Innovative Design Solutions

MORTON machine works

MANUFACTURER OF

Quality Tooling Components

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Innovative Design Solutions

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Largest selection of stainless steel parts in the industry

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Manufacturing Quality Tooling Components for Over 70 Years!

Quality system certified to ISO9001:2015 standards

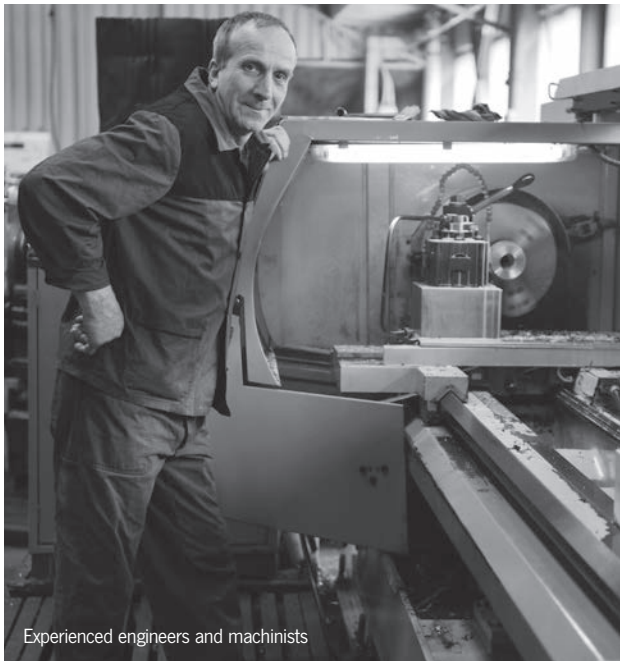
MORTON machine works

Distributor:

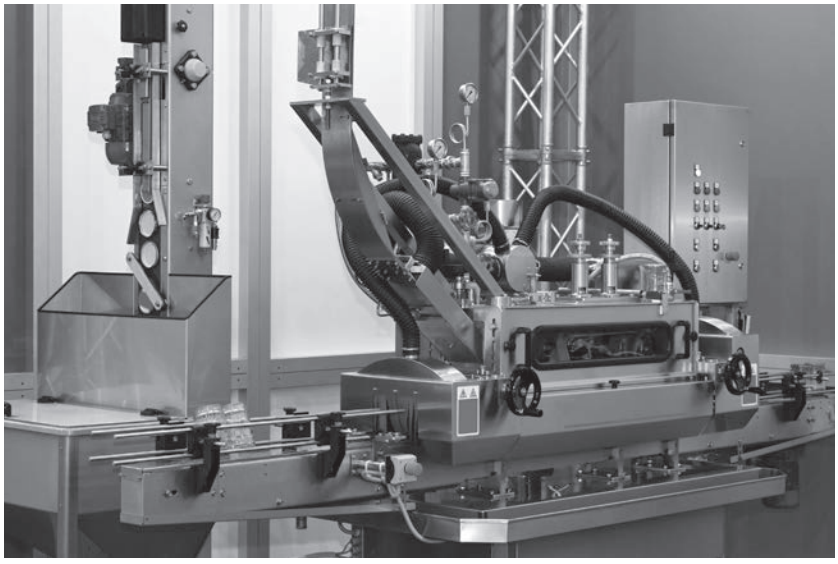
Innovative Design Solutions

Oakdale, MN. 55128
651-353-6891
sales@idsmachine.com

Manufactured on the latest CNC equipment



Experienced engineers and machinists



OFFICE► IDS sales office: Oakdale, MN.

FACTORY► Production facility is located at 527 West Main Street, Elizabethville, Pa.

BUSINESS HOURS► Office hours are Monday through Friday 9:00 am - 5:00 pm CST

PRICES► For prices please refer to IDS's latest price schedule. For distributor discounts inquire with a Morton salesperson. All prices are subject to change without prior notice.

DELIVERY► Morton offers same day shipment on items from stock when the orders are placed before 12:30 pm EST. If an item is back-ordered, please check with a Morton salesperson for the expected delivery date.

MINIMUM► Minimum invoice $40.00 on all shipments.

TERMS► Net 30 days for companies with approved credit. Credit card payments accepted through PayPal (Credit card fee of 5% may be added).

FREIGHT► All shipments are FOB Millersburg, PA. Freight charges are billed at actual costs. Depending on weight, parts are shipped UPS or common carrier unless customer specifies special instructions.

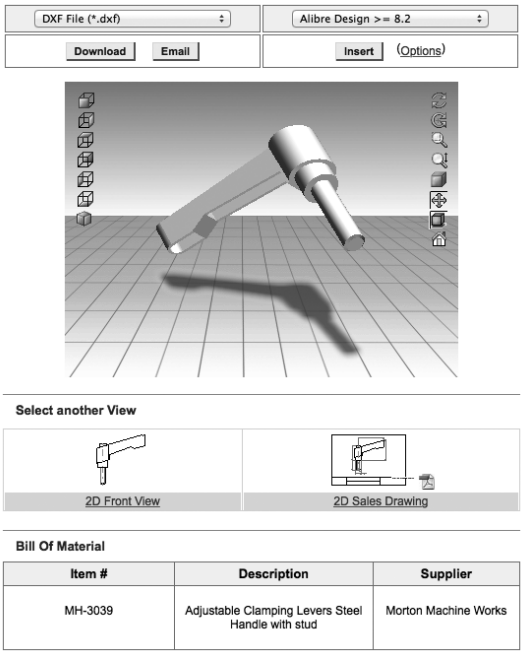
SPECIALS► Morton can modify its standard parts to meet special requirements. Fax your drawings and specifications to Morton's quote department. Specials are non-returnable.

SPECIFICATIONS► Please refer to each catalog drawing for part specifications. If tolerances are not shown, inquire with a Morton salesperson.

WARRANTY► Since the conditions of end use are beyond the control of Morton, performance of the product cannot be guaranteed. Liability is limited to the replacement of the product within six months of purchase.

RETURNS► Standards can be returned within three months from the date of purchase less a 15% restocking fee. Call to request an RGA number prior to sending back product.

CAD► CAD models along with 2D sales drawings are available.



PATENTS & TRADEMARKS►

U.S. Patent 5.898.974 U.S. Patent 4.693.656

U.S. Patent 5.533.232 Button Thread Canada Patent 1.219.151 M-T

SAFETY► Please refer to recommended load capacities on all lifting devices. Machine tools can pose many safety hazards. Observe all appropriate safety precautions.

QUALITY► Quality system is certified and maintained to ISO 9001: 2015. Certification number 84311-IS1 NSF.

CERTIFICATION► Material certification charge on selected items. Please specify certification requests when placing order. RoHS compliant statements available upon request.

Quality System Certified to
ISO 9001

TOOLING COMPONENT MANUFACTURERS ASSOCIATION INTERNATIONAL

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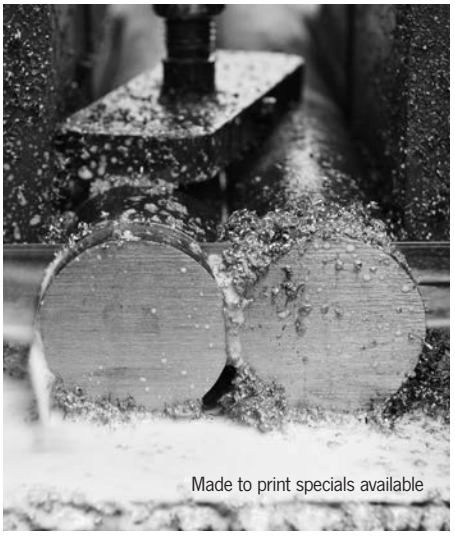

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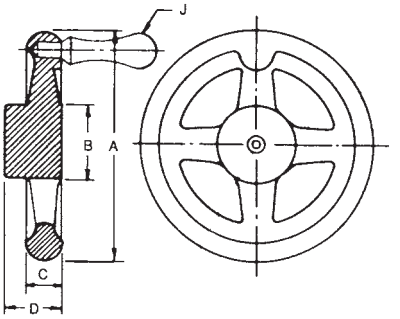
Handwheels
(standard type)



Cast Iron / Aluminum

► Additional charge for installing handles

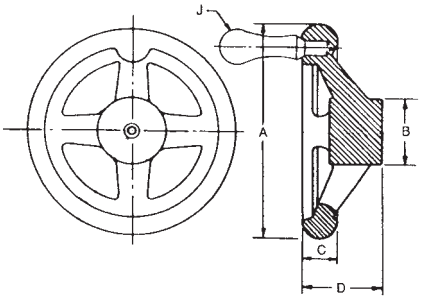
► Machined handwheels include faced hub that is true with rim

► Bore, keyway, and set screw prices are available upon request

► Material is cast grey iron and 319 cast aluminum

Blank Casting Only		Machined Only		Machined, Polished & Painted						Optional	Weight (lbs.)	
Cast Iron	Aluminum	Cast Iron	Aluminum	Cast Iron	Aluminum					Handle		
PART #	**PART #**	**PART #**	**PART #**	**PART #**	**PART #**	**A**	**B**	**C**	**D**	**J**	**Cast Iron**	**Aluminum**
HW-4	HW-4A	HW-4M	HW-4AM	HW-4F	HW-4AF	4	1-1/4	5/8	1-1/8	H-20	1.7	.6-
-	HW-5A	-	HW-5AM	-	HW-5AF	5	1-1/2	5/8	1-1/8	H-30	2.2	.8
HW-6	HW-6A	HW-6M	HW-6AM	HW-6F	HW-6AF	6	1-5/8	3/4	1-1/4	H-30	3.4	1.3
HW-8	HW-8A	HW-8M	HW-8AM	HW-8F	HW-8AF	8	1-7/8	7/8	1-3/8	H-40	6.0	2.3
HW-9	-	HW-9M	-	HW-9F	-	9	2	7/8	1-3/4	H-40	7.2	-
HW-10	HW-10A	HW-10M	HW-10AM	HW-10F	HW-10AF	10	2-1/4	1	2-1/4	H-40	11	5
-	HW-12A	-	HW-12AM	-	HW-12AF	12	3	1-1/4	3	H-50	21	8
-	HW-14A	-	HW-14AM	-	HW-14AF	14	3	1-1/4	3-1/2	H-50	25	9

Handwheels
(offset type)



Aluminum

► Additional charge for installing handles

► Bore, keyway, and set screw prices are available upon request

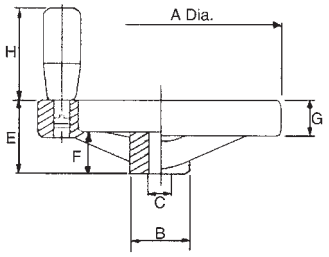
► Machined handwheels include faced hub that is true with rim

Blank Casting Only Aluminum	Machined Only Aluminum	Machined, Polished & Painted Aluminum					Optional Handle	Weight (lbs.)
PART #	**PART #**	**PART #**	**A**	**B**	**C**	**D**	**J**	**Aluminum**
OHW-4A	OHW-4AM	OHW-4AF	4	1-1/4	5/8	1-11/16	H-20	.7
OHW-5A	OHW-5AM	OHW-5AF	5	1-1/2	5/8	1-13/16	H-30	.8
OHW-6A	OHW-6AM	OHW-6AF	6	1-5/8	3/4	2	H-30	1.3
OHW-8A	OHW-8AM	OHW-8AF	8	1-7/8	7/8	2-3/16	H-40	2.4
OHW-9A	OHW-9AM	OHW-9AF	9	2	7/8	2-3/4	H-40	3.0
OHW-10A	OHW-10AM	OHW-10AF	10	2-1/4	1	3-1/4	H-40	5

Black Powder Coated Aluminum Handwheels

with fold-away handle

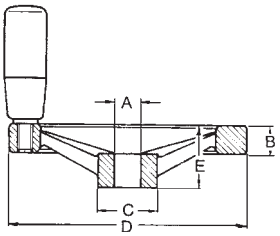
- Black powder coated cast aluminum
- Installed manual fold-away handle
- Through bore



PART #	A	B	Bore C	E	F	G	H
HW-50A	4.00	1.25	.375	1.77	.812	.750	2.20
HW-50B	4.00	1.25	.500	1.77	.812	.750	2.20
HW-51A	5.00	1.31	.375	1.93	.875	.750	2.56
HW-51B	5.00	1.31	.500	1.93	.875	.750	2.56
HW-52A	6.00	1.44	.500	2.05	1.00	.750	2.56
HW-52B	6.00	1.44	.625	2.05	1.00	.750	2.56
HW-53A	8.00	1.94	.500	2.74	1.38	.937	3.15
HW-53B	8.00	1.94	.625	2.74	1.38	.937	3.15
HW-54A	10.00	1.94	.625	2.80	1.38	.937	3.15
HW-54B	10.00	1.94	.750	2.80	1.38	.937	3.15

Two-Spoke Aluminum Handwheels

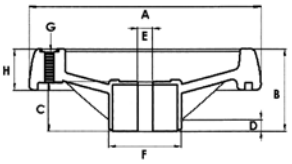
- Made from cast aluminum
- High quality machined and polished finish
- Available with or without revolving plastic handle
- Through bore



Without handle PART #	With handle PART #	D	A	B	C	E	Handle
HW-28	HW-28H	3.15	.24	.53	1.26	1.18	RH-55
HW-29	HW-29H	3.94	.31	.55	1.50	1.34	RH-56
HW-30	HW-30H	4.92	.47	.59	1.22	1.30	RH-56
HW-31	HW-31H	6.30	.55	.71	1.42	1.54	RH-57
HW-32	HW-32H	7.87	.71	.80	1.65	1.77	RH-57
HW-33	HW-33H	9.84	.87	.91	1.89	2.01	RH-57

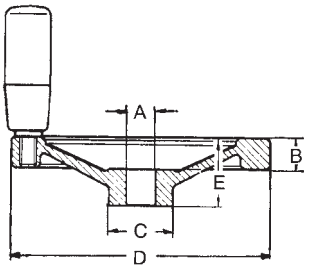
Two Spoke Plastic Handwheels

- High strength plastic 6N
- Steel core for custom machining
- Bore dimension “E”
- Available with or without revolving black plastic handle



Without handle PART #	With handle PART #	A	B	C	D	E	F	G	H	Handle
PHW-80	PHW-80H	3.15	1.38	.96	.26	.31	1.18	1/4-20	.71	RH-55
PHW-81	PHW-81H	3.94	1.46	.96	.26	.31	1.42	5/16-18	.79	RH-56
PHW-82	PHW-82H	4.92	1.73	1.04	.24	.31	1.54	5/16-18	.87	RH-56
PHW-83	PHW-83H	6.3	2.01	1.24	.27	.31	1.69	3/8-16	.98	RH-57
PHW-84	PHW-84H	7.87	2.4	1.56	.27	.39	1.81	3/8-16	1.1	RH-57

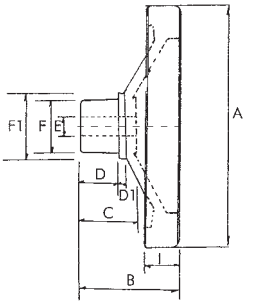
Solid Web Aluminum Handwheels



- ▶ Made from cast aluminum
- ▶ High quality machined and polished rim
- ▶ Solid web design has no hazardous openings
- ▶ Available with or without revolving black plastic handle
- ▶ Through bore

Without handle PART #	With handle PART #	D	A	B	C	E
HW-20	HW-20H	3.94	.39	.55	1.10	1.18
HW-21	HW-21H	4.92	.47	.59	1.22	1.30
HW-22	HW-22H	6.30	.55	.71	1.42	1.54
HW-23	HW-23H	7.87	.71	.80	1.65	1.77
HW-24	HW-24H	9.84	.87	.91	1.89	2.01

Aluminum Web Handwheels

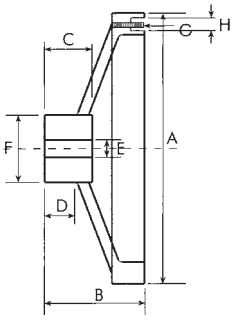


- ▶ Made from cast aluminum
- ▶ Black finish
- ▶ Solid web design has no hazardous openings
- ▶ Available with or without revolving black plastic handle
- ▶ Through bore

Without handle PART #	With handle PART #	A	B	C	D	E	F	I	Handle
HW-60	HW-60H	3.15	1.18	.87	.59	.23	1.26	.51	RH-55
HW-61	HW-61H	3.94	1.34	.91	.59	.31	1.50	.55	RH-56
HW-62	HW-62H	4.92	1.61	.94	.63	.39	1.57	.59	RH-56
HW-63	HW-63H	6.3	1.85	1.18	.79	.47	1.57	.71	RH-57
HW-64	HW-64H	7.87	2.17	1.5	.98	.47	1.93	.83	RH-57

Chrome-Plated Dish Handwheels

with fold-away handle

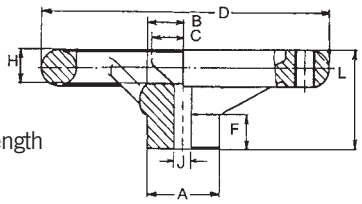


- ▶ Cast iron web design with a high quality chrome-plate finish
- ▶ Includes black plastic fold-away handle
- ▶ Through bore

PART #	A	B	C	D	E	F	Weight (lb)
HW-70	4.92	1.81	.79	.43	.28	1.42	2.6
HW-71	5.91	2.01	.98	.71	.31	1.73	3.7
HW-72	6.89	2.28	1.18	.83	.31	1.89	5.3
HW-73	7.87	2.52	1.18	.87	.35	1.93	6.4

Nylon Handwheels

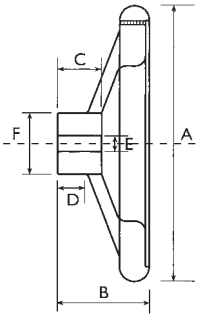
- Molded with high strength plastic nylon 6N resin
- Available with or without revolving handle
- Three spoke offset design
- Steel core allows for custom machining and increased strength
- Through bore



Without Handle PART #	With Handle PART #	D	A	B	C	F	H	L	Bore J	Handle Thread
PHW-40	PHW-60	3.15	.98	.94	1.18	.39	.55	1.57	3/16	M6 x 1.0
PHW-41	PHW-61	3.94	1.10	1.10	1.26	.39	.55	1.73	3/16	M6 x 1.0
PHW-42	PHW-62	4.92	1.18	1.10	1.38	.39	.55	1.89	3/16	M8 x 1.25
PHW-43	PHW-63	6.30	1.38	1.38	1.97	.59	.79	2.48	13/32	M10 x 1.5
PHW-44	PHW-64	7.87	1.38	1.38	1.97	.59	.79	2.48	13/32	M10 x 1.5
PHW-49	PHW-69	9.84	1.77	2.13	2.32	.59	1.02	2.48	13/32	M10 x 1.75

Stainless Steel Handwheels

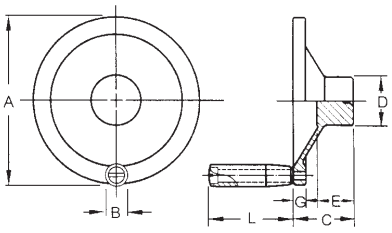
- 304 stainless steel
- Quality machined finish
- Available with or without stainless steel revolving handle
- Through bore



Without handle PART #	With handle PART #	A	B	C	D	E	F	Handle
SHW-80	SHW-80H	3.15	1.1	.67	.47	.24	1.14	RH-21SS
SHW-100	SHW-100H	3.94	1.22	.71	.55	.31	1.18	RH-21SS
SHW-125	SHW-125H	4.92	1.22	.79	.59	.31	1.34	RH-22SS
SHW-160	SHW-160H	6.3	1.57	.91	.63	.31	1.50	RH-22SS
SHW-200	SHW-200H	7.87	1.81	.94	.67	.31	1.77	RH-23SS

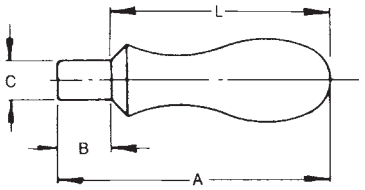
Stainless Steel Handwheels

- 300 series stainless steel
- Excellent machined finish
- Stainless steel handle included
- Offset dish design
- No bore hole



PART #	A	B	C	D	E	G	L
SHW-3	3"	.39	1.10	.87	.67	.24	1.49
SHW-4	4"	.47	1.25	1.02	.71	.31	1.57
SHW-6	6"	.75	1.50	1.50	.87	.39	2.50

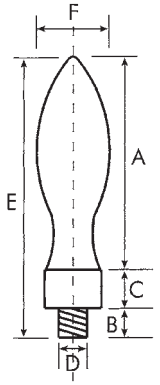
Handles



- ▶ Machine steel, high polished finish
- ▶ Solid or revolving handle
- ▶ Excellent handle for fixturing or when used with cast iron and aluminum handwheels

Solid Part #	Revolving Part #	A	B	C	L
H-10		1-29/32	7/16	1/4	1-15/32
H-20		2-5/32	7/16	5/16	1-23/32
	H-1	2-5/8	9/16	5/16	2-1/16
H-30		2-11/16	9/16	3/8	2-1/8
	H-2	3-25/32	3/4	3/8	3-1/32
H-40		3-15/16	11/16	7/16	3-1/4
	H-3	4-1/32	3/4	7/16	3-9/32
H-50		5	15/16	1/2	4-1/16
	H-4	5-1/8	15/16	1/2	4-3/16

Chrome Plate Fixed Handles

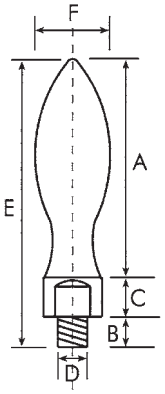


- ▶ Steel handle high polished chrome plate finish
- ▶ Fixed handle

PART #	A	B	C	D	E	F
H-51	1.77	.43	.28	#10-24	2.48	.67
H-52	1.77	.43	.28	1/4-20	2.48	.67
H-53	2.44	.43	.35	5/16-18	3.23	.83
H-54	2.76	.67	.39	3/8-16	3.82	.94
H-55	3.27	.87	.47	1/2-13	4.61	1.18

Revolving Handles
chrome plate and stainless steel

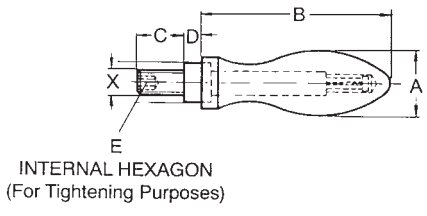
- Available in steel with a chrome-plate finish or 300 series stainless steel
- Revolving design
- Wrench flats for securing



Chrome PART #	Stainless Steel PART #	A	B	C	D	E	F
RH-21	RH-21SS	1.77	.39	.31	1/4-20	2.48	.63
RH-22	RH-22SS	2.52	.39	.31	5/16-18	3.23	.75
RH-23	RH-23SS	2.95	.47	.39	3/8-16	3.82	.91
RH-24	RH-24SS	3.35	.87	.47	1/2-13	4.69	1.14
RH-25	RH-25SS	45mm	10mm	8mm	M6 x 1.0	63mm	16mm
RH-26	RH-26SS	64	10	8	M8 x 1.25	82	19
RH-27	RH-27SS	75	12	10	M10 x 1.5	97	23
RH-28	RH-28SS	85	22	12	M12 x 1.75	119	29

Metric Revolving Handles

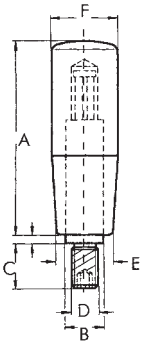
- Revolving handle
- Handle available in polished steel or black thermoplastic
- Steel screw



INTERNAL HEXAGON
(For Tightening Purposes)

Steel PART #	Plastic PART #	X	A	B	C	D	E
HA-6	HP-6	M6 x 1.0	16mm	50mm	11mm	5.5mm	3mm
HA-8	HP-8	M8 x 1.25	20	64	13	6	4
HA-10	HP-10	M10 x 1.5	25	80	14	8	5
HA-12	HP-12	M12 x 1.75	32	100	21	10.5	6

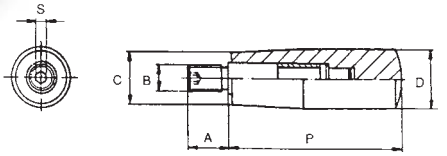
Plastic Revolving Handles



- ▶ High gloss plastic handle
- ▶ Revolving design
- ▶ Hex drive for securing

PART #	A	B	C	D	E	F
RH-55	1.57	.39	.47	1/4-20	.59	.71
RH-56	2.56	.51	.51	5/16-18	.75	.91
RH-57	3.15	.51	.63	3/8-16	.83	1.02

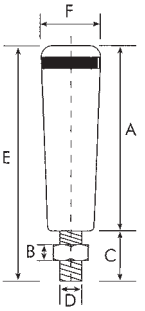
Metric Plastic Revolving Handles



- ▶ Thermoplastic handle
- ▶ Spindle made from steel
- ▶ Revolving handle
- ▶ Metric thread

PART #	B	P	A	C	D	S
RH-60	M6 x 1.0	50mm	13mm	18mm	21mm	3mm
RH-61	M8 x 1.25	65	14	19	23	4
RH-62	M10 x 1.5	80	16	22	26	5

Economy Plastic Revolving Handles

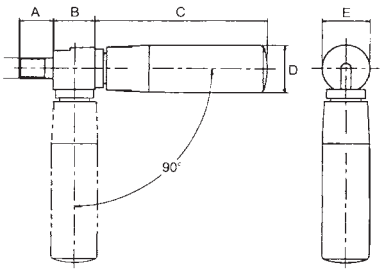


- ▶ Plastic revolving handle
- ▶ Economical design with bolt passing through handle to secure on attachment

PART #	A	B	C	D	E	F
RH-40	53mm	6mm	17mm	M8 x 1.25	73mm	19mm
RH-41	80	7	21	M10 x 1.5	107	28
RH-42	80	9	28	M12 x 1.75	108	28
RH-43	2.09	.23	.67	5/16-18	2.76	.75
RH-44	3.19	.27	.83	3/8-16	4.20	1.10
RH-45	3.15	.35	1.10	1/2-13	4.25	1.10

Fold-Away Handles

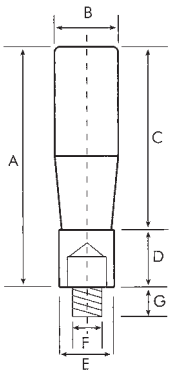
- Plastic handle
- Inch and metric sizes available
- Fold-away handle design...pull handle upward and it snaps into an upright position
- Steel stud
- Fold-away design eliminates a projecting handle that may cause safety hazards



PART #	Thread	A	B	C	D	E
FH-60	3/8-16	.51	.83	2.56	.91	.75
FH-70	1/2-13	.55	.87	3.15	1.02	.83
FH-80	5/8-11	.79	.94	3.54	1.10	.91
FH-10	M8 x 1.25	.51	.83	2.56	.91	.75
FH-20	M8 x 1.25	.51	.87	3.15	1.02	.83
FH-30	M10 x 1.50	.55	.87	3.15	1.02	.83
FH-40	M12 x 1.75	.79	.94	3.54	1.10	.91

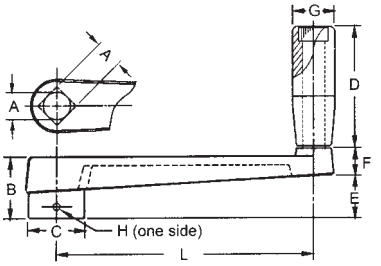
Metric Retractable Handles

- Plastic revolving handle
- Easy fold-away design...pull handle upward and it snaps into an upright position
- Fold-away design eliminates a projecting handle that may cause safety hazards

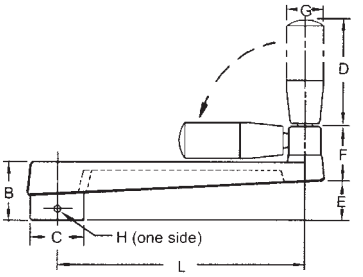


PART #	A	B	C	D	E	F	G
FH-110	89mm	23mm	65mm	24mm	20.1mm	M10	15mm
FH-130	104	26	80	24	20.1	M10	15
FH-140	114	28	90	24	20.1	M10	15

Crank Handles



Crank handle with revolving handle



Crank handle with foldable revolving handle

- ▶ Aluminum die-cast crank body
- ▶ Black painted finish
- ▶ Available with black plastic revolving handle or fold-away handles
- ▶ Available with round bore or square broach

WITH PLASTIC REVOLVING HANDLE

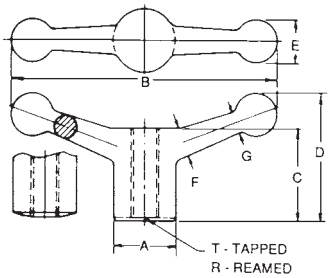
Bored PART #	Broached PART #	A	L	B	C	D	E	F	G	H
CH-2031	CH-2131	5/16	1.20	0.68	0.55	0.94	0.34	0.37	0.56	-
CH-2037	CH-2137	3/8	2.52	0.79	0.75	1.22	0.43	0.47	0.70	1/16
CH-2038	CH-2138	3/8	3.15	0.95	0.91	1.97	0.55	0.55	0.85	1/16
CH-2050	CH-2150	1/2	3.94	1.10	1.06	2.50	0.67	0.59	0.93	3/32
CH-2062	CH-2162	5/8	4.92	1.34	1.26	3.25	0.87	0.71	1.12	3/32
CH-2075	CH-2175	3/4	6.30	1.50	1.38	3.25	1.02	0.71	1.12	3/32

WITH PLASTIC FOLDING HANDLE

Bored PART #	Broached PART #	A	L	B	C	D	E	F	G	H
CH-2085	CH-2185	1/2	3.94	1.10	1.06	2.00	0.67	1.22	0.88	3/32
CH-2086	CH-2186	5/8	4.92	1.34	1.26	2.50	0.87	1.49	0.94	3/32
CH-2087	CH-2187	3/4	6.30	1.50	1.38	3.15	1.02	1.49	1.00	3/32

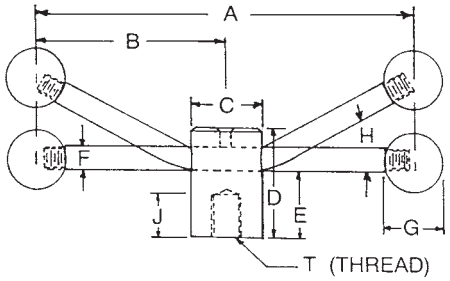
Ball Handles

- ▶ Cast grey iron, zinc-plated finish
- ▶ Available as a blank casting, with a tapped hole, or a reamed hole
- ▶ Bottom face of hub is machined square with the hole
- ▶ Spherical face is available to fit bottom half of spherical washer



PART #	A	B	C	D	E	F	G	Ream R	Tapped T	Condition of Bottom Face of Hub
BH-100	1-1/8	4-3/4	1-3/8	2-1/4	3/4	1/2	3/8			Blank Casting
BH-101	1-1/8	4-3/4	1-3/8	2-1/4	3/4	1/2	3/8	.499		Flat Face
BH-104	1-1/8	4-3/4	1-3/8	2-1/4	3/4	1/2	3/8		3/8-16	Flat Face
BH-102	1-1/8	4-3/4	1-3/8	2-1/4	3/4	1/2	3/8		1/2-13	Flat Face
BH-103	1-1/8	4-3/4	1-3/8	2-1/4	3/4	1/2	3/8		1/2-13	SP-2 Radius
BH-200	1-3/8	6	1-5/8	2-1/2	7/8	9/16	7/16			Blank Casting
BH-204	1-3/8	6	1-5/8	2-1/2	7/8	9/16	7/16	.624		Flat Face
BH-205	1-3/8	6	1-5/8	2-1/2	7/8	9/16	7/16		5/8-11	Flat Face
BH-206	1-3/8	6	1-5/8	2-1/2	7/8	9/16	7/16		5/8-11	SP-3 Radius
BH-300	1-5/8	8	1-3/4	2-15/16	1	5/8	1/2			Blank Casting
BH-307	1-5/8	8	1-3/4	2-15/16	1	5/8	1/2	.749		Flat Face
BH-308	1-5/8	8	1-3/4	2-15/16	1	5/8	1/2		3/4-10	Flat Face
BH-309	1-5/8	8	1-3/4	2-15/16	1	5/8	1/2		3/4-10	SP-4 Radius

Steel Clamping Handles



► Available in 3 styles....

Single side offset, Double side offset, Double side straight

► Low carbon steel, black oxide finish

► Solid steel hub on select sizes allows for custom machining

► Black plastic balls

► Double straight design can be adjusted for additional leverage by loosening the set screw and sliding the handle to one side.

► Double straight design can be adjusted for additional leverage by loosening the set screw and sliding the handle to one side.

Double Straight Design

STYLE

PART #	DOUBLE STRAIGHT	T	A	B	C	D	E	F	G	H	J
CH-13	x	Blank	8”	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	-	-
CH-1350	x	1/2-13	8”	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	-	3/4
CH-1362	x	5/8-11	8”	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	-	1”
CH-1375	x	3/4-10	8”	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	-	1”

Double Offset Design

STYLE

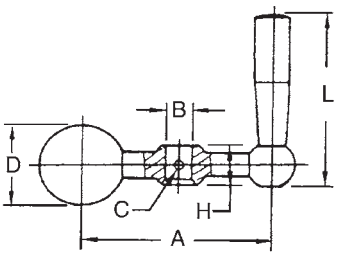
PART #	DOUBLE OFFSET	T	A	B	C	D	E	F	G	H	J
CH-14	x	Blank	4”	2”	7/8	1-1/2	1”	1/4	3/4	30˚	-
CH-1425	x	1/4-20	4”	2”	7/8	1-1/2	1”	1/4	3/4	30˚	1/2
CH-1437	x	3/8-16	4”	2”	7/8	1-1/2	1”	1/4	3/4	30˚	1/2
CH-15	x	Blank	6”	3”	1-1/8	1-3/4	1-1/16	3/8	1”	30˚	-
CH-1537	x	3/8-16	6”	3”	1-1/8	1-3/4	1-1/16	3/8	1”	30˚	1/2
CH-1550	x	1/2-13	6”	3”	1-1/8	1-3/4	1-1/16	3/8	1”	30˚	3/4
CH-16	x	Blank	8”	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	30˚	-
CH-1662	x	5/8-11	8”	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	30˚	1”
CH-1675	x	3/4-10	8”	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	30˚	1”

Single Offset Design

STYLE

PART #	SINGLE OFFSET	T	A	B	C	D	E	F	G	H	J
CH-17	x	Blank	-	2”	7/8	1-1/2	1”	1/4	3/4	30˚	-
CH-1725	x	1/4-20	-	2”	7/8	1-1/2	1”	1/4	3/4	30˚	1/2
CH-1737	x	3/8-16	-	2”	7/8	1-1/2	1”	1/4	3/4	30˚	1/2
CH-18	x	Blank	-	3”	1-1/8	1-3/4	1-1/16	3/8	1”	30˚	-
CH-1837	x	3/8-16	-	3”	1-1/8	1-3/4	1-1/16	3/8	1”	30˚	1/2
CH-1850	x	1/2-13	-	3”	1-1/8	1-3/4	1-1/16	3/8	1”	30˚	3/4
CH-19	x	Blank	-	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	30˚	-
CH-1962	x	5/8-11	-	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	30˚	1”
CH-1975	x	3/4-10	-	4”	1-3/8	2-1/4	1-1/4	1/2	1-3/8	30˚	1”

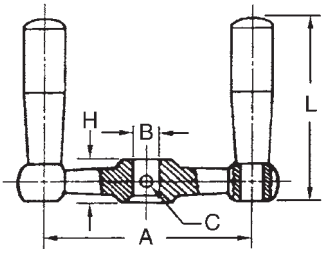
Balanced Crank Handles



- ▶ Polished chrome appearance
- ▶ Fixed handle
- ▶ Cross drilled hole for easy installation

PART #	A	B	C	D	H	L
CH-3001	2	5/16	1/8	13/16	7/16	2
CH-3002	2-1/2	5/16	1/8	1	9/16	2-1/2
CH-3003	3-1/8	3/8	5/32	1-1/4	11/16	3-1/4
CH-3004	4	3/8	5/32	1-1/4	11/16	3-1/4
CH-3005	5	1/2	3/16	1-1/2	7/8	4
CH-3006	6-1/8	1/2	3/16	1-1/2	7/8	4

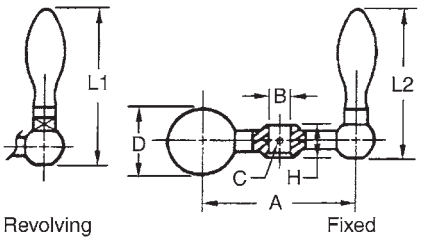
Balanced Double Crank Handles



- ▶ Double fixed handle design
- ▶ Chrome plated steel
- ▶ Cross drilled hole for easy installation

PART #	A	B	C	H	L
CH-3021	2	5/16	1/8	7/16	2
CH-3022	2-1/2	5/16	1/8	9/16	2-1/2
CH-3023	3-1/4	3/8	5/32	11/16	3-1/4

Balanced Crank Handles



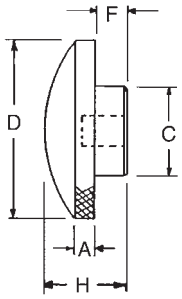
- ▶ Available with fixed or revolving handle
- ▶ Polished chrome appearance
- ▶ Cross drilled hole for easy installation

Revolving PART #	Fixed PART #	A	B	C	D	H	L1	L2
CH-3052	CH-3062	2-1/2	5/16	1/8	1	9/16	2-3/4	2-9/16
CH-3053	CH-3063	3-1/8	3/8	5/32	1-1/4	11/16	3-1/2	3-1/4
CH-3054	CH-3064	4	3/8	5/32	1-1/4	11/16	3-1/2	3-1/4
CH-3055	CH-3065	5	1/2	3/16	1-1/2	7/8	4-3/16	3-15/16

Aluminum Domed Knurled Knobs

- Made from 6061-T6 aluminum
- Large palm-grip design
- Diamond knurl
- Comfort design and finish

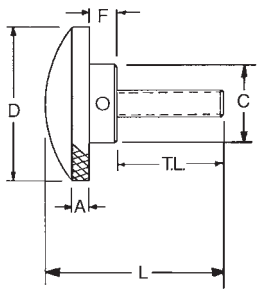
PART #	Thread	D	A	F	C	Thread Depth	H
AK-101	1/4-20	1	1/4	7/16	5/8	1/2	15/16
AK-102	5/16-18	1	1/4	7/16	5/8	1/2	15/16
AK-103	5/16-18	2	5/16	1/2	1	1/2	1-3/16
AK-104	3/8-16	2	5/16	1/2	1	1/2	1-3/16
AK-105	3/8-16	2-1/4	3/8	5/8	1-1/4	1	1-3/8
AK-106	1/2-13	2-1/4	3/8	5/8	1-1/4	1	1-3/8
AK-107	1/2-13	3	3/8	3/4	1-1/2	1	1-5/8
AK-108	5/8-11	3	3/8	3/4	1-1/2	1	1-5/8
AK-109	5/8-11	3-1/2	1/2	3/4	2	1	1-7/8
AK-110	3/4-10	3-1/2	1/2	3/4	2	1	1-7/8



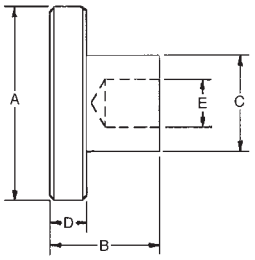
Aluminum Domed Knurled Knob Assemblies

- Knobs made 6061-T6 aluminum
- Carbon steel screw, black oxide finish
- Large palm-grip design
- Steel screw held in place with roll pin
- Comfort design and finish

PART #	Thread	Thread Lgth	D	A	F	C	L
AK-2517	1/4-20	1-3/4	1	1/4	7/16	5/8	2-11/16
AK-2530	1/4-20	3	1	1/4	7/16	5/8	3-15/16
AK-3117	5/16-18	1-3/4	1	1/4	7/16	5/8	2-11/16
AK-3130	5/16-18	3	1	1/4	7/16	5/8	3-15/16
AK-3717	3/8-16	1-3/4	2	5/16	1/2	1	2-15/16
AK-3730	3/8-16	3	2	5/16	1/2	1	4-3/16
AK-5017	1/2-13	1-3/4	2-1/4	3/8	5/8	1-1/4	3-1/8
AK-5030	1/2-13	3	2-1/4	3/8	5/8	1-1/4	4-3/8
AK-6217	5/8-11	1-3/4	3	3/8	3/4	1-1/2	3-3/8
AK-6230	5/8-11	3	3	3/8	3/4	1-1/2	4-5/8
AK-7517	3/4-10	1-3/4	3-1/2	1/2	3/4	2	3-5/8
AK-7530	3/4-10	3	3-1/2	1/2	3/4	2	4-7/8



Knurled Knobs
with reamed hole



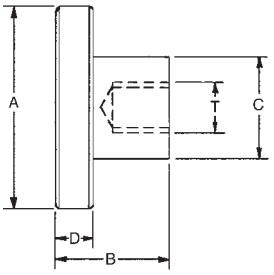
► Available in carbon steel with black oxide finish and 303 stainless steel

► Reamed hole

► Diamond knurl

Steel PART #	Stainless Steel PART #	Reamed Hole E	A	B	C	D
KK-10	KK-10SS	3/16	3/4	5/8	1/2	1/4
KK-11	KK-11SS	1/4	3/4	5/8	1/2	1/4
KK-12	KK-12SS	1/4	1	3/4	5/8	1/4
KK-13	KK-13SS	5/16	1	3/4	5/8	1/4
KK-14	KK-14SS	5/16	1-1/2	1	3/4	5/16
KK-15	KK-15SS	3/8	1-1/2	1	3/4	5/16
KK-16	KK-16SS	3/8	2	1-1/8	1	3/8
KK-17	KK-17SS	1/2	2	1-1/8	1	3/8
KK-18	-	1/2	2-1/2	1-1/2	1-1/2	9/16
KK-19	-	5/8	2-1/2	1-1/2	1-1/2	9/16
KK-20	-	5/8	3	1-3/4	1-3/4	5/8
KK-21	-	3/4	3	1-3/4	1-3/4	5/8

Knurled Knobs
with tapped hole



► Available in carbon steel with black oxide finish and 303 stainless steel

► Tapped hole

► Knurled head

► Diamond knurl

► Metric knobs have through hole thread

INCH THREAD

Steel PART #	Stainless Steel PART #	Thread T	A	B	C	D
KK-30	KK-30SS	#10-24	3/4	5/8	1/2	1/4
KK-31	KK-31SS	1/4-20	3/4	5/8	1/2	1/4
KK-32	KK-32SS	1/4-20	1	3/4	5/8	1/4
KK-33	KK-33SS	5/16-18	1	3/4	5/8	1/4
KK-34	KK-34SS	5/16-18	1-1/2	1	3/4	5/16
KK-35	KK-35SS	3/8-16	1-1/2	1	3/4	5/16
KK-36	KK-36SS	3/8-16	2	1-1/8	1	3/8
KK-37	KK-37SS	1/2-13	2	1-1/8	1	3/8
KK-38	-	1/2-13	2-1/2	1-1/2	1-1/2	9/16
KK-39	-	5/8-11	2-1/2	1-1/2	1-1/2	9/16
KK-40	-	5/8-11	3	1-3/4	1-3/4	5/8
KK-41	-	3/4-10	3	1-3/4	1-3/4	5/8

METRIC THREAD (THRU-HOLE)

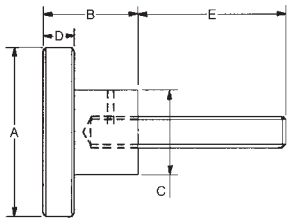
PART #	Thread	A	B	C	D
KK-70	M3 x .5	12mm	6mm	7.5mm	2.5mm
KK-71	M4 x .7	16	8	9.5	3.5
KK-72	M5 x .8	20	10	11.5	4
KK-73	M6 x 1.0	24	12	16	5
KK-74	M8 x 1.25	30	16	18	6
KK-75	M10 x 1.5	36	20	23	8

Knurled Knobs
with studs

- Black oxide finish
- Stud is drilled and pinned in place
- Knurled head
- Machined from low carbon 12L14 steel

INCH STUD

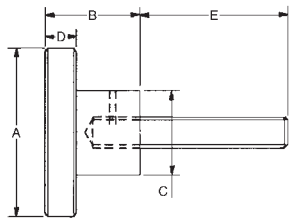
PART #	Thread	E	A	Stud B	C	D
KKS-50	#10-24	1/2	3/4	5/8	1/2	1/4
KKS-51	#10-24	1	3/4	5/8	1/2	1/4
KKS-52	1/4-20	3/4	3/4	5/8	1/2	1/4
KKS-53	1/4-20	1-1/4	3/4	5/8	1/2	1/4
KKS-54	1/4-20	1-3/4	1	3/4	5/8	1/4
KKS-55	5/16-18	1-3/4	1	3/4	5/8	1/4
KKS-56	5/16-18	3	1	3/4	5/8	1/4
KKS-57	5/16-18	1-3/4	1-1/2	1	3/4	5/16
KKS-58	5/16-18	3	1-1/2	1	3/4	5/16
KKS-59	3/8-16	1-3/4	1-1/2	1	3/4	5/16
KKS-60	3/8-16	3	1-1/2	1	3/4	5/16
KKS-61	3/8-16	1-3/4	2	1-1/8	1	3/8
KKS-62	3/8-16	3	2	1-1/8	1	3/8
KKS-63	1/2-13	1-3/4	2	1-1/8	1	3/8
KKS-64	1/2-13	1-3/4	2-1/2	1-1/2	1-1/2	9/16
KKS-65	1/2-13	3	2-1/2	1-1/2	1-1/2	9/16
KKS-66	5/8-11	1-3/4	2-1/2	1-1/2	1-1/2	9/16



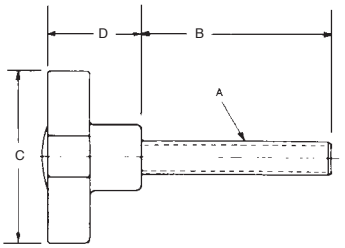
Cast Iron Hand Knob Screws

- Cast iron hand knob, zinc-plated finish
- Steel screw with black oxide finish
- Knurled hand knob

PART #	Thread	E	A	Stud B	C	D
SKS-2517	1/4-20	1-3/4	1-1/2	7/8	5/8	3/8
SKS-2530	1/4-20	3	1-1/2	7/8	5/8	3/8
SKS-3117	5/16-18	1-3/4	2	7/8	3/4	3/8
SKS-3130	5/16-18	3	2	7/8	3/4	3/8
SKS-3717	3/8-16	1-3/4	2	7/8	3/4	3/8
SKS-3730	3/8-16	3	2	7/8	3/4	3/8
SKS-5017	1/2-13	1-3/4	2-1/2	1-1/2	1-1/8	1/2
SKS-5030	1/2-13	3	2-1/2	1-1/2	1-1/8	1/2
SKS-6217	5/8-11	1-3/4	2-1/2	1-1/2	1-1/8	1/2
SKS-6230	5/8-11	3	2-1/2	1-1/2	1-1/8	1/2



Hand Knob Screws



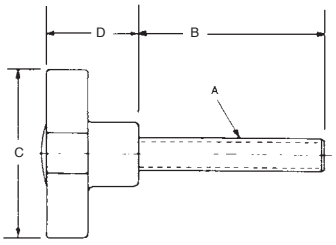
Cast Iron PART #	Aluminum PART #	Thread A	B	C	D
HKS-2510	HKS-2510A	1/4-20	1	1-1/2	7/8
HKS-2515	HKS-2515A	1/4-20	1-1/2	1-1/2	7/8
HKS-2517	HKS-2517A	1/4-20	1-3/4	1-1/2	7/8
HKS-2520	HKS-2520A	1/4-20	2	1-1/2	7/8
HKS-2530	HKS-2530A	1/4-20	3	1-1/2	7/8
HKS-3117	HKS-3117A	5/16-18	1-3/4	2	1
HKS-3125	HKS-3125A	5/16-18	2-1/2	2	1
HKS-3130	HKS-3130A	5/16-18	3	2	1
HKS-3712	HKS-3712A	3/8-16	1-1/4	2	1
HKS-3717	HKS-3717A	3/8-16	1-3/4	2	1
HKS-3720	HKS-3720A	3/8-16	2	2	1
HKS-3725	HKS-3725A	3/8-16	2-1/2	2	1
HKS-3730	HKS-3730A	3/8-16	3	2	1
HKS-5015	HKS-5015A	1/2-13	1-1/2	2-1/2	1-1/2
HKS-5017	HKS-5017A	1/2-13	1-3/4	2-1/2	1-1/2
HKS-5020	HKS-5020A	1/2-13	2	2-1/2	1-1/2
HKS-5025	HKS-5025A	1/2-13	2-1/2	2-1/2	1-1/2
HKS-5030	HKS-5030A	1/2-13	3	2-1/2	1-1/2
HKS-6217	HKS-6217A	5/8-11	1-3/4	2-1/2	1-1/2
HKS-6225	HKS-6225A	5/8-11	2-1/2	2-1/2	1-1/2
HKS-6230	HKS-6230A	5/8-11	3	2-1/2	1-1/2
HKS-6235	HKS-6235A	5/8-11	3-1/2	2-1/2	1-1/2

- ▶ Hand knob available in cast iron or aluminum
- ▶ Steel screw with black oxide finish
- ▶ Screw is pressed and held in place with a spring pin

Fine Thread

Aluminum PART #	Thread A	B	C	D
HKS-825A	1/4-28	1-3/4	1-1/2	7/8
HKS-831A	5/16-24	1-3/4	2	7/8
HKS-837A	3/8-24	1-3/4	2	7/8
HKS-850A	1/2-20	1-3/4	2-1/2	1-1/2
HKS-862A	5/8-11	1-3/4	2-1/2	1-1/2

Stainless Steel Hand Knob Screws



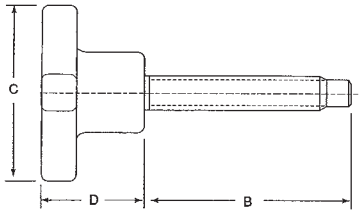
- ▶ Aluminum hand knob
- ▶ 303 stainless steel screw
- ▶ Screw is pressed and held in place by a roll pin

PART #	Thread A	B	C	D
HKS-2517A-SS	1/4-20	1-3/4	1-1/2	7/8
HKS-2530A-SS	1/4-20	3	1-1/2	7/8
HKS-3117A-SS	5/16-18	1-3/4	2	1
HKS-3130A-SS	5/16-18	3	2	1
HKS-3717A-SS	3/8-16	1-3/4	2	1
HKS-3730A-SS	3/8-16	3	2	1
HKS-5017A-SS	1/2-13	1-3/4	2-1/2	1-1/2
HKS-5030A-SS	1/2-13	3	2-1/2	1-1/2
HKS-6217A-SS	5/8-11	1-3/4	2-1/2	1-1/2
HKS-6230A-SS	5/8-11	3	2-1/2	1-1/2

Metric Hand Knob Screws

- Metric sizes
- 4 prong cast iron hand knob
- Heat treated steel screw, black oxide finish
- Dog point screw
- Screw is pressed and held in place with a spring pin

PART #	A	B	C	D	Tip Dia.	Tip Length
HKS-92	M6 x 1.0	26mm	38mm	22mm	4.5mm	3mm
HKS-93	M6 x 1.0	38	38	22	4.5	3
HKS-94	M8 x 1.25	44.5	38	22	6	4.5
HKS-95	M10 x 1.5	38	51	25	7	4.5
HKS-96	M10 x 1.5	51	51	25	7	4.5
HKS-97	M12 x 1.75	38	63.5	38	10	6.5
HKS-98	M12 x 1.75	63.5	63.5	38	10	6.5

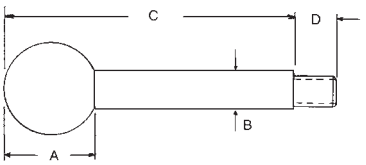


Gear Lever Handles

- Available in steel shaft with black oxide finish or stainless steel shaft
- Black plastic ball
- Inch and metric sizes available
- Gear lever shaft available without the plastic ball upon request

INCH

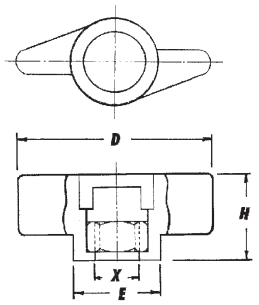
Steel PART #	Stainless Steel PART #	Thread	A	B	C	D
GL-05	GL-05SS	#10-32	3/4	1/4	1-1/2	3/8
GL-10	GL-10SS	#10-32	3/4	1/4	3	3/8
GL-15	GL-15SS	1/4-20	3/4	1/4	2-1/2	3/8
GL-20	GL-20SS	1/4-20	3/4	1/4	3-1/2	3/8
GL-30	GL-30SS	1/4-20	1"	3/8	6	1/2
GL-35	GL-35SS	5/16-18	1"	3/8	2-1/2	1/2
GL-38	GL-38SS	5/16-18	1"	3/8	4	1/2
GL-40	GL-40SS	5/16-18	1"	3/8	6	1/2
GL-45	GL-45SS	3/8-16	1-3/8	1/2	2-1/2	1/2
GL-48	GL-48SS	3/8-16	1-3/8	1/2	4	1/2
GL-50	GL-50SS	3/8-16	1-3/8	1/2	8	1/2
GL-55	GL-55SS	1/2-13	1-7/8	5/8	6	5/8
GL-58	GL-58SS	1/2-13	1-7/8	5/8	8	5/8
GL-60	GL-60SS	1/2-13	1-7/8	5/8	10	5/8



METRIC

Steel PART #	Steel Stainless PART #	Thread	A	B	C	D
GL-63	GL-63SS	M6 x 1.0	19mm	6.5mm	76mm	9.5mm
GL-83	GL-83SS	M8 x 1.25	25.5	9.5	152	12.5
GL-103	GL-103SS	M10 x 1.5	35	12.5	203	12.5
GL-123	GL-123SS	M12 x 1.75	47.5	16	254	16

Plastic T-Knobs



- Black thermoplastic knob
- Bushing insert made from brass
- Inch and metric sizes

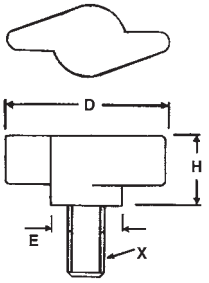
BRASS INSERT
INCH - INTERNAL THREAD

PART #	X Thread	Thread Depth	H	D	E
3735AC	1/4-20	0.39	0.71	1.38	0.59
3745AC	1/4-20	0.63	0.94	1.77	0.79
3735AD	5/16-18	0.39	0.71	1.38	0.59
3745AD	5/16-18	0.63	0.94	1.77	0.79
3745AE	3/8-16	0.63	0.94	1.77	0.79

BRASS INSERT
METRIC - INTERNAL THREAD

PART #	X Thread	Thread Depth	H	D	E
373504	M4 x .7	10mm	18mm	35mm	15.5mm
373505	M5 x .8	10	18	35	15.5
373506	M6 x 1.0	10	24	45	20
374506	M6 x 1.0	16	24	45	20
374508	M8 x 1.25	16	24	45	20

Plastic T-Knobs
with screws



- Black thermoplastic knob
- Screws made from zinc-plated steel or stainless steel
- Inch and metric sizes

ZINC PLATED STEEL
INCH - EXTERNAL THREAD

PART #	X Thread	Thread Lgth	H	D	E
3735AC015	1/4-20	0.59	0.71	1.38	0.59
3735AC028	1/4-20	1.10	0.71	1.38	0.59
3735AD015	5/16-18	0.59	0.71	1.38	0.59
3735AD028	5/16-18	1.10	0.71	1.38	0.59
3735AD040	5/16-18	1.58	0.71	1.38	0.59
3745AE016	3/8-16	0.63	0.94	1.77	0.79
3745AE029	3/8-16	1.14	0.94	1.77	0.79
3745AE048	3/8-16	1.88	0.94	1.77	0.79

ZINC PLATED STEEL
METRIC - EXTERNAL THREAD

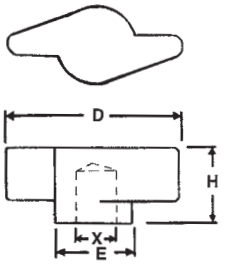
PART #	X Thread	Thread Lgth	H	D	E
373505015	M5 x .8	15mm	18mm	35mm	15.5mm
373505030	M5 x .8	30	18	35	15.5
373506015	M6 x 1.0	15	18	35	15.5
373506030	M6 x 1.0	30	18	35	15.5
374506015	M6 x 1.0	15	24	45	20
374506030	M6 x 1.0	30	24	45	20
374508015	M8 x 1.25	15	24	45	20
374508030	M8 x 1.25	30	24	45	20

STAINLESS STEEL
METRIC - EXTERNAL THREAD

PART #	X Thread	Thread Lgth	H	D	E
373505015SS	M5 x .8	15mm	18mm	35mm	15.5mm
373506015SS	M6 x 1.0	15	18	35	15.5
373506030SS	M6 x 1.0	30	18	35	15.5
373508015SS	M8 x 1.25	15	18	35	15.5
373508030SS	M8 x 1.25	30	18	35	15.5
374508040SS	M8 x 1.25	40	24	45	20
374510020SS	M10 x 1.5	20	24	45	20
374510050SS	M10 x 1.5	50	24	45	20

Stainless Steel T-Knobs

- 304 cast stainless steel
- Internal thread or blank casting



Inch

PART #	X Thread	Thread Depth	H	D	E
TK-100	Blank	Blank	.71	1.375	.59
TK-101	#10-32	.500	.71	1.375	.59
TK-102	#10-24	.500	.71	1.375	.59
TK-103	1/4-20	.500	.71	1.375	.59
TK-104	5/16-18	.500	.71	1.375	.59
TK-105	Blank	Blank	.94	1.770	.79
TK-106	5/16-18	.625	.94	1.770	.79
TK-107	3/8-16	.625	.94	1.770	.79

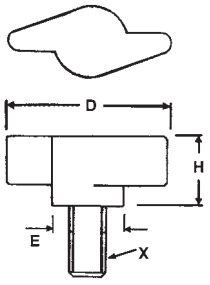
Metric

PART #	X Thread	Thread Depth	H	D	E
TK-110	M5 x .8	12mm	18mm	35mm	15.5mm
TK-111	M6 x 1.0	12	18	35	15.5
TK-112	M8 x 1.25	12	18	35	15.5
TK-113	M10 x 1.5	16	24	45	20
TK-114	M12 x 1.75	16	24	45	20

Stainless Steel T-Knobs

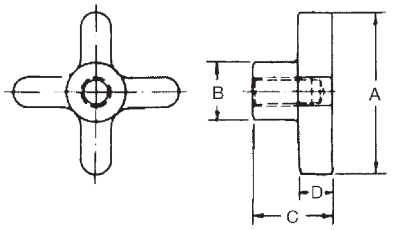
stainless steel screw

- 304 cast stainless steel
- 303 stainless steel screw
- Screw is pressed and held in place by a roll pin



PART #	X Thread	Thread Length	H	D	E
TK-301	#10-32	5/8	.71	1-3/8	.59
TK-302	#10-32	1	.71	1-3/8	.59
TK-303	#10-24	5/8	.71	1-3/8	.59
TK-304	#10-24	1	.71	1-3/8	.59
TK-305	1/4-20	3/4	.71	1-3/8	.59
TK-306	1/4-20	1-1/4	.71	1-3/8	.59
TK-307	1/4-20	1-3/4	.71	1-3/8	.59
TK-308	5/16-18	3/4	.94	1-3/4	.79
TK-309	5/16-18	1-1/4	.94	1-3/4	.79
TK-310	5/16-18	1-3/4	.94	1-3/4	.79
TK-311	3/8-16	1	.94	1-3/4	.79
TK-312	3/8-16	1-3/4	.94	1-3/4	.79
TK-313	3/8-16	2-1/4	.94	1-3/4	.79

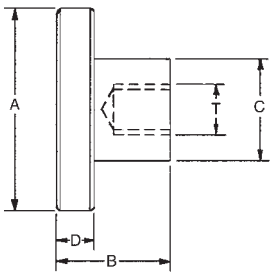
Hand Knobs



- ▶ Available in cast iron with zinc plating or cast aluminum
- ▶ Sizes 307 through 621 have 4 prongs
- ▶ Sizes 826 through 829 have 5 prongs
- ▶ Blind hole (tapped and reamed hole are not through)

Cast Iron PART #	Aluminum PART #	A	B	C	D	Ream R	Tapped T
HK-307	HK-307A	1-1/2	5/8	7/8	3/8		5/16-18
HK-308	HK-308A	1-1/2	5/8	7/8	3/8	.3115	
HK-309	HK-309A	1-1/2	5/8	7/8	3/8	Blank	
HK-410	HK-410A	2	3/4	1	3/8		3/8-16
HK-411	HK-411A	2	3/4	1	3/8	.3115	
HK-412	HK-412A	2	3/4	1	3/8	.374	
HK-413	HK-413A	2	3/4	1	3/8	Blank	
HK-616	HK-616A	2-1/2	1-1/8	1-1/2	1/2		1/2-13
HK-617	HK-617A	2-1/2	1-1/8	1-1/2	1/2	.499	
HK-618	HK-618A	2-1/2	1-1/8	1-1/2	1/2		5/8-11
HK-619	HK-619A	2-1/2	1-1/8	1-1/2	1/2	.624	
HK-620	HK-620A	2-1/2	1-1/8	1-1/2	1/2	.374	
HK-621	HK-621A	2-1/2	1-1/8	1-1/2	1/2	Blank	
-	HK-826A	3	1-1/2	1-3/4	1/2		3/4-10
-	HK-827A	3	1-1/2	1-3/4	1/2	.624	
-	HK-828A	3	1-1/2	1-3/4	1/2	.749	
-	HK-829A	3	1-1/2	1-3/4	1/2	Blank	

Hand Knobs



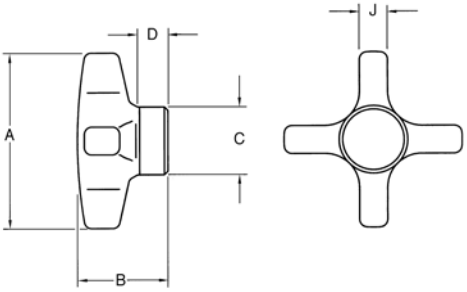
- ▶ Cast iron hand knob with zinc plate finish
- ▶ Straight knurl design
- ▶ Available as a “blank” casting, blind thread, or tap through design

PART #	Design	Thread	Thread Depth	A	B	C	D
SK-150	Blank Casting	-	-	1-1/2	7/8	5/8	3/8
SK-151	Blind Thread	1/4-20	7/16	1-1/2	7/8	5/8	3/8
SK-152	Tap Through	1/4-20	Tap Through	1-1/2	7/8	5/8	3/8
SK-153	Blind Thread	5/16-18	7/16	1-1/2	7/8	5/8	3/8
SK-154	Tap Through	5/16-18	Tap Through	1-1/2	7/8	5/8	3/8
SK-200	Blank Casting	-	-	2	7/8	3/4	3/8
SK-201	Blind Thread	5/16-18	9/16	2	7/8	3/4	3/8
SK-202	Tap Through	5/16-18	Tap Through	2	7/8	3/4	3/8
SK-203	Blind Thread	3/8-16	9/16	2	7/8	3/4	3/8
SK-204	Tap Through	3/8-16	Tap Through	2	7/8	3/4	3/8
SK-250	Blank Casting	-	-	2-1/2	1-1/2	1-1/8	1/2
SK-251	Blind Thread	1/2-13	3/4	2-1/2	1-1/2	1-1/8	1/2
SK-252	Tap Through	1/2-13	Tap Through	2-1/2	1-1/2	1-1/8	1/2
SK-253	Blind Thread	5/8-11	3/4	2-1/2	1-1/2	1-1/8	1/2
SK-254	Tap Through	5/8-11	Tap Through	2-1/2	1-1/2	1-1/8	1/2

Stainless Steel Hand Knobs

- Stainless steel
- Heavy duty solid hand knob
- Polished finish
- Available in blank form, reamed or tapped hole

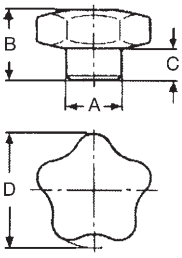
PART #	A	B	C	D	E	Depth	J
HK-1120SS	2	1.02	.78	.34	Blank		.40
HK-1121SS	2	1.02	.78	.34	1/4 Ream	.68	.40
HK-1122SS	2	1.02	.78	.34	1/4-20	.68	.40
HK-1123SS	2	1.02	.78	.34	5/16 Ream	.68	.40
HK-1124SS	2	1.02	.78	.34	5/16-18	.68	.40
HK-1125SS	2	1.02	.78	.34	3/8 Ream	.68	.40
HK-1126SS	2	1.02	.78	.34	3/8-16	.68	.40
HK-1130SS	3	1.50	1.14	.50	Blank		.47
HK-1131SS	3	1.50	1.14	.50	3/8 Ream	1.00	.47
HK-1132SS	3	1.50	1.14	.50	3/8-16	1.00	.47
HK-1133SS	3	1.50	1.14	.50	1/2 Ream	1.00	.47
HK-1134SS	3	1.50	1.14	.50	1/2-13	1.00	.47
HK-1135SS	3	1.50	1.14	.50	5/8 Ream	1.00	.47
HK-1136SS	3	1.50	1.14	.50	5/8-11	1.00	.47



Aluminum Hand Knobs

Metric

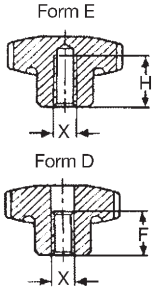
- Hand knobs are made from forged aluminum
- Polished finish
- High tensile strength
- Available in two styles (blind or through hole)



Form E

Blind Tapped Hole (Form E)

PART #	X Thread	D	A	B	C	F
764006E	M6 x 1.0	40mm	15mm	25mm	12.5mm	15mm
764008E	M8 x 1.25	40	15	25	12.5	15
765008E	M8 x 1.25	50	19	32	16	18
765010E	M10 x 1.5	50	19	32	16	18
766010E	M10 x 1.5	60	21	40	20	22
766012E	M12 x 1.75	60	21	40	20	22

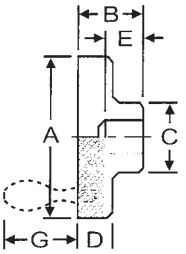


Form D

Tapped Through Hole (Form D)

PART #	X Thread	D	A	B	C	H
764008D	M8 x 1.25	40mm	15mm	25mm	12.5mm	15mm
765010D	M10 x 1.5	50	19	32	16	20
766012D	M12 x 1.75	60	21	40	20	26

Precision Control Knobs



- ▶ Available in aluminum or 303 stainless steel
- ▶ Optional handle design
- ▶ Knurled rim design

WITH HANDLE

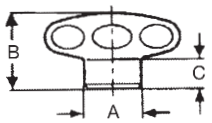
Aluminum PART #	Stainless Steel PART #	Reamed Dia.	A	B	C	D	E	G
CK-201	CK-301	3/8	2	1-1/8	13/16	9/16	7/8	1-9/32
CK-202	CK-302	Solid	2	1-1/8	13/16	9/16	-	1-15/16
CK-203	CK-303	5/8	3	1-1/4	1-1/4	9/16	7/8	1-9/32
CK-204	CK-304	Solid	3	1-1/4	1-1/4	9/16	-	1-15/16

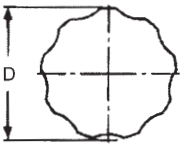
WITHOUT HANDLE

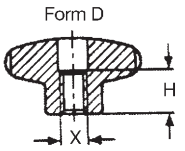
Aluminum PART #	Stainless Steel PART #	Thread Size	Reamed	A	B	C	D	E
CK-210	CK-310	-	1/4	1	13/16	1/2	3/8	5/8
CK-211	CK-311	-	Solid Hub	1	13/16	1/2	3/8	-
CK-212	CK-312	1/4-20	-	1	13/16	1/2	3/8	5/8
CK-213	CK-313	5/16-18	-	1	13/16	1/2	3/8	5/8
CK-214	CK-314	-	3/8	2	1-1/8	13/16	9/16	7/8
CK-215	CK-315	-	Solid Hub	2	1-1/8	13/16	9/16	-
CK-216	CK-316	3/8-16	-	2	1-1/8	13/16	9/16	7/8
CK-217	CK-317	1/2-13	-	2	1-1/8	13/16	9/16	7/8
CK-218	CK-318	-	5/8	3	1-1/4	1-1/4	11/16	7/8
CK-219	CK-319	-	Solid Hub	3	1-1/4	1-1/4	11/16	-
CK-220	CK-320	5/8-11	-	3	1-1/4	1-1/4	11/16	7/8
CK-221	CK-321	3/4-10	-	3	1-1/4	1-1/4	11/16	7/8

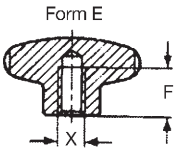
Stainless Steel Hand Knobs

Metric









- ▶ Made from 303 stainless bar stock
- ▶ Shot blast finish
- ▶ Two styles in metric (blind or through hole)

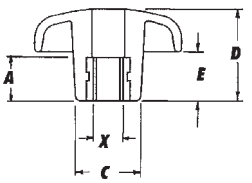
Tapped Through Hole (Form D)

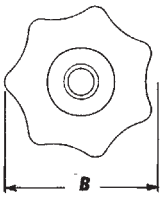
PART #	X Thread	D	A	B	C	H
564008D	M8 x 1.25	40mm	18mm	26.5mm	11mm	13mm
565010D	M10 x 1.5	50	21	29	12	16
566012D	M12 x 1.75	60	25	33	12	20

Blind Tapped Hole (Form E)

PART #	X Thread	D	A	B	C	F
564006E	M6 x 1.0	40mm	18mm	26.5mm	11mm	12mm
564008E	M8 x 1.25	40	18	26.5	11	12
565008E	M8 x 1.25	50	21	29	12	15
565010E	M10 x 1.5	50	21	29	12	15
566010E	M10 x 1.5	60	25	33	12	18
566012E	M12 x 1.75	60	25	33	12	18

Through Hole Plastic Hand Knobs





- ▶ Available in inch and metric sizes
- ▶ Handle made from glass-fiber reinforced polyamide
- ▶ Black matte finish
- ▶ Bushing from steel, zinc-plated finish

INCH

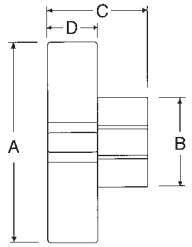
PART #	X Thread	A	B	C	D	E
7132AC	1/4-20	.43	1.26	.55	.79	.39
7140AD	5/16-18	.51	1.57	.71	.98	.51
7150AE	3/8-16	.59	1.98	.86	1.26	.67
7163AF	1/2-13	.79	2.48	1.02	1.57	.82

METRIC

PART #	X Thread	A	B	C	D	E
713206	M6 x 1.0	11mm	32mm	14mm	20mm	10mm
714008	M8 x 1.25	13	40	18	25	13
715010	M10 x 1.5	15	50	22	32	17
716312	M12 x 1.75	20	63	26	40	21

Plastic Hand Knobs

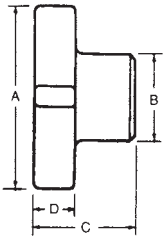
- Black phenolic knob with brass insert
- Tapped through hole
- Four prong design

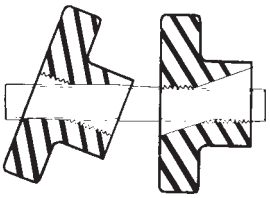


PART #	A	B	C	D	Tapped Hole
HK-1250	1-1/4	5/8	7/8	1/2	1/4-20
HK-1251	1-1/4	5/8	7/8	1/2	5/16-18
HK-1751	1-3/4	13/16	1"	1/2	5/16-18
HK-1752	1-3/4	13/16	1"	1/2	3/8-16
HK-2252	2-1/4	1"	1-1/8	9/16	3/8-16
HK-2253	2-1/4	1"	1-1/8	9/16	1/2-13

Quick-Change Knobs

- Easy to use...slide knob along length of stud and tilt the handle to engage the threads
- Steel knob, black oxide finish
- A great time saver!
- Four prong design



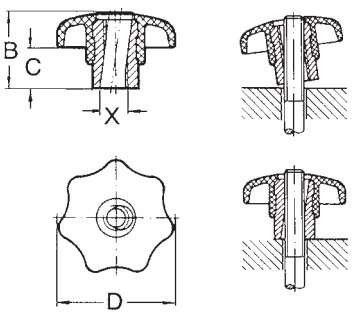


		INCH			
PART #	Thread Size	A	B	C	D
QK-10	1/4-20	1-1/8	9/16	5/8	5/16
QK-11	5/16-18	1-1/2	11/16	7/8	3/8
QK-12	3/8-16	2"	13/16	1"	1/2
QK-13	1/2-13	2-1/2	1"	1-1/8	9/16
QK-14	5/8-11	3"	1-1/4	1-1/4	5/8
QK-15	3/4-10	3"	1-1/4	1-1/4	5/8

		METRIC			
PART #	Thread Size	A	B	C	D
QK-20	M6 x 1.0	30mm	14mm	16mm	8mm
QK-21	M8 x 1.25	38	17	22	10
QK-22	M10 x 1.5	50	21	25	13
QK-23	M12 x 1.75	64	25	30	14
QK-24	M16 x 2.0	76	32	32	16

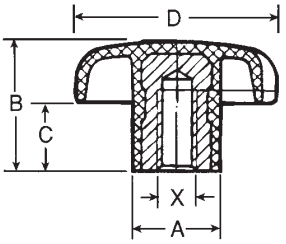
Metric Quick-Change Knobs

- Black thermoplastic knob
- Steel bushing with zinc-plated finish
- Easy to use...slide knob along length of stud and tilt the handle to engage the threads.
- A great time saver!



PART #	X Thread	D	B	C
254008	M8 x 1.25	40mm	26mm	13mm
255010	M10 x 1.5	50	34	17
256312	M12 x 1.75	63	42	21

Plastic Hand Knobs

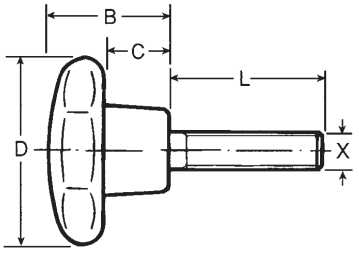


- ► Black thermoplastic hand knob
- ► Thread bushing is made from steel with zinc-plated finish
- ► Additional sizes available upon request

PART #	X Thread	INTERNAL THREAD Thread Depth	D	A	B	C
2425AC	1/4-20	.35	.98	.47	.63	.32
2432AC	1/4-20	.35	1.26	.55	.79	.39
2440AD	5/16-18	.55	1.57	.71	.98	.51
2450AD	5/16-18	.55	1.97	.87	1.26	.67
2450AE	3/8-16	.83	1.97	.87	1.26	.67
2463AE	3/8-16	.91	2.48	1.02	1.57	.83
2463AF	1/2-13	.91	2.48	1.02	1.57	.83

PART #	X Thread	INTERNAL METRIC THREAD Thread Depth	D	A	B	C
PHK-151	M5 x .8	8.5mm	25mm	12mm	16mm	8mm
PHK-152	M6 x 1.0	9	32	14	20	10
PHK-153	M8 x 1.25	14	40	18	25	13
PHK-154	M10 x 1.5	21	50	22	32	17
PHK-155	M12 x 1.75	23	63	26	40	21

Plastic Hand Knobs
with steel screws



- ► Black thermoplastic hand knob
- ► Steel screw with zinc-plated finish
- ► Additional sizes available upon request

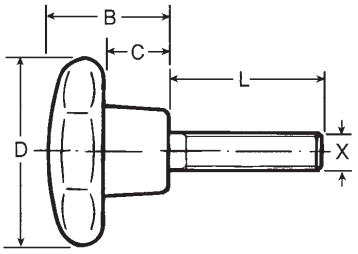
PART #	X Thread	INCH - EXTERNAL THREAD L	D	A	B	C
2425AC015	1/4-20	0.59	0.98	0.47	0.63	0.32
2425AC022	1/4-20	0.88	0.98	0.47	0.63	0.32
2425AC028	1/4-20	1.10	0.98	0.47	0.63	0.32
2425AC034	1/4-20	1.34	0.98	0.47	0.63	0.32
2440AD017	5/16-18	0.67	1.57	0.71	0.98	0.51
2440AD024	5/16-18	0.94	1.57	0.71	0.98	0.51
2440AD030	5/16-18	1.18	1.57	0.71	0.98	0.51
2450AE018	3/8-16	0.71	1.97	0.87	1.26	0.67
2450AE030	3/8-16	1.18	1.97	0.87	1.26	0.67
2450AE043	3/8-16	1.70	1.97	0.87	1.26	0.67
2463AF025	1/2-13	0.98	2.48	1.02	1.57	0.83
2463AF048	1/2-13	1.82	2.48	1.02	1.57	0.83

PART #	X Thread	METRIC - EXTERNAL THREAD L	D	A	B	C
PHK-251	M5 x .8	15mm	25mm	12mm	16mm	8mm
PHK-2515	M5 x .8	25	25	12	16	8
PHK-252	M6 x 1.0	21	32	14	20	10
PHK-2525	M6 x 1.0	31	32	14	20	10
PHK-253	M8 x 1.25	25	40	18	25	13
PHK-2535	M8 x 1.25	40	40	18	25	13
PHK-254	M10 x 1.5	30	50	22	32	17
PHK-2545	M10 x 1.5	50	50	22	32	17
PHK-255	M12 x 1.75	40	63	26	40	21
PHK-2555	M12 x 1.75	60	63	26	40	21

Plastic Hand Knobs

stainless steel screw

- Black thermoplastic hand knob
- Stainless steel screw (304)
- Additional sizes available upon request.



INCH SCREW SIZES

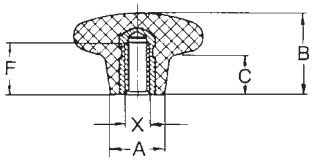
PART #	X Thread	L	D	A	B	C
2425AC015SS	1/4-20	0.59	0.98	0.47	0.63	0.32
2425AC028SS	1/4-20	1.10	0.98	0.47	0.63	0.32
2425AC034SS	1/4-20	1.34	0.98	0.47	0.63	0.32
2440AD017SS	5/16-18	0.67	1.57	0.71	0.98	0.51
2440AD024SS	5/16-18	0.94	1.57	0.71	0.98	0.51
2440AD036SS	5/16-18	1.42	1.57	0.71	0.98	0.51
2450AE018SS	3/8-16	0.71	1.97	0.87	1.26	0.67
2450AE030SS	3/8-16	1.18	1.97	0.87	1.26	0.67
2450AE043SS	3/8-16	1.70	1.97	0.87	1.26	0.67
2463AF020SS	1/2-13	0.79	2.48	1.02	1.57	0.83

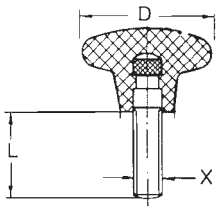
METRIC SCREW SIZES

PART #	X Thread	L	D	A	B	C
PHK-252SS	M6 x 1.0	21	32	14	20	10
PHK-2525SS	M6 x 1.0	31	32	14	20	10
PHK-2528SS	M8 x 1.25	20	40	18	25	13
PHK-2535SS	M8 x 1.25	40	40	18	25	13
PHK-254SS	M10 x 1.5	30	50	22	32	17
PHK-2548SS	M10 x 1.5	50	50	22	32	17
PHK-255SS	M12 x 1.75	44	63	26	40	21

Metric Star Knobs

- Black Duroplastic FS31
- Extra smooth finish
- Thread bushing is made from steel with zinc-plated finish
- Steel screw with zinc-plated finish
- Additional sizes available upon request





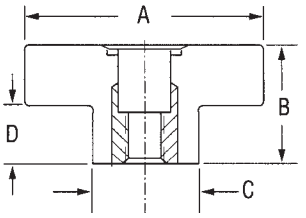
INTERNAL METRIC THREAD

PART #	X Thread	D	A	B	C	F
PHK-351	M5 x .8	25mm	11mm	17mm	9mm	10.5mm
PHK-352	M6 x 1.0	32	14	21	10	12
PHK-353	M8 x 1.25	40	18	26	14	14
PHK-354	M10 x 1.5	50	22	32	18	18
PHK-355	M12 x 1.75	63	26	42	25	22

EXTERNAL METRIC THREAD

PART #	X Thread	L	D	A	B	C
PHK-4515	M5 x .8	15mm	25mm	11mm	17mm	9mm
PHK-4620	M6 x 1.0	20	32	14	21	10
PHK-4630	M6 x 1.0	30	32	14	21	10
PHK-4820	M8 x 1.25	20	40	18	26	14
PHK-4830	M8 x 1.25	30	40	18	26	14
PHK-41025	M10 x 1.5	25	50	22	32	18
PHK-41035	M10 x 1.5	35	50	22	32	18
PHK-41240	M12 x 1.75	40	63	26	42	25
PHK-41260	M12 x 1.75	60	63	26	42	25

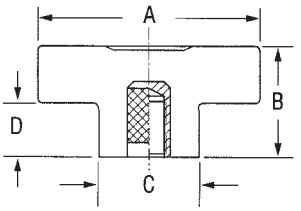
Plastic Hand Knobs
through hole



- ▶ Phenolic hand knob
- ▶ Brass insert
- ▶ Four arm design

PART #	Thread	Depth	A	B	C	D
HK-1525	1/4-20	3/8	1-1/2	1	5/8	1/2
HK-1531	5/16-18	1/2	1-1/2	1	5/8	1/2
HK-2031	5/16-18	1/2	2	1	7/8	1/2
HK-2037	3/8-16	1/2	2	1	7/8	1/2
HK-2050	1/2-13	5/8	2	1	7/8	1/2

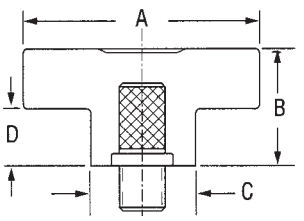
Plastic Hand Knobs
blind hole



- ▶ Phenolic hand knob
- ▶ Zinc-plated insert
- ▶ Four arm design

PART #	Thread	Depth	A	B	C	D
HK-3125	1/4-20	3/8	1-1/2	1	5/8	1/2
HK-3131	5/16-18	1/2	1-1/2	1	5/8	1/2
HK-3137	3/8-16	1/2	2	1	7/8	1/2
HK-3150	1/2-13	5/8	2	1	7/8	1/2

Plastic Hand Knobs
with stud

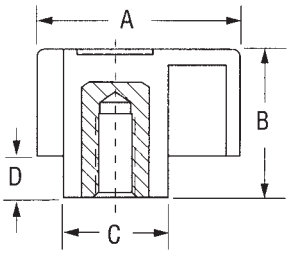


- ▶ Phenolic hand knob
- ▶ Steel, zinc plated stud
- ▶ Four arm design

PART #	Thread	Thread Lgth	A	B	C	D
HK-4251	1/4-20	1	1-1/2	1	5/8	1/2
HK-4311	5/16-18	1	1-1/2	1	5/8	1/2
HK-4371	3/8-16	1	2	1	7/8	1/2
HK-4375	3/8-16	1-1/2	2	1	7/8	1/2
HK-4507	1/2-13	3/4	2	1	7/8	1/2

Plastic Hand Knobs

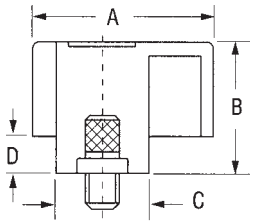
- Glass filled nylon
- Brass insert
- Three arm design



PART #	Thread	Depth	A	B	C	D
HK-8101	#8-32	3/8	1-5/32	3/4	1/2	1/4
HK-8102	#10-32	3/8	1-5/32	3/4	1/2	1/4
HK-8103	1/4-20	1/2	1-5/32	3/4	1/2	1/4
HK-8104	5/16-18	1/2	1-5/32	3/4	1/2	1/4

Plastic Hand Knobs
with stud

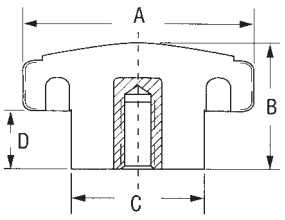
- Glass filled nylon
- Steel, zinc plated stud
- Three arm design



PART #	Thread	Thread Length	A	B	C	D
HK-8121	#8-32	3/8	1-5/32	3/4	1/2	1/4
HK-8122	#10-32	3/8	1-5/32	3/4	1/2	1/4
HK-8123	1/4-20	1/2	1-5/32	3/4	1/2	1/4
HK-8124	1/4-20	3/4	1-5/32	3/4	1/2	1/4
HK-8125	1/4-20	1	1-5/32	3/4	1/2	1/4
HK-8126	5/16-18	5/8	1-5/32	3/4	1/2	1/4
HK-8127	5/16-18	1	1-5/32	3/4	1/2	1/4

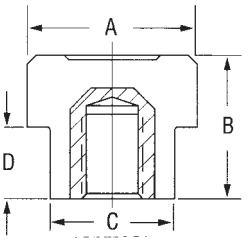
Plastic Hand Knobs

- Phenolic hand knob
- Brass insert
- Knurled rim



PART #	X Thread	Depth	A	B	C	D
HK-6032	#10-32	5/16	1	1/2	5/8	1/8
HK-6125	1/4-20	3/8	1	3/4	5/8	1/8
HK-6131	5/16-18	1/2	1-1/4	3/4	3/4	17/64
HK-6137	3/8-16	1/2	1-1/4	3/4	3/4	17/64

Heavy Duty Plastic Hand Knobs

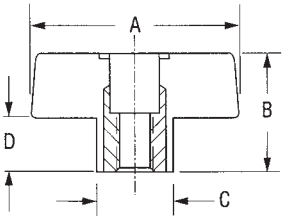


- ► Phenolic hand knob
- ► Brass insert
- ► Rugged design, excellent for high torque applications

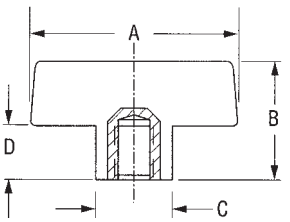
PART #	Thread	Depth	A	B	C	D
HK-5032	#8-32	3/8	3/4	11/16	1/2	3/8
HK-5125	1/4-20	3/8	1"	7/8	3/4	7/16
HK-5131	5/16-18	1/2	1-3/16	13/16	13/16	3/8
HK-5137	3/8-16	1/2	1-5/8	7/8	1-5/32	9/32
HK-5250	1/2-13	5/8	2-1/2	1-1/2	1-1/4	21/32

Bar Knobs

- ► Phenolic hand knob
- ► Zinc-plated steel hex nut within through hole knob
- ► Brass threaded insert

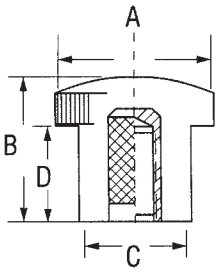


		THRU-HOLE				
PART #	Thread	Depth	A	B	C	D
TK-125	1/4-20	Hex Nut	2	1-1/8	3/4	1/2
TK-131	5/16-18	Hex Nut	2	1-1/8	3/4	1/2
TK-137	3/8-16	Hex Nut	2	1-1/8	3/4	1/2



		BLIND HOLE				
PART #	Thread	Depth	A	B	C	D
TK-231	5/16-18	1/2	2-1/2	1-1/8	3/4	1/2
TK-237	3/8-16	1/2	2-1/2	1-1/8	3/4	1/2
TK-250	1/2-13	5/8	3-1/2	1-1/8	15/16	1/4

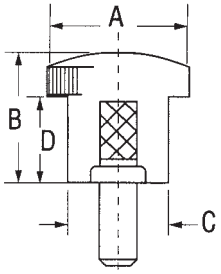
Miniature Hand Knobs



- Phenolic hand knob
- Brass insert

PART #	Thread	Depth	A	B	C	D
HK-7101	#6-32	1/4	1/2	1/2	3/8	5/32
HK-7102	#8-32	1/4	5/8	9/16	7/16	3/8
HK-7103	#10-24	5/16	5/8	9/16	7/16	3/8
HK-7104	#10-32	5/16	5/8	9/16	7/16	3/8

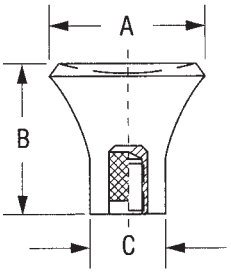
Miniature Hand Knobs
with stud



- Phenolic hand knob
- Steel, zinc-plated stud

PART #	Thread	Thread Length	A	B	C	D
HK-7121	#8-32	3/8	5/8	1/4	7/16	1/16
HK-7122	#8-32	1/2	5/8	1/4	7/16	1/16
HK-7123	#10-32	1/2	11/16	9/16	5/8	5/16
HK-7124	#10-32	3/4	13/16	1/2	7/16	1/4
HK-7125	#10-24	5/8	13/16	1/2	7/16	1/4

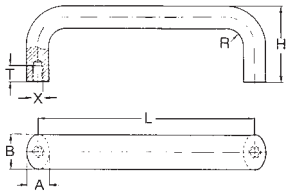
Push/Pull Knobs



- Phenolic hand knob
- Brass insert

PART #	Thread	Depth	A	B	C
HK-7701	#6-32	1/4	11/16	3/4	3/8
HK-7702	#8-32	1/4	11/16	3/4	3/8
HK-7703	#8-32	3/8	11/16	3/4	3/8
HK-7704	#10-32	5/16	11/16	3/4	3/8
HK-7705	1/4-20	3/8	7/8	7/8	1/2

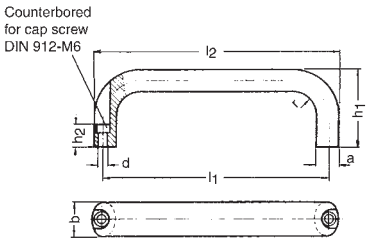
Pull Handles
aluminum



- ▶ Natural matte finish
- ▶ Aluminum offers high stability

	ALUMINUM						
PART #	**X**	**B**	**L**	**A**	**H**	**R**	**T**
PH-20	M6 x 1.0	20mm	100mm	13mm	47mm	13mm	10mm
PH-21	M6 x 1.0	20	128	13	51	13	10
PH-22	M8 x 1.25	26	128	17	55	17	12
PH-23	M8 x 1.25	26	160	17	57	17	12
PH-24	M8 x 1.25	26	192	17	57	17	12
PH-25	M8 x 1.25	26	300	17	57	17	12

Pull Handles
aluminum

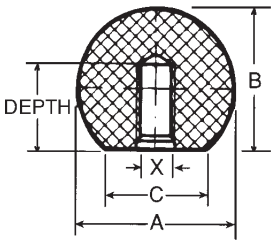


- ▶ Available in natural matte finish or plastic coated aluminum
- ▶ Allows assembly from the front of the handle

Black Finish **PART #**	Matte Finish **PART #**	**b**	**l1**	**l2**	**a**	**d**	**h1**	**h2**	**r**
PH-30	PH-40	26mm	116mm	130mm	17mm	6.3mm	53mm	17mm	17mm
PH-31	PH-41	26	132	146	17	6.3	55	17	17
PH-32	PH-42	26	164	178	17	6.3	57	17	17
PH-33	PH-43	26	196	210	17	6.3	57	17	17

Plastic Ball Knobs

- Black thermoplastic ball knob
- High polished finish
- Internal thread

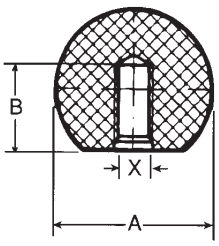


INCH					
PART #	X Thread	Depth	A	B	C
PB-5	#10-32	5/16	25/32	47/64	3/8
PB-9	1/4-20	7/16	1	29/32	1/2
PB-10	5/16-18	7/16	1	29/32	1/2
PB-11	3/8-16	1/2	1-3/8	1-3/16	5/8
PB-13	1/2-13	5/8	1-7/8	1-13/16	3/4
PB-15	1/2-13	3/4	2	1-27/32	1-1/16

METRIC				
PART #	X Thread	A	B	C
PB-20	M4 x .7	16mm	8mm	8mm
PB-21	M5 x .8	20	10.5	12
PB-22	M6 x 1.0	25	13.5	15
PB-23	M8 x 1.25	32	16	16
PB-24	M10 x 1.5	36	21	18
PB-25	M12 x 1.75	40	25	22

Steel and Brass Ball Knobs

- Machined from bar stock
- High polished decorative finish

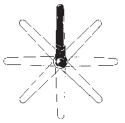


STEEL BALL KNOBS			
PART #	X Thread	A	B
SK-31	#10-24	3/4	3/8
SK-32	#10-32	3/4	3/8
SK-35	1/4-20	1	1/2
SK-39	1/4-20	1-3/8	5/8
SK-37	5/16-18	1	1/2
SK-42	5/16-18	1-3/8	5/8
SK-44	3/8-16	1-3/8	5/8
SK-49	3/8-16	1-7/8	3/4
SK-47	1/2-13	1-3/8	5/8
SK-52	1/2-13	1-7/8	3/4
SK-54	5/8-11	1-7/8	3/4

BRASS BALL KNOBS			
PART #	X Thread	A	B
BK-31	#10-24	3/4	3/8
BK-32	#10-32	3/4	3/8
BK-35	1/4-20	1	1/2
BK-39	1/4-20	1-3/8	5/8
BK-37	5/16-18	1	1/2
BK-42	5/16-18	1-3/8	5/8
BK-44	3/8-16	1-3/8	5/8
BK-49	3/8-16	1-7/8	3/4
BK-47	1/2-13	1-3/8	5/8
BK-52	1/2-13	1-7/8	3/4
BK-54	5/8-11	1-7/8	3/4

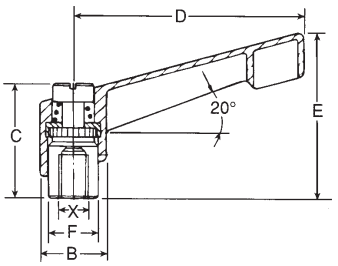
Adjustable Clamping Levers

plastic handle / die-cast zinc handle



LIFT AND ROTATE HANDLE 360°

U.S. PATENT 5,533,232

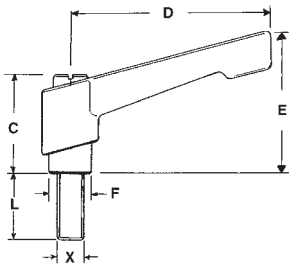


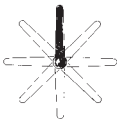
- ▶ Black thermoplastic handle with metal insert
- ▶ Zinc die-cast handle with black finish
- ▶ Orange handles available in all sizes
- ▶ All steel parts ensure durability
- ▶ Internal thread with black oxide finish

Plastic Handle PART #	Die-Cast Handle PART #	Thread X	Thread Depth	B	C	D	E	F
AH-101	MH-101	#10-24	.32	.55	.95	1.65	1.30	.39
AH-102	MH-102	#10-32	.32	.55	.95	1.65	1.30	.39
AH-103	MH-103	1/4-20	.32	.55	.95	1.65	1.30	.39
AH-104	MH-104	1/4-20	.40	.71	1.22	2.56	1.77	.53
AH-105	MH-105	5/16-18	.40	.71	1.22	2.56	1.77	.53
AH-106	MH-106	5/16-18	.55	.86	1.41	3.07	2.12	.63
AH-107	MH-107	3/8-16	.55	.86	1.41	3.07	2.12	.63
AH-108	MH-108	3/8-16	.67	.98	1.69	3.62	2.52	.75
AH-109	MH-109	1/2-13	.67	.98	1.69	3.62	2.52	.75
-	MH-112	1/2-13	.90	1.18	1.98	4.25	2.95	.91
-	MH-113	5/8-11	.90	1.18	1.98	4.25	2.95	.91

Adjustable Clamping Levers

plastic handle with stud / die-cast zinc handle with stud





LIFT AND ROTATE HANDLE 360°

U.S. PATENT 5,533,232

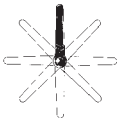
- ▶ Black thermoplastic handle with metal insert
- ▶ Zinc die-cast handle with black finish
- ▶ Steel parts give increased stability and rigidity
- ▶ Orange handles available in all sizes
- ▶ External steel stud with black oxide finish
- ▶ Additional thread lengths available upon request

Plastic Handle PART #	Die-Cast Handle PART #	X Thread	L	B	C	D	E	F
AH-301	MH-301	#10-24	.63	.55	.95	1.65	1.30	.39
AH-302	MH-302	#10-32	.63	.55	.95	1.65	1.30	.39
AH-3027	MH-3027	#10-32	1.25	.55	.95	1.65	1.30	.39
AH-303	MH-303	1/4-20	.78	.55	.95	1.65	1.30	.39
AH-3032	MH-3032	1/4-20	.98	.55	.95	1.65	1.30	.39
AH-3034	MH-3034	1/4-20	1.25	.55	.95	1.65	1.30	.39
AH-3038	MH-3038	1/4-20	1.57	.55	.95	1.65	1.30	.39
AH-3036	MH-3036	1/4-20	1.78	.55	.95	1.65	1.30	.39
AH-3035	MH-3035	1/4-20	.98	.71	1.22	2.56	1.77	.53
AH-3037	MH-3037	5/16-18	.78	.71	1.22	2.56	1.77	.53
AH-3039	MH-3039	5/16-18	1.26	.71	1.22	2.56	1.77	.53
AH-304	MH-304	5/16-18	1.57	.71	1.22	2.56	1.77	.53
AH-3043	MH-3043	5/16-18	1.97	.71	1.22	2.56	1.77	.53
AH-3045	MH-3045	5/16-18	2.48	.71	1.22	2.56	1.77	.53
AH-3047	MH-3047	3/8-16	.78	.71	1.22	2.56	1.77	.53
AH-3048	MH-3048	3/8-16	1.25	.71	1.22	2.56	1.77	.53
AH-305	MH-305	3/8-16	1.57	.71	1.22	2.56	1.77	.53
AH-3053	MH-3053	5/16-18	1.97	.86	1.41	3.07	2.12	.63
AH-3056	MH-3056	3/8-16	.98	.86	1.41	3.07	2.12	.63
AH-3058	MH-3058	3/8-16	1.26	.86	1.41	3.07	2.12	.63
AH-306	MH-306	3/8-16	1.57	.86	1.41	3.07	2.12	.63
AH-307	MH-307	3/8-16	1.97	.86	1.41	3.07	2.12	.63
AH-3079	MH-3079	3/8-16	2.48	.86	1.41	3.07	2.12	.63
AH-3075	MH-3075	3/8-16	1.57	.98	1.69	3.62	2.52	.75
AH-3078	MH-3078	3/8-16	1.97	.98	1.69	3.62	2.52	.75
AH-308	MH-308	1/2-13	1.25	.98	1.69	3.62	2.52	.75
AH-3085	MH-3085	1/2-13	1.57	.98	1.69	3.62	2.52	.75
AH-309	MH-309	1/2-13	1.97	.98	1.69	3.62	2.52	.75
AH-310	MH-310	1/2-13	2.48	.98	1.69	3.62	2.52	.75
-	MH-321	1/2-13	1.57	1.18	1.98	4.25	2.95	.91
-	MH-322	1/2-13	2.48	1.18	1.98	4.25	2.95	.91
-	MH-324	5/8-11	1.57	1.18	1.98	4.25	2.95	.91
-	MH-325	5/8-11	2.48	1.18	1.98	4.25	2.95	.91

Metric Adjustable Clamping Levers

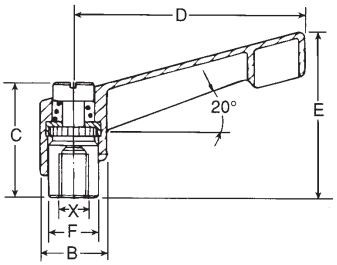
plastic handle / die-cast zinc handle

- ► Black thermoplastic handle with metal insert
- ► Zinc die-cast handle with black finish
- ► Orange handles available in all sizes
- ► All steel parts ensure durability
- ► Internal metric thread with black oxide finish



LIFT AND ROTATE HANDLE 360°

U.S. PATENT 5,533,232



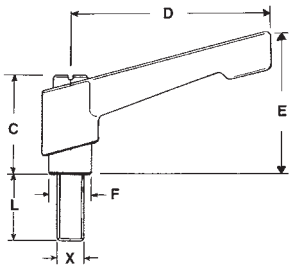
Plastic Handle PART #	Die-Cast Handle PART #	Thread X	Thread Depth	B	C	D	E	F
AH-201	MH-201	M4 x .7	8mm	14mm	24mm	42mm	33mm	10mm
AH-202	MH-202	M5 x .8	8	14	24	42	33	10
AH-203	MH-203	M6 x 1.0	8	14	24	42	33	10
AH-204	MH-204	M6 x 1.0	10	18	31	65	45	13.5
AH-205	MH-205	M8 x 1.25	10	18	31	65	45	13.5
AH-206	MH-206	M8 x 1.25	14	22	36	78	54	16
AH-207	MH-207	M10 x 1.50	14	22	36	78	54	16
AH-208	MH-208	M10 x 1.50	17	25	43	92	64	19
AH-209	MH-209	M12 x 1.75	17	25	43	92	64	19
-	MH-210	M12 x 1.75	23	30	50	108	75	23
-	MH-211	M16 x 2.0	23	30	50	108	75	23

Metric Adjustable Clamping Levers

plastic handle with stud / die-cast zinc handle with stud

LIFT AND ROTATE HANDLE 360°

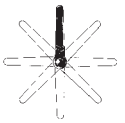
U.S. PATENT 5,533,232



Plastic Handle PART #	Die-Cast Handle PART #	X Thread	L	B	C	D	E	F
AH-401	MH-401	M5 x .8	12mm	14mm	24mm	42mm	33mm	10mm
AH-402	MH-402	M5 x .8	16	14	24	42	33	10
AH-403	MH-403	M5 x .8	20	14	24	42	33	10
AH-4035	MH-4035	M5 x .8	40	14	24	42	33	10
AH-404	MH-404	M6 x 1.0	16	14	24	42	33	10
AH-405	MH-405	M6 x 1.0	20	14	24	42	33	10
AH-406	MH-406	M6 x 1.0	25	14	24	42	33	10
AH-407	MH-407	M6 x 1.0	32	14	24	42	33	10
AH-408	MH-408	M6 x 1.0	40	14	24	42	33	10
AH-409	MH-409	M8 x 1.25	20	18	31	65	45	13.5
AH-410	MH-410	M8 x 1.25	25	18	31	65	45	13.5
AH-411	MH-411	M8 x 1.25	32	18	31	65	45	13.5
AH-412	MH-412	M8 x 1.25	40	18	31	65	45	13.5
AH-413	MH-413	M8 x 1.25	50	18	31	65	45	13.5
AH-414	MH-414	M8 x 1.25	63	18	31	65	45	13.5
AH-415	MH-415	M10 x 1.50	20	18	31	65	45	13.5
AH-416	MH-416	M10 x 1.50	32	18	31	65	45	13.5
AH-417	MH-417	M10 x 1.50	40	18	31	65	45	13.5
AH-418	MH-418	M10 x 1.50	50	18	31	65	45	13.5
AH-419	MH-419	M10 x 1.50	20	22	36	78	54	16
AH-4195	MH-4195	M10 x 1.50	25	22	36	78	54	16
AH-420	MH-420	M10 x 1.50	32	22	36	78	54	16
AH-421	MH-421	M10 x 1.50	40	22	36	78	54	16
AH-422	MH-422	M10 x 1.50	50	22	36	78	54	16
AH-423	MH-423	M10 x 1.50	63	22	36	78	54	16
-	MH-4233	M10 x 1.50	32	25	43	92	64	19
-	MH-4234	M10 x 1.50	40	25	43	92	64	19
-	MH-4235	M10 x 1.50	50	25	43	92	64	19
-	MH-4236	M10 x 1.50	63	25	43	92	64	19
AH-424	MH-424	M12 x 1.75	32	25	43	92	64	19
AH-425	MH-425	M12 x 1.75	40	25	43	92	64	19
AH-426	MH-426	M12 x 1.75	50	25	43	92	64	19
AH-427	MH-427	M12 x 1.75	63	25	43	92	64	19
-	MH-4275	M12 x 1.75	40	30	50	108	75	23
-	MH-428	M12 x 1.75	63	30	50	108	75	23

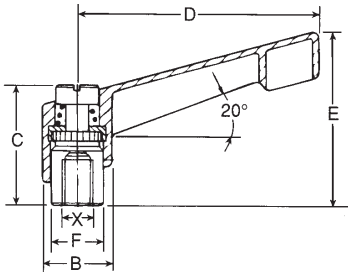
- ► Black thermoplastic handle with metal insert
- ► Zinc die-cast handle with black finish
- ► Orange handles available in all sizes
- ► Steel parts give increased stability and rigidity
- ► External steel stud with black oxide finish
- ► Additional thread lengths available upon request

Stainless Steel Adjustable Clamping Levers



LIFT AND ROTATE HANDLE 360°

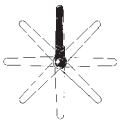
- ▶ Zinc die-cast handle with black finish
- ▶ All internal components made from stainless steel
- ▶ Orange handles available in all sizes



PART #	X Thread	B	C	D	E	F
MH-101SS	#10-24	.55	.95	1.65	1.30	.39
MH-102SS	#10-32	.55	.95	1.65	1.30	.39
MH-103SS	1/4-20	.55	.95	1.65	1.30	.39
MH-104SS	1/4-20	.71	1.22	2.56	1.77	.53
MH-105SS	5/16-18	.71	1.22	2.56	1.77	.53
MH-106SS	5/16-18	.86	1.41	3.07	2.12	.63
MH-107SS	3/8-16	.86	1.41	3.07	2.12	.63
MH-108SS	3/8-16	.98	1.69	3.62	2.52	.75
MH-109SS	1/2-13	.98	1.69	3.62	2.52	.75

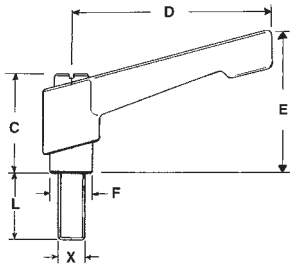
Stainless Steel Adjustable Clamping Levers

with stud



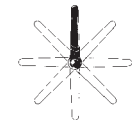
LIFT AND ROTATE HANDLE 360°

- ▶ Zinc die-cast handle with black finish
- ▶ Stud made from stainless steel
- ▶ All internal components made from stainless steel
- ▶ Orange handles available in all sizes



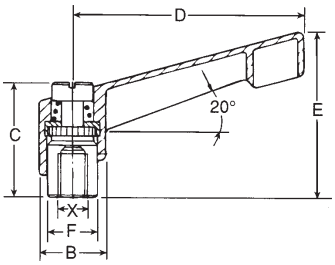
PART #	X Thread	L	B	C	D	E	F
MH-301SS	#10-24	.63	.55	.95	1.65	1.30	.39
MH-302SS	#10-32	.63	.55	.95	1.65	1.30	.39
MH-3027SS	#10-32	1.25	.55	.95	1.65	1.30	.39
MH-303SS	1/4-20	.78	.55	.95	1.65	1.30	.39
MH-3032SS	1/4-20	.98	.55	.95	1.65	1.30	.39
MH-3034SS	1/4-20	1.25	.55	.95	1.65	1.30	.39
MH-3038SS	1/4-20	1.57	.55	.95	1.65	1.30	.39
MH-3036SS	1/4-20	1.78	.55	.95	1.65	1.30	.39
MH-3035SS	1/4-20	.98	.71	1.22	2.56	1.77	.53
MH-3037SS	5/16-18	.78	.71	1.22	2.56	1.77	.53
MH-304SS	5/16-18	1.57	.71	1.22	2.56	1.77	.53
MH-3043SS	5/16-18	1.97	.71	1.22	2.56	1.77	.53
MH-3045SS	5/16-18	2.48	.71	1.22	2.56	1.77	.53
MH-3047SS	3/8-16	.78	.71	1.22	2.56	1.77	.53
MH-3048SS	3/8-16	1.25	.71	1.22	2.56	1.77	.53
MH-305SS	3/8-16	1.57	.71	1.22	2.56	1.77	.53
MH-3053SS	5/16-18	1.97	.86	1.41	3.07	2.12	.63
MH-306SS	3/8-16	1.57	.86	1.41	3.07	2.12	.63
MH-307SS	3/8-16	1.97	.86	1.41	3.07	2.12	.63
MH-3075SS	3/8-16	1.57	.98	1.69	3.62	2.52	.75
MH-3078SS	3/8-16	1.97	.98	1.69	3.62	2.52	.75
MH-308SS	1/2-13	1.25	.98	1.69	3.62	2.52	.75
MH-3085SS	1/2-13	1.57	.98	1.69	3.62	2.52	.75
MH-309SS	1/2-13	1.97	.98	1.69	3.62	2.52	.75

Stainless Steel Adjustable Clamping Levers
metric



- Zinc die-cast handle with black finish
- All internal components made from stainless steel
- Orange handles available in all sizes

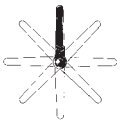
PART #	X Thread	Thread Depth	B	C	D	E	F
MH-202SS	M5 x .8	8mm	14mm	24mm	42mm	33mm	10mm
MH-203SS	M6 x .10	8	14	24	42	33	10
MH-205SS	M8 x 1.25	10	18	31	65	45	13.5
MH-207SS	M10 x 1.50	14	22	36	78	54	16
MH-208SS	M10 x 1.50	17	25	43	92	64	19
MH-209SS	M12 x 1.75	17	25	43	92	64	19

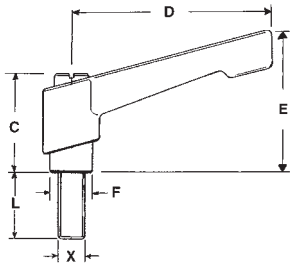


Stainless Steel Adjustable Clamping Levers
metric with stud

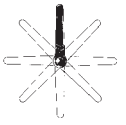
- Zinc die-cast handle with black finish
- Stud made from stainless steel
- All internal components made from stainless steel
- Orange handles available in all sizes

PART #	X Thread	L	B	C	D	E	F
MH-403SS	M5 x .8	20mm	14mm	24mm	42mm	33mm	10mm
MH-4035SS	M5 x .8	40	14	24	42	33	10
MH-405SS	M6 x 1.0	20	14	24	42	33	10
MH-406SS	M6 x 1.0	25	14	24	42	33	10
MH-407SS	M6 x 1.0	32	14	24	42	33	10
MH-408SS	M6 x 1.0	40	14	24	42	33	10
MH-409SS	M8 x 1.25	20	18	31	65	45	13.5
MH-410SS	M8 x 1.25	25	18	31	65	45	13.5
MH-411SS	M8 x 1.25	32	18	31	65	45	13.5
MH-412SS	M8 x 1.25	40	18	31	65	45	13.5
MH-413SS	M8 x 1.25	50	18	31	65	45	13.5
MH-414SS	M8 x 1.25	63	18	31	65	45	13.5
MH-4195SS	M10 x 1.50	25	22	36	78	54	16
MH-420SS	M10 x 1.50	32	22	36	78	54	16
MH-421SS	M10 x 1.50	40	22	36	78	54	16
MH-422SS	M10 x 1.50	50	22	36	78	54	16
MH-4236SS	M10 x 1.50	63	25	43	92	64	19
MH-424SS	M12 x 1.75	32	25	43	92	64	19
MH-425SS	M12 x 1.75	40	25	43	92	64	19
MH-426SS	M12 x 1.75	50	25	43	92	64	19



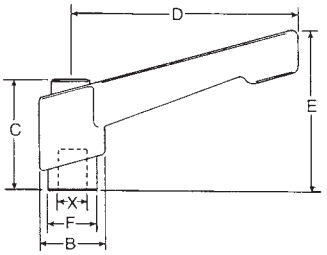


Economy Adjustable Clamping Levers



LIFT AND ROTATE HANDLE 360°

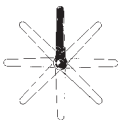
- ▶ Internal thread
- ▶ Excellent pricing...quality low cost solution
- ▶ Handle made from glass-fiber reinforced polyamide
- ▶ Bushing made from zinc-plated steel
- ▶ Resistant to oils, solvents, and other chemicals



PART #	X Thread	Thread Depth	B	C	D	E	F
AH-811	#10-24	.29	.63	1.04	1.18	1.28	.47
AH-812	#10-32	.29	.63	1.04	1.18	1.28	.47
AH-813	1/4-20	.29	.63	1.04	1.18	1.28	.47
AH-801	#10-24	.29	.63	1.04	1.65	1.38	.47
AH-802	#10-32	.29	.63	1.04	1.65	1.38	.47
AH-803	1/4-20	.29	.63	1.04	1.65	1.38	.47
AH-804	1/4-20	.45	.79	1.42	2.56	1.97	.59
AH-805	5/16-18	.45	.79	1.42	2.56	1.97	.59
AH-806	5/16-18	.56	.98	1.81	3.15	2.48	.79
AH-807	3/8-16	.56	.98	1.81	3.15	2.48	.79
AH-808	1/2-13	.56	.98	1.81	3.15	2.48	.79

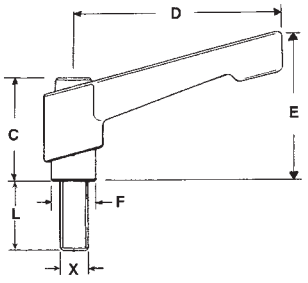
Economy Adjustable Clamping Levers

with Stud



LIFT AND ROTATE HANDLE 360°

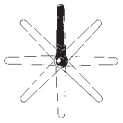
- ▶ Zinc-plated steel stud
- ▶ Excellent pricing...quality low cost solution
- ▶ Handle made from glass-fiber reinforced polyamide
- ▶ Resistant to oils, solvents, and other chemicals



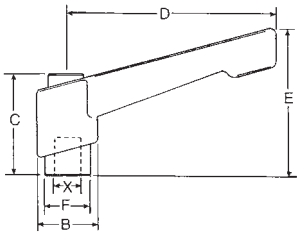
PART #	X Thread	L	B	C	D	E	F
AH-840	#10-32	.39	.63	1.04	1.18	1.28	.47
AH-841	#10-32	.79	.63	1.04	1.18	1.28	.47
AH-842	1/4-20	.59	.63	1.04	1.18	1.28	.47
AH-843	1/4-20	.79	.63	1.04	1.18	1.28	.47
AH-844	1/4-20	1.18	.63	1.04	1.18	1.28	.47
AH-820	#10-32	.39	.63	1.04	1.65	1.38	.47
AH-821	#10-32	.79	.63	1.04	1.65	1.38	.47
AH-822	1/4-20	.59	.63	1.04	1.65	1.38	.47
AH-823	1/4-20	.79	.63	1.04	1.65	1.38	.47
AH-824	1/4-20	1.18	.63	1.04	1.65	1.38	.47
AH-825	5/16-18	.59	.79	1.42	2.56	1.97	.59
AH-826	5/16-18	.79	.79	1.42	2.56	1.97	.59
AH-827	5/16-18	1.18	.79	1.42	2.56	1.97	.59
AH-828	5/16-18	1.57	.79	1.42	2.56	1.97	.59
AH-829	3/8-16	.79	.98	1.81	3.15	2.48	.79
AH-830	3/8-16	1.18	.98	1.81	3.15	2.48	.79
AH-831	3/8-16	1.57	.98	1.81	3.15	2.48	.79
AH-832	3/8-16	1.97	.98	1.81	3.15	2.48	.79
AH-833	1/2-13	1.18	.98	1.81	3.15	2.48	.79
AH-834	1/2-13	1.97	.98	1.81	3.15	2.48	.79

Economy Adjustable Clamping Levers
metric

- Internal thread
- Excellent pricing...quality low cost solution
- Handle made from glass-fiber reinforced polyamide
- Bushing made from zinc-plated steel
- Resistant to oils, solvents, and other chemicals

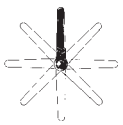

LIFT AND ROTATE HANDLE 360°

PART #	X Thread	Thread Depth	B	C	D	E	F
AH-911	M4 x .7	7.5mm	16mm	26.5mm	30mm	32.4mm	12mm
AH-912	M5 x .8	7.5	16	26.5	30	32.4	12
AH-913	M6 x 1.0	7.5	16	26.5	30	32.4	12
AH-901	M4 x .7	7.5	16	26.5	42	35	12
AH-902	M5 x .8	7.5	16	26.5	42	35	12
AH-903	M6 x 1.0	7.5	16	26.5	42	35	12
AH-904	M6 x 1.0	11.5	20	36	65	50	15
AH-905	M8 x 1.25	11.5	20	36	65	50	15
AH-906	M8 x 1.25	14	25	46	80	63	20
AH-907	M10 x 1.50	14	25	46	80	63	20
AH-908	M12 x 1.75	14	25	46	80	63	20

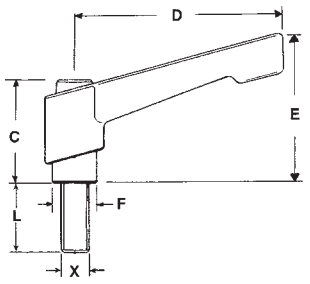


Economy Adjustable Clamping Levers
metric with stud

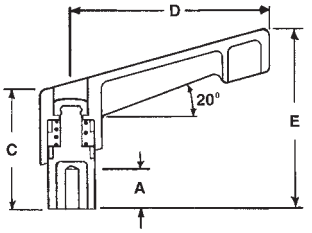
- Zinc-plated steel stud
- Excellent pricing...quality low cost solution
- Handle made from glass-fiber reinforced polyamide
- Resistant to oils, solvents, and other chemicals


LIFT AND ROTATE HANDLE 360°

PART #	X Thread	L	B	C	D	E	F
AH-949	M4 x .7	10mm	16mm	26.5mm	30mm	32.4mm	12mm
AH-940	M5 x .8	10	16	26.5	30	32.4	12
AH-941	M5 x .8	20	16	26.5	30	32.4	12
AH-942	M5 x .8	30	16	26.5	30	32.4	12
AH-943	M6 x 1.0	10	16	26.5	30	32.4	12
AH-944	M6 x 1.0	15	16	26.5	30	32.4	12
AH-945	M6 x 1.0	20	16	26.5	30	32.4	12
AH-919	M4 x .7	10	16	26.5	42	35	12
AH-920	M5 x .8	10	16	26.5	42	35	12
AH-921	M5 x .8	20	16	26.5	42	35	12
AH-922	M5 x .8	30	16	26.5	42	35	12
AH-923	M6 x 1.0	10	16	26.5	42	35	12
AH-924	M6 x 1.0	15	16	26.5	42	35	12
AH-925	M6 x 1.0	20	16	26.5	42	35	12
AH-926	M6 x 1.0	25	16	26.5	42	35	12
AH-927	M6 x 1.0	30	16	26.5	42	35	12
AH-928	M8 x 1.25	15	20	36	65	50	15
AH-929	M8 x 1.25	20	20	36	65	50	15
AH-930	M8 x 1.25	25	20	36	65	50	15
AH-931	M8 x 1.25	30	20	36	65	50	15
AH-932	M8 x 1.25	40	20	36	65	50	15
AH-933	M10 x 1.50	20	25	46	80	63	20
AH-934	M10 x 1.50	30	25	46	80	63	20
AH-935	M10 x 1.50	40	25	46	80	63	20
AH-936	M10 x 1.50	50	25	46	80	63	20
AH-937	M12 x 1.75	30	25	46	80	63	20
AH-938	M12 x 1.75	40	25	46	80	63	20
AH-939	M12 x 1.75	50	25	46	80	63	20



Safety Clamping Levers



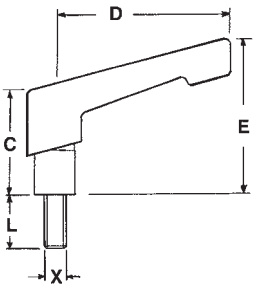
Morton Safety Clamping Levers are used on applications where mistaken releasing or repositioning of the clamp lever could lead to an accident. The lever in its rest position is not connected to the internal spindle and it can spin freely. The clamp lever engages only after pushing the handle down.

		INCH			
PART #	X Thread	A	C	D	E
SH-801	#10-24	.35	1.04	1.65	1.38
SH-802	#10-32	.35	1.04	1.65	1.38
SH-803	1/4-20	.35	1.04	1.65	1.38
SH-804	1/4-20	.47	1.42	2.56	1.97
SH-805	5/16-18	.47	1.42	2.56	1.97
SH-807	3/8-16	.67	1.81	3.15	2.48
SH-808	1/2-13	.67	1.81	3.15	2.48

		METRIC			
PART #	X Thread	A	C	D	E
SH-902	M5 x .8	9mm	26.5mm	42mm	35mm
SH-903	M6 x 1.0	9	26.5	42	35
SH-905	M8 x 1.25	12	36	65	50
SH-907	M10 x 1.50	17	46	80	63
SH-908	M12 x 1.75	17	46	80	63

- ▶ Handle made from glass-fiber reinforced polyamide
- ▶ Bushing made from zinc-plated steel
- ▶ Resistant to oils, solvents, and other chemicals

Safety Clamping Levers
with stud



Morton Safety Clamping Levers are used on applications where mistaken releasing or repositioning of the clamp lever could lead to an accident. The lever in its rest position is not connected to the internal spindle and it can spin freely. The clamp lever engages only after pushing the handle down.

		INCH			
PART #	X Thread	L	C	D	E
SH-820	#10-32	.39	1.04	1.65	1.38
SH-821	#10-32	.79	1.04	1.65	1.38
SH-822	1/4-20	.59	1.04	1.65	1.38
SH-823	1/4-20	.79	1.04	1.65	1.38
SH-824	1/4-20	1.18	1.04	1.65	1.38
SH-825	5/16-18	.59	1.42	2.56	1.97
SH-826	5/16-18	.79	1.42	2.56	1.97
SH-827	5/16-18	1.18	1.42	2.56	1.97
SH-828	5/16-18	1.57	1.42	2.56	1.97
SH-829	3/8-16	.79	1.81	3.15	2.48
SH-830	3/8-16	1.18	1.81	3.15	2.48
SH-831	3/8-16	1.57	1.81	3.15	2.48
SH-832	3/8-16	1.97	1.81	3.15	2.48
SH-833	1/2-13	1.18	1.81	3.15	2.48
SH-834	1/2-13	1.97	1.81	3.15	2.48

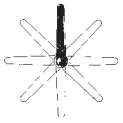
		METRIC			
PART #	X Thread	L	C	D	E
SH-923	M6 x 1.0	10mm	26.5mm	42mm	35mm
SH-925	M6 x 1.0	20	26.5	42	35
SH-928	M8 x 1.25	15	36	65	50
SH-929	M8 x 1.25	20	36	65	50
SH-931	M8 x 1.25	30	36	65	50
SH-933	M10 x 1.50	20	46	80	63
SH-934	M10 x 1.50	30	46	80	63
SH-935	M10 x 1.50	40	46	80	63
SH-937	M12 x 1.75	30	46	80	63
SH-938	M12 x 1.75	40	46	80	63

- ▶ Handle made from glass-fiber reinforced polyamide
- ▶ Screw made from zinc-plated steel
- ▶ Resistant to oils, solvents, and other chemicals

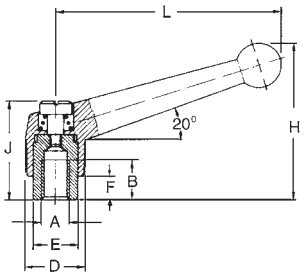
Stainless Steel Adjustable Clamping Levers

ball handle design

- Handle material: 303 stainless steel
- Component material: 303 stainless steel
- Internal thread
- Ball handle design



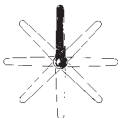
PART #	A	B	D	E	F	H	J	L
SSH-101	#10-24	.35	.53	.39	.15	1.30	.95	1.57
SSH-102	#10-32	.35	.53	.39	.15	1.30	.95	1.57
SSH-103	1/4-20	.35	.53	.39	.15	1.30	.95	1.57
SSH-104	1/4-20	.47	.71	.53	.25	1.81	1.14	2.56
SSH-105	5/16-18	.47	.71	.53	.25	1.81	1.14	2.56
SSH-106	5/16-18	.55	.84	.62	.39	2.28	1.47	3.15
SSH-107	3/8-16	.55	.84	.62	.39	2.28	1.47	3.15
SSH-108	3/8-16	.67	1.00	.75	.39	2.63	1.68	3.74
SSH-109	1/2-13	.67	1.00	.75	.39	2.63	1.68	3.74



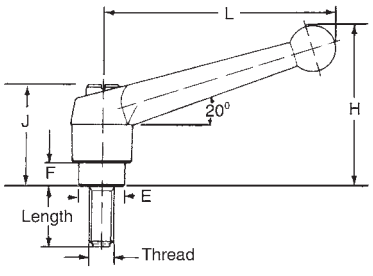
Stainless Steel Adjustable Clamping Levers

ball handle design with stud

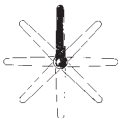
- Handle material: 303 stainless steel
- Component material: 303 stainless steel
- External thread
- Ball handle design



PART #	X Thread	Length	E	F	H	J	L
SSH-301	#10-32	.59	.39	.15	1.30	.95	1.57
SSH-302	#10-32	.78	.39	.15	1.30	.95	1.57
SSH-303	#10-32	1.18	.39	.15	1.30	.95	1.57
SSH-304	#10-24	.59	.39	.15	1.30	.95	1.57
SSH-305	#10-24	.78	.39	.15	1.30	.95	1.57
SSH-306	#10-24	1.18	.39	.15	1.30	.95	1.57
SSH-307	1/4-20	.59	.39	.15	1.30	.95	1.57
SSH-308	1/4-20	.78	.39	.15	1.30	.95	1.57
SSH-309	1/4-20	1.18	.39	.15	1.30	.95	1.57
SSH-310	1/4-20	1.57	.39	.15	1.30	.95	1.57
SSH-311	1/4-20	1.77	.39	.15	1.30	.95	1.57
SSH-312	5/16-18	.78	.53	.25	1.81	1.14	2.56
SSH-313	5/16-18	1.18	.53	.25	1.81	1.14	2.56
SSH-314	5/16-18	1.57	.53	.25	1.81	1.14	2.56
SSH-315	5/16-18	1.96	.53	.25	1.81	1.14	2.56
SSH-316	5/16-18	2.36	.53	.25	1.81	1.14	2.56
SSH-317	3/8-16	.78	.62	.39	2.28	1.47	3.15
SSH-318	3/8-16	1.18	.62	.39	2.28	1.47	3.15
SSH-319	3/8-16	1.57	.62	.39	2.28	1.47	3.15
SSH-320	3/8-16	1.96	.62	.39	2.28	1.47	3.15
SSH-321	3/8-16	2.36	.62	.39	2.28	1.47	3.15
SSH-322	1/2-13	.78	.75	.39	2.63	1.68	3.74
SSH-323	1/2-13	1.18	.75	.39	2.63	1.68	3.74
SSH-324	1/2-13	1.57	.75	.39	2.63	1.68	3.74
SSH-325	1/2-13	1.96	.75	.39	2.63	1.68	3.74
SSH-326	1/2-13	2.36	.75	.39	2.63	1.68	3.74

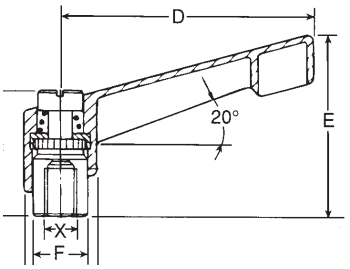


Chrome Plated Adjustable Clamping Levers



LIFT AND ROTATE
HANDLE 360°

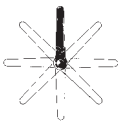
- ▶ Die-cast handle with chrome plated finish
- ▶ Internal parts have black oxide finish
- ▶ Used on applications where appearance is as important as function



PART #	X Thread	Thread Depth	B	C	D	E	F
MHC-101	#10-24	.32	.52	.97	1.75	1.38	.39
MHC-103	1/4-20	.32	.52	.97	1.75	1.38	.39
MHC-104	1/4-20	.44	.71	1.22	2.44	1.83	.53
MHC-105	5/16-18	.44	.71	1.22	2.44	1.83	.53
MHC-106	5/16-18	.50	.83	1.52	3.03	2.20	.63
MHC-107	3/8-16	.50	.83	1.52	3.03	2.20	.63
MHC-108	3/8-16	.62	.94	1.67	3.58	2.50	.75
MHC-109	1/2-13	.62	.94	1.67	3.58	2.50	.75
MHC-112	1/2-13	.87	1.19	2.00	4.17	3.00	.91
MHC-113	5/8-11	.87	1.19	2.00	4.17	3.00	.91

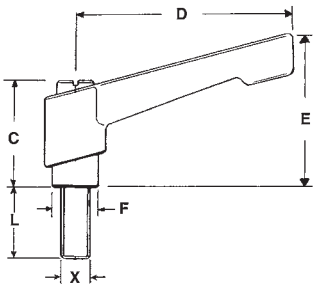
Chrome Plated Adjustable Clamping Levers

with stud



LIFT AND ROTATE
HANDLE 360°

- ▶ Die-cast handle with chrome plated finish
- ▶ Internal parts have black oxide finish
- ▶ Used on applications where appearance is as important as function



PART #	X Thread	L	B	C	D	E	F
MHC-301	1/4-20	1/2	.52	.97	1.75	1.38	.39
MHC-302	1/4-20	3/4	.52	.97	1.75	1.38	.39
MHC-303	1/4-20	1	.52	.97	1.75	1.38	.39
MHC-304	1/4-20	1-1/2	.52	.97	1.75	1.38	.39
MHC-305	5/16-18	3/4	.71	1.22	2.44	1.83	.53
MHC-306	5/16-18	1	.71	1.22	2.44	1.83	.53
MHC-307	5/16-18	1-1/2	.71	1.22	2.44	1.83	.53
MHC-308	5/16-18	2	.71	1.22	2.44	1.83	.53
MHC-309	3/8-16	3/4	.83	1.52	3.03	2.20	.63
MHC-310	3/8-16	1	.83	1.52	3.03	2.20	.63
MHC-311	3/8-16	1-1/2	.83	1.52	3.03	2.20	.63
MHC-312	3/8-16	2	.83	1.52	3.03	2.20	.63
MHC-313	1/2-13	1	.94	1.67	3.58	2.50	.75
MHC-314	1/2-13	1-1/2	.94	1.67	3.58	2.50	.75
MHC-315	1/2-13	2	.94	1.67	3.58	2.50	.75
MHC-316	1/2-13	2-1/2	.94	1.67	3.58	2.50	.75
MHC-317	5/8-11	1-1/2	1.19	2.00	4.17	3.00	.91
MHC-318	5/8-11	2	1.19	2.00	4.17	3.00	.91
MHC-319	5/8-11	2-1/2	1.19	2.00	4.17	3.00	.91
MHC-320	5/8-11	3	1.19	2.00	4.17	3.00	.91

Button Thread Clamping Levers

- ► Handles available in die-cast zinc or plastic
- ► Internal thread mechanism made from carbon steel
- ► Inch and metric sizes available
- ► Great for repetitive tightening operations
- ► Torque and load ratings shown below

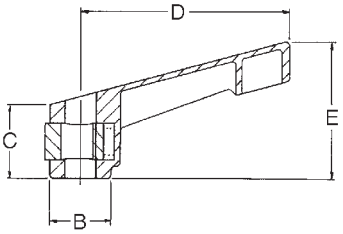
U.S. PATENT
5,898,974

INCH SIZES

Die-Cast Handle	Plastic Handle	Thread	B	C	D	E
MH-725	AH-725	1/4-20	.813	1.00	2.56	1.77
MH-731	AH-731	5/16-18	.938	1.125	3.07	2.17
MH-737	AH-737	3/8-16	.938	1.125	3.07	2.17
MH-750	AH-750	1/2-13	1.25	1.500	4.25	2.95
MH-762	AH-762	5/8-11	1.25	1.500	4.25	2.95

METRIC SIZES

Die-Cast Handle	Plastic Handle	Thread	B	C	D	E
MH-706	AH-706	M6 x 1.0	21mm	26mm	65mm	45mm
MH-708	AH-708	M8 x 1.25	23.5	29	78	55
MH-710	AH-710	M10 x 1.50	23.5	29	78	55
MH-712	AH-712	M12 x 1.75	32	38	108	75
MH-716	AH-716	M16 x 2.0	32	38	108	75



Button Thread Torque Testing Results

Hex Nuts, Collar Nuts, Knurled Nuts, Clamping Handles

1/4”-20	M6 x 1.0	**95 in-lbs.**
5/16”-18	M8 x 1.25	**149 in-lbs.**
3/8”-16	M10 x 1.50	**234 in-lbs.**
1/2”-13	M12 x 1.75	**456 in-lbs.**
5/8”-11	M16 x 2.00	**660 in-lbs.**

Button Thread Load Rating Test Results

Hex Nuts, Collar Nuts, Knurled Nuts, Clamping Handles

Inch		Metric	
1/4”-20	**2075 lbs.**	M6 x 1.0	**940 kg.**
5/16”-18	**6440 lbs.**	M8 x 1.25	**2925 kg.**
3/8”-16	**8612 lbs.**	M10 x 1.50	**3915 kg.**
1/2”-13	**8812 lbs.**	M12 x 1.75	**4005 kg.**
5/8”-11	**9006 lbs.**	M16 x 2.0	**4095 kg.**

As Easy As 1-2-3...

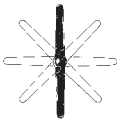
1. Push button
2. Slide handle to new position
3. Release button and threads engage for clamping

A Great Time Saver!

The through hole clamping lever allows for quick clamping on long thread lengths. Simply press the button and the threads are disengaged to allow easy movement up or down the screw. Release the button and the threads engage to allow for normal clamping. Available in inch and metric sizes with plastic or die-cast handle.

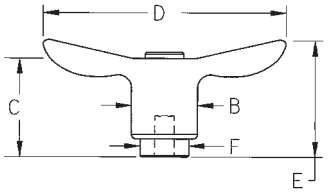
Adjustable T-Handles

plastic handle / die-cast handle



LIFT AND ROTATE HANDLE 360°

- ▶ Glass fiber reinforced nylon (PA6) with metal insert
- ▶ Zinc die-cast handle
- ▶ Available in black and orange handles
- ▶ All steel parts ensure stability and durability
- ▶ Internal thread with black oxide finish

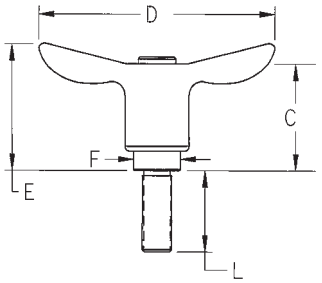


PLASTIC HANDLE		DIE-CAST HANDLE								
Black PART #	Orange PART #	Black PART #	Orange PART #	Thread	Thread Depth	B	C	D	E	F
THP-101	THP-101-OR	TH-101	TH-101-OR	#10-24	.32	.54	.87	1.98	1.05	.39
THP-102	THP-102-OR	TH-102	TH-102-OR	#10-32	.32	.54	.87	1.98	1.05	.39
THP-103	THP-103-OR	TH-103	TH-103-OR	1/4-20	.32	.54	.87	1.98	1.05	.39
THP-104	THP-104-OR	TH-104	TH-104-OR	1/4-20	.40	.70	1.10	2.56	1.31	.53
THP-105	THP-105-OR	TH-105	TH-105-OR	5/16-18	.40	.70	1.10	2.56	1.31	.53
THP-106	THP-106-OR	TH-106	TH-106-OR	5/16-18	.55	.84	1.30	3.07	1.55	.63
THP-107	THP-107-OR	TH-107	TH-107-OR	3/8-16	.55	.84	1.30	3.07	1.55	.63
THP-108	THP-108-OR	TH-108	TH-108-OR	3/8-16	.67	.96	1.52	3.62	1.82	.75
THP-109	THP-109-OR	TH-109	TH-109-OR	1/2-13	.67	.96	1.52	3.62	1.82	.75
-	-	TH-112	TH-112-OR	1/2-13	.90	1.16	1.85	4.25	2.20	.91
-	-	TH-113	TH-113-OR	5/8-11	.90	1.16	1.85	4.25	2.20	.91

Adjustable T-Handles

plastic handle with stud / die-cast handle with stud

LIFT AND ROTATE HANDLE 360°



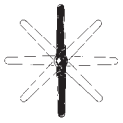
- ▶ Glass fiber reinforced nylon (PA6) with metal insert
- ▶ Zinc die-cast handle
- ▶ Available in black and orange handles
- ▶ All steel parts ensure stability and durability
- ▶ External steel stud with black oxide finish

PLASTIC HANDLE		DIE-CAST HANDLE								
Black PART #	Orange PART #	Black PART #	Orange PART #	Thread	Thread Length	B	C	D	E	F
THP-301	THP-301-OR	TH-301	TH-301-OR	#10-24	.63	.54	.87	1.98	1.05	.39
THP-302	THP-302-OR	TH-302	TH-302-OR	#10-32	.63	.54	.87	1.98	1.05	.39
THP-3027	THP-3027-OR	TH-3027	TH-3027-OR	#10-32	1.25	.54	.87	1.98	1.05	.39
THP-303	THP-303-OR	TH-303	TH-303-OR	1/4-20	.78	.54	.87	1.98	1.05	.39
THP-3032	THP-3032-OR	TH-3032	TH-3032-OR	1/4-20	.98	.54	.87	1.98	1.05	.39
THP-3034	THP-3034-OR	TH-3034	TH-3034-OR	1/4-20	1.25	.54	.87	1.98	1.05	.39
THP-3038	THP-3038-OR	TH-3038	TH-3038-OR	1/4-20	1.57	.54	.87	1.98	1.05	.39
THP-3036	THP-3036-OR	TH-3036	TH-3036-OR	1/4-20	1.78	.54	.87	1.98	1.05	.39
THP-3035	THP-3035-OR	TH-3035	TH-3035-OR	1/4-20	.98	.70	1.10	2.56	1.31	.53
THP-3037	THP-3037-OR	TH-3037	TH-3037-OR	5/16-18	.78	.70	1.10	2.56	1.31	.53
THP-3039	THP-3039-OR	TH-3039	TH-3039-OR	5/16-18	1.26	.70	1.10	2.56	1.31	.53
THP-304	THP-304-OR	TH-304	TH-304-OR	5/16-18	1.57	.70	1.10	2.56	1.31	.53
THP-3043	THP-3043-OR	TH-3043	TH-3043-OR	5/16-18	1.97	.70	1.10	2.56	1.31	.53
THP-3045	THP-3045-OR	TH-3045	TH-3045-OR	5/16-18	2.48	.70	1.10	2.56	1.31	.53
THP-3047	THP-3047-OR	TH-3047	TH-3047-OR	3/8-16	.78	.70	1.10	2.56	1.31	.53
THP-3048	THP-3048-OR	TH-3048	TH-3048-OR	3/8-16	1.25	.70	1.10	2.56	1.31	.53
THP-305	THP-305-OR	TH-305	TH-305-OR	3/8-16	1.57	.70	1.10	2.56	1.31	.53
THP-3053	THP-3053-OR	TH-3053	TH-3053-OR	5/16-18	1.97	.84	1.30	3.07	1.55	.63
THP-3056	THP-3056-OR	TH-3056	TH-3056-OR	3/8-16	.98	.84	1.30	3.07	1.55	.63
THP-3058	THP-3058-OR	TH-3058	TH-3058-OR	3/8-16	1.26	.84	1.30	3.07	1.55	.63
THP-306	THP-306-OR	TH-306	TH-306-OR	3/8-16	1.57	.84	1.30	3.07	1.55	.63
THP-307	THP-307-OR	TH-307	TH-307-OR	3/8-16	1.97	.84	1.30	3.07	1.55	.63
THP-3079	THP-3079-OR	TH-3079	TH-3079-OR	3/8-16	2.48	.84	1.30	3.07	1.55	.63
THP-3075	THP-3075-OR	TH-3075	TH-3075-OR	3/8-16	1.57	.96	1.52	3.62	1.82	.75
THP-3078	THP-3078-OR	TH-3078	TH-3078-OR	3/8-16	1.97	.96	1.52	3.62	1.82	.75
THP-308	THP-308-OR	TH-308	TH-308-OR	1/2-13	1.25	.96	1.52	3.62	1.82	.75
THP-3085	THP-3085-OR	TH-3085	TH-3085-OR	1/2-13	1.57	.96	1.52	3.62	1.82	.75
THP-309	THP-309-OR	TH-309	TH-309-OR	1/2-13	1.97	.96	1.52	3.62	1.82	.75
THP-310	THP-310-OR	TH-310	TH-310-OR	1/2-13	2.48	.96	1.52	3.62	1.82	.75
-	-	TH-321	TH-321-OR	1/2-13	1.57	1.16	1.85	4.25	2.20	.91
-	-	TH-322	TH-322-OR	1/2-13	2.48	1.16	1.85	4.25	2.20	.91
-	-	TH-324	TH-324-OR	5/8-11	1.57	1.16	1.85	4.25	2.20	.91
-	-	TH-325	TH-325-OR	5/8-11	2.48	1.16	1.85	4.25	2.20	.91

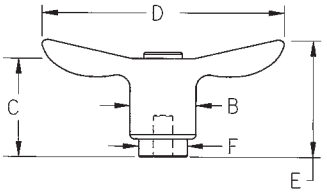
Metric Adjustable T-Handles

plastic handle / die-cast handle

- ► Glass fiber reinforced nylon (PA6) with metal insert
- ► Zinc die-cast handle
- ► Available in black and orange handles
- ► All steel parts ensure stability and durability
- ► Internal thread with black oxide finish



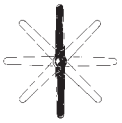
LIFT AND ROTATE HANDLE 360°



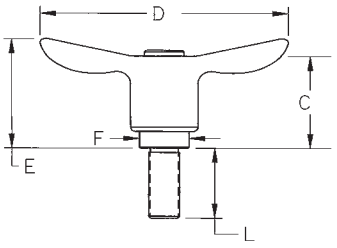
PLASTIC HANDLE		DIE-CAST HANDLE								
Black PART #	Orange PART #	Black PART #	Orange PART #	Thread	Thread Depth	B	C	D	E	F
THP-201	THP-201-OR	TH-201	TH-201-OR	M4 X .7	8mm	13.7mm	22mm	50mm	26.6mm	10mm
THP-202	THP-202-OR	TH-202	TH-202-OR	M5 X .8	8	13.7	22	50	26.6	10
THP-203	THP-203-OR	TH-203	TH-203-OR	M6 X 1.0	8	13.7	22	50	26.6	10
THP-204	THP-204-OR	TH-204	TH-204-OR	M6 X 1.0	10	17.7	28	65	33.4	13.5
THP-205	THP-205-OR	TH-205	TH-205-OR	M8 X 1.25	10	17.7	28	65	33.4	13.5
THP-206	THP-206-OR	TH-206	TH-206-OR	M8 X 1.25	14	21.4	33	78	39.4	16
THP-207	THP-207-OR	TH-207	TH-207-OR	M10 X 1.50	14	21.4	33	78	39.4	16
THP-208	THP-208-OR	TH-208	TH-208-OR	M10 X 1.50	17	24.5	38.7	92	46.2	19
THP-209	THP-209-OR	TH-209	TH-209-OR	M12 X 1.75	17	24.5	38.7	92	46.2	19
-	-	TH-210	TH-210-OR	M12 X 1.75	23	29.4	47	108	55.8	23
-	-	TH-211	TH-211-OR	M16 X 2.0	23	29.4	47	108	55.8	23

Metric Adjustable T-Handles

plastic handle with stud / die-cast handle with stud



LIFT AND ROTATE HANDLE 360°



PLASTIC HANDLE		DIE-CAST HANDLE								
Black PART #	Orange PART #	Black PART #	Orange PART #	Thread	Thread Length	B	C	D	E	F
THP-401	THP-401-OR	TH-401	TH-401-OR	M5 x .8	12mm	13.7mm	22mm	50mm	26.6mm	10mm
THP-402	THP-402-OR	TH-402	TH-402-OR	M5 x .8	16	13.7	22	50	26.6	10
THP-403	THP-403-OR	TH-403	TH-403-OR	M5 x .8	20	13.7	22	50	26.6	10
THP-4035	THP-4035-OR	TH-4035	TH-4035-OR	M5 x .8	40	13.7	22	50	26.6	10
THP-404	THP-404-OR	TH-404	TH-404-OR	M6 x 1.0	16	13.7	22	50	26.6	10
THP-405	THP-405-OR	TH-405	TH-405-OR	M6 x 1.0	20	13.7	22	50	26.6	10
THP-406	THP-406-OR	TH-406	TH-406-OR	M6 x 1.0	25	13.7	22	50	26.6	10
THP-407	THP-407-OR	TH-407	TH-407-OR	M6 x 1.0	32	13.7	22	50	26.6	10
THP-408	THP-408-OR	TH-408	TH-408-OR	M6 x 1.0	40	13.7	22	50	26.6	10
THP-409	THP-409-OR	TH-409	TH-409-OR	M8 x 1.25	20	17.7	28	65	33.4	13.5
THP-410	THP-410-OR	TH-410	TH-410-OR	M8 x 1.25	25	17.7	28	65	33.4	13.5
THP-411	THP-411-OR	TH-411	TH-411-OR	M8 x 1.25	32	17.7	28	65	33.4	13.5
THP-412	THP-412-OR	TH-412	TH-412-OR	M8 x 1.25	40	17.7	28	65	33.4	13.5
THP-413	THP-413-OR	TH-413	TH-413-OR	M8 x 1.25	50	17.7	28	65	33.4	13.5
THP-414	THP-414-OR	TH-414	TH-414-OR	M8 x 1.25	63	17.7	28	65	33.4	13.5
THP-415	THP-415-OR	TH-415	TH-415-OR	M10 x 1.50	20	17.7	28	65	33.4	13.5
THP-416	THP-416-OR	TH-416	TH-416-OR	M10 x 1.50	32	17.7	28	65	33.4	13.5
THP-417	THP-417-OR	TH-417	TH-417-OR	M10 x 1.50	40	17.7	28	65	33.4	13.5
THP-418	THP-418-OR	TH-418	TH-418-OR	M10 x 1.50	50	17.7	28	65	33.4	13.5
THP-419	THP-419-OR	TH-419	TH-419-OR	M10 x 1.50	20	21.4	33	78	39.4	16
THP-4195	THP-4195-OR	TH-4195	TH-4195-OR	M10 x 1.50	25	21.4	33	78	39.4	16
THP-420	THP-420-OR	TH-420	TH-420-OR	M10 x 1.50	32	21.4	33	78	39.4	16
THP-421	THP-421-OR	TH-421	TH-421-OR	M10 x 1.50	40	21.4	33	78	39.4	16
THP-422	THP-422-OR	TH-422	TH-422-OR	M10 x 1.50	50	21.4	33	78	39.4	16
THP-423	THP-423-OR	TH-423	TH-423-OR	M10 x 1.50	63	21.4	33	78	39.4	16
-	-	TH-4233	TH-4233-OR	M10 x 1.50	32	24.5	38.7	92	46.2	19
-	-	TH-4234	TH-4234-OR	M10 x 1.50	40	24.5	38.7	92	46.2	19
-	-	TH-4235	TH-4235-OR	M10 x 1.50	50	24.5	38.7	92	46.2	19
-	-	TH-4236	TH-4236-OR	M10 x 1.50	63	24.5	38.7	92	46.2	19
THP-424	THP-424-OR	TH-424	TH-424-OR	M12 x 1.75	32	24.5	38.7	92	46.2	19
THP-425	THP-425-OR	TH-425	TH-425-OR	M12 x 1.75	40	24.5	38.7	92	46.2	19
THP-426	THP-426-OR	TH-426	TH-426-OR	M12 x 1.75	50	24.5	38.7	92	46.2	19
THP-427	THP-427-OR	TH-427	TH-427-OR	M12 x 1.75	63	24.5	38.7	92	46.2	19
-	-	TH-4275	TH-4275-OR	M12 x 1.75	40	29.4	47	108	55.8	23
-	-	TH-428	TH-428-OR	M12 x 1.75	63	29.4	47	108	55.8	23

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- ► Zinc die-cast handle
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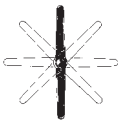
- ► All steel parts ensure stability and durability
- ► External steel stud with black oxide finish

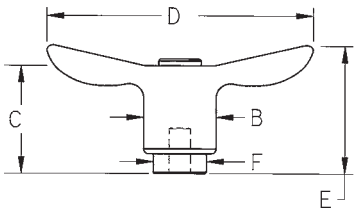
Adjustable T-Handles

stainless steel components
plastic handle / die-cast handle

- ▶ Glass fiber reinforced nylon (PA6) with metal insert
- ▶ Zinc die-cast handle
- ▶ Available in black and orange handles
- ▶ All stainless steel components
- ▶ Internal stainless steel thread



LIFT AND ROTATE HANDLE 360°



PLASTIC HANDLE		DIE-CAST HANDLE								
Black PART #	Orange PART #	Black PART #	Orange PART #	Thread	Thread Depth	B	C	D	E	F
THP-101SS	THP-101SS-OR	TH-101SS	TH-101SS-OR	#10-24	.32	.54	.87	1.98	1.05	.39
THP-102SS	THP-102SS-OR	TH-102SS	TH-102SS-OR	#10-32	.32	.54	.87	1.98	1.05	.39
THP-103SS	THP-103SS-OR	TH-103SS	TH-103SS-OR	1/4-20	.32	.54	.87	1.98	1.05	.39
THP-104SS	THP-104SS-OR	TH-104SS	TH-104SS-OR	1/4-20	.40	.70	1.10	2.56	1.31	.53
THP-105SS	THP-105SS-OR	TH-105SS	TH-105SS-OR	5/16-18	.40	.70	1.10	2.56	1.31	.53
THP-106SS	THP-106SS-OR	TH-106SS	TH-106SS-OR	5/16-18	.55	.84	1.30	3.07	1.55	.63
THP-107SS	THP-107SS-OR	TH-107SS	TH-107SS-OR	3/8-16	.55	.84	1.30	3.07	1.55	.63
THP-108SS	THP-108SS-OR	TH-108SS	TH-108SS-OR	3/8-16	.67	.96	1.52	3.62	1.82	.75
THP-109SS	THP-109SS-OR	TH-109SS	TH-109SS-OR	1/2-13	.67	.96	1.52	3.62	1.82	.75

Adjustable T-Handles

stainless steel components
plastic handle with stud /
die-cast handle with stud

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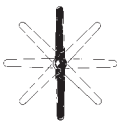
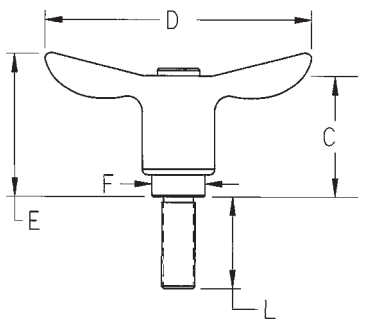


LIFT AND ROTATE HANDLE 360°

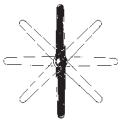


PLASTIC HANDLE		DIE-CAST HANDLE								
Black PART #	Orange PART #	Black PART #	Orange PART #	Thread	Thread Length	B	C	D	E	F
THP-301SS	THP-301SS-OR	TH-301SS	TH-301SS-OR	#10-24	.63	.54	.87	1.98	1.05	.39
THP-302SS	THP-302SS-OR	TH-302SS	TH-302SS-OR	#10-32	.63	.54	.87	1.98	1.05	.39
THP-3027SS	THP-3027SS-OR	TH-3027SS	TH-3027SS-OR	#10-32	1.25	.54	.87	1.98	1.05	.39
THP-303SS	THP-303SS-OR	TH-303SS	TH-303SS-OR	1/4-20	.78	.54	.87	1.98	1.05	.39
THP-3032SS	THP-3032SS-OR	TH-3032SS	TH-3032SS-OR	1/4-20	.98	.54	.87	1.98	1.05	.39
THP-3034SS	THP-3034SS-OR	TH-3034SS	TH-3034SS-OR	1/4-20	1.25	.54	.87	1.98	1.05	.39
THP-3038SS	THP-3038SS-OR	TH-3038SS	TH-3038SS-OR	1/4-20	1.57	.54	.87	1.98	1.05	.39
THP-3036SS	THP-3036SS-OR	TH-3036SS	TH-3036SS-OR	1/4-20	1.78	.54	.87	1.98	1.05	.39
THP-3035SS	THP-3035SS-OR	TH-3035SS	TH-3035SS-OR	1/4-20	.98	.70	1.10	2.56	1.31	.53
THP-3037SS	THP-3037SS-OR	TH-3037SS	TH-3037SS-OR	5/16-18	.78	.70	1.10	2.56	1.31	.53
THP-304SS	THP-304SS-OR	TH-304SS	TH-304SS-OR	5/16-18	1.57	.70	1.10	2.56	1.31	.53
THP-3043SS	THP-3043SS-OR	TH-3043SS	TH-3043SS-OR	5/16-18	1.97	.70	1.10	2.56	1.31	.53
THP-3045SS	THP-3045SS-OR	TH-3045SS	TH-3045SS-OR	5/16-18	2.48	.70	1.10	2.56	1.31	.53
THP-3047SS	THP-3047SS-OR	TH-3047SS	TH-3047SS-OR	3/8-16	.78	.70	1.10	2.56	1.31	.53
THP-3048SS	THP-3048SS-OR	TH-3048SS	TH-3048SS-OR	3/8-16	1.25	.70	1.10	2.56	1.31	.53
THP-305SS	THP-305SS-OR	TH-305SS	TH-305SS-OR	3/8-16	1.57	.70	1.10	2.56	1.31	.53
THP-3053SS	THP-3053SS-OR	TH-3053SS	TH-3053SS-OR	5/16-18	1.97	.84	1.30	3.07	1.55	.63
THP-306SS	THP-306SS-OR	TH-306SS	TH-306SS-OR	3/8-16	1.57	.84	1.30	3.07	1.55	.63
THP-307SS	THP-307SS-OR	TH-307SS	TH-307SS-OR	3/8-16	1.97	.84	1.30	3.07	1.55	.63
THP-3075SS	THP-3075SS-OR	TH-3075SS	TH-3075SS-OR	3/8-16	1.57	.96	1.52	3.62	1.82	.75
THP-3078SS	THP-3078SS-OR	TH-3078SS	TH-3078SS-OR	3/8-16	1.97	.96	1.52	3.62	1.82	.75
THP-308SS	THP-308SS-OR	TH-308SS	TH-308SS-OR	1/2-13	1.25	.96	1.52	3.62	1.82	.75
THP-3085SS	THP-3085SS-OR	TH-3085SS	TH-3085SS-OR	1/2-13	1.57	.96	1.52	3.62	1.82	.75
THP-309SS	THP-309SS-OR	TH-309SS	TH-309SS-OR	1/2-13	1.97	.96	1.52	3.62	1.82	.75

Metric Adjustable T-Handles

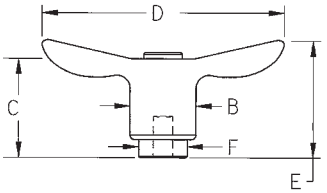
stainless steel components
plastic handle / die-cast handle

- ► Glass fiber reinforced nylon (PA6) with metal insert
- ► Zinc die-cast handle
- ► Available in black and orange handles
- ► All stainless steel components
- ► Internal stainless steel thread



LIFT AND ROTATE HANDLE 360°

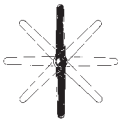
PLASTIC HANDLE Black PART #	PLASTIC HANDLE Orange PART #	DIE-CAST HANDLE Black PART #	DIE-CAST HANDLE Orange PART #	Thread	Thread Depth	B	C	D	E	F
THP-202SS	THP-202SS-OR	TH-202SS	TH-202SS-OR	M5 X .8	8mm	13.7mm	22mm	50mm	26.6mm	10mm
THP-203SS	THP-203SS-OR	TH-203SS	TH-203SS-OR	M6 X 1.0	8	13.7	22	50	26.6	10
THP-205SS	THP-205SS-OR	TH-205SS	TH-205SS-OR	M8 X 1.25	10	17.7	28	65	33.4	13.5
THP-207SS	THP-207SS-OR	TH-207SS	TH-207SS-OR	M10 X 1.50	14	21.4	33	78	39.4	16
THP-208SS	THP-208SS-OR	TH-208SS	TH-208SS-OR	M10 X 1.50	17	24.5	38.7	92	46.2	19
THP-209SS	THP-209SS-OR	TH-209SS	TH-209SS-OR	M12 X 1.75	17	24.5	38.7	92	46.2	19



Metric Adjustable T-Handles

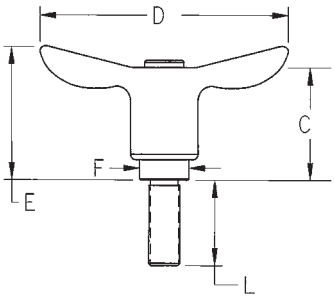
stainless steel components
plastic handle with stud / die-cast handle with stud

- ► Glass fiber reinforced nylon (PA6) with metal insert
- ► Zinc die-cast handle
- ► Available in black and orange handles
- ► All stainless steel components
- ► External stainless steel stud



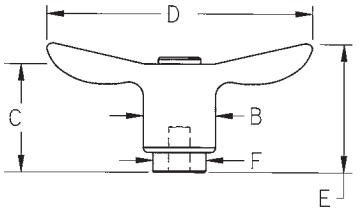
LIFT AND ROTATE HANDLE 360°

PLASTIC HANDLE Black PART #	PLASTIC HANDLE Orange PART #	DIE-CAST HANDLE Black PART #	DIE-CAST HANDLE Orange PART #	Thread	Thread Length	B	C	D	E	
THP-402SS	THP-402SS-OR	TH-402SS	TH-402SS-OR	M5 x .8	16mm	13.7mm	22mm	50mm	26.6mm	
THP-403SS	THP-403SS-OR	TH-403SS	TH-403SS-OR	M5 x .8	20	13.7	22	50	26.6	
THP-4035SS	THP-4035SS-OR	TH-4035SS	TH-4035SS-OR	M5 x .8	40	13.7	22	50	26.6	10
THP-405SS	THP-405SS-OR	TH-405SS	TH-405SS-OR	M6 x 1.0	20	13.7	22	50	26.6	10
THP-406SS	THP-406SS-OR	TH-406SS	TH-406SS-OR	M6 x 1.0	25	13.7	22	50	26.6	10
THP-407SS	THP-407SS-OR	TH-407SS	TH-407SS-OR	M6 x 1.0	32	13.7	22	50	26.6	10
THP-408SS	THP-408SS-OR	TH-408SS	TH-408SS-OR	M6 x 1.0	40	13.7	22	50	26.6	10
THP-409SS	THP-409SS-OR	TH-409SS	TH-409SS-OR	M8 x 1.25	20	17.7	28	65	33.4	13.5
THP-410SS	THP-410SS-OR	TH-410SS	TH-410SS-OR	M8 x 1.25	25	17.7	28	65	33.4	13.5
THP-411SS	THP-411SS-OR	TH-411SS	TH-411SS-OR	M8 x 1.25	32	17.7	28	65	33.4	13.5
THP-412SS	THP-412SS-OR	TH-412SS	TH-412SS-OR	M8 x 1.25	40	17.7	28	65	33.4	13.5
THP-413SS	THP-413SS-OR	TH-413SS	TH-413SS-OR	M8 x 1.25	50	17.7	28	65	33.4	13.5
THP-414SS	THP-414SS-OR	TH-414SS	TH-414SS-OR	M8 x 1.25	63	17.7	28	65	33.4	13.5
THP-4195SS	THP-4195SS-OR	TH-4195SS	TH-4195SS-OR	M10 x 1.50	25	21.4	33	78	39.4	16
THP-420SS	THP-420SS-OR	TH-420SS	TH-420SS-OR	M10 x 1.50	32	21.4	33	78	39.4	16
THP-421SS	THP-421SS-OR	TH-421SS	TH-421SS-OR	M10 x 1.50	40	21.4	33	78	39.4	16
THP-422SS	THP-422SS-OR	TH-422SS	TH-422SS-OR	M10 x 1.50	50	21.4	33	78	39.4	16
THP-4236SS	THP-4236SS-OR	TH-4236SS	TH-4236SS-OR	M10 x 1.50	63	24.5	38.7	92	46.2	19
THP-424SS	THP-424SS-OR	TH-424SS	TH-424SS-OR	M12 x 1.75	32	24.5	38.7	92	46.2	19
THP-425SS	THP-425SS-OR	TH-425SS	TH-425SS-OR	M12 x 1.75	40	24.5	38.7	92	46.2	19
THP-426SS	THP-426SS-OR	TH-426SS	TH-426SS-OR	M12 x 1.75	50	24.5	38.7	92	46.2	19

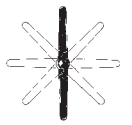


Stainless Steel Adjustable T-Handles

stainless steel components



- ► Stainless steel handle (304)
- ► All stainless steel components
- ► Internal stainless steel thread (303)

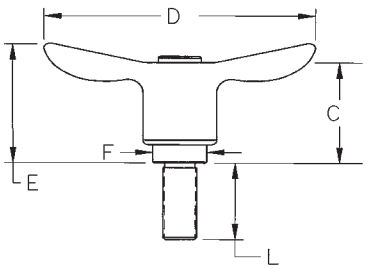


LIFT AND ROTATE HANDLE 360°

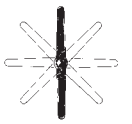
Stainless Steel Handle PART #	Thread	Thread Depth	B	C	D	E	F
STH-101SS	#10-24	.32	.54	.87	1.98	1.05	.39
STH-102SS	#10-32	.32	.54	.87	1.98	1.05	.39
STH-103SS	1/4-20	.32	.54	.87	1.98	1.05	.39
STH-104SS	1/4-20	.40	.70	1.10	2.56	1.31	.53
STH-105SS	5/16-18	.40	.70	1.10	2.56	1.31	.53
STH-106SS	5/16-18	.55	.84	1.30	3.07	1.55	.63
STH-107SS	3/8-16	.55	.84	1.30	3.07	1.55	.63
STH-108SS	3/8-16	.67	.96	1.52	3.62	1.82	.75
STH-109SS	1/2-13	.67	.96	1.52	3.62	1.82	.75

Stainless Steel Adjustable T-Handles

stainless steel components with stud



- ► Stainless steel handle (304)
- ► All stainless steel components
- ► Stainless steel stud (303)



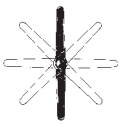
LIFT AND ROTATE HANDLE 360°

Stainless Steel Handle PART #	Thread	Thread Length	B	C	D	E	F
STH-301SS	#10-24	.63	.54	.87	1.98	1.05	.39
STH-302SS	#10-32	.63	.54	.87	1.98	1.05	.39
STH-3027SS	#10-32	1.25	.54	.87	1.98	1.05	.39
STH-303SS	1/4-20	.78	.54	.87	1.98	1.05	.39
STH-3032SS	1/4-20	.98	.54	.87	1.98	1.05	.39
STH-3034SS	1/4-20	1.25	.54	.87	1.98	1.05	.39
STH-3038SS	1/4-20	1.57	.54	.87	1.98	1.05	.39
STH-3036SS	1/4-20	1.78	.54	.87	1.98	1.05	.39
STH-3037SS	5/16-18	.78	.70	1.10	2.56	1.31	.53
STH-304SS	5/16-18	1.57	.70	1.10	2.56	1.31	.53
STH-3043SS	5/16-18	1.97	.70	1.10	2.56	1.31	.53
STH-3045SS	5/16-18	2.48	.70	1.10	2.56	1.31	.53
STH-3047SS	3/8-16	.78	.70	1.10	2.56	1.31	.53
STH-3048SS	3/8-16	1.25	.70	1.10	2.56	1.31	.53
STH-305SS	3/8-16	1.57	.70	1.10	2.56	1.31	.53
STH-306SS	3/8-16	1.57	.84	1.30	3.07	1.55	.63
STH-307SS	3/8-16	1.97	.84	1.30	3.07	1.55	.63
STH-308SS	1/2-13	1.25	.96	1.52	3.62	1.82	.75
STH-3085SS	1/2-13	1.57	.96	1.52	3.62	1.82	.75
STH-309SS	1/2-13	1.97	.96	1.52	3.62	1.82	.75

Stainless Steel Metric Adjustable T-Handles

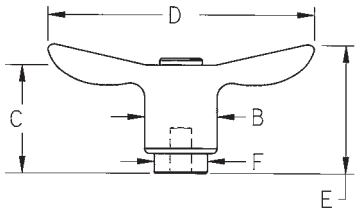
stainless steel components

- ► Stainless steel handle (304)
- ► All stainless steel components
- ► Internal stainless steel thread (303)



LIFT AND ROTATE HANDLE 360°

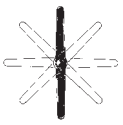
Stainless Steel Handle PART #	Thread	Thread Depth	B	C	D	E	F
STH-202SS	M5 X .8	8mm	13.7mm	22mm	50mm	26.6mm	10mm
STH-203SS	M6 X 1.0	8	13.7	22	50	26.6	10
STH-204SS	M6 X 1.0	10	17.7	28	65	33.4	13.5
STH-205SS	M8 X 1.25	10	17.7	28	65	33.4	13.5
STH-206SS	M8 X 1.25	14	21.4	33	78	39.4	16
STH-207SS	M10 X 1.50	14	21.4	33	78	39.4	16
STH-208SS	M10 X 1.50	17	24.5	38.7	92	46.2	19
STH-209SS	M12 X 1.75	17	24.5	38.7	92	46.2	19



Stainless Steel Metric Adjustable T-Handles

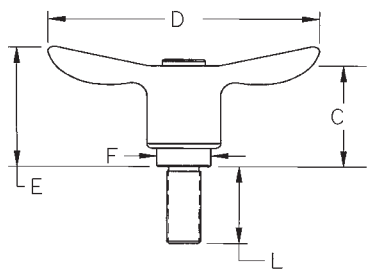
stainless steel components with stud

- ► Stainless steel handle (304)
- ► All stainless steel components
- ► Stainless steel stud (303)

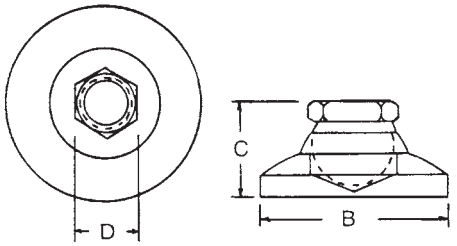


LIFT AND ROTATE HANDLE 360°

Stainless Steel Handle PART #	Thread	Thread Length	B	C	D	E	F
STH-401SS	M5 x .8	12mm	13.7mm	22mm	50mm	26.6mm	10mm
STH-402SS	M5 x .8	16	13.7	22	50	26.6	10
STH-403SS	M5 x .8	20	13.7	22	50	26.6	10
STH-4035SS	M5 x .8	40	13.7	22	50	26.6	10
STH-404SS	M6 x 1.0	16	13.7	22	50	26.6	10
STH-405SS	M6 x 1.0	20	13.7	22	50	26.6	10
STH-406SS	M6 x 1.0	25	13.7	22	50	26.6	10
STH-407SS	M6 x 1.0	32	13.7	22	50	26.6	10
STH-408SS	M6 x 1.0	40	13.7	22	50	26.6	10
STH-409SS	M8 x 1.25	20	17.7	28	65	33.4	13.5
STH-410SS	M8 x 1.25	25	17.7	28	65	33.4	13.5
STH-411SS	M8 x 1.25	32	17.7	28	65	33.4	13.5
STH-412SS	M8 x 1.25	40	17.7	28	65	33.4	13.5
STH-413SS	M8 x 1.25	50	17.7	28	65	33.4	13.5
STH-414SS	M8 x 1.25	63	17.7	28	65	33.4	13.5
STH-4195SS	M10 x 1.50	25	21.4	33	78	39.4	16
STH-420SS	M10 x 1.50	32	21.4	33	78	39.4	16
STH-421SS	M10 x 1.50	40	21.4	33	78	39.4	16
STH-422SS	M10 x 1.50	50	21.4	33	78	39.4	16
STH-424SS	M12 x 1.75	32	24.5	38.7	92	46.2	19
STH-425SS	M12 x 1.75	40	24.5	38.7	92	46.2	19
STH-426SS	M12 x 1.75	50	24.5	38.7	92	46.2	19



Leveling Mounts



► 10 degree swivel in all directions to keep machine tools, racks, assembly lines, and other equipment level.

► Available in steel or stainless steel

► Do not exceed load requirements

► Hardened ball insures proper seating

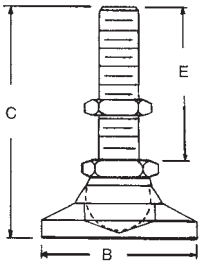
INCH

Steel PART #	Stainless Steel PART #	Thread X	B	C	D	Load Pounds
LM-100	LM-100SS	#10-32	3/4	17/32	3/8	700
LM-101	LM-101SS	1/4-20	1	45/64	1/2	1000
LM-1015	LM-1015SS	5/16-18	1-1/4	7/8	5/8	2500
LM-102	LM-102SS	3/8-16	1-1/4	7/8	5/8	3750
LM-103	LM-103SS	1/2-13	1-7/8	1-1/8	3/4	5000
LM-104	LM-104SS	5/8-11	2-1/2	1-1/4	7/8	6000
LM-105	LM-105SS	3/4-10	3	1-1/2	1-1/16	7400
LM-1055	LM-1055SS	7/8-9	4	1-7/8	1-3/8	15000
LM-106	LM-106SS	1-8	4	1-7/8	1-3/8	20000
LM-107	LM-107SS	1-1/4-7	6	2-3/4	1-7/8	43000

METRIC

Steel PART #	Stainless Steel PART #	Thread X	B	C	D	Load Kilos
LM-200	LM-200SS	M6 x 1.0	19mm	14mm	10mm	310
LM-201	LM-201SS	M8 x 1.25	26	18	13	450
LM-202	LM-202SS	M10 x 1.5	32	22	16	1700
LM-203	LM-203SS	M12 x 1.75	48	29	19	2250
LM-204	LM-204SS	M16 x 2.0	64	32	22	2720
LM-205	LM-205SS	M20 x 2.5	76	38	27	3350
LM-206	LM-206SS	M24 x 3.0	101	48	35	9070
LM-207	LM-207SS	M30 x 3.5	152	70	48	18700

Leveling Mounts with Bolts



► 10 degree swivel in all directions to keep machine tools, racks, assembly lines, and other equipment level

► Steel ball hardened for proper seating

► Jam nut included

► Available in inch and metric sizes

► Available in steel or stainless steel

INCH

Steel PART #	Stainless Steel PART #	Thread X	E	B	C	D	Load Pounds
LM-300	LM-300SS	#10-32	1	3/4	1-17/32	3/8	700
LM-3005	LM-3005SS	#10-32	2	3/4	2-1/2	3/8	700
LM-301	LM-301SS	1/4-20	1-1/4	1	1-61/64	1/2	1000
LM-3015	LM-3015SS	1/4-20	2-1/2	1	3-3/16	1/2	1000
LM-3017	LM-3017SS	5/16-18	2	1-1/4	2-7/8	5/8	2500
LM-3018	LM-3018SS	5/16-18	4	1-1/4	4-7/8	5/8	2500
LM-302	LM-302SS	3/8-16	2	1-1/4	2-7/8	5/8	3750
LM-3025	LM-3025SS	3/8-16	4	1-1/4	4-7/8	5/8	3750
LM-303	LM-303SS	1/2-13	2	1-7/8	3-1/8	3/4	5000
LM-3035	LM-3035SS	1/2-13	4	1-7/8	5-1/8	3/4	5000
LM-304	LM-304SS	5/8-11	2	2-1/2	3-1/4	7/8	6000
LM-3045	LM-3045SS	5/8-11	4	2-1/2	5-1/4	7/8	6000
LM-305	LM-305SS	3/4-10	2	3	3-1/2	1-1/16	7400
LM-3055	LM-3055SS	3/4-10	4	3	5-1/2	1-1/16	7400
LM-3058	LM-3058SS	7/8-9	4	4	5-7/8	1-3/8	15000
LM-306	LM-306SS	1-8	3-1/2	4	5-3/8	1-3/8	20000
LM-307	LM-307SS	1-8	4-1/4	4	6-1/8	1-3/8	20000
LM-3075	LM-3075SS	1-8	6	4	7-7/8	1-3/8	20000
LM-308	LM-308SS	1-1/4-7	4	6	6-3/4	1-7/8	43000
LM-309	LM-309SS	1-1/4-7	6	6	8-3/4	1-7/8	43000

METRIC

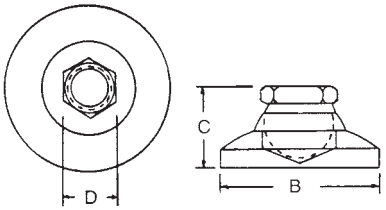
Steel PART #	Stainless Steel PART #	Thread X	E	B	C	Load Kilos
LM-400	LM-400SS	M6 x 1.0	25mm	19mm	39mm	317
LM-401	LM-401SS	M8 x 1.25	31	26	50	453
LM-402	LM-402SS	M10 x 1.5	51	32	73	1701
LM-403	LM-403SS	M12 x 1.75	51	48	79	2268
LM-404	LM-404SS	M16 x 2.0	51	64	83	2721
LM-405	LM-405SS	M20 x 2.5	51	76	89	3357
LM-406	LM-406SS	M24 x 3.0	88	101	136	9072
LM-407	LM-407SS	M24 x 3.0	108	101	149	9072
LM-408	LM-408SS	M30 x 3.5	102	152	171	18730
LM-409	LM-409SS	M30 x 3.5	152	152	222	18730

Anti-Vibration Leveling Mounts

- ► Designed for high precision and computerized machinery
- ► Do not exceed load capacity
- ► 10 degree swivel in all directions to keep machinery level on uneven surfaces
- ► Additional load standards available upon request
- ► Patent M9600727.3 (Germany)
- ► Other Foreign Patents D2053583, D2053584
- ► Anti-Vibe®

INCH

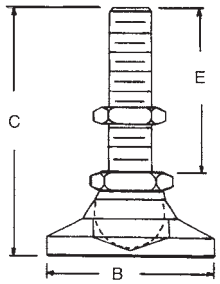
PART #	X Thread	B	C	D	Load Pounds
LM-150	3/8-16	1-1/4	1-1/2	5/8	100
LM-151	1/2-13	1-7/8	1-3/4	3/4	240
LM-152	5/8-11	2-1/2	1-7/8	7/8	440
LM-153	3/4-10	3	2-1/8	1-1/16	650
LM-154	1-8	4	2-1/2	1-3/8	1180
LM-155	1-1/4-7	6	2-7/8	1-7/8	2710



METRIC

PART #	X Thread	B	C	D	Load Kilos
LM-250	M10 x 1.5	32mm	38mm	16mm	45
LM-251	M12 x 1.75	48	44	19	109
LM-252	M16 x 2.0	64	48	22	200
LM-253	M20 x 2.5	76	54	27	295
LM-254	M24 x 3.0	102	64	35	535

Anti-Vibration Leveling Mounts
with bolts



INCH

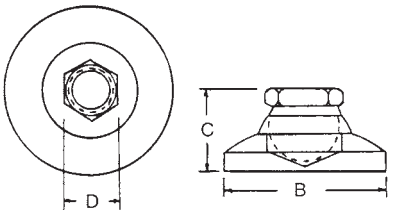
PART #	X Thread	E	B	C	Load Pounds
LM-350	3/8-16	2	1-1/4	3-1/2	100
LM-351	1/2-13	2	1-7/8	3-3/4	240
LM-352	5/8-11	2	2-1/2	3-7/8	440
LM-353	3/4-10	2	3	4-1/8	650
LM-354	1-8	3-1/2	4	6	1180
LM-355	1-8	4-1/4	4	6-1/8	535
LM-356	1-1/4-7	4	6	6-7/8	2710
LM-357	1-1/4-7	6	6	8-3/4	1230

METRIC

PART #	X Thread	E	B	C	Load Kilos
LM-450	M10 x 1.5	51mm	32mm	89mm	45
LM-451	M12 x 1.75	51	48	95	109
LM-452	M16 x 2.0	51	64	99	200
LM-453	M20 x 2.5	51	76	105	295
LM-454	M24 x 3.0	90	102	154	535
LM-455	M24 x 3.0	108	102	154	535
LM-456	M30 x 3.5	102	152	171	1230
LM-457	M30 x 3.5	152	152	222	1230

- ► Designed for high precision and computerized machinery
- ► Do not exceed load capacity
- ► 10 degree swivel in all directions to keep machinery level on uneven surfaces
- ► Additional load standards available upon request
- ► Jam nut included
- ► Anti-Vibe®

Delrin® Leveling Mounts



▶ 10 degree swivel in any direction to keep machine tools, racks, assembly lines, and other equipment level.

▶ Hardened ball insures proper seating

▶ Available in inch and metric sizes

▶ Also available in stainless steel within the Delrin® base

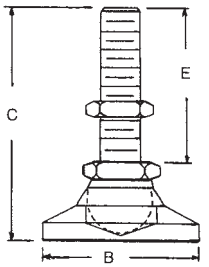
INCH

Steel PART #	Stainless Steel PART #	X Thread	B	C	D	Load Pounds
DLM-100	DLM-100SS	#10-32	3/4	17/32	3/8	150
DLM-101	DLM-101SS	1/4-20	1	45/64	1/2	200
DLM-1015	DLM-1015SS	5/16-18	1-1/4	7/8	5/8	250
DLM-102	DLM-102SS	3/8-16	1-1/4	7/8	5/8	300
DLM-103	DLM-103SS	1/2-13	1-7/8	1-1/8	3/4	700
DLM-104	DLM-104SS	5/8-11	2-1/2	1-1/4	7/8	1200
DLM-105	DLM-105SS	3/4-10	3	1-1/2	1-1/16	1800
DLM-1055	DLM-1055SS	7/8-9	4	1-7/8	1-3/8	1700
DLM-106	DLM-106SS	1-8	4	1-7/8	1-3/8	2000
DLM-107	DLM-107SS	1-1/4-7	6	2-7/8	1-7/8	3200

METRIC

PART #	X Thread	B	C	D	Load Kilos
DLM-200	M6 x 1.0	19mm	14mm	10mm	68
DLM-201	M8 x 1.25	26	18	13	91
DLM-202	M10 x 1.5	32	22	16	136
DLM-203	M12 x 1.75	48	29	19	317
DLM-204	M16 x 2.0	64	32	22	544
DLM-205	M20 x 2.5	76	38	27	816
DLM-206	M24 x 3.0	101	48	35	907
DLM-207	M30 x 3.5	152	70	48	1800

Delrin® Leveling Mounts
with bolts



▶ 10 degree swivel in any direction to keep machine tools, racks, assembly lines, and other equipment level

▶ Hardened ball insures proper seating

▶ Available in inch and metric sizes

▶ Jam nut included

▶ New stainless steel bolt sizes

INCH

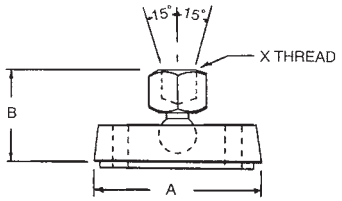
Steel PART #	Stainless Steel PART #	X Thread	E	B	C	Load Pounds
DLM-300	DLM-300SS	#10-32	1	3/4	1-17/32	150
DLM-3005	DLM-3005SS	#10-32	2	3/4	2-1/2	150
DLM-301	DLM-301SS	1/4-20	1-1/4	1	1-15/16	200
DLM-3015	DLM-3015SS	1/4-20	2-1/2	1	3-3/16	200
DLM-3017	DLM-3017SS	5/16-18	2	1-1/4	2-7/8	250
DLM-3018	DLM-3018SS	5/16-18	4	1-1/4	4-7/8	250
DLM-302	DLM-302SS	3/8-16	2	1-1/4	2-7/8	300
DLM-3025	DLM-3025SS	3/8-16	4	1-1/4	4-7/8	300
DLM-303	DLM-303SS	1/2-13	2	1-7/8	3-1/8	700
DLM-3035	DLM-3035SS	1/2-13	4	1-7/8	5-1/8	700
DLM-304	DLM-304SS	5/8-11	2	2-1/2	3-1/4	1200
DLM-3045	DLM-3045SS	5/8-11	4	2-1/2	5-1/4	1200
DLM-305	DLM-305SS	3/4-10	2	3	3-1/2	1800
DLM-3055	DLM-3055SS	3/4-10	4	3	5-1/2	1800
DLM-3057	DLM-3057SS	7/8-9	4	4	5-7/8	1700
DLM-306	DLM-306SS	1-8	3-1/2	4	5-3/8	2000
DLM-307	DLM-307SS	1-8	4-1/4	4	6-1/8	2000
DLM-3075	DLM-3075SS	1-8	6	4	7-7/8	2000
DLM-308	DLM-308SS	1-1/4-7	4	6	6-3/4	3200
DLM-309	DLM-309SS	1-1/4-7	6	6	8-3/4	3200

METRIC

PART #	X Thread	E	B	C	Load Kilos
DLM-400	M6 x 1.0	25mm	19mm	39mm	68
DLM-401	M8 x 1.25	31	26	50	91
DLM-402	M10 x 1.5	51	32	73	136
DLM-403	M12 x 1.75	51	48	79	317
DLM-404	M16 x 2.0	51	64	83	544
DLM-405	M20 x 2.5	51	76	89	816
DLM-406	M24 x 3.0	88	101	136	907
DLM-407	M24 x 3.0	108	101	150	907
DLM-408	M30 x 3.5	102	152	171	1800
DLM-409	M30 x 3.5	152	152	222	1800

Nylon Leveling Mounts

- ► Nylon base is water and corrosion resistant
- ► 15 degree swivel in any direction to keep machine tools, racks assembly lines, and other equipment level
- ► Lag holes
- ► Inch and metric sizes available
- ► Steel and stainless steel components available
- ► Patent pending (Polymount)



INCH

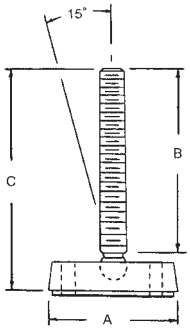
Steel PART #	Stainless Steel PART #	Thread X	A	B	Load Pounds
LM-120	LM-120SS	3/8-16	2	1-5/8	4000
LM-121	LM-121SS	1/2-13	2	1-5/8	4000
LM-122	LM-122SS	5/8-11	2	1-5/8	4000
LM-123	LM-123SS	3/8-16	3	1-5/8	5000
LM-124	LM-124SS	1/2-13	3	1-5/8	5000
LM-125	LM-125SS	5/8-11	3	1-5/8	5000
LM-126	LM-126SS	3/4-10	3	1-5/8	5000

METRIC

Steel PART #	Stainless Steel PART #	Thread X	A	B	Load Kilos
LM-220	LM-220SS	M10 x 1.5	50mm	41mm	1815
LM-221	LM-221SS	M12 x 1.75	50	41	1815
LM-222	LM-222SS	M16 x 2.0	50	41	1815
LM-223	LM-223SS	M10 x 1.5	80	41	2268
LM-224	LM-224SS	M12 x 1.75	80	41	2268
LM-225	LM-225SS	M16 x 2.0	80	41	2268
LM-226	LM-226SS	M20 x 2.5	80	41	2268

Nylon Leveling Mounts
with bolts

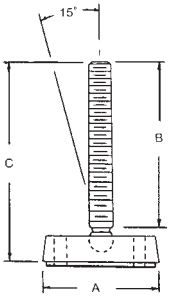
- ► Nylon base is water and corrosion resistant
- ► 15 degree swivel in any direction to keep machine tools, racks, assembly lines, and other equipment level
- ► Lag holes
- ► Inch and metric sizes available
- ► Steel and stainless steel components available
- ► Jam nut included
- ► Patent pending (Polymount)



Steel PART #	Stainless Steel PART #	Thread X	B	A	C	Load Pounds
LM-320	LM-320SS	3/8-16	4	2	4-7/8	4000
LM-321	LM-321SS	3/8-16	6	2	6-7/8	4000
LM-322	LM-322SS	3/8-16	8	2	8-7/8	4000
LM-323	LM-323SS	1/2-13	4	2	4-7/8	4000
LM-324	LM-324SS	1/2-13	6	2	6-7/8	4000
LM-325	LM-325SS	1/2-13	8	2	8-7/8	4000
LM-326	LM-326SS	5/8-11	4	2	4-7/8	4000
LM-327	LM-327SS	5/8-11	6	2	6-7/8	4000
LM-328	LM-328SS	5/8-11	8	2	8-7/8	4000
LM-329	LM-329SS	3/8-16	4	3	4-7/8	5000
LM-330	LM-330SS	3/8-16	6	3	6-7/8	5000
LM-331	LM-331SS	3/8-16	8	3	8-7/8	5000
LM-332	LM-332SS	1/2-13	4	3	4-7/8	5000
LM-333	LM-333SS	1/2-13	6	3	6-7/8	5000
LM-334	LM-334SS	1/2-13	8	3	8-7/8	5000
LM-335	LM-335SS	5/8-11	4	3	4-7/8	5000
LM-336	LM-336SS	5/8-11	6	3	6-7/8	5000
LM-337	LM-337SS	5/8-11	8	3	8-7/8	5000
LM-338	LM-338SS	3/4-10	4	3	4-7/8	5000
LM-339	LM-339SS	3/4-10	6	3	6-7/8	5000
LM-340	LM-340SS	3/4-10	8	3	8-7/8	5000

Nylon Leveling Mounts

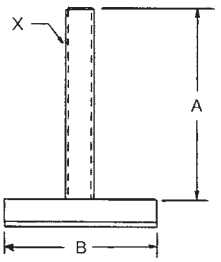
metric with bolts



- ► Nylon base is water and corrosion resistant
- ► 15 degree swivel in any direction to keep machine tools, racks, assembly lines, and other equipment level
- ► Lag holes
- ► Inch and metric sizes available
- ► Steel and stainless steel components available
- ► Jam nut included
- ► Patent pending (Polymount)

Steel PART #	Stainless Steel PART #	METRIC X Thread	B	A	C	Load Kilos
LM-420	LM-420SS	M10 x 1.5	102mm	50mm	123mm	1815
LM-421	LM-421SS	M10 x 1.5	152	50	175	1815
LM-422	LM-422SS	M10 x 1.5	203	50	225	1815
LM-423	LM-423SS	M12 x 1.75	102	50	123	1815
LM-424	LM-424SS	M12 x 1.75	152	50	175	1815
LM-425	LM-425SS	M12 x 1.75	203	50	225	1815
LM-426	LM-426SS	M16 x 2.0	102	50	123	1815
LM-427	LM-427SS	M16 x 2.0	152	50	175	1815
LM-428	LM-428SS	M16 x 2.0	203	50	225	1815
LM-429	LM-429SS	M10 x 1.5	102	80	123	2268
LM-430	LM-430SS	M10 x 1.5	152	80	175	2268
LM-431	LM-431SS	M10 x 1.5	203	80	225	2268
LM-432	LM-432SS	M12 x 1.75	102	80	123	2268
LM-433	LM-433SS	M12 x 1.75	152	80	175	2268
LM-434	LM-434SS	M12 x 1.75	203	80	225	2268
LM-435	LM-435SS	M16 x 2.0	102	80	123	2268
LM-436	LM-436SS	M16 x 2.0	152	80	175	2268
LM-437	LM-437SS	M16 x 2.0	203	80	225	2268
LM-438	LM-438SS	M20 x 2.5	102	80	123	2268
LM-439	LM-439SS	M20 x 2.5	152	80	175	2268
LM-440	LM-440SS	M20 x 2.5	203	80	225	2268

Industrial Glides



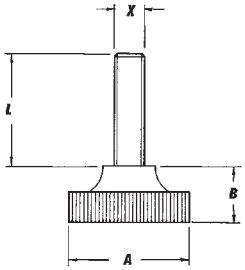
- ► Steel with nickel plated finish
- ► Nylon base pad provides non-abrasive surface
- ► Excellent for leveling light duty machines, cabinets, and office furniture
- ► Economical leveling solution

INCH PART #	X Thread	A	B
GR-01	#10-24	1-1/2	1-1/4
GR-02	1/4-20	1-1/2	1-1/4
GR-03	5/16-18	1-1/2	1-1/4
GR-04	5/16-18	2	2
GR-05	3/8-16	2	2
GR-06	3/8-16	2	2-13/32
GR-07	3/8-16	4	2-13/32
GR-08	1/2-13	2	2-13/32
GR-09	1/2-13	4	2-13/32
GR-10	1/2-13	2	2-3/4
GR-11	1/2-13	4	2-3/4
GR-12	5/8-11	2	2-3/4
GR-13	5/8-11	4	2-3/4
GR-14	1/2-13	4	3-3/16
GR-15	1/2-13	6	3-3/16
GR-16	5/8-11	4	3-3/16
GR-17	5/8-11	6	3-3/16

METRIC PART #	X Thread	A	B
MGR-01	M6 x 1.0	38mm	31mm
MGR-02	M8 x 1.25	38	31
MGR-03	M8 x 1.25	38	52
MGR-04	M10 x 1.50	51	52
MGR-05	M10 x 1.50	51	61
MGR-06	M10 x 1.50	102	61
MGR-07	M12 x 1.75	51	61
MGR-08	M12 x 1.75	102	61
MGR-09	M12 x 1.75	51	71
MGR-10	M12 x 1.75	102	71
MGR-11	M16 x 2.0	51	71
MGR-12	M16 x 2.0	102	71
MGR-13	M12 x 1.75	102	81
MGR-14	M12 x 1.75	152	81
MGR-15	M16 x 2.0	102	81
MGR-16	M16 x 2.0	152	81

Fixed-Base Leveling Mounts

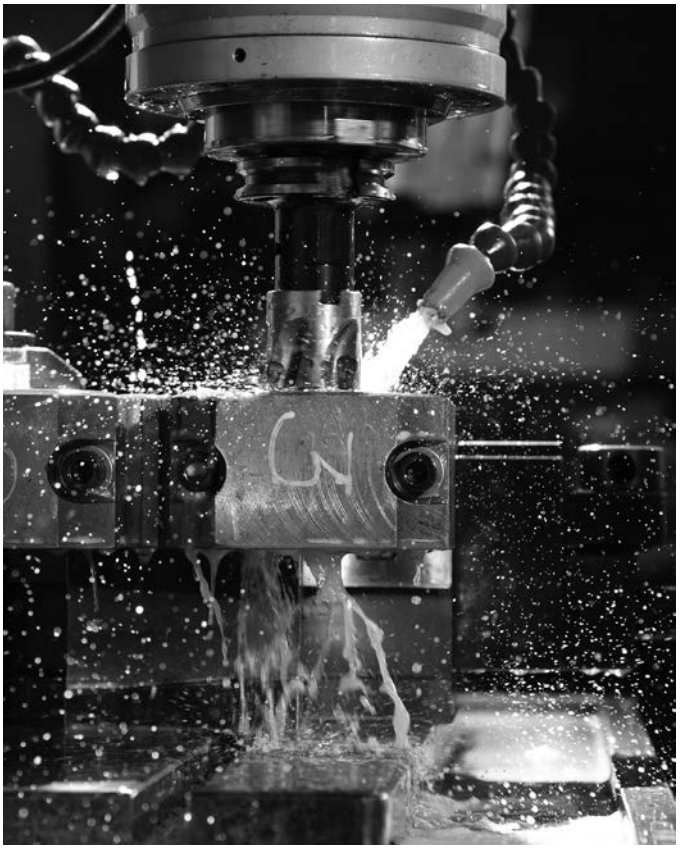
- ► Inch and metric sizes available
- ► Non-slip black plastic base
- ► Steel screw, zinc-plated finish
- ► Mounts let you isolate height on all types of machinery and equipment



	INCH			
PART #	X	L	A	B
7832AC020	1/4-20	3/4	1-1/4	9/16
7832AC030	1/4-20	1-3/16	1-1/4	9/16
7832AC040	1/4-20	1-1/2	1-1/4	9/16
7832AD020	5/16-18	3/4	1-1/4	9/16
7832AD030	5/16-18	1-3/16	1-1/4	9/16
7832AD040	5/16-18	1-1/2	1-1/4	9/16
7832AE030	3/8-16	1-3/16	1-1/4	9/16
7832AE040	3/8-16	1-1/2	1-1/4	9/16

	METRIC			
PART #	X	L	A	B
783206020	M6 x 1.0	20mm	32mm	14.5mm
783206030	M6 x 1.0	30	32	14.5
783206040	M6 x 1.0	40	32	14.5
783208020	M8 x 1.25	19	32	14.5
783208030	M8 x 1.25	30	32	14.5
783208040	M8 x 1.25	40	32	14.5
783210030	M10 x 1.5	30	32	14.5
783210040	M10 x 1.5	40	32	14.5

▲ Common applications for adjustable handles.



▲ Tooling components are used for a variety of fixture applications.

◀ Spring Plunger

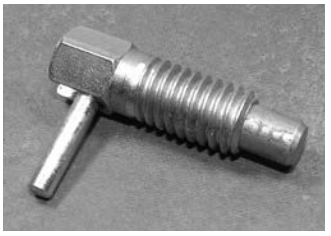
◀ Ball Plunger

◀ Press-Fit Spring Plunger

◀ Press-Fit Ball Plunger

◀ Hand Retractable Plunger

◀ Pull Ring Plunger



◀ Locking Plunger

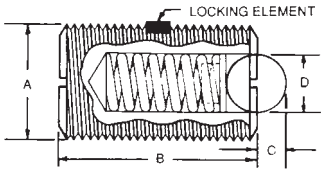
Ball Plungers are a compact solution that allows a controlled end pressure on repetitive applications. Ball plungers are assembled from three components ... a threaded body, internal spring, and a hardened ball. They are available in various materials, spring pressures, and nose materials to meet your specific applications.

Spring Plungers typically offer a longer thread length than ball plungers, but they are also spring loaded. Spring plungers consist of a threaded body, internal spring, and a nose pin. The nose pin allows pressure to be applied over a longer travel length. The nose pin can be fully retracted into the threaded body.

Locking Element: A nylon pellet provides resistance to vibration and helps to secure the plunger in a fixed position. Morton is transitioning to the patch style locking element, Contact customer service with any questions on plunger locking elements.

Nylon Nose Ball Plungers

Steel Body PART #	Stainless Body PART #	End Pressures Pounds Start	Full	A	B	C	Ball Dia. D
MBP-190	MBP-188SS	.12	.5	#4-48	3/16	.020	.062
MBP-191	MBP-189SS	.25	.75	#5-40	1/4	.020	.062
MBP-192	MBP-190SS	.5	1.0	#6-40	5/16	.023	.078
MBP-193	MBP-191SS	.5	1.25	#8-36	11/32	.025	.093
MBP-194	MBP-192SS	.5	1.25	#8-32	11/32	.025	.093
MBP-170	MBP-170SS	0.5	1.5	#10-32	33/64	.025	.093
MBP-171	MBP-171SS	1.5	3.0	#10-32	33/64	.025	.093
MBP-172	MBP-172SS	2.0	5.0	#10-32	33/64	.025	.093
MBP-173	MBP-173SS	2.0	4.0	1/4-20	17/32	.035	.125
MBP-174	MBP-174SS	3.0	7.0	1/4-20	17/32	.035	.125
MBP-175	MBP-175SS	4.0	12.0	1/4-20	17/32	.035	.125
MBP-176	MBP-176SS	2.0	4.5	5/16-18	37/64	.040	.156
MBP-177	MBP-177SS	4.0	9.0	5/16-18	37/64	.040	.156
MBP-178	MBP-178SS	6.0	17.0	5/16-18	37/64	.040	.156
MBP-179	MBP-179SS	2.5	5.0	3/8-16	5/8	.048	.187
MBP-180	MBP-180SS	5.0	10.0	3/8-16	5/8	.048	.187
MBP-181	MBP-181SS	6.0	21.0	3/8-16	5/8	.048	.187
MBP-182	MBP-182SS	3.0	6.0	1/2-13	3/4	.072	.281
MBP-183	MBP-183SS	6.0	12.0	1/2-13	3/4	.072	.281
MBP-184	MBP-184SS	6.0	30.0	1/2-13	3/4	.072	.281
MBP-185	MBP-185SS	4.5	9.0	5/8-11	63/64	.096	.375
MBP-186	MBP-186SS	9.0	18.0	5/8-11	63/64	.096	.375
MBP-187	MBP-187SS	7.0	50.0	5/8-11	63/64	.096	.375



► Bodies available in steel with black oxide finish and 303 stainless steel

► Nylon ball nose

► All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.

► Ideal for locating or positioning applications

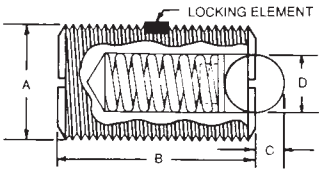
Nylon Nose Ball Plungers
metric

► Bodies are steel with zinc-plated finish and stainless steel, nylon ball noses

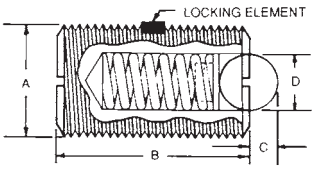
► All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.

► Ideal for locating or positioning applications

Steel PART #	Stainless Steel PART #	End Pressures Newtons Start	Full	A	B	C	Ball Dia. D
MBP-200	MBP-200SS	.53	2.2	M3 x 0.5	4.7mm	0.51mm	1.57mm
MBP-201	MBP-201SS	2.2	5.6	M4 x 0.7	9.00	0.60	2.36
MBP-202	MBP-202SS	2.2	6.7	M5 x 0.8	13.00	0.60	2.36
MBP-203	MBP-203SS	6.7	13.3	M5 x 0.8	13.00	0.60	2.36
MBP-204	MBP-204SS	8.9	22.2	M5 x 0.8	13.00	0.60	2.36
MBP-205	MBP-205SS	8.9	17.8	M6 x 1.0	13.50	0.90	3.20
MBP-206	MBP-206SS	13.3	31.1	M6 x 1.0	13.50	0.90	3.20
MBP-207	MBP-207SS	17.8	53.3	M6 x 1.0	13.50	0.90	3.20
MBP-208	MBP-208SS	8.9	20	M8 x 1.25	15.00	1.00	3.96
MBP-209	MBP-209SS	17.8	40	M8 x 1.25	15.00	1.00	3.96
MBP-210	MBP-210SS	26.7	75	M8 x 1.25	15.00	1.00	3.96
MBP-211	MBP-211SS	11.1	22.2	M10 x 1.5	16.00	1.20	4.75
MBP-212	MBP-212SS	22.2	44.5	M10 x 1.5	16.00	1.20	4.75
MBP-213	MBP-213SS	26.7	93	M10 x 1.5	16.00	1.20	4.75
MBP-214	MBP-214SS	13.3	26.7	M12 x 1.75	19.00	2.00	7.14
MBP-215	MBP-215SS	26.7	53	M12 x 1.75	19.00	2.00	7.14
MBP-216	MBP-216SS	26.7	133	M12 x 1.75	19.00	2.00	7.14
MBP-217	MBP-217SS	20	40	M16 x 2.00	25.00	2.50	9.52
MBP-218	MBP-218SS	40	80	M16 x 2.00	25.00	2.50	9.52
MBP-219	MBP-219SS	31	222	M16 x 2.00	25.00	2.50	9.52



Steel Ball Plungers



▶ Bodies available in steel with black oxide finish and 303 stainless steel

▶ Stainless steel ball nose

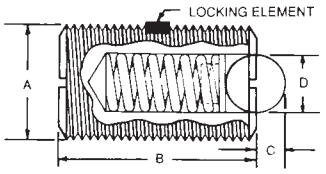
▶ All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.

▶ Ideal for locating or positioning applications

Steel PART #	Stainless Steel PART #	End Pressures Pounds Start	Full	A	B	C	Ball Dia. D
MBP-100	MBP-090SS	.12	.5	#4-48	3/16	.020	.062
MBP-101	MBP-091SS	.25	.75	#5-40	1/4	.020	.062
MBP-102	MBP-092SS	.5	1.0	#6-40	5/16	.023	.078
MBP-103	MBP-093SS	.5	1.25	#8-36	11/32	.025	.093
MBP-104	MBP-094SS	.5	1.25	#8-32	11/32	.025	.093
MBP-106	MPB-106SS	.5	1.5	#10-32	33/64	.025	.093
MBP-105	MBP-105SS	1.5	3.0	#10-32	33/64	.025	.093
MBP-107	MBP-107SS	2.0	5.0	#10-32	33/64	.025	.093
MBP-111	MBP-111SS	2.0	4.0	1/4-20	17/32	.035	.125
MBP-110	MBP-110SS	3.0	7.0	1/4-20	17/32	.035	.125
MBP-112	MBP-112SS	4.0	12.0	1/4-20	17/32	.035	.125
MBP-116	MBP-116SS	2.0	4.5	5/16-18	37/64	.040	.156
MBP-115	MBP-115SS	4.0	9.0	5/16-18	37/64	.040	.156
MBP-117	MBP-117SS	6.0	17.0	5/16-18	37/64	.040	.156
MBP-121	MBP-121SS	2.5	5.0	3/8-16	5/8	.048	.187
MBP-120	MBP-120SS	5.0	10.0	3/8-16	5/8	.048	.187
MBP-122	MBP-122SS	6.0	21.0	3/8-16	5/8	.048	.187
MBP-126	MBP-126SS	3.0	6.0	1/2-13	3/4	.072	.281
MBP-125	MBP-125SS	6.0	12.0	1/2-13	3/4	.072	.281
MBP-127	MBP-127SS	6.0	30.0	1/2-13	3/4	.072	.281
MBP-131	MBP-131SS	4.5	9.0	5/8-11	63/64	.096	.375
MBP-130	MBP-130SS	9.0	18.0	5/8-11	63/64	.096	.375
MBP-132	MBP-132SS	7.0	50.0	5/8-11	63/64	.096	.375

Steel Ball Plungers

metric



▶ Steel body, stainless steel ball nose, zinc-plated finish

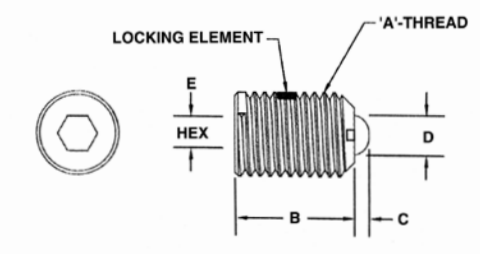
▶ All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.

▶ Ideal for locating or positioning applications

Steel PART #	Stainless Steel PART #	End Pressures Newtons Start	Full	A	B	C	Ball Dia. D
MBP-149	MBP-149SS	.53	2.2	M3 x 0.5	4.7mm	.51mm	1.57mm
MBP-150	MPB-150SS	2.2	5.6	M4 x 0.7	9.00	0.60	2.36
MBP-151	MBP-151SS	2.2	6.7	M5 x 0.8	13.00	0.60	2.36
MBP-152	MBP-152SS	6.7	13.3	M5 x 0.8	13.00	0.60	2.36
MBP-153	MBP-153SS	8.9	22.2	M5 x 0.8	13.00	0.60	2.36
MBP-154	MBP-154SS	8.9	17.8	M6 x 1.0	13.50	0.90	3.20
MBP-155	MBP-155SS	13.3	31.1	M6 x 1.0	13.50	0.90	3.20
MBP-156	MBP-156SS	17.8	53.3	M6 x 1.0	13.50	0.90	3.20
MBP-157	MBP-157SS	8.9	20	M8 x 1.25	15.00	1.00	3.96
MBP-158	MBP-158SS	17.8	40	M8 x 1.25	15.00	1.00	3.96
MBP-159	MBP-159SS	26.7	75	M8 x 1.25	15.00	1.00	3.96
MBP-160	MBP-160SS	11.1	22.2	M10 x 1.5	16.00	1.20	4.75
MBP-161	MBP-161SS	22.2	44.5	M10 x 1.5	16.00	1.20	4.75
MBP-162	MBP-162SS	26.7	93	M10 x 1.5	16.00	1.20	4.75
MBP-163	MBP-163SS	13.3	27	M12 x 1.75	19.00	2.00	7.14
MBP-164	MBP-164SS	26.7	54	M12 x 1.75	19.00	2.00	7.14
MBP-165	MBP-165SS	26.7	133	M12 x 1.75	19.00	2.00	7.14
MBP-166	MBP-166SS	20	40	M16 x 2.0	25.00	2.50	9.52
MBP-167	MBP-167SS	40	80	M16 x 2.0	25.00	2.50	9.52
MBP-168	MBP-168SS	31	222	M16 x 2.0	25.00	2.50	9.52

Ball Plungers
hex drive

- ► Hex drive
- ► Bodies available in steel with black oxide finish and 303 stainless steel
- ► Stainless steel ball nose
- ► All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.
- ► Ideal for locating or positioning applications

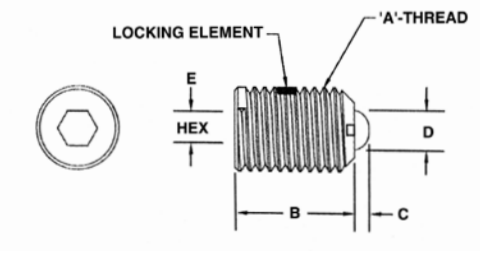


STAINLESS STEEL BALL NOSE

Steel Body	Stainless Body	End Pressure Pounds					Ball Dia.	Hex Dia.
PART #	**PART #**	**Start**	**Full**	**A**	**B**	**C**	**D**	**E**
MBP-306	MBP-306SS	0.5	1.5	#10-32	9/16	.025	.093	5/64
MBP-305	MBP-305SS	1.5	3.0	#10-32	9/16	.025	.093	5/64
MBP-307	MBP-307SS	2.0	5.0	#10-32	9/16	.025	.093	5/64
MBP-311	MBP-311SS	2.0	4.0	1/4-20	43/64	.035	.125	5/64
MBP-310	MBP-310SS	3.0	7.0	1/4-20	43/64	.035	.125	5/64
MBP-312	MBP-312SS	4.0	12.0	1/4-20	43/64	.035	.125	5/64
MBP-316	MBP-316SS	2.0	4.5	5/16-18	23/32	.040	.156	3/32
MBP-315	MBP-315SS	4.0	9.0	5/16-18	23/32	.040	.156	3/32
MBP-317	MBP-317SS	6.0	17.0	5/16-18	23/32	.040	.156	3/32
MBP-321	MBP-321SS	2.5	5.0	3/8-16	13/16	.048	.187	5/32
MBP-320	MBP-320SS	5.0	10.0	3/8-16	13/16	.048	.187	5/32
MBP-322	MBP-322SS	6.0	21.0	3/8-16	13/16	.048	.187	5/32
MBP-326	MBP-326SS	3.0	6.0	1/2-13	1-3/64	.072	.281	7/32
MBP-325	MBP-325SS	6.0	12.0	1/2-13	1-3/64	.072	.281	7/32
MBP-327	MBP-327SS	6.0	30.0	1/2-13	1-3/64	.072	.281	7/32
MBP-331	MBP-331SS	4.5	9.0	5/8-11	1-15/64	.096	.375	1/4
MBP-330	MBP-330SS	9.0	18.0	5/8-11	1-15/64	.096	.375	1/4
MBP-332	MBP-332SS	7.0	50.0	5/8-11	1-15/64	.096	.375	1/4

Ball Plungers
hex drive

- ► Hex drive
- ► Bodies available in steel with black oxide finish and 303 stainless steel
- ► Nylon ball nose
- ► All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.
- ► Ideal for locating or positioning applications

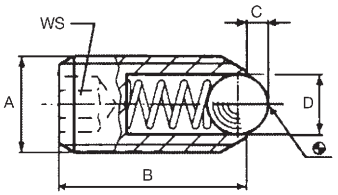


NYLON BALL NOSE

Steel Body	Stainless Body	End Pressure Pounds					Ball Dia.	Hex Dia.
PART #	**PART #**	**Start**	**Full**	**A**	**B**	**C**	**D**	**E**
MBP-370	MBP-370SS	0.5	1.5	#10-32	9/16	.025	.093	5/64
MBP-371	MBP-371SS	1.5	3.0	#10-32	9/16	.025	.093	5/64
MBP-372	MBP-372SS	2.0	5.0	# 10-32	9/16	.025	.093	5/64
MBP-373	MBP-373SS	2.0	4.0	1/4-20	43/64	.035	.125	5/64
MBP-374	MBP-374SS	3.0	7.0	1/4-20	43/64	.035	.125	5/64
MBP-375	MBP-375SS	4.0	12.0	1/4-20	43/64	.035	.125	5/64
MBP-376	MBP-376SS	2.0	4.5	5/16-18	23/32	.040	.156	3/32
MBP-377	MBP-377SS	4.0	9.0	5/16-18	23/32	.040	.156	3/32
MBP-378	MBP-378SS	6.0	17.0	5/16-18	23/32	.040	.156	3/32
MBP-379	MBP-379SS	2.5	5.0	3/8-16	13/16	.048	.187	5/32
MBP-380	MBP-380SS	5.0	10.0	3/8-16	13/16	.048	.187	5/32
MBP-381	MBP-381SS	6.0	21.0	3/8-16	13/16	.048	.187	5/32
MBP-382	MBP-382SS	3.0	6.0	1/2-13	1-3/64	.072	.281	7/32
MBP-383	MBP-383SS	6.0	12.0	1/2-13	1-3/64	.072	.281	7/32
MBP-384	MBP-384SS	6.0	30.0	1/2-13	1-3/64	.072	.281	7/32
MBP-385	MBP-385SS	4.5	9.0	5/8-11	1-15/64	.096	.375	1/4
MBP-386	MBP-386SS	9.0	18.0	5/8-11	1-15/64	.096	.375	1/4
MBP-387	MBP-387SS	7.0	50.0	5/8-11	1-15/64	.096	.375	1/4

Metric Ball Plungers

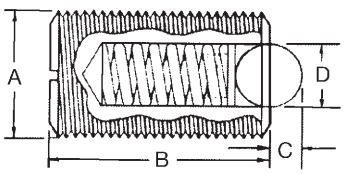
hex drive



- ▶ Available in steel and stainless steel body, hardened stainless steel ball
- ▶ Spring pressure shown in newtons (N)
- ▶ No locking element
- ▶ Socket design (ws)

Steel PART #	Stainless Steel PART #	Initial Pressure	Final Pressure	A	B	C	D	Ball Dia. WS
MBP-247	MBP-247SS	3	4.5	M3 x .5	8mm	.4mm	1.5mm	1.5mm
MBP-248	MBP-248SS	8	14	M4 x .7	12	.8	2.5	2.0
MBP-249	MBP-249SS	8	14	M5 x .8	14	.9	3	2.5
MBP-250	MBP-250SS	11	18	M6 x 1.0	15	1	3.5	3
MBP-251	MBP-251SS	18	31	M8 x 1.25	18	1.5	4.5	4
MBP-252	MBP-252SS	24	45	M10 x 1.5	23	2	6	5
MBP-253	MBP-253SS	26	49	M12 x 1.75	26	2.5	8	6
MBP-254	MBP-254SS	41	86	M16 x 2.0	33	3.5	10	8
MBP-255	MBP-255SS	66	111	M20 x 2.5	43	4.5	12	10
MBP-256	MBP-256SS	81	151	M24 x 3.0	48	5.5	15	12

Metric Ball Plungers



- ▶ Available in steel and stainless steel body, hardened stainless steel ball
- ▶ Spring pressure shown in newtons (N)
- ▶ No locking element
- ▶ Screwdriver slot

Steel PART #	Stainless Steel PART #	Initial Pressure	Final Pressure	A	B	C	Ball Dia. D
40103	40203	2	3	M3 x .5	7mm	.5mm	1.5mm
40104	40204	6	12	M4 x .7	9	.8	2.5
40105	40205	7	13	M5 x .8	12	.9	3
40106	40206	9	15	M6 x 1.0	14	1	3.5
40108	40208	20	35	M8 x 1.25	16	1.5	5
40110	40210	25	45	M10 x 1.5	19	2	6
40112	40212	35	60	M12 x 1.75	22	2.5	8
40116	40216	65	110	M16 x 2.0	24	3.5	10
40120	40220	90	140	M20 x 2.5	30	4.5	12
40124	40224	125	180	M24 x 3.0	34	5.5	15

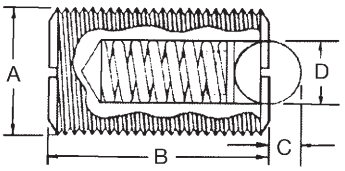
Delrin® Body Ball Plungers

STAINLESS STEEL BALL

PART #	End Pressures Pounds Start	Full	A	B	C	D
MBP-270	2.0	4.0	1/4-20	17/32	.035	.125
MBP-271	3.0	7.0	1/4-20	17/32	.035	.125
MBP-272	4.0	12.0	1/4-20	17/32	.035	.125
MBP-273	2.0	4.5	5/16-18	37/64	.040	.156
MBP-274	4.0	9.0	5/16-18	37/64	.040	.156
MBP-275	6.0	17.0	5/16-18	37/64	.040	.156
MBP-276	2.5	5.0	3/8-16	5/8	.048	.187
MBP-277	5.0	10.0	3/8-16	5/8	.048	.187
MBP-278	6.0	21.0	3/8-16	5/8	.048	.187

DELRIN® BALL

PART #	End Pressures Pounds Start	Full	A	B	C	D
MBP-280	2.0	4.0	1/4-20	17/32	.035	.125
MBP-281	3.0	7.0	1/4-20	17/32	.035	.125
MBP-282	4.0	12.0	1/4-20	17/32	.035	.125
MBP-283	2.0	4.5	5/16-18	37/64	.040	.156
MBP-284	4.0	9.0	5/16-18	37/64	.040	.156
MBP-285	6.0	17.0	5/16-18	37/64	.040	.156
MBP-286	2.5	5.0	3/8-16	5/8	.048	.187
MBP-287	5.0	10.0	3/8-16	5/8	.048	.187
MBP-288	6.0	21.0	3/8-16	5/8	.048	.187



- Bodies are made from Delrin®
- Available with stainless steel ball or Delrin® ball
- Delrin® is a lightweight, non-marring material
- High temperature rating of 180˚F

Metric Short Spring Plungers

HEAVY SPRING PRESSURE STEEL NOSE

PART #	End Pressures Newtons Start	Full	A	B	C	+.000 -.050 D
MSP-160	6.5	21.0	M4 x .7	11.0mm	1.32mm	1.77mm
MSP-161	7.5	28.0	M5 x .8	12.0	1.65	2.36
MSP-162	13.5	46.5	M6 x 1.0	13.5	1.98	3.02
MSP-163	16.5	69.0	M8 x 1.25	14.0	2.14	3.42
MSP-164	20.0	82.0	M10 x 1.5	16.0	2.80	4.72
MSP-165	22.0	125.5	M12 x 1.75	19.0	3.83	6.29

BROWN NYLON NOSE

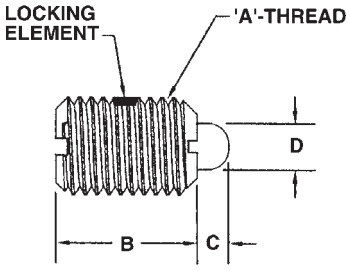
PART #	End Pressures Newtons Start	Full	A	B	C	+.000 -.050 D
MSP-170	6.5	21.0	M4 x .7	11.0mm	1.32mm	1.77mm
MSP-171	7.5	28.0	M5 x .8	12.0	1.65	2.36
MSP-172	13.5	46.5	M6 x 1.0	13.5	1.98	3.02
MSP-173	16.5	69.0	M8 x 1.25	14.0	2.14	3.42
MSP-174	20.0	82.0	M10 x 1.5	16.0	2.80	4.72
MSP-175	22.0	125.5	M12 x 1.75	19.0	3.83	6.29

LIGHT SPRING PRESSURE STEEL NOSE

PART #	End Pressures Newtons Start	Full	A	B	C	+.000 -.050 D
MSP-180	2.0	6.5	M4 x .7	11.0mm	1.32mm	1.77mm
MSP-181	3.5	11.0	M5 x .8	12.0	1.65	2.36
MSP-182	4.5	15.5	M6 x 1.0	13.5	1.98	3.02
MSP-183	6.5	18.0	M8 x 1.25	14.0	2.14	3.42
MSP-184	6.5	22.0	M10 x 1.5	16.0	2.80	4.72
MSP-185	8.0	24.5	M12 x 1.75	19.0	3.83	6.29

WHITE NYLON NOSE

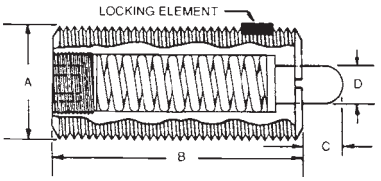
PART #	End Pressures Newtons Start	Full	A	B	C	+.000 -.050 D
MSP-190	2.0	6.5	M4 x .7	11.0mm	1.32mm	1.77mm
MSP-191	3.5	11.0	M5 x .8	12.0	1.65	2.36
MSP-192	4.5	15.5	M6 x 1.0	13.5	1.98	3.02
MSP-193	6.5	18.0	M8 x 1.25	14.0	2.14	3.42
MSP-194	6.5	22.0	M10 x 1.5	16.0	2.80	4.72
MSP-195	8.0	24.5	M12 x 1.75	19.0	3.83	6.29



Slotted Drive

- All dimensions are shown in millimeters
- Steel bodies are made from carbon steel with black oxide finish.
- All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.
- Ideal for locating or positioning applications

Spring Plungers
heavy pressure



▶ Steel body, black oxide finish

▶ All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.

▶ New phenolic nose available

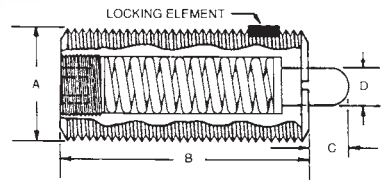
▶ Ideal for locating or positioning applications

HEAT TREATED BLACK OXIDE STEEL NOSE

Steel Nose PART #	End Pressures Pounds Start	1/2	Full	A	B	C	+.000 -.002 D
MSP-1	1.5	3.0	4.5	#6-32	17/32	.062	.046
MSP-2	1.0	1.3	1.6	#6-32	3/8	.062	.046
MSP-3	2.7	5.0	7.3	#8-32	5/8	.093	.070
MSP-4	2.9	7.0	11.1	#10-32	3/4	.125	.093
MSP-5	3.0	8.0	13.0	1/4-20	1"	.187	.119
MSP-6	3.0	8.0	13.0	1/4-28	1"	.187	.119
MSP-7	2.0	5.5	9.0	1/4-20	3/4	.125	.119
MSP-8	3.0	9.0	15.0	5/16-18	1"	.187	.135
MSP-9	5.5	10.0	14.5	3/8-16	1-1/8	.187	.186
MSP-10	6.6	12.0	17.4	1/2-13	1-1/4	.250	.248
MSP-11	10.5	18.0	25.5	5/8-11	1-1/2	.312	.310
MSP-12	6.7	22.0	37.3	3/4-10	1-3/4	.312	.374
MSP-13	16.0	42.0	68.0	1"-8	2-13/32	.500	.499

Phenolic Nose PART #	Brown Delrin Nose PART #	End Pressures Pounds Start	1/2	Full	A	B	C	+.000 -.002 D
MSP-141	MSP-41	2.7	5.0	7.3	#8-32	5/8	.093	.070
MSP-142	MSP-42	2.9	7.0	11.1	#10-32	3/4	.125	.093
MSP-143	MSP-43	3.0	8.0	13.0	1/4-20	1"	.187	.119
MSP-1435	MSP-435	3.0	8.0	13.0	1/4-28	1"	.187	.119
MSP-144	MSP-44	3.0	9.0	15.0	5/16-18	1"	.187	.135
MSP-145	MSP-45	5.5	10.0	14.5	3/8-16	1-1/8	.187	.186
MSP-146	MSP-46	6.6	12.0	17.4	1/2-13	1-1/4	.250	.248
MSP-147	MSP-47	10.5	18.0	25.5	5/8-11	1-1/2	.312	.310

Spring Plungers
light pressure



▶ Steel body, black oxide finish

▶ All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.

▶ New phenolic nose available

▶ Ideal for locating or positioning applications

HEAT TREATED ZINC PLATED STEEL NOSE

Steel Nose PART #	End Pressures Pounds Start	1/2	Full	A	B	C	+.000 -.002 D
MSP-21	0.5	1.0	1.5	#6-32	17/32	.062	.046
MSP-22	0.7	1.5	2.3	#8-32	5/8	.093	.070
MSP-23	1.3	2.0	2.7	#10-32	3/4	.125	.093
MSP-24	1.0	2.5	4.0	1/4-20	1"	.187	.119
MSP-25	1.0	2.5	4.0	1/4-28	1"	.187	.119
MSP-26	1.5	3.0	4.5	5/16-18	1"	.187	.135
MSP-27	2.8	5.0	7.2	3/8-16	1-1/8	.187	.186
MSP-28	2.7	6.0	9.3	1/2-13	1-1/4	.250	.248
MSP-29	3.5	7.0	10.5	5/8-11	1-1/2	.312	.310
MSP-30	4.0	10.0	16.0	3/4-10	1-3/4	.312	.374
MSP-31	4.0	17.5	31.0	1"-8	2-13/32	.500	.499

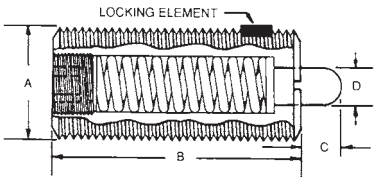
Phenolic Nose PART #	White Delrin Nose PART #	End Pressures Pounds Start	1/2	Full	A	B	C	+.000 -.002 D
MSP-151	MSP-51	0.7	1.5	2.3	#8-32	5/8	.093	.070
MSP-152	MSP-52	1.3	2.0	2.7	#10-32	3/4	.125	.093
MSP-153	MSP-53	1.0	2.5	4.0	1/4-20	1"	.187	.119
MSP-1535	MSP-538	1.0	2.5	4.0	1/4-28	1"	.187	.119
MSP-154	MSP-54	1.5	3.0	4.5	5/16-18	1"	.187	.135
MSP-155	MSP-55	2.8	5.0	7.2	3/8-16	1-1/8	.187	.186
MSP-156	MSP-56	2.7	6.0	9.3	1/2-13	1-1/4	.250	.248
MSP-157	MSP-57	3.5	7.0	10.5	5/8-11	1-1/2	.312	.310

Stainless Steel Spring Plungers

► All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.

► Bodies are stainless steel ... check spreadsheet for nose material

► Ideal for locating or positioning applications



Heavy Spring Pressures

STAINLESS NOSE

End Pressures Pounds — +.000 -.002

PART #	Start	1/2	Full	A	B	C	D
MSP-1SS	1.5	3.0	4.5	#6-32	17/32	.062	.046
MSP-2SS	1.0	1.3	1.6	#6-32	3/8	.062	.046
MSP-3SS	2.7	5.0	7.3	#8-32	5/8	.093	.070
MSP-4SS	2.9	7.0	11.1	#10-32	3/4	.125	.093
MSP-5SS	3.0	8.0	13.0	1/4-20	1”	.187	.119
MSP-6SS	3.0	8.0	13.0	1/4-28	1”	.187	.119
MSP-7SS	2.0	5.5	9.0	1/4-20	3/4	.125	.119
MSP-8SS	3.0	9.0	15.0	5/16-18	1”	.187	.135
MSP-9SS	5.5	10.0	14.5	3/8-16	1-1/8	.187	.186
MSP-10SS	6.6	12.0	17.4	1/2-13	1-1/4	.250	.248

BROWN NYLON NOSE

MSP-11SS	2.7	5.0	7.3	#8-32	5/8	.093	.070
MSP-12SS	2.9	7.0	11.1	#10-32	3/4	.125	.093
MSP-13SS	3.0	8.0	13.0	1/4-20	1”	.187	.119
MSP-14SS	3.0	8.0	13.0	1/4-28	1”	.187	.119
MSP-15SS	3.0	9.0	15.0	5/16-18	1”	.187	.135
MSP-16SS	5.5	10.0	14.5	3/8-16	1-1/8	.187	.186
MSP-17SS	6.6	12.0	17.4	1/2-13	1-1/4	.250	.248

Light Spring Pressures

STAINLESS NOSE

End Pressures Pounds — +.000 -.002

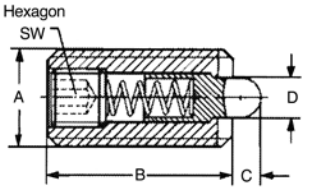
PART #	Start	1/2	Full	A	B	C	D
MSP-21SS	0.5	1.0	1.5	#6-32	17/32	.062	.046
MSP-22SS	0.7	2.0	2.3	#8-32	5/8	.093	.070
MSP-23SS	1.3	2.5	2.7	#10-32	3/4	.125	.093
MSP-24SS	1.0	3.0	4.0	1/4-20	1”	.187	.119
MSP-25SS	1.0	2.5	4.0	1/4-28	1”	.187	.119
MSP-26SS	1.5	3.0	4.5	5/16-18	1”	.187	.135
MSP-27SS	2.8	5.0	7.2	3/8-16	1-1/8	.187	.186
MSP-28SS	2.7	6.0	9.3	1/2-13	1-1/4	.250	.248

WHITE NYLON NOSE

MSP-29SS	0.7	1.5	2.3	#8-32	5/8	.093	.070
MSP-30SS	1.3	2.0	2.7	#10-32	3/4	.125	.093
MSP-31SS	1.0	2.5	4.0	1/4-20	1”	.187	.119
MSP-32SS	1.0	2.5	4.0	1/4-28	1”	.187	.119
MSP-33SS	1.5	3.0	4.5	5/16-18	1”	.187	.135
MSP-34SS	2.8	5.0	7.2	3/8-16	1-1/8	.187	.186
MSP-35SS	2.7	6.0	9.3	1/2-13	1-1/4	.250	.248

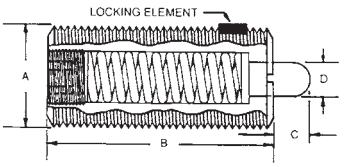
Metric Spring Plungers

- ► Steel bodies, black oxide finish
- ► Available in hardened steel nose, or white Delrin® nose
- ► Spring pressure shown in newtons (N)



Steel Nose PART #	Delrin Nose PART #	Initial Pressure	Final Pressure	A	B	C	D	Hex
41103	-	2	4	M3 x .5	12mm	1mm	1mm	.7mm
41104	41204	5	15	M4 x .7	15	1.5	1.5	1.3
41105	41205	7	20	M5 x .8	18	2.3	2.4	1.5
41106	41206	7	20	M6 x 1.0	20	2.5	2.7	2
41108	41208	9	35	M8 x 1.25	22	3	3.5	2.5
41110	41210	9	35	M10 x 1.5	22	3	4	3
41112	41212	15	55	M12 x 1.75	28	4	6	4
41116	41216	45	100	M16 x 2.0	32	5	7.5	5
41120	-	70	140	M20 x 2.5	40	7	10	6
41124	-	80	180	M24 x 3.0	52	10	12	8

Metric Spring Plungers



- ► All dimensions are shown in millimeters
- ► Steel bodies are made from carbon steel with black oxide finish
- ► Stainless bodies are made from 303 stainless steel
- ► All plungers equipped with locking element for positive holding. If you require plungers without the locking element, please specify when ordering.
- ► Ideal for locating or positioning applications

HEAVY SPRING PRESSURE

Steel Body Steel Nose PART #	Stainless Body Stainless Nose PART #	End Pressue Newtons Start	Full	Class 6G ISO A	B	C	±.025 D
MSP-80	MSP-80SS	13.5	58	M 6 X 1.0	25.00mm	5.00mm	3.00mm
MSP-81	MSP-81SS	13.5	67	M 8 X 1.25	25.00	5.00	3.40
MSP-82	MSP-82SS	24.5	65	M 10 X 1.5	29.00	5.00	4.70
MSP-83	MSP-83SS	29.5	78	M 12 X 1.75	32.00	6.00	6.30

Steel Body	Stainless Body	BROWN NYLON NOSE					
MSP-84	MSP-84SS	13.5	58	M6 x 1.0	25.00	5.00	3.00
MSP-85	MSP-85SS	13.5	67	M8 x 1.25	25.00	5.00	3.40
MSP-86	MSP-86SS	24.5	65	M10 x 1.5	29.00	5.00	4.70
MSP-87	MSP-87SS	29.5	78	M12 x 1.75	32.00	6.00	6.30

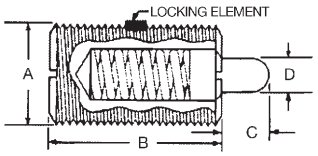
LIGHT SPRING PRESSURE

Steel Body Steel Nose PART #	Stainless Body Stainless Nose PART #	End Pressue Newtons Start	Full	Class 6G ISO A	B	C	±.025 D
MSP-90	MSP-90SS	4.5	18	M6 x 1.0	25.00	5.00	3.00
MSP-91	MSP-91SS	6.5	20	M8 x 1.25	25.00	5.00	3.40
MSP-92	MSP-92SS	12.5	32	M10 x 1.5	29.00	5.00	4.70
MSP-93	MSP-93SS	12	42	M12 x 1.75	32.00	6.00	6.30

Steel Body	Stainless Body	WHITE NYLON NOSE					
MSP-94	MSP-94SS	4.5	18	M6 x 1.0	25.00	5.00	3.00
MSP-95	MSP-95SS	6.5	20	M8 x 1.25	25.00	5.00	3.40
MSP-96	MSP-96SS	12.5	32	M10 x 1.5	29.00	5.00	4.70
MSP-97	MSP-97SS	12	42	M12 x 1.75	32.00	6.00	6.30

Short Spring Plungers
extended nose, slotted drive

- ► Steel bodies are made from carbon steel with black oxide finish
- ► Stainless bodies are made from 303 stainless steel
- ► All plungers equipped with locking element for positive holding. If you require plungers without the element, please specify when ordering.
- ► Extended nose travel length. Ideal for positioning applications.



Slotted Drive

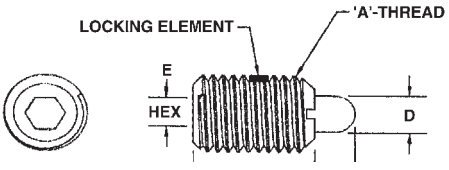
Steel Body Steel Nose PART #	Stainless Body Stainless Nose PART #	End Pressure Pounds Start	Full	A	B	C	D
MSP-250	MSP-250SS	1.0	3.25	#8-32	7/16	.093	.070
MSP-251	MSP-251SS	1.0	3.25	#8-36	7/16	.093	.070
MSP-252	MSP-252SS	1.25	4.25	#10-32	15/32	.125	.093
MSP-253	MSP-253SS	2.0	7.0	1/4-20	17/32	.187	.119
MSP-254	MSP-254SS	2.5	10.5	5/16-18	9/16	.187	.135
MSP-255	MSP-255SS	3.0	12.5	3/8-16	5/8	.187	.186
MSP-256	MSP-256SS	3.5	19.0	1/2-13	3/4	.250	.248
MSP-257	-	4.5	33.5	5/8-11	1-1/16	.312	.310

BROWN NYLON NOSE

Steel Body PART #	Stainless Body PART #	End Pressure Pounds Start	Full	A	B	C	D
MSP-260	MSP-260SS	1.0	3.25	#8-32	7/16	.093	.070
MSP-261	MSP-261SS	1.0	3.25	#8-36	7/16	.093	.070
MSP-262	MSP-262SS	1.25	4.25	#10-32	15/32	.125	.093
MSP-263	MSP-263SS	2.0	7.0	1/4-20	17/32	.187	.119
MSP-264	MSP-264SS	2.5	10.5	5/16-18	9/16	.187	.135
MSP-265	MSP-265SS	3.0	12.5	3/8-16	5/8	.187	.186
MSP-266	MSP-266SS	3.5	19.0	1/2-13	3/4	.250	.248
MSP-267	-	4.5	33.5	5/8-11	1-1/16	.312	.310

Short Spring Plungers
extended nose, hex drive

- ► Steel bodies are made from carbon steel with black oxide finish
- ► Stainless bodies are made from 303 stainless steel
- ► All plungers equipped with locking element for positive holding. If you require plungers without the element, please specify when ordering.
- ► Extended nose travel length. Ideal for positioning applications.



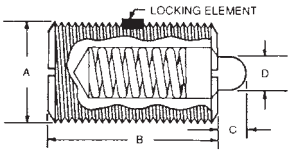
Hex Drive

Steel Body Steel Nose PART #	Stainless Body Stainless Nose PART #	End Pressure Pounds Start	Full	A	B	C	D	Hex Drive E
MSP-350	MSP-360SS	0.5	1.25	#6-32	7/16	.062	.046	3/64
MSP-351	MSP-351SS	1.0	3.25	#8-32	1/2	.093	.070	5/64
MSP-352	MSP-352SS	1.0	3.25	#8-36	1/2	.093	.070	5/64
MSP-353	MSP-353SS	1.25	4.25	#10-32	9/16	.125	.093	3/32
MSP-354	MSP-354SS	2.0	7.0	1/4-20	5/8	.187	.119	1/8
MSP-355	MSP-355SS	2.0	9.0	5/16-18	23/32	.187	.135	5/32
MSP-356	MSP-356SS	3.0	12.5	3/8-16	29/32	.187	.186	3/16
MSP-357	MSP-357SS	3.5	19.0	1/2-13	1-3/64	.250	.248	1/4
MSP-358	MSP-358SS	4.5	33.5	5/8-11	1-3/8	.312	.310	5/16

BROWN NYLON NOSE

Steel Body PART #	Stainless Body PART #	End Pressure Pounds Start	Full	A	B	C	D	Hex Drive E
MSP-360	MSP-360SS	0.5	1.25	#6-32	7/16	.062	.046	3/64
MSP-361	MSP-361SS	1.0	3.25	#8-32	1/2	.093	.070	5/64
MSP-362	MSP-362SS	1.0	3.25	#8-36	1/2	.093	.070	5/64
MSP-363	MSP-363SS	1.25	4.25	#10-32	9/16	.125	.093	3/32
MSP-364	MSP-364SS	2.0	7.0	1/4-20	5/8	.187	.119	1/8
MSP-365	MSP-365SS	2.0	9.0	5/16-18	23/32	.187	.135	5/32
MSP-366	MSP-366SS	3.0	12.5	3/8-16	29/32	.187	.186	3/16
MSP-367	MSP-367SS	3.5	19.0	1/2-13	1-3/64	.250	.248	1/4
MSP-368	MSP-368SS	4.5	33.5	5/8-11	1-3/8	.312	.310	5/16

Short Spring Plungers
heavy pressure, slotted drive



Slotted Drive

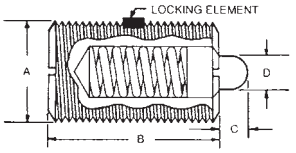
- ▶ Steel bodies are made from carbon steel with black oxide finish
- ▶ Stainless bodies are made from 303 stainless steel
- ▶ All plungers equipped with locking element for positive holding. If you require plungers without the element, please specify when ordering.
- ▶ Ideal for locating or positioning applications

Steel Body Steel Nose PART #	Stainless Body Stainless Nose PART #	End Pressure Pounds Start	1/2	Full	A	B	C	+.000 -.002 D
MSP-201	MSP-40SS	1.5	3.1	4.75	#8-32	7/16	.052	.070
MSP-202	MSP-41SS	1.5	3.1	4.75	#8-36	7/16	.052	.070
MSP-203	MSP-42SS	1.75	4.0	6.25	#10-32	15/32	.065	.093
MSP-204	MSP-43SS	3.0	6.75	10.5	1/4-20	17/32	.078	.119
MSP-205	MSP-44SS	3.75	9.6	15.5	5/16-18	9/16	.084	.135
MSP-206	MSP-45SS	4.5	11.5	18.5	3/8-16	5/8	.110	.186
MSP-207	MSP-46SS	5.0	16.5	28.0	1/2-13	3/4	.151	.248
MSP-208	-	7.0	28.5	50.0	5/8-11	1-1/16	.215	.310

BROWN NYLON NOSE

Steel Body PART #	Stainless Body PART #	End Pressure Pounds Start	1/2	Full	A	B	C	+.000 -.002 D
MSP-210	MSP-47SS	1.5	3.1	4.75	#8-32	7/16	.052	.070
MSP-211	MSP-48SS	1.5	3.1	4.75	#8-36	7/16	.052	.070
MSP-212	MSP-49SS	1.75	4.0	6.25	#10-32	15/32	.065	.093
MSP-213	MSP-50SS	3.0	6.75	10.5	1/4-20	17/32	.078	.119
MSP-214	MSP-51SS	3.75	9.6	15.5	5/16-18	9/16	.084	.135
MSP-215	MSP-52SS	4.5	11.5	18.5	3/8-16	5/8	.110	.186
MSP-216	MSP-53SS	5.0	16.5	28.0	1/2-13	3/4	.151	.248
MSP-217	-	7.0	28.5	50.0	5/8-11	1-1/16	.215	.310

Short Spring Plungers
light pressure, slotted drive



Slotted Drive

- ▶ Steel bodies are made from carbon steel with black oxide finish
- ▶ Stainless bodies are made from 303 stainless steel
- ▶ All plungers equipped with locking element for positive holding. If you require plungers without the element, please specify when ordering.
- ▶ Ideal for locating or positioning applications

Steel Body Steel Nose PART #	Stainless Body Stainless Nose PART #	End Pressure Pounds Start	1/2	Full	A	B	C	+.000 -.002 D
MSP-220	MSP-60SS	.5	1.0	1.5	#8-32	7/16	.052	.070
MSP-221	MSP-61SS	.5	1.0	1.5	#8-36	7/16	.052	.070
MSP-222	MSP-62SS	.75	1.62	2.5	#10-32	15/32	.065	.093
MSP-223	MSP-63SS	1.0	2.25	3.5	1/4-20	17/32	.078	.119
MSP-224	MSP-64SS	1.5	2.75	4.0	5/16-18	9/16	.084	.135
MSP-225	MSP-65SS	1.5	3.25	5.0	3/8-16	5/8	.110	.186
MSP-226	MSP-66SS	1.75	3.62	5.5	1/2-13	3/4	.151	.248
MSP-227	-	2.0	5.25	8.5	5/8-11	1-1/16	.215	.310

WHITE NYLON NOSE

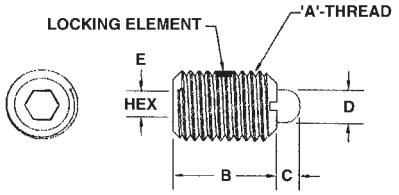
Steel Body PART #	Stainless Body PART #	End Pressure Pounds Start	1/2	Full	A	B	C	+.000 -.002 D
MSP-230	MSP-67SS	.5	1.0	1.5	#8-32	7/16	.052	.070
MSP-231	MSP-68SS	.5	1.0	1.5	#8-36	7/16	.052	.070
MSP-232	MSP-69SS	.75	1.62	2.5	#10-32	15/32	.065	.093
MSP-233	MSP-70SS	1.0	2.25	3.5	1/4-20	17/32	.078	.119
MSP-234	MSP-71SS	1.5	2.75	4.0	5/16-18	9/16	.084	.135
MSP-235	MSP-72SS	1.5	3.25	5.0	3/8-16	5/8	.110	.186
MSP-236	MSP-73SS	1.75	3.62	5.5	1/2-13	3/4	.151	.248
MSP-237	-	2.0	5.25	8.5	5/8-11	1-1/16	.215	.310

Short Spring Plungers
heavy pressure, hex drive

► Steel bodies are made from carbon steel with black oxide finish

► Stainless bodies are made from 303 stainless steel

► All plungers equipped with locking element for positive holding. If you require plungers without the element, please specify when ordering.



Hex Drive

Steel Body Steel Nose PART #	Stainless Body Stainless Nose PART #	End Pressure Pounds Start	Full	A	B	C	D	Hex Dia. E
MSP-301	MSP-301SS	1.5	4.75	#8-32	1/2	.052	.070	5/64
MSP-302	MSP-302SS	1.5	4.75	#8-36	1/2	.052	.070	5/64
MSP-303	MSP-303SS	1.75	6.25	#10-32	9/16	.065	.093	3/32
MSP-304	MSP-304SS	3.0	10.5	1/4-20	5/8	.078	.119	1/8
MSP-305	MSP-305SS	3.75	15.5	5/16-18	23/32	.084	.135	5/32
MSP-306	MSP-306SS	4.5	18.5	3/8-16	29/32	.110	.186	3/16
MSP-307	MSP-307SS	5.0	28.0	1/2-13	1-3/64	.151	.248	1/4
MSP-308	MSP-308SS	7.0	50.0	5/8-11	1-3/8	.215	.310	5/16

BROWN NYLON NOSE

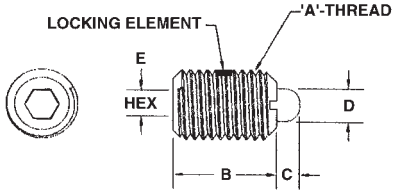
Steel Body PART #	Stainless Body PART #	End Pressure Pounds Start	Full	A	B	C	D	Hex Dia. E
MSP-311	MSP-311SS	1.5	4.75	#8-32	1/2	.052	.070	5/64
MSP-312	MSP-312SS	1.5	4.75	#8-36	1/2	.052	.070	5/64
MSP-313	MSP-313SS	1.75	6.25	#10-32	9/16	.065	.093	3/32
MSP-314	MSP-314SS	3.0	10.5	1/4-20	5/8	.078	.119	1/8
MSP-315	MSP-315SS	3.75	15.5	5/16-18	23/32	.084	.135	5/32
MSP-316	MSP-316SS	4.5	18.5	3/8-16	29/32	.110	.186	3/16
MSP-317	MSP-317SS	5.0	28.0	1/2-13	1-3/64	.151	.248	1/4
MSP-318	MSP-318SS	7.0	50.0	5/8-11	1-3/8	.215	.310	5/16

Short Spring Plungers
light pressure, hex drive

► Steel bodies are made from carbon steel with black oxide finish

► Stainless bodies are made from 303 stainless steel

► All plungers equipped with locking element for positive holding. If you require plungers without the element, please specify when ordering.



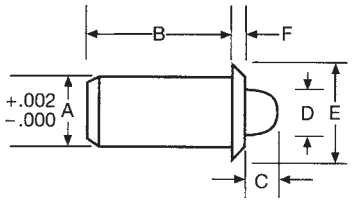
Hex Drive

Steel Body Steel Nose PART #	Stainless Body Stainless Nose PART #	End Pressure Pounds Start	Full	A	B	C	D	Hex Dia. E
MSP-321	MSP-321SS	0.5	1.5	#8-32	1/2	.052	.070	5/64
MSP-322	MSP-322SS	0.5	1.5	#8-36	1/2	.052	.070	5/64
MSP-323	MSP-323SS	0.75	2.5	#10-32	9/16	.065	.093	3/32
MSP-324	MSP-324SS	1.0	3.5	1/4-20	5/8	.078	.119	1/8
MSP-325	MSP-325SS	1.5	4.0	5/16-18	23/32	.084	.135	5/32
MSP-326	MSP-326SS	1.5	5.0	3/8-16	29/32	.110	.186	3/16
MSP-327	MSP-327SS	1.75	5.5	1/2-13	1-3/64	.151	.248	1/4
MSP-328	MSP-328SS	2.0	8.5	5/8-11	1-3/8	.215	.310	5/16

WHITE NYLON NOSE

Steel Body PART #	Stainless Body PART #	End Pressure Pounds Start	Full	A	B	C	D	Hex Dia. E
MSP-331	MSP-331SS	0.5	1.5	#8-32	1/2	.052	.070	5/64
MSP-332	MSP-332SS	0.5	1.5	#8-36	1/2	.052	.070	5/64
MSP-333	MSP-333SS	0.75	2.5	#10-32	9/16	.065	.093	3/32
MSP-334	MSP-334SS	1.0	3.5	1/4-20	5/8	.078	.119	1/8
MSP-335	MSP-335SS	1.5	4.0	5/16-18	23/32	.084	.135	5/32
MSP-336	MSP-336SS	1.5	5.0	3/8-16	29/32	.110	.186	3/16
MSP-337	MSP-337SS	1.75	5.5	1/2-13	1-3/64	.151	.248	1/4
MSP-338	MSP-338SS	2.0	8.5	5/8-11	1-3/8	.215	.310	5/16

Press Fit Spring Plungers



- ▶ Available in steel or stainless steel bodies
- ▶ Nose available in steel, stainless steel, or Delrin®
- ▶ Excellent solution when used in wood, soft plastic, or aluminum

STEEL NOSE / STAINLESS STEEL NOSE - HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D -.002	E +.001	F
MSP-501	MSP-501SS	1	2	.125	.252	.062	.070	.187	.032
MSP-507	MSP-507SS	1.25	3.25	.157	.330	.078	.093	.215	.035
MSP-502	MSP-502SS	1.5	4.5	.188	.405	.094	.121	.250	.035
MSP-503	MSP-503SS	2.5	6	.250	.481	.125	.168	.312	.044
MSP-504	MSP-504SS	4	10	.312	.643	.151	.186	.375	.045
MSP-505	MSP-505SS	5	14	.375	.785	.187	.234	.500	.078
MSP-506	MSP-506SS	8	18	.500	1.130	.250	.332	.688	.088

STEEL NOSE / STAINLESS STEEL NOSE - LIGHT PRESSURE

MSP-511	MSP-511SS	.5	1	.125	.252	.062	.070	.187	.032
MSP-517	MSP-517SS	.75	2	.157	.330	.078	.093	.215	.035
MSP-512	MSP-512SS	.75	2.5	.188	.405	.094	.121	.250	.035
MSP-513	MSP-513SS	1.5	3	.250	.481	.125	.168	.312	.044
MSP-514	MSP-514SS	2	5	.312	.643	.151	.186	.375	.045
MSP-515	MSP-515SS	2.5	7	.375	.785	.187	.234	.500	.078
MSP-516	MSP-516SS	4	9	.500	1.130	.250	.332	.688	.088

BROWN DELRIN® NOSE - HEAVY PRESSURE

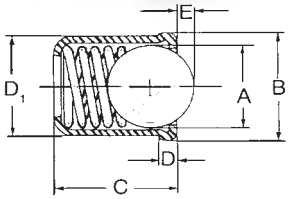
Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D -.002	E +.001	F
MSP-520	MSP-520SS	1	2	.125	.252	.062	.070	.187	.032
MSP-527	MSP-527SS	1.25	3.25	.157	.330	.078	.093	.215	.035
MSP-521	MSP-521SS	1.5	4.5	.188	.405	.094	.121	.250	.035
MSP-522	MSP-522SS	2.5	6	.250	.481	.125	.168	.312	.044
MSP-523	MSP-523SS	4	10	.312	.643	.151	.186	.375	.045
MSP-524	MSP-524SS	5	14	.375	.785	.187	.234	.500	.078
MSP-525	MSP-525SS	8	18	.500	1.130	.250	.332	.688	.088

WHITE DELRIN® NOSE - LIGHT PRESSURE

MSP-530	MSP-530SS	.5	1	.125	.252	.062	.070	.187	.032
MSP-537	MSP-537SS	.75	2	.157	.330	.078	.093	.215	.035
MSP-531	MSP-531SS	.75	2.5	.188	.405	.094	.121	.250	.035
MSP-532	MSP-532SS	1.5	3	.250	.481	.125	.168	.312	.044
MSP-533	MSP-533SS	2	5	.312	.643	.151	.186	.375	.045
MSP-534	MSP-534SS	2.5	7	.375	.785	.187	.234	.500	.078
MSP-535	MSP-535SS	4	9	.500	1.130	.250	.332	.688	.088

Press Fit Ball Plungers

metric



- ▶ Small, lightweight plungers excellent in light duty applications
- ▶ Stainless steel ball available in Delrin® body or stainless steel body
- ▶ Stainless steel spring
- ▶ Pressure in (N) newtons
- ▶ d1 tolerance = +0.01-0mm

STAINLESS STEEL BODY AND BALL

PART #	d_1	Initial Pressure	Final Pressure	A	B	C	D	E
42104	4mm	2	5	3mm	4.6mm	5mm	1mm	1.0mm
42105	5	4	7	4	5.6	6	1	1.4
42106	6	6	12	5	6.5	7	1	1.8
42108	8	6	12	6.5	8.5	9	1	2.4
42110	10	8.5	19	8.5	11	13	1.7	3.3
42112	12	12	27	10	13	16	2.3	4.0

BRASS BODY, STAINLESS STEEL BALL

PART #	d_1	Initial Pressure	Final Pressure	A	B	C	D	E
42404	4mm	2.5	6	2.5mm	4.5mm	5mm	1mm	.8mm
42405	5	3.0	6.5	3.5	5.5	6	1	1
42406	6	5.5	11.5	4.5	6.5	7	1	1.6
42408	8	7.0	12.5	6	8.5	9	1	1.9

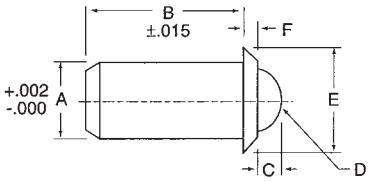
DELRIN® BODY, STAINLESS STEEL BALL

PART #	d_1	Initial Pressure	Final Pressure	A	B	C	D	E
42204	4mm	3.5	7	3mm	4.6mm	5mm	1mm	.9mm
42205	5	5	9	4	5.6	6	1	1
42206	6	8	14	5	6.5	7	1	1.5
42208	8	9	17	6.5	8.5	9	1	1.8
42210	10	12	23	8	11	13	1.5	2.4
42212	12	13	25	10	13	16	1.5	3.3

DELRIN® BODY, DELRIN® BALL

PART #	d_1	Initial Pressure	Final Pressure	A	B	C	D	E
42304	4	3.5	7	3	4.6	5	1	.9
42305	5	5	9	4	5.6	6	1	1
42306	6	8	14	5	6.5	7	1	1.5
42308	8	9	17	6.5	8.5	9	1	1.8
42310	10	12	23	8	11	13.5	1.5	2.4
42312	12	13	25	10	13	16	1.5	3.3

Press Fit Ball Plungers



- ► Available with stainless steel ball nose or nylon ball nose
- ► Steel plungers made from 12L14
- ► Stainless steel plungers made from 303 stainless
- ► Excellent solution when used in wood, soft plastic, or aluminum

STAINLESS STEEL BALL NOSES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	-.000 A	B	C	+.002 Ball Dia. D	E	F
PFP-125H	PFP-125HSS	2	5	.125	.252	.035	.093	.187	.032
PFP-157H	PFP-157HSS	3	7.5	.157	.330	.046	.125	.215	.035
PFP-188H	PFP-188HSS	4	10	.188	.405	.058	.156	.250	.035
PFP-250H	PFP-250HSS	6	13	.250	.481	.070	.187	.312	.044
PFP-312H	PFP-312HSS	8	16	.312	.643	.090	.250	.375	.045
PFP-375H	PFP-375HSS	10	18	.375	.785	.110	.312	.500	.078
PFP-500H	PFP-500HSS	12	23	.500	1.130	.161	.437	.688	.088

MEDIUM PRESSURE

PFP-125	PFP-125SS	.75	2.5	.125	.252	.035	.093	.187	.032
PFP-157	PFP-157SS	1.5	3.5	.157	.330	.046	.125	.215	.035
PFP-188	PFP-188SS	2	5	.188	.405	.058	.156	.250	.035
PFP-250	PFP-250SS	3	7	.250	.481	.070	.187	.312	.044
PFP-312	PFP-312SS	4	10	.312	.643	.090	.250	.375	.045
PFP-375	PFP-375SS	5	14	.375	.785	.110	.312	.500	.078
PFP-500	PFP-500SS	8	18	.500	1.130	.161	.437	.688	.088

LIGHT PRESSURE

PFP-125L	PFP-125LSS	.5	1	.125	.252	.035	.093	.187	.032
PFP-157L	PFP-157LSS	.75	2	.157	.330	.046	.125	.215	.035
PFP-188L	PFP-188LSS	1	2.5	.188	.405	.058	.156	.250	.035
PFP-250L	PFP-250LSS	1.5	3.5	.250	.481	.070	.187	.312	.044
PFP-312L	PFP-312LSS	2	5	.312	.643	.090	.250	.375	.045
PFP-375L	PFP-375LSS	2.5	7	.375	.785	.110	.312	.500	.078
PFP-500L	PFP-500LSS	4	9	.500	1.130	.161	.437	.688	.088

NYLON BALL NOSES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	-.000 A	B	C	+.002 Ball Dia. D	E	F
PFP-12H	PFP-12HSS	2	5	.125	.252	.035	.093	.187	.032
PFP-15H	PFP-15HSS	3	7.5	.157	.330	.046	.125	.215	.035
PFP-18H	PFP-18HSS	4	10	.188	.405	.058	.156	.250	.035
PFP-25H	PFP-25HSS	6	13	.250	.481	.070	.187	.312	.044
PFP-31H	PFP-31HSS	8	16	.312	.643	.090	.250	.375	.045
PFP-37H	PFP-37HSS	10	18	.375	.785	.110	.312	.500	.078
PFP-50H	PFP-50HSS	12	23	.500	1.130	.161	.437	.688	.088

MEDIUM PRESSURE

PFP-12	PFP-12SS	.75	2.5	.125	.252	.035	.093	.187	.032
PFP-15	PFP-15SS	1.5	3.5	.157	.330	.046	.125	.215	.035
PFP-18	PFP-18SS	2	5	.188	.405	.058	.156	.250	.035
PFP-25	PFP-25SS	3	7	.250	.481	.070	.187	.312	.044
PFP-31	PFP-31SS	4	10	.312	.643	.090	.250	.375	.045
PFP-37	PFP-37SS	5	14	.375	.785	.110	.312	.500	.078
PFP-50	PFP-50SS	8	18	.500	1.130	.161	.437	.688	.088

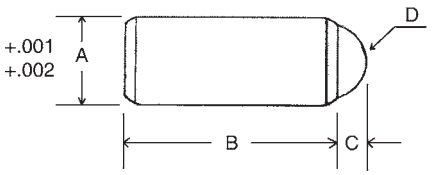
LIGHT PRESSURE

PFP-12L	PFP-12LSS	.5	1	.125	.252	.035	.093	.187	.032
PFP-15L	PFP-15LSS	.75	2	.157	.330	.046	.125	.215	.035
PFP-18L	PFP-18LSS	1	2.5	.188	.405	.058	.156	.250	.035
PFP-25L	PFP-25LSS	1.5	3.5	.250	.481	.070	.187	.312	.044
PFP-31L	PFP-31LSS	2	5	.312	.643	.090	.250	.375	.045
PFP-37L	PFP-37LSS	2.5	7	.375	.785	.110	.312	.500	.078
PFP-50L	PFP-50LSS	4	9	.500	1.130	.161	.437	.688	.088

Press-Thru™ Ball Plungers

stainless ball

*Patent pending



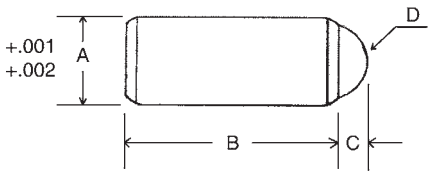
- ▶ Tolerance "A" +.001 +.002
- ▶ Steel bodies made from C12L14 with black oxide finish
- ▶ Stainless steel bodies made from 303 stainless steel
- ▶ Ball material: 440 stainless steel

		LIGHT PRESSURE End Pressure Pounds			+.001		
Steel PART #	Stainless Steel PART #	Start	Full	+.002 A	B	C	D
MBP-400	MBP-400SS	0.5	1.0	.125	.284	.035	.093
MBP-406	MBP-406SS	0.75	2.0	.157	.365	.046	.125
MBP-401	MBP-401SS	1.0	2.5	.188	.440	.058	.156
MBP-402	MBP-402SS	1.5	3.5	.250	.525	.070	.187
MBP-403	MBP-403SS	2.0	5.0	.312	.688	.090	.250
MBP-404	MBP-404SS	2.5	7.0	.375	.864	.110	.312
MBP-405	MBP-405SS	4.0	9.0	.500	1.218	.161	.437
		MEDIUM PRESSURE					
MBP-407	MBP-407SS	0.75	2.5	.125	.284	.035	.093
MBP-413	MBP-413SS	1.5	3.5	.157	.365	.046	.125
MBP-408	MBP-408SS	2.0	5.0	.188	.440	.058	.156
MBP-409	MBP-409SS	3.0	7.0	.250	.525	.070	.187
MBP-410	MBP-410SS	4.0	10.0	.312	.688	.090	.250
MBP-411	MBP-411SS	5.0	14.0	.375	.864	.110	.312
MBP-412	MBP-412SS	8.0	18.00	.500	1.218	.161	.437
		HEAVY PRESSURE					
MBP-414	MBP-414SS	2.0	5.0	.125	.284	.035	.093
MBP-420	MBP-420SS	3.0	7.5	.157	.365	.046	.125
MBP-415	MBP-415SS	4.0	10.0	.188	.440	.058	.156
MBP-416	MBP-416SS	6.0	13.0	.250	.525	.070	.187
MBP-417	MBP-417SS	8.0	16.0	.312	.688	.090	.250
MBP-418	MBP-418SS	10.0	18.0	.375	.864	.110	.312
MBP-419	MBP-419SS	12.0	23.0	.500	1.218	.161	.437

Press-Thru™ Ball Plungers

Delrin® ball

*Patent pending



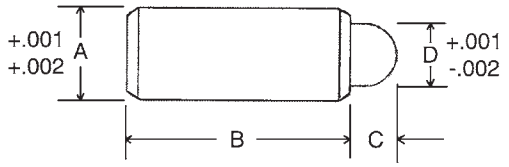
- ▶ Tolerance "A" +.001 +.002
- ▶ Steel bodies made from C12L14 with black oxide finish
- ▶ Stainless steel bodies made from 303 stainless steel
- ▶ Ball material: Delrin®

		LIGHT PRESSURE End Pressure Pounds			+.001		
Steel PART #	Stainless Steel PART #	Start	Full	+.002 A	B	C	D
MBP-421	MBP-421SS	0.5	1.0	.125	.284	.035	.093
MBP-427	MBP-427SS	0.75	2.0	.157	.365	.046	.125
MBP-422	MBP-422SS	1.0	2.5	.188	.440	.058	.156
MBP-423	MBP-423SS	1.5	3.5	.250	.525	.070	.187
MBP-424	MBP-424SS	2.0	5.0	.312	.688	.090	.250
MBP-425	MBP-425SS	2.5	7.0	.375	.864	.110	.312
MBP-426	MBP-426SS	4.0	9.0	.500	1.218	.161	.437
		MEDIUM PRESSURE					
MBP-428	MBP-428SS	0.75	2.5	.125	.284	.035	.093
MBP-434	MBP-434SS	1.5	3.5	.157	.365	.046	.125
MBP-429	MBP-429SS	2.0	5.0	.188	.440	.058	.156
MBP-430	MBP-430SS	3.0	7.0	.250	.525	.070	.187
MBP-431	MBP-431SS	4.0	10.0	.312	.688	.090	.250
MBP-432	MBP-432SS	5.0	14.0	.375	.864	.110	.312
MBP-433	MBP-433SS	8.0	18.00	.500	1.218	.161	.437
		HEAVY PRESSURE					
MBP-435	MBP-435SS	2.0	5.0	.125	.284	.035	.093
MBP-441	MBP-441SS	3.0	7.5	.157	.365	.046	.125
MBP-436	MBP-436SS	4.0	10.0	.188	.440	.058	.156
MBP-437	MBP-437SS	6.0	13.0	.250	.525	.070	.187
MBP-438	MBP-438SS	8.0	16.0	.312	.688	.090	.250
MBP-439	MBP-439SS	10.0	18.0	.375	.864	.110	.312
MBP-440	MBP-440SS	12.0	23.0	.500	1.218	.161	.437

*Patent pending

Press-Thru™ Spring Plungers

- ► Tolerance “A” +.001 +.002
- ► Steel bodies made from C12L14 with black oxide finish
- ► Stainless steel bodies made from 303 stainless steel
- ► Nose material listed above each grid



HEAVY PRESSURE

HEAT TREATED STEEL NOSE / STAINLESS STEEL NOSE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	+.002 A	+.001 B	C	D
MSP-401	MSP-401SS	1.0	2.0	.125	.284	.062	.070
MSP-407	MSP-407SS	1.25	3.25	.157	.365	.078	.093
MSP-402	MSP-402SS	1.5	4.5	.188	.440	.094	.121
MSP-403	MSP-403SS	2.5	6.0	.250	.525	.125	.168
MSP-404	MSP-404SS	4.0	10.0	.312	.688	.151	.186
MSP-405	MSP-405SS	5.0	14.0	.375	.864	.187	.234
MSP-406	MSP-406SS	8.0	18.0	.500	1.218	.250	.332

BROWN DELRIN™ NOSE

MSP-408	MSP-408SS	1.0	2.0	.125	.284	.062	.070
MSP-414	MSP-414SS	1.25	3.25	.157	.365	.078	.093
MSP-409	MSP-409SS	1.5	4.5	.188	.440	.094	.121
MSP-410	MSP-410SS	2.5	6.0	.250	.525	.125	.168
MSP-411	MSP-411SS	4.0	10.0	.312	.688	.151	.186
MSP-412	MSP-412SS	5.0	14.0	.375	.864	.187	.234
MSP-413	MSP-413SS	8.0	18.0	.500	1.218	.250	.332

LIGHT PRESSURE

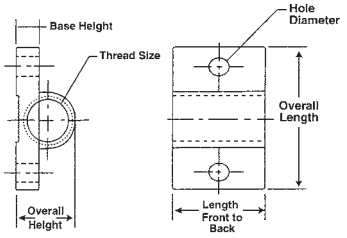
HEAT TREATED STEEL NOSE / STAINLESS STEEL NOSE

MSP-415	MSP-415SS	0.50	1.0	.125	.284	.062	.070
MSP-421	MSP-421SS	0.75	2.0	.157	.365	.078	.093
MSP-416	MSP-416SS	0.75	2.5	.188	.440	.094	.121
MSP-417	MSP-417SS	1.5	3.0	.250	.525	.125	.168
MSP-418	MSP-418SS	2.0	5.0	.312	.688	.151	.186
MSP-419	MSP-419SS	2.5	7.0	.375	.864	.187	.234
MSP-420	MSP-420SS	4.0	9.0	.500	1.218	.250	.332

WHITE DELRIN™ NOSE

MSP-422	MSP-422SS	0.50	1.0	.125	.284	.062	.070
MSP-428	MSP-428SS	0.75	2.0	.157	.365	.078	.093
MSP-423	MSP-423SS	0.75	2.5	.188	.440	.094	.121
MSP-424	MSP-424SS	1.5	3.0	.250	.525	.125	.168
MSP-425	MSP-425SS	2.0	5.0	.312	.688	.151	.186
MSP-426	MSP-426SS	2.5	7.0	.375	.864	.187	.234
MSP-427	MSP-427SS	4.0	9.0	.500	1.218	.250	.332

Spring Plunger Mounts



- ▶ Used as a mounting bracket for spring loaded devices
- ▶ Made from steel, zinc-plated finish

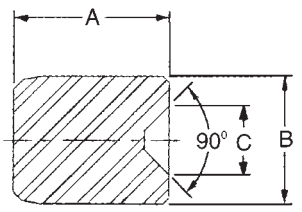
PART #	Thread Size	Overall Length	Front to Back Length	Overall Height	Base Thickness	Hole Dia.
SPM-1	#8-32	.690	.500	.250	.090	1/8
SPM-2	#10-32	.690	.500	.270	.130	1/8
SPM-3	1/4-20	.880	.690	.410	.190	9/64
SPM-4	5/16-18	.940	.630	.410	.188	9/64
SPM-5	3/8-16	1.130	.750	.470	.219	5/32
SPM-6	1/2-13	1.500	1.00	.630	.250	13/64
SPM-7	5/8-11	1.880	1.25	.800	.312	17/64

Ball & Spring Plunger Wrenches

- ▶ Used in installing or removing plungers. Spring damage can result when using a screwdriver on the nose end of plunger.
- ▶ Wrenches work on all inch and metric sizes
- ▶ Wrenches engage the front of the part without damaging the plunger or internal spring

PART #	For Plungers with Thread Sizes
WR-10	#6
WR-11	#8 and M4
WR-12	#10 and M5
WR-13	1/4 and M6
WR-14	5/16 and M8
WR-15	3/8 and M10
WR-16	1/2 and M12
WR-17	5/8
WR-18	3/4
WR-19	1"

Ball Plunger Detents



- ▶ 440C stainless steel hardened and ground
- ▶ Used as a mating detent for ball plungers
- ▶ "B" tolerance: + .002/- .0000

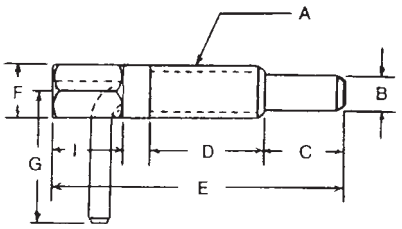
PART #	For Use With Ball Dia.	A	B	C
DT-1	.062	1/8	.1075	.056
DT-15	.078	1/8	.1175	.051
DT-2	.094	3/16	.1614	.069
DT-3	.125	1/4	.2034	.111
DT-4	.156	5/16	.2559	.139
DT-5	.188	3/8	.3284	.164
DT-6	.281	1/2	.4378	.241
DT-7	.375	5/8	.5472	.330

Locking Plungers

- ► Available in zinc-plated steel or stainless steel
- ► Includes nylon patch for positive holding
- ► Plunger can be completely withdrawn into the thread and locked into place

STANDARD LENGTH

Steel PART #	Stainless Steel PART #	End Pressures Start	End Pressures Full	A	+.001 -.002 B	C	D	E	F	G	H	I
LP-10	LP-10SS	.5	2.5	1/4-20	.156	3/8	5/8	1-5/8	1/4	5/8	3/32	1/2
LP-14	LP-14SS	.75	3.0	5/16-18	.186	1/2	7/8	2-1/8	5/16	3/4	7/64	9/16
LP-11	LP-11SS	.75	3.75	3/8-16	.250	9/16	1-1/16	2-9/16	3/8	15/16	9/64	11/16
LP-12	LP-12SS	1.0	5.0	1/2-13	.312	3/4	1-1/8	2-7/8	1/2	1-1/4	3/16	3/4
LP-13	LP-13SS	1.0	5.0	5/8-11	.375	1	1-3/4	4	5/8	1-5/16	3/16	1-1/16



SHORT LENGTH

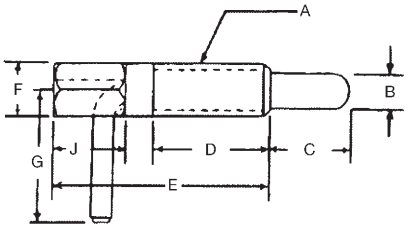
Steel PART #	Stainless Steel PART #	End Pressures Start	End Pressures Full	A	+.001 -.002 B	C	D	E	F	G	H	I
LP-20	LP-20SS	.125	.50	1/4-20	.156	3/16	7/16	15/16	1/4	17/32	3/32	1/4
LP-24	LP-24SS	.25	1.0	5/16-18	.186	1/4	1/2	7/8	5/16	5/8	7/64	5/16
LP-21	LP-21SS	.25	1.25	3/8-16	.250	5/16	5/8	1-7/16	3/8	3/4	9/64	3/8
LP-22	LP-22SS	.50	2.0	1/2-13	.312	13/32	7/8	1-29/32	1/2	1	3/16	1/2
LP-23	LP-23SS	.75	2.5	5/8-11	.375	1/2	1-1/8	2-3/8	5/8	1-3/16	3/16	5/8

Locking Plungers
Delrin® nose

- ► Available in zinc plated steel and stainless steel
- ► Delrin® nose prevents marring of aluminum, brass or other soft materials
- ► Plunger can be completely retracted into the thread and locked into place
- ► Includes nylon patch for positive holding

STANDARD LENGTH

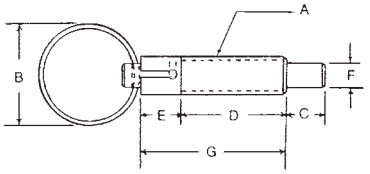
Steel PART #	Stainless Steel PART #	End Pressures Start	End Pressures Full	A	+.001 -.002 B	C	D	E	F	G	J
LP-50	LP-50SS	0.5	2.5	1/4-20	.156	3/8	5/8	1-1/4	1/4	5/8	1/2
LP-54	LP-54SS	0.75	3.0	5/16-18	.186	1/2	7/8	1-5/8	5/16	3/4	9/16
LP-51	LP-51SS	0.75	3.75	3/8-16	.250	9/16	1-1/16	2”	3/8	15/16	11/16
LP-52	LP-52SS	1.0	5.0	1/2-13	.312	3/4	1-1/8	2-1/8	1/2	1-1/4	3/4
LP-53	LP-53SS	1.0	5.0	5/8-11	.375	1”	1-3/4	3”	5/8	1-5/16	1-1/16



SHORT LENGTH

Steel PART #	Stainless Steel PART #	End Pressures Start	End Pressures Full	A	+.001 -.002 B	C	D	E	F	G	J
LP-60	LP-60SS	.125	0.5	1/4-20	.156	3/16	7/16	3/4	1/4	9/16	1/4
LP-64	LP-64SS	.25	1.0	5/16-18	.250	1/4	1/2	7/8	5/16	5/8	5/16
LP-61	LP-61SS	.25	1.25	3/8-16	.250	5/16	5/8	1-1/8	3/8	3/4	3/8
LP-62	LP-62SS	.5	2.0	1/2-13	.312	13/32	7/8	1-1/2	1/2	1”	1/2
LP-63	LP-63SS	.75	2.5	5/8-11	.375	1/2	1-1/8	1-7/8	5/8	1-3/16	5/8

Pull Ring Plungers
standard length

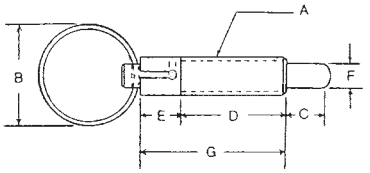


- ▶ Available in zinc-plated steel or stainless steel
- ▶ Used in machining applications as positioners, loading pins, indexing devices
- ▶ Standard length plunger retracts and locks completely into the body of the plunger
- ▶ Includes nylon patch for positive holding

STEEL AND STAINLESS STEEL NOSE

Steel PART #	Stainless Steel PART #	End Pressures Start	Full	A	B	C	D	E	+.001 -.002 F	G
PRP-10	PRP-10SS	1.0	2.5	1/4-20	1	1/4	53/64	5/16	.156	1-9/64
PRP-11	PRP-11SS	2.0	4.0	3/8-16	1-1/4	3/8	1-1/4	7/16	.250	1-11/16
PRP-12	PRP-12SS	2.5	5.0	1/2-13	1-3/8	1/2	1-7/16	9/16	.312	2
PRP-13	PRP-13SS	3.0	6.0	5/8-11	1-1/4	.55	2-1/4	1-1/8	5/16	3.35
PRP-14	PRP-14SS	5.0	10.0	3/4-10	1-3/8	.65	2-5/8	1-7/16	7/16	4-1/16
PRP-15	PRP-15SS	8.0	20	1"-8	1-3/8	.90	3-1/4	1-3/8	11/16	4-5/8

Pull Ring Plunger
standard length, Delrin® nose

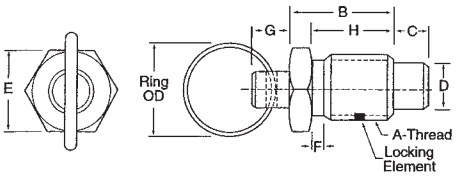


- ▶ Available in zinc-plated steel or stainless steel
- ▶ Radiused Delrin® nose
- ▶ Delrin® prevents marring of aluminum, brass or other soft materials
- ▶ Includes nylon patch locking element
- ▶ Plunger can be withdrawn completely into body and locked in a fully retracted position

Steel PART #	Stainless Steel PART #	End Pressures (lbs.) Start	Full	A	B	C	D	E	+.001 -.002 F	G
PRP-60	PRP-60SS	1.0	2.5	1/4-20	1"	1/4	13/16	5/16	.156	1-1/8
PRP-61	PRP-61SS	2.0	4.0	3/8-16	1-1/4	3/8	1-1/4	7/16	.250	1-11/16
PRP-62	PRP-62SS	2.5	5.0	1/2-13	1-3/8	1/2	1-7/16	9/16	.312	2"

Pull Ring Plungers
short length

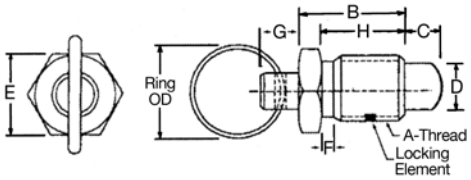
- ▶ Available in zinc-plated steel or stainless steel
- ▶ Used in machining applications as positioners, loading pins, indexing devices
- ▶ Non-locking plunger
- ▶ Includes nylon patch for positive holding



Steel PART #	Stainless Steel PART #	End Pressures Start	Full	A	B	C	+.001 -.002 D	E	F	G	H	Ring OD
PRP-20	PRP-20SS	.50	2.00	1/4-20	7/16	3/16	.156	1/4	1/32	5/32	9/32	3/4
PRP-24	PRP-24SS	.75	2.75	5/16-18	17/32	1/4	.186	5/16	3/32	3/16	23/64	3/4
PRP-21	PRP-21SS	.75	3.00	3/8-16	5/8	9/32	.250	3/8	1/8	3/16	7/16	3/4
PRP-22	PRP-22SS	1.00	4.00	1/2-13	13/16	3/8	.312	1/2	5/32	1/4	9/16	1
PRP-23	PRP-23SS	1.25	5.00	5/8-11	1	7/16	.375	5/8	5/32	5/16	11/16	1
PRP-25	PRP-25SS	1.50	6.00	3/4-10	1-3/16	1/2	.437	3/4	1/4	5/16	1	1-1/8
PRP-26	PRP-26SS	1.75	7.00	1”-8	1-5/16	5/8	.500	1”	1/4	7/16	1-1/4	1-1/8

Pull Ring Plunger
short length, Delrin® nose

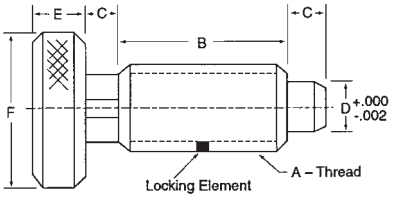
- ▶ Available in zinc-plated steel or stainless steel
- ▶ Radiused Delrin® nose
- ▶ Delrin® prevents marring of aluminum, brass or other soft materials
- ▶ Non-locking plunger



Steel PART #	Stainless Steel PART #	End Pressures (lbs.) Start	Full	A	B	C	+.001 -.002 D	E	F	G	H	Ring OD
PRP-50	PRP-50SS	0.50	2.0	1/4-20	7/16	3/16	.156	1/4	1/32	5/32	9/32	3/4
PRP-54	PRP-54SS	0.75	2.75	5/16-18	17/32	1/4	.186	5/16	3/32	3/16	23/64	3/4
PRP-51	PRP-51SS	0.75	3.0	3/8-16	5/8	9/32	.250	3/8	1/8	3/16	7/16	3/4
PRP-52	PRP-52SS	1.0	4.0	1/2-13	13/16	3/8	.312	1/2	5/32	1/4	9/16	1”
PRP-53	PRP-53SS	1.25	5.0	5/8-11	1”	7/16	.375	5/8	5/32	5/16	11/16	1”

Hand Retractable Plungers

locking design



- ▶ Available in zinc-plated steel or stainless steel
- ▶ All plungers include nylon locking element
- ▶ Available in heavy or light pressure
- ▶ Metric and inch sizes available
- ▶ Plunger can be withdrawn completely into the body and locked in a fully retracted position
- ▶ To engage the plunger, simply turn the head to line up with the slot in body

INCH SIZES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D +.001 -.002	E	F
HRP-05	HRP-05SS	1	3.5	#10-32	13/32	3/32	.104	3/16	3/8
HRP-10	HRP-10SS	1	5	1/4-20	1/2	1/8	.124	1/4	1/2
HRP-20	HRP-20SS	1-1/2	6	5/16-18	5/8	3/16	.155	15/64	5/8
HRP-30	HRP-30SS	1-1/2	8	3/8-16	3/4	7/32	.186	1/4	3/4
HRP-40	HRP-40SS	2-1/2	10	1/2-13	7/8	1/4	.249	3/8	1"
HRP-42	HRP-42SS	5	10	5/8-11	1"	5/16	.311	13/32	1-1/8
HRP-43	HRP-43SS	1.5	16	3/4-10	1-1/4	7/16	.375	1/2	1-1/2

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D +.001 -.002	E	F
HRP-50	HRP-50SS	.5	2.0	#10-32	13/32	3/32	.104	3/16	3/8
HRP-60	HRP-60SS	.5	2.5	1/4-20	1/2	1/8	.124	1/4	1/2
HRP-70	HRP-70SS	.75	3.0	5/16-18	5/8	3/16	.155	15/64	5/8
HRP-80	HRP-80SS	.75	4.0	3/8-16	3/4	7/32	.186	1/4	3/4
HRP-90	HRP-90SS	1.25	5.0	1/2-13	7/8	1/4	.249	3/8	1"
HRP-92	HRP-92SS	3	6.0	5/8-11	1"	5/16	.311	13/32	1-1/8

METRIC SIZES

HEAVY PRESSURE

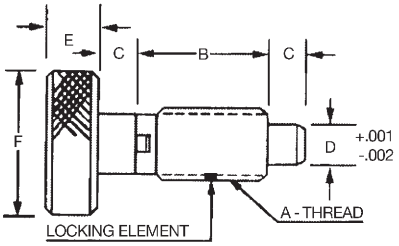
Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-105	HRP-105SS	4.5	15.5	M5 x .8	10.3mm	2.4mm	2mm	4.7mm	9.5mm
HRP-110	HRP-110SS	4.5	22	M6 x 1.0	12.5	3.17	3	6.3	12.7
HRP-120	HRP-120SS	6.5	26.5	M8 x 1.25	16	4.75	4	7.0	15.8
HRP-130	HRP-130SS	6.5	35.5	M10 x 1.5	19	5.50	5	7.9	19
HRP-140	HRP-140SS	11	45	M12 x 1.75	22	6.35	6	9.4	25.4
HRP-145	HRP-145SS	22	45	M16 x 2.0	25.4	7.92	8	10.3	28.6

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-150	HRP-150SS	2	9	M5 x .8	10.3mm	2.4mm	2mm	4.7mm	9.5mm
HRP-160	HRP-160SS	2	11	M6 x 1.0	12.5	3.17	3	6.3	12.7
HRP-170	HRP-170SS	3	13	M8 x 1.25	16	4.75	4	7.0	15.8
HRP-180	HRP-180SS	3	18	M10 x 1.5	19	5.50	5	7.9	19
HRP-190	HRP-190SS	5.5	22	M12 x 1.75	22	6.35	6	9.4	25.4
HRP-195	HRP-195SS	12	26.5	M16 x 2.0	25.4	7.92	8	10.3	28.6

Hand Retractable Plungers
non-locking design

- Inch and metric sizes
- Available in zinc plated steel or stainless steel
- Non-locking design
- All plungers include nylon locking element



INCH SIZES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D (+.001 -.002)	E	F
HRP-400	HRP-400SS	1.0	3.5	#10-32	13/32	3/32	.104	3/16	3/8
HRP-401	HRP-401SS	1.0	5.0	1/4-20	1/2	1/8	.124	1/4	1/2
HRP-402	HRP-402SS	1.5	6.0	5/16-18	5/8	3/16	.155	9/32	5/8
HRP-403	HRP-403SS	1.5	8.0	3/8-16	3/4	7/32	.186	5/16	3/4
HRP-404	HRP-404SS	2.5	10.0	1/2-13	7/8	1/4	.249	3/8	1
HRP-405	HRP-405SS	5.0	10.0	5/8-11	1”	5/16	.311	13/32	1-1/8
HRP-406	HRP-406SS	1.5	16.0	3/4-10	1-1/4	7/16	.375	1/2	1-1/2

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D (+.001 -.002)	E	F
HRP-410	HRP-410SS	0.5	2.0	#10-32	13/32	3/32	.104	3/16	3/8
HRP-411	HRP-411SS	0.5	2.5	1/4-20	1/2	1/8	.124	1/4	1/2
HRP-412	HRP-412SS	0.75	3.0	5/16-18	5/8	3/16	.155	9/32	5/8
HRP-413	HRP-413SS	0.75	4.0	3/8-16	3/4	7/32	.186	5/16	3/4
HRP-414	HRP-414SS	1.25	5.0	1/2-13	7/8	1/4	.249	3/8	1”
HRP-415	HRP-415SS	3.0	6.0	5/8-11	1”	5/16	.311	13/32	1-1/8

METRIC SIZES

HEAVY PRESSURE

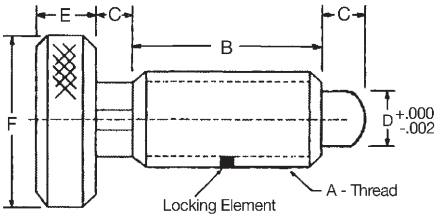
Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-420	HRP-420SS	4.5	15.5	M5 x .8	10.3mm	2.36mm	2mm	4.7mm	9.5mm
HRP-421	HRP-421SS	4.5	22	M6 x 1.0	12.7	3.17	3	6.3	12.7
HRP-422	HRP-422SS	6.5	26.5	M8 x 1.25	15.8	4.75	4	7.0	15.8
HRP-423	HRP-423SS	6.5	35.5	M10 x 1.5	19.0	5.50	5	7.9	19.0
HRP-424	HRP-424SS	11	44.5	M12 x 1.75	22.2	6.35	6	9.4	25.4
HRP-425	HRP-425SS	22	44.5	M16 x 2.0	25.4	7.92	8	10.3	28.6

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-430	HRP-430SS	2	9	M5 x .8	10.3mm	2.36mm	2mm	4.7mm	9.5mm
HRP-431	HRP-431SS	2	11	M6 x 1.0	12.7	3.17	3	6.3	12.7
HRP-432	HRP-432SS	3	13	M8 x 1.25	15.8	4.75	4	7.0	15.8
HRP-433	HRP-433SS	3	18	M10 x 1.5	19.0	5.50	5	7.9	19.0
HRP-434	HRP-434SS	5.5	22	M12 x 1.75	22.2	6.35	6	9.4	25.4
HRP-435	HRP-435SS	13	26.5	M16 x 2.0	25.4	7.92	8	10.3	28.6

Hand Retractable Plungers

locking design, Delrin® nose



- ▶ Inch and metric sizes
- ▶ Available in zinc-plated steel or stainless steel
- ▶ Radiused Delrin® nose that can be fully retracted and locked in position
- ▶ Available in heavy or light pressure
- ▶ Includes locking element for positive holding

INCH SIZES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D +.001 -.002	E	F
HRP-301	HRP-301SS	1.0	5.0	1/4-20	1/2	1/8	.144	1/4	1/2
HRP-302	HRP-302SS	1.5	6.0	5/16-18	5/8	3/16	.179	9/32	5/8
HRP-303	HRP-303SS	1.5	8.0	3/8-16	3/4	7/32	.216	5/16	3/4
HRP-304	HRP-304SS	2.5	10.0	1/2-13	7/8	1/4	.310	3/8	1”
HRP-305	HRP-305SS	5.0	10.0	5/8-11	1”	5/16	.373	13/32	1-1/8

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D +.001 -.002	E	F
HRP-309	HRP-309SS	0.5	2.5	1/4-20	1/2	1/8	.144	1/4	1/2
HRP-310	HRP-310SS	0.75	3.0	5/16-18	5/8	3/16	.179	9/32	5/8
HRP-311	HRP-311SS	0.75	4.0	3/8-16	3/4	7/32	.216	5/16	3/4
HRP-312	HRP-312SS	1.25	5.0	1/2-13	7/8	1/4	.310	3/8	1”
HRP-313	HRP-313SS	3.0	6.0	5/8-11	1”	5/16	.373	13/32	1-1/8

METRIC SIZES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-321	HRP-321SS	4.5	22	M6 x 1.0	12.7mm	3.17mm	3.65mm	6.3mm	12.7mm
HRP-322	HRP-322SS	6.5	26.5	M8 x 1.25	15.8	4.75	4.54	7.0	15.8
HRP-323	HRP-323SS	6.5	35.5	M10 x 1.5	19.0	5.50	5.48	7.9	19.0
HRP-324	HRP-324SS	11	44.5	M12 x 1.75	22.2	6.35	7.87	9.4	25.4
HRP-325	HRP-325SS	22	44.5	M16 x 2.0	25.4	7.92	9.47	10.3	28.6

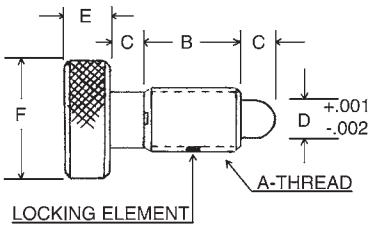
LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-331	HRP-331SS	2	11	M6 x 1.0	12.7mm	3.17mm	3.65mm	6.3mm	12.7mm
HRP-332	HRP-332SS	3	13	M8 x 1.25	15.8	4.75	4.54	7.0	15.8
HRP-333	HRP-333SS	3	18	M10 x 1.5	19.0	5.50	5.48	7.9	19.0
HRP-334	HRP-334SS	5.5	22	M12 x 1.75	22.2	6.35	7.87	9.4	25.4
HRP-335	HRP-335SS	13	26.5	M16 x 2.0	25.4	7.92	9.47	10.3	28.6

Hand Retractable Plungers

non-locking design, Delrin® nose

- Inch and metric sizes
- Available in zinc-plated steel or stainless steel
- Non-locking design
- Radiused Delrin® nose
- Available in light or heavy pressure
- Includes locking element for positive holding



INCH SIZES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D +.001 -.002	E	F
HRP-340	HRP-340SS	1.0	5.0	1/4-20	1/2	1/8	.144	1/4	1/2
HRP-341	HRP-341SS	1.5	6.0	5/16-18	5/8	3/16	.179	9/32	5/8
HRP-342	HRP-342SS	1.5	8.0	3/8-16	3/4	7/32	.216	5/16	3/4
HRP-343	HRP-343SS	2.5	10.0	1/2-13	7/8	1/4	.310	3/8	1"
HRP-344	HRP-344SS	5.0	10.0	5/8-11	1"	5/16	.373	13/32	1-1/8

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D +.001 -.002	E	F
HRP-345	HRP-345SS	0.5	2.5	1/4-20	1/2	1/8	.144	1/4	1/2
HRP-346	HRP-346SS	0.75	3.0	5/16-18	5/8	3/16	.179	9/32	5/8
HRP-347	HRP-347SS	0.75	4.0	3/8-16	3/4	7/32	.216	5/16	3/4
HRP-348	HRP-348SS	1.25	5.0	1/2-13	7/8	1/4	.310	3/8	1"
HRP-349	HRP-349SS	3.0	6.0	5/8-11	1"	5/16	.373	13/32	1-1/8

METRIC SIZES

HEAVY PRESSURE

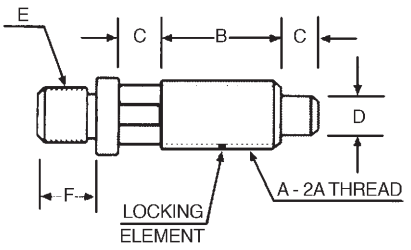
Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-351	HRP-351SS	4.5	22	M6 x 1.0	12.7mm	3.17mm	3.65mm	6.3mm	12.7mm
HRP-352	HRP-352SS	6.5	26.5	M8 x 1.25	15.8	4.75	4.54	7.0	15.8
HRP-353	HRP-353SS	6.5	35.55	M10 x 1.50	19.0	5.50	5.48	7.9	19.0
HRP-354	HRP-354SS	11	44.5	M12 x 1.75	22.2	6.35	7.87	9.4	25.4
HRP-355	HRP-355SS	22	44.5	M16 x 2.0	25.4	7.92	9.47	10.3	28.6

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-361	HRP-361SS	2	11	M6 x 1.0	12.7mm	3.17mm	3.65mm	6.3mm	12.7mm
HRP-362	HRP-362SS	3	13	M8 x 1.25	15.8	4.75	4.54	7.0	15.8
HRP-363	HRP-363SS	3	18	M10 x 1.50	19.0	5.50	5.48	7.9	19.0
HRP-364	HRP-364SS	5.5	22	M12 x 1.75	22.2	6.35	7.87	9.4	25.4
HRP-365	HRP-365SS	13	26.5	M16 x 2.0	25.4	7.92	9.47	10.3	28.6

Hand Retractable Plungers

threaded adapter/locking



Locking Design

(Plunger nose can be retracted and locked in the retracted position)

- ▶ Inch and metric sizes
- ▶ Available in zinc-plated steel or stainless steel
- ▶ Just add your own knob to customize the adapter to create a hand retractable plunger that meets your own requirements. See photos at the bottom of this page.
- ▶ All plungers include locking element

INCH SIZES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D	E	F
HRP-500	HRP-500SS	1.0	3.0	#10-32	13/32	3/32	.104	#10-32	15/64
HRP-501	HRP-501SS	1.0	5.0	1/4-20	1/2	1/8	.124	#10-32	15/64
HRP-502	HRP-502SS	1.5	6.0	5/16-18	5/8	3/16	.155	1/4-20	11/32
HRP-503	HRP-503SS	1.5	8.0	3/8-16	3/4	7/32	.186	5/16-18	13/32
HRP-504	HRP-504SS	2.5	10.0	1/2-13	7/8	1/4	.249	3/8-16	7/16
HRP-505	HRP-505SS	5.0	10.0	5/8-11	1”	5/16	.311	1/2-13	7/16

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D	E	F
HRP-510	HRP-510SS	0.5	1.5	#10-32	13/32	3/32	.104	#10-32	15/64
HRP-511	HRP-511SS	0.5	2.5	1/4-20	1/2	1/8	.124	#10-32	15/64
HRP-512	HRP-512SS	0.75	3.0	5/16-18	5/8	3/16	.155	1/4-20	11/32
HRP-513	HRP-513SS	0.75	4.0	3/8-16	3/4	7/32	.186	5/16-18	13/32
HRP-514	HRP-514SS	1.25	5.0	1/2-13	7/8	1/4	.249	3/8-16	7/16
HRP-515	HRP-515SS	3.0	6.0	5/8-11	1”	5/16	.311	1/2-13	7/16

METRIC SIZES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-550	HRP-550SS	4.5	15.5	M5 x .8	10.3mm	2.36mm	2mm	10-32	5.9mm
HRP-551	HRP-551SS	4.5	22	M6 x 1.0	12.7	3.17	3	10-32	5.9
HRP-552	HRP-552SS	6.5	26.5	M8 x 1.25	15.8	4.75	4	1/4-20	8.7
HRP-553	HRP-553SS	6.5	35.5	M10 x 1.50	19	5.5	5	5/16-18	10.3
HRP-554	HRP-554SS	11	44.5	M12 x 1.75	22.2	6.35	6	3/8-16	11.1
HRP-555	HRP-555SS	22	44.5	M16 x 2.0	25.4	7.92	8	1/2-13	11.1

LIGHT PRESSURE

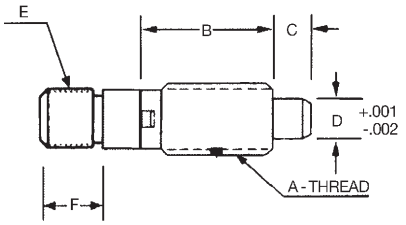
Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-560	HRP-560SS	2	9	M5 x .8	10.3mm	2.36mm	2mm	10-32	5.9mm
HRP-561	HRP-561SS	2	11	M6 x 1.0	12.7	3.17	3	10-32	5.9
HRP-562	HRP-562SS	3	13	M8 x 1.25	15.8	4.75	4	1/4-20	8.7
HRP-563	HRP-563SS	3	18	M10 x 1.50	19	5.5	5	5/16-18	10.3
HRP-564	HRP-564SS	5.5	22	M12 x 1.75	22.2	6.35	6	3/8-16	11.1
HRP–565	HRP-565SS	13	26.5	M16 x 2.0	25.4	7.92	8	1/2-13	11.1

◄ Just add your own knob. ►

Hand Retractable Plungers

threaded adapter/non-locking

- ► Inch and metric sizes
- ► Available in zinc-plated steel or stainless steel
- ► Just add your own knob to customize the adapter to create a hand retractable plunger that meets your requirements. See photos at the bottom of page 72.
- ► All plungers include locking element



Non-Locking Design

(Plunger nose cannot be retracted and locked without manually pulling back and holding in the retracted position)

INCH SIZES

HEAVY PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D	E	F
HRP-520	HRP-520SS	1.0	3.0	#10-32	13/32	3/32	.104	#10-32	15/64
HRP-521	HRP-521SS	1.0	5.0	1/4-20	1/2	1/8	.124	#10-32	15/64
HRP-522	HRP-522SS	1.5	6.0	5/16-18	5/8	3/16	.155	1/4-20	11/32
HRP-523	HRP-523SS	1.5	8.0	3/8-16	3/4	7/32	.186	5/16-18	13/32
HRP-524	HRP-524SS	2.5	10.0	1/2-13	7/8	1/4	.249	3/8-16	7/16
HRP-525	HRP-525SS	5.0	10.0	5/8-11	1"	5/16	.311	1/2-13	7/16

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Pounds Start	Full	A	B	C	D	E	F
HRP-530	HRP-530SS	0.5	1.5	#10-32	13/32	3/32	.104	#10-32	15/64
HRP-531	HRP-531SS	0.5	2.5	1/4-20	1/2	1/8	.124	#10-32	15/64
HRP-532	HRP-532SS	0.75	3.0	5/16-18	5/8	3/16	.155	1/4-20	11/32
HRP-533	HRP-533SS	0.75	4.0	3/8-16	3/4	7/32	.186	5/16-18	13/32
HRP-534	HRP-534SS	1.25	5.0	1/2-13	7/8	1/4	.249	3/8-16	7/16
HRP-535	HRP-535SS	3.0	6.0	5/8-11	1"	5/16	.311	1/2-13	7/16

METRIC SIZES

HEAVY PRESSURE

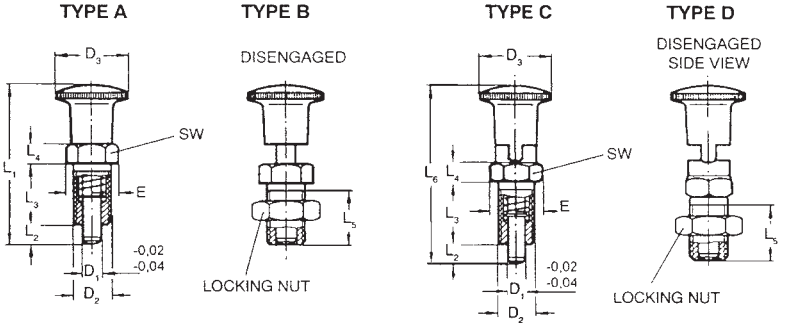
Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-570	HRP-570SS	4.5	15.5	M5 x .8	10.3mm	2.36mm	2mm	10-32	5.9mm
HRP-571	HRP-571SS	4.5	22	M6 x1.0	12.7	3.17	3	10-32	5.9
HRP-572	HRP-572SS	6.5	26.5	M8 x 1.25	15.8	4.75	4	1/4-20	8.7
HRP-573	HRP-573SS	6.5	35.5	M10 x 1.50	19	5.5	5	5/16-18	10.3
HRP-574	HRP-574SS	11	44.5	M12 x 1.75	22.2	6.35	6	3/8-16	11.1
HRP-575	HRP-575SS	22	44.5	M16 x 2.0	25.4	7.92	8	1/2-13	11.1

LIGHT PRESSURE

Steel PART #	Stainless Steel PART #	End Pressure Newtons Start	Full	A	B	C	D	E	F
HRP-580	HRP-580SS	2	9	M5 x .8	10.3mm	2.36mm	2mm	10-32	5.9mm
HRP-581	HRP-581SS	2	11	M6 x 1.0	12.7	3.17	3	10-32	5.9
HRP-582	HRP-582SS	3	13	M8 x 1.25	15.8	4.75	4	1/4-20	8.7
HRP-583	HRP-583SS	3	18	M10 x 1.50	19	5.5	5	5/16-18	10.3
HRP-584	HRP-584SS	5.5	22	M12 x 1.75	22.2	6.35	6	3/8-16	11.1
HRP–585	HRP-585SS	13	26.5	M16 x 2.0	25.4	7.92	8	1/2-13	11.1

Indexing Plungers

metric



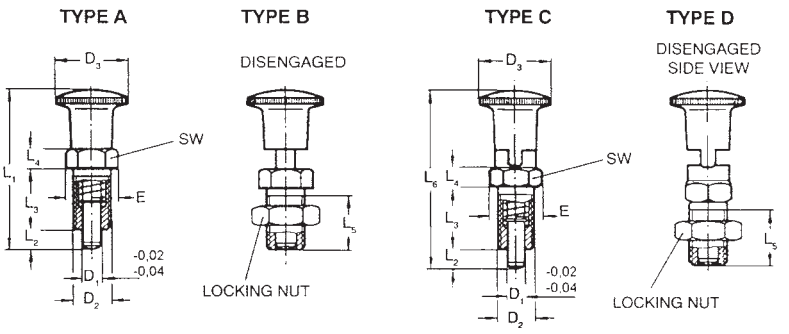
- ▶ Black matte plastic knob
- ▶ Steel parts with black oxide finish
- ▶ Plunger is hardened and precision ground

- ▶ Type A: Non-locking, without locking nut
- ▶ Type B: Non-locking, with locking nut
- ▶ Type C: Locking, without locking nut
- ▶ Type D: Locking, with locking nut

Type A PART #	Type B PART #	Type C PART #	Type D PART #	Size d_1	d_2	d_3	e	l_1	l_2 min.	l_3	l_4	l_5	l_6 min.	SW
3005A	3005B	3005C	3005D	5	M10 x 1	21	13,8	44	5	17	5	15	49	12
3006A	3006B	3006C	3006D	6	M12 x 1.5	25	16,2	53	6	20	6	17	59	14
3008A	3008B	3008C	3008D	8	M16 x 1.5	31	21,9	67	8	26	8	23	73.5	19
3010A	3010B	-	-	10	M20 x 1.5	31	25,4	78	10	33	10	30	-	22
3037A	3037B	3037C	3037D	.20	3/8-24	.83	.54	1.73	.20	.67	.20	.59	-	-
3050A	3050B	3050C	3050D	.24	1/2-13	.98	.64	2.09	.24	.79	.24	.67	-	-
3062A	3062B	3062C	3062D	.31	5/8-11	1.22	.86	2.64	.31	1.02	.31	.91	-	-

Stainless Steel Indexing Plungers

metric



- ▶ Black matte plastic knob
- ▶ Stainless steel parts
- ▶ Plunger is precision ground and nitrated

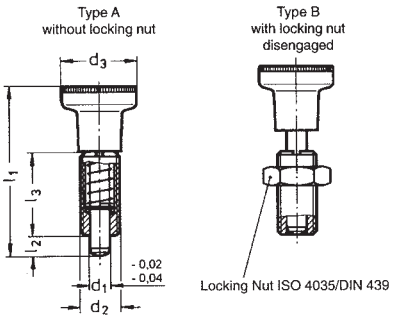
- ▶ Type A: Non-locking, without locking nut
- ▶ Type B: Non-locking, with locking nut
- ▶ Type C: Locking, without locking nut
- ▶ Type D: Locking, with locking nut

Type A PART #	Type B PART #	Type C PART #	Type D PART #	Size d_1	d_2	d_3	e	l_1	l_2 min.	l_3	l_4	l_5	l_6 min.	SW
3005ASS	3005BSS	3005CSS	3005DSS	5	M10 x 1	21	13,8	44	5	17	5	15	49	12
3006ASS	3006BSS	3006CSS	3006DSS	6	M12 x 1.5	25	16,2	53	6	20	6	17	59	14
3008ASS	3008BSS	3008CSS	3008DSS	8	M16 x 1.5	31	21,9	67	8	26	8	23	73.5	19
3010ASS	3010BSS	-	-	10	M20 x 1.5	31	25,4	78	10	33	10	30	-	22

Indexing Plungers
metric without collar

- ► Black matte plastic knob
- ► Available in steel with black oxide finish and stainless steel
- ► Plunger is hardened and precision ground

- ► Type A: Without locking nut
- ► Type B: With locking nut

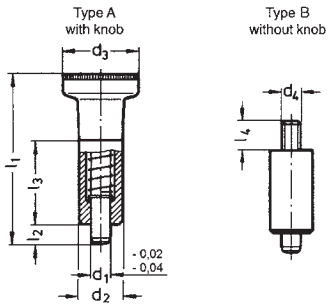


Type A Steel **PART #**	Type B Steel **PART #**	Type A Stainless Steel **Part #**	Type B Stainless Steel **PART #**	d_1	d_2	d_3	l_1	l_2	l_3
5905A	5905B	5905SS	5905BSS	5	M10 x 1	21	44	5	22
5906A	5906B	5906SS	5906BSS	6	M12 x 1.5	25	53	6	26
5908A	5908B	5908SS	5908BSS	8	M16 x 1.5	31	67	8	34
5910A	5910B	5910SS	5910BSS	10	M20 x 1.5	31	78	10	43

Indexing Plungers
metric without threads

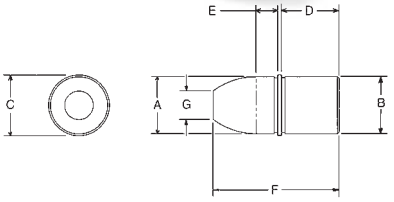
- ► Black matte plastic knob
- ► Available with or without knob
- ► Steel parts, black oxide finish

- ► Type A: With knob
- ► Type B: Without knob



Type A **PART #**	Type B **PART #**	d_1	d_2	d_4	l_1	l_2	l_3	l_4
5805A	5805G	5	12	M5	44	5	22	6
5806A	5806G	6	14	M6	53	6	26	10
5808A	5808G	8	18	M8	67	8	34	12

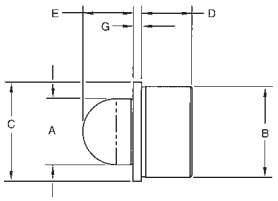
Bullet Nose Dowels



- Material: 1144 steel
- Hardness: HRC 61-65
- Black oxide finish
- Tolerances: A = +.0000 / -.0005
  B = +.003 / -.003

PART #	A	B	C	D	E	F	G
P-1025	.2499	.2516	.280	.500	.125	.907	.125
P-1031	.3124	.3141	.344	.500	.157	.939	.156
P-1037	.3749	.3766	.407	.500	.187	1.032	.187
P-1050	.4999	.5017	.532	.500	.187	1.094	.250

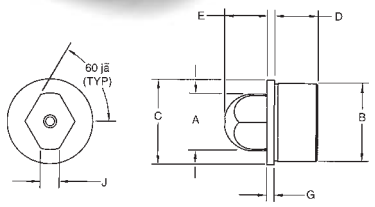
Bullet Nose Pins



- Material: 1144 steel
- Hardness: HRC 61-65
- Black oxide finish
- Tolerances: A = +.0000 / -.0005
  B = +.003 / -.003

PART #	A	B	D	E	C	G
P-2025	.2499	.4078	3/8	7/32	9/16	1/16
P-2031	.3124	.5017	3/8	9/32	5/8	1/16
P-2037	.3748	.6267	1/2	5/16	3/4	1/16
P-2050	.4998	.7518	1/2	13/32	7/8	1/16
P-2075	.7498	1.0018	3/4	9/16	1-1/8	1/8
P-2100	.9998	1.3771	3/4	3/4	1-1/2	1/8

Bullet Nose Pins
relieved



- Material: 1144 steel
- Hardness: HRC 61-65
- Black oxide finish
- Tolerances: A = +.0000 / -.0005
  B = +.003 / -.003

PART #	A	B	D	E	C	G
P-3025	.2499	.4078	3/8	7/32	9/16	1/16
P-3031	.3124	.5017	3/8	9/32	5/8	1/16
P-3037	.3748	.6267	1/2	5/16	3/4	1/16
P-3050	.4998	.7518	1/2	13/32	7/8	1/16
P-3075	.7498	1.0018	3/4	9/16	1-1/8	1/8
P-3100	.9998	1.3771	3/4	3/4	1-1/2	1/8

Bullet Nose Dowel Liners

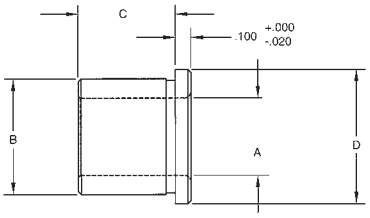
► Application: Bullet nose pins are frequently used in aligning fixtures together by mating the pins within the liners at a precise location.

► Material: 1144 steel

► Hardness: HRC 61-65

► Black oxide finish

► Tolerances: ID (A) = +.0004 / -.0000
OD (B) = +.0000 / -.0005



PART #	A	D	B	C
PL-1025	.2501	.5017	3/8	5/8
PL-1031	.3126	.5017	3/8	5/8
PL-1037	.3751	.6267	1/2	3/4
PL-1050	.5001	.7518	5/8	7/8

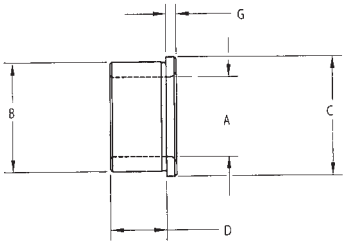
Bullet Nose Pin Liners

► Material: 1144 steel

► Hardness: HRC 61-65

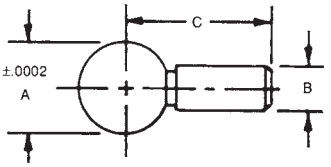
► Black oxide finish

► Tolerances: ID (A) = +.0004 / -.0000
OD (B) = +.0000 / -.0005



PART #	A	B	C	D	G
PL-2025	.2501	.4078	9/16	7/16	1/16
PL-2031	.3126	.5017	5/8	7/16	1/16
PL-2037	.3751	.6267	3/4	1/2	1/16
PL-2050	.5001	.7518	7/8	1/2	1/16
PL-2075	.7502	1.0018	1-1/8	1/2	1/8
PL-2100	1.0002	1.3771	1-1/2	11/16	1/8

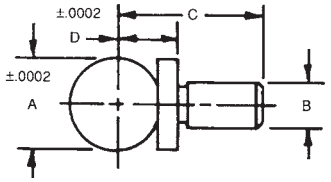
Tooling Balls



- ▶ Ball and shank are concentric within 0.0002 T.I.R.
- ▶ When ordering, please specify either slip fit or press fit
- ▶ Press fit + .0003 - .0000 shank "P"
- ▶ Slip fit + .0000 - .0004 shank "S"
- ▶ Rc 55-60
- ▶ Used as precise reference points in critical machining applications

PART #	A	B	C
1224-4P	.2500	.1250	.5625
1224-4S	.2500	.1250	.5625
1224-6P	.3750	.1875	.750
1224-6S	.3750	.1875	.750
1224-8P	.5000	.2500	.9375
1224-8S	.5000	.2500	.9375
1224-10P	.5000	.2500	1.500
1224-10S	.5000	.2500	1.500
1224-12P	.5000	.3125	1.500
1224-12S	.5000	.3125	1.500
1224-14P	.5000	.3750	1.500
1224-14S	.5000	.3750	1.500

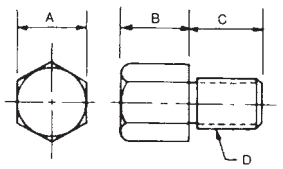
Tooling Balls
with shoulder



- ▶ Ball and shank are concentric within 0.0002 T.I.R.
- ▶ When ordering, please specify either slip fit or press fit
- ▶ Press fit + .0003 - .0000 shank
- ▶ Slip fit + .0000 - .0004 shank
- ▶ Rc 55-60
- ▶ Used as precise reference points in critical machining applications

PART #	A	B	C	D
1448-4P	.2500	.1250	.56	.200
1448-4S	.2500	.1250	.56	.200
1448-6P	.3750	.1875	.75	.300
1448-6S	.3750	.1875	.75	.300
1448-8P	.5000	.2500	.94	.400
1448-8S	.5000	.2500	.94	.400
1448-12P	.5000	.2500	1.375	.500
1448-12S	.5000	.2500	1.375	.500
1448-14P	.5000	.3125	1.500	.500
1448-14S	.5000	.3125	1.500	.500
1448-10P	.7500	.3750	1.25	.500
1448-10S	.7500	.3750	1.25	.500

Hex Head Rest Buttons



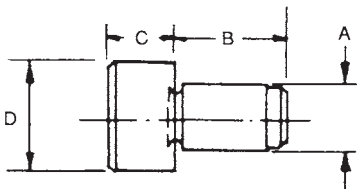
- ▶ Case hardened steel, black oxide finish
- ▶ "B" dimension...+.012-.003
- ▶ Head thickness can be held to +.0005-.0000 if required. Prices available upon request.

PART #	Hex A	B	C	Thread D
SRB-3725	3/8	1/4	3/8	1/4-20
SRB-3737	3/8	3/8	3/8	1/4-20
SRB-3750	3/8	1/2	3/8	1/4-20
SRB-3775	3/8	3/4	3/8	1/4-20
SRB-3710	3/8	1"	3/8	1/4-20
SRB-5025	1/2	1/4	1/2	3/8-16
SRB-5037	1/2	3/8	1/2	3/8-16
SRB-5050	1/2	1/2	1/2	3/8-16
SRB-5075	1/2	3/4	1/2	3/8-16
SRB-5010	1/2	1"	1/2	3/8-16
SRB-6225	5/8	1/4	5/8	1/2-13
SRB-6237	5/8	3/8	5/8	1/2-13
SRB-6250	5/8	1/2	5/8	1/2-13
SRB-6262	5/8	5/8	5/8	1/2-13
SRB-6275	5/8	3/4	5/8	1/2-13
SRB-6210	5/8	1"	5/8	1/2-13

Rest Buttons

PART #	+.0000 -.0005 A	B	+.001 -.000 C	D
RB-1881	.1885	3/8	.250	3/8
RB-1882	.1885	3/8	.375	3/8
RB-1883	.1885	3/8	.500	3/8
RB-141	.2510	1/2	.250	1/2
RB-142	.2510	1/2	.375	1/2
RB-143	.2510	1/2	.500	1/2
RB-381	.3760	5/8	.250	5/8
RB-382	.3760	5/8	.375	5/8
RB-1	.3760	11/16	.4375	11/16
RB-383	.3760	5/8	.500	5/8
RB-384	.3760	5/8	.625	5/8
RB-385	.3760	5/8	.750	5/8
RB-2	.3805	11/16	.375	11/16
RB-5001	.5010	5/8	.375	7/8
RB-3	.5010	13/16	.4375	7/8
RB-5003	.5010	5/8	.500	7/8
RB-5004	.5010	5/8	.625	7/8
RB-5005	.5010	5/8	.750	7/8
RB-4	.5055	13/16	.4375	7/8
RB-6251	.6260	3/4	.375	1
RB-5	.6260	15/16	.4375	1-1/16
RB-6253	.6260	3/4	.500	1
RB-6254	.6260	3/4	.625	1
RB-6255	.6260	3/4	.750	1
RB-6	.6305	15/16	.4375	1-1/16
RB-7501	.7515	7/8	.375	1-1/4
RB-7502	.7515	7/8	.4375	1-1/4
RB-7503	.7515	7/8	.500	1-1/4
RB-7	.7515	7/8	.625	1-1/4
RB-8	1.0010	1-1/4	.750	1-5/8

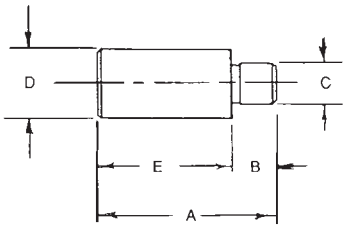
- ► Press fit design
- ► Case hardened carbon steel
- ► Black oxide finish
- ► Precision ground



Stainless Steel Rest Buttons

- ► Machined from 416 stainless steel
- ► Press fit design
- ► Rest buttons are magnetic

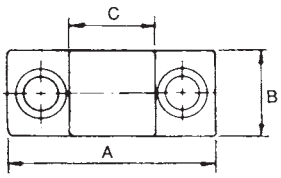
PART #	A	B	C	D	E
2375	1/2	1/4	3/16	3/8	1/4
2376	5/8	1/4	3/16	3/8	3/8
2377	3/4	1/4	3/16	3/8	1/2
2503	9/16	5/16	1/4	1/2	1/4
2504	11/16	5/16	1/4	1/2	3/8
2505	13/16	5/16	5/16	1/2	1/2
2506	1-1/16	5/16	5/16	1/2	3/4
2507	1-5/16	5/16	5/16	1/2	1

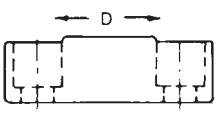


Rest Pads

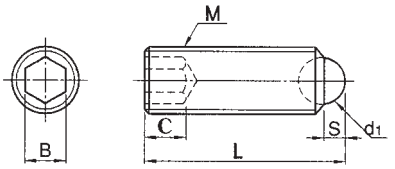
- ► Case hardened, black oxide finish
- ► RP-10 has 2 holes
- ► RP-20 has 4 holes 1" apart
- ► "D" dimension...+.005-.005
- ► Holes designed for 3/8" socket head shoulder screw

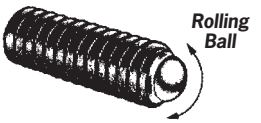
PART #	A	B	C	D
RP-10	2-3/8	1"	1"	1-5/8
RP-20	3-3/8	2"	2"	2-5/8





Ball Set Screws
rolling ball design





Steel Ball Set Screws

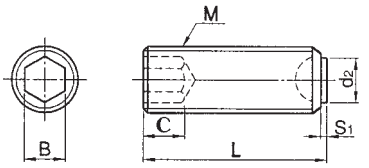
- ▶ Screw: heat treated steel, black oxide finish
- ▶ Ball: ball bearing steel, hardened

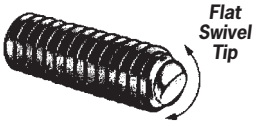
Stainless Steel Ball Set Screws

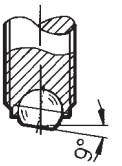
- ▶ Screw: 304 stainless steel
- ▶ Ball: 304 stainless steel

Steel PART #	Stainless Steel PART #	M (Thread)	L	d1	S	B	C
9530	9530SS	1/4-20	.500	.157	.051	.125	.120
9531	9531SS	1/4-20	.750	.157	.051	.125	.120
9532	9532SS	5/16-18	.750	.216	.061	.157	.151
9533	9533SS	5/16-18	1.000	.216	.061	.157	.151
9534	9534SS	3/8-16	.750	.275	.071	.196	.182
9535	9535SS	3/8-16	1.000	.275	.071	.196	.182
9536	9536SS	1/2-13	1.000	.334	.122	.250	.245
9537	9537SS	1/2-13	1.500	.334	.122	.250	.245
9538	9538SS	5/8-11	1.000	.472	.142	.315	.307
9539	9539SS	5/8-11	1.500	.472	.142	.315	.307

Ball Set Screws
flat tip design







Steel Ball Set Screws

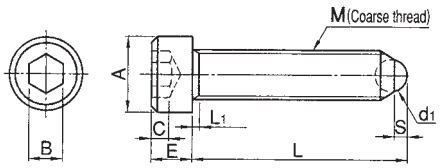
- ▶ Screw: heat treated steel, black oxide finish
- ▶ Ball: ball bearing steel, hardened

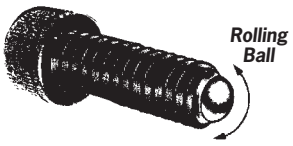
Stainless Steel Ball Set Screws

- ▶ Screw: 304 stainless steel
- ▶ Ball: 304 stainless steel

Steel PART #	Stainless Steel PART #	M (Thread)	L	d2	S1	B	C
9510	9510SS	1/4-20	.500	.120	.023	.125	.120
9511	9511SS	1/4-20	.750	.120	.023	.125	.120
9512	9512SS	5/16-18	.750	.147	.032	.157	.151
9513	9513SS	5/16-18	1.000	.147	.032	.157	.151
9514	9514SS	3/8-16	.750	.192	.032	.196	.182
9515	9515SS	3/8-16	1.000	.192	.032	.196	.182
9516	9516SS	1/2-13	1.000	.290	.038	.250	.245
9517	9517SS	1/2-13	1.500	.290	.038	.250	.245
9518	9518SS	5/8-11	1.000	.372	.051	.315	.307
9519	9519SS	5/8-11	1.500	.372	.051	.315	.307

Ball Clamping Screws
rolling ball design





Steel PART #	Stainless Steel PART #	M (Thread)	L	d1	S	A	B	E	C	L1
9829	9829SS	1/4-20	.500	.157	.051	.375	.187	.250	.120	.059
9830	9830SS	1/4-20	.750	.157	.051	.375	.187	.250	.120	.059
9831	9831SS	1/4-20	1.000	.157	.051	.375	.187	.250	.120	.059
9832	9832SS	5/16-18	.750	.216	.061	.468	.250	.312	.151	.059
9841	9841SS	5/16-18	1.000	.216	.061	.468	.250	.312	.151	.059
9833	9833SS	5/16-18	1.250	.216	.061	.468	.250	.312	.151	.059
9842	9842SS	3/8-16	.750	.275	.071	.562	.312	.375	.182	.078
9834	9834SS	3/8-16	1.000	.275	.071	.562	.312	.375	.182	.078
9835	9835SS	3/8-16	1.500	.275	.071	.562	.312	.375	.182	.078
9836	9836SS	1/2-13	1.000	.334	.122	.750	.375	.500	.245	.137
9837	9837SS	1/2-13	1.500	.334	.122	.750	.375	.500	.245	.137
9843	9843SS	5/8-11	1.000	.472	.142	.937	.500	.625	.307	.157
9838	9838SS	5/8-11	1.500	.472	.142	.937	.500	.625	.307	.157
9839	9839SS	5/8-11	2.000	.472	.142	.937	.500	.625	.307	.157

Steel Ball Clamping Screws

► Screw: heat treated steel, black oxide finish

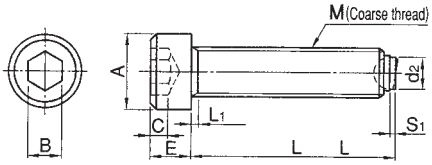
► Ball: ball bearing steel, hardened

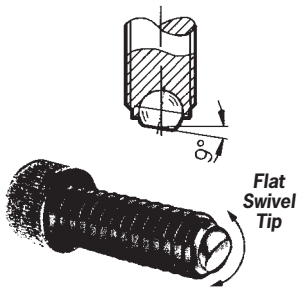
Stainless Steel Ball Clamping Screws

► Screw: 304 stainless steel

► Ball: 304 stainless steel

Ball Clamping Screws
flat tip design





Steel PART #	Stainless Steel PART #	M (Thread)	L	d2	S1	A	B	E	C	L1
9809	9809SS	1/4-20	.500	.120	.023	.375	.187	.250	.120	.059
9810	9810SS	1/4-20	.750	.120	.023	.375	.187	.250	.120	.059
9811	9811SS	1/4-20	1.000	.120	.023	.375	.187	.250	.120	.059
9812	9812SS	5/16-18	.750	.147	.032	.468	.250	.312	.151	.059
9821	9821SS	5/16-18	1.000	.147	.032	.468	.250	.312	.151	.059
9813	9813SS	5/16-18	1.250	.147	.032	.468	.250	.312	.151	.059
9822	9822SS	3/8-16	.750	.192	.032	.562	.312	.375	.182	.078
9814	9814SS	3/8-16	1.000	.192	.032	.562	.312	.375	.182	.078
9815	9815SS	3/8-16	1.500	.192	.032	.562	.312	.375	.182	.078
9816	9816SS	1/2-13	1.000	.290	.038	.750	.375	.500	.245	.137
9817	9817SS	1/2-13	1.500	.290	.038	.750	.375	.500	.245	.137
9823	9823SS	5/8-11	1.000	.372	.051	.937	.500	.625	.307	.157
9818	9818SS	5/8-11	1.500	.372	.051	.937	.500	.625	.307	.157
9819	9819SS	5/8-11	2.000	.372	.051	.937	.500	.625	.307	.157

Steel Ball Set Screws

► Screw: heat treated steel, black oxide finish

► Ball: ball bearing steel, hardened

Stainless Steel Ball Set Screws

► 304 stainless steel

► Ball: 304 stainless steel

Ball Clamping Screws

metric

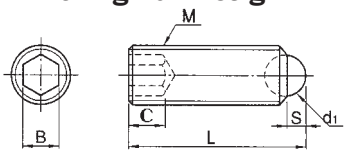
Steel Ball Set Screws

- ▶ Screw: heat treated steel, black oxide finish
- ▶ Ball: ball bearing steel, hardened

Stainless Steel Ball Set Screws

- ▶ Screw: 304 stainless steel
- ▶ Ball: 304 stainless steel

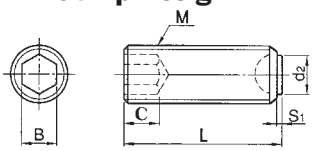
▶ Rolling Ball Design

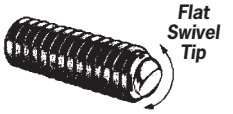


ROLLING BALL DESIGN

Steel PART #	Stainless Steel PART #	M (Thread)	L	d1	S	B	C
470610A	470610AN	M6 x 1.0	10mm	4mm	.8mm	3mm	3mm
470620A	470620AN	M6 x 1.0	20	4	.8	3	3
470810A	470810AN	M8 x 1.25	10	5.5	1.2	4	4
470820A	470820AN	M8 x 1.25	20	5.5	1.2	4	4
471012A	471012AN	M10 x 1.50	12	7	1.7	5	5
471020A	471020AN	M10 x 1.50	20	7	1.7	5	5
471216A	471216AN	M12 x 1.75	16	8.5	2	6	6
471620A	471620AN	M16 x 2.0	20	12	3.3	8	8

▶ Flat Tip Design





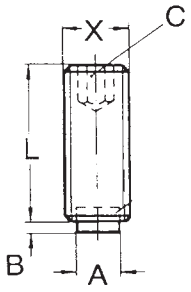
FLAT TIP DESIGN

Steel PART #	Stainless Steel PART #	M (Thread)	L	d1	S	B	C
470610B	470610BN	M6 x 1.0	10mm	4mm	.8mm	3mm	3mm
470620B	470620BN	M6 x 1.0	20	4	.8	3	3
470810B	470810BN	M8 x 1.25	10	5.5	1.2	4	4
470820B	470820BN	M8 x 1.25	20	5.5	1.2	4	4
471012B	471012BN	M10 x 1.50	12	7	1.7	5	5
471020B	471020BN	M10 x 1.50	20	7	1.7	5	5
471216B	471216BN	M12 x 1.75	16	8.5	2	6	6
471620B	471620BN	M16 x 2.0	20	12	3.3	8	8

Nose Clamps

metric

- ▶ Available with brass or plastic nose pad to prevent marks or damage to contact surface
- ▶ Steel screw with black oxide finish



BRASS NOSE

PART #	X	L	A	B	C
BP-0410	M4 x .7	10mm	2.5mm	.5mm	2mm
BP-0416	M4 x .7	16	2.5	.5	2
BP-0512	M5 x .8	10	3	.5	2.5
BP-0520	M5 x .8	20	3	.5	2.5
BP-0620	M6 x 1.0	20	4	1.0	3
BP-0632	M6 x 1.0	32	4	1.0	3
BP-0820	M8 x 1.25	20	6	1.5	4
BP-0840	M8 x 1.25	50	6	1.5	4
BP-1020	M10 x 1.5	20	8	2	5
BP-1040	M10 x 1.5	50	8	2	5
BP-1225	M12 x 1.75	25	10	2	6
BP-1250	M12 x 1.75	50	10	2	6

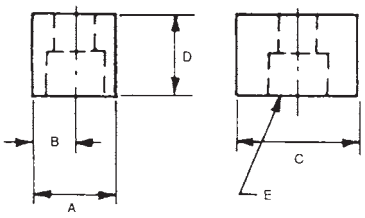
PLASTIC NOSE

PART #	X	L	A	B	C
PP-0410	M4 x .7	10mm	2mm	1mm	2mm
PP-0416	M4 x .7	16	2	1	2
PP-0512	M5 x .8	12	3	1	2.5
PP-0520	M5 x .8	20	3	1	2.5
PP-0620	M6 x 1.0	20	3.5	1.3	3
PP-0632	M6 x 1.0	32	3.5	1.3	3
PP-0820	M8 x 1.25	20	5	1.6	4
PP-0840	M8 x 1.25	40	5	1.6	4
PP-1020	M10 x 1.5	20	6.5	1.9	5
PP-1040	M10 x 1.5	40	6.5	1.9	5
PP-1225	M12 x 1.75	25	8	2.1	6
PP-1250	M12 x 1.75	50	8	2.1	6

Plain Fixture Keys

- Case hardened, black oxide finish
- Precision ground
- "A" dimension...+.000-.001

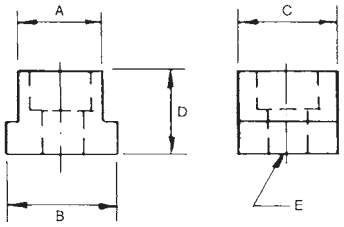
PART #	A	B	C	D	For Screw E
K-10	.500	1/4	3/4	1/2	1/4
K-15	.5625	9/32	3/4	1/2	1/4
K-20	.625	5/16	3/4	1/2	5/16
K-30	.6875	11/32	1	1/2	5/16
K-40	.750	3/8	1-1/4	1/2	5/16
K-50	.8125	13/32	1-1/4	1/2	5/16



Fixture Step Keys

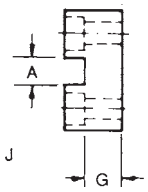
- Case hardened, black oxide finish
- Precision ground
- "A" dimension...+.000-.001
- "B" dimension...+.000-.001
- "C" dimension...+.000-.001

PART #	A	B	C	D	E
SK-5	.4375	.5625	.5625	1/2	10-24
SK-10	.500	.625	.625	1/2	1/4
SK-15	.5625	.6875	.6875	1/2	1/4
SK-20	.625	.750	.750	1/2	5/16
SK-30	.6875	.8125	.8125	1/2	5/16



Guide Blocks

- Case hardened, black oxide finish
- Machined from low carbon steel



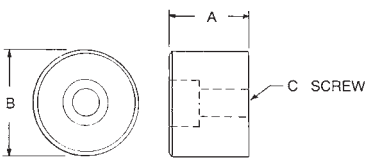
PART #	A	B	C	D	E	F	G	H	Screw Size J
GB-1	3/16	13/16	3/4	7/16	3/16	7/16	3/16	5/16	#5 Fil Hd
GB-2	1/4	1-1/8	1	5/8	1/4	5/8	5/16	1/2	#10 Fil Hd
GB-3	5/16	1-1/2	1-3/8	7/8	5/16	7/8	3/8	5/8	1/4-20 Fil Hd
GB-4	3/8	1-5/8	1-1/2	1	3/8	7/8	3/8	5/8	1/4-20 Fil Hd
GB-5	1/2	1-5/8	1-1/2	1	3/8	7/8	3/8	5/8	1/4-20 Fil Hd

Button Jig Feet

- Case hardened, black oxide finish
- Precision ground
- "A" dimension...+.001-.000

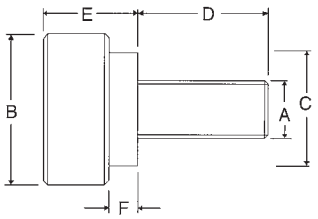
PART #	A	B	C
BJF-250	.250	5/8	#10-Flat
BJF-375	.375	5/8	#10-Flat
BJF-500	.500	5/8	#10-Flat
BJF-625	.625	5/8	#10-Flat
BJF-750	.750	5/8	#10-Flat
BJF-875	.875	5/8	#10-Flat
BJF-1000	1.000	5/8	#10-Flat
BJF-3750	.375	7/8	5/16
BJF-5000	.500	7/8	5/16
BJF-6250	.625	7/8	5/16
BJF-7500	.750	7/8	5/16
BJF-8750	.875	7/8	5/16

PART #	A	B	C
BJF-10000	1.000	7/8	5/16
BJF-11250	1.125	7/8	5/16
BJF-7501	.750	1-1/4	3/8
BJF-8751	.875	1-1/4	3/8
BJF-10001	1.000	1-1/4	3/8
BJF-15000	1.500	1-1/4	3/8
BJF-20000	2.000	1-1/4	3/8
BJF-75	.750	1-3/8	1/2
BJF-100	1.000	1-3/8	1/2
BJF-1250	1.250	1-5/8	1/2
BJF-1750	1.750	1-5/8	1/2
BJF-2250	2.250	1-5/8	1/2



Precision Thumb Screws

with shoulder



- ► Precision thumb screw for a wide variety of applications
- ► 303 stainless steel or carbon steel with black oxide finish
- ► Diamond knurl
- ► Shoulder provides an excellent bearing surface
- ► Inch and metric sizes available

INCH

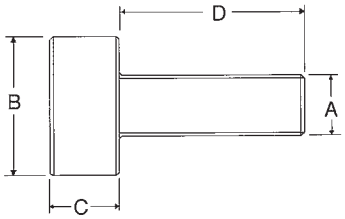
Steel PART #	Stainless Steel PART #	Thread A	D	B	C	E	F
3101	4101	#4-40	1/4	3/8	1/4	3/16	3/32
3102	4102	#4-40	3/8	3/8	1/4	3/16	3/32
3251	4251	#4-40	7/16	3/8	1/4	3/16	3/32
3075	4075	#4-40	1/2	3/8	1/4	3/16	3/32
3252	4252	#6-32	3/8	7/16	3/8	5/16	3/32
3202	4202	#6-32	7/16	7/16	3/8	5/16	3/32
3253	4253	#6-32	1/2	7/16	3/8	5/16	3/32
3204	4204	#6-32	9/16	7/16	3/8	5/16	3/32
3205	4205	#8-32	5/16	7/16	3/8	5/16	3/32
3206	4206	#8-32	3/8	7/16	3/8	5/16	3/32
3207	4207	#8-32	7/16	7/16	3/8	5/16	3/32
3208	4208	#8-32	1/2	7/16	3/8	5/16	3/32
3209	4209	#8-32	9/16	7/16	3/8	5/16	3/32
3301	4301	#8-32	5/16	1/2	3/8	5/16	3/32
3302	4302	#8-32	3/8	1/2	3/8	5/16	3/32
3303	4303	#8-32	7/16	1/2	3/8	5/16	3/32
3304	4304	#8-32	1/2	1/2	3/8	5/16	3/32
3305	4305	#8-32	5/8	1/2	3/8	5/16	3/32
3401	4401	#10-32	5/16	1/2	3/8	5/16	3/32
3402	4402	#10-32	3/8	1/2	3/8	5/16	3/32
3403	4403	#10-32	7/16	1/2	3/8	5/16	3/32
3404	4404	#10-32	1/2	1/2	3/8	5/16	3/32
3405	4405	#10-32	9/16	1/2	3/8	5/16	3/32
3406	4406	#10-32	5/8	1/2	3/8	5/16	3/32
3076	4076	#10-32	3/4	1/2	3/8	5/16	3/32
3407	4407	1/4-20	1/2	1/2	3/8	3/8	1/8
3408	4408	1/4-20	5/8	1/2	3/8	3/8	1/8
3409	4409	1/4-20	3/4	1/2	3/8	3/8	1/8
3412	-	1/4-20	1"	1/2	3/8	3/8	1/8

METRIC

Steel PART #	Stainless Steel PART #	Thread A	D	B	C	E	F
3601	4601	M3 x .5	8mm	9.5mm	6.4mm	7.9mm	2.3mm
3602	4602	M3 x .5	11	9.5	6.4	7.9	2.3
3603	4603	M3.5 x .6	9	9.5	6.4	7.9	2.3
3604	4604	M3.5 x .6	13	9.5	6.4	7.9	2.3
3605	4605	M4 x .7	9	11.1	9.5	7.9	2.3
3606	4606	M4 x .7	13	11.1	9.5	7.9	2.3
3607	4607	M5 x .8	9	11.1	9.5	7.9	2.3
3608	4608	M5 x .8	16	11.1	9.5	7.9	2.3
3609	4609	M6 x 1.0	9	12.7	9.5	9.5	3.2
3610	4610	M6 x 1.0	13	12.7	9.5	9.5	3.2
3611	4611	M6 x 1.0	19	12.7	9.5	9.5	3.2

Stainless Steel Thumb Screws

- 303 stainless steel
- Diamond knurl
- Inch and metric sizes available

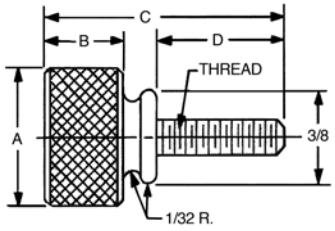


INCH				
PART #	A	D	B	C
4113	#4-40	5/16	5/16	3/16
4114	#4-40	3/8	5/16	3/16
4119	#4-40	1/2	5/16	3/16
4525	#6-32	5/16	5/16	3/16
4124	#6-32	3/8	5/16	3/16
4127	#6-32	1/2	5/16	3/16
4526	#6-32	5/8	5/16	3/16
4128	#6-32	3/8	3/8	3/16
4218	#8-32	3/8	3/8	3/16
4222	#8-32	1/2	3/8	3/16
4224	#8-32	5/8	3/8	3/16
4226	#8-32	3/4	3/8	3/16
4312	#10-24	3/4	3/8	3/16
4318	#10-24	3/4	1/2	3/16
4324	#10-24	3/4	3/4	3/16
4358	#10-32	3/8	7/16	3/16
4460	#10-32	1/2	3/8	3/16
4361	#10-32	1/2	7/16	3/16
4362	#10-32	5/8	7/16	3/16
4363	#10-32	3/4	7/16	3/16
4364	#10-32	3/4	1/2	3/16
4372	#10-32	3/4	3/4	3/16
4368	#10-32	1-1/4	1/2	3/16
4376	#10-32	1-1/4	3/4	3/16
4527	1/4-20	1/2	3/4	3/16
4528	1/4-20	5/8	3/4	3/16
4412	1/4-20	3/4	3/4	3/16
4414	1/4-20	1	3/4	3/16
4416	1/4-20	1-1/4	3/4	3/16
4418	1/4-20	1-1/2	3/4	3/16
4420	1/4-20	2	3/4	3/16
4428	1/4-20	2	1	3/16

METRIC				
PART #	Thread	D	B	C
4111	M3 x .5	8mm	8mm	5mm
4115	M3 x .5	9	8	5
41195	M3 x .5	11	8	5
4123	M3 x .5	13	8	5
41275	M3.5 x .6	8	8	5
4131	M3.5 x .6	9	8	5
4135	M3.5 x .6	11	8	5
4139	M3.5 x .6	13	8	5
4143	M4 x .7	9	9.5	5
4147	M4 x .7	11	9.5	5
4151	M4 x .7	13	9.5	5
4155	M4 x .7	14	9.5	5
4159	M4 x .7	16	9.5	5
4163	M5 x .8	9	11.5	5
4167	M5 x .8	11	11.5	5
4171	M5 x .8	13	11.5	5
4175	M5 x .8	14	11.5	5
4179	M5 x .8	16	11.5	5
4183	M6 x 1.0	13	13	6
4187	M6 x 1.0	14	13	6
4191	M6 x 1.0	16	13	6
4195	M6 x 1.0	18	13	6
4199	M6 x 1.0	19	13	6

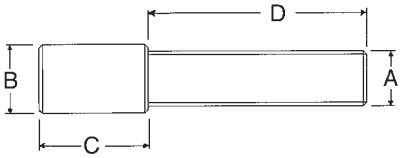
Thumb Screws
with washer face

- Precision thumb screw used in a variety of electronic component applications
- Available in 303 stainless steel and 360 brass
- Diamond knurl
- Washer face shoulder design



Stainless Steel PART #	Brass PART #	THREAD	D	A	B	C
4800	5800	#4-40	5/16	3/8	3/16	5/8
4801	5801	#4-40	3/8	3/8	3/16	11/16
4802	5802	#4-40	7/16	3/8	3/16	3/4
4803	5803	#6-32	3/8	3/8	3/16	11/16
4804	5804	#6-32	7/16	3/8	3/16	3/4
4805	5805	#6-32	1/2	3/8	3/16	13/16
4806	5806	#8-32	3/8	7/16	3/16	11/16
4807	5807	#8-32	1/2	7/16	3/16	13/16
4808	5808	#8-32	5/8	7/16	3/16	15/16
4809	5809	#10-32	3/8	7/16	3/16	11/16
4810	5810	#10-32	1/2	7/16	3/16	13/16
4811	5811	#10-32	5/8	7/16	3/16	15/16
4812	5812	1/4-20	3/8	1/2	1/4	3/4
4813	5813	1/4-20	1/2	1/2	1/4	7/8
4814	5814	1/4-20	5/8	1/2	1/4	1
4815	5815	1/4-20	3/4	1/2	1/4	1-1/8

Precision Stainless Steel Thumb Screws



- Made from 303 stainless steel
- Diamond knurl on head
- Longer head length than standard thumb screw
- Inch and metric sizes available

PART #	METRIC A	D	B	C
4501	M3.5 x .6	19mm	4.8mm	9.5mm
4502	M3.5 x .6	25	4.8	9.5
4503	M3.5 x .6	31	4.8	9.5
4504	M4 x .7	19	4.8	9.5
4505	M4 x .7	25	4.8	9.5
4506	M4 x .7	31	4.8	9.5
4507	M5 x .8	19	6.4	12.7
4508	M5 x .8	25	6.4	12.7
4509	M5 x .8	31	6.4	12.7
4510	M6 x 1.0	19	8	12.7
4511	M6 x 1.0	25	8	12.7
4512	M6 x 1.0	31	8	12.7

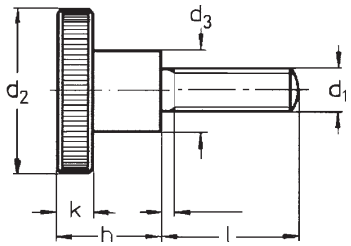
PART #	INCH A	D	B	C
4520	#4-40	5/8	3/16	3/8
4118	#4-40	1"	3/16	3/8
4521	#6-32	3/8	3/16	3/8
4522	#6-32	5/8	3/16	3/8
4120	#6-32	3/4	3/16	3/8
4122	#6-32	1"	3/16	3/8
4125	#6-32	1-1/4	3/16	3/8
4523	#8-32	3/8	3/16	3/8
4219	#8-32	1/2	3/16	3/8
4220	#8-32	3/4	3/16	3/8
4228	#8-32	1"	3/16	3/8
4231	#8-32	1-1/4	3/16	3/8
4310	#10-24	1/2	1/4	1/2
4311	#10-24	3/4	1/4	1/2
4326	#10-24	1"	1/4	1/2
4327	#10-24	1-1/4	1/4	1/2
4359	#10-32	1/2	1/4	1/2
4360	#10-32	3/4	1/4	1/2
4374	#10-32	1"	1/4	1/2
4375	#10-32	1-1/4	1/4	1/2
4410	1/4-20	1/2	5/16	1/2
4411	1/4-20	3/4	5/16	1/2
4413	1/4-20	1"	5/16	1/2
4524	1/4-20	1-1/4	5/16	1/2
4436	1/4-20	1-1/2	5/16	1/2
4417	5/16-18	1/2	3/8	5/8
4438	5/16-18	1	3/8	5/8
4419	5/16-18	1-1/2	3/8	5/8

Long Style Thumb Screws

- Available in carbon steel (black oxide finish), or 300 series stainless steel
- Long style thread, diamond knurl head

Steel PART #	Stainless Steel PART #	A Thread	B	C	D
4064	-	#10-32	1/2	3/16	5/8
4065	-	#10-32	3/4	3/16	5/8
4066	-	#10-32	1"	3/16	5/8
4010	4010SS	#10-32	1-1/2	3/16	5/8
4011	4011SS	#10-32	2	3/16	5/8
4012	4012SS	#10-24	1-1/2	3/16	5/8
4013	4013SS	#10-24	2	3/16	5/8
4067	-	1/4-20	1/2	7/32	11/16
4068	-	1/4-20	3/4	7/32	11/16
4069	-	1/4-20	1"	7/32	11/16
4014	4014SS	1/4-20	1-1/2	7/32	11/16
4015	4015SS	1/4-20	2-1/2	7/32	11/16
4031	4031SS	5/16-18	1	1/4	3/4
4032	4032SS	5/16-18	1-1/2	1/4	3/4
4016	4016SS	5/16-18	1-3/4	1/4	3/4
4017	4017SS	5/16-18	2-1/4	1/4	3/4
4018	4018SS	5/16-18	3	1/4	3/4
4041	4041SS	3/8-16	1	5/16	7/8
4042	4042SS	3/8-16	1-1/2	5/16	7/8
4019	4019SS	3/8-16	2	5/16	7/8
4020	4020SS	3/8-16	2-1/2	5/16	7/8
4021	4021SS	3/8-16	3	5/16	7/8
4051	4051SS	1/2-13	1-1/2	3/8	1
4052	4052SS	1/2-13	2	3/8	1
4053	4053SS	1/2-13	2-1/2	3/8	1
4022	4022SS	1/2-13	3	3/8	1

Knurled Thumb Screws



INCH

Steel PART #	Stainless Steel PART #	Thread	Thread Lgth	d_2	d_3	h	k
KK-2531	KK-2531SS	1/4-20	5/16	1	1/2	5/8	1/4
KK-2537	KK-2537SS	1/4-20	3/8	1	1/2	5/8	1/4
KK-2550	KK-2550SS	1/4-20	1/2	1	1/2	5/8	1/4
KK-2562	KK-2562SS	1/4-20	5/8	1	1/2	5/8	1/4
KK-2575	KK-2575SS	1/4-20	3/4	1	1/2	5/8	1/4
KK-2510	KK-2510SS	1/4-20	1	1	1/2	5/8	1/4
KK-2512	KK-2512SS	1/4-20	1-1/4	1	1/2	5/8	1/4
KK-3150	KK-3150SS	5/16-18	1/2	1-1/4	5/8	3/4	1/4
KK-3162	KK-3162SS	5/16-18	5/8	1-1/4	5/8	3/4	1/4
KK-3175	KK-3175SS	5/16-18	3/4	1-1/4	5/8	3/4	1/4
KK-3110	KK-3110SS	5/16-18	1	1-1/4	5/8	3/4	1/4
KK-3112	KK-3112SS	5/16-18	1-1/4	1-1/4	5/8	3/4	1/4
KK-3115	KK-3115SS	5/16-18	1-1/2	1-1/4	5/8	3/4	1/4
KK-3762	KK-3762SS	3/8-16	5/8	1-3/8	3/4	1	5/16
KK-3775	KK-3775SS	3/8-16	3/4	1-3/8	3/4	1	5/16
KK-3710	KK-3710SS	3/8-16	1	1-3/8	3/4	1	5/16
KK-3712	KK-3712SS	3/8-16	1-1/4	1-3/8	3/4	1	5/16
KK-3715	KK-3715SS	3/8-16	1-1/2	1-3/8	3/4	1	5/16
KK-5010	KK-5010SS	1/2-13	1	1-3/8	7/8	1	5/16
KK-5015	KK-5015SS	1/2-13	1-1/2	1-3/8	7/8	1	5/16
KK-5020	KK-5020SS	1/2-13	2	1-3/8	7/8	1	5/16

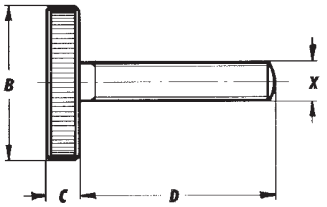
METRIC

Steel PART #	Stainless Steel PART #	Thread	Thread Lgth	d_2	d_3	h	k
361203006	361203006SS	M3 x .5	6mm	12mm	6mm	7.5mm	2.5mm
361203010	361203010SS	M3 x .5	10	12	6	7.5	2.5
361203012	361203012SS	M3 x .5	12	12	6	7.5	2.5
361203016	361203016SS	M3 x .5	16	12	6	7.5	3.0
361604005	361604005SS	M4 x .7	5	16	8	9.5	3.5
361604008	361604008SS	M4 x .7	8	16	8	9.5	3.5
361604010	361604010SS	M4 x .7	10	16	8	9.5	3.5
361604012	361604012SS	M4 x .7	12	16	8	9.5	3.5
361604016	361604016SS	M4 x .7	16	16	8	9.5	3.5
361604020	361604020SS	M4 x .7	20	16	8	9.5	3.5
361604025	361604025SS	M4 x .7	25	16	8	9.5	3.5
362005006	362005006SS	M5 x .8	6	20	10	11.5	4
362005008	362005008SS	M5 x .8	8	20	10	11.5	4
362005010	362005010SS	M5 x .8	10	20	10	11.5	4
362005012	362005012SS	M5 x .8	12	20	10	11.5	4
362005016	362005016SS	M5 x .8	16	20	10	11.5	4
362005020	362005020SS	M5 x .8	20	20	10	11.5	4
362406008	362406008SS	M6 x 1.0	8	24	12	16	5
362406010	362406010SS	M6 x 1.0	10	24	12	16	5
362406012	362406012SS	M6 x 1.0	12	24	12	16	5
362406016	362406016SS	M6 x 1.0	16	24	12	16	5
362406020	362406020SS	M6 x 1.0	20	24	12	16	5
362406025	362406025SS	M6 x 1.0	25	24	12	16	5
	362406030SS	M6 x 1.0	30	24	12	16	5
363008012	363008012SS	M8 x 1.25	12	30	16	18	6
363008016	363008016SS	M8 x 1.25	16	30	16	18	6
363008020	363008020SS	M8 x 1.25	20	30	16	18	6
363008025	363008025SS	M8 x 1.25	25	30	16	18	6
363008030	363008030SS	M8 x 1.25	30	30	16	18	6
363008040	363008040SS	M8 x 1.25	40	30	16	18	6
363610016	363610016SS	M10 x 1.5	16	36	20	23	8
363610020	363610020SS	M10 x 1.5	20	36	20	23	8
363610025	363610025SS	M10 x 1.5	25	36	20	23	8
363610030	363610030SS	M10 x 1.5	30	36	20	23	8
363610040	363610040SS	M10 x 1.5	40	36	20	23	8

- ▶ Inch and metric sizes available
- ▶ Available in steel and stainless steel
- ▶ Solid one piece construction
- ▶ Straight knurl

Thumb Screws

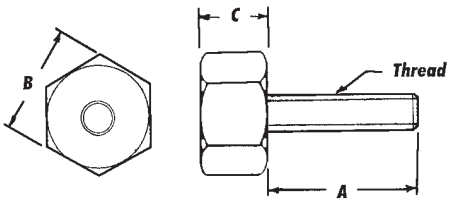
metric



- ► Carbon steel, black oxide finish
- ► Straight knurl
- ► Large head diameter

Steel PART #	X Thread	D	B	C
521203006	M3 x .5	6mm	12mm	2.5mm
521203010	M3 x .5	10	12	2.5
521203016	M3 x .5	16	12	2.5
521604008	M4 x .7	8	16	3.5
521604010	M4 x .7	10	16	3.5
521604012	M4 x .7	12	16	3.5
521604016	M4 x .7	16	16	3.5
521604020	M4 x .7	20	16	3.5
522005010	M5 x .8	10	20	4
522005012	M5 x. 8	12	20	4
522005016	M5 x .8	16	20	4
522005020	M5 x .8	20	20	4
522406012	M6 x 1.0	12	24	5
522406016	M6 x 1.0	16	24	5
522406020	M6 x 1.0	20	24	5
522406030	M6 x 1.0	30	24	5
522406040	M6 x 1.0	40	24	5
523008016	M8 x 1.25	16	30	6
523008020	M8 x 1.25	20	30	6
523008025	M8 x 1.25	25	30	6
523008030	M8 x 1.25	30	30	6
523008040	M8 x 1.25	40	30	6
523610020	M10 x 1.5	20	36	8
523610025	M10 x 1.5	25	36	8
523610030	M10 x 1.5	30	36	8
523610040	M10 x 1.5	40	36	8

Hex Head Thumb Screws

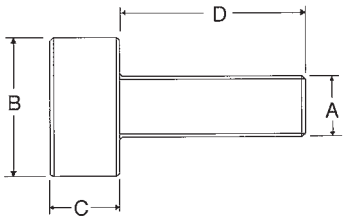


- ► Available in carbon steel (black oxide finish), or 300 series stainless steel
- ► Hex head allows the opportunity for increased torque

Steel PART #	Stainless Steel PART #	Thread	A	B	C
HTS-11	HTS-11SS	#4-40	1/2	5/16	1/4
HTS-12	HTS-12SS	#4-40	1/2	3/8	1/4
HTS-13	HTS-13SS	#6-32	1/2	5/16	1/4
HTS-14	HTS-14SS	#6-32	1/2	3/8	1/4
HTS-15	HTS-15SS	#8-32	1/2	3/8	1/4
HTS-16	HTS-16SS	#8-32	5/8	3/8	1/4
HTS-17	HTS-17SS	#8-32	3/4	3/8	1/4
HTS-18	HTS-18SS	#10-24	1/2	3/8	1/4
HTS-19	HTS-19SS	#10-24	5/8	3/8	1/4
HTS-20	HTS-20SS	#10-24	3/4	1/2	3/8
HTS-21	HTS-21SS	#10-32	1/2	3/8	1/4
HTS-22	HTS-22SS	#10-32	5/8	3/8	1/4
HTS-23	HTS-23SS	#10-32	5/8	1/2	3/8
HTS-24	HTS-24SS	#10-32	3/4	1/2	3/8
HTS-25	HTS-25SS	1/4-20	5/8	1/2	3/8
HTS-26	HTS-26SS	1/4-20	3/4	1/2	3/8
HTS-27	HTS-27SS	1/4-20	3/4	5/8	7/16
HTS-28	HTS-28SS	1/4-20	1	5/8	7/16
HTS-29	HTS-29SS	1/4-20	1-1/4	5/8	7/16

Brass Knurled Head Thumb Screws

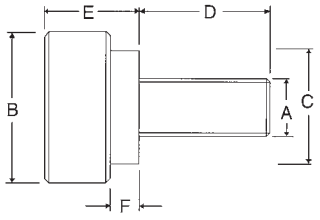
- Free machining brass
- Diamond knurl
- Precision machined finish



PART #	Thread	D	B	C
5160	#4-40	.312	.312	.187
5161	#4-40	.375	.312	.187
5162	#6-32	.375	.312	.187
5163	#6-32	.500	.312	.187
5164	#8-32	.375	.375	.187
5165	#8-32	.500	.375	.187
5166	#10-24	.500	.375	.187
5167	#10-24	.625	.375	.187
5168	#10-32	.500	.375	.187
5169	#10-32	.625	.375	.187
5170	1/4-20	.750	.500	.187
5171	1/4-20	1.000	.500	.187

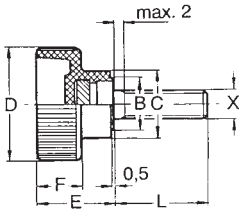
Brass Knurled Head Thumb Screws
with shoulder

- Free machining brass
- Diamond knurl
- Precision machined finish
- Shoulder provides an excellent bearing surface



PART #	Thread	D	B	C	E	F
5180	#4-40	.250	.375	.250	.187	.094
5181	#4-40	.375	.375	.250	.187	.094
5182	#6-32	.437	.437	.375	.312	.094
5183	#6-32	.562	.437	.375	.312	.094
5184	#8-32	.375	.500	.375	.312	.094
5185	#8-32	.500	.500	.375	.312	.094
5186	#8-32	.625	.500	.375	.312	.094
5187	#10-32	.375	.500	.375	.312	.094
5188	#10-32	.500	.500	.375	.312	.094
5189	#10-32	.625	.500	.375	.312	.094
5190	1/4-20	.500	.625	.500	.437	.125
5191	1/4-20	.625	.625	.500	.437	.125
5192	1/4-20	.750	.625	.500	.437	.125

Plastic Head Thumb Screws



EXTERNAL THREAD

- ▶ Black plastic knurled knob
- ▶ Zinc-plated steel screw

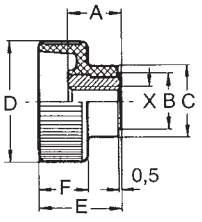
INCH - EXTERNAL THREAD

PART #	X	L	B	C	D	E	F
TS-301	#10-32	.39	.25	.47	.75	.55	.32
TS-302	#10-32	.78	.25	.47	.75	.55	.32
TS-303	#10-24	.59	.25	.47	.75	.55	.32
TS-304	#10-24	.78	.25	.47	.75	.55	.32
TS-305	1/4-20	.78	.43	.59	.98	.75	.37
TS-306	1/4-20	1.18	.43	.59	.98	.75	.37
TS-307	5/16-18	.82	.51	.71	1.18	.83	.43
TS-308	5/16-18	1.08	.51	.71	1.18	.83	.43
TS-309	5/16-18	1.57	.51	.71	1.18	.83	.43
TS-310	3/8-16	.78	.59	.71	1.42	.88	.49
TS-311	3/8-16	1.18	.59	.71	1.42	.88	.49
TS-312	3/8-16	1.90	.59	.71	1.42	.88	.49

METRIC - EXTERNAL THREAD

PART #	X	L	B	C	D	E	F
TS-420	M4 x .7	20mm	9mm	12mm	20mm	14mm	8mm
TS-515	M5 x.8	15	9	12	20	14	8
TS-620	M6 x 1.0	20	11	14	25	16.5	9.5
TS-630	M6 x 1.0	30	11	14	25	16.5	9.5
TS-820	M8 x 1.25	20	13	16	30	19.5	11
TS-830	M8 x 1.25	30	13	16	30	19.5	11
TS-840	M8 x 1.25	40	13	16	30	19.5	11

Plastic Head Thumb Knobs



INTERNAL THREAD

- ▶ Black plastic knurled knob
- ▶ Thread insert made from brass

INCH - INTERNAL THREAD

PART #	X	A	B	C	D	E	F
TS-100	#10-32	.35	.25	.47	.75	.55	.32
TS-101	#10-24	.35	.25	.47	.75	.55	.32
TS-102	1/4-20	.41	.43	.55	.94	.64	.37
TS-103	5/16-18	.45	.51	.63	1.18	.76	.43
TS-104	3/8-16	.55	.59	.71	1.42	.88	.49

METRIC - INTERNAL THREAD

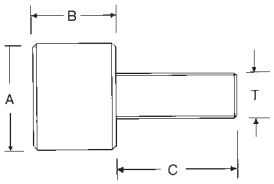
PART #	X	A	B	C	D	E	F
TS-04	M4 x .7	9mm	9mm	12mm	20mm	14mm	8mm
TS-05	M5 x .8	9	9	12	20	14	8
TS-06	M6 x 1.0	10.5	11	14	25	16.5	9.5
TS-08	M8 x 1.25	11.5	13	16	30	19.5	11
TS-10	M10 x 1.5	14	15	18	35	22.5	12.5

Large Panel Screws

► Available in carbon steel with black oxide finish or 300 series stainless steel

► Extra large head with straight knurl

► One piece construction



Steel PART #	Stainless Steel PART #	Thread	C	A	B
-	PS-90SS	#6-32	1/2	3/8	5/16
-	PS-91SS	#6-32	3/4	3/8	5/16
-	PS-92SS	#8-32	1/2	1/2	3/8
-	PS-93SS	#8-32	3/4	1/2	3/8
-	PS-94SS	#10-32	1/2	1/2	3/8
-	PS-95SS	#10-32	3/4	1/2	3/8
PS-10	PS-10SS	1/4-20	1/2	5/8	1/2
PS-20	PS-20SS	1/4-20	3/4	5/8	1/2
PS-25	PS-25SS	1/4-20	1"	5/8	1/2
PS-15	PS-15SS	1/4-20	1-1/4	5/8	1/2
PS-30	PS-30SS	5/16-18	3/4	3/4	9/16
PS-40	PS-40SS	5/16-18	1"	3/4	9/16
-	PS-45SS	5/16-18	1-1/4	3/4	9/16
PS-50	PS-50SS	3/8-16	3/4	7/8	11/16
PS-60	PS-60SS	3/8-16	1"	7/8	11/16
-	PS-65SS	3/8-16	1-1/2	7/8	11/16
PS-70	PS-70SS	1/2-13	3/4	1"	13/16
PS-80	PS-80SS	1/2-13	1"	1"	13/16
-	PS-85SS	1/2-13	1-1/2	1"	13/16

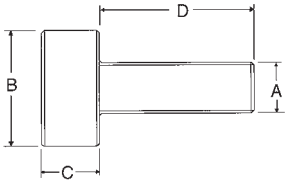
Nylon Thumb Screws

► Machined from Nylatron

► High strength and rigidity

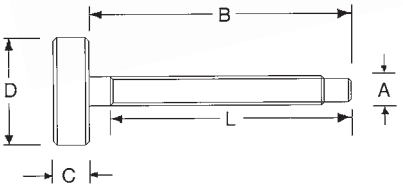
► Superior heat resistance

► Diamond knurl on head



PART #	A Thread	D	B	C
4701	#6-32	3/8	3/8	1/8
4702	#6-32	1/2	3/8	1/8
4703	#8-32	3/8	3/8	3/16
4704	#8-32	1/2	3/8	3/16
4705	#8-32	3/4	3/8	3/16
4706	#10-24	1/2	3/8	3/16
4707	#10-24	3/4	1/2	3/16
4708	#10-24	3/4	3/4	3/16
4709	#10-32	1/2	3/8	3/16
4710	#10-32	3/4	1/2	3/16
4711	#10-32	3/4	3/4	3/16
4712	#10-32	1"	3/4	3/16
4713	1/4-20	3/4	1/2	3/16
4714	1/4-20	3/4	3/4	3/16
4715	1/4-20	1"	3/4	3/16
4716	1/4-20	1-1/4	3/4	3/16
4717	5/16-18	1"	3/4	1/4
4718	5/16-18	1-1/4	3/4	1/4

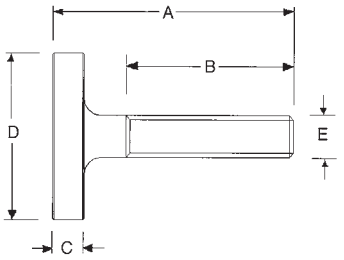
Knurled Head Adjusting Screws



- Available in carbon steel (black oxide finish) or 300 series stainless steel
- Two piece construction
- Straight knurl
- Screws not fully threaded, thread length is the "L" dimension

Low Carbon Steel PART #	Stainless Steel PART #	Thread A	L	B	C	D
-	KHS0-4SS	#10-32	3/4	1	5/16	3/4
-	KHS0-3SS	#10-32	1-1/4	1-1/2	5/16	3/4
-	KHS0-5SS	#10-32	1-3/4	2	5/16	3/4
KHS0-1	KHS0-1SS	#10-24	1-1/16	1-1/4	5/16	3/4
KHS0-2	KHS0-2SS	#10-24	1-7/16	1-5/8	5/16	3/4
KHS0	KHS0SS	#10-24	1-13/16	2	5/16	3/4
KHS1-0	KHS1-0SS	1/4-20	3/4	1	5/16	1
KHS1-1	KHS1-1SS	1/4-20	1-1/4	1-1/2	5/16	1
KHS1-2	KHS1-2SS	1/4-20	1-3/4	2	5/16	1
KHS1	KHS1SS	1/4-20	2-1/4	2-1/2	5/16	1
KHS2-0	KHS2-0SS	5/16-18	7/8	1	3/8	1-1/8
KHS2-1	KHS2-1SS	5/16-18	1-3/16	1-1/2	3/8	1-1/8
KHS2-3	KHS2-3SS	5/16-18	1-7/16	1-3/4	3/8	1-1/8
KHS2-2	KHS2-2SS	5/16-18	1-15/16	2-1/4	3/8	1-1/8
KHS2-4	KHS2-4SS	5/16-18	2-7/16	2-3/4	3/8	1-1/8
KHS2	KHS2SS	5/16-18	2-11/16	3	3/8	1-1/8
KHS3-0	KHS3-0SS	3/8-16	1-1/8	1-1/2	7/16	1-1/4
KHS3-1	KHS3-1SS	3/8-16	1-5/8	2	7/16	1-1/4
KHS3-2	KHS3-2SS	3/8-16	2-1/8	2-1/2	7/16	1-1/4
KHS3	KHS3SS	3/8-16	2-3/8	3	7/16	1-1/4
KHS3-3	KHS3-3SS	3/8-16	3-1/8	3-1/2	7/16	1-1/4
KHS3-4	KHS3-4SS	3/8-16	3-5/8	4	7/16	1-1/4
KHS4-1	KHS4-1SS	1/2-13	2	2-1/2	1/2	1-1/4
KHS4-0	KHS4-0SS	1/2-13	2-1/4	2-3/4	1/2	1-1/4
KHS4-2	KHS4-2SS	1/2-13	2-1/2	3	1/2	1-1/4
KHS4	KHS4SS	1/2-13	3	3-1/2	1/2	1-1/4

Stainless Steel Knurled Head Screws



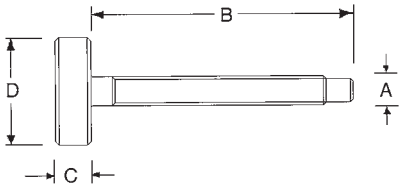
- Machined from 303 stainless steel
- One piece construction
- Oversized head, straight knurl
- Screws are not fully threaded. Thread length is the 'B' dimension.

PART #	E Thread	A	B	C	D
8251	#4-40	1	7/16	1/2	1/4
8252	#4-40	1-1/4	5/8	1/2	1/4
82505	#4-40	1-1/2	3/4	1/2	1/4
8253	#4-40	1/2	5/16	1/8	3/8
8254	#4-40	5/8	7/16	1/8	3/8
8255	#6-32	1	7/16	1/2	1/4
8256	#6-32	1-1/4	5/8	1/2	1/4
8257	#6-32	1-1/2	13/16	1/2	1/4
8258	#6-32	1/2	5/16	1/8	3/8
8259	#6-32	5/8	3/8	1/8	3/8
8260	#8-32	1	7/16	1/2	1/4
8261	#8-32	1-1/4	5/8	1/2	1/4
8262	#8-32	1-1/2	13/16	1/2	1/4
8263	#8-32	1/2	5/16	1/8	3/8
8264	#8-32	5/8	3/8	1/8	3/8
8266	#10-24	15/16	5/8	3/16	3/8
8267	#10-24	1-3/16	13/16	3/16	3/8
8268	#10-24	1-7/16	1	3/16	3/8
8269	#10-24	15/16	5/8	3/16	1/2
8270	#10-24	1-3/16	13/16	3/16	1/2
8271	#10-24	1-7/16	1	3/16	1/2
8273	#10-24	15/16	5/8	3/16	3/4
8274	#10-24	1-3/16	13/16	3/16	3/4
8275	#10-24	1-7/16	1	3/16	3/4
8276	#10-24	1-11/16	1-1/4	3/16	3/4
8277	#10-32	11/16	7/16	3/16	3/8
8280	#10-32	1-7/16	1	3/16	3/8
8281	#10-32	15/16	5/8	3/16	1/2
8282	#10-32	1-3/16	13/16	3/16	1/2
8283	#10-32	1-7/16	1	3/16	1/2
8284	#10-32	1-11/16	1-1/4	3/16	1/2
8285	#10-32	15/16	5/8	3/16	3/4
8286	#10-32	1-3/16	13/16	3/16	3/4
8287	#10-32	1-7/16	1	3/16	3/4
8289	1/4-20	15/16	5/8	3/16	3/4
8290	1/4-20	1-3/16	13/16	3/16	3/4
8291	1/4-20	1-7/16	1	3/16	3/4
8292	1/4-20	1-11/16	1-1/4	3/16	3/4
8299	1/4-20	1-13/16	1-3/8	3/16	3/4
8293	1/4-20	2-3/16	1-5/8	3/16	3/4
8294	1/4-20	15/16	5/8	3/16	1
8295	1/4-20	1-3/16	13/16	3/16	1
8296	1/4-20	1-7/16	1	3/16	1
8297	1/4-20	1-11/16	1-1/4	3/16	1
8298	1/4-20	2-3/16	1-5/8	3/16	1

Knurled Head Adjusting Screws
metric

- ► Carbon steel, black oxide finish
- ► Two-piece construction
- ► Straight knurl

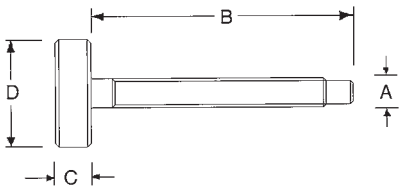
PART #	Thread A	B	C	D	Tip Dia.	Tip Lgth.
KHS-80	M4 x .7	38mm	6mm	19mm	2mm	3mm
KHS-81	M4 x .7	51	6	19	2	3
KHS-82	M6 x 1.0	38	8	25	5	3
KHS-83	M6 x 1.0	51	8	25	5	3
KHS-84	M6 x 1.0	64	8	25	5	3
KHS-85	M8 x 1.25	38	9.5	29	6	5
KHS-86	M8 x 1.25	51	9.5	29	6	5
KHS-87	M8 x 1.25	64	9.5	29	6	5
KHS-88	M10 x 1.5	51	11	32	7	5
KHS-89	M10 x 1.5	64	11	32	7	5
KHS-90	M10 x 1.5	76	11	32	7	5
KHS-91	M12 x 1.75	76	13	32	10	6



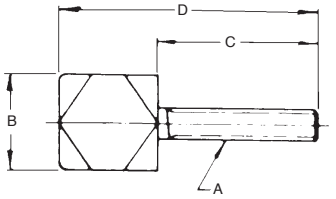
Stainless Steel Knurled Head Adjusting Screws
metric

- ► 300 series stainless steel
- ► Two-piece construction
- ► Straight knurl

PART #	Thread A	B	D	C	Tip Dia.	Tip Lgth.
KHS-51SS	M4 x .7	32mm	19mm	8mm	2mm	3mm
KHS-52SS	M4 x .7	41	19	8	2	3
KHS-53SS	M4 x .7	51	19	8	2	3
KHS-54SS	M6 x 1.0	25	25	8	4	3
KHS-55SS	M6 x 1.0	38	25	8	4	3
KHS-56SS	M6 x 1.0	51	25	8	4	3
KHS-57SS	M6 x 1.0	64	25	8	4	3
KHS-58SS	M8 x 1.25	25	29	9.5	6	4
KHS-59SS	M8 x 1.25	38	29	9.5	6	4
KHS-60SS	M8 x 1.25	44	29	9.5	6	4
KHS-61SS	M8 x 1.25	57	29	9.5	6	4
KHS-62SS	M8 x 1.25	70	29	9.5	6	4
KHS-63SS	M8 x 1.25	76	29	9.5	6	4
KHS-64SS	M10 x 1.5	38	32	11	7	4
KHS-65SS	M10 x 1.5	51	32	11	7	4
KHS-66SS	M10 x 1.5	64	32	11	7	4
KHS-67SS	M10 x 1.5	76	32	11	7	4
KHS-68SS	M10 x 1.5	89	32	11	7	4
KHS-69SS	M10 x 1.5	102	32	11	7	4
KHS-70SS	M12 x 1.75	64	32	13	10	6
KHS-71SS	M12 x 1.75	70	32	13	10	6
KHS-72SS	M12 x 1.75	76	32	13	10	6
KHS-73SS	M12 x 1.75	89	32	13	10	6



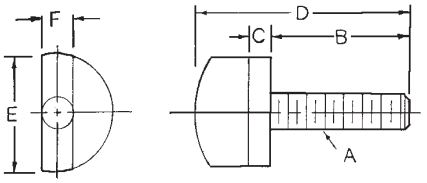
Quarter Turn Screws



- Available hardened or unhardened black oxide finish, carbon steel

Not hardened Low Carbon Steel PART #	Hardened Low Carbon Steel PART #	Stainless Steel PART #	Thread A	B	C	D
QT-0	QT-10	QT-0SS	#10-32	1/2	1"	1-1/2
QT-1	QT-11	QT-1SS	1/4-20	3/4	1-1/4	1-7/8
QT-2	QT-12	QT-2SS	5/16-18	1"	1-1/2	2-1/4
QT-3	QT-13	QT-3SS	3/8-16	1"	1-1/2	2-1/2
QT-4	QT-14	QT-4SS	1/2-13	1-1/4	1-3/4	2-3/4
Long Style						
LQT-0	LQT10	–	#10-32	1/2	1-1/2	2"
LQT-1	LQT-11	–	1/4-20	3/4	1-3/4	2-3/8
LQT-2	LQT-12	–	5/16-18	1"	2	2-3/4
LQT-3	LQT-13	–	3/8-16	1"	2	3"
LQT-4	LQT-14	–	1/2-13	1-1/4	2-1/4	3-1/4

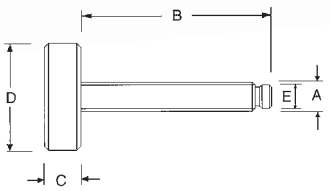
Half Turn Screws



- Carbon steel, black oxide finish
- Applications include using as locking tool for leaf and jig plates

PART #	Thread A	B	C	D	E	F
HTS-510	#10-32	1"	3/16	1-11/16	3/4	3/16
HTS-525	1/4-20	1-1/4	3/16	2"	3/4	1/4
HTS-531	5/16-18	1-1/4	3/16	2-1/16	1"	5/16
HTS-537	3/8-16	1-3/4	1/4	2-11/16	1-1/16	3/8
HTS-550	1/2-13	1-3/4	1/4	2-3/4	1-1/4	1/2

Knurled Head Toggle Screws

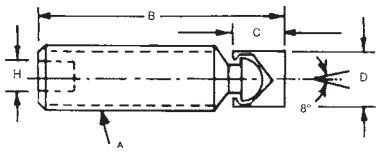


- Heat treated steel, black oxide finish
- Three piece construction
- Pad swivels to allow for uniform clamping pressure

PART #	Thread A	B	C	D	E
KHT-10	1/4-20	1-1/2	5/16	1"	.185
KHT-11	1/4-20	2"	5/16	1"	.185
KHT-12	5/16-18	1-1/2	3/8	1-1/8	.245
KHT-13	5/16-18	2"	3/8	1-1/8	.245
KHT-14	5/16-18	2-1/2	3/8	1-1/8	.245
KHT-15	3/8-16	1-1/2	7/16	1-1/4	.297
KHT-17	3/8-16	2-1/2	7/16	1-1/4	.297
KHT-18	3/8-16	3"	7/16	1-1/4	.297
KHT-20	1/2-13	2"	1/2	1-1/4	.405
KHT-22	1/2-13	3"	1/2	1-1/4	.405

Hex Socket Toggle Screws

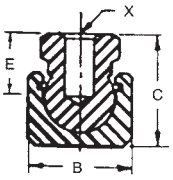
- ► Heat treated steel, black oxide finish
- ► Pad swivels 8˚ in any direction for clamping on uneven surfaces
- ► Hex socket for clamping in confined area

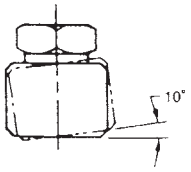


PART #	Thread A	B	C	D	H
HST-2507	1/4-20	3/4	3/16	.185	1/8
HST-2510	1/4-20	1	3/16	.185	1/8
HST-3115	5/16-18	1-1/2	15/64	.240	5/32
HST-3707	3/8-16	3/4	9/32	.293	3/16
HST-3715	3/8-16	1-1/2	9/32	.293	3/16
HST-3720	3/8-16	2	9/32	.293	3/16
HST-5020	1/2-13	2	3/8	.400	1/4
HST-5025	1/2-13	2-1/2	3/8	.400	1/4
HST-6220	5/8-11	2	7/16	.506	5/16
HST-6230	5/8-11	3	7/16	.506	5/16

Toggle Pads

- ► Zinc-plated steel
- ► Available with steel pad or Delrin® pad
- ► 10 degree swivel
- ► Do not exceed load rating
- ► Metric sizes have black oxide finish





INCH

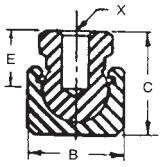
Steel Pad PART #	Delrin Pad PART #	Thread X	B	C	E	Steel Lbs. Load	Delrin Lbs. Load
BTP-1	BTP-10	1/4-20	1/2	5/8	5/16	3900	360
BTP-2	BTP-20	5/16-18	9/16	3/4	3/8	5900	360
BTP-3	BTP-30	3/8-16	5/8	13/16	3/8	6400	570
BTP-4	BTP-40	1/2-13	3/4	15/16	7/16	7000	570
BTP-5	BTP-50	5/8-11	7/8	1	7/16	10000	1000
BTP-6	BTP-60	3/4-10	1-1/16	1-11/32	5/8	13500	1300
BTP-7	BTP-70	1-8	1-3/8	1-53/64	13/16	18750	1570

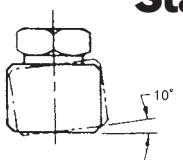
METRIC

PART #	Thread X	B	C	E
BTP-208	M8 x 1.25	16mm	19mm	9mm
BTP-210	M10 x 1.5	20	22	11
BTP-212	M12 x 1.75	24	25	12
BTP-216	M16 x 2.0	30	34	16

Stainless Steel Toggle Pads

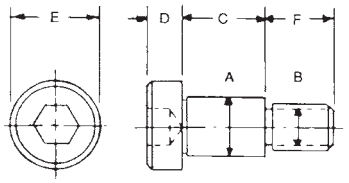
- ► Stainless steel
- ► Available with stainless steel or Delrin® pad
- ► 10 degree swivel
- ► Do not exceed load rating





Stainless Pad PART #	Delrin Pad PART #	Thread X	B	C	E	Stainless Load	Delrin Load
BTP-1SS	BTP-10SS	1/4-20	1/2	5/8	5/16	5000	360
BTP-2SS	BTP-20SS	5/16-18	9/16	3/4	3/8	7600	360
BTP-3SS	BTP-30SS	3/8-16	5/8	13/16	3/8	8250	570
BTP-4SS	BTP-40SS	1/2-13	3/4	15/16	7/16	9000	570
BTP-5SS	BTP-50SS	5/8-11	7/8	1	7/16	12900	1000
BTP-6SS	BTP-60SS	3/4-10	1-1/16	1-11/32	5/8	17400	1300
BTP-7SS	BTP-70SS	1-8	1-3/8	1-53/64	13/16	24200	1570

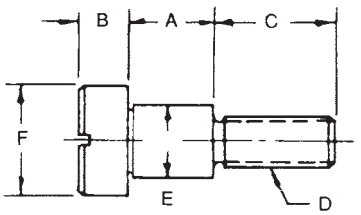
Socket Head Shoulder Screws



- ▶ Available in heat treated carbon steel or stainless steel
- ▶ Black oxide finish
- ▶ "C" dimension...+.005-.000
- ▶ "A" dimension...+.000-.001

Low Carbon Steel PART #	Stainless Steel PART #	A	B	C	D	E	F
SHS-1	SHS-1SS	.250	#10-24	1/4	3/16	3/8	3/8
SHS-2	SHS-2SS	.250	#10-24	3/8	3/16	3/8	3/8
SHS-3	SHS-3SS	.250	#10-24	1/2	3/16	3/8	3/8
SHS-4	SHS-4SS	.250	#10-24	5/8	3/16	3/8	3/8
SHS-5	SHS-5SS	.250	#10-24	3/4	3/16	3/8	3/8
SHS-6	SHS-6SS	.250	#10-24	1	3/16	3/8	3/8
SHS-7	SHS-7SS	.312	1/4-20	1/4	7/32	7/16	7/16
SHS-8	SHS-8SS	.312	1/4-20	3/8	7/32	7/16	7/16
SHS-9	SHS-9SS	.312	1/4-20	1/2	7/32	7/16	7/16
SHS-10	SHS-10SS	.312	1/4-20	5/8	7/32	7/16	7/16
SHS-11	SHS-11SS	.312	1/4-20	3/4	7/32	7/16	7/16
SHS-12	SHS-12SS	.312	1/4-20	1	7/32	7/16	7/16
SHS-13	SHS-13SS	.375	5/16-18	1/4	1/4	9/16	1/2
SHS-14	SHS-14SS	.375	5/16-18	3/8	1/4	9/16	1/2
SHS-15	SHS-15SS	.375	5/16-18	1/2	1/4	9/16	1/2
SHS-16	SHS-16SS	.375	5/16-18	5/8	1/4	9/16	1/2
SHS-17	SHS-17SS	.375	5/16-18	3/4	1/4	9/16	1/2
SHS-18	SHS-18SS	.375	5/16-18	1	1/4	9/16	1/2
SHS-19	SHS-19SS	.500	3/8-16	3/8	5/16	3/4	5/8
SHS-20	SHS-20SS	.500	3/8-16	1/2	5/16	3/4	5/8
SHS-21	SHS-21SS	.500	3/8-16	5/8	5/16	3/4	5/8
SHS-22	SHS-22SS	.500	3/8-16	3/4	5/16	3/4	5/8
SHS-23	SHS-23SS	.500	3/8-16	1	5/16	3/4	5/8
SHS-24	SHS-24SS	.625	1/2-13	1/2	3/8	7/8	3/4
SHS-25	SHS-25SS	.625	1/2-13	5/8	3/8	7/8	3/4
SHS-26	SHS-26SS	.625	1/2-13	3/4	3/8	7/8	3/4
SHS-27	SHS-27SS	.625	1/2-13	1	3/8	7/8	3/4

Slotted Shoulder Screws

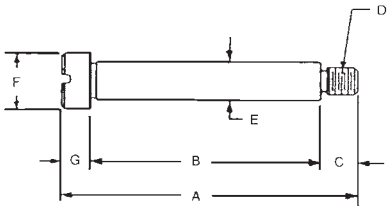


- ▶ Available in heat treated carbon steel or stainless steel
- ▶ Black oxide finish
- ▶ "A" dimension...+.005 -.000
- ▶ "E" dimension...+.000 -.001

Low Carbon Steel PART #	Stainless Steel PART #	A	B	C	D	E	F
SS-1	SS-1SS	.252	3/16	3/8	1/4-20	.374	5/8
SS-2	SS-2SS	.314	3/16	3/8	1/4-20	.374	5/8
SS-3	SS-3SS	.377	1/4	1/2	5/16-18	.499	3/4
SS-4	SS-4SS	.502	1/4	5/8	3/8-16	.499	3/4
SS-5	SS-5SS	.627	1/4	5/8	3/8-16	.499	3/4
SS-6	SS-6SS	.752	1/4	5/8	3/8-16	.499	3/4

Stainless Steel Shoulder Screws

PART #	A	+.005-.000 B	C	D	+.000-.001 E	F	G
9250	13/32	1/8	5/32	#4-40	1/8	1/4	1/8
9251	15/32	3/16	5/32	#4-40	1/8	1/4	1/8
9252	17/32	1/4	5/32	#4-40	1/8	1/4	1/8
9253	19/32	5/16	5/32	#4-40	1/8	1/4	1/8
9254	21/32	3/8	5/32	#4-40	1/8	1/4	1/8
9255	15/32	1/8	3/16	#8-32	3/16	5/16	5/32
9256	17/32	3/16	3/16	#8-32	3/16	5/16	5/32
9257	19/32	1/4	3/16	#8-32	3/16	5/16	5/32
9258	21/32	5/16	3/16	#8-32	3/16	5/16	5/32
9259	23/32	3/8	3/16	#8-32	3/16	5/16	5/32
9260	27/32	1/2	3/16	#8-32	3/16	5/16	5/32
9261	31/32	5/8	3/16	#8-32	3/16	5/16	5/32
9262	1-3/32	3/4	3/16	#8-32	3/16	5/16	5/32
9263	1-11/32	1	3/16	#8-32	3/16	5/16	5/32
9264	1-19/32	1-1/4	3/16	#8-32	3/16	5/16	5/32
9265	1-27/32	1-1/2	3/16	#8-32	3/16	5/16	5/32
9266	9/16	1/8	1/4	#10-32	1/4	3/8	3/16
9267	5/8	3/16	1/4	#10-32	1/4	3/8	3/16
9268	11/16	1/4	1/4	#10-32	1/4	3/8	3/16
9269	3/4	5/16	1/4	#10-32	1/4	3/8	3/16
9270	13/16	3/8	1/4	#10-32	1/4	3/8	3/16
9271	15/16	1/2	1/4	#10-32	1/4	3/8	3/16
9272	1-1/16	5/8	1/4	#10-32	1/4	3/8	3/16
9273	1-3/16	3/4	1/4	#10-32	1/4	3/8	3/16
9274	1-7/16	1	1/4	#10-32	1/4	3/8	3/16
9275	1-11/16	1-1/4	1/4	#10-32	1/4	3/8	3/16
9276	1-15/16	1-1/2	1/4	#10-32	1/4	3/8	3/16

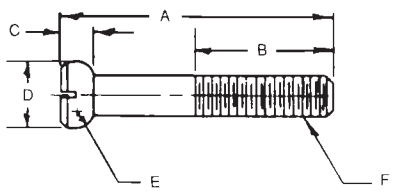


- Made from 303 stainless steel
- Slotted head

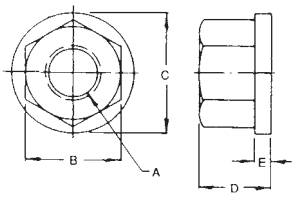
Stainless Steel Spherical Head Screws

- Made from 300 series stainless steel
- Slotted head

PART #	A	B	C	D	E	F
6208	1	5/8	3/16	3/8	1/8	#10-32
6209	1-1/4	5/8	3/16	3/8	1/8	#10-32
6210	1-1/2	3/4	3/16	3/8	1/8	#10-32
6260	1-1/4	7/8	1/4	7/16	1/8	1/4-20
6261	1-1/2	7/8	1/4	7/16	1/8	1/4-20
6262	1-3/4	7/8	1/4	7/16	1/8	1/4-20
6263	2	7/8	1/4	7/16	1/8	1/4-20
6322	1-1/2	1	1/4	1/2	1/8	5/16-18
6323	1-3/4	1	1/4	1/2	1/8	5/16-18
6324	2	1	1/4	1/2	1/8	5/16-18
6325	2-1/4	1	1/4	1/2	1/8	5/16-18
6326	2-1/2	1	1/4	1/2	1/8	5/16-18
6386	1-1/2	1-1/8	9/32	5/8	3/16	3/8-16
6387	1-3/4	1-1/8	9/32	5/8	3/16	3/8-16
6388	2	1-1/8	9/32	5/8	3/16	3/8-16
6389	2-1/4	1-1/8	9/32	5/8	3/16	3/8-16
6390	2-1/2	1-1/8	9/32	5/8	3/16	3/8-16
6391	2-3/4	1-1/8	9/32	5/8	3/16	3/8-16
6392	3	1-1/8	9/32	5/8	3/16	3/8-16



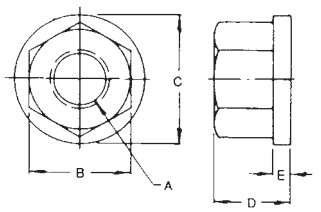
Collar Nuts



- ▶ Available in case hardened carbon steel or stainless steel
- ▶ Precision machining assures threads are square with base
- ▶ If the size you require is not listed...give us the specifications...we will make it for you.

Low Carbon Steel PART #	Stainless Steel PART #	Thread A	B	C	D	E
-	CN-094SS	#4-40	1/4	3/8	7/32	3/64
-	CN-095SS	#6-32	5/16	13/32	7/32	3/64
-	CN-096SS	#8-32	11/32	15/32	1/4	1/16
-	CN-097SS	#10-24	3/8	1/2	5/16	1/16
-	CN-098SS	#10-32	3/8	1/2	5/16	1/16
CN-0	CN-0SS	1/4-20	1/2	5/8	5/16	3/32
CN-100	CN-100SS	1/4-28	1/2	5/8	5/16	3/32
CN-00	CN-00SS	5/16-18	9/16	3/4	3/8	3/32
CN-105	CN-105SS	5/16-24	9/16	3/4	3/8	3/32
CN-10	CN-10SS	3/8-16	11/16	7/8	1/2	1/8
CN-110	CN-110SS	3/8-24	11/16	7/8	1/2	1/8
CN-15	CN-15SS	7/16-14	3/4	1	9/16	5/32
CN-115	CN-115SS	7/16-20	3/4	1	9/16	5/32
CN-20	CN-20SS	1/2-13	7/8	1-1/8	11/16	5/32
CN-120	CN-120SS	1/2-20	7/8	1-1/8	11/16	5/32
CN-30	CN-30SS	5/8-11	1-1/16	1-3/8	13/16	3/16
CN-130	CN-130SS	5/8-18	1-1/16	1-3/8	13/16	3/16
CN-40	CN-40SS	3/4-10	1-1/4	1-5/8	1	1/4
CN-140	CN-140SS	3/4-16	1-1/4	1-5/8	1	1/4
CN-50	CN-50SS	7/8-9	1-7/16	1-3/4	1-1/8	1/4
CN-150	CN-150SS	7/8-14	1-7/16	1-3/4	1-1/8	1/4
CN-60	CN-60SS	1"-8	1-5/8	2	1-1/4	1/4
CN-160	CN-160SS	1"-14	1-5/8	2	1-1/4	1/4
CN-70	CN-70SS	1-1/8-7	1-3/4	2-1/4	1-1/4	1/4
CN-170	CN-170SS	1-1/8-12	1-3/4	2-1/4	1-1/4	1/4
CN-80	CN-80SS	1-1/4-7	1-13/16	2-1/4	1-1/4	1/4
CN-180	CN-180SS	1-1/4-12	1-13/16	2-1/4	1-1/4	1/4

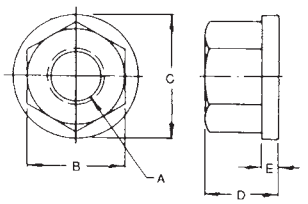
Collar Nuts
metric



- ▶ Available in case-hardened carbon steel or stainless steel
- ▶ Black oxide finish on carbon steel nut
- ▶ Flange provides larger bearing surface
- ▶ Dimensions shown in millimeters

Carbon Steel PART #	Stainless Steel PART #	Thread	B	C	D	E
-	CN-506SS	M6 x 1.0	12.7	15.9	7.9	2.4
CN-508	CN-508SS	M8 x 1.25	14.3	19	9.5	2.4
CN-510	CN-510SS	M10 x 1.5	17.4	22.2	12.7	3.2
CN-512	CN-512SS	M12 x 1.75	22.2	28.5	17.4	4
CN-516	CN-516SS	M16 x 2.0	27	35	20.6	4.7

Nylon Collar Nuts



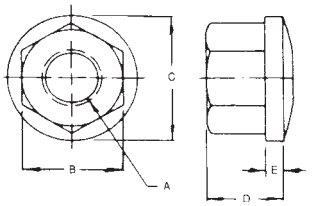
- ▶ Machined from Nylatron GS
- ▶ Precision machining assures threads are square with base
- ▶ High strength and rigidity
- ▶ Superior heat resistance
- ▶ Lightweight

PART #	Thread	B	C	D	E
CN-0N	1/4-20	1/2	5/8	5/16	3/32
CN-00N	5/16-18	9/16	3/4	3/8	3/32
CN-10N	3/8-16	11/16	7/8	1/2	1/8
CN-15N	7/16-14	3/4	1"	9/16	5/32
CN-20N	1/2-13	7/8	1-1/8	11/16	5/32
CN-30N	5/8-11	1-1/16	1-3/8	13/16	3/16
CN-40N	3/4-10	1-1/4	1-5/8	1"	1/4
CN-50N	7/8-9	1-7/16	1-3/4	1-1/8	1/4
CN-60N	1"-8	1-5/8	2"	1-1/4	1/4

Spherical Collar Nuts

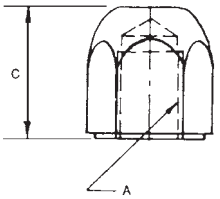
► Available in case hardened carbon steel or stainless steel

► Spherical collar nuts can be used with the bottom half of Morton's spherical washers for self-alignment.



Low Carbon Steel PART #	Stainless Steel PART #	Thread A	B	C	D	E
SCN-0	SCN-0SS	1/4-20	1/2	5/8	5/16	3/32
SCN-00	SCN-00SS	5/16-18	9/16	3/4	3/8	3/32
SCN-1	SCN-1SS	3/8-16	11/16	7/8	1/2	1/8
SCN-9	-	7/16-14	3/4	1"	9/16	5/32
SCN-2	SCN-2SS	1/2-13	7/8	1-1/8	11/16	5/32
SCN-3	SCN-3SS	5/8-11	1-1/16	1-3/8	13/16	3/16
SCN-4	SCN-4SS	3/4-10	1-1/4	1-5/8	1	1/4
SCN-5	SCN-5SS	7/8-9	1-7/16	1-7/8	1-1/8	1/4
SCN-6	SCN-6SS	1"-8	1-5/8	2	1-1/4	1/4
SCN-7	SCN-7SS	1-1/8-7	1-13/16	2-1/4	1-1/4	1/4
SCN-8	-	1-1/4-7	2	2-5/8	1-1/4	1/4

Acorn Nuts

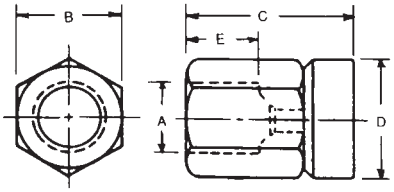


► Available in case hardened steel or stainless steel

► Excellent for protecting exposed threads

Low Carbon Steel PART #	Stainless Steel PART #	Thread A	Hex	C	Thread Depth
AN-6	AN-6SS	1/4-20	5/8	5/8	1/2
AN-0	AN-0SS	5/16-18	5/8	5/8	1/2
AN-1	AN-1SS	3/8-16	3/4	3/4	19/32
AN-2	AN-2SS	1/2-13	7/8	15/16	3/4
AN-3	AN-3SS	5/8-11	1-1/16	1-3/16	15/16
AN-4	AN-4SS	3/4-10	1-1/4	1-3/8	1-3/32
AN-5	AN-5SS	7/8-9	1-3/8	1-5/8	1-9/32

Swivel Nuts



► Case hardened carbon steel

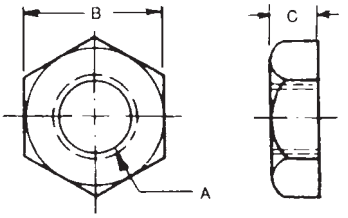
► Black oxide finish

► Two piece construction

► Hex portion of nut rotates 360˚

PART #	A Thread	B	C	D	E
SN-1	#10-24	1/4	5/16	5/16	13/64
SN-2	1/4-20	5/16	13/32	3/8	3/16
SN-3	5/16-18	3/8	15/32	7/16	1/4
SN-4	3/8-16	7/16	17/32	1/2	17/64
SN-5	7/16-14	1/2	19/32	9/16	5/16
SN-6	1/2-13	5/8	21/32	11/16	3/8
SN-7	5/8-11	3/4	27/32	7/8	7/16
SN-8	3/4-10	7/8	1	1	1/2

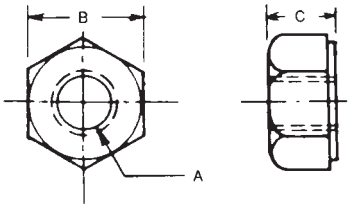
Hex Jam Nuts



- Carbon steel with a black oxide finish

PART #	Thread A	B	C
HJN-25	1/4-20	1/2	3/16
HJN-31	5/16-18	9/16	7/32
HJN-37	3/8-16	11/16	1/4
HJN-50	1/2-13	7/8	5/16
HJN-62	5/8-11	1-1/16	3/8
HJN-75	3/4-10	1-1/4	7/16
HJN-87	7/8-9	1-7/16	1/2
HJN-10	1-8	1-5/8	9/16

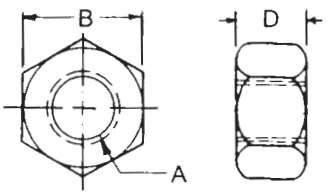
Full Hex Nuts



- Available in carbon steel and stainless steel
- Carbon steel has black oxide finish

Low Carbon Steel PART #	Stainless Steel PART #	Thread A	B	C
HN-25	HN-25SS	1/4-20	1/2	1/4
HN-31	HN-31SS	5/16-18	9/16	5/16
HN-37	HN-37SS	3/8-16	11/16	3/8
HN-50	HN-50SS	1/2-13	7/8	1/2
HN-62	HN-62SS	5/8-11	1-1/16	5/8
HN-75	HN-75SS	3/4-10	1-1/4	3/4
HN-87	HN-87SS	7/8-9	1-7/16	7/8
HN-10	HN-10SS	1-8	1-5/8	1

Stainless Steel Hex Nuts

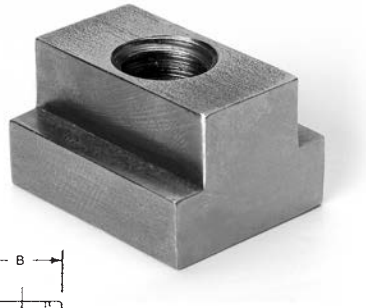


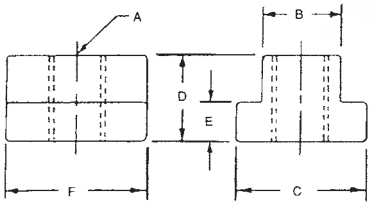
- Machined from 303 stainless steel

PART #	Thread A	B	D
3314	#4-40	1/4	7/64
3315	#6-32	5/16	1/8
3316	#8-32	11/32	9/64
3317	#10-32	3/8	9/64
3318	#10-24	3/8	9/64
3319	1/4-20	7/16	13/64
3320	5/16-18	1/2	9/32
3321	5/16-24	1/2	9/32
3322	3/8-16	9/16	11/32
3323	3/8-24	9/16	11/32

T-Slot Nuts

Low Carbon Steel PART #	Stainless Steel PART #	Thread A	Table Slot B	C	D	E	F
-	TN-6SS	1/4-20	5/16	1/2	1/4	11/64	9/16
TN-0	TN-0SS	5/16-18	3/8	5/8	13/32	7/32	3/4
TN-00	TN-00SS	5/16-18	7/16	11/16	3/8	1/4	11/16
TN-05	TN-05SS	3/8-16	7/16	3/4	1/2	7/32	1
TN-10	TN-10SS	3/8-16	1/2	7/8	5/8	1/4	7/8
TN-15	TN-15SS	3/8-16	9/16	7/8	5/8	5/16	1-1/4
TN-20	TN-20SS	1/2-13	9/16	7/8	3/4	11/32	1-1/4
TN-1	TN-1SS	1/2-13	9/16	7/8	3/4	5/16	1-1/4
TN-2	TN-2SS	1/2-13	9/16	1-1/8	3/4	25/64	1-1/4
TN-22	TN-22SS	1/2-13	5/8	1	3/4	3/8	1-1/4
TN-23	TN-23SS	1/2-13	5/8	1-1/8	3/4	7/16	1-1/4
TN-21	TN-21SS	1/2-13	11/16	1-1/8	3/4	13/32	1-1/4
TN-30	TN-30SS	5/8-11	11/16	1-1/8	1-1/8	15/32	1-1/2
TN-3	TN-3SS	5/8-11	11/16	1-1/4	1	15/32	1-1/2
TN-31	TN-31SS	5/8-11	13/16	1-1/4	1	17/32	1-1/2
-	TN-32SS	5/8-11	3/4	1-1/4	3/4	15/32	1-1/2
-	TN-37SS	3/4-10	13/16	1-1/4	1	9/16	1-3/4
TN-40	TN-40SS	3/4-10	13/16	1-3/8	1-3/8	17/32	1-3/4
TN-5	TN-5SS	3/4-10	13/16	1-1/2	1	9/16	1-3/4
TN-4	TN-4SS	3/4-10	1	1-5/8	1	9/16	1-3/4
TN-41	TN-41SS	3/4-10	1-1/16	1-5/8	1	9/16	1-3/4
-	TN-42SS	3/4-10	31/32	1-5/8	1	5/8	1-3/4
-	TN-43SS	3/4-10	1	1-5/8	1-1/8	11/16	1-3/4





► Available in case hardened carbon steel with black oxide finish, or 304 stainless steel

► Imperfect thread at the bottom of the t-nut to prevent damage to machine table

► Tapped-thru hole available upon request

► If the size you require is not listed...give us the specifications...we will make it for you.

T-Slot Nuts
metric

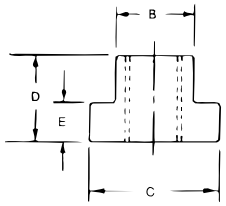
► Case-hardened carbon steel

► Black oxide finish

► Imperfect thread to prevent damage to machine table

► Dimensions shown in millimeters

PART #	Thread	Table Slot B	C	E	D	Length
TN-110	M8 x 1.25	10 mm	16 mm	6mm	12.7mm	22mm
TN-112	M10 x 1.5	12	22	7	12.7	22
TN-114	M12 x 1.75	14	22	8	16	29
TN-116	M12 x 1.75	16	25.4	9	16	29
TN-118	M16 x 2.0	18	31.7	11	19	32
TN-120	M16 x 2.0	20	31.7	12	25.4	38



Rotary T-Nuts

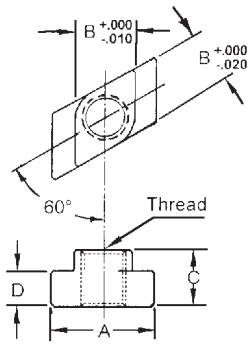
► Carbon steel

► Case hardened, black oxide finish

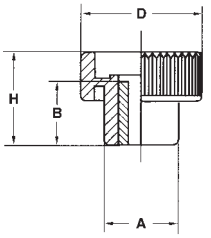
► Unique design allows quick and convenient set-ups and tear down

► Place the T-Nut into the table slot and rotate a quarter-turn to engage

PART #	Thread	Table Slot	A	B	C	D
TN-210	3/8-16	1/2	7/8	.495	1/2	9/32
TN-211	1/2-13	9/16	7/8	.557	5/8	11/32
TN-212	1/2-13	5/8	1	.620	5/8	11/32
TN-213	1/2-13	11/16	1-1/8	.682	3/4	7/16
TN-214	5/8-11	11/16	1-1/8	.682	3/4	7/16
TN-215	5/8-11	3/4	1-1/4	.745	3/4	15/32
TN-216	3/4-10	1	1-5/8	.995	1	5/8



Plastic Knurled Nuts



- ▶ Glass-fiber body
- ▶ Through hole design
- ▶ Bushing available in brass or stainless steel

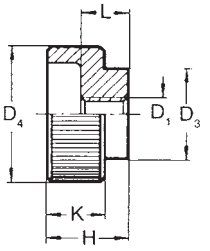
INCH

Brass Insert PART #	Thread	D	A	B	H
KN-224	#10-24	0.79	0.47	0.43	0.51
KN-225	1/4-20	0.98	0.59	0.55	0.75
KN-231	5/16-18	1.18	0.71	0.55	0.83
KN-237	3/8-16	1.38	0.83	0.67	1.1

METRIC

Stainless Steel Insert PART #	Brass Insert PART #	Thread	D	A	B	H
KN-205SS	KN-205	M5 x .8	20mm	12mm	11mm	13mm
KN-206SS	KN-206	M6 x 1.0	25	15	14	19
KN-208SS	KN-208	M8 x 1.25	30	18	14	21
KN-210SS	KN-210	M10 x 1.5	35	21	17	28

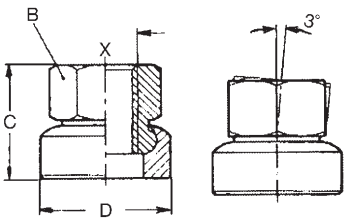
Metric Knurled Nuts

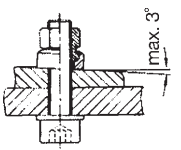


- ▶ Available in carbon steel with black oxide finish and stainless steel
- ▶ Straight knurl finish
- ▶ Full thread
- ▶ Dimensions shown in millimeters

Steel PART #	Stainless Steel PART #	Thread D1	D3	D4	h	k	l
KN-105	KN-105SS	M5 x .8	14mm	20mm	12mm	8mm	7mm
KN-106	KN-106SS	M6 x 1.0	16	24	14	10	8
KN-108	KN-108SS	M8 x 1.25	20	30	17	12	10
KN-110	KN-110SS	M10 x 1.5	28	36	20	14	12

Collar Nuts
with spherical seat





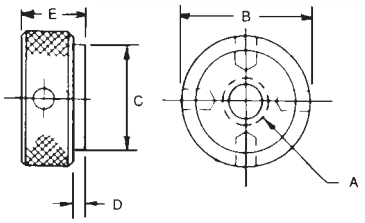
- ▶ Carbon steel, black oxide finish
- ▶ Metric sizes only

PART #	X Thread	B	C	D
SN-108	M8 x 1.25	13mm	14mm	17mm
SN-110	M10 x 1.5	16	17.5	21
SN-112	M12 x 1.75	18	21.5	24
SN-116	M16 x 2.0	24	28	30
SN-120	M20 x 2.5	30	35	36
SN-124	M24 x 3.0	36	42.5	44

Knurled Nuts

- Available in three different materials:
  - carbon steel, black oxide finish
  - stainless steel
  - brass
- 4 holes allow for additional torque if necessary

Steel PART #	Stainless Steel PART #	Brass PART #	Thread A	B	C	D	E
KN-10	KN-10SS	KN-10B	#10-24	3/4	1/2	1/16	1/4
KN-25	KN-25SS	KN-25B	1/4-20	7/8	5/8	1/16	1/4
KN-31	KN-31SS	KN-31B	5/16-18	1"	3/4	3/32	3/8
KN-37	KN-37SS	KN-37B	3/8-16	1"	3/4	3/32	3/8
KN-50	KN-50SS	KN-50B	1/2-13	1-1/8	7/8	1/8	7/16
KN-62	KN-62SS	KN-62B	5/8-11	1-3/8	1-1/8	1/8	1/2



Extension Nuts

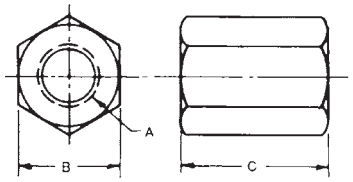
- Case hardened, black oxide finish
- Available in inch and metric sizes
- Commonly known as a coupling nut

INCH

PART #	Thread A	B	C
EN-6	1/4-20	1/2	5/8
EN-7	5/16-18	9/16	7/8
EN-0	3/8-16	11/16	1
EN-9	7/16-14	3/4	1-1/4
EN-1	1/2-13	7/8	1-1/4
EN-2	5/8-11	1-1/16	1-5/8
EN-3	3/4-10	1-1/4	1-7/8
EN-4	7/8-9	1-7/16	2-1/4
EN-5	1-8	1-5/8	2-1/2
EN-11	1-1/4-7	1-7/8	3”

METRIC

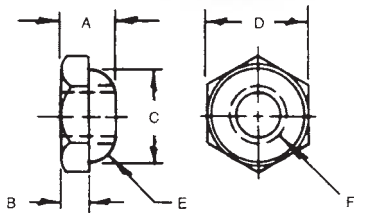
PART #	Thread A	B	C
EN-8	M8 x 1.25	14.3mm	22mm
EN-10	M10 x 1.5	17.4	25
EN-12	M12 x 1.75	22.2	32
EN-16	M16 x 2.0	27	41



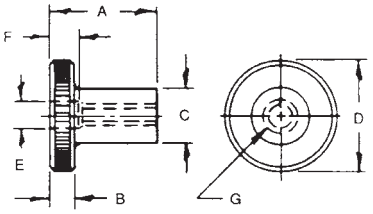
Stainless Steel Hex Head Equalizing Nuts

- Machined from 303 stainless steel

PART #	Thread F	A	B	C	D	E
3312	#4-40	1/4	1/8	9/32	5/16	3/32
3313	#6-32	1/4	1/8	9/32	5/16	3/32
3375	#8-32	1/4	1/8	5/16	3/8	3/32
3437	#10-24	5/16	5/32	3/8	7/16	1/8
3438	#10-32	5/16	5/32	3/8	7/16	1/8
3500	1/4-20	5/16	5/32	7/16	1/2	1/8
3562	5/16-18	5/16	5/32	1/2	9/16	1/8
3687	3/8-16	3/8	3/16	5/8	11/16	3/16
3689	1/2-13	1/2	1/4	11/16	3/4	1/4



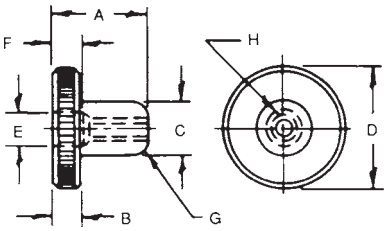
Stainless Steel Knurled Head Nuts



- Machined from 303 stainless steel
- Diamond knurl
- Full interior thread

PART #	Thread G	A	B	C	D	E	F
8500	#4-40	3/8	1/8	1/4	1/2	1/8	1/8
8501	#4-40	5/8	1/8	1/4	1/2	1/8	3/8
8502	#4-40	3/8	1/8	1/4	3/4	1/8	1/8
8503	#4-40	5/8	1/8	1/4	3/4	1/8	3/8
8504	#6-32	3/8	1/8	1/4	1/2	#26 (.147)	3/32
8505	#6-32	5/8	1/8	1/4	1/2	#26 (.147)	11/32
8506	#6-32	3/8	1/8	1/4	3/4	#26 (.147)	3/32
8507	#6-32	5/8	1/8	1/4	3/4	#26 (.147)	11/32
8508	#8-32	3/8	1/8	5/16	1/2	#15 (.180)	1/4
8509	#8-32	5/8	1/8	5/16	1/2	#15 (.180)	1/4
8510	#8-32	3/8	1/8	5/16	3/4	#15 (.180)	1/4
8511	#8-32	5/8	1/8	5/16	3/4	#15 (.180)	1/4
8512	#10-24	7/16	3/16	3/8	1/2	13/64	1/4
8513	#10-24	11/16	3/16	3/8	1/2	13/64	1/4
8514	#10-24	7/16	3/16	3/8	1	13/64	1/4
8515	#10-24	11/16	3/16	3/8	1	13/64	1/4
8516	#10-32	7/16	3/16	3/8	1/2	13/64	1/4
8517	#10-32	11/16	3/16	3/8	1/2	13/64	1/4
8518	#10-32	7/16	3/16	3/8	1	13/64	1/4
8519	#10-32	11/16	3/16	3/8	1	13/64	1/4
8520	1/4-20	1/2	1/4	1/2	3/4	17/64	1/4
8521	1/4-20	3/4	1/4	1/2	3/4	17/64	1/4
8522	1/4-20	1/2	1/4	1/2	1	17/64	1/4
8523	1/4-20	3/4	1/4	1/2	1	17/64	1/4
8524	1/4-20	1	1/4	1/2	1	17/64	1/4

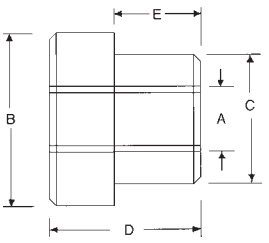
Stainless Steel Knurled Equalizing Nuts



- Machined from 303 stainless steel
- Straight knurl

PART #	Thread H	A	B	C	D	E	F	G
3501	#4-40	5/8	1/8	9/32	1/2	1/8	1/4	3/32
3503	#8-32	5/8	1/8	5/16	1/2	#15 (.180)	1/4	3/32
3750	#10-24	3/4	3/16	3/8	3/4	13/64	1/4	1/8
3751	#10-32	3/4	3/16	3/8	3/4	13/64	1/4	1/8
3800	1/4-20	13/16	1/4	7/16	1	17/64	1/4	1/8

Nylon Knurled Finger Nuts



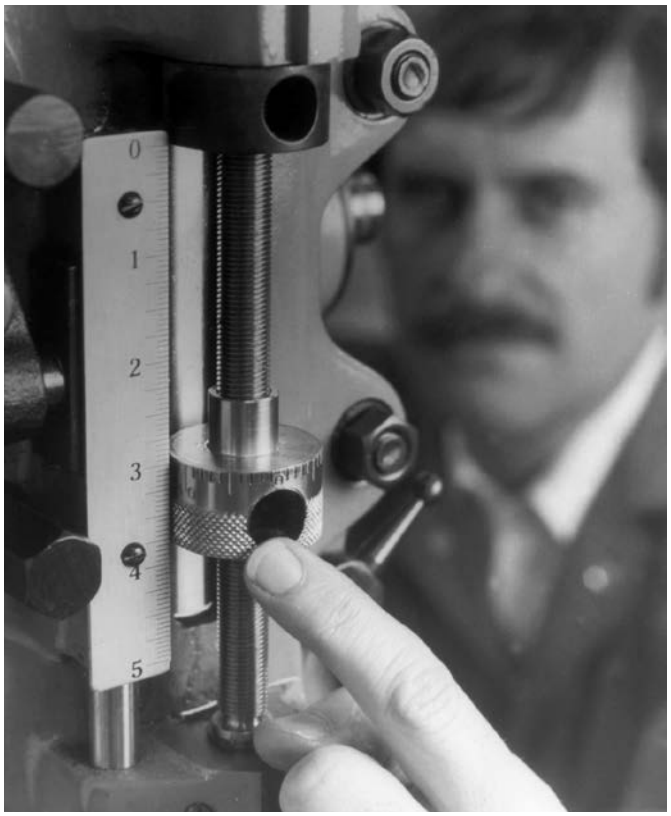
- Machined from Nylatron
- Full internal thread
- Diamond knurl on head
- High strength and rigidity

PART #	A Thread	B	C	D	E
5200	#6-32	1/2	1/4	3/8	1/4
5201	#6-32	3/4	1/4	3/8	1/4
5202	#8-32	1/2	5/16	3/8	1/4
5203	#8-32	1/2	5/16	5/8	1/2
5204	#10-24	1/2	3/8	7/16	1/4
5205	#10-32	1"	3/8	7/16	1/4
5206	1/4-20	3/4	1/2	1/2	1/4
5207	1/4-20	1"	1/2	1"	3/4

Adjust Quill Depth in Just Seconds!

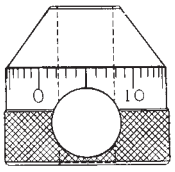
Quill Stops

Machine Shops, Tool & Die Shops and Major Corporations are utilizing this new concept that saves time and money on set-ups. Simply press the button and the nut disengages from the thread. Slide to desired position and release the button to engage the threads. Turning the nut then allows for precision micro-adjustments of .001". This patented Quick Quill Stop installs in just minutes and fits domestic or imported equipment with 1/2"-20 threaded rod stops. Also available in 1/2"-13.

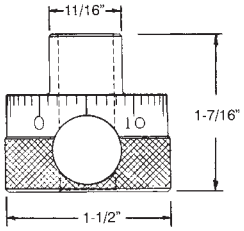


As Easy As 1-2-3...

1. Push button and slide to new position
2. Release button
3. Turn for micrometer adjustments of .001"



Tapered Design



Standard Design

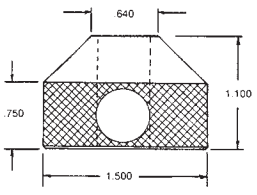
PART #	Thread	Design
1220-S	1/2"-20	Standard
1213-S	1/2"-13	Standard
1220-ST	1/2"-20	Tapered
1213-ST	1/2"-13	Tapered

- ▶ Easy Installation...Easy To Use
- ▶ Standard Equipment on New Bridgeport Milling Machines
- ▶ A Proven Time Saver
- ▶ Accurate Adjustment to .001"

Quick Nut

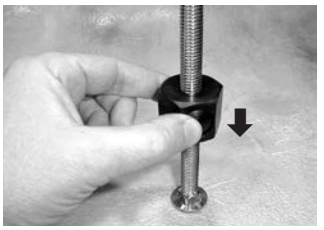
As Easy As 1-2-3...

1. Push button and slide to new position
2. Release button
3. Turn for micrometer adjustments of .001"



- ▶ Made from 303 stainless steel
- ▶ Call for other sizes or for custom quotes

PART #	Thread Size
1220-AT	1/2"-20
1213-AT	1/2"-13



As Easy As 1-2-3...

1. Push button
2. Slide nut to new position
3. Release button and threads engage for tightening

A Great Time Saver!

Morton Button Thread Nuts allow quick fixturing on long thread lengths. Simply press the button and the threads are disengaged to allow easy movement up or down the screw. Release the button and the threads engage for normal turning.

▶ Torque and load ratings are shown on page 43

Button Thread Hex Nuts

- Inch and metric sizes
- Carbon steel, black oxide finish

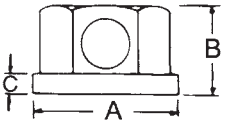
INCH

PART #	Thread	Hex	A
HN-725	1/4-20	7/8	9/16
HN-731	5/16-18	1	5/8
HN-737	3/8-16	1	5/8
HN-750	1/2-13	1-3/8	1-1/8
HN-762	5/8-11	1-3/8	1-1/8

METRIC

PART #	Thread	Hex	A
HN-706	M6 x 1.0	22.5mm	14.5mm
HN-708	M8 x 1.25	25.4	16
HN-710	M10 x 1.5	25.4	16
HN-712	M12 x 1.75	35	28.5
HN-716	M16 x 2.0	35	28.5

Button Thread Collar Nuts



- Inch and metric sizes
- Carbon steel, black oxide finish

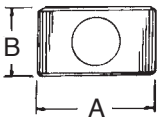
INCH

PART #	Thread	Hex	A	B	C
CN-725	1/4-20	7/8	1	5/8	1/8
CN-731	5/16-18	1	1-1/4	13/16	3/16
CN-737	3/8-16	1	1-1/4	13/16	3/16
CN-750	1/2-13	1-3/8	1-5/8	1-1/8	1/4
CN-762	5/8-11	1-3/8	1-5/8	1-1/8	1/4

METRIC

PART #	Thread	Hex	A	B	C
CN-706	M6 x 1.0	22.5mm	26mm	16mm	3.5mm
CN-708	M8 x 1.25	26	32	20.5	4.5
CN-710	M10 x 1.5	26	32	20.5	4.5
CN-712	M12 x 1.75	35	41.5	28.5	6.5
CN-716	M16 x 2.0	35	41.5	28.5	6.5

Button Thread Knurled Nuts



- Inch and metric sizes
- Carbon steel, black oxide finish

INCH

PART #	Thread	A	B
KN-725	1/4-20	1	9/16
KN-731	5/16-18	1-1/8	3/4
KN-737	3/8-16	1-1/8	3/4
KN-750	1/2-13	1-1/2	1-1/8
KN-762	5/8-11	1-1/2	1-1/8

METRIC

PART #	Thread	A	B
KN-706	M6 x 1.0	26mm	14.5mm
KN-708	M8 x 1.25	28.5	19
KN-710	M10 x 1.5	28.5	19
KN-712	M12 x 1.75	38	28.5
KN-716	M16 x 2.0	38	28.5

It's About Time!

Morton Machine Works' Button Thread fasteners feature patented new technology... a breakthrough design that enables instant adjustments on long thread lengths. Instead of wasting time manually tightening and loosening fasteners, Button Thread nuts and handles are positioned with the ease of a push button mechanism.

The perfect solution for quick and easy adjustments.

Hold down, stop and conveyor nuts • Jig and Fixture set-ups
Milling machine quill stops • Position indicators • Repetitive clamping

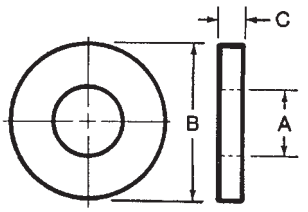
It's as easy as 1-2-3!

1 Press button to disengage threads...

2 Instantly move along threads lengths...

3 Release to engage threads!

Precision Flat Washers



- ▶ Available in carbon steel or stainless steel
- ▶ Case hardened carbon steel with black oxide finish

  * FW-0SS "C" dimension is 3/32

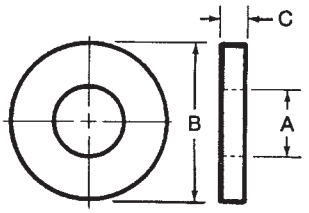
INCH

Low Carbon Steel PART #	Stainless Steel PART #	Bolt Size	A	B	C
FW-00	FW-00SS	3/16	13/64	1/2	3/32
FW-0	FW-0SS*	1/4	9/32	5/8	1/8
FW-01	FW-01SS	5/16	11/32	3/4	1/8
FW-1	FW-1SS	3/8	13/32	7/8	1/8
FW-15	FW-15SS	7/16	15/32	1	1/8
FW-2	FW-2SS	1/2	17/32	1-1/8	1/8
FW-3	FW-3SS	5/8	21/32	1-3/8	1/8
FW-4	FW-4SS	3/4	25/32	1-5/8	5/32
FW-5	FW-5SS	7/8	29/32	1-3/4	5/32
FW-6	FW-6SS	1	1-1/32	2	3/16
FW-7	-	1-1/8	1-5/32	2-1/4	7/32
FW-8	-	1-1/4	1-9/32	2-1/2	9/32

METRIC

PART #	Bolt Size	A	B	C
FW-206	M6	7mm	16mm	3mm
FW-208	M8	9	19	3
FW-210	M10	11	25	3
FW-212	M12	13	28	3
FW-216	M16	17	35	3
FW-220	M20	22	44	5
FW-224	M24	26	51	4

Heavy Duty Flat Washers



- ▶ Case hardened steel with black oxide finish
- ▶ Extra thick for increased strength

INCH

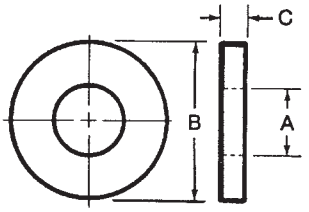
PART #	Bolt Size	A	B	C
HDW-1	1/4	9/32	5/8	3/16
HDW-2	5/16	11/32	3/4	3/16
HDW-3	3/8	13/32	7/8	3/16
HDW-4	1/2	17/32	1-1/8	3/16
HDW-5	5/8	21/32	1-3/8	3/16
HDW-6	3/4	25/32	1-5/8	1/4
HDW-7	7/8	29/32	1-3/4	1/4
HDW-8	1	1-1/32	2	9/32

METRIC

PART #	Bolt Size	A	B	C
FW-406	M6	7mm	16mm	5mm
FW-408	M8	9	19	5
FW-410	M10	11	22	5
FW-412	M12	13	28	5
FW-416	M16	17	35	5
FW-420	M20	22	44	6
FW-424	M24	26	51	7

Machined Flat Washers

4140 alloy



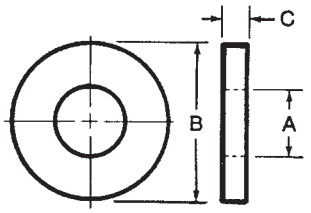
- ▶ 4140 Alloy hardened to Rc C40-50
- ▶ Fully machined, not stamped
- ▶ Black oxide finish

PART #	Bolt Size	A	B	C
FW-41	#5	1/8	1/4	1/16
FW-42	#10	3/16	3/8	1/16
FW-43	#12	1/4	1/2	1/16
FW-44	1/4	5/16	5/8	3/32
FW-45	5/16	3/8	3/4	1/8
FW-46	7/16	1/2	1"	3/16

Heavy Duty Stainless Steel Washers

- ► Made from 300 series stainless steel
- ► Extra thick for increased strength

PART #	Bolt Size	A	B	C
TW-0SS	1/4	9/32	5/8	.090
TW-1SS	5/16	11/32	11/16	.090
TW-2SS	3/8	13/32	13/16	.125
TW-3SS	7/16	15/32	59/64	.125
TW-4SS	1/2	17/32	1-1/16	.180
TW-5SS	9/16	19/32	1-3/16	.180
TW-6SS	5/8	21/32	1-5/16	.187
TW-7SS	3/4	13/16	1-1/2	.187



Large OD Flat Washers

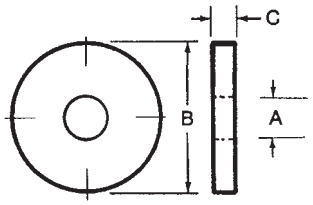
- ► Available in case hardened black oxide finish steel, 304 stainless steel, and 316 stainless steel
- ► Large OD offers expanded bearing surface
- ► Also known as fender washers

CASE HARDENED STEEL

PART #	Bolt Size	A	B	C
DW-1	#6	5/32	9/16	1/8
DW-2	#8	3/16	3/4	1/8
DW-3	#10	13/64	1	1/8
DW-4	1/4	9/32	1	1/8
DW-5	1/4	9/32	1-1/2	1/8
DW-6	5/16	11/32	1-1/4	1/8
DW-7	3/8	13/32	1-5/8	1/8
DW-8	1/2	17/32	2	1/8

STAINLESS STEEL

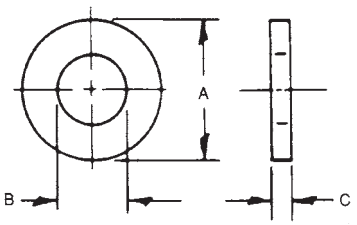
304 PART #	316 PART #	Bolt Size	A	B	C
DW-11	DW-21	#6	.146	3/4	.050
DW-12	DW-22	#8	.187	1"	.050
DW-13	DW-23	#10	.218	1-1/2	.050
DW-14	DW-24	1/4	.281	2-1/2	.060
DW-15	DW-25	1/4	.281	3	.060
DW-16	DW-26	5/16	.343	2-1/2	.060
DW-17	DW-27	3/8	.406	3	.060
DW-18	DW-28	1/2	.531	3	.060



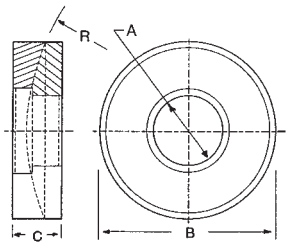
Stainless Steel Flat Washers

- ► Machined from 300 series stainless steel
- ► Nonmagnetic, corrosion resistant

PART #	A	B	C
7250	1/4	.116	1/16
7251	5/16	.144	1/16
7252	3/8	.1695	1/16
7253	7/16	.196	5/64
7254	1/2	.257	5/64
7255	5/8	.323	3/32
7256	3/4	.386	3/32



Spherical Washers



▲ Top (convex)

▲ Bottom (concave)

INCH

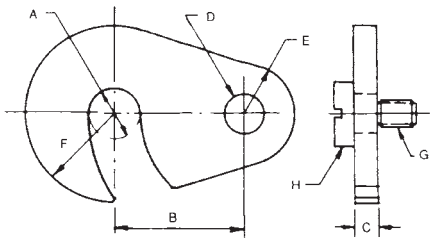
Low Carbon Steel PART #	Stainless Steel PART #	Bolt Size	A	B	C	Radius R
SP-0	SP-0SS	1/4	9/32	5/8	3/16	3/4
SP-01	SP-01SS	5/16	11/32	3/4	1/4	1
SP-1	SP-1SS	3/8	13/32	7/8	1/4	1-1/4
SP-15	SP-15SS	7/16	15/32	1"	5/16	1-1/2
SP-2	SP-2SS	1/2	17/32	1-1/8	5/16	1-1/2
SP-3	SP-3SS	5/8	21/32	1-3/8	5/16	1-3/4
SP-4	SP-4SS	3/4	25/32	1-5/8	3/8	2-1/4
SP-5	SP-5SS	7/8	15/16	1-3/4	3/8	2-1/2
SP-6	SP-6SS	1	1-1/16	2	1/2	2-3/4
SP-7	SP-7SS	1-1/8	1-3/16	2-1/4	1/2	3
SP-8	SP-8SS	1-1/4	1-5/16	2-5/8	1/2	3
SP-9	SP-9SS	1-1/2	1-9/16	2-7/8	9/16	3-1/2
SP-10	SP-10SS	1-5/8	1-11/16	3-1/4	11/16	3-1/2
SP-11	SP-11SS	1-3/4	1-13/16	3-1/4	11/16	3-1/2
SP-12	SP-12SS	2	2-1/16	3-7/8	3/4	3-1/2
SP-13	SP-13SS	2-1/4	2-5/16	4-1/2	7/8	4"
SP-14	SP-14SS	2-1/2	2-9/16	4-1/2	7/8	4"
SP-16	SP16SS	2-3/4	2-13/16	5	1"	5"

METRIC

Steel PART #	Stainless Steel PART #	Bolt Size	A	B	C	Radius R
SP-106	SP-106SS	M6	6.4mm	12mm	4.2mm	9mm
SP-108	SP-108SS	M8	8.4	17	5.6	12
SP-110	SP-110SS	M10	10.5	21	6.5	15
SP-112	SP-112SS	M12	13	24	8	17
SP-114	SP-114SS	M14	15	28	9	20
SP-116	SP-116SS	M16	17	30	9.6	22
SP-120	SP-120SS	M20	21	36	11.7	27
SP-124	SP-124SS	M24	25	44	15.2	32
SP-130	SP-130SS	M30	31	56	19.2	41

- ▶ Precision machined sets
- ▶ Available in case hardened carbon steel with a black oxide finish or stainless steel. Galvanized finish is also available upon request.
- ▶ Bottom half works with spherical collar nuts
- ▶ Tops and bottoms can be ordered separately. Please specify when ordering.
- ▶ Angle of correction is approximately 3-4˚

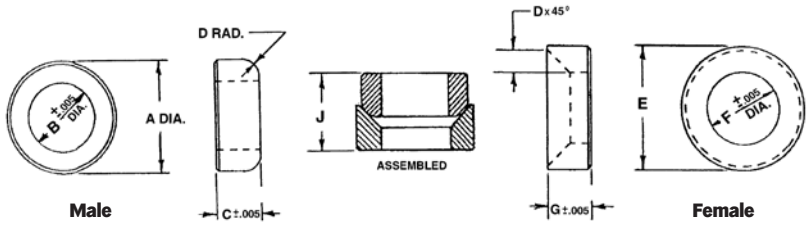
Swing “C” Washers



- ▶ Case hardened
- ▶ Black oxide finish
- ▶ Shoulder screws sold separately

PART #	A	B	C	D	E	F	Tap for Shoulder Screw G	Shoulder Screw # H
SCW-37	13/32	1	1/4	3/8	3/8	3/4	1/4-20	SS-1
SCW-50	17/32	1-1/4	5/16	3/8	1/2	7/8	1/4-20	SS-2
SCW-62	21/32	1-1/2	3/8	1/2	9/16	1	5/16-18	SS-3
SCW-75	25/32	1-3/4	1/2	1/2	5/8	1-1/4	3/8-16	SS-4

Equalizing Washers



STAINLESS STEEL

Bolt	Male					Female					Comb. Thick
Size	**PART #**	**A**	**B**	**C**	**D**	**PART #**	**E**	**F**	**G**	**D**	**J**
3/32	7281	9/32	.116	1/8	1/32	7291	3/8	5/32	1/8	5/64	13/64
1/8	7282	9/32	.144	1/8	1/32	7292	3/8	11/64	1/8	5/64	13/64
5/32	7283	5/16	.169	1/8	1/32	7293	3/8	3/16	1/8	1/16	13/64
3/16	7284	3/8	.196	5/32	5/64	7294	7/16	7/32	1/8	3/32	15/64
1/4	7285	7/16	.257	3/16	7/64	7295	1/2	9/32	5/32	3/32	17/64
5/16	7286	1/2	.323	3/16	1/16	7296	9/16	11/32	3/16	3/32	21/64
3/8	7287	5/8	.386	1/4	3/32	7297	11/16	13/32	1/4	1/8	27/64

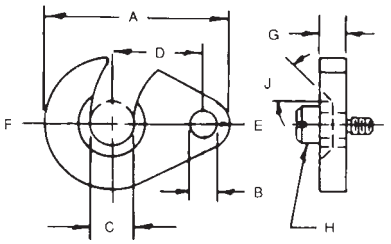
CARBON STEEL

Bolt	Male					Female					Comb. Thick
Size	**PART #**	**A**	**B**	**C**	**D**	**PART #**	**A**	**B**	**C**	**D**	**J**
3/32	5281	9/32	.116	1/8	1/32	5291	3/8	5/32	1/8	5/64	13/64
1/8	5282	9/32	.144	1/8	1/32	5292	3/8	11/64	1/8	5/64	13/64
5/32	5283	5/16	.169	1/8	1/32	5293	3/8	3/16	1/8	1/16	13/64
3/16	5284	3/8	.196	5/32	5/64	5294	7/16	7/32	1/8	3/32	15/64
1/4	5285	7/16	.257	3/16	7/64	5295	1/2	9/32	5/32	3/32	17/64
5/16	5286	1/2	.323	3/16	1/16	5296	9/16	11/32	3/16	3/32	21/64
3/8	5287	5/8	.386	1/4	3/32	5297	11/16	13/32	1/4	1/8	27/64

- ► Precision machined sets
- ► Available in case hardened steel or stainless steel
- ► Male washer O.D. is slightly smaller than female washer O.D.
- ► Please specify when ordering if you are requesting a set (male & female)

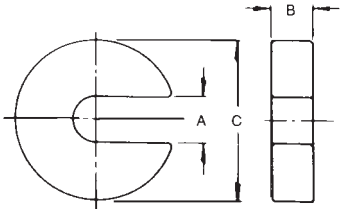
Stainless Steel Swing “C” Washers

- ► Available with a flat surface or equalizing hole
- ► Made from 300 series stainless steel



Flat	Equalizing		+.0005 -.0000			Radius		.+0000 -.0015	Screw	
PART #	**PART #**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**
7750	7754	1-1/8	.1875	13/64	9/16	3/16	3/8	.1870	PART#	5/64
7751	7755	1-1/4	.1875	17/64	5/8	3/16	7/16	.1870	9256	3/32
7752	7756	1-1/2	.250	21/64	3/4	1/4	1/2	.2495	PART#	1/8
7753	7757	1-3/4	.250	25/64	7/8	1/4	5/8	.2495	9268	1/8

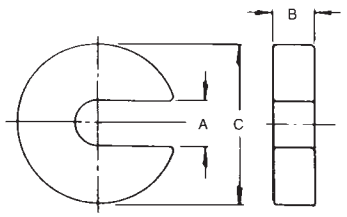
"C" Washers



PART #	Stud Size	A	B	C
CW-100	1/4	9/32	3/16	3/4
CW-101	1/4	9/32	1/4	1
CW-102	1/4	9/32	1/4	1-1/4
CW-103	1/4	9/32	1/4	1-1/2
CW-104	1/4	9/32	1/4	1-3/4
CW-105	3/8	13/32	3/8	1-1/4
CW-106	3/8	13/32	3/8	1-1/2
CW-107	3/8	13/32	3/8	1-3/4
CW-108	3/8	13/32	3/8	2
CW-109	3/8	13/32	3/8	2-1/4
CW-110	3/8	13/32	3/8	2-1/2
CW-111	1/2	17/32	3/8	1-7/8
CW-112	1/2	17/32	3/8	2
CW-113	1/2	17/32	1/2	2-1/2
CW-114	1/2	17/32	1/2	3
CW-115	5/8	21/32	3/8	2-1/8
CW-116	5/8	21/32	1/2	2-1/2
CW-117	5/8	21/32	5/8	3
CW-118	3/4	25/32	7/16	2-1/2
CW-119	3/4	25/32	5/8	3
CW-120	7/8	29/32	7/16	2-1/8
CW-121	7/8	29/32	1/2	2-5/8
CW-122	1"	1-1/32	7/16	2-1/2
CW-123	1"	1-1/32	9/16	3
CW-124	1-1/8	1-5/32	7/16	2-5/8
CW-125	1-1/8	1-5/32	5/8	3-3/8
CW-126	1-1/4	1-9/32	5/8	3
CW-127	1-1/4	1-9/32	5/8	3-3/4
CW-128	1-3/8	1-13/32	5/8	4
CW-129	1-1/2	1-17/32	5/8	3-1/2
CW-130	1-1/2	1-17/32	5/8	4

- ▶ Case hardened
- ▶ Low carbon steel, black oxide finish
- ▶ Precision machined surface

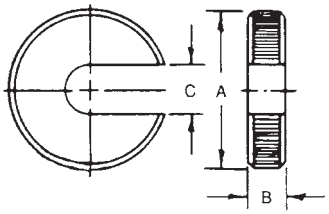
Stainless Steel "C" Washers



- ▶ Machined from 303 stainless steel
- ▶ Non-magnetic, corrosive resistant
- ▶ Precision machined surface

PART #	A	B	C
CW-101SS	9/32	1/4	1"
CW-102SS	9/32	1/4	1-1/4
CW-105SS	13/32	3/8	1-1/4
CW-106SS	13/32	3/8	1-1/2
CW-111SS	17/32	3/8	1-7/8
CW-113SS	17/32	1/2	2-1/2
CW-116SS	21/32	1/2	2-1/2
CW-118SS	25/32	7/16	2-1/2

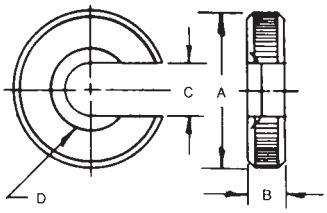
Stainless Steel Knurled "C" Washers



- ► Made from 303 stainless steel
- ► Knurled edge

PART #	A	B	C
7625	5/8	3/16	11/64
7626	3/4	3/16	13/64
7627	7/8	3/16	17/64
7628	1	1/4	21/64
7629	1-1/4	5/16	25/64

Stainless Steel Equalizing "C" Washers



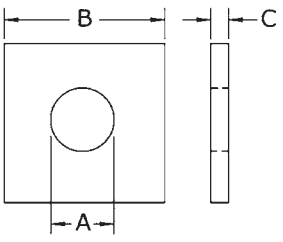
- ► Made from 300 series stainless steel
- ► Knurled edge

PART #	A	B	C	D x 45°
7630	5/8	3/16	3/16	5/64
7631	3/4	3/16	7/32	5/64
7632	7/8	3/16	9/32	3/32
7633	1"	1/4	11/32	1/8
7634	1-1/4	5/16	13/32	1/8

Square Flat Washers

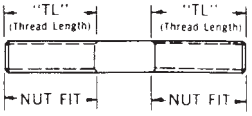
- ► Available is case hardened steel with a black oxide finish and 300 series stainless steel
- ► Used for shimming machinery and various hardware applications that require an extra thick washer
- ► Square washers are used in slots and channels to keep them from rotating

Steel PART #	Stainless Steel PART #	Bolt Size	A	B	C
SW-1	SW-1SS	1/4	5/16	2"	1/4
SW-2	SW-2SS	3/8	7/16	2	1/4
SW-3	-	7/16	1/2	2	1/4
SW-4	SW-4SS	1/2	9/16	2	1/4
SW-5	SW-5SS	5/8	11/16	2	1/4
SW-6	SW-6SS	3/4	13/16	2	1/4
SW-7	SW-7SS	7/8	15/16	2	1/4
SW-8	SW-8SS	1"	1-1/16	2	1/4



Fixture Studs

Style A



▶ Available in stressproof steel (ASTM A311 Class B) with a black oxide finish or stainless steel

▶ Please specify material when placing an order

PART #	Thread	Overall Length	Thread Length
1/4-20 x 1-1/2	1/4-20	1-1/2	1''
1/4-20 x 2	1/4-20	2	1
1/4-20 x 2-1/2	1/4-20	2-1/2	1
1/4-20 x 3	1/4-20	3	1
1/4-20 x 3-1/2	1/4-20	3-1/2	1
1/4-20 x 4	1/4-20	4	1
5/16-18 x 1-1/2	5/16-18	1-1/2	1-1/8
5/16-18 x 2	5/16-18	2	1-1/8
5/16-18 x 2-1/2	5/16-18	2-1/2	1-1/8
5/16-18 x 3	5/16-18	3	1-1/8
5/16-18 x 3-1/2	5/16-18	3-1/2	1-1/8
5/16-18 x 4	5/16-18	4	1-1/8
5/16-18 x 4-1/2	5/16-18	4-1/2	1-1/8
5/16-18 x 5	5/16-18	5	1-1/8
5/16-18 x 6	5/16-18	6	1-1/8
5/16-18 x 7	5/16-18	7	1-1/8
5/16-18 x 8	5/16-18	8	1-1/8
3/8-16 x 1-1/2	3/8-16	1-1/2	1-1/4
3/8-16 x 2	3/8-16	2	1-1/4
3/8-16 x 2-1/2	3/8-16	2-1/2	1-1/4
3/8-16 x 3	3/8-16	3	1-1/4
3/8-16 x 3-1/2	3/8-16	3-1/2	1-1/4
3/8-16 x 4	3/8-16	4	1-1/4
3/8-16 x 4-1/2	3/8-16	4-1/2	1-1/4
3/8-16 x 5	3/8-16	5	1-1/4
3/8-16 x 5-1/2	3/8-16	5-1/2	1-1/4
3/8-16 x 6	3/8-16	6	1-1/4
3/8-16 x 6-1/2	3/8-16	6-1/2	1-1/4
3/8-16 x 7	3/8-16	7	1-1/4
3/8-16 x 7-1/2	3/8-16	7-1/2	1-1/4
3/8-16 x 8	3/8-16	8	1-1/4
1/2-13 x 1-1/2	1/2-13	1-1/2	1-1/2
1/2-13 x 2	1/2-13	2	1-1/2
1/2-13 x 2-1/2	1/2-13	2-1/2	1-1/2
1/2-13 x 3	1/2-13	3	1-1/2
1/2-13 x 3-1/2	1/2-13	3-1/2	1-1/2
1/2-13 x 4	1/2-13	4	1-1/2
1/2-13 x 4-1/2	1/2-13	4-1/2	1-1/2
1/2-13 x 5	1/2-13	5	1-1/2
1/2-13 x 5-1/2	1/2-13	5-1/2	1-1/2
1/2-13 x 6	1/2-13	6	1-1/2
1/2-13 x 6-1/2	1/2-13	6-1/2	1-1/2
1/2-13 x 7	1/2-13	7	1-1/2
1/2-13 x 7-1/2	1/2-13	7-1/2	1-1/2
1/2-13 x 8	1/2-13	8	1-1/2
1/2-13 x 9	1/2-13	9	1-1/2
1/2-13 x 10	1/2-13	10	1-1/2
1/2-13 x 12	1/2-13	12	1-1/2
1/2-13 x 14	1/2-13	14	1-1/2
5/8-11 x 1-1/2	5/8-11	1-1/2	1-3/4
5/8-11 x 2	5/8-11	2	1-3/4

PART #	Thread	Overall Length	Thread Length
5/8-11 x 2-1/2	5/8-11	2-1/2	1-3/4
5/8-11 x 3	5/8-11	3	1-3/4
5/8-11 x 3-1/2	5/8-11	3-1/2	1-3/4
5/8-11 x 4	5/8-11	4	1-3/4
5/8-11 x 4-1/2	5/8-11	4-1/2	1-3/4
5/8-11 x 5	5/8-11	5	1-3/4
5/8-11 x 5-1/2	5/8-11	5-1/2	1-3/4
5/8-11 x 6	5/8-11	6	1-3/4
5/8-11 x 6-1/2	5/8-11	6-1/2	1-3/4
5/8-11 x 7	5/8-11	7	1-3/4
5/8-11 x 7-1/2	5/8-11	7-1/2	1-3/4
5/8-11 x 8	5/8-11	8	1-3/4
5/8-11 x 9	5/8-11	9	1-3/4
5/8-11 x 10	5/8-11	10	1-3/4
5/8-11 x 12	5/8-11	12	1-3/4
5/8-11 x 14	5/8-11	14	1-3/4
3/4-10 x 3	3/4-10	3	2
3/4-10 x 4	3/4-10	4	2
3/4-10 x 5	3/4-10	5	2
3/4-10 x 6	3/4-10	6	2
3/4-10 x 7	3/4-10	7	2
3/4-10 x 8	3/4-10	8	2
3/4-10 x 9	3/4-10	9	2
3/4-10 x 10	3/4-10	10	2
3/4-10 x 12	3/4-10	12	2
3/4-10 x 14	3/4	14	2
7/8-9 x 3	7/8-9	3	2-1/4
7/8-9 x 4	7/8-9	4	2-1/4
7/8-9 x 5	7/8-9	5	2-1/4
7/8-9 x 6	7/8-9	6	2-1/4
7/8-9 x 7	7/8-9	7	2-1/4
7/8-9 x 8	7/8-9	8	2-1/4
7/8-9 x 9	7/8-9	9	2-1/4
7/8-9 x 10	7/8-9	10	2-1/4
7/8-9 x 12	7/8-9	12	2-1/4
7/8-9 x 14	7/8-9	14	2-1/4
1"-8 x 3	1 x 8	3	2-1/2
1"-8 x 4	1 x 8	4	2-1/2
1"-8 x 5	1 x 8	5	2-1/2
1"-8 x 6	1 x 8	6	2-1/2
1"-8 x 7	1 x 8	7	2-1/2
1"-8 x 8	1 x 8	8	2-1/2
1"-8 x 9	1 x 8	9	2-1/2
1"-8 x 10	1 x 8	10	2-1/2
1"-8 x 12	1 x 8	12	2-1/2
1"-8 x 14	1 x 8	14	2-1/2

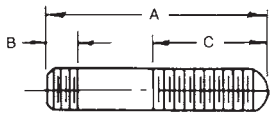
Stainless Steel Fixture Studs

style B fit

- Made from 300 series stainless steel
- Style B studs

PART #	Thread	A	B	C
6140	#6-32	1	7/32	1/2
6141	#6-32	1-1/4	7/32	5/8
6142	#6-32	1-1/2	7/32	3/4
6143	#6-32	1-3/4	7/32	3/4
6144	#6-32	2	7/32	3/4
6165	#8-32	1	7/32	1/2
6166	#8-32	1-1/4	7/32	5/8
6167	#8-32	1-1/2	7/32	3/4
6168	#8-32	1-3/4	7/32	3/4
6169	#8-32	2	7/32	3/4
6194	#10-24	1	7/32	1/2
6195	#10-24	1-1/4	7/32	5/8
6196	#10-24	1-1/2	7/32	3/4
6197	#10-24	1-3/4	7/32	3/4
6198	#10-24	2	7/32	3/4
6199	#10-32	1	7/32	1/2
6200	#10-32	1-1/4	7/32	5/8
6201	#10-32	1-1/2	7/32	3/4
6202	#10-32	1-3/4	7/32	3/4

PART #	Thread	A	B	C
6203	#10-32	2	7/32	3/4
6250	1/4-20	1-1/4	9/32	5/8
6251	1/4-20	1-1/2	9/32	5/8
6252	1/4-20	1-3/4	9/32	3/4
6253	1/4-20	2	9/32	3/4
6254	1/4-20	2-1/2	9/32	3/4
6255	1/4-20	3	9/32	1
6312	5/16-18	1-1/2	11/32	5/8
6313	5/16-18	2	11/32	1
6314	5/16-18	2-1/2	11/32	1-1/4
6315	5/16-18	3	11/32	1-3/8
6316	5/16-18	3-1/2	11/32	1-1/2
6317	5/16-18	4	11/32	1-1/2
6375	3/8-16	1-5/8	11/32	3/4
6376	3/8-16	2	11/32	1
6377	3/8-16	2-1/2	11/32	1-1/4
6378	3/8-16	3	11/32	1-3/8
6379	3/8-16	3-1/2	11/32	1-1/2
6380	3/8-16	4	11/32	1-1/2



Style B

Fixture Studs

metric

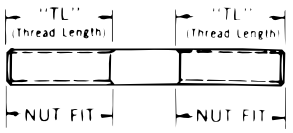
- Available in black oxide finish steel or 300 series stainless steel
- Dimensions shown in millimeters
- Type A stud only

STEEL

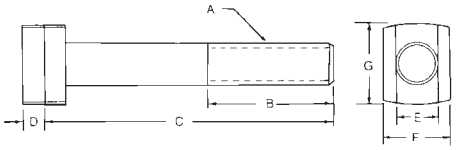
PART #	Thread	Overall Length	Thread Length
M8 x 80	M8 x 1.25	80mm	31mm
M8 x 110	M8 x 1.25	110	31
M8 x 125	M8 x 1.25	125	31
M10 x 80	M10 x 1.5	80	35
M10 x 95	M10 x 1.5	95	35
M10 x 110	M10 x 1.5	110	35
M10 x 125	M10 x 1.5	125	35
M10 x 150	M10 x 1.5	150	35
M12 x 80	M12 x 1.75	80	39
M12 x 110	M12 x 1.75	110	39
M12 x 125	M12 x 1.75	125	39
M12 x 150	M12 x 1.75	150	39
M12 x 175	M12 x 1.75	175	39
M16 x 80	M16 x 2.0	80	47
M16 x 110	M16 x 2.0	110	47
M16 x 125	M16 x 2.0	125	47
M16 x 150	M16 x 2.0	150	47
M16 x 175	M16 x 2.0	175	47
M16 x 200	M16 x 2.0	200	47

STAINLESS STEEL

PART #	Thread	Overall Length	Thread Length
M6 x 50SS	M6 x 1.0	50mm	20mm
M6 x 80SS	M6 x 1.0	80	27
M6 x 110SS	M6 x 1.0	110	31
M8 x 50SS	M8 x 1.25	50	20
M8 x 80SS	M8 x 1.25	80	27
M8 x 110SS	M8 x 1.25	110	31
M10 x 50SS	M10 x 1.5	50	20
M10 x 80SS	M10 x 1.5	80	27
M10 x 125SS	M10 x 1.5	125	35
M12 x 50SS	M12 x 1.75	50	20
M12 x 80SS	M12 x 1.75	80	27
M12 x 125SS	M12 x 1.75	125	39
M14 x 60SS	M14 x 2.0	60	20
M14 x 100SS	M14 x 2.0	100	35
M14 x 160SS	M14 x 2.0	160	47
M16 x 80SS	M16 x 2.0	80	21
M16 x 110SS	M16 x 2.0	110	47
M16 x 175SS	M16 x 2.0	175	47



T-Slot Bolts



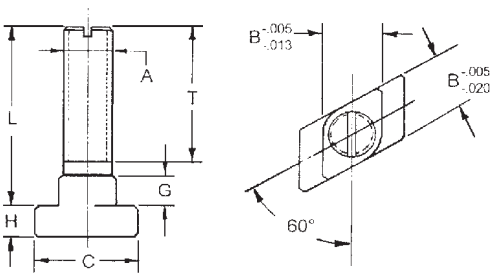
► Heads are sized to fit common table slot dimensions

► One piece construction prevents damage to table slots

► Black oxide finish

PART #	Thread A	B	C	D	E	F	G
TB-3710	3/8-16	5/8	1	13/64	3/8	5/8	3/4
TB-3715	3/8-16	1	1-1/2	13/64	3/8	5/8	3/4
TB-3720	3/8-16	1-1/4	2	13/64	3/8	5/8	3/4
TB-3725	3/8-16	1-1/2	2-1/2	13/64	3/8	5/8	3/4
TB-3730	3/8-16	1-1/2	3	13/64	3/8	5/8	3/4
TB-3735	3/8-16	1-1/2	3-1/2	13/64	3/8	5/8	3/4
TB-3740	3/8-16	1-1/2	4	13/64	3/8	5/8	3/4
TB-5015	1/2-13	1	1-1/2	1/4	1/2	13/16	15/16
TB-5020	1/2-13	1-1/4	2	1/4	1/2	13/16	15/16
TB-5025	1/2-13	1-1/2	2-1/2	1/4	1/2	13/16	15/16
TB-5030	1/2-13	1-1/2	3	1/4	1/2	13/16	15/16
TB-5035	1/2-13	1-1/2	3-1/2	1/4	1/2	13/16	15/16
TB-5040	1/2-13	1-1/2	4	1/4	1/2	13/16	15/16
TB-5050	1/2-13	1-1/2	5	1/4	1/2	13/16	15/16
TB-5060	1/2-13	2	6	1/4	1/2	13/16	15/16
TB-6215	5/8-11	1	1-1/2	5/16	5/8	1-1/64	1-1/8
TB-6220	5/8-11	1-1/4	2	5/16	5/8	1-1/64	1-1/8
TB-6225	5/8-11	1-1/2	2-1/2	5/16	5/8	1-1/64	1-1/8
TB-6230	5/8-11	1-1/2	3	5/16	5/8	1-1/64	1-1/8
TB-6235	5/8-11	1-1/2	3-1/2	5/16	5/8	1-1/64	1-1/8
TB-6240	5/8-11	1-1/2	4	5/16	5/8	1-1/64	1-1/8
TB-6250	5/8-11	1-1/2	5	5/16	5/8	1-1/64	1-1/8
TB-6260	5/8-11	2	6	5/16	5/8	1-1/64	1-1/8
TB-6280	5/8-11	3	8	5/16	5/8	1-1/64	1-1/8
TB-7530	3/4-10	1-1/2	3	3/8	3/4	1-1/4	1-3/8
TB-7535	3/4-10	1-1/2	3-1/2	3/8	3/4	1-1/4	1-3/8
TB-7540	3/4-10	1-1/2	4	3/8	3/4	1-1/4	1-3/8
TB-7550	3/4-10	1-1/2	5	3/8	3/4	1-1/4	1-3/8
TB-7560	3/4-10	2	6	3/8	3/4	1-1/4	1-3/8
TB-7580	3/4-10	3	8	3/8	3/4	1-1/4	1-3/8
TB-1040	1"-8	2	4	1/2	1"	1-11/16	1-7/8
TB-1050	1"-8	2	5	1/2	1"	1-11/16	1-7/8
TB-1060	1"-8	2	6	1/2	1"	1-11/16	1-7/8
TB-1080	1"-8	3	8	1/2	1"	1-11/16	1-7/8
TB-1100	1"-8	3	10	1/2	1"	1-11/16	1-7/8

Rotary T-Slot Bolts



► Carbon steel

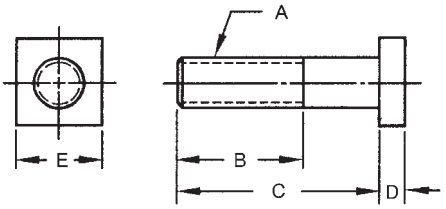
► Case hardened, black oxide finish

► Unique design allows quick and convenient set-ups and tear down. Lower the T-slot bolt into the table slot and rotate a quarter-turn to engage.

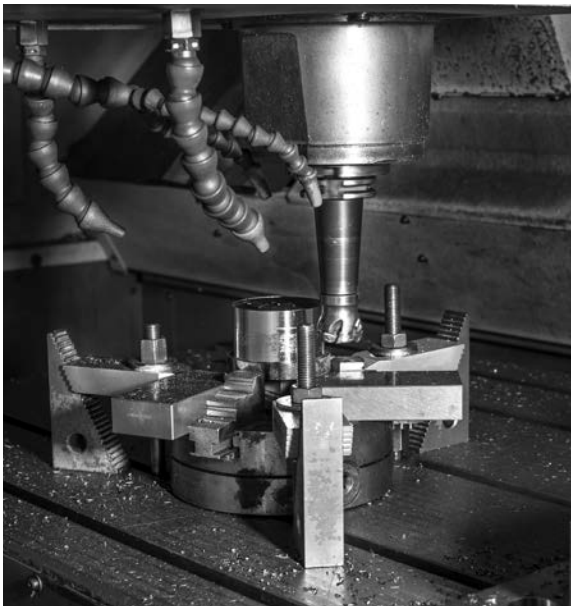
PART #	A	L	T	B	C	G	H
TB-210	1/2-13	1-1/2	1	5/8	1-1/8	11/32	11/32
TB-211	1/2-13	2	1-1/2	5/8	1-1/8	11/32	11/32
TB-212	1/2-13	2-1/2	2	5/8	1-1/8	11/32	11/32
TB-213	1/2-13	3	2-1/2	5/8	1-1/8	11/32	11/32
TB-214	1/2-13	3-1/2	2	5/8	1-1/8	11/32	11/32
TB-215	1/2-13	4	2-1/2	5/8	1-1/8	11/32	11/32
TB-216	1/2-13	4-1/2	2-1/2	5/8	1-1/8	11/32	11/32
TB-217	1/2-13	5	2-1/2	5/8	1-1/8	11/32	11/32
TB-218	1/2-13	6	4-1/2	5/8	1-1/8	11/32	11/32
TB-219	5/8-11	1-1/2	1	3/4	1-1/4	13/32	13/32
TB-220	5/8-11	2	1-1/2	3/4	1-1/4	13/32	13/32
TB-221	5/8-11	2-1/2	2	3/4	1-1/4	13/32	13/32
TB-222	5/8-11	3	2-1/2	3/4	1-1/4	13/32	13/32
TB-223	5/8-11	3-1/2	2	3/4	1-1/4	13/32	13/32
TB-224	5/8-11	4	2-1/2	3/4	1-1/4	13/32	13/32
TB-225	5/8-11	5	2-1/2	3/4	1-1/4	13/32	13/32
TB-226	5/8-11	6	4-1/2	3/4	1-1/4	13/32	13/32

T-Bolts

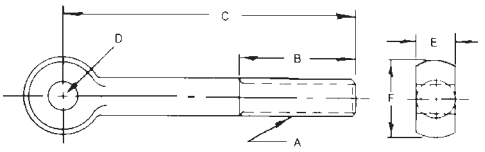
PART #	Thread	B	C	D	E
TB-2010	3/8-16	1-1/4	1-1/2	1/4	11/16
TB-2011	3/8-16	1-3/4	2	1/4	11/16
TB-2012	3/8-16	2	2-1/2	1/4	11/16
TB-2013	3/8-16	2	3	1/4	11/16
TB-2014	3/8-16	2	3-1/2	1/4	11/16
TB-2015	3/8-16	2	4	1/4	11/16
TB-2016	3/8-16	2	6	1/4	11/16
TB-2110	1/2-13	1-1/4	1-1/2	5/16	7/8
TB-2111	1/2-13	1-3/4	2	5/16	7/8
TB-2112	1/2-13	2	2-1/2	5/16	7/8
TB-2113	1/2-13	2	3	5/16	7/8
TB-2114	1/2-13	2	3-1/2	5/16	7/8
TB-2115	1/2-13	2	4	5/16	7/8
TB-2116	1/2-13	2-1/2	6	5/16	7/8
TB-2210	5/8-11	1-1/4	1-1/2	13/32	1-1/8
TB-2211	5/8-11	1-3/4	2	13/32	1-1/8
TB-2212	5/8-11	2	2-1/2	13/32	1-1/8
TB-2213	5/8-11	2	3	13/32	1-1/8
TB-2214	5/8-11	2	3-1/2	13/32	1-1/8
TB-2215	5/8-11	2	4	13/32	1-1/8
TB-2216	5/8-11	2-1/2	6	13/32	1-1/8
TB-2217	5/8-11	2-1/2	8	13/32	1-1/8
TB-2218	5/8-11	3	10	13/32	1-1/8
TB-2310	3/4-10	2	3	17/32	1-5/16
TB-2311	3/4-10	2	3-1/3	17/32	1-5/16
TB-2312	3/4-10	2	4	17/32	1-5/16
TB-2313	3/4-10	2-1/2	6	17/32	1-5/16
TB-2314	3/4-10	2-1/2	8	17/32	1-5/16
TB-2315	3/4-10	3	10	17/32	1-5/16
TB-2410	1-8	4	4	11/16	1-11/16
TB-2411	1-8	4	6	11/16	1-11/16
TB-2412	1-8	4	8	11/16	1-11/16
TB-2413	1-8	4	10	11/16	1-11/16



- ► Alloy steel, heat-treated black oxide finish
- ► Grade 5 (125,000 psi)
- ► 2A Class standard threads



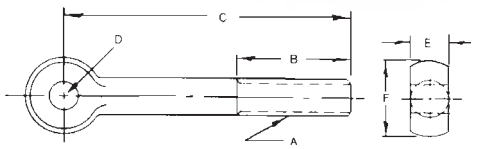
Eye Bolts



- ▶ Available in carbon steel with a black oxide finish, or stainless steel
- ▶ Precision machined from bar stock
- ▶ Eye bolts are not recommended for lifting applications

Steel PART #	Stainless Steel PART #	Thread A	B	C	D	E	F
EB-0	EB-0SS	1/4-20	7/8	2-1/8	3/16	1/4	1/2
EB-05	EB-05SS	1/4-20	7/8	2-1/8	1/4	1/4	1/2
EB-010	EB-010SS	1/4-20	1-1/4	3	3/16	1/4	1/2
EB-020	EB-020SS	1/4-20	1-1/4	3	1/4	1/4	1/2
EB-030	EB-030SS	5/16-18	1-1/4	2-1/2	1/4	5/16	5/8
EB-040	EB-040SS	5/16-18	1-1/4	2-1/2	5/16	5/16	5/8
EB-050	EB-050SS	5/16-18	1-1/2	3-1/2	1/4	5/16	5/8
EB-060	EB-060SS	5/16-18	1-1/2	3-1/2	5/16	5/16	5/8
EB-061	EB-061SS	5/16-18	2	4	1/4	5/16	5/8
EB-062	EB-062SS	5/16-18	2	4	5/16	5/16	5/8
EB-070	EB-070SS	3/8-16	1-1/2	3-1/2	5/16	3/8	3/4
EB-080	EB-080SS	3/8-16	1-1/2	3-1/2	3/8	3/8	3/4
EB-090	EB-090SS	3/8-16	2	3-3/4	5/16	3/8	3/4
EB-100	EB-100SS	3/8-16	2	3-3/4	3/8	3/8	3/4
EB-101	EB-101SS	3/8-16	2-1/2	5	5/16	3/8	3/4
EB-102	EB-102SS	3/8-16	2-1/2	5	3/8	3/8	3/4
EB-1	EB-1SS	1/2-13	1-1/2	3-3/4	3/8	1/2	1
EB-5	EB-5SS	1/2-13	1-1/2	3-3/4	1/2	1/2	1
EB-10	EB-10SS	1/2-13	2	5	3/8	1/2	1
EB-15	EB-15SS	1/2-13	2	5	1/2	1/2	1
EB-16	EB-16SS	1/2-13	2-1/2	5-1/2	3/8	1/2	1
EB-17	EB-17SS	1/2-13	2-1/2	5-1/2	1/2	1/2	1
EB-20	EB-20SS	5/8-11	1-3/4	4-1/2	5/8	5/8	1-1/4
EB-2	EB-2SS	5/8-11	2	4-1/2	5/8	5/8	1-1/4
EB-25	EB-25SS	5/8-11	2-1/2	6	5/8	5/8	1-1/4
EB-26	EB-26SS	5/8-11	3	6	5/8	5/8	1-1/4
EB-30	EB-30SS	3/4-10	2	4-1/2	3/4	3/4	1-1/2
EB-35	EB-35SS	3/4-10	2-1/2	6	3/4	3/4	1-1/2

Metric Eye Bolts



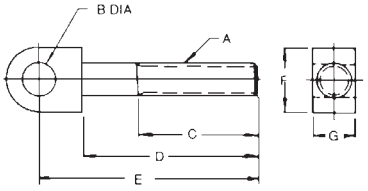
- ▶ DIN 444 standard, class 5.8
- ▶ Available in carbon steel with a black oxide finish, or stainless steel
- ▶ Precision machined from bar stock
- ▶ Dimensions shown in millimeters

Steel PART #	Stainless Steel PART #	Thread A	B	C	D	E	F
545006	545006S	M6 x 1.0	32mm	50mm	6mm	7mm	14mm
547506	547506S	M6 x 1.0	32	75	6	7	14
545008	545008S	M8 x 1.25	32	50	8	9	18
547508	547508S	M8 x 1.25	32	75	8	9	18
547510	547510S	M10 x 1.5	40	75	10	12	20
5410010	5410010S	M10 x 1.5	40	100	10	12	20
5410012	5410012S	M12 x 1.75	40	100	12	14	25
5413012	5413012S	M12 x 1.75	40	130	12	14	25
5410016	5410016S	M16 x 2.0	50	100	16	17	32
5413016	5413016S	M16 x 2.0	50	130	16	17	32

Swing Bolts

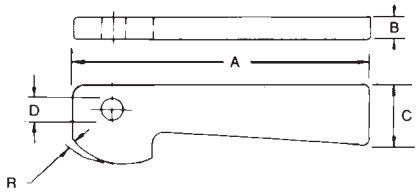
- Available in case hardened black oxide finish steel or stainless steel
- Precision machined from bar stock
- Swing bolts are not recommended for lifting applications

Low Carbon Steel PART #	Stainless Steel PART #	Thread A	B	C	D	E	F	G
SWB-01	SWB-01SS	1/4-20	1/4	3/4	1-3/16	1-1/2	1/2	5/16
SWB-02	SWB-02SS	1/4-20	1/4	1-1/4	2-3/16	2-1/2	1/2	5/16
SWB-03	SWB-03SS	5/16-18	5/16	1	1-5/8	2	5/8	3/8
SWB-04	SWB-04SS	5/16-18	5/16	1-3/8	2-5/8	3	5/8	3/8
SWB-1	SWB-1SS	3/8-16	3/8	1-3/8	2	2-1/2	3/4	1/2
SWB-10	SWB-10SS	3/8-16	3/8	2	3	3-1/2	3/4	1/2
SWB-2	SWB-2SS	1/2-13	1/2	1-5/8	2-1/2	3-1/8	1	5/8
SWB-20	SWB-20SS	1/2-13	1/2	2-1/2	3-1/2	4-1/8	1	5/8
SWB-3	SWB-3SS	5/8-11	5/8	1-5/8	2-3/4	3-1/2	1-1/4	3/4
SWB-30	SWB-30SS	5/8-11	5/8	2-1/2	4	4-3/4	1-1/4	3/4



Single Cams

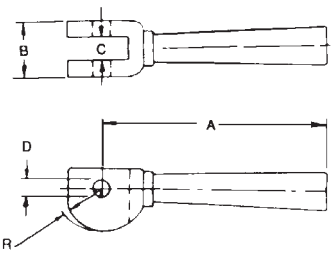
- Precision machined from carbon steel
- Case hardened, black oxide finish
- Used in clamping assemblies



PART #	A	B	C	D	R Rise
SC-0	2-3/8	3/16	1/2	5/32	1/16
SC-15	3-1/4	1/4	11/16	1/4	5/64
SC-1	4-1/2	3/8	7/8	5/16	7/64
SC-2	5	1/2	7/8	3/8	9/64

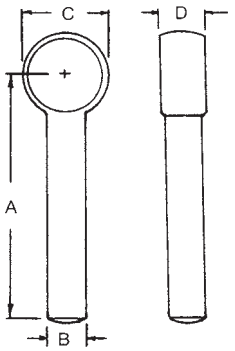
Double Cams

- Machined from carbon steel
- Case hardened
- Black oxide finish
- Used in clamping assemblies



PART #	A	B	C	D	R Rise
DC-0	2-11/16	9/16	1/4	3/16	1/16
DC-00	3-7/16	5/8	5/16	1/4	5/64
DC-1	4-15/16	1-1/8	1/2	3/8	7/64
DC-2	5-3/16	1-1/4	5/8	5/8	9/64

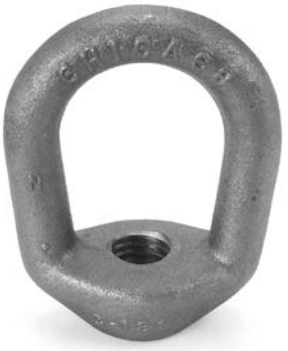
Forged Blank Eye Bolts

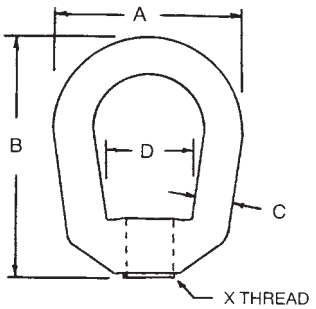


- Drop forged steel
- Manufactured from C-1035 steel
- Natural finish
- 75/85,000 lbs. P.S.I tensile
- 40/55,000 lbs. P.S.I. yield
- Some sizes available in 316 stainless steel

Steel PART #	Stainless Steel PART #	A	B	C	D
EB-501	-	3	1/4	1/2	9/32
EB-502	-	6	1/4	1/2	9/32
EB-503	-	3	5/16	5/8	11/32
EB-504	-	6	5/16	5/8	11/32
EB-505	EB-505SS	3	3/8	3/4	7/16
EB-506	-	6	3/8	3/4	7/16
EB-507	-	6	7/16	7/8	1/2
EB-508	-	3-1/2	1/2	1	9/16
EB-509	EB-509SS	6	1/2	1	9/16
EB-510	-	3-1/2	5/8	1-3/16	5/8
EB-511	EB-511SS	6	5/8	1-1/4	11/16
EB-512	-	8	5/8	1-1/4	11/16
EB-513	-	3-1/2	3/4	1-1/2	13/16
EB-514	EB-514SS	6	3/4	1-1/2	13/16
EB-515	-	10	3/4	1-1/2	13/16
EB-516	EB-516SS	6	7/8	1-3/4	15/16
EB-517	-	12	7/8	1-3/4	15/16
EB-518	-	6	1	2	1-1/16
EB-519	-	12	1	2	1-1/16

Drop Forged Eye Nuts



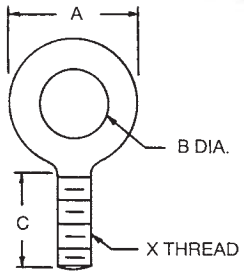


- Drop forged steel
- Manufactured from C-1035 steel
- Natural finish
- Some sizes available in 316 stainless steel

Steel PART #	Stainless Steel PART #	Thread X	A	B	C	D	Pounds Load
EN-401	EN-401SS	1/4-20	1-1/4	1-11/16	1/4	19/32	520
EN-402	EN-402SS	5/16-18	1-1/4	1-11/16	1/4	19/32	840
EN-403	EN-403SS	3/8-16	1-5/8	2-1/16	5/16	3/4	1240
EN-404	-	7/16-14	2	2-1/2	3/8	1	1700
EN-405	EN-405SS	1/2-13	2	2-1/2	3/8	1	2240
EN-406	EN-406SS	5/8-11	2-1/2	3-3/16	1/2	1-3/16	3600
EN-407	EN-407SS	3/4-10	3	3-7/8	5/8	1-3/8	5200
EN-408	-	7/8-9	3-1/2	4-5/16	3/4	1-5/8	7200
EN-409	-	1-8	3-1/2	4-5/16	3/4	1-5/8	7200

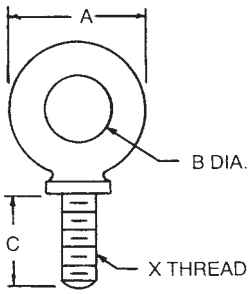
Forged Eye Bolts

- ▶ Drop forged steel
- ▶ Heat treated
- ▶ Manufactured from C-1035 steel
- ▶ Natural finish
- ▶ Load capacity for straight pull only



PART #	Thread X	A	B	C	Pounds Load
EB-150	1/4-20	1-1/4	3/4	1	500
EB-151	5/16-18	1-1/2	7/8	1-1/8	900
EB-152	3/8-16	1-21/32	1	1-1/4	1400
EB-153	7/16-14	1-27/32	1-3/32	1-3/8	2000
EB-154	1/2-13	2-1/16	1-3/16	1-1/2	2600
EB-155	9/16-12	2-9/32	1-9/32	1-5/8	3000
EB-156	5/8-11	2-1/2	1-3/8	1-3/4	4000
EB-157	3/4-10	2-13/16	1-1/2	2	6000
EB-158	7/8-9	3-1/4	1-11/16	2-1/4	7000
EB-159	1-8	3-9/16	1-13/16	2-1/2	9000
EB-160	1-1/8–7	4	2	2-3/4	10000
EB-161	1-1/4–7	4-7/16	2-3/16	3	15000
EB-162	1-1/2–6	5-3/16	2-1/2	3-1/2	19600

Forged Eye Bolts
with shoulder



INCH

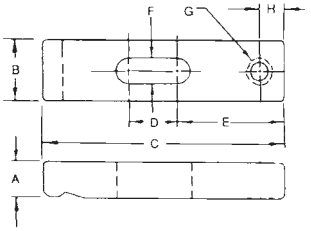
Steel PART #	Stainless Steel PART #	Thread X	A	B	C	Pounds Load
EB-250	EB-250SS	1/4-20	1-1/4	3/4	1	500
EB-251	EB-251SS	5/16-18	1-1/2	7/8	1-1/8	900
EB-252	EB-252SS	3/8-16	1-21/32	1	1-1/4	1400
EB-253	-	7/16-14	1-27/32	1-3/32	1-3/8	2000
EB-254	EB-254SS	1/2-13	2-1/16	1-3/16	1-1/2	2600
EB-255	-	9/16-12	2-9/32	1-9/32	1-5/8	3000
EB-256	EB-256SS	5/8-11	2-1/2	1-3/8	1-3/4	4000
EB-257	EB-257SS	3/4-10	2-13/16	1-1/2	2	6000
EB-258	-	7/8-9	3-1/4	1-11/16	2-1/4	7000
EB-259	-	1-8	3-9/16	1-13/16	2-1/2	9000
EB-260	-	1-1/8-7	4	2	2-3/4	10000
EB-261	-	1-1/4-7	4-7/16	2-3/16	3	15000
EB-262	-	1-1/2-6	5-3/16	2-1/2	3-1/2	19600

METRIC

Steel PART #	Thread X	A	B	C	Kilos Load
EB-270	M6 x 1.0	32mm	19mm	25.4mm	210
EB-271	M7 x 1.0	38.5	22	28.5	370
EB-272	M8 x 1.25	42	25	31.7	450
EB-273	M10 x 1.5	47	28	35	740
EB-274	M12 x 1.75	52.5	30	38	1030
EB-275	M14 x 2.0	58	35	44.5	1600
EB-276	M16 x 2.0	63.5	35	44.5	1600
EB-277	M18 x 2.5	71.5	38	51	2140
EB-278	M20 x 2.5	83	43	57	2860
EB-279	M24 x 3.0	90.5	46	63.5	3850
EB-280	M27 x 3.0	101.5	51	70	5200
EB-281	M30 x 3.5	113	55	76	6400
EB-282	M36 x 4.0	132	63	89	8970

- ▶ Drop forged steel, heat treated
- ▶ Available in inch and metric sizes
- ▶ Manufactured from C-1035 steel
- ▶ Some sizes available in Type 316 stainless steel

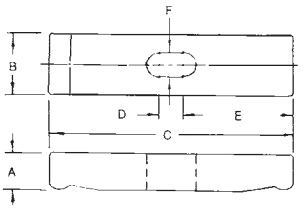
Tapped End Clamps Straps



- ▶ Case hardened, black oxide finish
- ▶ Machined from carbon steel

PART #	A	B	C	D	E	F	G	H
CS-7A	3/8	5/8	2	1/2	1	9/32	1/4-20	7/32
CS-107	3/8	5/8	2-1/2	1/2	1-1/8	9/32	1/4-20	7/32
CS-71	1/2	1	2-3/4	7/16	1-1/2	11/32	5/16-18	9/32
CS-72	1/2	1	3-1/4	13/16	1-1/2	11/32	5/16-18	9/32
CS-73	1/2	1	3-3/4	1-3/16	1-1/2	11/32	5/16-18	9/32
CS-74	5/8	1-1/4	3	3/4	1-11/16	13/32	3/8-16	5/16
CS-75	5/8	1-1/4	4	1	2-3/16	13/32	3/8-16	5/16
CS-76	5/8	1-1/4	5	1-1/2	2-11/16	13/32	3/8-16	5/16
CS-77	5/8	1-1/4	6	2	3-3/16	13/32	3/8-16	5/16
CS-7	5/8	1-1/4	4	1	2-1/4	17/32	1/2-13	7/16
CS-700	5/8	1-1/4	4-1/2	1	2-1/4	17/32	1/2-13	7/16
CS-8	5/8	1-1/4	5	1-1/2	2-1/4	17/32	1/2-13	7/16
CS-9	5/8	1-1/4	6	1-1/2	2-1/4	17/32	1/2-13	7/16
CS-10	3/4	1-1/2	4-1/2	1	2-1/2	21/32	5/8-11	1/2
CS-1000	3/4	1-1/2	5	1-1/2	2-1/2	21/32	5/8-11	1/2
CS-11	3/4	1-1/2	5-1/2	1-1/2	2-1/2	21/32	5/8-11	1/2
CS-12	3/4	1-1/2	6	1-1/2	2-1/2	21/32	5/8-11	1/2

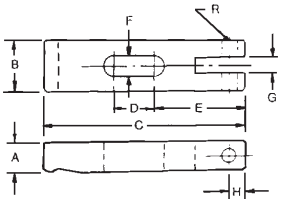
Double End Clamp Straps



- ▶ Case hardened, black oxide finish
- ▶ Machined from carbon steel

PART #	A	B	C	D	E	F
CS-201	5/8	1-1/4	4	1	1-1/2	17/32
CS-202	5/8	1-1/4	5	1	2	17/32
CS-203	5/8	1-1/4	5-1/2	1	2-1/4	17/32
CS-204	3/4	1-1/2	4-1/2	1-1/4	1-5/8	21/32
CS-205	3/4	1-1/2	5-1/2	1-1/4	2-1/8	21/32
CS-206	3/4	1-1/2	6	1-1/4	2-3/8	21/32
CS-228	7/8	1-1/2	4-1/2	1-1/4	1-5/8	21/32
CS-229	7/8	1-1/2	5-1/2	1-1/4	2-1/8	21/32
CS-230	7/8	1-1/2	6	1-1/4	2-3/8	21/32
CS-225	1	1-3/4	6	1-3/4	2-1/8	25/32
CS-226	1	1-3/4	7	1-3/4	2-5/8	25/32
CS-227	1	1-3/4	7-1/2	1-3/4	2-7/8	25/32

Clamp Straps for Single Cams

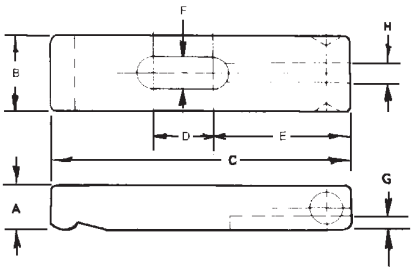


- ▶ Case hardened, black oxide finish
- ▶ Machined from carbon steel

PART #	A	B	C	D	E	F	G	H	R
CS-13A	3/8	5/8	2	1/2	1-1/32	9/32	3/16	3/16	5/32
CS-113	3/8	5/8	2-1/2	1/2	1-1/8	9/32	3/16	3/16	5/32
CS-312	1/2	1	2-3/4	7/16	1-1/2	13/32	1/4	1/4	1/4
CS-313	1/2	1	3-1/4	13/16	1-1/2	13/32	1/4	1/4	1/4
CS-314	1/2	1	3-3/4	1-3/16	1-1/2	13/32	1/4	1/4	1/4
CS-13	5/8	1-1/4	4	1	2-1/4	17/32	3/8	5/16	5/16
CS-1300	5/8	1-1/4	4-1/2	1	2-1/4	17/32	3/8	5/16	5/16
CS-14	5/8	1-1/4	5	1	2-1/4	17/32	3/8	5/16	5/16
CS-15	5/8	1-1/4	6	1	2-1/4	17/32	3/8	5/16	5/16
CS-16	3/4	1-1/2	4-1/2	1	2-1/2	21/32	1/2	3/8	3/8
CS-1600	3/4	1-1/2	5	1-3/8	2-1/2	21/32	1/2	3/8	3/8
CS-17	3/4	1-1/2	5-1/2	1-3/8	2-1/2	21/32	1/2	3/8	3/8
CS-18	3/4	1-1/2	6	1-3/8	2-1/2	21/32	1/2	3/8	3/8

Single End Clamp Straps

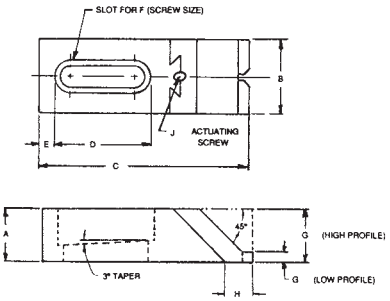
PART #	A	B	C	D	E	F	G	H
CS-1A	3/8	5/8	2	1/2	1-1/32	9/32	1/8	3/16
CS-101 & 119	3/8	5/8	2-1/2	1/2	1-1/8	9/32	1/8	3/16
CS-31	1/2	1	2-3/4	7/16	1-1/2	11/32	3/16	1/4
CS-32	1/2	1	3-1/4	13/16	1-1/2	11/32	3/16	1/4
CS-33	1/2	1	3-3/4	1-3/16	1-1/2	11/32	3/16	1/4
CS-34	5/8	1-1/4	3	3/4	1-11/16	13/32	9/32	3/8
CS-35	5/8	1-1/4	4	1	2-3/16	13/32	9/32	3/8
CS-36	5/8	1-1/4	5	1-1/2	2-11/16	13/32	9/32	3/8
CS-37	5/8	1-1/4	6	2	3-3/16	13/32	9/32	3/8
CS-1 & 19	5/8	1-1/4	4	1	2-1/4	17/32	9/32	3/8
CS-100	5/8	1-1/4	4-1/2	1	2-1/4	17/32	9/32	3/8
CS-2	5/8	1-1/4	5	1-1/2	2-1/4	17/32	9/32	3/8
CS-3	5/8	1-1/4	5-1/2	1-1/2	2-1/4	17/32	9/32	3/8
CS-21	5/8	1-1/4	6	1-1/2	2-1/4	17/32	9/32	3/8
CS-4	3/4	1-1/2	4-1/2	1	2-1/2	21/32	9/32	1/2
CS-400	3/4	1-1/2	5	1-1/2	2-1/2	21/32	9/32	1/2
CS-5 & 23	3/4	1-1/2	5-1/2	1-1/2	2-1/2	21/32	9/32	1/2
CS-6 & 24	3/4	1-1/2	6	1-1/2	2-1/2	21/32	9/32	1/2
CS-28	7/8	1-1/2	4-1/2	1	2-1/2	21/32	9/32	1/2
CS-2800	7/8	1-1/2	5	1-1/2	2-1/2	21/32	9/32	1/2
CS-29	7/8	1-1/2	5-1/2	1-1/2	2-1/2	21/32	9/32	1/2
CS-30	7/8	1-1/2	6	1-1/2	2-1/2	21/32	9/32	1/2
CS-25	1	1-3/4	6	1-3/4	3-1/4	25/32	5/16	1/2
CS-2500	1	1-3/4	6-1/2	1-3/4	3-1/4	25/32	5/16	1/2
CS-26	1	1-3/4	7	1-3/4	3-1/4	25/32	5/16	1/2
CS-27	1	1-3/4	7-1/2	1-3/4	3-1/4	25/32	5/16	1/2



- ► Case hardened, black oxide finish
- ► Machined from carbon steel

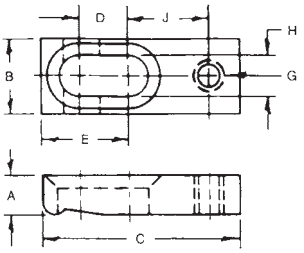
Toe Clamps

- ► Grips the sides of the workpiece to allow for free machining on the surface
- ► Heat treated steel
- ► Some sizes available with brass tip



	Steel Toe PART #	A	B	C	D	E	F	G	H	J
LOW PROFILE	TC-1	5/8	1	2	3/4	1/16	5/16-18	1/8	1/2	5/16-18
	TC-2	5/8	1	2-1/2	1-1/4	1/16	5/16-18	1/8	1/2	5/16-18
	TC-3	5/8	1	3	1-3/4	1/16	5/16-18	1/8	1/2	5/16-18
HIGH PROFILE	TC-4	5/8	1	2	3/4	1/16	5/16-18	5/8	1/2	5/16-18
	TC-5	5/8	1	2-1/2	1-1/4	1/16	5/16-18	5/8	1/2	5/16-18
	TC-6	5/8	1	3	1-3/4	1/16	5/16-18	5/8	1/2	5/16-18
LOW PROFILE	TC-7	7/8	1-1/2	4-1/16	2	1/8	1/2-13	1/4	13/16	1/2-13
	TC-8	7/8	1-1/2	5-1/2	2-3/4	1/2	1/2-13	1/4	13/16	1/2-13
	TC-9	7/8	1-1/2	7-7/16	3-3/4	1	1/2-13	1/4	13/16	1/2-13
HIGH PROFILE	TC-10	7/8	1-1/2	4-1/16	2	1/8	1/2-13	7/8	13/16	1/2-13
	TC-11	7/8	1-1/2	5-1/2	2-3/4	1/2	1/2-13	7/8	13/16	1/2-13
	TC-12	7/8	1-1/2	7-7/16	3-3/4	1	1/2-13	7/8	13/16	1/2-13

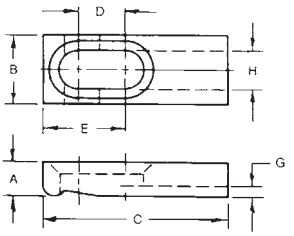
Stainless Steel Clamp Straps



▶ Made from 300 series stainless steel

PART #	A	B	C	D	E	F	G	H	J
1503	1/4	1/2	1-1/2	5/16	5/8	5/64	#10-32	7/32	11/16
1504	1/4	1/2	1-3/4	7/16	3/4	5/64	#10-32	7/32	13/16
1505	1/4	1/2	2	9/16	7/8	5/64	#10-32	7/32	15/16
1628	5/16	5/8	1-3/4	3/8	3/4	3/32	1/4-20	9/32	3/4
1629	5/16	5/8	2	1/2	7/8	3/32	1/4-20	9/32	7/8
1630	5/16	5/8	2-1/2	11/16	1-1/16	3/32	1/4-20	9/32	1-3/16
1753	3/8	3/4	2	1/2	7/8	1/8	5/16-18	11/32	13/16
1754	3/8	3/4	2-1/2	3/4	1-1/8	1/8	5/16-18	11/32	1-1/16
1755	3/8	3/4	3	7/8	1-5/16	1/8	5/16-18	11/32	1-3/8
1878	1/2	7/8	3	3/4	1-5/16	1/8	3/8-16	13/32	1-5/16
1879	1/2	7/8	3-1/2	1	1-1/2	1/8	3/8-16	13/32	1-5/8
1880	1/2	7/8	4	1-1/8	1-5/8	1/8	3/8-16	13/32	2

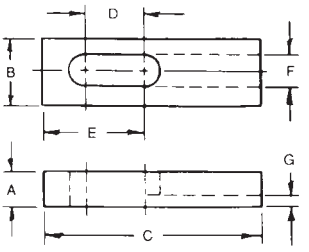
Stainless Steel Clamp Straps



▶ Made from 300 series stainless steel

PART #	A	B	C	D	E	F	G	H
1500	1/4	1/2	1-1/2	5/16	5/8	5/64	3/32	7/32
1501	1/4	1/2	1-3/4	7/16	3/4	5/64	3/32	7/32
1502	1/4	1/2	2	9/16	7/8	5/64	3/32	7/32
1625	5/16	5/8	1-3/4	3/8	3/4	3/32	1/8	9/32
1626	5/16	5/8	2	1/2	7/8	3/32	1/8	9/32
1627	5/16	5/8	2-1/2	11/16	1-1/16	3/32	1/8	9/32
1750	3/8	3/4	2	1/2	7/8	1/8	1/8	11/32
1751	3/8	3/4	2-1/2	3/4	1-1/8	1/8	1/8	11/32
1752	3/8	3/4	3	7/8	1-5/16	1/8	1/8	11/32
1875	1/2	7/8	3	3/4	1-5/16	1/8	1/8	13/32
1876	1/2	7/8	3-1/2	1	1-1/2	1/8	1/8	13/32
1877	1/2	7/8	4	1-1/8	1-5/8	1/8	1/8	13/32

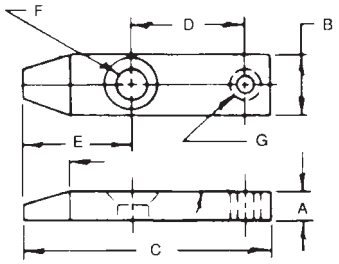
Stainless Steel Clamp Straps



▶ Made from 300 series stainless steel

PART #	A	B	C	D	E	F	G
1506	3/16	1/2	1-1/4	5/16	9/16	7/32	3/32
1507	3/16	1/2	1-1/2	3/8	5/8	7/32	3/32
1508	3/16	1/2	1-3/4	1/2	3/4	7/32	3/32
1509	3/16	1/2	2	5/8	7/8	7/32	3/32
1631	1/4	5/8	1-1/2	3/8	5/8	9/32	1/8
1632	1/4	5/8	1-3/4	1/2	3/4	9/32	1/8
1633	1/4	5/8	2	5/8	7/8	9/32	1/8
1634	5/16	5/8	2	9/16	7/8	9/32	1/8
1635	5/16	5/8	2-1/2	13/16	1-1/8	9/32	1/8
1756	3/8	3/4	2	9/16	15/16	11/32	1/8
1757	3/8	3/4	2-1/2	3/4	1-1/8	11/32	1/8
1881	1/2	7/8	3	1	1-3/8	13/32	1/8
1882	1/2	7/8	3-1/2	1-3/16	1-9/16	13/32	1/8

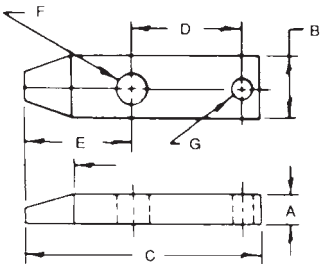
Stainless Steel Clamp Straps



► Made from 300 series stainless steel

PART #	A	B	C	D	E	F	G	H
1513	1/4	1/2	1-1/2	11/16	5/8	7/32	#10-32	5/64
1514	1/4	1/2	2	15/16	7/8	9/32	1/4-20	3/32
1515	5/16	1/2	2-1/2	1-1/8	1-1/8	9/32	1/4-20	3/32

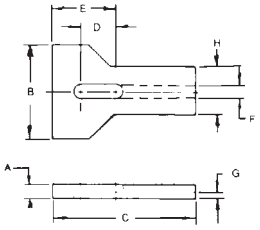
Stainless Steel Clamp Straps



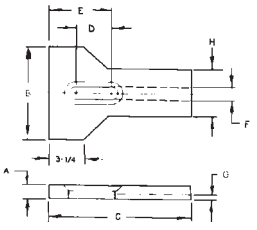
► Made from 300 series stainless steel

PART #	A	B	C	D	E	F	G
1510	1/4	1/2	1-1/2	11/16	5/8	7/32	.1875
1511	1/4	1/2	2	15/16	7/8	9/32	+.001
1512	5/16	1/2	2-1/2	1-1/8	1-1/8	9/32	–.000

Stainless Steel Clamp Straps



1125, 1126, 1127



1128, 1129, 1130

► Made from 300 series stainless steel

PART #	A	B	C	D	E	F	G	H
1125	1/4	1-1/4	2-3/4	5/8	1-1/8	9/32	3/32	3/4
1126	5/16	1-1/2	2-3/4	5/8	1-1/8	9/32	3/32	3/4
1127	5/16	2	3	3/4	1-3/8	9/32	1/8	1
1128	1/4	1-1/4	2-3/4	5/8	1-1/8	9/32	3/32	3/4
1129	5/16	1-1/2	2-3/4	5/8	1-1/8	9/32	3/32	3/4
1130	5/16	2	3	3/4	1-3/8	9/32	1/8	1

Step Clamps

- ▶ Heat treated steel, black oxide finish
- ▶ Machined from carbon steel
- ▶ Used in conjunction with step blocks to allow for quicker set-ups. Also eliminates the use of shims.

PART #	Bolt Size	Length	Width	Thickness
STC-32	5/16 or 3/8	2-1/2	1"	1/2
STC-34	5/16 or 3/8	4"	1"	5/8
STC-36	5/16 or 3/8	6"	1-1/8	3/4
STC-42	1/2	2-1/2	1-1/8	1/2
STC-44	1/2	4"	1-1/4	3/4
STC-46	1/2	6"	1-1/4	7/8
STC-52	5/8	2-1/2	1-1/4	5/8
STC-54	5/8	4"	1-1/2	3/4
STC-56	5/8	6"	1-1/2	7/8
STC-64	3/4	4"	1-1/2	3/4
STC-66	3/4	6"	1-1/2	1"
STC-68	3/4	8"	1-3/4	1-1/8
STC-76	7/8 or 1"	6"	2"	1-1/4
STC-78	7/8 or 1"	8"	2"	1-3/8
STC-80	7/8 or 1"	10"	2"	1-1/2

Step Blocks

- ▶ One block consists of two pieces
- ▶ All blocks work with step strap clamps
- ▶ A great time saver for frequent set-ups
- ▶ Machined from solid bar stock

STEEL: Heat Treated Steel/Black Oxide Finish

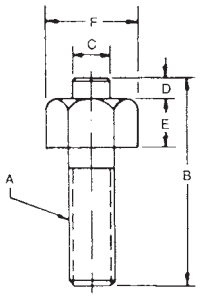
PART #	Capacity of Full Block	Height of 1/2 Block
STANDARD BLOCKS 1" WIDE		
STB-1S	3/4 to 1-1/2	1-1/8
STB-2S	1-1/8 to 2-1/2	1-3/4
STB-3S	2-1/2 to 6"	3-7/8
HEAVY DUTY BLOCKS 1-1/2" WIDE		
STB-4S	1-1/2 to 3-3/4	2-1/2
STB-5S	2-1/2 to 6"	3-7/8
STB-6S	3-1/2 to 9"	5-1/2
DOUBLE DUTY BLOCKS 2" WIDE		
STB-7S	1-1/2 to 3-3/4	2-1/2
STB-8S	2-1/2 to 6"	3-7/8
STB-9S	3-1/2 to 9"	5-1/2

6061-T6 ALUMINUM

PART #	Capacity of Full Block	Height of 1/2 Block
STANDARD BLOCKS 1" WIDE		
STB-1A	3/4 to 1-1/2	1-1/8
STB-2A	1-1/8 to 2-1/2	1-3/4
STB-3A	2-1/2 to 6"	3-7/8
HEAVY DUTY BLOCKS 1-1/2" WIDE		
STB-4A	1-1/2 to 3-3/4	2-1/2
STB-5A	2-1/2 to 6"	3-7/8
STB-6A	3-1/2 to 9"	5-1/2

Clamp Rests

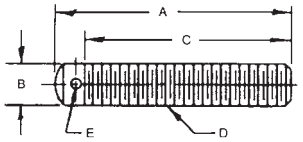
- Case hardened, black oxide finish
- Jam nut is furnished with each clamp rest
- Used on clamp assemblies to support clamping device



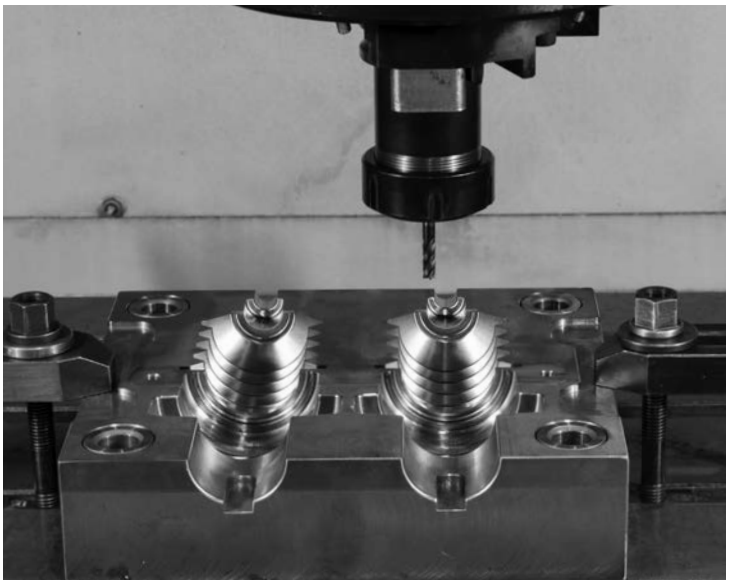
PART #	Thread A	B	C	D	E	Hex F
CR-00	1/4-20	1-1/4	5/32	1/8	1/4	7/16
CR-01	5/16-18	1-13/16	15/64	11/64	5/16	9/16
CR-02	5/16-18	3-1/4	15/64	11/64	5/16	9/16
CR-0	3/8-16	2-1/4	11/32	1/4	3/8	5/8
CR-03	3/8-16	3-7/8	11/32	1/4	3/8	5/8
CR-1	1/2-13	2-3/8	11/32	1/4	1/2	7/8
CR-10	1/2-13	3-7/8	11/32	1/4	1/2	7/8
CR-2	5/8-11	2-5/8	15/32	1/4	5/8	1-1/16
CR-20	5/8-11	3-7/8	15/32	1/4	5/8	1-1/16
CR-3	3/4-10	2-3/4	15/32	1/4	3/4	1-1/4
CR-30	3/4-10	3-7/8	15/32	1/4	3/4	1-1/4

Stainless Steel Adjustable Clamp Rests

- Made from 300 series stainless steel



PART #	A	B	C	D	E
6204	3/4	.190	1/2	#10-32	1/16
6205	1	.190	3/4	#10-32	1/16
6206	1-1/4	.190	1	#10-32	1/16
6207	1-1/2	.190	1-1/4	#10-32	1/16
6256	1	1/4	11/16	1/4-20	5/64
6257	1-1/4	1/4	15/16	1/4-20	5/64
6258	1-1/2	1/4	1-3/16	1/4-20	5/64
6259	1-3/4	1/4	1-7/16	1/4-20	5/64
6318	1-1/8	5/16	7/8	5/16-18	3/32
6319	1-3/8	5/16	1-1/8	5/16-18	3/32
6320	1-5/8	5/16	1-3/8	5/16-18	3/32
6321	1-7/8	5/16	1-5/8	5/16-18	3/32
6381	1-1/8	3/8	7/8	3/8-16	1/8
6382	1-5/8	3/8	1-3/8	3/8-16	1/8
6383	2-1/8	3/8	1-7/8	3/8-16	1/8
6384	2-5/8	3/8	2-3/8	3/8-16	1/8
6385	3-1/8	3/8	2-7/8	3/8-16	1/8



- THUMB SCREWS
- ADJUSTABLE HANDLES
- WASHERS
- MACHINE COMPONENTS
- EYE BOLTS
- LEVELING MOUNTS
- SHOULDER SCREWS
- HANDLES
- SPRING PLUNGERS
- BALL CLAMPING SCREWS
- COLLAR NUTS
- HANDWHEELS
- TOOLING BALLS
- SWING BOLTS
- CLAMP STRAPS
- STAINLESS STEEL COMPONENTS

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