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Gesswein® Finishing Stones for Mold & Die Polishing

For over 100 years, leading metalworkers have come to know and rely upon Gesswein® for the best in abrasives.

MADE IN AMERICA!

We are proud Gesswein® stones are the unquestionable choice of leading mold and die craftsmen worldwide. Their trust and confidence is due to:

- **Demanding Standards:** For each stone, careful grading eliminates oversized grains and special blending operations ensure absolute uniformity of finish, whatever your application.
- **Exceptional Quality Control:** Working closely with the best suppliers in the industry as well as making blocks and stones at our facility to ensure the highest standards are consistently met.
- **Quality Ingredients:** These stones are composed of the purest ingredients.
 - Aluminum Oxide: An extremely tough abrasive; each grain holds its sharpness very well.
 - Levigated Alumina: A very fine form of aluminum oxide (stones made of this formulation are softer).
 - Silicon Carbide: Extremely sharp and brittle (these man-made particles are designed to shatter and expose new, sharp edges).

Which Stone should I use?




Use this chart to determine which finishing stone is right for you based upon the type of surface and application.

SURFACE TYPE	DIE MAKER	EDM	EDM BLUE	OIL TREATED	PREMIUM WHITE	RA	GP	MOLD-MAKER	MOLD-MAKER PLUS	SUPER FINE	ULTRA SOFT	ROUGH OUT	CERAMIC STONES
All Tool Steels	◆	•	•	•	•	•	•	•	•			•	•
Heat Treated Tool Steel	•					◆							•
EDM Surface		◆	•	•		•	•						•
Machined Surface	•			◆	•		•						•
Stainless Steel	•			•				◆	•				•
Aluminum								•	•	•	◆	•	•
Non-Ferrous								•	•	•	◆	•	•
High Polishing										◆	•		
Rough Grinding												◆	
Carbide													

◆ Blue diamond indicates the most commonly used for each application.

Gesswein® Finishing Stones for Mold & Die Polishing

The chart below contains helpful information to guide you in selecting the appropriate finishing stone based on your application. Stones are listed from hardest to softest

EDM 	Premium aluminum oxide	Our best stones for fast removal of EDM scale. They have sharp points and edges to cut and dig into material to better remove it. Use EDM for more aggressive polishing.
General Purpose 	White aluminum oxide	This soft stone acts harder due to a proprietary treatment. Experienced polishers will find this formula cuts fast, wears slowly and holds its shape well.
Oil-Treated 	White aluminum oxide	Soaked in oil solution to prevent loading. Fast-cutting with moderate breakdown. Popular general purpose stones often used for EDM scale removal. Can be used without stoning oil.
Diemaker 	Aluminum oxide	Extremely popular. For general purpose stoning on all types of steel. Fast-cutting, wears at an average rate and gives a good surface finish.
Moldmaker Plus 	Premium silicon carbide	Green silicon carbide. Medium stone with slower breakdown characteristics than our standard Moldmaker stones.
Moldmaker 	Silicon carbide	Easy to shape stone for contour polishing, Medium-soft, nonloading and fast-cutting with rapid breakdown.
Rough Out 	Aluminum oxide	Coarse, fast-cutting with rapid breakdown. For deep machining marks. Also good for rust removal.
Super Fine 	Levigated alumina	Our softest and finest stones for steel surfaces. They don't scratch and are nonloading. For final finish before using diamond compound.
Ultra-Soft 	White aluminum oxide	Formulated for polishing aluminum, stainless steel, beryllium, kirkite and other soft metals. Very soft, fast-cutting, and nonloading with very rapid breakdown.

IMPORTANT: Abrasive stones break down during mold and die polishing, grinding, tool sharpening, and dressing of cutting & grinding wheels. The resulting dust is classified by OSHA as insert or nuisance dust. Please consult the Material Safety Data Sheet for each stone; data provided therein pertains primarily to the dust produced during and after use. Please note that hazards may change when abrasive stones are used in conjunction with solvents, cutting fluids or other chemicals. For more complete information, consult the Material Safety Data Sheets of chemical products used with abrasive stone products.

12 Piece Finishing Stone Sets

- Includes 4 grits in each shape: 1/4" x 1/8", 1/2" x 1/8", 1/2" x 1/4"
- All stones 6" long
- Made in USA



12 piece sets of our most popular stones. Choose from Diemaker, EDM, GP, Moldmaker, Moldmaker Plus, and Oil-Treated. Each Finishing Stone Set serves as a perfect introduction to our popular stone lines. 12-piece sets includes 4 grits of the 3 most popular sizes: 1/4" x 1/8" x 6", 1/2" x 1/8" x 6", 1/2" x 1/4" x 6"

EACH SET CONTAINS ONE EACH OF THE FOLLOWING GRITS									
CATALOG NO.	DESCRIPTION	120 GRIT	180 GRIT	220 GRIT	320 GRIT	400 GRIT	600 GRIT	800 GRIT	1200 GRIT
4052030	EDM	•	•		•	•			
4052090	Oil-Treated			•	•	•	•		
4052060	Diemaker			•	•	•	•		
4052095	General Purpose			•	•	•	•		
4052065	Moldmaker			•	•	•	•		
4052020	Moldmaker Plus			•		•		•	•

20 Piece Polishing Stone Sets

- Select either size: 1/4" x 1/8" or 1/2" x 1/4"
- All stones 6" long
- Made in USA



Two 20-piece stone sets offered in two of our most popular stone sizes. Each set includes five different types of stones of the same size in four different grits. All stones measure 6" long.

DESCRIPTION	120 GRIT	150 GRIT	180 GRIT	220 GRIT	320 GRIT	400 GRIT
EDM			•	•	•	•
Oil-Treated	•			•	•	•
Diemaker	•			•	•	•
General Purpose		•		•	•	•
Moldmaker Plus		•		•	•	•

CATALOG NO.	SHAPES	QTY
4052035	1/4" x 1/8" x 6"	20 pieces
4052075	1/2" x 1/4" x 6"	20 pieces

20 Piece Soft & Fine Polishing Stone Set



- Stones: Diemaker, Moldmaker Plus, Super Fine, Ultra-Soft
- Grits: 600, 800, 900, 1200
- Made in USA

Includes 4 different types of stones in various sizes ideal for final finishing and for preparation prior to diamond polishing. Use Diemaker (800 & 900 grit) and Super Fine (1200 grit) for polishing steel surfaces, Moldmaker Plus (800 grit) for radius-polishing stainless steel surfaces and Ultra-Soft (600 grit) for polishing aluminum and other soft metal surfaces. All stones measure 6" long 5/32" x 5/32" Super Fine, which measures 4" long.

SET CONTAINS ONE EACH OF THE FOLLOWING STONES:

DESCRIPTION	GRIT	5/32" x 5/32"	1/4" x 1/8"	1/4" x 1/4"	1/2" x 1/8"	1/2" x 1/4"
Diemaker	800		•	•	•	•
Diemaker	900		•	•	•	•
Moldmaker Plus	800		•	•	•	•
Super Fine	1200	•	•	•	•	•
Ultra-Soft	600			•	•	•

CATALOG NO.

4052085

DESCRIPTION

Soft & Fine Set

Gesswein® Finishing Stone All-Grit Sets

- Sets contain 1 of each grit
- All stones 1/2" x 1/8" x 6"
- Made in USA



So that you may try our most popular Gesswein® stones types, we have created these sets ranging from 6 to 9 pieces covering all the grits available in the most popular 1/2" x 1/8" x 6" size.

Choose different sets: Diemaker, EDM, General Purpose, Moldmaker, Moldmaker Plus and Oil-Treated.

CATALOG NO.	GRITS	SETS
4052062	100, 150, 220, 320, 400, 600, 800, 900, 1200	Diemaker All-Grit Set - 9 pcs.
4052031	120, 180, 220, 320, 400, 600	EDM All-Grit - 6 pcs.
4052091	120, 180, 220, 320, 400, 600, 800, 1200	Oil-Treated All-Grit Set - 8 pcs.
4052066	100, 150, 220, 320, 400, 600	Moldmaker All-Grit Set - 6 pcs.
4052021	100, 150, 220, 320, 400, 600, 800, 1200	Moldmaker Plus All-Grit Set - 8 pcs.
4052097	150, 180, 220, 320, 400, 600, 800, 1200	General Purpose All-Grit Set - 8 pcs.

Gesswein® Diemaker Stones

- Medium-hard aluminum oxide
- Ideal for both hard and soft mold steels
- Cuts fast with moderate breakdown
- Our most popular stone type
- Made in USA



Gesswein® Diemaker Finishing Stones are one of our most popular polishing stones, Gesswein® Diemaker Stones combine the characteristics of fast cutting and moderate breakdown. They can be used in a profiler or ultrasonic polisher. Made up of Medium-hard aluminum oxide. Ideal for both hard and soft mold steels. They come in a wide array of sizes and shapes. Also available in Sets.

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/4" x 6"	
4052102	150
4052202	220
4052302	320
4052402	400
4052602	600
4052902	900
4054002	1200

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/2" x 6"	
4052105	150
4052205	220
4052305	320
4052405	400
4052605	600
4052905	900
4054005	1200

CATALOG NO.	GRIT
Dimensions: 1" x 1/4" x 6"	
4051812	100
4052112	150
4052212	220
4052312	320
4052412	400
4052612	600

CATALOG NO.	GRIT
Dimensions: 1" x 1/2" x 6"	
4051807	100
4052107	150
4052207	220
4052307	320
4052407	400
4052607	600

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/8" x 6"	
4051801	100
4052101	150
4052201	220
4052301	320
4052401	400
4052601	600
4052901	900
4054001	1200

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/8" x 6"	
4051803	100
4052103	150
4052203	220
4052303	320
4052403	400
4052603	600
4052903	900
4054003	1200

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/4" x 6"	
4051804	100
4052104	150
4052204	220
4052304	320
4052404	400
4052604	600
4052904	900
4054004	1200

CATALOG NO.	GRIT
Dimensions: 1" x 1" x 6"	
4052106	150
4052206	220
4052306	320
4052406	400
4052606	600

Gesswein® EDM Stones



- Remove the tough, hard scale left by the EDM process
- Extra-sharp premium-grade aluminum oxide
- Hard stone
- Use with Stoning Oil
- Made in USA

Remove the tough, hard scale left by the Electrical Discharge Machining process much faster than any of our other polishing stones. Contain extra-sharp premium-grade aluminum oxide for fast cutting action. Special clay bond so they hold their shape well for working small details and sharp corners. Break down slowly, cut fast and resist loading. Yield excellent results by hand and even better in a profiler or ultrasonic polisher.

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/8" x 6"	
4256121	120
4256181	180
4256201	220
4256301	320
4256401	400
4256601	600

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/4" x 6"	
4256124	120
4256184	180
4256204	220
4256304	320
4256404	400
4256604	600

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/4" x 6"	
4256122	120
4256182	180
4256202	220
4256302	320
4256402	400
4256602	600

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/2" x 6"	
4256125	120
4256185	180
4256205	220
4256305	320
4256405	400
4256605	600

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/8" x 6"	
4256123	120
4256183	180
4256203	220
4256303	320
4256403	400
4256603	600

CATALOG NO.	GRIT
Dimensions: 1" x 1/2" x 6"	
4256127	120
4256187	180
4256207	220
4256307	320

CATALOG NO.	GRIT
Dimensions: 1" x 1" x 6"	
4256126	120
4256186	180
4256206	220
4256306	320

Gesswein® General Purpose Stones

- Great Choice for P-20 Steel
- Extra-sharp pure white aluminum oxide grains
- Medium-hard stone
- Use with Stoning Oil
- Made in USA



This soft stone acts harder due to a proprietary treatment. Experienced polishers will find this formula cuts fast, wears slowly and holds its shape well. Made of extra-sharp pure white aluminum oxide grains in a specially formulated bond and a proprietary treatment. Cut well, hold their shape and resist loading. Suitable for use on both EDM and machined surfaces of all tool and hardened steels.

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/8" x 6"	
4066151	150
4066181	180
4066201	220
4066301	320
4066401	400
4066601	600
4066801	800

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/4" x 6"	
4066154	150
4066184	180
4066204	220
4066304	320
4066404	400
4066604	600
4066804	800
4066904	1200

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/8" x 6"	
4066153	150
4066183	180
4066203	220
4066303	320
4066403	400
4066603	600
4066803	800
4066903	1200

CATALOG NO.	GRIT
Dimensions: 1" x 1/4" x 6"	
4066012	150
4066112	180
4066212	220
4066312	320
4066412	400
4066612	600

Gesswein® Moldmaker PLUS Stones



- Premium-grade green silicon carbide finishing stones
- Medium-hard stone with slower breakdown characteristics
- Produces a silky matte finish on all prehardened tool steels from 28Rc SAE 4130 through 60Rc A2 and M2
- Use with Stoning Oil
- Made in USA

Moldmaker PLUS Finishing Stones are made with premium silicon carbide abrasive. The stone is a medium-hard stone with slower breakdown characteristics than our standard Moldmaker stones. They are a general purpose, premium-grade green silicon carbide polishing stone. A good choice for stoning contours and radii will produce a silky matte finish on all prehardened tool steels, from 28Rc SAE 4130 through 60Rc A2 and M2. Can also be used to rough out aluminum, beryllium copper and kirksite.

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/8" x 6"	
4121101	100
4121151	150
4121201	220
4121301	320
4121401	400
4121601	600
4121801	800
4122001	1200

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/4" x 6"	
4121104	100
4121154	150
4121204	220
4121304	320
4121404	400
4121604	600
4121804	800
4122004	1200

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/4" x 6"	
4121102	100
4121152	150
4121202	220
4121302	320
4121402	400
4121602	600
4121802	800
4122002	1200

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/2" x 6"	
4121105	100
4121155	150
4121205	220
4121305	320
4121405	400
4121605	600
4121805	800
4122005	1200

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/8" x 6"	
4121103	100
4121153	150
4121203	220
4121303	320
4121403	400
4121603	600
4121803	800
4122003	1200

CATALOG NO.	GRIT
Dimensions: 1" x 1" x 6"	
4121106	100
4121156	150
4121206	220
4121306	320

Gesswein® Moldmaker Stones

- Silicon Carbide abrasive designed to break down rapidly and expose fresh edges
- Great for working on all types of tool steels as well as roughing out nonferrous metals
- Ideal for blending, detailing radii as well as following contours
- Use with Stoning Oil
- Made in USA



Gesswein® Moldmaker Finishing Stones are easy to shape for contour polishing. They are a Medium to soft, nonloading and fast-cutting stone with with rapid breakdown. The silicon carbide abrasive is designed to break down rapidly and expose fresh edges. Suitable for working on all types of tool steels as well as roughing out nonferrous metals. The Moldmaker stone is ideal for blending, detailing radii and following contours. This stone also resists loading.

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/8" x 6"	
4101101	100
4101151	150
4101201	220
4101301	320
4101401	400
4101601	600

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/4" x 6"	
4101104	100
4101154	150
4101204	220
4101304	320
4101404	400
4101604	600

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/4" x 6"	
4101102	100
4101152	150
4101202	220
4101302	320
4101402	400
4101602	600

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/2" x 6"	
4101105	100
4101155	150
4101205	220
4101305	320
4101405	400
4101605	600

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/8" x 6"	
4101103	100
4101153	150
4101203	220
4101303	320
4101403	400
4101603	600

CATALOG NO.	GRIT
Dimensions: 1" x 1" x 6"	
4101106	100
4101156	150
4101206	220
4101306	320
4101406	400
4101606	600

Gesswein® Oil-Treated Stones



- Hard white aluminum oxide soaked with oil
- Excellent for machined surfaces
- Holds shape well for finishing mold details
- Made in USA

Gesswein® Oil-Treated Finishing Stones are a hard white aluminum oxide soaked with an oil solution to prevent loading. They are a fast-cutting stone with moderate breakdown. Often this stone is used for EDM scale removal. They can be used with or without stoning oil. Excellent for machined surfaces and holds shape well for finishing mold details. Offers fine cutting ability.

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/8" x 6"	
4355101	120
4355001	180
4355201	220
4355301	320
4355401	400
4355601	600
4355801	800
4355901	1200

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/8" x 6"	
4355103	120
4355003	180
4355203	220
4355303	320
4355403	400
4355603	600
4355803	800
4355903	1200

CATALOG NO.	GRIT
Dimensions: 1/4" x 1/4" x 6"	
4355102	120
4355002	180
4355202	220
4355302	320
4355402	400
4355602	600
4355802	800
4355902	1200

CATALOG NO.	GRIT
Dimensions: 1/2" x 1/4" x 6"	
4355104	120
4355004	180
4355204	220
4355304	320
4355404	400
4355604	600
4355804	800
4355904	1200

Gesswein® Rough Out Stones

- Large, coarse, relatively soft polishing stones containing Aluminum Oxide
- Cuts fast with rapid breakdown
- Quickly remove rough scratches and machine marks. Ideal for “Hogging” out large amounts of stock prior to finishing
- Ideal for larger molds or dies
- Made in USA



Gesswein® Rough Out Finishing Stones are a large coarse, fast-cutting stone with rapid breakdown. Idea for removing deep machining marks as well as for rust removal. They are relatively soft polishing stones containing aluminum oxide that cut fast with rapid breakdown. You are able to quickly remove rough scratches and machine tool marks, ideal for “hogging” out large amounts of material prior to finishing. A great choice for roughing surfaces of larger molds and dies.



CATALOG NO.	GRIT
Dimensions: 1" x 1/4" x 8"	
4308080	80
4308100	100



CATALOG NO.	GRIT
Dimensions: 1/2" x 1/4" x 6"	
4308004	100



CATALOG NO.	GRIT
Dimensions: 1" x 1/2" x 8"	
4308081	80
4308101	100



CATALOG NO.	GRIT
Dimensions: 1-1/2" x 3/4" x 8"	
4308082	80
4308102	100

Gesswein® Ultra-Soft Stones

- Aluminum Oxide Abrasive with a special bonding agent designed for very reapid breakdown
- Formulated for soft metals, stainless steel, aluminum, brass, beryllium, kirksite
- Cuts fast without loading
- Can be used with or without stoning oil
- Made in USA



Formulated for polishing aluminum, stainless steel, beryllium, kirksite and other soft metals. Very soft, fast-cutting and nonloading with very rapid breakdown. Ultra-Soft polishing Stones are the most suitable stones for working with aluminum.



CATALOG NO.	GRIT
Dimensions: 1/2" x 1/8" x 6"	
4507103	120
4507203	220
4507303	320
4507403	400
4507603	600
4507003	1200



CATALOG NO.	GRIT
Dimensions: 1/2" x 1/4" x 6"	
4507104	120
4507204	220
4507304	320
4507404	400
4507604	600
4507004	1200

Stone Holder Double Enders



- Will accommodate pencil stones (5/32" x 5/32") as well as round and square stones up to 1/4" x 1/4"
- Measures 5-7/8" long
- Available in Black

Will accommodate pencil stones (5/32" x 5/32") as well as small round and square stones up to 1/4" x 1/4". Measures 5-7/8" long.

CATALOG NO.	DESCRIPTION
4030102	Black

Stone Holder Economy Adjustable



- Accommodates stones up to 9/16" thick
- Plastic serrated jaws ensure your stone is secured inside holder
- Made of Steel

The Economy Adjustable Stone Holder accommodates stones up to 9/16" thick. Plastic serrated jaw holds stones securely. Surface is black and non-reflecting. Made of steel (except serrated jaw and shank housing) with a 3mm shank.

CATALOG NO.
4031015

Stone Holder LT



- Lightweight
- Double-ended durable plastic stone holder
- One end holds 1/8" x 1/4", the other holds 1/8" x 1/2" and 1/4" x 1/4" stones
- Measures 5-1/2" long

An economically priced, lightweight, double-ended stone holder made of durable plastic with a black non-glare finish. One end holds 1/8" x 1/4" stones, and the other holds 1/8" x 1/2" and 1/4" x 1/4" stones. Measures 5-1/2" long overall.

CATALOG NO.
4031020

Stone Holder Screw-Lock



- Screw-type lock secures stone
- Designed for comfortable use
- Holds 1/2" x 1/4" stones
- Measures 5-7/8" long

Screw-type lock holds the stone securely. Designed for comfortable use. Holds 1/2" x 1/4" stones. Measures 5-7/8" long.

CATALOG NO.
4030200

Universal Tool Holder, 3mm Shank

- Accepts stone thickness up to 1/4"

Tool holder for super stones and polishing stones to be used with the Diprofil polishing/filing machines and other reciprocating units. Maximum tool thickness 6 mm (0.236"). Stainless steel hardened shank: 3mm diameter. Overall length: 2-5/8" (76mm) Shank length: approximately 1-3/16" (35 mm)



CATALOG NO.

4031050

Stoning Oil Green Supreme

This stoning oil was developed for mold and die polishing. It is economical, practically odorless, and it's ecologically safer to use than alternative stoning oils. Use with finishing stones to prevent loading and keep the work surface clean.

Lets stones cut better and more freely so they produce a bright, smooth surface. Eliminates the need for hazardous kerosene and other lubricating agents, which could be harmful to your health.

Can also use with diamond tools where lubrication is suggested. Viscosity: 39.5/44.



CATALOG NO.

8000151

8000152

DESCRIPTION

1 Gallon

1 Pint (wide-mouth glass container)

Mold Repair Kit

- Everything you need for mold repair in one case
- Helps you quickly put your molds back into production

Can be carried directly to the mold for instant repair in the press. Helps you quickly put your molds back into production.

Mold Repair Kit includes: EDM and Diemaker all grit stone sets, Moldmaker, RA, EDM and Ultrasoft stones, Supreme Green Stoning Oil, End Brushes, Blue and Red Mounted Stones and Points, stone holders for finishing stones, carbide burs, Gesswein G-Flex and GMX abrasives, Abrasive Belt Stick, Lapping Sticks, Felt Bobs, Sticks, Hand Buffs, 3 grades of Gesswein Diamond Compounds (each in a 1-gram syringe), and Simichrome Polish.



CATALOG NO.

3821000

Ceramic Stones



- Made of long ceramic fibers that will not break or dull, even when used under the most strenuous conditions or dressed to a very fine point
 - Put an end to constant stone replacement: 100% of each stone is available for use due to solid ceramic construction
 - Non-loading even under the most strenuous conditions
 - Incomparable polishing ability on all types of metals in detailed areas, narrow slots and ribs
 - Color-coded for easy identification and available in 120 to 1200 grit
- Strong yet incredibly flexible! Incorporating the latest technology in ceramic stones, the New Super Stone Ceramic Stones offer an improved cutting ability, increased heat resistance, and longer life. Made of long ceramic fibers that will not break even under the most strenuous conditions, the New Super Stones can be used in ultrasonic polishers, reciprocating profilers, or by hand (see Ceramic Stone Holders).

These strong yet flexible stones are ideal for polishing small intricate areas on all types of metals producing consistent and uniform surface finishes. New Super Stone Ceramic Stones are non-loading and can be shaped with the Super Dresser. Available in 8 easy to identify color coded grits from 120 to 1200.

DIMENSION (MM)	EMERALD 120 GRIT	GOLD 180 GRIT	LT. BROWN 300 GRIT	ORANGE 400 GRIT	GRAY 600 GRIT	BLUE 800 GRIT	WHITE 1000 GRIT	RED 1200 GRIT
	CATALOG NO.							
1 X 2 X 100 	3550112	3550212	3550412	3550512	3550612	3550712	3550812	3550912
1 X 4 X 100 	3550113	3550213	3550413	3550513	3550613	3550713	3550813	3550913
1 X 6 X 100 	3550114	3550214	3550414	3550514	3550614	3550714	3550814	3550914
1 X 10 X 100 	3550115	3550215	3550415	3550515	3550615	3550715	3550815	3550915

Ceramic Stone Holders



- 5-3/4" overall length

CATALOG NO.	FOR STONE SIZES
3510292	2mm Flat
3510270	4mm Flat
3510271	6mm Flat
3510272	10mm Flat

Blue Mounted Stones

- All 1/8" shank
- Hard Porcelain Bond, Holds it shape extremely well
- Semi-Friable Aluminum Oxide Abrasive
- 120 grit
- 48 piece mounted stone set contains 6 each of the following popular shapes: B44, B52, B123, W144, W152, W162, W176, W200.



These superior quality stones are made of Aluminum Oxide bonded with porcelain type clays which provide the greatest strength and rigidity required for fast stock removal and longer life. The ceramic bond controls the release of the Aluminum Oxide abrasive grains so that as each particle begins to dull, the bond discharges it allowing new abrasive grain to surface with fresh, sharp cutting edges.

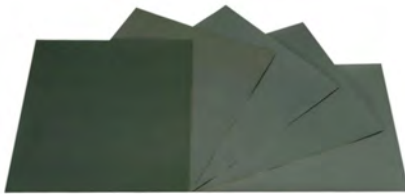
Guaranteed to run true. Stones are securely bonded to 1/8" shanks. Our Blue Mounted Stones are hard stones which hold their shape exceptionally well and are recommended for use on hardened steel. All are 120 grit (fine). Aluminum Oxide with Cobalt added to provide lubrication while grinding. Cut well and leave a smooth surface.

Can be dressed with our Tru-Stone. Mounted on 1/8" shanks which are 1-1/2" long and made of nickel-plated steel. 48 piece mounted stone set contains 6 each of the following popular shapes: B44, B52, B123, W144, W152, W162, W176, W200.

SPECIFICATIONS	
Grit	120

CATALOG NO.	DIA. X LENGTH	PACKAGE SIZE	SHAPE
3002000	3/4" x 1/8"	Pkg. of 12	W200
3040440	7/32" x 3/8"	Pkg. of 12	B44
3040520	3/8" x 3/4"	Pkg. of 12	B52
3041230	3/16" Round	Pkg. of 12	B123
3041440	1/8" x 1/4"	Pkg. of 12	W144
3041520	3/16" x 1/4"	Pkg. of 12	W152
3041620	1/4" x 3/8"	Pkg. of 12	W162
3041760	3/8" x 1/2"	Pkg. of 12	W176
3053010	Various	Pkg. of 48	Various / Set

3M WetorDry Silicon Carbide Sandpaper



- Silicon Carbide Abrasive designed to break down rapidly and expose fresh edges
- Improved rate of cut for a more uniform finish
- Uses silicon carbide abrasive bonded with waterproof resin

Silicon carbide abrasive provides better cut rates and finishes and last longer than traditional emery sheets. Available in 12 grits, all silicon Carbide. Each sheet measures 9" x 11".

Coarser grits (80, 120, 180) are backed with 431Q heavyweight paper.

Medium and fine grits (220, 280, 320, 400, 600) are backed with 413Q lightweight paper.

Finest grits (1000, 1500, 2000 and 2500) are on 401Q flexible papers.

CATALOG NO.	GRIT	PAPER TYPE
1098185	80	431Q
1098187	120	
1098189	180	
1098190	220	413Q
1098197	280	
1098193	320	
1098195	400	
1098196	600	
1098200	1000	401Q
1098202	1500	
1098203	2500	
1098204	2000	

GMX Mounted Points & Cylinders

- All 1/8" shank
- Made from cotton fiber and a unique flexible latex bond with laminates of non-woven aluminum oxide abrasive-impregnated fabric
- Great for polishing mold runners
- Excellent for breaking edges, deburring, and blending on aluminum, stainless steel, and exotic alloys
- Made in USA



GMX cotton fiber products utilize a unique flexible latex bond with laminates of non-woven aluminum oxide abrasive-impregnated fabric. Laminations run parallel to the shank to prevent the ends from chipping. The construction continually exposes new abrasive grain for cooler running. The flexible bond allows for reduced vibration and chattering. GMX is non-loading and runs cool. GREAT for aluminum!

Unlike bonded or coated abrasives, GMX does not load up when working on softer metals or alloys such as aluminum. Cylinders and shapes can be dressed to conform to unique contours. Excellent for breaking edges, deburring, and blending on aluminum, stainless steel, and exotic alloys. GMX is also ideal for polishing mold runners and mold & die components. All are on 1/8" shanks.

CATALOG NO.	GRIT	HEAD DIAMETER	HEAD LENGTH	SHAPE
2051542	80	3/16"	1/2"	W154
2051544	120	3/16"	1/2"	
2051546	180	3/16"	1/2"	
2051548	320	3/16"	1/2"	
2051632	80	1/4"	1/2"	W163
2051634	120	1/4"	1/2"	
2051636	180	1/4"	1/2"	
2051638	320	1/4"	1/2"	
2051762	80	3/8"	1/2"	W176
2051764	120	3/8"	1/2"	
2051766	180	3/8"	1/2"	
2051768	320	3/8"	1/2"	
2051772	80	3/8"	3/4"	W177
2051774	120	3/8"	3/4"	
2051776	180	3/8"	3/4"	
2051778	320	3/8"	3/4"	
2051852	80	1/2"	1/2"	W185
2051854	120	1/2"	1/2"	
2051856	180	1/2"	1/2"	
2051858	320	1/2"	1/2"	

Mounted Felt Bobs, Cylinders

- All 1/8" shank
- Ideal for use with diamond compounds
- Made in USA



Gesswein® Felts are made from the finest 100% wool for long life. May be used with various polishing compounds or rouges to produce a clean, high finish on molds, dies and models.

CATALOG NO.	LENGTH X DIAMETER	GRADE	STYLE
2861100	1/4 x 1/4"	Hard	1100
2861101	3/8 x 1/4"	Hard	1101
2861102	3/8 x 3/8"	Hard	1102
2861103	1/2 x 3/8"	Hard	1103
2861104	1/2 x 1/2"	Hard	1104
2861105	3/4 x 1/2"	Hard	1105
2861106	1 x 1/2"	Hard	1106
2861110	3/4 x 3/4"	Hard	1110
2891100	1/4 x 1/4"	Soft	1100
2891101	3/8 x 1/4"	Soft	1101
2891102	3/8 x 3/8"	Soft	1102
2891103	1/2 x 3/8"	Soft	1103
2891104	1/2 x 1/2"	Soft	1104
2891105	3/4 x 1/2"	Soft	1105
2891106	1 x 1/2"	Soft	1106
2891110	3/4 x 3/4"	Soft	1110

SUPRA® “ME” Bristle End Brushes

- All 1/8” shank
- Hard and Soft bristle types are made of animal hair
- Priced by the dozen
- Made in USA

Gesswein® miniature mandrel-mounted end brushes are available in a wide variety of sizes. One-piece ferrule construction ensures that the stem and ferrule will not become separated during use. Plastic ferrules are available to prevent scratching when used for interior polishing work.



Please note that those brushes with a style number containing the letter “P” have plastic ferrules, which are slightly larger than stated diameter. All other ferrules are metal. Hard and Soft bristle types are made of animal hair. Maximum operating speed: 15,000rpm.

CATALOG NO.	BRISTLE TYPE	FERRULE DIAMETER	FERRULE TYPE	STYLE	TRIM LENGTH
1108490	Soft	3/16”	Metal	849	1/4”
1108520	Soft	1/4”	Metal	852	3/8”
1108590	Hard	3/16”	Metal	859	1/4”
1108620	Hard	1/4”	Metal	862	3/8”
1109620	Hard	5/16”	Metal	962	9/16”
1118490	Soft	3/16”	Plastic	849P	1/4”
1118520	Soft	1/4”	Plastic	852P	3/8”
1118590	Hard	3/16”	Plastic	859P	1/4”
1118620	Hard	1/4”	Plastic	862P	3/8”

SUPRA® “ME” Wire End Brushes

- All 1/8” shank
- Straight wire is 0.003” diameter wire, Crimped wire is 0.005” diameter wire
- Priced by the dozen.
- Made in USA

Gesswein® miniature mandrel-mounted end brushes are available in a wide variety of sizes. One-piece ferrule construction ensures that the stem and ferrule will not become separated during use. The straight wire is 0.003” diameter while the crimped wire is 0.005” diameter. Maximum operating speed: 15,000rpm.



CATALOG NO.	FERRULE DIAMETER	STYLE	TRIM LENGTH	WIRE MATERIAL	WIRE TYPE
1108690	3/16”	869	1/4”	Brass	Straight
1108720	1/4”	872	7/16”	Brass	Crimped
1108790	3/16”	879	1/4”	Steel	Straight
1108820	1/4”	882	7/16”	Steel	Crimped
1109720	5/16”	972	9/16”	Brass	Crimped
1109820	5/16”	982	9/16”	Steel	Crimped

SUPRA® “MM” Bristle Cup Brushes



- All 1/8" shank
- Hard and soft bristle types are made of animal hair
- Sold in packages of 12.
- Made in USA

Gesswein® miniature mandrel-mounted cup brushes are made with solid steel ring construction for durability. Brush filaments are permanently anchored in the solid steel ring and uniformly distributed for even wear. Great for flat, curved, small and hard-to-reach surfaces. Hard and soft bristle types are made of animal hair. Maximum operating speed: 15,000 rpm. Made in USA.

CATALOG NO.	BRISTLE TYPE	DIAMETER	STYLE	TRIM LENGTH
1127520	Soft	9/16"	752	1/4"
1127540	Soft	1"	754	7/16"
1127620	Hard	9/16"	762	1/4"
1127640	Hard	1"	764	7/16"

SUPRA “MM” Bristle Wheel Brushes



- All 1/8" shank
- Hard and soft bristle types are made of animal hair
- Sold in packages of 12.
- Made in USA

Gesswein® miniature mandrel-mounted wheel brushes are made with solid steel ring construction for durability. Brush filaments are permanently anchored in the solid steel ring and uniformly distributed for even wear. Great for flat, curved, small and hard-to-reach surfaces. Hard and soft bristle types are made of animal hair. Maximum operating speed: 15,000rpm. Made in USA. All have one row of bristles unless otherwise noted below.

CATALOG NO.	BRISTLE TYPE	OVERALL DIAMETER	STYLE	TRIM LENGTH
1125100	Hard	1"	MKM	1/4"
1127020	Soft, 2-rows upright	3/4"	702D	3/16"
1127030	Soft	3/4"	703	3/16"
1127120	Hard, 2-rows upright	3/4"	712D	3/16"
1127130	Hard	3/4"	713	3/16"

SUPRA® “MM” Wire Cup Brushes

- All 1/8” shank
- Wires are made of brass, steel, or stainless steel
- Sold in packages of 12.
- Made in USA

Gesswein® miniature mandrel-mounted wheel and cup brushes are made with solid steel ring construction for durability. Brush filaments are permanently anchored in the solid steel ring and uniformly distributed for even wear. Great for flat, curved, small and hard-to-reach surfaces. Maximum operating speed: 25,000rpm. Made in USA.



CATALOG NO.	BRISTLE TYPE	OVERALL DIAMETER	STYLE	TRIM LENGTH
1127720	Brass 0.003”	9/16”	772	3/16”
1127820	Steel 0.003”	5/8”	782-S	1/4”
1127825	Stainless Steel 0.005”	5/8”	782-SS	1/4”

SUPRA® “MM” Wire Wheel Brushes

- All 1/8” shank
- Wires are made of brass, steel, or stainless steel
- Sold in packages of 12.
- Made in USA

Gesswein® miniature mandrel-mounted wheel brushes are made with solid steel ring construction for durability. Brush filaments are permanently anchored in the solid steel ring and uniformly distributed for even wear. Great for flat, curved, small and hard-to-reach surfaces. Maximum operating speed: 15,000rpm. Made in USA. All made of .003” diameter crimped wire except # 731 Stainless, which is made of .005” diameter crimped wire. All have 1 row of bristles unless otherwise indicated below. All have 1/8” shanks. All are 3/4” overall diameter, with a trim length of 3/16”.



CATALOG NO.	BRISTLE TYPE	STYLE
1127220	Brass, 2-rows upright	722D
1127230	Brass	723
1127315	Stainless Steel	731 - Stainless
1127320	Steel, 2-rows upright	732D
1127330	Steel	733

Diamond Compound, Standard Oil Soluble



- Oil soluble carrier holds the compound together very well.
- All Diamond Compounds use 100% virgin synthetic diamonds which are more consistent in shape than natural diamond
- Carrier helps execute faster cutting
- Can be used with lubricant thinner

Our most popular diamond compound. The oil soluble carrier holds the compound together very well, even under high speed applications. The carrier helps to provide faster cutting action and can be thinned with our Lubricant/Thinner. These compounds feature close tolerances on particle size and distribution for consistency. The diamond concentration has been specifically designed for the mold and die industry. All Diamond Compounds use 100% virgin synthetic diamonds which are more consistent in shape than natural diamond. Synthetic diamond guarantees sharp even cutting action.

CATALOG NO.	APPLICATION	COLOR	MICRON	SYRINGE SIZE
2162050	Super Finish	Ivory	1	6 grams
2167055	Super Finish	Ivory	1	18 grams
2162100	Very High Finish	Yellow	3	6 grams
2167105	Very High Finish	Yellow	3	18 grams
2162150	Mirror Finish	Orange	6	6 grams
2167155	Mirror Finish	Orange	6	18 grams
2162200	High Finish	Green	9	6 grams
2167205	High Finish	Green	9	18 grams
2162250	Fine Finish	Blue	15	6 grams
2167255	Fine Finish	Blue	15	18 grams
2162300	Fast Lapping	Red	30	6 grams
2167305	Fast Lapping	Red	30	18 grams

Oil Soluble Lubricant / Thinner



- For oil-soluble diamond compounds.
- Available in 8 oz. bottle

Lubricants keep the diamond abrasive in suspension, allowing the compound to cut at peak performance. When added to Diamond Compound, lubricant thins out the mixture, creating a slurry and extending the compound.

CATALOG NO.	SIZE	TYPE
8251300	8 oz.	Oil-Soluble

Simichrome Polish®

- One of the finest all-metal polishes in the world
- Works well on brass, bronze, chromium, aluminum and countless other uncoated metals that are similar
- Use anywhere an ultra fine final polish is required

One of the finest all-metal paste polishes in the world. Simichrome produces a beautiful high finish with very little effort. Simply rub on with a soft cloth and rub off to obtain a brilliant luster. A small amount of Simichrome applied to a clean felt bob will remove the smokey haze often seen after final finish to bring out the brilliance of the metal. Recommended for use after diamond compound. Removes tarnish, dirt and oils, and generally renews polished metal surfaces. It leaves a protective film which retards oxidation.

For Industrial use it is ideal in Metalworking, plastics and other industries that have known for years that Simichrome is the perfect product to polish tool and die molds, extrusion dies, precision metal products, machinery and anywhere an ultra fine final polishing is required. Metalworking industries have been using Simichrome for product finishing applications for decades.

In addition to being a superior polishing product, Simichrome is also an excellent purging compound to remove residue on mold and die cavities after prolonged molding of plastic parts. Simichrome is designed to polish without scratching any ferrous or non-ferrous metal. It yields an unequaled smooth finish and may be used with confidence when polishing even the most delicate, precision equipment and parts. Made in Germany.



CATALOG NO.	SIZE
2182050	50 Gram Tube
2182100	Case of 24 Tubes (50 grams each)
2182150	250 Gram Tin
2182200	1000 Gram Can

Turbo Air Lappers UTR



UTR-30



UTR-70



UR-120

- Supplied with air hose, coupler, foam sleeve and three tool holders for 1mm to 1/8" flat tools and 3mm round tools
- 90 PSI
- Requires Filter/Regulator-Lubricator
- Made in Taiwan

Low-vibration, quiet-running, durable reciprocating handpieces with a short stroke. Excellent for general-purpose finishing and polishing of mold and die surfaces. Perfect for polishing ribs, slots and other tight areas. Produces great results with Diamond Files and Super Ceramic Stones.

Includes: air hose, coupler, foam sleeve and three tool holders: #64 which accepts 1mm flat and 3mm round tools; #65 which accepts 1mm flat tools; and #62 which accepts 1/8" flat tools.

Tools are also sold separately. Requires Filter/Regulator/Lubricator.

CATALOG NO.	CFM	COLOR	MODEL	STROKE LENGTH	STROKES PER MINUTE
8502245	1.76	Blue	UTR-70	0.7mm	28000
8502250	1.76	Red	UTR-30	0.3mm	30000
8502251	2.83	Silver	UR-120	1.2mm	12000

UHT Ushio Air Grinders



- Fixed 1/8" collet
- Rear speed control and rear exhaust
- Supplied with 5' of 3/16" air hose, 1/4" NPT coupler, 13" exhaust hose, wrench and pin
- Use with Filter/Regulator-Lubricator
- Made in Japan

Quiet running handpieces ideal for many applications, including precision grinding, finishing and polishing. Feature self-lubricating vanes for dependable performance. Unique 1/8" fixed collet design provides extra-long ball bearing life and reduces heat buildup. The Contra-Angle 120° model allows access to hard-to-reach, deep areas. Both styles offer rear speed control and rear exhaust.

Supplied with 5' of 3/16" air hose, 1/4" NPT coupler, 13" exhaust hose, wrench and pin. Use with Filter/Regulator-Lubricator.

CATALOG NO.	DIMENSIONS	MAX. RPM	MODEL	WEIGHT
8500900	5-5/8"L x 5/8" Dia.	65000	Straight	4.5 ounces
8500905	5"L x 5/8" Dia.	53000	Contra-Angle	5 ounces

UHT Ushio Micro-Angle Surface Air Grinders

- Air consumption: 4.2 CFM at recommended air pressure of 85 PSI
- Recommended for use with Filter/Regulator
- Supplied with Exhaust overhose
- Made in Japan



Quiet-running handpieces are ideal for precision grinding, finishing and polishing. Feature self-lubricating vanes for dependable performance. Rear speed control and rear exhaust. Supplied with 5' of 3/16" air hose and 1/4" NPT coupler. Airline filter/regulator/lubricator required. Made in Japan.

Both 90 degree and 120 degree handpieces offer 7mm threaded shaft for delivering maximum torque to 30mm diameter grinding, sanding, and buffing tools.

CATALOG NO.	MAX. RPM	MODEL
8500890	24000	90 Deg. Angle
8500895	23500	120 Deg. Angle

UHT Ushio TurboLap Air Filers

- Three color-coded models, each supplied with hexagonal wrench, 1 Diamond Poli File, 1.5m air hose, overhose, hose bands and quick joint with filter
- Accepts up to 1mm flat or 3mm round tools
- 90 PSI, 1.65CFM
- No oil lubrication required
- Made in Japan



TurboLap delivers high-speed reciprocation with high torque and a short stroke. Ideal for filing, lapping and polishing molds or honing precision parts. Makes quick work of polishing ribs, slots and intricate areas. Runs quietly and is designed to be operated for long periods without getting hot. Provides optimum results with Diamond Poli Files and 1mm flat Super Ceramic Stones. Lightweight with good balance and ergonomic soft-grip design.

Three color-coded models, each supplied with hexagonal wrench, 1 Diamond Poli File, 1.5m air hose, overhose, hose bands and quick joint with filter. Accepts up to 1mm flat or 3mm round tools. Requires 1/4" NPT air connection and Filter/Regulator. No oil lubrication required.

Measures 7" long x 1" diameter. Weighs 5.9 ounces.

CATALOG NO.	COLOR	MODEL	CFM	STROKE LENGTH	STROKES PER MINUTE
8500928	Blue	TLL-03	4.4	0.3mm	52000
8500930	Red	TLL-07	1.65	0.7mm	28000
8500932	Yellow	TLL-12	1.65	1.2mm	19000

Marathon Handy 700



- 50,000 RPM Brushless Rotary Handpiece
- 1/8" collet with quick change mechanism
- High-torque, 230W
- Dial or foot rheostat speed control
- Error-checking/troubleshooting system with digital display

The Handy 700 system features an advanced controller and a 50,000rpm, 230W brushless rotary handpiece for incredible power - even at low speeds! Provides ample torque at all times to ensure fast and smooth metal removal. Ideal for a variety of applications, including grinding, finishing and polishing.

Use with POWER HAND® 3 handpieces for profile polishing or belt sanding. System includes Handy 700 controller and BH-60 Handpiece with 1/8" collet, variable-speed foot rheostat, handpiece cradle rest, detachable handpiece holder and replacement fuse.

Incredible power - even at low speeds. Full compatibility with POWER HAND® 3 brush-type handpieces. Dial or foot rheostat speed control. Easy-to-read digital speed display for precise speed and torque settings. Forward/reverse rotation. Error checking/troubleshooting system with digital display.

CATALOG NO.	COLLET SIZE	ELECTRICAL	MAX TORQUE	MAX. POWER	MODEL	HANDPIECE DIMENSIONS	CONTROLLER DIMENSIONS
5102925	1/8"	100-120V, 40W, 50/60Hz	7.8 N-cm	230W	Marathon + 1/8" Collet, 110V	6-5/16" x 1-1/16" to 3/4" dia.	5-3/8"W x 9-16"D x 7-1/16"H

Marathon Micromotor System



- 35,000 Max RPM adjustable handpiece
- 1/8" collet with quick change mechanism
- Electrical 110/220V, 50/60Hz
- Handpiece net weight: 7.5 oz.

The affordable do-it-all rotary micromotor system! Great for polishing and light repairs. Helps increase production, saving you time and money. Allows quick tool changes to keep work flowing. Provides finer control and better range of motion than a traditional flex shaft to handle especially delicate jobs.

Includes compact 110/220V controller with dial speed control and forward/reverse direction switch, 35,000rpm lightweight rotary handpiece with quick-change collet and flexible curl cord, variable-speed foot rheostat, handpiece cradle rest and safety glasses. Controller also accommodates our full line of Power Hand 3 Handpieces.

CATALOG NO.	ELECTRICAL	MODEL	OUTPUT VOLTAGE	HANDPIECE DIMENSIONS	CONTROLLER DIMENSIONS
5102946	110/220V, 50/60Hz	Marathon with 1/8" Collet	0-30V DC (continuously variable)	6"L x 1" x 5/8" dia.	4-1/2"W x 5-3/4"D x 3-3/4"H

POWER HAND® 3 Multi-Functional Micromotor Controller

- For use with all POWER HAND® handpieces
- 120V, 60Hz
- 3 - 30V DC Output Voltage
- Dimensions: 7-3/4"W x 7"D x 4-1/2"H



Designed with the latest technology in micromotor systems, the POWER HAND® 3 can handle almost any finishing job. This interchangeable micromotor system allows the operator to choose from a selection of handpiece motors and heads to create the right tool for a variety of polishing applications. With the quick disconnect feature, the operator can switch heads within seconds - no tools required.

POWER HAND® 3 is the 3rd generation of its line and comes with several new features such as: convenient on/off switch on each motor input, higher torque output for heavier grinding, quick change collet mechanism and slim lightweight handpiece cable.

The POWER HAND® 3 control box features a load indicator light to warn operator of excessive pressure, and digital RPM display to indicate exact rotational speed of handpiece. Works with all Power Hand 2 and Power Hand 3 handpieces (sold separately).

POWER HAND® 3 is designed for one-person use. Has 2 output stations with switch to instantly change power from one handpiece to the other. Speed can be adjusted by the dial rheostat on the face of the unit or by an optional variable speed foot rheostat. Built-in handpiece holders, one on each side of controller. Vibration-free, true-running operation.

CATALOG NO.	DIMENSIONS	ELECTRICAL	MODEL	NET WEIGHT	OUTPUT VOLTAGE
5103300	7-3/4"W x 7"D x 4-1/2"H (200 x 180 x 110mm)	120V, 60Hz	POWER HAND® 3, 110V	5-1/4 lbs (2.3Kg)	3 - 30V DC

POWER HAND® BZX Belt Sander

- Use with POWER HAND® 3 controller

Ideal for a wide variety of precision finishing applications.

Use the POWER HAND® BZX Belt Sander to: Remove EDM and machine tool marks, Finish narrow slots, Finish flat and curved surfaces, and Precise deburring. A well-designed pistol grip provides comfort and reduces operator fatigue. Operates with minimal vibration. Flexible cord for easy reach.

Supplied with 2 quick-change arms: one straight and one 45 degree angle for 6mm and 8mm wide sanding belts. Arms are spring-loaded for rapid belt changes. An optional straight arm for narrow 4mm belts is also available. Net weight 16 oz. Measures 6" long x 4-1/2" tall.



CATALOG NO.	MODEL
5102131	BZX Belt Sander

POWER HAND® 3 Rotary Handpieces



- All rotary handpieces supplied with 1/8" and 3/32" collets
- Quick release mechanism for fast tool changes
- On/off switch located on the motor
- Extremely high precision and cocentric tool movement
- Made in Japan

Choose from six sturdy, true-running, well-balanced handpieces with powerful 30V DC air-cooled motors. Improved motor design increases torque by 20% and increases airflow to keep handpieces cool. They operate with minimal vibration and have flexible power cords for easy reach. All handpieces have a quick-tool-change feature and new on/off switch located on the motor. All six handpieces are two-piece construction and can accept various POWER HAND® head attachments. Supplied with 3/32" and 1/8" collets, collet wrenches and replacement motor brushes.

CATALOG NO.	MAX TORQUE	MODEL	NET WEIGHT	OVERALL LENGTH
5103310	9.8 N.cm	8,000 RPM	9.74 oz.	6.92"
5103320	8.8 N.cm	15,000 RPM	9.74 oz.	6.92"
5103330	6.4 N.cm	20,000 RPM	7.76 oz.	6.38"
5103340	6.8 N.cm	30,000 RPM	9.74 oz.	6.92"
5103350	5.4 N.cm	35,000 RPM	7.76 oz.	6.38"
5103370	3.6 N.cm	55,000 RPM	6.70 oz.	6.00"

PH3 SZX Side-to-Side Profiler



- Holds 1.5 to 5mm (3/16") diameter tools

Provides unique side-to-side reciprocating action with adjustable stroke (up to 133 strokes per second). Length of stroke ranges from 0 - 1.6mm (increases with tool length). Perfect for polishing base areas in deep cavities, corners and deep slots. Helps eliminate rounding of sharp corners. Prevents bottoming out in blind holes. Special V-shaped chucking system firmly secures 1.5 to 5mm (3/16") diameter tools.

Measures 6-1/2" overall length. Weight 13 ounces. Safety Recommendations for SZX Profilers.

Prolonged use of vibrating or reciprocating tools may result in vibration-induced circulation problems in the hands. Always follow safe operating procedures. Using hand protection (i.e., insulated gloves) and taking frequent breaks can help minimize but not guarantee against injury. Operating these types of tools in cold weather or with a tight grip will reduce the period of operation before risking potential injury. Individuals with a tendency to suffer from poor circulation, frequently cold fingers or itchy hands should closely monitor the condition of their hands. If symptoms appear, seek medical advice immediately.

CATALOG NO.	MODEL	NET WEIGHT	STROKE LENGTH
5103309	Side to Side Profiler	13 oz.	0 - 1.6mm

POWER HAND® Reciprocating Profilers

- Holds 1.5 to 6.35mm (1/4") diameter tools
- Secured tools can float freely and be fixed at any position through 360°
- Net weight: 24oz.
- Use with POWER HAND® 3 controller



These light (24 oz.) reciprocating handpieces come complete with powerful 30V DC air-cooled motors and sealed bearings. Use for polishing flat surfaces, deburring, filing, stoning, scraping, lapping and draw-stoning deep cavities. They operate with minimal vibrations to reduce fatigue and have flexible power cords for easy reach. Special V-shaped chucking system firmly secures a wide variety of abrasives and other tools such as steel files. Reciprocating stroke lengths are adjustable.

Use with POWER HAND® 3 controller or PH2X controller, as well as ULTRAMAX DF and ULTRAMAX MF. Both Z-2X and Z-6X provide standard back-and-forth reciprocating action. They hold 1.5 to 6.35mm (1/4") diameter tools. Secured tools can float freely and be fixed at any position through 360 degrees. Comfortable grips allow prolonged use. Z-2X has a 0-2.0mm length of stroke with a variable strokes per second rate up to 117. Z-6X has a 0-6.0mm length of stroke with a variable strokes per second rate up to 70. Made in Japan.

CATALOG NO.	MAX STROKES PER MINUTE	MODEL	STROKE LENGTH
5102150	7020	Z-2X Recipro	0-2mm, adjustable
5102160	4200	Z-6X Recipro	0-6mm, adjustable

ULTRAMAX® MF TOUCH - 110/220V



Includes:

- MF TOUCH Control Box
- MF TOUCH Ultrasonic handpiece
- Handpiece rest
- Tool changing wrenches
- 1mm & 3mm flat clamp tool holders
- 3mm round tool holder
- Variable speed foot rheostat

Reduces finishing time dramatically!

- Polishes slots, ribs, and intricate details with ease
- Short stroke and fast reciprocation provide total control
- Special control functions allows polishing right up to a wall or finish to an edge
- Unaffected by metal hardness—tungsten carbide and titanium, are no match
- Milled surfaces to rough EDM surfaces can be polished to a mirror finish
- The Multi-Function Ultramax MF TOUCH gives you the versatility of ultrasonic and mechanical polishing in one package

The Ultramax® MF TOUCH is an upgraded version of the popular Ultramax MF multifunction unit that incorporates touch screen control of operation and read out. Ultramax™ MF TOUCH (Multi-Function) polishes slots, ribs, and intricate details with ease. Short stroke and fast reciprocation provide total control over the most demanding polishing tasks. Special control functions make any finish possible, letting you polish right up to a wall or finish to an edge.

Ultramax® MF TOUCH is unaffected by metal hardness. Even the toughest metals, including tungsten carbide and titanium, are no match. Everything from milled surfaces to rough EDM surfaces can be polished to a mirror finish. Use with ceramic stones, sintered, resin, and plated diamond tools, and metallic & nonmetallic lapping tools with diamond compounds.

The Multi-Function Ultramax® MF TOUCH gives you the versatility of ultrasonic and mechanical polishing in one package. The MF TOUCH utilizes a high-efficiency microprocessor to deliver power to ultrasonic, brushless DC, and brush-type DC handpieces. Includes an ultrasonic handpiece with 36W of continuously variable power for precision reciprocating action.

The Profiler output provides exceptional power to any of the Gesswein POWER HAND® rotary, reciprocating, side-to-side, or belt sander handpieces. The rotary output provides high speed and high torque power to the optional Gesswein BH-60 brushless type rotary handpiece.

SPECIFICATIONS

Operating Frequency:	18-26kHz
Frequency Adjustment:	Automatic feedback
Stroke Amplitude:	3-40 microns
Max. Power Consumption:	300 Watts
Overload Indicators:	Yes
Load Indicator:	5 level LED lamps
Max. Output Power:	36W (standard handpiece)
Output Adjustment:	Continuously variable
Output DC Rotary Tool:	5-32VDC, Max. 180 W
Output DC Brushless Tool:	1,000-50,000 rpm, Max. 250 W
Electrical:	90-240VAC 50/60Hz
Fuse:	3A 20mm time-lag
Dimensions:	6.75"W x 9.5"D x 5.5"H
Net Weight:	5.5 lbs.

CATALOG NO.	DESCRIPTION
5000237	Ultramax MF Touch System with Ultrasonic Handpiece

ULTRAMAX® MF TOUCH COMPLETE 3-IN-1 Pkg.



The Multi-Function ULTRAMAX® MF TOUCH is our most versatile polishing system. It utilizes a high-efficiency microprocessor to deliver power to ultrasonic, brushless DC, and brush-type DC handpieces. This complete kit includes: the ULTRAMAX® MF TOUCH polishing system, plus 2 additional handpieces and a convenient cabinet. Everything you need to start polishing, at a great value!

Organize your workbench with the 3-in-1 Cabinet. With a separate handpiece holder for each handpiece it's easy to reach your handpieces when you're ready to work. Includes two drawers with plastic inserts for storing your tools and polishing supplies. The cabinet is made of 1 mm thick powder-coated steel sheet to provide a sturdy base. Excellent accessory for those who want to keep the work environment organized!

Complete 3-in-1 package includes:

- MF TOUCH Control Box
- MF Ultrasonic Handpiece
- BH-60 Rotary Handpiece
- Recipro Z-6X or Z-2X Profiler Handpiece
- 3-in-1 MF TOUCH Cabinet
- Handpiece rest
- Tool changing wrenches
- 1mm & 3mm flat clamp tool holders
- 3mm round tool holder
- Variable speed foot switch

Handpieces

MF ULTRASONIC HANDPIECE: provides 36W of continuously variable power for precision reciprocating action.

BH-60 ROTARY HANDPIECE: delivers 50,000rpm utilizing a 230W brushless rotary motor for incredible power—even at low speeds! Provides ample torque at all times to ensure fast and smooth metal removal.

Z-6X OR Z-2X POWER HAND RECIPROCATING PROFILER: comes complete with powerful 30V DC air-cooled motor and sealed bearings. Use for polishing flat surfaces, deburring, filing, stoning, scraping, lapping and draw-stoning deep cavities. They operate with minimal vibrations to reduce fatigue and have flexible power cords for easy reach. Special V-shaped chucking system firmly secures a wide variety of abrasives and other tools such as steel files.



Ultrasonic



Rotary



Profiler

CATALOG NO.	DESCRIPTION
5000232	MF TOUCH COMP w/ Z-6X Recipro
5000233	MF TOUCH COMP w/ Z-2X Recipro

ULTRAMAX® MF TOUCH Mobile Work Station



Work anywhere in your shop! The combination of the Freedom® Mobile Work Station and the MF Touch Complete Package 3-in-1 allows you to quickly and effortlessly maintain your molds around your shop.

The MF Touch Complete Package 3-in-1 includes a 36 Watt ultrasonic handpiece, a reciprocating profiler of your choice (Z-2X or Z-6X), a 50,000rpm rotary handpiece, and the 3-in-1 MF Touch metal cabinet. The 3-in-1 Consumable Set is also included and contains 83 polishing tools and abrasives specifically selected for the MF Touch Complete Package. Pint of Green Stoning Oil included.

The Freedom® Mobile Work Station has a motorized lift that adjusts the top platform up and down (from 43-1/2" at the highest, down to 30-1/2" at the lowest) at the touch of a button. Heavy duty casters provide ease of transport throughout your work environment. Pivoting kickstand increases stability for safely managing the Work Station when at a standstill. The Work Station provides 3 electrical outlets for powering the MF Touch or other power tools and includes a 6 foot power cable to power the unit itself.

The top platform is a 14-3/8" square that features extension trays that swing out to hold workpieces and other objects, each tray is 8" x 4-1/4". These trays are ideal for holding any accessories or other items while operating the Ultramax MF Touch. The middle shelf is 12-1/4" x 12-5/8" and the bottom shelf measures 15-5/8" x 9-3/4". The Freedom® Mobile Work Station comes assembled, except for the middle shelf. Made in Japan.

ULTRAMAX® MF TOUCH Work Station includes:

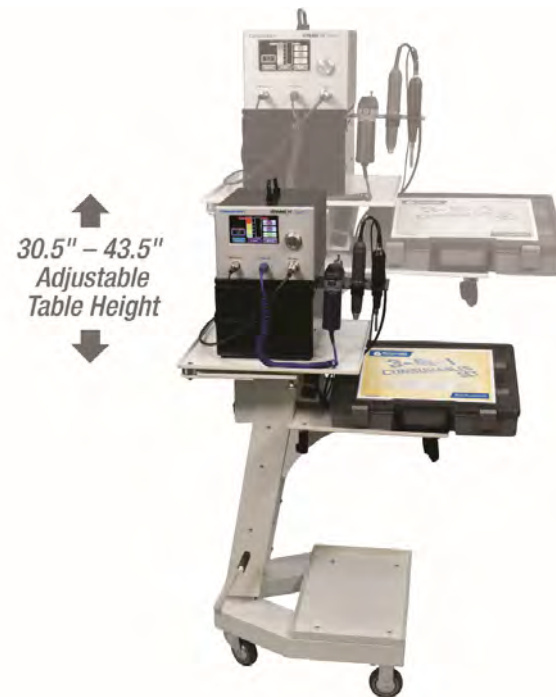
- MF TOUCH Control Box
- Ultrasonic Handpiece, 36 watts
- BH-60 Brushless Rotary Handpiece
- Choice of Reciprocating Profiler Handpieces Z-6X or Z-2X
- 3-in-1 MF TOUCH Cabinet
- Freedom® Mobile Work Station
- Handpiece rest
- Tool changing wrenches
- 1mm & 3mm flat clamp tool holders
- 3mm round tool holder
- Variable speed foot rheostat
- Pint of Supreme Green Stoning Oil
- 3-in-1 Consumable Set



CATALOG NO.	DESCRIPTION
5000250	MF TOUCH MOBILE WORKSTATION Z-2X
5000251	MF TOUCH MOBILE WORKSTATION Z-6X
8101620	Freedom® Mobile Work Station (only)

ULTRAMAX® MF TOUCH Mobile Work Station

FOREDOM® MOBILE WORK STATION	
Weight:	44 lbs
Ship Weight:	53 lbs (UPS, FedEx)
Overall Dimensions:	16" x 22" x 43-1/2"
Shipping Dimensions:	34-1/2" x 22-1/4" x 20"
Power Cable:	6" Long
Height to top of work platform:	43-1/2" highest setting, 30-1/2" lowest setting
Universal Voltage:	110/60Hz, comes with US plug, 220V plug options available
Warranty:	Two years, limited



SPECIFICATIONS	
Operating Frequency:	18-26kHz
Frequency Adjustment:	Automatic feedback
Stroke Amplitude:	3-40 microns
Max. Power Consumption:	300 Watts
Overload Indicators:	Yes
Load Indicator:	5 level LED lamps
Max. Output Power:	36W (standard handpiece)
Output Adjustment:	Continuously variable
Output DC Rotary Tool:	5-32VDC, Max. 180 W
Output DC Brushless Tool:	1,000-50,000 rpm, Max. 250 W
Electrical:	90-240VAC 50/60Hz
Fuse:	3A 20mm time-lag
Dimensions:	6.75"W x 9.5"D x 5.5"H
Net Weight:	5.5 lbs.

3-in-1 Consumable Set includes:

- Ceramic Stones (11)
- Mounted Stone Sampler Set (10)
- New Super Stone All Grit Set (8)
- Round Ceramic Stones (3)
- Stone Holder for Reciprocating Profiler
- 6 Grades of Diamond Compound, 6g
- Soft End Brushes (3)
- Hard End Brushes (3)
- Soft Cup Brushes (3)
- Hard Cup Brushes (3)
- Soft Wheel Brushes (3)
- Hard Wheel Brushes (3)
- Soft Felt Bob Set (7)
- Hard Felt Bob Set (7)
- GMX Soft Cylinders (3)
- Diamond Files (6)
- Rockwood (3) & Soft Sticks (5)
- Supreme Green Stoning Oil (2 oz squeeze bottle)
- Diemaker All Grit Set (8)
- EDM All Grit Set (8)

CATALOG NO.	DESCRIPTION
5000234	3 IN 1 POLISHING CONSUMABLE SET

ULTRAMAX® DF Ultrasonic Polisher



- 45W Ultrasonic Handpiece, 25,000 cycles per second
- Adjustable stroke length between 4 - 40 microns
- Dual Function output port for mechanical 30V DC
- Electrical: 120V AC, 1 Ph, 50/60Hz

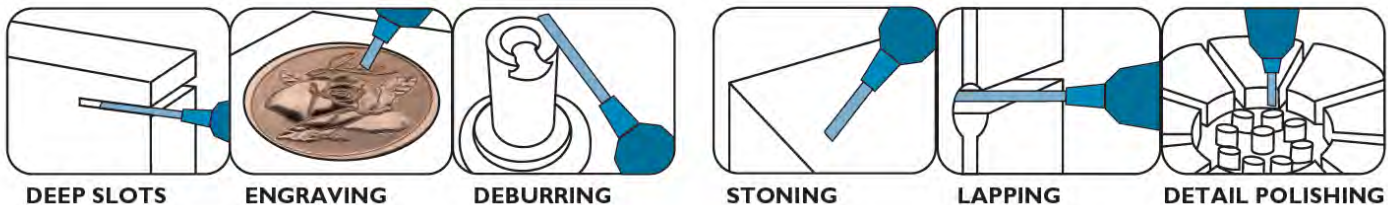
Ultrasonic Finishing Systems

Our most powerful ultrasonic system, ULTRAMAX® is the #1 choice for the professional mold polisher. Short stroke and fast reciprocation provide total control over the most demanding polishing and deburring tasks. Special control functions make any finish possible, letting you polish right up to a wall or finish to an edge, and deburring edges is a cinch.



The ULTRAMAX® unit is unaffected by metal hardness. Even the toughest metals, including tungsten carbide and titanium, are no match. Everything from milled surfaces to rough EDM surfaces can be polished to a mirror finish using all grades of finishing stones, sintered, resin and plated diamond tools, files and ceramic stones, and metallic and nonmetallic lapping tools with diamond compounds. Supplied with the lightweight, vibration-free UF-9700 ultrasonic handpiece.

ULTRAMAX® DF This dual-function unit gives the versatility of both ultrasonic and mechanical polishing. The DF can also power our full line of Power Hand 3 mechanical handpieces (PH3 adaptor 5103304 required).



SPECIFICATIONS (CONTROLLER)

Operating Frequency:	20-30kHz
Frequency Adjustment:	Automatic feedback
Stroke Amplitude:	4-40 microns
Power Consumption:	200VA; 100 VA
PH2X Output	0-30V DC
Electrical	115V, 1 Ph, 50/60Hz
Dimensions:	6 3/8"L x 11"D x 8 1/4" H
Net Weight:	8 lbs.

SPECIFICATIONS (HANDPIECE)

Transducer:	B.L.T. Electrostrictive
Cord Length:	79" (curl cord)
Screw Thread:	M6 or M4 with adapter
Dimensions:	5"L x 13/32" - 9/16" dia.
Net Weight:	4.5 oz.

The DF Set Includes:

- Controller
- UF-9700 handpiece
- 6/4 mm Tool Adapter
- Handpiece Rest
- Tool Box

Tool Set Includes:

- Diamond files & stones
- Resin bonded diamond stones
- Ceramic stones
- Lapping tools
- Clamp tool holders
- Handpiece protector sleeves and wrenches

CATALOG NO.	DESCRIPTION
5000210	DF Set, 115V

ULTRAMAX® UM-1200 Ultrasonic Polisher

The most affordable ultrasonic finishing machine for deburring and polishing with ceramic stones, diamond files, and lapping tools. The powerful UM-1200 produces 25,000 cycles per second of longitudinal vibration in a small, comfortable handpiece with an invisible minute stroke of 10 to 35 microns, from low to high output levels.

UM-1200 polishes slots, ribs and details much faster and better than you could ever possibly do by hand. Its blinding-fast reciprocation and ultra-short stroke make quick work of the most demanding tasks.

Offers high and low output levels for finishing right up to a wall or edge with confidence. Works on the toughest metals, including tungsten carbide and titanium. Polishes milled and EDM surfaces to a bright mirror finish with a succession of tools.



Features:

- Broad operating frequency range accommodates a wide variety of tools for maximum versatility
- Automatic frequency adjustment provides optimal finishing efficiency
- Power suspension keeps handpiece cool in your hand and extends its transducer life

The DF UM-1200 Set Includes:

- Controller
- Handpiece
- On/off foot switch
- Handpiece cradle rest
- Two sintered diamond tools
- Six plated diamond tools
- Two ceramic stones
- Tool holders
- Wrenches

SPECIFICATIONS (CONTROLLER)

Vibration Frequency:	18 - 25kHz
Frequency Adjustment:	Automatic feedback
Stroke Amplitude:	10 - 35 um
Power Consumption:	46 Watts
Max. Output Power:	39 Watts
Electrical:	90-240VAC 50/60Hz
Dimensions:	7-1/2" W x 5-1/2" D x 3-1/2" H
Net Weight:	1.5 lbs.

SPECIFICATIONS (HANDPIECE)

Transducer:	B.L.T. Electrostrictive
Cord Length:	59" (straight cord)
Screw Thread:	M8
Dimensions:	5" L x 1-3/16" - 3/4" dia.
Net Weight:	6.5 oz.

CATALOG NO.	DESCRIPTION
5001200	Ultramax UM-1200

PUK U4 POWER Micro TIG Welder Developed for Mold and Die Repair

Incorporating the latest technology, the PUK U4 POWER offers an easy to use solution for precision mold and die repairs. Utilizing micro TIG technology, the welder produces small, consistent spot welds that penetrate the mold surface. The welded areas are strong and can withstand the pressures and working conditions during the molding process. All heat is concentrated at the spot of the weld thereby eliminating the possibility of distortion and metal stress caused by overheating.

Applications:

- Repairing parting lines, mold seams, and three point corners and edges
- Filling in pores and deep scratches on the mold surface
- Weld into slots, corners and ribs
- Repair slides, ejectors, and core pins
- For use on all common tool steels, stainless steels, aluminum and copper

Complete Package:

The system comes complete with microscope, LED light, electrode handpiece, sets of 0.6mm and 0.8mm electrodes, electrode sharpener, ground cables, argon gas regulator, tack resistance welder, and foot pedal.



CATALOG NO.	DESCRIPTION
8300944	PUK U4 POWER Micro TIG Welder

PUK U4 POWER Micro TIG Welder



TECHNICAL DATA: MICROSCOPE SM04

Magnification	10 x
Field of vision / diameter	20 mm
Operating distance	145 mm
Integrated-Automatic-LCD-Filter (Glare shield)	+
Degree of luminescence / obscurity	DIN 3 / DIN 11
UV Protection / IR Protection	>UV15 / > IR14
LED lighting	3 W

TECHNICAL DATA: PUK U4 POWER

Power output (TIG) min. /max.	9- 430 A
Impulse length (TIG) min./max.	0.5 - 34ms
Power output (Tack welding) min./max.	80 - 800A
Impulse length (Tack welding) min./max.	0.2 - 6 ms
Welding speed	0.8 s
Automatic gas-pre-flow time	+
Gas consumption	ca. 2 l / min
Shielding Gas	Argon > 99.9 %
Current consumption "maintaining mode"	10 W
Program memory	33 x
Catalog No.	8300944

The PUK U4 POWER advantage.....

Save money

- Keep mold repairs in house! Stop sending out for laser and precision welding.
- Affordable alternative to a laser welder at a fraction of the cost.

Save time

- Repair your molds the same day.
- No pre-welding heat treatment required.
- Welds quickly: 1 spot weld every 0.8 seconds!
- Small spot welds polish out quickly.

Easy to use

- Ready to use with pre-programmed presets for most common applications. Takes the calculations and guess work out.
- Extremely accurate weld placement. Sharp electrode tip (0.6mm) touches the exact location of weld spot.

Mobility

- Take the U4 welder to the press for repair!
- Magnetic microscope attaches directly to mold while still in the press!

Minimal Heat

- Prevents damaged caused by overheating of mold, thus increasing life of the tool.
- All heat is concentrated only at the spot of the weld.

PUK U4 POWER

Pre-programmed and ready to use... For Steel, Aluminum, and Copper

Take the guess work out! Simply select the pre-program for your mold repair application and start welding! Each pre-program is set to the optimal weld pulse and time lapse for the specified mold repair application. Or if you prefer, manually override the pre-programmed settings to dial in your preferred setting.



Steel

Aluminum

Copper



PUK U4 POWER Micro TIG Welder The Microscope...Maximize Mobility

Weld anywhere on any type of mold large OR small! The adjustable and magnetic microscope base affixes to any metal surface. The microscope arm is extremely flexible to allow for comfortable welding on almost any mold surface. Keep the microscope at your bench or take it to the mold for a quick in-press repair. The 10X microscope comes complete with integrated LED lighting for proper illumination of the welding surface. A protective eye shutter built into the microscope provides protection for eyes. Field of view 20mm.



**Microscope can connect
directly to your mold base.**



PUK Replacement Parts

Argon Gas Regulator - 8301516

The PUK flow regulator enables the exact setting of the recommended 2 liters per minute flow rate. It's precise and easy but above all, it's reliable! The argon gas allows for clean, oxidation free welds.



Argon Screw Nut - 8301521

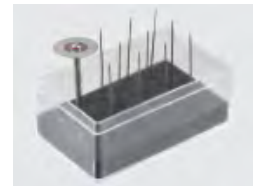


Electrode Collets 0.6mm Collet – 8300931, 0.8mm Collet – 8300933



Electrode Sets 0.6mm Electrodes – 8300932, 0.8mm Electrodes – 8300934

10 pre-sharpened electrodes for immediate use. The thin electrode increases precision by touching the exact spot of weld. Just prior to weld, the electrode pulls back into the hand-piece allowing for a clean and precise weld spot.



Handpiece Cap - 8301524



Electrode Sharpener - 8301528

For simple and rapid sharpening of PUK electrodes. The diamond disc rotates when the button is pressed allowing for quick and convenient electrode sharpening. The unit plugs into the back of the machine.



Electrode Sharpener Diamond Wheel - 8301531

Replacement diamond wheel for Electrode Sharpener. See video on gesswein.com for instructions.



Microscope Glass - 8300966



Microscope Rubber Eye Flaps - 8301512



PUK Extension Package - 8300939

Extend the reach of your PUK U4 with the PUK U4 Extension Package! For some large molds and in-press repairs, a few extra feet of reach may be necessary. This package includes an extended handpiece, extended magnet ground, and microscope extension cables. The extended handpiece measures approx. 8' (2.5m) compared to the 4' handpiece included with the PUK U4. The extended magnet cable measures 8' in length. The microscope extension cables add on an additional 6.5' in length to the standard PUK microscope, thus totaling 12.5' in overall length.





PUK Welding Wire

- All welding rods are 18" in length

Welding wire for the PUK Micro TIG Welder. Available in a variety of alloys with different lengths and diameters.

CATALOG NO.	ALLOY	DIA. X LENGTH
8302564	420 Stainless	.015" x 18"
8302567	420 Stainless	.030" x 18"
8302604	P-20 Tool Steel	.015" x 18"
8302607	P-20 Tool Steel	.030" x 18"
8302614	H-13 Tool Steel	.015" x 18"
8302617	H-13 Tool Steel	.030" x 18"
8302654	S-7 Tool Steel	.015" x 18"
8302657	S-7 Tool Steel	.030" x 18"
8302664	Beryllium Copper	.015" x 18"
8302667	Beryllium Copper	.030" x 18"
8302764	Aluminum 7075	.015" x 18"
8302767	Aluminum 7075	.030" x 18"

PurgeMax® Purging Compound

PurgeMax® Purging Compound is a proprietary biodegradable, water-based emulsion/surfactant designed to reduce the interfacial tension between the thermoplastic resin and metallic surfaces of screw & barrel. It's like how soap or detergent works to remove stains, dirt or grease from laundry or dishes.

PurgeMax® gets between thermoplastic resin and metallic surface to clear away resin and clean screw & barrel in injection molding, extrusion and blow molding machines. Resin color, material change and removing carbonized resin build-up are made easy with PurgeMax®.



PURGEMAX® TECHNICAL INFO

Application Type	Injection & Blow Molding, Extrusion	
Operating Temp. Range	300 ~ 750°F (135 ~ 400°C)	
Applicable Thermoplastic Resins	Commodity Plastics	PE, PP, PET, PS, ABS, PVC
	Engineering Plastics	PC, PBT, Nylon, POM
	Super Engineering Plastics	PEEK, PSU, PEI, LCP
Hot Runner / Manifold	Yes	

PRODUCT SPECIFICATIONS

Color	White, Clear Transparent plastic packet
Dimension	L: 82mm (3.75") x W: 38mm (1.5")
Appearance	Non-abrasive and odorless white liquid
Package Size	60 packets/box
Specification	1.2+/-0.2 ml/cm3
Weight	10ml per packet
Safety	Please refer to SDS
Storage Humidity	Dry
Storage Temperature	32°F to 120°F (0°C to 50°C)
Certification	RoHS & EN71



CATALOG NO.	DESCRIPTION
PM-0001	60 packets/box (10ml per packet)

Why is PurgeMax[®] the better purging solution?

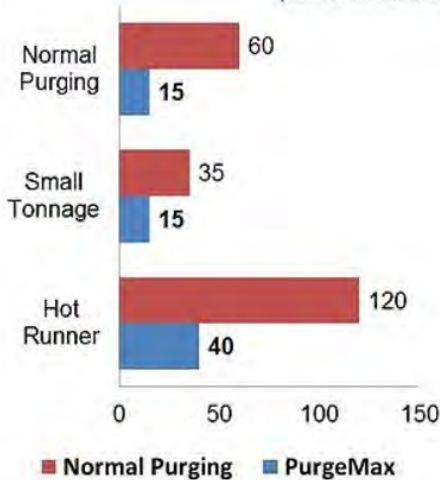
1. PURGEMAX[®] IS EXTREMELY EASY TO USE!

- ONE universal grade purging compound for ALL types of resins and processes (injection, blow & extrusion moldings)
- No mixing, weighing or soaking required
- Wide operating temperature range, 300°~ 750°F (135°~400°C)
- RoHS & EN71 Compliant
- Odorless, non-toxic, non-hazardous, non-flammable

2. PURGEMAX SAVES MONEY!

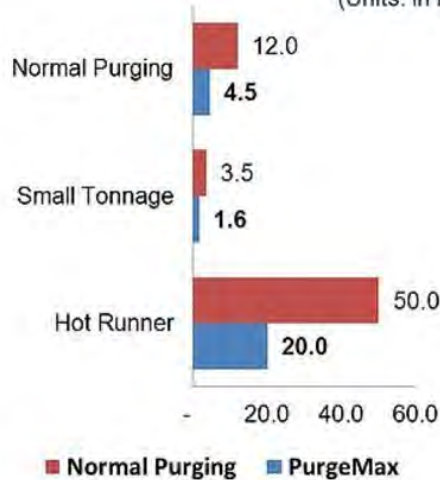
Purging Time = Machine Downtime

(Units: in minutes)



Purging Resin Used

(Units: in kg)

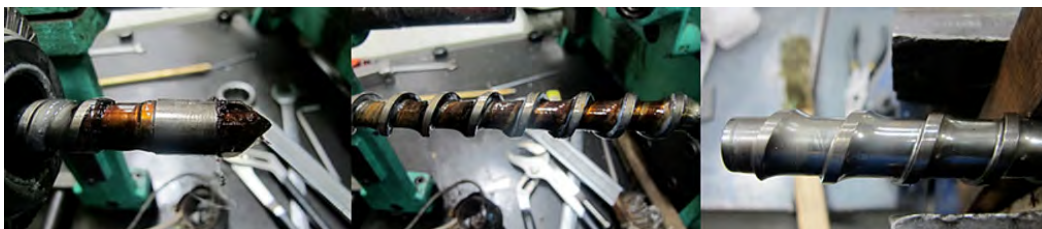


Purging is faster with PurgeMax[®]. Purging time is machine downtime, so the shorter the purging time, the less purging resin used. Save more time and money with PurgeMax[®].

3. PURGEMAX[®] IS EFFECTIVE!

PurgeMax[®] is not only extremely easy to use, it is a highly effective purging solution. Leading plastic manufacturers choose PurgeMax[®] after extensive testing and comparison.

As shown below, regular purging process removes the residual resin from previous operation. However, when PurgeMax[®] is used, carbonized resin build-up from years of operation are removed, in addition to normal residual resins.



PurgeMax[®] Instructions

Before Purging:

Purging with PurgeMax[®] is extremely simple. First, use the chart below to estimate the number of PurgeMax[®] packets to be used, which is dependent on the barrel/screw diameter.

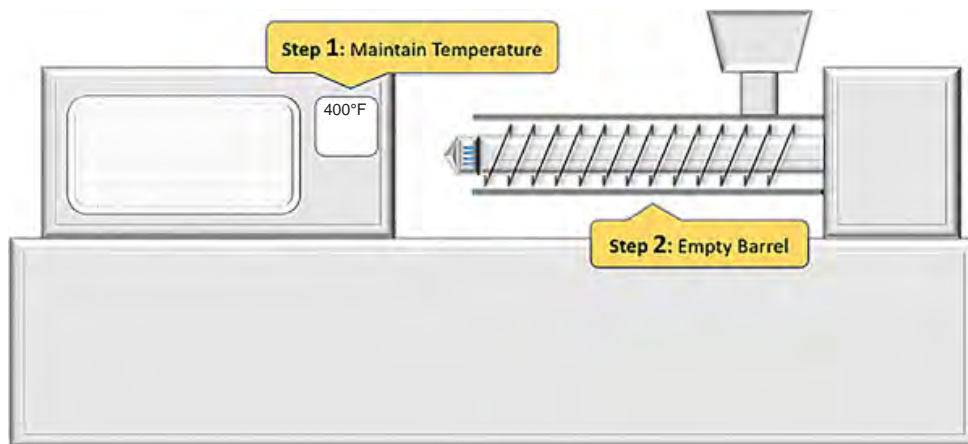
PurgeMax[®] is used in conjunction with carrier/purging resin. We recommend using the next production run resin as the carrier/purging resin. However, other lower cost alternative carrier resins can be used to save cost – please refer to the “PurgeMax[®] Purging Resin Selection Guideline” for recommendation.

For extreme/stubborn carbon build up or if the machine has not been cleaned in a long time, mix 1 packet of PurgeMax[®] per 6-1/2 lbs. of purging resin and start purging process.

PurgeMax[®] Recommended Dosage Chart

SCREW/BARREL DIA.	INJECTION & BLOW MOLDING	EXTRUSION MOLDING
Less 45mm (1-3/4")	1-2 packets	2-4 packets
46-88mm (1-3/4" - 3-1/2")	2-4 packets	4-6 packets
86-125mm (3-1/2" - 5")	4-7 packets	6-9 packets
126-165mm (5" - 6-1/2")	7-9 packets	9-13 packets
166-205mm (6-1/2" - 8")	9-12 packets	13-16 packets
205-245mm (8" - 10")	12-15 packets	16-19 packets

Starting the Purging Procedure:



Step 1:

- Maintain machine's normal production profile for the resin, and keep to the normal operating temperature or at least maintain the minimum operating temperature of 300°F (150°C).

Step 2:

- Empty the screw and barrel of residual resin. Small residual resin may be left inside the hopper and barrel before PurgeMax[®] is placed.

PurgeMax[®] Instructions

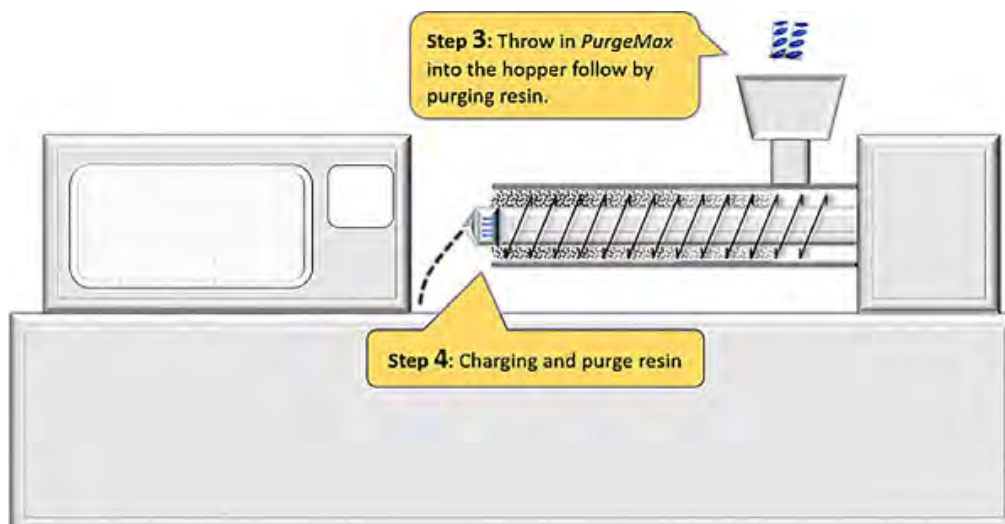
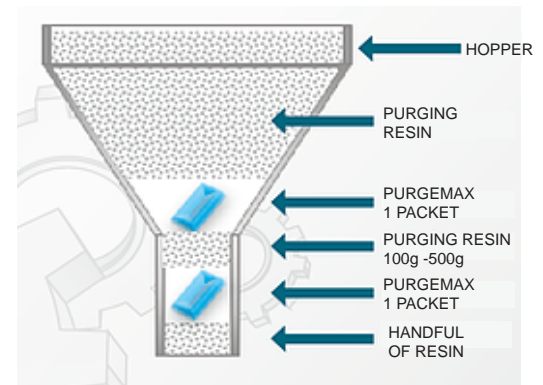
Special Note #1: In case of **polyvinyl chloride (PVC)** and **FR (fire resistant)** filled resins which are highly heat sensitive, carbonization due to heat oxidation can lead to degradation within just a few minutes. Therefore, we recommend that you do **NOT** empty the barrel before the purging procedure. Instead, PurgeMax[®] should be introduced at the end of the resin run by adding the PurgeMax[®] on top of the resident resin in the hopper and follow by purging material.

Special Note #2: In case of purging polyvinyl chloride (PVC), please pour the liquid contents of PurgeMax[®] without tossing in the plastic bag into the hopper. The plastic bag of PurgeMax[®] packet is made of polyethylene (PE) which reacts with PVC to form strong glue-like substance which is difficult to remove/purge. Therefore, the PurgeMax[®] packet should be cut open and poured into the hopper without the plastic bag.

Step 3:

- Place a small amount of purging resin along with a PurgeMax[®] packet directly into the hopper, immediately follow by the remaining purging resin. Toss in the PurgeMax[®] packet in whole with the plastic wrapping – do NOT rip open the plastic packet – except in case of PVC (please see **Special Note #2 from Step 2**).
- **Layering PurgeMax[®]:** When two or more packets of PurgeMax[®] are prescribed, layer the packets evenly through out the purging resin inside the hopper. That is, first place a small amount of purging resin (about 100~500g or 1/4~1 pound) then toss in the first PurgeMax[®] packet. Then place layer of purging resin before placing another PurgeMax[®] packet. Place one packet at a time.

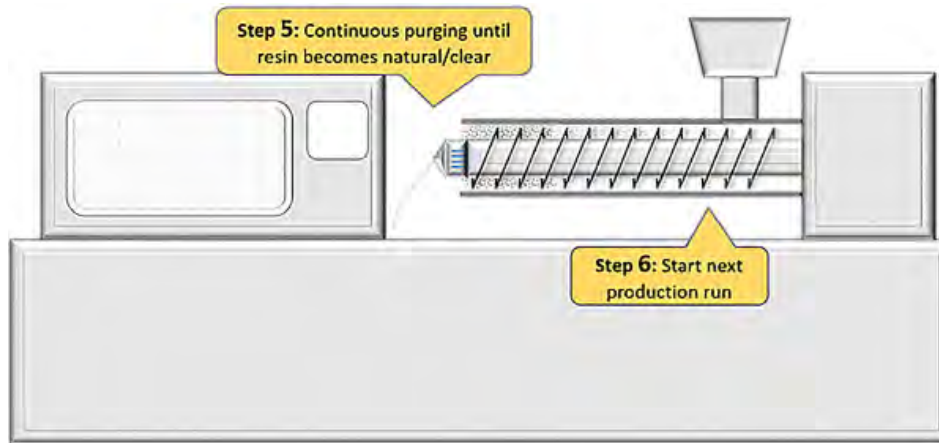
Special Note #3: For polycarbonate (PC) resin purging, user may consider mixing PurgeMax[®] with purging resin in a plastic bag before loading them into barrel port. This is to prevent “occasional charging” – screw is unable to take in resin due to the slipperiness upon contact with PC material.



PurgeMax® Instructions

Step 4:

- Begin the purging process by discharging the purging resin by normal machine operation. On occasion, one may find a small amount of smoke rising from the barrel or hopper which is considered normal.
- **Special Note:** For hot runner and manifold system, purge a small amount from the nozzle before proceeding to open mold purging or injection



Step 5:

- Continue the purging process or normal operation until resin appears clean or free of any undesired color or carbon deposits.
- **Note:** If molding machine is heavily contaminated, the use may consider adding one more packet of PurgeMax® and repeat the purging process. For extreme/stubborn carbon build-up, mix 1 packet of PurgeMax® per 6-1/2 lbs. of purging resin and repeat the process.

Step 6:

- When the purging process is complete, resume the normal production.

PurgeMax[®] Purging Resin Selection Guide

Purge and shutdown compounds are generally used to reduce changeover time and start up yield loss for injection molding and extrusion lines. PurgeMax[®] recommends using these purging/carrier resins in conjunction with PurgeMax[®] to improve the purging efficiency - speeding up the turnaround time and reducing start-up scrap.

PRODUCT TO BE PURGED:	PURGING RESIN RECOMMENDATION:
ABS	Cast Acrylic, HDPE, PS, SAN
ABS/PVC Alloys	Cast Acrylic, PS, HDPE
Acetal Copolymer	HDPE, PP, PS (Do not contact with PVC)
Acrylic	Clean Acrylic Regrind
ASA Blends	Cast Acrylic, HDPE, PP
Flame Retardant Compounds	Immediate purging with natural non-FR resin
Fluoropolymers	Cast Acrylic followed by HDPE
Filled Reinforced Resins	Cast Acrylic
Isoplast	GPPS, HIPS, SAN, ABS
LCP	PP
Nylon PBT	HDPE, PP
PBT	PS, HDPE, Next material to be run
PC / PBT Alloys	HDPE, PS, Cast Acrylic
PC / ABS	Natural ABS, SAN, PS, Cast Acrylic
PEI	HDPE, Glass reinforced PC
PET	Cast Acrylic, ASA, HDPE
Polycarbonate	Cast Acrylic, ASA, HDPE, PS
Polylefins	HDPE
Polystyrene	Cast Acrylic
Polysulfone	Reground Polycarbonate, extrusion grade PP
Polysulfone / ABS	Reground Polycarbonate, extrusion grade PP
PPO / PPE	Cast Acrylic, PS
PPS	Acrylic, LDPE, HDPE
PPS	HDPE
PVC - Flexible	HDPE
PVC - Rigid	General Purpose, non-FR ABS, Acrylic, PS
Polyester Alloys	HDPE
TPE	HDPE, PP
TPU	HDPE, PP, non-FR ABS

Notes:

- 1) Run barrel dry and leave the screw forward if resuming with the same material after shutdown.
- 2) **CAUTION!** Do not combine acetal and PVC in the barrel for any reason!
- 3) When purging PVC, please remove the plastic wrap of PurgeMax[®] which is PE in material.
Remove the plastic wrap and pour its content directly into the hopper.
- 4) Remove nozzle when purging with cast acrylic.

High Performance Mold Maintenance Products

PCS Company’s high performance mold maintenance products are designed to work as an integrated family of products with the sole purpose of making the plastic injection molding process more efficient. This simplified grouping is designed to eliminate waste and inefficiencies caused by the outdated, mold maintenance products that have been used for years. No other company has the products to make the molding process run as productively as PCS Company.

PCS Company’s family of Mold Maintenance products include mold release coatings, grease, cleaners/degreasers and rust preventatives. Each product is designed to improve mold and production efficiency.

How do our products make your molding process more efficient?

If a mold is cleaned properly down to the bare metal, it can often run efficiently without any other treatment. Our Power Clean does just that! If a clean mold is not enough and you are having to use mold release agents, our NanoMoldRelease coatings can eliminate the need for spray-on mold releases and improve start up scrap issues and fill times while reducing mold down time.

If scrap at startup is a problem, our Mold Guard “dry” rust preventative goes on dry and does not bleed grease into the molding area. It can also be molded over without having to clean the mold first. Another cause of startup scrap from bleeding is grease. Our NanoCeramicMold Grease can withstand much higher temperatures than standard greases, therefore, eliminating bleeding. Lastly, our Zap-Ox residue remover can clean gas stains, rust and other oxides within minutes, where it may take hours with standard resin removers.

Each of these products can be used separately, but when used together this integrated family of products will make your mold run more efficiently than you ever imagined.

Integrated Family of Products

Grease	NanoMoldCoating™		Spray Mold Release	Cleaners	Rust Preventative
Nanoceramic Mold Grease	Heat Cured	Quick Cure	Dri-Kote	Power Clean	Mold Guard
Cera Lube Spray Grease	HC	QC15	Tuff-Kote	Mold Brite	Mold Guard Green
	HCF	QC15S		Zap-Ox	The Defender
		QC15R		NanoMold Cleaner	

Mold Grease



- Reduces maintenance cost and downtime
- Temperature range: 0°F to 350°F continuously, 0°F to 650°F intermittently
- Resists water, steam, acid and most chemicals
- High load bearing properties
- High pressure and anti-wear protection
- Super low coefficient of friction

NanoCeramicMoldGrease offers extraordinary adhesion and will stay at the surface even under extreme pressure and temperatures. In addition, NanoCeramicMoldGrease extends production life and resists water, steam, acid and most chemicals. This grease is NSF certified to be used in the food industry and does not contain metal, PTFE or silicone. As a member of the PCS family of High Performance Mold Maintenance Products, NanoCeramicMoldGrease is designed to improve mold and production efficiency.

SPECIFICATIONS

Continuous Operating Temperature Range	0°F to 350°F
Intermittent Operating Temperature Range	0°F to 650°F
Color	White
Shelf Life	2 years
Qty. Per Pack	12

CATALOG NO.	PACKAGE SIZE
NCG0016	16 oz. Tub
NCG1000	16 oz. Tube
NCG1001	Case of 12, 16 oz. Tubes
NCG0007	1 Gallon Tub
NCG0035	5 Gallon Pail

Cera Lube Spray Grease

- Superior adhesion in high wear applications
- Low thermal expansion in high temperatures
- Strong adhesion to all metal surfaces
- Resists moisture and outside contaminants
- Lithium complex base
- Temperature range: 0°F to 450°F continuously, 0°F to 650°F intermittently
- Compatible with NanoCeramicMoldGrease
- Contains PTFE additives*

Cera Lube is a high performance lubricant using a lithium complex base grease to give it superior performance and low thermal expansion in high temperature situations. The ceramic reinforced PTFE additives provide superior adhesion in high wear applications, which significantly increase the amount of production strokes before breakdown when compared to standard greases. Along with its superior performance and adhesion characteristics, Cera Lube provides unmatched resistance to moisture and outside contaminants. Cera Lube is also compatible with the NanoCeramicMoldGrease.



SPECIFICATIONS	
Continuous Operating Temperature Range	0°F to 450°F
Intermittent Operating Temperature Range	0°F to 650°F
Shelf Life	2 years
Color	White

CATALOG NO.	PACKAGE SIZE	QTY. PER PACK
CL-500	Case of 12, 16oz Can	12
CL-500-1	16 oz Can	1

***PTFE is not FDA Approved**

NanoMoldCoating Heat Cured (HC)



- Semi-permanent mold release
- Reduces cycle time and eliminates sticking
- Withstands temperatures up to 1000°F
- In house/self applied application
- Does not migrate to part surface
- HCF Formulation is FDA Approved

NanoMoldCoating™ HC & HCF are semi-permanent coatings used to facilitate mold release. NanoMoldCoating™ can be applied in house and eliminates the need to purchase multiple cases of mold release spray. This high performance mold release coating can be used with all resins, reduces cycle times and eliminates part sticking within the mold. NanoMoldCoating™ does not migrate to the part surface and will not affect part tolerances in any way. The HCF formulation is FDA approved. As a member of the PCS family of High Performance Mold Maintenance Products, NanoMoldCoating™ HC & HCF is designed to improve mold and production efficiency.

Each HC kit includes:

Bottle of NanoMoldCoating
Bottle of NanoMoldCoatingRemover
Microfiber application cloths
Spray tip, Swabs
Application instructions
NanoMoldCleaner

SPECIFICATIONS

Operating Temperature	Up to 1000°F
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Each HCF* kit includes:

Bottle of NanoMoldCoating - Part A
Bottle of NanoMoldCoating - Part B
Bottle of NanoMoldCoatingRemover
Application cloths, Spray Tip, Swabs, Eyedropper
Application instructions
NanoMoldCleaner

CATALOG NO.	PACKAGE SIZE	COVERAGE	SHELF LIFE UNOPENED	SHELF LIFE OPENED
NANO5HC	5 ml	3-5 sq. ft.	6-9 Months	30-60 Days
NANO15HC	15 ml	9-15 sq. ft.	6-9 Months	90-120 Days
NANO25HC	25 ml	15-25 sq. ft.	9-12 Months	90-120 Days
NANO50HC	50 ml	30-50 sq. ft.	9-12 Months	90-120 Days
NANO10HCF	10 ml	6-10 sq. ft.	3-4 Months	to 30 Days
NANO15HCF	15 ml	9-15 sq. ft.	3-4 Months	60-90 Days
NANO25HCF	25 ml	15-25 sq. ft.	6 Months +	60-90 Days
NANO50HCF	50 ml	30-50 sq. ft.	6 Months +	60-90 Days

To prevent removal of NanoMoldCoating™, use NanoMoldCleaner only

NanoMoldCoating Quick Cure (QC)

- 10 - 15 min cure time
- Can be applied while mold is in press
- Semi-permanent mold release
- Withstands temperatures up to 500°F
- In house/self-applied application

NanoMoldCoating™ QC is a semi-permanent coating used to facilitate mold release. This product can be applied in house and eliminates the need to purchase multiple cases of mold release spray. NanoMoldCoating™ QC has three formulations; one designed for standard resin applications, one designed for silicone applications and one designed for rubber applications. Dramatically reducing downtime, this product cures within 15 minutes and can be applied while the mold is in the press. NanoMoldCoating™ does not migrate to the part surface and will not affect part tolerances in any way. As a member of the PCS family of High Performance Mold Maintenance Products, NanoMoldCoating™ QC is designed to improve mold and production efficiency.



SPECIFICATIONS	
Shelf Life	18 Months

Each kit includes:
 Bottle of NanoMoldCoating
 Bottle of NanoMoldCoatingRemover
 Microfiber application cloth
 Swabs
 Application instructions
 NanoMoldCleaner

CATALOG NO.	PACKAGE SIZE	COVERAGE	OPERATING TEMPERATURE	APPLICATION TYPE
NANO2QC	2 oz.	3-5 sq. ft.	Up to 500°F	Standard Resin Application
NANO2QCR	2 oz.	3-5 sq. ft.	Up to 500°F	Rubber Application
NANO2QCS	2 oz.	3-5 sq. ft.	Up to 450°F	Silicone Application
NANO8QC	8 oz.	12-20 sq. ft.	Up to 500°F	Standard Resin Application
NANO8QCR	8 oz.	12-20 sq. ft.	Up to 500°F	Rubber Application
NANO8QCS	8 oz.	12-20 sq. ft.	Up to 450°F	Silicone Application

To prevent removal of NanoMoldCoating™, use NanoMoldCleaner only

Which NanoMoldCoating™ is right for your application?

HC/HCF

- Cure Time = 3-4 hours
- Best applied when mold is not in the press at room temperature
- Withstands temperatures up to 1000°F
- Limited ability to bond to plated or pretreated surfaces
- HCF=FDA approved



QC15, QC15S & QC15R

- Cure Time = 10-15 minutes
- Can be applied to molds in or out of the press
- QC15 & QC15R withstands temperatures up to 500°F
- QC15S withstands temperatures up to 450°F
- Bonds well to plated or pre treated surfaces (PTFE, nickel, chrome, boron, etc.)
- No FDA formulation; cytotoxicity test show 0% reaction according to United States Pharmacopeia standards

Dri-Kote Medium Duty Mold Release

- Fully paintable
- Quick drying chemistry
- Works on all temperatures
- No build up on the mold
- Non-silicone formula
- Safe on all plastics

Dri-Kote is a medium duty spray mold release. Its quick drying chemistry is safe on all plastics and does not contain silicone. As a member of the PCS family of High Performance Mold Maintenance Products, Dri Kote is designed to improve mold and production efficiency.



SPECIFICATIONS	
Shelf Life	2 years

CATALOG NO.	PACKAGE SIZE	QTY. PER PACK
DK-300-1	10.75 oz. Can	1
DK-300	Case of 12, 10.75 oz. Cans	12

Tuff Kote Heavy Duty Mold Release

- Heavy duty formula lasts longer on the mold
- Fully paintable
- Quick drying chemistry
- Works on all temperatures
- No build up on the mold
- Non-silicone formula
- Safe on all plastics

Tuff Kote is a heavy duty spray mold release. Tuff Kote is effective in the most difficult molding applications. Its quick drying chemistry is safe on all plastics and does not contain silicone. As a member of the PCS family of High Performance Mold Maintenance Products, Tuff Kote is designed to improve mold and production efficiency.



SPECIFICATIONS	
Shelf Life	2 years

CATALOG NO.	PACKAGE SIZE	QTY. PER PACK
TK-150-1	10.75 oz. Can	1
TK-150	Case of 12, 10.75 oz. Cans	12

Power Clean



- Contains aggressive chlorinated cleaning agent
- Effectively removes dirt and contaminants from surface and pores
- Quick evaporation
- Cleans without wiping
- Safe to use on all metal surfaces
- Works on all temperatures
- Not for sale in the State of California

Power Clean is the most aggressive cleaning agent on the market. This extreme cleaner & degreaser effectively removes any dirt, grease or other contaminants from any metal surface. Power Clean allows you to avoid recontaminating the mold with dirty shop rags as its quick evaporation requires no wiping. As a member of the PCS family of High Performance Mold Maintenance Products, Power Clean is designed to improve mold and production efficiency.

SPECIFICATIONS

Shelf Life	30 Months
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CATALOG NO.	PACKAGE SIZE	QTY. PER PACK
PC-100-1	16 oz Can	1
PC-100	Case of 12, 16 oz. Cans	12

Note: Power Clean will remove NanoMoldCoating™

Mold Brite



- Non-chlorinated formula
- High performance cleaner and degreaser
- Powerful cleaning formula for difficult to remove contaminants
- Cleans surfaces down to the virgin metal
- Flushes contaminants from the pores without wiping
- Fast evaporating chemistry

Mold Brite is the most aggressive non-chlorinated cleaning agent on the market. This high performance cleaner & degreaser effectively removes any dirt, grease or other contaminants from any metal surface. Mold Brite allows you to avoid recontaminating the mold with dirty shop rags as its quick evaporation requires no wiping. As a member of the PCS family of High Performance Mold Maintenance Products, Mold Brite is designed to improve mold and production efficiency.

SPECIFICATIONS

Shelf Life	30 Months
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CATALOG NO.	PACKAGE SIZE	QTY. PER PACK
MB-200-1	12.5 oz. Can	1
MB-200	Case of 12, 12.5 oz. Cans	12

Note: Mold Brite will remove NanoMoldCoating™

Zap-Ox

- The ultimate stain remover
- Removes rust, oxidation, build-up and weld discoloration
- Unmatched stain removing ability
- Brings metal back to its original state
- Non-caustic and operator friendly
- Safe to use on metal surfaces

Zap-Ox is the ultimate stain remover. Its ability to remove rust, oxidation, build-up and weld discoloration is unmatched. Time spent cleaning a mold is significantly reduced when using Zap-Ox. Non-caustic and operator friendly, Zap-Ox is safe to use and brings metal back to its original state. As a member of the PCS family of High Performance Mold Maintenance Products, Zap-Ox is designed to improve mold and production efficiency.



SPECIFICATIONS	
Shelf Life	30 Months

CATALOG NO.	PACKAGE SIZE	QTY. PER PACK
ZO-16-1	16 oz. bottle	1
ZO-16	Case of 12, 16 oz. bottles	12

Note: Zap-Ox will remove NanoMoldCoating™

NanoMoldCleaner

- Will not remove Nano mold coating
- Penetrates grease and oils
- Non-toxic, non-flammable and biodegradable

NanoMoldCleaner is designed specifically to be used on molds which have been coated with PCS NanoMoldCoating™. NanoMoldCleaner will not remove the NanoMoldCoating™. This cleaner penetrates grease and oils, all while being a non-toxic, non-flammable and a biodegradable product. As a member of the PCS family of High Performance Mold Maintenance Products, NanoMoldCleaner is designed to improve mold and production efficiency.



SPECIFICATIONS	
Shelf Life	30 Months

CATALOG NO.	PACKAGE SIZE	QTY. PER PACK
NCC1215	14 oz. bottle	1
NCC1214	Case of 12, 14 oz. bottles	12

Mold Guard & Mold Guard Green



- True dry rust preventative
- Goes on dry and stays dry
- Prevents harmful corrosion from penetrating the mold
- Excellent film strength
- Protects mold when in storage

PCS Company's Mold Guard is a "true dry" rust preventative. Mold Guard's excellent film strength prevents harmful corrosion from penetrating the mold surface, providing superior rust protection. Mold Guard does not break down grease and can be molded through at start-up. As a member of the PCS family of High Performance Mold Maintenance Products, Mold Guard is designed to improve mold and production efficiency.

SPECIFICATIONS

Shelf Life	30 Months
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CATALOG NO.	PRODUCT	PACKAGE SIZE	QTY. PER PACK
MG-50-1	Mold Guard	10.25 oz. Can	1
MG-50	Mold Guard	10.25 oz. Can	12
MG-50-G-1	Mold Guard Green	10.25 oz Can	1
MG-50-G	Mold Guard Green	10.25 oz. Can	12

The Defender



- Semi dry for longer lasting protection
- Does not migrate or cause bleed-through
- Moisture displacing chemistry
- Protects when molding PVC or other flame retardant resins
- Up to 3 year protection
- Green dye allows for easy visibility and helps prevent over spray on the mold
- Adjustable volume nozzle for desired amount of spray

The Defender is a semi-dry, all purpose rust preventative. Its semi-dry properties allow for longer lasting protection without causing bleed-through. The acid vapor neutralizer additive protects when molding PVC and other corrosive materials. The Defender's green dye is used to help display coverage while avoiding over spray on the mold.

SPECIFICATIONS

Shelf Life	2 years
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CATALOG NO.	PACKAGE SIZE	QTY. PER PACK
D-400-1	10.25 oz. Can	1
D-400	Case of 12, 10.25 oz. Cans	12

FasTie® Quick Ejector Tie-in System

Description & Use

In an injection molding press, the FasTie® system quickly “ties- in” the mold ejector plate to the press ejection system, dramatically reducing mold change time. The greatest time savings are realized in presses where space is limited and the ejector system is difficult to tie in using solid knock-out bars.

The FasTie® coupler may be permanently mounted to the press ejector plate. The quick-connect locking mechanism in the coupler snaps mechanically onto the mold-mounted Pull Stud during mold installation.

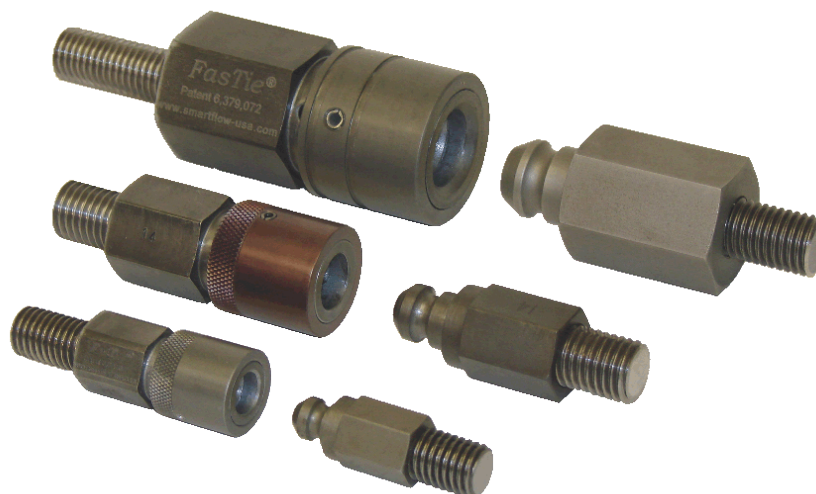
To release the ejectors, apply shop air to the coupler. The coupler opens to release the Pull Stud, disconnecting the press and tooling ejector plates. The coupler remains in the open position, ready for a new mold to be set.

For multiple ejector locations, an air manifold is recommended to release all couplers simultaneously. See inside catalog pages for installation examples. The FasTie® couplers and Pull Studs are available in 3 sizes to suit various applications: 1", 1-3/8" and 2" depending on the press size & knockout quantity (*refer to page 8*) for details.

Features & Benefits

- FasTie® installs easily into existing tapped holes, no additional machining is required.
- FasTie® reduces mold setting time by quickly uncoupling, plus there are no loose parts to stow.
- FasTie® remains coupled during mold cycling for increased “tie-in” reliability and reduced wear.
- SpeedBar® adjustable ejector bar changes length quickly without tools [$\pm 1/2"$ (12.7mm) from nominal in .006" (.15mm) increments].*
- SpeedBar® saves molders time and cost of machining individual ejector bars to fit different molds.*

* 1-inch only

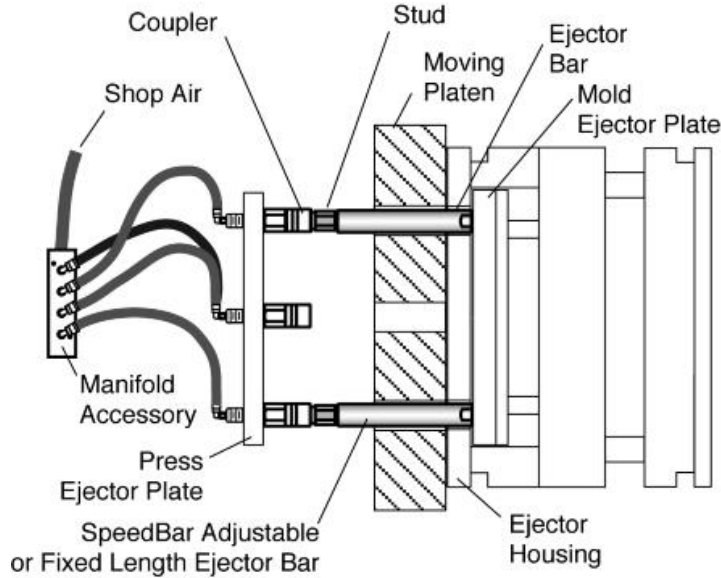


FasTie® Couplers
 U.S. Patent No. 6,379,072

FasTie® Installation Examples

Typical Application for 2 or 4 Ejector Positions

This setup is designed for custom molders who use a variety of injection molds with different ejector patterns and ejector strokes.



Couplers are installed next to the Press Ejector Plate. Pull Studs are placed at the end of the mold-mounted ejector bars for easy removal. Molds are changed quickly without accessing the back of the Press Ejector Plate.

For example, a press with 4 ejector positions may be running molds using only the horizontal positions, but the next mold may need the 2 vertical ejector positions. Ejector housing shown is 1.062" thick.

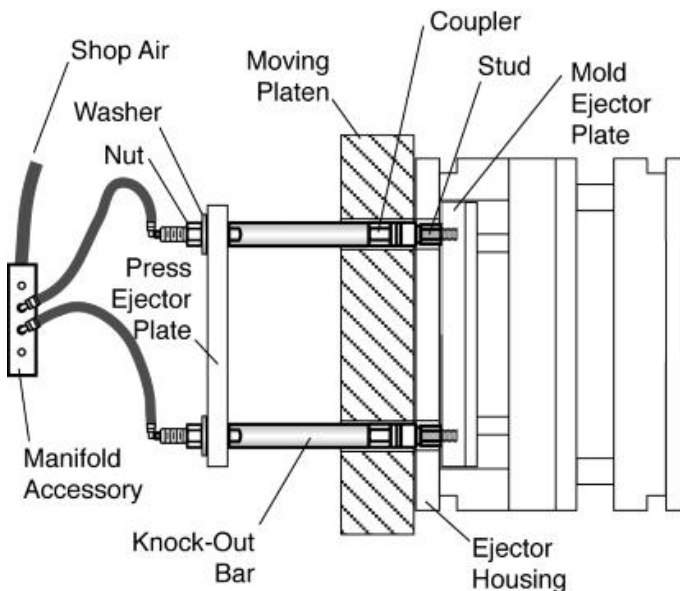
The Air Manifold supplies air to the end of each ejector bar for simultaneous coupler release.

PARTS LIST

Qty	Part
2 or 4	FasTie® Pull Stud
2 or 4	FasTie® Coupler
2 or 4	Fixed Length Ejector Bars or SpeedBar® Adjustable Length Bars
1	Air Manifold with tubing

Alternate Application for 2 or 4 Ejector Positions

This setup is designed for captive molders, or shops with tools using a standard ejector stroke.



Couplers are located at the end of the ejector bars mounted to the press ejector plate. Pull Studs are mounted to each mold in storage. Ejector connection is made without changing ejector bars. Ejector housing shown is 1.062" thick.

The Air Manifold supplies compressed air to the end of each ejector bar for simultaneous coupler release. Fixed length bars are finished on site, cut to length and tapped with 1/2-13 female thread.

PARTS LIST

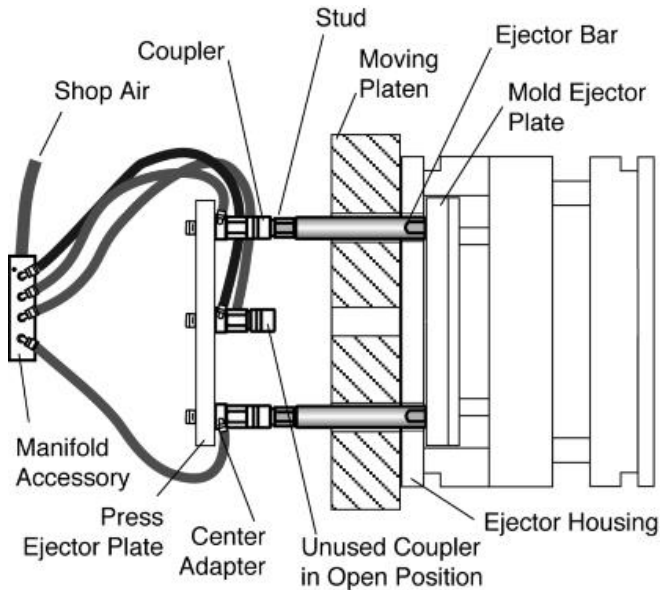
Qty	Part
2 or 4	FasTie® Pull Stud
2 or 4	FasTie® Coupler
2 or 4	Fixed Length Ejector Bars or SpeedBar® Adjustable Length Bars
1	Air Manifold with tubing

FasTie® Installation Examples

Alternate Application for 2 or 4 Ejector Positions

This setup is used where there is limited access to the back of the Press Ejector Plate. Custom molders using smaller presses will benefit from this application.

Couplers are installed next to the Press Ejector Plate. Pull Studs are placed at the end of the mold-mounted ejector bars for easy removal. Molds are changed quickly without accessing the back of the Press Ejector Plate.



For example, a press with 4 ejector positions may be running molds using only the horizontal positions, but the next mold may need the 2 vertical ejector positions. Ejector housing shown is 1.062" thick.

The Air Manifold supplies air to the mold side of the Press Ejector Plate with the use of adapters.

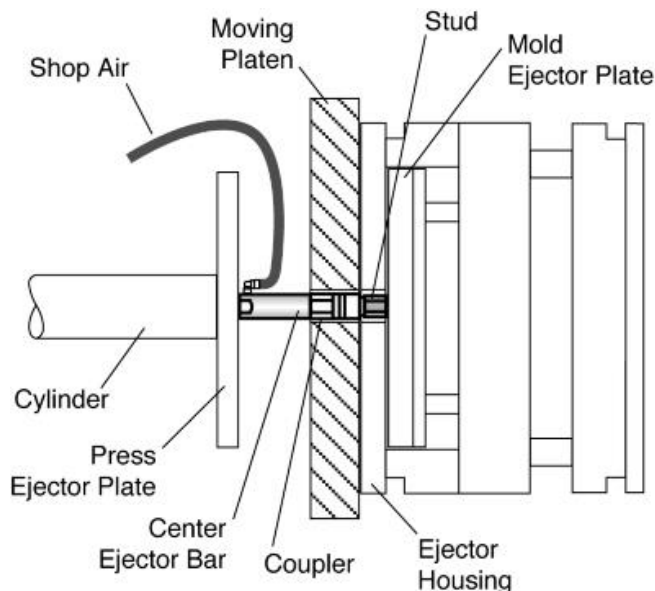
PARTS LIST

Qty	Part
2 or 4	FasTie® Pull Stud
2 or 4	FasTie® Coupler
2 or 4	Fixed Length Ejector Bars or SpeedBar® Adjustable Length Bars
1	Air Manifold with tubing

Center Ejector Position

For small presses with a center ejector, replace the cylinder bolt with a Center Ejector Bar and FasTie® coupler.

Center Ejector Bar and Coupler are installed into the Press Ejector Plate, with the Coupler attached to the end. Pull Stud is installed in the Mold Ejector Plate. Molds are changed quickly without accessing the back of the Press Ejector Plate. Ejector housing shown is 1.062" thick.



Shop air is supplied to the side of the center adapter. No Air Manifold is needed. Fully-threaded Center Ejector Bar may be shortened to proper length on-site. In many small machines, there may not be room for an ejector bar.

PARTS LIST

Qty	Part
1	FasTie® Pull Stud
1	FasTie® Coupler
1	Center Ejector Bar

FasTie[®] Specifications & References

Specifications

Maximum operating temperature.....	300°F (149°C)
Air pressure range	80 - 100 psi
Pull Stud material	Hardened Steel
Ejector bar and coupler material	High Strength Steel
Threaded Pull Studs	B7 Alloy or Comparable
Air manifold material	Anodized Aluminum
Air tubing material	1/8" OD Nylon

Press Requirements

	COUPLER SIZE		
	1"	1-3/8"	2"
Platen thru hole min.	Ø1.063"	Ø1.45"	Ø2.063"
	Ø27mm	Ø36.8mm	Ø52.4mm
Ejector plate thru hole min.	Ø0.512"	Ø0.641"	Ø0.765"
	Ø14mm	Ø16.5mm	Ø19.4mm
Ejector force per coupler max.	2.5 tons	5.5 tons	7.5 tons

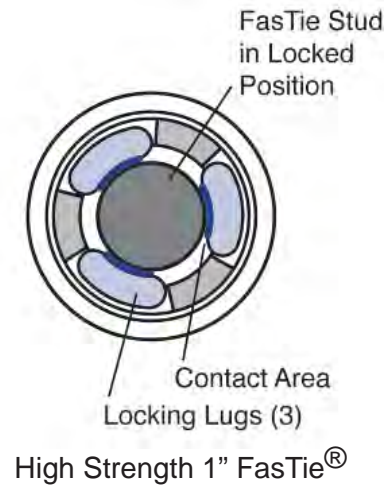
Recommended FasTie[®] Size per Press Size & Knockout Qty.

Press Tonnage	KNOCKOUT QUANTITY		
	1 (Center)	2	4
0-250	1" HS	1" HS	1" HS
250-500	1-3/8"	1" HS or 1-3/8"	1" HS or 1-3/8"
500-750	2"	1-3/8" or 2"	1-3/8" or 2"
750-1000	2"	1-3/8" or 2"	1-3/8" or 2"
1000+	Do not use	2"	2"

FasTie® 1" Components

FasTie® Coupler Bearing Surface Cross-Section

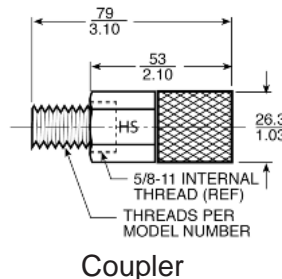
High Strength Coupler Design employs three locking lugs, dramatically increasing the load-bearing surface area of the components



High Strength FasTie® Couplers & Pull Studs

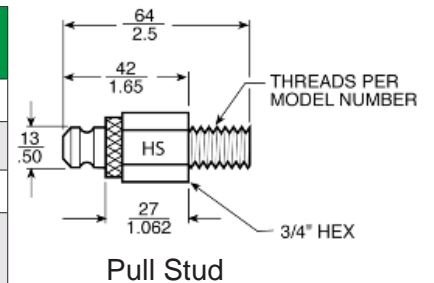
FasTie® 1" Coupler

CATALOG NO.	THREAD SIZE
FTFHS-50	1/2-13
FTFHS-63	5/8-11
FTFHS-M12	M12 X 1.75
FTFHS-M16	M16 X 2



FasTie® 1" Pull Stud

CATALOG NO.	THREAD SIZE
FTMHS-38	3/8-16
FTMHS-50	1/2-13
FTMHS-63	5/8-11
FTMHS-M12	M12 X 1.75
FTMHS-M16	M16 X 2
FTMHS-M20	M20 X 2.5



Center knock-out, multiple and high speed ejection indicate the need for High-Strength FasTie® Couplers and Pull Studs.

Note: Do not use High-Strength 1" FasTie® Couplers in combination with original 1" version. Damage to couplers will result. High-Strength Couplers and Pull Studs are longer than the original 1" parts, and are not to be used in combination with Original Couplers and Pull Studs.

FasTie® Accessories

Additional parts to aid installation and use:



Speed Bar®
U.S. Patent No. 6,315,514

Speed Bar®

- The SpeedBar® Adjustable Length Ejector Bar changes length without tools $\pm 1/2$ " in increments of .006". Air passes through the bar for air hook-up at the back of the press ejector plate.

Note: Only available for 1" FasTie® System



Fixed Length Ejector Bar

Fixed Length Ejector Bar

- The Fixed Length Ejector Bar provides an air passage to the back of the press ejector plate. Several lengths are available with one blank end for on-site finishing.

Note: Only available for 1" FasTie® System



Center Ejector Bar

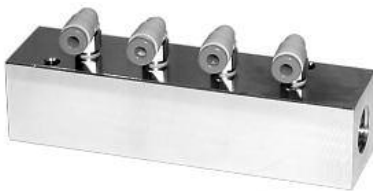
Center Ejector Bar & Center Adapter

- The Center Ejector Bar and Center Adapter provide an air passage in front of the press ejector plate for center knockout. Also use for multiple knockouts.



Center Adapter

Note: Center Ejector Bar only available for 1" FasTie® System



Air Manifold

Air Manifold

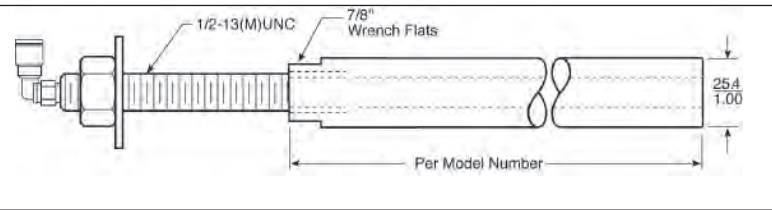
- The Air Manifold splits single air supply into four circuits to aid air connection. Comes with 1/8" diameter tubing and pneumatic connectors.

Ask about special thread sizes for ejector bars and center adapters

FasTie® 1" Accessories

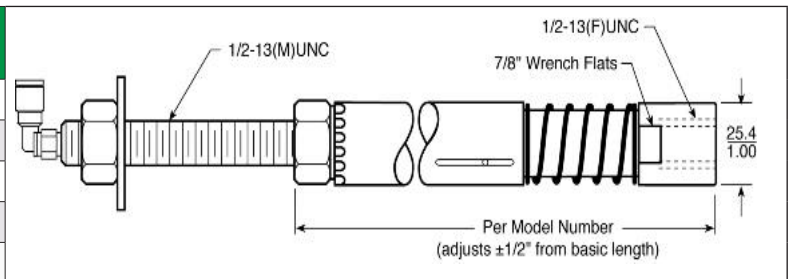
Fixed Length Ejector Bar®

CATALOG NO.	LENGTH
FTBB-50-8	8"
FTBB-50-10	10"
FTBB-50-12	12"
FTBB-50-14	14"



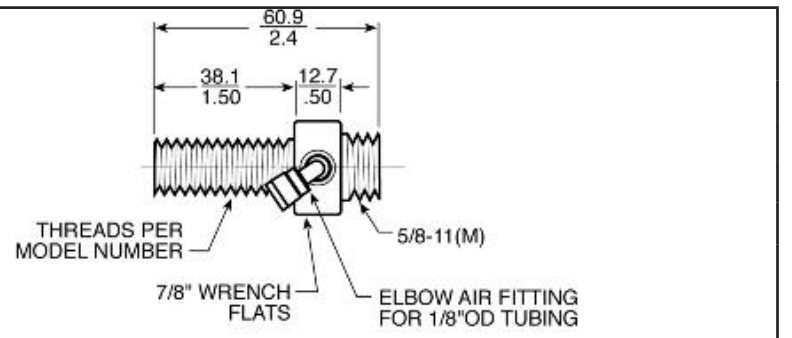
Speed Bar® Adjustable Ejector Bar

CATALOG NO.	LENGTH	CATALOG NO.	LENGTH
SBAB-50-6	6"	SBAB-50-11	11"
SBAB-50-7	7"	SBAB-50-12	12"
SBAB-50-8	8"	SBAB-50-13	13"
SBAB-50-9	9"	SBAB-50-14	14"
SBAB-50-10	10"		



Center Adapter

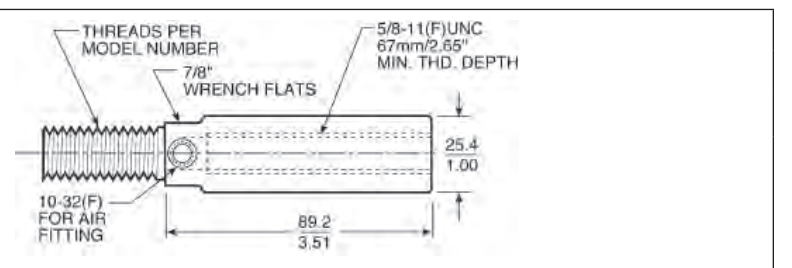
CATALOG NO.	THREAD SIZE
FTCA-63	5/8-11
FTCA-M12	M12 x 1.75
FTCA-M16	M16 x 2
FTCA-M20	M20 x 2.5



Center Bar

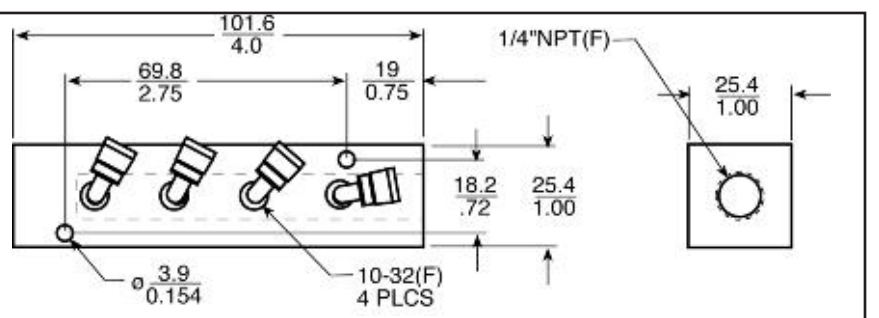
CATALOG NO.	THREAD SIZE
FTCA-63-63*	5/8-11
FTCA-M16-63*	M16 x 2

*Use with FTFHS-63 only



Air Manifold

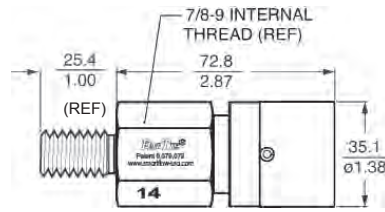
AIR MANIFOLD FTAM-100 PARTS LIST	
Qty.	Description
1	FTAM-100 (Air Manifold)
4	FTPF-2 (1/8" elbow pneumatic fitting)
4	FTT-125 (Ø1/8" x 4ft nylon tubing)



FasTie® 1-3/8" & 2" Components Accessories

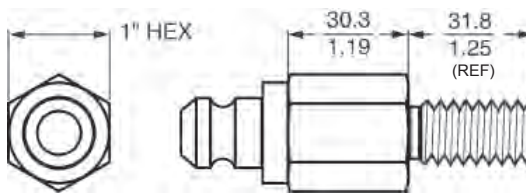
FasTie® 1-3/8" Coupler

CATALOG NO.	THREAD SIZE
FTF1.4-63	5/8-11
FTF1.4-75	3/4-10
FTF1.4-M16	M16 x 2
FTF1.4-M20	M20 x 2.5



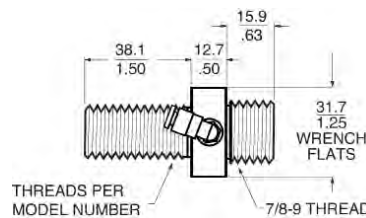
FasTie® 1-3/8" Pull Stud

CATALOG NO.	THREAD SIZE
FTM1.4-50	1/2-13
FTM1.4-63	5/8-11
FTM1.4-75	3/4-10
FTM1.4-M16	M16 x 2
FTM1.4-M20	M20 x 2.5



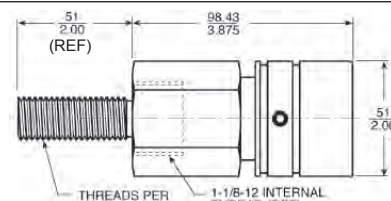
FasTie® 1-3/8" Center Adapter

CATALOG NO.	THREAD SIZE
FTCA1.4-63	5/8-11
FTCA1.4-75	3/4-10
FTCA1.4-M16	M16 x 2
FTCA1.4-M20	M20 x 2.5



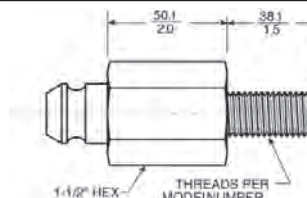
FasTie® 2" Coupler

CATALOG NO.	THREAD SIZE
FTF2-63	5/8-11
FTF2-75	3/4-10
FTF2-M16	M16 x 2
FTF2-M20	M20 x 2.5



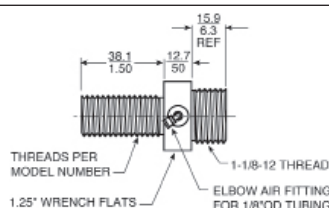
FasTie® 2" Pull Stud

CATALOG NO.	THREAD SIZE
FTM2-63	5/8-11
FTM2-75	3/4-10
FTM2-M16	M16 x 2
FTM2-M20	M20 x 2.5



FasTie® 2" Center Adapter

CATALOG NO.	THREAD SIZE
FTCA2-75	3/4-10
FTCA2-M16	M16 x 2
FTCA2-M20	M20 x 2.5



Ejector bars for 1-3/8" & 2" FasTie's are available as special orders. Contact your representative for information.

Retrofit existing ejection systems with FasTie®

Determine New Ejector Bar Length

To determine new ejector bar length:

- Identify length of current solid ejector bar (*Figure 1*)
- Select connected FasTie® Length from table below
- Subtract connected FasTie® Length from current solid ejector bar length
- Subtract center adapter length, if needed
- Result is new FasTie® ejector bar length (*Figure 2*)

CONNECTED FASTIE® LENGTHS		
DESCRIPTION	CATALOG NO.s	"X" LENGTH
High Strength 1" FasTie	FTFHS-xx & FTMHS-xx	3.162" / 80.3mm
1-3/8" FasTie	FTF 1.4-xx & FTM 1.4-xx	4.300" / 109.2 mm
2" FasTie	FTF2-xx & FTM2-xx	5.875" / 149.2mm

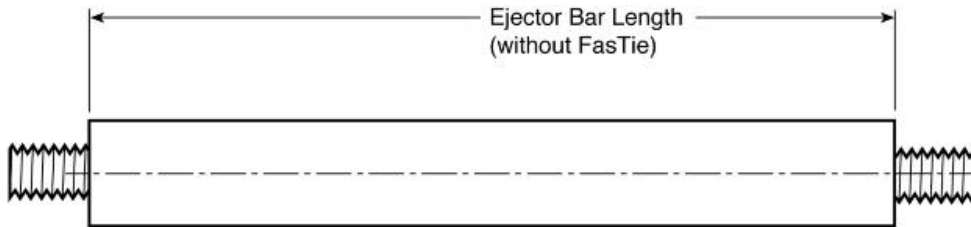


Figure 1

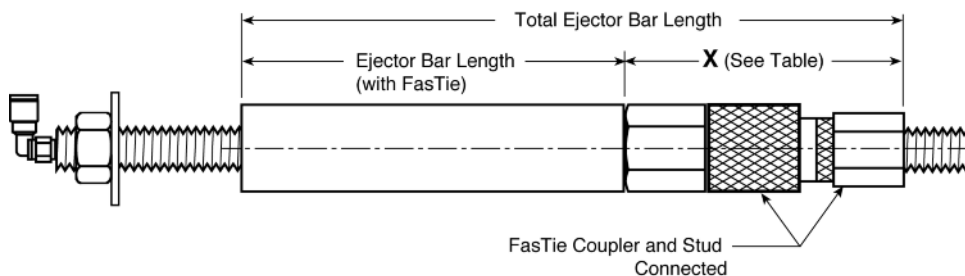
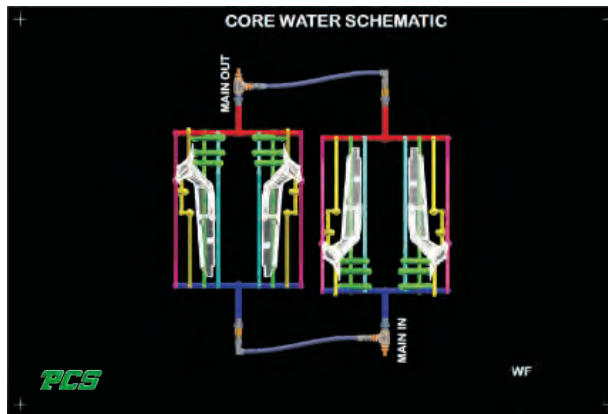
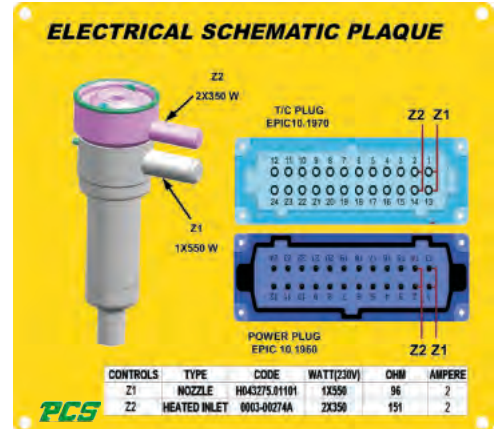
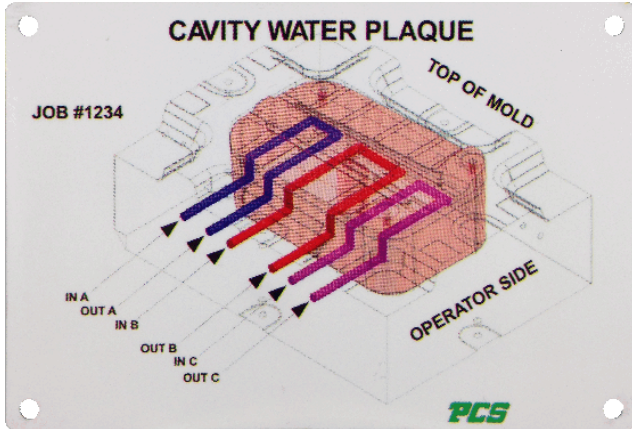


Figure 2

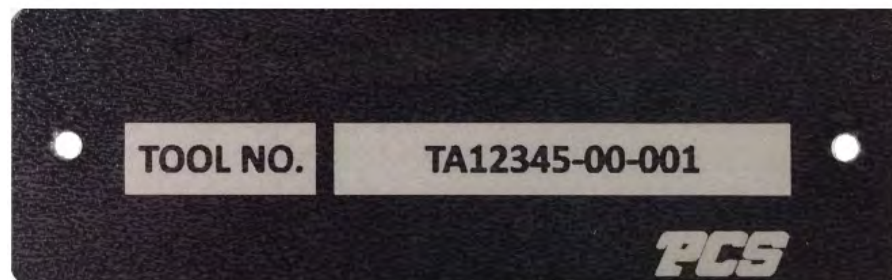
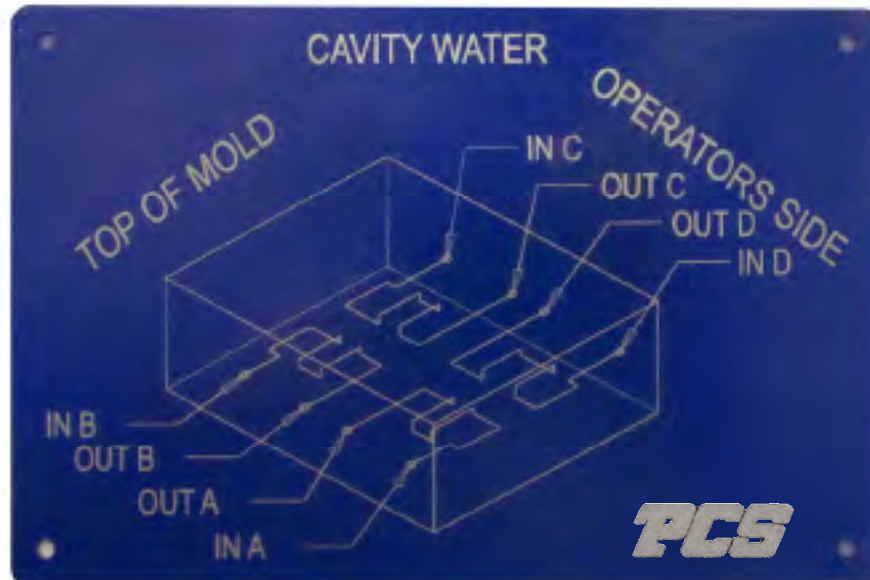
Full Color Thermal Set Graphic Plaques



Full Color Thermal Set Graphic Plaques

- Customer specified graphic on rigid aluminum or flexible magnetic plaque
- Capture extreme detail in most color combinations
- For Best Results:
 - Avoid light color combinations such as yellow on white backgrounds
 - Avoid thin red lines on black backgrounds
 - Lines should be greater than .010" in thickness
 - Character height should be greater than .050"
 - Avoid gradient coloring
- Industry proven quality
- Withstands normal injection molding temperatures
- Optional 3M 468 adhesive backing available
- Rigid aluminum plaques available in sizes up to 12" x 24"
- Flexible magnetic plaque available in 4" x 6" & 5" x 8" sizes only
- Plaques are .025" in thickness
- Pre-punched holes available as an included option (mounting screws not included)
- Choice of corner radius or square corner
- Accepted file formats: .jpeg, .tiff, .bmp, .png, .pdf, .ppt, .odg

Traditional Laser Etched Aluminum Plaque

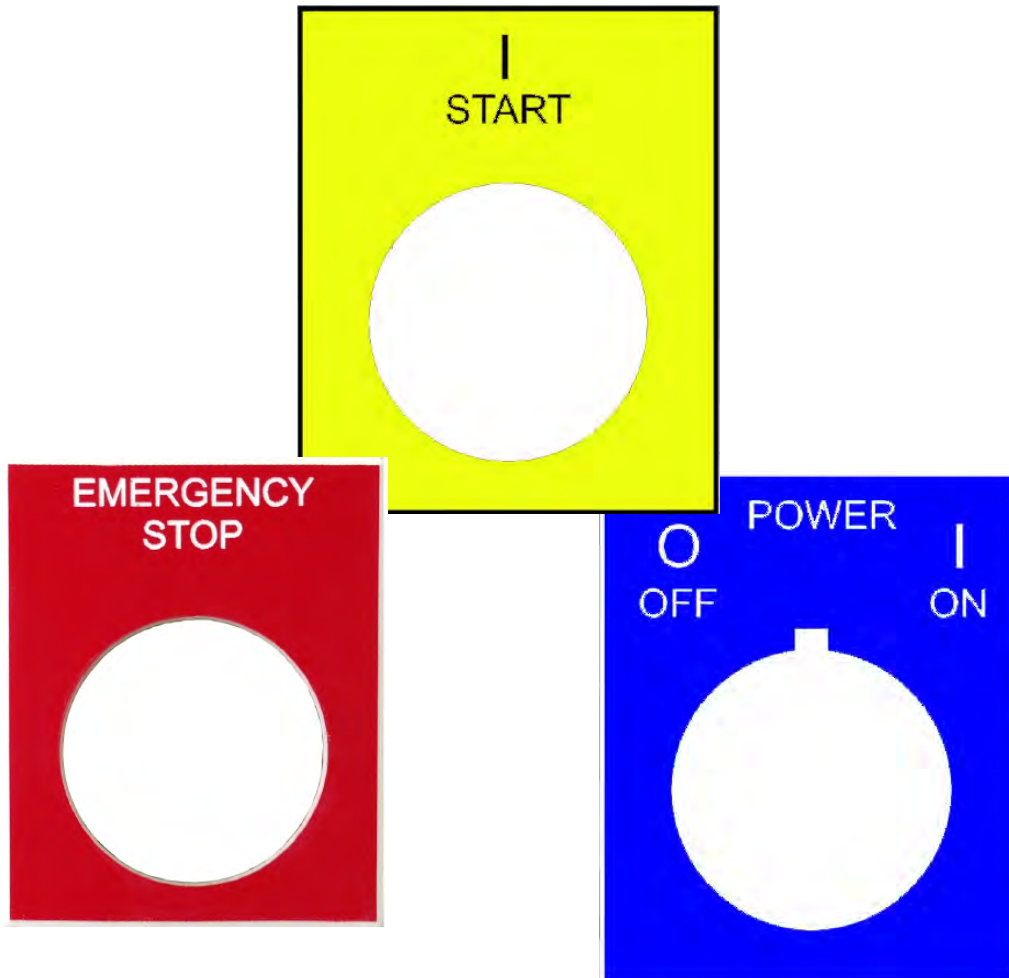


Traditional Laser Etched Aluminum Plaque

- Customer specified laser etched aluminum plaque
- Color options available:
 - Background color options: Black/Red/Blue
 - Text/Etching: Silver
- Industry proven quality
- Withstands normal injection molding temperatures
- Optional 3M 468 adhesive backing available
- Rigid aluminum plaques available in sizes up to 12" x 24"
- Plaques are .040" in thickness
- Pre-punched holes available as a standard option (mounting screws not included)
- Choice of corner radius or square corner
- Accepted file formats: .dxf, .dwg, .cgm

Note: *Plaque should be cleaned with citrus based cleaner only.*

Laser Etched Lamacoid Plastic Plaque



Laser Etched Lamacoid Plastic Plaque

- Customer specified plastic plaque
- Easily identify equipment, instructions, warnings, locations, etc.
- 7 color combinations available
 - White background / Black engraving
 - Black background / White engraving
 - White background / Red engraving
 - Red background / White engraving
 - White background / Blue engraving
 - Blue background / White engraving
 - Yellow background / Black engraving
- Lamacoid plaques available in sizes up to 12" x 24"
- All Lamacoid plaques have a beveled edge
- All Lamacoid plaques come standard with adhesive backing included
- Accepted file formats: .dxf, .dwg, .cgm

Note: *Plaque should be cleaned with citrus based cleaner only.*

Custom Mold Plaque Request For Quote Form

Full Color Thermal Set Graphic Plaque

Choose plaque type:

- Rigid Aluminum
 Flexible Magnetic

If Flexible Magnetic: *(Choose from sizes below)*

- 4" x 6"
 5" x 8"

For Rigid Aluminum Plaque Specify:

Length: _____

Width: _____

Corner option: *(Choose one)* Square Radius

Corner Radius: *(Choose one)* .125" .250"

Mounting Hole Size: *(Choose one)* .125" .1875" .250" .280"

Include mounting hole location on drawing

Adhesive Backing: Yes No

Drawing Name: _____ Quantity: _____

Note: Request For Quote Form & File required for each unique plaque.

Submit request for quote form and file to: customcomponents@pcs-company.com

Traditional Laser Etched Aluminum Plaque

Specify:

Length: _____

Width: _____

Corner option: *(Choose one)* Square Radius

Corner Radius: *(Choose one)* .125" .250"

Mounting Hole Size: *(Choose one)* .125" .1875" .250" .280"

Include mounting hole location on drawing

Choose Plaque color:

- Black background / Silver etched
 Red background / Silver etched
 Blue background / Silver etched

Adhesive Backing: Yes No

Drawing Name: _____ Quantity: _____

Note: Request For Quote Form & File required for each unique plaque.

Submit request for quote form and file to: customcomponents@pcs-company.com

Custom Mold Plaque Request For Quote Form

Laser Etched Lamacoid Plastic Plaque

All Lamacoid Plaques come standard with adhesive backing.

Specify:

Length: _____

Width: _____

Choose Plaque color:

- White background / Black engraving
- Black background / White engraving
- White background / Red engraving
- Red background / White engraving
- White background / Blue engraving
- Blue background / White engraving
- Yellow background / Black engraving

Drawing Name: _____

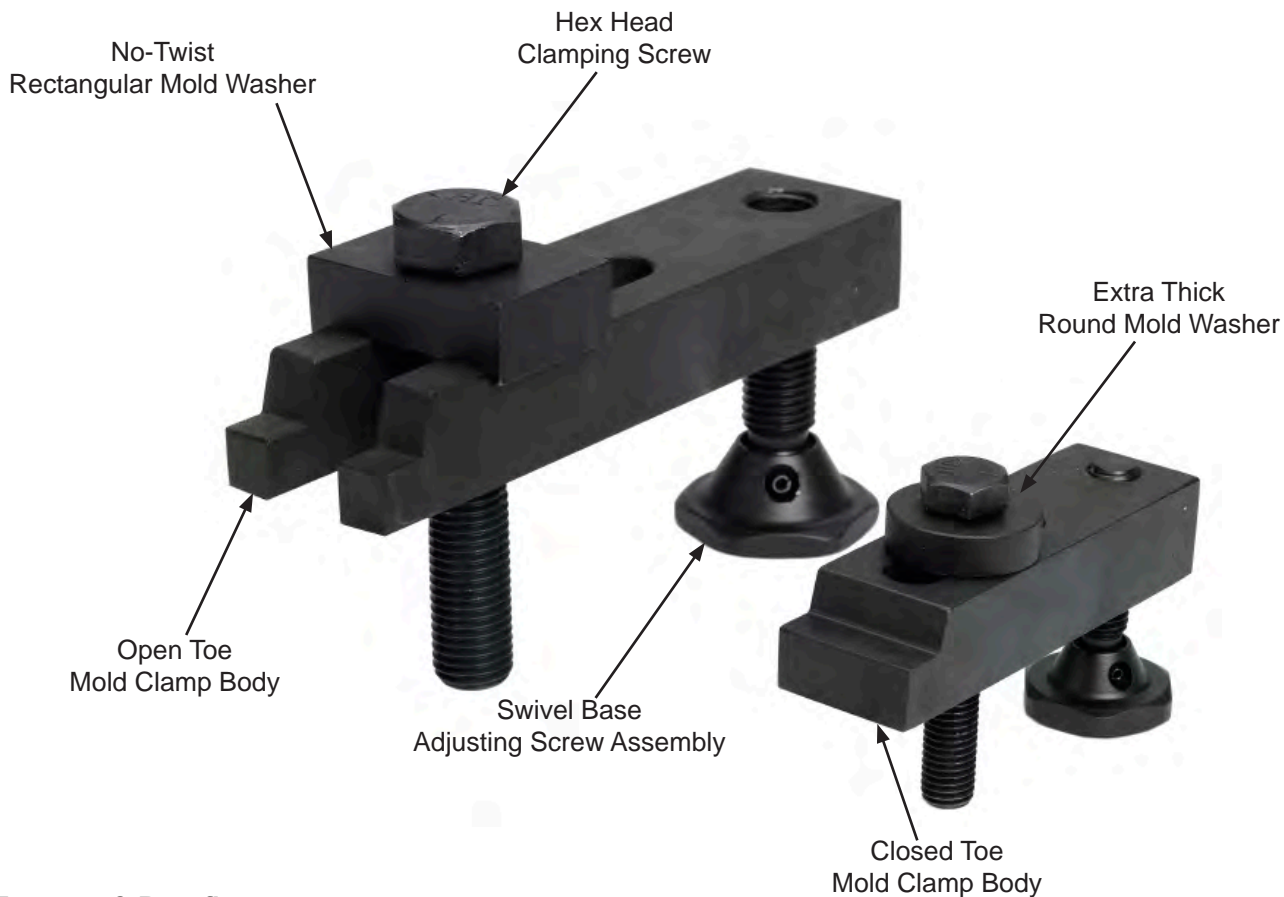
Quantity: _____

Note: Request For Quote Form & File required for each unique plaque.

Submit request for quote form and file to: customcomponents@pcs-company.com

Why PCS Machined Mold Clamps

PCS Machined Mold Clamps are easy to install and reduce set up time. Each clamp is machined from premium quality steel which is hardened for long life. Both Open Toe and Closed Toe mold clamp body styles are available. Swivel base adjusting screws come standard with most assemblies.

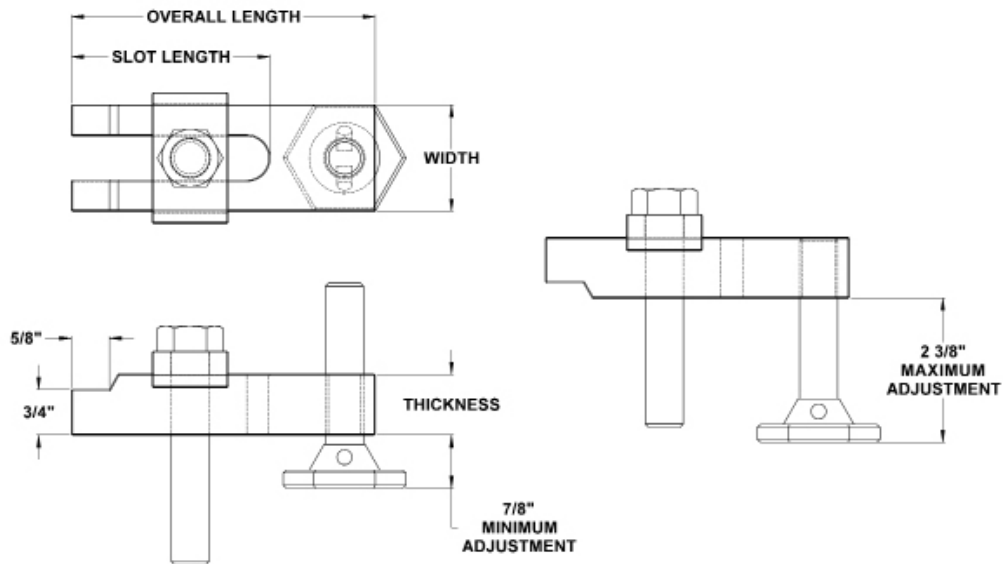
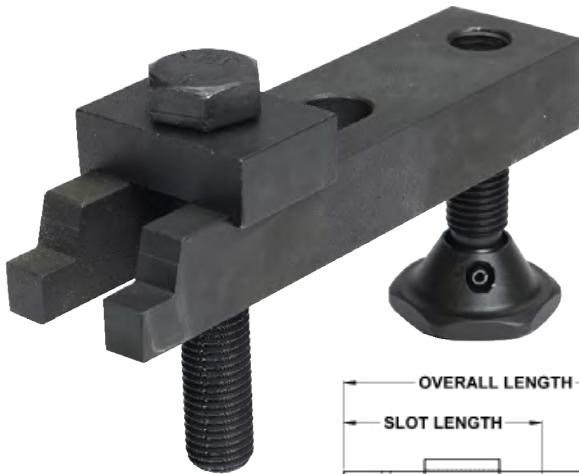


Features & Benefits

- Machined from premium quality steel
- Hardened with a black oxide finish
- Open & closed toe body styles available
- Easy to install
- Purchase complete assemblies or individual replacement parts

Heavy Duty Open Toe Mold Clamp Assemblies

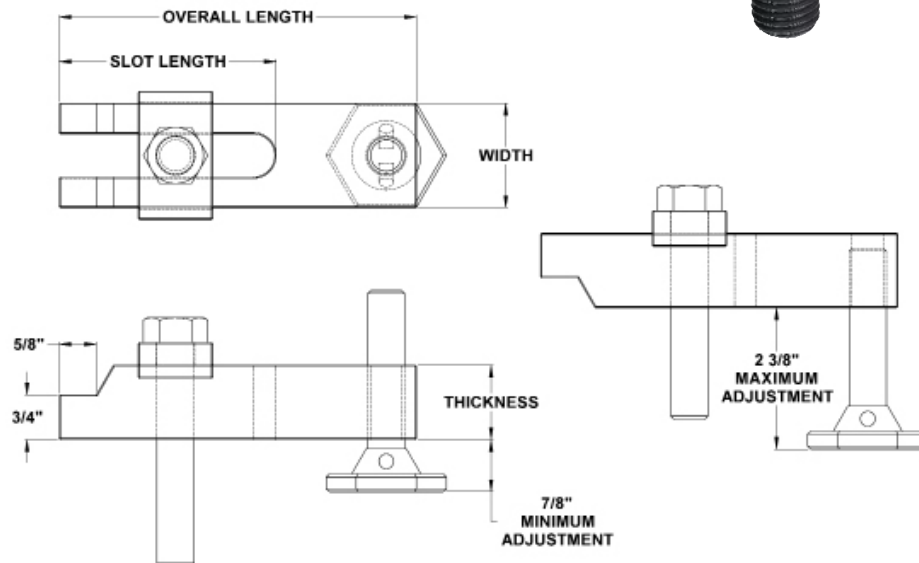
With swivel base adjusting screw



COMPLETE ASSEMBLY CATALOG NO.	INDIVIDUAL CLAMP BODY PART NUMBER	FOR CLAMPING SCREW DIAMETER	CLAMPING SCREW SIZE SUPPLIED WITH ASSEMBLY DIA. X LENGTH	MOLD CLAMP BODY SPECIFICATIONS			
				THICKNESS	WIDTH	SLOT LENGTH	OVERALL LENGTH
TAC584A	HD584	5/8"	5/8-11 x 3-1/2"	1"	1-3/4"	2-3/4"	4
TAC585A	HD585					3-1/4"	5
TAC586A	HD586					3-3/4"	6
TAC587A	HD587					4-1/4"	7
TAC755A	HD755	3/4"	3/4-10 x 4"	1-1/4"	2"	3-3/8"	5
TAC756A	HD756					3-7/8"	6
TAC757A	HD757					4-3/8"	7
TAC758A	HD758					5-3/8"	8
TAC110A	HD110	1"	1" x 8 x 5"	1-1/2"	2-1/2"	6	10

Extra Heavy Duty Open Toe Mold Clamp Assemblies

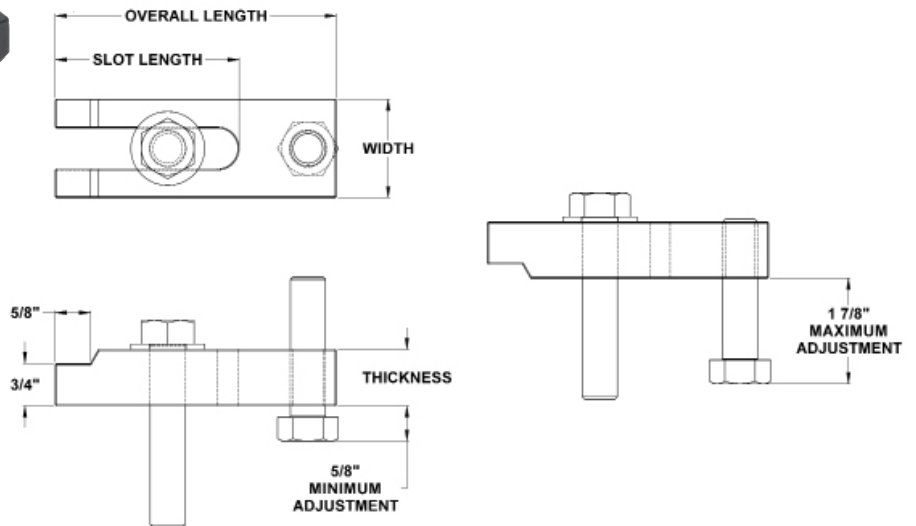
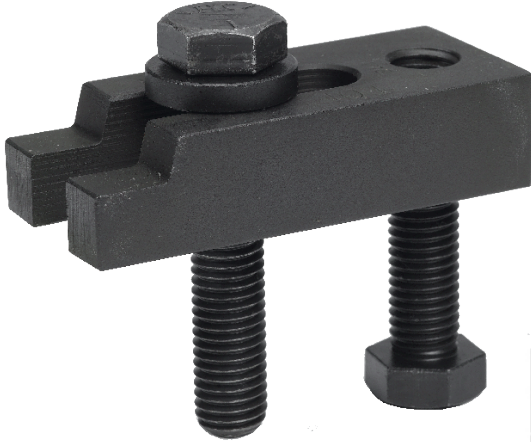
With swivel base adjusting screw



COMPLETE ASSEMBLY CATALOG NO.	INDIVIDUAL CLAMP BODY PART NUMBER	FOR CLAMPING SCREW DIAMETER	CLAMPING SCREW SIZE SUPPLIED WITH ASSEMBLY DIA. X LENGTH	MOLD CLAMP BODY SPECIFICATIONS			
				THICKNESS	WIDTH	SLOT LENGTH	OVERALL LENGTH
TAC5860A	XHD5860	5/8"	5/8-11 x 3-3/4"	1-1/4"	1-3/4"	3-5/8"	6"
TAC5875A	XHD5875					4-5/8"	7-1/2"
TAC7565A	XHD7565	3/4"	3/4-10 x 4-1/2"	1-1/2"	2"	4"	6-1/2"
TAC7580A	XHD7580					5"	8"
TAC7595A	XHD7595					6"	9-1/2"
TAC1008A	XHD1008	1"	1" 8 x 5-1/2"	1-3/4"	2-1/2"	4-3/8"	8"
TAC1011A	XHD1011					6-3/8"	11"

Heavy Duty Open Toe Mold Clamp Assemblies

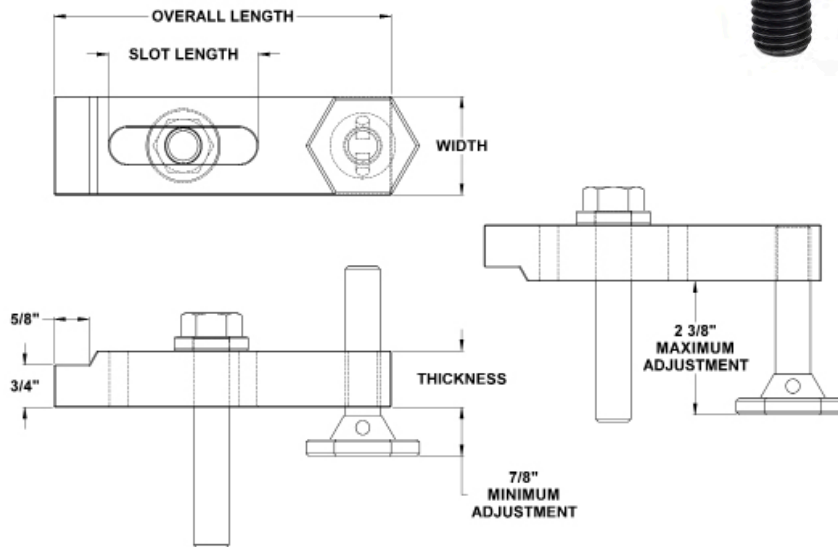
With non-swivel base adjusting screw



COMPLETE ASSEMBLY CATALOG NO.	INDIVIDUAL CLAMP BODY PART NUMBER	FOR CLAMPING SCREW DIAMETER	CLAMPING SCREW SIZE SUPPLIED WITH ASSEMBLY DIA. X LENGTH	MOLD CLAMP BODY SPECIFICATIONS			
				THICKNESS	WIDTH	SLOT LENGTH	OVERALL LENGTH
CFC584A	HD584	5/8"	5/8-11 x 3-1/4"	1"	1-3/4"	2-3/4"	4"
CFC585A	HD585					3-1/4"	5"
CFC586A	HD586					3-3/4"	6"
CFC587A	HD587					4-1/4"	7"
CFC755A	HD755	3/4"	3/4-10 X 4"	1-1/4"	2"	3-3/8"	5"
CFC756A	HD756					3-7/8"	6"
CFC757A	HD757					4-3/8"	7"
CFC758A	HD758					5-3/8"	8"
CFC110A	HD110	1"	1"-8 x 4-1/2"	1-1/2"	2-1/2"	6"	10"

Extra Heavy Duty Closed Toe Mold Clamp Assemblies

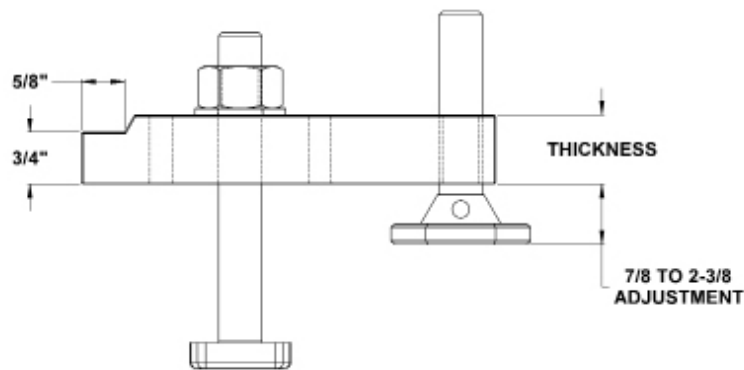
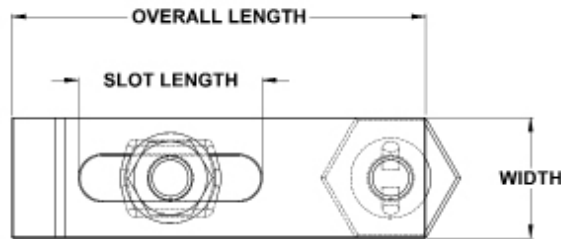
With swivel base adjusting screw



COMPLETE ASSEMBLY CATALOG NO.	INDIVIDUAL CLAMP BODY PART NUMBER	FOR CLAMPING SCREW DIAMETER	CLAMPING SCREW SIZE SUPPLIED WITH ASSEMBLY DIA. X LENGTH	MOLD CLAMP BODY SPECIFICATIONS			
				THICKNESS	WIDTH	SLOT LENGTH	OVERALL LENGTH
TAC5861A	XHD5861	5/8"	5/8-11 x 3-3/4"	1-1/4"	1-3/4"	2-5/8"	6"
TAC5876A	XHD5876					3-5/8"	7-1/2"
TAC7566A	XHD7566	3/4"	3/4-10 x 4-1/2"	1-1/2"	2"	2-3/4"	6-1/2"
TAC7581A	XHD7581					3-3/4"	8"
TAC7596A	XHD7596					4-3/4"	9-1/2"
TAC1009A	XHD1009	1"	1"-8 x 5-1/2"	1-3/4"	2-1/2"	3"	8"
TAC1012A	XHD1012					5"	11"
TAC1250A	XHD1250	1-1/4"	1-1/4"-7 x 6"	1-3/4"	3"	5-1/2"	13"
TAC1500A	XHD1500	1-1/2"	1-1/2-6 x 6"	1-3/4"	3-1/2"	5-3/4"	13-1/2"

Extra Heavy Duty Closed Toe Mold Clamp Assemblies

With T-bolt & swivel base adjusting screw



COMPLETE ASSEMBLY CATALOG NO.	INDIVIDUAL CLAMP BODY CATALOG NO.	T-SLOT BOLT SUPPLIED WITH ASSEMBLY DIA. X LENGTH	MOLD CLAMP BODY SPECIFICATIONS			
			THICKNESS	WIDTH	SLOT LENGTH	OVERALL LENGTH
TBA5861A	XHD5861	5/8 x 4-1/2"	1-1/4"	1-3/4"	2-5/8"	6"
TBA7566A	XHD7566	3/4 x 5"	1-1/2"	2"	2-3/4"	6-1/2"
TBA1009A	XHD1009	1" x 6"	1-3/4"	2-1/2"	3"	8"

Mold Clamp Replacement Parts

Individual Mold Clamp Bodies Available for all Mold Clamp Assemblies.



Hex Head Adjusting Screw

CATALOG NO.	CLAMP SCREW DIA.	THREAD SIZE	HEAD THICKNESS	HEIGHT ABOVE HEAD
H58	5/8	5/8-11	7/16	2-1/2
H75	3/4	3/4-10	1/2	2-1/2
H100	1	1-8	5/8	2-1/2



High Strength Grade 5, Hex Head Clamping Screw

CATALOG NO.	LENGTH	THREAD SIZE	HEX SIZE	THICKNESS
S1235	3-1/2	1/2-13	3/4	5/16
S5832	3-1/4	5/8-11	15/16	25/64
S5835	3-1/2	5/8-11	15/16	25/64
S5837	3-3/4	5/8-11	15/16	25/64
S7540	4	3/4-10	1-1/8	15/32
S7545	4-1/2	3/4-10	1-1/8	15/32
S1045	4-1/2	1-8	1-1/2	39/64
S1050	5	1-8	1-1/2	39/64
S1055	5-1/2	1-8	1-1/2	39/64
S1256	6	1-1/4-7	1-7/8	3/4
S1506	6	1-1/2-6	2-1/4	7/8



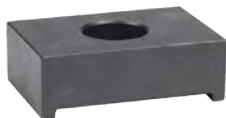
Extra Large Swivel Base Adjusting Screw Assemblies

CATALOG NO.	CLAMP SCREW DIA.	THREAD SIZE	SWIVEL BASE HEX SIZE	SWIVEL BASE HEIGHT	OVERALL HEIGHT
H585	5/8	5/8-11	1-3/4	7/8	3
H755	3/4	3/4-10	2	7/8	3-1/2
H1005	1	1-8	2-1/2	1-5/16	3-1/2
H1505	1-1/4 & 1-1/2	1-1/2-6	3	1-5/8	5-5/8



Mold Clamp Replacement Parts

Extra Large No-Twist Rectangular Mold Washers



CATALOG NO.	SCREW DIAMETER	LENGTH	THICKNESS ABOVE CLAMP	CLAMP WIDTH
SW127	1/2	2-1/4	3/4	1-3/4
SW587	5/8	2-1/4	3/4	1-3/4
SW757	3/4	2-1/2	3/4	2
SW1007	1	3	1	2-1/2

Extra Thick Round Mold Washers



CATALOG NO.	SCREW DIAMETER	O.D.	THICKNESS
RW126	1/2	1-1/2	1/2
RW586	5/8	1-3/4	1/2
RW756	3/4	2	1/2
RW1006	1	2-1/2	5/8
RW1256	1-1/4	3	5/8
RW1506	1-1/2	3-1/2	5/8

Round Mold Washers



CATALOG NO.	SCREW DIAMETER	O.D.	THICKNESS
RW58	5/8	1-1/4	1/4
RW75	3/4	1-1/2	1/4
RW100	1	2	5/16

Heavy Duty Hex Nuts for T-Slot Bolts



CATALOG NO.	THREAD SIZE	HEX SIZE	THICKNESS
N58	5/8-11	1-1/16	39/64
N75	3/4-10	1-1/4	47/64
N100	1-8	1-5/8	63/64

High Strength T-Slot Bolts



CATALOG NO.	LENGTH	THREAD SIZE
TB5845	4-1/2	5/8-11
TB7550	5	3/4-10
TB1060	6	1-8

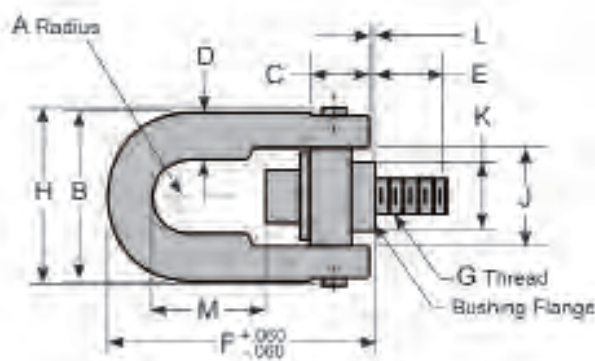
Hoist Rings

- 5:1 minimum safety factor
- Meets military specification number MIL-STD 1365(11) or MIL-STD 209C
- 100% magnetic particle inspected
- Meets OSHA requirements

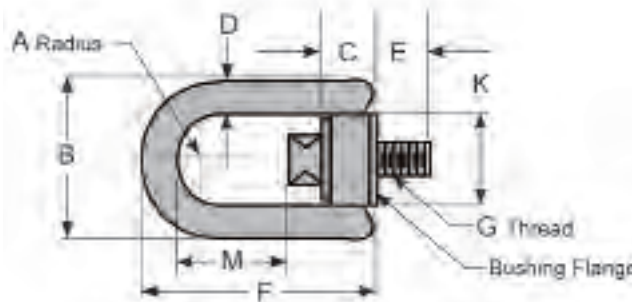
PCS Hoist Rings are a perfect replacement for traditional eyebolts. When moving heavy, angular or unbalanced loads, eyebolts tend to twist, bend and break. Hoist Rings swivel 360° and pivot 180° providing a minimum safety factor of 5:1. These hoist rings are 100% magnetic particle inspected and meet all OSHA requirements.



SPECIFICATIONS	
Pivot Range of Movement	180°
Swivel Range of Movement	360°
Minimum Safety Factor	5:1
Material Type	Alloy Steel
Unit of Measure	Inch

























Safety engineered hoist rings



Safety hoist rings

CATALOG NO.	A	B	C	D	E	F	G	K	M	RATED LOAD	TL FT/ LB	WT LBS
Product Name: Safety Engineered Hoist Rings												
23200	2.25	8	2.81	1-3/4	2.96	12.47	2-4½	4.2	5.41	30,000	800	36 lbs
23503	3	10.5	4.09	2-1/4	4	16.87	2½-4	5.75	8.03	50,000	2100	87 lbs
Product Name: Safety Hoist Rings												
33101	1.4	5.1	2.05	1.00	1.2	7	7/8-9	2.81	3.07	8,000	160	7.33
33105	1.4	5.1	2.05	1.00	1.45	7	1-8	2.81	2.95	10,000	230	7.57
33212	0.65	2.29	0.96	.44	0.56	3.23	5/16-18	1.25	1.51	800	7	.52
33312	0.65	2.29	0.96	.44	0.56	3.23	3/8-16	1.25	1.45	1,000	12	.56
33401	2	6.75	2.87	1.25	2.63	9.22	1 1/4-7	3.88	3.74	15,000	470	16.00
33420	2	6.75	2.87	1.25	2.63	9.22	1 3/8-6	3.88	3.62	20,000	670	17.20
33424	2	6.75	2.87	1.25	2.63	9.22	1 1/2-6	3.88	3.49	24,000	800	18.10
33515	1	3.5	1.5	.75	1	5.31	1/2-13	1.89	2.56	2,500	28	1.72
33614	1	3.5	1.5	.75	1	5.31	5/8-11	1.89	2.44	4,000	60	1.78
33714	1	3.5	1.5	.75	1	5.31	3/4-10	1.89	2.31	5,000	100	1.89

RUD® Hoist Selection Chart

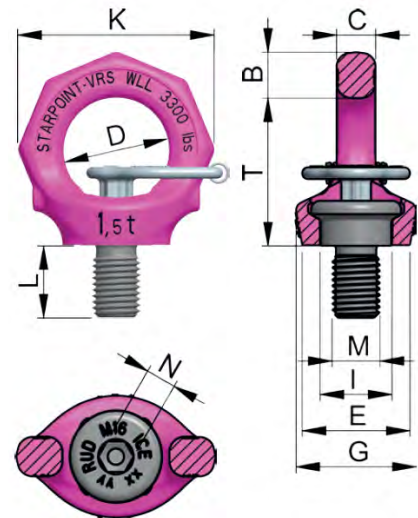
	 VWBG	 VLBG	 VRS-F
WLL (Working Load Limit)	0.63t-5t	0.3t-20t	0.1t-12t
Ideal for Rotating and Turning		–	–
Ball Bearing Type		–	–
Safety Factor			
Full Working Load in All Directions			
DGUV-Approval	–		
Range of Rotation			
Pivoting Range Suspension Link			–
Variable Length Thread			
Spring	–		–
Maximum operation temperature range WITHOUT reduction of WLL	-40°F to 212°F	-40°F to 212°F	-40°F to 212°F
Maximum operation temperature WITH reduction of WLL	662°F (200°C) MAX.	662°F (200°C) MAX.	662°F (200°C) MAX.

VRS-F StarPoint® Swivel Eyebolt

- Available in sizes 5/16" to 2" Inch & M6 to M48 Metric
- Clear identification of working load limit (WLL) rated at 90° from thread on body of eyebolt
- Pivots 360° to the direction of the load lift so that the WLL is always at the direction of the load
- Complies with the US-Standard (ASME B30.26)
- Forged material (1.6541) alloy steel wrenched and tempered
- Body and bolt 100% electromagnetic crack tested
- Distinct Florescent pink powder-coating changes its color when temperatures exceed 437°F (200°C). If the StarPoint® reaches temperatures of 752°F (400°C), the color changes to a deep black with small bubbles, indicating that it has been over-heated and should be removed from service because the WLL has been compromised.



The VRS-F StarPoint® Swivel Eyebolt offers the highest level of safety available with its swivel capability that adjusts to the direction of the load ensuring that the Working Load Limit (WLL) is never diminished. The StarPoint® is supplied with an annealed easy-fit key for simple assembly and disassembly. Simply engage the hexagon socket bolt with the annealed key. Use your fingers to respectively tighten or untighten the arrangement. Disengage the key and the StarPoint® is rotatable.



SPECIFICATIONS	
Type	360° Swivel Eye Bolt
Finish	Pink Powder Coating
Material Type	Alloy Steel
Minimum Safety Factor	4:1 In All Directions
Temperature Range	-40°F to 212°F
Unit of Measure	Metric

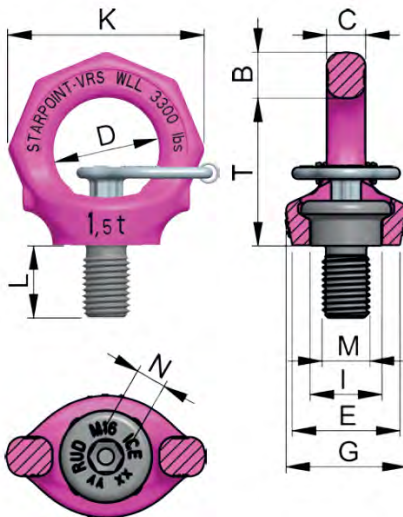
CATALOG NO.	THREAD SIZE (M)	WLL (kg.)	T	B	C	D	E	G	I	K	L	N	WEIGHT (kg.)
VRSF-M6	M6	0.1	27	9	7	20	23	28	13	37	9	6	0.06
VRSF-M8	M8	0.3	34	11	8.5	25	25	32	16	47	12	6	0.1
VRSF-M10	M10	0.4	34	11	8.5	25	25	32	16	47	15	6	0.1
VRSF-M12	M12	0.75	42	13	10	30	30	34	20	56	18	8	0.2
VRSF-M14	M14	0.75	42	13	10	30	30	34	20	56	18	8	0.2
VRSF-M16	M16	1.5	49	15	14	35	35	40	23.5	65	24	10	0.3
VRSF-M18	M18	1.5	49	15	14	35	35	40	23.5	65	24	10	0.3
VRSF-M20	M20	2.3	57	17	16	40	42	50	29	75	30	12	0.5
VRSF-M22	M22	2.3	57	17	16	40	42	50	29	75	30	12	0.5
VRSF-M24	M24	3.2	70	21	19	48	50	60	35	90	36	14	0.9
VRSF-M30	M30	4.5	86	26	24	60	60	75	44	112	45	17	1.7
VRSF-M36	M36	7	103	32	29	72	75	90	53	135	54	22	2.9
VRSF-M42	M42	9	120	38	34	82	85	105	61.5	158	63	24	4.6
VRSF-M48	M48	12	137	43	38	94	100	120	70.5	180	72	27	7

VRS-F StarPoint® Swivel Eyebolt



- Available in sizes 5/16" to 2" Inch & M6 to M48 Metric
- Clear identification of working load limit (WLL) rated at 90° from thread on body of eyebolt
- Pivots 360° to the direction of the load lift so that the WLL is always at the direction of the load
- Complies with the US-Standard (ASME B30.26)
- Forged material (1.6541) alloy steel wrenched and tempered
- Body and bolt 100% electromagnetic crack tested
- Distinct Florescent pink powder-coating changes its color when temperatures exceed 437°F (200°C). If the StarPoint® reaches temperatures of 752°(400°C), the color changes to a deep black with small bubbles, indicating that it has been over-heated and should be removed from service because the WLL has been compromised.

The VRS-F StarPoint® Swivel Eyebolt offers the highest level of safety available with its swivel capability that adjusts to the direction of the load ensuring that the Working Load Limit (WLL) is never diminished. The StarPoint® is supplied with an annealed easy-fit key for simple assembly and disassembly. Simply engage the hexagon socket bolt with the annealed key. Use your fingers to respectively tighten or untighten the arrangement. Disengage the key and the StarPoint® is rotatable.



SPECIFICATIONS

SPECIFICATIONS	
Type	360° Swivel Eye Bolt
Finish	Pink Powder Coating
Material Type	Alloy Steel
Minimum Safety Factor	4:1 In All Directions
Temperature Range	-40°F to 212°F
Unit of Measure	Inch

CATALOG NO.	THREAD SIZE (M)	WLL (lbs.)	T	B	C	D	E	G	K	L	N	I	WEIGHT (lbs.)
VRSF-51618-660	5/16"-18UNC	660	1.34	0.44	0.34	1	1	1.13	1.88	0.47	1/4	0.56	0.25
VRSF-3816-880	3/8"-16UNC	880	1.34	0.44	0.34	1	1	1.13	1.88	0.56	1/4	0.59	0.26
VRSF-71614-880	7/16"-14UNC	880	1.34	0.44	0.34	1	1	1.13	1.88	0.59	1/4	0.59	0.26
VRSF-1213-1650	1/2"-13UNC	1650	1.66	0.5	0.34	1.19	1.19	1.34	2.19	0.75	5/16	0.71	0.45
VRSF-5811-3300	5/8"-11UNC	3300	1.94	0.59	0.56	1.38	1.38	1.56	2.56	0.94	3/8	0.88	0.75
VRSF-3410-5070	3/4"-10UNC	5070	2.25	0.66	0.63	1.56	1.56	2	2.94	1.19	1/2	1.09	1.2
VRSF-789-5070	7/8"-9UNC	5070	2.25	0.66	0.63	1.56	1.56	2	2.94	1.31	1/2	1.09	1.3
VRSF-18-7050	1"-8UNC	7050	2.72	0.81	0.75	1.88	1.88	2.38	3.53	1.5	9/16	1.31	2.2
VRSF-1187-7050	1 1/8"-7UNC	7050	2.72	0.81	0.75	1.88	1.88	2.38	3.53	1.5	9/16	1.31	2.2
VRSF-1147-9920	1 1/4"-7UNC	9920	3.38	1	0.94	2.38	2.38	2.94	4.41	1.88	5/8	1.63	4.2
VRSF-1126-15430	1 1/2"-6UNC	15430	4	1.25	1.13	2.84	2.94	3.34	5.31	2.13	7/8	1.94	7.6
VRSF-1345-19480	1 3/4"-5UNC	19480	4.75	1.5	1.34	3.22	3.34	4.13	6.25	2.5	1	2.28	11.6
VRSF-245-26450	2"-4.5UNC	26450	5.38	1.69	1.5	3.69	3.94	4.75	7.06	2.81	1-1/8	2.59	17.5

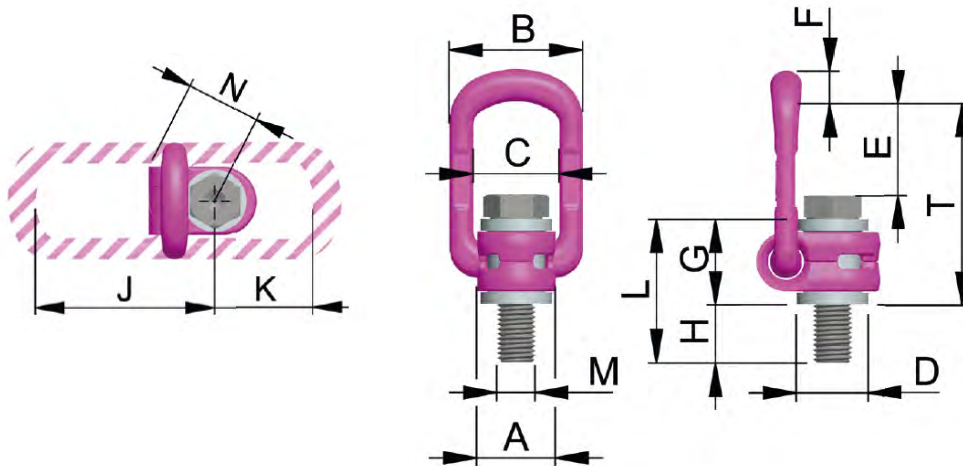
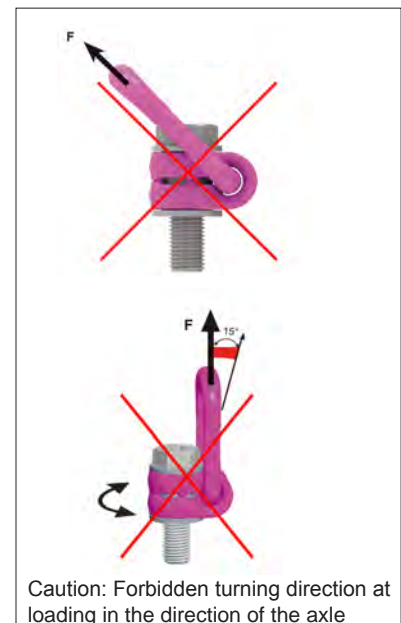
RUD® VLBG Load Ring

- Available in sizes 3/8" to 1-1/4" Inch & M8 to M48 Metric
- Clear identification of working load limit (WLL) and thread size on bolt head
- Forged material (1.6541) alloy steel wrenched and tempered
- Body and bolt 100% electromagnetic crack tested in accordance with specification EN 1677
- Safety factor of 4:1
- Load should not turn during lifting
- Distinct Florescent pink powder-coating changes its color when temperatures exceed 437°F (200°C)

The RUD® VLBG Load Ring is ideal for side mounting and often used for moving loads in applications that require overhead lifting and moving of heavy equipment. The RUD® VLBG Load Ring can turn 360° and is adjustable to the direction of the pull. The Load ring is foldable guaranteeing full WLL in all directions.



SPECIFICATIONS	
Type	Swivel Load Ring
Finish	Pink Powder Coating
Material Type	Alloy Steel
Minimum Safety Factor	4:1
Temperature Range	-40°F to 212°F
Unit of Measure	Metric



CATALOG NO.	THREAD SIZE (M)	WLL (kg.)	A	B	C	D	E	F	G	H	J	K	L	N	T	WT (kg.)	TORQUE
VLBG-M8	M8	0.3	30	54	34	35	40	10	29	11	75	45	40	5	75	0.3	30 Nm
VLBG-M10	M10	0.63	30	54	34	36	39	10	29	16	75	45	45	6	75	0.32	60 Nm
VLBG-M12	M12	1	32	54	34	37	38	10	29	21	75	45	50	8	75	0.33	100 Nm
VLBG-M14	M14	1.2	33	56	36	46	39	13.5	36	-	86	47	-	10	85	0.55	120 Nm
VLBG-M16	M16	1.5	33	56	36	46	39	13.5	36	24	86	47	60	10	85	0.55	150 Nm
VLBG-M18	M18	2.0	50	82	54	55	55	16.5	43	-	113	64	-	12	110	1.3	200 Nm
VLBG-M20	M20	2.5	50	82	54	55	55	16.5	43	32	113	64	75	12	110	1.3	250 Nm
VLBG-M24	M24	4	50	82	54	58	67	18	43	37	130	78	80	14	125	1.5	400 Nm
VLBG-M27	M27	4	60	103	65	78	69	22.5	61	39	151	80	100	-	147	3.1	400 Nm
VLBG-M30	M30	5	60	103	65	80	67	22.5	61	49	151	80	110	17	147	3.3	500 Nm
VLBG-M36	M36	7	60	103	65	72	74	22.5	55	52	151	80	107	-	146	3.4	700 Nm
VLBG-M42	M42	10	77	122	82	103	94	26.5	77	73	205	110	150	24	197	6.7	1000 Nm
VLBG-M48	M48	20	95	156	100	113	109	36	87	63	230	130	160	48	222	11.6	2000 Nm

RUD® VLBG Load Ring

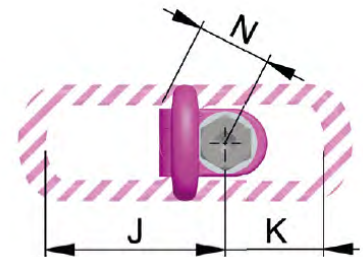
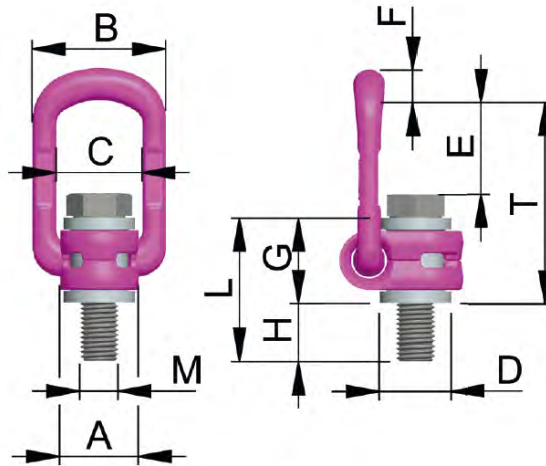
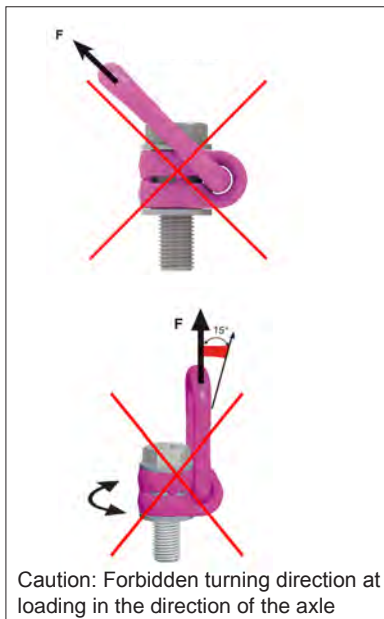


- Available in sizes 3/8" to 1-1/4" Inch & M8 to M48 Metric
- Clear identification of working load limit (WLL) and thread size on bolt head
- Forged material (1.6541) alloy steel wrenched and tempered
- Body and bolt 100% electromagnetic crack tested in accordance with specification EN 1677
- Safety factor of 4:1
- Load should not turn during lifting
- Distinct Florescent pink powder-coating changes its color when temperatures exceed 437°F (200°C)

The RUD® VLBG Load Ring is ideal for side mounting and often used for moving loads in applications that require overhead lifting and moving of heavy equipment. The RUD® VLBG Load Ring can turn 360° and is adjustable to the direction of the pull. The Load ring is foldable guaranteeing full WLL in all directions.

SPECIFICATIONS

Type	Swivel Load Ring
Finish	Pink Powder Coating
Material Type	Alloy Steel
Minimum Safety Factor	4:1
Temperature Range	-40°F to 212°F
Unit of Measure	Inch



CATALOG NO.	THREAD SIZE (M)	WLL (lbs.)	A	B	C	D	E	F	G	H	J	K	L	N	T	WT. (lbs.)	TORQUE (ft. lbs.)
VLBG-3816-1388	3/8"-16UNC	1388	1.18	2.13	1.34	0.94	1.54	0.39	1.14	0.63	2.95	1.77	1.77	1.26	2.95	0.7	44
VLBG-1213-2200	1/2"-13UNC	2200	1.26	2.13	1.34	1.02	1.46	0.39	1.14	0.87	2.95	1.77	1.97	1.26	2.95	0.7	75
VLBG-5811-3300	5/8"-11UNC	3300	1.3	2.2	1.42	1.18	1.5	0.53	1.42	0.94	3.43	1.85	2.36	1.49	3.35	1.2	110
VLBG-3410-5500	3/4"-10UNC	5500	1.97	3.23	2.13	1.77	2.13	0.65	1.69	1.1	4.45	2.52	2.8	1.88	4.33	2.9	185
VLBG-789-5500	7/8"-9UNC	5500	1.97	3.23	2.13	1.77	2.05	0.65	1.69	1.06	4.45	2.52	2.76	1.88	4.33	2.9	225
VLBG-18-8800	1"-8UNC	8800	1.97	3.23	2.13	1.77	2.52	0.71	1.69	1.61	5.12	3.07	3.31	1.88	4.92	3.3	300
VLBG-1147-11000	1-1/4"-7UNC	11000	2.36	4.06	2.56	2.36	2.52	0.89	2.4	1.61	5.94	3.15	4.02	2.63	5.79	7.3	370

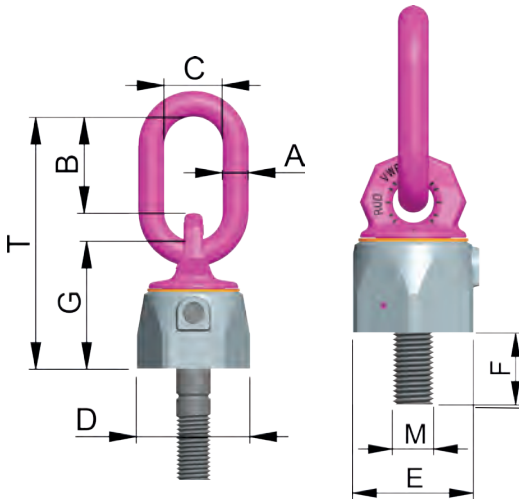
RUD® VWBG Load Ring

- Available in sizes 5/16" to 1-1/4" Inch & M8 to M30 Metric
- Clear identification of working load limit (WLL)
- Wear marks in the main load directions 45°, 30°, and 0°
- Not suitable for permanent swiveling under full load, especially in 90° direction
- Safety factor of 4:1 in all directions
- Body and bolt 100% electromagnetic crack tested in accordance with specification EN 1677
- Distinct Florescent pink powder-coating changes its color when temperatures exceed 437°F (200°C)

The RUD® VWBG Load Ring is suitable for all loads which swivel and tilt, so it can be loaded in all directions with a 4:1 safety factor.



SPECIFICATIONS	
Type	Swivel Load Ring
Finish	Pink Powder Coated Ring, Zinc Plated Housing
Material Type	Forged Steel
Minimum Safety Factor	4:1 in all directions
Pivot Range of Movement	230°
Swivel Range of Movement	360°
Temperature Range	-40°F to 212°F
Unit of Measure	Metric



CATALOG NO.	THREAD SIZE (M)	WLL (x) kg.	WLL (y) kg.	WLL (z) kg.	A	B	C	D	T	F	G	E	WT. (kg.)
VWBG-M8	M8	0.3	0.4	0.6	8	31	29	30	76	13	36	28	0.25
VWBG-M10	M10	0.45	0.6	0.9	8	31	29	36	78	17	38	30	0.3
VWBG-M12	M12	0.6	0.75	1.2	10	49	35	42	107	21	47	36	0.4
VWBG-M14	M14	1.0	1.25	2	13	46	38	48	112	25	56	41	0.6
VWBG-M16	M16	1.3	1.5	2.6	13	46	38	48	114	25	56	41	0.6
VWBG-M18	M18	1.8	2.0	3.6	13	54	35	64	137	27	67	55	1.1
VWBG-M20	M20	2.0	2.5	4	13	54	35	64	137	33	67	55	1.1
VWBG-M22	M22	2.0	2.5	4	13	54	35	64	137	33	67	55	1.1
VWBG-M24	M24	3.5	4.0	7	18	66	40	81	173	40	88	70	2.7
VWBG-M27	M27	3.5	4.0	7	18	66	40	81	173	40	88	70	2.7
VWBG-M30	M30	5.0	6.0	10	22	90	50	99	221	50	106	85	5.5

RUD® VWBG Load Ring

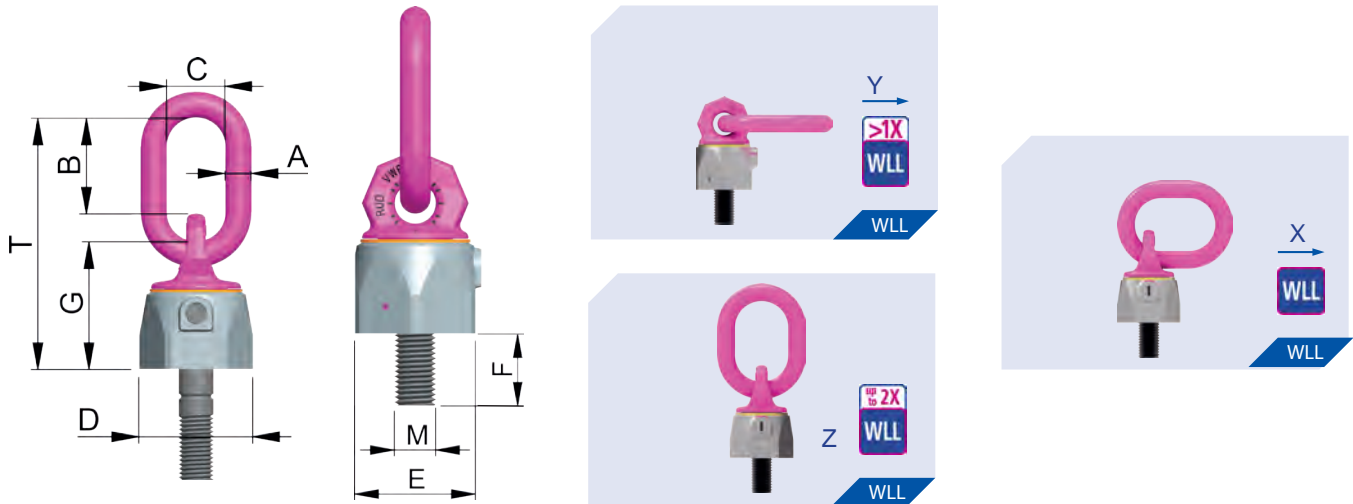
- Available in sizes 5/16" to 1-1/4" Inch & M8 to M30 Metric
- Clear identification of working load limit (WLL)
- Wear marks in the main load directions 45°, 30°, and 0°
- Not suitable for permanent swiveling under full load, especially in 90° direction
- Safety factor of 4:1 in all directions
- Body and bolt 100% electromagnetic crack tested in accordance with specification EN 1677
- Distinct Florescent pink powder-coating changes its color when temperatures exceed 437°F (200°C)

The RUD® VWBG Load Ring is suitable for all loads which swivel and tilt, so it can be loaded in all directions with a 4:1 safety factor.



SPECIFICATIONS

Type	Swivel Load Ring
Finish	Pink Powder Coated Ring, Zinc Plated Housing
Material Type	Forged Steel
Minimum Safety Factor	4:1 in all directions
Pivot Range of Movement	230°
Swivel Range of Movement	360°
Temperature Range	-40°F to 212°F
Unit of Measure	Inch



CATALOG NO.	THREAD SIZE (M)	WLL (x) lbs.	WLL (y) lbs.	WLL (z) lbs.	A	B	C	D	T	F	G	E	WEIGHT (lbs.)
VWBG-51618-X660	5/16"-18UNC	660	880	1320	0.31	1.22	1.16	1.18	3	0.5	1.42	1.10	0.57
VWBG-3816-X990	3/8"-16UNC	990	1300	1980	0.31	1.31	1.16	1.42	3.06	0.67	1.5	1.18	0.6
VWBG-1213-X1320	1/2"-13UNC	1320	1650	2640	0.38	1.94	1.38	1.65	4.22	0.81	1.88	1.41	0.9
VWBG-5811-X2860	5/8"-11UNC	2860	3300	5720	0.5	1.81	1.5	1.89	4.5	0.94	2.19	1.61	1.3
VWBG-3410-X4400	3/4"-10UNC	4400	5500	8800	0.5	2.13	1.38	2.52	5.38	1.13	2.63	2.16	3.1
VWBG-18-X7700	1"-8UNC	7700	8800	15400	0.69	2.63	1.56	3.19	6.81	1.5	3.47	2.75	5.8
VWBG-1147-X11000	1-1/4"-7UNC	11000	13200	22000	0.88	3.53	1.97	3.9	8.69	1.88	4.19	3.34	11.2

Hose Caddy

- Keeps hoses and cables securely located
- Designed for industrial settings
- Promotes safety and saves time
- Easily attach to any steel surface

The Hose Caddy is made of a rigid steel and nylon construction. It is designed to keep hoses, cables and wires securely located in an organized fashion. The Hose Caddy can attach to any steel surface making it perfect for use in industrial settings.



CATALOG NO.	PACKAGE SIZE
HCL-1000	1 Individual Unit
HCL-4000	Pack of 4 Individual Units

Hose

- Neoprene cover
- High resistance to oil and heat
- Nitrile tubing is a fiber braided and reinforced rubber

PCS Self-Grip Hose is a Nitrile tubing with a neoprene cover. This material is highly resistant to oil and heat. Self-Grip Hose is sold by the foot and available in black, red and blue.



SPECIFICATIONS	
Material Type	Nitrile Reinforced Rubber with Neoprene Cover
Min Burst Pressure PSI	1200
Rated Working Pressure PSI	300
Temperature Range	-40° F - 250° F
Unit of Measure	Inch

CATALOG NO.	HOSE I.D.	HOSE O.D.	APPROX. FEET PER REEL
Color: Black			
SG380	3/8	0.61	300
SG500	1/2	0.75	300
SG516	5/16	0.53	300
SG750	3/4	1.04	250
Color: Red			
RSG250	1/4	0.53	300
RSG380	3/8	0.53	300
RSG500	1/2	0.75	300
RSG750	3/4	1.04	250
Color: Blue			
BSG250	1/4	0.53	300
BSG380	3/8	0.61	300
BSG500	1/2	0.75	300
BSG750	3/4	1.04	250

Hose Clamps

- Stainless Steel
- 7/16 hex and screwdriver slot for tightening



Hose Clamps are made of stainless steel. They are used to keep self grip hose connected to waterline fittings within a molding application.

SPECIFICATIONS	
Material Type	Stainless Steel
Hex Screw Size	7/16
Unit of Measure	Inch

CATALOG NO.	MAXIMUM HOSE O.D. FROM	MAXIMUM HOSE O.D. TO
SC-02	1/2"	3/4"
SC-08	3/4"	1"
SC-10	1"	1-3/8"

Thread Sealant Tape

- Rolls on dry
- Seals thread on plug & connector fittings
- Provides leak-proof seal



Thread Sealant Tape is used to seal threads on plugs and connector fittings. It provides a leak proof seal and rolls on dry.

SPECIFICATIONS	
Material Type	PTFE
Size	1/2 X 520
Unit of Measure	Inch

CATALOG NO.	SIZE
TP-600	1/2 X 520

Mold Straps

- Made of durable cast metal
- Yellow powder coating is rust resistant and easy to see
- Mold straps hold mold closed during transportation and storage



PCS Company's Mold Straps are made of durable cast metal. The yellow powder coating is corrosion resistant and easily visible.

SPECIFICATIONS	
Material Type	Zinc Alloy
Qty. Per Pack	2

CATALOG NO.	SCREW SIZE	RATED LOAD	QTY. PER PACK
Size: Small, 7/8" x 1-3/4"			
LSS-100	(4) 1/4 X 5/8	930 lbs.	2
Size: Medium, 1-1/8" x 2-5/8"			
LSS-200	(4) 5/16 X 3/4	1,220 lbs.	2
Size: Large, 1-1/2" x 3-1/2"			
LSS-300	(4) 1/2 X 1	1,740 lbs.	2

Air Guns

- Available Safety "Star Tip" is Powerful and Quiet
- Unique valve design allows a fully variable flow
- Comfortable handling latest ergonomic design
- Robust construction
- Integrated silencer

PCS Air Gun's have a robust design and are perfect for any mold shop. The unique valve design allows for a fully variable air flow. These Air Guns are comfortable to hold and easy to use.



SPECIFICATIONS	
Unit of Measure	Inch

CATALOG NO.	NOZZLE LENGTH	NOZZLE TIP TYPE
11-208-0150	4	Standard
11-208-0380	13	Standard
11-208-0550	20	Standard
11-208-8000	4	Star Tip



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