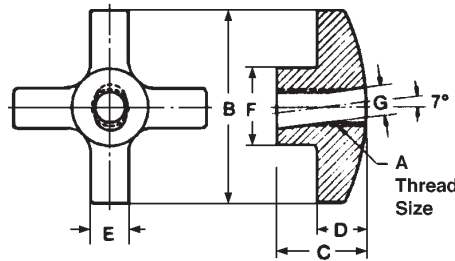


- Material: 1214 Steel
- Finish: Black Oxide
- Knurled Head



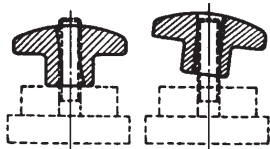
Part Number	A	B	C	D	E	Stud Thread
21240	3/4	5/8	1/2	1/4	1/2	10-24
21241	3/4	5/8	1/2	1/4	1	10-24
21242	3/4	5/8	1/2	1/4	3/4	1/4-20
21243	3/4	5/8	1/2	1/4	1 1/4	1/4-20
21244	1	3/4	5/8	1/4	1 3/4	1/4-20
21245	1	3/4	5/8	1/4	1 3/4	5/16-18
21246	1	3/4	5/8	1/4	3	5/16-18
21247	1 1/2	1	3/4	5/16	1 3/4	5/16-18
21248	1 1/2	1	3/4	5/16	3	5/16-18
21249	1 1/2	1	3/4	5/16	1 3/4	3/8-16
21250	1 1/2	1	3/4	5/16	3	3/8-16
21251	2	1 1/8	1	3/8	1 3/4	3/8-16
21252	2	1 1/8	1	3/8	3	3/8-16
21253	2	1 1/8	1	3/8	1 3/4	1/2-13
21254	2 1/2	1 1/2	1 1/2	9/16	1 3/4	1/2-13
21255	2 1/2	1 1/2	1 1/2	9/16	3	1/2-13
21256	2 1/2	1 1/2	1 1/2	9/16	1 3/4	5/8-11

Quick Lock Hand Knob



- Material: 40 Grey Iron
- Finish: Zinc Plate
- Thread: Class 2B-UNC
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Used to save time where a knob must be completely removed from the stud. After approximately one-quarter turn of the hand knob, it can be tilted on an angle and removed from the stud. Recommended for light duty applications.



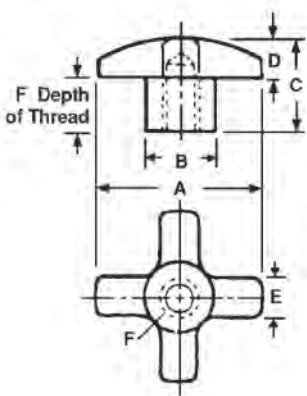
Part Number	Thread Size	A	B	C	D	E	F	G	Wt. (lbs)
33901	1/4-20	1 1/8	11/16	5/16	5/16	9/16	17/64	.06	
33902	3/8-16	2 3/16	1	1/2	1/2	7/8	25/64	.27	
33903	1/2-13	3	1 1/4	5/8	5/8	1 7/16	33/64	.72	
33904	5/8-11	3	1 1/4	5/8	5/8	1 7/16	41/64	.69	



Cast Iron Hand Knob



- Material: #30 Grey Iron
- Finish: Zinc Plate
- Thread: 2B-UNC
- Ream: +.002
-.000
- Hub: Available Blank, Reamed or Tapped
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Cast Iron Hand Knob Metric

- Material: #30 Grey Iron
- Finish: Zinc Plate
- Thread: Class 6h
- Ream: -.000
+.05
- Blank Knobs are Zinc Plated
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	E	Hub Style	Depth of Thread F	Wt. (lbs) 10 Pcs.
16305*	1 1/8	5/8	3/4	5/16	5/16	Blank	—	.78
16331*	1 1/8	5/8	11/16	5/16	5/16	1/4 Ream	1/2	.63
16330	1 1/8	5/8	11/16	5/16	5/16	5/16 Ream	1/2	.63
16306*	1 1/8	5/8	11/16	5/16	5/16	1/4-20 Tap	1/2	.63
16307	1 1/8	5/8	11/16	5/16	5/16	5/16-18 Tap	1/2	.63
16308*	1 1/2	11/16	15/16	7/16	3/8	Blank	—	1.56
16309*	1 1/2	11/16	7/8	7/16	3/8	5/16 Ream	9/16	1.30
16310	1 1/2	11/16	7/8	7/16	3/8	3/8 Ream	9/16	1.30
16311*	1 1/2	11/16	7/8	7/16	3/8	5/16-18 Tap	9/16	1.30
16312	1 1/2	11/16	7/8	7/16	3/8	3/8-16 Tap	9/16	1.30
16313*	2	3/4	1 3/16	1/2	1/2	Blank	—	3.00
16314*	2	3/4	1 1/8	1/2	1/2	3/8 Ream	11/16	2.75
16315	2	3/4	1 1/8	1/2	1/2	1/2 Ream	11/16	2.70
16316*	2	3/4	1 1/8	1/2	1/2	3/8-16 Tap	11/16	2.75
16317	2	3/4	1 1/8	1/2	1/2	1/2-13 Tap	11/16	2.70
16318*	2 1/2	1 1/8	1 9/16	5/8	5/8	Blank	—	7.00
16319*	2 1/2	1 1/8	1 1/2	5/8	5/8	1/2 Ream	1	6.00
16320*	2 1/2	1 1/8	1 1/2	5/8	5/8	5/8 Ream	1	5.80
16321*	2 1/2	1 1/8	1 1/2	5/8	5/8	1/2-13 Tap	1	6.00
16322*	2 1/2	1 1/8	1 1/2	5/8	5/8	5/8-11 Tap	1	5.80
16323*	3	1 1/4	1 13/16	9/16	5/8	Blank	—	11.25
16324*	3	1 1/4	1 3/4	9/16	5/8	5/8 Ream	1 1/8	10.00
16325*	3	1 1/4	1 3/4	9/16	5/8	3/4 Ream	1 1/8	8.20
16326	3	1 1/4	1 3/4	9/16	5/8	1/2-13 Tap	1 1/8	10.70
16327*	3	1 1/4	1 3/4	9/16	5/8	5/8-11 Tap	1 1/8	10.25
16328*	3	1 1/4	1 3/4	9/16	5/8	3/4-10 Tap	1 1/8	8.50

*TCMA Standard

*Part Number	A	B	C	D	E	Hub Style	Depth of Thread F
16305	28	16	19	8	8	Blank	—
16354	28	16	17	8	8	6mm Ream	12
16355	28	16	17	8	8	M6 x 1.0 Tap	12
16308	38	17	23	11	9	Blank	—
16359	38	17	22	11	9	8mm Ream	14
16361	38	17	22	11	9	M8 x 1.25 Tap	14
16313	50	19	30	13	13	Blank	—
16364	50	19	28	13	13	10mm Ream	17
16366	50	19	28	13	13	M10 x 1.5 Tap	17
16318	63	29	39	16	16	Blank	—
16369	63	29	38	16	16	12mm Ream	25
16370	63	29	38	16	16	16mm Ream	25
16371	63	29	38	16	16	M12 x 1.75 Tap	25
16372	63	29	38	16	16	M16 x 2.0 Tap	25
16323	75	32	45	14	16	Blank	—
16374	75	32	44	14	16	16mm Ream	28
16375	75	32	44	14	16	20mm Ream	28
16377	75	32	44	14	16	M16 x 2.0 Tap	28
16378	75	32	44	14	16	M20 x 2.5 Tap	28

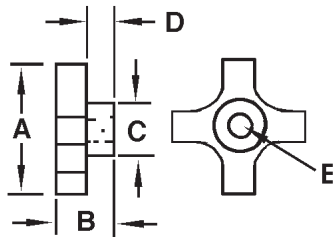
*Dimensions in millimeters



Aluminum Hand Knob



- Material: Aluminum
- Also available in black, red, blue, clear and gold anodized



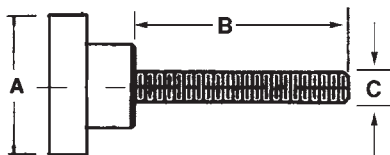
Part Number	A	B	C	D	E
21000	1	7/8	1/2	1/2	Blank
21001	1	7/8	1/2	1/2	1/4-20 Tap
21002	1	7/8	1/2	1/2	1/4-20 Thru Hole
21003	1	7/8	1/2	1/2	1/4 Ream
21004	1 1/2	7/8	5/8	3/8	Blank
21005	1 1/2	7/8	5/8	3/8	5/16-18 Tap
21006	1 1/2	7/8	5/8	3/8	5/16-18 Thru Hole
21007	1 1/2	7/8	5/8	3/8	5/16 Ream
21008	2	1	13/16	1/2	Blank
21009	2	1	13/16	1/2	3/8-16 Tap
21010	2	1	13/16	1/2	3/8-16 Thru Hole
21011	2	1	13/16	1/2	3/8 Ream
21012	2 1/2	1 1/8	1	9/16	Blank
21013	2 1/2	1 1/8	1	9/16	1/2-13 Tap
21014	2 1/2	1 1/8	1	9/16	1/2-13 Thru Hole
21015	2 1/2	1 1/8	1	9/16	1/2 Ream

Note: Also available in metric sizes.

Aluminum Hand Knob With Stud



- Material: Aluminum
- Also available in black, red, blue, clear and gold anodized

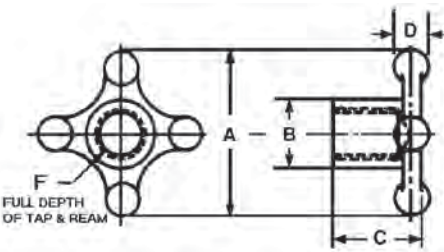


Part Number	A	B	C
21020	1 1/2	1 3/4	1/4-20
21021	1 1/2	3	1/4-20
21022	2	1 3/4	5/16-18
21023	2	3	5/16-18
21024	2 1/2	1 3/4	3/8-16
21025	2 1/2	3	3/8-16
21026	2 1/2	1 3/4	1/2-13
21027	2 1/2	3	1/2-13

Note: Also available in metric sizes.



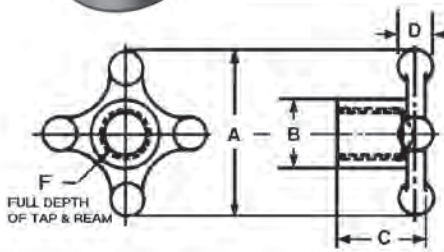
Aluminum Hand Knob



- Material: 319 Aluminum Alloy
- Thread: 2B-UNC
- Ream: +.002
-.000
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	Hub Style	F	Wt. (lbs) 10 Pcs.
21101	1 1/4	9/16	3/4	5/16	Blank	—	.21
21102	1 1/4	9/16	3/4	5/16	1/4 Ream	1/2	.16
21104	1 1/4	9/16	3/4	5/16	1/4-20 Tap	1/2	.16
21105	1 1/4	9/16	3/4	5/16	5/16-18 Tap	1/2	.16
21106	1 1/2	11/16	7/8	3/8	Blank	—	.47
21108	1 1/2	11/16	7/8	3/8	3/8 Ream	5/8	.31
21109	1 1/2	11/16	7/8	3/8	5/16-18 Tap	5/8	.31
21110	1 1/2	11/16	7/8	3/8	3/8-16 Tap	5/8	.31
21111	2 1/8	7/8	1 1/4	1/2	Blank	—	1.10
21112	2 1/8	7/8	1 1/4	1/2	3/8 Ream	7/8	1.00
21113	2 1/8	7/8	1 1/4	1/2	1/2 Ream	7/8	1.00
21114	2 1/8	7/8	1 1/4	1/2	3/8-16 Tap	7/8	1.00
21115	2 1/8	7/8	1 1/4	1/2	1/2-13 Tap	7/8	1.00
21116	3	1 3/8	1 3/4	11/16	Blank	—	3.80
21118	3	1 3/8	1 3/4	11/16	5/8 Ream	1 1/4	3.30
21119	3	1 3/8	1 3/4	11/16	3/4 Ream	1 1/4	3.10
21120	3	1 3/8	1 3/4	11/16	1/2-13 Tap	1 1/4	3.40
21121	3	1 3/8	1 3/4	11/16	5/8-11 Tap	1 1/4	3.30
21122	3	1 3/8	1 3/4	11/16	3/4-10 Tap	1 1/4	3.10

Aluminum Hand Knob Metric



- Material: 319 Aluminum Alloy
- Thread: Class 6h
- Ream: +.05
-.000

*Part Number	A	B	C	D	Hub Style	F
21101	31	14	19	8	Blank	—
21152	31	14	19	8	6mm Ream	13
21154	31	14	19	8	M6 Tap	13
21155	31	14	19	8	M8 Tap	13
21106	38	17	22	9	Blank	—
21158	38	17	22	9	10mm Ream	16
21159	38	17	22	9	M8 Tap	16
21160	38	17	22	9	M10 Tap	16
21111	53	22	32	12	Blank	—
21162	53	22	32	12	10mm Ream	22
21163	53	22	32	12	12mm Ream	22
21164	53	22	32	12	M10 Tap	22
21165	53	22	32	12	M12 Tap	22
21116	75	34	44	17	Blank	—
21168	75	34	44	17	16mm Ream	32
21169	75	34	44	17	20mm Ream	32
21170	75	34	44	17	M12 Tap	32
21171	75	34	44	17	M16 Tap	32
21172	75	34	44	17	M20 Tap	32

*Dimensions in millimeters



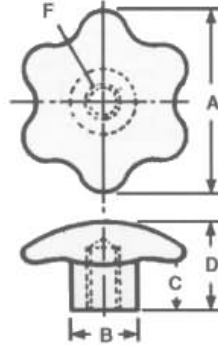
Aluminum Palmgrip Knob



Full Depth of Tap and Ream

- Material: 319 Aluminum Alloy
- Finish: Tumble
- Thread: 2B-UNC or Class 6h
- Ream: +.002
-.000
- Metric Ream: +.05
-.000
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Drawing: need high-resolution



Inch

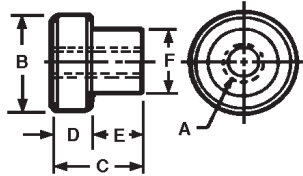
Part Number	A	B	C	D	F	Hub Style
20901	1 1/2	27/32	7/8	3/8	—	Blank
20902	1 1/2	27/32	7/8	1 5/16	3/4	1/4 Ream
20903	1 1/2	27/32	7/8	1 5/16	3/4	1/4-20 Tap
20904	2	1	7/8	1 19/32	—	Blank
20905	2	1	7/8	1 1/2	3/4	3/8 Ream
20906	2	1	7/8	1 1/2	3/4	3/8-16 Tap
20907	2 3/4	1 3/16	1 1/8	1 31/32	—	Blank
20908	2 3/4	1 3/16	1 1/8	1 7/8	1 1/4	1/2 Ream
20909	2 3/4	1 3/16	1 1/8	1 7/8	1 1/4	1/2-13 Tap
20910	3 1/2	1 1/4	1	1 13/16	—	Blank
20911	3 1/2	1 1/4	1	1 3/4	1 1/4	1/2 Ream
20912	3 1/2	1 1/4	1	1 3/4	1 1/4	1/2-13 Tap

Metric

*Part Number	A	B	C	D	F	Hub Style
20901	38	19	22	34	—	Blank
20952	38	19	22	33	19	6mm Ream
20953	38	19	22	33	19	M6 Tap
20904	50	25	22	40	—	Blank
20955	50	25	22	38	19	10mm Ream
20956	50	25	22	38	19	M10 Tap
20907	69	30	29	49	—	Blank
20958	69	30	29	47	31	12mm Ream
20959	69	30	29	47	31	M12 Tap
20910	88	31	25	45	—	Blank
20961	88	31	25	44	31	12mm Ream
20962	88	31	25	44	31	M12 Tap

*Dimensions in millimeters

Knurled Steel Knob



- Material: Low Carbon Steel
- Finish: Black Oxide
- Thread: 2B-UNC or Class 6h
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Inch

Part Number	A	B	C	D	E	F
27901	10-24	3/4	5/8	1/4	3/8	7/16
27902	1/4-20	1	3/4	1/4	1/2	5/8
27903	3/8-16	1 1/4	1 1/8	1/2	5/8	3/4
27904	1/2-13	1 1/2	1 1/4	1/2	3/4	1
27905	5/8-11	2	1 3/4	5/8	1 1/8	1 1/4
27906	3/4-10	2 1/2	2 1/4	5/8	1 5/8	1 1/2

Metric

*Part Number	A	B	C	D	E	F
27951	M5 x 0.8	19	16	6	9	11
27952	M6 x 1.0	25	19	6	13	16
27953	M10 x 1.5	31	28	13	16	19
27954	M12 x 1.75	38	31	13	19	25
27955	M16 x 2.0	50	44	16	28	31
27956	M20 x 2.5	63	57	16	41	38

*Dimensions in millimeters

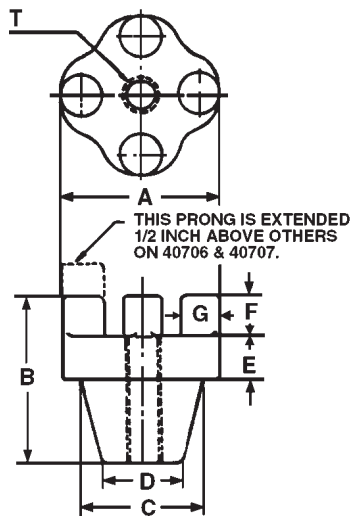


Speed Bar Knob



Speed Bar Knobs offer the ultimate in strength to hold down covers and clamp heavy work pieces. Insert bar between four vertical prongs for maximum leverage and holding force. One extra long prong is available on part numbers **40706** and **40707** for use with a crank handle.

- Material: Malleable ASTM 32510
- Finish: Mill
- Thread: 2B-UNC or Metric Class 6h
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Inch

Part Number	A	B	C	D	E	F	G	T	Wt. (lbs)
40701	2	2 1/8	1 1/4	1 1/8	1/2	3/4	1/2	Blank	0.80
40711	2	2 1/8	1 1/4	1 1/8	1/2	3/4	1/2	3/8-16	0.76
40702	2	2 1/8	1 1/4	1 1/8	1/2	3/4	1/2	1/2-13	0.72
40712	2	2 1/8	1 1/4	1 1/8	1/2	3/4	1/2	5/8-11	0.68
40703	2 1/2	2 3/8	1 3/4	1 1/2	9/16	7/8	5/8	Blank	1.56
40713	2 1/2	2 3/8	1 3/4	1 1/2	9/16	7/8	5/8	1/2-13	1.48
40704	2 1/2	2 3/8	1 3/4	1 1/2	9/16	7/8	5/8	5/8-11	1.44
40705	2 1/2	2 3/8	1 3/8	1 1/2	9/16	7/8	5/8	3/4-10	1.44
40706	3 1/2	2 3/8	2 3/8	2 1/8	1/2	7/8	5/8	Blank	2.50
40715	3 1/2	2 3/8	2 3/8	2 1/8	1/2	7/8	5/8	7/8-09	2.38
40707	3 1/2	2 3/8	2 3/8	2 1/8	1/2	7/8	5/8	1-8	2.25

Metric

Part Number**	A	B	C	D	E	F	G	T
40701	50	53	31	28	12	19	12	Blank
40752	50	53	31	28	12	19	12	M12
40703	63	59	44	38	14	22	16	Blank
40754	63	59	44	38	14	22	16	M16
40755	63	59	44	38	14	22	16	M20
40706*	88	59	59	53	12	22	16	Blank
40757*	88	59	59	53	12	22	16	M24

*Note: One extra long prong is available on part numbers 40706 and 40757 for use with a crank handle.

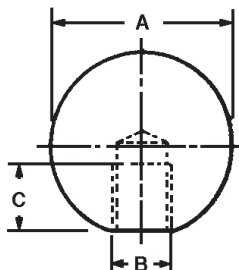
**Dimensions in millimeters



Plain Steel Ball



- Material: Carbon Steel
- Finish: Black Oxide
- Available Tapped or Blank
- 3D Solid Models are available in multiple formats from www.jergensinc.com

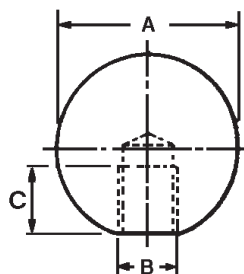


Part Number	A	B	C
36511	1 1/2	Blank	—
36512	1 1/2	3/8-16	5/8
36513	2	Blank	—
36514	2	1/2-13	3/4
36515	2	5/8-11	7/8

Polished Steel Ball

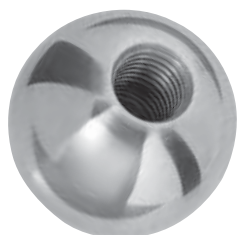


- Material: Steel
- Finish: Polished

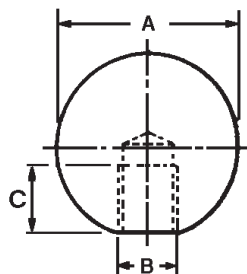


Part Number	A	B	C
36520	3/4	10-32	3/8
36521	1	10-32	3/8
36522	1	1/4-20	1/2
36523	1	5/16-18	1/2
36524	1	3/8-16	1/2
36525	1 3/8	1/4-20	5/8
36526	1 3/8	5/16-18	5/8
36527	1 3/8	3/8-16	5/8
36528	1 3/8	1/2-13	5/8
36529	1 7/8	3/8-16	3/4
36530	1 7/8	1/2-13	3/4
36531	1 7/8	5/8-11	3/4

Brass Ball



- Material: Brass
- Finish: Polished
- Water Resistant



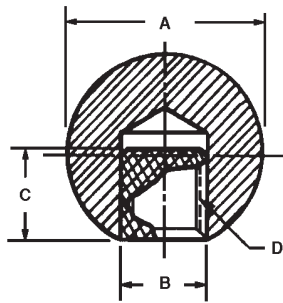
Part Number	A	B	C
36540	3/4	10-32	3/8
36541	1	10-32	3/8
36542	1	1/4-20	1/2
36543	1	5/16-18	1/2
36544	1	3/8-16	1/2
36545	1 3/8	1/4-20	5/8
36546	1 3/8	5/16-18	5/8
36547	1 3/8	3/8-16	5/8
36548	1 3/8	1/2-13	5/8
36549	1 7/8	3/8-16	3/4
36550	1 7/8	1/2-13	3/4
36551	1 7/8	5/8-11	3/4



Plastic Ball

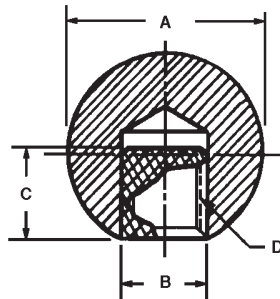


- Material: Plastic, Black
- Insert: Brass
- Finish: Tumble, Sand, & Buff
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Black Part Number	A	B	C	Brass Insert D
31301	3/4	1/4	5/16	10-32
31316	3/4	1/4	5/16	1/4-20
31317	1	1/2	1/2	10-32
31302	1	1/2	7/16	1/4-20
31308	1	1/2	7/16	5/16-18
31303	1	1/2	1/2	3/8-16
31318	1 3/8	5/8	5/8	1/4-20
31309	1 3/8	5/8	7/16	5/16-18
31304	1 3/8	5/8	1/2	3/8-16
31310	1 3/8	5/8	1/2	3/8-24
31305	1 3/8	5/8	5/8	1/2-13
31311	1 3/8	5/8	5/8	1/2-20
31319	1 5/8	11/16	5/8	5/16-18
31314	1 5/8	11/16	1/2	3/8-16
31315	1 5/8	11/16	5/8	1/2-13
31320	1 7/8	3/4	7/16	5/16-18
31312	1 7/8	3/4	1/2	3/8-16
31306	1 7/8	3/4	5/8	1/2-13
31313	1 7/8	3/4	5/8	1/2-20
31307	1 7/8	3/4	3/4	5/8-18

Soft Touch Ball



- Material: Soft Touch Plastic
- Finish: Black Matte
- Insert: Brass
- Also available in red, blue, yellow, and green (250 piece minimum)

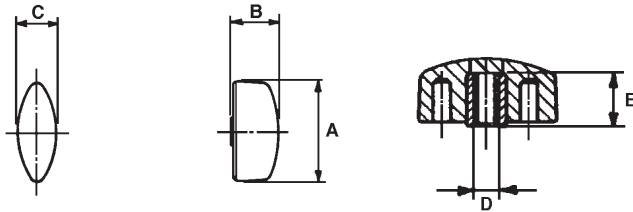
Part Number	A	B	C	Insert D
31330	1 1/2	1 15/64	5/8	1/4-20 x 5/8
31331	1 1/2	1 15/64	5/8	5/16-18 x 5/8
31332	1 1/2	1 15/64	5/8	3/8-16 x 5/8
31333	1 1/2	1 15/64	5/8	1/2-13 x 5/8

This Ball Knob has a soft touch material which enables the operator to get a better grip on the knob for many different types of operations.

KNOBS



Plastic Wing Knob ELESA Original Design Metric

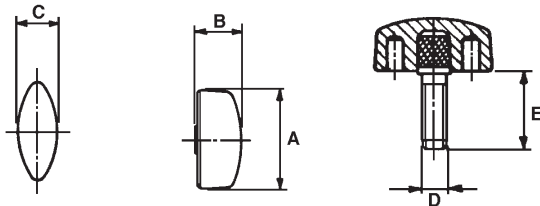


- Material: Glass-Fibre Reinforced Black Technopolymer
- Finish: Black Matte
- Insert: Brass with tapped blind hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number*	A	B	C	D	E
33776	26	13	11	M5	5
33777	32	15	13	M6	8
33778	40	17	15.5	M8	8

*Dimensions in millimeters

Plastic Wing Knob With Stud ELESA Original Design



- Material: Glass-Fibre Reinforced Black Technopolymer
- Finish: Black Matte
- Zinc-Plated Steel Stud with chamfered flat end
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Inch

Part Number	A	B	C	D	E
33765	1.02	.51	.43	10-32	.500
33766	1.02	.51	.43	10-32	.750
33767	1.26	.59	.51	1/4-20	.500
33768	1.26	.59	.51	1/4-20	.750
33769	1.26	.59	.51	1/4-20	1.000
33770	1.57	.67	.61	5/16-18	.750
33771	1.57	.67	.61	5/16-18	1.000

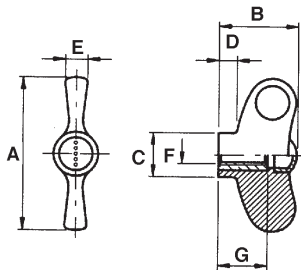
Metric

Part Number*	A	B	C	D	E
33781	26	13	11	M5	16
33782	32	15	13	M6	16
33783	32	15	13	M8	16
33784	40	17	15.5	M8	25
33785	40	17	15.5	M10	30

*Dimensions in millimeters



Wing Nut ELESA Original Design

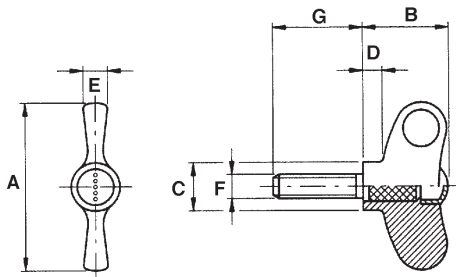


- Material: Glass Fibre Reinforced Technopolymer
- Finish: Gray/Black Matte
- Insert: Brass With Tapped Hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Optional cap colors available upon request (Black, Grey, Yellow, Blue & Red)

Part Number	A	B	C	D	E	F	G
34450	2.17	1.1	0.63	0.26	0.31	1/4-20	0.71
34451	2.17	1.1	0.63	0.26	0.31	5/16-18	0.71
34452	2.76	1.42	0.79	0.31	0.39	5/16-18	0.79
34453	2.76	1.42	0.79	0.31	0.39	3/8-16	0.79

KNOBS

Wing Nut With Stud ELESA Original Design



- Material: Glass Fibre Reinforced Technopolymer
- Finish: Gray/Black Matte
- Stud: Zinc Plated Threaded Steel With Chamfered End
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Optional cap colors available upon request (Black, Grey, Yellow, Blue & Red)

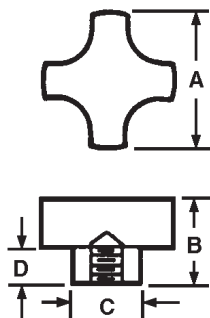
Part Number	A	B	C	D	E	F	G
34455	2.17	1.10	.63	.26	.31	5/16-18	1.00
34456	2.17	1.10	.63	.26	.31	5/16-18	1.50
34457	2.76	1.42	.79	.31	.39	3/8-16	1.00
34458	2.76	1.42	.79	.31	.39	3/8-16	1.50



Plastic Four Prong Knob



- Material: Plastic
- Finish: Tumble
- Insert: Brass
- Excellent gripping action for turning and tightening uses: adjusting devices, tripods, lawn mower height adjustments, valve controls, etc.
- 3D Solid Models are available in multiple formats from www.jergensinc.com



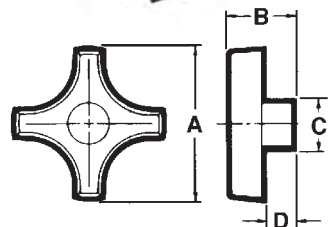
Part Number	Insert Thread and Depth	A	B	C	D
32201	1/4-20 x 7/16	1 1/4	7/8	5/8	3/8
32270	5/16-18 x 7/16	1 1/4	7/8	5/8	3/8
32202*	1/4-20 x 1/2	1 1/4	7/8	5/8	3/8
32271	1/4-20 x 7/16	1 3/4	1	13/16	1/2
32203	5/16-18 x 7/16	1 3/4	1	13/16	1/2
32204*	5/16-18 x 5/8	1 3/4	1	13/16	1/2
32272*	1/4-20 x 5/8	1 3/4	1	13/16	1/2
32205	3/8-16 x 1/2	1 3/4	1	13/16	1/2
32206*	3/8-16 x 5/8	1 3/4	1	13/16	1/2
32207	3/8-16 x 1/2	2 1/4	1 1/8	1	9/16
32273	5/16-18 x 1/2	2 1/4	1 1/8	1	9/16
32208*	3/8-16 x 5/8	2 1/4	1 1/8	1	9/16
32274*	5/16-18 x 5/8	2 1/4	1 1/8	1	9/16
32209	1/2-13 x 5/8	2 1/4	1 1/8	1	9/16
32210*	1/2-13 x 5/8	2 1/4	1 1/8	1	9/16

*Indicates knobs with through clearance hole.

Plastic Four Prong Knob With Extended Prong



- Material: Polypropylene
- Finish: Tumble
- Insert: Brass

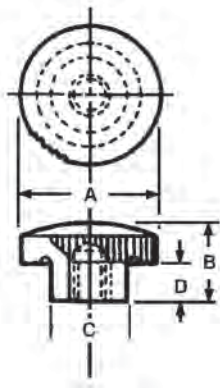


Part Number	A	B	C	D	Insert
32260	3	1 1/4	7/8	5/8	1/4-20
32261*	3	1 1/4	7/8	5/8	1/4-20
32262	3	1 1/4	7/8	5/8	5/16-18
32263*	3	1 1/4	7/8	5/8	5/16-18
32264	3	1 1/4	7/8	5/8	3/8-16
32265*	3	1 1/4	7/8	5/8	3/8-16

* Through Hole Style



Plastic Knurled Torque Knob



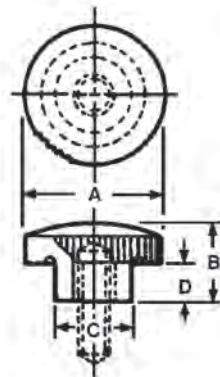
- Material: Plastic
- Finish: Tumble
- Knurled edge for non-slip grip
- Insert Threads: Brass
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	Insert Thread and Depth	A	B	C	D
32324	8-32 x 5/16	3/4	9/16	5/8	—
32325	10-32 x 5/16	3/4	9/16	5/8	—
32328	1/4-20 x 3/8	3/4	9/16	5/8	—
32301	10-32 x 5/16	1	21/32	5/8	5/16
32303	1/4-20 x 3/8	1	21/32	5/8	5/16
32305	1/4-20 x 7/16	1 3/8	25/32	3/4	3/8
32308	5/16-18 x 7/16	1 3/8	25/32	3/4	3/8
32310	3/8-16 x 3/8	1 3/8	25/32	3/4	3/8
32311	5/16-18 x 7/16	1 7/8	1	1	1/2
32312	3/8-16 x 1/2	1 7/8	1	1	1/2
32315	Bushing*	1 7/8	1	1	1/2

*.377 I.D. x 1/2" O.D. x 1/2" long plain hole brass bushing, drilled and tapped for one #10-32 set screw.

KNOBS

Plastic Knurled Torque Knob With Stud



- Material: Plastic
- Finish: Tumble
- Knurled edge for non-slip grip
- Stud Threads: Zinc Plated Steel
- 3D Solid Models are available in multiple formats from www.jergensinc.com

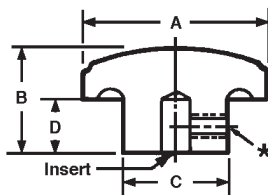
Part Number	Stud Thread and Length	A	B	C	D
32326	10-32 x 1/2	3/4	9/16	5/8	—
32327	10-32 x 1	3/4	9/16	5/8	—
32329	1/4-20 x 1/2	3/4	9/16	5/8	—
32330	1/4-20 x 1	3/4	9/16	5/8	—
32302	10-32 x 1	1	21/32	5/8	5/16
32304	1/4-20 x 1	1	21/32	5/8	5/16
32334	5/16-18 x 1	1	21/32	5/8	5/16
32306	1/4-20 x 1	1 3/8	25/32	3/4	3/8
32307	1/4-20 x 2	1 3/8	25/32	3/4	3/8
32331	5/16-18 x 1	1 3/8	25/32	3/4	3/8
32309	5/16-18 x 2	1 3/8	25/32	3/4	3/8
32332	3/8-16 x 1	1 3/8	25/32	3/4	3/8
32333	5/16-18 x 1	1 7/8	1	1	1/2
32313	3/8-16 x 1	1 7/8	1	1	1/2



Plastic Fluted Knob



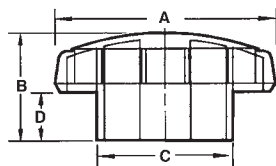
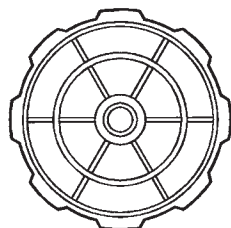
- Material: Plastic
- Finish: Tumble
- Insert Threads: Brass
- Bushing: Brass
- Stud Threads: Zinc Plated Steel
- For heavy torque applications, clamping devices, adjusting rods
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Part Number	Insert Thread and Depth	Stud Thread and Length	A	B	C	D
32320	1/4-20 x 7/16	—	1 3/8	27/32	27/32	25/64
32340	—	1/4-20 x 1	1 3/8	27/32	27/32	25/64
32321	5/16-18 x 7/16	—	1 3/8	27/32	27/32	25/64
32341	—	5/16-18 x 1	1 3/8	27/32	27/32	25/64
32342	—	3/8-16 x 1	1 3/8	27/32	27/32	25/64
32343	—	1/4-20 x 1	1 3/4	1 1/16	1 1/16	1/2
32322	5/16-18 x 7/16	—	1 3/4	1 1/16	1 1/16	1/2
32344	—	5/16-18 x 1	1 3/4	1 1/16	1 1/16	1/2
32323	3/8-16 x 1/2	—	1 3/4	1 1/16	1 1/16	1/2
32345	—	3/8-16 x 1	1 3/4	1 1/16	1 1/16	1/2
32346	1/4-20 x 7/16	—	1 3/4	1 1/16	1 1/16	1/2
32316	3/8-16 x 1/2	—	2 3/8	1 5/16	1 1/4	5/8
32347	5/16-18 x 7/16	—	2 3/8	1 5/16	1 1/4	5/8
32317	—	3/8-16 x 1	2 3/8	1 5/16	1 1/4	5/8
32318	—	3/8-16 x 2	2 3/8	1 5/16	1 1/4	5/8
32348	—	5/16-18 x 1	2 3/8	1 5/16	1 1/4	5/8
32319	Bushing*	—	2 3/8	1 5/16	1 1/4	5/8

*.377 I.D. x 1/2" O.D. x 1/2" deep plain brass bushing, drilled and tapped for one #10-32 set screw.

Thermoplastic Fluted Knob



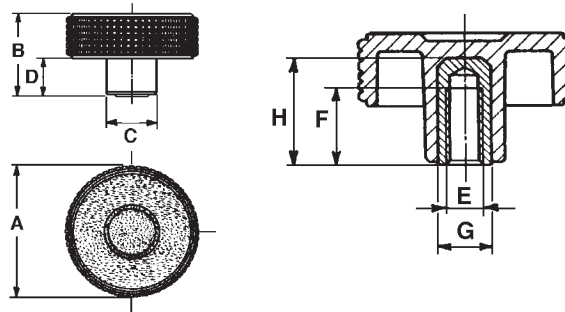
- Material: Thermoplastic
- Finish: Black Matte
- Insert: Brass
- Textured surface resists scratches, nicks, and fingerprints
- Also available in red, blue, yellow, and green
- A standard 1" stud is available, other lengths available upon request.

Part Number	A	B	C	D	Insert
32350	3 1/4	1 3/8	2	3/4	1/4-20 x 5/8
32351	3 1/4	1 3/8	2	3/4	5/16-18 x 3/4
32352	3 1/4	1 3/8	2	3/4	3/8-16 x 7/8

KNOBS



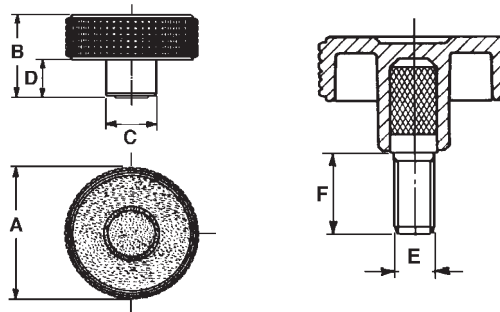
**Plastic Knurled Knob
ELESA Original Design**



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Brass Insert with tapped or plain blind hole
- Knobs with plain blind hole complete with set screw
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	Set Screw	F	G	H
33801	1.22	.87	.59	.35	1/4-20	—	.47	—	—
33802	1.57	.94	.67	.43	1/4	10-32	.55	.47	.67
33803	1.57	.94	.67	.43	1/4-20	—	.47	—	—
33804	1.57	.94	.67	.43	5/16-18	—	.51	—	—
33805	1.97	1.18	.79	.53	3/8	10-32	.79	.63	.98
33806	1.97	1.18	.79	.53	5/16-18	—	.70	—	—
33807	1.97	1.18	.79	.53	3/8-16	—	.67	—	—
33808	2.36	1.38	.91	.59	3/8	1/4-20	.79	.63	1.18
33809	2.36	1.38	.91	.59	3/8-16	—	.79	—	—
33810	2.36	1.38	.91	.59	1/2-13	—	.79	—	—

**Plastic Knurled Knob
With Stud
ELESA Original Design**



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Stud: Zinc Plated Steel with chamfered flat end
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

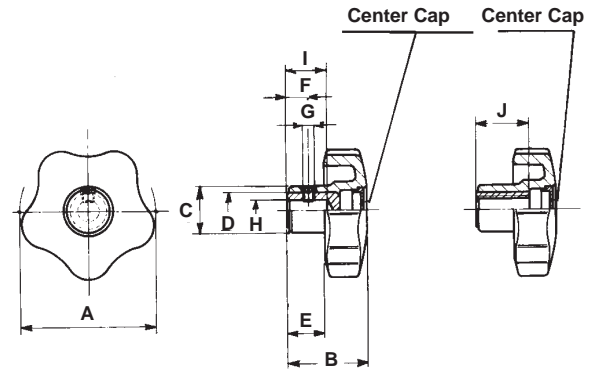
Part Number	A	B	C	D	E	F
33811	1.22	.87	.59	.35	1/4-20	.500
33812	1.22	.87	.59	.35	1/4-20	.750
33813	1.57	.94	.67	.43	1/4-20	.750
33814	1.57	.94	.67	.43	1/4-20	1.00
33815	1.57	.94	.67	.43	5/16-18	.750
33816	1.57	.94	.67	.43	5/16-18	1.00
33817	1.97	1.18	.79	.53	3/8-16	1.00
33818	1.97	1.18	.79	.53	3/8-16	1.25
33819	2.36	1.38	.91	.59	3/8-16	1.00
33820	2.36	1.38	.91	.59	3/8-16	1.25



Plastic Lobe Knob ELESA Original Design



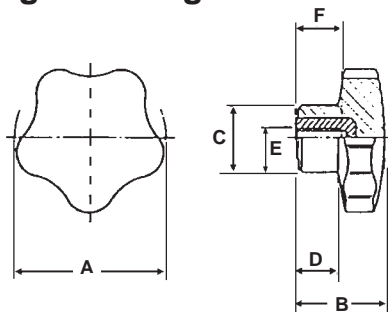
- Material: High Impact Strength Technopolymer
- Finish: Black
- Insert: Brass with tapped or plain blind hole
- Knobs with plain blind hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



Part Number	A	B	C	D	E	F	Set Screw G	Mounting Holes (H)		I	J
								Plain	Tapped		
33840	0.98	0.75	0.51	0.28	0.31	—	—	—	10-32	—	0.39
33841	1.26	0.91	0.59	—	0.39	—	—	—	1/4-20	—	0.47
33842	1.26	0.91	0.59	0.47	0.39	0.2	10-32	1/4	—	—	0.47
33843	1.57	1.06	0.67	—	0.47	—	—	—	1/4-20	—	0.71
33844	1.57	1.06	0.67	—	0.47	—	—	—	5/16-18	—	0.71
33845	1.57	1.06	0.67	0.47	0.47	0.24	10-32	1/4	—	0.55	—
33846	1.57	1.06	0.67	0.55	0.47	0.24	10-32	5/16	—	0.59	—
33847	1.97	1.26	0.75	—	0.55	—	—	—	5/16-18	—	0.79
33848	1.97	1.26	0.75	—	0.55	—	—	—	3/8-16	—	0.79
33849	1.97	1.26	0.75	0.55	0.55	0.28	10-32	5/16	—	0.63	—
33850	1.97	1.26	0.75	0.63	0.55	0.28	10-32	3/8	—	0.63	—
33851	2.48	1.46	0.87	—	0.63	—	—	—	3/8-16	—	1.02
33852	2.48	1.46	0.87	—	0.63	—	—	—	1/2-13	—	1.02
33853*	2.48	1.46	0.87	0.67	0.63	0.31	1/4-20	3/8	—	0.79	—
33854*	2.48	1.46	0.87	0.75	0.63	0.31	1/4-20	1/2	—	0.79	—
33855	2.91	1.71	1.02	0.75	0.87	0.31	1/4-20	1/2	—	0.79	—
33856	2.91	1.71	1.02	—	0.87	—	—	—	1/2-13	—	1.02

*Steel Insert

Plastic Lobe Knob Metric Elesa Original Design



- Material: Duroplast
- Finish: Black Matte
- Insert: Stainless Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

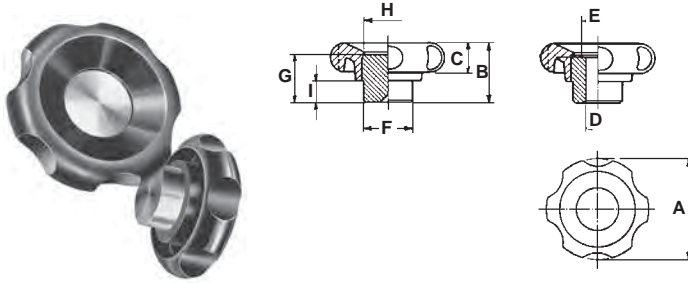
Part Number*	A	B	C	D	E	F
34121	32	23	19	11	M6	12
34122	40	27	21	12	M8	13
34123	50	33	25	14	M10	17
34124	60	37	27	17	M12	20

*Dimensions in millimeters



Plastic Lobe Knob

ELESA Original Design

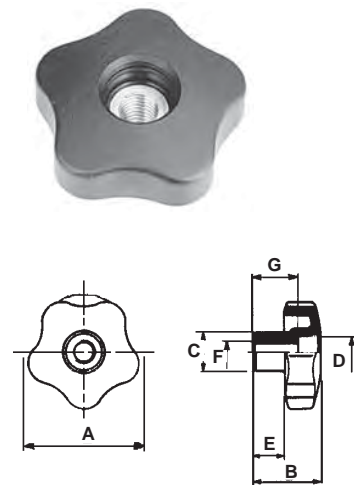


- Material: Black Duroplast
- Finish: Black Bright
- Metal Hub
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	F	G	H	I
33751	2.01	1.14	.51	Blank	—	.79	.83	.71	.39
33752	2.01	1.14	.51	5/16	—	.79	.83	.71	.39
33753	2.01	1.14	.51	5/16-18	—	.79	.83	.71	.39
33755	2.72	1.30	.71	3/8	.71	1.18	.98	1.10	.47
33756	2.72	1.30	.71	3/8-16	.71	1.18	.98	1.10	.47
33758	3.23	1.57	.75	1/2	.71	1.38	1.18	1.34	.59
33759	3.23	1.57	.75	1/2-13	.71	1.38	1.18	1.34	.59
33760	3.90	1.73	.79	Blank	—	1.42	1.34	1.34	.55
33761	3.90	1.73	.79	1/2	.84	1.42	1.34	1.34	.55
33762	3.90	1.73	.79	5/8-11	.84	1.42	1.34	1.34	.55
33763	5.07	1.85	.87	Blank	—	1.57	1.34	1.42	.51
33764	5.07	1.85	.87	1/2	—	1.57	1.34	1.46	.51

Plastic Lobe Knob

ELESA Original Design

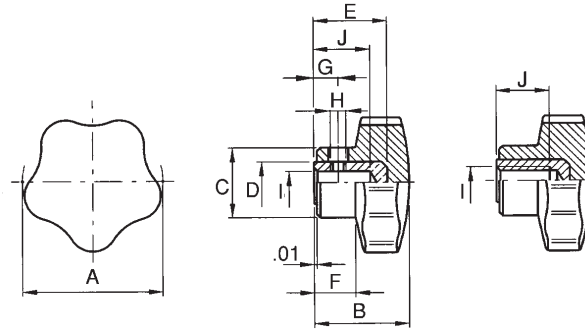


- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Insert: Brass with tapped through hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	F	G
33831	1.26	0.91	0.59	0.39	0.39	1/4-20	0.47
33832	1.57	1.06	0.67	0.47	0.47	5/16-18	0.71
33833	1.97	1.26	0.75	0.59	0.55	3/8-16	0.79
33834	2.48	1.46	0.87	0.75	0.63	3/8-16	1.02
33835	2.48	1.46	0.87	0.75	0.63	1/2-13	1.02
33836	2.91	1.17	1.02	0.67	0.87	1/2-13	1.02



Plastic Lobe Knob ELESA Original Design

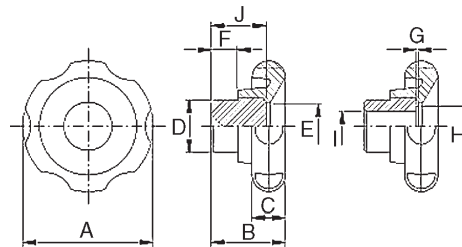


Part Number	A	B	C	D	E	F	Set Screw		Mounting Hole (I)		J	Wt. lbs.
							G	H	Plain	Tapped		
33884*	1.26	0.91	0.75	—	—	0.43	—	—	—	1/4-20	0.39	0.04
33885*	1.57	1.06	0.83	—	—	0.47	—	—	—	1/4-20	0.47	0.07
33886*	1.57	1.06	0.83	—	—	0.47	—	—	—	5/16-18	0.51	0.06
33887*	1.57	1.06	0.83	0.47	0.67	0.47	0.28	10-32	0.250	—	0.55	0.07
33888*	1.57	1.06	0.83	0.63	0.79	0.47	0.28	10-32	0.312	—	0.63	0.06
33889*	1.97	1.3	0.98	—	—	0.55	—	—	—	5/16-18	0.71	0.11
33890*	1.97	1.3	0.98	—	—	0.55	—	—	—	3/8-16	0.67	0.10
33891*	1.97	1.3	0.98	0.59	0.99	0.55	0.31	10-32	0.312	—	0.79	0.14
33892*	1.97	1.3	0.98	0.63	0.99	0.55	0.31	10-32	0.375	—	0.79	0.13
33893	2.36	1.46	1.06	—	—	0.67	—	—	—	3/8-16	0.67	0.16
33894	2.36	1.46	1.06	—	—	0.67	—	—	—	1/2-13	0.79	0.17
33895	2.36	1.46	1.06	0.67	1.02	0.67	0.35	1/4-20	0.375	—	0.79	0.21
33896	2.36	1.46	1.06	0.79	1.18	0.67	0.35	1/4-20	0.500	—	0.99	0.19
33897	2.75	1.73	1.18	—	—	0.79	—	—	—	1/2-13	0.79	0.26
33898	2.75	1.73	1.18	0.79	1.18	0.79	0.43	1/4-20	0.500	—	0.99	0.27
33899	3.34	2.16	1.37	—	—	1.18	—	—	—	5/8-11	0.86	0.38

*denotes brass insert.

- Material:
Phenolic based
Duroplast
- Insert:
Black oxide steel
or Brass

Plastic Lobe Knob ELESA Original Design



- Materials: Glass reinforced polyamide based technopolymer
- Finish: Black glossy
- Black-oxide steel hub

- Lighter Design
- With plain or tapped hole

1. Not drilled
2. Plain through hole
3. Tapped through hole

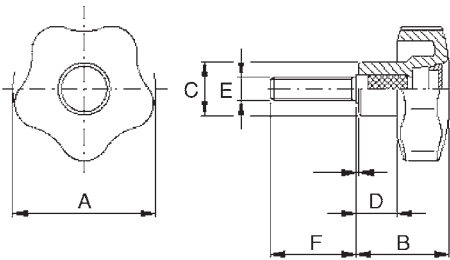
Part Number	A	B	C	D	E	F	G	H	Mounting Holes (I)		J	Wt. lbs.
									Plain	Tapped		
34000 ¹	1.97	1.14	0.51	0.79	0.71	0.39	—	—	—	—	0.83	0.16
34001 ²	1.97	1.14	0.51	0.79	0.71	0.39	—	—	0.312	—	0.83	0.14
34002 ³	1.97	1.14	0.51	0.79	0.71	0.39	—	—	—	5/16-18	0.83	0.15
34003 ¹	2.40	1.18	0.53	0.98	0.94	0.43	—	—	—	—	0.91	0.28
34004 ¹	2.76	1.30	0.71	1.18	1.14	0.47	—	—	—	—	0.98	0.42
34005 ²	2.76	1.30	0.71	1.18	1.14	0.47	0.03	0.71	0.375	—	0.98	0.37
34006 ³	2.76	1.30	0.71	1.18	1.14	0.47	0.03	0.71	—	3/8-16	0.98	0.39
34007 ¹	3.15	1.57	0.75	1.38	1.34	0.59	—	—	—	—	1.18	0.66
34008 ²	3.15	1.57	0.75	1.38	1.34	0.59	0.03	0.71	0.500	—	1.18	0.61
34009 ³	3.15	1.57	0.75	1.38	1.34	0.59	0.03	0.71	—	1/2-13	1.18	0.62



Plastic Lobe Knob With Stud ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Stud: Zinc Plated Steel with Chamfered Flat End
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

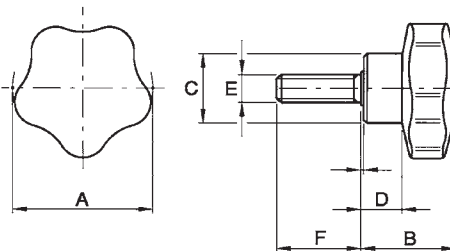


Part Number	A	B	C	D	E	F
33859	0.98	0.75	0.51	0.31	10-32	0.500
33860	0.98	0.75	0.51	0.31	10-32	0.750
33861	1.26	0.91	0.59	0.39	1/4-20	0.500
33862	1.26	0.91	0.59	0.39	1/4-20	0.750
33863	1.26	0.91	0.59	0.39	1/4-20	1.000
33864	1.57	1.06	0.67	0.47	1/4-20	0.500
33865	1.57	1.06	0.67	0.47	1/4-20	1.000
33866	1.57	1.06	0.67	0.47	5/16-18	0.750
33867	1.57	1.06	0.67	0.47	5/16-18	1.000
33868	1.97	1.26	0.75	0.55	5/16-18	1.000
33869	1.97	1.26	0.75	0.55	5/16-18	1.500
33870	1.97	1.26	0.75	0.55	3/8-16	1.000
33871	1.97	1.26	0.75	0.55	3/8-16	1.500
33872	2.48	1.46	0.87	0.63	3/8-16	1.250
33873	2.48	1.46	0.87	0.63	3/8-16	2.000
33874	2.48	1.46	0.87	0.63	1/2-13	1.500
33877	2.91	1.71	1.02	0.87	1/2-13	1.250
33878	2.91	1.71	1.02	0.87	1/2-13	2.000

Plastic Lobe Knob With Stainless Steel Stud ELESA Original Design



- Material: Duroplast
- Finish: Black Matte
- Stud: Stainless Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



Part Number	A	B	C	D	E	F
34181	1.26	.91	.75	.43	1/4-20	.500
34182	1.26	.91	.75	.43	1/4-20	.750
34183	1.26	.91	.75	.43	1/4-20	1.00
34184	1.57	1.06	.83	.47	5/16-18	.750
34185	1.57	1.06	.83	.47	5/16-18	1.00
34186	1.57	1.06	.83	.47	5/16-18	1.25
34187	1.97	1.30	.98	.55	3/8-16	1.00
34188	1.97	1.30	.98	.55	3/8-16	1.25
34189	1.97	1.30	.98	.55	3/8-16	1.50
34190	1.97	1.30	.98	.55	3/8-16	2.00

Metric

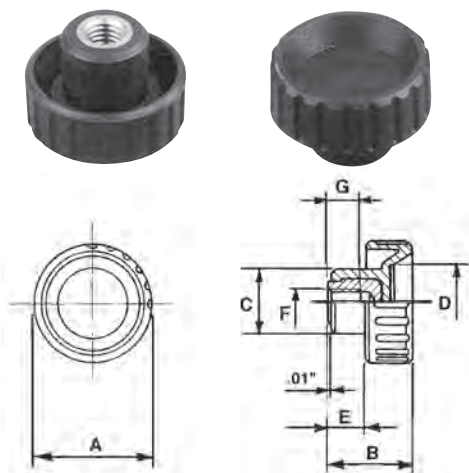
Part Number*	A	B	C	D	E	F
34131	32	23	19	11	M6	16
34132	40	27	21	12	M8	20
34133	40	27	21	12	M8	30
34134	50	33	25	14	M10	20
34135	50	33	25	14	M10	40
34136	60	37	27	17	M12	30

*Dimensions in millimeters



Plastic Fluted Grip Knob ELESA Original Design

- Material: High Strength Technopolymer
- Finish: Black Matte
- Insert: Brass with tapped blind hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



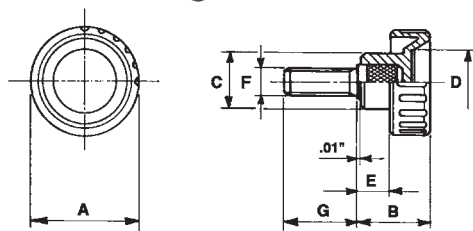
Part Number	A	B	C	D	E	F	G
34200	.79	.63	.47	.43	.24	8-32	.24
34201	.79	.63	.47	.43	.24	10-32	.24
34202	.98	.75	.63	.59	.31	10-32	.39
34203	.98	.75	.63	.59	.31	1/4-20	.31
34204	1.26	.87	.67	.83	.35	1/4-20	.39
34205	1.26	.87	.67	.83	.35	5/16-18	.39

Metric

Part Number*	A	B	C	D	E	F	G
34260	16	13	11	9	5	M4	6
34261	20	16	12	11	6	M5	6
34262	25	19	16	15	8	M6	8
34263	32	22	17	21	9	M8	10

*Dimensions in millimeters

Plastic Fluted Grip Knob With Stud ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Zinc-Plated Steel Stud With Chamfered Flat End
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	F	G
34210	0.63	0.51	0.43	0.35	0.2	8-32	0.375
34211	0.63	0.51	0.43	0.35	0.2	8-32	0.500
34212	0.79	0.63	0.47	0.43	0.24	8-32	0.500
34213	0.79	0.63	0.47	0.43	0.24	8-32	0.750
34214	0.79	0.63	0.47	0.43	0.24	10-32	0.500
34215	0.79	0.63	0.47	0.43	0.24	10-32	0.750
34216	0.98	0.75	0.63	0.59	0.31	1/4-20	0.500
34217	0.98	0.75	0.63	0.59	0.31	1/4-20	0.750
34218	0.98	0.75	0.63	0.59	0.31	1/4-20	1.000
34219	1.26	0.87	0.67	0.83	0.35	5/16-18	0.750
34220	1.26	0.87	0.67	0.83	0.35	5/16-18	1.000
34221	1.57	1.06	0.75	0.98	0.51	3/8-16	1.000
34222	1.97	1.12	0.87	1.22	0.53	3/8-16	1.000

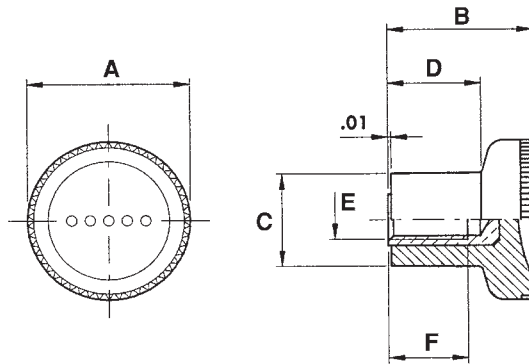
Metric

Part Number*	A	B	C	D	E	F	G
34250	16	13	11	9	5	M4	10
34251	16	13	11	9	5	M5	10
34252	20	16	12	11	6	M5	16
34253	20	16	12	11	6	M6	16
34254	25	19	16	15	8	M6	16
34255	25	19	16	15	8	M8	16
34256	32	22	17	21	9	M8	16
34257	32	22	17	21	9	M10	20

*Dimensions in millimeters



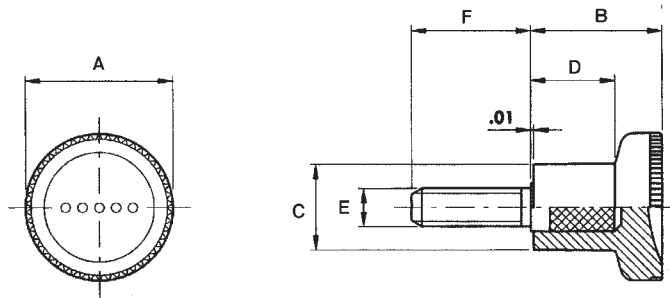
Knurled Knob ELESA Original Design



- Material: High Strength Technopolymer
- Finish: Gray/Black Matte
- Insert: Brass With Tapped Blind Hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Concave surface makes gripping easier.

Part Number	A	B	C	D	E	F
34490	0.83	0.71	0.49	0.41	10-32	0.39
34491	0.98	0.89	0.57	0.55	1/4-20	0.47
34492	1.22	1.06	0.73	0.67	5/16-18	0.63

Knurled Knob With Stud ELESA Original Design

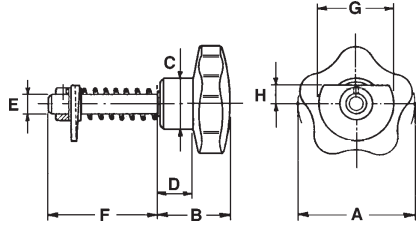


- Material: High Strength Technopolymer
- Finish: Gray/Black Matte
- Stud: Zinc Plated Threaded Steel With Chamfered End
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Concave surface makes gripping easier.

Part Number	A	B	C	D	E	F
34493	.83	.71	.49	.41	10-32	.750
34494	.98	.89	.57	.55	1/4-20	.750
34495	1.22	1.06	.73	.67	5/16-18	.750



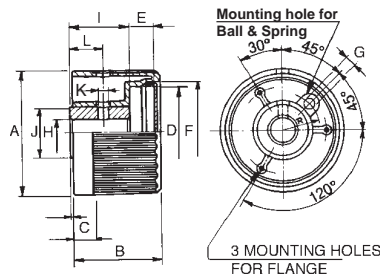
Plastic Latch Type Lobe Knob ELESA Original Design



- Material: Black Duroplast
- Finish: Black Bright
- Stud: Zinc Plated Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Available in Stainless Steel with left or right swing style

Part Number	A	B	C	D	E	F	G	H	Swing Style
33881	1.97	1.30	.98	.55	.47	1.81	1.77	.47	Left
33882	2.36	1.46	1.06	.67	.47	1.81	1.77	.47	Right

Plastic Knurled Grip Knob ELESA Original Design

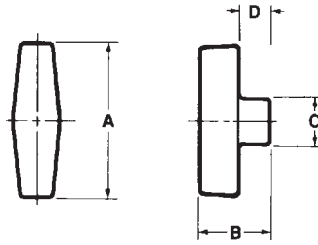


- Material: Glass-Fibre Reinforced Technopolymer
- Finish: Black Bright
- Black Oxide Steel Insert
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	F	G	H	I	J	K	L
33741	1.89	1.38	.31	1.26	.39	1.34	.13	.375	.87	.87	.16	.55
33742	2.05	1.54	.35	1.46	.51	1.54	.17	.500	.87	.87	.16	.55
33743	2.28	1.61	.39	1.65	.43	1.73	.20	.500	1.06	1.02	.20	.63
33744	2.48	1.73	.43	1.89	.39	1.97	.24	.500	1.18	1.02	.20	.63

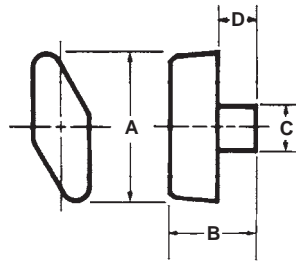


Plastic T-Handle

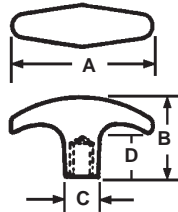


- Material: Polypropylene
- Finish: Tumble
- Insert: Metal
- Also Available With Stud
- Ideal For High Torque Applications
- Textured Grip

Part Number	A	B	C	D	Insert
32126	2 1/2	1 1/4	3/4	5/8	5/16-18 x 3/4



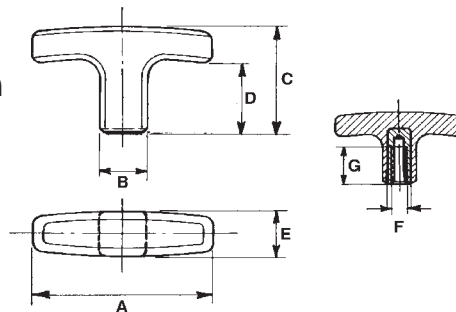
Part Number	A	B	C	D	Insert
32121	2	1 1/8	5/8	1/2	5/16-18 x 5/8



- Material: Plastic
- Finish: Tumble
- For heavy-duty clamping and push/pull applications; latch release with pull cables or rods; also for cabinet doors, access panel latches, etc.

Part Number	Insert Thread and Depth	A	B	C	D
32115	5/16-18 x 7/16	2 1/4	1 1/4	9/16	11/16
32116	1/4-20 x 7/16	2 1/4	1 1/4	9/16	11/16

Plastic T-Handle ELESA Original Design



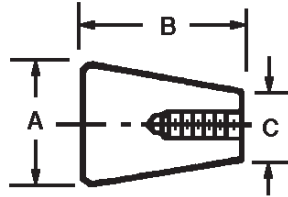
- Material: Glass-Fibre Reinforced Technopolymer
- Finish: Black Matte
- Insert: Brass With Tapped Blind Hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	F	G	Ft.* lbs.
33711	1.57	0.51	1.18	0.79	0.51	1/4-20	0.63	560
33712	2.17	0.55	1.3	0.87	0.55	1/4-20	0.71	739
33713	2.64	0.63	1.46	0.98	0.63	5/16-18	0.79	1,008
33714	3.15	0.79	1.61	1.02	0.79	3/8-16	0.79	1,568
33715	3.66	0.83	1.77	1.12	0.83	1/2-13	0.79	1,795

*Max. Tensile strength / Pull Force



Plastic Tapered Knob

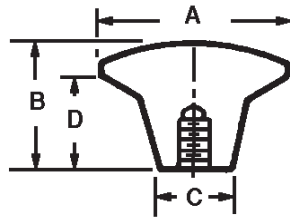


- Tapered shanks, enlarged heads provide good finger clearance and excellent grasp for pulling
- Popular Applications: push-pull rods, palm switch knobs, palm grasp knobs (for portable power tools), push buttons, drawer pulls, etc.

- Material: Plastic
- Finish: Tumble
- Insert: Brass
- 3D Solid Models are available in multiple formats from www.jergensinc.com

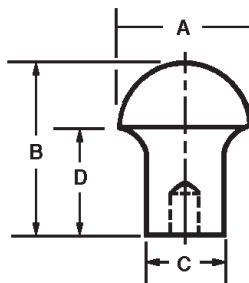
Part Number	A	B	C	Insert Thread and Depth
32213	1	1 1/4	1/2	1/4-20 x 7/16
32214	1	1 1/4	1/2	5/16-18 x 7/16

Plastic Lift Knob



- Material: Plastic
- Finish: Tumble
- Insert: Brass
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	Insert Thread and Depth
32217	1 3/8	7/8	5/8	5/8	1/4-20 x 7/16



Part Number	A	B	C	D	Insert Thread and Depth
32215	1	1 3/16	9/16	11/16	10-32 x 5/16
32216	1	1 3/16	9/16	11/16	1/4-20 x 7/16

Jergens offers 3D models

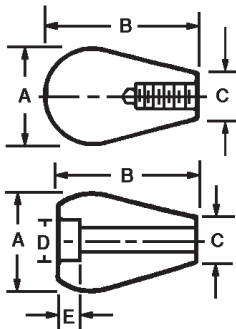
for all handles, knobs and handwheels at www.jergensinc.com



Plastic Oval Tapered Knob



- Material: Polypropylene
- Finish: Tumble
- For shift levers, control levers, push/pull rods on machine tools, lawn and garden equipment, jigs and fixtures, and for finger tip levers or lid knobs.
- Available with either brass insert, tapped plastic thread, or untapped through hole.
- Sand and Buff Finish available upon request
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Part Number	A	B	C	D	E	Hole Diameter
32211*	1 3/16	1 7/8	9/16	—	—	5/16-18 x 3/4
32218**	1 3/16	1 7/8	9/16	—	—	1/4-20 x 7/16 .380/.385
32212	1 3/16	1 3/4	9/16	9/16	5/16	through hole (untapped) .313/.318
32219	1 3/16	1 3/4	9/16	9/16	5/16	through hole (untapped)

*Tapped plastic threads

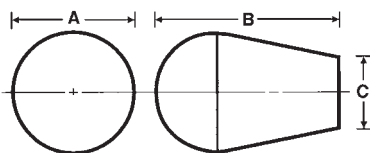
**Brass insert

Soft Touch Oval Tapered Knob



- Material: Soft Touch Plastic
- Finish: "Soft Feel" Black Matte
- Insert: Brass
- Cushioned vinyl covering helps to dampen vibrations
- Also available in red, blue, yellow, and green (250 piece minimum)

This Oval Tapered Knob has the original soft touch material that helps in gripping. It is designed with an enlarged head and tapered shaft for maximum push, pull, and turning.



Part Number	A	B	C	Hole Diameter
32150	1 5/8	2 1/2	7/8	5/16-18 x 5/8
32151	1 5/8	2 1/2	7/8	5/16
32152	1 5/8	2 1/2	7/8	3/8-16 x 5/8
32153	1 5/8	2 1/2	7/8	3/8

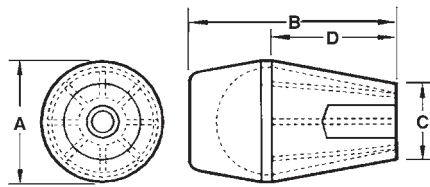


Soft Touch Tapered Knob



- Material: Soft Touch Plastic
- Finish: Black Matte
- Insert: Brass
- Cushioned vinyl covering helps to dampen vibrations
- Also available in red, blue, yellow, and green (250 piece minimum)

This Oval Tapered Knob has the original soft touch material that helps in gripping. It is designed with an enlarged head and tapered shaft for maximum push, pull, and turning.

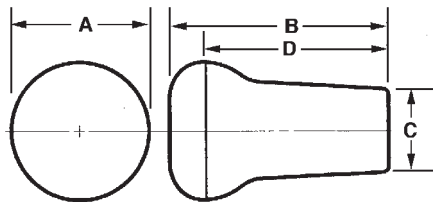


Part Number	A	B	C	D	Hole Diameter
32160	1 1/2	2 1/2	15/16	1 1/2	1/4-20 x 5/8
32161	1 1/2	2 1/2	15/16	1 1/2	5/16-18 x 3/4
32162	1 1/2	2 1/2	15/16	1 1/2	3/8-16 x 5/8

Soft Touch Tapered Knob



- Material: Soft Touch Plastic
- Finish: Black Matte
- Insert: Brass
- Cushioned vinyl covering helps to dampen vibrations
- Also available in red, blue, yellow, and green (250 piece minimum)
- A standard 1" stud is available, other lengths available upon request.



Part Number	A	B	C	D	Hole Diameter
32180	1 5/8	2 1/2	7/8	2 1/8	1/4-20 x 5/8
32181*	1 5/8	2 1/2	7/8	2 1/8	1/4 x 1
32182	1 5/8	2 1/2	7/8	2 1/8	5/16-18 x 5/8
32183*	1 5/8	2 1/2	7/8	2 1/8	5/16 x 1
32184*	1 5/8	2 1/2	7/8	2 1/8	3/8 x 1
32170	1 3/8	2 1/8	13/16	1 3/4	5/16-18 x 5/8
32171	1 3/8	2 1/8	13/16	1 3/4	3/8-16 x 5/8
32172*	1 3/8	2 1/8	13/16	1 3/4	3/8 x 1
32173	1 3/8	2 1/8	13/16	1 3/4	1/2-13 x 5/8
32174*	1 3/8	2 1/8	13/16	1 3/4	1/2 x 1

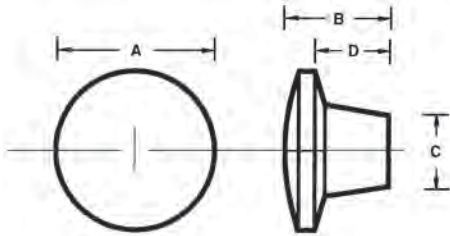
*Cored Hole



Plastic Push/Pull Knob

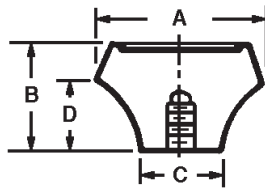


- Material: Thermoplastic
- Finish: Matte
- Insert: Brass
- Also available with stud



Part Number	A	B	C	D	Insert
32225	1 3/8	7/8	5/8	5/8	8-32
32226	1 3/8	7/8	5/8	5/8	10-32
32227	1 3/8	7/8	5/8	5/8	1/4-20
32228	1 3/8	7/8	5/8	5/8	5/16-18
32229	1 3/8	7/8	5/8	5/8	3/8-16

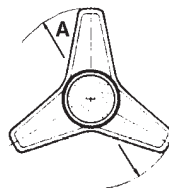
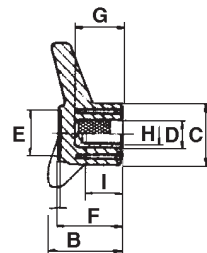
Plastic Push/Pull Knob



- Material: Plastic
- Finish: Tumbled
- Insert: Brass
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	Insert Thread and Depth
32220	1	11/16	1/2	7/16	8-32 x 5/16
32221	1	11/16	1/2	7/16	10-32 x 5/16
32222	1	11/16	1/2	7/16	1/4-20 x 7/16
32223	1	15/16	9/16	11/16	10-32 x 7/16
32224	1	15/16	9/16	11/16	1/4-20 x 7/16

Plastic Three-Spoked Knob ELESA Original Design



- Material: Glass-Fibre Reinforced Technopolymer
- Finish: Black Matte
- Brass Insert with tapped blind hole
- Insert: Brass or Steel with plain blind hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	F	G	H	I	Insert
33731	2.48	1.10	1.02	—	.70	.98	—	5/16-18	.62	Brass
33732	2.48	1.10	1.02	.59	.70	.98	.87	5/16	.62	Steel
33733	3.14	1.37	1.25	—	.82	1.18	—	3/8-16	.67	Brass
33734	3.14	1.37	1.25	.59	.82	1.18	.98	3/8	.79	Steel
33735	3.93	1.65	1.41	—	.98	1.41	—	1/2-13	.79	Brass
33736	3.93	1.65	1.41	.94	.98	1.41	1.29	1/2	.98	Steel

HANDLES, LEVERS & CRANKS

Handles, Levers & Cranks

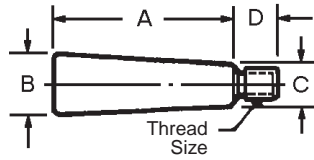
Adjustable Handle.....	415	Plastic Pull/Lift Handle	422
Adjustable Handle With Stud.....	415	Plastic Revolving Fold-Away Handle	405
Aluminum Balanced Crank Handle.....	408	Plastic Revolving Heavy Duty Handle With Steel Shank	402
Aluminum Revolving and Solid Handle.....	400	Plastic Revolving Handle With Steel Through Shank	402
Aluminum Tubular Handle	422	Plastic Revolving Handle With Steel Shank.....	403
Aluminum & Malleable Clamping Levers	411	Revolving Handle	403
Aluminum & Malleable Offset Handle.....	410	Single Handle Locking Lever.....	410
Aluminum & Malleable Speed Handle	407	Steel Clamp Lever.....	409
Back Mounted Bridge Handle.....	420	Steel Solid and Revolving Balanced Crank Handle.....	408
Balanced Crank Handle.....	408		
Control Lever	419		
Double Handle Locking Lever	411		
Ergonomic Style Steel Handles.....	401		
Fold-Away Handle	405		
Forged Crank Handle.....	409		
Front Mounted Bridge Handle.....	420		
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Machine Guard Handles.....	419		
Metal Adjustable Handles	412-414		
Plastic Adjustable Handle With Stainless Steel Stud	417		
Plastic Button Head Tapped Adjustable Handle	416, 418		
Plastic Button Head Adjustable Handle With Stud	416, 418		
Plastic Button Head Adjustable Tapped Handle With Stainless Steel Insert	417		
Plastic Crank With Revolving Fold-Away Handle.....	406		
Plastic Crank With Revolving Handle	406		
Plastic Folding Handle.....	400		
Plastic Fixed Handle.....	400		
Plastic Handle.....	421		
Plastic Heavy Duty Tapered Handle	404		
Plastic Light Duty Tapered Handle	404		

Jergens[®]

MANUFACTURING EFFICIENCY



Aluminum Revolving and Solid Handle



- Material: Handle, 2024 Aluminum
Stem, Low Carbon Steel
- Finish: Revolving Handle, Clear or Black Anodize
Stem for Revolving Handle, Zinc Plate
Solid Handle, Plain
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Aluminum Revolving Handles

Part Number		A	B	C	D	Thread Size	Wt. (lbs)
Clear	Black						
21901	21911	1 1/8	7/16	3/8	3/8	10-24	.02
21902	21912	1 9/16	5/8	1/2	7/16	1/4-20	.03
21903	21913	2	7/8	9/16	1/2	5/16-18	.08
21904	21914	2 1/2	1	3/4	1/2	3/8-16	.19
21905	21915	2 7/8	1 1/8	15/16	1/2	1/2-13	.23
21906	21916	3 1/4	1 1/4	15/16	1/2	1/2-13	.39

Solid Handles

Part Number	Wt. (lbs)
—	—
10301	.03
10302	.10
10303	.15
—	—
10304	.31

Metric

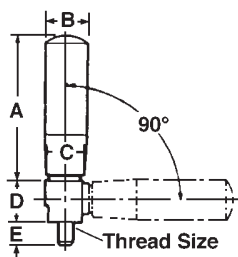
Clear	Black	A	B	C	D	Thread Size
Part Number*						
21951	21961	28	11	9	9	M5
21952	21962	39	16	13	11	M6
21953	21963	50	22	14	13	M8
21954	21964	63	25	19	13	M10
21955	21965	72	28	23	13	M12
21956	21966	82	31	23	13	M12

*Dimensions in millimeters

- Material: Handles: 2024 Aluminum
Stem: Low Carbon Steel
- Finish: Clear or Black Anodize
Stem: Zinc Plate
- Thread: Class 6g

HANDLES, LEVERS & CRANKS

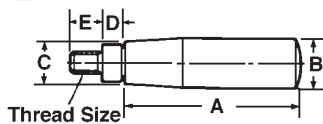
Plastic Folding Handle



- Material: Handle, 6-6 Nylon Stem, Steel
- Finish: Handle, Black Stem, Chrome Plated
- Folds out of the way
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	E	Thread Size
34070	2 1/4	25/32	25/32	7/8	1/2	M8 x 1.25
34071	3	25/32	25/32	7/8	9/16	M10 x 1.50

Plastic Fixed Handle

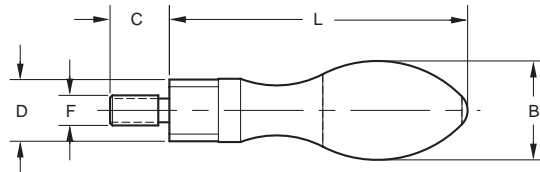


- Material: Handle, 6-6 Nylon Stem, Steel
- Finish: Handle, Black Stem, Chrome Plated
- 3D Solid Models are available in multiple formats from www.jergensinc.com

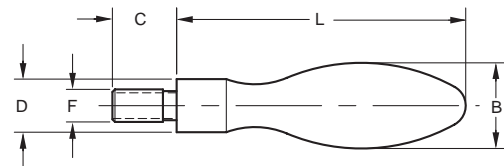
Part Number	A	B	C	D	E	Thread Size
34075	2 9/32	5/8	9/16	5/16	1/2	M8 x 1.25
34076	2 15/32	7/8	11/16	23/32	9/16	M10 x 1.50



Ergonomic Style Steel Handles

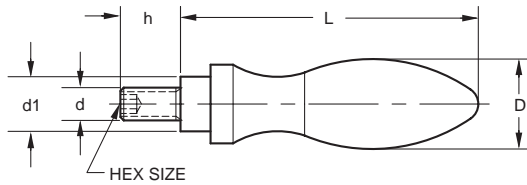


Revolving Handle

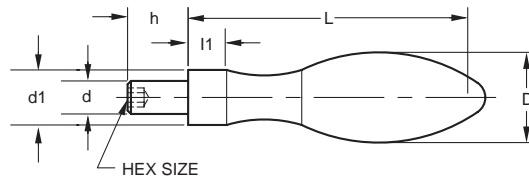


Fixed Handle

Part Number	Style	F (Thread)	B	C	D	L	K
22000	Revolving	10 - 24	1/2	3/8	0.32	1-7/8	1/4
22001	Revolving	1/4 - 20	5/8	1/2	0.40	2-1/4	5/16
22002	Revolving	5/16 - 18	13/16	9/16	0.51	2-13/16	3/8
22003	Revolving	3/8 - 16	1	11/16	0.63	3-3/8	7/16
22011	Fixed	10 - 24	1/2	3/8	0.32	1-11/16	—
22012	Fixed	1/4 - 20	5/8	1/2	0.40	2	—
22013	Fixed	5/16 - 18	13/16	9/16	0.51	2-5/8	—
22014	Fixed	3/8 - 16	1	11/16	0.63	3-3/16	—



Metric Revolving Style



Metric Fixed Style

Metric

Part Number*	Style	d (Thread)	L	D	d1	h	l
22050	Revolving	M6	54.5	16	10	11	5.5
22051	Revolving	M8	67	20	13	13	6
22052	Revolving	M10	83	25	16	14	8
22053	Revolving	M12	105.5	32	20	21	10.5
22054	Revolving	M16	117	36	22	26	11
22055	Fixed	M6	54	16	10	11	7
22056	Fixed	M8	64	20	13	13	8
22057	Fixed	M10	80	25	16	14	10
22058	Fixed	M12	100	32	20	21	13
22059	Fixed	M16	112	36	22	26	14

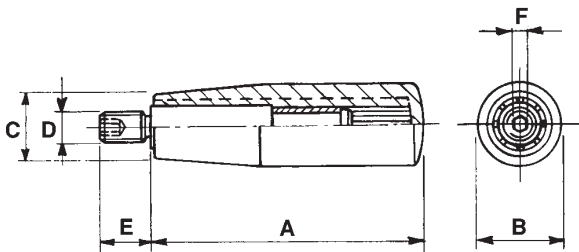
*Dimensions in millimeters



Plastic Revolving Heavy Duty Handle With Steel Shank ELESA Original Design



- Material: Black Duroplast
- Finish: Black Bright
- Shank: Zinc Plated Steel or Stainless Steel 303
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



With Steel Shank

Part Number	A	B	C	D*	E	F
33621	1.57	.71	.59	M6	.51	.12
33622	1.97	.83	.67	M6	.51	.12
33624	2.56	.91	.75	M8	.59	.16
33625	3.15	1.02	.83	M10	.67	.20
33626	3.54	1.10	.87	M10	.67	.20

*Dimension in millimeters

With Stainless Steel Shank

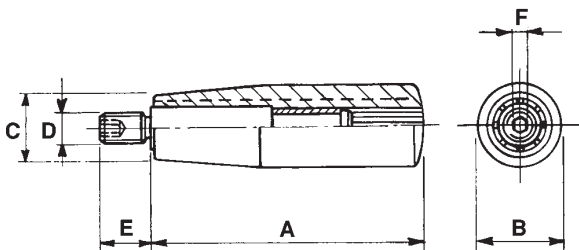
Part Number	A	B	C	D*	E	F
34101	1.57	.71	.59	M6	.51	.12
34102	1.97	.83	.67	M6	.51	.12
34103	2.56	.91	.75	M8	.59	.16
34104	3.15	1.02	.83	M10	.67	.20
34105	3.54	1.10	.87	M10	.67	.20

*Dimension in millimeters

Plastic Revolving Handle With Steel Through Shank ELESA Original Design



- Material: Black Duroplast
- Finish: Black Bright
- Shank: Matte Chrome Plated Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



Part Number	A	B	C	D	E	F
33601	1.57	.71	.59	1/4-20	.51	5/32
33602	1.97	.83	.67	5/16-18	.59	3/16
33604	2.56	.91	.75	5/16-18	.67	1/4
33605	3.15	1.02	.83	3/8-16	.71	1/4
33606	3.54	1.10	.87	3/8-16	.71	5/16

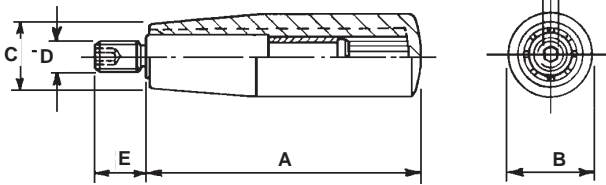
HANDLES, LEVERS & CRANKS



Plastic Revolving Handle With Steel Shank ELESA Original Design



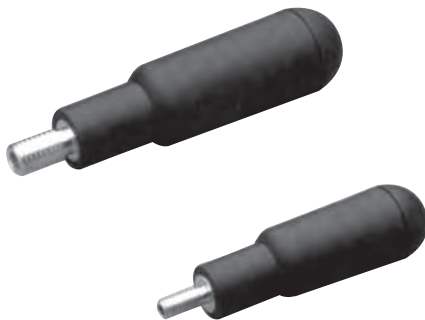
- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Shank: Zinc Plated Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



Part Number	A	B	C	D*	E	F
33611	1.57	.71	.59	M6	.51	.12
33612	1.97	.83	.67	M6	.51	.12
33613	2.20	.87	.71	M6	.51	.12
33614	2.56	.91	.75	M8	.59	.16
33615	3.15	1.02	.83	M8	.59	.16
33616	3.54	1.10	.87	M10	.67	.20

*Dimension in millimeters

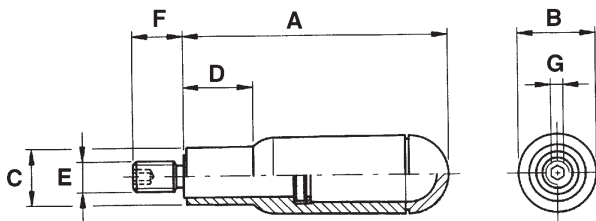
Revolving Handle ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Gray/Black Matte
- Stud: Zinc Plated Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E*	F	G
34471	2.56	.81	.59	.73	M6	.51	.12
34472	2.87	.87	.63	.75	M8	.59	.16
34473	3.39	.96	.69	.94	M8	.59	.16
34474	3.39	.96	.69	.94	M10	.67	.20
34475	3.74	1.04	.71	.98	M10	.67	.20

*Dimension in millimeters

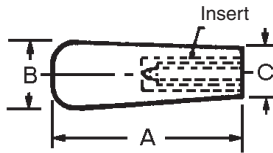




Plastic Heavy Duty Tapered Handle



- Use as grasp handles on portable tools or as machine shift levers
- Inserts: Brass
- 3D Solid Models are available in multiple formats from www.jergensinc.com



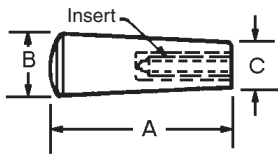
With Tapped Holes

Part Number	A	B	C	Insert Thread and Depth
32105	4 1/2	1 3/8	1	3/8-16 x 5/8
32106	4 1/2	1 3/8	1	3/8-24 x 5/8
32101	4 1/2	1 3/8	1	3/8-16 x 2
32107	4 1/2	1 3/8	1	1/2-13 x 5/8
32108	4 1/2	1 3/8	1	1/2-20 x 5/8
32103	4 1/2	1 3/8	1	1/2-13 x 1 1/4
32104	4 1/2	1 3/8	1	5/8-18 x 3/4

Plastic Light Duty Tapered Handle



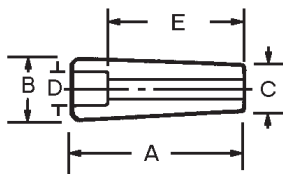
- Use as grasp handles on small tools, utensils, and gauges
- Inserts: Brass
- Through hole style for use with a socket head cap screw
- 3D Solid Models are available in multiple formats from www.jergensinc.com



With Tapped Holes

Part Number	A	B	C	Insert Thread and Depth
32111	2 5/8	1	5/8	1/4-20 x 7/16
32112	2 5/8	1	5/8	5/16-18 x 7/16
32117	2 5/8	1	5/8	3/8-16 x 1/2
32118	3 7/8	1 1/8	3/4	1/4-20 x 1/2
32119	3 7/8	1 1/8	3/4	5/16-18 x 7/16
32109	3 7/8	1 1/8	3/4	3/8-16 x 5/8
32102	3 7/8	1 1/8	3/4	3/8-16 x 2
32110*	3 7/8	1 1/8	3/4	.500/.510 x 2

* Cored Hole



With Through Hole

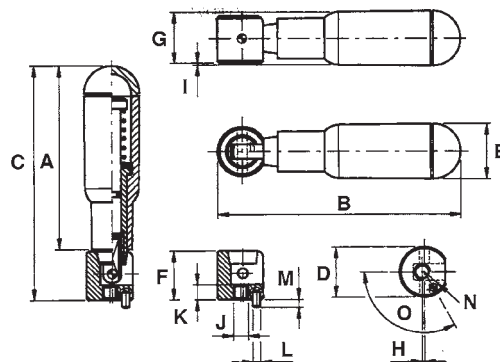
Part Number	A	B	C	D	E	Through Hole Size
32113	2 9/16	1	5/8	1/2	5/8	.251/.256
32114	3 11/16	1 1/8	3/4	3/4	2 5/8	.380/.385



Fold-Away Handle ELESA Original Design



- Material: High Impact Strength Technopolymer
- Finish: Gray/Black Matte
- Base: Sintered and Oxidized
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

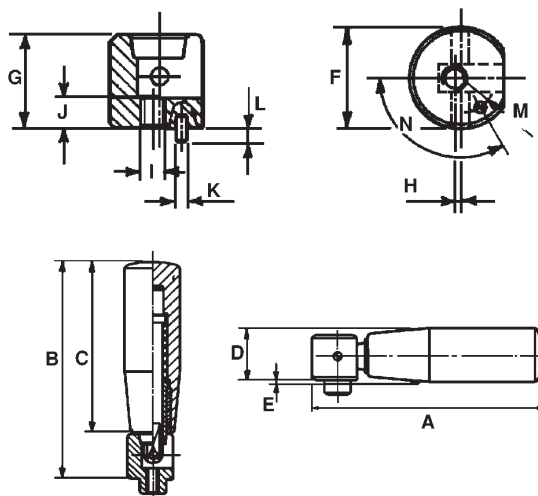


Part Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
34481	2.56	3.27	3.17	.63	.81	.59	.75	.04	.06	M4	.20	.12	.12	.22	90°
34482	2.87	3.58	3.48	.63	.87	.59	.77	.04	.10	M4	.20	.12	.12	.22	90°
34483	2.87	3.82	3.66	.79	.87	.77	.85	.02	.02	M6	.24	.12	.12	.22	120°
34484	3.39	4.33	4.17	.79	.96	.77	.91	.02	.06	M6	.24	.12	.12	.28	120°
34485	3.74	4.69	4.53	.79	1.04	.77	.94	.02	.10	M6	.24	.12	.12	.28	120°

Plastic Revolving Fold-Away Handle ELESA Original Design



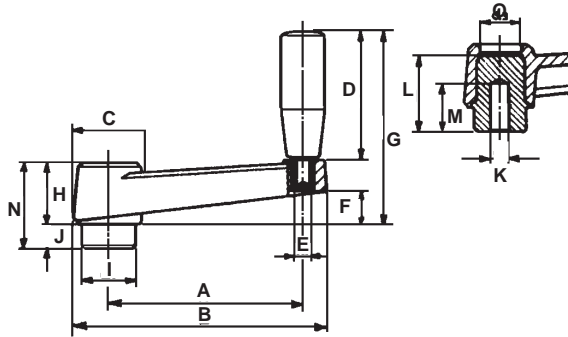
- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Stud: Black Oxide Steel Double Guide
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



Part Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N
33631	2.91	2.80	2.20	.75	.10	.63	.59	.04	M4	.20	.12	.12	.22	90°
33632	3.27	3.15	2.56	.79	.12	.63	.59	.04	M4	.20	.12	.12	.22	90°
33633	3.50	3.35	2.56	.87	.04	.79	.77	.02	M6	.24	.12	.12	.28	120°
33634	4.09	3.94	3.15	.94	.10	.79	.77	.02	M6	.24	.12	.12	.28	120°
33635	4.49	4.33	3.54	.94	.12	.79	.77	.02	M6	.24	.12	.12	.28	120°
33636	4.65	4.45	3.54	1.06	.04	1.02	.91	.06	M6	.28	.12	.12	.37	90°



Plastic Crank With Revolving Handle ELESA Original Design

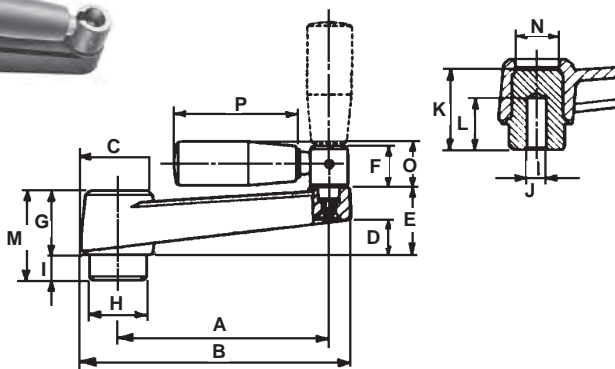


- Material: Glass-Fibre Reinforced Technopolymer
- Finish: Black Matte
- Ribbed Structure for heavy duty applications
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Available in Ergostyle®. See Ergostyle Section.
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	E*	F	G	H	I	J	K	L	M	N	O
33651	2.52	3.39	1.06	1.57	M6	.39	2.48	.91	.71	.39	.236	1.14	.71	1.30	.63
33652	3.15	4.13	1.18	1.97	M6	.51	2.99	1.02	.87	.39	.236	1.26	1.02	1.42	.67
33653	3.94	5.04	1.34	2.56	M8	.59	3.78	1.18	.94	.39	.315	1.46	1.10	1.57	.83
33654	5.11	6.37	1.57	3.15	M8	.79	4.52	1.37	1.10	.55	.394	1.73	1.18	1.93	.98
33655	6.30	7.80	1.77	3.54	M10	.91	5.12	1.57	1.34	.59	.394	1.93	1.18	2.17	1.06
33656	8.35	8.92	1.97	3.54	M10	1.02	5.35	1.77	1.57	.59	.472	2.09	1.18	2.36	1.22

*Dimension in millimeters

Plastic Crank With Revolving Fold-Away Handle ELESA Original Design



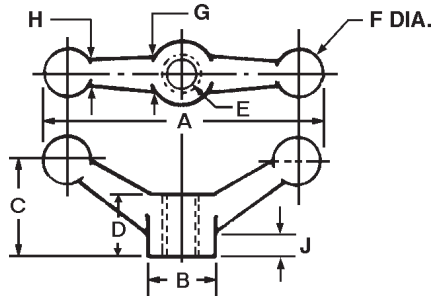
- Material: Glass-Fibre Reinforced Technopolymer
- Finish: Black Matte
- Ribbed Structure for heavy duty applications
- Hub: Black Oxide Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
33662	3.15	4.13	1.18	.51	1.06	.59	1.02	.87	.39	.236	1.26	1.02	1.42	.67	.74	2.20
33663	3.94	5.04	1.34	.59	1.22	.79	1.18	.94	.39	.315	1.46	1.10	1.57	.83	.86	2.56
33664	5.11	6.37	1.57	.78	1.37	.79	1.37	1.10	.55	.394	1.73	1.18	1.93	.98	.86	2.56
33665	6.30	7.80	1.77	.91	1.57	.79	1.57	1.34	.59	.394	1.93	1.18	2.17	1.06	.94	3.15
33666	8.35	8.92	1.97	1.02	1.81	.91	1.77	1.57	.59	.472	2.09	1.18	2.36	1.22	1.06	3.54

HANDLES, LEVERS & CRANKS



Aluminum & Malleable Speed Handle



- Material: 319 Aluminum
Malleable ASTM A47, GR32510
- Finish: Mill
- Thread: 2B-UNC or class 6h
- Can be used with rod ends for clamping tank covers, locking lids or any fast spin locking application
- With or without tapped or blank hole
- Three head widths
- 3D Solid Models are available in multiple formats from www.jergensinc.com
- "D" dimension is based on machined castings. It may be slightly greater on blanks.

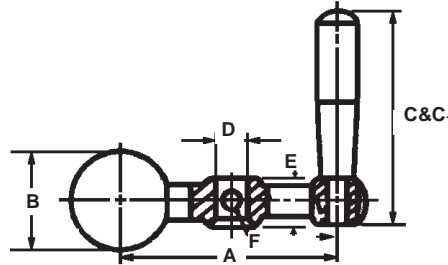
Part Number		A	B	C	D	E	Dia		G	H	J
Aluminum	Malleable						F	F			
39901	40301	4 1/2	1 1/8	1 1/2	1	Blank	11/16	3/4	7/16	1/2	
39902	40302	4 1/2	1 1/8	1 1/2	1	3/8-16	11/16	3/4	7/16	1/2	
39903	40303	4 1/2	1 1/8	1 1/2	1	1/2-13	11/16	3/4	7/16	1/2	
39904	40304	6	1 1/2	2 1/8	1 1/2	Blank	.94	7/8	5/8	3/4	
39905	40305	6	1 1/2	2 1/8	1 1/2	1/2-13	.94	7/8	5/8	3/4	
39906	40306	6	1 1/2	2 1/8	1 1/2	5/8-11	.94	7/8	5/8	3/4	
39907	40307	8 3/4	2	3	2	Blank	1 3/16	1.02	7/8	.94	
—	40308	8 3/4	2	3	2	3/4-10	1 3/16	1.02	7/8	.94	

Part Number		A	B	C	D	E*	Dia		G	H	J
Aluminum	Malleable						F	F			
39901	40301	113	28	38	25	Blank	17	19	11	13	
39952	40352	113	28	38	25	M10	17	19	11	13	
39953	40353	113	28	38	25	M12	17	19	11	13	
39904	40304	150	38	53	38	Blank	24	22	16	19	
39955	40355	150	38	53	38	M12	24	22	16	19	
39956	40356	150	38	53	38	M16	24	22	16	19	
39907	40307	219	50	75	50	Blank	30	26	22	24	
—	40358	222	50	75	50	M20	30	26	22	24	

*Dimension in millimeters



Steel Solid and Revolving Balanced Crank Handle



SOLID HANDLE DOES NOT REVOLVE

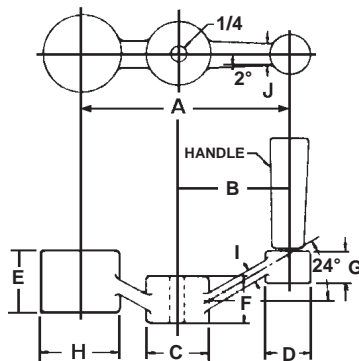
- Material: Steel
- Finish: Bright Chrome
- 3D Solid Models are available in multiple formats from www.jergensinc.com
- Revolving Handle is a replacement set for Bridgeport Style Mills

Part Number		A	B	C	C [†]	Reamed		Center Hole*
Solid	Revolving					D	E	F
11401	—	2	13/16	2	—	5/16	7/16	1/8
11402	11412	2 1/2	1	2 1/2	2 3/4	5/16	9/16	1/8
11403	11413	3 1/8	1 1/4	3 1/4	3 1/2	3/8	11/16	5/32
11404	11414	4	1 1/4	3 1/4	3 1/2	3/8	11/16	5/32
11405	11415	5	1 1/2	4	4 3/16	1/2	7/8	3/16
11406	—	6 1/8	1 1/2	4	—	1/2	7/8	3/16

* Center Hole is cross drilled on one side.

† Dimension for Revolving Style

Aluminum Balanced Crank Handle



Jergens Aluminum Balanced Crank Handles are good replacements for heavier steel handles. The light-weight characteristics make table positioning easier as no fall-off occurs after position has been established. Light-weight Aluminum Balanced Crank Handles are ideal for applications such as optical jig boring equipment and inspection instruments.

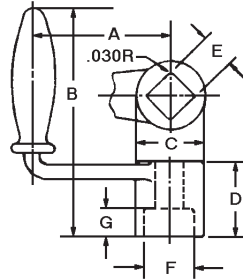
- Material: 319 Aluminum Alloy
- Finish: Grey Enamel
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	E	F	G	H	I	J	Handle	Wt. (lbs)
11301	2 5/16	1 1/4	3/4	1/2	11/16	1/2	7/16	7/8	3/16	5/16	21902	.14
11302	3 1/16	1 11/16	1	5/8	7/8	5/8	1/2	1 1/4	1/4	3/8	21903	.30
11303	3 15/16	2 1/8	1 1/8	3/4	1 3/16	3/4	5/8	1 3/8	5/16	7/16	21904	.54
11304	4 11/16	2 9/16	1 3/8	7/8	1 5/16	1	3/4	1 5/8	5/16	1/2	21905	.75
11305	5 11/16	3 1/16	1 3/8	7/8	1 1/2	1	1	1 3/4	3/8	9/16	21905	.90

HANDLES, LEVERS & CRANKS



Forged Crank Handle



- Material: C-1021 Forging
- Finish: Mill
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Blank Crank Handles

Part Number	A	B	C	D	Wt. (lbs)
20501	2 1/2	3 3/4	1	1/4	.60
20503	3	4 1/4	1 1/4	1 1/2	.97
20504	3 1/2	4 3/16	1 1/16	1 5/16	.90
20505	4	4 1/2	1 1/4	1 3/8	1.14
20506	5	4 15/16	1 1/4	1 13/16	1.62
20507	6	5 1/16	1 1/4	1 15/16	1.62
20508	7	5 7/16	1 3/8	2 1/16	1.95
20509	8	6 1/16	1 9/16	2 7/16	3.00
20510	9 1/8	6 1/4	1 1/2	2 1/2	3.25
20511	10	7	1 3/4	3	4.37

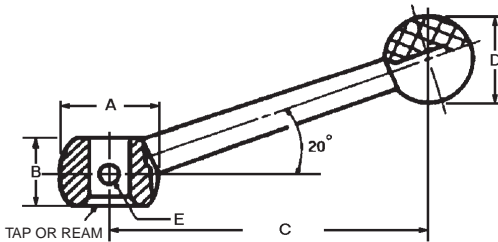
Finished Crank Handles

Part Number	E	F	G	Wt. (lbs)
20301	1/2 Sq.	3/4	3/16	.50
20303	9/16 Sq.	3/4	1/4	.82
20304	1/2 Sq.	11/16	1/4	.74
20305	9/16 Sq.	3/4	5/16	.97
20306	5/8 Sq.	7/8	3/8	1.37
20307	11/16 Sq.	15/16	3/8	1.25
20308	3/4 Sq.	1 1/16	1/2	1.67
20309	7/8 Sq.	1 1/4	1/2	2.44
20310	7/8 Sq.	1 1/4	1/2	2.60
20311	1 Sq.	1 3/8	9/16	3.62

Steel Clamp Lever



- Material: Lever, Low Carbon Steel
Ball, Plastic
- Finish: Lever, Satin Chrome Plate
Ball, Black



Part Number	Hub Style	A	B	C	D	E
16601	1/4 Ream	5/8	7/16	2 1/4	3/4	1/8
16602	5/16-18 Tap	5/8	7/16	2 1/4	3/4	—
16603	5/16 Ream	25/32	9/16	2 3/4	13/16	1/8
16604	3/8-16 Tap	25/32	9/16	2 3/4	13/16	—
16605	3/8 Ream	1	3/4	3 1/2	15/16	5/32
16606	1/2-13 Tap	1	3/4	3 1/2	15/16	—
16607	1/2 Ream	1 1/4	7/8	4 3/8	1 1/4	3/16
16608	5/8-11 Tap	1 1/4	7/8	4 3/8	1 1/4	—
16609	5/8 Ream	1 9/16	1 1/8	5 1/2	1 1/2	1/4
16610	3/4-10 Tap	1 9/16	1 1/8	5 1/2	1 1/2	—

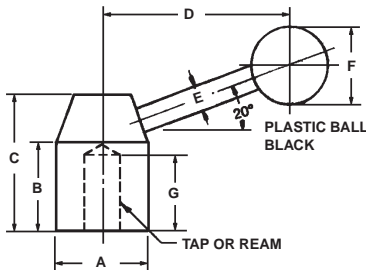


Single Handle Locking Lever



A fast and efficient means of clamping and locking on jigs, fixtures, machine tools and special applications where high clamping force is necessary.

- Material: Low Carbon Steel
- Finish: Zinc Plate
- Thread: Class 2B-UNC
- Handles: Copper Brazed into the hubs
- Ream: + .001
- .000
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Part Number	A	B	C	D	E	F	G	Hub Style
28901	1	1	1 1/2	2	1/4	1	—	Blank
28902	1	1	1 1/2	2	1/4	1	11/16	3/8-16 Tap
28903	1	1	1 1/2	2	1/4	1	13/16	3/8 Ream
28904	1 1/4	1 1/8	1 11/16	3	3/8	1	—	Blank
28905	1 1/4	1 1/8	1 11/16	3	3/8	1	3/4	1/2-13 Tap
28906	1 1/4	1 1/8	1 11/16	3	3/8	1	7/8	1/2 Ream
28907	1 1/2	1 1/4	2	4	1/2	1 3/8	—	Blank
28908	1 1/2	1 1/4	2	4	1/2	1 3/8	15/16	5/8-11 Tap
28909	1 1/2	1 1/4	2	4	1/2	1 3/8	1 1/16	5/8 Ream

Metric

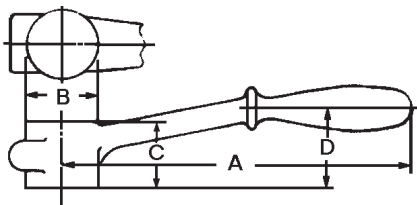
Part Number*	A	B	C	D	E	F	G	Hub Style
28901	25	25	38	50	6	25	-	Blank
28952	25	25	38	50	6	25	17	M8 Tap
28953	25	25	38	50	6	25	20	8mm Ream
28904	31	28	42	75	9	25	-	Blank
28955	31	28	42	75	9	25	19	M12 Tap
28956	31	28	42	75	9	25	22	12mm Ream
28907	38	31	50	100	13	34	-	Blank
28958	38	31	50	100	13	34	23	M16 Tap
28959	38	31	50	100	13	34	27	16mm Ream

*Dimensions in millimeters

Aluminum & Malleable Offset Handle



- Material: 319 Aluminum Alloy
Malleable ASTM A47, GR32510
- Finish: Mill
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Aluminum

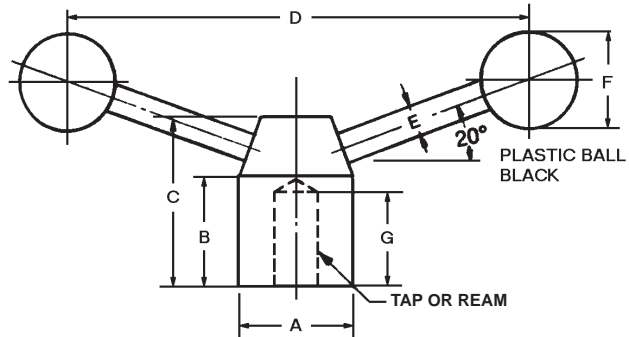
Part Number	A	B	C	D	Wt. (lbs)
29901	4 1/2	1	3/4	1	.15
29902	6	1 1/2	1 1/4	1 3/4	.44
29903	11	1 5/8	1 3/8	1 15/16	.78

Malleable

Part Number	Wt. (lbs)
30101	.45
30102	1.24
30103	2.25



Double Handle Locking Lever



- Material: Low Carbon Steel
- Finish: Zinc Plate
- Thread: Class 2B-UNC or Class 6h
- Handles: Copper brazed into the hubs
- Ream: + .001
- .000
- Metric Ream:
+ .025
- .000
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	E	F	G	Hub Style
28910	1	1	1 1/2	4	1/4	1	—	Blank
28911	1	1	1 1/2	4	1/4	1	11/16	3/8-16 Tap
28912	1 1/4	1 1/8	1 11/16	6	3/8	1	—	Blank
28913	1 1/4	1 1/8	1 11/16	6	3/8	1	3/4	1/2-13 Tap
28914	1 1/2	1 1/4	2	8	1/2	1 3/8	—	Blank
28915	1 1/2	1 1/4	2	8	1/2	1 3/8	15/16	5/8-11 Tap
28916	1 1/2	1 1/4	2	8	1/2	1 3/8	1 1/16	5/8 Ream

Locking levers with double handles are used where it is advantageous to clamp and lock quickly with high clamping force.

Metric

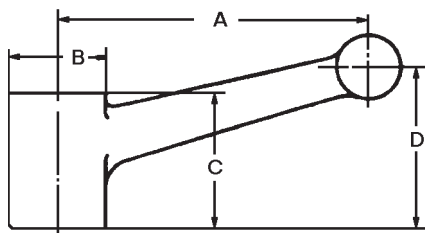
Part Number*	A	B	C	D	E	F	G	Hub Style
28910	25	25	38	100	6	25	—	Blank
28961	25	25	38	100	6	25	17	M8 Tap
28912	31	28	42	150	9	25	—	Blank
28963	31	28	42	150	9	25	19	M12 Tap
28914	38	31	50	200	13	34	—	Blank
28965	38	31	50	200	13	34	23	M16 Tap
28966	38	31	50	200	13	34	27	16mm Ream

*Dimensions in millimeters

Aluminum & Malleable Clamping Levers



- Material: 319 Aluminum Alloy
Malleable ASTM A47, GR32510
- Finish: Mill
- 3D Solid Models are available in multiple formats from www.jergensinc.com



Aluminum

Part Number	A	B	C	D	Wt. (lbs)
16501	2	1	1	1 1/8	.10
16502	4	1 1/2	2	2 1/8	.53
16503	5 9/64	2	2 3/8	2 53/64	1.00

Malleable

Number	Wt. (lbs)
16701	.30
16702	1.50
16703	2.80



Metal Adjustable Handles



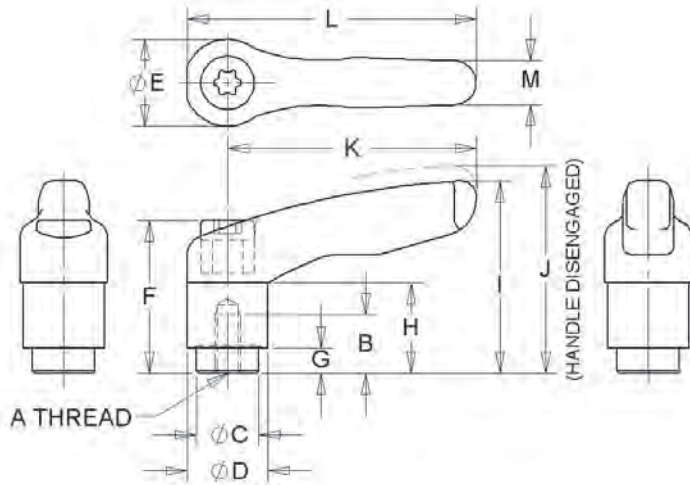
For adjustable clamping or tightening controls for limited operating angles. Adjustment of handle position occurs by pulling up on the handle, which disengages the teeth from the locking mechanism, and turning to the desired position. Releasing the handle allows for tightening or loosening.

Tapped Holes:

- Material: Handle, Die Cast Zinc
- Finish: Handle, Plastic Coated
Steel Parts, Black Oxide
- Color: Black Satin Finish

Stainless Steel Tapped Holes:

- Material: Handle, Die Cast Zinc Steel Parts, 303 Stainless Steel
- Finish: Handle, Plastic Coated Steel Parts, Bright
- Color: Black Satin Finish



With Tapped Holes

Tapped Part Number	Stainless Tapped Part Number	A	B	C	D	E	F	G	H	I	J	K	L	M
40501	-	8-32	0.35	0.39	0.51	0.57	0.94	0.16	0.59	1.16	1.31	1.57	1.85	0.29
-	40602	10-24	0.35	0.39	0.51	0.57	0.94	0.15	0.59	1.16	1.31	1.57	1.85	0.29
40502	-	10-24	0.35	0.39	0.51	0.57	0.94	0.16	0.59	1.16	1.31	1.57	1.85	0.29
-	40603	1/4-20	0.35	0.39	0.51	0.57	0.94	0.15	0.59	1.16	1.31	1.57	1.85	0.29
40503	-	1/4-20	0.35	0.39	0.51	0.57	0.94	0.16	0.59	1.16	1.31	1.57	1.85	0.29
40504	40604	1/4-20	0.47	0.53	0.70	0.76	1.14	0.25	0.68	1.61	1.77	2.55	2.95	0.37
40505	40605	5/16-18	0.47	0.53	0.70	0.76	1.14	0.25	0.68	1.61	1.77	2.55	2.95	0.37
-	40606	5/16-18	0.55	0.62	0.84	0.90	1.47	0.39	0.94	2.08	2.24	3.14	3.60	0.45
40506	-	5/16-18	0.55	0.70	0.84	0.90	1.47	0.39	0.94	2.08	2.24	3.14	3.60	0.43
-	40607	3/8-16	0.55	0.62	0.84	0.90	1.47	0.39	0.94	2.08	2.24	3.14	3.60	0.45
40507	-	3/8-16	0.55	0.70	0.84	0.90	1.47	0.39	0.94	2.08	2.24	3.74	3.60	0.43
-	40608	3/8-16	0.66	0.74	1.00	1.08	1.67	0.39	1.06	2.40	2.55	3.74	4.28	0.53
40508	-	3/8-16	0.66	0.70	1.00	1.08	1.67	0.39	1.06	2.40	2.55	3.74	4.25	0.51
-	40609	1/2-13	0.66	0.74	1.00	1.08	1.67	0.39	1.06	2.40	2.55	3.74	4.28	0.53
40509	-	1/2-13	0.66	0.70	1.00	1.08	1.67	0.39	1.06	2.40	2.55	3.74	4.25	0.51
40510	40610	1/2-13	0.90	0.90	1.18	1.27	2.00	0.47	1.29	2.85	3.05	4.32	4.97	0.61
40511	40611	5/8-11	0.90	0.90	1.18	1.27	2.00	0.47	1.29	2.85	3.05	4.32	4.97	0.61

Jergens offers 3D models

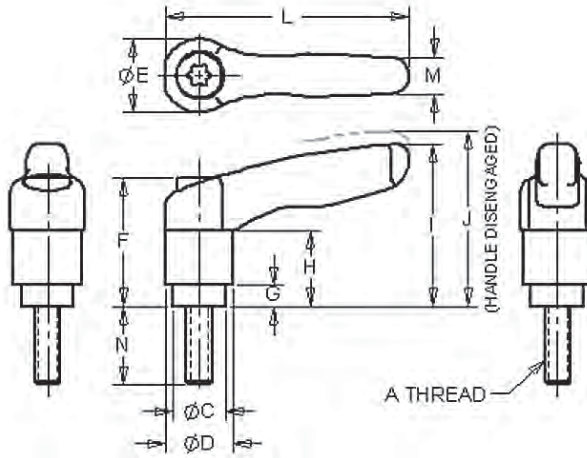
for all handles, knobs and handwheels
at www.jergensinc.com



Metal Adjustable Handles



For adjustable clamping or tightening controls for limited operating angles. Adjustment of handle position occurs by pulling up on the handle, which disengages the teeth from the locking mechanism, and turning to the desired position. Releasing the handle allows for tightening or loosening.



- Material: Handle, Die Cast Zinc
- Finish: Handle, Plastic Coated
Steel Parts, Black Oxide
- Color: Black Satin Finish

Part Number	Thread Size A	Thread Length N	C	D	E	F	G	H	I	J	L	M
40521	10-24	.59	.39	.51	.57	.94	.16	.59	1.16	1.31	1.85	.29
40522	10-24	.98	.39	.51	.57	.94	.16	.59	1.16	1.31	1.85	.29
40523	1/4-20	.78	.39	.51	.57	.94	.16	.59	1.16	1.31	1.85	.29
40524	1/4-20	.98	.39	.51	.57	.94	.16	.59	1.16	1.31	1.85	.29
40525	1/4-20	1.57	.39	.51	.57	.94	.16	.59	1.16	1.31	1.85	.29
40526	1/4-20	.78	.53	.70	.76	1.14	.25	.68	1.61	1.77	2.95	.37
40527	1/4-20	.98	.53	.70	.76	1.14	.25	.68	1.61	1.77	2.95	.37
40528	1/4-20	1.57	.53	.70	.76	1.14	.25	.68	1.61	1.77	2.95	.37
40529	5/16-18	.78	.53	.70	.76	1.14	.25	.68	1.61	1.77	2.95	.37
40530	5/16-18	.98	.53	.70	.76	1.14	.25	.68	1.61	1.77	2.95	.37
40531	5/16-18	1.57	.53	.70	.76	1.14	.25	.68	1.61	1.77	2.95	.37
40532	3/8-16	.98	.70	.84	.90	1.47	.39	.94	2.08	2.24	3.60	.43
40533	3/8-16	1.57	.70	.84	.90	1.47	.39	.94	2.08	2.24	3.60	.43
40534	3/8-16	1.96	.70	.84	.90	1.47	.39	.94	2.08	2.24	3.60	.43
40535	3/8-16	.98	.70	1.00	1.08	1.67	.39	1.06	2.40	2.55	4.25	.51
40536	3/8-16	1.57	.70	1.00	1.08	1.67	.39	1.06	2.40	2.55	4.25	.51
40537	3/8-16	1.96	.70	1.00	1.08	1.67	.39	1.06	2.40	2.55	4.25	.51
40538	1/2-13	.98	.70	1.00	1.08	1.67	.39	1.06	2.40	2.55	4.25	.51
40539	1/2-13	1.57	.70	1.00	1.08	1.67	.39	1.06	2.40	2.55	4.25	.51
40540	1/2-13	1.96	.70	1.00	1.08	1.67	.39	1.06	2.40	2.55	4.25	.51
40541	1/2-13	.98	.90	1.18	1.27	2.00	.47	1.29	2.85	3.05	4.97	.61
40542	1/2-13	1.57	.90	1.18	1.27	2.00	.47	1.29	2.85	3.05	4.97	.61
40543	1/2-13	1.96	.90	1.18	1.27	2.00	.47	1.29	2.85	3.05	4.97	.61
40544	5/8-11	1.37	.90	1.18	1.27	2.00	.47	1.29	2.85	3.05	4.97	.61
40545	5/8-11	1.77	.90	1.18	1.27	2.00	.47	1.29	2.85	3.05	4.97	.61
40546	5/8-11	2.16	.90	1.18	1.27	2.00	.47	1.29	2.85	3.05	4.97	.61
34360	M5	25	10	13	14	24.5	4	14.5	30	33	37	7
34361	M5	35	10	13	14	24.5	4	14.5	30	33	37	7

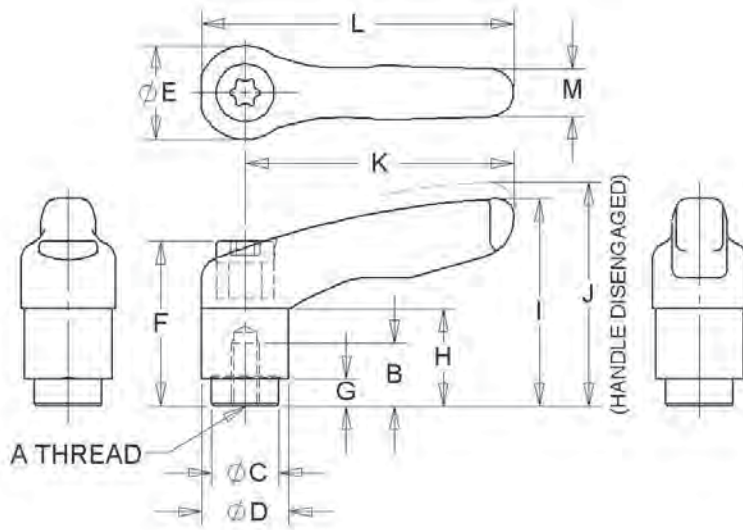
HANDLES, LEVERS & CRANKS



Metal Adjustable Handles



For adjustable clamping or tightening controls for limited operating angles. Adjustment of handle position occurs by pulling up on the handle, which disengages the teeth from the locking mechanism, and turning to the desired position. Releasing the handle allows for tightening or loosening.



- Handle: Zinc Die Cast, Powder Coated, Satin Black
- Bolts & Internal Parts: Steel Black Oxide Finish; 303 Stainless Steel

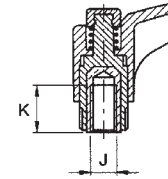
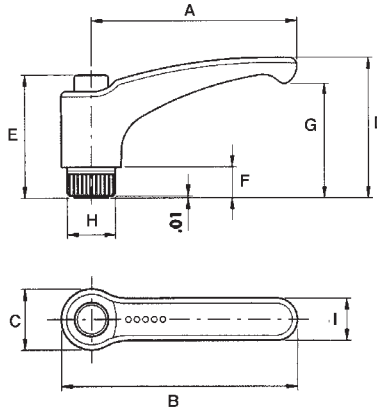
With Stainless Steel Stud

Part Number	Thread Size A	Thread Length N	P	B	C	D	E	F	G	H	I	J	K	L	M
40621	10-24	.59	.15	.35	.39	.51	.57	.94	.15	.59	1.16	1.31	1.57	1.85	.29
40623	1/4-20	.78	.15	.35	.39	.51	.57	.94	.15	.59	1.16	1.31	1.57	1.85	.29
40625	1/4-20	1.57	.25	.47	.53	.70	.76	1.14	.25	.68	1.61	1.77	2.55	2.95	.37
40630	5/16-18	.78	.25	.47	.53	.70	.76	1.14	.25	.68	1.61	1.77	2.55	2.95	.37
40631	5/16-18	1.57	.25	.47	.53	.70	.76	1.14	.25	.68	1.61	1.77	2.55	2.95	.37
40632	3/8-16	.98	.39	.55	.62	.84	.90	1.47	.39	.94	2.08	2.24	3.14	3.60	.45
40634	3/8-16	1.96	.39	.55	.62	.84	.90	1.47	.39	.94	2.08	2.24	3.14	3.60	.45
40641	1/2-13	.98	.39	.66	.74	1.00	1.08	1.67	.39	1.06	2.40	2.55	3.74	4.28	.53
40643	1/2-13	1.96	.39	.66	.74	1.00	1.08	1.67	.39	1.06	2.40	2.55	3.74	4.28	.53
40644	5/8-11	1.57	.47	.90	.90	1.18	1.27	2.00	.47	1.29	2.85	3.05	4.32	4.97	.61
40646	5/8-11	2.36	.47	.90	.90	1.18	1.27	2.00	.47	1.29	2.85	3.05	4.32	4.97	.61

HANDLES, LEVERS & CRANKS



**Adjustable Handle
ELESA Original Design**



- Material: Glass Fibre Reinforced Technopolymer
- Finish: Body - Gray/Black Matte
Push Button - Orange
- Insert: Brass With Tapped Blind Hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Optional button colors available upon request (Black, Grey, Yellow, Blue & Red)

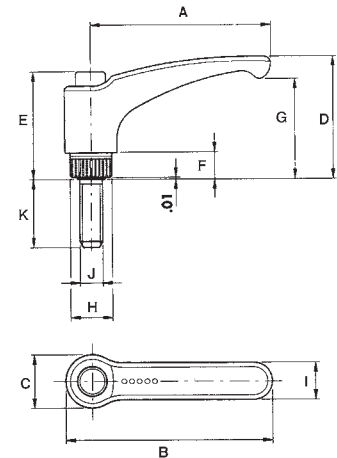
With Brass Insert

Brass Insert	Stainless Insert	A	B	C	D	E	F	G	H	I	J	K
34401	—	1.73	2.05	.61	1.28	1.16	.24	.98	.47	.43	10-24	.39
34402	34412	1.73	2.05	.61	1.28	1.16	.24	.98	.47	.43	1/4-20	.39
34403	—	2.48	2.89	.75	1.69	1.48	.31	1.36	.59	.53	1/4-20	.47
34404	34414	2.48	2.89	.75	1.69	1.48	.31	1.36	.59	.53	5/16-18	.51
34406	—	3.07	3.56	.91	2.13	1.85	.47	1.73	.75	.63	3/8-16	.67
34407	34416	3.07	3.56	.91	2.13	1.85	.47	1.73	.75	.63	1/2-13	.67
34408	—	3.74	4.29	1.04	2.54	2.15	.51	2.09	.85	.71	3/8-16	.79
34409	—	3.74	4.29	1.04	2.54	2.15	.51	2.09	.85	.71	1/2-13	.79

**Adjustable Handle With Stud
ELESA Original Design**



- Material: Glass Fibre Reinforced Technopolymer
- Finish: Body - Gray/Black Matte
Push Button - Orange
- Stud: Zinc Plated Steel With Chamfered End.
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Optional button colors available upon request (Black, Grey, Yellow, Blue & Red)

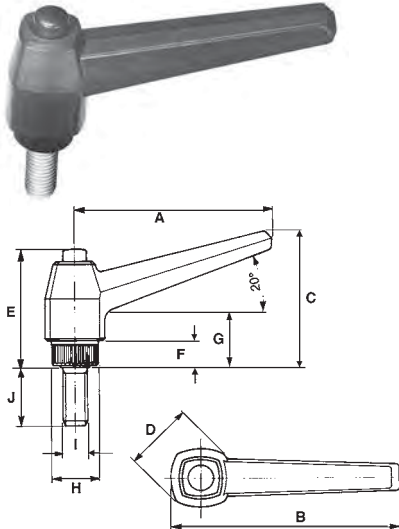


Part Number	A	B	C	D	E	F	G	H	I	J	K
34421	1.73	2.05	.61	1.28	1.16	.24	.98	.47	.43	10-24	.75
34422	1.73	2.05	.61	1.28	1.16	.24	.98	.47	.43	1/4-20	.75
34423	1.73	2.05	.61	1.28	1.16	.24	.98	.47	.43	1/4-20	1
34424	2.48	2.89	.75	1.69	1.48	.31	1.36	.59	.53	5/16-18	.75
34425	2.48	2.89	.75	1.69	1.48	.31	1.36	.59	.53	5/16-18	1
34426	2.48	2.89	.75	1.69	1.48	.31	1.36	.59	.53	5/16-18	1.2
34427	3.07	3.56	.91	2.13	1.85	.47	1.73	.75	.63	3/8-16	1
34428	3.07	3.56	.91	2.13	1.85	.47	1.73	.75	.63	3/8-16	1.2
34429	3.07	3.56	.91	2.13	1.85	.47	1.73	.75	.63	3/8-16	1.5

HANDLES, LEVERS & CRANKS



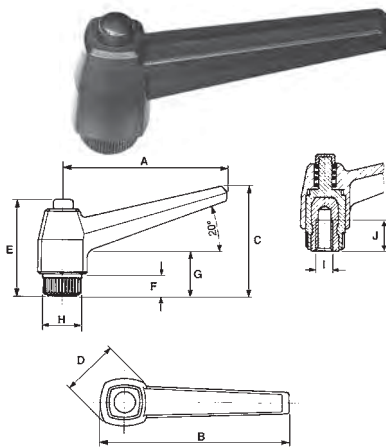
Plastic Button Head Adjustable Handle With Stud ELESA Original Design



- Material: Glass-Fibre Reinforced Technopolymer Lever Body
- Finish: Black Matte
- Available with a Zinc Plated Steel Stud with a chamfered flat end or with a Brass Insert with a tapped blind hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Available In Ergostyle®. See Ergostyle Section.
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Part Number	A	B	C	D	E	F	G	H	I	J
34311	1.65	1.96	1.25	0.70	1.14	0.23	0.55	0.47	10-24	0.750
34312	1.65	1.96	1.25	0.70	1.14	0.23	0.55	0.47	1/4-20	0.500
34313	1.65	1.96	1.25	0.70	1.14	0.23	0.55	0.47	1/4-20	0.750
34314	1.65	1.96	1.25	0.70	1.14	0.23	0.55	0.47	1/4-20	1.00
34315	1.65	1.96	1.25	0.70	1.14	0.23	0.55	0.47	1/4-20	1.50
34321	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	1/4-20	0.750
34322	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	1/4-20	1.00
34323	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	1/4-20	1.50
34324	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	5/16-18	0.500
34325	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	5/16-18	0.750
34326	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	5/16-18	1.00
34327	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	5/16-18	1.25
34328	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	5/16-18	1.50
34329	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	5/16-18	2.00
34331	3.15	3.63	2.13	1.10	1.85	0.39	0.86	0.75	3/8-16	0.750
34332	3.15	3.63	2.13	1.10	1.85	0.39	0.86	0.75	3/8-16	1.00
34333	3.15	3.63	2.13	1.10	1.85	0.39	0.86	0.75	3/8-16	1.25
34334	3.15	3.63	2.13	1.10	1.85	0.39	0.86	0.75	3/8-16	1.50
34335	3.15	3.63	2.13	1.10	1.85	0.39	0.86	0.75	3/8-16	2.00
34337	3.15	3.63	2.13	1.10	1.85	0.39	0.86	0.75	1/2-13	1.25
34338	3.15	3.63	2.13	1.10	1.85	0.39	0.86	0.75	1/2-13	1.50
34339	3.15	3.63	2.13	1.10	1.85	0.39	0.86	0.75	1/2-13	2.00
34341	3.94	4.50	2.55	1.30	2.12	0.47	0.98	0.98	1/2-13	1.25
34342	3.94	4.50	2.55	1.30	2.12	0.47	0.98	0.98	1/2-13	1.50
34343	3.94	4.50	2.55	1.30	2.12	0.47	0.98	0.98	1/2-13	2.00

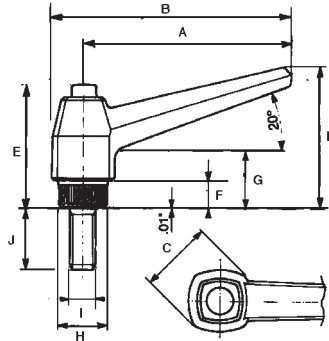
Plastic Button Head Tapped Adjustable Handle



Part Number	A	B	C	D	E	F	G	H	I	J
34301	1.65	1.96	1.25	0.70	1.14	0.23	0.55	0.47	10-24	0.39
34302	1.65	1.96	1.25	0.70	1.14	0.23	0.55	0.47	1/4-20	0.39
34303	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	1/4-20	0.47
34304	2.48	2.87	1.69	0.90	1.45	0.31	0.66	0.60	5/16-18	0.51
34305	3.15	3.62	2.12	1.10	1.85	0.39	0.86	0.74	5/16-18	0.71
34306	3.15	3.62	2.12	1.10	1.85	0.39	0.86	0.74	3/8-16	0.67
34307	3.15	3.62	2.12	1.10	1.85	0.39	0.86	0.74	1/2-13	0.67
34308	3.94	4.48	2.55	1.30	2.12	0.47	0.98	0.98	3/8-16	0.79
34309	3.94	4.48	2.55	1.30	2.12	0.47	0.98	0.98	1/2-13	0.79



Plastic Adjustable Handle With Stainless Steel Stud ELESA Original Design



- Material: Lever Body, Glass-Fibre Reinforced Technopolymer
- Finish: Lever Body, Black Matte
- Stainless Steel Stud with chamfered flat end
- Retaining Pin, Glass-Fibre Reinforced Technopolymer integrally molded with the Locking Element
- Push Button, Black Matte Technopolymer
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	F	G	H	I	J
34145	2.48	2.87	0.91	1.69	1.46	0.31	0.67	0.59	5/16-18	0.750
34146	2.48	2.87	0.91	1.69	1.46	0.31	0.67	0.59	5/16-18	1.000
34147	2.48	2.87	0.91	1.69	1.46	0.31	0.67	0.59	5/16-18	1.250

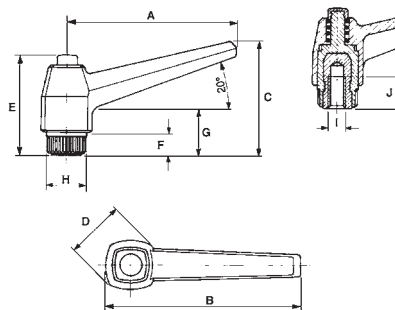
Metric

Part Number*	A	B	C	D	E	F	G	H	I	J
34156	42	50	32	18	29	6	14	12	M6	16
34157	63	73	43	23	37	8	17	15	M8	20
34158	80	92	51	28	47	10	22	19	M10	20
34159	80	92	54	28	47	10	22	19	M12	30

*Dimensions in millimeters

Plastic Button Head Adjustable Tapped Handle With Stainless Steel Insert Metric ELESA Original Design

Metric
ELESA Original Design



- Material: Glass-Fibre Reinforced Technopolymer Lever Body
- Finish: Black Matte
- Locking Element: Black, Glass-Fibre Reinforced Technopolymer
- Insert: 303 Stainless Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number*	A	B	C	D	E	F	G	H	I	J
34151	42	50	32	18	29	6	14	12	M6	10
34152	63	73	43	23	37	8	17	15	M8	13
34153	80	92	54	28	47	10	22	19	M10	17

*Dimensions in millimeters

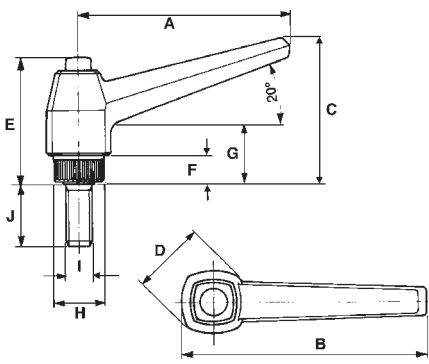


Plastic Button Head Adjustable Handle With Stud

Metric ELESA Original Design

For adjustable clamping or tightening controls when the operating angle is limited. To adjust during the locking operation, lift the lever in order to disengage the teeth from the locking element and change lever position. The return spring automatically engages the teeth again.

- Material: Glass-Fibre Reinforced Technopolymer Lever Body
- Finish: Black Matte
- Locking Element: Black, Glass-Fibre Reinforced Technopolymer
- Stud: Zinc Plated Steel
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



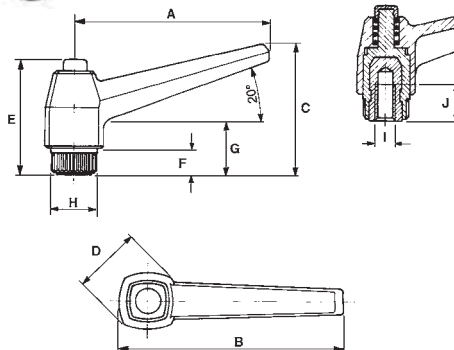
Part Number*	A	B	C	D	E	F	G	H	I	J
34362	42	50	32	18	29	6	14	12	M6	16
34363	42	50	32	18	29	6	14	12	M6	20
34364	42	50	32	18	29	6	14	12	M6	30
34365	42	50	32	18	29	6	14	12	M6	40
34374	63	73	43	23	37	8	17	15	M8	16
34375	63	73	43	23	37	8	17	15	M8	20
34377	63	73	43	23	37	8	17	15	M8	30
34378	63	73	43	23	37	8	17	15	M8	40
34379	63	73	43	23	37	8	17	15	M8	50
34381	80	92	54	28	47	10	22	19	M10	20
34383	80	92	54	28	47	10	22	19	M10	30
34385	80	92	54	28	47	10	22	19	M10	50
34387	80	92	54	28	47	10	22	19	M12	30
34388	80	92	54	28	47	10	22	19	M12	40
34391	100	114	65	33	54	12	25	25	M12	30
34393	100	114	65	33	54	12	25	25	M12	50

*Dimensions in millimeters

Plastic Button Head Tapped Adjustable Handle

Metric ELESA Original Design

- Material: Glass-Fibre Reinforced Technopolymer Lever Body
- Finish: Black Matte
- Locking Element: Black, Glass-Fibre Reinforced Technopolymer
- Insert: Brass
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



Part Number*	A	B	C	D	E	F	G	H	I	J
34352	42	50	32	18	29	6	14	12	M6	10
34354	63	73	43	23	37	8	17	15	M8	13
34355	80	92	54	28	47	10	22	19	M8	20
34356	80	92	54	28	47	10	22	19	M10	18
34357	80	92	54	28	47	10	22	19	M12	17
34359	100	114	65	33	54	12	25	25	M12	20

*Dimensions in millimeters

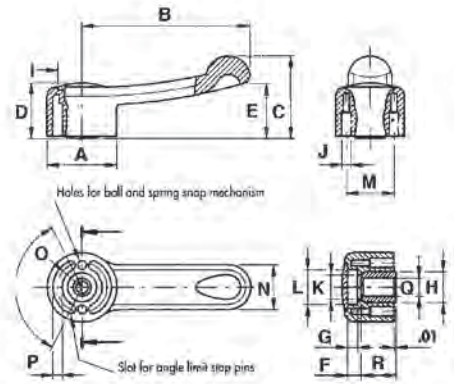
HANDLES, LEVERS & CRANKS



Control Lever ELESA Original Design

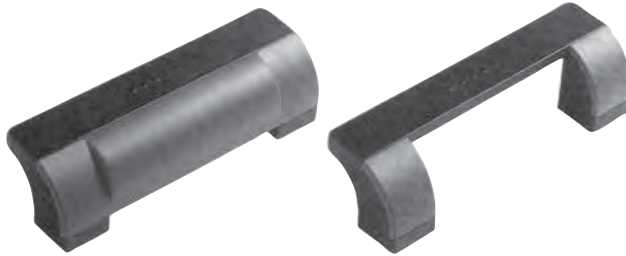


- Material: Glass Fibre Reinforced Technopolymer
- Finish: Gray/Black Matte
- Removable Boss Caps
- Adaptable For Click Positioning Applications
- Slot Provided For Angle Limit Stop Pins
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Optional cap colors available upon request (Black, Grey, Yellow, Blue & Red)



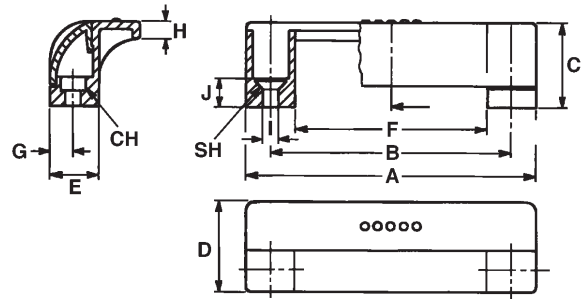
Part Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
34460	1.46	3.35	1.56	1.04	1.02	.30	.20	.71	1.02	.20	.53	.79	1.02	.91	.54	.17	.315	.69
34461	1.81	4.33	2.13	1.38	1.42	.39	.31	.87	1.24	.24	.67	1.00	1.26	1.14	.69	.26	.472	.87

Machine Guard Handles ELESA Original Design



Closed Style

Open Style



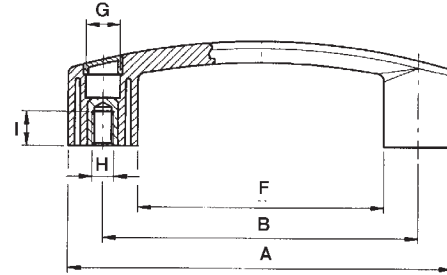
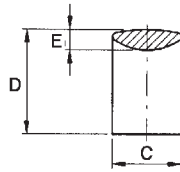
- Material: Glass-Fibre Reinforced Technopolymer
- Finish: Gray/Black Matte
- Handle Shank, Matte Reinforced Polyamide Technopolymer
- Safety Cover Caps, Technopolymer Orange
- Cylindrical Socket Head (CH) or Countersunk Head (SH) Self-Tapping Screws (use 1/4-20 screws)
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Optional cap colors available upon request (Black, Grey, Yellow, Blue & Red)

Part Number	Mounting Style	A	B	C	D	E	F	G	H	I	J
34240	CH	4.49	3.68	1.30	1.38	.75	2.91	.37	.28	.26	.43
34241	SH	4.49	3.68	1.30	1.38	.75	2.91	.37	.28	.26	.43
34242*	CH	4.49	3.68	1.30	1.38	.75	2.91	.37	.28	.26	.43
34243*	SH	4.49	3.68	1.30	1.38	.75	2.91	.37	.28	.26	.43

* Open Style



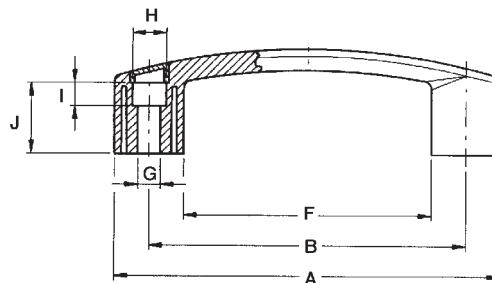
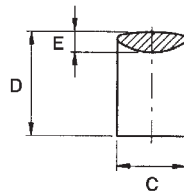
Back Mounted Bridge Handle ELESA Original Design



- Material: Glass Fibre Reinforced Technopolymer
- Finish: Gray/Black Matte
- Inserts: Tapped with Blind Hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Optional cap colors available upon request (Black, Grey, Yellow, Orange, Blue & Red)

Part Number	A	B	C	D	E	F	G	H	I
33875	4.57	3.68	0.87	1.38	0.29	2.83	0.51	1/4-20	0.47
34469	5.67	4.61	1.02	1.54	0.33	3.62	0.53	5/16-18	0.51
33876	7.01	5.91	1.10	1.77	0.37	4.80	0.53	5/16-18	0.51

Front Mounted Bridge Handle ELESA Original Design



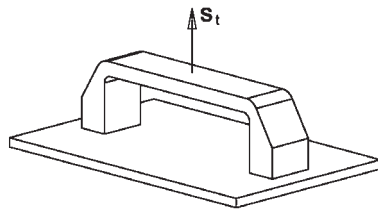
- Material: Glass Fibre Reinforced Technopolymer
- Finish: Gray/Black Matte
- Mounted by Two Through Holes in Front
- Resistant to Solvents, Oils, Greases, and other Chemical Agents
- Optional cap colors available upon request (Black, Grey, Yellow, Orange, Blue & Red)

Part Number	A	B	C	D	E	F	G	H	I	J
34467	4.57	3.68	0.87	1.38	0.29	2.83	0.25	0.41	0.25	0.92
34468	5.67	4.61	1.02	1.54	0.31	3.62	0.33	0.53	0.33	1.04
34479	7.01	5.91	1.10	1.77	0.37	4.8	0.33	0.53	0.55	1.26



Plastic Handle ELESA Original Design

- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Insert: Brass With Tapped Blind Hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

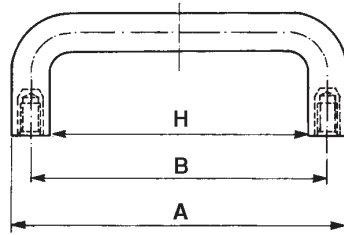
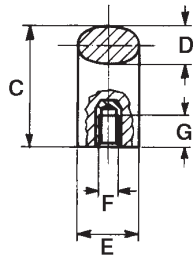


Part Number	A	B	C	D	E	F	G	St lbs
33791	3.94	3.39	1.73	0.55	0.91	1/4-20	0.47	538
33792	5.28	4.61	1.93	0.59	0.98	5/16-18	0.51	594
33793	7.72	7.05	2.24	0.63	1.06	5/16-18	0.51	450

Metric

Part Number*	A	B	C	D	E	F	G	H	St N
33706	100	86	44	14	23	M6	12	73	2400
33705	134	117	49	15	25	M8	13	103	2650
33707	196	179	57	16	27	M8	13	105	2000

*Dimensions in millimeters



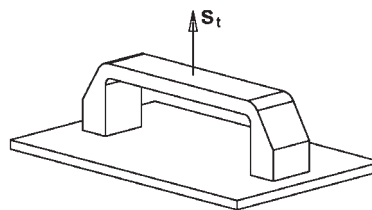
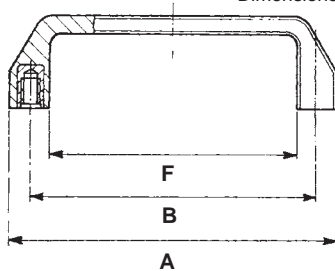
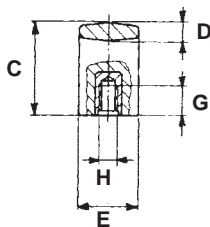
Plastic Handle Metric ELESA Original Design

- Material: High Impact Strength Technopolymer
- Finish: Black Matte
- Insert: Brass With Tapped Blind Hole
- Resistant to Solvents, Oils, Greases, and other Chemical Agents



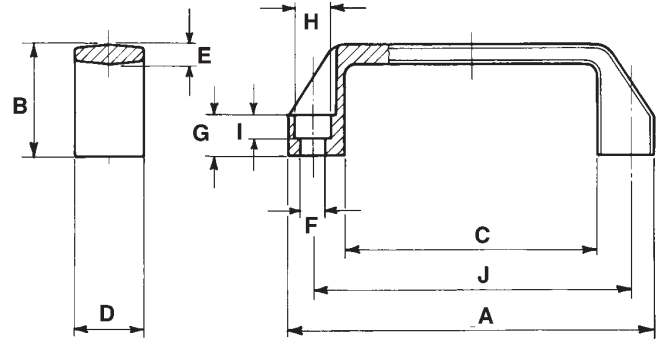
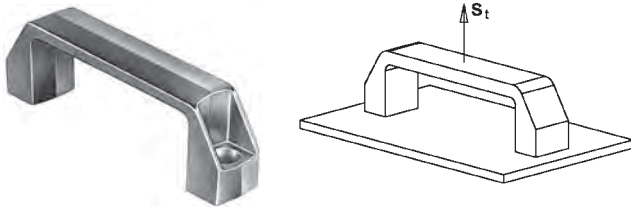
Part Number*	A	B	C	D	E	F	G	H	St N
33708	134	117	38	7.5	25	102	12	M6	2000
33709	134	117	38	7.5	25	102	12	M8	2000

*Dimensions in millimeters





Plastic Pull/Lift Handle ELESA Original Design

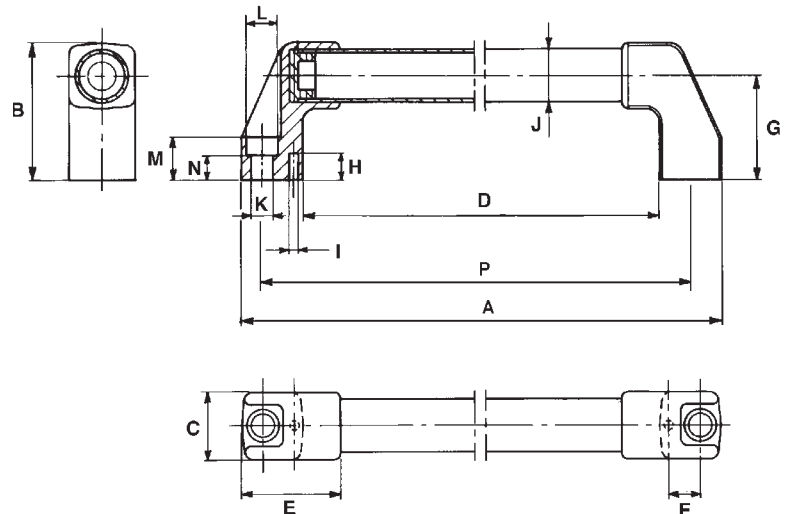


- Material: Glass-Fibre Reinforced Polyamide Technopolymer
- Finish: Black Matte
- Maximum Working Temp. 230°F
- Resistant to Solvents, Oils, Greases, and other Chemical Agents

Part Number	A	B	C	D	E	F	G	H	I	J	St*
33701	4.21	1.42	2.91	0.83	0.24	0.26	0.51	0.41	0.28	3.68	560
33702	5.28	1.61	3.74	1.02	0.28	0.34	0.59	0.53	0.33	4.61	560
33703	5.90	1.77	4.25	1.06	0.28	0.34	0.63	0.53	0.33	5.20	560
33704	7.76	1.97	6.02	1.10	0.31	0.34	0.67	0.53	0.33	7.05	605
33710	10.31	2.13	7.95	1.22	0.35	0.41	0.79	0.65	0.41	8.25	784

* Denotes Stength Table

Aluminum Tubular Handle Elesa Original Design



- Material: Tube, Aluminum Handle Shanks, Reinforced Polyamide Technopolymer
- Finish: Tube, Polyurethane coat on an epoxy base Color, Metallflake Graphite
- Handle Shank connection is axially knurled to the tube to prevent tube rotation
- Reference pins for safer positioning of the shanks
- Resistant to wear, scratches, and chemical agents

Part Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
33725	12.76	3.07	1.50	10.00	2.24	.71	2.36	.59	.16	1.18	.41	.63	.98	.59	12
33727	16.69	3.07	1.50	13.94	2.24	.71	2.36	.59	.16	1.18	.41	.63	.98	.59	16
33728	20.63	3.07	1.50	17.87	2.24	.71	2.36	.59	.16	1.18	.41	.63	.98	.59	20
33730	28.50	3.07	1.50	25.75	2.24	.71	2.36	.59	.16	1.18	.41	.63	.98	.59	28

HANDLES, LEVERS & CRANKS

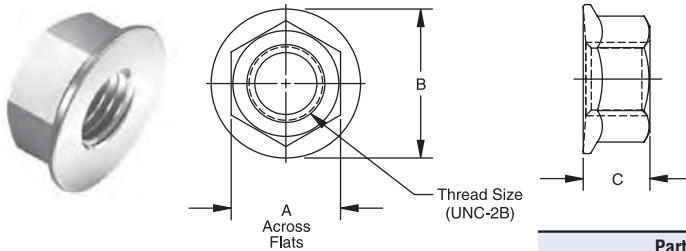
MISCELLANEOUS FASTENERS

Miscellaneous Fasteners

Alloy Steel Pull Dowel Pins	425–427
Bolts, Spinner-Grip™	424
Clevis Pins	431
Leveling Mounts	432
Nuts, Spinner-Grip™	424
Pull Dowel Pins, Stainless Steel	427
Pull Dowels	428
Rod Ends	429
Washers, Heavy Duty Flat	433
Yokes	430–431



Spinner-Grip™ Flange Lock Nuts



- Free spinning installation eliminates the need to wrench the nut down the fastener.
- Locks to the part, not to the threads.
- Grade 8 strength and quality, and will work with any grade fastener.
- Hardness of 28 - 38 HRC: more effective at maintaining clamp load under vibration.
- Greater temperature range than nylon insert locknuts, and will not be effected by humidity.
- Flat washers are not needed, unless in a slotted application.
- Spinner grips are not limited to 5 reuses, unlike most prevailing torque lock nuts.
- Jergens maintains inventory of Zinc plated product, as well as plain finished (un-plated) product so you can specify your plating of choice.
(Please allow 2 – 3 weeks lead time for plating.)

Part Number			Thread Size	A	B	C
Plain Finish	Zinc Plated	Stainless Steel				
19800	19820	19880	1/4-20	7/16	19/32	1/4
19801	19821	19881	5/16-18	1/2	11/16	9/32
19802	19822	19882	3/8-16	9/16	3/4	11/32
19803	19823	19883	7/16-14	11/16	15/16	3/8
19804	19824	19884	1/2-13	3/4	1	7/16
19805	19825	19885	5/8-11	15/16	1 1/4	9/16
19806	19826	19886	3/4-10	1 1/4	1 1/2	11/16
Metric						
19807	19827	19887	M6-1.00	10	15.1	6.0
19808	19828	19888	M8-1.25	13	19.0	8.8
19809	19829	19889	M10-1.50	15	24.1	10.0
19810	19830	19890	M12-1.75	19	25.5	11.6
19811	19831	19891	M16-2.00	24	38.0	17.2

Note: Additional charges apply to plated product. Charges vary by plating type.

Spinner-Grip™ Flange Locking Bolts

- Save time and money by eliminating the need for other locking hardware.
- Conical flange locks the bolt to the part for better holding power.
- Easily uninstalled and reused.
- Can be used in tapped holes, or through holes with the mating Spinner-Grip Nut.
- Spinner-Grip™ Bolts do not have serrations that mar the plating or surface finish of your parts or cause rusting under the bolt head.

Note: Product available made-to-order only. Minimum product quantity applies. Contact Specialty Fasteners 866-KWIK-LOK (594-5565) for details.

Why a conical flange?

Conical design locks the bolt to the part without the need for lock washers, flat washers, locking elements, etc.



MISCELLANEOUS FASTENERS

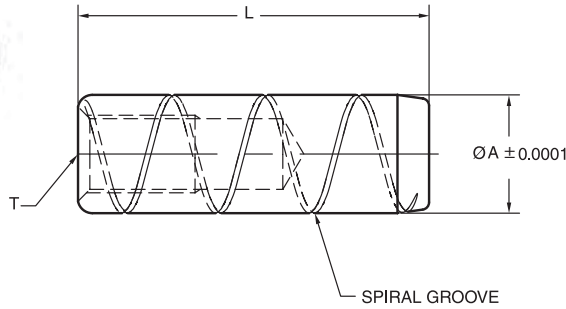


Alloy Steel Pull Dowel Pins

Jergens Offers 3 Styles of Precision Ground Pull Dowels



**Spiral Groove
(Grooves Help to Relieve Trapped Air)**

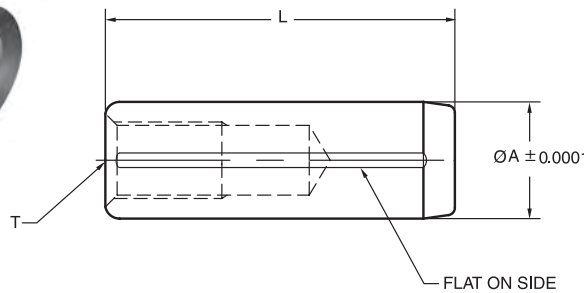


Features, Applications & Benefits

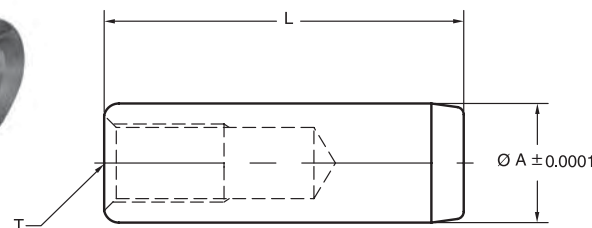
- Internally threaded hole allows removal of pull dowels with a standard screw.
- Standard Round Pull Dowels are typically used in applications featuring a through hole.
- Spiral Groove Pull Dowels feature a groove cut to allow trapped air to be released.
- Flat Vent Pull Dowels feature a ground flat on one side to release trapped air.
- Spiral Groove and Flat Vent Pull Dowels are typically used in blind hole applications.
- All of Jergens Precision Ground Pull Dowels are constructed of heat treated alloy steel.



**Flat Vent
(Ground Flat Helps to Relieve Trapped Air)**



**Standard Round
(Non-Vented)**



MISCELLANEOUS FASTENERS



Precision Ground Pull Dowels

Spiral Groove	Flat Vent	Standard Round	Nominal	Actual	Length	Internal Thread
31800	31400	31600	1/4	.2502	1/2	8 - 32
31801	31401	31601	1/4	.2502	3/4	8 - 32
31802	31402	31602	1/4	.2502	1	8 - 32
31803	31403	31603	1/4	.2502	1-1/4	8 - 32
31804	31404	31604	1/4	.2502	1-1/2	8 - 32
31805	31405	31605	1/4	.2502	1-3/4	8 - 32
31806	31406	31606	1/4	.2502	2	8 - 32
31807	31407	31654	1/4	.2502	2-1/4	8 - 32
31808	31408	31607	1/4	.2502	2-1/2	8 - 32
31809	31409	31608	5/16	.3127	3/4	10 - 32
31810	31410	31609	5/16	.3127	1	10 - 32
31811	31411	31610	5/16	.3127	1-1/4	10 - 32
31812	31412	31611	5/16	.3127	1-1/2	10 - 32
31813	31413	31612	5/16	.3127	2	10 - 32
31814	31414	31613	5/16	.3127	2-1/4	10 - 32
31815	31415	31614	5/16	.3127	2-1/2	10 - 32
31816	31416	31615	3/8	.3752	3/4	10 - 32
31817	31417	31616	3/8	.3752	1	10 - 32
31818	31418	31617	3/8	.3752	1-1/4	10 - 32
31819	31419	31618	3/8	.3752	1-1/2	10 - 32
31820	31420	31619	3/8	.3752	1-3/4	10 - 32
31821	31421	31620	3/8	.3752	2	10 - 32
31822	31422	31621	3/8	.3752	2-1/4	10 - 32
31823	31423	31622	3/8	.3752	2-1/2	10 - 32
31824	31424	31623	3/8	.3752	3	10 - 32
31825	31425	31624	7/16	.4377	1	1/4 - 20
31826	31426	31625	7/16	.4377	1-1/2	1/4 - 20
31827	31427	31626	7/16	.4377	2	1/4 - 20
31828	31428	31627	1/2	.5002	3/4	1/4 - 20
31829	31429	31628	1/2	.5002	1	1/4 - 20
31830	31430	31629	1/2	.5002	1-1/4	1/4 - 20
31831	31431	31630	1/2	.5002	1-1/2	1/4 - 20
31832	31432	31631	1/2	.5002	1-3/4	1/4 - 20
31833	31433	31632	1/2	.5002	2	1/4 - 20
31834	31434	31633	1/2	.5002	2-1/4	1/4 - 20
31835	31435	31634	1/2	.5002	2-1/2	1/4 - 20
31836	31436	31635	1/2	.5002	3	1/4 - 20
31837	31437	31636	1/2	.5002	3-1/2	1/4 - 20
31838	31438	31637	1/2	.5002	4	1/4 - 20
31839	31439	31638	5/8	.6252	1-1/4	1/4 - 20
31840	31440	31639	5/8	.6252	1-1/2	1/4 - 20
31841	31441	31640	5/8	.6252	2	1/4 - 20
31842	31442	31641	5/8	.6252	2-1/4	1/4 - 20
31843	31443	31642	5/8	.6252	2-1/2	1/4 - 20
31844	31444	31643	5/8	.6252	3	1/4 - 20
31845	31445	31644	5/8	.6252	4	1/4 - 20
31846	31446	31645	3/4	.7502	1-1/2	5/16 - 18
31847	31456	31655	3/4	.7502	1-3/4	5/16 - 18
31848	31447	31646	3/4	.7502	2	5/16 - 18
31849	31448	31647	3/4	.7502	2-1/2	5/16 - 18
31850	31449	31648	3/4	.7502	3	5/16 - 18
31851	31450	31649	3/4	.7502	4	5/16 - 18
31856*	31451	31656	1	1.0002	1-3/4	5/16 - 18
31852*	31452	31650	1	1.0002	2	5/16 - 18
31853*	31453	31651	1	1.0002	2-1/2	5/16 - 18
31854*	31454	31652	1	1.0002	3	5/16 - 18
31855*	31455	31653	1	1.0002	4	5/16 - 18

*3/8-16 Internal Thread

Technical Data

Material:

Alloy Steel

Length Tolerance:

± .010"

Core Hardness:

47 - 58 Rockwell C

Diameter Tolerance:

± .0001"

Surface Hardness:

60 - 64 Rockwell C

Recommended Hole Size:

.0005" under Nom. Dia.

Surface Finish:

8 Micro-Inch

Specification:

ASME B18.8.2

Spiral Groove



Flat Vent



Standard Round



MISCELLANEOUS FASTENERS



Precision Ground Pull Dowels Stainless Steel

Spiral Groove	Standard Round	Nominal	Actual	Length	Internal Thread
31800-SS	31600-SS	1/4	.2502	1/2	8 - 32
31801-SS	31601-SS	1/4	.2502	3/4	8 - 32
31802-SS	31602-SS	1/4	.2502	1	8 - 32
31803-SS	31603-SS	1/4	.2502	1-1/4	8 - 32
31804-SS	31604-SS	1/4	.2502	1-1/2	8 - 32
31805-SS	31605-SS	1/4	.2502	1-3/4	8 - 32
31806-SS	31606-SS	1/4	.2502	2	8 - 32
31807-SS	31654-SS	1/4	.2502	2-1/4	8 - 32
31808-SS	31607-SS	1/4	.2502	2-1/2	8 - 32
31809-SS	31608-SS	5/16	.3127	3/4	10 - 32
31810-SS	31609-SS	5/16	.3127	1	10 - 32
31811-SS	31610-SS	5/16	.3127	1-1/4	10 - 32
31812-SS	31611-SS	5/16	.3127	1-1/2	10 - 32
31813-SS	31612-SS	5/16	.3127	2	10 - 32
31814-SS	31613-SS	5/16	.3127	2-1/4	10 - 32
31815-SS	31614-SS	5/16	.3127	2-1/2	10 - 32
31816-SS	31615-SS	3/8	.3752	3/4	10 - 32
31817-SS	31616-SS	3/8	.3752	1	10 - 32
31818-SS	31617-SS	3/8	.3752	1-1/4	10 - 32
31819-SS	31618-SS	3/8	.3752	1-1/2	10 - 32
31820-SS	31619-SS	3/8	.3752	1-3/4	10 - 32
31821-SS	31620-SS	3/8	.3752	2	10 - 32
31822-SS	31621-SS	3/8	.3752	2-1/4	10 - 32
31823-SS	31622-SS	3/8	.3752	2-1/2	10 - 32
31824-SS	31623-SS	3/8	.3752	3	10 - 32
31825-SS	31624-SS	7/16	.4377	1	1/4 - 20
31826-SS	31625-SS	7/16	.4377	1-1/2	1/4 - 20
31827-SS	31626-SS	7/16	.4377	2	1/4 - 20
31828-SS	31627-SS	1/2	.5002	3/4	1/4 - 20
31829-SS	31628-SS	1/2	.5002	1	1/4 - 20
31830-SS	31629-SS	1/2	.5002	1-1/4	1/4 - 20
31831-SS	31630-SS	1/2	.5002	1-1/2	1/4 - 20
31832-SS	31631-SS	1/2	.5002	1-3/4	1/4 - 20
31833-SS	31632-SS	1/2	.5002	2	1/4 - 20
31834-SS	31633-SS	1/2	.5002	2-1/4	1/4 - 20
31835-SS	31634-SS	1/2	.5002	2-1/2	1/4 - 20
31836-SS	31635-SS	1/2	.5002	3	1/4 - 20
31837-SS	31636-SS	1/2	.5002	3-1/2	1/4 - 20
31838-SS	31637-SS	1/2	.5002	4	1/4 - 20
31839-SS	31638-SS	5/8	.6252	1-1/4	1/4 - 20
31840-SS	31639-SS	5/8	.6252	1-1/2	1/4 - 20
31841-SS	31640-SS	5/8	.6252	2	1/4 - 20
31842-SS	31641-SS	5/8	.6252	2-1/4	1/4 - 20
31843-SS	31642-SS	5/8	.6252	2-1/2	1/4 - 20
31844-SS	31643-SS	5/8	.6252	3	1/4 - 20
31845-SS	31644-SS	5/8	.6252	4	1/4 - 20
31846-SS	31645-SS	3/4	.7502	1-1/2	5/16 - 18
31847-SS	31655-SS	3/4	.7502	1-3/4	5/16 - 18
31848-SS	31646-SS	3/4	.7502	2	5/16 - 18
31849-SS	31647-SS	3/4	.7502	2-1/2	5/16 - 18
31850-SS	31648-SS	3/4	.7502	3	5/16 - 18
31851-SS	31649-SS	3/4	.7502	4	5/16 - 18
31856-SS*	31656-SS	1	1.0002	1-3/4	5/16 - 18
31852-SS*	31650-SS	1	1.0002	2	5/16 - 18
31853-SS*	31651-SS	1	1.0002	2-1/2	5/16 - 18
31854-SS*	31652-SS	1	1.0002	3	5/16 - 18
31855-SS*	31653-SS	1	1.0002	4	5/16 - 18

*3/8-16 Internal Thread

Technical Data

Material:

300 Series SS (18-8)

Length Tolerance:

± .010"

Diameter Tolerance:

± .0001"

Recommended Hole Size:

.0005" under Nom. Dia.

Surface Finish:

8 Micro-Inch

Specification:

ASME B18.8.2

(Parts are not heat treated/hardened)

Spiral Groove



Standard Round



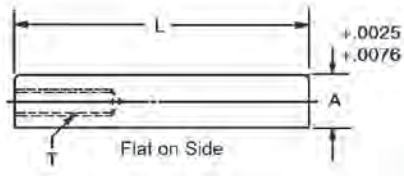


Pull Dowels Metric



- Material: Low Carbon Steel
- Heat Treat: Case Hardened
- 3D Solid Models are available in multiple formats from www.jergensinc.com

Flat ground on the side for air release in blind holes.



Part Number	A	L	T
31751	8	20	M5 x 1.0
31753	8	30	M5 x 1.0
31755	8	40	M5 x 1.0
31759	10	20	M6 x 1.0
31761	10	30	M6 x 1.0
31763	10	40	M6 x 1.0
31765	10	50	M6 x 1.0
31767	10	70	M6 x 1.0
31769	12	20	M6 x 1.0
31771	12	30	M6 x 1.0
31773	12	40	M6 x 1.0

Part Number	A	L	T
31775	12	50	M6 x 1.0
31776	12	60	M6 x 1.0
31777	12	70	M6 x 1.0
31780	16	40	M8 x 1.25
31782	16	50	M8 x 1.25
31783	16	60	M8 x 1.25
31784	16	70	M8 x 1.25
31787	20	50	M10 x 1.6
31788	20	60	M10 x 1.6
31789	20	70	M10 x 1.6

Button head screw not included.

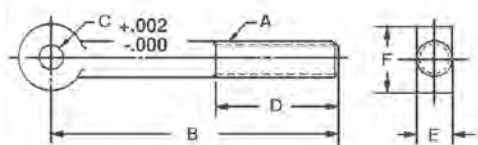


Rod Ends Threaded



- Material: Alloy Steel
- Finish: Black Oxide
- Heat Treat: 32-36 Rc
- Thread: Class 2A-UNC
- * 150,000 PSI Tensile

Rod Ends are forged and finished for applications not requiring flat contact with the head. All holes are reamed. Rod Ends can be used with spherical flange assemblies, flange nuts and clamp assemblies.



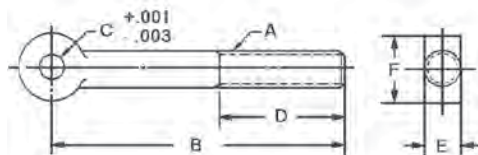
Part Number	Thread A	B	C	D Minimum	E	F	Wt. (lbs)
35301*	1/4-20	2	3/16	3/4	1/4	1/2	.04
35302	1/4-20	2	1/4	3/4	1/4	1/2	.03
35318*	5/16-18	3	1/4	1 1/2	5/16	5/8	.08
35319*	5/16-18	3	5/16	1 1/2	5/16	5/8	.08
35303*	3/8-16	3	5/16	1 1/2	3/8	3/4	.11
35320	3/8-16	4	5/16	1 3/4	3/8	3/4	.11
35304	3/8-16	2 3/16	3/8	1 1/4	3/8	3/4	.08
35305*	3/8-16	3	3/8	1 1/2	3/8	3/4	.11
35306*	3/8-16	5	3/8	2 1/2	3/8	3/4	.12
35307*	1/2-13	3 3/4	3/8	1 1/2	1/2	1	.25
35308	1/2-13	2 11/16	1/2	1 1/2	1/2	1	.19
35309	1/2-13	3 3/4	1/2	1 1/2	1/2	1	.24
35310	1/2-13	5	1/2	1 1/2	1/2	1	.31
35311	5/8-11	3 11/16	5/8	2	5/8	1 1/4	.40
35312*	5/8-11	4 1/2	5/8	2	5/8	1 1/4	.46
35314*	5/8-11	6	5/8	2 1/2	5/8	1 1/4	.60
35315*	3/4-10	4 1/2	3/4	2	3/4	1 1/2	.73
35321*	3/4-10	6	3/4	2 1/2	3/4	1 1/2	1.00
35317	1-8	8	1	3	1	2	2.25

*Conforms to TCMA. Not to be used for lifting.

Rod Ends Stainless Steel



- Material: 303 Stainless
- Thread Class 2A-UNC



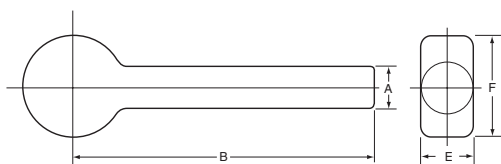
Part Number	Ref. A	B	Ref. C	D	E	F
35721	1/4-20	2 1/8	3/16	7/8	1/4	1/2
35722	1/4-20	2 1/8	1/4	7/8	1/4	1/2
35723	5/16-18	3 1/2	1/4	1 1/2	5/16	5/8
35724	5/16-18	3 1/2	5/16	1 1/2	5/16	5/8
35725	3/8-16	3 1/2	3/8	1 1/2	3/8	3/4
35726	3/8-16	5	3/8	2 1/2	3/8	3/4
35727	1/2-13	3 3/4	1/2	1 1/2	1/2	1
35728	1/2-13	5	1/2	2	1/2	1
35729	5/8-11	4 1/2	5/8	2	5/8	1 1/4
35730	5/8-11	6	5/8	3	5/8	1 1/4
35731	3/4-10	4 1/2	3/4	2	3/4	1 1/2
35732	3/4-10	6	3/4	2 1/2	3/4	1 1/2

Not to be used for lifting.

Rod Ends Blank Forging

- Material: Standard, Alloy Steel Forging
Stainless, 18-8 Forging

* Not Heat Treated

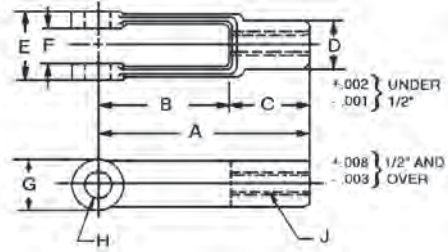


Part Number		A	B*	E	Ref. F	Wt. (lbs)
Standard	Stainless Steel					
35511	35701	1/4	2	1/4	1/2	.04
35512	35702	3/8	5	3/8	3/4	.13
35513	35703	1/2	6	1/2	1	.44
35514	35704	5/8	6	5/8	1 1/4	.70
35515	—	3/4	6	3/4	1 1/2	1.8
35516	—	1	8	1	2	2.5

*B dimension indicates minimum length. Not to be used for lifting.

Blank Rod Ends can be machined to your specifications; please send prints for quotation. Maximum thread length 1/2" from head.

Yokes Tapped



- Material: C-1021 Forging
- Finish: Black Oxide
- Thread: 2B

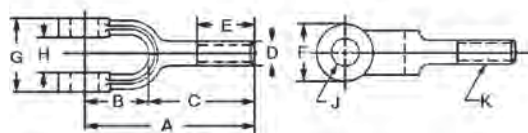
Jergens offers these yokes for attaching to threaded linkage at stem end. The forged holes are reamed and faced-off parallel inside and outside the yoke ends.

Part Number Coarse Pitch	UNC J	Part Number Fine Pitch	UNF J	A	B	C	D	E	F	G	H	Wt. (lbs) 10 Pcs.
45302	1/4-20	45501	10-32	1 9/16	1	9/16	5/16	7/16	3/16	3/8	3/16	.21
45303	5/16-18	45502	1/4-28	2	1 1/4	3/4	7/16	5/8	9/32	1/2	1/4	.62
45304	3/8-16	45504	3/8-24	2 1/2	1 5/8	7/8	5/8	7/8	7/16	11/16	3/8	1.45
45305	7/16-14	45505	7/16-20	2 7/8	1 7/8	1	23/32	1	1/2	13/16	7/16	2.35
45306	1/2-13	45506	1/2-20	3	1 7/8	1 1/8	13/16	1 1/8	9/16	15/16	1/2	3.10
45307	1/2-13	45507	1/2-20	4 3/16	3 1/16	1 1/8	13/16	1 1/8	9/16	15/16	1/2	4.35
45308	5/8-11	45508	5/8-18	4 15/16	3 11/16	1 1/4	1 1/16	1 3/8	11/16	1 3/16	5/8	8.10
45309	3/4-10	45509	3/4-16	4	2 3/4	1 1/4	1 1/8	1 1/2	11/16	1 3/8	5/8	7.50
45310	3/4-10	—	—	6 1/16	4 9/16	1 1/2	1 1/4	1 5/8	13/16	1 7/16	3/4	15.00
45312	1-8	—	—	8	6	2	1 5/8	2 1/8	1 1/16	1 15/16	1	32.50

MISCELLANEOUS FASTENERS



Yokes Threaded

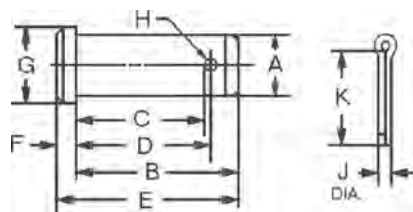


- Material: C-1021 Forging
- Finish: Black Oxide
- Thread: 2A-UNC

This style yoke is similar to the above except the stem is threaded for attaching to tapped linkage.

Part Number	K	A	B	C	D	E	F	G	H	J	Wt. (lbs) 10 Pcs.
45902	1/4-20	1 3/4	5/8	1 1/8	1/4	3/4	1/2	5/8	9/32	1/4	.47
45903	5/16-18	2	3/4	1 1/4	5/16	3/4	19/32	3/4	11/32	5/16	.85
45904	3/8-16	2 1/8	27/32	1 9/32	3/8	3/4	11/16	7/8	7/16	3/8	1.10
45906	1/2-13	2 1/2	1 1/8	1 3/8	1/2	3/4	15/16	1 1/8	9/16	1/2	2.35
45907	5/8-11	2 7/8	1 7/16	1 7/16	5/8	3/4	1 3/16	1 3/8	11/16	5/8	4.20
45908	3/4-10	3 5/8	1 11/16	1 15/16	3/4	1 1/4	1 7/16	1 5/8	13/16	3/4	7.35
45910	1-8	4 1/2	2 1/2	2	1	1 1/8	1 15/16	2 1/8	1 1/16	1	17.50

Clevis Pins



- Material: Low Carbon Steel
- All Clevis Pins supplied with cotter pins.

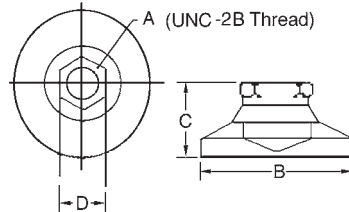
Part Number	A	B	C	D	E	F	G	H	J	K	Wt. (lbs) 10 Pcs.
32701	3/16	37/64	29/64	31/64	41/64	1/16	5/16	5/64	1/16	1/2	.08
32702	1/4	49/64	41/64	43/64	55/64	3/32	3/8	5/64	1/16	1/2	.15
32703	5/16	15/16	49/64	13/16	1 1/32	3/32	7/16	7/64	3/32	1/2	.30
32704	3/8	1 1/16	57/64	15/16	1 3/16	1/8	1/2	7/64	3/32	5/8	.45
32705	7/16	1 3/16	1 1/64	1 1/16	1 11/32	5/32	9/16	7/64	3/32	5/8	.60
32706	1/2	1 23/64	1 9/64	1 13/64	1 33/64	5/32	5/8	9/64	1/8	1	1.00
32707	5/8	1 39/64	1 25/64	1 29/64	1 13/16	13/64	13/16	9/64	1/8	1	1.18
32708	5/8	1 3/4	1 33/64	1 19/32	1 63/64	13/64	13/16	9/64	1/8	1	1.82
32709	3/4	1 29/32	1 41/64	1 23/32	2 5/32	1/4	15/16	11/64	5/32	1 1/2	3.00
32711	1	2 13/32	2 9/64	2 7/32	2 3/4	11/32	1 3/16	11/64	5/32	1 1/2	7.00



Leveling Mounts

- Material: 1214 Steel
- Non-Skid Material: Neoprene
- Case hardened, file hard
- Swivels 10° in all directions
- Available with non-skid on base
- Available in stainless steel, or with a delrin pad, and in larger sizes upon request.

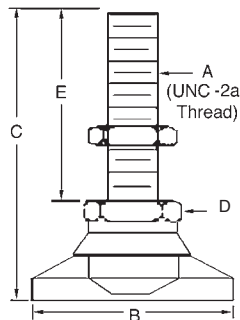
Tapped



Part Number		A	B	C*	Across Flats D	Maximum Load (lbs)	
Standard	Non-skid					Standard	Non-skid
32601	32651	10-32	3/4	17/32	3/8	700	550
32602	32652	1/4-20	1	45/64	1/2	1000	825
32606	32656	3/8-16	1 1/4	7/8	5/8	3750	2820
32608	32658	1/2-13	1 7/8	1 1/8	3/4	5000	3750
32610	32660	5/8-11	2 1/2	1 1/4	7/8	6000	5000
32612	32662	3/4-10	3	1 1/2	1 1/16	7400	6000
32616	32666	1-8	4	1 7/8	1 3/8	21000	16500

*Add 1/8" to C Dimension for non-skid style.

Threaded



Part Number		A	B	C*	Across Flats D	E	Maximum Load (lbs)	
Standard	Non-skid						Standard	Non-skid
32621	32671	10-32	3/4	1 17/32	3/8	1	700	550
32623	32673	1/4-20	1	1 61/64	1/2	1 1/4	1000	825
32626	32676	3/8-16	1 1/4	2 7/8	5/8	2	3750	2850
32629	32679	1/2-13	1 7/8	3 1/8	3/4	2	5000	3750
32632	32682	5/8-11	2 1/2	3 1/4	7/8	2	6000	4350
32635	32685	3/4-10	3	3 1/2	1 1/16	2	7400	5500
32640	32690	1-8	4	5 3/8	1 3/8	3 1/2	20000	16500

*Add 1/8" to C Dimension for non-skid style.

MISCELLANEOUS FASTENERS



USAE™ Heavy Duty Flat Washers



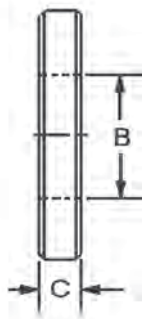
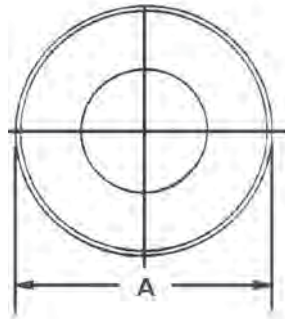
USS + SAE = USAE

What is a USAE™ Washer?

- It is a simple but effective idea that is long overdue.
- The Outside Diameter conforms to USS standards. This provides a washer that is up to 36% larger than standard hardened washers.

More Contact Area = More Holding Power

- The Inside Diameter conforms to SAE standards. The small ID provides a more precise fit on bolts, studs, etc.
- USAE Washers are also up to 37% thicker than standard hardened washers for greater strength.
- Washers are made from mild steel. They are case hardened to 60 HRc and have a black oxide finish.
- Bolt size is stamped on each washer for easy identification.



USAE™ Heavy Duty Flat Washers

Part No.	Bolt Size	A (OD)	B (ID)	C (Thickness)
FW00001	1/4	3/4	9/32	9/64
FW00002	5/16	7/8	11/32	9/64
FW00003	3/8	1	13/32	9/64
FW00004	1/2	1-3/8	17/32	5/32
FW00005	5/8	1-3/4	21/32	5/32
FW00006	3/4	2	13/16	1/4
FW00007	1	2-1/2	1-1/16	1/4

*Tolerances for all dimensions are +/- .010"

THE **Jergens**® DIFFERENCE

Spinner-Grip™ Flange Lock Nuts

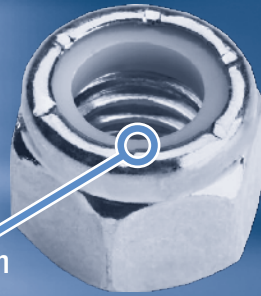
OURS



All-metal Construction

Spinner-Grip Flange Lock Nut
All-metal construction creates a
free-spinning installation.

THEIRS



Nylon Locking Mechanism

Nylon Insert Lock Nut
Nylon locks to threads making it
necessary to wrench the nut down the bolt.

SPINNER-GRIP FLANGE LOCK NUTS

Free-spinning design allows for easy installation.

Locks to the base part, allowing better hold of
the entire fastener assembly.

All-metal construction is more effective in
harsh environmental conditions, such as high
temperatures and humidity.

Re-uses are virtually unlimited.

VS.

NYLON INSERT LOCK NUTS

Must be wrenched down the bolt threads.

Locks to bolt threads.

Heat, humidity, and moisture can soften nylon
causing product failures.

Limited to 5 reuses or less.

KWIK-LOK® PINS

Kwik-Lok® Pins

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Kwik-Lok® Pins – Selection and Ordering

1. Choose Handle Shape and Style:

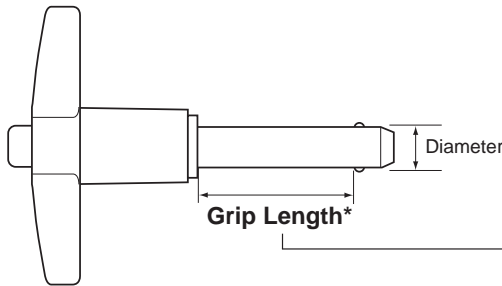
- T, L, or Button
- Heavy Duty T, L, or Button
- Ring Handle, Lifting Ring, or Recessed Button
- Double Acting (Push/Pull) T or L

Material

- Aluminum
- Stainless Steel
- Stainless Steel
- Stainless Steel

2. Select Pin Body Material

- 17-4-PH heat treated Stainless Steel for highest strength, corrosion and scratch resistance
- Alloy Steel heat treated and cadmium plating to military specifications



*Grip Length is measured to edge of locking ball
 Standard Grip Lengths: 1/2"–6", 10–100 mm
 Special Grip Lengths available on request

3. Specify Pin Diameter and Grip Length

Standard Kwik-Lok® Pin Diameters			Double Shear Resistance (Minimum)				
Nominal	Min/Max (Inches)	Min/Max (mm)	Stainless Steel (17-4 PH)		Alloy Steel (Cadmium Plated)		
			lbs	kN	lbs	kN	
3/16"		0.1870 / 0.1885	4.75 / 4.79	5150	23	4600	20
—	5 mm	0.1937 / 0.1953	4.92 / 4.96	5395	24	4721	21
—	6 mm	0.2331 / 0.2346	5.92 / 5.96	7868	35	6969	31
1/4"		0.2470 / 0.2485	6.27 / 6.31	9200	41	8200	36
5/16"		0.3095 / 0.3110	7.86 / 7.90	14400	64	12800	57
—	8 mm	0.3118 / 0.3134	7.92 / 7.96	14695	65	13062	58
3/8"		0.3720 / 0.3735	9.45 / 9.49	20700	92	18400	82
—	10 mm	0.3906 / 0.3921	9.92 / 9.96	22480	100	19782	88
7/16"		0.4345 / 0.4360	11.04 / 11.07	28500	127	25000	111
—	12 mm	0.4693 / 0.4709	11.92 / 11.96	32371	144	28774	128
1/2"		0.4970 / 0.4985	12.62 / 12.66	36900	164	32800	146
9/16"		0.5595 / 0.5610	14.21 / 14.25	46700	208	41600	185
5/8"		0.6220 / 0.6235	15.80 / 15.84	57800	257	51400	229
—	16 mm	0.6268 / 0.6283	15.92 / 15.96	57774	257	51479	229
3/4"		0.7470 / 0.7485	18.97 / 19.01	83200	370	74600	332
—	20 mm	0.7843 / 0.7858	19.92 / 19.96	90594	403	57998	258
7/8"		0.8720 / 0.8735	22.15 / 22.19	112500	500	100000	445
—	25 mm	0.9811 / 0.9827	24.92 / 24.96	141849	631	126113	561
1"		0.9970 / 0.9985	25.32 / 25.36	147200	655	131000	583

See Page 458 for recommended mounting hole diameters and minimum locking ball tensile strength for estimating pullout resistance.

4. Locate Standard Part Numbers from Charts by Diameter and Grip Length.

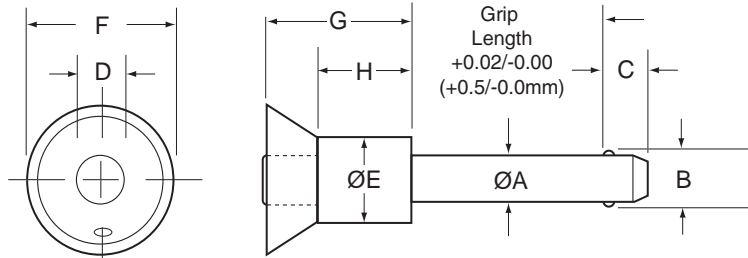
5. Select Lanyards and Tabs on pages 456–457:

- Specify Length of Cable (Stainless Steel) with Green Nylon Jacket (other colors available)
- Choose Tab Style, Material and Mounting Hole Dimension
- Specify if Lanyard is to be crimped to Pin without Split Ring

KWIK-LOK® PINS



Recessed Button Handle Kwik-Lok® Pin



Recessed Button Handle Specifications – Inch

Nom Pin Dia	ØA		±0.005 B	+0.00/-0.04 C	Button Dia. D	E	F	G	H
	Min	Max							
3/16 (#10)	.1870	.1885	.220	.260	1/4	15/32	13/16	1"	23/32
1/4	.2470	.2485	.289	.290	1/4	15/32	13/16	1"	23/32
5/16	.3095	.3110	.375	.330	1/4	15/32	13/16	1"	23/32
3/8	.3720	.3735	.440	.365	5/16	1/2	1 3/32	1 5/16	7/8
7/16	.4345	.4360	.509	.380	5/16	1/2	1 3/32	1 5/16	7/8
1/2	.4970	.4985	.594	.460	7/16	5/8	1 1/16	1 3/16	13/16

- The Recessed Button Handle Kwik-Lok® Pin design helps prevent accidental actuation of the pin.
- Handle is stainless steel and the button is stainless steel.
- Body is made from high Strength Stainless Steel, 17-4 PH heat treated.
- Includes hole for easy attachment of optional lanyard or ring.

Recessed Button Handle Specifications – Metric

Nom Pin Dia	ØA		±0.25 B	+0.01/-1.0 C	Button Dia. D	E	F	G	H
	Min	Max							
5	4.92	4.96	5.54	6	6.5	11.6	20	25	18
6	5.92	5.96	6.99	7	6.5	11.6	20	25	18
8	7.92	7.96	9.42	8	6.5	11.6	20	25	18
10	9.92	9.96	11.86	9	8.1	12.7	28	33	22
12	11.92	11.96	14.45	10	10.1	15.9	28	33	22

Pin Dia	Grip Length (Inches)												
	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3*	4*	5*	6	
STAINLESS 304/316	3/16	803000	803001	803002	803003	803004	803005	803006	803008	803009	803011	803013	803015
	1/4	803016	803017	803018	803019	803020	803021	803022	803024	803025	803027	803029	803031
	5/16	803032	803033	803034	803035	803036	803037	803038	803040	803041	803043	803045	803047
	3/8	803048	803049	803050	803051	803052	803053	803054	803056	803057	803059	803061	803063
	7/16	803064	803065	803066	803067	803068	803069	803070	803072	803073	803075	803077	803079
	1/2	803080	803081	803082	803083	803084	803085	803086	803088	803089	803091	803093	803095

Contact customer service for other sizes.

Pin Dia	Grip Length (Metric)												
	10	15	20	25	30	40	50	60	70	80	90	100	
STAINLESS 304/316	5	853000	853001	853002	853003	853004	853005	853006	853007	853008	853009	853010	853011
	6	853012	853013	853014	853015	853016	853017	853018	853019	853020	853021	853022	853023
	8	853024	853025	853026	853027	853028	853029	853030	853031	853032	853033	853034	853035
	10	853036	853037	853038	853039	853040	853041	853042	853043	853044	853045	853046	853047
	12	853048	853049	853050	853051	853052	853053	853054	853055	853056	853057	853058	853059

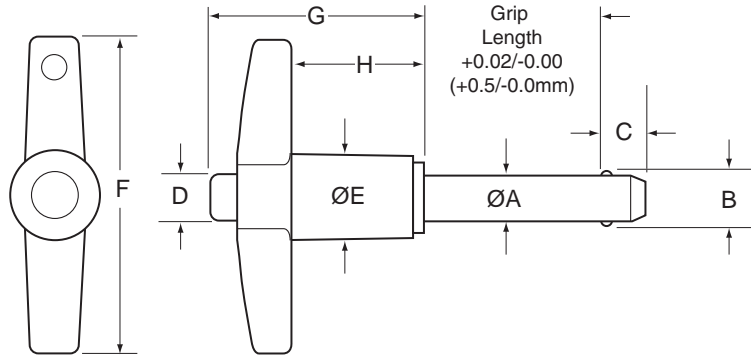
Contact customer service for other sizes.



T-Handle Kwik-Lok® Pin

MS17985, NAS1333-NAS1343

A2=Aluminum T Handle



T-Handle Specifications – Inch

Nom Pin Dia	ØA		±0.005 B	+0.00/-0.04 C	D	E	F	G	H
	Min	Max							
3/16 (#10)	.1870	.1885	.220	.260	1/4	1/2	1 13/16	1 1/4	3/4
1/4	.2470	.2485	.289	.290	1/4	1/2	1 13/16	1 1/4	3/4
5/16	.3095	.3110	.375	.330	1/4	1/2	1 13/16	1 1/4	3/4
3/8	.3720	.3735	.440	.365	5/16	19/32	2	1 7/16	15/16
7/16	.4345	.4360	.509	.380	5/16	19/32	2	1 7/16	15/16
1/2	.4970	.4985	.594	.460	15/32	3/4	2	1 5/8	1
9/16	.5595	.5610	.666	.510	15/32	3/4	2 3/8	1 5/8	1
5/8	.6220	.6235	.750	.580	9/16	15/16	3 1/8	1 31/32	1 3/16
3/4	.7470	.7485	.887	.670	5/8	15/16	3 1/8	1 31/32	1 3/16
7/8	.8720	.8735	1.046	.760	3/4	1 1/4	3 1/2	2 1/4	1 11/32
1	.9970	.9985	1.209	.890	3/4	1 1/4	3 1/2	2 1/4	1 11/32

- The T-Handle Kwik-Lok® Pin provides a firm, even grip for smooth comfortable operation.
- Handle is black cast aluminum and the button is blue anodized aluminum.
- Pin body available in:
Heat Treated 17-4 PH Stainless Steel
or Heat Treated Alloy Steel, Cadmium plated.
- Includes hole and split ring for easy attachment of optional lanyard.

T-Handle Specifications – Metric

Nom Pin Dia	ØA		±0.25 B	+0.0/-1.0 C	D	E	F	G	H
	Min	Max							
5	4.92	4.96	5.54	6	6.5	13.1	46.1	31.3	19.7
6	5.92	5.96	6.99	7	6.5	13.1	46.1	31.3	19.7
8	7.92	7.96	9.42	8	6.5	13.1	46.1	31.3	19.7
10	9.92	9.96	11.86	9	7.7	15.0	51.1	36.1	24.0
12	11.92	11.96	14.45	10	11.1	19.1	59.7	41.9	25.8
16	15.92	15.96	19.00	14	14.5	23.9	78.7	43.0	27.0
20	19.92	19.96	24.08	17	26.2	23.9	78.7	43.0	27.0
25	24.92	24.96	30.94	22	26.2	32.0	88.9	55.9	33.9

Dimensions in millimeters

KWIK-LOK® PINS



T-Handle – Inch

Pin Dia	Grip Length (inches)												
	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	4	5	6	
Stainless Steel – High Strength Stainless Steel, 17-4 PH heat treated													
P A R T	3/16	801000	801001	801002	801003	801004	801005	801006	801008	801009	801011	801013	801015
	1/4	801016	801017	801018	801019	801020	801021	801022	801024	801025	801027	801029	801031
	5/16	801032	801033	801034	801035	801036	801037	801038	801040	801041	801043	801045	801047
	3/8	801048	801049	801050	801051	801052	801053	801054	801056	801057	801059	801061	801063
	7/16	801064	801065	801066	801067	801068	801069	801070	801072	801073	801075	801077	801079
	1/2	801080	801081	801082	801083	801084	801085	801086	801088	801089	801091	801093	801095
	9/16	801096	801097	801098	801099	801100	801101	801102	801104	801105	801107	801109	801111
	5/8	801112	801113	801114	801115	801116	801117	801118	801120	801121	801123	801125	801127
	3/4	801128	801129	801130	801131	801132	801133	801134	801136	801137	801139	801141	801143
U	7/8	801144	801145	801146	801147	801148	801149	801150	801152	801153	801155	801157	801159
	1	801160	801161	801162	801163	801164	801165	801166	801168	801169	801171	801173	801175
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
M B E R S	3/16	800800	800801	800802	800803	800804	800805	800806	800808	800809	—	—	—
	1/4	800816	800817	800818	800819	800820	800821	800822	800824	800825	800827	800829	800831
	5/16	800832	800833	800834	800835	800836	800837	800838	800840	800841	800843	800845	800847
	3/8	800848	800849	800850	800851	800852	800853	800854	800856	800857	800859	800861	800863
	7/16	800864	800865	800866	800867	800868	800869	800870	800872	800873	800875	800877	800879
	1/2	800880	800881	800882	800883	800884	800885	800886	800888	800889	800891	800893	800895
	9/16	800896	800897	800898	800899	800900	800901	800902	800904	800905	800907	800909	800911
	5/8	800912	800913	800914	800915	800916	800917	800918	800920	800921	800923	800925	800927
	3/4	800928	800929	800930	800931	800932	800933	800934	800936	800937	800939	800941	800943
S	7/8	800944	800945	800946	800947	800948	800949	800950	800952	800953	800955	800957	800959
	1	800960	800961	800962	800963	800964	800965	800966	800968	800969	800971	800973	800975

Contact customer service for other sizes. Includes attachment ring.

T-Handle – Metric

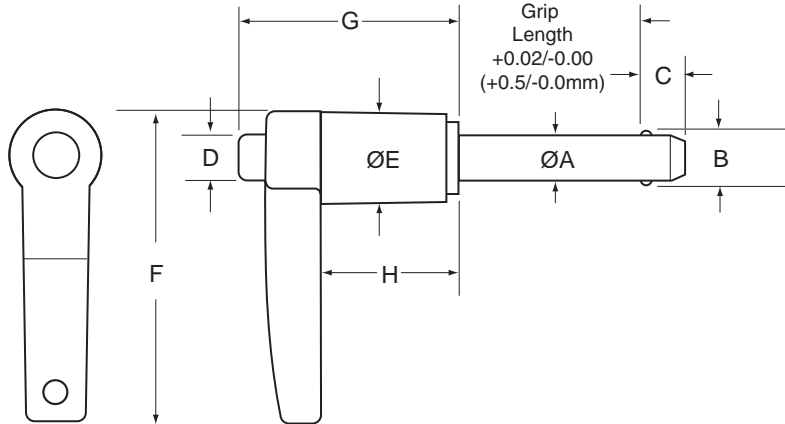
Pin Dia	Grip Length (mm)												
	10	15	20	25	30	40	50	60	70	80	90	100	
Stainless Steel – High Strength Stainless Steel, 17-4 PH heat treated													
P A R T	5	851000	851001	851002	851003	851004	851005	851006	851007	851008	851009	851010	851011
	6	851012	851013	851014	851015	851016	851017	851018	851019	851020	851021	851022	851023
	8	851024	851025	851026	851027	851028	851029	851030	851031	851032	851033	851034	851035
	10	851036	851037	851038	851039	851040	851041	851042	851043	851044	851045	851046	851047
	12	851048	851049	851050	851051	851052	851053	851054	851055	851056	851057	851058	851059
	16	851060	851061	851062	851063	851064	851065	851066	851067	851068	851069	851070	851071
U	20	851072	851073	851074	851075	851076	851077	851078	851079	851080	851081	851082	851083
	25	851084	851085	851086	851087	851088	851089	851090	851091	851092	851093	851094	851095
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
M B E R S	5	850800	850801	850802	850803	850804	850805	850806	850807	850808	850809	850810	850811
	6	850812	850813	850814	850815	850816	850817	850818	850819	850820	850821	850822	850823
	8	850824	850825	850826	850827	850828	850829	850830	850831	850832	850833	850834	850835
	10	850836	850837	850838	850839	850840	850841	850842	850843	850844	850845	850846	850847
	12	850848	850849	850850	850851	850852	850853	850854	850855	850856	850857	850858	850859
	16	850860	850861	850862	850863	850864	850865	850866	850867	850868	850869	850870	850871
	20	850872	850873	850874	850875	850876	850877	850878	850879	850880	850881	850882	850883
	25	850884	850885	850886	850887	850888	850889	850890	850891	850892	850893	850894	850895

Contact customer service for other metric sizes. Includes attachment ring.

KWIK-LOK® PINS



L-Handle Kwik-Lok® Pin MS17986, NAS1333-NAS1343 A5=Aluminum L Handle



L-Handle Specifications – Inch

Nom Pin Dia	ØA		±0.005 B	+0.00/-0.04 C	D	E	F	G	H
	Min	Max							
3/16 (#10)	.1870	.1885	.220	.260	1/4	1/2	1 3/4	1 1/4	3/4
1/4	.2470	.2485	.289	.290	1/4	1/2	1 3/4	1 1/4	3/4
5/16	.3095	.3110	.375	.330	1/4	1/2	1 3/4	1 1/4	3/4
3/8	.3720	.3735	.440	.365	5/16	19/32	2	1 7/16	15/16
7/16	.4345	.4360	.509	.380	5/16	19/32	2	1 7/16	15/16
1/2	.4970	.4985	.594	.460	15/32	3/4	2 1/4	1 5/8	1
9/16	.5595	.5610	.666	.510	15/32	3/4	2 1/4	1 5/8	1
5/8	.6220	.6235	.750	.580	9/16	15/16	2 1/2	1 31/32	1 3/16
3/4	.7470	.7485	.887	.670	5/8	15/16	2 1/2	1 31/32	1 3/16
7/8	.8720	.8735	1.046	.760	3/4	1 1/4	3 1/4	2 1/4	1 11/32
1	.9970	.9985	1.209	.890	3/4	1 1/4	3 1/4	2 1/4	1 11/32

L-Handle Specifications – Metric

Nom Pin Dia	ØA		±0.25 B	+0.0/-1.0 C	D	E	F	G	H
	Min	Max							
5	4.92	4.96	5.54	6	6.5	13.1	44.9	31.3	19.7
6	5.92	5.96	6.99	7	6.5	13.1	44.9	31.3	19.7
8	7.92	7.96	9.42	8	6.5	13.1	44.9	31.3	19.7
10	9.92	9.96	11.86	9	7.7	15.1	50.8	36.1	24.0
12	11.92	11.96	14.45	10	11.1	19.1	57.2	41.9	25.8
16	15.92	15.96	19.00	14	14.5	23.9	63.0	43.0	27.0
20	19.92	19.96	24.08	17	26.2	23.9	63.0	43.0	27.0
25	24.92	24.96	30.94	22	26.2	32.4	82.6	55.9	33.9

Dimensions in millimeters

- The L-Handle Kwik-Lok® Pin provides a firm grip for applications where a T-Handle will not fit.
- Handle is black cast aluminum and the button is blue anodized aluminum.
- Pin body available in: Heat Treated 17-4 PH Stainless Steel or Heat Treated Alloy Steel, Cadmium plated.
- Includes hole and split ring for easy attachment of optional lanyard.

KWIK-LOK® PINS



L-Handle – Inch

Pin Dia	Grip Length (inches)												
	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	4	5	6	
Stainless Steel – High Strength Stainless Steel, 17-4 PH heat treated													
PARTS	3/16	801400	801401	801402	801403	801404	801405	801406	801408	801409	801411	801413	801415
	1/4	801416	801417	801418	801419	801420	801421	801422	801424	801425	801427	801429	801431
	5/16	801432	801433	801434	801435	801436	801437	801438	801440	801441	801443	801445	801447
	3/8	801448	801449	801450	801451	801452	801453	801454	801456	801457	801459	801461	801463
	7/16	801464	801465	801466	801467	801468	801469	801470	801472	801473	801475	801477	801479
	1/2	801480	801481	801482	801483	801484	801485	801486	801488	801489	801491	801493	801495
	9/16	801496	801497	801498	801499	801500	801501	801502	801504	801505	801507	801509	801511
	5/8	801512	801513	801514	801515	801516	801517	801518	801520	801521	801523	801525	801527
	3/4	801528	801529	801530	801531	801532	801533	801534	801536	801537	801539	801541	801543
	7/8	801544	801545	801546	801547	801548	801549	801550	801552	801553	801555	801557	801559
1	801560	801561	801562	801563	801564	801565	801566	801568	801569	801571	801573	801575	
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
PARTS	3/16	801200	801201	801202	801203	801204	801205	801206	801208	801209	—	—	—
	1/4	801216	801217	801218	801219	801220	801221	801222	801224	801225	801227	801229	801231
	5/16	801232	801233	801234	801235	801236	801237	801238	801240	801241	801243	801245	801247
	3/8	801248	801249	801250	801251	801252	801253	801254	801256	801257	801259	801261	801263
	7/16	801264	801265	801266	801267	801268	801269	801270	801272	801273	801275	801277	801279
	1/2	801280	801281	801282	801283	801284	801285	801286	801288	801289	801291	801293	801295
	9/16	801296	801297	801298	801299	801300	801301	801302	801304	801305	801307	801309	801311
	5/8	801312	801313	801314	801315	801316	801317	801318	801320	801321	801323	801325	801327
	3/4	801328	801329	801330	801331	801332	801333	801334	801336	801337	801339	801341	801343
	7/8	801344	801345	801346	801347	801348	801349	801350	801352	801353	801355	801357	801359
1	801360	801361	801362	801363	801364	801365	801366	801368	801369	801371	801373	801375	

Contact customer service for other sizes. Includes attachment ring.

L-Handle – Metric

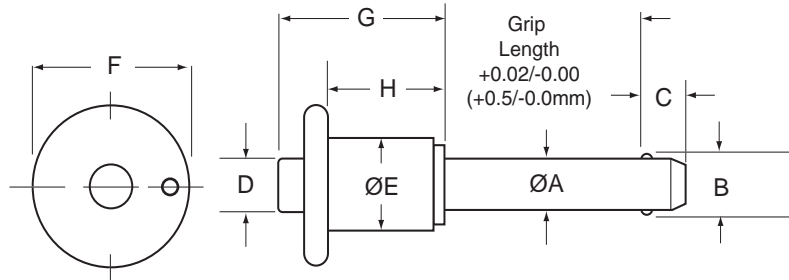
Pin Dia	Grip Length (mm)												
	10	15	20	25	30	40	50	60	70	80	90	100	
Stainless Steel – High Strength Stainless Steel, 17-4 PH heat treated													
PARTS	5	851400	851401	851402	851403	851404	851405	851406	851407	851408	851409	851410	851411
	6	851412	851413	851414	851415	851416	851417	851418	851419	851420	851421	851422	851423
	8	851424	851425	851426	851427	851428	851429	851430	851431	851432	851433	851434	851435
	10	851436	851437	851438	851439	851440	851441	851442	851443	851444	851445	851446	851447
	12	851448	851449	851450	851451	851452	851453	851454	851455	851456	851457	851458	851459
	16	851460	851461	851462	851463	851464	851465	851466	851467	851468	851469	851470	851471
PARTS	20	851472	851473	851474	851475	851476	851477	851478	851479	851480	851481	851482	851483
	25	851484	851485	851486	851487	851488	851489	851490	851491	851492	851493	851494	851495
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
PARTS	5	851200	851201	851202	851203	851204	851205	851206	851207	851208	851209	851210	851211
	6	851212	851213	851214	851215	851216	851217	851218	851219	851220	851221	851222	851223
	8	851224	851225	851226	851227	851228	851229	851230	851231	851232	851233	851234	851235
	10	851236	851237	851238	851239	851240	851241	851242	851243	851244	851245	851246	851247
	12	851248	851249	851250	851251	851252	851253	851254	851255	851256	851257	851258	851259
	16	851260	851261	851262	851263	851264	851265	851266	851267	851268	851269	851270	851271
	20	851272	851273	851274	851275	851276	851277	851278	851279	851280	851281	851282	851283
	25	851284	851285	851286	851287	851288	851289	851290	851291	851292	851293	851294	851295

Contact customer service for other metric sizes. Includes attachment ring.

KWIK-LOK® PINS



Button Handle Kwik-Lok® Pin MS17984, NAS 1333-1343 A3=Aluminum Button Handle



Button Handle Specifications – Inch

Nom Pin Dia	ØA		±0.005 B	+0.00/-0.04 C	D	E	F	G	H
	Min	Max							
3/16 (#10)	.1870	.1885	.220	.260	1/4	7/16	13/16	13/16	5/8
1/4	.2470	.2485	.289	.290	1/4	7/16	13/16	7/8	5/8
5/16	.3095	.3110	.375	.330	1/4	7/16	7/8	29/32	5/8
3/8	.3720	.3735	.440	.365	5/16	9/16	1 1/8	1 1/32	3/4
7/16	.4345	.4360	.509	.380	5/16	9/16	1 1/8	1 3/32	3/4
1/2	.4970	.4985	.594	.460	7/16	23/32	1 3/8	1 3/16	13/16
9/16	.5595	.5610	.666	.510	7/16	23/32	1 3/8	1 3/8	1
5/8	.6220	.6235	.750	.580	37/64	27/32	1 5/8	1 1/2	1 1/16
3/4	.7470	.7485	.887	.670	37/64	15/16	1 7/8	1 21/32	1 5/32
7/8	.8720	.8735	1.046	.760	3/4	1 1/8	2 3/16	1 31/32	1 1/2
1	.9970	.9985	1.219	.890	3/4	1 3/16	2 3/16	2 1/8	1 1/2

- The Button Handle Kwik-Lok® Pin is ideal for applications that have limited space around the handle.
- Light weight black anodized aluminum handle with blue anodized aluminum button.
- Pin body available in:
Heat Treated 17-4 PH Stainless Steel
or Heat Treated Alloy Steel, Cadmium plated.
- Includes hole and split ring for easy attachment of optional lanyard.

Button Handle Specifications – Metric

Nom Pin Dia	ØA		±0.25 B	+0.0/-1.0 C	D	E	F	G	H
	Min	Max							
5	4.92	4.96	5.54	6	6.4	11.1	20.6	20.6	15.9
6	5.92	5.96	6.99	7	6.4	11.1	20.6	22.2	15.9
8	7.92	7.96	9.42	8	6.4	11.1	22.2	23.0	15.9
10	9.92	9.96	11.86	9	7.9	14.3	28.6	27.8	19.1
12	11.92	11.96	14.45	10	11.1	18.3	34.9	34.9	25.4
16	15.92	15.96	19.00	14	14.7	21.4	41.3	38.1	27.0
20	19.92	19.96	24.08	17	14.7	23.8	47.6	42.1	29.4
25	24.92	24.96	30.94	22	19.1	30.2	55.6	54.0	38.1

Dimensions in millimeters

KWIK-LOK® PINS



Button Handle – Inch

Pin Dia	Grip Length (inches)												
	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	4	5	6	
Stainless Steel – High Strength Stainless Steel, 17-4 PH heat treated													
PARTS	3/16	800600	800601	800602	800603	800604	800605	800606	800608	800609	800611	800613	800615
	1/4	800616	800617	800618	800619	800620	800621	800622	800624	800625	800627	800629	800631
	5/16	800632	800633	800634	800635	800636	800637	800638	800640	800641	800643	800645	800647
	3/8	800648	800649	800650	800651	800652	800653	800654	800656	800657	800659	800661	800663
	7/16	800664	800665	800666	800667	800668	800669	800670	800672	800673	800675	800677	800679
	1/2	800680	800681	800682	800683	800684	800685	800686	800688	800689	800691	800693	800695
	9/16	800696	800697	800698	800699	800700	800701	800702	800704	800705	800707	800709	800711
	5/8	800712	800713	800714	800715	800716	800717	800718	800720	800721	800723	800725	800727
	3/4	800728	800729	800730	800731	800732	800733	800734	800736	800737	800739	800741	800743
	7/8	800744	800745	800746	800747	800748	800749	800750	800752	800753	800755	800757	800759
1	800760	800761	800762	800763	800764	800765	800766	800768	800769	800771	800773	800775	
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
PARTS	3/16	800400	800401	800402	800403	800404	800405	800406	800408	800409	—	—	—
	1/4	800416	800417	800418	800419	800420	800421	800422	800424	800425	800427	800429	800431
	5/16	800432	800433	800434	800435	800436	800437	800438	800440	800441	800443	800445	800447
	3/8	800448	800449	800450	800451	800452	800453	800454	800456	800457	800459	800461	800463
	7/16	800464	800465	800466	800467	800468	800469	800470	800472	800473	800475	800477	800479
	1/2	800480	800481	800482	800483	800484	800485	800486	800488	800489	800491	800493	800495
	9/16	800496	800497	800498	800499	800500	800501	800502	800504	800505	800507	800509	800511
	5/8	800512	800513	800514	800515	800516	800517	800518	800520	800521	800523	800525	800527
	3/4	800528	800529	800530	800531	800532	800533	800534	800536	800537	800539	800541	800543
	7/8	800544	800545	800546	800547	800548	800549	800550	800552	800553	800555	800557	800559
1	800560	800561	800562	800563	800564	800565	800566	800568	800569	800571	800573	800575	

Contact customer service for other sizes. Includes attachment ring.

Button Handle – Metric

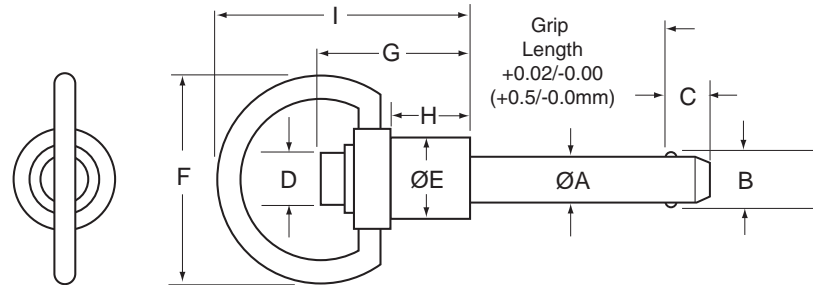
Pin Dia	Grip Length (mm)												
	10	15	20	25	30	40	50	60	70	80	90	100	
Stainless Steel – High Strength Stainless Steel, 17-4 PH heat treated													
PARTS	5	850600	850601	850602	850603	850604	850605	850606	850607	850608	850609	850610	850611
	6	850612	850613	850614	850615	850616	850617	850618	850619	850620	850621	850622	850623
	8	850624	850625	850626	850627	850628	850629	850630	850631	850632	850633	850634	850635
	10	850636	850637	850638	850639	850640	850641	850642	850643	850644	850645	850646	850647
	12	850648	850649	850650	850651	850652	850653	850654	850655	850656	850657	850658	850659
	16	850660	850661	850662	850663	850664	850665	850666	850667	850668	850669	850670	850671
	20	850672	850673	850674	850675	850676	850677	850678	850679	850680	850681	850682	850683
25	850684	850685	850686	850687	850688	850689	850690	850691	850692	850693	850694	850695	
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
PARTS	5	850400	850401	850402	850403	850404	850405	850406	850407	850408	850409	850410	850411
	6	850412	850413	850414	850415	850416	850417	850418	850419	850420	850421	850422	850423
	8	850424	850425	850426	850427	850428	850429	850430	850431	850432	850433	850434	850435
	10	850436	850437	850438	850439	850440	850441	850442	850443	850444	850445	850446	850447
	12	850448	850449	850450	850451	850452	850453	850454	850455	850456	850457	850458	850459
	16	850460	850461	850462	850463	850464	850465	850466	850467	850468	850469	850470	850471
	20	850472	850473	850474	850475	850476	850477	850478	850479	850480	850481	850482	850483
	25	850484	850485	850486	850487	850488	850489	850490	850491	850492	850493	850494	850495

Contact customer service for other metric sizes. Includes attachment ring.

KWIK-LOK® PINS



Ring-Handle Kwik-Lok® Pin MS17987, NAS1333-NAS1343 C6=Stainless Ring Handle



Ring-Handle Specifications – Inch

Nom Pin Dia	ØA		±0.005 B	+0.00/-0.04 C	D	E	F	G	H	I
	Min	Max								
3/16 (#10)	.1870	.1885	.220	.260	1/4	7/16	1 1/8	13/16	29/64	1 11/32
1/4	.2470	.2485	.289	.290	1/4	7/16	1 1/8	13/16	29/64	1 11/32
5/16	.3095	.3110	.375	.330	1/4	7/16	1 1/8	27/32	29/64	1 11/32
3/8	.3720	.3735	.440	.365	5/16	9/16	1 1/8	1	19/32	1 1/2
7/16	.4345	.4360	.509	.380	5/16	9/16	1 1/8	1	19/32	1 1/2
1/2	.4970	.4985	.594	.460	7/16	11/16	1 3/8	1 1/4	5/8	1 7/8
9/16	.5595	.5610	.666	.510	7/16	11/16	1 3/8	1 1/4	11/16	1 7/8
5/8	.6220	.6235	.750	.580	1/2	15/16	1 5/8	1 11/16	7/8	2 7/16
3/4	.7470	.7485	.887	.670	9/16	15/16	1 5/8	1 13/16	1 1/16	2 7/16
7/8	.8720	.8735	1.046	.760	3/4	1 3/16	1 3/4	2 3/16	1 13/32	2 29/32
1	.9970	.9985	1.219	.890	3/4	1 3/16	1 3/4	2 1/8	1 13/32	2 29/32

- The Ring-Handle Kwik-Lok® Pin is designed for applications which require small clearance area around the pin.
- Stainless steel handle for tough environment with blue anodized aluminum button (steel shanks), or stainless button (stainless steel shanks).
- Pin body available in:
Heat Treated 17-4 PH Stainless Steel or Heat Treated Alloy Steel, Cadmium plated.
- Ring allows for easy attachment of optional lanyard.

Ring-Handle Specifications – Metric

Nom Pin Dia	ØA		±0.25 B	+0.0/-1.0 C	D	E	F	G	H	I
	Min	Max								
5	4.92	4.96	5.54	6	6.5	10.8	28.0	21.0	11.5	34.1
6	5.92	5.96	6.99	7	6.5	10.8	28.0	21.0	11.5	34.1
8	7.92	7.96	9.42	8	6.5	10.8	28.0	22.0	11.5	34.1
10	9.92	9.96	11.86	9	7.7	14.2	28.0	25.0	15.1	38.0
12	11.92	11.96	14.45	10	10.1	17.2	35.2	28.6	15.9	46.0
16	15.92	15.96	19.00	14	12.4	23.9	41.9	37.0	22.2	56.0
20	19.92	19.96	24.08	17	14.6	23.9	41.9	46.0	27.0	61.6
25	24.92	24.96	30.94	22	19.2	30.0	45.0	55.6	35.7	72.4

Dimensions in millimeters

KWIK-LOK® PINS



Ring-Handle – Inch

Pin Dia	Grip Length (inches)												
	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	4	5	6	
Stainless Steel – High Strength Stainless Steel, 17-4 PH heat treated													
P A R T I C L E	3/16	800200	800201	800202	800203	800204	800205	800206	800208	800209	800211	800213	800215
	1/4	800216	800217	800218	800219	800220	800221	800222	800224	800225	800227	800229	800231
	5/16	800232	800233	800234	800235	800236	800237	800238	800240	800241	800243	800245	800247
	3/8	800248	800249	800250	800251	800252	800253	800254	800256	800257	800259	800261	800263
	7/16	800264	800265	800266	800267	800268	800269	800270	800272	800273	800275	800277	800279
	1/2	800280	800281	800282	800283	800284	800285	800286	800288	800289	800291	800293	800295
	9/16	800296	800297	800298	800299	800300	800301	800302	800304	800305	800307	800309	800311
	5/8	800312	800313	800314	800315	800316	800317	800318	800320	800321	800323	800325	800327
	3/4	800328	800329	800330	800331	800332	800333	800334	800336	800337	800339	800341	800343
	7/8	800344	800345	800346	800347	800348	800349	800350	800352	800353	800355	800357	800359
1	800360	800361	800362	800363	800364	800365	800366	800368	800369	800371	800373	800375	
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
M B E R S	3/16	800000	800001	800002	800003	800004	800005	800006	800008	800009	—	—	—
	1/4	800016	800017	800018	800019	800020	800021	800022	800024	800025	800027	800029	800031
	5/16	800032	800033	800034	800035	800036	800037	800038	800040	800041	800043	800045	800047
	3/8	800048	800049	800050	800051	800052	800053	800054	800056	800057	800059	800061	800063
	7/16	800064	800065	800066	800067	800068	800069	800070	800072	800073	800075	800077	800079
	1/2	800080	800081	800082	800083	800084	800085	800086	800088	800089	800091	800093	800095
	9/16	800096	800097	800098	800099	800100	800101	800102	800104	800105	800107	800109	800111
	5/8	800112	800113	800114	800115	800116	800117	800118	800120	800121	800123	800125	800127
	3/4	800128	800129	800130	800131	800132	800133	800134	800136	800137	800139	800141	800143
	7/8	800144	800145	800146	800147	800148	800149	800150	800152	800153	800155	800157	800159
1	800160	800161	800162	800163	800164	800165	800166	800168	800169	800171	800173	800175	

Contact customer service for other sizes.

Ring-Handle – Metric

Pin Dia	Grip Length (mm)												
	10	15	20	25	30	40	50	60	70	80	90	100	
Stainless Steel – High Strength Stainless Steel, 17-4 PH heat treated													
P A R T I C L E	5	850200	850201	850202	850203	850204	850205	850206	850207	850208	850209	850210	850211
	6	850212	850213	850214	850215	850216	850217	850218	850219	850220	850221	850222	850223
	8	850224	850225	850226	850227	850228	850229	850230	850231	850232	850233	850234	850235
	10	850236	850237	850238	850239	850240	850241	850242	850243	850244	850245	850246	850247
	12	850248	850249	850250	850251	850252	850253	850254	850255	850256	850257	850258	850259
	16	850260	850261	850262	850263	850264	850265	850266	850267	850268	850269	850270	850271
N U M B E R S	20	850272	850273	850274	850275	850276	850277	850278	850279	850280	850281	850282	850283
	25	850284	850285	850286	850287	850288	850289	850290	850291	850292	850293	850294	850295
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
M B E R S	5	850000	850001	850002	850003	850004	850005	850006	850007	850008	850009	850010	850011
	6	850012	850013	850014	850015	850016	850017	850018	850019	850020	850021	850022	850023
	8	850024	850025	850026	850027	850028	850029	850030	850031	850032	850033	850034	850035
	10	850036	850037	850038	850039	850040	850041	850042	850043	850044	850045	850046	850047
	12	850048	850049	850050	850051	850052	850053	850054	850055	850056	850057	850058	850059
	16	850060	850061	850062	850063	850064	850065	850066	850067	850068	850069	850070	850071
	20	850072	850073	850074	850075	850076	850077	850078	850079	850080	850081	850082	850083
	25	850084	850085	850086	850087	850088	850089	850090	850091	850092	850093	850094	850095

Contact customer service for other metric sizes.

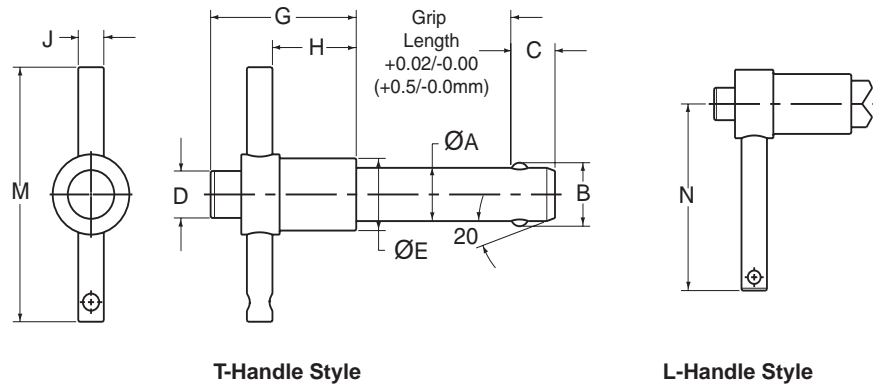
KWIK-LOK® PINS



Heavy Duty T&L Handle Pins

17985, 17986, NAS1333-NAS1343

C2=Stainless T Handle
C5=Stainless L Handle



- Also known as Ground Handling Pins
- Heavy Duty welded handle provides additional impact resistance
- Includes split ring for easy attachment of optional lanyard.
- All stainless steel handle and button provide additional corrosion resistance

Heavy Duty T&L Handle Specifications – Inch

Nom Pin Dia	Pin Dia A		±0.005 B	+0.00/-0.04 C	D	E	G	H	J	M	N
	Min	Max									
3/16 (#10)	.1870	.1885	.220	.260	1/4	7/16	1 1/4	13/16	3/16	1 15/16	1 3/4
1/4	.2470	.2485	.289	.290	1/4	7/16	1 1/4	13/16	3/16	1 15/16	1 3/4
5/16	.3095	.3110	.375	.330	1/4	7/16	1 1/4	13/16	3/16	1 15/16	1 3/4
3/8	.3720	.3735	.440	.365	5/16	9/16	1 11/32	13/16	1/4	1 15/16	1 3/4
7/16	.4345	.4360	.509	.380	5/16	9/16	1 11/32	13/16	1/4	2 1/8	1 3/4
1/2	.4970	.4985	.594	.460	7/16	11/16	1 7/16	13/16	1/4	2 3/8	1 31/32
9/16	.5595	.5610	.666	.510	7/16	11/16	1 7/16	13/16	1/4	2 3/8	1 31/32
5/8	.6220	.6235	.750	.580	1/2	15/16	1 11/16	31/32	5/16	2 7/8	2 15/32
3/4	.7470	.7485	.887	.670	37/64	15/16	1 23/32	31/32	5/16	2 7/8	2 15/32
7/8	.8720	.8735	1.046	.760	3/4	1 3/16	2 5/32	1 1/4	3/8	3 1/4	2 13/16
1	.9970	.9985	1.219	.890	3/4	1 3/16	2 5/32	1 1/4	3/8	3 1/4	2 13/16

Heavy Duty T&L Handle Specifications – Metric

Nom Pin Dia	Pin Dia A		± 0.25 B	+0.0/- 1.0 C	D	E	G	H	J	M	N
	Min	Max									
5	4.92	4.96	5.54	6	6.5	10.8	31.7	20.4	4.76	49.5	44.5
6	5.92	5.96	6.99	7	6.5	10.8	31.7	20.4	4.76	49.5	44.5
8	7.92	7.96	9.40	8	6.5	10.8	31.7	20.4	4.76	49.5	44.5
10	9.92	9.96	11.86	9	7.7	14.2	34.1	21.0	6.35	49.5	44.5
12	11.92	11.96	14.45	10	7.7	14.2	34.2	21.0	6.35	54.1	50.0
16	15.92	15.96	19.00	14	12.4	23.9	42.6	24.6	7.94	73.2	62.7
20	19.92	19.96	24.08	17	12.4	23.9	42.6	24.9	7.94	73.2	62.7
25	24.92	24.96	30.94	22	19.2	30.0	53.4	30.2	9.53	82.3	71.0

Dimensions in millimeters

- Body is made from high Strength Stainless Steel, 17-4 PH heat treated.
- Meets or exceeds NASM 23460 specifications
- May be ordered with 4 locking balls for additional locking element tensile strength

KWIK-LOK® PINS



Heavy Duty T-Handle – Inch

Table with columns: Pin Dia, Grip Length (inches) [0.5, 0.75, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 4, 5, 6]. Rows include pin sizes 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1.

Heavy Duty L-Handle – Inch

Table with columns: Pin Dia, Grip Length (inches) [0.5, 0.75, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 4, 5, 6]. Rows include pin sizes 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1.

Contact customer service for other sizes. Includes attachment ring.

Heavy Duty T-Handle – Metric

Table with columns: Pin Dia, Grip Length (mm) [10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100]. Rows include pin sizes 5, 6, 8, 10, 12, 16, 20, 25.

Heavy Duty L-Handle – Metric

Table with columns: Pin Dia, Grip Length (mm) [10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100]. Rows include pin sizes 5, 6, 8, 10, 12, 16, 20, 25.

Contact customer service for other metric sizes. Includes attachment ring.

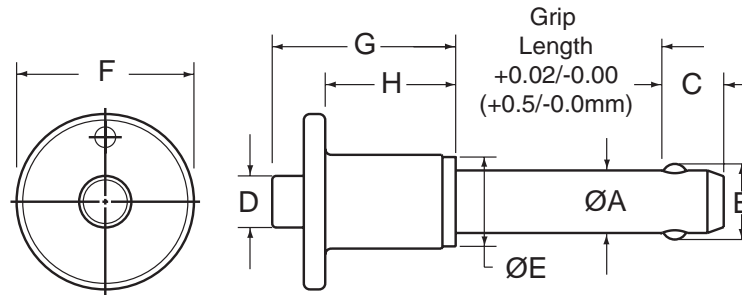
KWIK-LOK® PINS



Heavy Duty Button Handle Pin

MS17984, NAS1333-NAS1343

C3=Stainless Button Handle



Heavy Duty Button Handle

Heavy Duty Button Handle Specifications – Inch

Nom Pin Dia	Pin Dia A		±0.005 B	+0.00/-0.04 C	D	E	F	G	H
	Min	Max							
3/16 (#10)	.1870	.1885	.220	.260	1/4	7/16	13/16	13/16	5/8
1/4	.2470	.2485	.289	.290	1/4	7/16	13/16	13/16	5/8
5/16	.3095	.3110	.375	.330	1/4	7/16	7/8	29/32	5/8
3/8	.3720	.3735	.440	.365	5/16	9/16	1 1/8	1 1/32	3/4
7/16	.4345	.4360	.509	.380	5/16	9/16	1 1/8	1 3/32	3/4
1/2	.4970	.4985	.594	.460	7/16	23/32	1 3/8	1 3/16	13/16
9/16	.5595	.5610	.666	.510	7/16	23/32	1 3/8	1 3/8	1
5/8	.6220	.6235	.750	.580	37/64	27/32	1 5/8	1 1/2	1 1/16
3/4	.7470	.7485	.887	.670	37/64	15/16	1 7/8	1 21/32	1 5/32
7/8	.8720	.8735	1.046	.760	3/4	1 1/8	2 3/16	1 31/32	1 1/2
1	.9970	.9985	1.219	.890	3/4	1 3/16	2 3/16	2 1/8	1 1/2

Heavy Duty Button Handle Specifications – Metric

Nom Pin Dia	Pin Dia A		± 0.25 B	+0.0/- 1.0 C	D	E	F	G	H
	Min	Max							
5	4.92	4.96	5.54	6	6.4	11.1	20.6	20.6	15.9
6	5.92	5.96	6.99	7	6.4	11.1	20.6	20.6	15.9
8	7.92	7.96	9.42	8	6.4	11.1	22.2	23.0	15.9
10	9.92	9.96	11.86	9	7.9	14.3	28.6	27.8	19.1
12	11.92	11.96	14.45	10	11.1	18.3	34.9	34.9	25.4
16	15.92	15.96	19.00	14	14.7	21.4	41.3	38.1	27.0
20	19.92	19.96	24.08	17	14.7	23.8	47.6	42.1	29.4
25	24.92	24.96	30.94	22	19.1	30.2	55.6	54.0	38.1

Dimensions in millimeters

- Heavy Duty solid handle in 303 series stainless steel provides additional impact resistance
- Includes hole and split ring for easy attachment of optional lanyard.
- All stainless steel construction provides additional corrosion resistance
- Body is made from high Strength Stainless Steel, 17-4 PH heat treated
- Meets or exceeds NASM 23460 specifications
- May be ordered with 4 locking balls for additional locking element tensile strength

KWIK-LOK® PINS



Pin Dia	Grip Length (inches)											
	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	4	5	6
Heavy Duty Button Handle – Inch												
3/16	806400	806401	806402	806403	806404	806405	806406	806408	806409	806411	806413	806415
1/4	806416	806417	806418	806419	806420	806421	806422	806424	806425	806427	806429	806431
5/16	806432	806433	806434	806435	806436	806437	806438	806440	806441	806443	806445	806447
3/8	806448	806449	806450	806451	806452	806453	806454	806456	806457	806459	806461	806463
7/16	806464	806465	806466	806467	806468	806469	806470	806472	806473	806475	806477	806479
1/2	806480	806481	806482	806483	806484	806485	806486	806488	806489	806491	806493	806495
9/16	806496	806497	806498	806499	806500	806501	806502	806504	806505	806507	806509	806511
5/8	806512	806513	806514	806515	806516	806517	806518	806520	806521	806523	806525	806527
3/4	806528	806529	806530	806531	806532	806533	806534	806536	806537	806539	806541	806543
7/8	806544	806545	806546	806547	806548	806549	806550	806552	806553	806555	806557	806559
1	806560	806561	806562	806563	806564	806565	806566	806568	806569	806571	806573	806575
Pin Dia	Grip Length (mm)											
	10	15	20	25	30	40	50	60	70	80	90	100
Heavy Duty Button Handle – Metric												
5	855400	855401	855402	855403	855404	855405	855406	855407	855408	855409	855410	855411
6	855412	855413	855414	855415	855416	855417	855418	855419	855420	855421	855422	855423
8	855424	855425	855426	855427	855428	855429	855430	855431	855432	855433	855434	855435
10	855436	855437	855438	855439	855440	855441	855442	855443	855444	855445	855446	855447
12	855448	855449	855450	855451	855452	855453	855454	855455	855456	855457	855458	855459
16	855460	855461	855462	855463	855464	855465	855466	855467	855468	855469	855470	855471
20	855472	855473	855474	855475	855476	855477	855478	855479	855480	855481	855482	855483
25	855484	855485	855486	855487	855488	855489	855490	855491	855492	855493	855494	855495

Contact customer service for other sizes. Includes attachment ring.

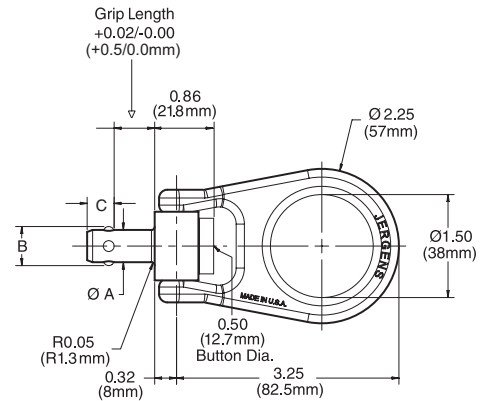
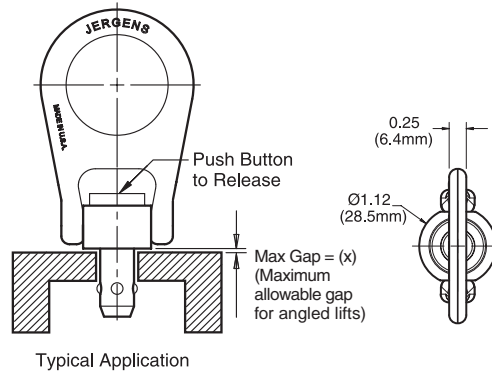
PART NUMBERS

PART NUMBERS

KWIK-LOK® PINS



Kwik-Lok® Lifting Pins



Lifting Pin Specifications – Inches

- All stainless steel construction and components
- 17-4 PH stainless steel forged, heat treated lifting ring with large opening
- Lifting ring with Load Spreader Bar
- 5 to 1 strength factor
- 360° Swivel
- 180° Pivot
- Also chosen for lashing applications

Nom Pin Dia	Max. Load Rating (lbs)*	ØA		±0.005 B	+0.00/-0.04 C	Max. Gap (X) (in)	Required Hole Diameter (in)	
		Min	Max				Max	Min
1/4	400	.2470	.2485	.286	.290	0.06	0.2540	0.2500
5/16	700	.3095	.3110	.375	.330	0.06	0.3165	0.3125
3/8	1,000	.3720	.3735	.440	.365	0.06	0.3790	0.3750
1/2	1,250	.4970	.4985	.594	.460	0.06	0.5050	0.5000
5/8	1,400	.6220	.6235	.750	.580	0.06	0.6300	0.6250

Lifting Pin Specifications – Metric

Nom Pin Dia	Max. Load Rating (kN)*	ØA		±0.25 B	+0.0/-1.0 C	Max. Gap (X) (mm)	Required Hole Diameter (mm)	
		Min	Max				Max	Min
10	4.4	9.92	9.96	12.00	9	1.5	10.1	10.0
12	5.5	11.92	11.96	14.27	10	1.5	12.1	12.0
16	6.2	15.92	15.96	19.00	14	1.5	16.1	16.0

*Dimensions in millimeters



To add Lift ID™ to Hoist Ring Add "F" to the end of the part number Example: 23414F



Kwik-Lok® Lifting Pin – Inches

Dia.	Grip Length							
	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00
1/4	807216	807217	807218	807219	807220	807222	807224	807225
5/16	807232	807233	807234	807235	807236	807238	807240	807241
3/8	807248	807249	807250	807251	807252	807254	807256	807257
1/2	807280	807281	807282	807283	807284	807286	807288	807289
5/8	807312	807313	807314	807315	807316	807318	807320	807321

Kwik-Lok® Lifting Pin – Metric

Dia.	Grip Length							
	15	20	25	30	35	40	50	75
10	857237	857238	857239	857240	857299	857241	857242	857307
12	857249	857250	857251	857252	857300	857253	857254	857308
16	857261	857262	857263	857264	857301	857265	857266	857309

Important: Please review all operating instructions that are included in the packaging or online before use.

Note: If the required hole size cannot be achieved; Jergens recommends the use of our threaded receptacle (see page 451); Please Contact Customer Service with any questions.

*Lifting load ratings are based on tests with hardened tool steel plates or shoulder bushings. Load ratings may be reduced if oversized holes or parent material under 80,000 psi tensile are used.

*Kwik-Lok® Lifting Pins are not suited for continuous rotation under load.

KWIK-LOK® PINS



Threaded Receptacles

High Strength Stainless Steel, 17-4 PH heat treated

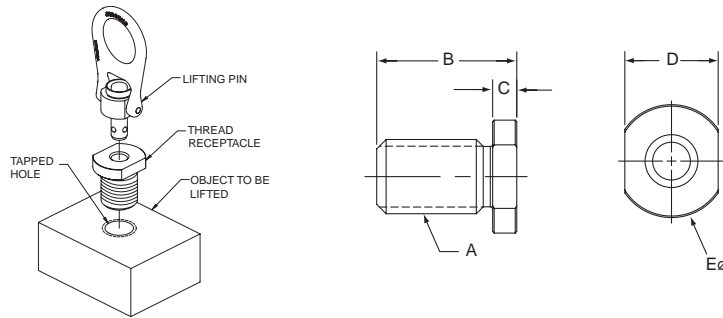


KLP Threaded Receptacles – Inch

For Kwik-Lok® Lifting Pin Size	Use Receptacle Part Number	Thread Size A	Overall Length B	Head Height C	Head Flats D	Diameter E	Install Torque (ft-lbs)	
								For Kwik-Lok® Lifting Pin Part Number
1/4x0.5	807216	845100	1/2-13	0.930	0.16	.62	.75	7
5/16x0.5	807232	845101	3/4-10	1.100	0.28	.87	1.12	18
3/8x0.5	807248	845102	3/4-10	1.100	0.28	.87	1.12	25
1/2x0.5	807280	845103	1 1/8-7	1.625	0.37	1.25	1.62	47
5/8x0.5	807312	845104	1 1/8-7	1.625	0.37	1.25	1.62	53

KLP Threaded Receptacles – Metric

For Kwik-Lok® Lifting Pin Size	Use Receptacle Part Number	Thread Size A	Overall Length B	Head Height C	Head Flats D	Diameter E	Install Torque (kg-m)	
								For Kwik-Lok® Lifting Pin Part Number
10x15	857237	855100	M20x2.5	29	7	26	34.8	3.6
12x15	857249	855101	M22x2.5	37	9	30	34.8	5.0
16x15	857261	855102	M27x3	41	10	32	41.2	6.9



Kwik-Lok® Lifting Pin Kits – Inch

Kit Part Number	Kwik-Lok® Lifting Pin Size	Receptacle Thread Size	Kwik-Lok® Lifting Pin Part Number	Threaded Receptacle Part Number
847216	1/4 x 0.5	1/2-13	807216	845100
847232	5/16 x 0.5	3/4-10	807232	845101
847248	3/8 x 0.5	3/4-10	807248	845102
847280	1/2 x 0.5	1 1/8-7	807280	845103
847312	5/8 x 0.5	1 1/8-7	807312	845104

*Each kit contains one Kwik-Lok® lifting pin and one corresponding Threaded Receptacle.

Kwik-Lok® Lifting Pin Kits – Metric

Kit Part Number	Kwik-Lok® Lifting Pin Size	Receptacle Thread Size	Kwik-Lok® Lifting Pin Part Number	Threaded Receptacle Part Number
877237	M10 x 15	M20 x 2.5	857237	855100
877249	M12 x 15	M22 x 2.5	857249	855101
877261	M16 x 15	M27 x 3	857261	855102

*Each kit contains one Kwik-Lok® lifting pin and one corresponding Threaded Receptacle.

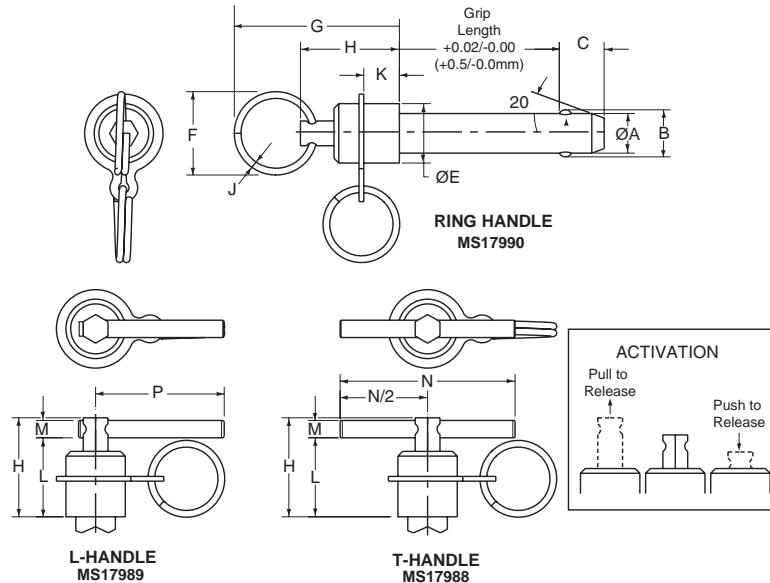




Double Acting T, L, Ring Handles MS17988, MS17989, MS17990 NAS1353-NAS1366



Push/Pull Activation



- Double Acting Pins are activated by push or pull motion
- All stainless steel construction provides additional corrosion resistance
- Body is made from high Strength Stainless Steel, 17-4 PH heat treated.
- Ideal for quick insertion and removal
- Four ball options available upon request
- Includes split ring for easy attachment of optional lanyard.
- Meets or exceeds NASM 23460 specifications
- Drive Out feature available upon request

Double Acting Specifications – Inch

Nom Pin Dia	Pin Dia A		B ±0.005	C Max	E		F		Max G	H	J	K		Min L	Dia M	N	P
	Min	Max			Min	Max	Min	Max				Min	Max				
3/16 (#10)	.1870	.1885	.220	.410	.360	.450	1.000	1.125	1.945	1.030	.080	.415	.480	.780	.109	1.500	1.300
1/4	.2470	.2485	.289	.410	.360	.450	1.000	1.125	1.945	1.030	.080	.415	.480	.780	.109	1.500	1.300
5/16	.3095	.3110	.375	.440	.390	.505	1.000	1.125	1.945	1.030	.080	.415	.480	.780	.109	1.500	1.300
3/8	.3720	.3735	.440	.510	.510	.630	1.000	1.125	2.025	1.090	.080	.445	.540	.830	.156	2.000	1.500
7/16	.4345	.4360	.509	.510	.510	.630	1.000	1.125	2.025	1.090	.080	.445	.540	.830	.156	2.000	1.500
1/2	.4970	.4985	.594	.590	.640	.755	1.000	1.125	2.200	1.270	.080	.445	.540	.880	.218	2.250	1.655
9/16	.5595	.5610	.666	.660	.640	.755	1.000	1.125	2.200	1.270	.080	.445	.540	.880	.218	2.250	1.655
5/8	.6220	.6235	.750	.750	.805	.870	1.312	1.500	2.690	1.465	.120	.510	.575	1.000	.250	2.500	1.810
3/4	.7470	.7485	.887	.790	.890	.960	1.312	1.500	2.690	1.465	.120	.530	.595	1.000	.250	2.500	1.810
7/8	.8720	.8735	1.046	.950	1.070	1.150	1.312	1.500	2.860	1.640	.120	.665	.730	1.180	.250	2.875	2.250
1	.9970	.9985	1.219	1.110	1.200	1.280	1.312	1.500	3.010	1.830	.120	.800	.865	1.320	.250	2.875	2.250

Double Acting Specifications – Metric

Nom Pin Dia	Pin Dia A		B ±0.25	C Max	E		F		Max G	H	J	K		Min L	Dia M	N	P
	Min	Max			Min	Max	Min	Max				Min	Max				
5	4.92	4.96	5.54	10.41	9.14	11.43	25.40	28.58	49.40	26.16	2.03	10.54	12.19	19.81	2.78	38.10	33.02
6	5.92	5.96	6.99	10.41	9.14	11.43	25.40	28.58	49.40	26.16	2.03	10.54	12.19	19.81	2.78	38.10	33.02
8	7.92	7.96	9.42	11.68	9.91	12.83	25.40	28.58	49.40	26.16	2.03	10.54	12.19	19.81	2.78	38.10	33.02
10	9.92	9.96	11.86	13.21	12.95	16.00	25.40	28.58	51.44	27.69	2.03	11.30	13.72	21.08	3.97	49.21	38.10
12	11.92	11.96	14.45	13.72	12.95	16.00	25.40	28.58	51.44	27.69	2.03	11.30	13.72	21.08	3.97	49.21	38.10
16	15.92	15.96	19.00	19.18	20.45	22.10	33.32	38.10	68.33	37.21	3.04	12.95	14.61	25.40	6.35	61.91	45.97
20	19.92	19.96	24.08	20.57	22.61	24.38	33.32	38.10	68.33	37.21	3.04	13.46	15.11	25.40	6.35	61.91	45.97
25	24.92	24.96	30.94	28.83	30.48	32.51	33.32	38.10	76.45	46.48	3.04	20.32	21.97	33.53	6.35	71.45	57.15

Dimensions in millimeters

KWIK-LOK® PINS



Pin Dia	Grip Length (inches)											
	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	4	5	6
Double Acting Ring Handle – Inch – MS17990												
3/16	806200	806201	806202	806203	806204	806205	806206	806208	806209	806211	806213	806215
1/4	806216	806217	806218	806219	806220	806221	806222	806224	806225	806227	806229	806231
5/16	806232	806233	806234	806235	806236	806237	806238	806240	806241	806243	806245	806247
3/8	806248	806249	806250	806251	806252	806253	806254	806256	806257	806259	806261	806263
7/16	806264	806265	806266	806267	806268	806269	806270	806272	806273	806275	806277	806279
1/2	806280	806281	806282	806283	806284	806285	806286	806288	806289	806291	806293	806295
9/16	806296	806297	806298	806299	806300	806301	806302	806304	806305	806307	806309	806311
5/8	806312	806313	806314	806315	806316	806317	806318	806320	806321	806323	806325	806327
3/4	806328	806329	806330	806331	806332	806333	806334	806336	806337	806339	806341	806343
7/8	806344	806345	806346	806347	806348	806349	806350	806352	806353	806355	806357	806359
1	806360	806361	806362	806363	806364	806365	806366	806368	806369	806371	806373	806375
Double Acting T-Handle – Inch – MS17988												
3/16	803400	803401	803402	803403	803404	803405	803406	803408	803409	803411	803413	803415
1/4	803416	803417	803418	803419	803420	803421	803422	803424	803425	803427	803429	803431
5/16	803432	803433	803434	803435	803436	803437	803438	803440	803441	803443	803445	803447
3/8	803448	803449	803450	803451	803452	803453	803454	803456	803457	803459	803461	803463
7/16	803464	803465	803466	803467	803468	803469	803470	803472	803473	803475	803477	803479
1/2	803480	803481	803482	803483	803484	803485	803486	803488	803489	803491	803493	803495
9/16	803496	803497	803498	803499	803500	803501	803502	803504	803505	803507	803509	803511
5/8	803512	803513	803514	803515	803516	803517	803518	803520	803521	803523	803525	803527
3/4	803528	803529	803530	803531	803532	803533	803534	803536	803537	803539	803541	803543
7/8	803544	803545	803546	803547	803548	803549	803550	803552	803553	803555	803557	803559
1	803560	803561	803562	803563	803564	803565	803566	803568	803569	803571	803573	803575
Double Acting L-Handle – Inch – MS17989												
3/16	806000	806001	806002	806003	806004	806005	806006	806008	806009	806011	806013	806015
1/4	806016	806017	806018	806019	806020	806021	806022	806024	806025	806027	806029	806031
5/16	806032	806033	806034	806035	806036	806037	806038	806040	806041	806043	806045	806047
3/8	806048	806049	806050	806051	806052	806053	806054	806056	806057	806059	806061	806063
7/16	806064	806065	806066	806067	806068	806069	806070	806072	806073	806075	806077	806079
1/2	806080	806081	806082	806083	806084	806085	806086	806088	806089	806091	806093	806095
9/16	806096	806097	806098	806099	806100	806101	806102	806104	806105	806107	806109	806111
5/8	806112	806113	806114	806115	806116	806117	806118	806120	806121	806123	806125	806127
3/4	806128	806129	806130	806131	806132	806133	806134	806136	806137	806139	806141	806143
7/8	806144	806145	806146	806147	806148	806149	806150	806152	806153	806155	806157	806159
1	806160	806161	806162	806163	806164	806165	806166	806168	806169	806171	806173	806175

Contact customer service for other sizes.

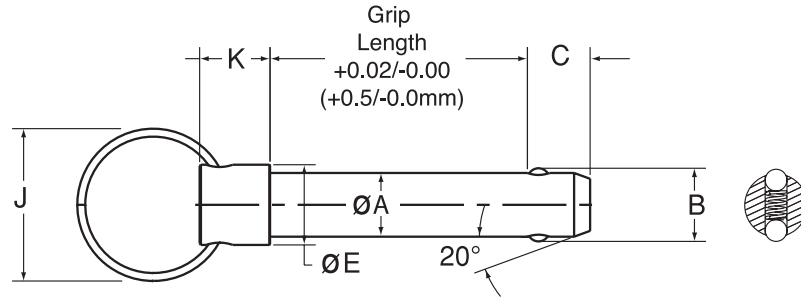
Pin Dia	Grip Length (mm)											
	10	15	20	25	30	40	50	60	70	80	90	100
Double Acting Ring Handle – Metric												
5	855000	855001	855002	855003	855004	855005	855006	855007	855008	855009	855010	855011
6	855012	855013	855014	855015	855016	855017	855018	855019	855020	855021	855022	855023
8	855024	855025	855026	855027	855028	855029	855030	855031	855032	855033	855034	855035
10	855036	855037	855038	855039	855040	855041	855042	855043	855044	855045	855046	855047
12	855048	855049	855050	855051	855052	855053	855054	855055	855056	855057	855058	855059
16	855060	855061	855062	855063	855064	855065	855066	855067	855068	855069	855070	855071
20	855072	855073	855074	855075	855076	855077	855078	855079	855080	855081	855082	855083
25	855084	855085	855086	855087	855088	855089	855090	855091	855092	855093	855094	855095
Double Acting T-Handle – Metric												
5	853400	853401	853402	853403	853404	853405	853406	853407	853408	853409	853410	853411
6	853412	853413	853414	853415	853416	853417	853418	853419	853420	853421	853422	853423
8	853424	853425	853426	853427	853428	853429	853430	853431	853432	853433	853434	853435
10	853436	853437	853438	853439	853440	853441	853442	853443	853444	853445	853446	853447
12	853448	853449	853450	853451	853452	853453	853454	853455	853456	853457	853458	853459
16	853460	853461	853462	853463	853464	853465	853466	853467	853468	853469	853470	853471
20	853472	853473	853474	853475	853476	853477	853478	853479	853480	853481	853482	853483
25	853484	853485	853486	853487	853488	853489	853490	853491	853492	853493	853494	853495
Double Acting L-Handle – Metric												
5	854600	854601	854602	854603	854604	854605	854606	854607	854608	854609	854610	854611
6	854612	854613	854614	854615	854616	854617	854618	854619	854620	854621	854622	854623
8	854624	854625	854626	854627	854628	854629	854630	854631	854632	854633	854634	854635
10	854636	854637	854638	854639	854640	854641	854642	854643	854644	854645	854646	854647
12	854648	854649	854650	854651	854652	854653	854654	854655	854656	854657	854658	854659
16	854660	854661	854662	854663	854664	854665	854666	854667	854668	854669	854670	854671
20	854672	854673	854674	854675	854676	854677	854678	854679	854680	854681	854682	854683
25	854684	854685	854686	854687	854688	854689	854690	854691	854692	854693	854694	854695

Contact customer service for other metric sizes.

KWIK-LOK® PINS



Heavy Duty Detent Pins MIL-P-45952/1



The Heavy Duty Detent Kwik-Lok® Pin is a high quality shoulder style alignment pin for applications that don't require the positive locking ball feature.

- Heavy duty spring and 2 spring loaded stainless steel locking balls provide high pull out force
- Available in 300 Series Stainless steel or heat treated alloy steel. Also in 17-4 PH heat treated stainless steel upon request
- Includes split ring for easy attachment of optional lanyard.

Heavy Duty Detent Specifications – Inch

Nom. Pin Dia	Dia. +0.000/-0.003 A	Min. B	+0.00/-0.06 C	Dia. +/-0.015 E	Dia. J	K	Double Shear Strength – (lbs)		Pull Out Force (lbs)	Recommended Hole Diameter	
							Alloy Steel Heat Treated	Stainless 300 Series		Max	Min
3/16 (#10)	.1885	.200	.250	.375	1.187	.50	4,700	2,530	2 to 7	0.1940	0.1900
1/4	.2480	.280	.344	.375	1.187	.50	8,500	4,500	2 to 7	0.2540	0.2500
5/16	.3105	.360	.359	.438	1.187	.50	13,400	7,100	2 to 7	0.3165	0.3125
3/8	.3730	.430	.390	.500	1.187	.50	19,600	10,300	6 to 14	0.3790	0.3750
7/16	.4355	.495	.469	.625	1.187	.55	26,700	14,050	6 to 14	0.4425	0.4375
1/2	.4980	.570	.516	.625	1.187	.55	34,900	18,400	10 to 22	0.5050	0.5000
9/16	.5605	.645	.593	.625	1.687	.55	44,300	23,300	15 to 30	0.5675	0.5625
5/8	.6230	.720	.672	.750	1.687	.55	54,900	28,900	15 to 30	0.6300	0.6250
3/4	.7480	.860	.750	.875	1.687	.55	79,300	41,800	15 to 30	0.7570	0.7500
7/8	.8730	1.030	.859	1.000	2.187	.55	108,000	57,000	20 to 35	0.8820	0.8750
1	.9980	1.160	.984	1.125	2.187	.55	141,500	74,600	20 to 40	1.0100	1.0000

Heavy Duty Detent Specifications – Metric

Nom. Pin Dia	Dia. +0.000/-0.080 A	Min. B	+0.0/-1.5 C	Dia. +/-0.4 E	Dia. J	K	Double Shear Strength – (kN)		Pull Out Force N	Recommended Hole Diameter	
							Alloy Steel Heat Treated	Stainless 300 Series		Max	Min
5	4.95	5.23	6.35	9.53	30.15	12.7	23	12	9 to 31	5.1	5
6	5.95	6.88	8.74	9.53	30.15	12.7	33	17	9 to 31	6.1	6
8	7.95	9.35	9.12	11.13	30.15	12.7	60	32	9 to 31	8.1	8
10	9.95	11.58	9.91	12.70	30.15	12.7	96	50	26 to 62	10.1	10
12	11.95	13.84	13.11	15.88	30.15	14.2	138	73	44 to 97	12.1	12
16	15.95	18.54	17.07	19.05	42.85	14.2	248	130	66 to 133	16.1	16
20	19.95	22.91	19.05	22.23	42.85	14.2	388	204	89 to 155	20.15	20
25	24.95	29.18	24.99	28.58	55.55	14.2	609	321	89 to 178	25.15	25

Dimensions in millimeters

KWIK-LOK® PINS



Heavy Duty Detent Pins – Inch

Pin Dia	Grip Length (inches)												
	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	4	5	6	
Stainless Steel – Stainless Steel, 300 series													
PART NUMBER	3/16	803800	803801	803802	803803	803804	803805	803806	803808	803809	803811	803813	803815
	1/4	803816	803817	803818	803819	803820	803821	803822	803824	803825	803827	803829	803831
	5/16	803832	803833	803834	803835	803836	803837	803838	803840	803841	803843	803845	803847
	3/8	803848	803849	803850	803851	803852	803853	803854	803856	803857	803859	803861	803863
	7/16	803864	803865	803866	803867	803868	803869	803870	803872	803873	803875	803877	803879
	1/2	803880	803881	803882	803883	803884	803885	803886	803888	803889	803891	803893	803895
	9/16	803896	803897	803898	803899	803900	803901	803902	803904	803905	803907	803909	803911
	5/8	803912	803913	803914	803915	803916	803917	803918	803920	803921	803923	803925	803927
	3/4	803928	803929	803930	803931	803932	803933	803934	803936	803937	803939	803941	803943
	7/8	803944	803945	803946	803947	803948	803949	803950	803952	803953	803955	803957	803959
1	803960	803961	803962	803963	803964	803965	803966	803968	803969	803971	803973	803975	
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
PART NUMBER	3/16	803600	803601	803602	803603	803604	803605	803606	803608	803609	803611	803613	803615
	1/4	803616	803617	803618	803619	803620	803621	803622	803624	803625	803627	803629	803631
	5/16	803632	803633	803634	803635	803636	803637	803638	803640	803641	803643	803645	803647
	3/8	803648	803649	803650	803651	803652	803653	803654	803656	803657	803659	803661	803663
	7/16	803664	803665	803666	803667	803668	803669	803670	803672	803673	803675	803677	803679
	1/2	803680	803681	803682	803683	803684	803685	803686	803688	803689	803691	803693	803695
	9/16	803696	803697	803698	803699	803700	803701	803702	803704	803705	803707	803709	803711
	5/8	803712	803713	803714	803715	803716	803717	803718	803720	803721	803723	803725	803727
	3/4	803728	803729	803730	803731	803732	803733	803734	803736	803737	803739	803741	803743
	7/8	803744	803745	803746	803747	803748	803749	803750	803752	803753	803755	803757	803759
1	803760	803761	803762	803763	803764	803765	803766	803768	803769	803771	803773	803775	

Contact customer service for other sizes.

Heavy Duty Detent Pins – Metric

Pin Dia	Grip Length (mm)												
	10	15	20	25	30	40	50	60	70	80	90	100	
Stainless Steel – Stainless Steel, 300 series													
PART NUMBER	5	853800	853801	853802	853803	853804	853805	853806	853807	853808	853809	853810	853811
	6	853812	853813	853814	853815	853816	853817	853818	853819	853820	853821	853822	853823
	8	853824	853825	853826	853827	853828	853829	853830	853831	853832	853833	853834	853835
	10	853836	853837	853838	853839	853840	853841	853842	853843	853844	853845	853846	853847
	12	853848	853849	853850	853851	853852	853853	853854	853855	853856	853857	853858	853859
	16	853860	853861	853862	853863	853864	853865	853866	853867	853868	853869	853870	853871
PART NUMBER	20	853872	853873	853874	853875	853876	853877	853878	853879	853880	853881	853882	853883
	25	853884	853885	853886	853887	853888	853889	853890	853891	853892	853893	853894	853895
Alloy Steel – High Strength Alloy Steel, 4130 heat treated and cadmium plated, yellow trivalent chromium passivation													
PART NUMBER	5	853600	853601	853602	853603	853604	853605	853606	853607	853608	853609	853610	853611
	6	853612	853613	853614	853615	853616	853617	853618	853619	853620	853621	853622	853623
	8	853624	853625	853626	853627	853628	853629	853630	853631	853632	853633	853634	853635
	10	853636	853637	853638	853639	853640	853641	853642	853643	853644	853645	853646	853647
	12	853648	853649	853650	853651	853652	853653	853654	853655	853656	853657	853658	853659
	16	853660	853661	853662	853663	853664	853665	853666	853667	853668	853669	853670	853671
	20	853672	853673	853674	853675	853676	853677	853678	853679	853680	853681	853682	853683
	25	853684	853685	853686	853687	853688	853689	853690	853691	853692	853693	853694	853695

Contact customer service for other metric sizes.

KWIK-LOK® PINS

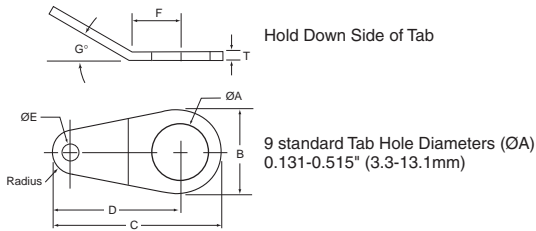


Lanyard Specifications & Styles

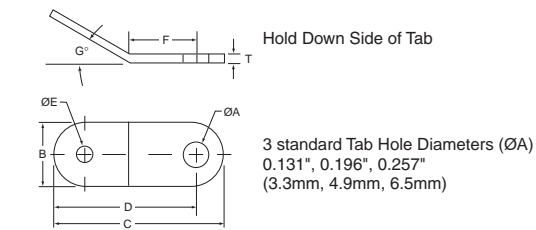
Lanyard Specifications:

- 302/304 Stainless Steel cable, 1/16" (1.59 mm), with green nylon jacket, 1/8" (3.18 mm), meets Mil-DTL-83420
- Other cable diameters, other jacket colors (blue, black, clear) and special configuration styles by special order.

Stainless Steel Round Tab



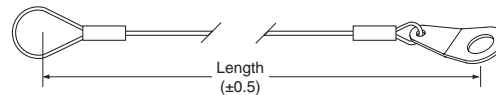
Aluminum Oval Tab



Consult Table 1, Page 457 for Options.

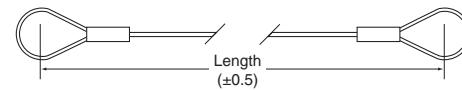
Standard (W/Tab)

(Fig. 1)



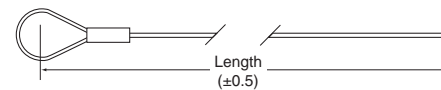
Standard (2 Loops)

(Fig. 2)



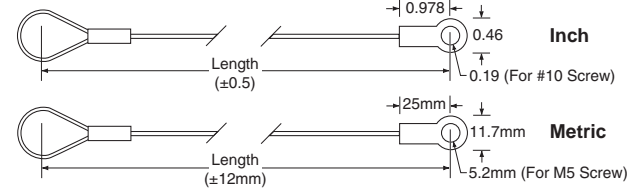
Standard (1 Loop)

(Fig. 3)



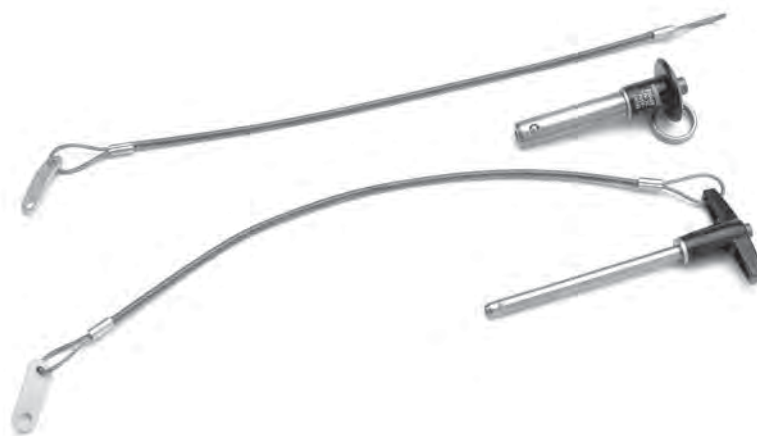
Loop/Eyelet, Stainless Steel

(Fig. 4)



Tab Dimensions – Inch

Tab Style	±0.005 ØA	±0.01 B	±0.02 C	±0.02 D	±0.005 ØE	±0.016 Radius	±0.01 F	± 5 deg. G	±0.01 T	Material
Round Tab	See Table 1	0.688	1.316	1.004	0.125	0.160	0.406	12	0.048	300 Series Stain. Steel
Oval Tab	See Table 1	0.375	1.130	0.945	0.125	—	0.500	12	0.060	Aluminum





Ordering Lanyards Attached to Pins

Lanyard with a Tab (Fig. 1)

Length		Round Tab	Oval Tab
inch	mm	Stainless Steel	Aluminum
4	102	(Pin#) A*	(Pin#) M*
6	152	B*	N*
8	203	C*	P*
10	254	D*	Q*
12	305	H*	R*
16	406	J*	S*
20	508	K*	T*
24	610	L*	U*

Substitute the asterisk (*) with the proper hole size letter from Table 1.

Table 1 Tab Hole Size

Tab Mounting Hole Diameter		
Inch	mm	Size Letter
0.131	3.3	P
0.196	4.9	Q
0.257	6.5	R
0.283†	7.1†	S
0.320†	8.1†	T
0.379†	9.6†	U
0.406†	10.3†	V
0.468†	11.8†	W
0.515†	13.1†	Y

(†) These sizes only available in stainless steel round tabs

Lanyard without a Tab

Length		2 Loops	1 Loops (Pin)
inch	mm	(Fig. 2)	(Fig. 3)
4	102	(Pin#)EA	(Pin#)FA
6	152	EB	FB
8	203	EC	FC
10	254	ED	FD
12	305	EE	FE
16	406	EF	FF
20	508	EG	FG
24	610	EH	FH

Lanyard

Loop/Eyelet (Fig. 4)

For Screw Size	
#10	M5
(Pin#)GA	(Pin#)HA
GB	HB
GC	HC
GD	HD
GE	HE
GF	HF
GG	HG
GH	HH

Part Numbering:

Lanyards with Tab, attached to Pins

To order Kwik-Lok® pins with attached lanyard and tab (fig. 1), photo on page 456. Specify the six digit pin number followed by two letters from the tables above to define the lanyard length, type of lanyard and tab mounting hole diameter. The first letter designates the length of the lanyard and the type of Tab. The second letter (from table 1) designates the size of the hole in the tab for the mounting screw.

Example A: For an Aluminum T-Handle with stainless steel pin body 1/2" x 1.0", with an attached 8" Lanyard and Round Stainless Steel Tab with a mounting hole diameter of 0.257" (6.5 mm), the part number is 801082CR.

Lanyards with 2 loops, 1 loop, or loop/eyelet

To order Kwik-Lok® pins with lanyard and 2 loops (fig. 2), 1 loop (fig. 3) or loop/eyelet (fig. 4), specify the six digit pin number followed by a two letter combination from above to define lanyard length, number of loops or loop/eyelet with mounting screw size.

Example B: For all Stainless Steel L Handle Pin, 1"x 6", with attached 24" (610 mm) lanyard and 2 Loops, the part number is 805775EH.

Example C: For all Stainless Steel Button Handle Pin, 6 x 40 mm, with attached 10" (254 mm) lanyard and Loop/Eyelet for M5 screws, the part number is 855417HD.

Note: Split rings are not included when attaching lanyards, unless customer specified. In that case add an R as a third letter to the extension.

Ordering Lanyards When Supplied Separately Without Pins

Lanyards with Tabs (Fig. 1)

Length		Round Tab	Oval Tab
inch	mm	Stainless Steel	Aluminum
4	102	890054*	890104*
6	152	890056*	890106*
8	203	890058*	890108*
10	254	890060*	890110*
12	305	890062*	890112*
16	406	890066*	890116*
20	508	890070*	890120*
24	610	890074*	890124*

Substitute the asterisk (*) with the proper hole size letter from Table 1.

Table 1 Tab Hole Size

Tab Mounting Hole Diameter		
Inch	mm	Size Letter
0.131	3.3	P
0.196	4.9	Q
0.257	6.5	R
0.283†	7.1†	S
0.320†	8.1†	T
0.379†	9.6†	U
0.406†	10.3†	V
0.468†	11.8†	W
0.515†	13.1†	Y

(†) These sizes only available in stainless steel round tabs

Lanyards without Tabs

Length		2 Loops	1 Loops (Pin)
inch	mm	(Fig. 2)	(Fig. 3)
4	102	890204	890254
6	152	890206	890256
8	203	890208	890258
10	254	890210	890260
12	305	890212	890262
16	406	890216	890266
20	508	890220	890270
24	610	890224	890274

Lanyard

Loop/Eyelet (Fig. 4)

For Screw Size	
#10	M5
890304	890404
890306	890406
890308	890408
890310	890410
890312	890412
890316	890416
890320	890420
890324	890424

Part Numbering: Lanyards to be Supplied Separately

For lanyards with tabs, ordered separately without pins (photo page 456), specify the six digit pin number followed by the hole size letter from Table 1.

Example D: For a 24" (610 mm) lanyard with stainless steel round tab with a mounting hole diameter of 0.406" (10.3 mm), the part number is 890074V.

KWIK-LOK® PINS



Kwik-Lok® Pin Specifications

Kwik-Lok® Pin Specifications – Inch

Pin Dia (in)	Double Shear Resistance Minimum (lbs)*		Locking Element Tensile Strength Min (lbs)†	Recommended Hole Diameter (in)	
	Stainless Steel 17-4 PH Heat Treated	Alloy Steel Heat Treated Cadmium Plated		Max	Min
1/4	9,200	8,200	230	0.2540	0.2500
5/16	14,400	12,800	510	0.3165	0.3125
3/8	20,700	18,400	575	0.3790	0.3750
7/16	28,500	25,000	710	0.4425	0.4375
1/2	36,900	32,800	1,160	0.5050	0.5000
9/16	46,700	41,600	1,420	0.5675	0.5625
5/8	57,800	51,400	2,070	0.6300	0.6250
3/4	83,200	74,600	2,950	0.7570	0.7500
7/8	112,500	100,000	3,900	0.8820	0.8750
1	147,200	131,000	5,480	1.0100	1.0000

Kwik-Lok® Pin Specifications – Metric

Pin Dia (mm)	Double Shear Resistance Minimum (kN)*		Locking Element Tensile Strength Min (N)†	Recommended Hole Diameter (mm)	
	Stainless Steel 17-4 PH Heat Treated	Alloy Steel Heat Treated Cadmium Plated		Max	Min
6	35	31	890	6.1	6
8	65	58	2,250	8.1	8
10	100	88	2,280	10.1	10
12	144	128	3,150	12.1	12
16	257	229	9,200	16.1	16
20	403	358	13,100	20.15	20
25	631	561	23,400	25.15	25

* Double shear values are the minimum requirements according to NAS functionality tests.

† Locking element tensile strength values are the minimum requirements of NAS functionality tests. Pins may be special ordered with 4 locking balls for additional locking element tensile strength.

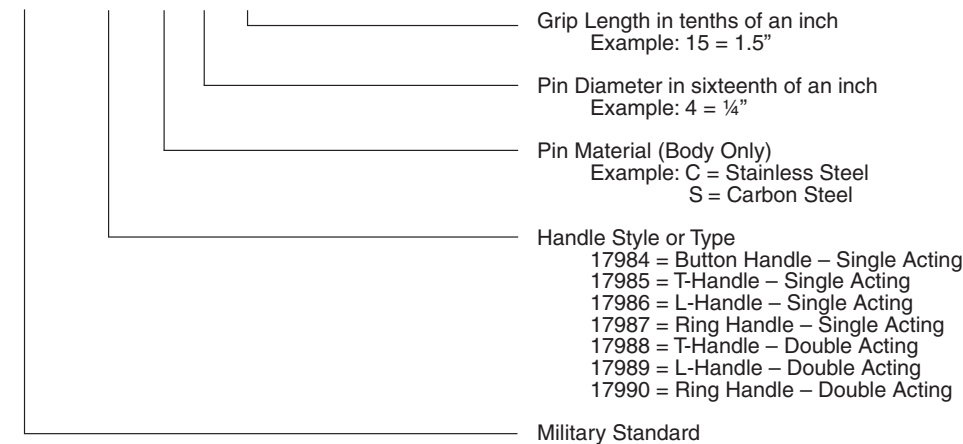
Military Specifications (MS) & National Aerospace Standards (NASM)

Jergens is a Department of Defense approved supplier of Quick Release Pins, under CAGE code 94882. Certificate of Conformance is available upon request at time of order. DFARS compliant material can be quoted upon request.

NAS Number 1333-1346 and 1353-1366 are available.

MS Numbers 17984-90 now refer to NASM 17984-90.

MS 17984 C 4 15



Special Military and Aerospace size and configurations are available. Please contact customer service 1-800-JERGENS (537-4367).

KWIK-LOK® PINS



Material Specifications

Kwik-Lok® Pin

Component Part	Material
Bodies (Shank)	CRES 17-4 PH Stainless Steel
	Alloy Steel 4130
Balls	CRES 440C Stainless Steel*
Buttons	CRES 17-4 PH Stainless Steel
	Aluminum Alloy 2024
Springs	CRES 302 Stainless Steel
Handles	
T & L Handles	Aluminum (380) Casting
Button Handles	Aluminum Alloy 2024
Ring Handles	CRES 303 Stainless Steel
Heavy Duty T & L	CRES 303 Stainless Steel
Heavy Duty Button Handle	CRES 303 Stainless Steel
Recessed Button Handle	CRES 300 Series Stainless Steel
Collar	CRES 303 or 304 Stainless Steel

Kwik-Lok® Lifting Pin

Component Part	Material
Bodies (Shank)	CRES 17-4 PH Stainless Steel
Balls	CRES 440C Stainless Steel*
Buttons	CRES 303 Stainless Steel
Lift Ring	Forged 17-4 PH Stainless Steel
Springs	CRES 302 Stainless Steel

Detent Pins

Component Part	Material
Bodies (Shank)	CRES 303 Stainless Steel
	Alloy Steel 4130
Balls	CRES 440C Stainless Steel*
Springs	CRES 302 Stainless Steel
Head	CRES 303 Stainless Steel
	Alloy Steel 4130

* Locking Balls also available in 302 Stainless Steel by special order.
 Actual locking element tensile strength is reduced by lower strength alloys.
 Ordering special pins with 4 balls will increase locking element tensile strength above NAS functionality test requirements.

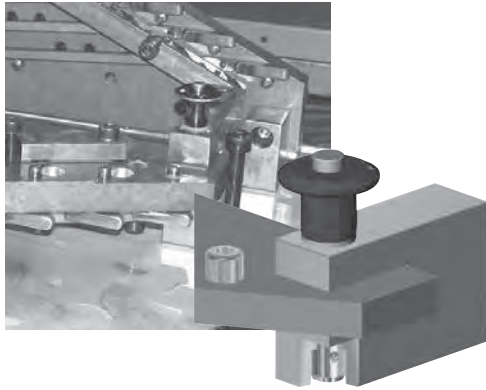
Heat Treatment:

- 17-4 PH Stainless Steel: Condition H-900, Rockwell C40 Min per MIL-H-6875
- 4130 Alloy Steel: Rockwell C36-40

Surface Treatment:

- CRES Parts: Passivate per AMS-QQ-P-35
- Alloy Steel Parts: Cadmium plate per QQ-P-416, Type II, Class 2
- Aluminum Alloy Parts: Anodize per MIL-A-8625 Type I or II per MIL-C-5541 Class 1A
- Aluminum Handles: Color Black

Jergens Kwik-Lok® Pins are designed and manufactured to meet or exceed these standards.



Diverse Application Needs

Manufacturing:

Jigs and Fixturing
 Packaging Machinery
 Paper Mills/Machinery
 Conveyor Systems
 Material Handling Equipment
 Textile Machinery
 Forming and Fabricating Equipment
 Plastic Injection Molding

Medical Equipment:

Hospital Beds and Cots
 Medical Equipment
 Portable X-Ray Equipment
 Wheelchairs

Recreational Industry:

Hot Air Balloons
 Recreational Vehicles
 Racing Cars
 (hoods, transmissions,
 steering wheels)
 Weight Machines
 Jet Skis
 Hang Gliders
 Mountain Climbing Equipment



Aviation/Military:

Tank Doors and Lids
 (Various process industries)
 Landing Gear
 Drop Tanks
 Ordnance
 Cargo Nets
 Aircraft Seating
 Aerial Spraying Equipment
 Gliders

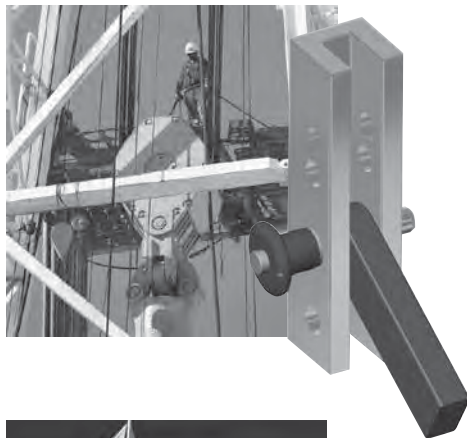
Marine Industry

(Recreation/Commercial):

Anchors
 Bimini Covers
 Outriggers
 Boat Trailers
 Rudder/Tiller Attachments
 Sailboat Rigging
 Commercial Boat Rigging

General Industrial:

Scaffolding Equipment
 Mining Equipment
 Drilling Equipment
 Lifting Equipment
 (Hoists, Slings, Cables, etc.)
 Trailer Beds

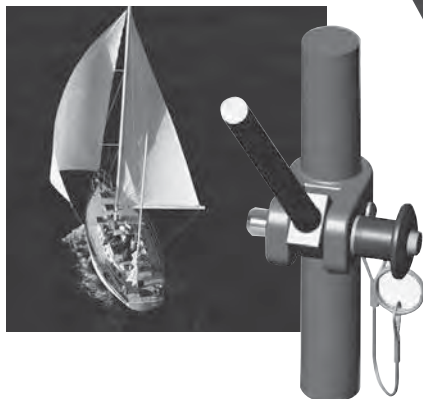


Need a Special Size or Configuration?

See page 461 and contact Jergens for more information.

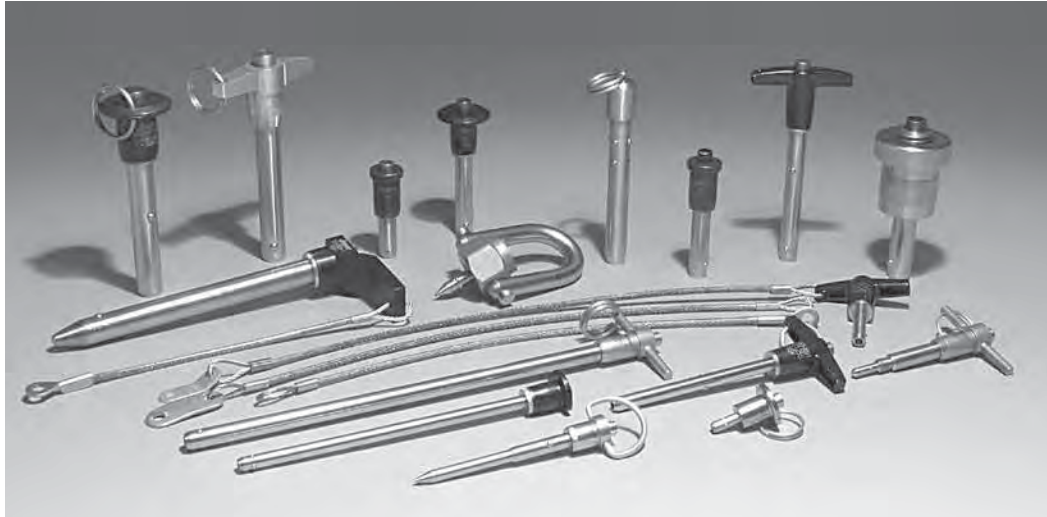
3D solid models available in SolidWorks® (.SLDPRT) and other formats, downloadable from www.jergensinc.com.

SolidWorks® is a registered trademark of SolidWorks Corporation.





Kwik-Lok® Pin Special Application Information



Special Kwik-Lok® Pins

If you don't see the exact Kwik-Lok® Pin to meet your application requirements, photocopy the form below, indicate your requirements, and send to Jergens.

Quotation Request Worksheet (online at www.jergensinc.com/tools/pins_rfq.aspx)

		<p>1. Pin Diameter _____</p> <p>2. Grip Length _____</p> <p>3. Overall Length _____</p>
--	--	---

***For special Shank/Lanyard configurations – Please provide drawing or sketch.**

Application (describe): _____

Handle Style: T L Ring Button Recessed Button Kwik-Lok® Lifting Pins Special _____

Body Material: 17-4 PH heat treated Stainless Steel Alloy Steel, heat treated, cadmium plated

Other (describe) _____

Number of Locking Elements: 2 balls(standard) 4 balls Attach Split Ring? _____ (yes/no)

*Lanyard Length: _____ (inch or mm) SS cable with nylon color _____ (Green,Black,Clear or other)

Attach Lanyard directly to Pin without split ring? _____ (yes/no) Attach to Split Ring? _____ (yes/no)

Tabs: Round (Stainless Steel) Oval(Aluminum) Mounting Hole Size _____ (inch or mm)

Loop/Eyelet (Stainless Steel) with Mounting Hole: 0.19" for #10 screw 5.2mm for M5 screw

Quantity Required: _____ (pieces) Request date: _____ Annual Requirements _____ (pieces)

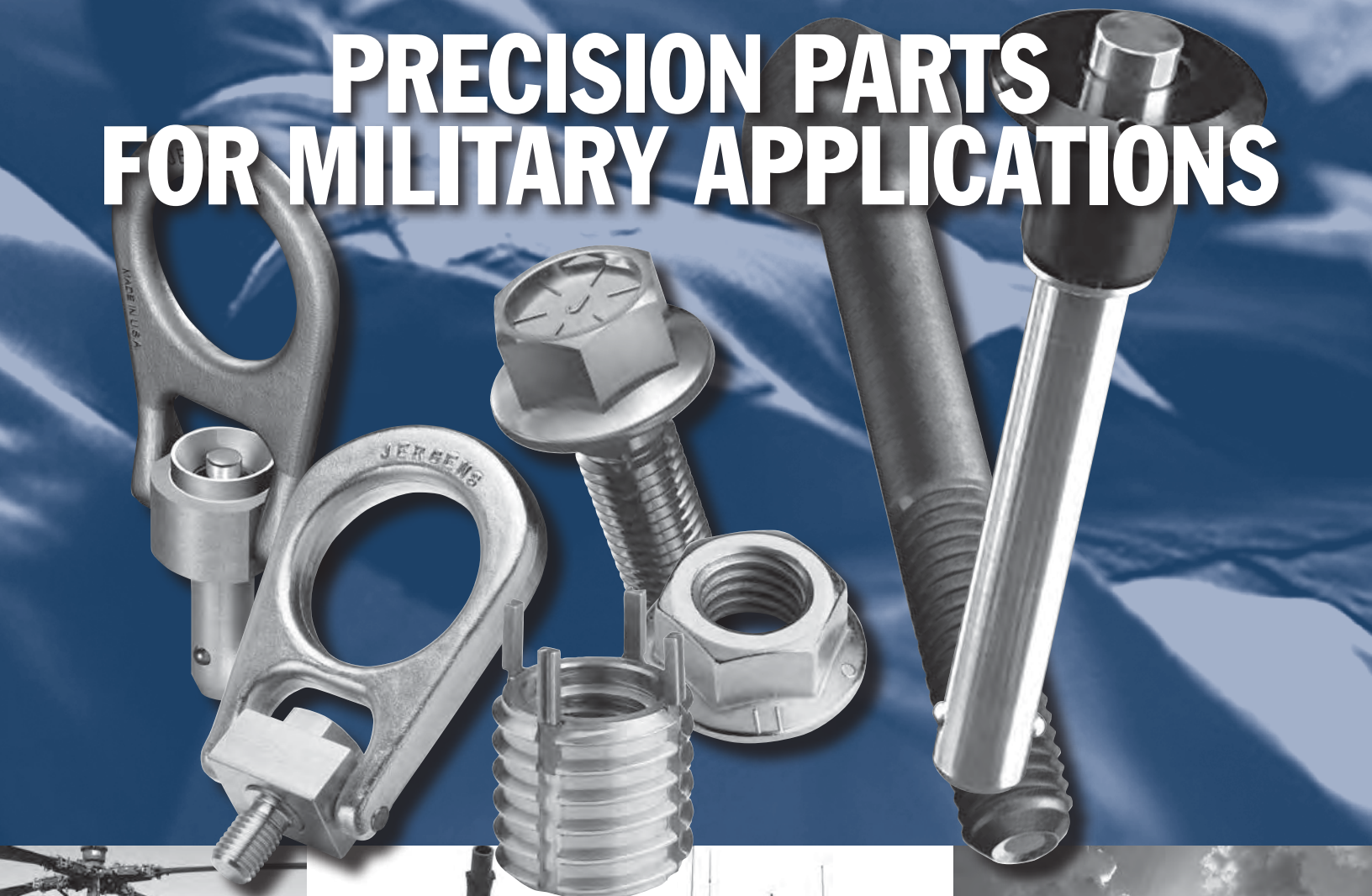
NAME: _____ POSITION/TITLE: _____

COMPANY: _____ ADDRESS: _____

CITY: _____ STATE: _____ COUNTRY: _____ POSTAL CODE: _____

TELEPHONE: _____ FAX: _____ E-MAIL: _____

PRECISION PARTS FOR MILITARY APPLICATIONS



Jergens is an ISO 9001:2008 certified, government-approved manufacturer. We are your complete source for mil-spec Kwik-Lok® pins, spring-loaded devices, threaded inserts, and threaded components and washers. We also offer workholding components, locating components, handles, knobs and handwheels, lifting products that include center-pull and side-pull styles of hoist rings, and toggle clamps.

Jergens can offer quick turnaround on special orders, low or no minimums, and engineering expertise that results in our ability to answer and help with technical questions. We offer the advantages of relationship and know-how.

- **MS, NAS, DFARS, and RoHS Compliant Parts Available**
- **Military Drawings Available in 3D Solid Models (Multiple Formats) from www.jergensinc.com**
- **Manufacturing #: 697830**
- **FSCMI Cage Code: 94882**

Jergens®

THREADED INSERTS

Threaded Inserts

Bolster Plate Bushings.....	467
Installation and Removal Instructions.....	464
Internal Locking Thread Repair Insert.....	470–471
Keylocking, Extra Heavy Duty Industrial Style.....	468
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Keylocking, Solid Industrial Style.....	469
Keylocking, Thinwall Industrial Style.....	465
Miniature Metric Mil Spec Inserts.....	472–473
Thread Repair Kits	474–477



Installation Information



1. Drill to allow full tap depth shown in chart. Note: Tap drill is oversized; see chart below. Countersink as shown in chart.



2. Tap to depth shown in chart.



3. Install insert .010" to .030" below surface.



4. Drive keys down with proper installation tool.

Removal Information

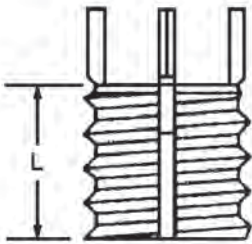
Jergens Keylocking Inserts can be removed without damage to the parent material.

1. Drill the insert to the size and depth shown under removal data in the chart below.
2. Bend the keys down and break them off.
3. Remove the insert using an E-Z out or similar tool.



Installation Information

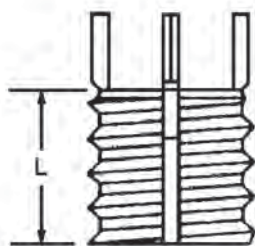
Preparation of External Threads Prior to Installation (For Keylocking Inserts Only)



Insert		Installation Data			Removal Data	
External Thread Class 2A	Length L	Tap Drill Size	C'sink Dia. +.010 -.000	Minimum Tap Depth	Drill	
					Size	Depth
5/16-18	.31	I	.323	.37	7/32	1/8
3/8-16	.31/.37	Q	.385	.37/.43	9/32	1/8
7/16-14	.31/.37/.43	X	.447	.37/.43/.50	11/32	3/16
1/2-13	.37/.43/.50	29/64	.510	.44/.50/.56	13/32	3/16
9/16-12	.43/.50/.56	33/64	.572	.50/.56/.62	15/32	3/16
5/8-11	.50/.62	37/64	.635	.56/.68	17/32	3/16
3/4-16	.62/.81	45/64	.760	.68/.94	21/32	3/16
7/8-14	.68/.81/.87	53/64	.885	.75/.94/1.0	25/32	3/16
1-12	.87	15/16	1.020	1.0	27/32	5/16
1 1/8-12	1.12	1 1/16	1.145	1.31	31/32	5/16
1 1/4-12	1.12/1.25	1 3/16	1.270	1.31/1.44	1 3/32	5/16
1 3/8-12	1.25/1.37	1 5/16	1.395	1.44/1.56	1 7/32	5/16
1 1/2-12	1.37/1.62	1 7/16	1.520	1.56/1.84	1 11/32	5/16
1 5/8-12	1.81	1 9/16	1.640	2.06	1 15/32	5/16
1 7/8-12	2.00	1 13/16	1.890	2.28	1 23/32	5/16



Keylocking Inserts Thinwall Industrial Style



- Material: Carbon Steel Inserts - C1215 or equivalent
Stainless Steel Insert - 303 Keys - 302
- Finish: Carbon Steel Inserts - Parkerized
Stainless Steel Inserts - Passivated
- Tolerances: Inch \pm .010 Metric \pm .25mm
- Keys: Inserts with internal thread size of 5/16-18 or larger are furnished with four locking keys.

Inch Inserts - Thinwall

Internal Thread Class 2B	Part Number		External Thread	Length L	Installation Tool Part Number
	Carbon Steel	Stainless Steel			
10-24	25921	26321	5/16-18	.31	24721
10-32	26121	26521	5/16-18	.31	24721
1/4-20	25922	26322	3/8-16	.37	24722
1/4-28	26122	26522	3/8-16	.37	24722
5/16-18	25923	26323	7/16-14	.43	24723
5/16-24	26123	26523	7/16-14	.43	24723
3/8-16	25924	26324	1/2-13	.50	24724
3/8-24	26124	26524	1/2-13	.50	24724
7/16-14	25925	26325	9/16-12	.56	24725
7/16-20	26125	26525	9/16-12	.56	24725
1/2-13	25926	26326	5/8-11	.62	24726
1/2-20	26126	26526	5/8-11	.62	24726

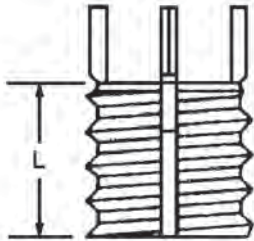
See chart on page 464 for installation information.

Metric Inserts - Thinwall

Part Number		Insert		Length L	Installation Tool Part No.	Tap Drill Size	C'sink Dia. +.25 -.00	Thread Tap		Removal Drill	
Carbon Steel	Stainless Steel	Internal Thread Class 6H	External Thread Class 6g					Size Class 6h	Min. Depth	Size	Depth
25951	26351	M 5x0.8	M 8x1.25									8.0	24751	6.9	8.25	M 8x1.25	9.5	5.50	4.00
25952	26352	M 6x1.0	M 10x1.25	10.0	24752	8.8	10.25	M 10x1.25	11.5	7.50	4.75
25953	26353	M 8x1.25	M 12x1.25	12.0	24753	10.8	12.25	M 12x1.25	13.5	9.50	4.75
26153	26553	M 8x1.0	M 12x1.25	12.0	24753	10.8	12.25	M 12x1.25	13.5	9.50	4.75
25955	26355	M 10x1.5	M 14x1.5	14.0	24755	12.8	14.25	M 14x1.5	15.5	11.50	4.75
26155	26555	M 10x1.25	M 14x1.5	14.0	24755	12.8	14.25	M 14x1.5	15.5	11.50	4.75
25956	26356	M 12x1.75	M 16x1.5	16.0	24756	14.75	16.25	M 16x1.5	17.5	13.50	4.75
26156	26556	M 12x1.25	M 16x1.5	16.0	24756	14.75	16.25	M 16x1.5	17.5	13.50	4.75



Keylocking Inserts Heavy Duty Industrial Style



- Material: Carbon Steel Inserts - C1215 or equivalent
Stainless Steel Insert - 303
Keys - 302
- Finish: Carbon Steel Inserts - Parkerized
Stainless Steel Inserts - Passivated
- Tolerances: Inch $\pm .010$
Metric $\pm .25\text{mm}$
- Keys: Inserts with internal thread size of 5/16-18 or larger are furnished with four locking keys.

Inch Inserts - Heavy Duty

Internal Thread Class 2B	Part Number		External Thread	Length L	Installation Tool Part Number
	Carbon Steel	Stainless Steel			
8-32	25900	26300	5/16-18	.31	24719
10-24	25901	26301	3/8-16	.31	24701
10-32	26101	26501	3/8-16	.31	24701
1/4-20	25902	26302	7/16-14	.37	24702
1/4-28	26102	26502	7/16-14	.37	24702
5/16-18	25903	26303	1/2-13	.43	24703
5/16-24	26103	26503	1/2-13	.43	24703
3/8-16	25904	26304	9/16-12	.50	24704
3/8-24	26104	26504	9/16-12	.50	24704
7/16-14	25905	26305	5/8-11	.62	24705
7/16-20	26105	26505	5/8-11	.62	24705
1/2-13	25906	26306	3/4-16	.62	24706
1/2-20	26106	26506	3/4-16	.62	24706
9/16-12	25907	26307	3/4-16	.81	24707
9/16-18	26107	26507	3/4-16	.81	24707
5/8-11	25908	26308	7/8-14	.87	24708
5/8-18	26108	26508	7/8-14	.87	24708
3/4-10	25909	26309	1 1/8-12	1.12	24709
3/4-16	26109	26509	1 1/8-12	1.12	24709
7/8-9	25910	26310	1 1/4-12	1.25	24710
7/8-14	26110	26510	1 1/4-12	1.25	24710
1-8	25911	26311	1 3/8-12	1.37	24711
1-12	26111	26511	1 3/8-12	1.37	24711
1-14	26112	—	1 3/8-12	1.37	24711
1 1/8-7	25913	—	1 1/2-12	1.62	24713
1 1/8-12	26113	—	1 1/2-12	1.62	24713
1 1/4-7	25914	—	1 5/8-12	1.81	24714
1 1/4-12	26114	—	1 5/8-12	1.81	24714
1 1/2-6	25916	—	1 7/8-12	2.00	24716
1 1/2-12	26116	—	1 7/8-12	2.00	24716

See chart on page 464 for installation information.

Metric Inserts - Heavy Duty

Part Number Carbon Steel	Part Number Stainless Steel	Insert			Installation						Removal	
		Internal Thread Class 6H	External Thread Class 6g	Length L	Installation Tool Part No.	Tap Drill Size	C'sink Diameter +.25 -.00	Thread Tap		Drill		
								Size Class 6h	Min. Depth	Size	Depth	
25963	26363	M 4x0.7	M 8x1.25	8.0	24763	6.9	8.25	M 8x1.25	9.5	5.50	4.00	
25964	26364	M 5x0.8	M 10x1.25	10.0	24764	8.8	10.25	M 10x1.25	12.5	7.50	4.75	
25965	26365	M 6x1.0	M 12x1.25	12.0	24765	10.8	12.25	M 12x1.25	14.5	9.50	4.75	
25966	26366	M 8x1.25	M 14x1.5	14.0	24766	12.8	14.25	M 14x1.5	16.5	11.50	4.75	
26166	26566	M 8x1.0	M 14x1.5	14.0	24766	12.8	14.25	M 14x1.5	16.5	11.50	4.75	
25967	26367	M 10x1.5	M 16x1.5	16.0	24767	14.75	16.25	M 16x1.5	18.5	13.50	4.75	
26167	26567	M 10x1.25	M 16x1.5	16.0	24767	14.75	16.25	M 16x1.5	18.5	13.50	4.75	
25969	26369	M 12x1.75	M 18x1.5	18.0	24769	16.75	18.25	M 18x1.5	20.5	15.50	4.75	
26169	26569	M 12x1.25	M 18x1.5	18.0	24769	16.75	18.25	M 18x1.5	20.5	15.50	4.75	
25970	26370	M 14x2.0	M 20x1.5	20.0	24770	18.75	20.25	M 20x1.5	22.5	17.50	4.75	
26170	26570	M 14x1.5	M 20x1.5	20.0	24770	18.75	20.25	M 20x1.5	22.5	17.50	4.75	
25971	26371	M 16x2.0	M 22x1.5	22.0	24771	20.5	22.25	M 22x1.5	24.5	17.75	6.35	
26171	26571	M 16x1.5	M 22x1.5	22.0	24771	20.5	22.25	M 22x1.5	24.5	17.75	6.35	
26172	26572	M 18x1.5	M 24x1.5	24.0	24772	22.5	24.25	M 24x1.5	26.5	19.75	6.35	
25973	26373	M 20x2.5	M 30x2.0	30.0	24773	28.0	30.25	M 30x2.0	34.5	25.75	6.35	
26173	26573	M 20x1.5	M 30x2.0	30.0	24773	28.0	30.25	M 30x2.0	34.5	25.75	6.35	
26174	26574	M 22x1.5	M 32x2.0	32.0	24774	30.0	32.25	M 32x2.0	36.5	27.75	6.35	
25975	26375	M 24x3.0	M 33x2.0	33.0	24775	31.0	33.25	M 33x2.0	37.5	28.75	6.35	
26175	26575	M 24x2.0	M 33x2.0	33.0	24775	31.0	33.25	M 33x2.0	37.5	28.75	6.35	

NOTE: Install insert .25mm to .76mm below surface and drive locking keys down. See C'sink Diameter column above.

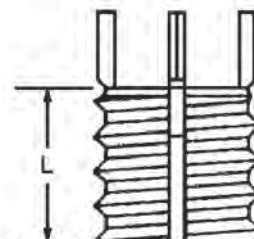


Keylocking Inserts Metric/Inch Inserts



Create Metric Holes... With Inch Taps!

This unique product allows you to create a metric thread utilizing inch drills and taps. The insert O.D. is inch sized, the I.D. is metric.



Metric Internal/Inch External - Heavy Duty Industrial Style

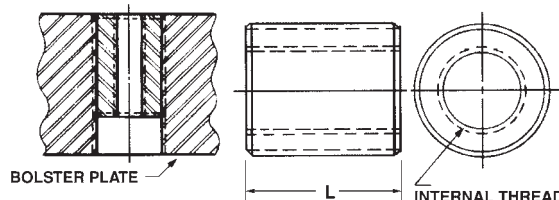
Part Number Carbon Steel	Insert			Installation					Removal	
	Internal Thread Class 6H	External Thread Class 2A	Length L	Installation Tool Part Number	Tap Drill Size	C'sink Diameter +.010 -.000	Thread Tap		Drill	
							Size Class 2b	Min. Depth	Size	Depth
26243	M 6x1.0	3/8 - 16	.31	24843	Q	.38	3/8 - 16	.37	9/32	1/8
26244	M 8x1.25	1/2 - 13	.43	24844	29/64	.51	1/2 - 13	.50	13/32	3/16
26245	M 10x1.5	5/8 - 11	.50	24845	37/64	.63	5/8 - 11	.56	17/32	3/16
26247	M 12x1.75	3/4 - 16	.62	24847	45/64	.76	3/4 - 16	.68	21/32	3/16
26248	M 14x2.0	7/8 - 14	.81	24848	53/64	.88	7/8 - 14	.94	25/32	5/16
26249	M 16x2.0	1" - 12	.87	24849	15/16	1.02	1" - 12	1.00	27/32	5/16

All dimensions are in inches except for internal thread, which is metric.

Bolster Plate Bushings



- Material: Stressproof
- Finish: Black Oxide
- Internal Thread: 2B-UNC
- External Thread: 2A-UNF



Repairs are made quickly, easily, and right on the machine. Re-tap bolster plate hole, insert the threaded bushing to match, use a locking type sealant to lock the bushing in place. The Bolster Plate Bushings can also be used as threaded bushings in cast iron machine bases where greater thread strength is necessary. Eliminates the problems of "pulled-out" cast iron threads, reduces the need for bulky threaded cast iron sections.

Part Number	Internal Thread	External Thread	L	Wt. (lbs) 10 Pcs.
11701	3/8-16	3/4-16	1 1/2	1.25
11702	1/2-13	1 -14	1 1/2	2.20
11703	5/8-11	1 -14	1 1/2	1.85
11704	3/4-10	1 1/4-12	1 1/2	3.00
11705	1 -8	1 1/2-12	2	5.15

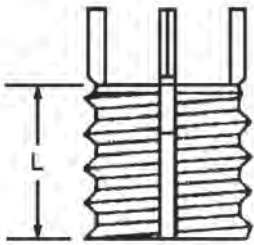
THREADED INSERTS

Keylocking Inserts Extra Heavy Duty Industrial Style



The increased wall thickness and greater external thread area of these extra heavy duty threaded inserts offer greater pull-out strength, stability, and longer life. These inserts should be used in materials with lower ultimate shear strength to obtain maximum pull-out strength and holding power.

- Greater Thread Area
- Increased Shear Engagement
- Offers Holding Power Comparable to Standard Heavy Duty Inserts in High Shear Strength Material
- Material: Carbon Steel Inserts - C1215 or equivalent
Stainless Steel Insert - 303
Keys - 302
- Finish: Carbon Steel Inserts - Parkerized
Stainless Steel Inserts - Passivated
- Tolerances: ± 0.010
- Keys: Inserts with internal thread size of 5/16-18 or larger are furnished with four locking keys.



Internal Thread Class 2B	Part Number		External Thread Class 2A	Length L	Installation Tool Part Number
	Carbon Steel	Stainless Steel			
6-32	25931	26331	5/16-18	.31	24731
8-32	25932	26332	3/8-16	.31	24732
10-24	25933	26333	7/16-14	.31	24733
10-32	26133	26533	7/16-14	.31	24733
1/4-20	25934	26334	1/2-13	.37	24734
1/4-28	26134	26534	1/2-13	.37	24734
5/16-18	25935	26335	9/16-12	.43	24735
5/16-24	26135	26535	9/16-12	.43	24735
3/8-16	25936	26336	5/8-11	.50	24736
3/8-24	26136	26536	5/8-11	.50	24736
7/16-14	25937	26337	3/4-16	.62	24737
7/16-20	26137	26537	3/4-16	.62	24737
1/2-13	25938	26338	7/8-14	.68	24738
1/2-20	26138	26538	7/8-14	.68	24738
9/16-12	25939	26339	7/8-14	.81	24739
9/16-18	26139	26539	7/8-14	.81	24739
5/8-11	25940	26340	1-12	.87	24740
5/8-18	26140	26540	1-12	.87	24740
3/4-10	25941	26341	1 1/4-12	1.12	24741
3/4-16	26141	26541	1 1/4-12	1.12	24741
7/8-9	25942	26342	1 3/8-12	1.25	24742
7/8-14	26142	26542	1 3/8-12	1.25	24742
1-8	25943	26343	1 1/2-12	1.37	24743
1-12	26143	26543	1 1/2-12	1.37	24743

See chart on page 464 for installation information.

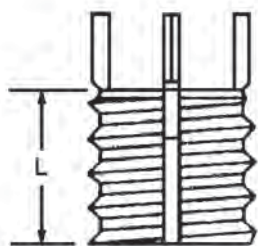
THREADED INSERTS



Keylocking Inserts Solid Industrial Style



- Material: Carbon Steel Inserts - C1215 or equivalent
Stainless Steel Insert - 303
Keys - 302
- Finish: Carbon Steel Inserts - Parkerized
Stainless Steel Inserts - Passivated
- Tolerances: Inch \pm .010
Metric \pm .25mm
- Keys: Inserts with internal thread size of M7 or larger are furnished with four locking keys.



- Salvage expensive castings
- Relocate holes that have been drilled or tapped in the wrong location
- Fill holes that are too large
- No need to alter original bolt size

External Thread Class 2A	Part Number		Length L	Installation Tool Part Number
	Carbon Steel	Stainless Steel		
5/16-18	26001	26401	.31	24801
3/8-16	26002	26402	.31	24802
7/16-14	26003	26403	.37	24803
1/2-13	26004	26404	.43	24804
9/16-12	26005	26405	.50	24805
5/8-11	26006	26406	.62	24806
3/4-16	26007	26407	.68	24807
7/8-14	26008	26408	.87	24808
1-12	26009	26409	.87	24809
1 1/8-12	26010	26410	1.12	24810
1 1/4-12	26011	26411	1.25	24811
1 3/8-12	26012	26412	1.37	24812

See chart on page 464 for installation information.

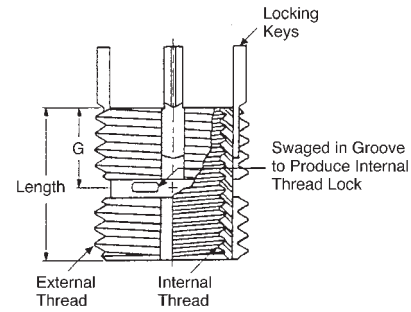
Metric Inserts - Solid

Part Number Carbon Steel	Insert		Installation					Removal	
	External Thread Class 6g	Length L	Installation Tool Part No.	Tap Drill Size	C'sink Dia. +.25 -.00	Thread Tap		Drill	
						Size Class 6h	Min. Depth	Size	Depth
26021	M 8x1.25	8.0	24821	6.9	8.25	M 8x1.25	9.5	5.50	4.00
26022	M 10x1.25	10.0	24822	8.8	10.25	M 10x1.25	12.5	7.50	4.75
26023	M 12x1.25	12.0	24823	10.8	12.25	M 12x1.25	14.5	9.50	4.75
26024	M 14x1.5	14.0	24824	12.8	14.25	M 14x1.5	16.5	11.50	4.75
26025	M 16x1.5	16.0	24825	14.75	16.25	M 16x1.5	18.5	13.50	4.75
26026	M 18x1.5	18.0	24826	16.75	18.25	M 18x1.5	20.5	15.50	4.75
26027	M 20x1.5	20.0	24827	18.75	20.25	M 20x1.5	22.5	17.50	4.75
26028	M 22x1.5	22.0	24828	20.5	22.25	M 22x1.5	24.5	17.75	6.35
26029	M 24x1.5	24.0	24829	22.5	24.25	M 24x1.5	26.5	19.75	6.35
26030	M 30x2.0	30.0	24830	28.0	30.25	M 30x2.0	34.5	25.75	6.35
26031	M 32x2.0	32.0	24831	30.0	32.25	M 32x2.0	36.5	27.75	6.35
26032	M 33x2.0	33.0	24832	31.0	33.25	M 33x2.0	37.5	28.75	6.35



Internal Locking Thread Repair Inserts

Material: Inserts - 303 stainless steel or equivalent
 Keys - 302 stainless steel or equivalent
 Finish: Passivated
 Tolerances: ± .010 inch unless specified otherwise.
 Dimensions: All dimensions below are in inches.
 Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.



Thinwall - Locking

Part Number	Insert				Installation					Removal	
	Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	G (Ref.)	Installation Tool Part No.	Tap Drill Size	C'sink Dia $+0.010$ -0.000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
24521	10 - 24	5/16 - 18	.31	.15	24721	"I"	.32	5/16 - 18	.37	7/32	1/8
24621	10 - 32										
24522	1/4 - 20	3/8 - 16	.37	.18	24722	"Q"	.38	3/8 - 16	.43	9/32	3/16
24622	1/4 - 28										
24523	5/16 - 18	7/16 - 14	.43	.21	24723	"X"	.44	7/16 - 14	.50	11/32	3/16
24623	5/16 - 24										
24524	3/8 - 16	1/2 - 13	.50	.25	24724	29/64	.51	1/2 - 13	.56	13/32	3/16
24624	3/8 - 24										
24525	7/16 - 14	9/16 - 12	.56	.28	24725	33/64	.57	9/16 - 12	.62	15/32	3/16
24625	7/16 - 20										
24526	1/2 - 13	5/8 - 11	.62	.31	24726	37/64	.63	5/8 - 11	.68	17/32	3/16
24626	1/2 - 20										

Heavy Duty - Locking

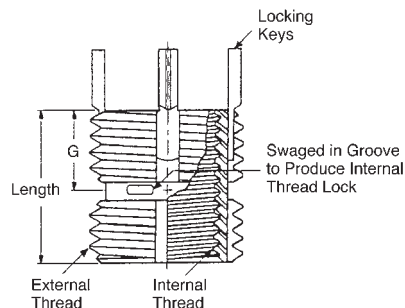
Part Number	Insert				Installation					Removal	
	Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	G (Ref.)	Installation Tool Part No.	Tap Drill Size	C'sink Dia $+0.010$ -0.000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
24500	8 - 32	5/16 - 18	.31	.15	24700	"I"	.32	5/16 - 18	.37	7/32	1/8
24501	10 - 24	3/8 - 16	.31	.15	24701	"Q"	.38	3/8 - 16	.37	9/32	1/8
24601	10 - 32										
24502	1/4 - 20	7/16 - 14	.37	.18	24702	"X"	.44	7/16 - 14	.43	11/32	3/16
24602	1/4 - 28										
24503	5/16 - 18	1/2 - 13	.43	.21	24703	29/64	.51	1/2 - 13	.50	13/32	3/16
24603	5/16 - 24										
24504	3/8 - 16	9/16 - 12	.50	.25	24704	33/64	.57	9/16 - 12	.56	15/32	3/16
24604	3/8 - 24										
24505	7/16 - 14	5/8 - 11	.62	.31	24705	37/64	.63	5/8 - 11	.68	17/32	3/16
24605	7/16 - 20										
24506	1/2 - 13	3/4 - 16	.62	.31	24706	45/64	.76	3/4 - 16	.68	21/32	3/16
24606	1/2 - 20										
24507	9/16 - 12	3/4 - 16	.81	.40	24707	45/64	.76	3/4 - 16	.94	21/32	3/16
24607	9/16 - 18										
24508	5/8 - 11	7/8 - 14	.87	.43	24708	53/64	.88	7/8 - 14	1.00	25/32	5/16
24608	5/8 - 18										
24509	3/4 - 10	1-1/8 - 12	1.12	.56	24709	1-1/16	1.14	1-1/8 - 12	1.31	31/32	5/16
24609	3/4 - 16										
24510	7/8 - 9	1-1/4 - 12	1.25	.62	24710	1-3/16	1.27	1-1/4 - 12	1.44	1-3/32	5/16
24610	7/8 - 14										
24511	1" - 8	1-3/8 - 12	1.37	.68	24711	1-5/16	1.39	1-3/8 - 12	1.56	1-7/32	5/16
24611	1" - 12										

THREADED INSERTS



Metric Internal Locking Thread Repair Inserts

Material: Inserts - 303 stainless steel or equivalent
 Keys - 302 stainless steel or equivalent
 Finish: Passivated
 Tolerances: ±.25 mm unless specified otherwise.
 Dimensions: All dimensions below are in millimeters
 Keys: Inserts with an internal thread size of M7 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.



Thinwall - Metric - Locking

Part Number	Insert				Installation					Removal	
	Internal Thread Class 6H	External Thread Class 6g	Length	G (Ref.)	Installation Tool Part No.	Tap Drill Size	C'sink Dia. +.25 -.00	Thread Tap		Drill	
								Size Class 6h	Min. Depth	Size	Depth
24551	M 5x0.8	M 8x1.25	8.0	4.0	24751	6.9	8.25	M 8x1.25	9.5	5.50	4.00
24552	M 6x1.0	M 10x1.25	10.0	5.0	24752	8.8	10.25	M 10x1.25	11.5	7.50	4.75
24553	M 8x1.25	M 12x1.25	12.0	6.0	24753	10.8	12.25	M 12x1.25	13.5	9.50	4.75
24653	M 8x1.0										
24555	M 10x1.5	M 14x1.5	14.0	7.0	24755	12.8	14.25	M 14x1.5	15.5	11.50	4.75
24655	M 10x1.25										
24556	M 12x1.75	M 16x1.5	16.0	8.0	24756	14.75	16.25	M 16x1.5	17.5	13.50	4.75
24656	M 12x1.25										

Heavy Duty - Metric - Locking

Part Number	Insert				Installation					Removal	
	Internal Thread Class 6H	External Thread Class 6g	Length	G (Ref.)	Installation Tool Part No.	Tap Drill Size	C'sink Dia. +.25 -.00	Thread Tap		Drill	
								Size Class 6h	Min. Depth	Size	Depth
24563	M 4X0.7	M 8x1.25	8.0	4.0	24763	6.9	8.25	M 8x1.25	9.5	5.50	4.00
24564	M 5x0.8	M 10x1.25	10.0	5.0	24764	8.8	10.25	M 10x1.25	12.5	7.50	4.75
24565	M 6x1.0	M 12x1.25	12.0	6.0	24765	10.8	12.25	M 12x1.25	14.5	9.50	4.75
24566	M 8x1.25	M 14x1.5	14.0	7.0	24766	12.8	14.25	M 14x1.5	16.5	11.50	4.75
24666	M 8x1.0										
24567	M 10x1.5	M 16x1.5	16.0	8.0	24767	14.75	16.25	M 16x1.5	18.5	13.50	4.75
24667	M 10x1.25										
24569	M 12x1.75	M 18x1.5	18.0	9.0	24769	16.75	18.25	M 18x1.5	20.5	15.50	4.75
24669	M 12x1.25										
24570	M 14x2.0	M 20x1.5	20.0	10.0	24770	18.75	20.25	M 20x1.5	22.5	17.50	4.75
24670	M 14x1.5										
24571	M 16x2.0	M 22x1.5	22.0	11.0	24771	20.5	22.25	M 22x1.5	24.5	17.75	6.35
24671	M 16x1.5										
24672	M 18x1.5	M 24x1.5	24.0	12.0	24772	22.5	24.25	M 24x1.5	26.5	19.75	6.35
24573	M 20x2.5	M 30x2.0	30.0	15.0	24773	28.0	30.25	M 30x2.0	34.5	25.75	6.35
24673	M 20x1.5										
24674	M 22x1.5	M 32x2.0	32.0	16.0	24774	30.0	32.25	M 32x2.0	36.5	27.75	6.35
24575	M 24x3.0	M 33x2.0	33.0	16.5	24775	31.0	33.25	M 33x2.0	37.5	28.75	6.35
24675	M 24x2.0										



Miniature - Metric 303 CRES Keylocking Threaded Inserts

Material: Inserts - 303 CRES

Keys - 302 CRES

Finish: Passivated

Tolerances: $\pm .25$ mm unless specified otherwise

Internal Threads: Per Fed Std H28/21, MJ Form

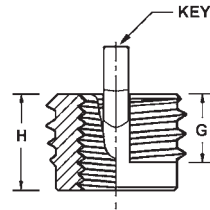
Dimensions: All dimensions below are in millimeters

Keys: Miniature Inserts are furnished with 2 locking keys

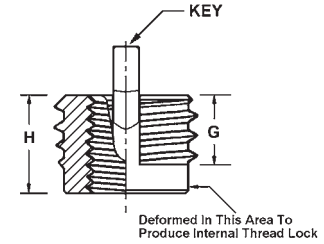
Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Non-Locking



Self-Locking



Part Number*			Insert			Installation					Removal	
Non-Locking	Self-Locking	Internal Thread Class 4H6H	External Thread Class 4h	Thread Length G	Length H	Install Tool Part No*	Tap Drill Size $+.080/- .025$	C'Sink Dia. $+.25/- .00$	Thread Tap		Drill	
									Size Class 6H	Min. Depth	Size	Depth
26382	27382	M 2x0.4	M 4x0.7	2.20	3.00	22682	3.4	4.1	M 4x0.7	4.0	2.8	2.00
26383	27383	M 2.5x0.45	M 4.5x0.75	2.70	3.81	22683	3.9	4.6	M 4.5x0.75	5.0	3.0	2.00
26384	27384	M 3x0.5	M 5x0.8	3.10	4.25	22684	4.4	5.1	M 5x0.8	5.5	3.5	2.25
26386	27386	M 4x0.7	M 6x0.75	4.11	5.25	22686	5.5	6.1	M 6x0.75	6.5	4.6	2.50

Miniature - Inch 303 CRES Keylocking Threaded Inserts

Material: Inserts - 303 CRES

Keys - 302 CRES

Finish: Passivated

Tolerances: $\pm .010$ inch unless specified otherwise

Internal Threads: Per SAE AS8879

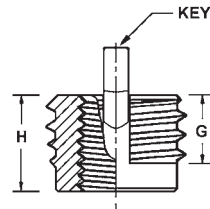
Dimensions: All dimensions below are in inches

Keys: Miniature Inserts are furnished with 2 locking keys

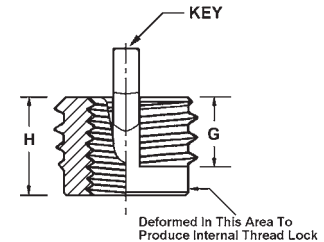
Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Non-Locking



Self-Locking



Part Number*			Insert			Installation					Removal	
Non-Locking	Self-Locking	Internal Thread Class 3B	External Thread Class 2A	G Thread Length	H Length	Install Tool Part No*	Tap Drill Size $+.003/- .001$	C'Sink Dia. $+.010/- .000$	Thread Tap		Drill	
									Size Class 2B	Min. Depth	Size	Depth
26283	27283	2 - 56	8 - 32	.090	.120	22552	.134	.166	8 - 32	.140	#33	1/16
26284	27284	4 - 40	10 - 32	.125	.170	22554	.161	.194	10 - 32	.160	#29	3/32
26285	27285	6 - 32	12 - 28	.125	.170	22556	.187	.220	12 - 28	.160	#21	3/32
26286	27286	8 - 32	1/4 - 28 [†]	.175	.220	22558	.228	.255	1/4 - 28	.210	#8	1/8

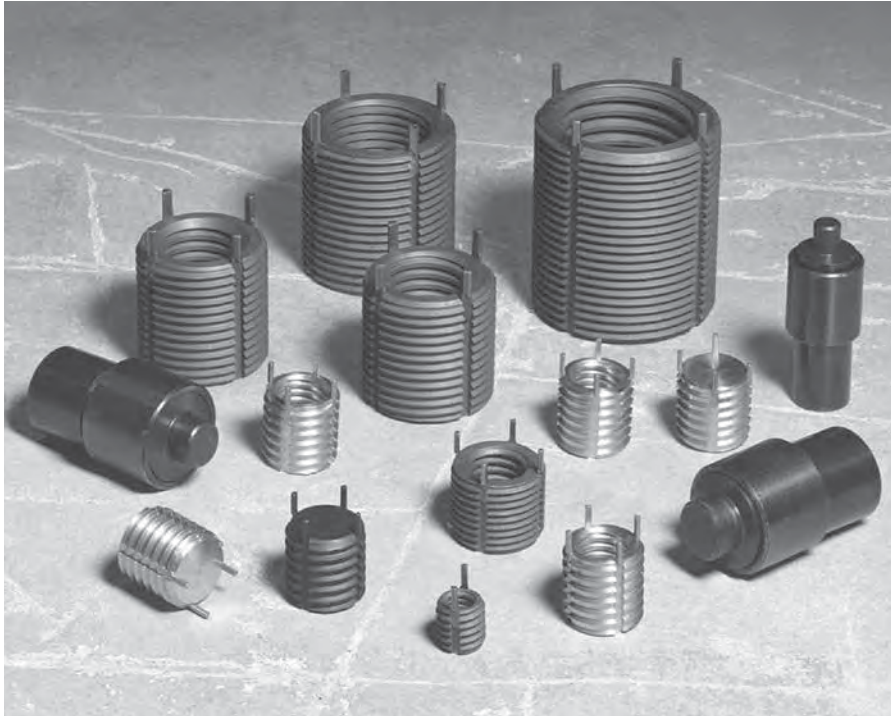
[†] Modified Minor Diameter

High Strength Materials Available: These miniature inserts are also manufactured in high strength stainless steel (A-286 with heat treatment) and in alloy steel (4140 with heat treatment).



MS/NAS Style Insert

Jergens now offers Mil-Spec Keylocking Threaded Inserts



Thread Inserts

- Inch and metric sizes available
- Material: 303 CRES
A286 CRES
4140 Alloy Steel

Insert Style
Miniature & Lightweight MS 51830/NAS 1394
Heavy Duty MS 51831/NAS 1395
Extra Heavy Duty MS 51832

**Please contact Jergens
for cross reference and
ordering information.
1-800-Jergens (537-4367)**



Master Thread Repair Kits Small Assortments



The Jergens Master Thread Repair Kits include several different kinds of inserts, installation tools and installation and removal instructions.

The Kits are available with inch or metric, carbon steel inserts or with stainless steel inserts.

Coarse Series, Heavy Duty Kits

Internal Thread Class 2B	External Thread (Mod) Class 2A	Length	Quantity of Inserts Per Kit
10 - 24	3/8 - 16	.31	5
1/4 - 20	7/16 - 14	.37	10
5/16 - 18	1/2 - 13	.43	10
3/8 - 16	9/16 - 12	.50	10
1/2 - 13	3/4 - 16	.62	10
5/8 - 11	7/8 - 14	.87	10
3/4 - 10	1-1/8 - 12	1.12	5

Total Inserts Per Kit 60 pcs.

Carbon Steel Kit	Stainless Steel Kit
25949	26349

Fine Series, Heavy Duty Kits

Internal Thread Class 2B	External Thread Class 2A	Length	Quantity of Inserts Per Kit
10 - 32	3/8 - 16	.31	5
1/4 - 28	7/16 - 14	.37	10
5/16 - 24	1/2 - 13	.43	10
3/8 - 24	9/16 - 12	.50	10
1/2 - 20	3/4 - 16	.62	10
5/8 - 18	7/8 - 14	.87	10
3/4 - 16	1-1/8 - 12	1.12	5

Total Inserts Per Kit 60 pcs.

Carbon Steel Kit	Stainless Steel Kit
26149	26549

Metric, Thinwall Kits

Internal Thread Class 2B	External Thread Class 2A	Length (mm)	Quantity of Inserts Per Kit
M 5x0.8	M 8x1.25	8.0	8
M 6x1.0	M 10x1.25	10.0	8
M 8x1.25	M 12x1.25	12.0	6
M 8x1.0	M 12x1.25	12.0	6
M 10x1.5	M 14x1.5	14.0	4
M 10x1.25	M 14x1.5	14.0	4
M 12x1.75	M 16x1.5	16.0	3
M 12x1.25	M 16x1.5	16.0	3

Total Inserts Per Kit 42 pcs.

Metric Carbon Steel Kit	Stainless Steel Kit
25999	25998



Master Thread Repair Kits Large Assortments

Coarse Series, Heavy Duty Kits

Internal Thread Class 2B	External Thread (Mod) Class 2A	Length	Quantity of Inserts Per Kit
1/4 - 20	7/16 - 14	.37	20
5/16 - 18	1/2 - 13	.43	15
3/8 - 16	9/16 - 12	.50	10
7/16 - 14	5/8 - 11	.62	10
1/2 - 13	3/4 - 16	.62	6
9/16 - 12	3/4 - 16	.81	5
5/8 - 11	7/8 - 14	.87	3
3/4 - 10	1-1/8 - 12	1.12	3
7/8 - 9	1-1/4 - 12	1.25	3
1" - 8	1-3/8 - 12	1.37	2

Total Inserts Per Kit 77 pcs.

Carbon Steel Kit
25945

Stainless Steel Kit
26345

Fine Series, Heavy Duty Kits

Internal Thread Class 2B	External Thread (Mod) Class 2A	Length	Quantity of Inserts Per Kit
1/4 - 28	7/16 - 14	.37	10
5/16 - 24	1/2 - 13	.43	10
3/8 - 24	9/16 - 12	.50	10
7/16 - 20	5/8 - 11	.62	10
1/2 - 20	3/4 - 16	.62	6
9/16 - 18	3/4 - 16	.81	5
5/8 - 18	7/8 - 14	.87	3
3/4 - 16	1-1/8 - 12	1.12	3
7/8 - 14	1-1/4 - 12	1.25	3
1" - 12	1-3/8 - 12	1.37	2

Total Inserts Per Kit 77 pcs.

Carbon Steel Kit
26145

Stainless Steel Kit
26545

Metric, Thinwall Kits

Internal Thread Class 6H	External Thread Class 6g	Length (mm)	Quantity of Inserts Per Kit
M 6x1.0	M 10x1.25	10.0	20
M 8x1.25	M 12x1.25	12.0	15
M 8x1.0	M 12x1.25	12.0	15
M 10x1.5	M 14x1.5	14.0	10
M 10x1.25	M 14x1.5	14.0	10
M 12x1.75	M 16x1.5	16.0	6
M 12x1.25	M 16x1.5	16.0	6

Total Inserts Per Kit 82 pcs.

Metric Carbon Steel Kit
25997

Stainless Steel Kit
25996

Coarse Series, Thinwall Kits

Internal Thread Class 2B	External Thread (Mod) Class 2A	Length	Quantity of Inserts Per Kit
10 - 24	5/16 - 18	.31	20
1/4 - 20	3/8 - 16	.37	20
5/16 - 18	7/16 - 14	.43	15
3/8 - 16	1/2 - 13	.50	10
7/16 - 14	9/16 - 12	.56	10
1/2 - 13	5/8 - 11	.62	6

Total Inserts Per Kit 81 pcs.

Carbon Steel Kit
25948

Stainless Steel Kit
26348

Fine Series, Thinwall Kits

Internal Thread Class 2B	External Thread (Mod) Class 2A	Length	Quantity of Inserts Per Kit
10 - 32	5/16 - 18	.31	20
1/4 - 28	3/8 - 16	.37	20
5/16 - 24	7/16 - 14	.43	15
3/8 - 24	1/2 - 13	.50	10
7/16 - 20	9/16 - 12	.56	10
1/2 - 20	5/8 - 11	.62	6

Total Inserts Per Kit 81 pcs.

Carbon Steel Kit
25947

Stainless Steel Kit
26548

THREADED INSERTS



Inch Thread Repair Insert Kits



The Jergens Keylocking Inserts provide strong and durable threads in most types of material. They are easily installed using standard drills and taps.

The Jergens Thread Repair Insert Kits include inserts, an installation tool, and installation and removal instructions.

The Kits are available with either inch, metric, or metric internal/inch external carbon steel inserts.

Each Kit is comprised of one size of insert in various quantities. For Thread Repair Kits that include several different sizes, see pages 474 – 475.

Inch Thread Kits - Heavy Duty

Carbon Steel Part Number	Stainless Steel Part Number	Internal Thread	External Thread	Inserts Per Kit	Insert Part Number	Stainless Steel Insert Part Number	Tool Part Number
75900	76300	8-32	5/16-18	9	25900	26300	24700
75901	76301	10-24	3/8-16	9	25901	26301	24701
76101	76501	10-32	3/8-16	9	26101	26501	24701
75902	76302	1/4-20	7/16-14	8	25902	26302	24702
76102	76502	1/4-28	7/16-14	8	26102	26502	24702
75903	76303	5/16-18	1/2-13	7	25903	26303	24703
76103	76503	5/16-24	1/2-13	7	26103	26503	24703
75904	76304	3/8-16	9/16-12	6	25904	26304	24704
76104	76504	3/8-24	9/16-12	6	26104	26504	24704
75905	76305	7/16-14	5/8-11	6	25905	26305	24705
76105	76505	7/16-20	5/8-11	6	26105	26505	24705
75906	76306	1/2-13	3/4-16	4	25906	26306	24706
76106	76506	1/2-20	3/4-16	4	26106	26506	24706
75907	76307	9/16-12	3/4-16	3	25907	26307	24707
76107	76507	9/16-18	3/4-16	3	26107	26507	24707
75908	76308	5/8-11	7/8-14	3	25908	26308	24708
76108	76508	5/8-18	7/8-14	3	26108	26508	24708
75909	76309	3/4-10	1 1/8-12	3	25909	26309	24709
76109	76509	3/4-16	1 1/8-12	3	26109	26509	24709
75910	76310	7/8-9	1 1/4-12	3	25910	26310	24710
76110	76510	7/8-14	1 1/4-12	3	26110	26510	24710
75911	76311	1 - 8	1 3/8-12	2	25911	26311	24711
76111	76511	1 - 12	1 3/8-12	2	26111	26511	24711
75913	—	1 1/8-7	1 1/2-12	2	25913	—	24713
76113	—	1 1/8-12	1 1/2-12	2	26113	—	24713
75914	—	1 1/4-7	1 5/8-12	2	25914	—	24714
76114	—	1 1/4-12	1 5/8-12	2	26114	—	24714
75916	—	1 1/2-6	1 7/8-12	2	25916	—	24716
76116	—	1 1/2-12	1 7/8-12	2	26116	—	24716

Inch Thread Kits - Thin Wall

Carbon Steel Part Number	Stainless Steel Part Number	Internal Thread	External Thread	Inserts Per Kit	Carbon Steel Insert Part Number	Stainless Steel Insert Part Number	Installation Tool Part Number
75921	76421	10-24	5/16-18	9	25921	26321	24721
76121	76521	10-32	5/16-18	9	26121	26521	24721
75922	76422	1/4-20	3/8-16	8	25922	26322	24722
76122	76522	1/4-28	3/8-16	8	26122	26522	24722
75923	76423	5/16-18	7/16-14	7	25923	26323	24723
76123	76523	5/16-24	7/16-14	7	26123	26523	24723
75924	76424	3/8-16	1/2-13	6	25924	26325	24724
76124	76524	3/8-24	1/2-13	6	26124	26524	24724
75925	76425	7/16-14	9/16-12	6	25925	26325	24725
76125	76525	7/16-20	9/16-12	6	26125	26525	24725
75926	76426	1/2-13	5/8-11	4	25926	26326	24726
76126	76526	1/2-20	5/8-11	4	26126	26526	24726



Metric Thread Repair Insert Kits



The Jergens Keylocking Inserts provide strong and durable threads in most types of material. They are easily installed using standard drills and taps.

The Jergens Thread Repair Insert Kits include inserts, an installation tool, and installation and removal instructions.

The Kits are available with either inch, metric, or metric internal/inch external carbon steel inserts.

Each Kit is comprised of one size of insert in various quantities. For Thread Repair Kits that include several different sizes, see pages 474 – 475.

Metric Thread Kits - Heavy Duty

Carbon Steel Part Number	Stainless Steel Part Number	Internal Thread	External Thread	Inserts Per Kit	Insert Part Number	Stainless Steel Insert Part Number	Tool Part Number
75963	76463	M4x0.7	M8x1.25	9	25963	26363	24763
75964	76464	M5x0.8	M10x1.25	8	25964	26364	24764
75965	76465	M6x1.0	M12x1.25	8	25965	26365	24765
75966	76466	M8x1.25	M14x1.5	6	25966	26366	24766
76166	76566	M8x1.0	M14x1.5	6	26166	26566	24766
75967	76467	M10x1.5	M16x1.5	4	25967	26367	24767
76167	76567	M10x1.25	M16x1.5	4	26167	26567	24767
75969	76469	M12x1.75	M18x1.5	3	25969	26369	24769
76169	76569	M12x1.25	M18x1.5	3	26169	26569	24769
75970	76470	M14x2.0	M20x1.5	4	25970	26370	24770
76170	76570	M14x1.5	M20x1.5	4	26170	26570	24770
75971	76471	M16x2.0	M22x1.5	3	25971	26371	24771
76171	76571	M16x1.5	M22x1.5	3	26171	26571	24771
76172	76572	M18x1.5	M24x1.5	2	26172	26572	24772
75973	76473	M20x2.5	M30x2.0	3	25973	26373	24773
76173	76573	M20x1.5	M30x2.0	3	26173	26573	24773
76174	76574	M22x1.5	M32x2.0	3	26174	26574	24774
75975	76475	M24x3.0	M33x2.0	3	25975	26375	24775
76175	76575	M24x2.0	M33x2.0	2	26175	26575	24775

Metric Thread - Thin Wall

Carbon Steel Part Number	Stainless Steel Part Number	Internal Thread	External Thread	Inserts Per Kit	Insert Part Number	Stainless Steel Insert Part Number	Tool Part Number
75951	76451	M5x0.8	M8x1.25	8	25951	26351	24751
75952	76452	M6x1.0	M10x1.25	8	25952	26352	24752
75953	76453	M8x1.25	M12x1.25	6	25953	26353	24753
76153	76553	M8x1.0	M12x1.25	6	26153	26553	24753
75955	76455	M10x1.5	M14x1.5	4	25955	26355	24755
76155	76555	M10x1.25	M14x1.5	4	26155	26555	24755
75956	76456	M12x1.75	M16x1.5	3	25956	26356	24756
76156	76556	M12x1.25	M16x1.5	3	26156	26556	24756

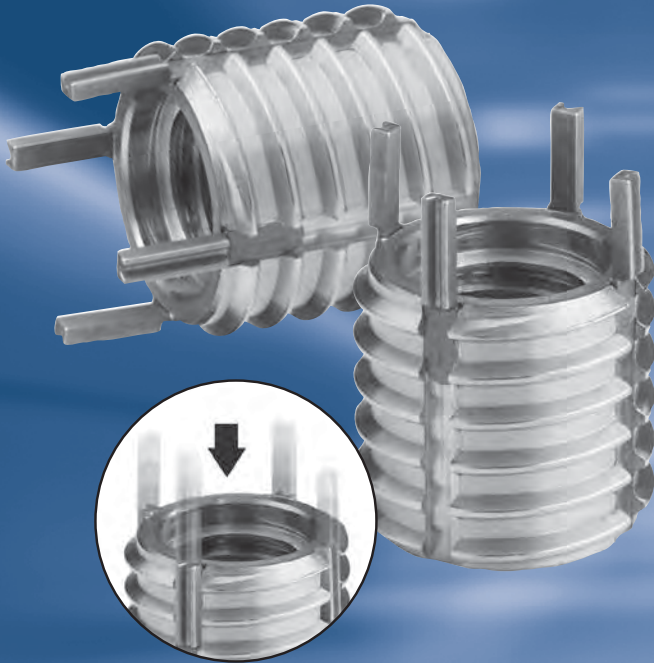
Carbon Steel Kits - Metric Internal/Inch External Threads - Heavy Duty

Part Number	Internal Thread	External Thread	Inserts Per Kit	Insert Part Number	Tool Part Number
76243	M 6x1.0	3/8 - 16	8	26243	24843
76244	M 8x1.25	1/2 - 13	8	26244	24844
76245	M 10x1.5	5/8 - 11	6	26245	24845
76247	M 12x1.75	3/4 - 16	4	26247	24847
76248	M 14x2.0	7/8 - 14	3	26248	24848
76249	M 16x2.0	1" - 12	3	26249	24849

THE **Jergens**® DIFFERENCE

Keylocking Inserts

OURS



Jergens keylocking inserts are easy to install with standard drills and taps.

THEIRS



Competitive thread repair devices require special drills, taps, and installation tools.

JERGENS KEYLOCKING INSERTS

Easy installation requires no special tools: uses standard drills and standard taps.

“Keys” mechanically lock the insert into the base material.

Rated among the highest in pullout strength of any thread repair device on the market.

Wide variety of styles, including thinwall, heavy duty, extra heavy duty, and solid inserts in both stainless steel and carbon steel materials.

VS. THREAD REPAIR FROM OTHER MANUFACTURERS

Installation requires special drills, taps, and installation tools.

Springs or locking patches do not mechanically lock the insert.

Less pullout strength versus Jergens inserts.

Limited offerings may force you to settle on a device that doesn't meet all of your needs.

LIFTING SOLUTIONS

Lifting Solutions

Center Pull Style	484-485
Envirolox™ Protective Finish	494
Eye Bolts	500
Eye Nuts.....	499
Forged Center Pull	487-488
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Side Swivel	493
SP 2000 Side-Pull Style.....	491-492
Swivel Eyebolts	497-498



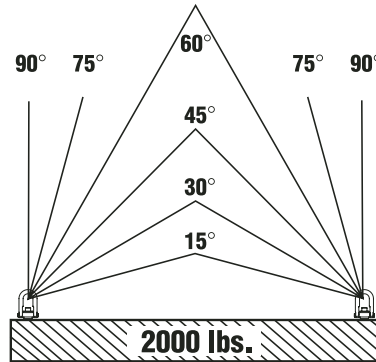
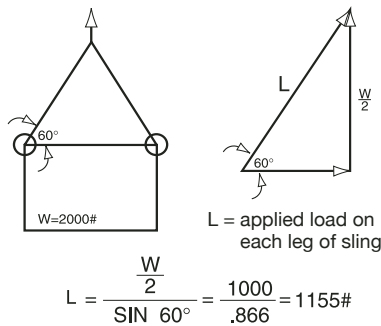
Engineer The Lift!!

- Jergens recommends the use of swiveling and pivoting hoist rings.
- Conventional eye bolts should be used for straight vertical lifts only.
- Are you using the proper hoist ring for the application?
- Is the hoist ring free to swivel and pivot? Any movement restrictions?
- Are lifting hole(s) in the proper location?
- Do you have the correct hole size for the hardware - safe lift capacity?
- Are the holes tapped deep enough to assure full thread engagement? (See figure #3 on Installation Information; page 481.)
- Recommended thread depth:
 Steel – 1-1/2 times the bolt diameter (min.)
 Aluminum – 2 times the bolt diameter (min.)
- **RULE OF THUMB, IF IN DOUBT – DON'T!!!**

Applied Load Changes With Sling Angle

Jergens swivelling hoist rings are designed and rated to be pulled at any angle at the rated load. However, the applied load on a multipoint lift will increase if the sling angle is less than 90°. So be sure to consider the sling angle when selecting lifting equipment. See illustration below.

Sample Calculation:



Sling Angle (Degrees)	Applied Load (Pounds)
90	1000
75	1040
60	1155
45	1410
30	2000
15	3860

DO'S

1. Observe working load limitations (be especially careful with eyebolts used for angle lifts – see sling angle chart).
2. Visually inspect hoist ring prior to use.
3. Fully tighten hoist ring to recommended torque. Full thread engagement is required (no space between swivel bushing and lift).
4. Assure proper thread depth - do not shim.
5. Make sure hoist rings have free travel - it must swivel and pivot without restrictions.
6. When installing in soft metal, such as aluminum, the minimum effective thread engagement should be two times the diameter of the thread (1-1/2 times bolt diameter – steel).

DON'TS

1. Never pull a Center Pull Style hoist ring bar from the side.
2. Never use an oversized hook in eyebolts or hoist rings (See figure #1 on Installation Information; page 481).
3. Never use excessive sling angle.
4. Never steam clean or degrease hoist rings (could cause rusting and binding).
5. Never apply shock loads.
6. Never allow the side of a hoist ring to make contact with the lift. (See figure #2 on Installation Information; page 481.)

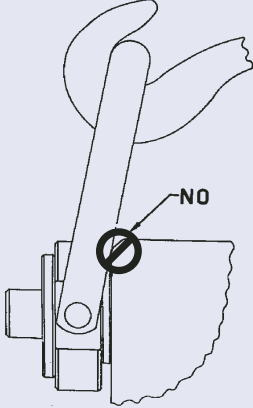


Installation Information



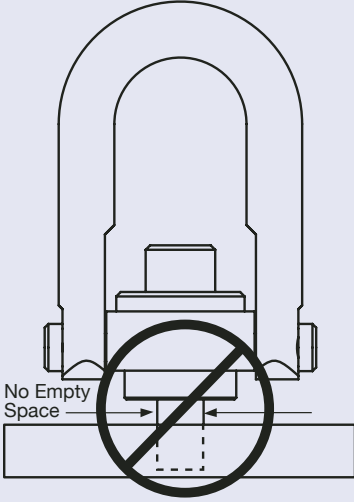
Never use a hook or other lifting device which will pry or tend to open the “U” shaped bar on Center-Pull Hoist Rings!

Fig. 1



After installation, check the hoist ring to be sure it swivels and pivots freely in all directions. **The side of the ring must not contact anything!**

Fig. 2



Always ensure full thread engagement when installing hoist rings!

Fig. 3

Select the proper Hoist Ring for the job. Do not attempt to apply more than the rated load capacity. *The load capacity is marked on the Hoist Ring.*

Drill and tap the workpiece so that the hoist ring bolt is installed perpendicular to the surface of the workpiece. Countersink the tapped hole to prevent “swelling” of the top thread when the hoist ring bolt is torqued. The workpiece surface must be flat, providing complete contact for the hoist ring bushing.

Do not use spacers between the hoist ring bushing and the workpiece surface.

When installing in soft metal, such as aluminum, the minimum effective thread engagement should be two times the diameter of the thread. When installing in steel, thread engagement should be 1-1/2 times the thread diameter.


Always *tighten the bolt to the proper torque value*, which is stamped on the Hoist Ring.

Loosening of the *bolt* may develop during use. *Re-tightening to the required torque must be done whenever the bolt loosens.* The proper tightening torque is stamped on the Hoist Ring.

When lifting, apply force gradually. **DO NOT APPLY SHOCK LOADS.**

For through-hole applications, be sure that nut/washer are the same quality grade as the Hoist Ring.

Periodic visual inspection and pull testing is recommended as damage can occur from improper usage.



Depending upon the sling angle, **the applied load may be more than the weight being lifted.** Two point lifting of a 2000 pound weight, with a sling angle of 30°, will result in an applied load of 2000 pounds to **each** hoist ring!

Fig. 4



Shackle-Lok™ Shackle-Style Hoist Rings



Shackle-Lok™

SHACKLE-STYLE HOIST RINGS

Shackle-Lok™ combines the strength of a hoist ring with the versatility of a shackle. Its unique, 3-piece design is ideal for use with a variety of lift methods, and shackles are interchangeable. Shackle-Lok™ is simply the industry's most efficient below-the-hook lifting device from a weight to load rating ratio.

Features & Benefits:

- Internal ball bearings allow for smooth rotation under load
- Full 360° swivel and 180° pivot action
- Easy to remove shackle
- Rated 5:1 strength factor in vertical pull
- Material: alloy steel
- Bolt and base finish: black oxide
- Bolt and base are magnetic particle inspected
- Shackle finish: zinc plated with gold colored conversion coating
- Proof tested to 200% of rated load capacity
- Certificate of proof test provided
- 3D Solid models available in multiple formats from www.jergensinc.com

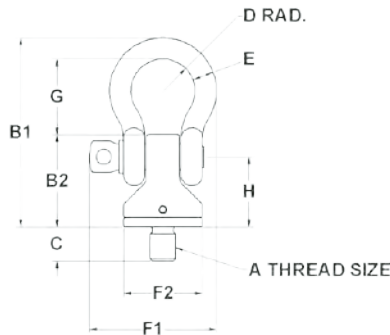
Conforms to:

- ASME B30.26
- CE certified
- RR-C-271F





Shackle-Lok™ Shackle-Style Hoist Rings



Shackle-Lok™ SHACKLE-STYLE HOIST RINGS

The Shackle-Lok™ was designed to work with numerous thread sizes. Any straight thread size, pitch, or length can be manufactured to meet application needs.

Note: When tightening the bolt, the shackle and pin must be removed. Not intended for prolonged rotation

Part Number		Thread Size A	Load ¹ Capacity (lbs)	Length		Thread Length C	Inside Shackle Radius D	Shackle Diameter Size E	Width		Inside Shackle Clearance G	Pin Hole to Base H	Torque ² (lbs*ft)	Weight		Hex size
With Shackle	No Shackle			With Shackle B1	No Shackle B2				With Shackle F1	No Shackle F2				With Shackle	No Shackle	
24400	24400NS	1/4-20	550	2.48	1.23	1/2	.38	1/4	1.57	.94	1.0	.95	3	0.26	0.15	5/32
24401	24401NS	5/16-18	800	2.48	1.23	1/4	.38	1/4	1.57	.94	1.0	.95	5	0.26	0.15	5/32
24402	24402NS	5/16-18	800	2.48	1.23	9/16	.38	1/4	1.57	.94	1.0	.95	5	0.27	0.16	5/32
24403	24403NS	3/8-16	1000	2.48	1.23	9/16	.38	1/4	1.57	.94	1.0	.95	7	0.27	0.16	5/32
24405	24405NS	1/2-13	2500	4.17	1.97	3/4	.71	1/2	2.96	1.50	1.7	1.42	23	1.32	0.62	1/4
24406	24406NS	1/2-13	2500	4.17	1.97	1	.71	1/2	2.96	1.50	1.7	1.42	23	1.34	0.63	1/4
24407	24407NS	1/2-13	2500	4.17	1.97	1 1/16	.71	1/2	2.96	1.50	1.7	1.42	23	1.34	0.64	1/4
24408	24408NS	1/2-13	2500	4.17	1.97	1 1/4	.71	1/2	2.96	1.50	1.7	1.42	23	1.35	0.65	1/4
24409	24409NS	5/8-11	4000	4.17	1.97	3/4	.71	1/2	2.96	1.50	1.7	1.42	46	1.35	0.64	1/4
24410	24410NS	5/8-11	4000	4.17	1.97	1	.71	1/2	2.96	1.50	1.7	1.42	46	1.37	0.66	1/4
24411	24411NS	5/8-11	4000	4.17	1.97	1 1/4	.71	1/2	2.96	1.50	1.7	1.42	46	1.39	0.69	1/4
24412	24412NS	3/4-10	5000	5.56	2.71	1	.94	5/8	3.72	2.30	2.2	2.06	69	3.42	1.98	3/8
24413	24413NS	3/4-10	5000	5.56	2.71	1 1/2	.94	5/8	3.72	2.30	2.2	2.06	69	3.48	2.04	3/8
24414	24414NS	7/8-9	8000	7.25	3.52	1	1.31	7/8	5.63	2.80	2.9	2.62	130	7.66	3.95	7/16
24415	24415NS	7/8-9	8000	7.25	3.52	1 1/4	1.31	7/8	5.63	2.80	2.9	2.62	130	7.70	3.99	7/16
24416	24416NS	1-8	10000	7.25	3.52	1 1/4	1.31	7/8	5.63	2.80	2.9	2.62	185	7.76	4.05	7/16
24417	24417NS	1-8	10000	7.25	3.52	1 1/2	1.31	7/8	5.63	2.80	2.9	2.62	185	7.81	4.10	7/16
24418	24418NS	1-8	10000	7.25	3.52	2 1/4	1.31	7/8	5.63	2.80	2.9	2.62	185	7.98	4.27	7/16
24419	24419NS	1 1/4-7	15000	8.25	3.99	1 7/8	1.38	1	6.08	3.06	3.3	2.94	345	11.3	5.89	1/2
24421	24421NS	1 1/2-6	24000	11.72	5.11	2 1/4	1.88	1 1/2	8.32	4.06	5.1	3.64	660	29.0	12.36	3/4
24424	24424NS	2-4 1/2	30000	11.72	5.11	3 1/8	1.88	1 1/2	8.32	4.06	5.1	3.64	1100	30.6	13.97	3/4
24426	24426NS	2 1/2-4	50000	14.22	6.52	4	2.25	1 3/4	9.57	5.25	6.0	4.47	2300	58.7	28.95	1

¹ Stated load capacity based on recommended thread torques as shown in chart.

² It is recommended that these torques be used when installing hoist rings.

Part Number		Thread Size A	Load ¹ Capacity (kg)	Length		Thread Length C	Inside Shackle Radius D	Shackle Diameter Size E	Width		Inside Shackle Clearance G	Pin Hole to Base H	Torque ² (kg*m)	Weight		Hex size
With Shackle	No Shackle			With Shackle B1	No Shackle B2				With Shackle F1	No Shackle F2				With Shackle	No Shackle	
24450	24450NS	M6 X 1.0	200	63.0	31.2	12	9.5	6.4	39.9	23.9	25	24.1	0.30	0.12	0.07	4
24451	24451NS	M8 X 1.25	400	63.0	31.2	12.5	9.5	6.4	39.9	23.9	25	24.1	0.70	0.12	0.07	4
24452	24452NS	M10 X 1.5	450	63.0	31.2	17.5	9.5	6.4	39.9	23.9	25	24.1	1.0	0.12	0.08	4
24453	24453NS	M12 X 1.75	1050	105.9	50.0	19.5	18	12.7	75.1	38.1	43	36.1	2.8	0.60	0.28	8
24455	24455NS	M16 X 2.0	1900	105.9	50.0	29	18	12.7	75.1	38.1	43	36.1	7.0	0.63	0.31	8
24456	24456NS	M20 X 2.5	2150	141.2	68.8	32	23.8	15.9	94.4	58.4	57	52.3	10.6	1.57	0.92	10
24458	24458NS	M24 X 3.0	4200	184.2	89.4	37	33.4	22.2	143.0	71.1	72	66.5	23	3.52	1.84	12
24459	24459NS	M30 X 3.5	7000	209.6	101.3	46	34.9	25.4	154.3	77.7	83	74.7	50	5.10	2.63	14
24460	24460NS	M30 X 3.5	7000	209.6	101.3	66	34.9	25.4	154.3	77.7	83	74.7	50	5.22	2.74	14
24463	24463NS	M36 X 4.0	11000	297.7	129.8	54	47.8	38.1	211.3	103.1	130	92.5	90	13.07	5.52	19
24465	24465NS	M42 X 4.5	12500	297.7	129.8	68	47.8	38.1	211.3	103.1	130	92.5	120	13.37	5.82	19
24466	24466NS	M48 X 5.0	13500	297.7	129.8	88	47.8	38.1	211.3	103.1	130	92.5	145	13.87	6.32	19
24468	24468NS	M64 X 6.0	22500	361.2	165.6	96	57.2	44.5	243.0	133.4	151	113.5	320	26.4	13.04	24

All dimensions are in millimeters.

¹ Stated load capacity based on recommended thread torques as shown in chart.

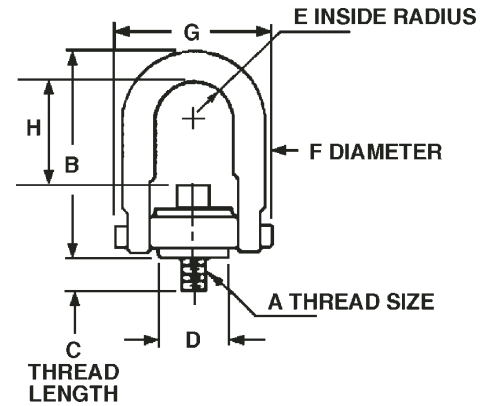
² It is recommended that these torques be used when installing hoist rings.



Center-Pull Traditional Style



- Full 360° Swivel and 180° Pivot Action
- Rated at 5:1 Strength Factor
- Material: Alloy Steel
- Finish: Black Oxide (Except Washer)
- U-Bar, Bolt, Pins, Base, Washer and Bushing are Magnetic Particle Inspected
- Washer: Zinc Plated with Gold Colored (Inch), Clear/Blue (Metric) Conversion Coating
- Proof Tested to 200% of Rated Load Capacity
- Certificate of Proof Test provided (See sample on page 501)
- 3D Solid Models available in multiple formats from www.jergensinc.com
- Available with Envirolox™ protective finish. See page 494 for more information



LIFT ID
AUTOMATED INSPECTION AND COMPLIANCE SYSTEM

To add Lift ID™ to Hoist Ring
Add "F" to the end of the part number
Example: 23414F



Thread Size A	Load Capacity (lbs)	Black Oxide				Envirolox™ Protected Coating				Thread length C	D	E	F	G	Std U-Bar H	Long U-Bar H	Torque ²	Wt
		Standard U-Bar		Long U-Bar		Standard U-Bar		Long U-Bar										
		Part Number	B	Part Number	B	Part Number ¹	B	Part Number	B									
1/4-20	550	23404	2.67	—	—	23304	2.67	—	—	1/2	.75	.43	.38	1.84	1 5/16	—	5	.3
5/16-18	800	23405	2.67	—	—	23305	2.67	—	—	1/4	.75	.43	.38	1.84	1 1/4	—	7	.3
5/16-18	800	23406	2.67	—	—	23306	2.67	—	—	9/16	.75	.43	.38	1.84	1 1/4	—	7	.3
3/8-16	1000	23408	2.67	—	—	23308	2.67	—	—	9/16	.75	.43	.38	1.84	1 1/4	—	12	.3
1/2-13	2500	23410	3.75	—	—	23310	3.75	—	—	1 1/16	1.20	.69	.50	2.56	1 25/32	—	28	1.0
1/2-13	2500	23411	4.78	23511	6.72	23311	4.78	23511-E	6.72	3/4	1.50	.88	.75	3.52	2 3/8	4 1/4	28	2.5
1/2-13	2500	23412	4.78	23512	6.72	23312	4.78	23512-E	6.72	1	1.50	.88	.75	3.52	2 3/8	4 1/4	28	2.5
1/2-13	2500	23413	4.78	23513	6.72	23313	4.78	23513-E	6.72	1 1/4	1.50	.88	.75	3.52	2 3/8	4 1/4	28	2.5
5/8-11	4000	23414	4.78	23514	6.72	23314	4.78	23514-E	6.72	1	1.50	.88	.75	3.52	2 1/4	4 3/16	60	2.7
5/8-11	4000	23415	4.78	23515	6.72	23315	4.78	23515-E	6.72	1 1/4	1.50	.88	.75	3.52	2 1/4	4 3/16	60	2.7
5/8-11	4000	23416	4.78	23516	6.72	23316	4.78	23516-E	6.72	3/4	1.50	.88	.75	3.52	2 1/4	4 3/16	60	2.7
3/4-10	5000	23417	4.78	23517	6.72	23317	4.78	23517-E	6.72	1	1.50	.88	.75	3.52	2 1/8	4	100	3.0
3/4-10	5000	23418	4.78	23518	6.72	23318	4.78	23518-E	6.72	1 1/2	1.50	.88	.75	3.52	2 1/8	4	100	3.0
3/4-10	7000	23420	6.52	23520	8.11	23320	6.52	23520-E	8.11	1	2.31	1.40	1.00	5.14	2 15/16	4	100	7.0
3/4-10	7000	23421	6.52	23521	8.11	23321	6.52	23521-E	8.11	1 1/2	2.31	1.40	1.00	5.14	2 15/16	4	100	7.0
7/8-9	8000	23423	6.52	23523	8.11	23323	6.52	23523-E	8.11	1	2.31	1.40	1.00	5.14	2 13/16	4 3/8	160	7.0
7/8-9	8000	23424	6.52	23524	8.11	23324	6.52	23524-E	8.11	1 1/4	2.31	1.40	1.00	5.14	2 13/16	4 3/8	160	7.0
1-8	10000	23425	6.52	23525	8.11	23325	6.52	23525-E	8.11	1 1/4	2.31	1.40	1.00	5.14	2 11/16	4 3/8	230	7.5
1-8	10000	23426	6.52	23526	8.11	23326	6.52	23526-E	8.11	1 1/2	2.31	1.40	1.00	5.14	2 11/16	4 3/8	230	7.5
1-8	10000	23427	6.52	23527	8.11	23327	6.52	23527-E	8.11	2 1/4	2.31	1.40	1.00	5.14	2 11/16	4 3/8	230	7.5
1 1/4-7	15000	23429	8.73	—	—	23329	8.73	—	—	1 7/8	3.19	1.75	1.25	6.50	4 1/4	—	470	14
1 1/4-8	15000	23429-08	8.73	—	—	—	8.73	—	—	1 7/8	3.19	1.75	1.25	6.50	4 1/4	—	470	14
1 1/2-6	24000	23433	12.47	—	—	23333	12.47	—	—	2 3/4	4.19	2.25	1.75	8.55	6 1/2	—	800	33
1 1/2-8	24000	23433-08	12.47	—	—	—	12.47	—	—	2 3/4	4.19	2.25	1.75	8.55	6 1/2	—	800	33
2-4 1/2	30000	23435	12.47	—	—	23335	12.47	—	—	3 1/8	4.19	2.25	1.75	8.55	6	—	1100	36
2-8	30000	23435-08	12.47	—	—	—	12.47	—	—	3 1/8	4.19	2.25	1.75	8.55	6	—	1100	36
2 1/2-4	50000	23438	16.50	—	—	23338	16.50	—	—	4	5.75	3	2.25	11.72	8 1/4	—	2100	89
2 1/2-8	50000	23438-08	16.50	—	—	—	16.50	—	—	4	5.75	3	2.25	11.72	8 1/4	—	2100	89

¹ Stated load capacity based on recommended thread torques as shown in chart.

² It is recommended that these torques be used when installing hoist rings.

³ Available from stock as Standard Clevis.



Center-Pull Traditional Style Metric

Thread Size A	Load ¹ Capacity (kg)	Black Oxide				Envirolox™ Protected Coating				Thread length C	D	E	F	G	Std U-Bar H	Long U-Bar H	Torque ² (kg•m)	Wt. (kg)
		Standard U-Bar		Long U-Bar		Standard U-Bar		Long U-Bar										
		Part Number	B	Part Number	B	Part Number	B	Part Number ³	B									
M6 x 1.0	200	23455	67.8	-	-	23355	67.8	-	-	12.0	19.0	10.9	9.7	46.7	34.0	-	0.6	0.17
M8 x 1.25	400	23456	67.8	-	-	23356	67.8	-	-	12.5	19.0	10.9	9.7	46.7	32.0	-	1.0	0.17
M10 x 1.50	450	23458	67.8	-	-	23358	67.8	-	-	17.5	19.0	10.9	9.7	46.7	30.0	-	1.7	0.17
M12 x 1.75	1050	23462	123.0	23562	170.7	23362	123.0	23562-E	170.7	19.0	38.1	22.4	19.0	89.4	60.5	108	3.8	1.1
M16 x 2.0	1900	23465	123.0	23565	170.7	23365	123.0	23565-E	170.7	29.0	38.1	22.4	19.0	89.4	56.5	106	8.2	1.1
M20 x 2.5	2150	23468	123.0	23568	170.7	23368	123.0	23568-E	170.7	34.0	38.1	22.4	19.0	89.4	52.5	101	13.6	1.2
M20 x 2.5	3000	23471	163.0	23571	206.0	23371	163.0	23571-E	206.0	32.0	58.7	35.6	25.4	130.6	73.0	101	13.6	3.0
M24 x 3.0	4200	23474	163.0	23574	206.0	23374	163.0	23574-E	206.0	37.0	58.7	35.6	25.4	130.6	69.0	111	31.0	3.1
M30 x 3.5	7000	23478	221.7	-	-	23378	221.7	-	-	46.0	81.0	44.5	31.7	165.1	107.4	-	60.0	6.3
M30 x 3.5	7000	23479	221.7	-	-	23379	221.7	-	-	66.0	81.0	44.5	31.7	165.1	107.4	-	60.0	6.4
M36 x 4.0	11000	23483	316.7	-	-	23383	316.7	-	-	68.0	106.4	57.2	44.4	217.2	166.5	-	100.0	15.5
M42 x 4.5	12500	23484	316.7	-	-	23384	316.7	-	-	68.0	106.4	57.2	44.4	217.2	160.5	-	100.0	16.0
M48 x 5.0	13500	23485	316.7	-	-	23385	316.7	-	-	88.0	106.4	57.2	44.4	217.2	154.5	-	100.0	16.8
M64 x 6.0	22500	23488	419.1	-	-	23388	419.1	-	-	96.0	146.0	76.2	57.1	297.6	210.0	-	290.0	40.0

All dimensions are in millimeters. ¹Stated load capacity is based upon specific thread torques shown in chart. ²It is recommended that these torques be used when installing hoist rings. ³Available from stock as Standard Clevis.

Bolt Replacement Kits - Inch threads

Black Oxide Hoist Rings			Envirolox™ Coated			Kit Wt. (lbs)
Std. U-Bar Part No.	Long U-Bar Part No.	Bolt Kit Part No.	Std. U-Bar Part No.	Long U-Bar Part No.	Bolt Kit Part No.	
23404		23604	23304		23604-E	
23405		23605	23305		23605-E	
23406		23606	23306		23606-E	.03
23408		23608	23308		23608-E	.05
23410		23610	23310		23610-E	.16
23411	23511	23611	23311	23511-E	23611-E	.14
23412	23512	23612	23312	23512-E	23612-E	.16
23413	23513	23613	23313	23513-E	23613-E	.17
23414	23514	23614	23314	23514-E	23614-E	.27
23415	23515	23615	23315	23515-E	23615-E	.29
23416	23516	23616	23316	23516-E	23616-E	
23417	23517	23617	23317	23517-E	23617-E	.40
23418	23518	23618	23318	23518-E	23618-E	.46
23420	23520	23620	23320	23520-E	23620-E	.46
23421	23521	23621	23321	23521-E	23621-E	.52
23423	23523	23623	23323	23523-E	23623-E	.62
23424	23524	23624	23324	23524-E	23624-E	.66
23425	23525	23625	23325	23525-E	23625-E	.92
23426	23526	23626	23326	23526-E	23626-E	.97
23427	23527	23627	23327	23527-E	23627-E	1.13
23429		23629	23329		23629-E	2.90
23429-08		23629-08				2.90
23433		23633	23333		23633-E	3.50
23433-08		23633-08				3.50
23435		23635	23335		23635-E	7.30
23435-08		23635-08				7.30
23438		23638	23338		23638-E	15.66
23438-08		23638-08				15.96

Bolt Replacement Kits - Metric threads

Black Oxide Hoist Rings			Envirolox™ Coated			Kit Wt. (kg)
Std. U-Bar Part No.	Long U-Bar Part No.	Bolt Kit Part No.	Std. U-Bar Part No.	Long U-Bar Part No.	Bolt Kit Part No.	
		23655			23655-E	.02
23456		23656	23356		23656-E	.02
23458		23658	23358		23658-E	.03
23462	23562	23662	23362	23562-E	23662-E	.06
23465	23565	23665	23365	23565-E	23665-E	.12
23468	23568	23668	23368	23568-E	23668-E	.21
23471	23571	23671	23371	23571-E	23671-E	.23
23474	23574	23674	23374	23574-E	23674-E	.40
23478		23678	23378		23678-E	.79
23479		23679	23379		23679-E	.91
23483		23683	23383		23683-E	1.52
23484		23684	23384		23684-E	2.75
23485		23685	23385		23685-E	3.27
23488		23688	23388		23688-E	7.12

Bolt Kits contain bolt and retaining ring.
• See page 494 for Hoist Ring hold down clips.



To add Lift ID™ to Hoist Ring
Add "F" to the end of the part number
Example: 23414F



Forged Center Pull - Stainless Steel



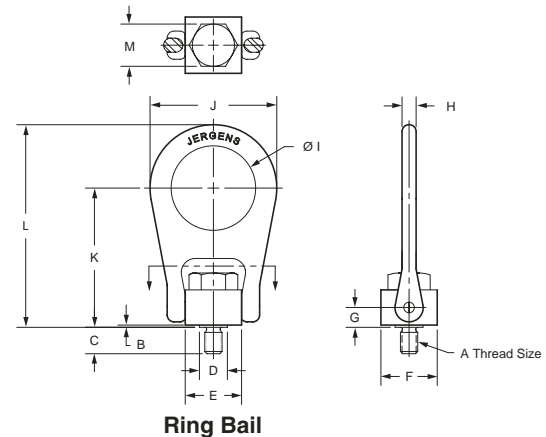
U.S. Patent No. 6,652,012

Our new Forged Center Pull Hoist Ring integrates a solid center brace lift bail into our most popular style product. This design eliminates the possibility of spreading the lift ring in misapplications. Forged hoist rings are ideal for OEM and industrial use.

- Material: 17-4PH
- Full (over center) 360° swivel and 180° pivot action
- Capacities up to 5,000 lbs.
- Inch and metric
- 5:1 strength factor
- Same strength/load capacity as steel
- Proof tested to 200% of rated load capacity
- Maximum operating temperature 800°F Intermittent, 600°F continuous
- Made in U.S.A.
- 3D Solid Models available in multiple formats from www.jergensinc.com



To add Lift ID™ to Hoist Ring
Add "F" to the end of the part
number Example: 23414F



Ring Bail

Inch

Part Number	Load Capacity (lbs)	Thread Size A	B	C	D	E	F	G	H	I	J	K	L	Hex Size M	Torque (ft.lbs)	Weight (lbs)
23906-SS	800	5/16-18	3/64	15/32	1/2	1	1	11/32	1/4	1 1/2	2 1/4	2 15/32	3 19/32	3/4	7	0.6
23907-SS	800	5/16-18	3/64	5/8	1/2	1	1	11/32	1/4	1 1/2	2 1/4	2 15/32	3 19/32	3/4	7	0.6
23908-SS	1000	3/8-16	3/64	9/16	1/2	1	1	11/32	1/4	1 1/2	2 1/4	2 15/32	3 19/32	3/4	12	0.6
23909-SS	1000	3/8-16	3/64	3/4	1/2	1	1	11/32	1/4	1 1/2	2 1/4	2 15/32	3 19/32	3/4	12	0.6
23910-SS	2500	1/2-13	1/16	11/16	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	28	3.6
23911-SS	2500	1/2-13	1/16	1	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	28	3.6
23914-SS	4000	5/8-11	1/16	15/16	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	60	3.6
23915-SS	4000	5/8-11	1/16	1 1/4	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	60	3.6
23917-SS	5000	3/4-10	1/16	1 1/8	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	100	3.6
23918-SS	5000	3/4-10	1/16	1 1/2	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	100	3.6

Metric

Part Number	Load Capacity (kg)	Thread Size A	B	C	D	E	F	G	H	I	J	K	L	Hex Size M	Torque (N·m)	Weight (kg)
23956-SS	400	M8 X 1.25	1.2	12	12.7	25.4	25.4	8.7	6.3	38.1	57.2	62.7	91.3	19	10	0.27
23958-SS	450	M10 X 1.5	1.2	15	12.7	25.4	25.4	8.7	6.3	38.1	57.2	62.7	91.3	19	17	0.27
23962-SS	1050	M12 X 1.75	1.6	18	25.4	50.8	38.1	14.3	19	76.2	112.7	101.6	161.9	32	37	1.64
23965-SS	1900	M16 X 2.0	1.6	24	25.4	50.8	38.1	14.3	19	76.2	112.7	101.6	161.9	32	80	1.64
23968-SS	2150	M20 X 2.5	1.6	30	25.4	50.8	38.1	14.3	19	76.2	112.7	101.6	161.9	32	134	1.7



Forged Center Pull



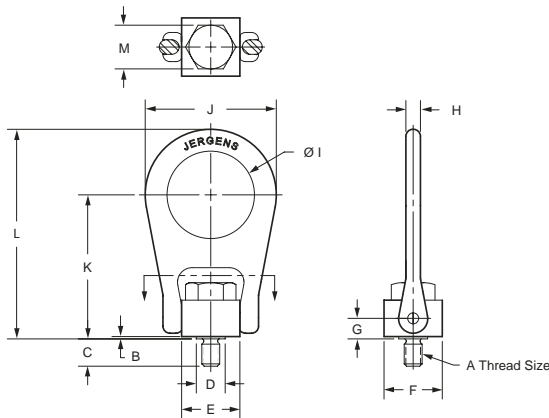
Our new Forged Center Pull Hoist Ring integrates a solid center brace lift bail into our most popular style product. This design eliminates the possibility of spreading the lift ring in misapplications. Forged hoist rings are ideal for OEM and industrial use.

- Full (over center) 360° swivel and 180° pivot action
- Capacities up to 30,000 lbs.
- Inch and metric
- 5:1 strength factor-alloy steel
- Proof tested to 200% of rated load capacity
- Available in 17-4PH Stainless Steel (up to 5,000lbs/2,150kgs.) See page 486.
- Made in U.S.A.
- 3D Solid Models available in multiple formats from www.jergensinc.com

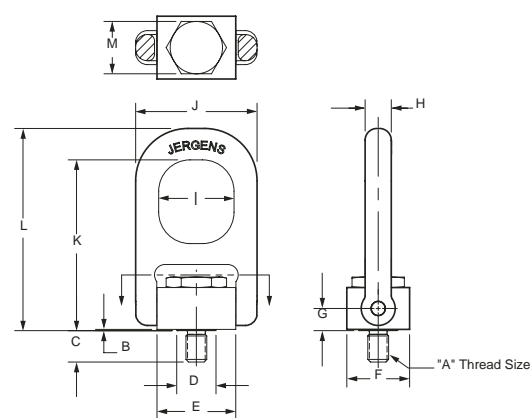
U.S. Patent No. 6,652,012



To add Lift ID™ to Hoist Ring
Add "F" to the end of the part
number Example: 23414F



Ring Bail



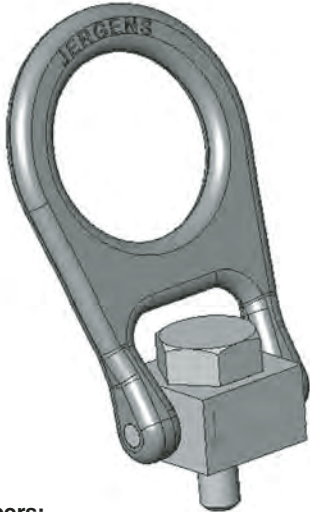
Large Bail

Inch

Part Number	Load Capacity (lbs)	Thread Size A	B	C	D	E	F	G	H	I	J	K	L	Hex Size M	Torque (ft.lbs)	Weight (lbs)
23906	800	5/16-18	3/64	15/32	1/2	1	1	11/32	1/4	1 1/2	2 1/4	2 15/32	3 19/32	3/4	7	0.6
23907	800	5/16-18	3/64	5/8	1/2	1	1	11/32	1/4	1 1/2	2 1/4	2 15/32	3 19/32	3/4	7	0.6
23908	1000	3/8-16	3/64	9/16	1/2	1	1	11/32	1/4	1 1/2	2 1/4	2 15/32	3 19/32	3/4	12	0.6
23909	1000	3/8-16	3/64	3/4	1/2	1	1	11/32	1/4	1 1/2	2 1/4	2 15/32	3 19/32	3/4	12	0.6
23910	2500	1/2-13	1/16	11/16	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	28	3.6
23911	2500	1/2-13	1/16	1	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	28	3.6
23914	4000	5/8-11	1/16	15/16	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	60	3.6
23915	4000	5/8-11	1/16	1 1/4	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	60	3.6
23917	5000	3/4-10	1/16	1 1/8	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	100	3.6
23918	5000	3/4-10	1/16	1 1/2	1	2	1 1/2	9/16	3/4	3	4 7/16	4	6 3/8	1 1/4	100	3.6
23926	10000	1-8	1/16	1 1/2	1 7/8	3 25/32	3	1 1/16	1 1/4	3 19/32	5 13/16	8 5/32	9 21/32	2 1/2	230	15.7
23927	10000	1-8	1/16	2	1 7/8	3 25/32	3	1 1/16	1 1/4	3 19/32	5 13/16	8 5/32	9 21/32	2 1/2	230	15.9
23929	15000	1 1/4-7	1/16	1 7/8	1 7/8	3 25/32	3	1 1/16	1 1/4	3 19/32	5 13/16	8 5/32	9 21/32	2 1/2	470	16.0
23930	15000	1 1/4-7	1/16	2 1/2	1 7/8	3 25/32	3	1 1/16	1 1/4	3 19/32	5 13/16	8 5/32	9 21/32	2 1/2	470	16.2
23933	24000	1 1/2-6	7/64	2 1/4	2 1/2	4 7/8	4 1/2	1 7/16	1 3/4	4 1/2	7 23/32	11 7/16	13 27/32	3 1/4	800	42.3
23934	24000	1 1/2-6	7/64	3	2 1/2	4 7/8	4 1/2	1 7/16	1 3/4	4 1/2	7 23/32	11 7/16	13 27/32	3 1/4	800	42.7
23935	30000	2-4 1/2	7/64	3	2 1/2	4 7/8	4 1/2	1 7/16	1 3/4	4 1/2	7 23/32	11 7/16	13 27/32	3 1/4	800	43.8
23936	30000	2-4 1/2	7/64	4	2 1/2	4 7/8	4 1/2	1 7/16	1 3/4	4 1/2	7 23/32	11 7/16	13 27/32	3 1/4	800	44.7



Ring Bail



Ring Bail

Part Numbers:

23906 thru 23918 (Inch)
23956 thru 23968 (Metric)

Large Bail



Large Bail

Part Numbers:

23926 thru 23936 (Inch)
23974 thru 23987 (Metric)

- Replace Stationary Eyebolt
- Lifting Tooling Columns & Large Fixtures
- OEM Applications
- Lifting Die & Molds



To add Lift ID™ to Hoist Ring
Add "F" to the end of the part
number Example: 23414F



Metric

Part Number	Load Capacity (kg)	Thread Size A	B	C	D	E	F	G	H	I	J	K	L	Hex Size M	Torque (N•m)	Weight (kg)
23956	400	M8 X 1.25	1.2	12	12.7	25.4	25.4	8.7	6.3	38.1	57.2	62.7	91.3	19	10	0.27
23958	450	M10 X 1.5	1.2	15	12.7	25.4	25.4	8.7	6.3	38.1	57.2	62.7	91.3	19	17	0.27
23962	1050	M12 X 1.75	1.6	18	25.4	50.8	38.1	14.3	19	76.2	112.7	101.6	161.9	32	37	1.64
23965	1900	M16 X 2.0	1.6	24	25.4	50.8	38.1	14.3	19	76.2	112.7	101.6	161.9	32	80	1.64
23968	2150	M20 X 2.5	1.6	30	25.4	50.8	38.1	14.3	19	76.2	112.7	101.6	161.9	32	134	1.7
23974	4200	M24 X 3.0	1.6	35.7	47.6	96.0	76.2	27.0	31.7	91.3	147.6	207.2	245.3	63.5	305	7.1
23975	4200	M24 X 3.0	1.6	47.6	47.6	96.0	76.2	27.0	31.7	91.3	147.6	207.2	245.3	63.5	305	7.2
23978	7000	M30 X 3.5	1.6	44.8	47.6	96.0	76.2	27.0	31.7	91.3	147.6	207.2	245.3	63.5	590	7.3
23979	7000	M30 X 3.5	1.6	60.0	47.6	96.0	76.2	27.0	31.7	91.3	147.6	207.2	245.3	63.5	590	7.4
23982	11000	M36 X 4.0	2.8	53.6	63.5	123.8	114.3	36.5	44.5	114.3	196.1	290.5	351.6	82.55	960	19.1
23983	11000	M36 X 4.0	2.8	71.4	63.5	123.8	114.3	36.5	44.5	114.3	196.1	290.5	351.6	82.55	960	19.3
23984	12500	M42 X 4.5	2.8	62.7	63.5	123.8	114.3	36.5	44.5	114.3	196.1	290.5	351.6	82.55	980	19.4
23985	12500	M42 X 4.5	2.8	83.3	63.5	123.8	114.3	36.5	44.5	114.3	196.1	290.5	351.6	82.55	980	19.6
23986	13500	M48 X 5.0	2.8	71.4	63.5	123.8	114.3	36.5	44.5	114.3	196.1	290.5	351.6	82.55	980	19.7
23987	13500	M48 X 5.0	2.8	95.3	63.5	123.8	114.3	36.5	44.5	114.3	196.1	290.5	351.6	82.55	980	20.0



Side-Pull Traditional Style Precision Cast Body

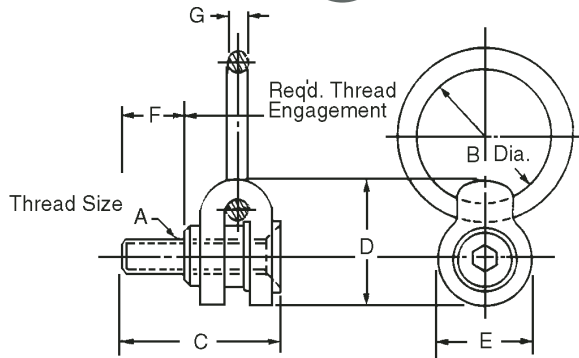


- Rated at 5:1 Strength Factor
- Material: Alloy Steel
- Clevis, Ring, Bushing and Cap Screw are magnetic particle inspected
- Clevis is x-rayed
- Finish: Black Oxide
- Bushing: Zinc Plated with conversion coating, yellow (inch), clear blue (metric)
- Proof Tested to 200% of Rated Load Capacity
- 3D Solid Models available in multiple formats from www.jergensinc.com
- Available with Envirolox™ protective finish. See page 494 for more information.

360° swivel plus pivot point moves around bolt to provide greater clearances in side lifting and when lifting rotating objects.



To add Lift ID™ to Hoist Ring
Add "F" to the end of the part number
Example: 23414F



Inch

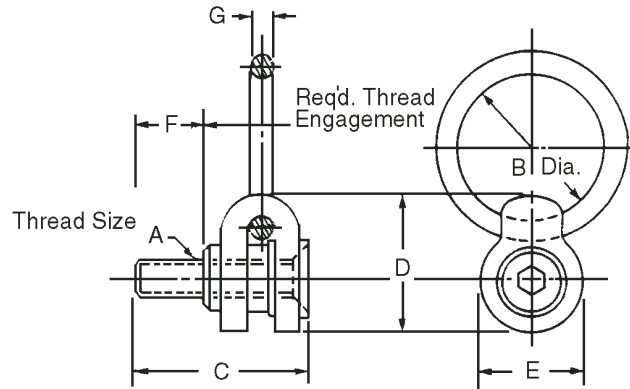
Part Number	Envirolox™ Part Number	Load ¹ Capacity (lbs)	A	B	C	D	E	F	G	Torque ² (ft. lbs)	Wt. (lbs)
47311	47311-E	650	5/16-18	2	2 1/8	2	1 1/2	5/8	3/8	3.5	.25
47312	47312-E	800	3/8-16	2	2 3/8	2	1 1/2	3/4	3/8	4.5	.25
47313	47313-E	1800	1/2-13	3	3 3/8	3 3/16	2 3/8	1	5/8	15.0	3.25
47314	47314-E	2500	5/8-11	3	3 5/8	3 3/16	2 3/8	1 1/4	5/8	25.0	3.25
47315	47315-E	4100	3/4-10	4	5	5	3 3/4	1 1/2	1	50.0	11.25
47316	47316-E	7100	1-8	4	5 3/8	5	3 3/4	2	1	90.0	11.50
47317	47317-E	14000	1 1/4-7	6	6 7/8	6 13/16	4 5/8	2	1 3/8	150.0	27.75
47317-08		14000	1 1/4-8	6	6 7/8	6 13/16	4 5/8	2	1 3/8	150.0	27.75
47318	47318-E	17200	1 1/2-6	6	7 7/8	6 13/16	4 5/8	2 1/2	1 3/8	250.0	31.50
47318-08		17200	1 1/2-8	6	7 7/8	6 13/16	4 5/8	2 1/2	1 3/8	250.0	31.50
47319	47319-E	29000	2-4 1/2	5 1/4 x 10 1/2	10	6 13/16	4 5/8	3 1/8	1 1/2	300.0	42.00
47319-08		29000	2-8	5 1/4 x 10 1/2	10	6 13/16	4 5/8	3 1/8	1 1/2	300.0	42.00

¹ Stated load capacity based on specific thread torques as shown in chart.

² It is recommended that these torques be used when installing hoist rings.



Side-Pull Traditional Style Precision Cast Body



Metric

Part Number	Envirolox™ Part Number	Load ¹ Capacity (kg)	A	B	C	D	E	F	G	Torque ² (kg'M)	Wt. (kg)
47351	47351-E	325	M 8 x 1.25	50.8	61.0	50.8	38.1	16.0	9.5	.43	.12
47352	47352-E	500	M 10 x 1.50	50.8	63.0	50.8	38.1	20.0	9.5	.60	.12
47353	47353-E	725	M 12 x 1.75	76.2	85.0	81	60.3	24.0	15.9	2.00	1.5
47354	47354-E	1400	M 16 x 2.0	76.2	94.0	81	60.3	31.0	15.9	3.50	1.5
47355	47355-E	2290	M 20 x 2.5	101.6	133.0	125.4	95.3	40.0	25.4	7.00	5.1
47356	47356-E	3050	M 24 x 3.0	101.6	147.0	125.4	95.3	47.0	25.4	12.50	5.2
47357	47357-E	4850	M 30 x 3.5	152.0	173.8	173.0	117.5	49.0	31.7	34.6	12.6
47358	47358-E	7500	M 36 x 4.0	152.0	191.0	173.0	117.5	67.5	35.0	55.0	14

All dimensions are in millimeters.

¹Stated load capacity based on specific thread torques as shown in charts.

²It is recommended that these torques be used when installing hoist rings.

Bolt Replacement Kits

Inch Thread

Hoist Ring Part No.	Bolt Kit Part No.	Envirolox™ Bolt Kit Part No.	Thread Size	Wt. (lbs)
47311	47341	47341-E	5/16-18	.05
47312	47342	47342-E	3/8-16	.06
47313	47343	47343-E	1/2-13	.17
47314	47344	47344-E	5/8-11	.28
47315	47345	47345-E	3/4-10	.59
47316	47346	47346-E	1-8	1.27
47317	47347	47347-E	1 1/4-7	2.50
47317-08	47347-08		1 1/4-8	2.50
47318	47348	47348-E	1 1/2-6	4.70
47318-08	47348-08		1 1/2-8	4.70
47319	47349	47349-E	2-4 1/2	9.50
47319-08	47349-08		2-8	9.50

Metric Thread

Hoist Ring Part No.	Bolt Kit Part No.	Envirolox™ Bolt Kit Part No.	Thread Size	Wt. (kg)
47351	47391	47391-E	M 8	.02
47352	47392	47392-E	M 10	.03
47353	47393	47393-E	M 12	.07
47354	47394	47394-E	M 16	.14
47355	47395	47395-E	M 20	.32
47356	47396	47396-E	M 24	.53
47357	47397	47397-E	M 30	1.03
47358	47398	47398-E	M 36	2.0

Bolt Kits contain bolt and retaining ring.

Bolt Kits with -E are for use with Envirolox™ Hoist Rings.

- See page 494 for Hoist Ring hold down clips.



LIFT ID
AUTOMATED INSPECTION AND COMPLIANCE SYSTEM

To add Lift ID™ to Hoist Ring
Add "F" to the end of the part
number Example: 23414F





SP 2000™ Side-Pull Style Extended D Ring



The Jergens SP2000 Side-Pull Style Hoist Ring is ideal for flipping fixtures, dies and molds. It swivels 360° and pivots around the center bolt providing the ring with greater clearances in side lifting applications and when lifting rotating objects. The hoist ring is low profile and has a unique bolt retention design. The oversized forged ring, and single piece forging, easily adapts to larger hoist hooks. Its relatively light weight makes it easier to handle than similar hoist rings and the installation is conveniently done with external wrenching (47531, 47532) or internal/external wrenching (all other sizes). All parts are made in the U.S.A.

- Can Be Used for Top Lifting as well as side lifting applications
- Full Swivel & Pivot Action
- Rated at 5:1 strength factor at any angle
- Material: Heat Treated Alloy Steel
- Finish: Black Oxide
- Proof Tested to 200% of Rated Load Capacity
- Available in Metric sizes. See page 492.
- 3D Solid Models available in multiple formats from www.jergensinc.com

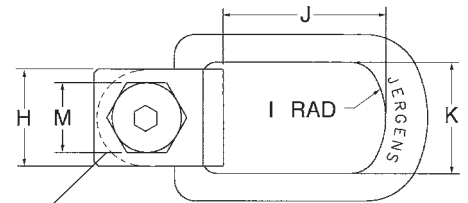
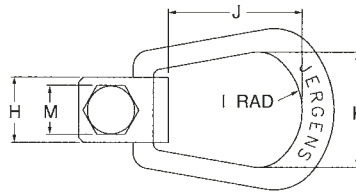


LIFT ID
AUTOMATED INSPECTION AND COMPLIANCE SYSTEM

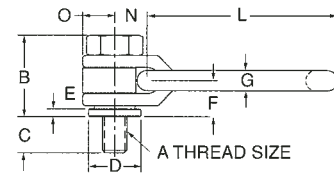
To add Lift ID™ to Hoist Ring
Add "F" to the end of the part
number Example: 23414F



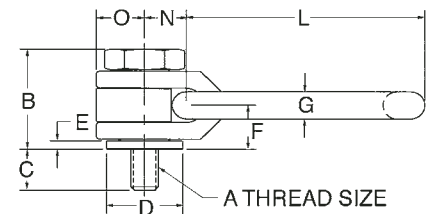
Patent Nos. 6,068,310
and 409,895



*For Part Numbers: 47537, 47538, 47539



External Wrench Mounting
Part Numbers: 47531 & 47532



Internal/External Wrench Mounting
Part Numbers: 47533 thru 47539

Inch Threads (Includes Gold Spacer)

Part Number	Load Capacity (lbs)	Thread Size A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Torque (ft. lbs)	Hex Size	Wt. (lbs)
47531	650	5/16-18	1 9/32	15/32	13/16	1/8	9/16	5/16	1	1	2 1/16	1 3/4	3	3/4	1/2	1/2	4	—	.5
47532	800	3/8-16	1 9/32	5/8	13/16	1/8	9/16	5/16	1	1	2 1/16	1 3/4	3	3/4	1/2	1/2	5	—	.5
47533	1800	1/2-13	1 7/8	3/4	1 3/8	5/32	13/16	1/2	1 3/4	1 1/2	3 3/8	2	4 3/4	1 1/4	3/4	7/8	15	1/4	2
47534	2500	5/8-11	1 7/8	15/16	1 3/8	5/32	13/16	1/2	1 3/4	1 1/2	3 3/8	2	4 3/4	1 1/4	3/4	7/8	25	5/16	2
47535	4100	3/4-10	2 5/16	1 1/8	1 7/8	1/4	1 1/32	5/8	2 1/4	2	4	2 5/8	5 11/16	1 3/4	1	1 1/8	50	3/8	4
47536	7100	1-8	2 5/16	1 1/2	1 7/8	1/4	1 1/32	5/8	2 1/4	2	4	2 5/8	5 11/16	1 3/4	1	1 1/8	130	1/2	4.5
*47537	14000	1 1/4-7	4 9/16	1 7/8	3 1/4	23/64	1 21/32	1 1/16	3 3/4	3	7 11/16	4 3/8	10 7/16	3	1 5/16	1 7/8	150	3/4	24.50
*47538	17200	1 1/2-6	4 9/16	2 1/4	3 1/4	23/64	1 21/32	1 1/16	3 3/4	3	7 11/16	4 3/8	10 7/16	3	1 5/16	1 7/8	250	3/4	30
*47539	29000	2-4 1/2	4 9/16	3	3 1/4	23/64	1 21/32	1 1/16	3 3/4	3	7 11/16	4 3/8	10 7/16	3	1 5/16	1 7/8	300	3/4	26.50



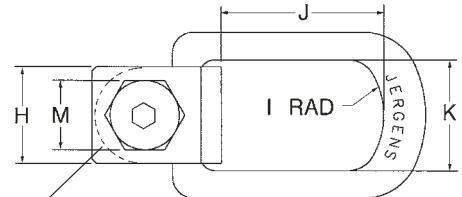
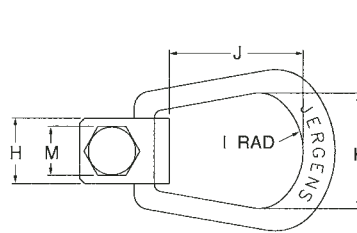
SP 2000™ Side-Pull Metric - Extended D Ring



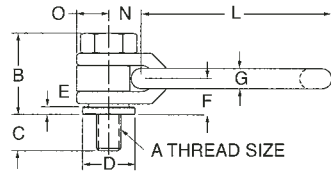
SIDE PULL APPLICATION



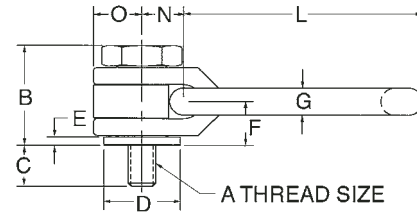
TOP PULL APPLICATION



*For Part Numbers: 47587, 47588, 47591, 47589



External Wrench Mounting
Part Numbers: 47581 & 47582



Internal/External Wrench Mounting
Part Numbers: 47583 thru 47589, 47591

Patent Nos. 6,068,310
and 409,895

Metric Threads (Includes Blue Spacer)

Part Number	Load Capacity (kg)	Thread Size A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Torque (N•m)	Hex Size	Wt. (kg)
47581	325	M8 x 1.25	33	16	21	3	14	8	25	25	52	44	76	19	13	13	5	—	.25
47582	500	M10 x 1.5	33	20	21	3	14	8	25	25	52	44	76	19	13	13	10	—	.25
47583	725	M12 x 1.75	48	24	35	4	21	13	44	38	86	51	120	32	19	22	20	6	1
47584	1400	M16 x 2	48	32	35	4	21	13	44	38	86	51	120	32	19	22	40	8	1
47585	2290	M20 x 2.5	59	40	48	6	26	16	57	51	102	67	145	44	25	29	70	10	2
47586	3050	M24 x 3	59	48	48	6	26	16	57	51	102	67	145	44	25	29	140	12	2
*47587	4850	M30 x 3.5	117	60	83	9	52	27	95	76	196	111	265	76	49	48	350	41.3	11.1
*47588	7500	M36 x 4	117	72	83	9	52	27	95	76	196	111	265	76	49	48	550	41.3	11.3
*47591	8700	M42 x 4.5	117	84	83	9	52	27	95	76	196	111	265	76	49	48	800	41.3	11.8
*47589	10000	M48 x 5	122	96	83	9	52	27	95	76	196	111	265	80	49	48	1200	41.3	12.5

All dimensions are in millimeters.



LIFT ID
AUTOMATED INSPECTION AND COMPLIANCE SYSTEM

To add Lift ID™ to Hoist Ring
Add "F" to the end of the part
number Example: 23414F



CE CERTIFIED



Side Swivel



U.S. Patent No. 6,443,514

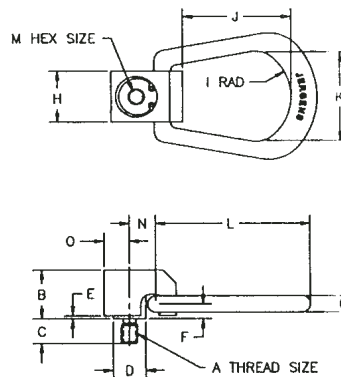
Jergens new Side Swivel™ Lifting Ring is designed specifically for OEM type applications. It replaces potentially dangerous eyebolts on commercial, military, and industrial lifts requiring full swivel and pivoting action.

- 5:1 strength factor-forged ring
- Unique 3 piece design
- Made in U.S.A.
- Capacities up to 4100 lbs.
- Inch and metric
- OEM Pricing
- 3D Solid Models available in multiple formats from www.jergensinc.com

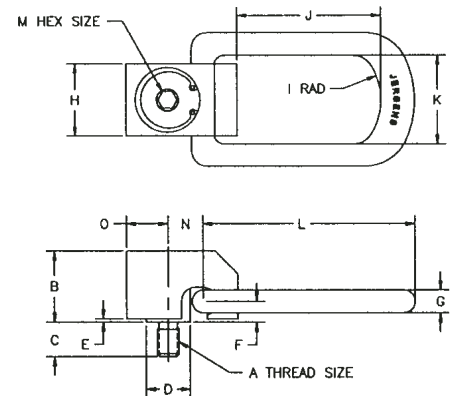
Ideally suited for OEM applications



Small Side Swivel*



Large Side Swivel



To add Lift ID™ to Hoist Ring
Add "F" to the end of the part
number Example: 2341F



Part Number	Load Capacity (lbs)	Thread Size A	B	C	D	E	F	G	H	I	J	K	L	Hex Size M	N	O	Torque (ft.lbs)	Weight (lbs)
47800*	650	5/16-18	15/16	15/32	5/8	1/16	9/32	5/16	1	1	2 1/16	1 3/4	2 31/32	1/4	1/2	1/2	3.5	0.6
47801*	800	3/8-16	15/16	9/16	5/8	1/16	9/32	5/16	1	1	2 1/16	1 3/4	2 31/32	1/4	1/2	1/2	4.5	0.6
47802	1800	1/2-13	1 37/64	3/4	1	5/64	7/16	1/2	1 5/8	1 1/2	3 1/4	2	4 3/4	3/8	25/32	15/16	15	2.5
47803	2500	5/8-11	1 37/64	15/16	1	5/64	7/16	1/2	1 5/8	1 1/2	3 1/4	2	4 3/4	3/8	25/32	15/16	25	2.5
47804	4100	3/4-10	1 37/64	1 1/8	1	5/64	7/16	1/2	1 5/8	1 1/2	3 1/4	2	4 3/4	3/8	25/32	15/16	50	2.5

* Small Side Swivel

Metric

Part Number	Load Capacity (kg)	Thread Size A	B	C	D	E	F	G	H	I	J	K	L	Hex Size M	N	O	Torque (N•m)	Weight (kg)
47850*	325	M8 x 1.25	23.8	15.8	15.8	1.6	7.2	7.9	25.4	25.4	52.4	44.5	75.4	6	12.7	12.7	4.2	.27
47851*	500	M10 x 1.5	23.8	19.8	15.8	1.6	7.2	7.9	25.4	25.4	52.4	44.5	75.4	6	12.7	12.7	6	.27
47852	725	M12 x 1.75	40.1	23.8	25.4	2.0	11.1	12.7	41.3	38.1	82.6	50.8	120.7	10	20	24	20	1.14
47853	1400	M16 x 2.0	40.1	31.8	25.4	2.0	11.1	12.7	41.3	38.1	82.6	50.8	120.7	10	20	24	40	1.14
47854	2290	M20 x 2.5	40.1	39.7	25.4	2.0	11.1	12.7	41.3	38.1	82.6	50.8	120.7	10	20	24	70	1.18

* Small Side Swivel



Envirolox™ Protective Finish



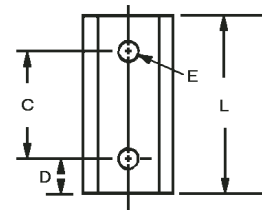
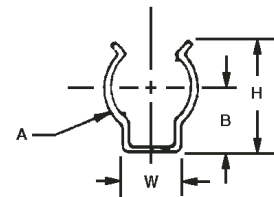
The Envirolox™ Protective Finish is a *proprietary nickle based coating that helps to prevent rusting and other environmental hazards from affecting Jergens Hoist Rings*. This coating does not contain cadmium or chromium, is *environmentally friendly*, and is proven to be *effective in extreme conditions*. It provides surface hardness, lubricity and more effective corrosion protection than paints. Envirolox™ Protective Finish is available on Jergens Center-Pull and Side-Pull Style Hoist Rings. It is not recommended for the Swivel Eyebolt or the SP 2000 products.

- Available on Center-Pull and Side-Pull Traditional Style Hoist Rings (See pages 484-485 and 489-490 for part numbers.)
- Available upon request for other selected Jergens lifting products.
- Protects against rusting
- Environmentally safe

Hoist Ring Hold Down Clips

Two or more Hoist Ring Hold Down Clips should be used to prevent ring movement when the hoist ring is not in use. These simple spring steel clips prevent ring movement, provide an additional safety feature when used around machine tools and give a neat finished appearance.

- Material: Spring, Steel
- Finish: Cadmium or Zinc



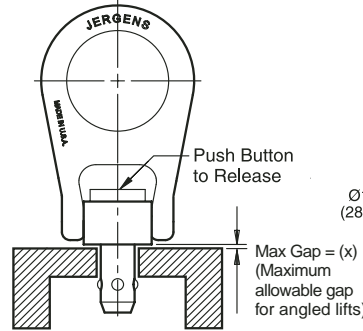
To add Lift ID™ to Hoist Ring Add "F" to the end of the part number **Example: 23414F**



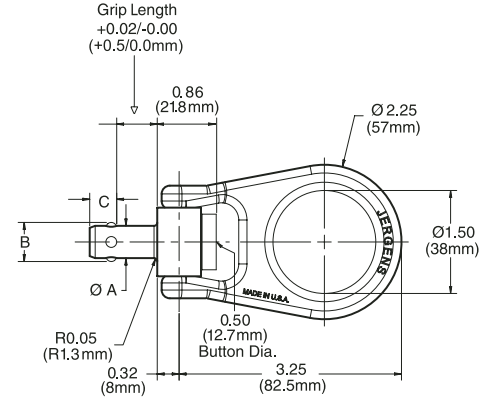
Clip Part Number	Diameter		C	D	E	H	W	L
	A	B						
47331	3/8	.330	—	.250	.125	.575	.320	.500
47332	1/2	.388	.250	.125	.151	.712	.385	.500
47333	5/8	.450	.250	.125	.151	.832	.385	.500
47334	3/4	.513	.312	.156	.151	1.000	.385	.625
47335	1	.683	.312	.188	.188	1.133	.510	.687
47336	1 1/4	.750	.625	.187	.162	1.370	1.330	1.000
47337	1 3/8	.880	.312	.188	.188	1.439	.510	.688
47338	1 7/16	.850	.937	.312	.103	1.560	1.560	1.500
47339	1 3/4	1.070	.312	.188	.130	1.830	.780	.688



Kwik-Lok® Lifting Pins



Typical Application



- All stainless steel construction and components
- 17-4 PH stainless steel forged, heat treated lifting ring with large opening
- Lifting ring with Load Spreader Bar
- 5 to 1 strength factor
- 360° Swivel
- 180° Pivot
- Also chosen for lashing applications

Lifting Pin Specifications - Inches

Nom Pin Dia	Max. Load Rating (lbs)*	ØA		+/-0.005 B	+0.00/-0.04 C	Max. Gap (X) (in)	Required Hole Diameter (in)	
		Min	Max				Max	Min
1/4	400	.2470	.2485	.286	.290	0.06	0.2540	0.2500
5/16	700	.3095	.3110	.375	.330	0.06	0.3165	0.3125
3/8	1,000	.3720	.3735	.440	.365	0.06	0.3790	0.3750
1/2	1,250	.4970	.4985	.594	.460	0.06	0.5050	0.5000
5/8	1,400	.6220	.6235	.750	.580	0.06	0.6300	0.6250

Lifting Pin Specifications - Metric

Nom Pin Dia	Max. Load Rating (kN)*	ØA		+/-0.25 B	+0.0/-1.0 C	Max. Gap (X) (mm)	Required Hole Diameter (mm)	
		Min	Max				Max	Min
10	4.4	9.92	9.96	12.00	9	1.5	10.1	10.0
12	5.5	11.92	11.96	14.27	10	1.5	12.1	12.0
16	6.2	15.92	15.96	19.00	14	1.5	16.1	16.0

*Dimensions in millimeters



To add Lift ID™ to Hoist Ring Add "F" to the end of the part number Example: 23414F



Kwik-Lok® Lifting Pin - Inches

Dia.	Grip Length							
	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00
1/4	807216	807217	807218	807219	807220	807222	807224	807225
5/16	807232	807233	807234	807235	807236	807238	807240	807241
3/8	807248	807249	807250	807251	807252	807254	807256	807257
1/2	807280	807281	807282	807283	807284	807286	807288	807289
5/8	807312	807313	807314	807315	807316	807318	807320	807321

Kwik-Lok® Lifting Pin - Metric

Dia.	Grip Length							
	15	20	25	30	35	40	50	75
10	857237	857238	857239	857240	857299	857241	857242	857307
12	857249	857250	857251	857252	857300	857253	857254	857308
16	857261	857262	857263	857264	857301	857265	857266	857309

Important: Please review all operating instructions that are included in the packaging or online before use.

Note: If the required hole size cannot be achieved; Jergens recommends the use of our threaded receptacle (see page 496); Please Contact Customer Service with any questions.

*Lifting load ratings are based on tests with hardened tool steel plates or shoulder bushings. Load ratings may be reduced if oversized holes or parent material under 80,000 psi tensile are used.

*Kwik-Lok® Lifting Pins are not suited for continuous rotation under load.



Threaded Receptacles

High Strength Stainless Steel, 17-4 PH heat treated

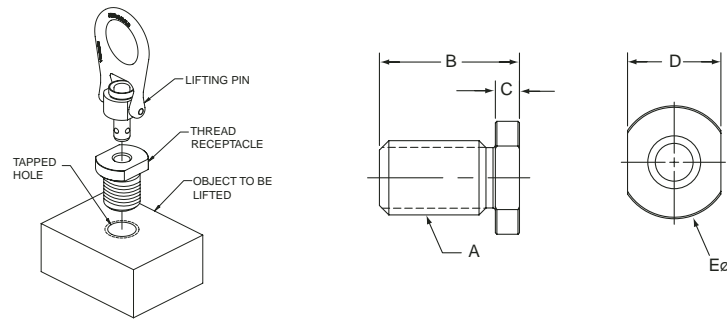


KLP Threaded Receptacles - Inch

For Kwik-Lok® Lifting Pin		Use Receptacle Part Number	Thread Size A	Overall Length B	Head Height C	Head Flats D	Diameter E	Install Torque (ft-lbs)
Size	Part Number							
1/4x0.5	807216	845100	1/2-13	0.930	0.16	.62	.75	7
5/16x0.5	807232	845101	3/4-10	1.100	0.28	.87	1.12	18
3/8x0.5	807248	845102	3/4-10	1.100	0.28	.87	1.12	25
1/2x0.5	807280	845103	1 1/8-7	1.625	0.37	1.25	1.62	47
5/8x0.5	807312	845104	1 1/8-7	1.625	0.37	1.25	1.62	53

KLP Threaded Receptacles - Metric

For Kwik-Lok® Lifting Pin		Use Receptacle Part Number	Thread Size A	Overall Length B	Head Height C	Head Flats D	Diameter E	Install Torque (kg-m)
Size	Part Number							
10x15	857237	855100	M20x2.5	29	7	26	34.8	3.6
12x15	857249	855101	M22x2.5	37	9	30	34.8	5.0
16x15	857261	855102	M27x3	41	10	32	41.2	6.9



Kwik-Lok® Lifting Pin Kits - Inch

Kit Part Number	Kwik-Lok® Lifting Pin Size	Receptacle Thread Size	Kwik-Lok® Lifting Pin Part Number	Threaded Receptacle Part Number
847216	1/4 x 0.5	1/2-13	807216	845100
847232	5/16 x 0.5	3/4-10	807232	845101
847248	3/8 x 0.5	3/4-10	807248	845102
847280	1/2 x 0.5	1 1/8-7	807280	845103
847312	5/8 x 0.5	1 1/8-7	807312	845104

*Each kit contains one Kwik-Lok® lifting pin and one corresponding Threaded Receptacle.

Kwik-Lok® Lifting Pin Kits - Metric

Kit Part Number	Kwik-Lok® Lifting Pin Size	Receptacle Thread Size	Kwik-Lok® Lifting Pin Part Number	Threaded Receptacle Part Number
877237	M10 x 15	M20 x 2.5	857237	855100
877249	M12 x 15	M22 x 2.5	857249	855101
877261	M16 x 15	M27 x 3	857261	855102

*Each kit contains one Kwik-Lok® lifting pin and one corresponding Threaded Receptacle.





Swivel Eyebolt



The Jergens Swivel Eyebolt™ lifting product has a full swivel and pivoting action that allows for the flipping and turning of the part without unhooking. The patented tamper resistant design is ideal for permanent mounting on OEM applications or on molds, dies and fixtures.



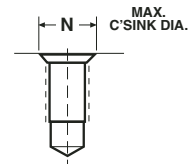
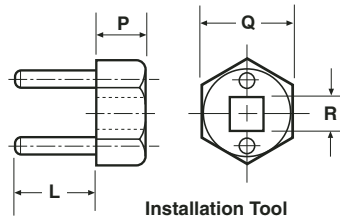
- Tamper Resistant Design
- Swivels 360°, Pivots 180°
- Eliminates Bending (of Eyebolt) Problem
- Forged, Oversized, One-Piece Lift Ring
- Rated at 5:1 Strength Factor
- Load Capacities to 4000 Lbs/2000 Kg
- Economically Priced
- Material: Alloy Steel, or 316 Stainless Steel
- Finish: Black Oxide, or Passivated (SS)
- 3D Solid Models available in multiple formats from www.jergensinc.com

U.S. Patent Nos. 5,634,734
and 5,743,576
Foreign Patent Pending



LIFT ID
AUTOMATED INSPECTION AND COMPLIANCE SYSTEM

To add Lift ID™ to Hoist Ring
Add "F" to the end of the part
number Example: 23414F

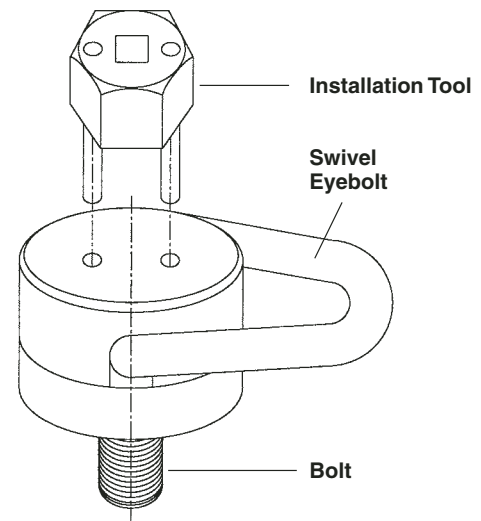


TO PREVENT BINDING, THE MOUNTING HOLE COUNTERSINK SHOULD NOT EXCEED 'N' DIMENSION.

Installation Tool Information

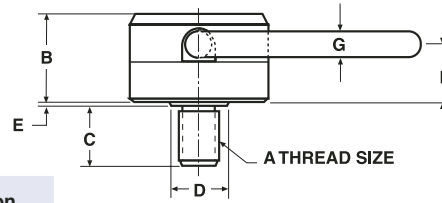
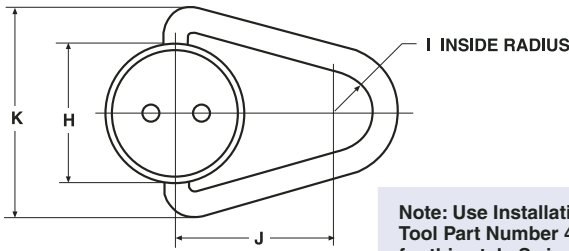
Installation Tool Part Number	Pin Length L	Head Thickness P	Hex Size Q	Square Drive R
47641	11/16	.55	15/16	1/4
47643	1 1/8	.65	1 1/4	3/8

Swivel Eyebolt Part Number	Installation Tool Part Number	Recommended Torque	Maximum Countersink Diameter N
47621	47641	7 ft. lbs.	1/2
47622	47641	20 ft. lbs.	5/8
47631	47641	7 ft. lbs.	1/2
47632	47641	20 ft. lbs.	5/8
47671	47641	10 N•m	13 mm
47672	47641	25 N•m	16 mm
47681	47641	10 N•m	13 mm
47682	47641	25 N•m	16 mm
47625	47643	35 ft. lbs.	3/4
47626	47643	55 ft. lbs.	7/8
47633	47643	35 ft. lbs.	3/4
47634	47643	55 ft. lbs.	7/8
47675	47643	50 N•m	19 mm
47676	47643	80 N•m	22 mm
47683	47643	50 N•m	19 mm
47684	47643	80 N•m	22 mm





Small Swivel Eyebolt



Note: Use Installation Tool Part Number 47641 for this style Swivel Eyebolt on page 497.



To add Lift ID™ to Hoist Ring Add "F" to the end of the part number Example: 23414F

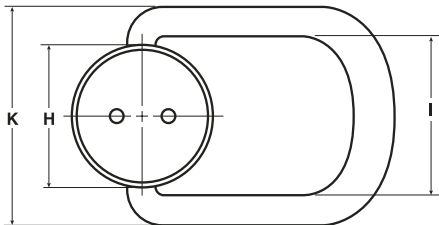
Swivel Eyebolt

Part Number		Load Capacity (lbs)		Thread Size A	B	C	D	E	F	G	H	I	J	K
Alloy Steel	Stainless Steel	Alloy Steel	Stainless Steel											
47621	47631	1000	500	3/8 - 16	1 3/32	9/16	3/4	3/64	45/64	5/16	1 3/4	1/2	2	2 5/8
47622	47632	2000	1000	1/2 - 13	1 3/32	3/4	3/4	3/64	45/64	5/16	1 3/4	1/2	2	2 5/8

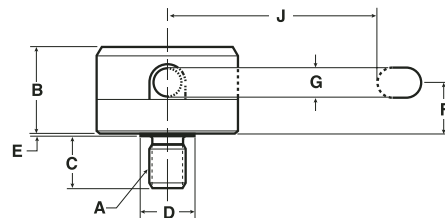
Metric Swivel Eyebolt

Part Number		Load Capacity (Kg)		Thread Size A	B	C	D	E	F	G	H	I	J	K
Alloy Steel	Stainless Steel	Alloy Steel	Stainless Steel											
47671	47681	500	250	M10 x 1.5	27.8	14.6	19.1	1.2	17.9	7.9	44.5	12.7	50.8	66.7
47672	47682	700	350	M12 x 1.75	27.8	19.1	19.1	1.2	17.9	7.9	44.5	12.7	50.8	66.7

Large Swivel Eyebolt



Note: Use Installation Tool Part Number 47643 for this style Swivel Eyebolt on page 497.



To add Lift ID™ to Hoist Ring Add "F" to the end of the part number Example: 23414F

Swivel Eyebolt

Part Number		Load Capacity (lbs)		Thread Size A	B	C	D	E	F	G	H	I	J	K
Alloy Steel	Stainless Steel	Alloy Steel	Stainless Steel											
47625	47633	3000	1500	5/8 - 11	1 33/64	15/16	7/8	1/32	57/64	1/2	2 1/2	2 3/4	3 1/2	3 13/16
47626	47634	4000	2000	3/4 - 10	1 33/64	1 1/8	1	1/32	57/64	1/2	2 1/2	2 3/4	3 1/2	3 13/16

Metric Swivel Eyebolt

Part Number		Load Capacity (Kg)		Thread Size A	B	C	D	E	F	G	H	I	J	K
Alloy Steel	Stainless Steel	Alloy Steel	Stainless Steel											
47675	47683	1500	750	M16 x 2.0	38.5	23.8	22.2	.8	22.6	12.7	63.5	70	93	97
47676	47684	2000	1000	M20 x 2.5	38.5	30.2	25.4	.8	22.6	12.7	63.5	70	93	97

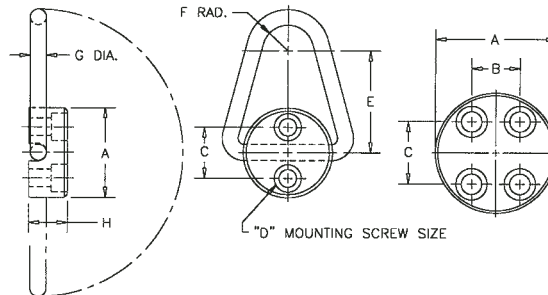


Pivoting Lift Ring



The Jergens Pivoting Lift Ring is a low profile lifting device that pivots 180°. It is one of the most economical lifting devices available and is ideal for applications that do not require a swivel action. This Lift Ring is easy to install and is available in five sizes. Load ratings range from 2,000 - 20,000 lbs. The product is manufactured from alloy steel, heat treated and magnafluxed.

- Base: Precision Machined Alloy Steel
- Ring: Alloy Steel forging, heat treated, magnafluxed and certified
- Finish: Black Oxide
- Rated at 6:1 Strength Factor
- 3D Solid Models available in multiple formats from www.jergensinc.com



Pivoting Lift Rings

Ring Part Number	Load Capacity (lbs)	A	B	C	Mounting Bolt Part Number	Thread & Length D	E	F	G	H
47411	2000	1 3/4	—	1	47421	5/16-18 x 1 1/4	2	1/2	5/16	3/4
47412	2500	2 1/4	—	1 1/8	47422	3/8-16 x 1 1/2	2 1/2	5/8	3/8	7/8
47413	5000	2 1/2	—	1 1/2	47423	1/2-13 x 1 3/4	3	3/4	1/2	1 1/8
47414*	12000	3 1/8	1 1/4	1 5/8	47424	1/2-13 x 2 1/2	4	7/8	3/4	1 3/8
47415*	20000	3 5/8	1 1/4	2 1/16	47425	5/8-11 x 2 1/2	5	1	1	1 7/8

* The larger load capacity rings have four mounting holes.

*Note: Mounting Bolts must be ordered separately.

Metric Pivoting Lift Rings

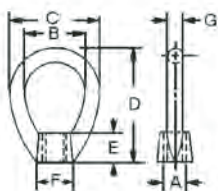
Ring Part Number	Part Number with Pull Test & Metric Screws	Load Capacity (kg)	A	B	C	Mounting Bolt Part Number	Thread & Length D	E	F	G	H
47411	47411-PTMS	900	45	—	25.4	47471	M 8 x 1.25 x 35 mm	51	13	8	19
47412	47412-PTMS	1100	57	—	28.6	47472	M 10 x 1.5 x 40 mm	64	16	10	22
47413	47413-PTMS	2250	64	—	38.1	47473	M 12 x 1.75 x 45 mm	76	19	13	29
47414*	47414-PTMS	5400	80	31.8	41.3	47474	M 12 x 1.75 x 55 mm	102	22	19	35
47415*	47415-PTMS	9000	92	31.8	52.4	47475	M 16 x 2.0 x 65 mm	127	25.4	25.4	48

* The larger load capacity rings have four mounting holes.

*Note: Mounting Bolts must be ordered separately.



Eye Nuts Inch



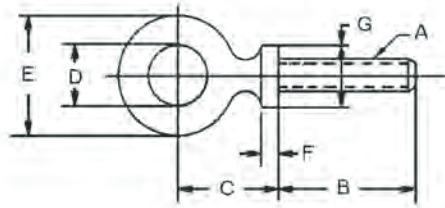
- Material: C-1030 Forge

Part Number	A	B	C	D	E	F	G	Load Wt (lbs)	Capacity (lbs)
18900*		1 1/4	2	2 1/2	5/8	7/8	3/8	.22	2700
18901	3/8-16	1 1/4	2	2 1/2	5/8	7/8	3/8	.22	2700
18902	1/2-13	1 1/4	2	2 1/2	5/8	7/8	3/8	.22	2700
18903	5/8-11	1 1/2	2 1/2	3	3/4	1 3/8	1/2	.50	5000
18904	3/4-10	1 1/2	2 1/2	3	3/4	1 3/8	1/2	.50	5000
18905*		1 1/2	2 1/2	3	3/4	1 3/8	1/2	.50	5000

*Blank



Shoulder Eye Bolts Inch

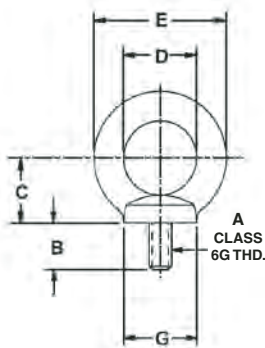


- Material: C-1030 Forge
- Finish: Mill
- Thread: 2A
- Rated at 5:1 strength factor

For other than vertical loads, general practice is to use 60% of the working load capacity for a load 30° from vertical; 33% of vertical load for load 45° from vertical; and 20% of vertical load for load 90° from vertical.

NOTE: 2 1/2 threads runout on threaded portion.

Part Number	A	B	C (Ref.)	D	E	F (Ref.)	G	Wt (lbs)	Load Capacity (lbs)
18501	1/4-20	1	1 1/16	3/4	1 3/16	3/16	1/2	.05	500
18502	5/16-18	1 1/8	7/8	7/8	1 7/16	3/16	5/8	.10	900
18503	3/8-16	1 1/4	1 1/16	1	1 21/32	3/16	1 1/16	.16	1300
18504	1/2-13	1 1/2	1 5/16	1 3/16	2 1/16	1/4	7/8	.36	2400
18505	5/8-11	1 3/4	1 19/32	1 3/8	2 1/2	1/4	1 1/8	.65	4000
18506	3/4-10	2	1 23/32	1 1/2	2 13/16	5/16	1 1/4	1.00	5000
18507	7/8-9	2 1/4	2 3/16	1 11/16	3 1/4	3/8	1 7/16	1.70	7000
18508	1-8	2 1/2	2 13/32	1 13/16	3 9/16	13/32	1 9/16	2.36	9000
18509	1 1/8-7	2 3/4	2 23/32	2	4	15/32	1 11/16	3.41	12000
18510	1 1/4-7	3	2 15/16	2 3/16	4 7/16	1/2	1 7/8	4.68	15000
18511	1 1/2-6	3 1/2	3 7/16	2 1/2	5 3/16	9/16	2 3/16	7.77	21000
18512	1 3/4-5	3 3/4	3 31/32	2 7/8	6 1/16	5/8	2 1/2	11.35	28000
18513	2-4 1/2	4	4 1/2	3 1/4	6 7/8	3/4	2 7/8	16.70	38000


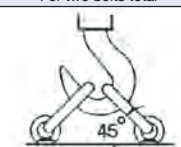


Metric - Short

Loads given ensure a strength factor of four against deformation of any kind and strength factor of five against fracture.

- Material: C-15 Annealed (AISI 1015)
- Finish: Mill
- Thread: 6g

Part Number	A	B	C (Ref.)	D	E	G	Wt. (kg)
18551	M6 x 1	13.0	17.5	19.1	36.5	20.0	.023
18552	M8 x 1.25	13.0	22.2	22.2	36.5	20.0	.045
18554	M12 x 1.75	20.5	33.3	30.2	52.4	30.0	.163
18555	M16 x 2	27.0	40.5	34.9	63.5	35.0	.295

Maximum permissible loads in lbs.	
For one bolt firmly tightened	For two bolts total
	
150	100
300	200
700	500
1500	1100

All Dimensions in Millimeters.

Metric - Standard

Part Number	A	B	C (Ref.)	D	E	F (Ref.)	G	Wt (lbs)	Load Capacity (kg)	Load Capacity (lbs)
18561	M6 x 1.0	25.4	20.6	19	30.0	3.9	13.5	.06	210	462
18562	M8 x 1.25	31.7	29.4	25	43.0	4.8	17.5	.17	500	1110
18563	M10 x 1.5	35.0	33.3	27	46.0	5.2	19.8	.24	740	1628
18564	M12 x 1.75	38.0	36.5	30	54.0	5.6	22.2	.36	1030	2266
18565	M16 x 2.0	44.5	43.6	35	65.0	6.3	27.0	.69	1600	3520
18566	M20 x 2.5	57.0	55.6	41	81.0	9.5	36.5	1.51	2860	6292
18567	M24 x 3.0	63.5	61.1	44	90.4	10.3	39.7	2.36	3850	8470
18568	M30 x 3.5	76.0	74.6	55	112.7	12.7	47.6	4.68	6400	14080
18569	M36 x 4.0	89.0	87.3	63	131.8	14.3	55.6	7.77	8970	19734
18570	M42 x 4.5	95.0	93.6	73	152.4	15.1	60.3	11.10	11960	26312
18571	M48 x 5.0	101.6	107.9	82	174.6	17.5	69.8	15.90	16400	36080

- Material: C-1030 Forge
- Finish: Mill
- Thread: 6g



Quality Standards Center-Pull Traditional and Side-Pull Traditional Style Hoist Rings

Load Bearing Member Components

- All material is domestically manufactured certified alloy steel.
- All components are machined prior to manufacture to remove any surface defects.
- All components are heat treated and certified to manufacturing specifications.
- Bolts are:

Inch





Socket Screw Grade
Tensile Strength
-180,000 psi - 1/2" or Smaller
-170,000 psi - Over 1/2"
100% Magnetic Particle Inspected
to ASTM E709-08

Metric

Grade 12.9
Tensile Strength
-1220 MPa
- (177,000 psi)
100% Magnetic Particle Inspected
to ASTM E709-08

- All other load bearing components are magnetic particle inspected based upon ASTM E709-08 and MIL-STD-105 with zero defects permissible.
- Bolt torque and hoist ring load limit permanently marked on washer.
- **ISO 9001: 2008 Certified**

Individual certificate of proof-test accompanies Center-Pull and Side-Pull Traditional Style hoist rings in final packaging.

		CERTIFICATE OF PROOF TEST			
(1) Distinguishing Mark	(2) Description of Item Tested	(3) Quantity Tested	(4) Date Tested	(5) Load Applied	(6) Rated Load
BI	23408 HOIST RING	1	1/1/2003	2,000 LBS	1,000 LBS
(7) Name and Address of Supplier:		Jergens Inc., 15700 Waterloo Rd., Cleveland, OH 44110			
(8) Name and Address of Company performing test:		Jergens Inc., 15700 Waterloo Rd., Cleveland, OH 44110			
(9) Position of Signatory in Company		Quality Assurance Manager			
Jergens Inc. certifies that all hoist rings have been proof tested and examined in accordance with Jergens QSWI 10.3D and that this test completes all procedures as required.					
 ISO9001:2008 <small>QUALITY SYSTEM CERTIFIED</small>		(Signature) 			
In substantial agreement with (OSHA) 29 CFR 1918, ANSI B30-26, MIL-STD-1365C, MIL-STD-209K					

LIFTING SOLUTIONS » QUALITY STANDARDS



Quality Standards For Center-Pull and Side-Pull Traditional Style Hoist Rings

Assembly Data

- Traditional Center Pull and Side Pull hoist ring assemblies are pull-tested and certified to 200% of rated load capacity and stamped with identifying date code.
- All hoist rings are designed for 5:1 strength factor.
- Hoist rings are color coded for easy identification: gold washer denotes inch sizes, silver/clear blue washer denotes metric sizes.
- Finished assembly is black oxide (with the exception of the washer).
- The Jergens name or logo is prominently displayed on assembly for identification of original manufacturer.
- Special plating or marking is available upon customer's request.
- Proper warning label is affixed to each clevis.
- Proof load testing, magnafluxing and heat treating are on file at Jergens, Inc.
- Material Certs available for nominal cost and must be requested with initial order.
- The finished hoist ring product is individually boxed.

NOTE: Specifications for side pull style hoist rings are identical to center pull style with the exception that the clevis is of precision cast alloy material which is serialized and conforms to X-ray specifications.

Contact Jergens for quality standards on all other lifting products.

Multi-lingual safety data instructions included in each package

IMPORTANT
GIVE TO SAFETY MANAGER

IMPORTANT
À FOURNIR AU
DIRECTEUR DE SÉCURITÉ

IMPORTANTE
ENTREGAR AL
SUPERVISOR DE SEGURIDAD

IMPORTANTE
CONSEGNARE AL
RESPONSABILE PER LA
SICUREZZA

IMPORTANTE
DÊ PARA O GERENTE
DE SEGURANÇA

WICHTIG
AN DEN
SICHERHEITSMANAGER
WEITERGEBEN

重要
安全管理担当者様

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Cleveland, Ohio 44110-3898
Phone: (216) 486-5540 • Fax: (216) 481-6193

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Lift ID™ Automated Inspection and Compliance System



Kwik-Lok® Lifting Pin

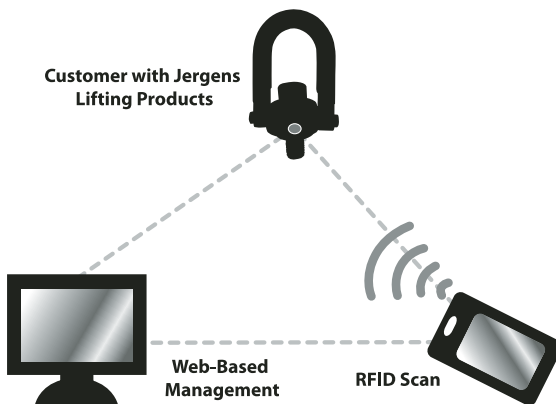
Exclusively from Jergens, **Lift ID™** combines the power of RFID, the ease of mobile computers and the convenience of the Internet to automate the entire tracking and reporting process. This two part system combines rugged hardware and powerful software to simplify your workplace safety compliance program.

The embedded RFID tags on Jergens' lifting products provide a quick and efficient way to identify and track equipment in the field. The RFID tag is scanned and **Lift ID™** Software accesses our secure website to track the manufacturing and test data for that particular hoist ring. Safety testing, repair histories, inspection certificates and more are immediately accessible from anywhere using web-based administration.

The rugged RFID tag is engineered for service even in the most demanding environments. **Lift ID™** is available with all Jergens lifting products, including **Kwik-Lok®** Lifting Pins.

Lift ID™ is available with all Jergens lifting products.

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- ✓ Compliant with the ISO 15693 air interface standard



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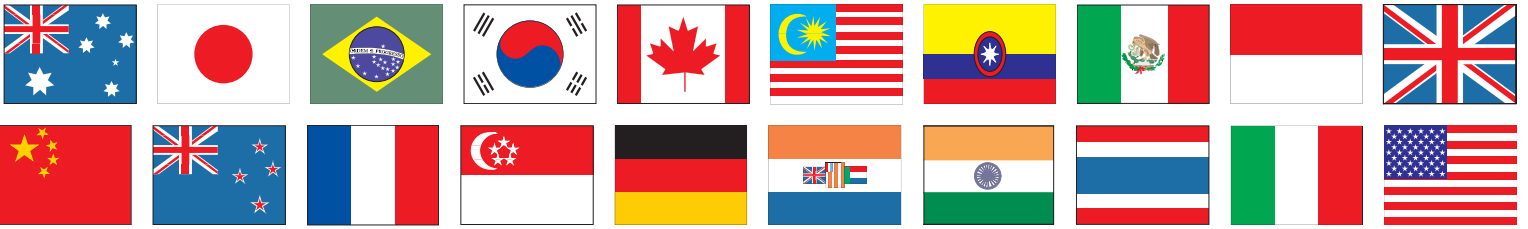
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