



Turn To The Industry Experts

# Molding Solutions

**Mold Maintenance Products**  
**Mold Cooling Products**  
**Hot Runner Temperature Control**  
**Mold Polishing & Repair**



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## Penetrating Lube with PTFE

- Contains strong solvents for powerful cleaning
- Removes dust, dirt, oxides, grease, and adhesives
- Lubricates to prevent excessive wear and premature failure

A194 Penetrating Lube with PTFE is a multi-purpose shop tool which penetrates, lubricates, cleans, and protects most metal surfaces. Penetrating Lube penetrates between close tolerance parts to quickly dissolve and loosen rust, corrosion, dirt, and scale. As it penetrates into the tightest areas, it carries a lubricating oil to free stuck or frozen parts for easy removal and smooth operation. The solvents in Penetrating Lube help clean and remove grease, tar, sludge, and other build-up. Penetrating Lube leaves a very thin oil and PTFE coating to help protect metals and prevent future seizing.



SPECIFICATIONS	
Flammable	Yes
Container Size	10 oz
Food Grade	No
Max. Tool Temp	N/A
Paintable	No
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
A194	12 Cans
A194-1	1 Can

## 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

## Mold Release & Ejector Pin Lube - Paintable - FG



- Saves time - lets parts release quickly and easily from molds
- Allows molded parts to be painted, hotstamped, or otherwise decorated
- Improves part appearance and reduces defects caused by sticking
- Formulated to provide high levels of user and environmental safety
- Contains no Class I or Class II Ozone Depleting Substances
- Contains no chlorofluorocarbo (CFC) or hydrochlorofluorocarbo (HCFC) propellants
- Contains no chlorinated solvents such as 1, 1, 1 trichloroethane, trichloroethylene, or methylene chloride

Stoner E436 Mold Release & Ejector Pin Lube is specially formulated as a paintable release agent and anti-stick lubricant for materials such as plastics, rubber, waxes, and similar materials. It allows molded parts to be painted, plated, hotstamped, ad-hesive bonded, labeled, or otherwise decorated. It provides a long lasting anti-stick film for fast, easy part removal from molds and multiple part releases per application. It also serves as a lubricant for ejector pins. Mold Release & Ejector Pin Lube improves molding efficiency in many processes including injection, vacuum form, and pour cast molding. Economical - light coating produces best results.

SPECIFICATIONS	
Flammable	Yes
Container Size	12 oz
Food Grade	Yes
Max. Tool Temp	400°F (204°C)
Paintable	Yes
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
E436	12 Cans
E436-1	1 Can

## Zero Stick - Paintable - FG

- Saves time - lets parts release quickly and easily from molds
- Allows molded parts to be painted, hotstamped, or otherwise decorated
- Improves part appearance and reduces defects caused by sticking
- Formulated to provide high levels of user and environmental safety
- Contains no Class I or Class II Ozone Depleting Substances
- Contains no chlorofluorocarbo (CFC) or hydrochlorofluorocarbo (HCFC) propellants
- Contains no chlorinated solvents such as 1, 1, 1 trichloroethane, trichloroethylene, or methylene chloride

Zero Stick Paintable Mold Release, is a unique, extremely versatile release agent which is generally acceptable for applications where a food grade release is required. Zero Stick allows molded parts to be painted, plated, hotstamped, adhesive bonded, labeled, or otherwise decorated in most applications. Zero Stick provides a long lasting anti-stick film for fast, easy part removal from molds and multiple part releases per releases



SPECIFICATIONS	
Flammable	Yes
Container Size	12 oz
Food Grade	Yes
Max. Tool Temp	600°F (315°C)
Paintable	Yes
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
E342	12 Cans
E342-1	1 Can

## Release and Paint - Paintable - UL Recognized



- Saves times by allowing molded parts to removed quickly and easily from molds
- Allows molded parts to be painted, hotstamped, or otherwise decorated
- Improves part appearance and reduces defects caused by sticking
- Formulated to provide high levels of user and environmental safety
- Contains no Class I or Class II Ozone Depleting Substances
- Contains no chlorofluorocarbo (CFC) or hydrochlorofluorocarbo (HCFC) propellants or solvents such as HCFC 141b or HCFC 142b
- Contains no chlorinated solvents such as 1, 1, 1 trichloroethane, trichloroethylene, or methylene chloride

Stoner E313 Release & Paint is specially formulated as a paintable release agent and anti-stick lubricant for molded materials such as plastics, rubber, waxes, and similar materials. Allows molded parts to be painted, plated, hotstamped, adhesive bonded, labeled, or otherwise decorated. Release & Paint provides a long lasting anti-stick film for fast, easy part removal from molds and multiple part releases per releases

SPECIFICATIONS	
Flammable	Yes
Container Size	12 oz
Food Grade	No
Max. Tool Temp	400°F (204°C)
Paintable	Yes
Product Type	Aerosol
Silicone Free	No
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
E313	12 Cans
E313-1	1 Can

## Rocket Release - Paintable - FG

- Allows molded parts to be painted, hotstamped, or otherwise decorated
- The release agent in E302 meets FDA regulation 21 CFR 184.1400 as a release agent in the manufacture of food contacting materials
- Improves part appearance and reduces defects caused by sticking
- Formulated to provide high levels of user and environmental safety
- Contains no Class I or Class II Ozone Depleting Substances
- Contains no chlorofluorocarbo (CFC) or hydrochlorofluorocarbo (HCFC) propellants or solvents such as HCFC 141b or HCFC 142b
- Contains no chlorinated solvents such as 1, 1, 1 trichloroethane, trichloroethylene, or methylene chloride

Stoner E302 Rocket Release is an extremely versatile release agent which is generally acceptable for applications where a food grade release is required. In many applications, Rocket Release is considered to be the most paintable release agent available when molding plastics and similar materials. Rocket Release allows molded parts to be painted, plated, hot stamped, adhesive bonded, labeled, or otherwise decorated in most applications. Provides a long lasting anti-stick film for fast, easy part removal from molds and multiple part releases per application. Improves molding efficiency in many processes including injection, vacuum form, and pour cast molding. Economical - a light coating produces best results.



SPECIFICATIONS	
Flammable	Yes
Container Size	12 oz
Food Grade	Yes
Max. Tool Temp	250°F (121°C)
Paintable	Yes
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
E302	12 Cans
E302-1	1 Can

## Silicone Mold Release - FG



- Saves time by allowing molded parts to be removed quickly and easily from molds
- Improves part appearance and reduces defects caused by sticking
- Formulated to provide high levels of user and environmental safety
- Contains no Class I or Class II Ozone Depleting Substances
- Contains no chlorofluorocarbo (CFC) or hydrochlorofluorocarbo (HCFC) propellants or solvents such as HCFC 141b or HCFC 142b
- Contains no chlorinated solvents such as 1, 1, 1 trichloroethane or methylene chloride
- The silicone in E206 meets FDA regulation 21 CFR 181.28 as a release agent in the manufacture of food contacting materials

Stoner E206 is specially formulated as a release agent and anti-stick lubricant for molded materials such as plastics, rubber, waxes, and similar materials. Stoner E206 provides fast, easy part removal from molds and multiple part releases per application. E206 improves molding efficiency in many processes including injection, compression, transfer, vacuum form, pour cast, die cast and extrusion molding.

SPECIFICATIONS	
Flammable	Yes
Container Size	12 oz
Food Grade	Yes
Max. Tool Temp	500°F (260°C)
Paintable	No
Product Type	Aerosol
Silicone Free	No
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
E206	12 Cans
E206-1	1 Can

## 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

## 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

## 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.



SPECIFICATIONS	
Operating Temperature	Up to 1000°F

**Each HC kit includes:**  
 Bottle of NanoMoldCoating  
 Bottle of NanoMoldCoatingRemover  
 Microfibre application cloths  
 Spray tip, Swabs  
 Application instructions  
 NanoMoldCleaner

**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

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

SPECIFICATIONS	
Shelf Life	18 Months

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

## CUT Non-Chlorinated Cleaner/Degreaser

- Dissolves & flushed away most release agents from metal molds
- An alternative to chlorinated solvents for precision cleaning
- Contains no chlorinated solvents
- Contains power cleaning agents to remove grease, oil, carbon deposits, dirt, and wax
- Won't harm metals and other solvent resistant materials

93234 CUT non-chlorinated cleaner is a powerful, fast acting, non-CFC, precision cleaner and degreaser that removes grease, oils, waxes, inks, tars and silicone oils from tools, equipment, molds, metal parts, and more. CUT dissolves and flushed away most release agents from metal molds. Always test before using on plastics or solvent sensitive materials. Cleans and prepares molds prior to application of rust preventives. CUT was developed as an alternative to chlorinated solvents for precision cleaning. Contains no chlorinated solvents such as 1,1,1 trichloroethane, trichloroethylene, or methylene chloride. Contains no Class I (CFC) or Class II (HCFC) ozone depleting substances. CUT contains powerful cleaning agents to remove grease, oil, carbon deposits, tar, gum, dirt, wax, ink, silicones, adhesives and more. Quick evaporating. Dries fast and leaves no residue. CUT won't harm metals and other solvent resistant materials. Always test before using. Removes finger marks and displaces moisture. For high temperature use or applications requiring a non-flammable cleaner, try Stoner A497 Non-flammable Cleaner Degreaser. CUT has many useful applications in the molding, and general fabrication industries. Industrial uses include cleaning molds, tools, machinery, metals, equipment, and more.



SPECIFICATIONS	
Flammable	Yes
Container Size	12 oz
Food Grade	No
Max. Tool Temp	N/A
Paintable	N/A
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
93234-1	1 Can
93234-A	12 Cans

## Xenit Citrus Mold Cleaner



- Dissolves and flushed away most release agents from metal molds prior to application of rust preventatives
- Cleans molds -in or out of the press- by removing resins, carbon deposits, and other contaminants left in the cavities
- Removes greases, oils, waxes, inks, tars, silicones and more
- Dries fast and leaves no residue
- Pleasant citrus scents, Non-halogenated
- Contains no methylene chloride or Class 1 ozone depleting substances

XENIT Natural Citrus Mold Cleaner contains a proprietary cleaning formula with Citrus 66, a natural, highly refined extract of citrus fruit. With this powerful ingredient, XENIT can remove the greasy, grimy soils and stains that soap and water can't. XENIT is a natural precision mold cleaner typically used as a degreaser in the plastics and rubber molding industries. Dissolves and flushed away most release agents from metal.

SPECIFICATIONS	
Flammable	Yes
Container Size	10 oz
Food Grade	No
Max. Tool Temp	N/A
Paintable	N/A
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
93123	12 Cans
93123-1	1 Can

## Low Odor Cleaner/Degreaser

- LOW ODOR mold cleaner/degreaser is more user friendly
- Powerful formula CLEANS MOLDS FAST and SAVES TIME
- Contains no Class 1 or Class 2 ozone depleting substances
- Contains no chlorinated solvents
- Dries fast and leaves no residue on molds when dry
- VIRTUALLY HARMLESS TO MOST METALS and other solvent-resistant materials

A555 Low Odor Cleaner Degreaser has many uses for cleaning molds, tools, machinery, and other equipment. It removes grease, oil, tar, dirt, adhesives, ink, and grime from metals and other materials.



SPECIFICATIONS	
Flammable	Yes
Food Grade	No
Max. Tool Temp	N/A
Paintable	N/A
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	CONTAINER SIZE	QTY. PER PACK
A555	10 oz	12 Cans
A555-1	10 oz	1 Can
B555-5	5 Gallon Pail	1 Pail
B555-55	55 Gallon Drum	1 Drum

## All Citrus Cleaner/Degreaser



- Heavy Duty mold cleaner cleans molds fast and saves time
- Removes grease, tar, oil, dirt, adhesives, and inks from molds.
- Contains no Class 1 or Class 2 ozone depleting substances
- Dries fast and leaves no residue on molds
- Citrus scent, non-halogenated

A500 Citrus Cleaner for Molds is an all natural precision mold cleaner for removing resins, carbon deposits, silicones and contaminants from molds. Its powerful formula cleans molds fast and saves time removing grease, oils, waxes, inks, tars, silicones, and other contaminants from molds. Many applications in the electronics, automotive, aerospace and general fabrication industries. Citrus Cleaner for Molds is made entirely from a highly refined extract of citrus fruits which are more healthy and environmentally friendly than petroleum distillates.

SPECIFICATIONS	
Flammable	Yes
Food Grade	No
Max. Tool Temp	N/A
Paintable	N/A
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	CONTAINER SIZE	QTY. PER PACK
A500	12 oz	12 Cans
A500-1	12 oz	1 Can
B500-5	5 Gallon Pail	1 Pail
B500-55	55 Gallon Drum	1 Drum

## Non Flammable Cleaner for Molds

- Non-flammable mold cleaner
- Contains NO trichloroethylene or methylene chloride
- Works fast to remove difficult build-up from molds
- Cleans & prepares molds before applying rust preventatives

A497 Non-Flammable Cleaner for Molds contains powerful cleaning agents to remove grease, oil, carbon deposits, and build-up from mold surfaces. This non-flammable mold cleaner contains no trichloroethylene and quickly removes difficult mold build-up, leaving no residue after drying. Removes finger marks and displaces moisture. Non-Flammable Cleaner for Molds has many uses in the molding industry where a strong cleaner is needed for high temperature mold cleaning.



SPECIFICATIONS	
Flammable	No
Container Size	16 oz
Food Grade	No
Max. Tool Temp	N/A
Paintable	N/A
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
A497	12 Cans
A497-1	1 Can

## Power Clean



- Contains aggressive chlorinated cleaning agent
- Effectively removes dirt and contaminates 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

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

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

## Thin Film Rust Preventative



- Ideal for overnight and weekend rust protection of molds and tooling
- Protects steel and other metals
- Contains no silicone
- Contains no Class I or Class II ozone depleting substances
- Contains no CFC or HCFC propellants or solvents
- Contains no chlorinated solvents such as methylene chloride or 1, 1, 1 trichloroethane

A612 Rust Preventive provides short-term protection against moisture and oxidation. It prevents rust and corrosion from ruining exposed steel and stored metals overnight and on weekends. It allows you to ship or store parts, molds, tooling, or machinery without damage from rust, corrosion, or oxidation. A612 leaves a thin film on exposed metal to seal out dampness and prevent rust and corrosion. Ideal for plastic and rubber molds. In many applications, A612 works off during start-up and requires no cleaning.

SPECIFICATIONS	
Flammable	Yes
Container Size	10 oz
Food Grade	No
Max. Tool Temp	N/A
Paintable	N/A
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	QTY. PER PACK
A612	12 cans
A612-1	1 can

## Heavy Duty Rust Preventative

- Ideal for long-term, extended rust protection of steel molds, tooling, and equipment
- Protects steel and other metals
- Contains no silicone
- Contains no Class I or Class II ozone depleting substances
- Contains no CFC or HCFC propellants or solvents
- Contains no chlorinated solvents such as methylene chloride or 1, 1, 1 trichloroethane

A677 Heavy Duty Rust Preventative provides protection against moisture and oxidation. It prevents rust and corrosion from ruining exposed steel and stored metals for extended time periods. It allows you to ship or store parts, molds, tooling, or machinery without damage from rust, corrosion, or oxidation. A677 leaves a heavy duty film on exposed metal to seal out dampness and prevent rust and corrosion. Ideal for plastic and rubber molds.



SPECIFICATIONS	
Flammable	Yes
Food Grade	No
Max. Tool Temp	N/A
Paintable	N/A
Product Type	Aerosol
Silicone Free	Yes
Solvent	Yes
Water Based	No

CATALOG NO.	CONTAINER SIZE	QTY. PER PACK
A677	10 oz	12 Cans
A677-1	10 oz	1 Can
B677-5	5 Gallon Pail	1 Pail
B677-55	55 Gallon Drum	1 Drum

## 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

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

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

## 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
Polylefin	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.

## 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	
Specificatio	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)	
Certificatio	RoHS & EN71	



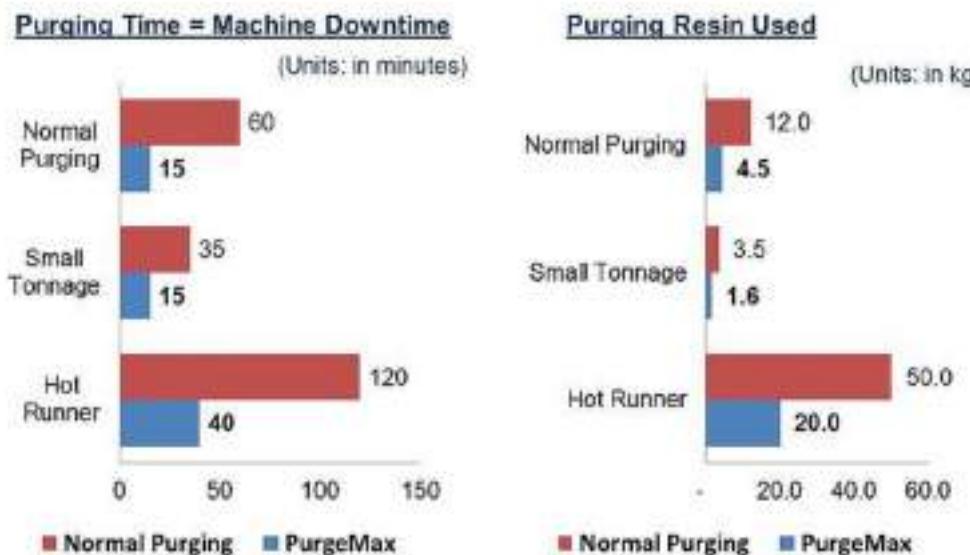
CATALOG NO.	DESCRIPTION
PM-0001	60 packets/box (10ml per packet)

## 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 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.

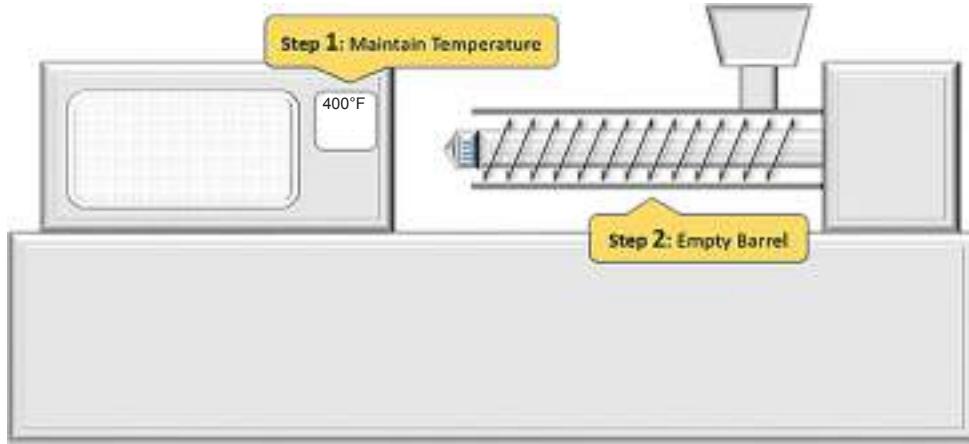
PurgeMax® is used in conjunction with carrier/purging resin. We recommend using the next production run resin as the carrier/purging resin. However, other lower cost alternative carrier resins can be used to save cost – please refer to the “**PurgeMax® Purging Resin Selection Guideline**” for recommendation.

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 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

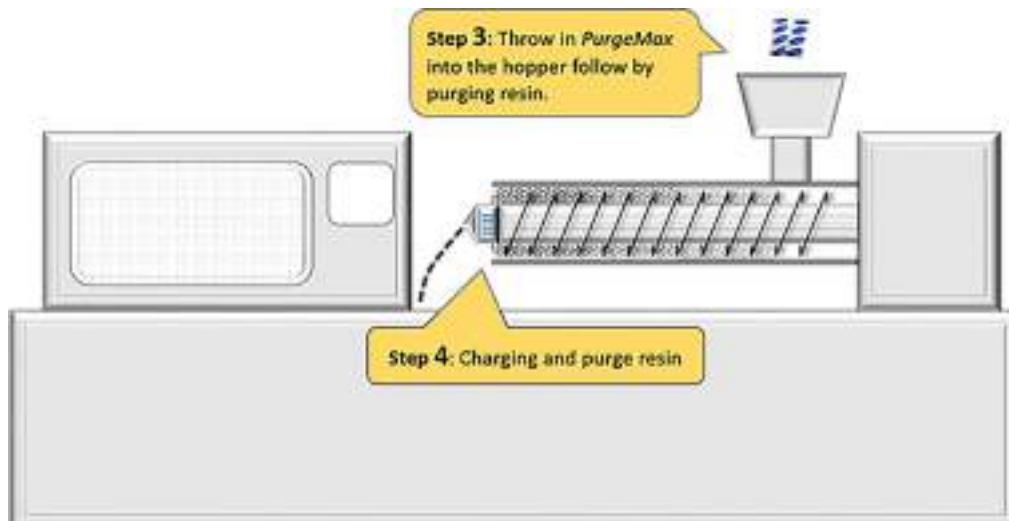
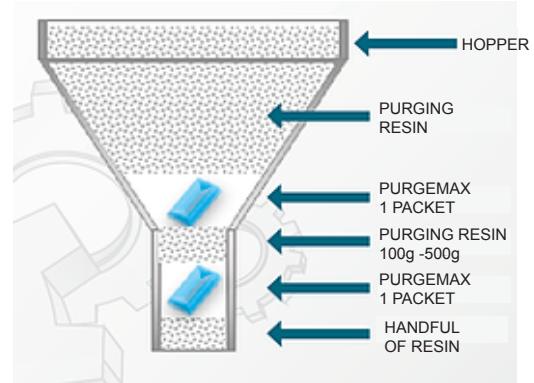
**Special Note #1:** In case of **polyvinyl chloride (PVC)** and **FR (fire resistant)** filled resins which are highly heat sensitive, carbonization due to heat oxidation can lead to degradation within just a few minutes. Therefore, we recommend that you do **NOT** empty the barrel before the purging 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.

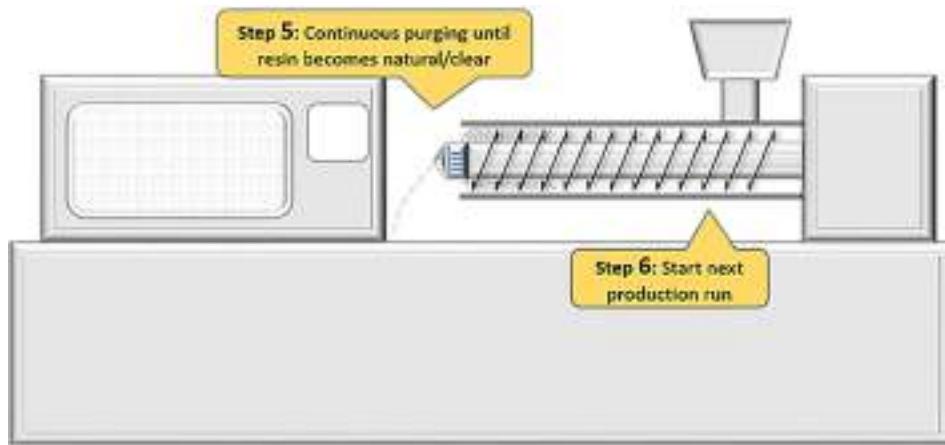
**Special Note #3:** For polycarbonate (PC) resin purging, user may consider mixing PurgeMax® with purging resin in a plastic bag before loading them into barrel port. This is to prevent “occasional charging” – screw is unable to take in resin due to the slipperiness upon contact with PC material.



## 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 user 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.

## Brass Baffles

- Flush-seal type (7/8 taper) brass pipe plugs standard
- Patented XT Technology allows 300% more wrenching torque
- Separates machined waterlines into multiple channels
- Divert the flow of water or coolant

Brass Baffles are used to divert the flow of water or coolant within the mold. This product allows machined waterlines to be separated into multiple channels. A brass pipe plug comes standard with each baffle. Available lengths range from 4" to 24".



SPECIFICATIONS	
Blade Width Tolerance	-.005 / -.015
Material Type	Brass
Unit of Measure	Inch

CATALOG NO.	PLUG SIZE	BLADE WIDTH	BLADE THICKNESS	DRILL SIZE	OVERALL LENGTH
BB-062-4	1/16-27	1/4	0.057	1/4	4
BB-062-8	1/16-27	1/4	0.057	1/4	8
BB-062-12	1/16-27	1/4	0.057	1/4	12
BB-125-4	1/8-27	5/16	0.057	5/16	4
BB-125-8	1/8-27	5/16	0.057	5/16	8
BB-125-8S*	1/8-27	5/16	0.057	5/16	8
BB-125-12	1/8-27	5/16	0.057	5/16	12
BB-250-5	1/4-18	7/16	0.085	7/16	5
BB-250-5S*	1/4-18	7/16	0.085	7/16	5
BB-250-10	1/4-18	7/16	0.085	7/16	10
BB-250-10S*	1/4-18	7/16	0.085	7/16	10
BB-250-15	1/4-18	7/16	0.085	7/16	15
BB-375-6	3/8-18	9/16	0.093	9/16	6
BB-375-6S*	3/8-18	9/16	0.093	9/16	6
BB-375-12	3/8-18	9/16	0.093	9/16	12
BB-375-12S*	3/8-18	9/16	0.093	9/16	12
BB-375-18	3/8-18	9/16	0.093	9/16	18
BB-375-18S*	3/8-18	9/16	0.093	9/16	18
BB-500-8	1/2-14	11/16	0.093	11/16	8
BB-500-8S*	1/2-14	11/16	0.093	11/16	8
BB-500-12S*	1/2-14	11/16	0.093	11/16	12
BB-500-16	1/2-14	11/16	0.093	11/16	16
BB-500-16S*	1/2-14	11/16	0.093	11/16	16
BB-750-12	3/4-14	15/16	0.093	15/16	12
BB-750-12S*	3/4-14	15/16	0.093	15/16	12
BB-750-20	3/4-14	15/16	0.093	15/16	20
BB-750-20S*	3/4-14	15/16	0.093	15/16	20
BB-1000-16	1-11½	1-1/8	0.102	1-1/8	16
BB-1000-24	1-11½	1-1/8	0.102	1-1/8	24

\*Items with 'S' at the end of the catalog number have steel plugs

## Brass Spiral Baffles

- Flush-seal type (7/8 taper) brass pipe plugs standard
- Patented XT Technology allows 300% more wrenching torque
- Separates machined waterlines into multiple channels
- Divert the flow of water or coolant
- Allows for more uniform cooling
- Spiral design creates turbulent water flow for more efficient cooling



Spiral Brass Baffles are used to divert the flow of water or coolant within the mold. This product allows machined waterlines to be separated into multiple channels. Spiral Brass Baffles lengthen the cooling path and keep the baffle centered creating up to 11% greater flow rate. A brass pipe plug comes standard with each baffle. Available lengths range from 4" to 24".

SPECIFICATIONS	
Blade Width Tolerance	-.005/-015
Material Type	Brass
Unit of Measure	Inch

CATALOG NO.	PLUG SIZE	BLADE WIDTH	BLADE THICKNESS	DRILL SIZE	S SHOULDER LENGTH	OVERALL LENGTH
SB-062-4	1/16-27	1/4	0.057	1/4	2	4
SB-062-8	1/16-27	1/4	0.057	1/4	4	8
SB-062-12	1/16-27	1/4	0.057	1/4	6	12
SB-125-4	1/8-27	5/16	0.057	5/16	2	4
SB-125-8	1/8-27	5/16	0.057	5/16	4	8
SB-125-12	1/8-27	5/16	0.057	5/16	6	12
SB-250-5	1/4-18	7/16	0.085	7/16	2	5
SB-250-10	1/4-18	7/16	0.085	7/16	4	10
SB-250-15	1/4-18	7/16	0.085	7/16	6	15
SB-375-6	3/8-18	9/16	0.093	9/16	2	6
SB-375-12	3/8-18	9/16	0.093	9/16	4	12
SB-375-12S*	3/8-18	9/16	0.093	9/16	4	12
SB-375-18	3/8-18	9/16	0.093	9/16	6	18
SB-500-8	1/2-14	11/16	0.093	11/16	3	8
SB-500-16	1/2-14	11/16	0.093	11/16	5	16
SB-750-12	3/4-14	15/16	0.093	15/16	4	12
SB-750-12S*	3/4-14	15/16	0.093	15/16	4	12
SB-750-20	3/4-14	15/16	0.093	15/16	6	20
SB-1000-16	1-11½	1-1/8	0.102	1-1/8	5	16
SB-1000-24	1-11½	1-1/8	0.102	1-1/8	8	24

\*Items with 'S' at the end of the catalog number have steel plugs

## Brass Blade Stock

- Same tolerances as straight and spiral blade baffle
- Solid brass
- Longer lengths available
- Same tolerances as PCS straight and Spiral baffle
- Separates machined waterlines into multiple channels
- Divert the flow of water or coolant

Brass Blade Stock helps to divert the flow of water or coolant within the mold. The blade stock allows machined waterlines to be separated into multiple channels. Brass Blade Stock has the same tolerances as PCS standard straight and spiral blade baffles. Blade stock is offered in standard 36" lengths.



SPECIFICATIONS	
Blade Width Tolerance	-.005 / -.015
Material Type	Brass
Overall Length	36
Unit of Measure	Inch

CATALOG NO.	BLADE WIDTH	BLADE THICKNESS	PLUG SIZE
BBS-25	1/4	0.057	1/16
BBS-31	5/16	0.057	1/8
BBS-43	7/16	0.085	1/4
BBS-56	9/16	0.093	3/8
BBS-68	11/16	0.093	1/2
BBS-71	15/16	0.093	3/4
BBS-93	29/32	0.093	3/4
BBS-112	1-1/8	0.102	1

## Economical Baffle

- Inexpensive way to baffle long waterline
- Brass construction
- Special design prevents turning
- Lengths up to 48"

Economical baffles offer an inexpensive way to baffle long water lines. These baffles are used to divert the flow of water or coolant within the mold. This product allows machined waterlines to be separated into multiple channels. Economical Baffles are offered in standard 48" lengths.



SPECIFICATIONS	
Material Type	Brass
L Overall Length	48
Unit of Measure	Inch

CATALOG NO.	PIPE THREAD	DRILL SIZE
FB500-48	1/2 -14	11/16
FB750-48	3/4 -14	15/16
FB1000-48	1 - 11½	1-1/8

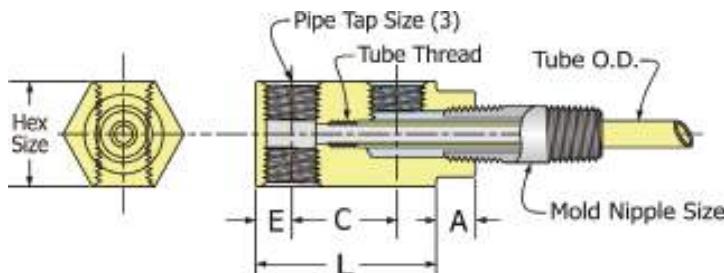
## Nipple Type Cascade Assemblies

- Most popular style of cascade
- Efficient design improves cooling rate
- 12" Brass Tube Included
- 2" Stainless steel pipe nipple included
- Brass Pipe plug included



Nipple Type Cascade Assemblies are an economical solution for many cooling applications. The solid brass heads are precision machined for accurate assembly. Each assembly includes a brass head, 12" brass tube, 2" pipe nipples and brass pipe plug.

SPECIFICATIONS	
Material Type	Brass Head, Brass Tube, Brass Pipe Plug, Steel Pipe Nipple
Mold Nipple Length	2
Tube Length	12
Unit of Measure	Inch



CATALOG NO.	PIPE TAP SIZE (NPT)	TUBE O.D.	TUBE I.D.	HEX KEY SIZE	E INLET HOLE LOCATION	C OUTLET HOLE SPREAD	A PILOT DIAMETER	L HEAD LENGTH
Mold Nipple: 1/8								
C130	1/8	0.187	0.123	7/8	21/64	11/16	9/32	1-11/32
C130A	1/8	0.187	0.123	7/8	21/64	1	9/32	1-21/32
Mold Nipple: 1/4								
C131	1/8	0.250	0.170	1	21/64	11/16	7/32	1-11/32
C131A	1/4	0.250	0.170	1	21/64	11/16	7/32	1-11/32
C132	1/8	0.250	0.170	1	21/64	1	7/16	1-21/32
C132A	1/4	0.250	0.170	1	21/64	1	7/16	1-21/32
Mold Nipple: 3/8								
C136A	1/4	0.312	0.210	1	11/32	1	13/32	1-11/16
Mold Nipple: 1/2								
C138A	1/4	0.437	0.307	1-1/4	12/32	1	9/16	1-13/16
Mold Nipple: 3/4								
C140A	3/8	0.625	0.495	1-1/2	1/2	1/14	3/4	2-1/4

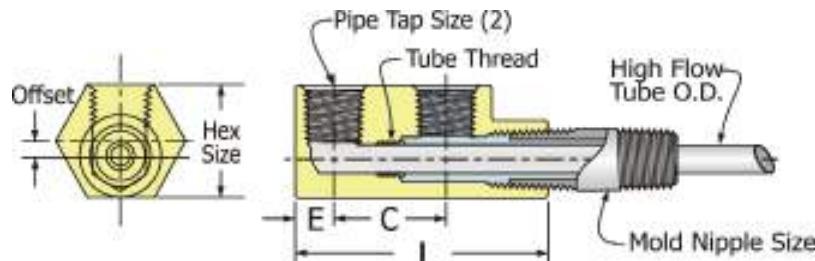
## High-Flow Cascade Assemblies

- Increased inlet area allows for higher flow rate
- Eliminates leaks with off set design and prevents flow restriction
- Thin-wall stainless steel tubes

High-Flow Cascade Assemblies offer 35% - 65% higher flow rates than standard nipple type cascades. The offset design provides more sealing threads without any pipe interference. Assemblies include brass head, 12" high flow stainless tube and 2" pipe nipples.



SPECIFICATIONS	
Material Type	Brass Head, Stainless Steel Tube, Stainless Steel Pipe Nipple
Mold Nipple Length	2
Tube Length	12
Unit of Measure	Inch



CATALOG NO.	PIPE TAP SIZE (NPT)	PIPE O.D.	TUBE I.D.	HEX KEY SIZE	OFFSET	E	INLET HOLE LOCATION	C	OUTLET HOLE SPREAD	L	HEAD LENGTH	ACTUAL FLOW INCREASE %
Mold Nipple: 1/16												
HF16N	1/16	0.125	0.109	5/8	3/32		1/4	1/2		1-1/4		-
Mold Nipple: 1/8												
HF186N	1/8	0.187	0.167	3/4	3/32		5/16	11/16		1-5/8		64%
HF181N	1/8	0.187	0.167	3/4	3/32		5/16	1		1-15/16		64%
Mold Nipple: 1/4												
HF146N-4	1/4	0.250	0.230	1	5/32		11/32	11/16		1-7/8		48%
HF141N-4	1/4	0.250	0.230	1	5/32		11/32	1		2-3/16		48%
Mold Nipple: 3/8												
HF381N-4	1/4	0.365	0.340	1-1/8	1/8		11/32	1		2-1/4		38%

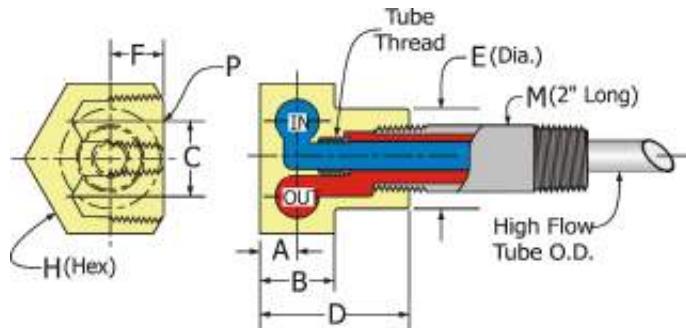
## Compact Cascade Assemblies

- Perpendicular inlet/outlet connections
- Pipe plugs not required
- Used exclusively with High-Flow Tubes
- Ideal for use with thin mold plates



Compact Cascade Assemblies provide maximum cooling rates with improved design and high flow tubes. In/Out connections are positioned sideways for mounting in tight spaces or thin mold plates. Assemblies include brass head, 12" high flow tube and 2" pipe nipples.

SPECIFICATIONS	
Material Type	Brass Head, Stainless Steel Tube, Stainless Steel Pipe Nipple
Mold Nipple Length	2
Tube Length	12
Unit of Measure	Inch



CATALOG NO.	PIPE TAP SIZE (NPT)	PIPE O.D.	TUBE I.D.	HEX KEY SIZE	TUBE THREAD SIZE	A INLET/OUTLET HOLE LOCATIONS	B HEAD THICK.	C OUTLET HOLE SPREAD	D OVERALL LENGTH	E PILOT DIA.	F THREAD DEPTH
Mold Nipple: 1/8											
ET1816	1/16	0.187	0.123	15/16	1/4-28	7/32	7/16	1/2	1	5/8	0.33
Mold Nipple: 1/4											
ET1418	1/8	0.250	0.170	1-1/4	5/16-24	5/16	5/8	11/16	1-1/4	3/4	0.41
ET1414	1/4	0.250	0.170	1-1/2	5/16-24	3/8	3/4	3/4	1-1/2	7/8	0.54
Mold Nipple: 3/8											
ET3814	1/4	0.312	0.210	1-1/2	3/8-24	3/8	3/4	3/4	1-1/2	1	0.54
Mold Nipple: 1/2											
ET1214	1/4	0.375	0.273	1-3/4	7/16-20	3/8	3/4	1	1-3/4	1-3/16	0.54

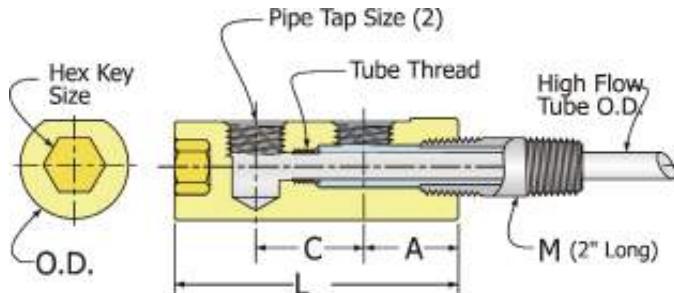
## Hex Key Cascade Assemblies

- Easy hex key assemblies
- Compact design allows for minimum clearance installation
- 12" Stainless Steel Tube Included
- 2" Stainless steel pipe nipple included

Hex Key Cascade Assemblies can be installed and removed in very tight spaces with a hex key wrench. The high flow tubes ensure flow is maintained in these very tight spaces. Assemblies include brass head, 12" high flow stainless tube and 2" pipe nipples.



SPECIFICATIONS	
Material Type	Brass Head, Stainless Steel Pipe Nipple, Stainless Steel Tube
Mold Nipple Length	2
Tube Length	12
Unit of Measure	Inch



CATALOG NO.	PIPE TAP SIZE (NPT)	TUBE O.D.	TUBE I.D.	L LENGTH	C OUTLET HOLE SPREAD	A OUTLET HOLE LOCATION	HEX KEY SIZE	NOMINAL CLEARANCE DRILL	O.D.
Mold Nipple: 1/16									
E16N	1/16	0.125	0.109	1.625	9/16	1/2	5/16	5/8	.610
Mold Nipple: 1/8									
E16N-2	1/16	0.125	0.109	1.687	9/16	9/16	3/8	3/4	.735
E186N	1/8	0.187	0.167	1.875	11/16	9/16	3/8	7/8	.860
E181N	1/8	0.187	0.167	2.187	1	9/16	3/8	7/8	.860
Mold Nipple: 1/4									
E141N	1/8	0.250	0.230	2.500	1	13/16	1/2	1	.985
E146N	1/8	0.250	0.230	2.187	11/16	13/16	1/2	1	.985
E141N-4	1/4	0.250	0.230	2.625	1	7/8	1/2	1	.985
E146N-4	1/4	0.250	0.230	2.312	11/16	7/8	1/2	1	.985
Mold Nipple: 3/8									
E381N-4	1/4	0.312	0.288	2.625	1	7/8	1/2	1	.985
Mold Nipple: 1/2									
E121N-4	1/4	0.365	0.273	2.812	1	1	1/2	1-1/4	1.235

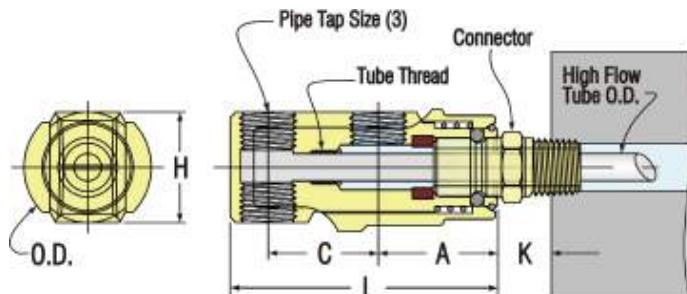
## Quick-Coupler Type Cascade Assemblies

- High flow design provides maximum cooling rate
- Viton Seals Included
- Easily installed and removed from cooling circuit
- Thin-wall stainless steel tubes



The Quick-Coupler Type Cascade Assembly can be installed and removed without disconnecting the coolant lines. Its robust construction ensures long life and dependable performance. The high flow design provides maximum cooling rates. Assemblies include brass head, 12" high flow stainless tube and brass pipe plug

SPECIFICATIONS	
Material Type	Brass Head, Stainless Steel Tube
Tube Length	12
Unit of Measure	Inch



CATALOG NO.	PIPE TAP SIZE (NPT)	TUBE O.D.	TUBE I.D.	TUBE THREAD SIZE	L LENGTH	C OUTLET HOLE SPREAD	A OUTLET HOLE LOCATION	H HEAD WIDTH	O.D.
Connector Series: 200									
SC186N	1/8	0.187	0.167	1/4-28	1.937	11/16	31/32	13/16	7/8
SC181N	1/8	0.187	0.167	1/4-28	2.250	1	31/32	13/16	7/8
Connector Series: 300									
SC146N-4	1/4	0.250	0.230	5/16-24	2.187	11/16	1-5/32	1	1-1/8
SC141N-4	1/4	0.250	0.230	5/16-24	2.500	1	1-5/32	1	1-1/8
Connector Series: 500									
SC121N-4	1/4	0.427	0.397	1/2 - 20	3.125	1-1/4	1-3/8	1-1/4	1-3/8
SC121N-6	3/8	0.427	0.397	1/2 - 20	3.125	1-1/4	1-3/8	1-1/4	1-3/8

## Replacement Heads for Brass Tubes

- Made from solid brass
- Brass pipe plug included
- Must be used with standard brass tubes

Replacement Heads for Brass Tubes come standard in solid brass. These heads must be used with standard brass tubes.

SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch



CATALOG NO.	CLOSE	PIPE TAP SIZE (NPT)	OUTLET HOLE SPREAD	PILOT DIAMETER	HEX SIZE	HEAD LENGTH	USE WITH HIGH FLOW TUBE NO.
Tube Thread Size: 10-32							
HC130	21/64	1/8	11/16	9/32	7/8	1-11/32	TB-187-
HC130A	21/64	1/8	1	9/32	7/8	1-21/32	TB-187-
Tube Thread Size: 1/4-28							
HC131	21/64	1/8	11/16	7/32	1	1-11/32	TB-250-
HC131A	21/64	1/4	11/16	7/32	1	1-11/32	TB-250-
HC132	21/64	1/8	1	7/16	1	1-21/32	TB-250-
HC132A	21/64	1/4	1	7/16	1	1-21/32	TB-250-
Tube Thread Size: 5/16-24							
HC136A	11/32	1/4	1	13/32	1	1-11/16	TB-312-
Tube Thread Size: 7/16-20							
HC138A	12/32	1/4	1	9/16	1-1/4	1-13/16	TB-437-
Tube Thread Size: 5/8 -18							
HC140A	1/2	3/8	1/14	3/4	1-1/2	2-1/4	TB-626-

## Replacement Heads for Compact Cascades

- Made from solid brass
- Must be used with High Flow tubes
- Perpendicular inlet/outlet connections
- Pipe plugs not required



Compact Cascade Replacement Heads come standard in solid brass. In/Out connections are positioned sideways for mounting in tight spaces or thin mold plates. These heads require no pipe plugs and must be used with high flow stainless tubes

SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch

CATALOG NO.	INLET/OUTLET HOLE LOCATIONS	HEAD THICK.	OUTLET HOLE SPREAD	OVERALL LENGTH	PILOT DIA.	THREAD DEPTH	HEX SIZE	PIPE TAP SIZE (NPT)	TUBE THREAD SIZE	USE WITH HIGH FLOW TUBE NO.
Mold Nipple: 1/8										
ET1816H	7/32	7/16	1/2	1	5/8	0.33	15/16	1/16	1/4-28	HF187T
Mold Nipple: 1/4										
ET1418H	5/16	5/8	11/16	1-1/4	3/4	0.41	1-1/4	1/8	5/16-24	HF250T
ET1414H	3/8	3/4	3/4	1-1/2	7/8	0.54	1-1/2	1/4	5/16-24	HF250T
Mold Nipple: 3/8										
ET3814H	3/8	3/4	3/4	1-1/2	1	0.54	1-1/2	1/4	3/8-24	HF312T
Mold Nipple: 1/2										
ET1214H	3/8	3/4	1	1-3/4	1-3/16	0.54	1-3/4	1/4	7/16-20	HF375T

## Replacement Heads for High-flow Stainless Tubes

- Made from solid brass
- Brass pipe plug included
- Must be used with High Flow stainless steel tubes
- 30 - 60% increased flow
- Higher flow from standard cascade

Replacement Heads for High Flow Stainless Tubes come standard in solid brass. These heads are designed to be used with high flow stainless tubes



SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch

CATALOG NO.	PILOT DIAMETER	CLOSE	OUTLET HOLE SPREAD	HEX SIZE	TUBE THREAD SIZE	HEAD LENGTH	USE WITH HIGH FLOW TUBE NO.
Pipe Tap Size (NPT): 1/8							
SHC130	9/32	21/64	11/16	7/8	1/4-28	1-11/32	HF187T-
SHC130A	9/32	21/64	1	7/8	1/4-28	1-21/32	HF187T-
SHC131	7/32	21/64	11/16	1	5/16-24	1-11/32	HF250T-
SHC132	7/16	21/64	1	1	5/16-24	1-21/32	HF250T-
Pipe Tap Size (NPT): 1/4							
SHC131A	7/32	21/64	11/16	1	5/16-24	1-11/32	HF250T-
SHC132A	7/16	21/64	1	1	5/16-24	1-21/32	HF250T-
SHC136A	13/32	11/32	1	1	3/8-24	1-11/16	HF312T-
SHC138A	9/16	12/32	1	1-1/4	1/2-20	1-13/16	HF437T-

## Replacement Heads for Quick-Coupler Cascades

- Aids in quick & efficient assembly and disassembly of cooling circuit
- Made from Solid Brass and Stainless Steel

Quick-Coupler Replacement Heads aid in the assembly and disassembly of cooling circuits.



SPECIFICATIONS	
Material Type	Brass and Stainless Steel
Unit of Measure	Inch

CATALOG NO.	TUBE THREAD SIZE	CONNECTOR SERIES	O.D.	LENGTH	OUTLET HOLE SPREAD	OUTLET HOLE LOCATION	HEAD WIDTH	USE WITH HIGH FLOW TUBE NO.
Pipe Tap Size (NPT): 1/8								
SC181H	1/4-28	200	7/8	2.250	1	31/32	13/16	HF187T-
SC186H	1/4-28	200	7/8	1.937	11/16	31/32	13/16	HF187T-
Pipe Tap Size (NPT): 1/4								
SC141H-4	5/16-24	300	1-1/8	2.500	1	1-5/32	1	HF250T-
SC146H-4	5/16-24	300	1-1/8	2.187	11/16	1-5/32	1	HF250T-
Pipe Tap Size (NPT): 3/8								
SC121H-6	1/2-20	500	1-3/8	3.125	1-1/4	1-3/8	1-1/4	HF437T-

## Replacement Heads for High-flow Assemblies

- Made from solid brass
- For use with high flow tubes only

High Flow Assembly Replacement Heads are made from solid brass. The offset design allows for deeper threads to eliminate leaks and flow restrictions. These heads must be used with high flow stainless tubes



SPECIFICATIONS	
Material Type	Solid Brass
Unit of Measure	Inch

CATALOG NO.	MOLD NIPPLE	TUBE THREAD SIZE	HEX SIZE	OFF-SET	CLOSE	OUTLET HOLE SPREAD	HEAD LENGTH	ACTUAL FLOW INCREASE %	USE WITH HIGH FLOW TUBE NO.
Pipe Tap Size (NPT): 1/16									
HF16H	1/16	10-32	5/8	3/32	1/4	1/2	1-1/4	—	HF125T-
Pipe Tap Size (NPT): 1/8									
HF186H	1/8	1/4-28	3/4	3/32	5/16	11/16	1-5/8	64%	HF187T-
HF181H	1/8	1/4-28	3/4	3/32	5/16	1	1-15/16	64%	HF187T-
Pipe Tap Size (NPT): 1/4									
HF146H-4	1/4	5/16-24	1	5/32	11/32	11/16	1-7/8	48%	HF250T-
HF141H-4	1/4	5/16-24	1	5/32	11/32	1	2-3/16	48%	HF250T-
HF381H-4	3/8	7/16-20	1-1/8	1/8	11/32	1	2-1/4	38%	HF375T-

## Replacement Heads for Hex Key Cascade Water Junction

- Brass construction
- Requires minimum clearance to install
- For use with High Flow Tubes only

Hex Key Cascade Water Junction Replacement Heads come standard with a solid brass construction. These replacement heads require minimum clearance to install.



SPECIFICATIONS	
Material Type	Brass
Use with Cascade Type	Hex Key
Unit of Measure	Inch

CATALOG NO.	TUBE THREAD SIZE	OUTLET HOLE LOCATION	HEX SIZE	NOMINAL CLEARANCE DRILL	O.D.	USE WITH HIGH FLOW TUBE NO.
Pipe Tap Size (NPT): 1/16						
E16H	10-32	1/2	5/16	5/8	.610	HF125T
E16H-2	1/4-28	9/16	3/8	3/4	.735	HF187T
Pipe Tap Size (NPT): 1/8						
E186H	1/4-28	9/16	3/8	7/8	.860	HF187T
E181H	1/4-28	9/16	3/8	7/8	.860	HF187T
E146H	5/16-24	13/16	1/2	1	.985	HF250T
E141H	5/16-24	13/16	1/2	1	.985	HF250T
Pipe Tap Size (NPT): 1/4						
E146H-4	5/16-24	7/8	1/2	1	.985	HF250T
E141H-4	5/16-24	7/8	1/2	1	.985	HF250T
E381H-4	3/8-24	7/8	1/2	1	.985	HF312T
E121H-4	7/16-20	1	1/2	1-1/4	1.235	HF375T

## Cascade Pipe Nipples - Brass

- Used with all PCS cascades
- Standard NPT pipe threads on both ends

Brass Pipe Nipples are used when connecting components within mold water lines. Pipe Nipples have standard NPT pipe threads on both ends.



SPECIFICATIONS																	
CATALOG NO.	PIPE SIZE (NPT)	OVERALL LENGTH															
		CLOSE	1-1/2	2	2-1/2	3	3-1/2	4	4-1/2	5	5-1/2	6	7	8	9	10	11
BNP16-	1/16	5/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
BNP18-	1/8	3/4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
BNP14-	1/4	7/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
BNP38-	3/8	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
BNP12-	1/2	1-1/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Add length to end of catalog number (i.e. BNP16-1 1/2)

## Cascade Pipe Nipples - Stainless Steel

- Used with all PCS cascades
- Standard NPT pipe threads on both ends

Stainless Steel Pipe Nipples are used when connecting components within mold water lines. Pipe Nipples have standard NPT pipe threads on both ends.



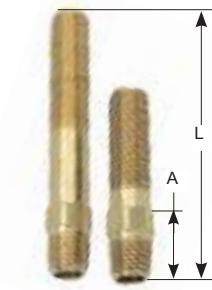
SPECIFICATIONS																	
CATALOG NO.	PIPE SIZE (NPT)	OVERALL LENGTH															
		CLOSE	1-1/2	2	2-1/2	3	3-1/2	4	4-1/2	5	5-1/2	6	7	8	9	10	11
SSPN16-	1/16	5/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SSPN18-	1/8	3/4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SSPN14-	1/4	7/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SSPN38-	3/8	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SSPN12-	1/2	1-1/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Add length to end of catalog number (i.e. SSPN16-1 1/2)

## Adjustable Hex Pipe Nipples - Brass

- Hex allows for easy assembly
- Made from brass
- NPT pipe threads on both ends

Adjustable Hex Pipe Nipples are used when connecting components within mold water lines. Pipe Nipples have standard NPT pipe threads on both ends.



SPECIFICATIONS			
Material Type		Brass	
Unit of Measure		Inch	

CATALOG NO.	PIPE SIZE	A	HEX SIZE	L OVERALL LENGTH							
				2-1/2	4	5-1/2	7	8-1/2	10	11-1/2	13
APN16-	1/16	11/16	3/8	•	•	•	•	•	•	•	•
APN18-	1/8	3/4	7/16	•	•	•	•	•	•	•	•
APN14-	1/4	7/8	9/16	•	•	•	•	•	•	•	•
APN38-	3/8	1	11/16	•	•	•	•	•	•	•	•
APN12-	1/2	1-3/8	7/8	•	•	•	•	•	•	•	•

Add length to end of catalog number (i.e. APN16-2 1/2)

## Cascade Brass Tubes

- Threads on both ends of tube
- Used with nipple type cascades
- Made from solid brass

Cascade Brass Tubes are threaded on both ends. These tubes come standard at a length of 18". Cascade Tubes are also available in stainless steel.

SPECIFICATIONS			
Material Type		Brass	
Use with Cascade Type		Nipple Type, Hex Key Type	
Unit of Measure		Inch	

CATALOG NO.	TUBE O.D.	TUBE I.D.	TUBE THREAD SIZE
Tube Length: 18			
TB-125	0.125	0.061	5-44
TB-187	0.187	0.123	10-32
TB-250	0.250	0.170	1/4-28
TB-312	0.312	0.210	5/16-24
TB-375	0.375	0.273	3/8-24
TB-437	0.437	0.307	7/16-20
TB-625	0.625	0.495	5/8-18

## Cascade Stainless Steel Tubes

- Threads on both ends of tube
- Used with nipple type cascades

Cascade Stainless Steel Tubes are threaded on both ends. These tubes come standard at a length of 18". Cascade Tubes are also available in brass.



SPECIFICATIONS	
Material Type	Stainless Steel
Unit of Measure	Inch

CATALOG NO.	TUBE O.D.	TUBE I.D.	TUBE THREAD SIZE
Tube Length: 18			
TS-125	0.125	0.062	5-44
TS-187	0.187	0.123	10-32
TS-250	0.250	0.170	1/4-28
TS-312	0.312	0.210	5/16-24
TS-375	0.375	0.273	3/8-24
TS-437	0.437	0.307	7/16-20
TS-625	0.625	0.495	5/8-18

## Cascade Stainless Steel High-Flow Tubes

- Stainless construction for high strength and durability
- "J" Item number prefix indicates the next largest thread size

Cascade Stainless High Flow Tubes offer a high strength construction and durability. Flow rate is increased up to 300% when compared with standard tubes. High Flow Tubes are available in lengths of 12", 18", 24", 36".

SPECIFICATIONS	
Material Type	Stainless Steel
Unit of Measure	Inch



CATALOG NO.	TUBE O.D.	TUBE I.D.	THREAD SIZE	THREAD LENGTH	OVERALL LENGTH			
					12	18	24	36
HF093T-	.090	.076	5-44	1/8	•	•	•	•
JHF093T-	.090	.076	10-32	3/16	•	•	•	•
HF125T-	.125	.109	10-32	3/16	•	•	•	•
JHF125T-	.125	.109	1/4-28	1/4	•	•	•	•
HF187T-	.187	.167	1/4-28	1/4	•	•	•	•
JHF187T-	.187	.167	5/16-24	5/16	•	•	•	•
HF250T-	.250	.230	5/16-24	5/16	•	•	•	•
JHF250T-	.250	.230	3/8-24	3/8	•	•	•	•
HF312T-	.312	.288	3/8-24	3/8	•	•	•	•
JHF312T-	.312	.288	7/16-20	7/16	•	•	•	•
HF375T	.365	.340	7/16-20	7/16	•	•	•	•
JHF375T-	.375	.345	1/2-20	1/2	•	•	•	•
HF437T-	.427	.397	1/2-20	1/2	•	•	•	•

Add length to end of catalog number (i.e. HF093T-12)

## 200 Series - 1/4" Extension Plugs



- Brass material
- Extends the length of standard connector plugs
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring
- Error proof waterline hook-ups by using a standard fitting for the hot water hook-up and an "NB" fitting for the cold water hook-up

Extension Plugs can be used with valved and non-valved socket connectors. These plugs are available in a solid brass construction. When special length adjustments are required, simply cut the plug to length and chamfer the end.

SPECIFICATIONS	
Material Type	Brass
Hole Size	1/4
Pipe Thread Length	1-5/8
Series	200
Unit of Measure	Inch

CATALOG NO.	OVERALL LENGTH	PIPE THREAD SIZE	HEX SIZE	HEAD LENGTH
250 X 2 1/2	2-1/2	1/16	3/8	11/16
250 X 4	4	1/16	3/8	13/16
250 X 4NB	4	1/16	3/8	13/16
250 X 5 1/2	5-1/2	1/16	3/8	13/16
250 X 5 1/2NB	5-1/2	1/16	3/8	13/16
250 X 6	6	1/16	3/8	13/16
250 X 7	7	1/16	3/8	13/16
250 X 7NB	7	1/16	3/8	13/16
251 X 10	10	1/8	7/16	1
251 X 11 1/2	11-1/2	1/8	7/16	1
251 X 13	13	1/8	7/16	1
251 X 2 1/2	2-1/2	1/8	7/16	1
251 X 4	4	1/8	7/16	1
251 X 5 1/2	5-1/2	1/8	7/16	1
251 X 6	6	1/8	7/16	1
251 X 7	7	1/8	7/16	1
251 X 8 1/2	8-1/2	1/8	7/16	1
252 X 10	10	1/4	9/16	1-1/4
252 X 11 1/2	11-1/2	1/4	9/16	1-1/4
252 X 13	13	1/4	9/16	1-1/4
252 X 2 1/2	2-1/2	1/4	9/16	7/8
252 X 4	4	1/4	9/16	1-1/4
252 X 4NB	4	1/4	9/16	1-1/4
252 X 5 1/2	5-1/2	1/4	9/16	1-1/4
252 X 7	7	1/4	9/16	1-1/4
252 X 8 1/2	8-1/2	1/4	9/16	1-1/4

Continued on next page

## 200 Series - 1/4" Extension Plugs

- Brass material
- Extends the length of standard connector plugs
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring
- Error proof waterline hook-ups by using a standard fitting for the hot water hook-up and an "NB" fitting for the cold water hook-up

Extension Plugs can be used with valved and non-valved socket connectors. These plugs are available in a solid brass construction. When special length adjustments are required, simply cut the plug to length and chamfer the end.



SPECIFICATIONS	
Material Type	Brass
Hole Size	1/4
Pipe Thread Length	1-5/8
Series	200
Unit of Measure	Inch

CATALOG NO.	OVERALL LENGTH	PIPE THREAD SIZE	HEX SIZE	HEAD LENGTH
253 X 10	10	3/8	11/16	1-1/4
253 X 2 1/2	2-1/2	3/8	11/16	1-1/4
253 X 4	4	3/8	11/16	1-1/4
253 X 5 1/2	5-1/2	3/8	11/16	1-1/4
253 X 7	7	3/8	11/16	1-1/4
253 X 8 1/2	8-1/2	3/8	11/16	1-1/4

## 300 Series - 3/8" Extension Plugs



- Brass material
- Extends the length of standard connector plugs
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring
- Error proof waterline hook-ups by using a standard fitting for the hot water hook-up and an "NB" fitting for the cold water hook-up

Extension Plugs can be used with valved and non-valved socket connectors. These plugs are available in a solid brass construction. When special length adjustments are required, simply cut the plug to length and chamfer the end.

SPECIFICATIONS	
Material Type	Brass
Pipe Thread Length	1-5/8
Series	300
Unit of Measure	Inch

CATALOG NO.	OVERALL LENGTH	PIPE THREAD SIZE	HEX SIZE	HEAD LENGTH	HOLE SIZE
350 X 2 1/2	2-1/2	1/16	9/16	7/8	3/8
350 X 4	4	1/16	9/16	1	3/8
350 X 5 1/2	5-1/2	1/16	9/16	1	3/8
350 X 7	7	1/16	9/16	1	3/8
351 X 2 1/2	2-1/2	1/8	9/16	7/8	3/8
351 X 4	4	1/8	9/16	1	3/8
351 X 5 1/2	5-1/2	1/8	9/16	1	3/8
351 X 6	6	1/8	9/16	1	3/8
351 X 7	7	1/8	9/16	1	3/8
351 X 8 1/2	8-1/2	1/8	9/16	1	3/8
351 X 10	10	1/8	9/16	1	3/8
351 X 11 1/2	11-1/2	1/8	9/16	1	3/8
351 X 13	13	1/8	9/16	1	3/8
352 X 2 1/2	2-1/2	1/4	9/16	7/8	3/8
352 X 2 1/2NB	2-1/2	1/4	9/16	7/8	3/8
352 X 4	4	1/4	9/16	1-1/4	3/8
352 X 4NB	4	1/4	9/16	1-1/4	3/8
352 X 5 1/2	5-1/2	1/4	9/16	1-1/4	3/8
352 X 5 1/2NB	5-1/2	1/4	9/16	1-1/4	3/8
352 X 6	6	1/4	9/16	1-1/4	3/8
352 X 7	7	1/4	9/16	1-1/4	3/8
352 X 7NB	7	1/4	9/16	1-1/4	3/8
352 X 8	8	1/4	9/16	1-1/4	3/8
352 X 8 1/2	8-1/2	1/4	9/16	1-1/4	3/8
352 X 10	10	1/4	9/16	1-1/4	3/8
352 X 11 1/2	11-1/2	1/4	9/16	1-1/4	3/8
352 X 13	13	1/4	9/16	1-1/4	3/8

Continued on next page

## 300 Series - 3/8" Extension Plugs

- Brass material
- Extends the length of standard connector plugs
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring
- Error proof waterline hook-ups by using a standard fitting for the hot water hook-up and an "NB" fitting for the cold water hook-up



Extension Plugs can be used with valved and non-valved socket connectors. These plugs are available in a solid brass construction. When special length adjustments are required, simply cut the plug to length and chamfer the end.

SPECIFICATIONS	
Material Type	Brass
Pipe Thread Length	1-5/8
Series	300
Unit of Measure	Inch

CATALOG NO.	OVERALL LENGTH	PIPE THREAD SIZE	HEX SIZE	HEAD LENGTH	HOLE SIZE
353 X 2 1/2	2-1/2	3/8	11/16	1	3/8
353 X 4	4	3/8	11/16	1-1/4	3/8
353 X 5 1/2	5-1/2	3/8	11/16	1-1/4	3/8
353 X 7	7	3/8	11/16	1-1/4	3/8
353 X 8 1/2	8-1/2	3/8	11/16	1-1/4	3/8
353 X 10	10	3/8	11/16	1-1/4	3/8
353 X 11 1/2	11-1/2	3/8	11/16	1-1/4	3/8
353 X 13	13	3/8	11/16	1-1/4	3/8
354 X 2 1/2	2-1/2	1/2	7/8	1-1/8	3/8
354 X 4	4	1/2	7/8	1-1/2	3/8
354 X 5 1/2	5-1/2	1/2	7/8	1-1/2	3/8
354 X 7	7	1/2	7/8	1-1/2	3/8
354 X 8 1/2	8-1/2	1/2	7/8	1-1/2	3/8
354 X 10	10	1/2	7/8	1-1/2	3/8
354 X 11 1/2	11-1/2	1/2	7/8	1-1/2	3/8
354 X 13	13	1/2	7/8	1-1/2	3/8

## 500 Series - 1/2" Extension Plugs



- Brass material
- Extends the length of standard connector plugs
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect feature
- Error proof waterline hook-ups by using a standard fitting for the hot water hook-up and an "NB" fitting for the cold water hook-up

Extension Plugs can be used with valved and non-valved socket connectors. These plugs are available in a solid brass construction. When special length adjustments are required, simply cut the plug to length and chamfer the end.

SPECIFICATIONS	
Material Type	Brass
Hole Size	1/2
Pipe Thread Length	1-5/8
Unit of Measure	Inch

CATALOG NO.	OVERALL LENGTH	PIPE THREAD SIZE	HEX SIZE	HEAD LENGTH
553 X 2 1/2	2-1/2	3/8	13/16	1-1/8
553 X 4	4	3/8	13/16	1-3/8
553 X 5 1/2	5-1/2	3/8	13/16	1-3/8
553 X 8 1/2	8-1/2	3/8	13/16	1-3/8
554 X 10	10	1/2	7/8	1-1/2
554 X 11 1/2	11-1/2	1/2	7/8	1-1/2
554 X 13	13	1/2	7/8	1-1/2
554 X 2 1/2	2-1/2	1/2	7/8	1-1/8
554 X 4	4	1/2	7/8	1-1/2
554 X 5 1/2	5-1/2	1/2	7/8	1-1/2
554 X 7	7	1/2	7/8	1-1/2
554 X 8 1/2	8-1/2	1/2	7/8	1-1/2

## 200 Series - 1/4" Male Connector Plugs

- Brass material
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring
- Error proof waterline hook-ups by using a standard fitting for the hot water hook-up and an "NB" fitting for the cold water hook-up

Male Connector Plugs can be used with valved and non-valved socket connectors. These plugs are available in a solid brass construction.



SPECIFICATIONS	
Material Type	Brass
Hole Size	1/4
Unit of Measure	Inch

CATALOG NO.	PIPE THREAD SIZE	FLOW DIAMETER
PC-250	1/16	3/16
PC-251	1/8	1/4
PC-252	1/4	1/4
PC-253	3/8	1/4
PC-250NB	1/16	3/16
PC-251NB	1/8	1/4
PC-252NB	1/4	1/4
PC-252FNB	1/4	1/4

## 300 Series - 3/8" Male Connector Plugs

- Brass material
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring
- Error proof waterline hook-ups by using a standard fitting for the hot water hook-up and an "NB" fitting for the cold water hook-up

Male Connector Plugs can be used with valved and non-valved socket connectors. These plugs are available in a solid brass construction.



SPECIFICATIONS	
Material Type	Brass
Hole Size	3/8
Unit of Measure	Inch

CATALOG NO.	PIPE THREAD SIZE	FLOW DIAMETER
PC-351	1/8	1/4
PC-352	1/4	3/8
PC-353	3/8	3/8
PC-354	1/2	3/8

Continued on next page

## 300 Series - 3/8" Male Connector Plugs



- Brass material
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring
- Error proof waterline hook-ups by using a standard fitting for the hot water hook-up and an "NB" fitting for the cold water hook-up

Male Connector Plugs can be used with valved and non-valved socket connectors. These plugs are available in a solid brass construction.

SPECIFICATIONS	
Material Type	Brass
Hole Size	3/8
Unit of Measure	Inch

CATALOG NO.	PIPE THREAD SIZE	FLOW DIAMETER
PC-351NB	1/8	1/4
PC-352NB	1/4	3/8
PC-353NB	3/8	3/8

## 500 Series - 1/2" Male Connector Plugs



- Brass material
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring
- Error proof waterline hook-ups by using a standard fitting for the hot water hook-up and an "NB" fitting for the cold water hook-up

Male Connector Plugs can be used with valved and non-valved socket connectors. These plugs are available in a solid brass construction.

SPECIFICATIONS	
Material Type	Brass
Hole Size	1/2
Unit of Measure	Inch

CATALOG NO.	PIPE THREAD SIZE	FLOW DIAMETER
PC-552	1/4	3/8
PC-553	3/8	1/2
PC-554	1/2	5/8
PC-556	3/4	5/8
PC-553NB	3/8	1/2
PC-554NB	1/2	5/8

## 200 Series - 1/4" Female Connector Plugs

- Available in Zinc plated Steel and Brass
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring

Female Connector Plugs can be used with valved and non-valved socket connectors.



SPECIFICATIONS	
Material Type	Brass or Zinc Plated Steel
Flow Diameter	1/4
Hole Size	1/4
Unit of Measure	Inch

CATALOG NO.	PIPE THREAD SIZE	FLOW DIAMETER	HOLE SIZE
Material Type: Brass			
PC-250F	1/16	1/4	1/4
PC-251F	1/8	1/4	1/4
PC-252F	1/4	1/4	1/4
PC-253F	3/8	1/4	1/4
CMB-200*	1/8	-	1/4
CMB-200-NB*	1/8	-	1/4
Material Type: Zinc Plated Steel			
PC-251FZ	1/8	1/4	1/4
PC-252FZ	1/4	1/4	1/4
PC-253FZ	3/8	1/4	1/4

\*Coupler body for connector plug

## 300 Series - 3/8" Female Connector Plugs

- Available in Zinc plated Steel and Brass
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring

Female Connector Plugs can be used with valved and non-valved socket connectors.



SPECIFICATIONS	
Material Type	Brass or Zinc Plated Steel
Hole Size	3/8
Unit of Measure	Inch

CATALOG NO.	PIPE THREAD SIZE	FLOW DIAMETER	HOLE SIZE
Material Type: Brass			
PC-351F	1/8	11/32	3/8
PC-352F	1/4	3/8	3/8
PC-352FBNB	1/4	3/8	3/8
PC-353F	3/8	3/8	3/8
PC-354F	1/2	3/8	3/8
CMB-300*	1/4	-	3/8
CMB-300-NB*	1/4	-	3/8

\*Coupler body for connector plug

Continued on next page

## 300 Series - 3/8" Female Connector Plugs

- Available in Zinc plated Steel and Brass
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring

Female Connector Plugs can be used with valved and non-valved socket connectors.



SPECIFICATIONS	
Material Type	Brass or Zinc Plated Steel
Hole Size	3/8
Unit of Measure	Inch

CATALOG NO.	PIPE THREAD SIZE	FLOW DIAMETER	HOLE SIZE
Material Type: Brass			
CMB-300-3/8*	3/8	-	3/8
CMB-300-3/8-NB*	3/8	-	3/8
Material Type: Zinc Plated Steel			
PC-352FZ	1/4	3/8	3/8
PC-353FZ	3/8	3/8	3/8
PC-354FZ	1/2	3/8	3/8

\*Coupler body for connector plug

## 500 Series - 1/2" Female Connector Plugs

- Solid brass construction
- Used with valved and non-valved socket connectors
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring



Female Connector Plugs can be used with valved and non-valved socket connectors. These plugs are only available in a solid brass construction.

SPECIFICATIONS	
Material Type	Brass
Hole Size	1/2
Unit of Measure	Inch

CATALOG NO.	PIPE THREAD SIZE	FLOW DIAMETER	HOLE SIZE
PC-552F	1/4	7/16	1/2
PC-553F	3/8	9/16	1/2
PC-554F	1/2	5/8	1/2
PC-556F	3/4	5/8	1/2
CMB-500*	1/2	-	1/2
CMB-500-NB*	1/2	-	1/2

\*Coupler body for connector plug

## Socket Connectors Valved

- Provide reliable connections to extension or connection plugs
- Straight, 45° & 90° stems available
- Used with male or female extension plugs

PCS Valved Socket Connectors have a valved design which stops coolant flow upon disconnecting. The all brass and stainless steel construction can withstand pressures up to 200 psi. These Socket Connectors are compatible with all mold connection systems.



SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch



STRAIGHT STEM



90° STEM



45° STEM

CATALOG NO.		HOLE SIZE	FITS HOSE I.D.	USE WITH PLUG
STANDARD	PUSH-ON			
Stem Type: Straight Stem				
PS-204V	PS-204VP	1/4	1/4	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-205V		1/4	5/16	
PS-206V	PS-206VP	1/4	3/8	
PS-306V	PS-306VP	3/8	3/8	
PS-308V	PS-308VP	3/8	1/2	
Stem Type: 90° Stem				
PS-214V	PS-214VP	1/4	1/4	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-215V		1/4	5/16	
PS-216V	PS-216VP	1/4	3/8	
PS-316V	PS-316VP	3/8	3/8	
PS-318V	PS-318VP	3/8	1/2	
Stem Type: 45° Stem				
PS-224V	PS-224VP	1/4	1/4	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-225V		1/4	5/16	
PS-226V	PS-226VP	1/4	3/8	
PS-228V				
PS-326V	PS-326VP	3/8	3/8	
PS-328V	PS-328VP	3/8	1/2	PC-351, PC-351F, PC-352, PC-352F, PC-353, PC-353F, PC-354, PC-354F

## Socket Connectors Non-Valved



- Provide reliable connections to extension or connection plugs
- Straight, 45° & 90° stems available
- Used with male or female extension plugs
- Items with the "NB" suffix have a hex-shaped quick disconnect feature while standard fittings have a round quick disconnect featuring

PCS Non-Valved Socket Connectors have a straight flow through, which allows for maximum coolant flow upon disconnecting. The all brass and stainless steel construction can withstand pressures up to 200 psi. These Socket Connectors are compatible with all mold connection systems.

SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch



STRAIGHT STEM



90° STEM



45° STEM

CATALOG NO.		HOLE SIZE	FITS HOSE I.D.	USE WITH PLUG
STANDARD	PUSH-ON			
Stem Type: Straight Stem				
PS-204	PS-204P	1/4	1/4	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-204NB		1/4	1/4	PC-250NB, PC-251NB, PC-252NB, PC-253NB
PS-205	PS-205P	1/4	5/16	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-206	PS-206P	1/4	3/8	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-206NB		1/4	3/8	PC-250NB, PC-251NB, PC-252NB, PC-253NB
PS-306	PS-306P	3/8	3/8	PC-351, PC-351F, PC-352, PC-352F, PC-353, PC-353F, PC-354, PC-354F
PS-306NB		3/8	3/8	PC-351NB, PC-352NB, PC-353NB, PC-354NB
PS-308	PS-308P	3/8	1/2	PC-351, PC-351F, PC-352, PC-352F, PC-353, PC-353F, PC-354, PC-354F
PS-308NB		3/8	1/2	PC-351NB, PC-352NB, PC-353NB, PC-354NB
PS-504	PS-504P	1/2	1/2	PC-552, PC-552F, PC-553, PC-553F, PC-554, PC-554F, PC-556, PC-556F
PS-506	PS-506P	1/2	3/4	PC-552, PC-552F, PC-553, PC-553F, PC-554, PC-554F, PC-556, PC-556F
PS-506NB		1/2	3/4	PC-552NB, PC-553NB, PC-554NB, PC-556NB

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## Socket Connectors Non-Valved

- Provide reliable connections to extension or connection plugs
- Straight, 45° & 90° stems available
- Used with male or female extension plugs

PCS Non-Valved Socket Connectors have a straight flow through, which allows for maximum coolant flow upon disconnecting. The all brass and stainless steel construction can withstand pressures up to 200 psi. These Socket Connectors are compatible with all mold connection systems.



SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch



STRAIGHT STEM



90° STEM



45° STEM

CATALOG NO.		HOLE SIZE	FITS HOSE I.D.	USE WITH PLUG
STANDARD	PUSH-ON			
Stem Type: 90° Stem				
PS-214	PS-214P	1/4	1/4	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-215	PS-215P	5/16	5/16	
PS-216	PS-216P	3/8	3/8	
PS-216NB		3/8	3/8	PC-250NB, PC-251NB, PC-252NB, PC-253NB
PS-316	PS-316P	3/8	3/8	PC-351, PC-351F, PC-352, PC-352F, PC-353, PC-353F, PC-354, PC-354F
PS-318	PS-318P	1/2	1/2	
PS-318NB		1/2	1/2	PC-351NB, PC-352NB, PC-353NB, PC-354NB
PS-514	PS-514P	1/2	1/2	PC-552, PC-552F, PC-553, PC-553F, PC-554, PC-554F, PC-556, PC-556F
PS-516	PS-516P	1/2	1/2	
Stem Type: 45° Stem				
PS-224	PS-224P	1/4	1/4	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-225		1/4	5/16	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-226	PS-226P	1/4	3/8	PC-250, PC-250F, PC-251, PC-251F, PC-252, PC-252F, PC-253, PC-253F
PS-326	PS-326P	3/8	3/8	PC-351, PC-351F, PC-352, PC-352F, PC-353, PC-353F, PC-354, PC-354F
PS-328	PS-328P	3/8	1/2	PC-351, PC-351F, PC-352, PC-352F, PC-353, PC-353F, PC-354, PC-354F

## Connector Seals

- Silicone & Viton seals available
- Used with valved and non-valved socket connectors

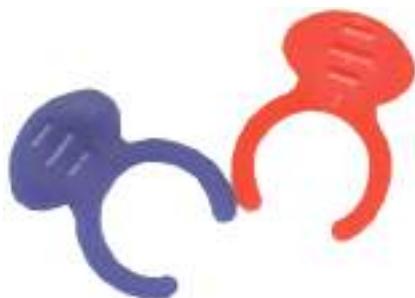
Connector Seals are to be used with both valved and non-valved socket connectors. Viton and Silicone Connector Seals are available.



SPECIFICATIONS	
Material Type	Viton and Silicone
Unit of Measure	Inch

CATALOG NO.	USE WITH SHUT-OFF & FLOW-THRU TYPE
Material Type: Silicone	
PS-200-6	PS204-226, PS204-226V
PS-300-6	PS306-328, PS306V-328V
PS-500-6	PS504-506
Material Type: Viton	
CM-200Y	200 Series (1/4 Hole)
CM-300Y	300 Series (3/8 Hole)
CM-500Y	500 Series (1/2 Hole)

## Safety Clips



- Reduces the potential of the accidental release of waterline socket connectors
- Color coded for hot and cold waterlines
- Fits Parker, DME, Foster & comparable waterline socket connectors

Safety Clips reduce the possibility of the accidental release of waterline socket connectors. These clips are color coded red or blue to designate hot and cold waterlines. PCS Safety Clips fit most standard waterline connectors

SPECIFICATIONS	
Unit of Measure	Inch
CATALOG NO.	SERIES
Color: Blue	
SC200-B	200
SC300-B	300
SC500-B	500
Color: Red	
SC200-R	200
SC300-R	300
SC500-R	500

## Threadless Plugs

- Withstand pressures up to 72psi
- Turning the hex adjustment screw expands the diameter of the Buna O-ring to seal rough or corroded holes
- Available in sizes to fit standard or oversize cooling channel
- Oversize plugs have a .020" larger knurl diameter
- Replacement Buna O-Rings sold in packages of ten

Threadless Plugs withstand pressures up to 72 psi. Included O-Ring helps to seal rough or corroded holes.



SPECIFICATIONS	
Unit of Measure	Inch

CATALOG NO.	NOMINAL PIPE SIZE	HEX SIZE	DRILL SIZE	OVERALL LENGTH
Material Type: Brass and Buna O-ring				
BTP-10	1/8	5/64	11/32	.50
BTP-20	1/4	1/8	7/16	.56
BTP-40	3/8	1/8	9/16	.62
BTP-60	1/2	1/8	11/16	.62
BTP-10-OS	1/8	5/64	23/64	.50
BTP-20-OS	1/4	1/8	29/64	.56
BTP-40-OS	3/8	1/8	37/64	.62
BTP-60-OS	1/2	1/8	45/64	.62
Material Type: Buna O-Ring Only				
BTP-10-R	1/8	—	—	—
BTP-20-R	1/4	—	—	—
BTP-40-R	1/2	—	—	—

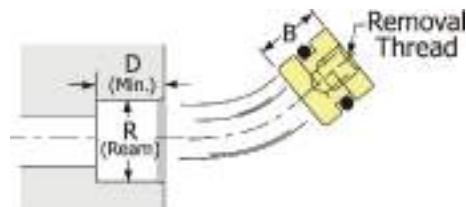
## O-Ring Plugs

- Used when backed up by other mold inserts, holder block, or mold plates
- Requires less space than NPT pipe plugs
- Standard Buna o-ring provides seal to 210°
- Less interference in tight spaces



O-Ring Plugs are used when backed up by other mold inserts, holder block or mold plates. These plugs require less space than NPT pipe plugs which makes them great in tight spaces.

SPECIFICATIONS	
Unit of Measure	Inch
B Plug Overall Length Tolerance	+.000 / -.005
D Mating Pocket Depth Tolerance	+.005 / -.000
Material Type	Brass and Buna-N O-ring



CATALOG NO.	REAM SIZE	B PLUG OVERALL LENGTH	D MATING POCKET DEPTH	REMOVAL THREAD SIZE
OR-06	0.281	1/4	0.250	6-32
OR-12	0.375	5/16	0.312	10-32
OR-25	0.500	5/16	0.312	10-32
OR-38	0.625	7/16	0.437	1/4-20
OR-50	0.750	1/2	0.500	1/4-20
OR-75	1.000	5/8	0.625	3/8-16
OR-100	1.187	5/8	0.625	3/8-16

## Pipe Plugs

- Sizes 1/16" - 3/8" packaged
- Standard plugs are flush type 7/8" tape

Pipe Plugs are used to plug cooling channels and are available in brass, steel and stainless steel construction. These plugs are flush type with a 7/8" tape.



SPECIFICATIONS	
Unit of Measure	Inch

CATALOG NO.	PIPE SIZE	THREADS PER INCH	LENGTH
Material Type: Brass			
WPB-05	1/16	27	0.250
WPB-10	1/8	27	0.250
WPB-20	1/4	18	0.406
WPB-40	3/8	18	0.406
WPB-60	1/2	14	0.531
WPB-100	3/4	14	0.531
WPB-140	1	11-1/2	0.656
WPB-160	1-1/4	11-1/2	0.656
WPB-180	1-1/2	11-1/2	0.656
Material Type: Steel			
WPS-05	1/16	27	0.250
WPS-10	1/8	27	0.250
WPS-20	1/4	18	0.406
WPS-40	3/8	18	0.406
WPS-60	1/2	14	0.531
WPS-100	3/4	14	0.531
WPS-140	1	11-1/2	0.656
WPS-160	1-1/4	11-1/2	0.656
WPS-180	1-1/2	11-1/2	0.656
Material Type: Stainless Steel			
SSP-05	1/16	27	0.250
SSP-10	1/8	27	0.250
SSP-20	1/4	18	0.406
SSP-40	3/8	18	0.406
SSP-60	1/2	14	0.531
SSP-100	3/4	14	0.531
SSP-140	1	11-1/2	0.656
SSP-160	1-1/4	11-1/2	0.656
SSP-180	1-1/2	11-1/2	0.656

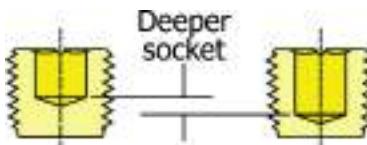
## Heavy Duty Pipe Plug Fittings

- Extra deep socket is stronger
- Will not strip out
- Solid brass construction
- Supports: 1/16" - 3/4" pipe sizes



Heavy Duty Pipe Plugs are made of a solid brass construction and are used to plug cooling channels. An extra deep socket is incorporated to increase the plug's strength and keep it from stripping out.

SPECIFICATIONS	
Unit of Measure	Inch



Extra Deep socket is stronger, and will not strip out.

CATALOG NO.	PIPE SIZE	THREADS PER INCH	LENGTH
XTBF-05	1/16	27	0.312
XTBF-10	1/8	27	0.312
XTBF-20	1/4	18	0.440
XTBF-40	3/8	18	0.500
XTBF-60	1/2	14	0.630
XTBF-100	3/4	14	0.630

## Diverter Plugs



- Diverter Plugs are solid brass
- Locking Screw included
- Used with PCS diverter rods
- Used to redirect water flow

Diverter Plugs are made of a solid brass construction. The locking screw is included with each plug. Diverter Plugs lock into position on a stainless steel diverter rod and are installed within the cooling channel.

SPECIFICATIONS	
Unit of Measure	Inch
Diverter O.D. Tolerance	+.000 / -.005
Material Type	Brass

CATALOG NO.	FOR PIPE SIZE (NPT)	FITS ROD DIAMETER	DIVERTER O.D.	DIVERTER LENGTH
D-125	1/8	3/32	0.339	3/8
D-250	1/4	1/8	0.432	7/16
D-375	3/8	1/8	0.557	1/2
D-500	1/2	3/16	0.682	3/4
D-750	3/4	3/16	0.932	3/4

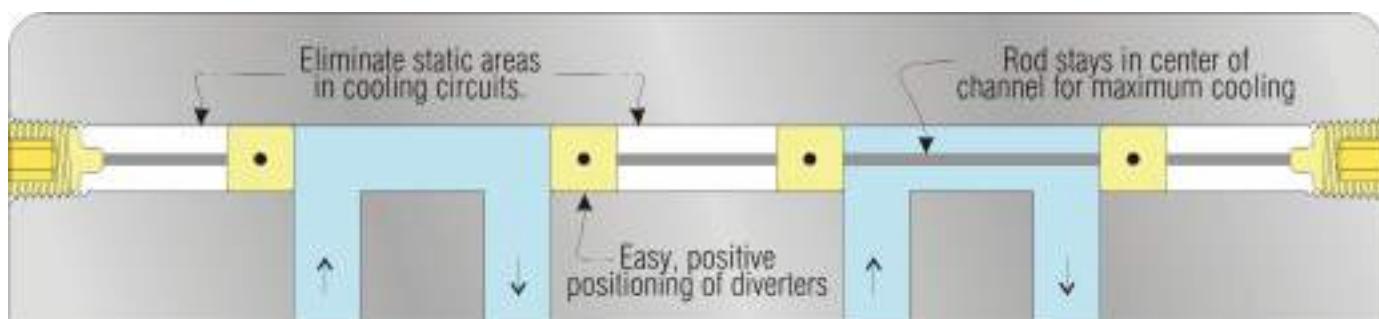
## Diverter Rods

- Diverter rod is stainless steel
- Pipe plug pre-assembled
- Used with PCS diverter plugs
- Used to redirect water flow

Diverter Rods conveniently stay in the center of the cooling channel. This allows for maximum heat transfer in the cooling channel. Diverter Rods are made of stainless steel, inhibiting rust and corrosion.



SPECIFICATIONS	
Unit of Measure	Inch
Material Type	Stainless Steel



CATALOG NO.	PLUG SIZE (NPT)	ROD DIAMETER	OVERALL LENGTH
DR-125	1/8	3/32	12
DR-250	1/4	1/8	18
DR-250 X 24	1/4	1/8	24
DR-250 X 36	1/4	1/8	36
DR-375	3/8	1/8	18
DR-500	1/2	3/16	24
DR-750	3/4	3/16	24

## Brass Waterline Rods

- Used to redirect water flow
- Used with brass waterline spacers

Brass Waterline Rods are used to redirect water flow. Rods are available in 18" lengths.



SPECIFICATIONS	
Material Type	Brass
Rod Diameter	1/8
Rod Length	18
Unit of Measure	Inch

CATALOG NO.	ROD DIAMETER	ROD LENGTH
BR-18	1/8	18

## Brass Waterline Spacers



- Used to redirect water flow
- All spacers are longer than their diameter to avoid turning into intersecting waterlines
- Used with brass waterline rods

Brass Waterline Spacers are used to redirect water flow. To avoid turning into intersecting waterlines, all spacers are longer than their diameters.

SPECIFICATIONS	
Unit of Measure	Inch
Material Type	Brass

CATALOG NO.	SPACER DIAMETER	SPACER LENGTH
BW-312	5/16	0.62
BW-437	7/16	0.62
BW-562	9/16	0.75
BW-687	11/16	0.87
BW-937	15/16	1.25

## Piston Tubes

- Provides maximum cooling rates
- Hollow throughout Stainless Steel construction
- Lengths available up to 48"

Piston Tubes have a stainless steel construction which provides maximum cooling rates. These tubes are known for their high strength and reliable performance.



SPECIFICATIONS	
Unit of Measure	Inch
Material Type	Stainless Steel

CATALOG NO.	PLUG SIZE (NPT)	TUBE O.D.	TUBE I.D.
Overall Length: 12"			
PT16-12	1/16	0.125	0.109
PT18-12	1/8	0.187	0.167
PT14-12	1/4	0.250	0.230
PT38-12	3/8	0.365	0.340
PT12-12	1/2	0.365	0.340
PT34-12	3/4	0.427	0.397
Overall Length: 24"			
PT16-24	1/16	0.125	0.109
PT18-24	1/8	0.187	0.167
PT14-24	1/4	0.250	0.230
PT38-24	3/8	0.365	0.340
PT12-24	1/2	0.365	0.340
PT34-24	3/4	0.427	0.397
Overall Length: 36"			
PT16-36	1/16	0.125	0.109
PT18-36	1/8	0.187	0.167
PT14-36	1/4	0.250	0.230
PT38-36	3/8	0.365	0.340
PT12-36	1/2	0.365	0.340
PT34-36	3/4	0.427	0.397
Overall Length: 48"			
PT16-48	1/16	0.125	0.109
PT18-48	1/8	0.187	0.167
PT14-48	1/4	0.250	0.230
PT38-48	3/8	0.365	0.340
PT12-48	1/2	0.365	0.340
PT34-48	3/4	0.427	0.397

## Cover Plugs

- Stops hose drainage during mold changes
- Conveniently snaps into socket connectors to stop coolant flow
- Plugs extra machine cooling manifold ports

Cover Plugs stop coolant flow within hoses and flow-thru couplers. When coupler and seals are not in use, cover plugs help to keep them clean. These plugs prevent accidents by plugging unused hoses and manifold ports.



SPECIFICATIONS	
Unit of Measure	Inch
Material Type	Brass

CATALOG NO.	FITS SOCKET SERIES
CP-200	200
CP-300	300
CP-500	500

## Male Hose Barbs

- Solid Brass construction
- Works with all socket connectors
- Barb design retains hose

Male Hose Barbs are used to securely attach hose. The barb-like rings allow for an easy push-connection. Hose Clamps need to be used when attaching the rubber hose to the hose barb.



SPECIFICATIONS	
Unit of Measure	Inch
Material Type	Brass

CATALOG NO.	HOSE I.D.	PIPE SIZE
B250-1	1/4	1/8
B250-2	1/4	1/4
B250-3	1/4	3/8
B312-1	5/16	1/8
B312-2	5/16	1/4
B375-1	3/8	1/8
B375-2	3/8	1/4
B375-3	3/8	3/8
B500-2	1/2	1/4
B500-3	1/2	3/8
B500-4	1/2	1/2
B700-4	3/4	1/2

## Push-Lok Hose Barbs

- Solid Brass Construction
- Does not require the use of hose clamps

Push-Lok Hose Barbs are used to securely attach hose and do not require the use of hose clamps when used with Push-Lok hose.



SPECIFICATIONS	
Unit of Measure	Inch

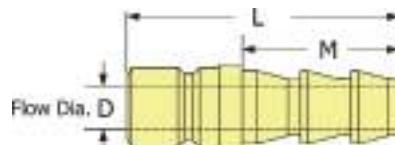
CATALOG NO.	HOSE I.D.	PIPE SIZE
PLM-04-02	1/4	1/8
PLM-04-04	1/4	1/4
PLM-06-02	3/8	1/8
PLM-06-04	3/8	1/4
PLM-06-06	3/8	3/8
PLM-06-08	3/8	1/2
PLM-08-06	1/2	3/8
PLM-08-08	1/2	1/2
PLM-12-08	3/4	1/2
PLM-12-12	3/4	3/4

## Combination Hose Inserts

- Eliminates multi-fitting
- Excellent for retaining hose

Constructed of solid brass, Combination Hose Inserts eliminate the need for multiple fittings and assembly. Combination Hose Inserts allow hoses to be linked together in series.

SPECIFICATIONS	
Unit of Measure	Inch
Material Type	Brass



CATALOG NO.	HOSE I.D.	D FLOW DIAMETER	M BARB AREA LENGTH	L OVERALL LENGTH	FITS SOCKET SERIES
CM2-250	1/4	3/16	7/8	1-3/8	200
CM2-312	5/16	1/4	7/8	1-3/8	200
CM2-375	3/8	1/4	1-1/16	1-9/16	200
CM3-375	3/8	9/32	1-1/16	1-13/16	300
CM3-500	1/2	11/32	1-1/16	1-13/16	300
CM5-500	1/2	13/32	1-1/16	2	500
CM5-750	3/4	9/16	1-1/2	2-1/2	500

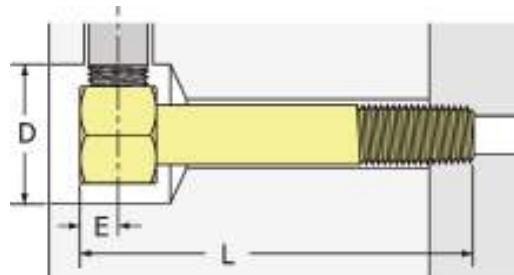
## Standard Brass Extension Elbows

- One piece re-direction of mold cooling lines
- Socket wrench installation requires minimum turning clearance
- One piece construction insures complete removal

Brass Extension Elbows are a one piece re-direction for mold cooling lines. This design ensures positive alignment and allows for complete removal. Elbow lengths are easily adjusted with our patented pre-cut thread system.



SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch



CATALOG NO.	A PIPE SIZE	B PIPE SIZE	D WRENCH CLEARANCE	HEX SIZE	E	L OVERALL LENGTH							10	11-1/2	13
						2-1/2	4	5-1/2	7	8-1/2	10	11-1/2			
18B-	1/8	1/8	1-1/4	3/4	9/32	•	•	•	•	•	•	•	•	•	•
1814B-	1/8	1/4	1-1/4	3/4	9/32	•	•	•	•	•	•	•	•	•	•
14B-	1/4	1/4	1-3/8	7/8	11/32	•	•	•	•	•	•	•	•	•	•
1438B-	1/4	3/8	1-3/8	7/8	11/32	•	•	•	•	•	•	•	•	•	•
38B-	3/8	3/8	1-1/2	1	1/2	•	•	•	•	•	•	•	•	•	•
50B-	1/2	1/2	1-3/4	1-1/4	5/8	•	•	•	•	•	•	•	•	•	•

Add length to end of catalog number (i.e. 18B-2 1/2)

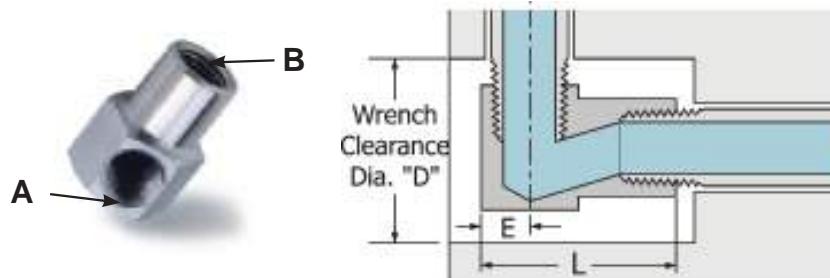
## Standard Elbows, Zinc Plated

- For longer reach applications or where a steel pipe nipple assembly is required
- Exclusive angular connecting hole allows pipes to be torqued tight without choking off flow
- Easy socket wrench installation requires minimum turning clearance
- Zinc plated to resist rust and corrosion
- One piece construction insures complete removal

Zinc Elbows require minimal clearance for installation and removal. Full flow path allows connecting fittings to be torqued tight without restricting flow.



SPECIFICATIONS	
Material Type	Zinc Plated Steel
Unit of Measure	Inch



CATALOG NO.	A INPUT PIPE SIZE	B OUTPUT PIPE SIZE	L OVERALL LENGTH	E INPUT PIPE LOCATION	HEX SIZE	D WRENCH CLEARANCE
HS-0	1/16	1/16	13/16	7/32	9/16	1
HS-1	1/8	1/8	1	9/32	3/4	1-1/4
HS-2	1/8	1/4	1-1/4	9/32	3/4	1-1/4
HS-3	1/4	1/4	1-3/8	11/32	7/8	1-3/8
HS-4	1/4	3/8	1-3/8	11/32	7/8	1-3/8
HS-5	3/8	3/8	1-5/8	1/2	1	1-1/2
HS-6	1/2	1/2	1-7/8	9/16	1-1/4	1-7/8
HS-7	3/4	3/4	2-1/4	5/8	1-1/2	2-1/4

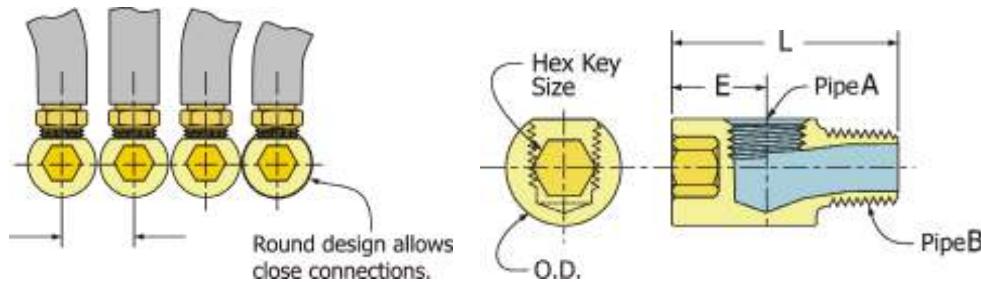
## Hex Key Female to Male Street Elbows

- Easy Hex Key installation
- Angular flow path allows connecting fittings to be torqued tight without choking off flow
- One piece construction insures complete removal



Hex Key Female to Male Street Elbows are made of a brass construction. Minimal clearance required for installation and removal. Full flow path allows connecting fittings to be torqued tight without restricting flow.

SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch



CATALOG NO.	A INPUT PIPE SIZE	B OUTPUT PIPE SIZE	L OVERALL LENGTH	E INPUT PIPE LOCATION	O.D.	HEX SIZE	MIN. CLEARANCE DIAMETER
KL-16	1/16	1/16	1.156	.531	.552	1/4	9/16
KL-1618	1/16	1/8	1.218	.531	.615	5/16	5/8
KL-18	1/8	1/8	1.312	.580	.615	5/16	5/8
KL-1814	1/8	1/4	1.500	.593	.860	3/8	7/8
KL-14	1/4	1/4	1.625	.660	.860	3/8	7/8
KL-1438	1/4	3/8	1.625	.712	.985	1/2	1
KL-38	3/8	3/8	1.750	.780	.985	1/2	1
KL-50	1/2	1/2	2.250	.940	1.235	1/2	1-1/4

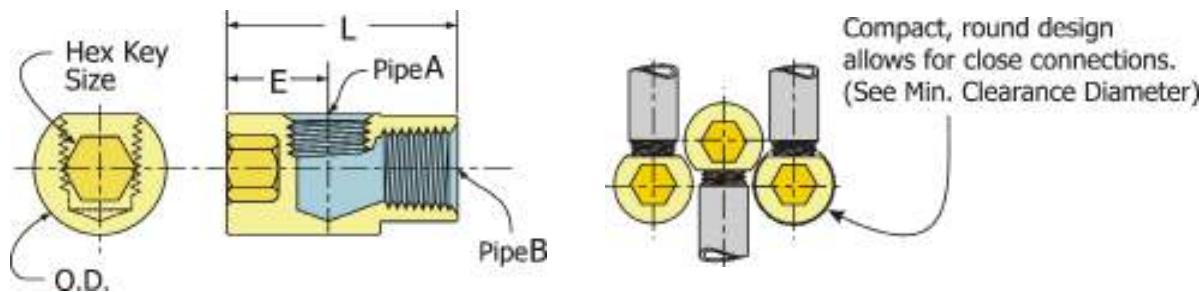
## Hex Key Female to Female Street Elbows

- Easy Hex Key installation
- Angular flow path allows connecting fittings to be torqued tight without choking off flow
- One piece construction insures complete removal

Hex Key Female to Female Street Elbows feature 300% more torque capacity than standard pipe plugs. The angular coolant path prevents fitting interference at assembly and guarantees full flow.



SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch



CATALOG NO.	A INPUT PIPE SIZE	B OUTPUT PIPE SIZE	L OVERALL LENGTH	E INPUT PIPE LOCATION	O.D.	HEX SIZE	MIN. CLEARANCE DIAMETER
HKL-16	1/16	1/16	1.125	.531	.552	1/4	9/16
HKL-18	1/8	1/8	1.250	.580	.615	5/16	5/8
HKL-1814	1/8	1/4	1.25	.580	.615	5/16	5/8
HKL-14	1/4	1/4	1.500	.660	.860	3/8	7/8
HKL-1438	1/4	3/8	1.5	.660	.860	3/8	7/8
HKL-1618	1/16	1/8	1.125	.531	.552	1/4	9/16
HKL-38	3/8	3/8	1.750	.780	.985	1/2	1
HKL-50	1/2	1/2	2.125	.940	1.235	1/2	1-1/4

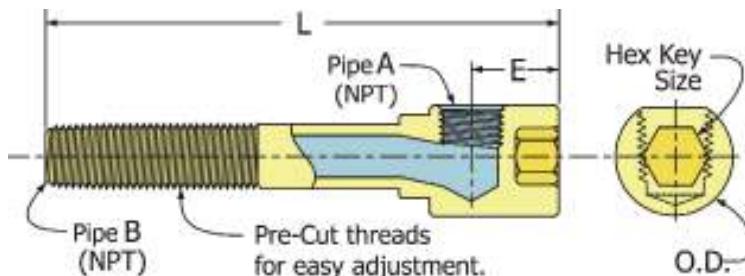
## Hex Key Extension Elbows

- One piece re-direction of mold cooling lines
- Socket wrench installation requires minimum turning clearance
- One piece construction insures complete removal



Hex Key Extension Elbows are made of a brass construction. Minimal clearance required for installation and removal. Full flow path allows connecting fittings to be torqued tight without restricting flow.

SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch



CATALOG NO.	A PIPE SIZE	B MOLD NIPPLE SIZE	E	O.D.	HEX KEY SIZE	NOMINAL CLEARANCE DRILL	L OVERALL LENGTH							
							2-1/2	4	5-1/2	7	8-1/2	10	11-1/2	13
EKL16-	1/16	1/16	.531	.552	1/4	9/16	•	•	•	•	•	•	•	•
EKL1618-	1/16	1/16	.531	-	1/4	-		•		•				
EKL18-	1/8	1/8	.580	.615	5/16	5/8	•	•	•	•	•	•	•	•
EKL14-	1/4	1/4	.660	.860	3/8	7/8	•	•	•	•	•	•	•	•
EKL1438-	1/4	1/4	.660	-	3/8	-								•
EKL38-	3/8	3/8	.780	.985	1/2	1	•	•	•	•	•			•
EKL50-	1/2	1/2	.940	1.235	1/2	1-1/4	•	•	•	•	•	•	•	•

Add length to end of catalog number (i.e. EKL16-2 1/2)

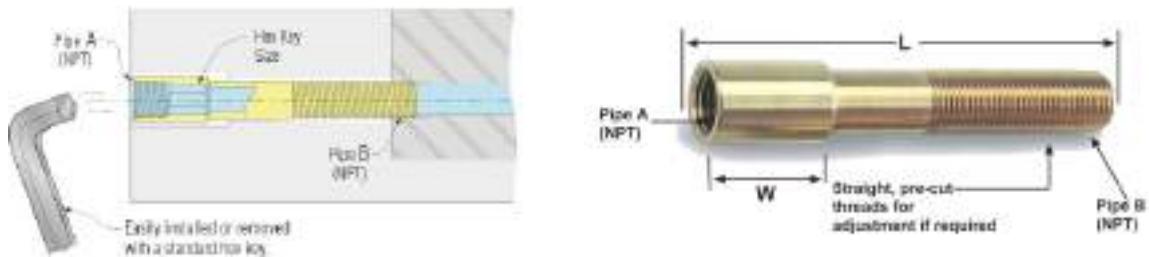
## Hex Key Extension Pipes

- All brass construction
- Heavy Duty internal hex key for compact installation
- Extends the length of standard connector plugs
- Used with valved and non-valved socket connectors

Hex Key Extension Pipes have an all brass construction are available in a wide variety of lengths and threads. Length adjustments are made easy using our patented pre-cut thread system.



SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch



CATALOG NO.	A INPUT PIPE SIZE	B OUTPUT PIPE SIZE	W HEAD LENGTH	O.D.	HEX SIZE
L Overall Length: 2-1/2"					
EP14-2 1/2	1/4	1/4	1	11/16	3/8
EP18-2 1/2	1/8	1/8	3/4	1/2	1/4
EP38-2 1/2	3/8	3/8	1-1/4	13/16	1/2
EP50-2 1/2	1/2	1/2	1-1/2	1	9/16
L Overall Length: 4"					
EP14-4	1/4	1/4	1	11/16	3/8
EP18-4	1/8	1/8	3/4	1/2	1/4
EP38-4	3/8	3/8	1-1/4	13/16	1/2
EP50-4	1/2	1/2	1-1/2	1	9/16
L Overall Length: 5-1/2"					
EP14-5 1/2	1/4	1/4	1	11/16	3/8
EP18-5 1/2	1/8	1/8	3/4	1/2	1/4
EP38-5 1/2	3/8	3/8	1-1/4	13/16	1/2
EP50-5 1/2	1/2	1/2	1-1/2	1	9/16
L Overall Length: 7"					
EP14-7	1/4	1/4	1	11/16	3/8
EP18-7	1/8	1/8	3/4	1/2	1/4
EP38-7	3/8	3/8	1-1/4	13/16	1/2
EP50-7	1/2	1/2	1-1/2	1	9/16
L Overall Length: 8-1/2"					
EP14-8 1/2	1/4	1/4	1	11/16	3/8
EP18-8 1/2	1/8	1/8	3/4	1/2	1/4
EP38-8 1/2	3/8	3/8	1-1/4	13/16	1/2
EP50-8 1/2	1/2	1/2	1-1/2	1	9/16

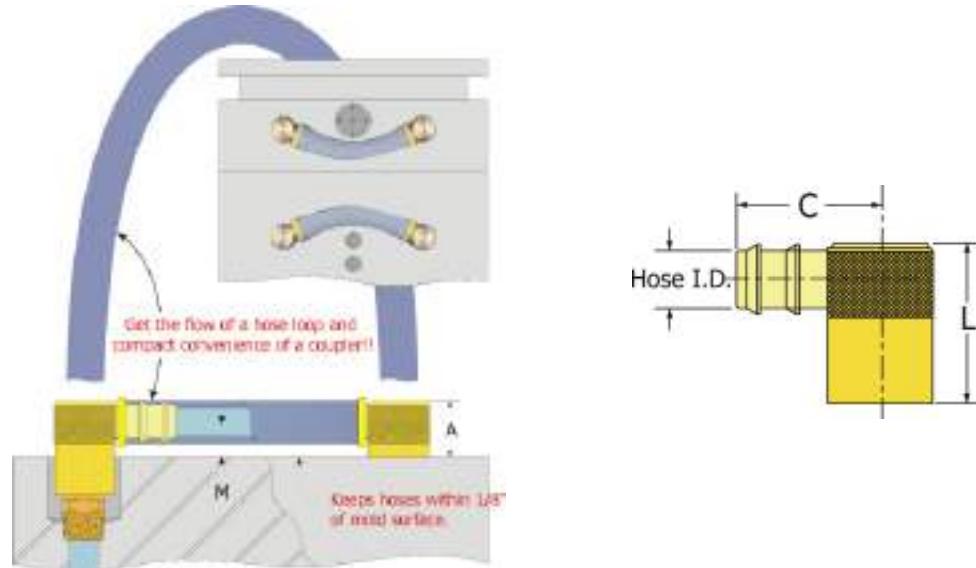
## Socket Type Water Jumpers



- Eliminates bulky hose loops
- Compact Design neatly and safely holds cooling lines close to the mold surface
- Stock only one part number for any hose size
- Compatible with all major mold connection systems
- Viton Seals provide for temps up to 400°
- All brass and stainless steel construction

Socket Type Water Jumpers have a compact design that neatly and safely holds cooling lines close to the mold surface. The coupler sleeve twists to lock, preventing accidental disconnect. These Water Jumpers are for use with Push-Lok hose and do not require any hose clamps.

SPECIFICATIONS	
Material Type	Brass and Stainless Steel
Unit of Measure	Inch



CATALOG NO.	PLUG SERIES	HOSE I.D.	L COUPLER LENGTH	C HOSE BARB LENGTH	M	A HEIGHT INSTALLED
WJ200-4	200	1/4	1	1-1/4	3/8	5/8
WJ200-5	200	5/16	1	1-1/4	3/8	5/8
WJ200-6	200	3/8	1	1-1/4	3/8	5/8
WJ300-6	300	3/8	1-7/16	1-9/16	1/2	7/8
WJ300-8	300	1/2	1-7/16	1-9/16	1/2	7/8
WJ500-12	500	3/4	2-1/8	2	7/8	1-3/8
WJ500-8	500	1/2	2-1/8	1-7/8	7/8	1-3/8

## Swivel Type Water Jumpers

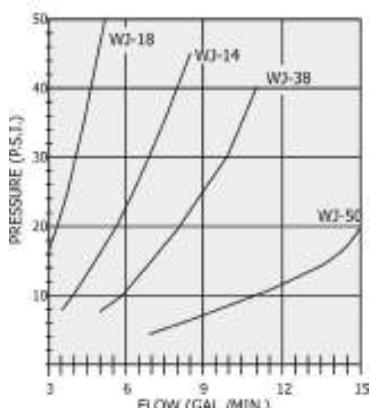
- Recessed to prevent damage or accidental disconnect
- Eliminate crimped hoses and setup errors
- Viton O-ring seals
- All brass construction
- Easy hex key installation

Swivel Type Water Jumpers have an all brass construction. The swivel body allows for installation where space is limited. These Water Jumpers are recessed to prevent accidental disconnect or damage and the adjustable thread allows for perfect positioning.

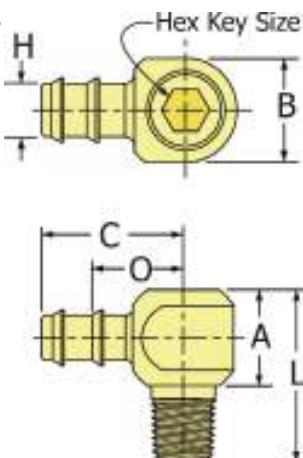
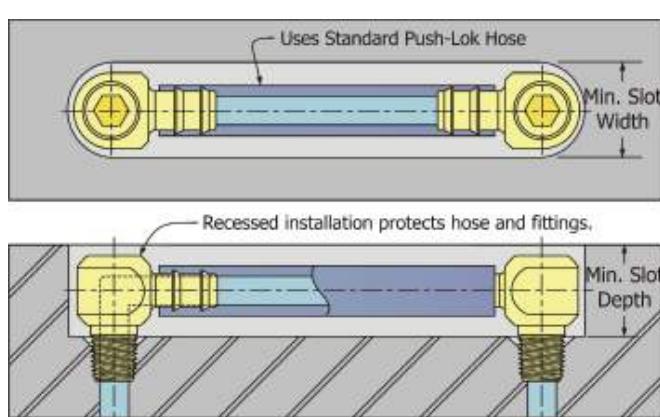


SPECIFICATIONS	
Material Type	Brass
Unit of Measure	Inch

### Flow Data



### Installation Guidelines for Swivel Water Jumpers



CATALOG NO.	PIPE SIZE (NPT)	HOSE I.D.	H HEX SIZE	L OVERALL LENGTH	A HEAD HEIGHT	B HEAD WIDTH	C HOSE BARB LENGTH	O DISTANCE TO FIRST BARB	INSTALLATION SLOT DEPTH	INSTALLATION SLOT WIDTH
WJ14-S	1/4	3/8	1/4	1-7/16	13/16	0.84	1-3/16	25/32	1-3/16	7/8
WJ18-S	1/8	5/16	3/16	1-3/16	11/16	0.66	1	5/8	1	11/16
WJ38-S	3/8	1/2	5/16	1-5/8	1	0.98	1-3/8	15/16	1-3/8	1
WJ50-S	1/2	3/4	3/8	2	1-1/8	1.235	1-1/2	1-1/8	1-9/16	1-1/4
WJ14-M	1/4	3/8	1/4	2-3/8	13/16	0.84	1-3/16	25/32	1-3/16	7/8
WJ18-M	1/8	5/16	3/16	2	11/16	0.66	1	5/8	1	11/16
WJ38-M	3/8	1/2	5/16	2-5/8	1	0.98	1-3/8	15/16	1-3/8	1
WJ50-M	1/2	3/4	3/8	3	1-1/8	1.235	1-1/2	1-1/8	1-9/16	1-1/4
WJ14-L	1/4	3/8	1/4	3-7/8	13/16	0.84	1-3/16	25/32	1-3/16	7/8
WJ18-L	1/8	5/16	3/16	3-1/2	11/16	0.66	1	5/8	1	11/16
WJ38-L	3/8	1/2	5/16	4-1/8	1	0.98	1-3/8	15/16	1-3/8	1
WJ50-L	1/2	3/4	3/8	4-1/2	1-1/8	1.235	1-1/2	1-1/8	1-9/16	1-1/4

## Cooling Pins - Standard



- High speed heat transfer device
- Uniform Cooling Improves Part Quality
- Maximizes heat transfer efficiency
- Designed to be installed with PCS' Heat Transfer Compound (Paste).
- Mating hole in core should be drilled .003" - .004" larger than actual O.D. of pin.

Cooling Pins are high speed heat transfer devices capable of conducting heat energy over 10,000 times faster than copper, thus cooling molds faster and reducing cycle time. Cooling Pins are used to heat or cool cores, slides and inserts in thermoset and thermoplastic molds. This isothermal device allows for optimal heat transfer rates within cores and slides.

SPECIFICATIONS																		
CATALOG NO.	DIA.		OVERALL LENGTH															
	INCH	DEC.	2	2-1/2	3	3-1/2	4	4-1/2	5	5-1/2	6	6-1/2	7	7-1/2	8	8-1/2	9	9-1/2
AT7-	3/32	.094	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT9-	1/8	.125	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT11-	5/32	.156	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT13-	3/16	.187	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT15-	7/32	.219	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT17-	1/4	.250	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT21-	5/16	.312	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT25-	3/8	.375	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT33-	1/2	.500	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AT37-	5/8	.625	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Add length to end of catalog number (i.e. AT7-2)

## Cooling Pins - Heat Transfer Compound



- Used exclusively with Cooling Pins
- Maximizes heat transfer efficiency

Heat Transfer Compound must be used with both inch and metric cooling pins. The compound increases thermal conductivity by filling in the air gaps present between the cooling pin and any components.

SPECIFICATIONS	
Material Type	Thermal Paste

CATALOG NO.	VOLUME
ATP-1	5 GR.
ATP-4	4 OZ.
ATP-8	8 OZ.
ATP-16	16 OZ.

## What is a Cooling Pin?

A cooling pin is a high speed heat transfer device capable of conducting heat energy over 10,000 times faster than copper. It is made of a copper tube or chamber whose inner surface is lined with a copper wick structure (see below). The copper tube is sealed and the air is evacuated, creating a vacuum. When heat is applied to one end of the cooling pin by an external source, the internal working fluid dissipates as vapor. The resulting difference in pressure drives the vapor from the heated end to colder areas where it condenses and releases all the heat energy with a high degree of thermal uniformity.

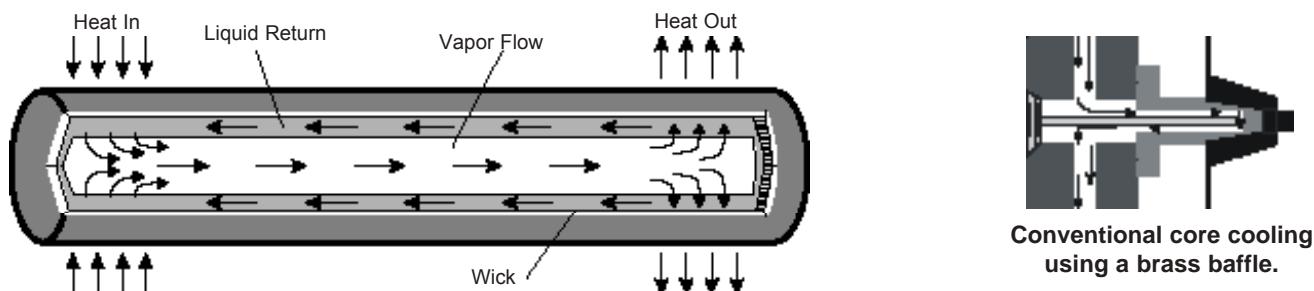
### Applications

Cooling pins are used to heat or cool cores, slides, thin webs, and inserts in thermoset and thermoplastic molds. Because the cooling pin is an isothermal device, cores and slides in which they are incorporated are cooled more evenly than by cascades or baffles.

### Installation

Cooling pins are designed to operate over the entire range of mold operating temperatures (33° F - 500° F). Use the information contained in the following chart for relevant hole dimensions.

Cooling pins are ideally applied when 50% of the overall length is cooled using a water manifold having a turbulent water flow. It is recognized that in many instances this condenser length is not appropriate but optimal results will occur as the 50% relationship is approached.



NOMINAL O.D.	ACTUAL O.D.	PASTE SPEC HOLE DIA.
3/32	.093	.096
1/8	.124	.127
5/32	.154	.157
3/16	.186	.189
7/32	.216	.219
1/4	.249	.252
5/16	.311	.314
3/8	.374	.377
1/2	.499	.502
5/8	.624	.627
3/4	.748	.752

NOMINAL O.D.	ACTUAL O.D.	PASTE SPEC HOLE DIA.
3 mm	0.118	0.121
4 mm	0.156	0.159
5 mm	0.197	0.200
6 mm	0.235	0.238
8 mm	0.314	0.317
10 mm	0.390	0.394
12 mm	0.467	0.471
15 mm	0.585	0.589
16 mm	0.629	0.633
18 mm	0.704	0.708
20 mm	0.781	0.785
25 mm	0.978	0.982
30 mm	1.175	1.179

## Kool Flow Manifold™

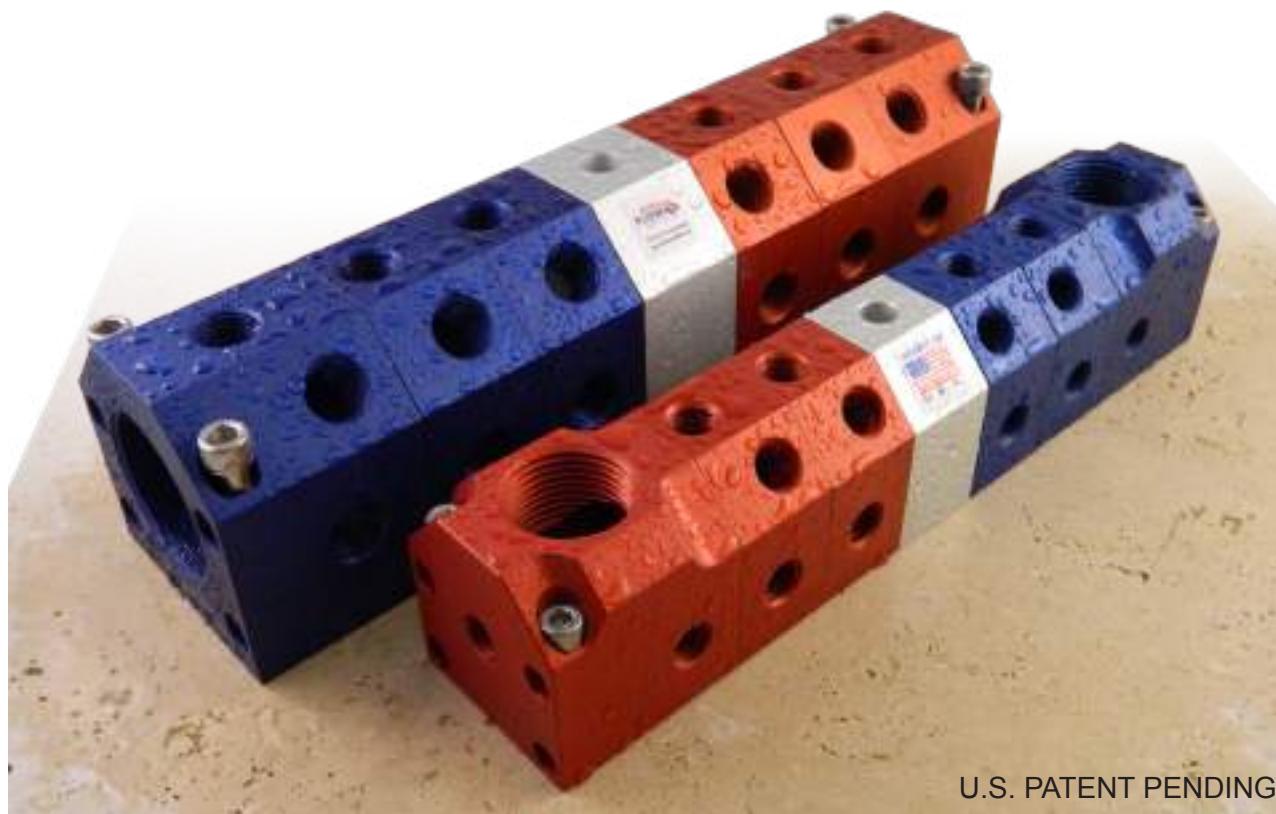


The FB Series water manifold is exactly what you expect from the industry's number one water manifold supplier. Designed with our exclusive FLEX BLOCK TECHNOLOGY features, the FB Series delivers superior design and flexibility to meet the most demanding applications. Nobody knows water manifolds like KOOL Flow Manifold and the FB Series Flex Block proves it.

**QUICK SHIPMENT:** Design principles allows manufacturing to have 24-hour shipping because we just assemble to order "vs" reacting to the order.

**FLEXIBLE DESIGN:** Four Patented modular block assemblies can be used for multiple application needs. Flex design reduces assembly time and allows modifications for the "OOPS" to change on the fly. O-ring seals protect against leaks between modular block assemblies.

**e-KOOL CONFIGURATOR:** Easily configure your water manifold system by visiting [www.pcs-company.com](http://www.pcs-company.com). Receive an instant price and a downloadable CAD file



U.S. PATENT PENDING

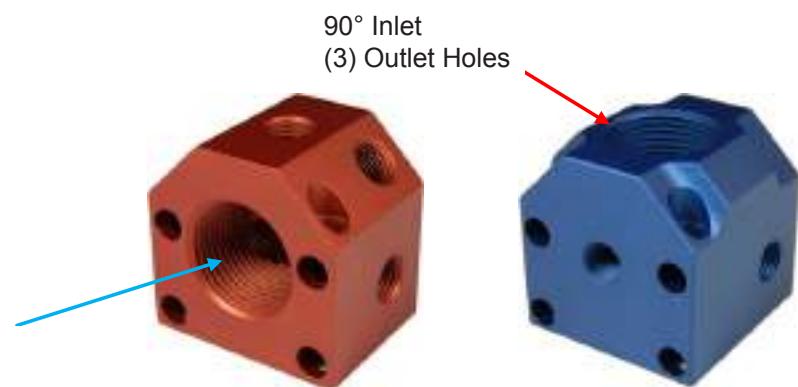
## Easily Choose the Product that suits your Application!

1. Select the **Inlet Size** (1" = FB2 , 1-1/4" or 1-1/2" = FB3, 2" = FB4)
2. Select the **Inlet Style** that best fits in your envelope (Straight or 90 Degree)
3. Determine the **Assembly Style** (Port-to-Blank or Port-to-Divide)
4. Determine how many total **Outlet Holes** your application needs.

### FB2 Series = 1" NPT Inlet

Block Size: 2.25" W x 2.25" H  
 Material: 6061-T6 Alum Manifold Bar Stock  
 Finish: Anodized  
 Mounting Hole Size: 1/4" SHCS  
 Inlet Hole: 1" NPT  
 Outlet Hole: 1/4" or 3/8"

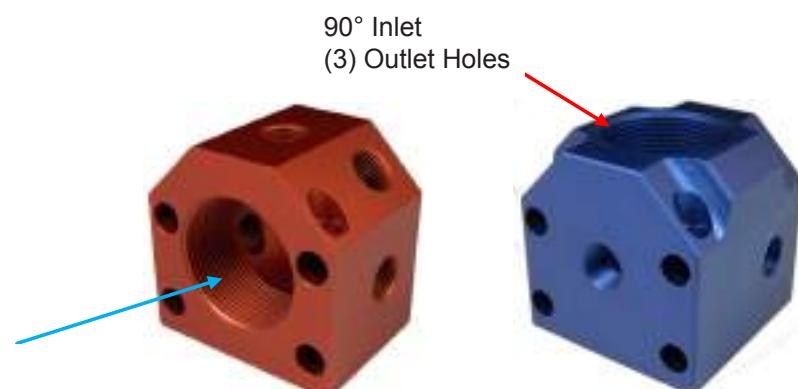
Straight Inlet  
(5) Outlet Holes



### FB3 Series = 1-1/4" or 1-1/2" NPT Inlet

Block Size: 3.00" W x 3.00" H  
 Material: 6061-T6 Alum Manifold Bar Stock  
 Finish: Anodized  
 Mounting Hole Size: 5/16" SHCS  
 Inlet Hole: 1-1/4" or 1-1/2" NPT  
 Outlet Hole: 3/8" or 1/2"

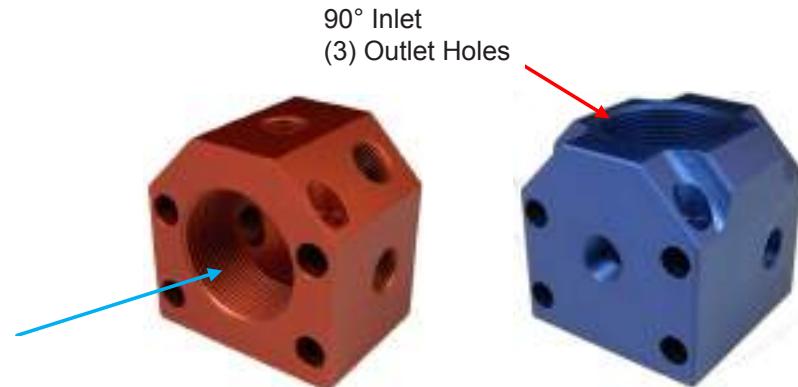
Straight Inlet  
(5) Outlet Holes



### FB4 Series = 2" NPT Inlet

Block Size: 3.50" W x 3.50" H  
 Material: 6061-T6 Alum Manifold Bar Stock  
 Finish: Anodized  
 Mounting Hole Size: 5/16" SHCS  
 Inlet Hole: 2" NPT  
 Outlet Hole: 3/4"

Straight Inlet  
(5) Outlet Holes



## FB Series Manifold

### Select the Assembly Style:

With a port-to-blank configuration you can eliminate the costly end plug and still mount the Hot & Cold in different locations.

Combine your cooling needs into one manifold. Separate Hot & Cold with a Mid-Block and mount in one easy location.

#### Port-to-Blank (PB)



Color: Red/Silver or Blue/Silver  
 # of Inlets: One  
 # of Outlets: (25) Max.  
 # of Block: (6) Max.

#### Port-to-Divide (PD)



Color: Red/Silver/Blue  
 # of Inlets: One each End  
 # of Outlets: (50) Max.  
 # of Block: (11) Max.

#### 90° Port-to-Blank (PB)



Color: Red/Silver or Blue/Silver  
 # of Inlets: One  
 # of Outlets: (23) Max.  
 # of Block: (6) Max.

#### 90° Port-to-Divide (PD)



Color: Red/Silver/Blue  
 # of Inlets: One each End  
 # of Outlets: (46) Max.  
 # of Block: (11) Max.

Note: 90 Degree Inlets reduce the overall package envelope even further. The expensive 90 degree brass fittings are also eliminated.

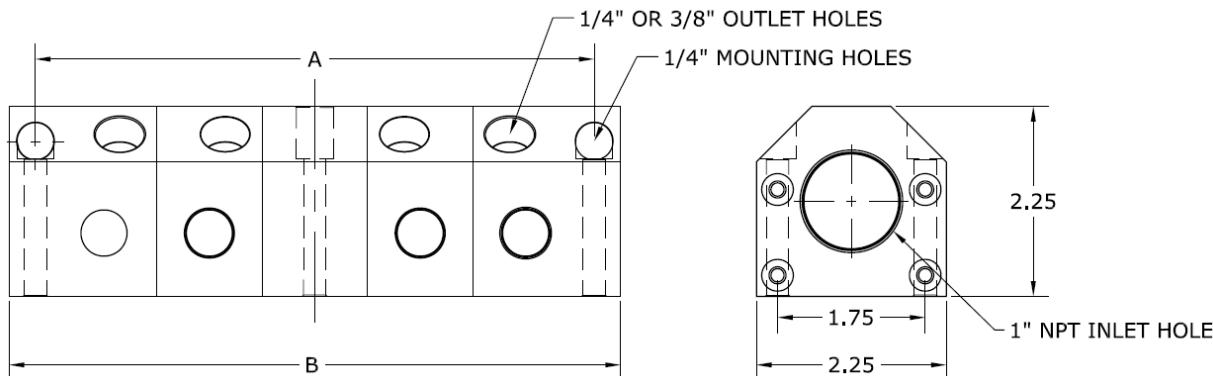
## FB2 Port-to-Divide Assemblies

- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included
- Manifolds are available for pH levels above 7.8

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB2 Series manifolds have a 1" inlet hole size with the option of either a 1/4" or 3/8" outlet hole size. The Port to Divide Assembly combines your cooling needs into one manifold. Separate hot and cold with a mid block and mount in one easy location.



SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	2.25 x 2.25
Inlet Hole Size	1
Mounting Hole Size	1/4
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	NO. OF RED OUTLETS	NO. OF BLUE OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
Port-to-Divide (PD)						
FB2-1-4-PD	1/4	5	5	2	4.13	4.75
FB2-2-4-PD	1/4	10	10	2	6.63	7.25
FB2-3-4-PD	1/4	15	15	2	9.13	9.75
FB2-4-4-PD	1/4	20	20	2	11.63	12.25
FB2-5-4-PD	1/4	25	25	2	14.13	14.75
FB2-1-6-PD	3/8	5	5	2	4.13	4.75
FB2-2-6-PD	3/8	10	10	2	6.63	7.25
FB2-3-6-PD	3/8	15	15	2	9.13	9.75
FB2-4-6-PD	3/8	20	20	2	11.63	12.25
FB2-5-6-PD	3/8	25	25	2	14.13	14.75

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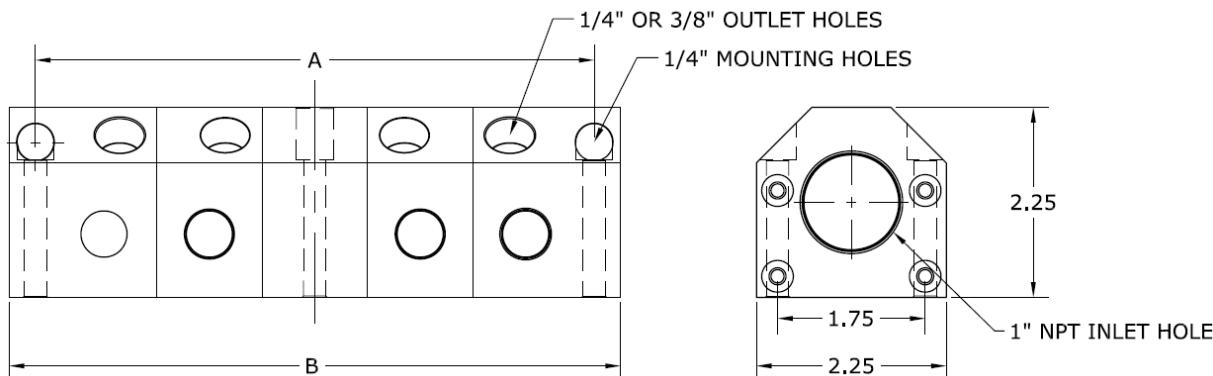
## FB2 Port-to-Divide Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included
- Manifolds are available for pH levels above 7.8

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB2 Series manifolds have a 1" inlet hole size with the option of either a 1/4" or 3/8" outlet hole size. The Port to Divide Assembly combines your cooling needs into one manifold. Separate hot and cold with a mid block and mount in one easy location.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	2.25 x 2.25
Inlet Hole Size	1
Mounting Hole Size	1/4
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	NO. OF RED OUTLETS	NO. OF BLUE OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
90° Port-to-Divide (PD)						
FB290-1-4-PD	1/4	3	3	1	5.13	5.75
FB290-2-4-PD	1/4	8	8	2	7.63	8.25
FB290-3-4-PD	1/4	13	13	2	10.13	10.75
FB290-4-4-PD	1/4	18	18	2	12.63	13.25
FB290-5-4-PD	1/4	23	23	2	15.13	15.75
FB290-1-6-PD	3/8	3	3	2	5.13	5.75
FB290-2-6-PD	3/8	8	8	2	7.63	8.25
FB290-3-6-PD	3/8	13	13	2	10.13	10.75
FB290-4-6-PD	3/8	18	18	2	12.63	13.25

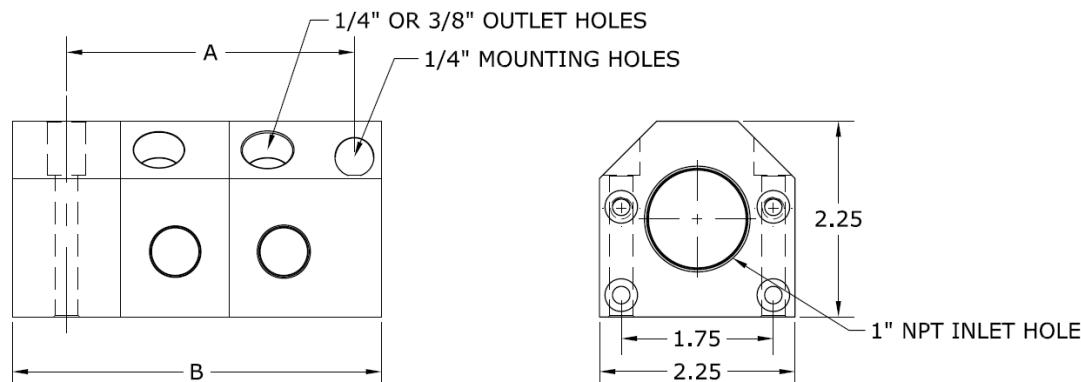
## FB2 Port-to-Blank Assemblies

- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included
- Manifolds are available for pH levels above 7.8

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB2 Series manifolds have a 1" inlet hole size with the option of either a 1/4" or 3/8" outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.



SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	2.25 x 2.25
Inlet Hole Size	1
Mounting Hole Size	1/4
No. of Inlets	1
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION B	DIMENSION A
Port-to-Blank (PB)						
FB2-1-4-B-PB	1/4	Blue	5	1	3	2.06
FB2-1-4-R-PB	1/4	Red	5	1	3	2.06
FB2-1-6-B-PB	3/8	Blue	5	1	3	2.06
FB2-1-6-R-PB	3/8	Red	5	1	3	2.06
FB2-2-4-B-PB	1/4	Blue	10	1	4.25	3.31
FB2-2-4-R-PB	1/4	Red	10	1	4.25	3.31
FB2-2-6-B-PB	3/8	Blue	10	1	4.25	3.31
FB2-2-6-R-PB	3/8	Red	10	1	4.25	3.31
FB2-3-4-B-PB	1/4	Blue	15	1	5.5	4.56

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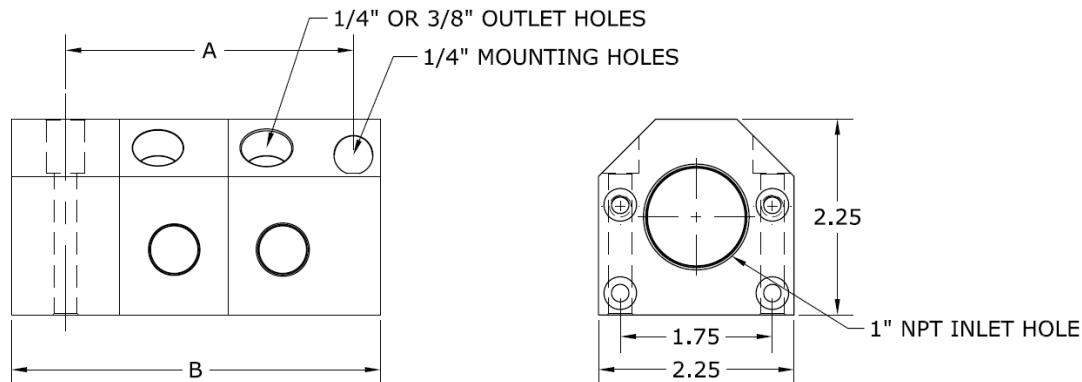
## FB2 Port-to-Blank Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included
- Manifolds are available for pH levels above 7.8

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB2 Series manifolds have a 1" inlet hole size with the option of either a 1/4" or 3/8" outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	2.25 x 2.25
Inlet Hole Size	1
Mounting Hole Size	1/4
No. of Inlets	1
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION B	DIMENSION A
Port-to-Blank (PB)						
FB2-3-4-R-PB	1/4	Red	15	1	5.5	4.56
FB2-3-6-B-PB	3/8	Blue	15	1	5.5	4.56
FB2-3-6-R-PB	3/8	Red	15	1	5.5	4.56
FB2-4-4-B-PB	1/4	Blue	20	1	6.75	5.81
FB2-4-4-R-PB	1/4	Red	20	1	6.75	5.81
FB2-4-6-B-PB	3/8	Blue	20	1	6.75	5.81
FB2-4-6-R-PB	3/8	Red	20	1	6.75	5.81
FB2-5-4-B-PB	1/4	Blue	25	1	8	7.06
FB2-5-4-R-PB	1/4	Red	25	1	8	7.06
FB2-5-6-B-PB	3/8	Blue	25	1	8	7.06
FB2-5-6-R-PB	3/8	Red	25	1	8	7.06

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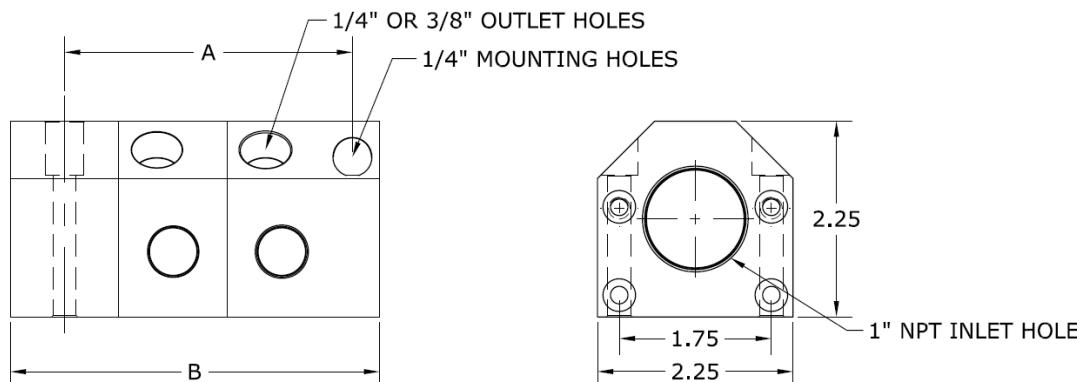
## FB2 Port-to-Blank Assemblies

- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included
- Manifolds are available for pH levels above 7.8

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB2 Series manifolds have a 1" inlet hole size with the option of either a 1/4" or 3/8" outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.



SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	2.25 x 2.25
Inlet Hole Size	1
Mounting Hole Size	1/4
No. of Inlets	1
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION B	DIMENSION A
90° Port-to-Blank (PB)						
FB290-1-4-B-PB	1/4	Blue	3	1	3.5	2.56
FB290-1-4-R-PB	1/4	Red	3	1	3.5	2.56
FB290-1-6-B-PB	3/8	Blue	3	1	3.5	2.56
FB290-2-4-R-PB	1/4	Red	8	1	4.75	3.81
FB290-2-6-B-PB	3/8	Blue	8	1	4.75	3.81
FB290-2-6-R-PB	3/8	Red	8	1	4.75	3.81
FB290-3-4-B-PB	1/4	Blue	13	1	6	5.06
FB290-3-4-R-PB	1/4	Red	13	1	6	5.06

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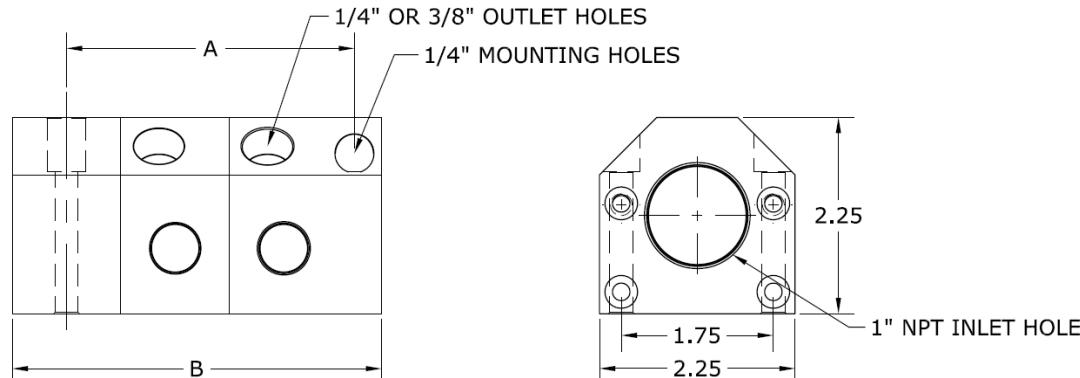
## FB2 Port-to-Blank Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included
- Manifolds are available for pH levels above 7.8

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB2 Series manifolds have a 1" inlet hole size with the option of either a 1/4" or 3/8" outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	2.25 x 2.25
Inlet Hole Size	1
Mounting Hole Size	1/4
No. of Inlets	1
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION B	DIMENSION A
90° Port-to-Blank (PB)						
FB290-3-6-B-PB	3/8	Blue	13	1	6	5.06
FB290-3-6-R-PB	3/8	Red	13	1	6	5.06
FB290-4-4-B-PB	1/4	Blue	18	1	7.25	6.31
FB290-4-4-R-PB	1/4	Red	18	1	7.25	6.31
FB290-4-6-B-PB	3/8	Blue	18	1	7.25	6.31
FB290-4-6-R-PB	3/8	Red	18	1	7.25	6.31
FB290-5-4-B-PB	1/4	Blue	23	1	8.5	7.56
FB290-5-4-R-PB	1/4	Red	23	1	8.5	7.56
FB290-5-6-B-PB	3/8	Blue	23	1	8.5	7.56
FB290-5-6-R-PB	3/8	Red	23	1	8.5	7.56
FB290-1-6-R-PB	3/8	Red	3	1	3.5	2.56
FB290-2-4-B-PB	1/4	Blue	8	1	4.75	3.81

## FB2 Series = 1" NPT Inlet

Block Size: 2.25" W x 2.25" H  
 Material: 6061-T6 Alum Manifold Bar Stock  
 Finish: Anodized  
 Mounting Hole Size: 1/4" SHCS  
 Inlet Hole: 1" NPT  
 Outlet Hole: 1/4" or 3/8"

### First Block—Straight—(1" NPT Inlet)

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB2-FB-1-4-R	1/4"	Red	5
FB2-FB-1-4-B	1/4"	Blue	5
FB2-FB-1-6-R	3/8"	Red	5
FB2-FB-1-6-B	3/8"	Blue	5

### First Block—90°—(1" NPT Inlet)

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB2-FB90-1-4-R	1/4"	Red	3
FB2-FB90-1-4-B	1/4"	Blue	3
FB2-FB90-1-6-R	3/8"	Red	3
FB2-FB90-1-6-B	3/8"	Blue	3

### Mod Block

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB2-MOD-4-R	1/4"	Red	5
FB2-MOD-4-B	1/4"	Blue	5
FB2-MOD-6-R	3/8"	Red	5
FB2-MOD-6-B	3/8"	Blue	5

### Mid Block (or End Block)

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB2-MIDB-1	n/a	Silver	0

\*Used in both the PD and PB Configuration

### Miscellaneous Hardware

CATALOG NO.	DESCRIPTION
FB2-OR-1	Viton O-Ring
FB2-TR-1	#10-32 Tie Rod (Single Block)
FB2-SHCS-05	#10-32 X 3/4" SS SHCS
FB2-SHCS-1	#10-32 x 1" SS SHCS
FB2-SHCS-2	#10-32 x 1-1/4" SS SHCS
FB2-SHCS-MNT	1/4"-20 x 2" SS SHCS

### Blocks Sold Individually:

- After Purchase Modification
- Spare Parts Inventory
- Build your own Assemblies



Front



Back



Front



Back



Front



Back



Front



Back



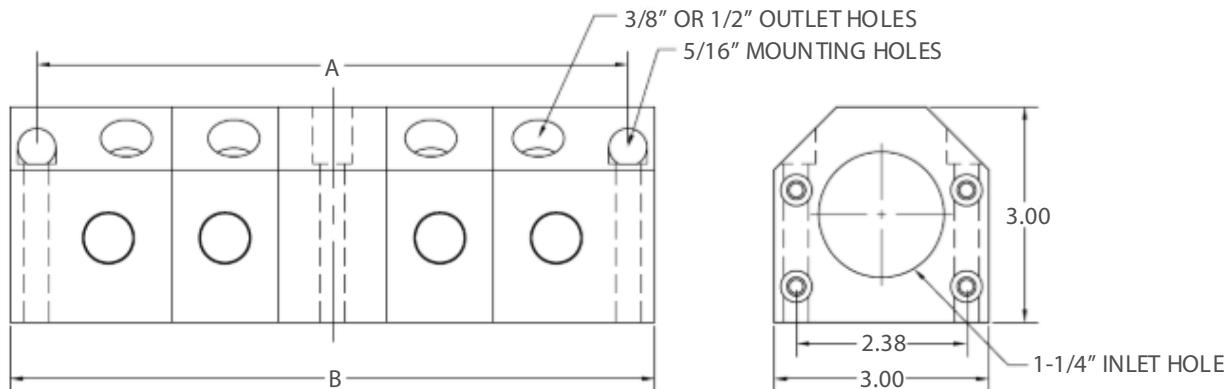
## FB3 Port-to-Divide Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB3 Series manifolds have an option for a 1-1/4" or 1-1/2" inlet hole size along with the option of either a 3/8" or 1/2" outlet hole size. The Port to Divide Assembly combines your cooling needs into one manifold. Separate hot and cold with a mid block and mount in one easy location.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	NO. OF RED OUTLETS	NO. OF BLUE OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
Port-to-Divide (PD)						
FB3-1-6-PD-1.25	3/8	5	5	2	5.25	6
FB3-2-6-PD-1.25	3/8	10	10	2	8.25	9
FB3-3-6-PD-1.25	3/8	15	15	2	11.25	12
FB3-4-6-PD-1.25	3/8	20	20	2	14.25	15
FB3-5-6-PD-1.25	3/8	25	25	2	17.25	18
FB3-1-8-PD-1.25	1/2	5	5	2	5.25	6
FB3-2-8-PD-1.25	1/2	10	10	2	8.25	9
FB3-3-8-PD-1.25	1/2	15	15	2	11.25	12
FB3-4-8-PD-1.25	1/2	20	20	2	14.25	15
FB3-5-8-PD-1.25	1/2	25	25	2	17.25	18

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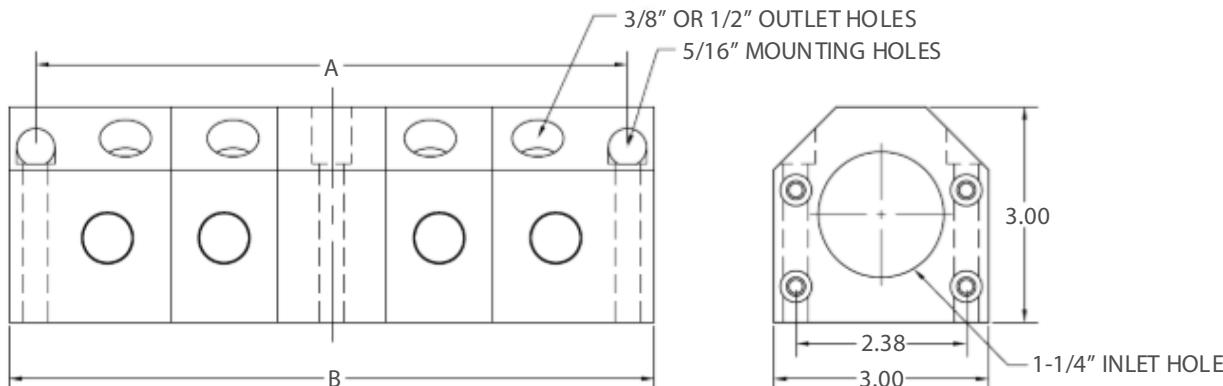
## FB3 Port-to-Divide Assemblies

- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB3 Series manifolds have an option for a 1-1/4" or 1-1/2" inlet hole size along with the option of either a 3/8" or 1/2" outlet hole size. The Port to Divide Assembly combines your cooling needs into one manifold. Separate hot and cold with a mid block and mount in one easy location.



SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	NO. OF RED OUTLETS	NO. OF BLUE OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
90° Port-to-Divide (PD)						
FB390-1-6-PD-1.25	3/8	3	3	2	6.75	7.5
FB390-2-6-PD-1.25	3/8	8	8	2	9.75	10.5
FB390-3-6-PD-1.25	3/8	13	13	2	12.75	13.5
FB390-4-6-PD-1.25	3/8	18	18	2	15.75	16.5
FB390-5-6-PD-1.25	3/8	23	23	2	18.75	19.5
FB390-1-8-PD-1.25	1/2	3	3	2	6.75	7.5
FB390-2-8-PD-1.25	1/2	8	8	2	9.75	10.5
FB390-3-8-PD-1.25	1/2	13	13	2	12.75	13.5
FB390-4-8-PD-1.25	1/2	18	18	2	15.75	16.5
FB390-5-8-PD-1.25	1/2	23	23	2	18.75	19.5

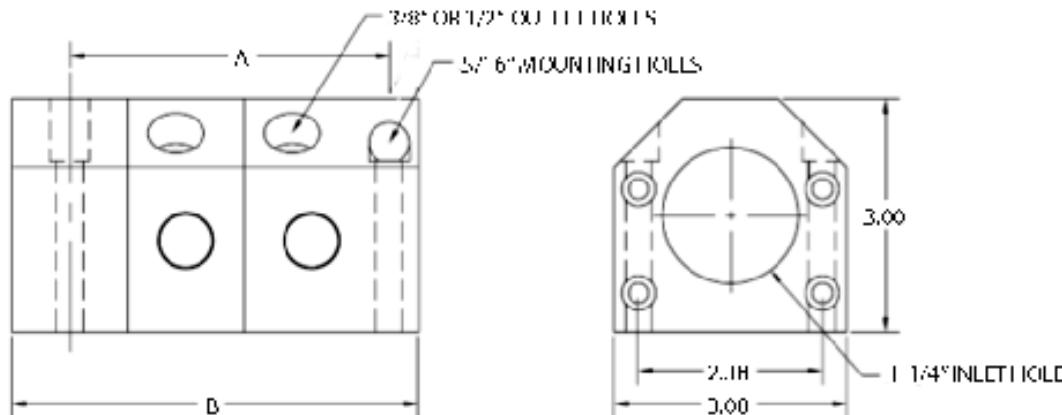
## FB3 Port-to-Blank Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB3 Series manifolds have an option for a 1-1/4" or 1-1/2" inlet hole size along with the option of either a 3/8" or 1/2" outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
Port-to-Blank (PB)						
FB3-1-6-B-PB-1.25	3/8	Blue	5	1	2.63	3.75
FB3-2-6-B-PB-1.25	3/8	Blue	10	1	4.13	5.25
FB3-3-6-B-PB-1.25	3/8	Blue	15	1	5.63	6.75
FB3-4-6-B-PB-1.25	3/8	Blue	20	1	7.13	8.25
FB3-5-6-B-PB-1.25	3/8	Blue	25	1	8.63	9.75
FB3-1-6-R-PB-1.25	3/8	Red	5	1	2.63	3.75
FB3-2-6-R-PB-1.25	3/8	Red	10	1	4.13	5.25
FB3-3-6-R-PB-1.25	3/8	Red	15	1	5.63	6.75
FB3-4-6-R-PB-1.25	3/8	Red	20	1	7.13	8.25
FB3-5-6-R-PB-1.25	3/8	Red	25	1	8.63	9.75
FB3-1-8-B-PB-1.25	1/2	Blue	5	1	2.63	3.75
FB3-2-8-B-PB-1.25	1/2	Blue	10	1	4.13	5.25
FB3-3-8-B-PB-1.25	1/2	Blue	15	1	5.63	6.75

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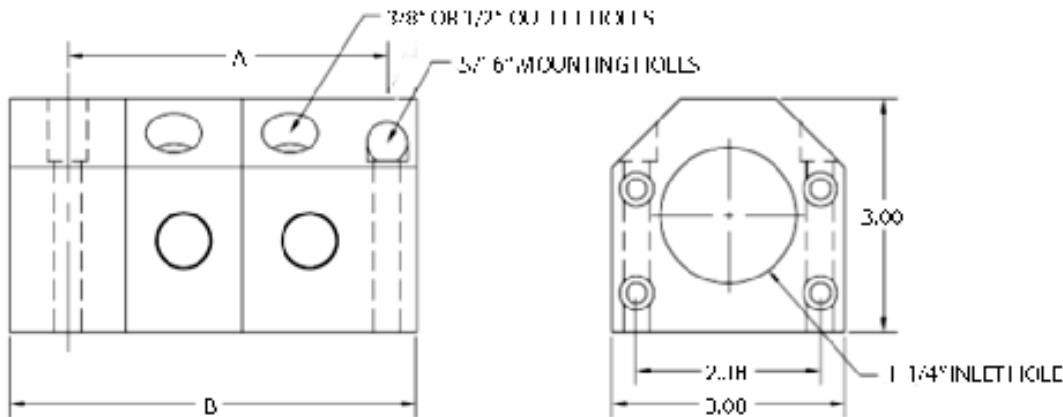
## FB3 Port-to-Blank Assemblies

- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
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SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
Port-to-Blank (PB)						
FB3-4-8-B-PB-1.25	1/2	Blue	20	1	7.13	8.25
FB3-5-8-B-PB-1.25	1/2	Blue	25	1	8.63	9.75
FB3-1-8-R-PB-1.25	1/2	Red	5	1	2.63	3.75
FB3-2-8-R-PB-1.25	1/2	Red	10	1	4.13	5.63
FB3-3-8-R-PB-1.25	1/2	Red	15	1	5.63	6.75
FB3-4-8-R-PB-1.25	1/2	Red	20	1	7.13	8.25
FB3-5-8-R-PB-1.25	1/2	Red	25	1	8.63	9.75

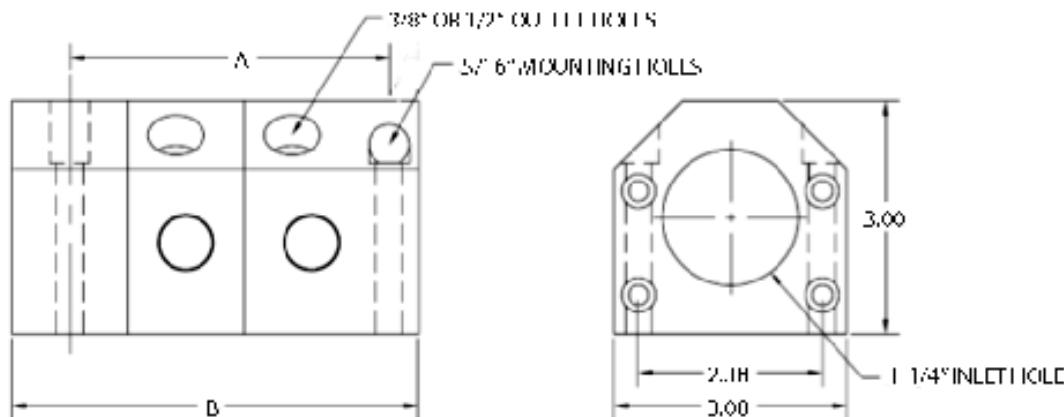
## FB3 Port-to-Blank Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
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SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
90° Port-to-Blank (PB)						
FB390-1-6-B-PB-1.25	3/8	Blue	3	1	3.38	4.5
FB390-2-6-B-PB-1.25	3/8	Blue	8	1	4.88	6
FB390-3-6-B-PB-1.25	3/8	Blue	13	1	6.38	7.5
FB390-4-6-B-PB-1.25	3/8	Blue	18	1	7.88	9
FB390-5-6-B-PB-1.25	3/8	Blue	23	1	9.38	10.5
FB390-1-6-R-PB-1.25	3/8	Red	3	1	3.38	4.5
FB390-2-6-R-PB-1.25	3/8	Red	8	1	4.88	6
FB390-3-6-R-PB-1.25	3/8	Red	13	1	6.38	7.5
FB390-4-6-R-PB-1.25	3/8	Red	18	1	7.88	9
FB390-5-6-R-PB-1.25	3/8	Red	23	1	9.38	10.5
FB390-1-8-B-PB-1.25	1/2	Blue	3	1	3.38	4.5
FB390-2-8-B-PB-1.25	1/2	Blue	8	1	4.88	6
FB390-3-8-B-PB-1.25	1/2	Blue	13	1	6.38	7.5

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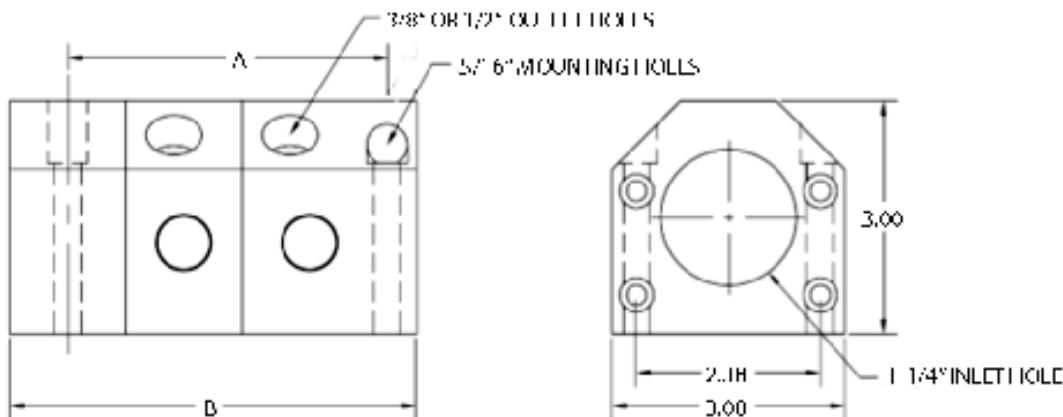
## FB3 Port-to-Blank Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB3 Series manifolds have an option for a 1-1/4" or 1-1/2" inlet hole size along with the option of either a 3/8" or 1/2" outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
90° Port-to-Blank (PB)						
FB390-4-8-B-PB-1.25	1/2	Blue	18	1	7.88	9
FB390-5-8-B-PB-1.25	1/2	Blue	23	1	9.38	10.5
FB390-1-8-R-PB-1.25	1/2	Red	3	2	3.38	4.5
FB390-2-8-R-PB-1.25	1/2	Red	8	1	4.88	6
FB390-3-8-R-PB-1.25	1/2	Red	13	1	6.38	7.5
FB390-4-8-R-PB-1.25	1/2	Red	18	1	7.88	9
FB390-5-8-R-PB-1.25	1/2	Red	23	1	9.38	10.5

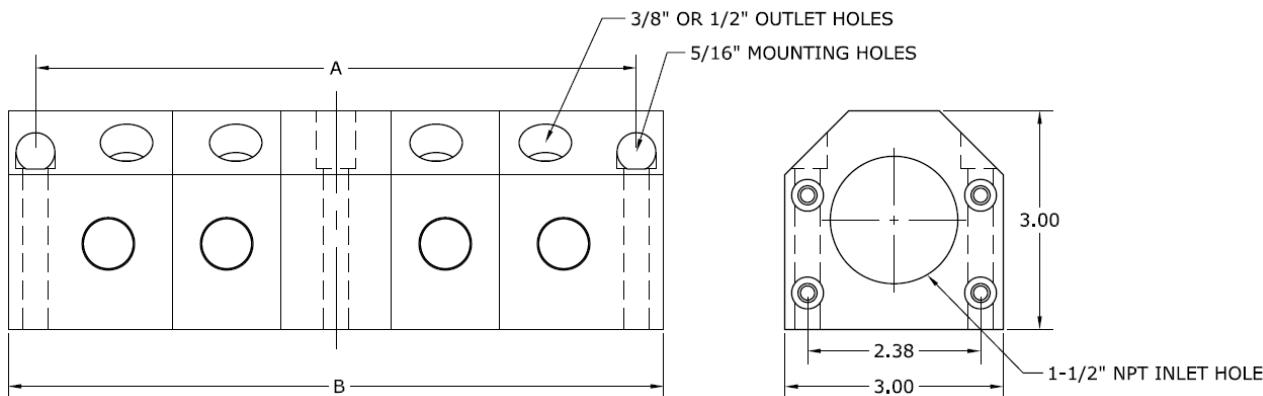
## FB3 Port-to-Divide Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB3 Series manifolds have an option for a 1-1/4" or 1-1/2" inlet hole size along with the option of either a 3/8" or 1/2" outlet hole size. The Port to Divide Assembly combines your cooling needs into one manifold. Separate hot and cold with a mid block and mount in one easy location.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	NO. OF RED OUTLETS	NO. OF BLUE OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
Port-to-Divide (PD)						
FB3-1-6-PD-1.5	3/8	5	5	2	5.25	6
FB3-2-6-PD-1.5	3/8	10	10	2	8.25	9
FB3-3-6-PD-1.5	3/8	15	15	2	11.25	12
FB3-4-6-PD-1.5	3/8	20	20	2	14.25	15
FB3-5-6-PD-1.5	3/8	25	25	2	17.25	18
FB3-1-8-PD-1.5	1/2	5	5	2	5.25	6
FB3-2-8-PD-1.5	1/2	10	10	2	8.25	9
FB3-3-8-PD-1.5	1/2	15	15	2	11.25	12
FB3-4-8-PD-1.5	1/2	20	20	2	14.25	15
FB3-5-8-PD-1.5	1/2	25	25	2	17.25	18

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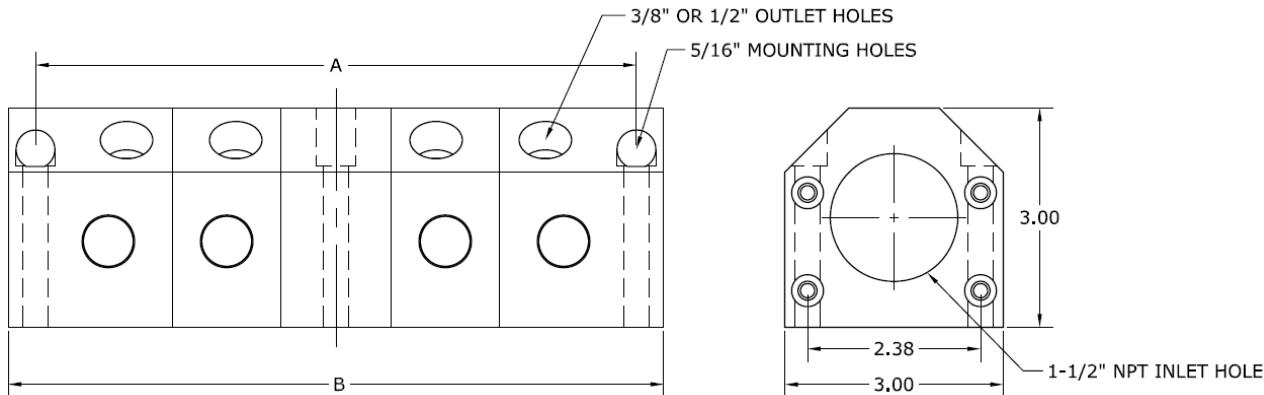
## FB3 Port-to-Divide Assemblies

- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB3 Series manifolds have an option for a 1-1/4" or 1-1/2" inlet hole size along with the option of either a 3/8" or 1/2" outlet hole size. The Port to Divide Assembly combines your cooling needs into one manifold. Separate hot and cold with a mid block and mount in one easy location.



SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	NO. OF RED OUTLETS	NO. OF BLUE OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
90° Port-to-Divide (PD)						
FB390-1-6-PD-1.5	3/8	3	3	2	6.75	7.5
FB390-2-6-PD-1.5	3/8	8	8	2	9.75	10.5
FB390-3-6-PD-1.5	3/8	13	13	2	12.75	13.5
FB390-4-6-PD-1.5	3/8	18	18	2	15.75	16.5
FB390-5-6-PD-1.5	3/8	23	23	1	18.75	19.5
FB390-1-8-PD-1.5	1/2	3	3	2	6.75	7.5
FB390-2-8-PD-1.5	1/2	8	8	2	9.75	10.5
FB390-3-8-PD-1.5	1/2	13	13	2	12.75	13.5
FB390-4-8-PD-1.5	1/2	18	18	2	15.75	16.5
FB390-5-8-PD-1.5	1/2	23	23	2	18.75	19.5

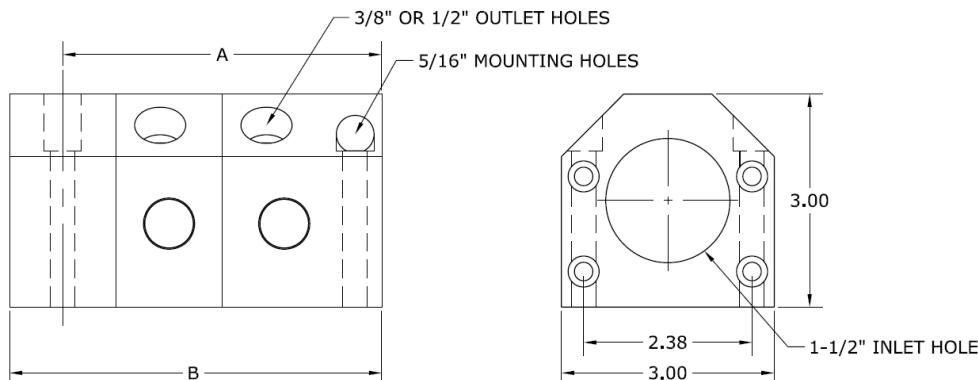
## FB3 Port-to-Blank Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB3 Series manifolds have an option for a 1-1/4" or 1-1/2" inlet hole size along with the option of either a 3/8" or 1/2" outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
Port-to-Blank (PB)						
FB3-1-6-B-PB-1.5	3/8	Blue	5	1	2.63	3.75
FB3-2-6-B-PB-1.5	3/8	Blue	10	1	4.13	5.25
FB3-3-6-B-PB-1.5	3/8	Blue	15	1	5.63	6.75
FB3-4-6-B-PB-1.5	3/8	Blue	20	1	7.13	8.25
FB3-5-6-B-PB-1.5	3/8	Blue	25	1	8.63	9.75
FB3-1-6-R-PB-1.5	3/8	Red	5	1	2.63	3.75
FB3-2-6-R-PB-1.5	3/8	Red	10	1	4.13	5.25
FB3-3-6-R-PB-1.5	3/8	Red	15	1	5.63	6.75
FB3-4-6-R-PB-1.5	3/8	Red	20	1	7.13	8.25
FB3-5-6-R-PB-1.5	3/8	Red	25	1	8.63	9.75
FB3-1-8-B-PB-1.5	1/2	Blue	5	1	2.63	3.75
FB3-2-8-B-PB-1.5	1/2	Blue	10	1	4.13	5.25
FB3-3-8-B-PB-1.5	1/2	Blue	15	1	5.63	6.75

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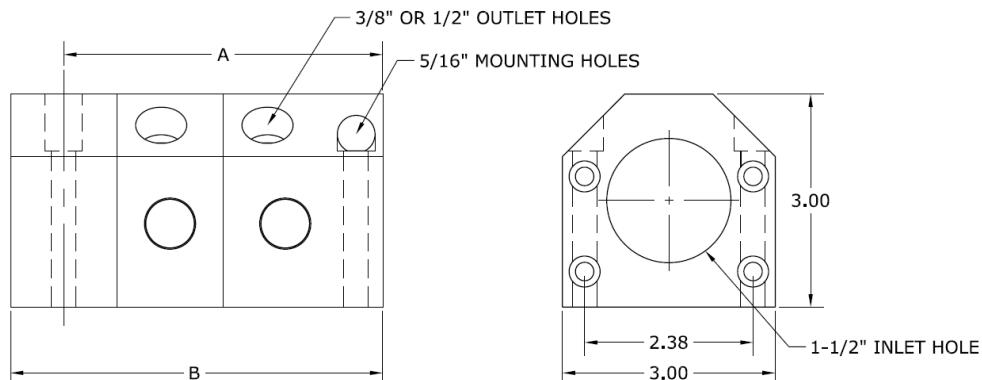
## FB3 Port-to-Blank Assemblies

- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
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The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB3 Series manifolds have an option for a 1-1/4" or 1-1/2" inlet hole size along with the option of either a 3/8" or 1/2" outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.



SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
Port-to-Blank (PB)						
FB3-4-8-B-PB-1.5	1/2	Blue	20	1	7.13	8.25
FB3-5-8-B-PB-1.5	1/2	Blue	25	1	8.63	9.75
FB3-1-8-R-PB-1.5	1/2	Red	5	1	2.63	3.75
FB3-2-8-R-PB-1.5	1/2	Red	10	1	4.13	5.25
FB3-3-8-R-PB-1.5	1/2	Red	15	1	5.63	6.75
FB3-4-8-R-PB-1.5	1/2	Red	20	1	7.13	8.25
FB3-5-8-R-PB-1.5	1/2	Red	25	1	8.63	9.75

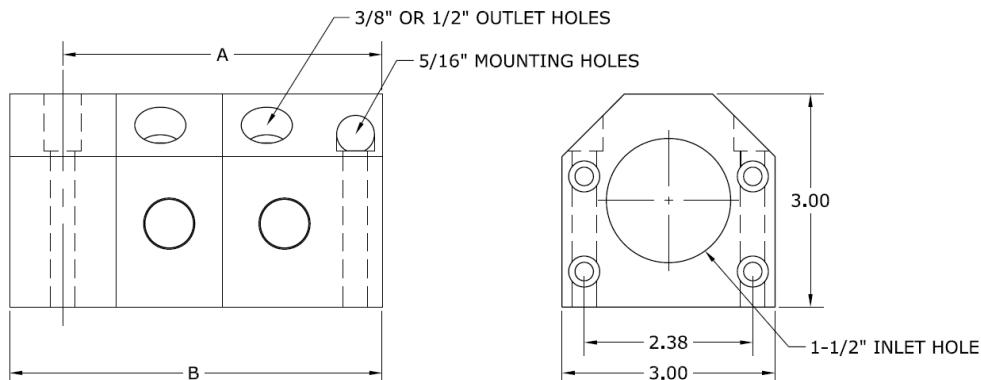
## FB3 Port-to-Blank Assemblies



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- 6061-T6 Aluminum Material
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Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
90° Port-to-Blank (PB)						
FB390-1-6-B-PB-1.5	3/8	Blue	3	1	3.38	4.5
FB390-2-6-B-PB-1.5	3/8	Blue	8	1	4.88	6
FB390-3-6-B-PB-1.5	3/8	Blue	13	1	6.38	7.5
FB390-4-6-B-PB-1.5	3/8	Blue	18	1	7.88	9
FB390-5-6-B-PB-1.5	3/8	Blue	23	1	9.38	10.5
FB390-1-6-R-PB-1.5	3/8	Red	3	1	3.38	4.5
FB390-2-6-R-PB-1.5	3/8	Red	8	1	4.88	6
FB390-3-6-R-PB-1.5	3/8	Red	13	1	6.38	7.5
FB390-4-6-R-PB-1.5	3/8	Red	18	1	7.88	9
FB390-5-6-R-PB-1.5	3/8	Red	23	1	9.38	10.5
FB390-1-8-B-PB-1.5	1/2	Blue	3	1	3.38	4.5
FB390-2-8-B-PB-1.5	1/2	Blue	8	1	4.88	6
FB390-3-8-B-PB-1.5	1/2	Blue	13	1	6.38	7.5

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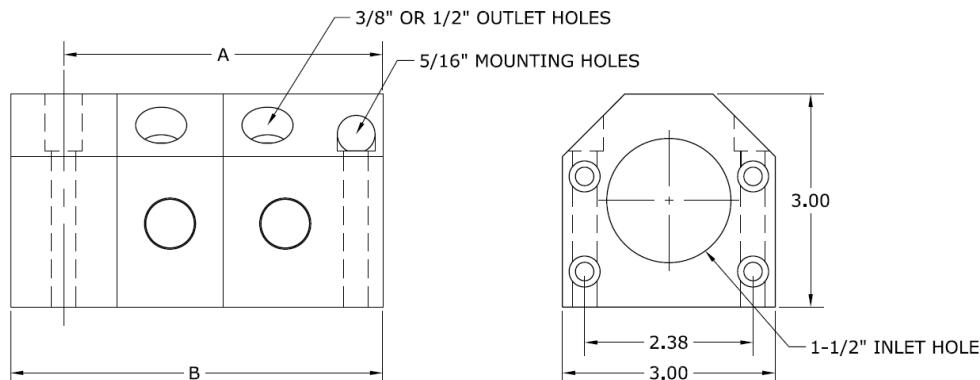
## FB3 Port-to-Blank Assemblies

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- Anodized for corrosion protection
- Pre-drilled mounting holes
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Material Type	Anodized Aluminum
Block Size	3.00 x 3.00
Mounting Hole Size	5/16
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
90° Port-to-Blank (PB)						
FB390-4-8-B-PB-1.5	1/2	Blue	18	1	7.88	9
FB390-5-8-B-PB-1.5	1/2	Blue	23	1	9.38	10.5
FB390-1-8-R-PB-1.5	1/2	Red	3	2	3.38	4.5
FB390-2-8-R-PB-1.5	1/2	Red	8	1	4.88	6
FB390-3-8-R-PB-1.5	1/2	Red	13	1	6.38	7.5
FB390-4-8-R-PB-1.5	1/2	Red	18	1	7.88	9
FB390-5-8-R-PB-1.5	1/2	Red	23	1	9.38	10.5

## FB3 Individual Components

### FB3 Series = 1-1/4" & 1-1/2" NPT Inlet

Block Size: 3.00" W x 3.00" H

Material: 6061-T6 Alum Manifold Bar Stock

Finish: Anodized

Mounting Hole Size: 5/16" SHCS

Inlet Hole: 1-1/4" or 1-1/2" NPT

Outlet Hole: 3/8" or 1/2"

#### Blocks Sold Individually:

- After Purchase Modification
- Spare Parts Inventory
- Build your own Assemblies

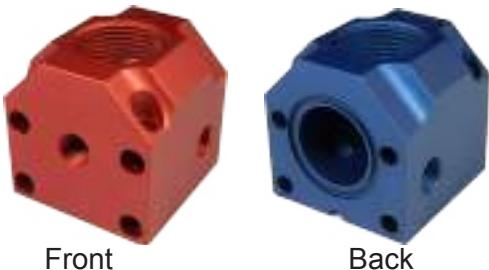


#### First Block—Straight

CATALOG NO.	INLET SIZE	OUTLET SIZE	BLOCK COLOR	NO. OF OUTLETS
FB3-FB-1.25-6-R	1-1/4"	3/8"	Red	5
FB3-FB-1.25-6-B	1-1/4"	3/8"	Blue	5
FB3-FB-1.25-8-R	1-1/4"	1/2"	Red	5
FB3-FB-1.25-8-B	1-1/4"	1/2"	Blue	5
FB3-FB-1.5-6-R	1-1/2"	3/8"	Red	5
FB3-FB-1.5-6-B	1-1/2"	3/8"	Blue	5
FB3-FB-1.5-8-R	1-1/2"	1/2"	Red	5
FB3-FB-1.5-8-B	1-1/2"	1/2"	Blue	5

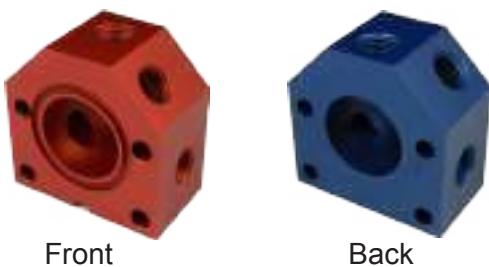
#### First Block—90°—(1" NPT Inlet)

CATALOG NO.	INLET SIZE	OUTLET SIZE	BLOCK COLOR	NO. OF OUTLETS
FB3-FB90-1.25-6-R	1-1/4"	3/8"	Red	3
FB3-FB90-1.25-6-B	1-1/4"	3/8"	Blue	3
FB3-FB90-1.25-8-R	1-1/4"	1/2"	Red	3
FB3-FB90-1.25-8-B	1-1/4"	1/2"	Blue	3
FB3-FB90-1.5-6-R	1-1/2"	3/8"	Red	3
FB3-FB90-1.5-6-B	1-1/2"	3/8"	Blue	3
FB3-FB90-1.5-8-R	1-1/2"	1/2"	Red	3
FB3-FB90-1.5-8-B	1-1/2"	1/2"	Blue	3



#### Mod Block

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB3-MOD-6-R	3/8"	Red	5
FB3-MOD-6-B	3/8"	Blue	5
FB3-MOD-8-R	1/2"	Red	5
FB3-MOD-8-B	1/2"	Blue	5



Continued on next page

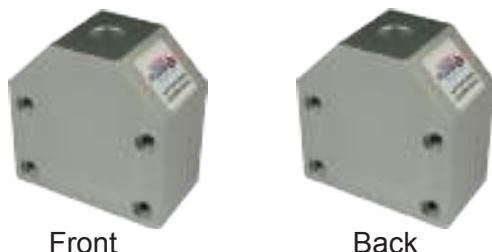
## FB3 Individual Components

### FB3 Series = 1-1/4" & 1-1/2" NPT Inlet

Block Size: 3.00" W x 3.00" H  
 Material: 6061-T6 Alum Manifold Bar Stock  
 Finish: Anodized  
 Mounting Hole Size: 5/16" SHCS  
 Inlet Hole: 1-1/4" or 1-1/2" NPT  
 Outlet Hole: 3/8" or 1/2"

#### Blocks Sold Individually:

- After Purchase Modification
- Spare Parts Inventory
- Build your own Assemblies



#### Mid Block (or End Block)

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB2-MIDB-1	n/a	Silver	0

\*Used in both the PD and PB Configuration



#### Miscellaneous Hardware

CATALOG NO.	DESCRIPTION
FB2-OR-1	Viton O-Ring
FB2-TR-1	#10-32 Tie Rod (Single Block)
FB2-SHCS-05	#10-32 X 3/4" SS SHCS
FB2-SHCS-1	#10-32 x 1" SS SHCS
FB2-SHCS-2	#10-32 x 1-1/4" SS SHCS
FB2-SHCS-MNT	1/4"-20 x 2" SS SHCS

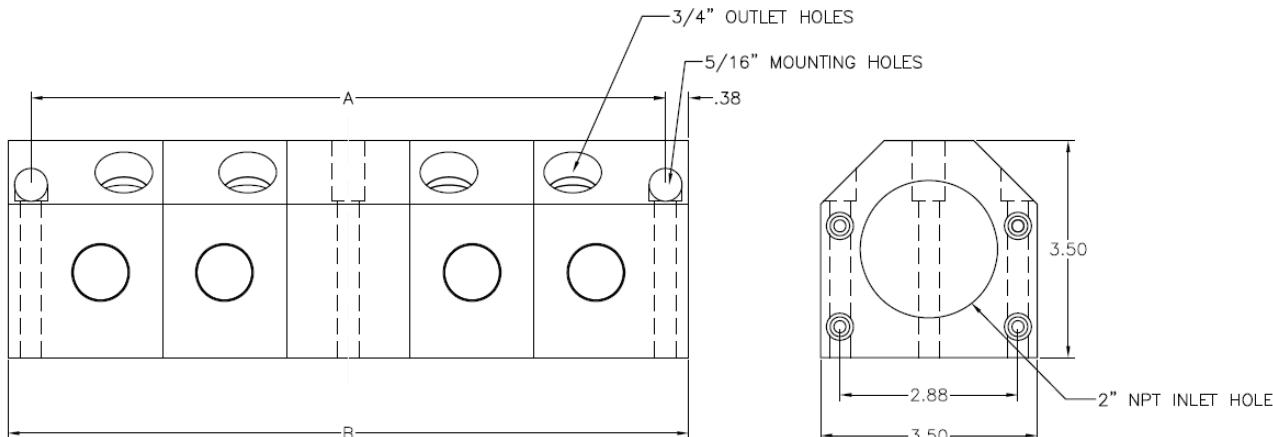
## FB4 Port-to-Divide Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB4 Series manifolds have a 2" inlet hole size and a  $\frac{3}{4}$ " outlet hole size. The Port to Divide Assembly combines your cooling needs into one manifold. Separate hot and cold with a mid block and mount in one easy location.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.50 x 3.50
Inlet Hole Size	2
Mounting Hole Size	5/16
No. of Inlets	2
Outlet Hole Size	3/4
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	NO. OF RED OUTLETS	NO. OF BLUE OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
Port-to-Divide (PD)						
FB4-1-10-PD	3/4	5	5	2	6.25	7
FB4-2-10-PD	3/4	10	10	2	10.25	11
FB4-3-10-PD	3/4	15	15	2	14.25	15
FB4-4-10-PD	3/4	20	20	2	18.25	19
FB4-5-10-PD	3/4	25	25	2	22.25	23
90° Port-to-Divide (PD)						
FB490-1-10-PD	3/4	3	3	2	6.75	7.5
FB490-2-10-PD	3/4	8	8	2	9.75	10.5
FB490-3-10-PD	3/4	13	13	2	12.75	13.5
FB490-4-10-PD	3/4	18	18	2	15.75	16.5
FB490-5-10-PD	3/4	23	23	2	18.75	19.5

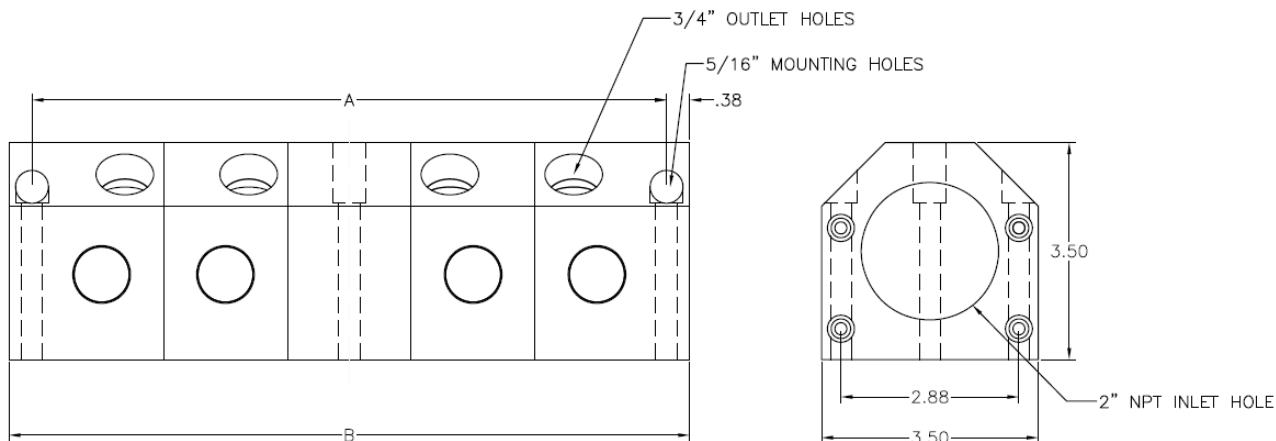
## FB4 Port-to-Blank Assemblies

- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB4 Series manifolds have a 2" inlet hole size and a  $\frac{3}{4}$ " outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.



SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.50 x 3.50
Inlet Hole Size	2
Mounting Hole Size	5/16
No. of Inlets	1
Outlet Hole Size	3/4
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
Port-to-Blank (PB)						
FB4-1-10-B-PB	3/4	Blue	5	1	3.13	4.5
FB4-2-10-B-PB	3/4	Blue	10	1	5.13	6.5
FB4-3-10-B-PB	3/4	Blue	15	1	7.13	8.5
FB4-4-10-B-PB	3/4	Blue	20	1	9.13	10.5
FB4-5-10-B-PB	3/4	Blue	25	1	11.13	12.5
FB4-1-10-R-PB	3/4	Red	5	1	3.13	4.5
FB4-2-10-R-PB	3/4	Red	10	1	5.13	6.5
FB4-3-10-R-PB	3/4	Red	15	1	7.13	8.5
FB4-4-10-R-PB	3/4	Red	20	1	9.13	10.5
FB4-5-10-R-PB	3/4	Red	25	1	11.13	12.5

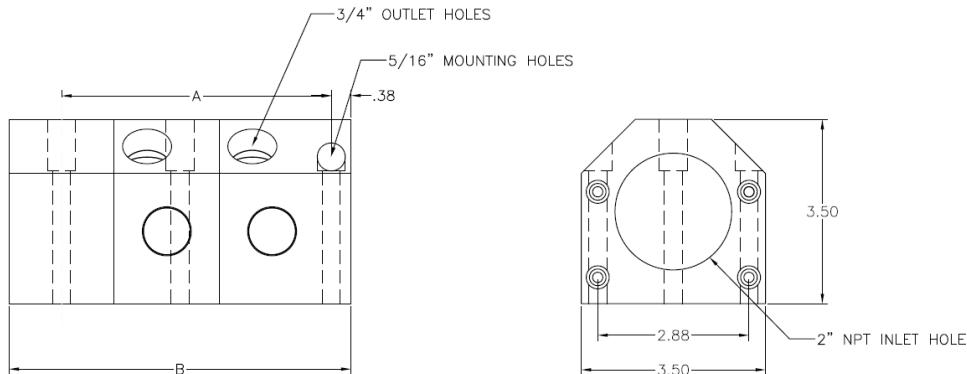
## FB4 Port-to-Blank Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included

The modular design of the Kool Flow Manifold™ allows for changes to be made at any time according to your needs. FB4 Series manifolds have a 2" inlet hole size and a  $\frac{3}{4}$ " outlet hole size. The Port to Blank Assembly eliminates the costly end plug, allowing the hot and cold manifolds to be mounted in different locations.

SPECIFICATIONS	
Material Type	Anodized Aluminum
Block Size	3.50 x 3.50
Inlet Hole Size	2
Mounting Hole Size	5/16
No. of Inlets	1
Outlet Hole Size	3/4
Unit of Measure	Inch



CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
90°Port-to-Blank (PB)						
FB490-1-10-B-PB	3/4	Blue	3	1	4.13	5.5
FB490-2-10-B-PB	3/4	Blue	8	1	6.13	7.5
FB490-3-10-B-PB	3/4	Blue	13	1	8.13	9.5
FB490-4-10-B-PB	3/4	Blue	18	1	10.13	11.5
FB490-5-10-B-PB	3/4	Blue	23	1	12.13	13.5
FB490-1-10-R-PB	3/4	Red	3	1	4.13	5.5
FB490-2-10-R-PB	3/4	Red	8	1	6.13	7.5
FB490-3-10-R-PB	3/4	Red	13	1	8.13	9.5
FB490-4-10-R-PB	3/4	Red	18	1	10.13	11.5
FB490-5-10-R-PB	3/4	Red	23	1	12.13	13.5

## FB4 Individual Components

### FB4 Series = 2" NPT Inlet

Block Size: 3.50" W x 3.50" H  
 Material: 6061-T6 Alum Manifold Bar Stock  
 Finish: Anodized  
 Mounting Hole Size: 5/16" SHCS  
 Inlet Hole: 2" NPT  
 Outlet Hole: 3/4"

#### Blocks Sold Individually:

- After Purchase Modification
- Spare Parts Inventory
- Build your own Assemblies

#### First Block—Straight—(2" NPT Inlet)

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB4-FB-2-10-R	3/4"	Red	5
FB4-FB-2-10-B	3/4"	Blue	5



Front



Back



Front



Back

#### First Block—90°—(2" NPT Inlet)

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB4-FB90-2-10-R	3/4"	Red	3
FB4-FB90-2-10-B	3/4"	Blue	3



Front



Back

#### Mod Block

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB4-MOD-10-R	3/4"	Red	5
FB4-MOD-10-B	3/4"	Blue	5



Front



Back

#### Mid Block (or End Block)

CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS
FB2-MIDB-1	n/a	Silver	0



Front



Back

\*Used in both the PD and PB Configuration

#### Miscellaneous Hardware

CATALOG NO.	DESCRIPTION
FB4-OR-1	Viton O-Ring
FB4-TR-1	M6-1.0 Tie Rod (Single Block)
FB4-SHCS-1	M6-1.0 x 25mm SS SHCS
FB4-SHCS-2	M6-1.0 x 30mm SS SHCS
FB4-SHCS-3	M6-1.0 x 40mm SS SHCS
FB4-SHCS-4	M6-1.0 x 45mm SS SHCS
FB4-SHCS-MNT	5/16" x 3" SS SHCS

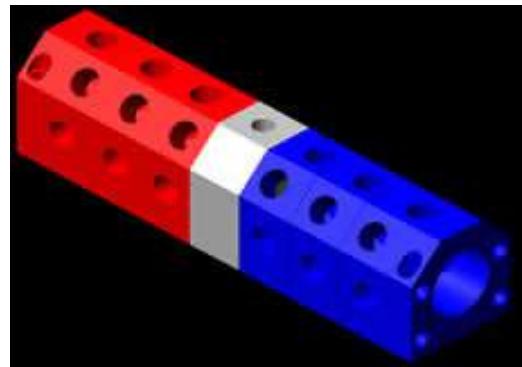
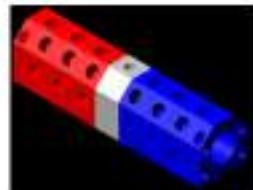


## Visit our Online e-KOOL Configurator!

Configure an Assembly Part Number

Style:	Divided
Inlet:	1 1/2"
#8 Degree Inlet:	No
Npt Out:	1/2"
Stations:	3
Color:	

Part Number: FJ3-3-8-PD  
Price: \$31.75  
CAD File(s): [FJ3-3-8-PD.dwg](#)



From Configurator to CAD in a Few Clicks...

## Don't forget to order accessories!

- Pipe Plugs
- Pressure Plugs
- Connector Plugs
- Extension Plugs
- Socket Connectors
- Self-Grip Hose
- Hose Clamps
- Teflon Tape



## 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 fitting 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 fitting
- 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

## SWAP® VALVE

### Quickly Purge Cooling Water using Shop Air

- The SWAP® Valve is well-suited for cooling water Supply lines up to 2-inch
- Available in 2 materials: 1 & 2 inch sizes in Anodized Aluminum or 1-inch size Molded Body with Glass-Filled Nylon outer Plates & Stainless Steel Disc
- Typical mounting is on press or safety door frame
- Installation of an air separator in the return line of a closed loop cooling system is recommended

The Smartflow® S AP® Valve supplies cooling water to the mold during processing. Secondly, it supplies air to purge the water from the mold, cooling lines, Supply and Return manifolds before tool change. It also provides a manual vent to release built-up air pressure within the cooling water loop after purging. A check valve should be installed in the return line downstream from the Return manifold to prevent backflow to the mold



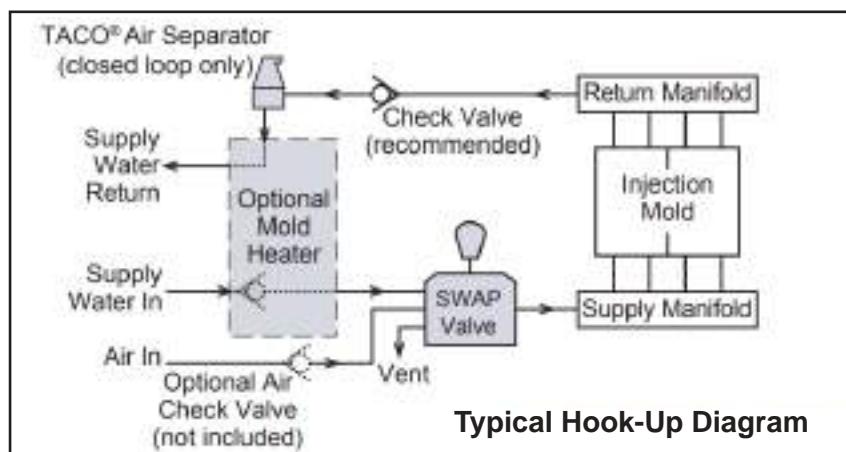
Tubing may be connected to the manual vent-drain port so after the purge cycle any residual water can be released into a container or drain.

An optional spring-loaded, locking pin is available for molders who require two-hand operation. This prevents accidental valve handle movement.



#### Benefits:

- Implements SMED by dramatically reducing tool change time.
- Identifies Supply Lines by noting which manifold is connected to the SWAP Valve.
- Full Port Design provides maximum cooling water flow with minimum pressure drop
- Prevents Slip Hazard by keeping shop floors dry.
- Prepares Injection Mold for preventive maintenance and storage.
- Optional Positive Locking Pin prevents accidental valve handle movement.



#### Application

The SWAP® valve is well-suited for cooling water Supply lines up to 2-inch NPT. It is permissible to adapt 3/4", 1-1/4" and 1-1/2" line sizes providing adequate cooling water flow can be achieved. Typical mounting is on press or safety door frame. Mounting on any suitable surface, such as a platen, mold or manifold stand is acceptable.

Installation of an air separator in the return line of a closed loop cooling system is recommended. See the typical Hook-Up Diagram (above) for location.

For Normal Processing	Select WATER. Cooling Water is available to the Supply manifold. Purge Air is blocked.
to Evacuate Cooling Water	Select PURGE. Purge Air is available to the Supply manifold. Cooling Water is blocked
To Bleed Trapped Pressure and Drain Residual Water	Select VENT. Press Manual Vent-Drain Valve. Purge Air is blocked. Cooling Water is blocked.

## SWAP® VALVE Molded Body, Stainless Disc (1" Only)



- The SWAP valve is well-suited for cooling water Supply lines up to 2-inch
- Available in 2 materials: 1 & 2 inch sizes in Anodized Aluminum or 1-inch size Molded Body with Glass-Filled Nylon outer Plates & Stainless Steel Disc
- Typical mounting is on press or safety door frame
- Installation of an air separator in the return line of a closed loop cooling system is recommended

SPECIFICATIONS	
Maximum Operating Temperature	250°F (121°C)
Maximum Pressure	150psi (10.3bar)
Normal Working Air Pressure	80 to 100psi
Pressure Drop Across Purge Valve	1psi at 50gpm
Material	Body- Glass-filled Nylon, Valve Disc- Stainless Steel, O-Rings- EPDM, Check Valve- Brass

CATALOG NO.	DESCRIPTION	LOCKING PIN	THREAD SIZE	WEIGHT
SPV8-A-M	SPV8-A-M	No	1"NPT	2.5kg (5.5lbs)
SPV8-L-M	SPV8-L-M	Yes		

## SWAP® VALVE Aluminum Body & Disc, (1" or 2" models)

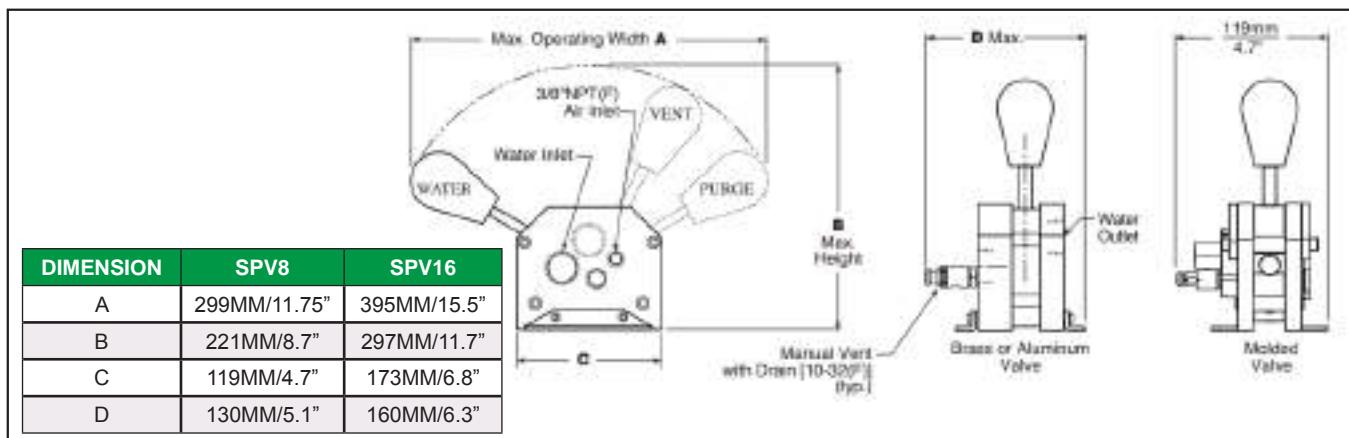


- The SWAP valve is well-suited for cooling water Supply lines up to 2-inch
- Available in 2 materials: 1 & 2 inch sizes in Anodized Aluminum or 1-inch size Molded Body with Glass-Filled Nylon outer Plates & Stainless Steel Disc
- Typical mounting is on press or safety door frame
- Installation of an air separator in the return line of a closed loop cooling system is recommended

SPECIFICATIONS	
Maximum Operating Temperature	250°F (121°C)
Maximum Pressure	150psi (10.3bar)
Normal Working Air Pressure	80 to 100psi
Pressure Drop Across Purge Valve	1psi at 50gpm
Material	Body & Valve Disc- Aluminum (PTFE Impregnated) Hard Anodize Coating, O-Rings- EPDM, Check Valve- Brass

CATALOG NO.	DESCRIPTION	LOCKING PIN	THREAD SIZE	WEIGHT
SPV8-A-A	SPV8-A-A	No	1"NPT	2.5kg (5.5lbs)
SPV8-L-A		Yes		
SPV16-A-A		No	2"NPT	2.7kg (6lbs)
SPV16-L-A		Yes		

## SWAP® VALVE, All Models Maximum Dimensions



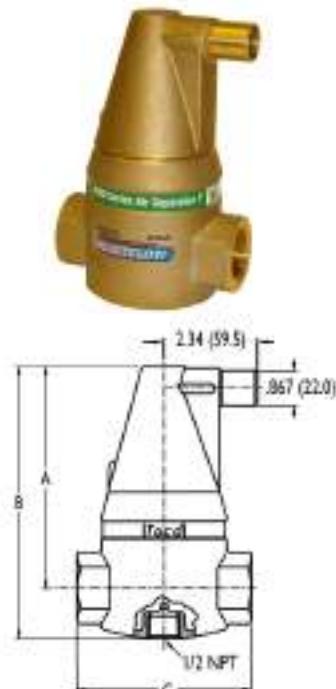
## SWAP® VALVE Accessories, All Models

CATALOG NO.	DESCRIPTION
DN-16-A	Dielectric Fitting 2" NPT
DN-8-A	Dielectric Fitting 1" NPT
PVCV-100-A	Brass Check Valve 1" NPT
PVCV-200-A	Brass Check Valve 2" NPT
PVCV-3-A	Air Check Valve 3/8" NPT

## TACO® 4900 Series Air Separators

TACO 4900 Series Air Separators are designed for the complete elimination of air from closed loop water circulating systems. Small air bubbles and micro-bubbles adhere to surfaces on pall rings in the water path and join together to form larger air bubbles. The combined bubbles travel up through the water and into the conical air chamber to be released by the vent at the top. Recommended for use with SMARTFLOW® SWAP® Valve in a closed loop cooling water system.

SPECIFICATIONS	
Maximum Operating Temperature	240°F (115°C)
Maximum Operating Pressure	150psi (10bar)
Media	Water or Water/Glycol
Minimum Operating Temperature	25°F (-4°C)
Max. Velocity	5 ft/sec
Material	Housing- Brass, Pall Ring & Venting Unit- Stainless Steel



CATALOG NO.	A	B	C	CONNECTION SIZES	WEIGHT
49-100	5-1/2" (139mm)	6-3/4" (171mm)	4-3/8" (111mm)	1" NPT	2 kg (4.5lbs.)
49-200	6-5/8" (169mm)	8-7/16" (214mm)	5-3/16"	2" NPT	2.7kg (6.0lbs.)

## Hot Runner Temperature Control Systems

PCS Company offers Hot Runner Temperature Control Systems in a Modular and PC based design. The modular temperature control products incorporate many user-friendly features. These controllers are compatible with all industry standard G Series® temperature control modules and mainframe systems and are proudly made in the U.S.A. The PC based temperature controller system is an advanced and affordable Hot Runner Temperature Controller designed for ease of use, reliability and precise temperature control.



## Product Family Comparison



FEATURES	SYSTEM		
	ONYX	TEMPERATURE CONTROLLERS	VISIONS 3000
Touch Screen / HMI	✓		✓
Max amount of zones	72	48	256
Inventory Availability	✓	✓	
Memory Management	✓		✓
Thermocouple Slaving / Link	✓		✓
Automatic Soft Start / Auto Tuning	✓	✓	
Self-Diagnostics	✓		✓
Selectable Alarm Modes	✓		✓
USB Port for Data Exchange	✓		✓
Boost / Standby Capability	✓	Boost Only	✓
Communication Port	✓		✓
Editable Zone Names	✓		✓
Diagnostic & Alarm Records / History	✓		✓
Synchronous Heating & Cooling	✓		
Ability to Upgrade Software	✓		✓
Warranty	✓	✓	✓

## Onyx System Features



TC2400

- Compact, robust cabinet design
- HMI - 7" Adjustable touchscreen display,
- Auto tuning and soft start
- Programmable Boost
- Programmable Stand-by mode
- Synchronous Heating and Cooling
- Caster wheels included
- Supplied with 10' input power cable, wired 240v 3 phase in cabinet
- Editable zone names
- Memory management for multiple molds
- USB port for import and export of data and software updates
- Communication alarm board accepts external alarm from 24v DC signal for optional standby & shut down controls
- Multilingual options to include Spanish
- Warranty- 2 year; Human Machine Interface (HMI-screen) 1 year

CATALOG NO.	ZONES	DIMENSIONS	WEIGHT	SHIPPING WEIGHT	REPLACEMENT HMI SCREEN
TC1200	12	13" x 15" x 16.5"	48 lbs.	66 lbs.	HMI51 (7" HMI)
TC2400	24	13" x 15" x 22.5"	65 lbs.	85 lbs.	
TC3600	36	13" x 15" x 28.6"	90 lbs.	156 lbs.	
TC4800	48	13" x 20.4" x 40.5"	167 lbs.	234 lbs.	HMI52 (10.4" HMI)
TC6000	60	13" x 20.4" x 46.6"	194 lbs.	264 lbs.	
TC7200	72	13" x 20.4" x 52.7"	220 lbs.	298 lbs.	

## Onyx Floor Stand Options



TCFS-15

CATALOG NO.	OPTIONAL ITEM	TRANSFORMER KIT
TCFS	Onyx Floor Stand	Not Included
TCFS-09	Onyx Floor Stand - 9KVA Transformer Kit	TK91AG
TCFS-15	Onyx Floor Stand - 15KVA Transformer Kit	TK151AG
TCFS-30	Onyx Floor Stand - 30KVA Transformer Kit	TK301AG

## Onyx Controller Specifications



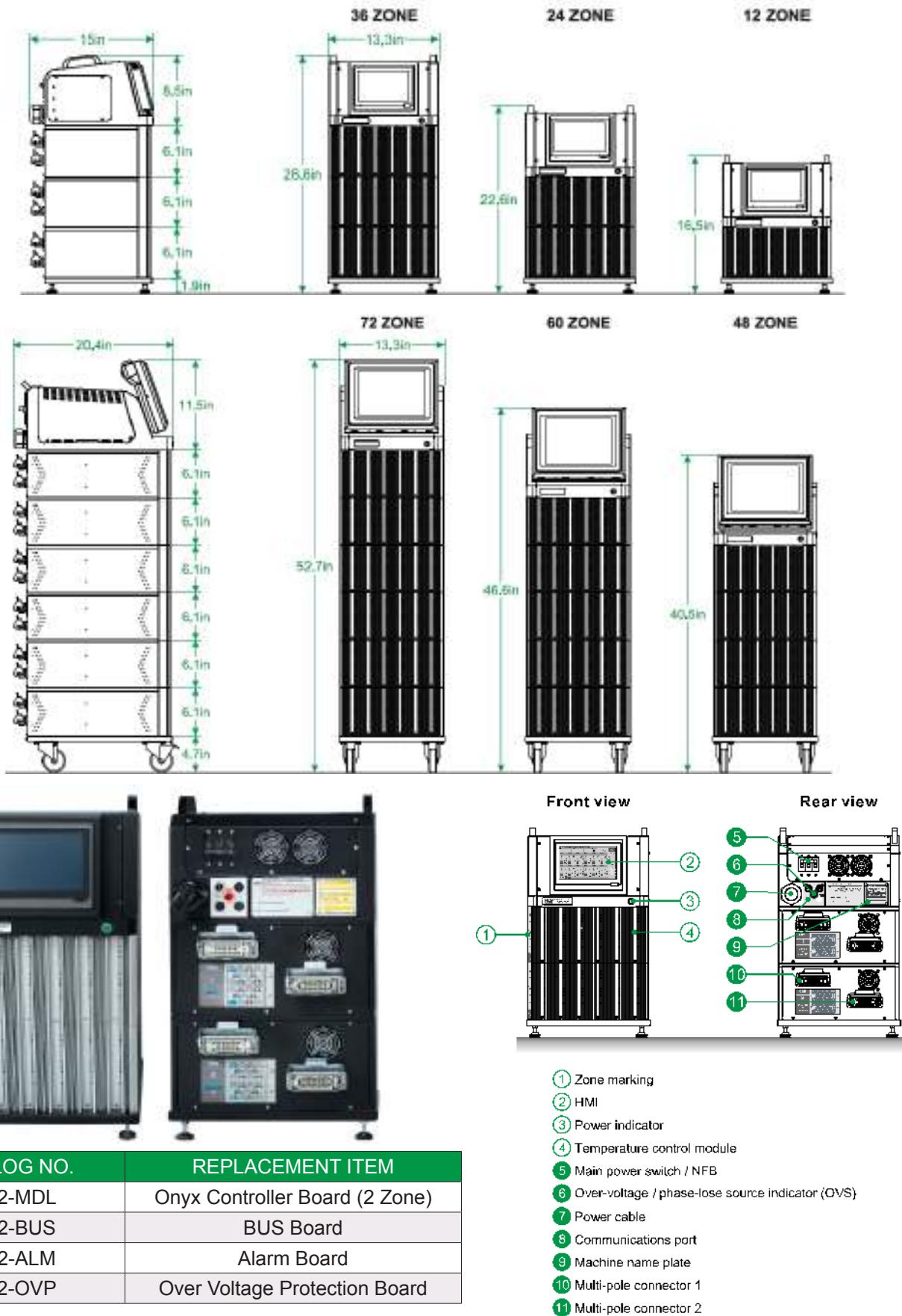
TC1200



### SPECIFICATIONS

User Interface	Full-color LCD HMI touch screen display
Display Size (Inches)	Adjustable 7" TFT SVGA LCD
Temperature Control Accuracy	±0.25%FS
Calibration Accuracy	±0.25%FS
Control Algorithm	Adaptive PID with auto temperature tuning
Temperature Scale	°F or °C Software Selectable
Thermocouple	Type J/K Softwared selectable
Operating Temperature Range	32-999°F / 0-600°C
Output Voltage	3450W, 230Vac/15A (per zone)
Supply Voltage	Default 240V /three phase with optional wiring
Frequency	50/60Hz
Ambient Temperature Range	14-122°F / -10-50°C
Operating Humidity	0-80%RH non-condensing
Anomaly Detection	T/C, Heater, Triac, Fuses
Power Control	Triangulated control technology - Power optimization
Communication Mode	USB port for import/export, job saves, and software updates, RS-485 (Standard MODBUS, Isolated)
Alarm Output & Anomoly Detection	Thermocouple: Short / Break / Reverse Heater: Short / Break / Overload TRIAC: Short, Fuse Open Circuit
LED Indicators	Output, Alarm, Fuse Break, Communication, OVS
Security	Yes, three management lockout levels
Soft-Start with Auto-Tune	Yes
Synchronous heating and cooling	Yes, software selectable
Multi language Support	Yes, English and Chinese
Warranty	2 year; Human machine interface (HMI-screen) 1 year

## Onyx Product Diagnostics & Dimensions



## Onyx Mold Power & Thermocouple Cables

Mold power cables are used to connect the mainframe to the power input connector on the mold. Available in lengths of 10, 15 & 20 feet. The VC-12PC mold power cable also serves as a universal cable for connecting any 15 Amp mainframe to any 15 Amp mold power input connector. The maximum number of zones will be determined by the connector in the mold.

**Special Power and Thermocouple Cables Available Upon Request.**



### Mold Power Cables

CATALOG NO.	NUMBER OF ZONES (MAX.)	FROM 15 amp MAINFRAMES(s)	TO MOLD END	LENGTH
VC-5PC10	5	5, 8, 12 zone	VC-5MPC	10 ft.
VC-8PC10	8	8, 12 zone	VC-8MPC	10 ft.
VC-12PC10	12	12 zone	VC-12MPC	10 ft.
VC-5PC	5	5, 8, 12 zone	VC-5MPC	15 ft.
VC-8PC	8	8, 12 zone	VC-8MPC	15 ft.
VC-12PC	12	12 zone	VC-12MPC	15 ft.
VC-5PC20	5	5, 8, 12 zone	VC-5MPC	20 ft.
VC-8PC20	8	8, 12 zone	VC-8MPC	20 ft.
VC-12PC20	12	12 zone	VC-12MPC	20 ft.

Thermocouple Cables are used to connect the mainframe to the thermocouple connector on the mold.



### Thermocouple Cables

CATALOG NO.	NUMBER OF ZONES (MAX.)	FROM 15 amp MAINFRAMES(s)	TO MOLD END	LENGTH
VC-5TC10	5	5, 8, 12 zone	VC-5MTC	10 ft
VC-8TC10	8	8, 12 zone	VC-8MTC	10 ft
VC-12TC10	12	12 zone	VC-12MTC	10 ft
VC-5TC	5	5, 8, 12 zone	VC-5MTC	15 ft.
VC-8TC	8	8, 12 zone	VC-8MTC	15 ft.
VC-12TC	12	12 zone	VC-12MTC	15 ft.
VC-5TC20	5	5, 8, 12 zone	VC-5MTC	20 ft.
VC-8TC20	8	8, 12 zone	VC-8MTC	20 ft.
VC-12TC20	12	12 zone	VC-12MTC	20 ft.

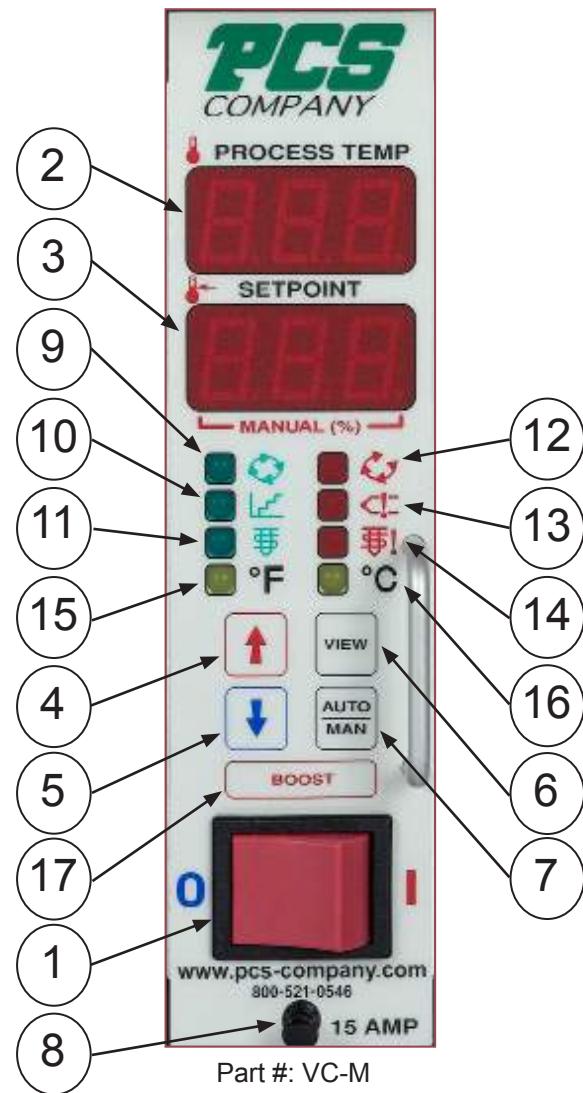
## VC-M 15 Amp Module

### CONTROLS

1. Power Switch(ON/OFF)
2. Process Temperature Display  
Also Displays/Diagnostics/Fault mnemonics
- 3a. Setpoint Temperature Display (Shown at Right)  
In Automatic (Closed Loop) Control Mode
- 3b. Load Power (%) Output Display  
In manual (Open Loop) Control Mode
- 3c. Amps(Load Current) Display  
in Amps Monitor/Display Mode
4. Increment Key  
Increment Setpoint in Automatic Mode  
Increment Power Output in Manual Mode
5. Decrement Key  
Decrement Setpoint in Automatic Mode  
Decrement Power Output in Manual Mode
6. View Key  
In automatic Mode Displays % Power or Amps  
In Manual Mode Displays Amps
7. Automatic/Manual Control Mode Select Key
8. Plastic Retention/ Locking Device

### INDICATORS

9. Automatic (Closed Loop) Control Mode Indicator
10. Start-Up Power Ramp Indicator
11. Load Power Indicator
12. Manual (Open Loop) Control Mode Indicator
13. Thermocouple Fault Indicator
14. Output (Power) Fault Indicator
15. Fahrenheit Temperature Scale Indicator
16. Celsius Temperture Scale Indicator
17. User Executed Boost Power Output Mode:  
+25% to Current % Power - OR- 100% Power  
User Selected via PC Board DIP Switch



Operates on 208v & 240v

### Diagnostics

Over Temperature Indication (+30°F/+17°C)

Under Temperature Indication (-30°F/-17°C)

Open T/C Indication.....

Reverse T/C Indications.....

### Diagnostics

Shorted T/C Indication.....

Shorted Output Indication.....

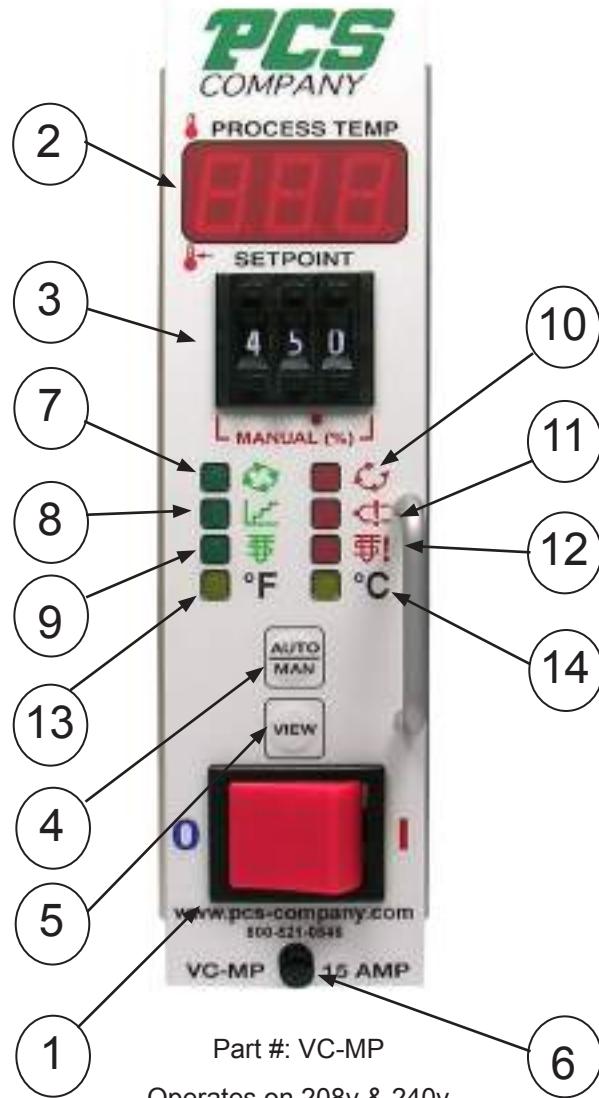
Open Output Indication.....

Ground Fault Indication.....

## VC-MP 15 Amp Module

### CONTROLS

1. Power Switch-both sides of the AC line, fuse protected
2. Digital Display:  
Process Temperature Display (Default)  
Diagnostics (Fault Codes)  
Load Current (Amps) Display
3. Setpoint Temperature / % Power Bush Button Input
4. Automatic / Manual Control Mode Select
5. View Control (Display Process Temperature, Amps or % Power)
6. Plastic Retention / Locking Device
7. Automatic (Closed Loop) Control Mode Indication
8. Start-Up Power Ramp Indication(Wet heater bake-out)
9. Load Power Indication
10. Manual (Open Loop) Control Mode Indication
11. Thermocouple Fault Indication (Also LED code below)
12. Output Fault Indication (Also LED code below)
13. Fahrenheit Temperature Mode Indication
14. Celsius Temperature Mode Indication

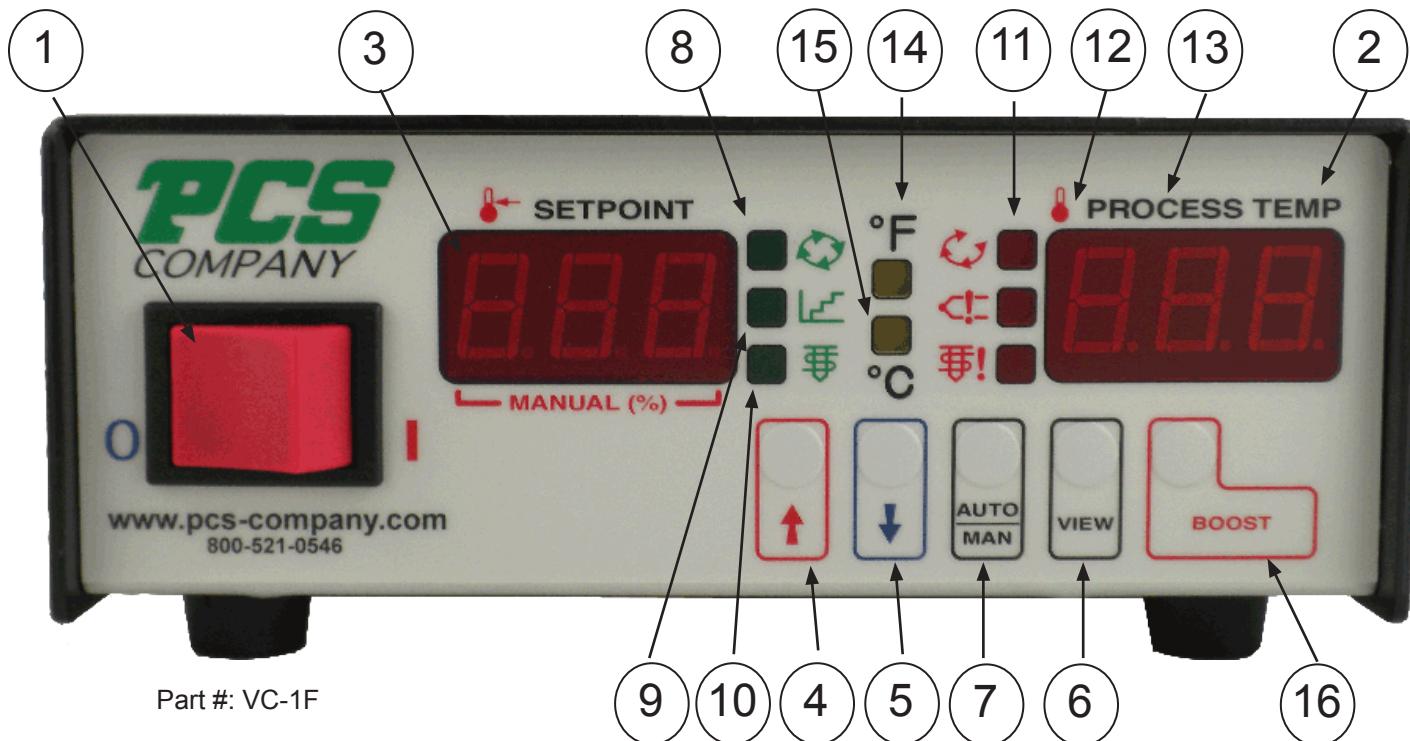


### LED DIAGNOSTIC CODES

<b>Sha</b>	SHORTED THERMOCOUPLE
<b>bRC</b>	REVERSED THERMOCOUPLE
<b>oPE</b>	OPEN THERMOCOUPLE
<b>oPO</b>	OPEN OUTPUT (LOAD OR TRIAC)
<b>ShO</b>	SHORTED OUTPUT (LOAD OR TRIAC)
<b>HI</b>	HIGH TEMP ALARM: 30°F/17°C ABOVE SETPOINT
<b>LO</b>	LOW TEMP ALARM: 30°F/17°C BELOW SETPOINT
<b>FRL</b>	GROUND FAULT (LOAD LEAKAGE TO GROUND)
<b>Hld</b>	T/C BREAK - AUTO TRANSFER TO MANUAL MODE
<b>bst</b>	USER EXECUTED BOOST POWER OUTPUT

Part #: VC-MP  
Operates on 208v & 240v

## Single Zone Temperature Controller



Part #: VC-1F

### CONTROLS AND INDICATORS

1. Power Switch Both sides of the AC line fuse protected	9. Start-Up Power Ramp Indication(Wet heater bake-out)
2. Process Temperature Display (Also Displays Diagnostics)	10. Load Power Indication
3. Setpoint Temperature Display (Auto) (%) Percent of Power Display (Manual) Load Current (Amps) Display	11. Manual (Open Loop) Control Mode Indication
4. Increment Control (Setpoint and % Power)	12. Thermocouple Fault Indication (Also LED code below)
5. Decrement Key (Setpoint and % Power)	13. Output Fault Indication (Also LED code below)
6. View Control (Display Setpoint, % Power or Amps)	14. Fahrenheit Temperature Mode Indication
7. Automatic / Manual Control Mode Select	15. Celsius Temperature Mode Indication
8. Automatic (Closed Loop) Control Mode Indication	16. User Executed Boost Power Output Mode: +25% to Current Power-OR-100% Power User Selected via PC Board DIP Switch

### Diagnostics

Over Temperature Indication (+30°F/+17°C)	
LED Display with Accessory Alarm Output	
Under Temperature Indication (-30°F/-17°C)	
LED Display with Accessory Alarm Output	
Open T/C Indication.....	
LED Display with Accessory Alarm Output	
Reverse T/C Indications.....	
LED Display with Accessory Alarm Output	

### Diagnostics

Shorted T/C Indication.....	
LED Display with Accessory Alarm Output	
Shorted Output Indication.....	
LED Display with Accessory Alarm Output	
Open Output Indication.....	
LED Display with Accessory Alarm Output	
Ground Fault Indication.....	
LED Display with Accessory Alarm Output	

## Modular Temperature Controller Guide



VC-1F  
VC-1F-1



VC-1ZF  
Mainframe  
(module  
not included)



VC-2F  
Mainframe  
(modules  
not included)

This guide will assist in the selection of the correct mainframes and accessories for your next application. 1-48 zones available.

ZONE(S)	MAIN FRAME	VOLTS	COMBINATION THERMOCOUPLE CABLE	QTY REQUIRED	COMBINATION THERMOCOUPLE POWER CONNECTOR	QTY REQUIRED	MODULE	QTY REQUIRED
1	VC-1F	240v	VC-MPTC-15	1	CKPTIC-1	1	N/A	N/A
1	VC-1F-1*	120v	VC-MPTC-15	1	CKPTIC-1	1	N/A	N/A
1	VC-1ZF	240v	VC-MPTC-15	1	CKPTIC-1	1	VC-M / VC-MP	1
2	VC-2F	240v	VC-MPTC-15	2	CKPTIC-1	2	VC-M	2



VC-5F  
Mainframe  
(modules not included)

ZONES	MAIN FRAME	MOLD POWER CABLE	QTY REQ.	THERMOCOUPLE CABLE	QTY REQ.	MOLD END PRE-WIRED TERMINAL MOUNTING BOXES	QTY REQ.	MODULE	QTY REQ.
5	VC-5F	VC-5PC	1	VC-5TC	1	VC-5TB-TS	1	VC-M / VC-MP	5
8	VC-8F	VC-8PC	1	VC-8TC	1	VC-8TB-TS	1	VC-M / VC-MP	8
12	VC-12F	VC-12PC	1	VC-12TC	1	VC-12TB-TS	1	VC-M / VC-MP	12



VC-12F  
Mainframe  
(modules not included)

ZONES	MAIN FRAME	MOLD POWER CABLE	QTY REQ.	THERMOCOUPLE CABLE	QTY REQ.	MOLD END PRE-WIRED TERMINAL MOUNTING BOXES	QTY REQ.	MODULE	QTY REQ.
16	VC-16F	VC-8PC	2	VC-8TC	2	VC-8TB-TS	2	VC-M / VC-MP	16
20*	VC-20F	VC-8PC VC-12PC	1 1	VC-8TC VC-12TC	1 1	VC-8TB-TS VC-12TB-TS	1 1	VC-M / VC-MP	20
24	VC-24F	VC-12PC	2	VC-12TC	2	VC-12TB-TS	2	VC-M / VC-MP	24
28*	VC-28F	VC-8PC VC-12PC	2 1	VC-8TC VC-12TC	2 1	VC-8TB-TS VC-12TB-TS	2 1	VC-M / VC-MP	28
32*	VC-32F	VC-8PC VC-12PC	1 2	VC-8TC VC-12TC	1 2	VC-8TB-TS VC-12TB-TS	1 2	VC-M / VC-MP	32
36	VC-36F	VC-12PC	3	VC-12TC	3	VC-12TB-TS	3	VC-M / VC-MP	36
40*	VC-40F	VC-8PC VC-12PC	2 2	VC-8TC VC-12TC	2 2	VC-8TB-TS VC-12TB-TS	2 2	VC-M / VC-MP	40
44*	VC-44F	VC-8PC VC-12PC	1 3	VC-8TC VC-12TC	1 3	VC-8TB-TS VC-12TB-TS	1 3	VC-M / VC-MP	44
48	VC-48F	VC-12PC	4	VC-12TC	4	VC-12TB-TS	4	VC-M / VC-MP	48

\*When ordering 20, 28, 32, 40 and 44 zone mainframes, please note the additional items and quantities required.

For power input wiring schematics see users manual.

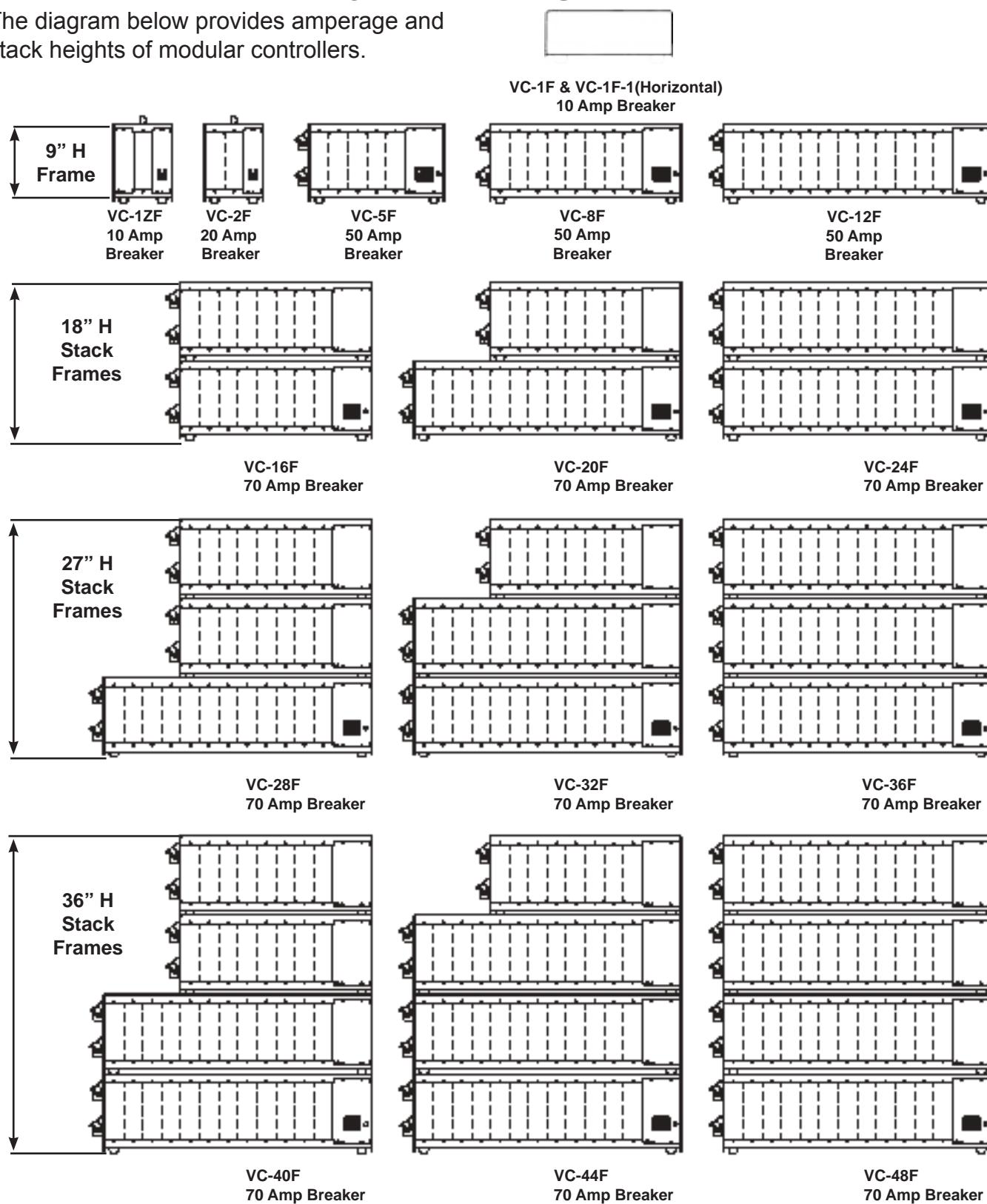
PCS Company offers affordable and fast repair services for your Modular Temperature Controllers.

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## Modular Temperature Controller Mainframe System Configurations

The diagram below provides amperage and stack heights of modular controllers.



100 Amp breaker available upon request

## Mainframe Alarm Modules

The MFTA-205 Over / Under Temperature Alarm Accessory has been introduced to complete the PCS Company family of G-Series style mainframe control systems. This control system was designed to provide affordable and compatible solutions for hot runner control requirements. The mainframes, when combined with the VC-M digital temperature control module, provide the user with a temperature control system that is user friendly, highly accurate and prepared to handle even the most difficult control applications. The MFTA completes the package by providing an audible alarm, as well as auxiliary contact closures, in the event that an uncontrolled event occurs.

- Does not require a mainframe zone slot - fits in standard mainframe breaker panel position.
- Powered from the mainframe power distribution buss. Isolation provided for power and alarm signals.
- Visual and Audible fault alarms
- Auxiliary dry-contact closure / open upon alarm that can be used to interface with press controls or other ancillary monitoring equipment.
- Compatible with many industry standard mold temperature control modules with alarm communications capability.
- Easy to retrofit into mainframes already in service. Step-by-step installation instructions are provided.
- \*\* Mainframe Communications Buss Is Required \*\*



CATALOG NO.	DESCRIPTION
MFTA-205	Over/Under Alarm Kit
CIK-5	5 Zone Communications Buss
CIK-8	8 Zone Communications Buss
CIK-12	12 Zone Communications Buss
CIK-16	16 Zone Communications Buss
CIK-24	24 Zone Communications Buss

## Mold Power & Thermocouple Cables

Mold power cables are used to connect the mainframe to the power input connector on the mold. Available in lengths of 10, 15 & 20 feet. The VC-12PC mold power cable also serves as a universal cable for connecting any 15 Amp mainframe to any 15 Amp mold power input connector. The maximum number of zones will be determined by the connector in the mold.



### Mold Power cables

CATALOG NO.	NUMBER OF ZONES (Max.)	FROM 15 amp MAINFRAME(S)	TO MOLD END	LENGTH
VC-5PC10	5	5, 8, 12 zone	VC-5MPC	10 ft.
VC-8PC10	8	8, 12 zone	VC-8MPC	10 ft.
VC-12PC10	12	12 zone	VC-12MPC	10 ft.
VC-5PC	5	5, 8, 12 zone	VC-5MPC	15 ft.
VC-8PC	8	8, 12 zone	VC-8MPC	15 ft.
VC-12PC	12	12 zone	VC-12MPC	15 ft.
VC-5PC20	5	5, 8, 12 zone	VC-5MPC	20 ft.
VC-8PC20	8	8, 12 zone	VC-8MPC	20 ft.
VC-12PC20	12	12 zone	VC-12MPC	20 ft.

Thermocouple cables are used to connect the mainframe to the thermocouple connector on the mold. Available in lengths of 15 feet.



### Thermocouple cables

CATALOG NO.	NUMBER OF ZONES (Max.)	FROM 15 amp MAINFRAME(S)	TO MOLD END	LENGTH
VC-5TC10	5	5, 8, 12 zone	VC-5MTC	10 ft.
VC-8TC10	8	8, 12 zone	VC-8MTC	10 ft.
VC-12TC10	12	12 zone	VC-12MTC	10 ft.
VC-5TC	5	5, 8, 12 zone	VC-5MTC	15 ft.
VC-8TC	8	8, 12 zone	VC-8MTC	15 ft.
VC-12TC	12	12 zone	VC-12MTC	15 ft.
VC-5TC20	5	5, 8, 12 zone	VC-5MTC	20 ft.
VC-8TC20	8	8, 12 zone	VC-8MTC	20 ft.
VC-12TC20	12	12 zone	VC-12MTC	20 ft.

**Power & Thermocouple combination cable 10 & 15 ft. lengths**



CATALOG NO.	NUMBER OF ZONES (Max.)	FROM 10 amp MAINFRAME(S)	TO MOLD END
VC-MPTC-10	1	1, 2 zone	CKPTIC-1
VC-MPTC-15	1	1, 2 zone	CKPTIC-1

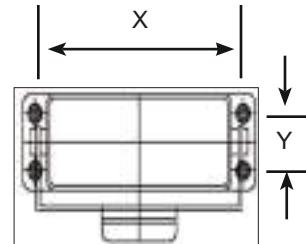
\*Custom lengths and connectors available upon request.

**Special Power and Thermocouple Cables Available Upon Request.**

## Mold Connectors

Mold Power and Thermocouple input connectors are mounted on the mold to accept the appropriate cable.

Mold Power Connectors are supplied with six inches of number 14 gauge wire leads and a ground wire.\*



VC-5MPC



VC-8MPC



VC-12MPC

### Mold Power Input Connectors

CATALOG NO.	NUMBER OF ZONES (Max.)	AMPS (Max.) PER ZONE	DIMENSIONS IN INCH	
			X	Y
VC-5MPC	5	15	3.386	.689
VC-8MPC	8	15	3.386	.689
VC-12MPC	12	15	3.386	.689



VC-5MTC



VC-8MTC



VC-12MTC

### Mold Thermocouple Connectors

CATALOG NO.	NUMBER OF PINS	NUMBER OF ZONES (Max.)	DIMENSIONS IN INCH	
			X	Y
CKPTIC-1	5	1	N/A	1.180
VC-5MTC	10	5	3.268	1.260
VC-8MTC	16	8	4.055	1.260
VC-12MTC	24	12	5.118	1.260

\*Ground wire must be connected to mold to ensure operator safety.

## Pre-Wired Terminal Mounting Boxes

When ordering combination mounting boxes, choose the item number and required quantity for the selected mainframe zones.



VC-2TB-TS



VC-5TB-TS



VC-8TB-TS



VC-12TB-TS

CATALOG NO.	MAINFRAME ZONES	QUANTITY REQUIRED	ADDITIONAL CATALOG NO.	ADDITIONAL QUANTITY REQUIRED
VC-2TB-TS	2	1		
VC-5TB-TS	5	1		
VC-8TB-TS	8	1		
VC-12TB-TS	12	1		
VC-8TB-TS	16	2		
VC-8TB-TS	20*	1	VC-12TB-TS	1
VC-12TB-TS	24	2		
VC-8TB-TS	28*	2	VC-12TB-TS	1
VC-8TB-TS	32*	1	VC-12TB-TS	2
VC-12TB-TS	36	3		
VC-8TB-TS	40*	2	VC-12TB-TS	2
VC-8TB-TS	44*	1	VC-12TB-TS	3
VC-12TB-TS	48	4		

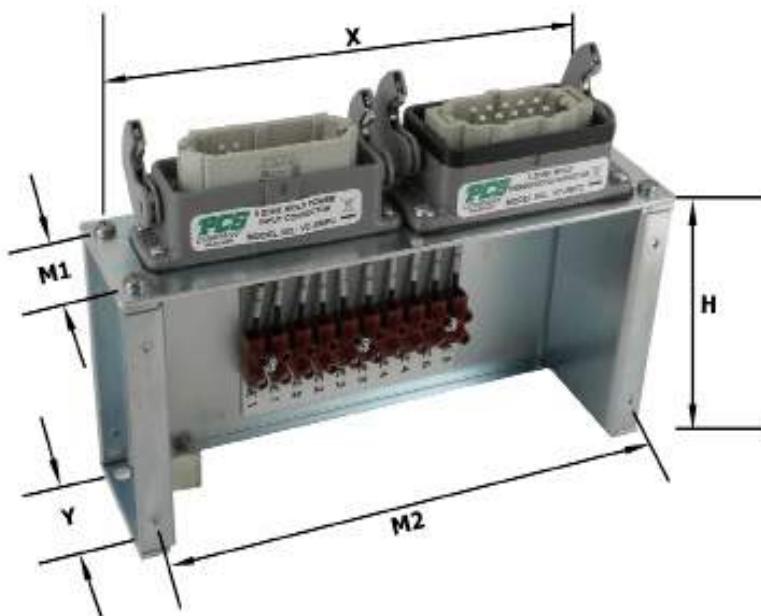
\*When ordering 20, 28, 32, 40 and 44 zones, please note the additional items and quantities required.

## Pre-Wired Terminal Mounting Boxes

- Choose Prewired Terminal Mounting Boxes to save time and money during installation.
- Comes with all necessary connectors for easy set up.
- Service friendly maintenance.



VC-2TB-TS



VC-5TB-TS



VC-8TB-TS



VC-12TB-TS

M= Mounting screw spacing. Clearance for 1/4 SHCS.

CATALOG NO.	DIMENSIONS IN INCH					INCLUDES
	Y	X	H	M1	M2	
VC-2TB-TS	2.750	4.880	4.250	1.500	4.250	(2) CKPTIC-1
VC-5TB-TS	2.750	8.660	4.250	1.500	8.031	VC-5MPC, VC-5MTC
VC-8TB-TS	2.750	9.470	4.250	1.500	8.843	VC-8MPC, VC-8MTC
VC-12TB-TS	2.750	10.530	4.250	1.500	9.906	VC-12MPC, VC-12MTC

Comes with all necessary connectors installed and pre-wired to the terminal strip.

## Combination Terminal Mounting Boxes



VC-2TB



VC-5TB



VC-8TB



VC-12TB

Choose the Combination Terminal Mounting Box for its economical and rugged design.



M= Mounting screw spacing. Clearance for 1/4 SHCS.

CATALOG NO.	DIMENSIONS IN INCH					ACCEPTS
	Y	X	H	M1	M2	
VC-2TB	2.750	4.880	4.250	1.500	4.250	(2) CKPTIC-1
VC-5TB	2.750	8.660	4.250	1.500	8.031	VC-5MPC, VC-5MTC
VC-8TB	2.750	9.470	4.250	1.500	8.843	VC-8MPC, VC-8MTC
VC-12TB	2.750	10.530	4.250	1.500	9.906	VC-12MPC, VC-12MTC

## OEM Prewired Terminal Mounting Boxes



### **DESIGN FEATURES**

- TWO PIECE COVER
- FREE-STANDING CONSTRUCTION FOR EASY TERMINAL ACCESS
- CONVECTION COOLING HOLES
- WIRING DIAGRAMS (INSIDE COVER)
- 200°C TFE INSULATED WIRE



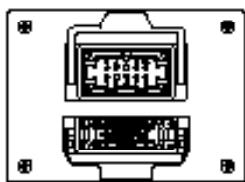
**PTC5WTB-TS**



**PTC8WTB-TS**

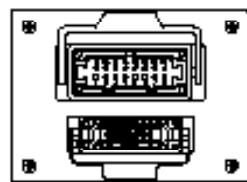


**PTC12WTB-TS**



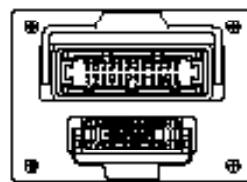
**PTC5WTB-TS**

PCS / DME  
Style



**PTC8WTB-TS**

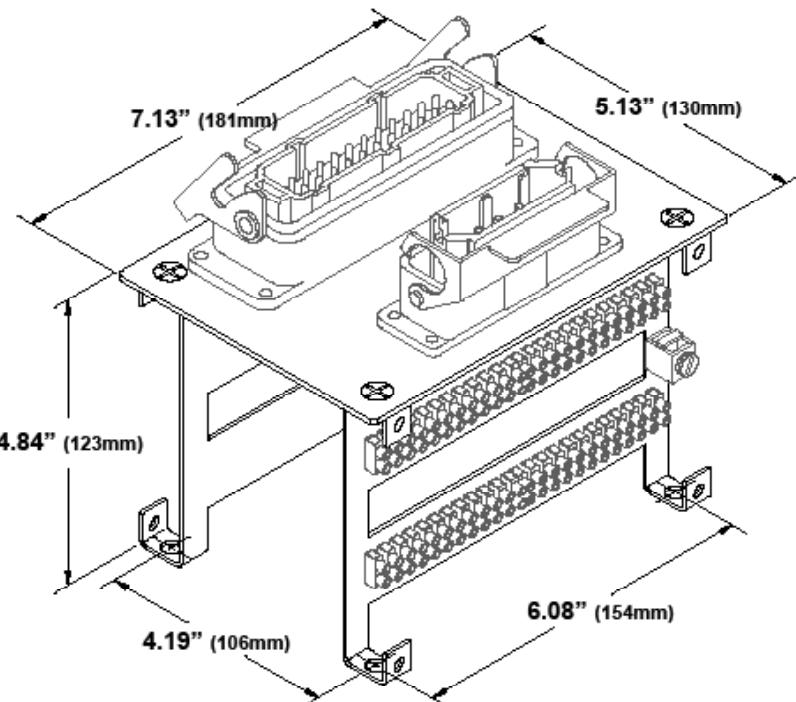
PCS / DME  
Style



**PTC12WTB-TS**

PCS / DME  
Style

## OEM Prewired Terminal Mounting Boxes



**PTC12DWTB-TS**



**PITC8WTB-TS**



**PITC12WTB-TS**

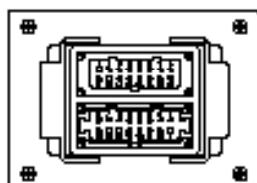


**PICH6WTB-TS**



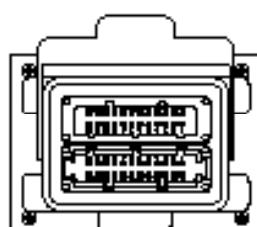
**PTC12DWTB-TS**

HBE24  
Double Latch Style



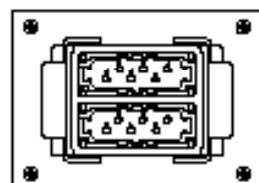
**PITC8WTB-TS**

Generic  
Style



**PITC12WTB-TS**

Mold Masters  
Style

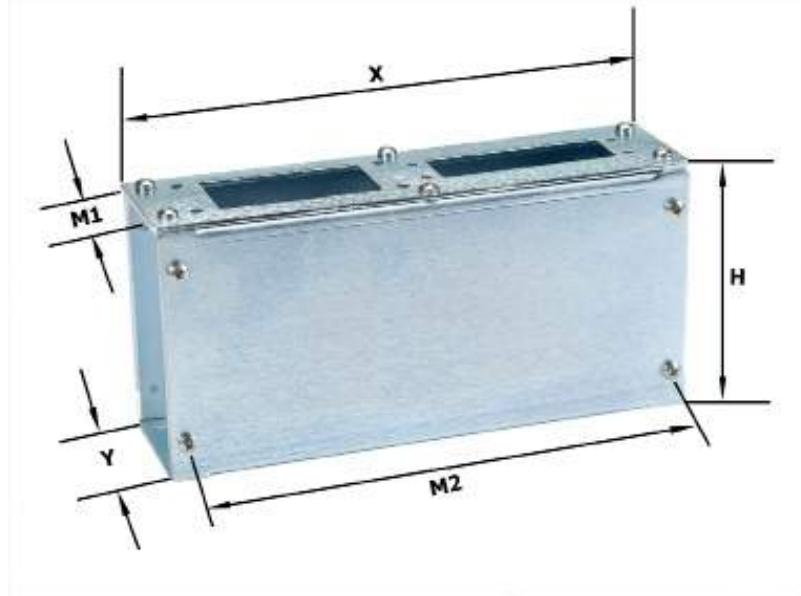


**PICH6WTB-TS**

DME High  
Power Style

## OEM Combination Terminal Mounting Boxes

Choose the Combination Terminal Mounting Box for its economical and rugged design.



PTCE5TB



PTCE8TB



PTCE12TB

### OEM Mold End Blank Combination Terminal Mounting Boxes

CATALOG NO.	OEM STYLE	DIMENSIONS IN INCH					ACCEPTS
		Y	X	H	M1	M2	
PTCE5TB	HBE10 Double Latch Style	2.440	9.47	4.100	1.500	8.84	PICE5, MTCE5
PTCE8TB	HBE16 Double Latch Style	2.440	10.53	4.100	1.500	9.91	PICE8, MTCE8
PTCE12TB	HBE24 Double Latch Style	2.440	12.79	4.100	1.500	12.17	PICE12, MTCE12

## OEM Mold Power & Thermocouple Conversion Cables

### OEM Mold Power Conversion Cables

CATALOG NO.	OEM STYLE	# OF ZONES (Max.)	FROM 15 amp MAINFRAME(S)	TO DOUBLE LATCH MOLD END	LENGTH
MPCE5-10	HBE10 Double Latch to PCS/DME Style	5	5, 8, 12 Zone	PICE5	10 ft.
MPCE8-10	HBE16 Double Latch to PCS/DME Style	8	5, 8, 12 Zone	PICE8	10 ft.
MPCE12-10	HBE24 Double Latch to PCS/DME Style	12	5, 8, 12 Zone	PICE12	10 ft.
MPCE5-20	HBE10 Double Latch to PCS/DME Style	5	5, 8, 12 Zone	PICE5	20 ft.
MPCE8-20	HBE16 Double Latch to PCS/DME Style	8	5, 8, 12 Zone	PICE8	20 ft.
MPCE12-20	HBE24 Double Latch to PCS/DME Style	12	5, 8, 12 Zone	PICE12	20 ft.



### OEM Thermocouple Conversion Cables

CATALOG NO.	OEM STYLE	# OF ZONES (Max.)	FROM 15 amp MAINFRAME(S)	TO DOUBLE LATCH MOLD END	LENGTH
TCE5-10	HBE10 Double Latch to PCS/DME Style	5	5, 8, 12 Zone	MTCE5	10 ft
TCE8-10	HBE16 Double Latch to PCS/DME Style	8	5, 8, 12 Zone	MTCE8	10 ft
TCE12-10	HBE24 Double Latch to PCS/DME Style	12	5, 8, 12 Zone	MTCE12	10 ft
TCE5-20	HBE10 Double Latch to PCS/DME Style	5	5, 8, 12 Zone	MTCE5	20 ft.
TCE8-20	HBE16 Double Latch to PCS/DME Style	8	5, 8, 12 Zone	MTCE8	20 ft.
TCE12-20	HBE24 Double Latch to PCS/DME Style	12	5, 8, 12 Zone	MTCE12	20 ft.



### OEM Split Combination Power & Thermocouple Cables

CATALOG NO.	OEM STYLE	# OF ZONES (Max.)	FROM 15 amp MAINFRAME(S)	TO DOUBLE LATCH MOLD END	LENGTH
PITC12-10YFE	Mold Masters Mold End to PCS/DME Style	12 power & 12 thermocouple	PCS Standard 5, 8, 12 Zone	PITC12	10 ft.
PITC12-20YFE	Mold Masters Mold End to PCS/DME Style	12 power & 12 thermocouple	PCS Standard 5, 8, 12 Zone	PITC12	20 ft.
PITC12-10YME	Mold Masters Mold End to PCS/DME Style	12 power & 12 thermocouple	From 15 Amp mainframe(s) using HBE / HAN 48 power & thermocouple connector	VC-12MPC & VC-12MTC	10 ft.
PITC12-20YME	Mold Masters Mold End to PCS/DME Style	12 power & 12 thermocouple	From 15 Amp mainframe(s) using HBE / HAN 48 power & thermocouple connector	VC-12MPC & VC-12MTC	20 ft.



### OEM Power & Thermocouple Cable

CATALOG NO.	OEM STYLE	# OF ZONES (Max.)	FROM 15 amp MAINFRAME(S)	TO DOUBLE LATCH MOLD END	LENGTH
PITC12-10	Mold Masters Style	12	12 Zone	PITC12	10 ft.
PITC12-20	Mold Masters Style	12	12 Zone	PITC12	20 ft.



\*Custom lengths and connectors available upon request.

## OEM Mold Connectors

Mold Power and Thermocouple input connectors are mounted on the mold to accept the appropriate cable. Mold Power Connectors are supplied with six inches of number 14 gauge wire leads and a ground wire.\*



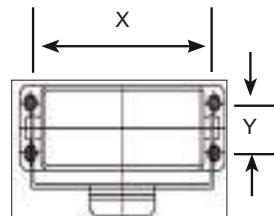
PICE5



PICE8



PICE12



### OEM Mold Power Input Connectors

CATALOG NO.	OEM STYLE	NUMBER OF ZONES (Max.)	AMPS (Max.) PER ZONE	DIMENSIONS IN INCH	
				X	Y
PICE5	HBE10 Double Latch Style	5	15	3.86	1.260
PICE8	HBE16 Double Latch Style	8	15	3.86	1.260
PICE12	HBE24 Double Latch Style	12	15	3.86	1.260



### OEM High Performance Mold Power Input Connector

CATALOG NO.	OEM STYLE	NUMBER OF ZONES (Max.)	AMPS (Max.) PER ZONE	DIMENSIONS IN INCH	
				X	Y
PICH5	Mold Masters Style	5	30	4.88	3.12



MTCE5



MTCE8



MTCE12

### OEM Mold Thermocouple Connectors

CATALOG NO.	OEM STYLE	NUMBER OF ZONES (Max.)	NUMBER OF PINS	DIMENSIONS IN INCH	
				X	Y
MTCE5	HBE10 Double Latch Style	5	10	3.268	1.260
MTCE8	HBE16 Double Latch Style	8	16	4.055	1.260
MTCE12	HBE24 Double Latch Style	12	24	5.118	1.260



### OEM Mold Power & Thermocouple Connector

CATALOG NO.	OEM STYLE	NUMBER OF ZONES (Max.)	AMPS (Max.) PER ZONE	NUMBER OF PINS	DIMENSIONS IN INCH	
					X	Y
PITC12	Mold Masters Style	12 power & 12 thermocouple	15	2 x 24	5.827	2.756

\*Ground wire must be connected to mold to ensure operator safety.

## Replacement Parts



CATALOG NO.	ITEM DESCRIPTION
AC1512F	120v power cable connector



CATALOG NO.	ITEM DESCRIPTION
R144-002	Mainframe Rails



CATALOG NO.	ITEM DESCRIPTION
AC2024F	240v power input connector



CATALOG NO.	ITEM DESCRIPTION
ABC-10	10 amp module fuse replacements (5 pack)



CATALOG NO.	ITEM DESCRIPTION
CKPTM-1L	1 zone cable connector male with latch



CATALOG NO.	ITEM DESCRIPTION
ABC-15	15 amp module fuse replacements (5 pack)



CATALOG NO.	ITEM DESCRIPTION
CKPTF-1L	1 zone cable connector female with latch



CATALOG NO.	ITEM DESCRIPTION
HWCC-1	T/C crimp connectors 18-22 AWG (30 pack)



CATALOG NO.	ITEM DESCRIPTION
CKF-312-G	Edge card connector



CATALOG NO.	ITEM DESCRIPTION
HWCC-3	PWR crimp connectors 14-16 AWG (30 pack)

## Replacement Parts



CATALOG NO.	ITEM DESCRIPTION
CKPM-112-BG	Power cable frame end kit



CATALOG NO.	ITEM DESCRIPTION
CKTF-18-G	8 zone T/C cable mold end kit



CATALOG NO.	ITEM DESCRIPTION
CKPF-112-BG	Power cable mold end kit



CATALOG NO.	ITEM DESCRIPTION
CKTF-112-G	12 zone T/C cable mold end kit



CATALOG NO.	ITEM DESCRIPTION
CKTF-15-G	5 zone T/C cable mold end kit



CATALOG NO.	ITEM DESCRIPTION
CKTF-112-AG	T/C cables frame end kit



CATALOG NO.	ITEM DESCRIPTION
CKPTM-1	1 zone cable connector male without latch



CATALOG NO.	ITEM DESCRIPTION
CKPTF-1	1 zone cable connector female without latch



CATALOG NO.	ITEM DESCRIPTION
CKPTIC-1	1 zone 10 Amp mold power & T/C connector



CATALOG NO.	ITEM DESCRIPTION
CKPTOC1	1 zone 10 amp mainframe power & T/C connector

## Replacement Parts & Accessories



CATALOG NO.	ITEM DESCRIPTION
PCT1000	Crimp tool



CATALOG NO.	ITEM DESCRIPTION
PET0001	Pin extraction tool



CATALOG NO.	ITEM DESCRIPTION
R172-002	White edge card contacts (20 pack)



CATALOG NO.	ITEM DESCRIPTION
PIN0114	Male pin for power connector (30 pack)



CATALOG NO.	ITEM DESCRIPTION
R144-017	T/C ferrules (50 pack)



CATALOG NO.	ITEM DESCRIPTION
VC-10BP	Mainframe blank panel

### Step Down Transformer Kit

PCS Transformer Kits are pre-wired and include an enclosed transformer (3-phase, 480 VAC input, 240 VAC output) with adjustable transformer primary voltage taps, one 10-foot cable for AC power-in (no connector), one 6-foot cable for mainframe (AC input), one fused safety switch, two extra fuses, floor stand, and all mounting brackets and required hardware.

Product not shown

\*Floor Stand Included



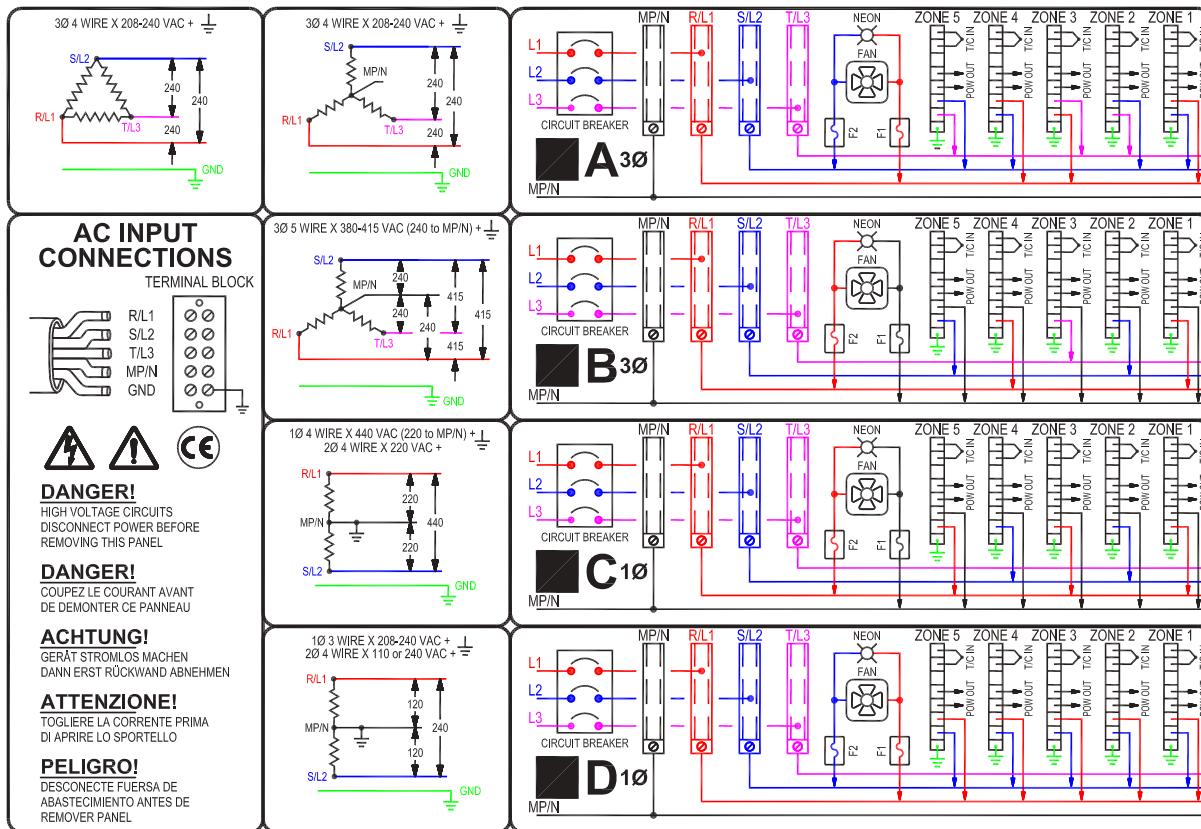
CATALOG NO.	ITEM DESCRIPTION
TK61AG*	6 KVA Transformer Kit
TK91AG*	9 KVA Transformer Kit
TK151AG*	15 KVA Transformer Kit
TK301AG*	30 KVA Transformer Kit

CATALOG NO.	ITEM DESCRIPTION
VC-FS	Floor Stand (Mainframe not included)

Assembly and mainframe mounting hardware included. Stand is made from heavy gauge steel and includes locking casters (400lb. rating).

# Mainframe Wiring Diagram

## MAINFRAME INPUT WIRING OPTIONS



### A NORTH AMERICAN STANDARD 3Ø 4 WIRE; 208-240 VAC

UNLESS OTHERWISE SPECIFIED MAINFRAMES ARE SUPPLIED WIRED IN THIS 208-240 VAC 3Ø CONFIGURATION

As detailed in diagram "A" above each control zone is powered by the voltage developed across one of the three phases R/L1, S/L2 and T/L3 (MP/N is not used). The zone input is staggered to balance the power system: Zone 1 to L1 & L2, Zone 2 to L2 & L3, Zone 3 to L3 & L1, Zone 4 to L1 & L2 and repeats as such.

### B EUROPE / ASIA STANDARD 3Ø 5 WIRE; 380-415 VAC (240 to MP/N)

**WARNING:** The line to line voltages in this system are 380-415 VAC. The 240 VAC control modules and mainframe internal components will be SEVERELY DAMAGED if connected to this high voltage!

As detailed in diagram "B" above each control zone is powered by the 240 volts developed across one of the three phases \*\* AND \*\* MP/N (neutral): R/L1 and MP/N, S/L2 and MP/N, T/L3 and MP/N.

The zone input is staggered to balance the power system:

Zone 1 to L1 & MPN, Zone 2 to L2 & MPN, Zone 3 to L3 & MPN, Zone 4 to L1 & MPN and repeats as such.

**REWIRING THE MAINFRAME** from one power system to another is easy and requires no special tools like crimp applicators: 1) Carefully cut the wire ties off of the zone input wiring bundle (lower bundle), 2) Disconnect all of the quick connect terminals from the RL1, SL2, TL3 and MPN brass distribution strips, 3) Reconnect each zone input wiring to the proper brass distribution strip as detailed above.

### C 1Ø 4 WIRE; 440 VAC (220 to MP/N) \*OR\* 2Ø 4 WIRE; 220 VAC

**WARNING:** The line to line voltage in this system is 440 VAC. The 240 VAC control modules and mainframe internal components will be SEVERELY DAMAGED if connected to this high voltage! As detailed in diagram "C" above each control zone is powered by the 220 volts developed across one of the two phases \*\* AND \*\* MP/N (neutral): R/L1 and MP/N and S/L2 and MP/N.

The zone input is staggered to balance the power system:

Zone 1 to L1 & MPN, Zone 2 to L2 & MPN, Zone 3 to L1 & MPN, Zone 4 to L2 & MPN and repeats as such.

### D NORTH AMERICAN STANDARD 1Ø 3 WIRE; 208-240 VAC MAY BE USED ON 2Ø 4 WIRE 110 or 240 VAC

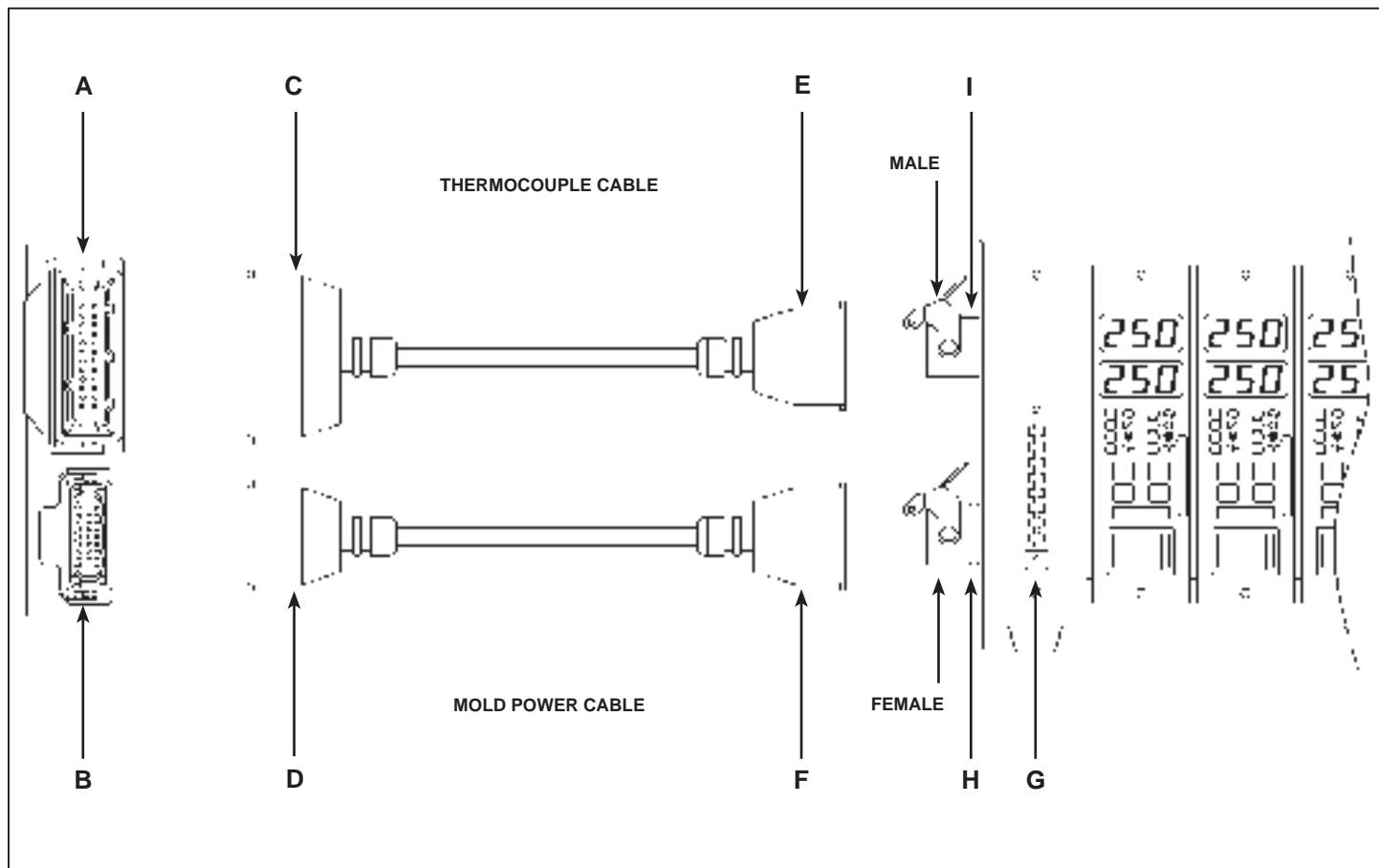
This is the most common 1Ø power system in the United States.

As detailed in diagram "D" above each control zone is powered by the 240 volts developed across the two phases R/L1 and S/L2: Zone 1 to L1 & L2, Zone 2 to L1 & L2 and repeats as such.

**This power system will supply 120 VAC**, if required, for use with a 120 VAC mainframe and control modules. In such a case (unless purchased as a 120V mainframe) the mainframe control zone input wiring must be changed so that the 120 VAC for each control zone is developed across one of the two phases \*\* AND \*\* MP/N (neutral) and staggered to balance the power system: Zone 1 to L1 & MPN, Zone 2 to L2 & MPN, Zone 3 to L1 & MPN and repeats as such.

**WARNING: DISCONNECT ALL POWER BEFORE SERVICE!!**

## Replacement Parts Diagram



REFERENCE LETTER	DESCRIPTION	CATALOG NO.
A	Mold Thermocouple Output Connectors	See pg. XX
B	Mold Power Input Connectors	See pg. XX
C	Mold End Kit for 5-Zone Thermocouple cable	CKTF-15-G
	Mold End Kit for 8-Zone Thermocouple cable	CKTF-18-G
	Mold End Kit for 12-Zone Thermocouple cable	CKTF-112-G
D	Mold End Kit for all 15 Amp Power cables	CKPF-112-BG
E	Frame End Kit for all Thermocouple cables	CKTF-112-AG
F	Frame End Kit for all 15 Amp Power cables	CKPM-112-BG
G	Edge Card Kit for all mainframe PC Boards (10, 15, or 30 Amp)	CKF-312-G
H	Power output kit for all 15 Amp mainframes	CKPF-212-BG
I	Thermocouple input kit for all mainframes	CKTM-212-AG

## OEM Heaters

- DME and Husky equivalent replacement heaters
- Excellent heat distribution
- Internal thermocouple
- Custom sizes available upon request



CATALOG NO.	OEM STYLE	DESCRIPTION	PICTURE
534192	Husky	Nozzle Heater, Cam lock style, 268 Watts, 240V, 2M Leads	
534233	Husky	Sprue Heater, Cam lock style, 268 Watts, 240V, 2M Leads	
534445	Husky	Nozzle Heater, Cam lock style, 149 Watts, 240V, 2M Leads	
534533	Husky	Sprue Heater, 400 Watts, 240V, 2M Leads	
536195	Husky	Sprue Heater, 650 Watts, 240V, 2M Leads	
534975	Husky	Nozzle Heater, Bi-metallic style with screw on cap, 220 Watts, 240V, 2M Leads	

CATALOG NO.	OEM STYLE	DESCRIPTION	I.D.	WIDTH	PICTURE
HPS-2001	DME	High Performance Straight Shot Heater, 700W, 240V, 66" Leads	0.700"	3.50"	
SCH-0004	DME	Mini Mate Mate Heater, 250W, 240V, 39" Leads	0.750"	3.50"	
SCH-3142	DME	Medium Gate Mate Heater, 460W, 240V, 42" Leads	0.750"	1.70"	
SCH-3242	DME	Medium Gate Mate Heater, 460W, 240V, 42" Leads	0.750"	2.70"	
SSTC-31	DME	Straight Shot Heater, 300W, 120V, 48" Leads	0.500"	4.63"	
SSTC-3190	DME	Straight Shot Heater, 300W, 120V, 48" Leads	0.500"	4.63"	
SSTC-32	DME	Straight Shot Heater, 300W, 240V, 48" Leads	0.500"	4.63"	
SSTC-3290	DME	Straight Shot Heater, 300W, 240V, 48" Leads	0.500"	4.63"	
SSTC-42	DME	Straight Shot Heater, 460W, 240V, 48" Leads	0.500"	2.50"	
SSTC-4290	DME	Straight Shot Heater, 460W, 240V, 48" Leads	0.500"	2.50"	

## OEM Thermocouples



- Husky, DME and Mold-Masters equivalent replacement thermocouples
- J-Type Thermocouples
- Quick response time
- Built to OEM specifications

CATALOG NO.	OEM STYLE	DESCRIPTION	PICTURE
534541	Husky	Thermocouple -1 mm T/C, 8" probe, J type	
535002	Husky	Thermocouple	
535057	Husky	Thermocouple -1.5mm T/C, 8" probe, J type	
535037	Husky	Thermocouple	
1502149	Husky	2 Thermocouples extend 10mm beyond square bracket	
536194	Husky	2 Thermocouples extend 8mm beyond square bracket	
534184	Husky	Round Washer with 2 Thermocouples attached	

CATALOG NO.	OEM STYLE	DESCRIPTION	PROBE LENGTH	PICTURE
HPS-3001	DME/Mold-Masters	High Performance Straight Shot, J Type Thermocouple, Dia= 1.5mm, 48" Leads	4.25"	
TCG-0100	DME/Mold-Masters	Mini Gate Mate, J Type Thermocouple, Dia= 1.5mm, 39" Leads	1.80"	
TC-9600	DME/Mold-Masters	Medium Gate Mate, J Type Thermocouple, Dia= 1.5mm, 39" Leads	2.68"	
TC-9700	DME/Mold-Masters	Medium Gate Mate, J Type Thermocouple, Dia= 1.5mm, 39" Leads	3.68"	
TC-10-110	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.0mm, 60" Leads	110 mm	
TC-10-150	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.0mm, 60" Leads	150 mm	
TC-10-200	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.0mm, 60" Leads	200 mm	
TC-10-250	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.0mm, 60" Leads	250 mm	
TC-10-300	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.0mm, 60" Leads	300 mm	
TC-15-110	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.5mm, 60" Leads	110 mm	
TC-15-150	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.5mm, 60" Leads	150 mm	
TC-15-200	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.5mm, 60" Leads	200 mm	
TC-15-250	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.5mm, 60" Leads	250 mm	
TC-15-300	DME/Mold-Masters	Grounded, J Type Thermocouple, Dia= 1.5mm, 60" Leads	300 mm	

## Kappa Heaters

- OEM Replacements
- Used on nozzles in high cavitation applications
- Maximizes high cavitation mold performance
- Threaded top tightens heater to the nozzle
- Nickel-coated inside diameter for easy removal
- Made in the U.S.A.



CATALOG NO.	DIAMETER	WIDTH	WATTS	VOLTS
KSH22030	3/4" - 19.05 mm	30 mm	220W	240v
KSH26830	3/4" - 19.05 mm	30 mm	268W	240v
KSH35030	3/4" - 19.05 mm	30 mm	350W	240v
KSH22040	3/4" - 19.05 mm	40 mm	220W	240v
KSH35040	3/4" - 19.05 mm	40 mm	350W	240v
KSH22050	3/4" - 19.05 mm	50 mm	220W	240v
KSH35050	3/4" - 19.05 mm	50 mm	350W	240v
KSH22060	3/4" - 19.05 mm	60 mm	220W	240v
KSH40060	3/4" - 19.05 mm	60 mm	400W	240v
KSH22070	3/4" - 19.05 mm	70 mm	220W	240v
KSH40070	3/4" - 19.05 mm	70 mm	400W	240v
KSH22080	3/4" - 19.05 mm	80 mm	220W	240v
KSH40080	3/4" - 19.05 mm	80 mm	400W	240v
KSH22090	3/4" - 19.05 mm	90 mm	220W	240v
KSH40090	3/4" - 19.05 mm	90 mm	400W	240v
KSH22100	3/4" - 19.05 mm	100 mm	220W	240v
KSH400100	3/4" - 19.05 mm	100 mm	400W	240v
KSH220110	3/4" - 19.05 mm	110 mm	220W	240v
KSH400110	3/4" - 19.05 mm	110 mm	400W	240v
KSH220130	3/4" - 19.05 mm	130 mm	220W	240v
KSH400130	3/4" - 19.05 mm	130 mm	400W	240v
KSH220150	3/4" - 19.05 mm	150 mm	220W	240v
KSH400150	3/4" - 19.05 mm	150 mm	400W	240v
KSH220170	3/4" - 19.05 mm	170 mm	220W	240v
KSH450170	3/4" - 19.05 mm	170 mm	450W	240v
KSH220190	3/4" - 19.05 mm	190 mm	220W	240v
KSH450190	3/4" - 19.05 mm	190 mm	450W	240v
KSH220210	3/4" - 19.05 mm	210 mm	220W	240v



## Axial Clamp Heaters

- OEM Replacements
- Low Profile design for congested mold situations
- Convenient single front accessible allen screw
- Positive clamping maximizes heat transfer
- Made in the U.S.A.

CATALOG NO.	DIAMETER	WIDTH	WATTS	VOLTS
AC14930-750	3/4" (19.05 mm)	1.2" (30 mm)	149W	240v
AC26830-750	3/4" (19.05 mm)	1.2" (30 mm)	268W	240v
AC26830-875	7/8" (22.22 mm)	1.2" (30 mm)	268W	240v

## Flexible Tubular Heaters



- OEM Replacements
- User formable
- Shipped in easy to install straight lengths in 50 mm increments
- Fast and efficient heat transfer
- Same day shipment available
- Made in the U.S.A.
- Connection Options:
  - Standard M4 threaded connection with two nuts
  - Ceramic insulated connector for quick disconnect
  - Other connection options available

DIAMETERS AVAILABLE	LENGTHS AVAILABLE
8.0 mm	300 mm - 2100 mm
8.5 mm	300 mm - 1500 mm

## Flexible Tubular Heater Installation Tools

Tubular heater installation tools make the installation process faster and easier and assures proper seating while optimizing heat transfer



CATALOG NO.	TOOL
TH-HAMMER	Hammer
TH-STAKER	Staker
TH-FORM	Forming Tool
PLUGNHEAT	Ceramic Connector

## Flexible Tubular Manifold Heaters

LENGTH	HEATED LENGTH	8.0 mm Ø GROOVE (8.2 mm HEATER) MIN. BENDING RADIUS 10 mm GROOVE TOLERANCES 7.95 +/- 0.1 mm		8.5 mm Ø GROOVE (8.2 mm HEATER) MIN. BENDING RADIUS 10 mm GROOVE TOLERANCES 7.95 +/- 0.1 mm	
		8.0 mm CATALOG NO.	WATTS	8.5 mm CATALOG NO.	WATTS
300 mm	240 mm	TH80-0300	560W	TH85-0300	650W
350 mm	290 mm	TH80-0350	675W	TH85-0350	750W
400 mm	340 mm	TH80-0400	795W	TH85-0400	900W
450 mm	390 mm	TH80-0450	910W	TH85-0450	1050W
500 mm	440 mm	TH80-0500	1025W	TH85-0500	1150W
550 mm	490 mm	TH80-0550	1145W	TH85-0550	1300W
600 mm	540 mm	TH80-0600	1260W	TH85-0600	1450W
650 mm	590 mm	TH80-0650	1380W	TH85-0650	1600W
700 mm	640 mm	TH80-0700	1495W	TH85-0700	1750W
750 mm	690 mm	TH80-0750	1615W	TH85-0750	1900W
800 mm	740 mm	TH80-0800	1730W	TH85-0800	2050W
850 mm	790 mm	TH80-0850	1845W	TH85-0850	2200W
900 mm	840 mm	TH80-0900	1960W	TH85-0900	2350W
950 mm	890 mm	TH80-0950	2080W	TH85-0950	2500W
1000 mm	940 mm	TH80-1000	2195W	TH85-1000	2650W
1050 mm	990 mm	TH80-1050	2316W	TH85-1050	2800W
1100 mm	1040 mm	TH80-1100	2430W	TH85-1100	2930W
1150 mm	1090 mm	TH80-1150	2545W	TH85-1150	3060W
1200 mm	1140 mm	TH80-1200	2665W	TH85-1200	3190W
1250 mm	1190 mm	TH80-1250	2780W	TH85-1250	3320W
1300 mm	1240 mm	TH80-1300	2895W	TH85-1300	2450W
1350 mm	1290 mm	TH80-1350	3015W	TH85-1350	2580W
1400 mm	1340 mm	TH80-1400	3130W	TH85-1400	3600W
1450 mm	1390 mm	TH80-1450	3245W	TH85-1450	3600W
1500 mm	1440 mm	TH80-1500	3365W	TH85-1500	3600W
1550 mm	1490 mm	TH80-1550	3480W		
1600 mm	1540 mm	TH80-1600	3600W		
1650 mm	1590 mm	TH80-1650	3600W		
1700 mm	1640 mm	TH80-1700	3600W		
1750 mm	1690 mm	TH80-1750	3600W		
1800 mm	1740 mm	TH80-1800	3600W		
1850 mm	1790 mm	TH80-1850	3600W		
1900 mm	1840 mm	TH80-1900	3600W		
1950 mm	1890 mm	TH80-1950	3600W		
2000 mm	1940 mm	TH80-2000	3600W		
2050 mm	1990 mm	TH80-2050	3600W		
2100 mm	2040 mm	TH80-2100	3600W		

## Spacers & Nozzle Housings



- Husky equivalent replacement
- Built to OEM specifications

CATALOG NO.	OEM STYLE	DESCRIPTION	PICTURE
535636	Husky	Back Spacer, Helps locate manifolds in plate	
532963	Husky	Back Spacer, Helps locate manifold in plate	
535927	Husky	Nozzle Housing, standard housing with snap ring groove	

## Insulators & Retainers



- Husky equivalent replacement
- Built to OEM specifications

CATALOG NO.	OEM STYLE	DESCRIPTION	PICTURE
5248982	Husky	Nozzle Tip Insulator	
5501583	Husky	Nozzle Tip Insulator	
535469	Husky	Nozzle Tip Insulator	
534183	Husky	Nozzle Tip Insulator	
534431	Husky	Nozzle Tip Insulator	
2633927	Husky	Nozzle Insulator	
2504076	Husky	Nozzle Tip Insulator	
3019811	Husky	Nozzle Tip Insulator -Ultra HyPET system	
2221327	Husky	Nozzle Tip Insulator -Current standard design	
100352	Husky	Nozzle Tip Insulator -MHT	
2613055	Husky	Nozzle Tip Insulator -For Ultra system	
2638175	Husky	Nozzle Tip Retainer -500 Series Tip Retainer	



## Nozzle Tips

- Husky equivalent replacement
- Built to OEM specifications

CATALOG NO.	OEM STYLE	DESCRIPTION	PICTURE
100351	Husky	PET Nozzle Tip - MHT	
535242	Husky	PET Nozzle Tip - Old Style Design	
534514	Husky	PET Nozzle Tip - 1mm longer than 535242	
2149709	Husky	PET Nozzle Tip -current standard design	
2594014	Husky	PET Nozzle Tip	
2892341	Husky	Nozzle Tip	
2046378	Husky	Nozzle Tip - 3 Hole Tip, 5 Diameter melt channel	
2046382	Husky	Nozzle Tip - 3 Hole Tip, 8 Diameter melt channel	
535989	Husky	Nozzle Tip - 3 Hole Tip, 5 Diameter melt channel	
535990	Husky	Nozzle Tip - 3 Hole Tip, 8 Diameter melt channel	
2343810	Husky	Nozzle Tip - 500 Series Tip	
2343811	Husky	Nozzle Tip - 500 Series Tip TZM	
2468127	Husky	Nozzle Tip, 250 Series	
2725698	Husky	Nozzle Tip - For Ultra system	
2906456	Husky	Nozzle Tip - 3.2 mm gate	
3551789	Husky	Nozzle Tip - 6 Hole Tip, 5 Diameter melt channel	
3551791	Husky	Nozzle Tip - 6 Hole Tip, 8 Diameter melt channel	
5248090	Husky	Nozzle Tip - 6 Hole Tip, 5 Diameter melt channel	
533060	Husky	Nozzle Tip - 2 Hole Tip, M12 Thread	
536660	Husky	Nozzle Tip	

## Valve Stems & Bushings



- Husky equivalent replacement
- Built to OEM specifications

CATALOG NO.	OEM STYLE	DESCRIPTION	PICTURE
534618	Husky	Valve Bushing	
2391203	Husky	Valve Bushing	
2574137	Husky	PET Valve Stem	
2574138	Husky	PET Valve Stem	
2574139	Husky	PET Valve Stem	
2574140	Husky	PET Valve Stem	
2758743	Husky	PET Valve Stem	
2758699	Husky	Valve Stem	
3109960	Husky	Valve Stem - HyPET	
4151375	Husky	PET Valve Stem	
4150851	Husky	Valve Stem - HyPET	
4151233	Husky	Valve Stem - 173.07 mm for HyPET	
3443069	Husky	Valve Stem	
534765	Husky	PET Valve Stem - 173.07 mm	
533430	Husky	PET Valve Stem - 153.08 mm	
534460	Husky	PET Valve Stem - 158.06 mm	
533429	Husky	PET Valve Stem - 133.09 mm	

## Pistons, Seals & Retainers



- Husky equivalent replacements
- Built to OEM specifications

CATALOG NO.	OEM STYLE	DESCRIPTION	PICTURE
101401	Husky	Piston Seal -MHT Piston Seal	
101402	Husky	Piston Seal -MHT Piston Seal	
101405	Husky	Piston Seal -MHT Piston Seal (micro pitch)	
101406	Husky	Piston Seal -MHT Piston Seal (micro pitch)	
536481	Husky	Piston Seal -2 piece double delta design	
1090035	Husky	Piston Seal -2 piece seal for micro pitch and Ultra HyPET system	
2520571	Husky	Piston Seal -1 piece seal	
535413	Husky	Piston Seal -Teflon Encapsulated PFA O-ring	
533376	Husky	Piston Retainer	
535480	Husky	Piston Disk	
2964040	Husky	Piston -for Ultra HyPET system Ultra HyPET	
2475989	Husky	Piston -for micro pitch	
3304540	Husky	Piston -for micro pitch	
3731087	Husky	Piston Cylinder -Ultra HyPET system	

## 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



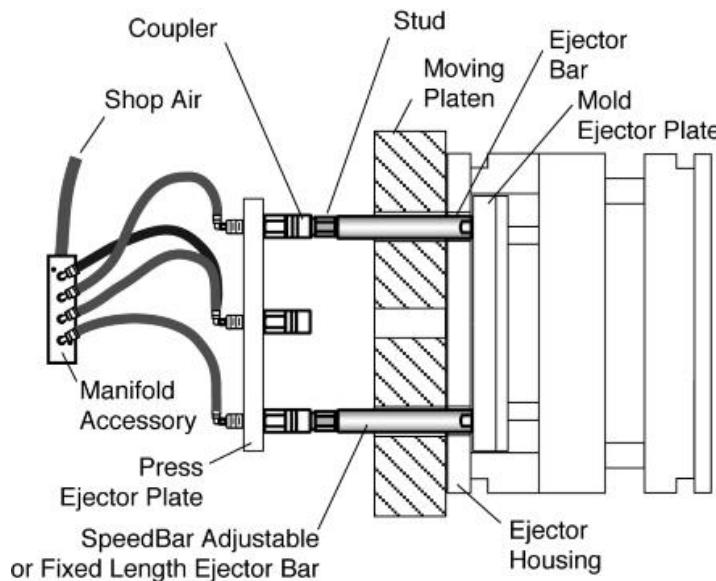
FasTie® Couplers

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.

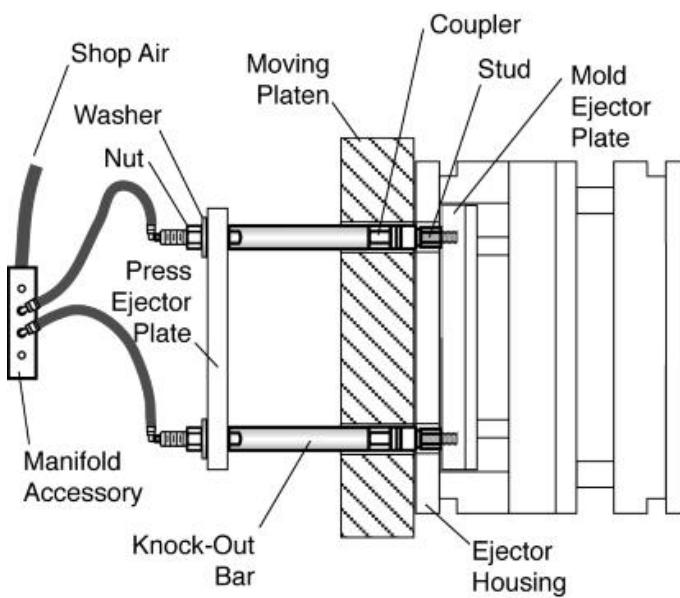
For example, a press with 4 ejector positions may be running molds using only the horizontal positions, but the next mold may need the 2 vertical ejector positions. Ejector housing shown is 1.062" thick.

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.

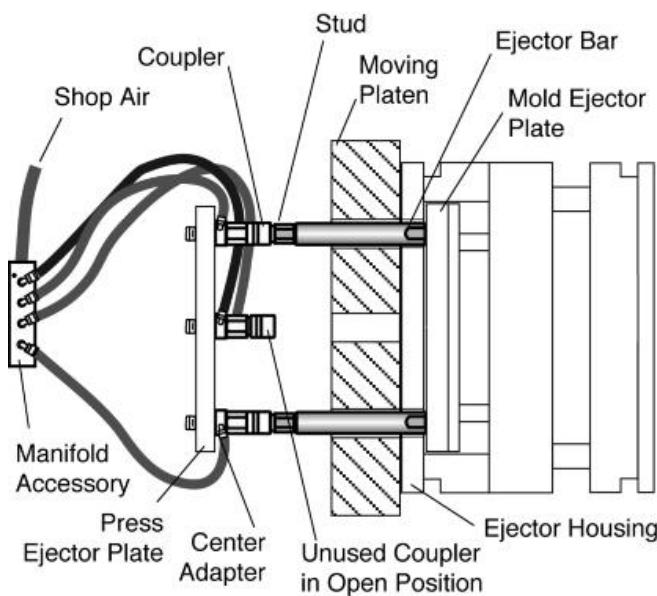
The Air Manifold supplies compressed air to the end of each ejector bar for simultaneous coupler release. Fixed length bars are finished on site, cut to length and tapped with 1/2-13 female thread.

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.

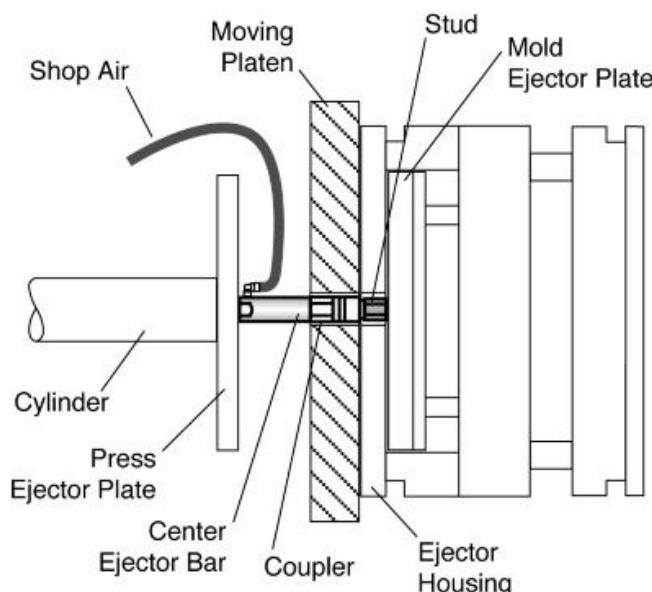
The Air Manifold supplies air to the mold side of the Press Ejector Plate with the use of adapters.

### 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

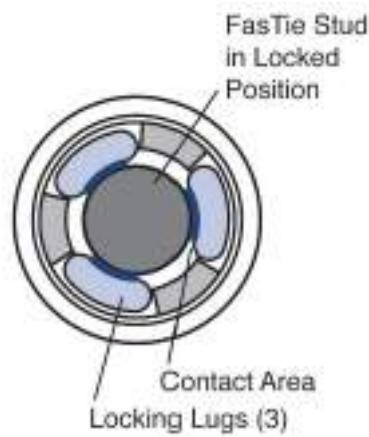
### Recommended FasTie® Size per Press Size & Knockout Qty.

KNOCKOUT QUANTITY			
Press Tonnage	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

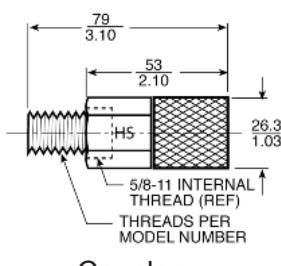


High Strength 1" FasTie®

## High Strength FasTie® Couplers & Pull Studs

### FasTie® 1" Coupler

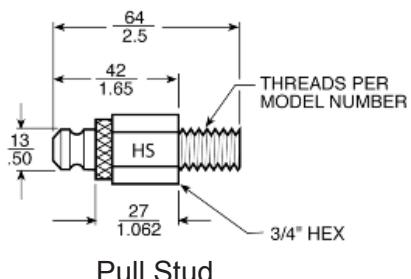
CATALOG NO.	THREAD SIZE
FTFHS-50	1/2-13
FTFHS-63	5/8-11
FTFHS-M12	M12 X 1.75
FTFHS-M16	M16 X 2



Coupler

### 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



Pull Stud

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



Speed Bar®  
U.S. Patent No. 6,315,514

Additional parts to aid installation and use:

### 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

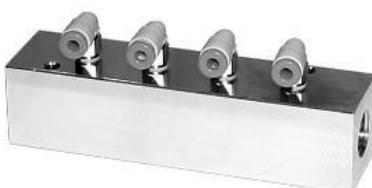


Center Adapter

### 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.

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



Air Manifold

### Air Manifold

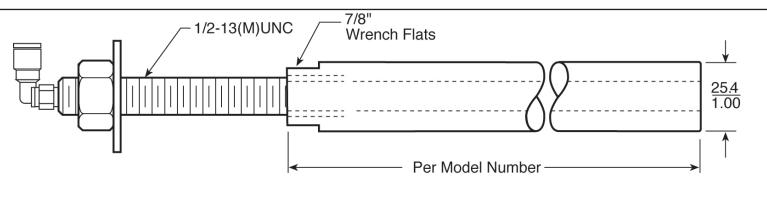
- The Air Manifold splits single air supply into four circuits to aid air connection. Comes with 1/8" diameter tubing and pneumatic connectors.

**Ask about special thread sizes for ejector bars and center adapters**

## FasTie® 1" Accessories

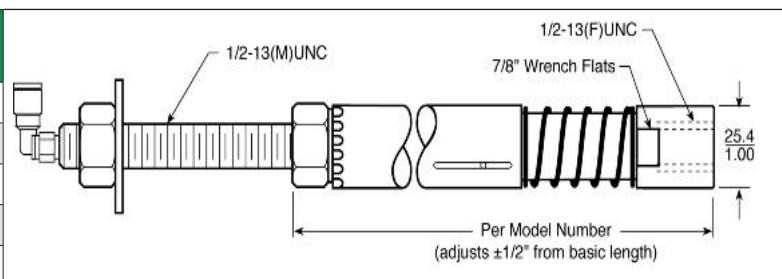
### Fixed Length Ejector Bar®

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



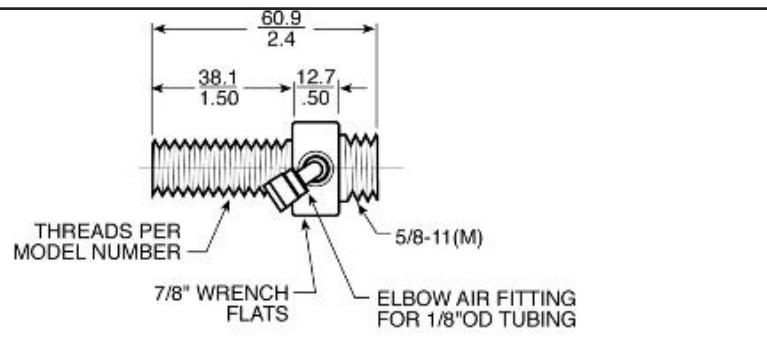
### Speed Bar® Adjustable Ejector Bar

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

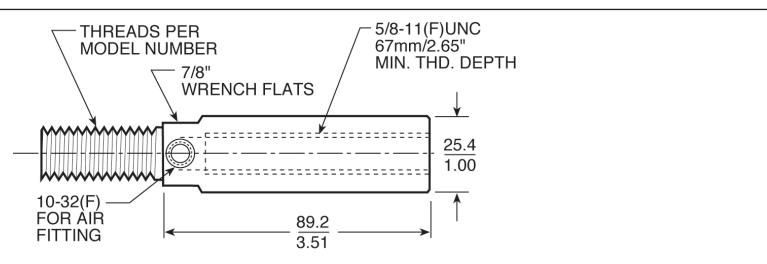
CATALOG NO.	THREAD SIZE
FTCA-63	5/8-11
FTCA-M12	M12 x 1.75
FTCA-M16	M16 x 2
FTCA-M20	M20 x 2.5



### Center Bar

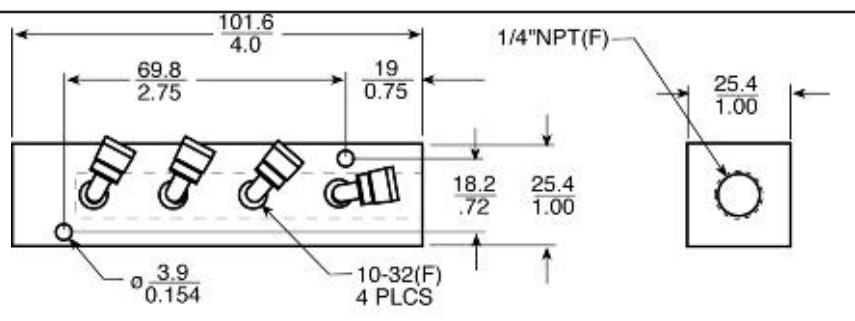
CATALOG NO.	THREAD SIZE
FTCA-63-63*	5/8-11
FTCA-M16-63*	M16 x 2

\*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	Diagram
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	Diagram
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	Diagram
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	Diagram
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	Diagram
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	Diagram
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

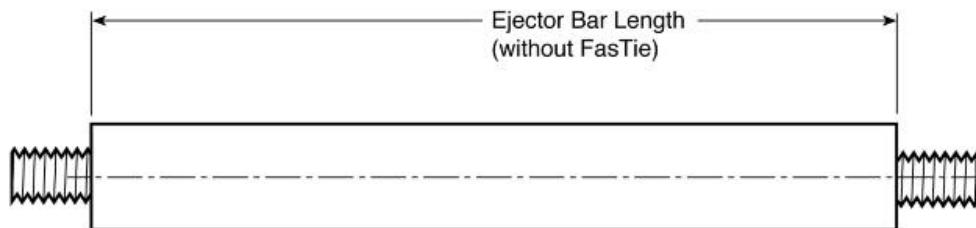


Figure 1

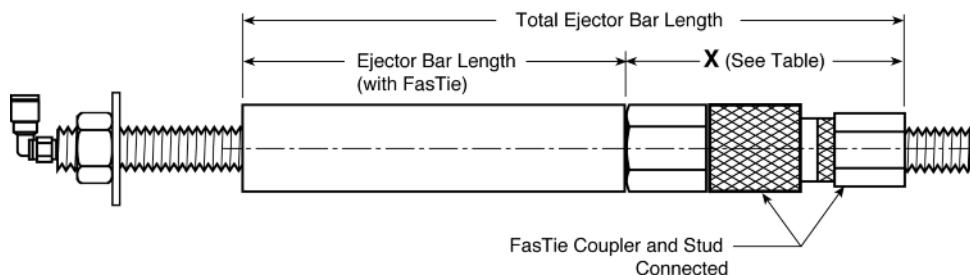
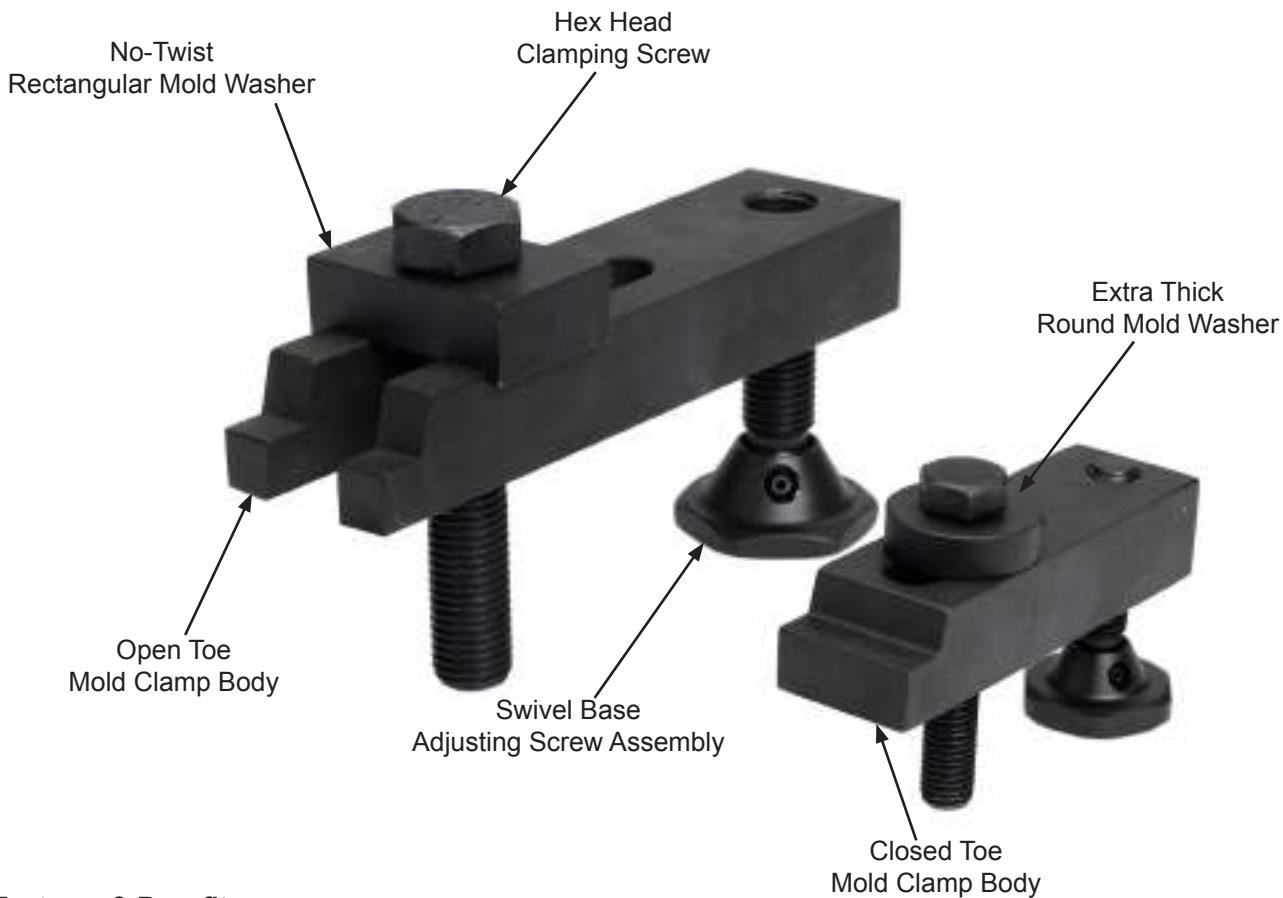


Figure 2

## 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.

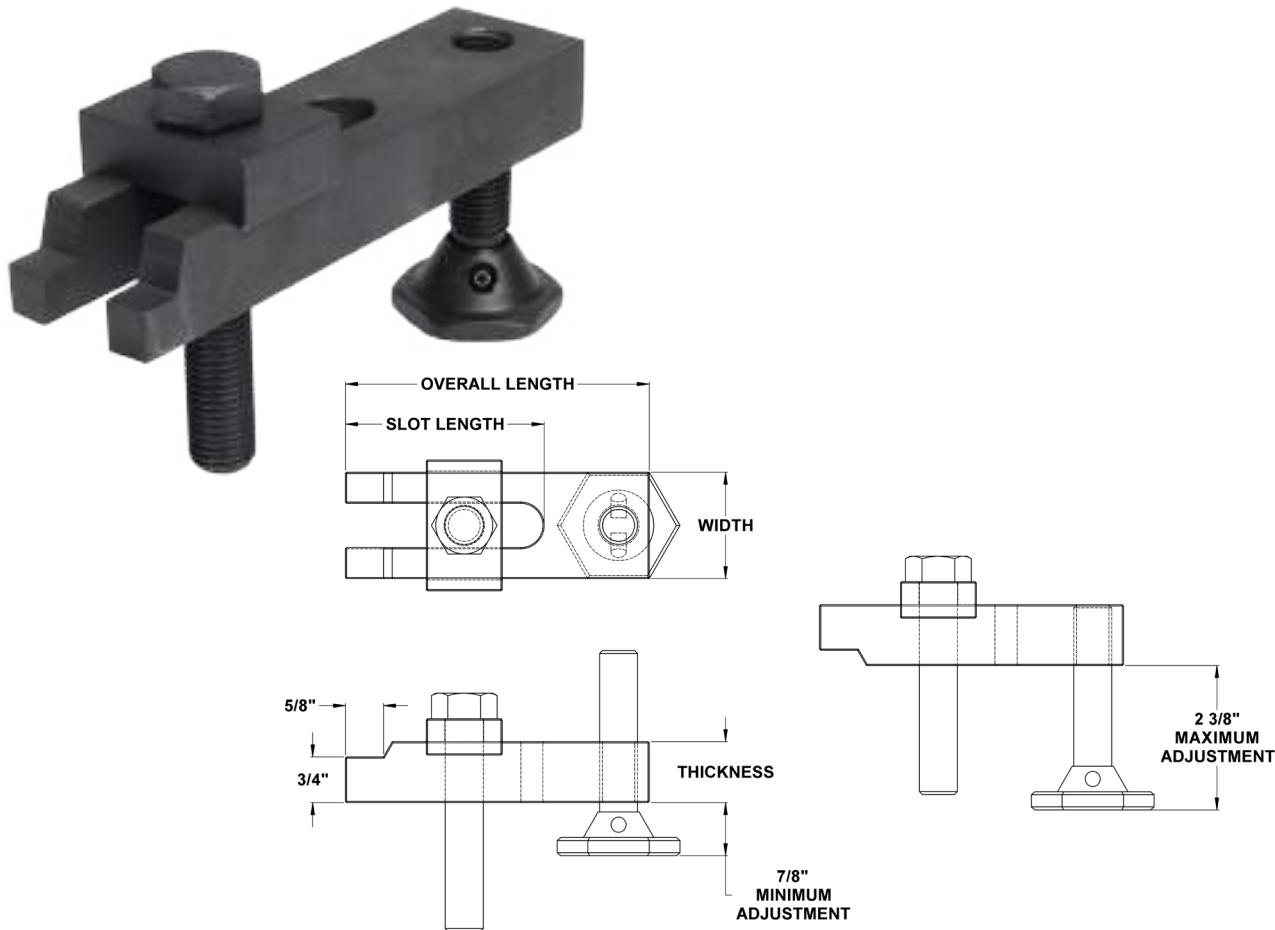


### Features & Benefits

- 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

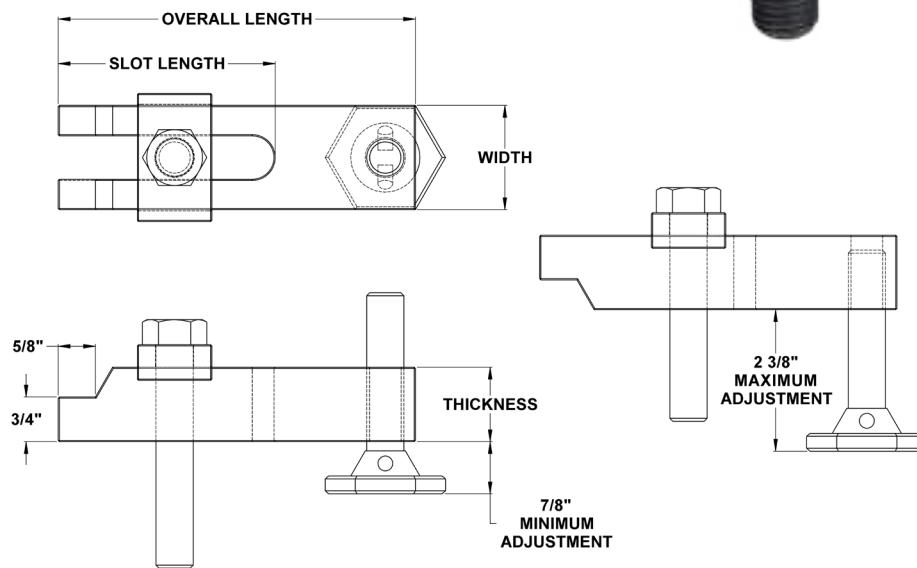
With swivel base adjusting screw



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" 8 x 5"	1-1/2"	2-1/2"	6	10

# Extra Heavy Duty Open Toe Mold Clamp Assemblies

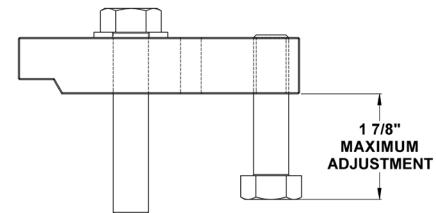
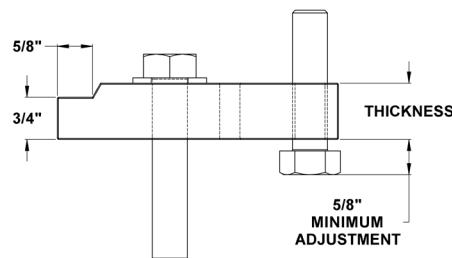
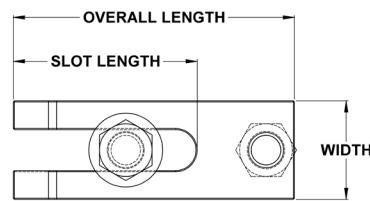
With swivel base adjusting screw



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

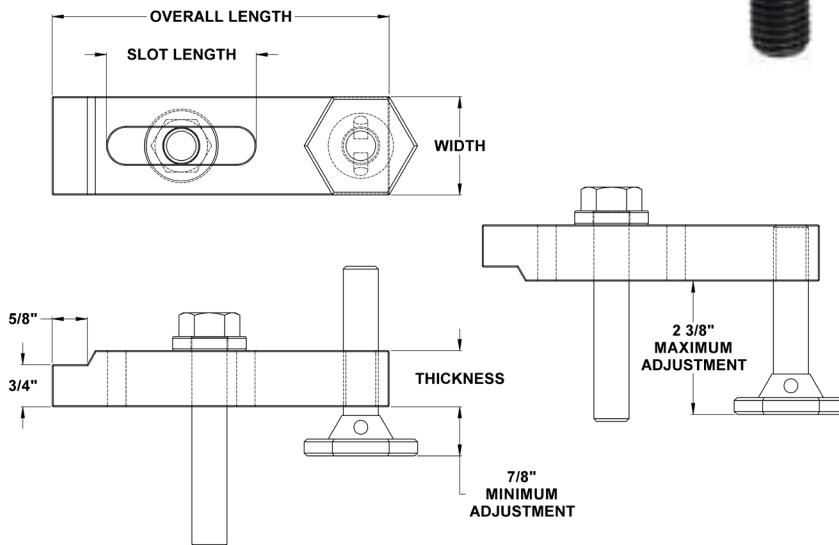
With non-swivel base adjusting screw



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

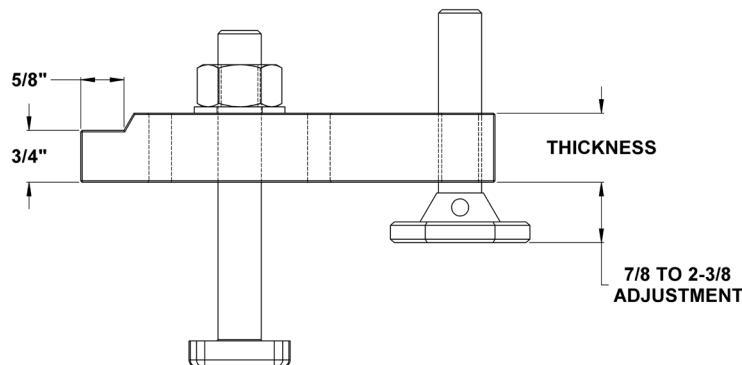
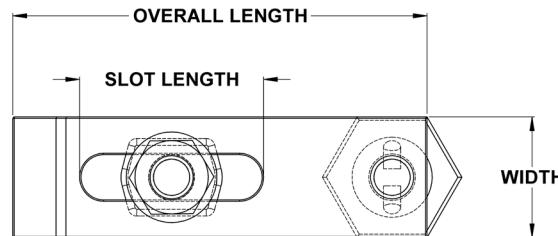
With swivel base adjusting screw



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

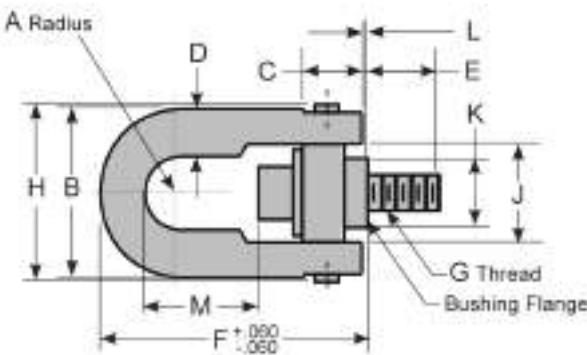
## Hoist Rings

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

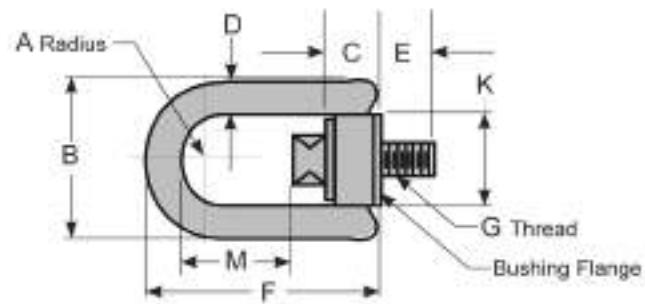
PCS Hoist Rings are a perfect replacement for traditional eyebolts. When moving heavy, angular or unbalanced loads, eyebolts tend to twist, bend and break. Hoist Rings swivel 360° and pivot 180° providing a minimum safety factor of 5:1. These hoist rings are 100% magnetic particle inspected and meet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

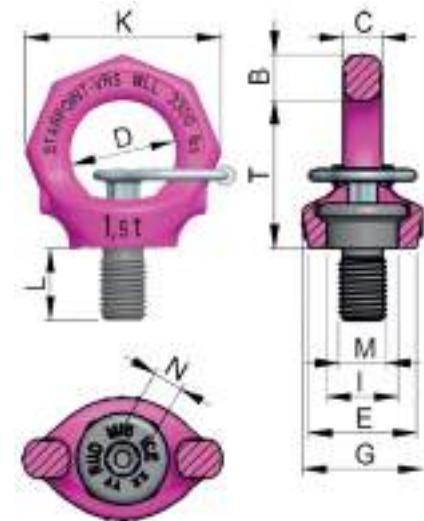
			
WLL (Working Load Limit)	0.63t-5t	0.3t-20t	0.1t-12t
Ideal for Rotating and Turning		—	—
Ball Bearing Type		—	—
Safety Factor			
Full Working Load in All Directions			
DGUV-Approval	—		
Range of Rotation			
Pivoting Range Suspension Link			—
Variable Length Thread			
Spring	—		—
Maximum operation temperature 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 Fluorescent 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.



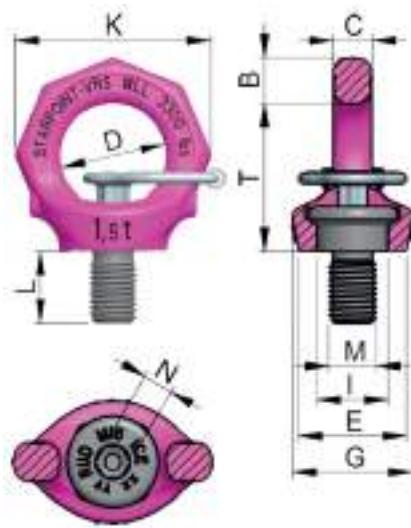
The VRS-F StarPoint® Swivel Eyebolt offers the highest level of safety available with its swivel capability that adjusts to the direction of the load ensuring that the Working Load Limit (WLL) is never diminished. The StarPoint® is supplied with an annealed easy-fit key for simple assembly and disassembly.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

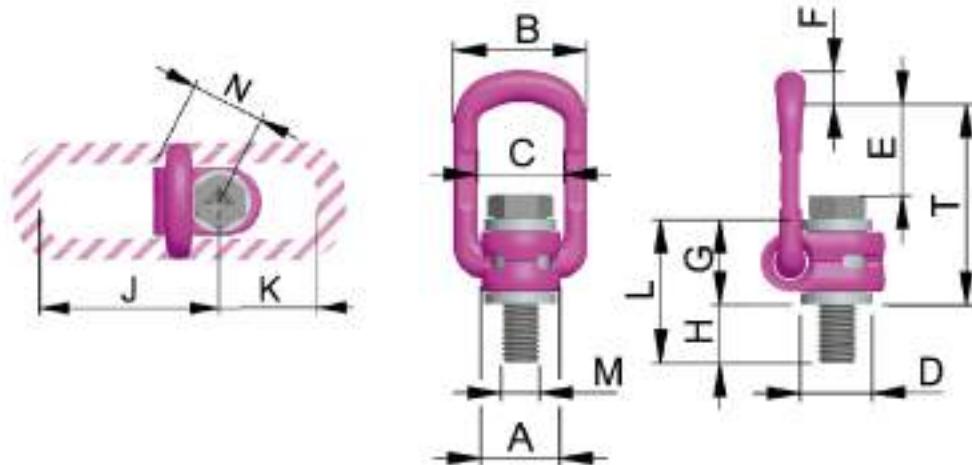
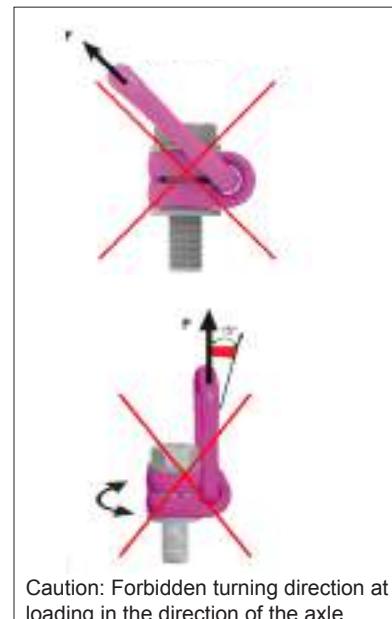
## RUD® VLBG Load Ring

- 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 Fluorescent 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

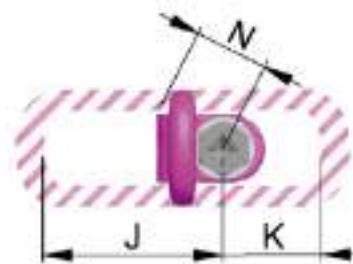
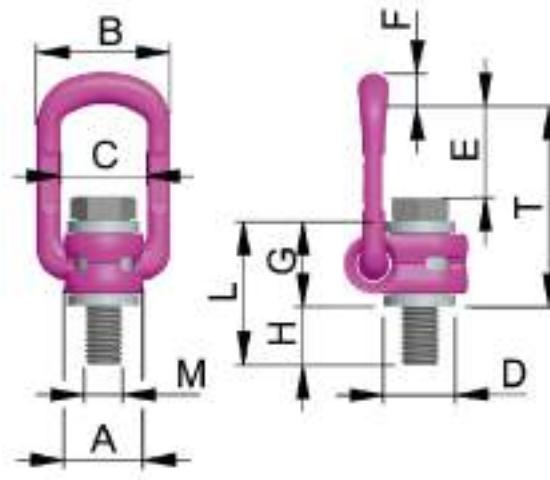
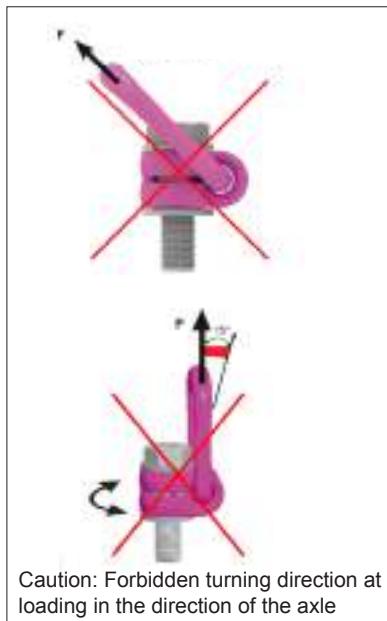
## RUD® VLBG Load Ring



- 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 Fluorescent 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

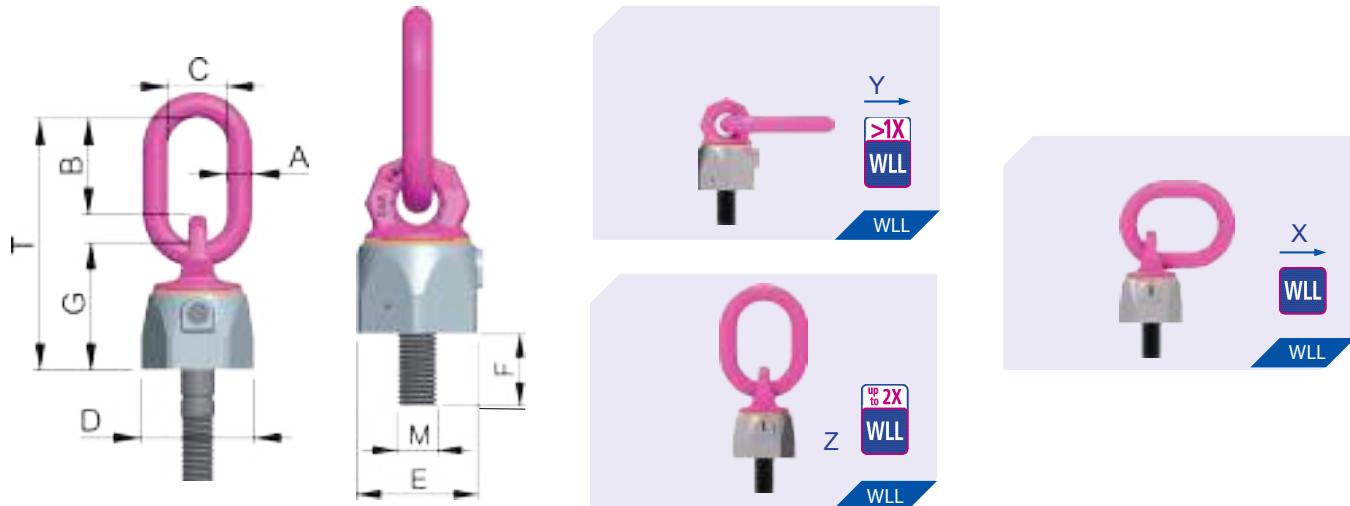
## RUD® VWBG Load Ring

- 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 Fluorescent 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

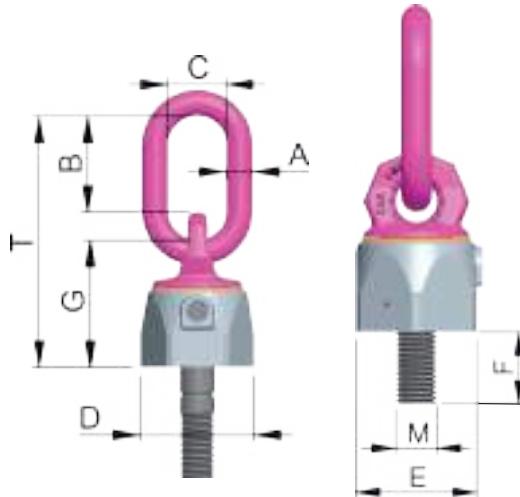
## RUD® VWBG Load Ring



- 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

## Mold Safety Straps

- Made of durable cast metal
- Yellow powder coating is rust resistant and easy to see
- Holds mold closed during storage, handling, and mounting to the molding machine platens

PCS Mold Safety Straps are made of a durable cast metal. The yellow powder coating is rust resistant and easy to see. Three different sizes are available.



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	2,000 lb	2
Size: Medium, 1-1/8" x 2-5/8"			
LSS-200	(4) 5/16 X 3/4	3,500 lb	2
Size: Large, 1-1/2" x 3-1/2"			
LSS-300	(4) 1/2 X 1	6,500 lb	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.

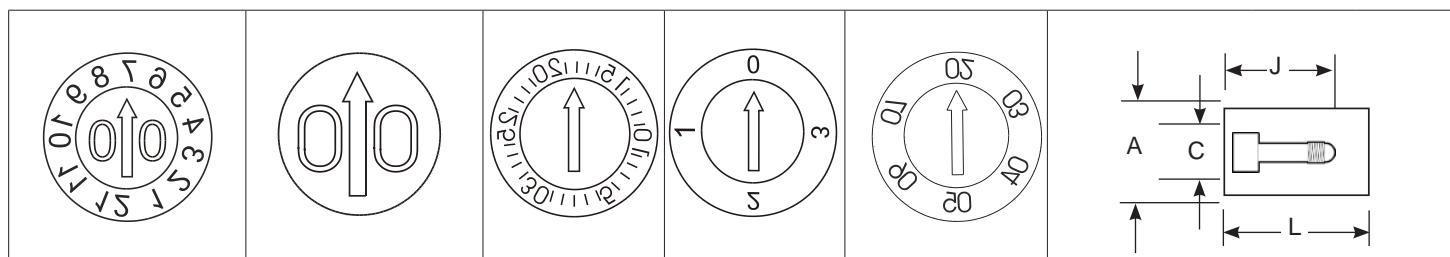


SPECIFICATIONS		
Unit of Measure	Inch	
CATALOG NO.	NOZZLE LENGTH	NOZZLE TIP TYPE
11-208-0150	4	Standard
11-208-0380	13	Standard
11-208-0550	20	Standard
11-208-8000	4	Star Tip

## PCS CUMSA™ Standard Date Stamps

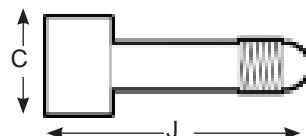
- Includes body and center insert
- Center insert sits flush within body
- Designed for efficient installation and removal
- Stainless steel construction
- Provides excellent traceability

These date stamp assembly are made of stainless steel. The Center Insert is always at the same level as the body of the date stamp. Diameters ranging 4 mm to 20 mm are available. Center Inserts are easily changed reducing downtime.



MONTH	INSERT	DAY	SHIFT	YEAR	A	C	J	L
DS 0422-xx	DP 2275-xx		DS 04-03	DS 04-Y-xx	4	2.2	7.5	12
DS 0530-xx	DP 3075-xx	DS 05-31L	DS 05-03	DS 05-Y-xx	5	3.0	7.5	12
DS 0632-xx	DP 3217-xx	DS 06-31L	DS 06-03	DS 06-Y-xx	6	3.2	17.0	20
DS 0847-xx	DP 4717-xx	DS 08-31L	DS 08-03	DS 08-Y-xx	8	4.7	17.0	20
DS 1057-xx	DP 5717-xx	DS 10-31L	DS 10-03	DS 10-Y-xx	10	5.7	17.0	20
DS 1267-xx	DP 6717-xx	DS 12-31L	DS 12-03	DS 12-Y-xx	12	6.7	17.0	20
DS 1687-xx	DP 8717-xx	DS 16-31L	DS 16-03	DS 16-Y-xx	16	8.7	17.0	20
DS 20107-xx	DP 10717-xx	DS 20-31L	DS 20-03	DS 20-Y-xx	20	10.7	17.0	20

**Note:** Mold operating temperature should not exceed 150°C (300°F). When ordering add year to the end of the part number (i.e. DS 0632-17) or for assembly with arrow only (i.e. DS 0632)



ENGRAVING DEPTH INCHES				CENTER INSERTS WITH ARROW & YEAR		
Size	Characters	Arrow Head	Arrow Body	CATALOG NO.	C	J
3 mm	.004 - .008	.016 - .020	.016 - .020	DP 2275-xx	2.2	7.5
4 - 5 mm	.004 - .006	.016 - .020	.016 - .022	DP 3075-xx	3.0	7.5
6 mm	.004 - .008	.016 - .020	.016 - .020	DP 3217-xx	3.2	17.0
8 mm	.006 - .010	.016 - .020	.016 - .020	DP 4717-xx	4.7	17.0
10 - 16 mm	.008 - .012	.020 - .024	.020 - .024	DP 5717-xx	5.7	17.0
20 mm	.008 - .012	.020 - .024	.020 - .024	DP 6717-xx	6.7	17.0
				DP 8717-xx	8.7	17.0
				DP 10717-xx	10.7	17.0

**Note:** When ordering add year to the end of the catalog number (i.e. DP 3217-17)

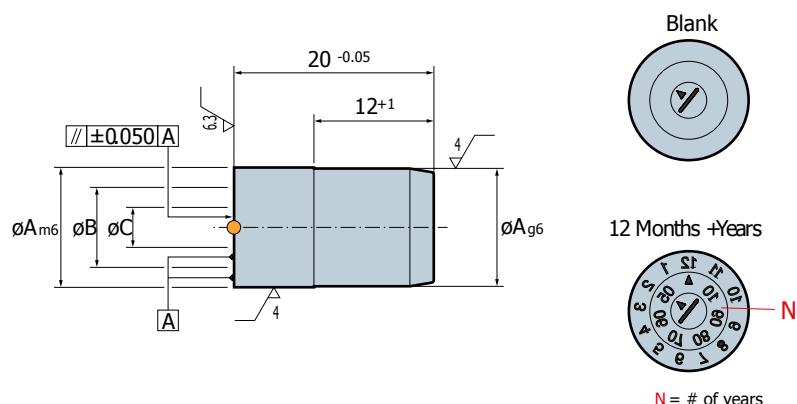
## Double Date Stamp



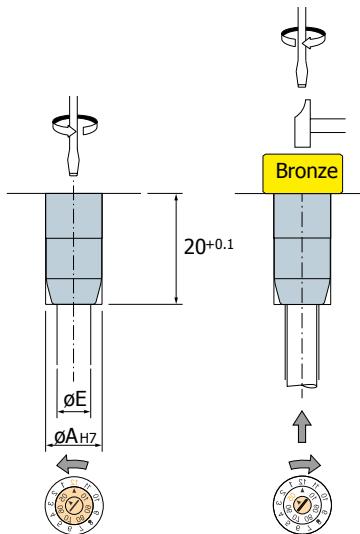
- Replaces the need for two separate date stamps
- Requires only one machined hole
- Stainless steel construction
- Provides excellent traceability

The Double Date Stamp replaces the need for two separate date stamps. With this unique feature, there is no need to machine two separate holes. The month and year on the Double Date Stamp is easily adjusted.

SPECIFICATIONS	
Hardness	48 - 54 Rc
Material Type	INOX. 1.4034
Unit of Measure	Metric DIN



Turn counter clockwise to change outer information.



Turn clockwise to change inner information.

CATALOG NO.	A	B	C	E	N
FD 080512-xx	8	5.5	3	6	5
FD 120812-xx	12	8	4	10	6
FD 161012-xx	16	10.5	5.3	12	10

**Note: When ordering add the two digit year to the end of the catalog number (i.e. FD 120812-17)**

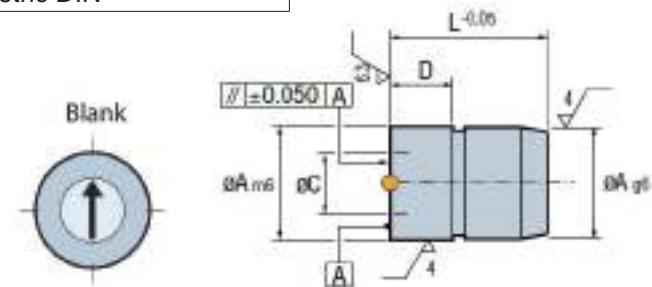
## Date Stamp Plus

- Blind hole installation
- Cavity side (front) removable
- Press-fit installation
- Incorporated air vent
- Can be installed and removed while in press



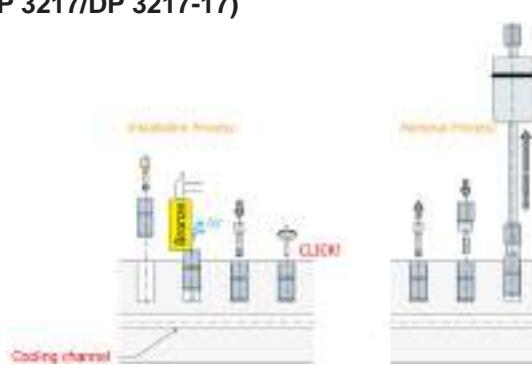
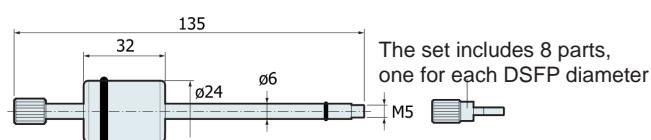
The Date Stamp Plus is designed for blind hole applications. Since no knock out hole is required, cooling channels are not disrupted. The incorporated air vent allows for a press fit installation and easy removal.

SPECIFICATIONS	
Hardness	48 - 54 Rc
Material Type	INOX. 1.4034
Unit of Measure	Metric DIN



12 MONTHS ARROW ONLY	12 MONTHS + YR.	YEARS	BLANK	A mm	C mm	D mm	L mm
DSFP 0422	DSFP 0422-xx	DSFP 04-Yxx	DSFP 04BLANK-A	4	2.2	5.5	12
DSFP 0530	DSFP 0530-xx	DSFP 05-Yxx	DSFP 05BLANK-A	5	3	5.5	12
DSFP 0632	DSFP 0632-xx	DSFP 06-Yxx	DSFP 06BLANK-A	6	3.2	8	20
DSFP 0847	DSFP 0847-xx	DSFP 08-Yxx	DSFP 08BLANK-A	8	4.7	8	20
DSFP 1057	DSFP 1057-xx	DSFP 10-Yxx	DSFP 10BLANK-A	10	5.7	8	20
DSFP 1267	DSFP 1267-xx	DSFP 12-Yxx	DSFP 12BLANK-A	12	6.7	8	20
DSFP 1687	DSFP 1687-xx	DSFP 16-Yxx	DSFP 16BLANK-A	16	8.7	8	20
DSFP 20107	DSFP 20107-xx	DSFP 20-Yxx	DSFP 20BLANK-A	20	10.7	8	20

**Note:** When ordering add year to the end of catalog number (DSFP 0422-17) (DSFP 06-Y17).  
 Use PCS/CUMSA Standard Inserts for replacements (DP 3217/DP 3217-17)



CATALOG NO.	PART DESCRIPTION
EF322405-SET	Removal jig extractor

**Note:** The Removal Jig extractor was made exclusively for removal of the Date Stamp Plus. Do not use with standard Date Stamps.

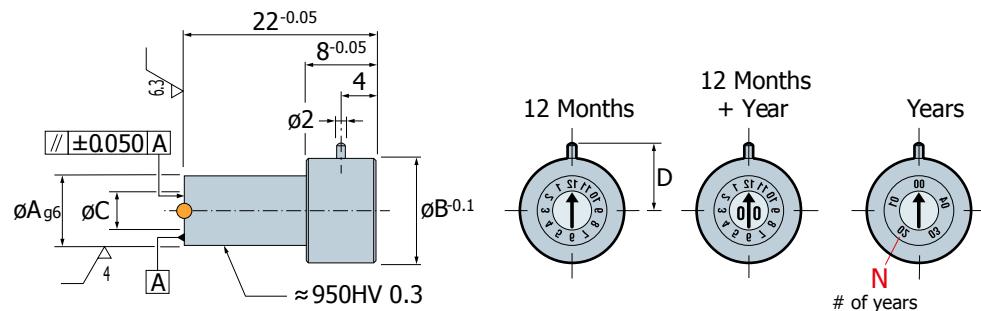
## Temperature Dater & Insert



- Maximum Working Temperature: 450°C (842°F)
- Unique in the market
- Possibility to change annual insert

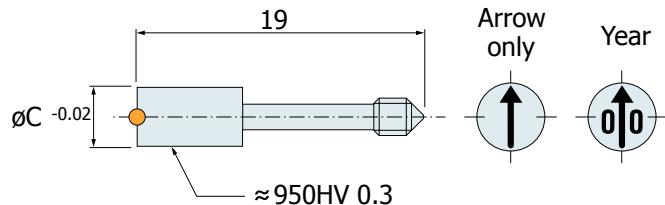
The High Temperature Date Stamps are designed for injection mold tools which can operate in high temperature environments, like: Zamak, Zinc, Polyester, Bakelite, etc..

SPECIFICATIONS	
Material Type	1.2344 Nitrided & Inconel 2.4669
Unit of Measure	Metric DIN

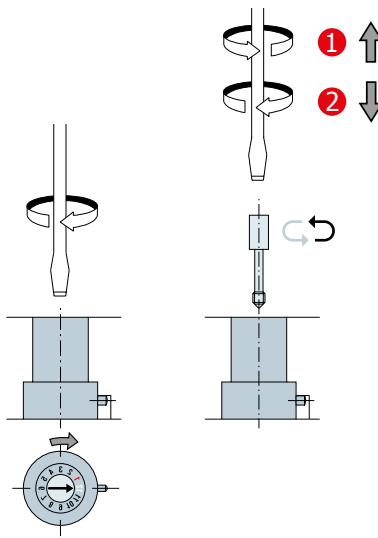


CATALOG NO.	12 MO. + YEAR	YEARS	A	B	C	D	N
FT 0847SF	FT 084712-xx	FT 084705-xx	8	12	4.7	11	5
FT 1267SF	FT 126712-xx	FT 126708-xx	12	16	6.7	12	8

Note: When ordering add the two digit year to the end of the catalog number (i.e. FT 084712-17)



ARROW ONLY	YEAR	C
IT 4719SF	IT 4719-xx	4.7
IT 6719SF	IT 6719-xx	6.7



Note: When ordering add the two digit year to the end of the catalog number (i.e. IT 4719-17)

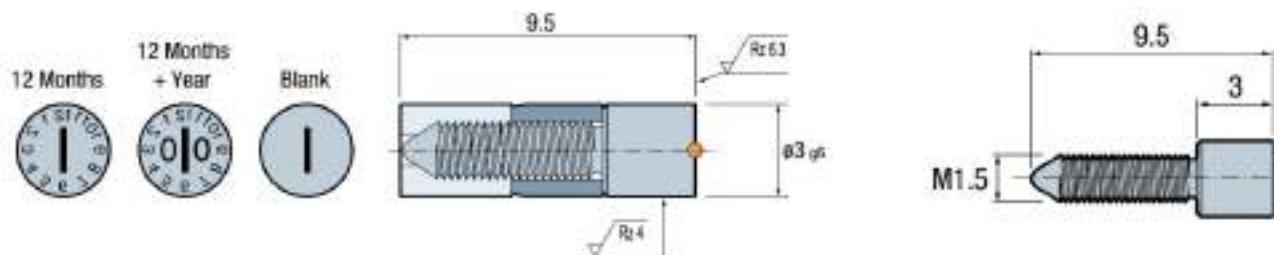
## Micro Dater & Inserts

- Very small date stamp
- No need to make difficult threads to support the insert
- Offers a standard solution for molders

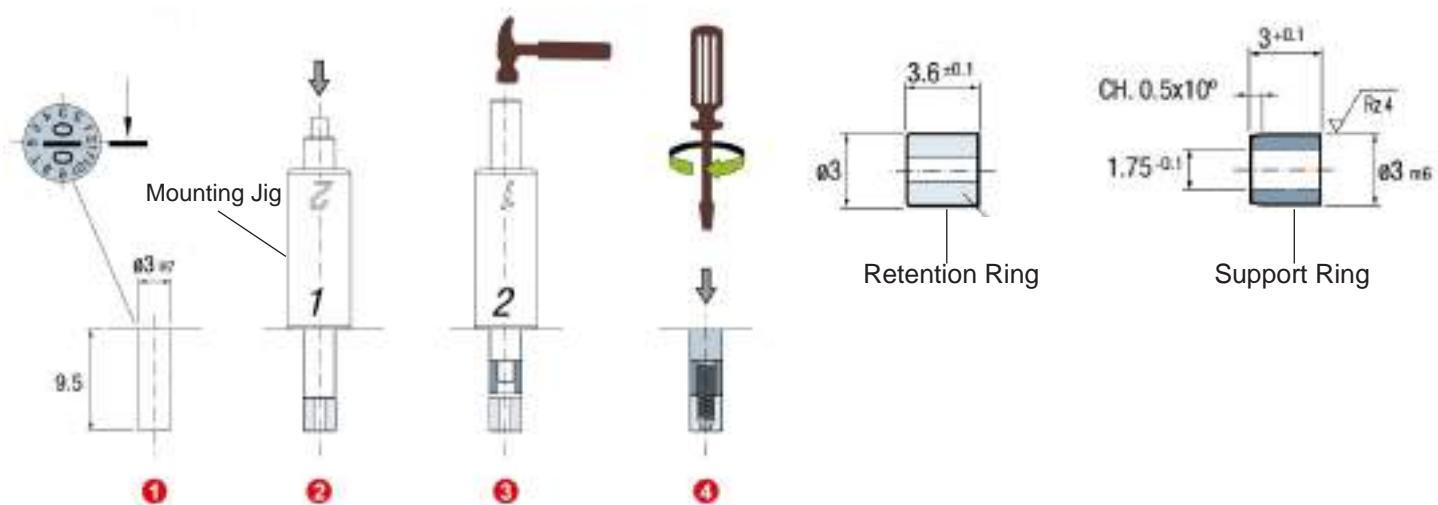
The Micro Daters are ideal for limited spaces due to its small size (only 3mm diameter).



SPECIFICATIONS	
Material Type	INOX 1.4034
Hardness	48 - 54 HRC
Unit of Measure	Metric DIN



MICRO DATER			INSERT ONLY		
12 MONTHS	12 MONTHS & YEAR	BLANK	12 MONTHS	12 MONTHS & YEAR	BLANK
MD 031012	MD 031012-17	MD 03BLANK-D	MI 0310	MI 0310-17	MI 03BLANK-D



CATALOG NO.	DESCRIPTION
MD 03-AR	Micro Dater Retention Ring
MD 03-AS	Micro Dater Support Ring
MD 03-UM	Micro Dater Mounting Jig

## Center Inserts



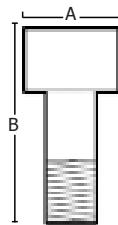
- Sits flush within body assembly
- Designed for efficient installation and removal
- Stainless steel construction
- Provides excellent traceability

This center insert has a stainless steel construction and is always at the same level as the body of the date stamp. Diameters ranging 4 mm to 20 mm are available. Center Inserts are easily changed reducing downtime.

SPECIFICATIONS	
Hardness	48 - 54 Rc
Material Type	INOX. 1.4034
Unit of Measure	Metric DIN

### CH Series

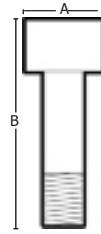
Compact Height



CATALOG NO.	A mm	B mm
DCP04-AO	2.2	8
DCP04-	2.2	8
DCP05-AO	3.1	8
DCP05-	3.1	8
DCP06-AO	3.1	8
DCP06-	3.1	8
DCP08-AO	4.4	10
DCP08-	4.4	10
DCP10-AO	5.2	12
DCP10-	5.2	12
DCP12-AO	6.2	14
DCP12-	6.2	14
DCP16-AO	8.2	14
DCP16-	8.2	14
DCP20-AO	11	16
DCP20-	11	16

### RF Series

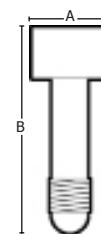
Remains Flush



CATALOG NO.	A mm	B mm
DFP03-AO	1.6	9
DFP03-	1.6	9
DFP04-AO	2.5	10.5
DFP04-	2.5	10.5
DFP05-AO	3.1	13
DFP05-	3.1	13
DFP06-AO	3.1	13
DFP06-	3.1	13
DFP08-AO	4.6	14
DFP08-	4.6	14
DFP10-AO	4.6	14
DFP10-	4.6	14
DFP12-AO	6.4	17
DFP12-	6.4	17
DFP16-AO	8.4	23
DFP16-	8.4	23

### CUMSA Series

PCS Standard



CATALOG NO.	A mm	B mm
DP 2275	2.2	7.5
DP 2275-	2.2	7.5
DP 3075	3.0	7.5
DP 3075-	3.0	7.5
DP 3217	3.2	17
DP 3217-	3.2	17
DP 4717	4.7	17
DP 4717-	4.7	17
DP 5717	5.7	17
DP 5717-	5.7	17
DP 6717	6.7	17
DP 6717-	6.7	17
DP 8717	8.7	17
DP 8717-	8.7	17
DP 10717	10.7	17
DP 10717-	10.7	17

**Note: When ordering add the two digit year to the end of the catalog number (i.e. DCP04-17)**  
**AO = Arrow Only**

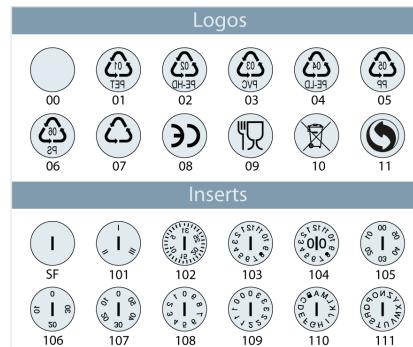
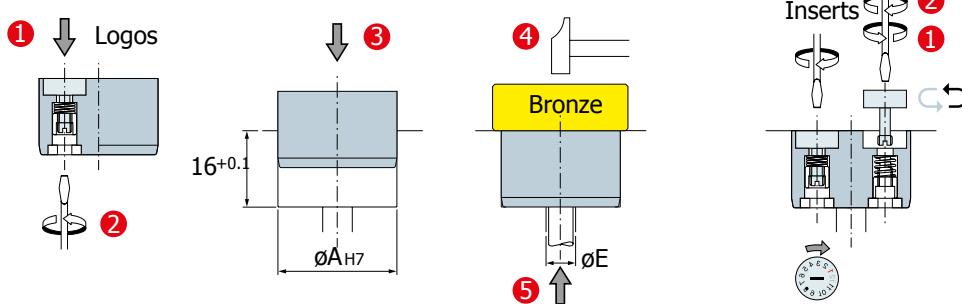
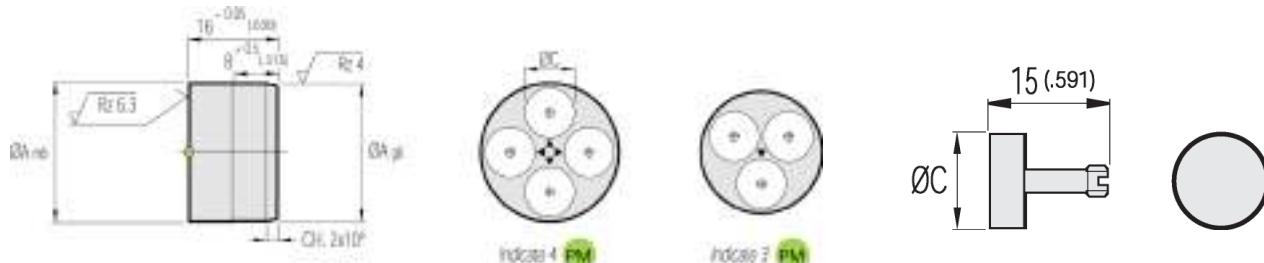
## Block Base & Block Insert

- Designed to contain 3 - 4 unique traceability markers
- Most versatile engraving unit on the market
- Inserts must be purchased separately
- Custom engraving available, customer must supply .dxf file

Block Base is designed to contain three or four unique traceability markers. This is the most versatile engraving unit on the market. Inserts are not included with the base and must be purchased separately.



SPECIFICATIONS	
Hardness	48 - 54 Rc
Material Type	INOX. 1.4034
Unit of Measure	Metric DIN



REFERENCE	C
PM 0615-xx	6.5
PM 0915-xx	8.7
PM 1115-xx	11.5

CATALOG NO.	A	C	E	NO. OF PM
BM 160603	16	6.5	8	3
BM 180604	18	6.5	8	4
BM 220903	22	8.7	10	3
BM 250904	25	8.7	10	4
BM 281103	28	11.5	12	3
BM 321104	32	11.5	12	4

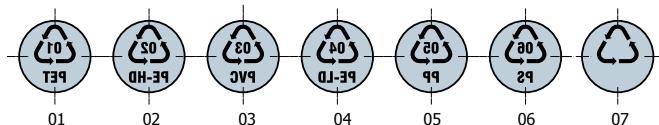
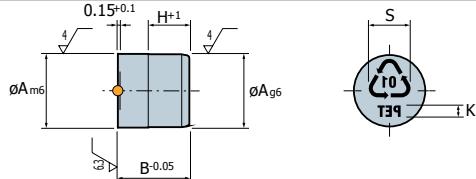
**Note: When ordering add the desired number after the reference.**

## Recycling Inserts

- Sits flush within body assembly
- Designed for efficient installation and removal
- Provides plastic material identification



SPECIFICATIONS	
Hardness	48 - 54 Rc
Material Type	INOX 1.4034
Unit of Measure	Metric DIN



CATALOG NO.	A	B	E	H	K	S
IR 1012-xx	10	12	8	7	1.5	5.6
IR 1212-xx	12	12	10	7	1.8	6.8
IR 1616-xx	16	16	12	9	2.4	9
IR 2016-xx	20	16	16	9	3.2	11.5

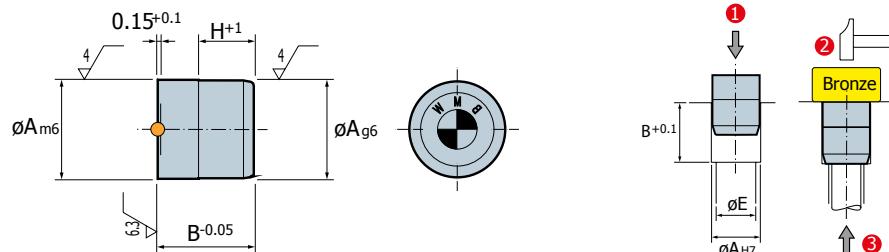
Note: When ordering add the desired recycle number after the reference (i.e. IR 1012-01)

## Mark Inserts

- Hardened 48 - 54 HRC
- Material: INOX. 1.4034
- Maximum working temperature: 120°C (248°F)



SPECIFICATIONS	
Hardness	48 - 54 Rc
Material Type	INOX. 1.4034
Unit of Measure	Metric DIN



CATALOG NO.	A ASSEMBLY DIAMETER	B OVERALL LENGTH	E	H
IM 041000	4	10	2	6
IM 061000	6	10	4	6
IM 081200	8	12	6	7
IM 101200	10	7	8	7
IM 201600	20	16	16	9

## Air Poppet Valves

- Designed to break the vacuum created when molding deep drawn or thin walled parts such as flower pots, trays and containers
- Precision ground to prevent flash from entering assembly during injection
- Manufactured from Stainless Steel, 43 - 45 Rc
- Multiple units can be used for large or heavy slides

### Installation Guidelines

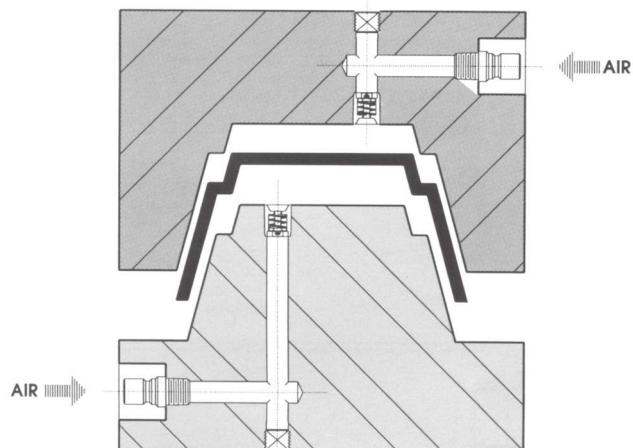
Tolerances indicate suggested clearance and press-fit for proper installation. Individual valve sizes vary within their tolerance range. Use brass piece (or similar material) to gently press the valve into cavity area. To remove, simply use a soft punch from the clearance hole side.

#### Note:

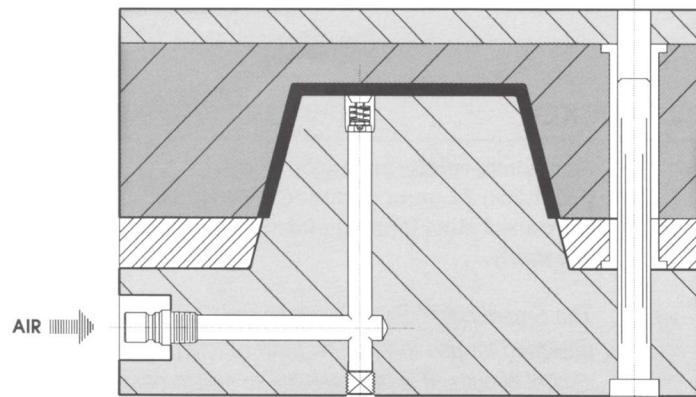
Air line must be cleared of all debris prior to valve installation

**The air flow to the Air Poppet Valve must be fully relieved to the atmosphere after each cycle to ensure the valve closes before the next injection cycle.**

Typical Standard Mold Base Application



Typical Stripper Mold Base Application



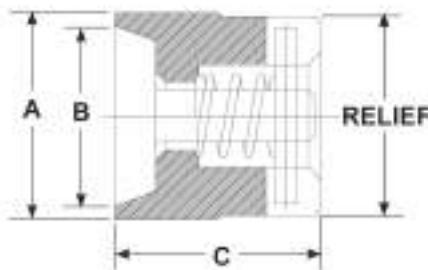
## Air Poppet Valves Inch



- Center spool keyed to prevent rotation
- Precision ground to prevent flash
- Manufactured from Stainless Steel
- Multiple units can be used for large cavities and cores.
- Recommended operating air pressure 60 - 90 psi

Air Poppet Valves are designed to break the vacuum that is created when molding thin-walled or deep-drawn parts, such as flower pots, trays and containers. They are precision ground to prevent flash from entering the assembly during injection and manufactured from stainless steel. The center spool is keyed to prevent rotation. Multiple air poppet valves can be used for large or heavy slides as needed.

SPECIFICATIONS	
A Body O.D. Tolerance	+.0003/-0.0000
B Poppet Disc Diameter Tolerance	+.005/-0.005
C Overall Length Tolerance	+.002/-0.000
Operating Pressure	60 - 90 psi
Surface Hardness	43 - 45 Rc
Material Type	H925 SS
Unit of Measure	Inch



CATALOG NO.	NOMINAL DIAMETER	A BODY O.D.	B POPPET DISC DIAMETER	C OVERALL LENGTH
PV-025	1/4	0.2504	0.215	0.375
PV-037	3/8	0.3754	0.325	0.375
PV-050	1/2	0.5005	0.437	0.500
PV-075	3/4	0.7505	0.656	0.750
PV-100	1	1.0006	0.875	1.000
PV-150	1-1/2	1.5006	1.312	1.500

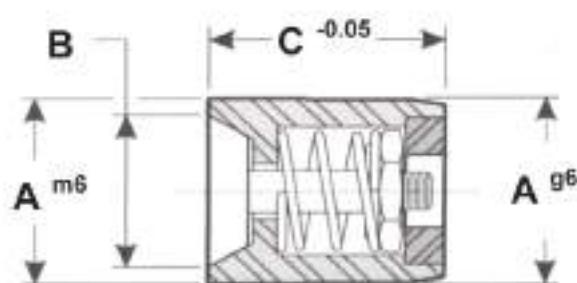
## Air Poppet Valves Metric

- Precision ground to prevent flash
- Manufactured from Stainless Steel
- Multiple units can be used for large cavities and cores.
- Recommended operating air pressure 60 - 90 psi

Air Poppet Valves are designed to break the vacuum that is created when molding thin-walled or deep-drawn parts such as flower pots, trays and containers. They are precision ground to prevent flash from entering the assembly during injection and manufactured from stainless steel. Multiple air poppet valves can be used for large or heavy slides as needed.



SPECIFICATIONS	
C Overall Length Tolerance	-0.05
Operating Pressure	60 - 90 psi
Surface Hardness	48 - 54 Rc
Material Type	1.4034
Unit of Measure	Metric DIN



CATALOG NO.	A BODY O.D.	B POPPET DISC DIAMETER	C OVERALL LENGTH
PV 050412	5	3	12
PV 065212	6	5.2	12
PV 086512	8	6.5	12
PV 100812	10	8	12
PV 121012	12	10	12
PV 161320	16	13	20
PV 201720	20	17	20

## Standard Steel Locating Rings

- Aligns and centers mold into press
- Styles available for use with insulator sheets
- Manufactured from AISI 1018 steel

PCS Locating Rings are manufactured from AISI 1018 steel. They are used to align and center the mold into the press. PCS has a wide variety of Locating Rings including styles designed to be used with insulator sheets.



CATALOG NO.	D PILOT DIAMETER	A PILOT LENGTH	DESCRIPTION
4500	2.615	0.531	
4501	3.990	0.531	Standard Series
4501 LN	3.990	0.437	LN Series
4502	4.990	0.531	
4503	3.990	0.218	
4504	3.990	0.531	Clamp Type
4505 LN	5.990	0.437	LN Series
4511	2.990	0.531	
4520	3.990	0.531	Extension Nozzle Type
4521	3.990	0.968	Standard Series - Extra Lead In
4522	3.990	0.968	Extension Nozzle Type - Extra Lead In
4524	3.990	0.968	Clamp Type - Extra Lead In
4535	3.539	0.531	
4536	4.327	0.531	Top Ring (110 mm)
4537	4.327	0.531	Bottom Ring (110 mm)
4541	3.990	1.120	Standard Series - Insulator Sheets
4544	3.990	1.120	Clamp Type - Insulator Sheets

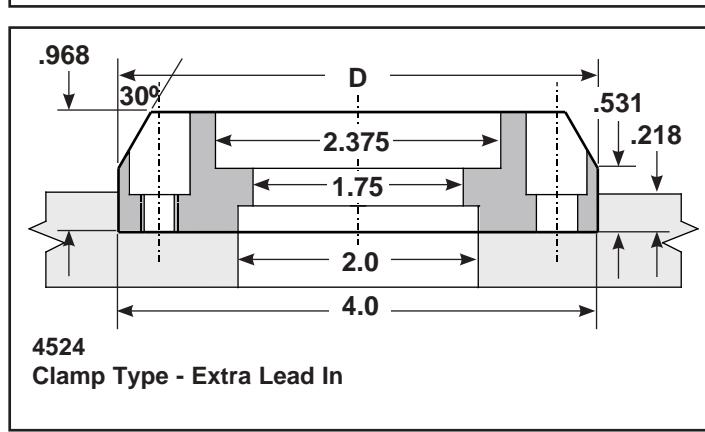
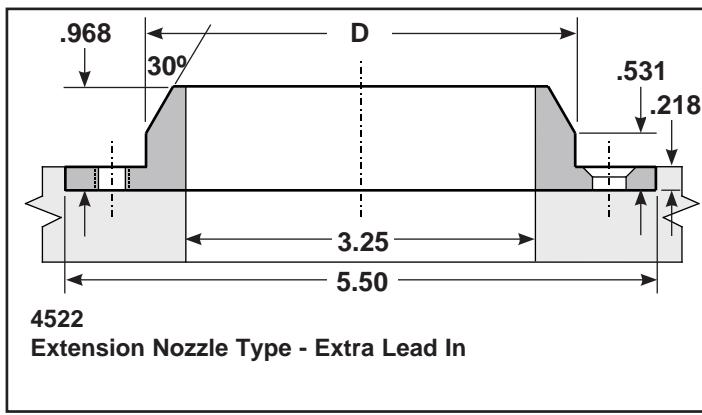
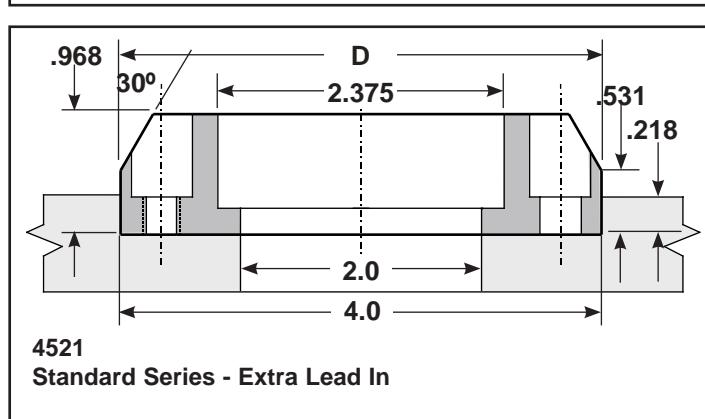
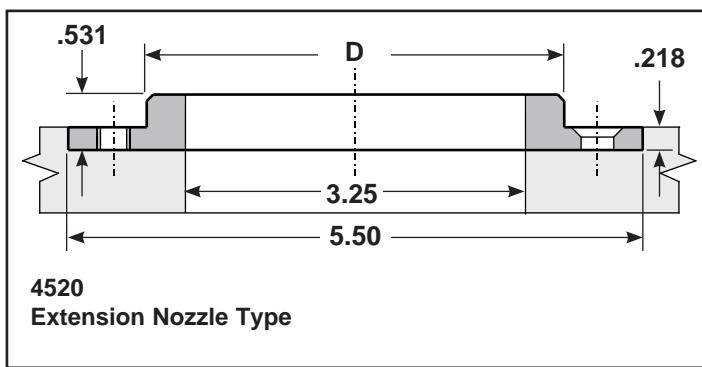
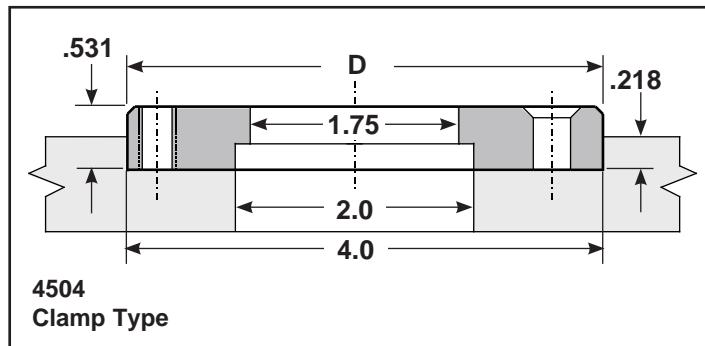
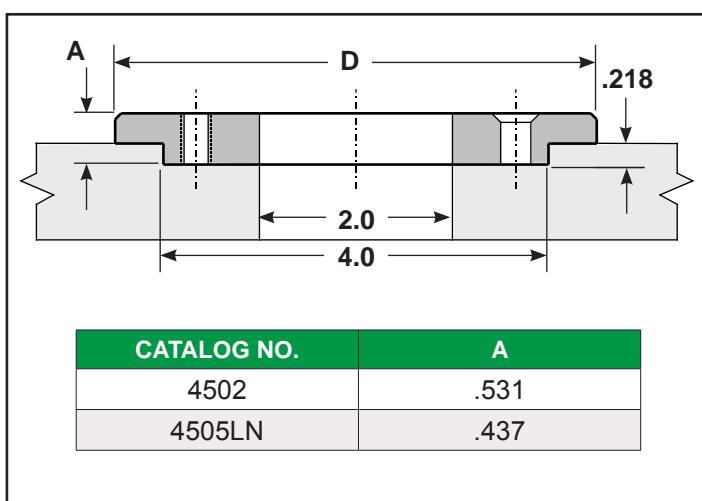
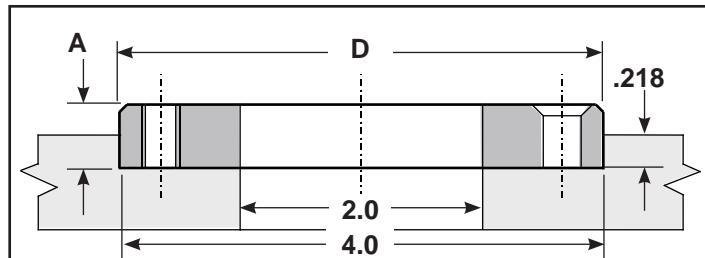
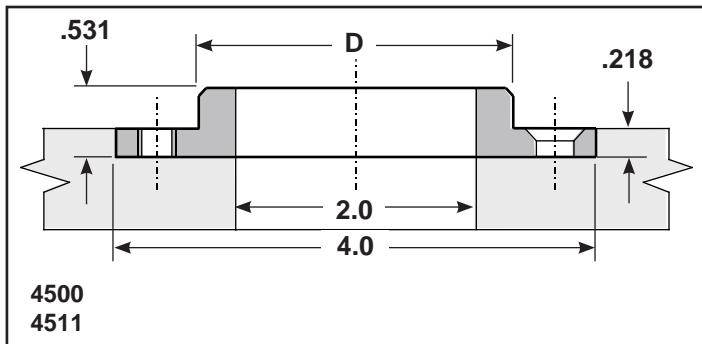


All rings have 3.312 B.C. Except:

4520, 4522 = 4.625 B.C.

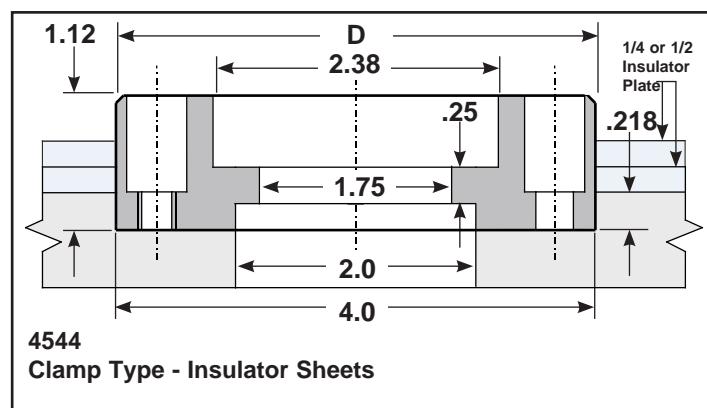
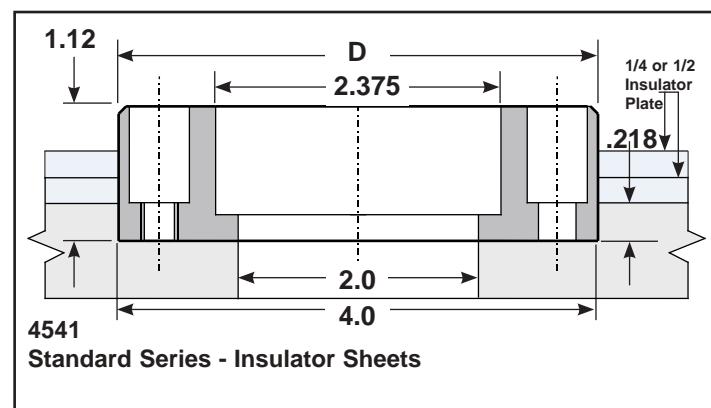
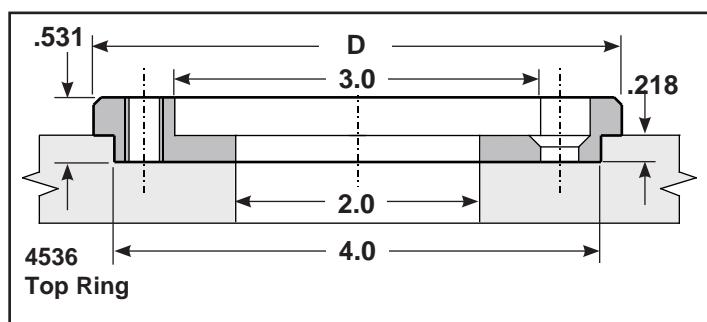
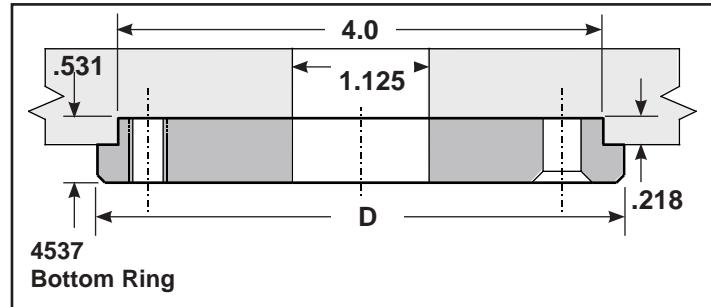
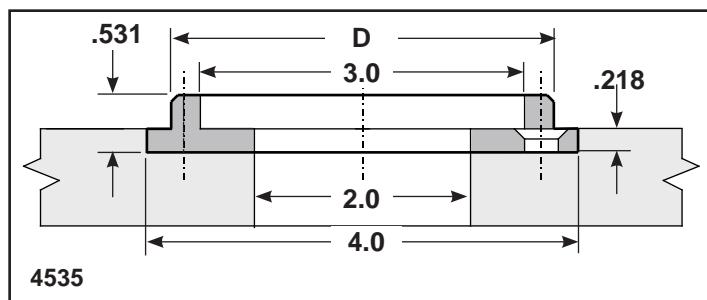
4536, 4537 = 3.312 B.C. Screw Hole 3.500 B.C. Tapped Hole

## Standard Steel Locating Rings

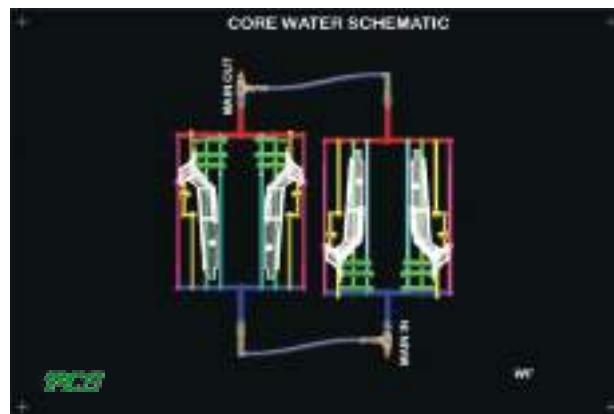
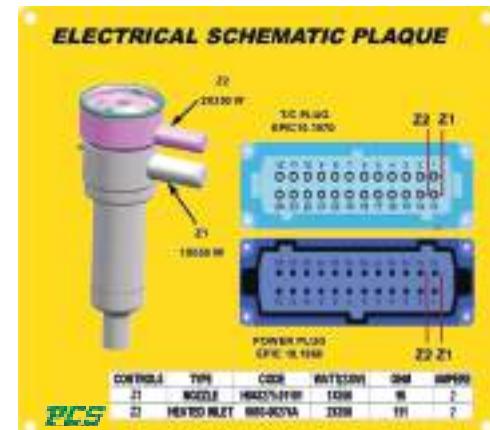
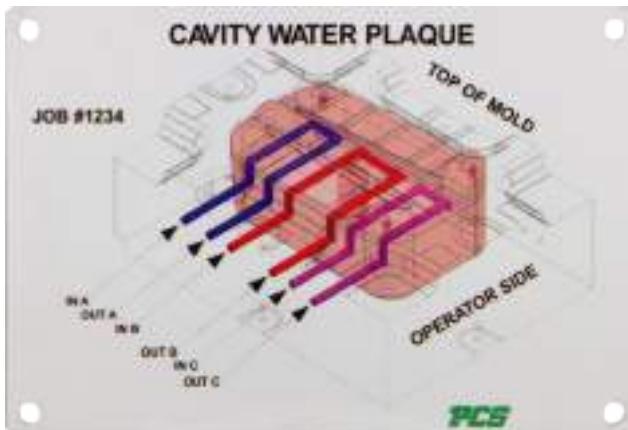


Custom sizes available upon request

## Standard Steel Locating Rings



## Full Color Thermal Set Graphic Plaques



### Full Color Thermal Set Graphic Plaques

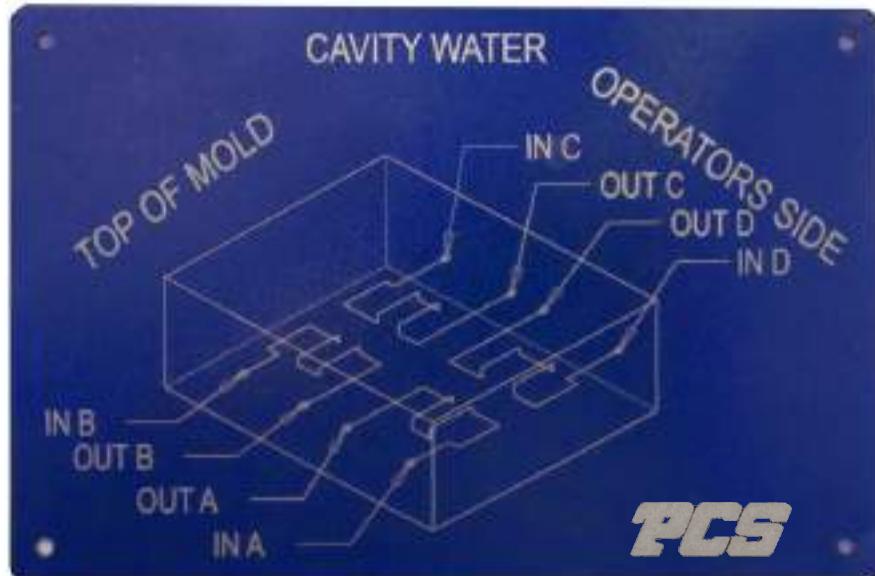
- Customer specified graphic on rigid aluminum or flexible magnetic plaque
- Capture extreme detail in most color combinations

#### 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

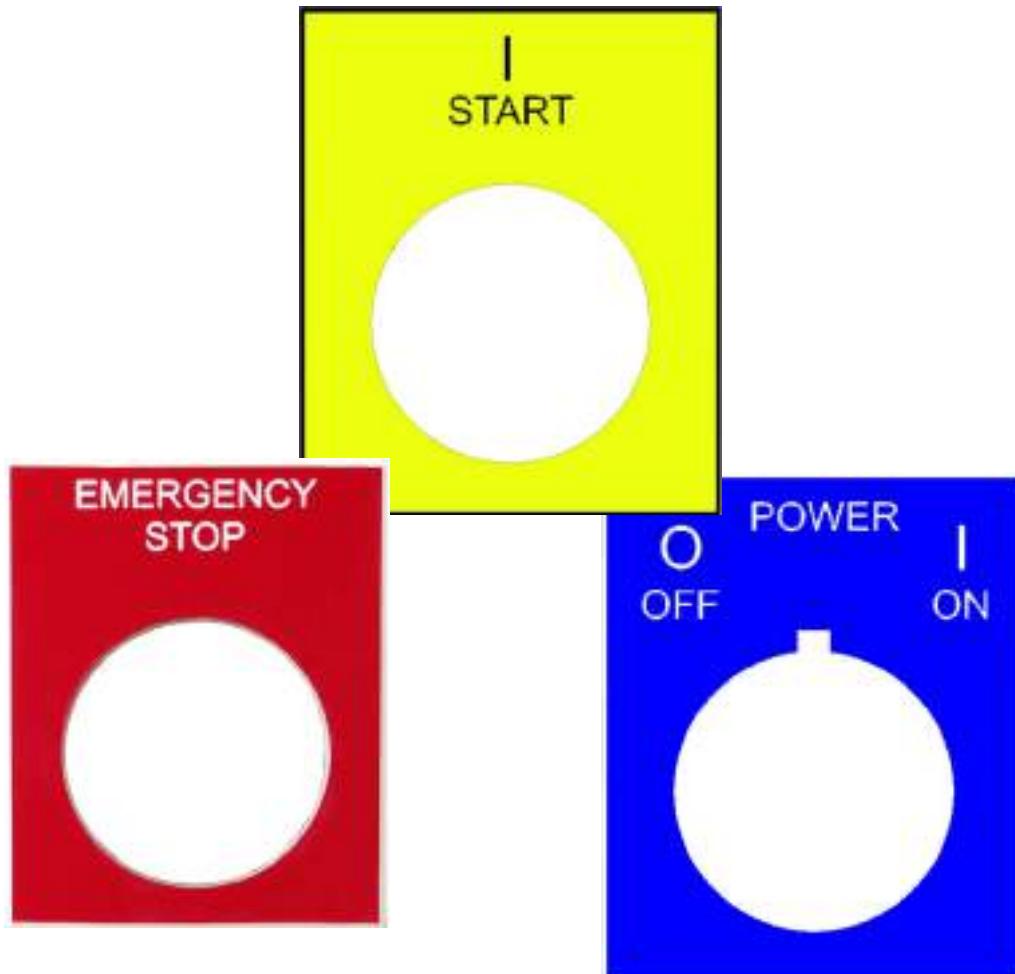


### Traditional Laser Etched Aluminum Plaque

- 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 specific 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 fileformats: .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 fill to: [customcomponents@pcs-company.com](mailto: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](mailto: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: \_\_\_\_\_

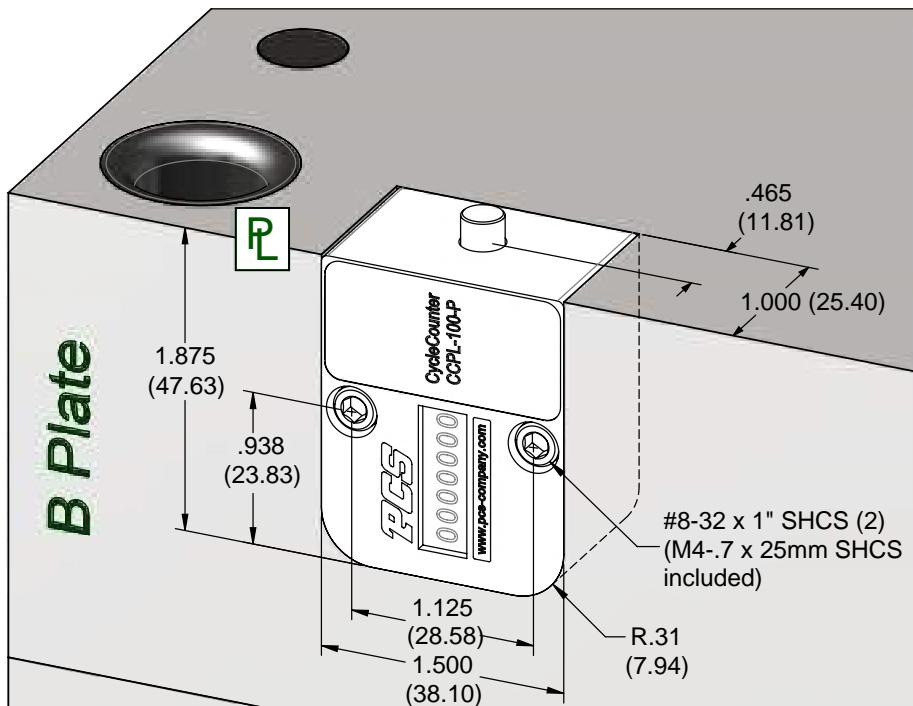
Note: Request For Quote Form & File required for each unique plaque.

Submit request for quote form and file to: [customcomponents@pcs-company.com](mailto:customcomponents@pcs-company.com)

## Cycle Counter

- Industry standard footprint
- Aids in overall mold maintenance procedures
- Parting line mount for easy visibility
- Maximum Operating Temperature: 250°F (120°C)
- Two mounting screws included

PCS Company's Cycle Counter is guaranteed to last for the lifetime of your mold. This 7-digit, mechanical counter is non-resettable and is easily mounted at the parting line. It is designed to accurately monitor the mold cycle count and aids in overall mold maintenance procedures.



Free Aluminum Tool I.D. plaque comes standard with each Cycle Counter.

**Material:** Glass-Filled Nylon Housing

CATALOG NO.	MOUNTING SCREWS INCLUDED	UNIT OF MEASURE
CCPL-100-P	#8-32 x 1"	Inch
CCPL-200-P	M4-0.7 x 25 mm	Metric

# Round Cycle Counter

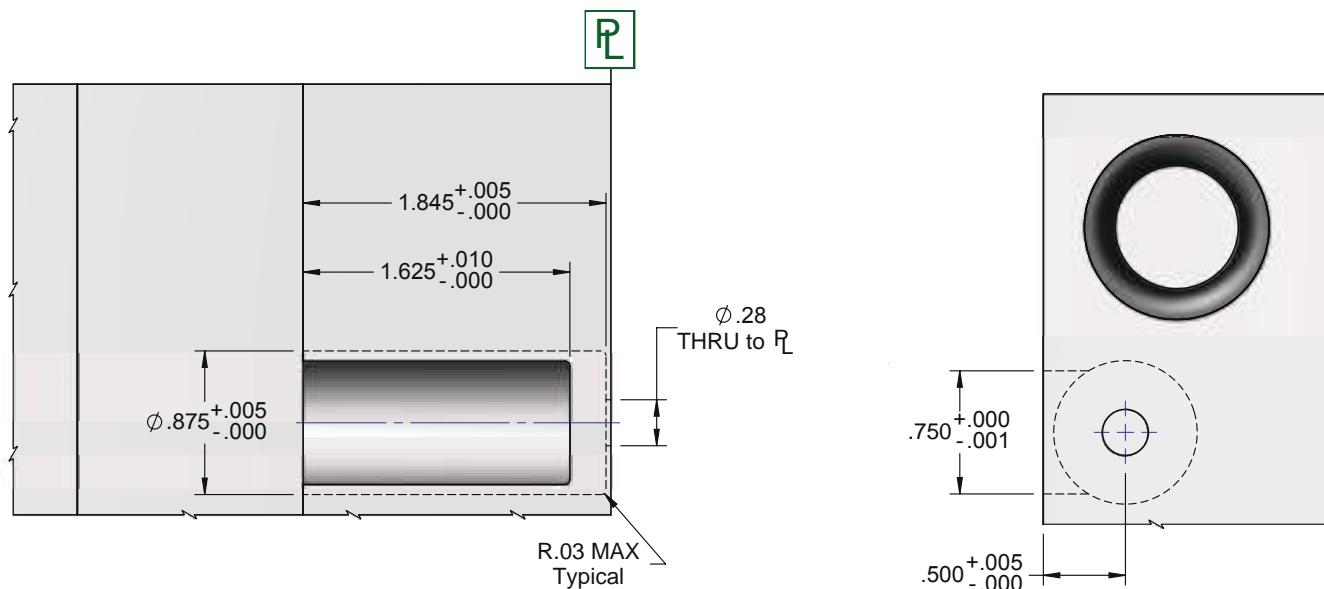
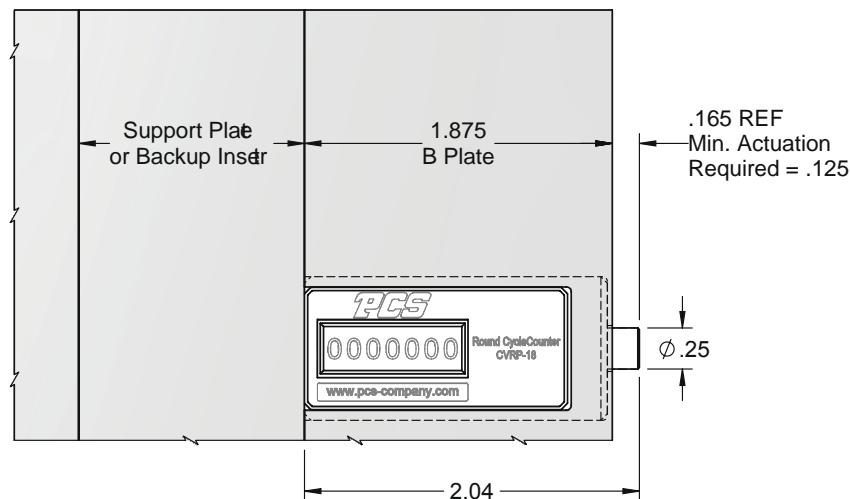


- Lifetime Warranty
- Industry standard footprint
- Maximum Operating Temperature: 250°F (120°C)
- Accurately monitor mold cycle count



PCS Company's Round Cycle Counter is a compact alternative to the standard, rectangular cycle counter. It is designed to monitor the opening and closing of the mold. This 7-digit, mechanical counter is non-resettable and easily mounted in the B Plate. Each time the mold closes; the cycle counter records that action by increasing the displayed count.

Round Cycle Counter should be installed in the B Plate with a thickness of 1.875" (47mm).



**Material:** Glass-filled Nylon Housing

CATALOG NO.	NOMINAL PLATE THICKNESS	UNIT OF MEASURE
CVRP-18	1.875	Inch

## Cycle Counter Lifetime Warranty

PCS Company ("PCS") warrants our cycle counter performance for the life of the injection mold the cycle counter was designed to fit. Provided that all warranty conditions below have been met, PCS will replace a cycle counter if, in PCS' sole determination, the cycle counter did not conform to PCS specification or is defective, at PCS expense. PCS makes no other warranties whatsoever, whether expressed or implied, with respect to the cycle counter including any warranty of merchantability, or arising from a course of dealing, course of performance, law, usage, trade practice or otherwise, which are hereby excluded to the extent allowed by applicable law and are expressly disclaimed by PCS.

This warranty is limited to the original purchaser of the mold (OEM), injection molder or the mold builder and cycle counter from PCS.

Liability is limited to the cost of the replacement cycle counters only, and does not extend to any indirect, incidental, consequential, or special damages occasioned by such defect or wear, including without limitation damage to the mold or machine, loss of machine use, inconvenience, loss of good will, lost profits, or down time. PCS does not warranty any causes beyond its control.

### **Additional Conditions of this warranty:**

- 1.Counter must be installed properly, with the action of the plunger square to the parting line. Plunger must not be press-fit or forced into its mating mold pocket. Plunger should depress freely and return freely upon initial installation.
- 2.Cycle Counters may not be exposed to corrosive chemical agents or gases, abrasives, dust, dirt, temperatures above 250°F, modified, or subject to abuse

### **Return / Replacement Policy:**

Should a malfunction occur, contact PCS via [returngoodsrequest@pcs-company.com](mailto:returngoodsrequest@pcs-company.com) or call 1-800-521-0546. PCS requires submission of the sales order number, the customer purchase order number, and an explanation of the failure experienced. Submission of photos and any product design information will aid in the evaluation process. An RGA # will be issued to retrieve the malfunctioning cycle counter(s).

The cycle counter(s) are to be sent to PCS Company – 33835 Riviera Dr. Fraser, MI 48026 with the assigned RGA # clearly written on the package. PCS will provide replacement cycle counter(s) and will cover standard freight costs in both the return and replacement shipments. PCS will not be held responsible for freight costs on expedited deliveries.

Upon receipt of the returned cycle counter(s), PCS Company will conduct an evaluation to identify the cause of the failure. If the warranty conditions herein were adhered to and a defect is identified in the evaluation, PCS will, in its sole discretion, issue a credit for the defective cycle counter(s) purchased.

PCS Company reserves the right to modify or eliminate this warranty for subsequent cycle counter purchases for certain customers.

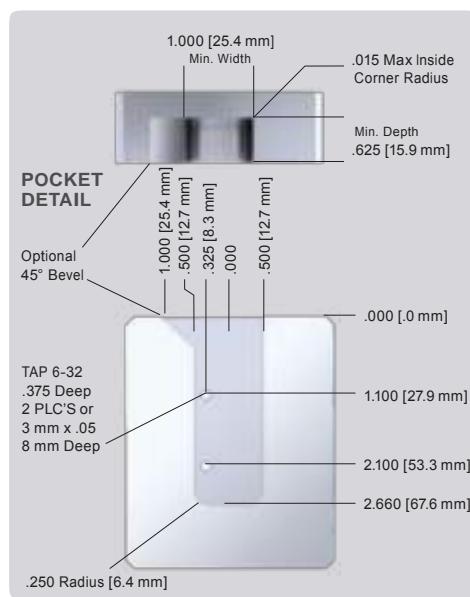
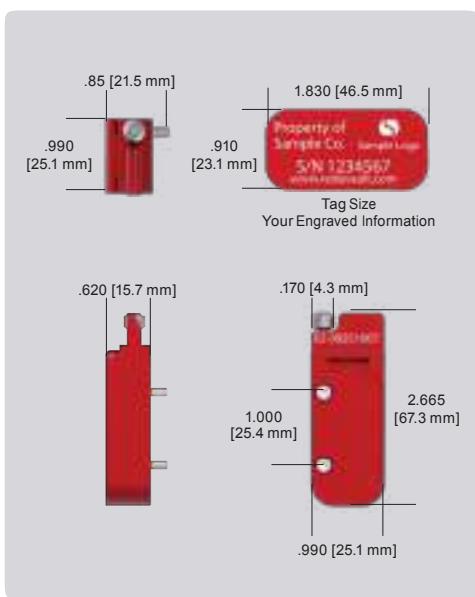
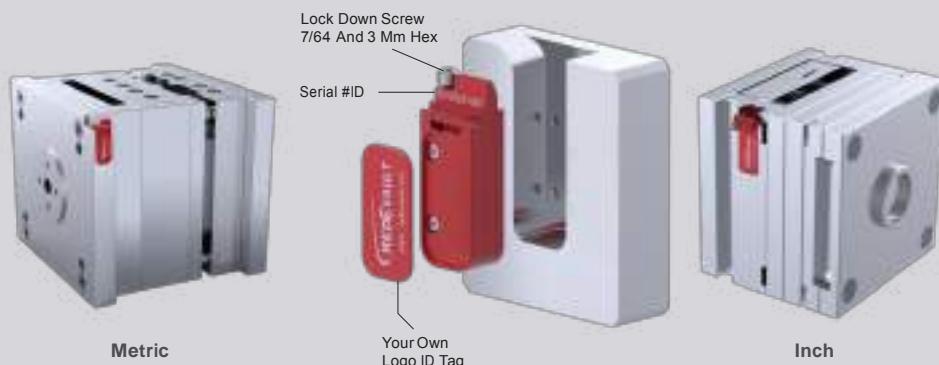
## Red E Vault™



- Virtually indestructible aluminum case
- Resistant to water, solvents, heat, vibration, and magnetism
- Up to 16 GB memory
- No batteries required (data is safe for the life of the tool)
- Data encryption included
- Multilingual & customizable interface
- Easily store and access data files: BOM, data logs, repair history, etc...

The Red E Vault™ mold management solution was designed to help mold owners secure and manage their mold data. The user-friendly software saves time and money by providing your employees with 24/7 access to your mold data. With up to 16GB of memory and the ability to encrypt your files, the Red EVault™ makes sure your data is easily accessible and never compromised.

### INSTALLATION RECOMMENDATIONS



CATALOG NO.	LENGTH	THICKNESS	WIDTH
RDV-1000	2.665	.620	.990

# 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.

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

MADE IN  
AMERICA!

- **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 fineform 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 fines 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, kirksite 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.	DESCRIPTION
4052085	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 profile 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

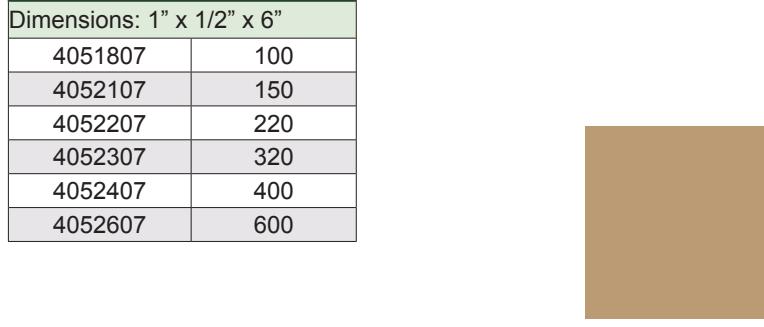
CATALOG NO.	GRIT
Dimensions: 1" x 1/2" x 6"	
4051807	100
4052107	150
4052207	220
4052307	320
4052407	400
4052607	600

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 profile 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

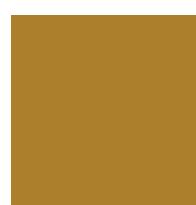
CATALOG NO.	GRIT
Dimensions: 1/2" x 1/4" x 6"	
4256124	120
4256184	180
4256204	220
4256304	320
4256404	400
4256604	600

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 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 find 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 rapid 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.	DESCRIPTION
8000151	1 Gallon
8000152	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, Gess-wein 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 fiber 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 fiber 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 finished 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	
1098202	1500	401Q
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 fine 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 filament 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 smoky 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 unequalled 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



- 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 fine 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 concentric 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 Profile	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



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.

### 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

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.

### 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

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.



Ultrasonic

**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.

Rotary

**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.



Profile

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 Foredom® 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 Foredom® 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 Foredom® 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
- Foredom® 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	Foredom® 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

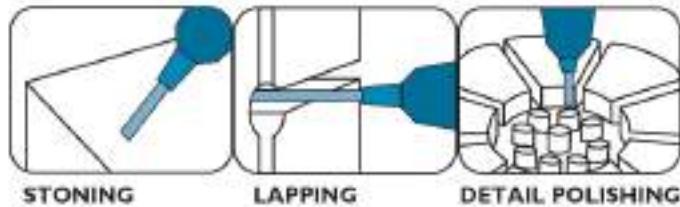
### Ultrasonic Finishing Systems

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 U5 POWER Micro TIG Welder

### Developed for Mold and Die Repair

Incorporating the latest technology, the PUK U5 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
8300957	PUK U5 POWER Micro TIG Welder

## PUK U5 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 U5 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-flo 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 U5 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 U5 welder to the press for repair!
- Magnetic microscope attaches directly to mold while still in the press!

### **Minimal Heat**

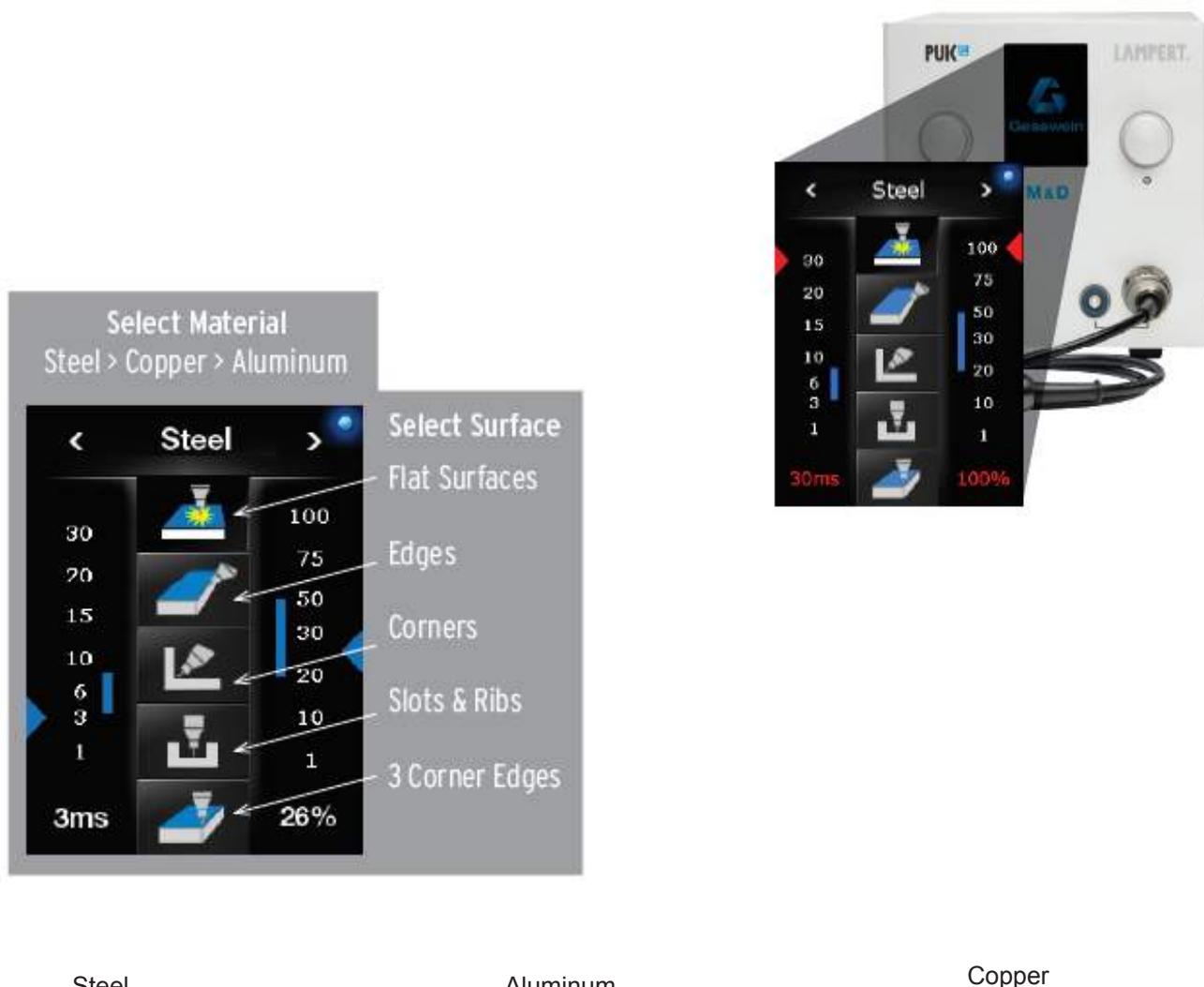
- Prevents damage caused by overheating of mold, thus increasing life of the tool.
- All heat is concentrated only at the spot of the weld.

## PUK U5 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 U5 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 Electrods - 8300932, 0.8mm Electrods - 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](http://gesswein.com) for instructions.



### Microscope Glass - 8300966



### Microscope Rubber Eye Flaps - 8301512

### PUK Extension Package - 8300939

Extend the reach of your PUK U5 with the PUK U5 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 U5. 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"

## Notes

## Notes



*Turn To The Industry Experts*