

PRODUCT CATEGORY	PAGE	PRODUCT CATEGORY	PAGE
MOLD BASES		Mold Base 1114 (10-7/8" x 14")	A12
Ejector Housings #1 Steel	A44	Mold Base 1118 (10-7/8" x 18")	A13
F.I.T.S.® Frames & Inserts	A51	Mold Base 1212 (11-7/8" x 12")	A14
F.I.T.S.® 05/05 Series Solid Style Inserts	A52	Mold Base 1215 (11-7/8" x 15")	A15
F.I.T.S.® 08/09 Series Solid Style Inserts	A53	Mold Base 1220 (11-7/8" x 20")	A16
F.I.T.S.® 08/10 Series Solid Style Inserts	A54	Mold Base 1223 (11-7/8" x 23-1/2")	A17
F.I.T.S.® 84/90 Series Solid Style Inserts	A55	Mold Base 1315 (13-3/8" x 15")	A18
F.I.T.S.® 10/12 Series Solid Style Inserts	A56	Mold Base 1318 (13-3/8" x 18")	A19
F.I.T.S.® 10/14 Series Solid Style Inserts	A57	Mold Base 1321 (13-3/8" x 20-3/4")	A20
F.I.T.S.® 08/09 Series Solid Plus Style Inserts	A58	Mold Base 1326 (13-3/8" x 26")	A21
F.I.T.S.® 08/09 Series Laminated Style Inserts	A59	Mold Base 1518 (14-7/8" x 17-7/8")	A22
F.I.T.S.® 08/10 Series Laminated Style Inserts	A60	Mold Base 1524 (14-7/8" x 23-3/4")	A23
F.I.T.S.® 84/90 Series Laminated Style Inserts	A61	Mold Base 1616 (15-7/8" x 16")	A24
F.I.T.S.® 10/12 Series Laminated Style Inserts	A62	Mold Base 1620 (15-7/8" x 20")	A25
F.I.T.S.® 10/14 Series Laminated Style Inserts	A63	Mold Base 1623 (15-7/8" x 23-1/2")	A26
F.I.T.S.® 08/09 Series Laminated Style Inserts	A64	Mold Base 1626 (15-7/8" x 26")	A27
F.I.T.S.® 08/09 Series T-Style Inserts	A65	Mold Base 1629 (15-7/8" x 29-1/2")	A28
F.I.T.S.® 08/10 Series T-Style Inserts	A66	Mold Base 1818 (17-7/8" x 18")	A29
F.I.T.S.® 84/90 Series T-Style Inserts	A67	Mold Base 1820 (17-7/8" x 20")	A30
F.I.T.S.® 08/09 Series T-Style Plus Inserts	A68	Mold Base 1823 (17-7/8" x 23-1/2")	A31
F.I.T.S.® Guided Ejector Bushings & F.I.T.S.® Sleeve Ejector Sets	A69	Mold Base 1826 (17-7/8" x 26")	A32
F.I.T.S.® Leader Pins	A70	Mold Base 1924 (19-1/2" x 23-3/4")	A33
F.I.T.S.® Shoulder Bushings	A71	Mold Base 1929 (19-1/2" x 29-1/2")	A34
F.I.T.S.® Snap Rings & F.I.T.S.® Socket Head Shoulder Screws	A72	Mold Base 2424 (23-3/4" x 23-3/4")	A35
F.I.T.S.® Support Pillars & F.I.T.S.® Tubular Dowels	A73	Mold Base 2429 (23-3/4" x 29-1/2")	A36
Insulator Sheets-1/4" (with center hole and blank)	A48	Mold Base 2435 (23-3/4" x 35-1/2")	A37
Insulator Sheets-1/2" (with center hole and blank)	A49	PART EJECTION	
Mold Base Aluminum	A39	Accelerated Ejector - PCS CUMSA™	B26
Mold Base Special	A40	Armor Coated Ejector Pins	B14
Mold Base Standard P20 Overview	A4	Armor Coated Ejector Pins - Oversized	B16
Standard Mold Base Stack-up	A3	Armor Coated Step Pins	B18
Mold Base Stainless Steel	A38	Armor Coated Step Pins - Oversized	B19
Mold Plate Blank Finish Ground	A41	Ejector Blades	B20
Mold Plate Blank #1 Steel Ejector	A42	Ejector Sleeve Extensions	B25
Mold Plate Blank #1 Steel Ejector Retainer	A43	Hardened Throughout Ejectors Pins	B3
Mold Plate Blank #7 Stainless Steel Ejector & Ejector Retainer	A45	Hardened Throughout Ejector Pins - D-Head	B6
Mold Plate Blank #7 Stainless Steel Rails	A46	Hardened Throughout Ejectors Pins - Oversized.	B4
Mold Base 88 (7-7/8" x 7-7/8") On Center Guided Ejection	A5	Hardened Throughout Step Pins	B7
Mold Base 88 (7-7/8" x 7-7/8") Offset Guided Ejection	A6	Hardened Throughout Step Pins - D-Head	B8
Mold Base 812 (7-7/8" x 11-7/8")	A7	Hardened Throughout Step Pins - Oversized	B9
Mold Base 108 (9-7/8" x 8")	A8	Headless Ejector Pin Base- PCS CUMSA™	B28
Mold Base 1012 (9-7/8" x 11-7/8")	A9	Hex Series Knockout Rod Extensions	B30
Mold Base 1016 (9-7/8" x 16")	A10	Nitrided Ejector Pins	B11
Mold Base 1112 (10-7/8" x 12")	A11	Nitrided Ejector Pins - D-Head	B13



Turn To The Industry Experts

PRODUCT CATEGORY	PAGE	PRODUCT CATEGORY	PAGE
Nitrided Ejector Pins - Oversized	B12	Tri-Side Locks	D8
Oversized Ejector Sleeves	B23	Tri-Side Top Locks	D9
Plate Accelerator-PCS CUMSA™	B27	MOLD COOLING	
Round Series Knockout Rod Extensions	B30	Adjustable Hex Pipe Nipples	E17
Thin Wall Ejector Sleeves	B24	Brass Baffles	E3
MOLD ACTION		Brass Waterline Rods & Spacers	E38
Angle Pins	C3	Cascade Assemblies	E6
Auto Slide Retainer - PCS CUMSA™	C29	Cascade Brass Tubes	E17
Bronze Plated Wear Plate	C36	Cascade Pipe Nipples	E16
Compact Coring Unit - PCS CUMSA™	C5	Cascade Stainless Steel Tubes	E18
Compact Housing Lifter - PCS CUMSA™	C19	Connector Plugs	E25
Double Ejectors - PCS CUMSA™	C8	Connector Seals	E32
E-Z Lifter Series	C10	Cooling Pins and Heat Transfer Compound	E50
Flexible Cores - PCS CUMSA™	C6	Cover Plugs & Male Hose Barbs	E40
Friction Pullers	C67	Diverter Rods	E37
Gib Assemblies	C44	Extension Plugs	E20
Gib Base Plates	C47	Heavy Duty Pipe Plug Fittings & Diverter Plugs	E3
L-Gibs	C40	Hex Key Extension Elbows	E46
Latch Lock Sets	C56	Hex Key Extension Pipes	E47
Modular Retainer - PCS CUMSA™	C30	Hex Key Female to Female Street Elbows	E45
Ready Slide Assemblies - 100 Series	C22	Hex Key Female to Male Street Elbows	E44
Ready Slide Assemblies - 200 Series	C24	Kool Flow™ FB2 Assemblies	E55
Ready Slide Assemblies - 300 Series	C26	Kool Flow™ FB2 Individual Components	E61
Roller Pulling Assemblies	C63	Kool Flow™ FB3 Assemblies	E62
Self-Lubricating Wear Plate	C38	Kool Flow™ FB3 Individual Components	E74
Side Plates	C39	Kool Flow™ FB4 Assemblies	E76
Slide Latch	C32	Kool Flow™ FB4 Individual Components	E79
Slide Retainers	C31	Kool Flow Manifold™	E52
Sprung Cores	C7	O-Ring Plugs	E34
T-Slides for Gib Assemblies	C46	Piston Tubes	E39
Trunnion Lifter	C20	Pressure Plugs	E35
Tulip Ejectors - PCS CUMSA™	C9	Push-Lock Hose Barbs & Combination Hose Inserts	E41
Wear Strips	C48	Replacement Heads	E11
MOLD ALIGNMENT		Safety Clips	E32
Guide Locks	D12	Socket Connectors	E29
Multi-Plate Locks	D14	Standard Brass Extension Elbows	E42
Radius Top Locks - Black & Gold	D7	Standard Elbows, Zinc Plated	E43
Radius Top Locks - Black & Silver	D5	Threadless Plugs	E33
Shoulder Plates for Tapered Interlocks	D16	Water Jumpers	E48
Shuttle Mold Side Locks	D11	MOLD DATE & RECYCLING INSERTS	
Shuttle Mold Top Locks	D4	Block Base & Block Insert - PCS CUMSA™	F9
Side Locks	D10	Center Inserts - PCS CUMSA™	F8
Tapered Bar Locks	D13	Date Stamp Plus - PCS CUMSA™	F5
Tapered Round Interlocks	D15	Double Date Stamp - PCS CUMSA™	F4
Top Locks - Black & Gold	D6	Micro Dater & Inserts - PCS CUMSA™	F7
Top Locks - Black & Silver	D3	Recycling & Mark Inserts - PCS CUMSA™	F10

PRODUCT CATEGORY	PAGE	PRODUCT CATEGORY	PAGE
Standard Date Stamps - PCS CUMSA™	F3	Guide Pin Bushings - without Collar	H28
Temperature Dater & Insert - PCS CUMSA™	F6	Leader Pins	H25
GENERAL MOLD COMPONENTS		Nitrided Ejector Blades	H34
Air Poppet Valves	G5	Nitrided Ejector Pins	H37
Core Pins	G34	Nitrided Ejector Sleeves	H43
Core Pin Retainers	G36	Nitrided Step Pins	H40
Cycle Counters	G3	Self-Lube Guide Pin Bushings - with Collar	H29
Die Bushings	G25	Self-Lubricating Guided Ejector Bushings	H32
Double Air Valves	G8	Shoulder Bushings - Bronze Plated	H33
Dowel Pins	G38	METRIC JIS	
Flat Head Cap Screws	G40	Nitrided Ejector Pins	I3
Guided Ejector Bushings	G21	Nitrided Step Pins	I4
Limit Switches	G53	HOT RUNNER SYSTEMS	
Locating Rings	G56	Classic & Threaded Nozzle Selection Guide	J4
modalMAX™ Pins	G37	Complete line of Hot Runner Systems	J2
Red E Vault™	G4	Emerald Ceramic Technology	J8
Retaining Bushing - Tunnel Gate Inserts	G97	Emerald Classic Nozzle	J6
Return Pins	G59	Emerald Hot Runner Systems	J3
Round Gate Inserts - Tunnel Gate Inserts	G79	Emerald Threaded Nozzle	J7
Safety Stopper & Shock Absorber - PCS CUMSA™	G74	Policosmetic, Polifast, Polimax, & Polivalve	J9
Shoulder Bushings	G9	TEMPERATURE CONTROL SYSTEMS	
Shoulder Leader Pins - Guided Ejector	G49	Mainframe Alarm Modules	K13
Shoulder Leader Pins - Small Mold Assemblies	G52	Modular Temperature Controller Guide	K10
Shoulder Leader Pins - Standard	G45	Modular Temperature Controller Mainframe Systems Configuration	K12
Smartlock® Slide Retainer and Limit Switch	G55	Mold Connectors	K15
Socket Head Shoulder Screws - Stripper Bolt	G44	Mold End Pre-wired Terminal Mounting Boxes	K17
Socket Head Cap Screws	G41	Mold End Blank Combination Terminal Mounting Boxes	K18
Springs	G60	Mold Power & Thermocouple Cables	K15
Sprue Bushing & Extensions	G65	OEM Mold End Pre-Wired Terminal Mounting Boxes	K19
Square Gate Inserts	G82	OEM Mold End Blank Combination Terminal Mounting Boxes	K20
Stop Pins, Discs, Spacers, & Button	G71	OEM Mold Power & Thermocouple Conversion Cables	K22
Straight Bushings	G16	OEM Mold Connectors	K23
Straight Leader Pins - Guided Ejector	G50	Onyx Controller System Features	K4
Straight Leader Pins - Standard	G47	Onyx Mold Power & Thermocouple Cables	K7
Stripper Plate Bushings	G70	Pre-wired Terminal Mounting Boxes	K16
Support Pillars	G75	Product Family Comparison	K3
Threaded Locating Pin Accessory	G76	Replacement Parts	K24
Tubular Dowel Pins	G39	VC-M 15 Amp Module	K8
Tunnel Gate Inserts	G77	Visions 3000/2.0 Controller System	K29
METRIC DIN		HOT SPRUE BUSHINGS	
Angle Pins	H49	Decimal Equivalents & Tap Drills Sizes	L37
Bronze Plated Guided Ejector Bushings	H31	Hot Sprue Bushing Selection Guide	L4
Core Pins	H47	Injection Molding Trouble Shooting Guide	L35
Guide Pins - with Collar	H3	Mini Hot Sprue Bushings - FSB	L7
Guide Pins - without Collar	H14	Mini Hot Sprue Bushings - FSBH	L8
Guide Pin Bushings - with Collar	H27	Mini & Standard Hot Sprue Bushing Spare Parts - FSB & FSBH	L16



Turn To The Industry Experts

PRODUCT CATEGORY	PAGE	PRODUCT CATEGORY	PAGE
Mini Hot Sprue Bushings - PCS	L6	FasTie Accessories	O18
Mini & Standard Hot Sprue Bushings Benefits - PCS	L3	FasTie 1" Accessories	O19
Resin Material Processing Guide	L41	FasTie 1-3/8" & 2" Components Accessories	O20
Standard Hot Sprue Bushings - PCS	L12	FasTie Quick Ejector Tie-in System - Installation Examples	O14
Wattage/Amperage/Resistance Chart	L38	FasTie Quick Ejector Tie-in System - Specifications & References	O16
200 Series Standard Hot Sprue Bushings	L18	Heavy Duty Open Toe Mold Clamp Assemblies	O28
500 Series Standard Hot Sprue Bushings	L21	Heavy Duty Open Toe Mold Clamp Assemblies	O30
800 Series Standard Hot Sprue Bushings	L24	Hoist Rings	O35
1000 Series Standard Hot Sprue Bushings	L29	Hose	O36
HEATER PRODUCTS		Hose Caddy	O36
Cartridge Heater Features	M8	Hose Clamps	O37
Cartridge Heaters Options	M9	Laser Etched Plastic Plaque	O24
Flexible Tubular Heater Features & Installation Tools	M5	Mold Grease - Cera Lube Spray Grease	O5
Flexible Tubular Manifold Heaters	M6	Mold Grease - NanoCeramicMoldGrease	O4
Flexible Tubular Manifold Heater Installation	M7	Mold Safety Straps	O38
Hotlock & Axial Clamp Heater Specifications	M10	Polishing Stones	O39
Hotlock & Axial Clamp Heaters	M11	Rust Preventatives - Mold Guard Green & Mold Guard	O12
OEM Heaters & Thermocouples	M12	Rust Preventatives - The Defender	O12
Wind from stock Coil Heaters	M3	Speciality Cleaners - Zap-Ox	O11
Wind from stock Coil Heaters Options	M4	Speciality Cleaners - NanoMoldCleaner	O11
AFTERMARKET PARTS & SERVICES - HOT RUNNER		Spray Mold Releases - Dri-Kote	O9
Aftermarket Hot Runner Parts Offering	N3	Spray Mold Releases - Tuff Kote	O9
Aftermarket Parts & Services Request for Quote	N7	Thermal Set Graphic Plaques	O22
Manifold Cleaning and System Refurbishment	N4	Thread Sealant Tape	O37
Nozzle Heater and Hot Runner Component Repair	N5	Traditional Laser Etched Aluminum Plaque	O23
MOLDING SUPPLIES		CUTTING TOOLS	
Air Guns	O38	Carbide Reamers	P18
Cleaners- Power Clean	O10	Ejector Pin Counter Bores	P17
Cleaners- Mold Brite	O10	Extended Reach 2 Flute Solid Carbide End Mills (For Machining Aluminum) - Ball Nose	P15
Coatings- NanoMoldingCoating HC & HCF	O6	Extended Reach 2 Flute Solid Carbide End Mills (For Machining Aluminum) - Square End	P16
Coatings- NanoMoldingCoating QC	O7	Extended Reach 4 Flute Coated Solid Carbide End Mills - Ball Nose	P10
Custom Mold Plaque Request for Quote Form	O25	Extended Reach 4 Flute Coated Solid Carbide End Mills - Square End	P11
Extra Heavy Duty Open Toe Mold Clamp Assemblies	O29	Sprue Bushing Reamers	P19
Extra Heavy Duty Closed Toe Mold Clamp Assemblies	O31	Variable 3 Flute Coated Solid Carbide End Mills (For Machining Aluminum) - Corner Radius	P13
FasTie Accessories	O18	Variable 4 Flute Coated Solid Carbide End Mills - Square End	P7
FasTie 1" Accessories	O19	Variable 4 Flute Coated Solid Carbide End Mills - Corner Radius	P8
FasTie 1-3/8" & 2" Components Accessories	O20	Variable 4 Flute Coated Solid Carbide End Mills - Extended Reach Corner Radius	P9



PCS Company stands for quality, expertise, innovative technology and reliable customer service. Dating back to 1960, PCS Company started out as a family-owned operation, manufacturing plastic injection components in Fraser, Michigan. Over 55 years later, PCS Company has become a leading supplier in providing quality mold bases, mold base components, molding supplies and hot runner products for the plastics and die cast industries. Our global customers include plastic injection molders, mold makers, mold designers, and die casters.

From the beginning, PCS Company has been setting the industry standard for mold base and mold base components while emphasizing high quality products and superior customer service. The world famous Hardened Throughout™ Ejector Pins are manufactured at PCS Company's headquarters in Michigan. The proprietary heat treat process reduces chipping and makes form and contour work easier, while preventing flash and resin waste.

In 2012, PCS Company was purchased and included under the global umbrella of the Misumi Group. The Misumi Group currently serves over 160,000 customers worldwide by supplying mechanical components for factory automation, press die and plastic mold components, cutting tools and gauges. Since that time, PCS has invested over 5 million dollars in state of the art machinery to increase capacity and services to customers.

ISO 9001:2012 registered, PCS is passionate about providing quality products at competitive prices with same-day deliveries. Each day, PCS strives to achieve operational excellence and cost effective solutions for today's competitive business environment.

PCS Company mission is to provide industry leading solutions to customers' needs that create product and operational success.

PCS Company – Turn To The Industry Experts

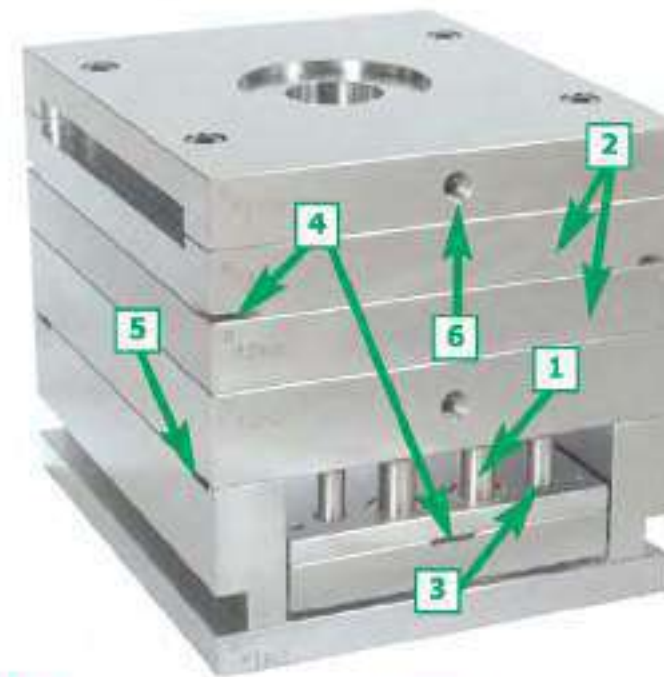
MOLD BASES

Standard Mold Base Stack-up.....	A3
Mold Base Standard P20 Overview.....	A4
Mold Base 88 (7-7/8" x 7-7/8") On Center Guided Ejection.....	A5
Mold Base 88 (7-7/8" x 7-7/8") Offset Guided Ejection.....	A6
Mold Base 812 (7-7/8" x 11-7/8").....	A7
Mold Base 108 (9-7/8" x 8").....	A8
Mold Base 1012 (9-7/8" x 11-7/8").....	A9
Mold Base 1016 (9-7/8" x 16").....	A10
Mold Base 1112 (10-7/8" x 12").....	A11
Mold Base 1114 (10-7/8" x 14").....	A12
Mold Base 1118 (10-7/8" x 18").....	A13
Mold Base 1212 (11-7/8" x 12").....	A14
Mold Base 1215 (11-7/8" x 15").....	A15
Mold Base 1220 (11-7/8" x 20").....	A16
Mold Base 1223 (11-7/8" x 23-1/2").....	A17
Mold Base 1315 (13-3/8" x 15").....	A18
Mold Base 1318 (13-3/8" x 18").....	A19
Mold Base 1321 (13-3/8" x 20-3/4").....	A20
Mold Base 1326 (13-3/8" x 26").....	A21
Mold Base 1518 (14-7/8" x 17-7/8").....	A22
Mold Base 1524 (14-7/8" x 23-3/4").....	A23
Mold Base 1616 (15-7/8" x 16").....	A24
Mold Base 1620 (15-7/8" x 20").....	A25
Mold Base 1623 (15-7/8" x 23-1/2").....	A26
Mold Base 1626 (15-7/8" x 26").....	A27
Mold Base 1629 (15-7/8" x 29-1/2").....	A28
Mold Base 1818 (17-7/8" x 18").....	A29
Mold Base 1820 (17-7/8" x 20").....	A30
Mold Base 1823 (17-7/8" x 23-1/2").....	A31
Mold Base 1826 (17-7/8" x 26").....	A32
Mold Base 1924 (19-1/2" x 23-3/4").....	A33
Mold Base 1929 (19-1/2" x 29-1/2").....	A34
Mold Base 2424 (23-3/4" x 23-3/4").....	A35
Mold Base 2429 (23-3/4" x 29-1/2").....	A36
Mold Base 2435 (23-3/4" x 35-1/2").....	A37
Mold Base Stainless Steel.....	A38

MOLD BASES

Mold Base Aluminum.....	A39
Mold Base Special.....	A40
Mold Plate Blank Finish Ground.....	A41
Mold Plate Blank #1 Steel Ejector.....	A42
Mold Plate Blank #1 Steel Ejector Retainer.....	A43
Ejector Housings #1 Steel.....	A44
Mold Plate Blank #7 Stainless Steel Ejector & Ejector Retainer.....	A45
Mold Plate Blank #7 Stainless Steel Rails.....	A46
1/4" Insulator Sheets (with center hole and blank).....	A48
1/2" Insulator Sheets (with center hole and blank).....	A49
F.I.T.S.® Frames & Inserts.....	A51
F.I.T.S.® 05/05 Series Solid Style Inserts.....	A52
F.I.T.S.® 08/09 Series Solid Style Inserts.....	A53
F.I.T.S.® 08/10 Series Solid Style Inserts.....	A54
F.I.T.S.® 84/90 Series Solid Style Inserts.....	A55
F.I.T.S.® 10/12 Series Solid Style Inserts.....	A56
F.I.T.S.® 10/14 Series Solid Style Inserts.....	A57
F.I.T.S.® 08/09 Series Solid Plus Style Inserts.....	A58
F.I.T.S.® 08/09 Series Laminated Style Inserts.....	A59
F.I.T.S.® 08/10 Series Laminated Style Inserts.....	A60
F.I.T.S.® 84/90 Series Laminated Style Inserts.....	A61
F.I.T.S.® 10/12 Series Laminated Style Inserts.....	A62
F.I.T.S.® 10/14 Series Laminated Style Inserts.....	A63
F.I.T.S.® 08/09 Series Laminated Style Inserts.....	A64
F.I.T.S.® 08/09 Series T-Style Inserts.....	A65
F.I.T.S.® 08/10 Series T-Style Inserts.....	A66
F.I.T.S.® 84/90 Series T-Style Inserts.....	A67
F.I.T.S.® 08/09 Series T-Style Plus Inserts.....	A68
F.I.T.S.® Guided Ejector Bushings & F.I.T.S.® Sleeve Ejector Sets.....	A69
F.I.T.S.® Leader Pins.....	A70
F.I.T.S.® Shoulder Bushings.....	A71
F.I.T.S.® Snap Rings & F.I.T.S.® Socket Head Shoulder Screws.....	A72
F.I.T.S.® Support Pillars & F.I.T.S.® Tubular Dowels.....	A73

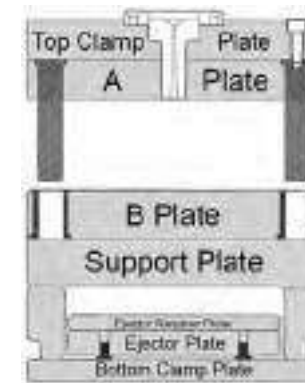
Standard Mold Base Stack-up



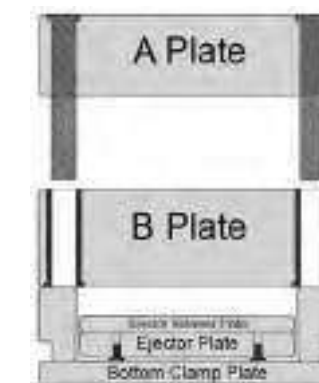
- 1** Guided Ejection Included
- 2** #3 Steel A & B Plates
- 3** Relocated Return Pins
- 4** Pry Slots
- 5** Vented Leader Pins
- 6** Hoist Ring Holes

Standard Mold Base Plate Material

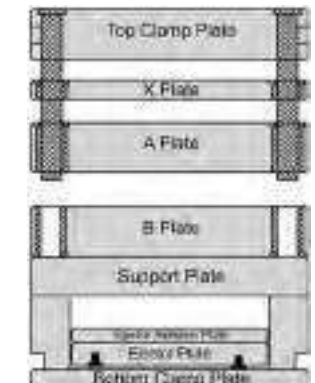
- A Plate #3 Steel
- B Plate #3 Steel
- X Plate #3 Steel
- Top Clamp Plate #2 Steel
- Support Plate #2 Steel
- Ejector Retainer Plate #1 Steel
- Ejector Plate #1 Steel
- Bottom Clamp Plate #1 Steel



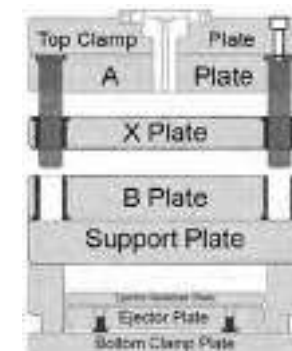
A Series



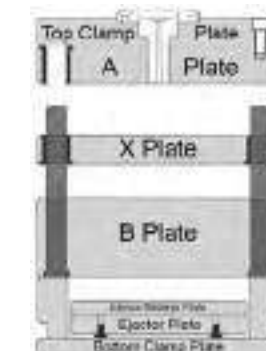
B Series



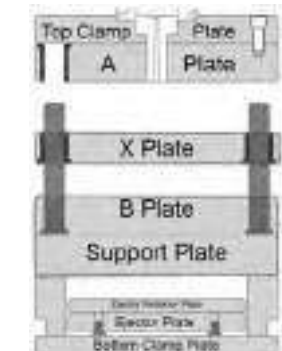
T Series



AX Series



5 Plate Stripper Series



6 Plate Stripper Series

Standard P20 Mold Bases

Mold Base Features:

- Guided Ejection
- #3 Steel A & B Plates
- Return Pins - Inboard location for spring pockets
- Pry Slots
- Vented Leader Pins
- Hoist Ring Holes
- Interchangeable Plates
- Finish ground +/- .001"

Mold Base Assemblies available in:

- A Series
- B Series
- T Series
- AX Series
- 5 Plate Stripper Series
- 6 Plate Stripper Series
- Shuttle Bases



FRAME SIZE	AVAILABLE A & B PLATE THICKNESS								
	7/8"	1-3/8"	1-7/8"	2-3/8"	2-7/8"	3-3/8"	3-7/8"	4-7/8"	5-7/8"
7-7/8" x 7-7/8"	X	X	X	X	X	X	X	X	X
7-7/8" x 11-7/8"	X	X	X	X	X	X	X	X	X
9-7/8" x 8"	X	X	X	X	X	X	X	X	X
9-7/8" x 11-7/8"	X	X	X	X	X	X	X	X	X
9-7/8" x 16"	X	X	X	X	X	X	X	X	X
10-7/8" x 12"	X	X	X	X	X	X	X	X	X
10-7/8" x 14"	X	X	X	X	X	X	X	X	X
10-7/8" x 18"	X	X	X	X	X	X	X	X	X
11-7/8" x 12"	X	X	X	X	X	X	X	X	X
11-7/8" x 15"	X	X	X	X	X	X	X	X	X
11-7/8" x 20"	X	X	X	X	X	X	X	X	X
11-7/8" x 23-1/2"	X	X	X	X	X	X	X	X	X
13-3/8" x 15"	X	X	X	X	X	X	X	X	X
13-3/8" x 18"	X	X	X	X	X	X	X	X	X
13-3/8" x 20-3/4"	X	X	X	X	X	X	X	X	X
13-3/8" x 26"	X	X	X	X	X	X	X	X	X
14-7/8" x 17-7/8"	X	X	X	X	X	X	X	X	X
14-7/8" x 23-3/4"	X	X	X	X	X	X	X	X	X
15-7/8" x 16"	X	X	X	X	X	X	X	X	X
15-7/8" x 20"	X	X	X	X	X	X	X	X	X
15-7/8" x 23-1/2"	X	X	X	X	X	X	X	X	X
15-7/8" x 26"	X	X	X	X	X	X	X	X	X
15-7/8" x 29-1/2"	X	X	X	X	X	X	X	X	X
17-7/8" x 18"	X	X	X	X	X	X	X	X	X
17-7/8" x 20"	X	X	X	X	X	X	X	X	X
17-7/8" x 23-1/2"	X	X	X	X	X	X	X	X	X
17-7/8" x 26"	X	X	X	X	X	X	X	X	X
19-1/2" x 23-3/4"	X	X	X	X	X	X	X	X	X
19-1/2" x 29-1/2"	X	X	X	X	X	X	X	X	X
23-3/4" x 23-3/4"	X	X	X	X	X	X	X	X	X
23-3/4" x 29-1/2"	X	X	X	X	X	X	X	X	X
23-3/4" x 35-1/2"	X	X	X	X	X	X	X	X	X

7-7/8" x 7-7/8" 88 Mold Base

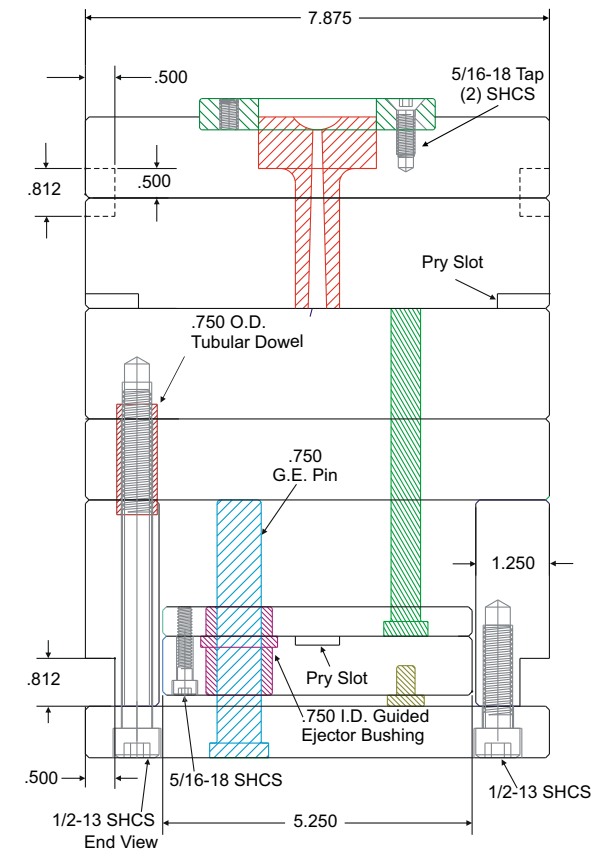
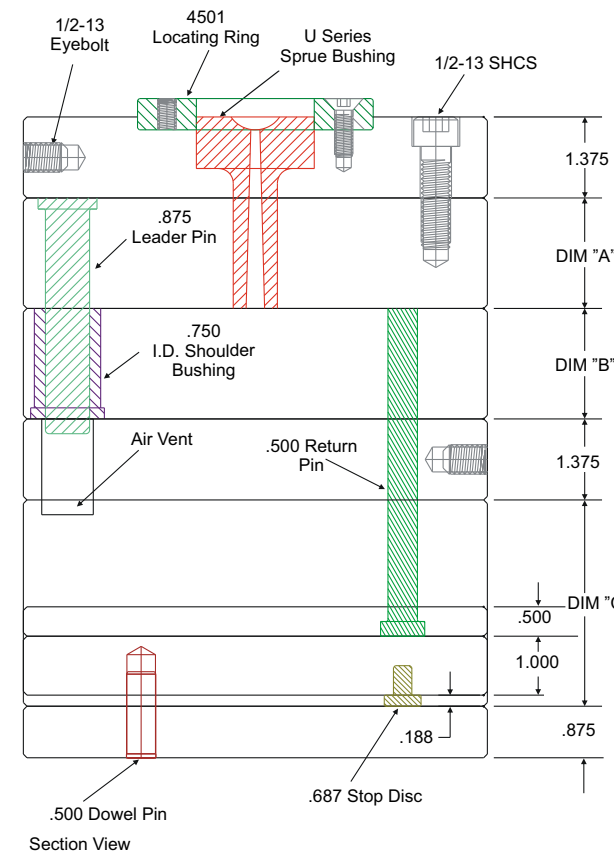
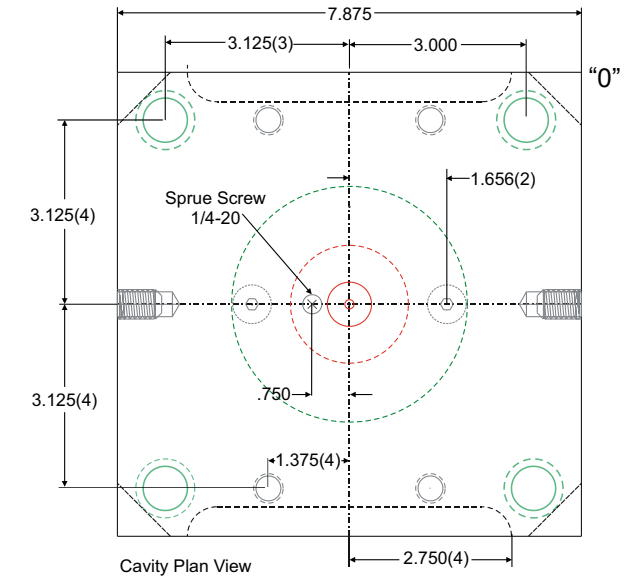
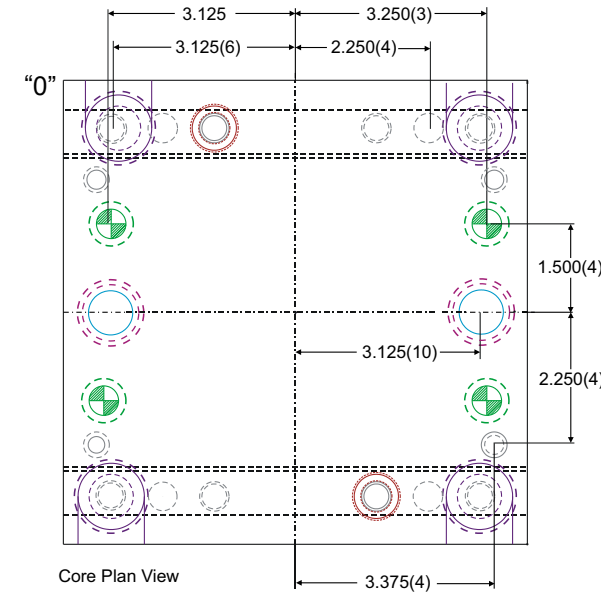
Style 1: On Center Guided Ejection

U Series Sprue Bushing = .750
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES

	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6



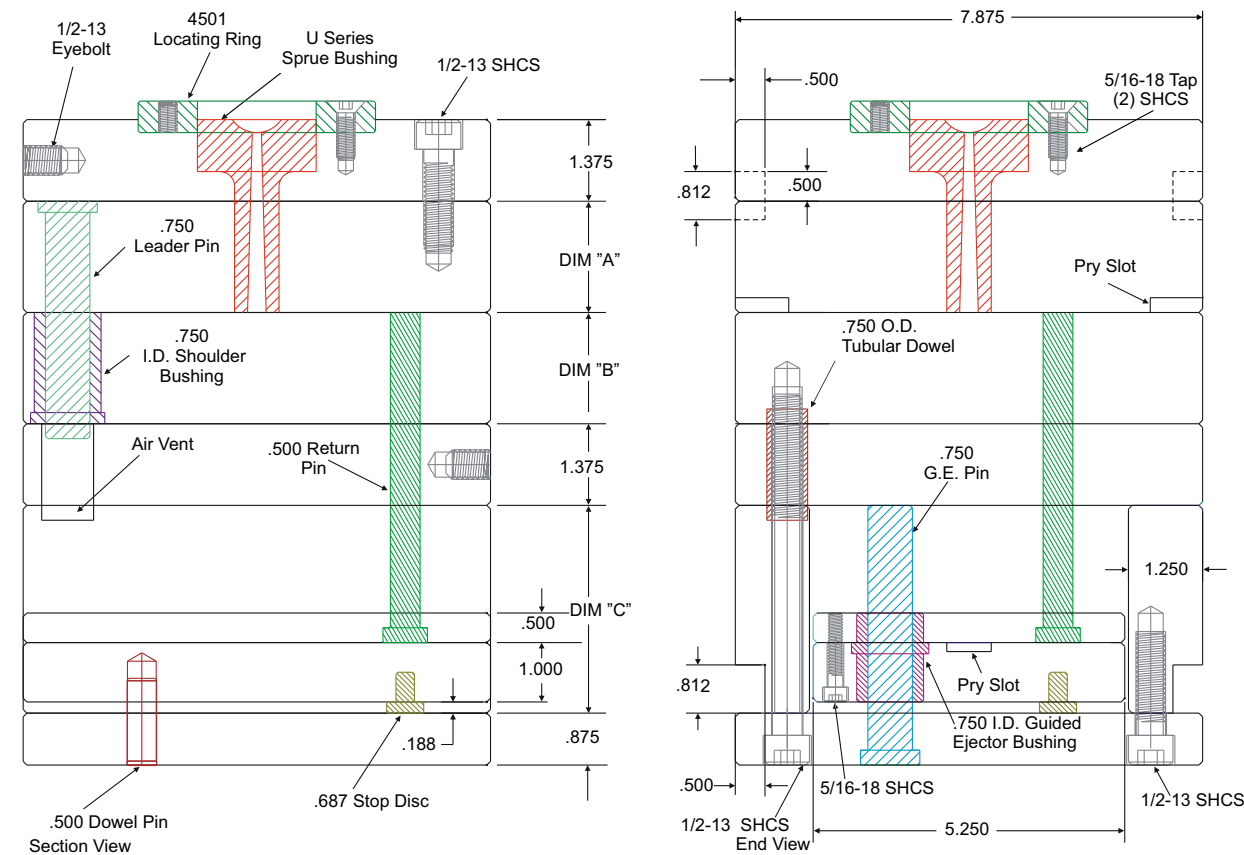
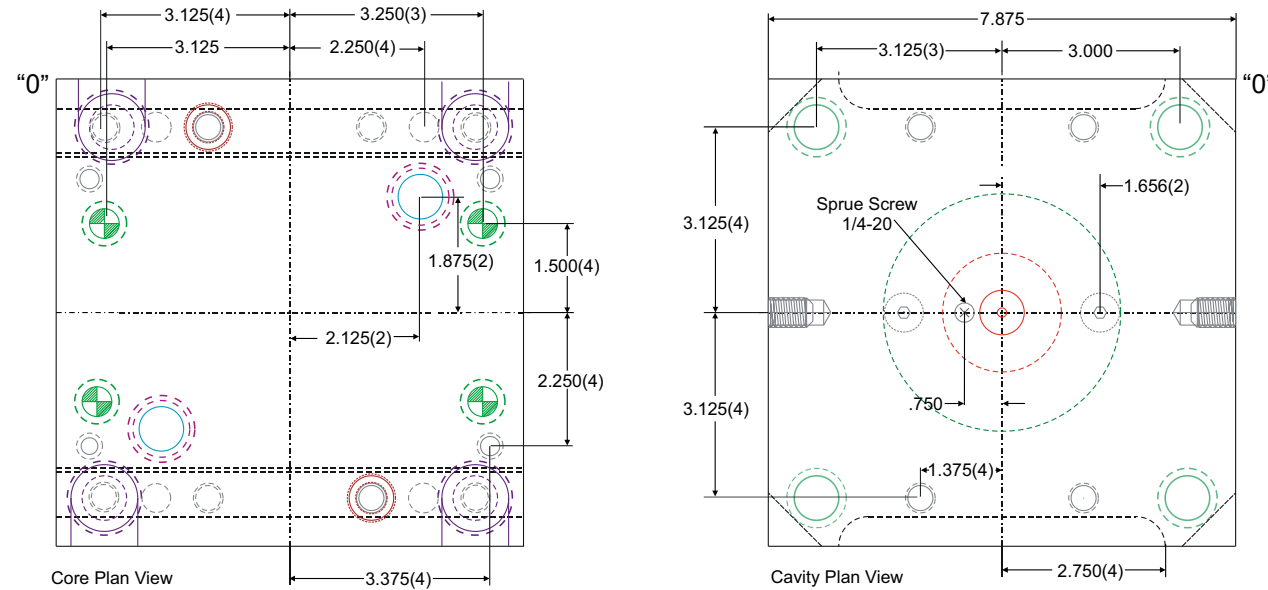
7-7/8" x 7-7/8" 88 Mold Base

Style 2: Offset Center Guided Ejection

U Series Sprue Bushing = .750
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

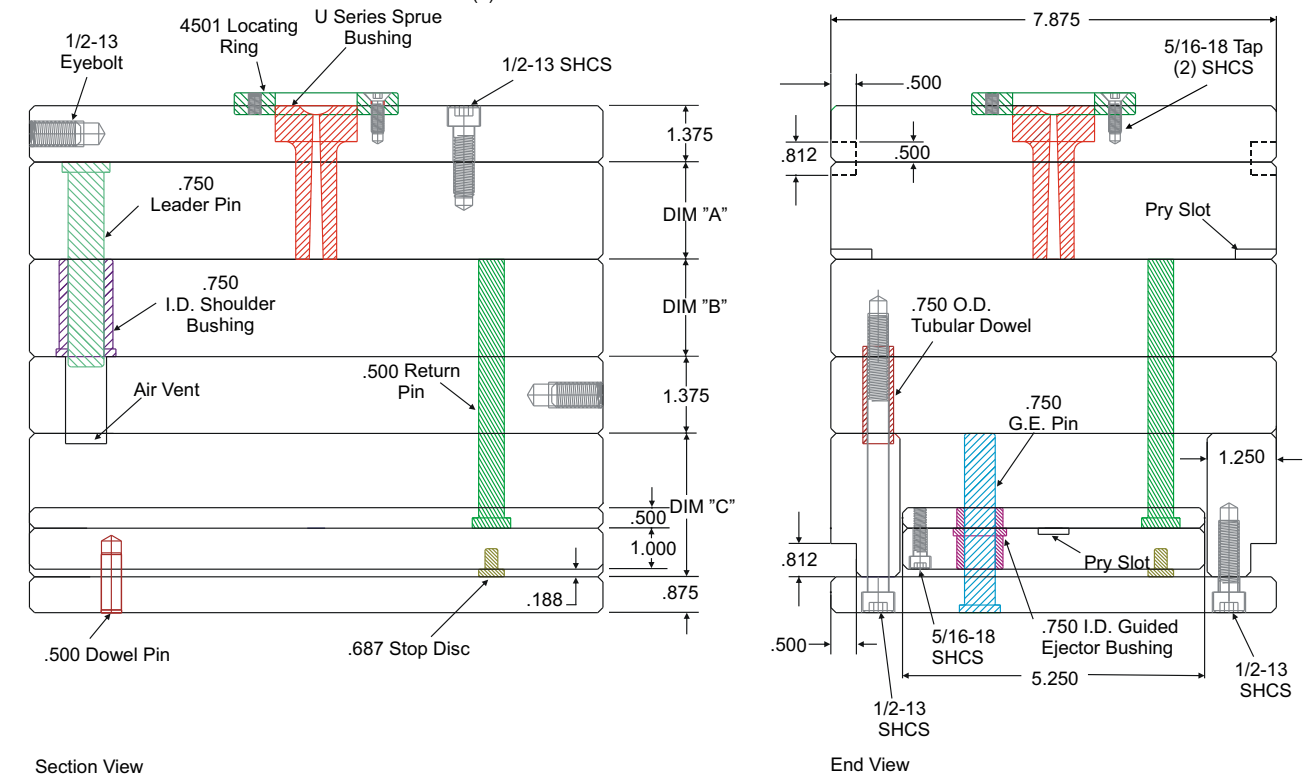
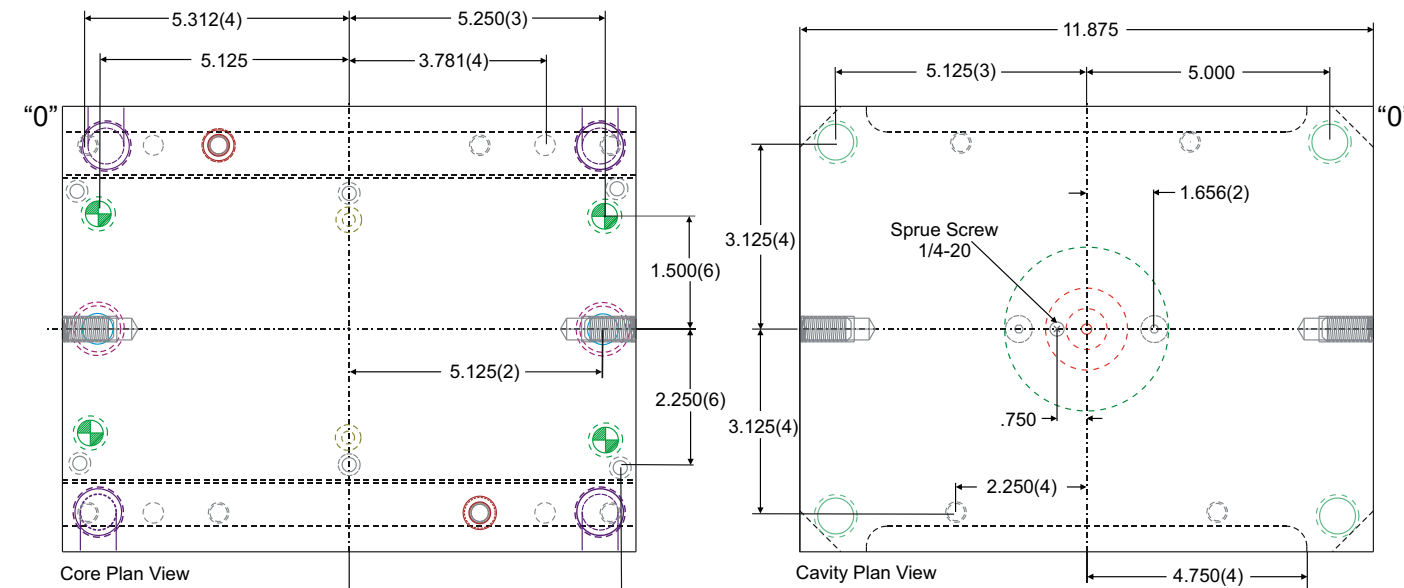


7-7/8" x 11-7/8" 812 Mold Base

U Series Sprue Bushing = .750
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

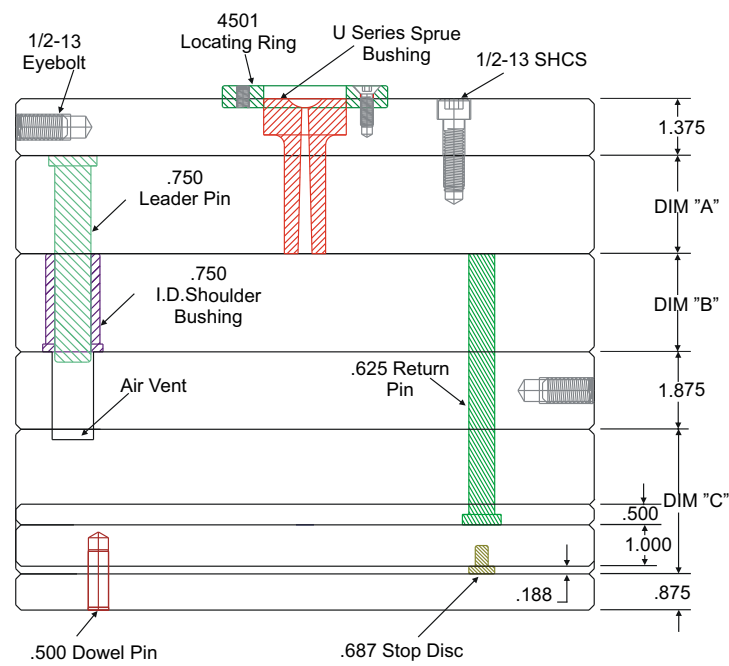
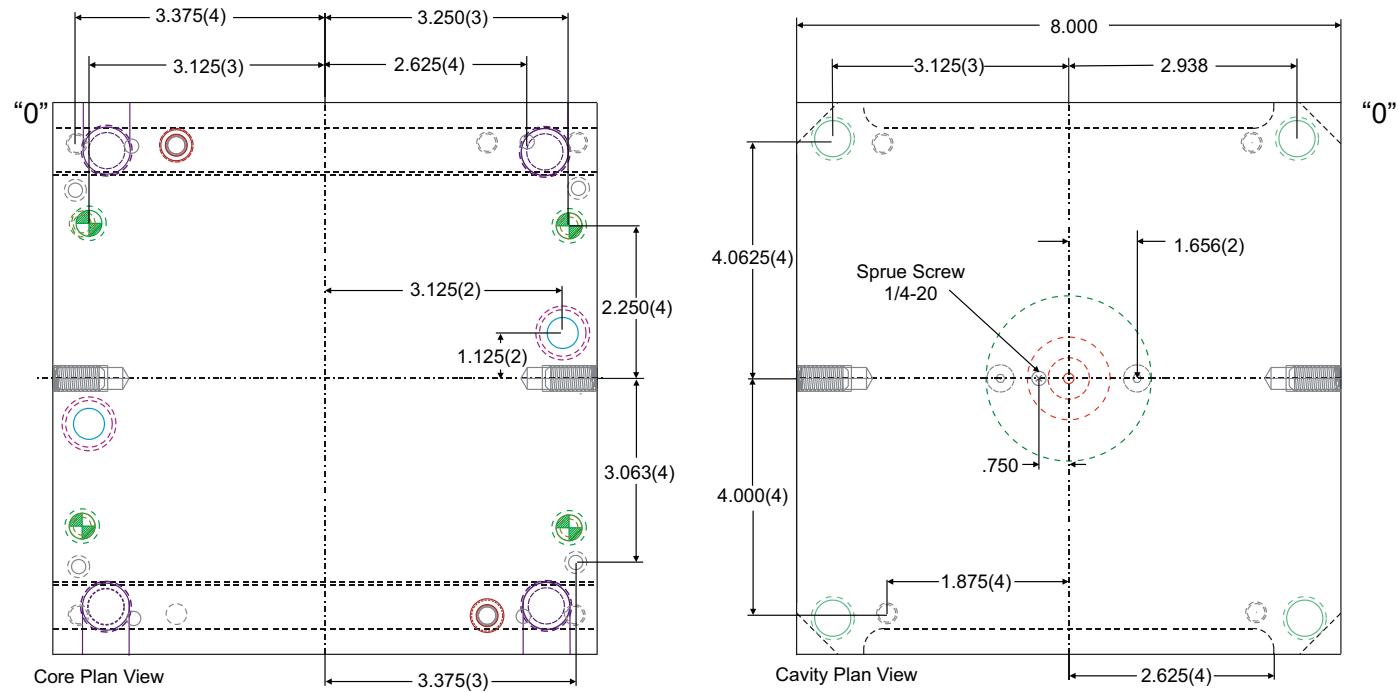


9-7/8" x 8" 108 Mold Base

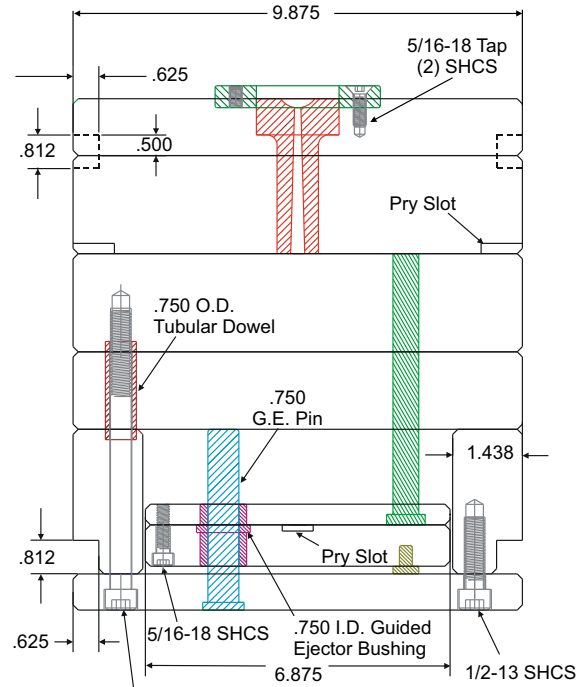
AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

U Series Sprue Bushing = .750
Guided Ejection can be omitted

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6



Section View



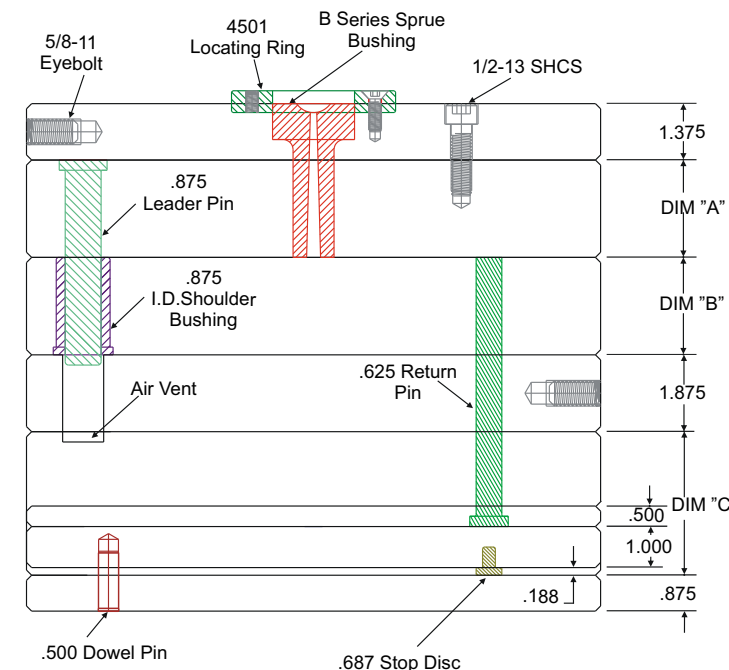
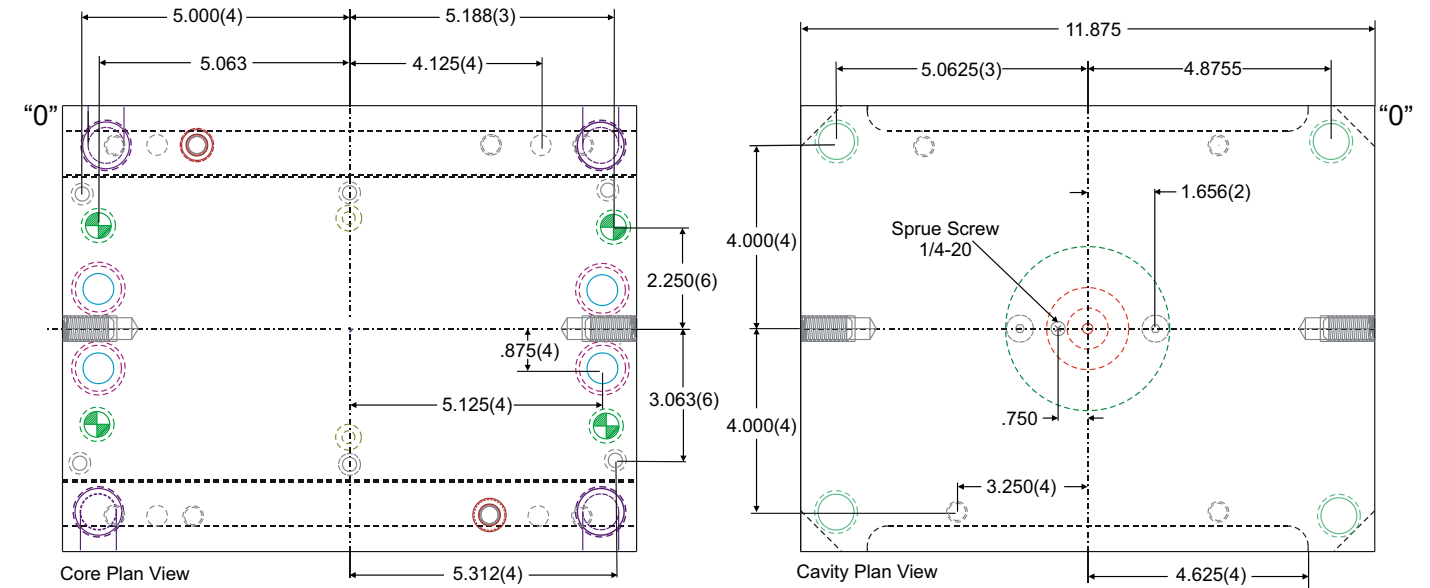
End View

9-7/8" x 11-7/8" 1012 Mold Base

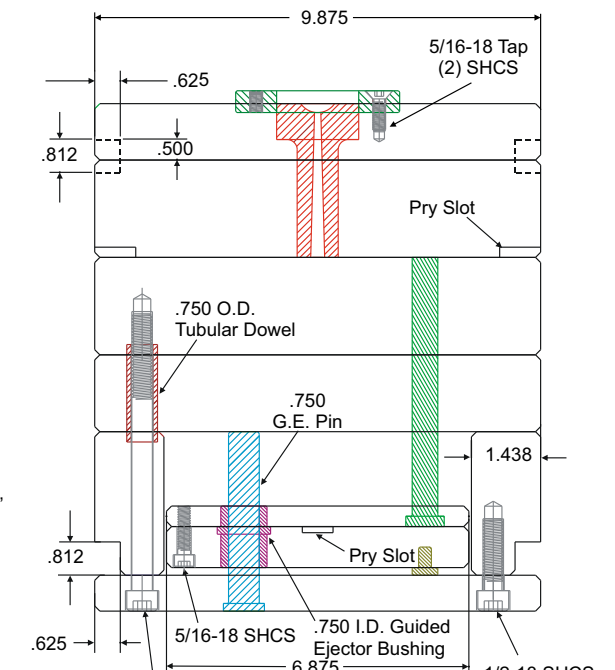
AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6



Section View



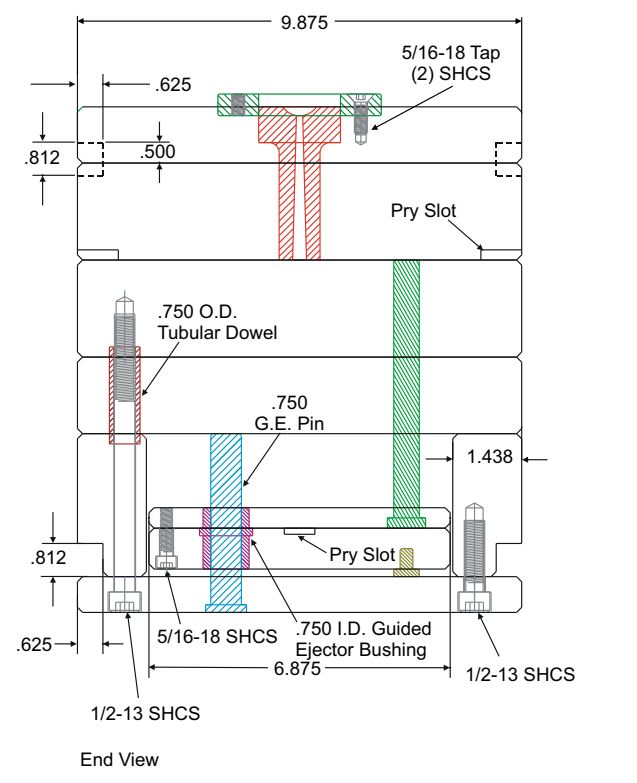
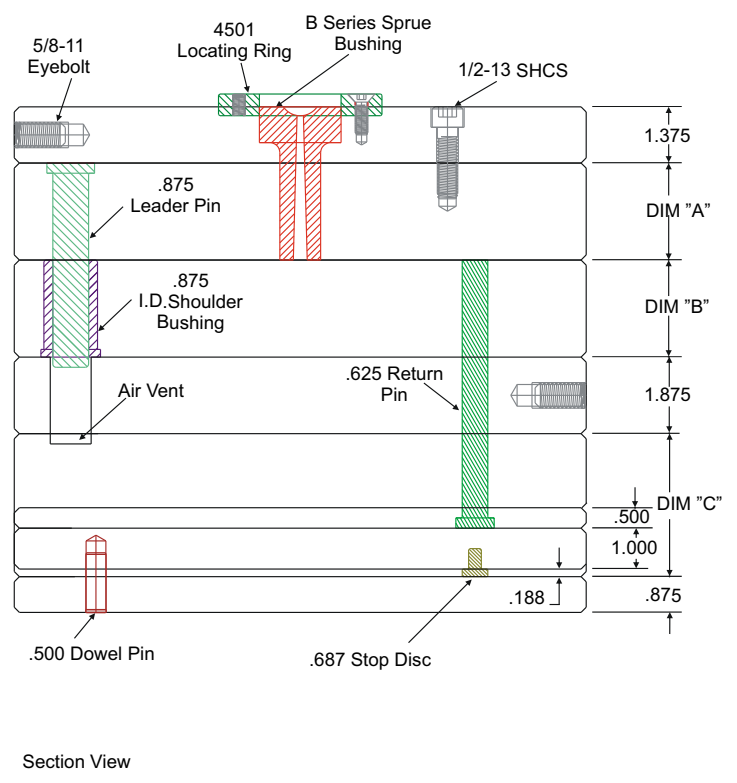
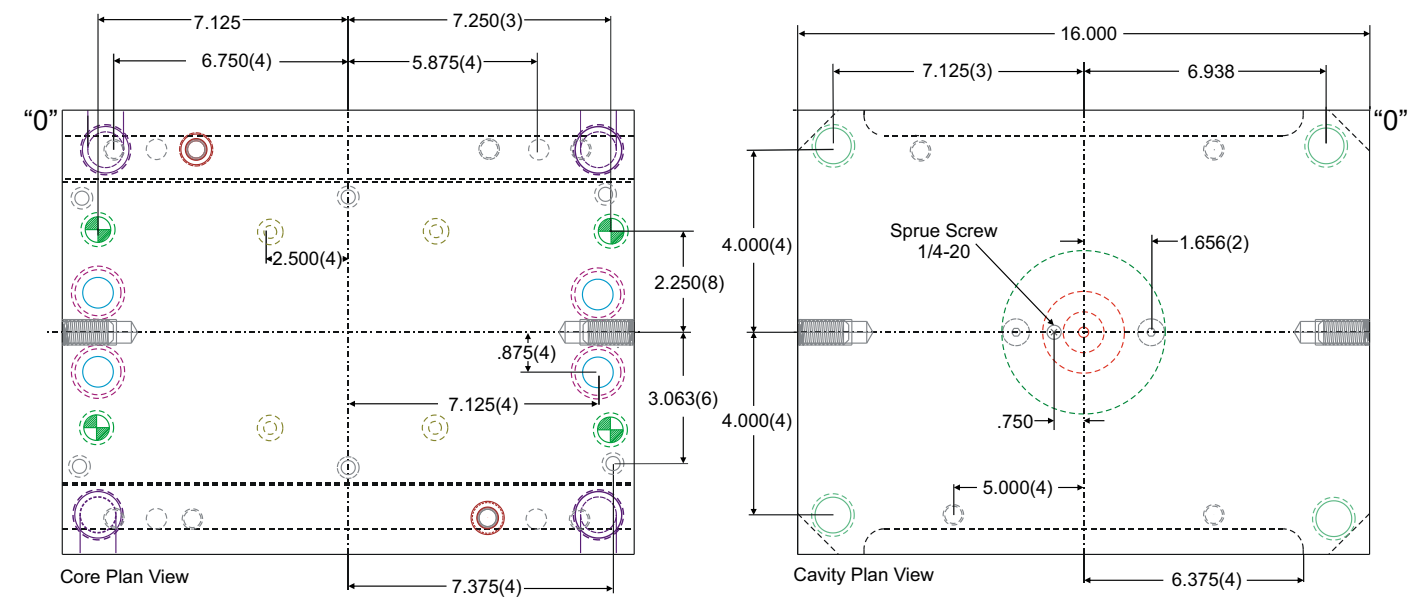
End View

9-7/8" x 16" 1016 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

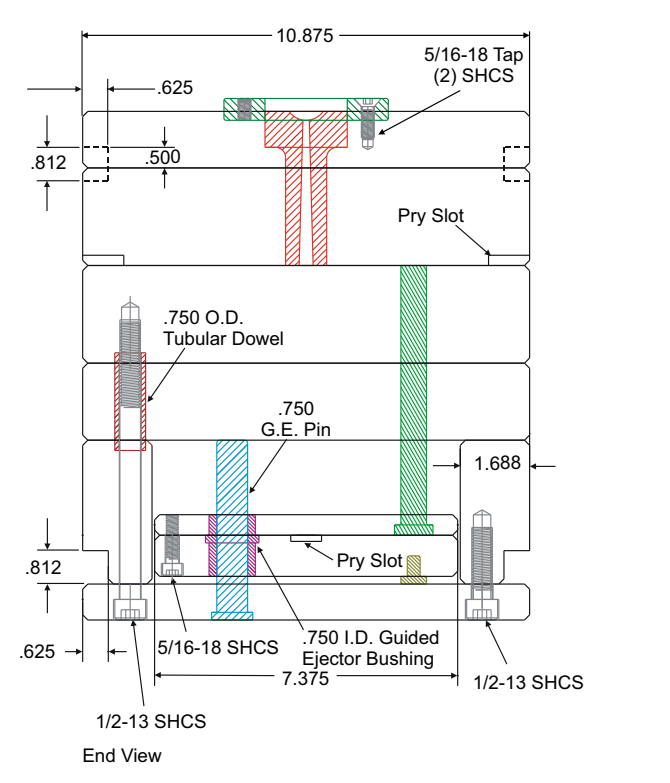
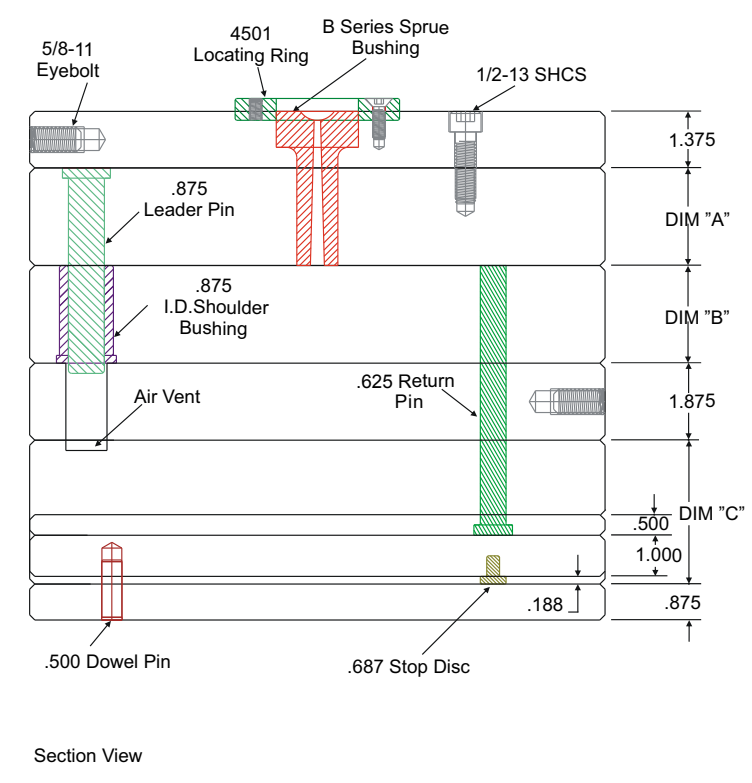
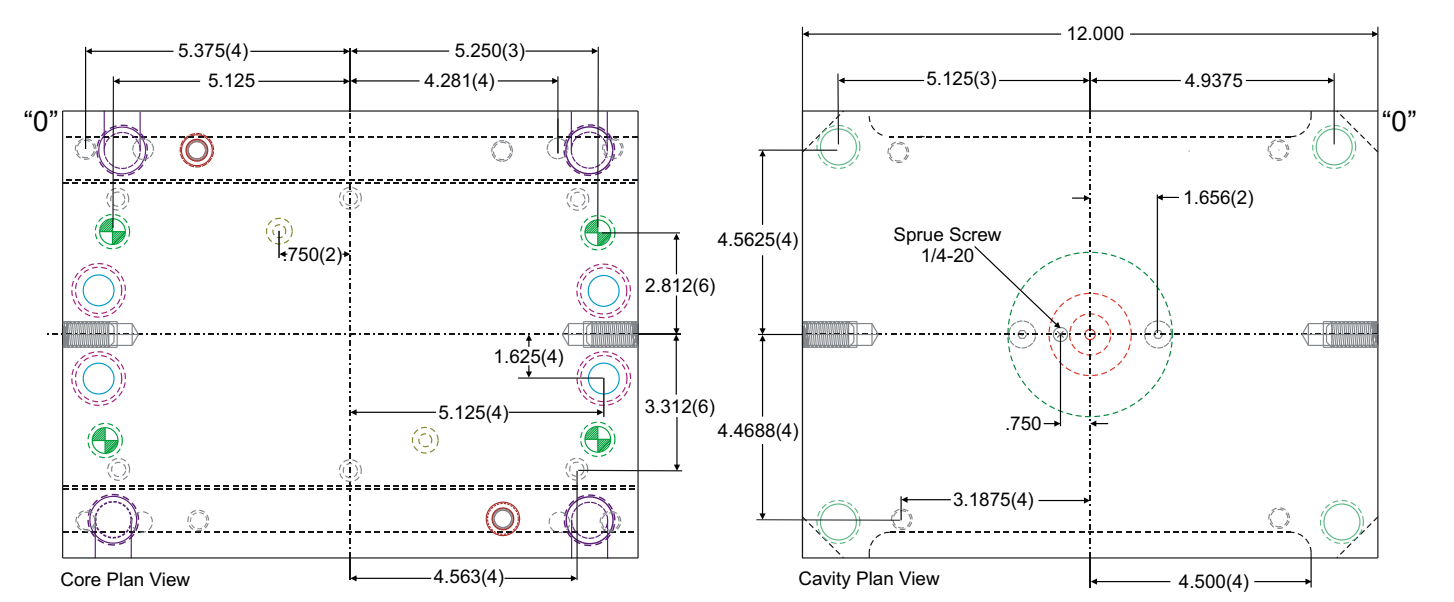


10-7/8" x 12" 1112 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

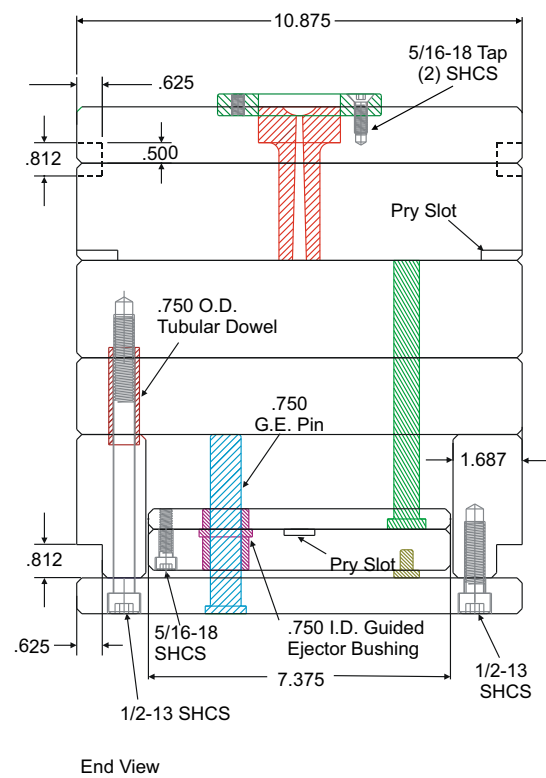
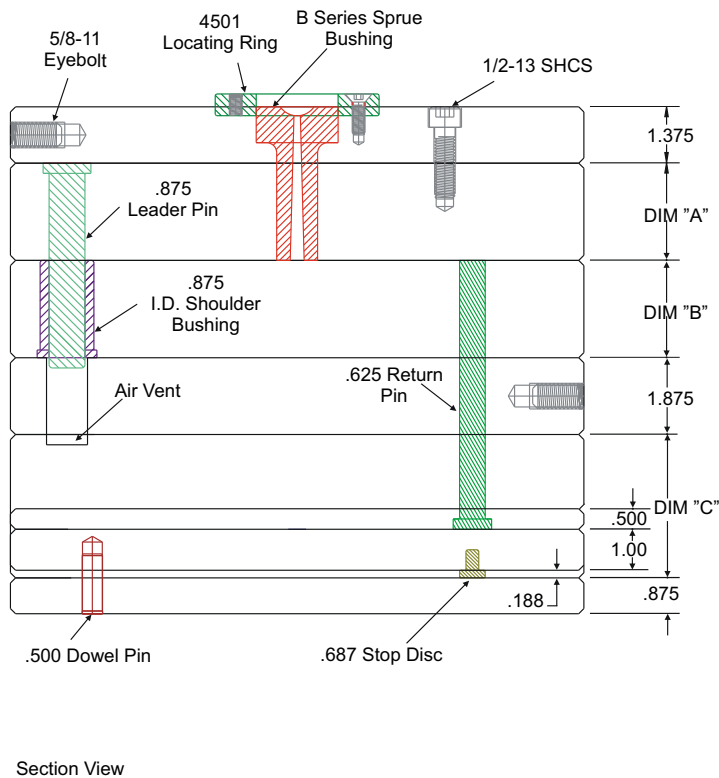
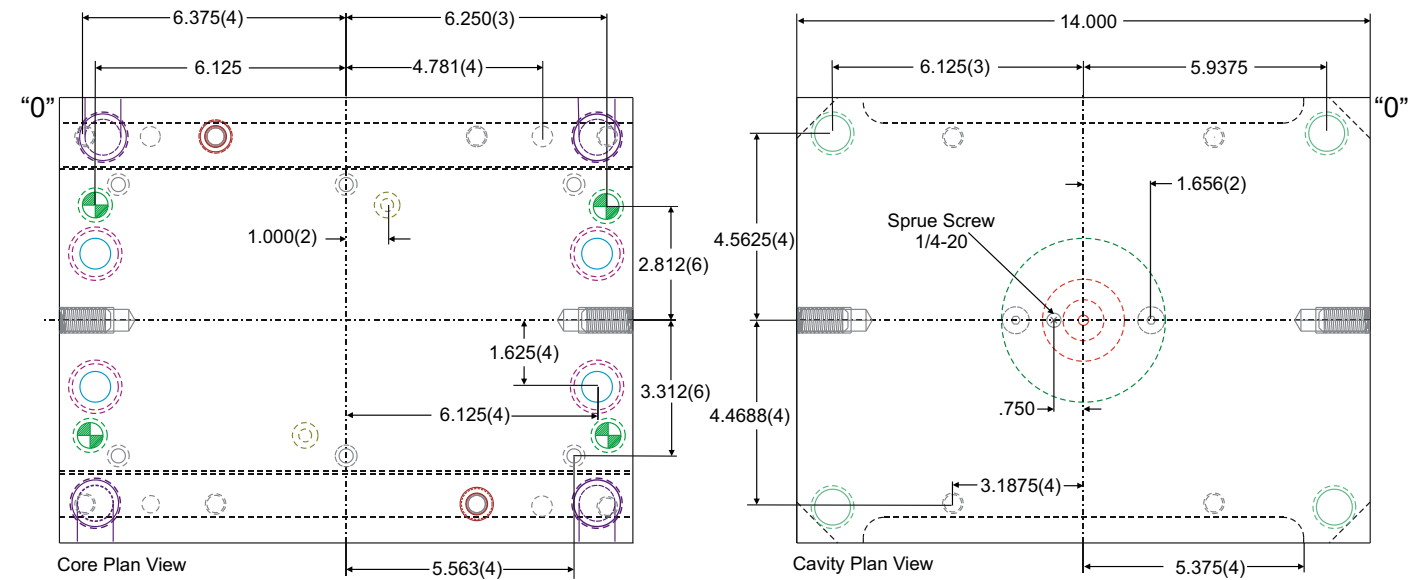


10-7/8" x 14" 1114 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

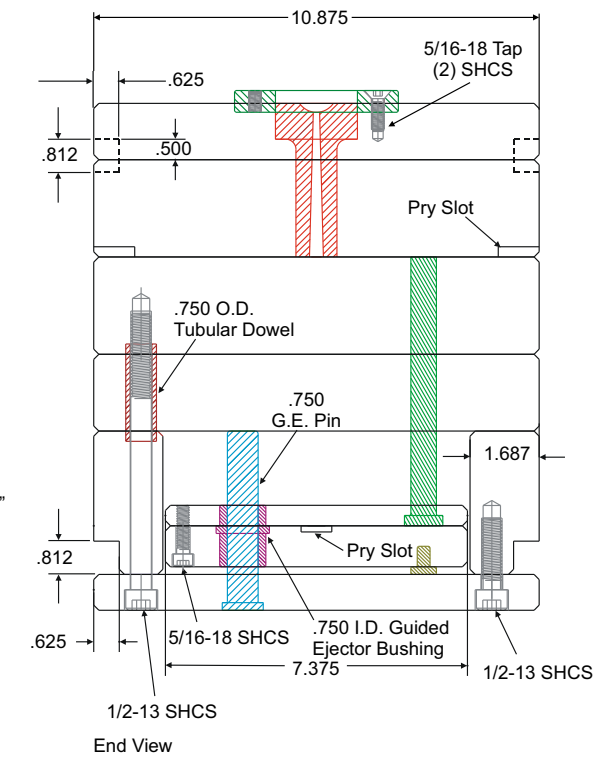
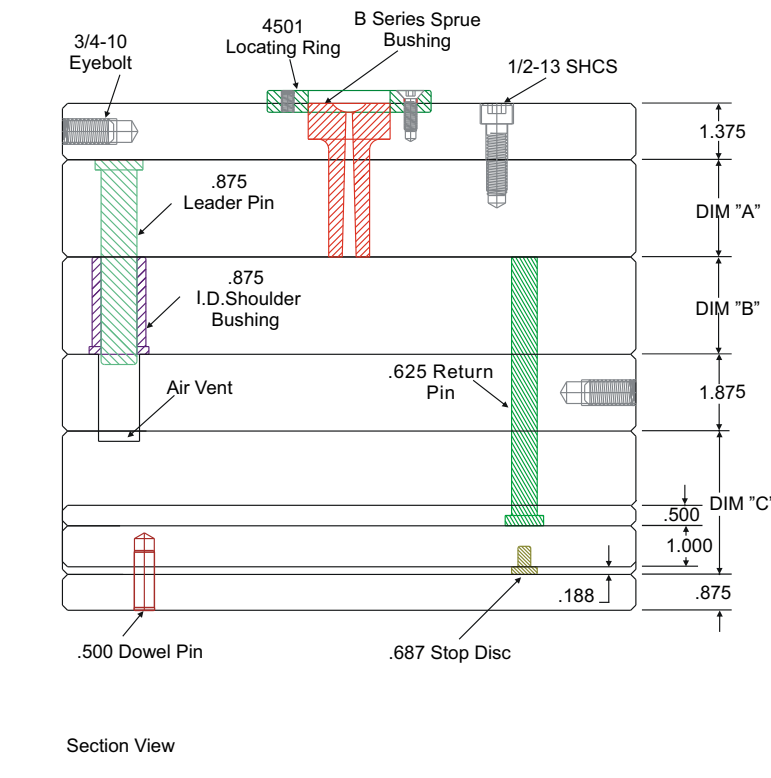
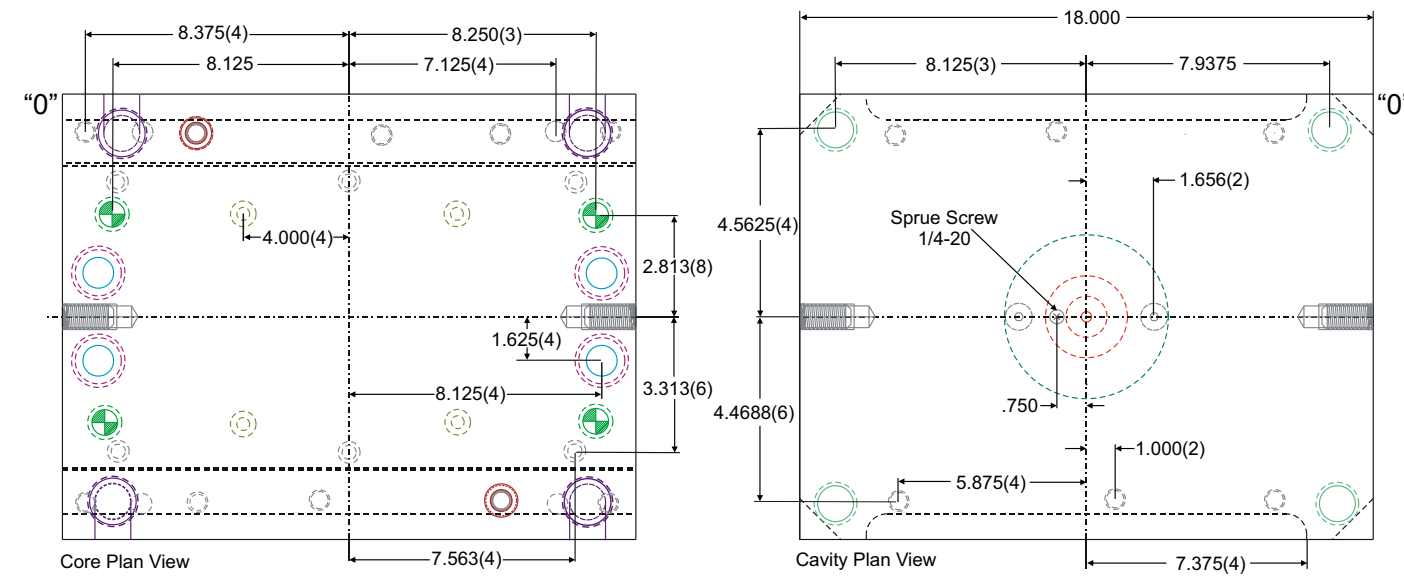


10-7/8" x 18" 1118 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6



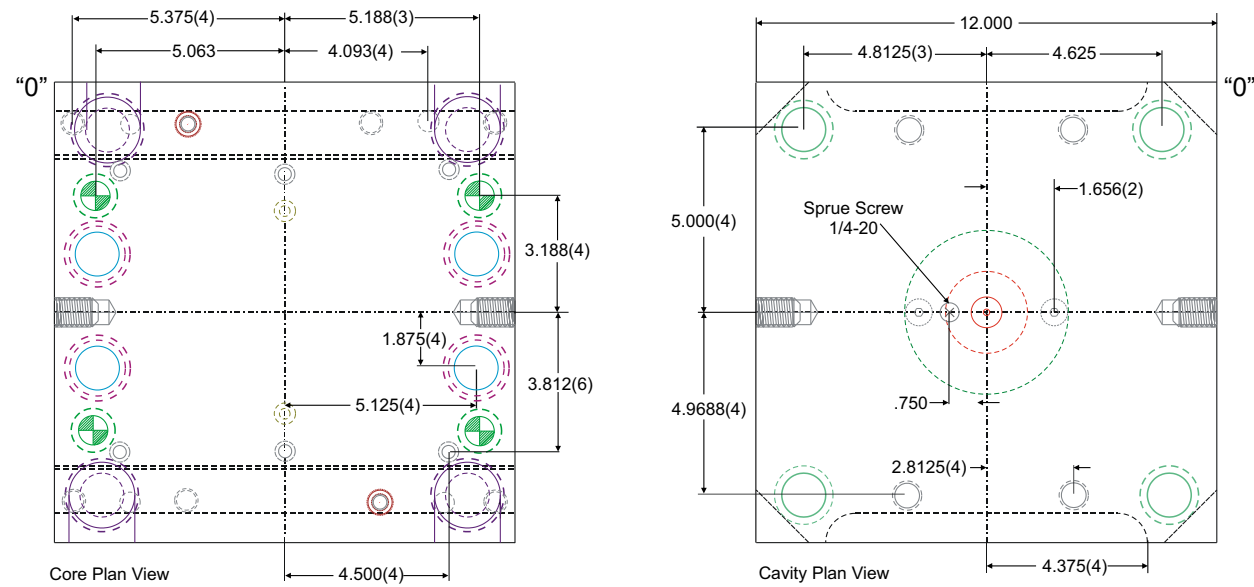
11-7/8" x 12" 1212 Mold Base

AVAILABLE PLATE THICKNESSES

	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

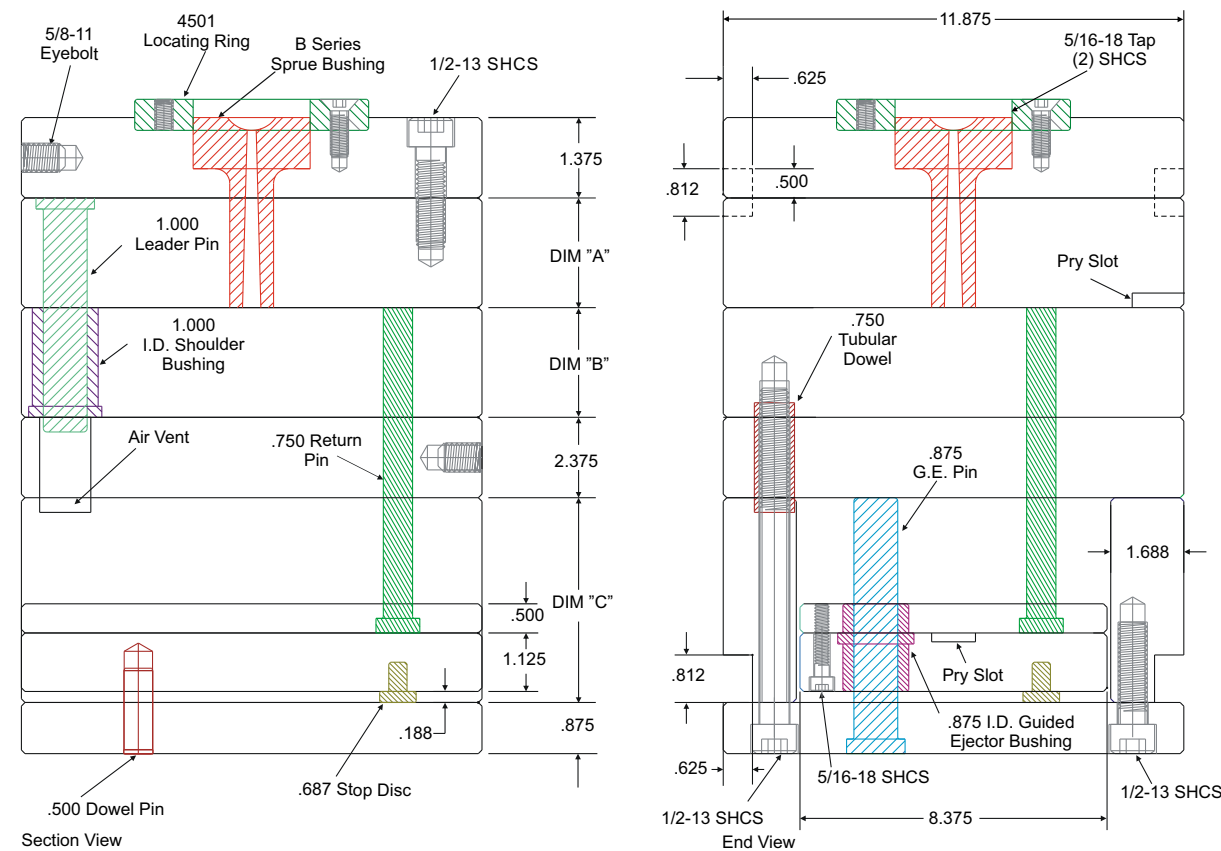
C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted



Core Plan View

Cavity Plan View



Section View

End View

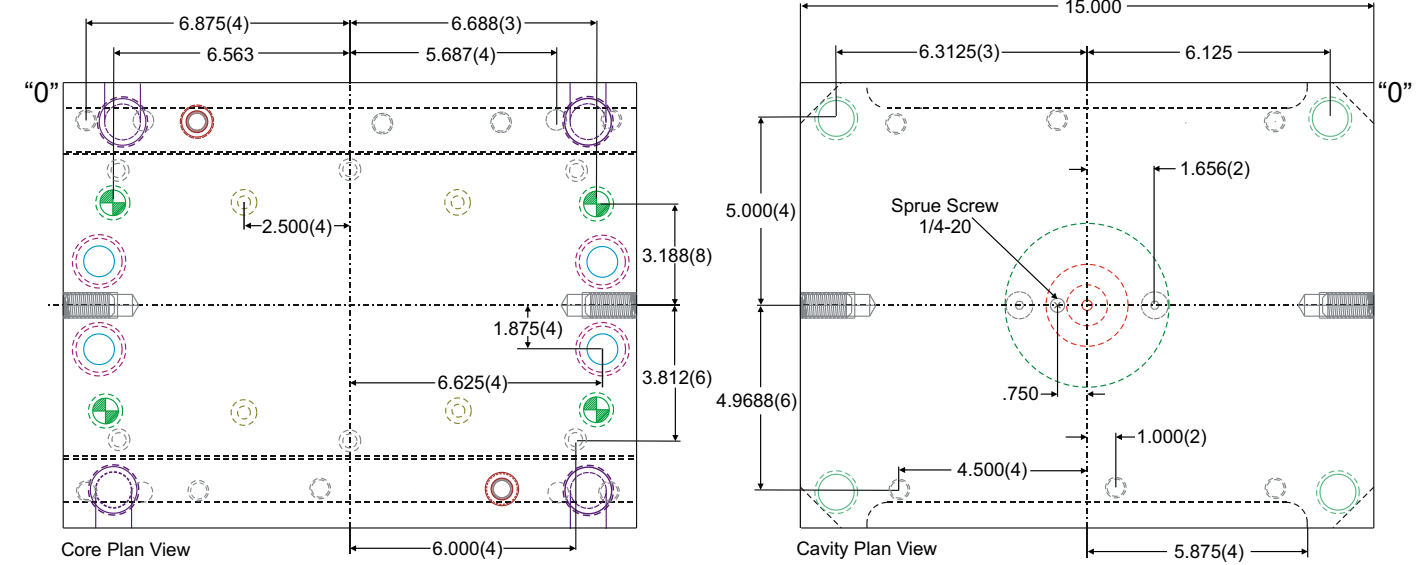
11-7/8" x 15" 1215 Mold Base

AVAILABLE PLATE THICKNESSES

	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

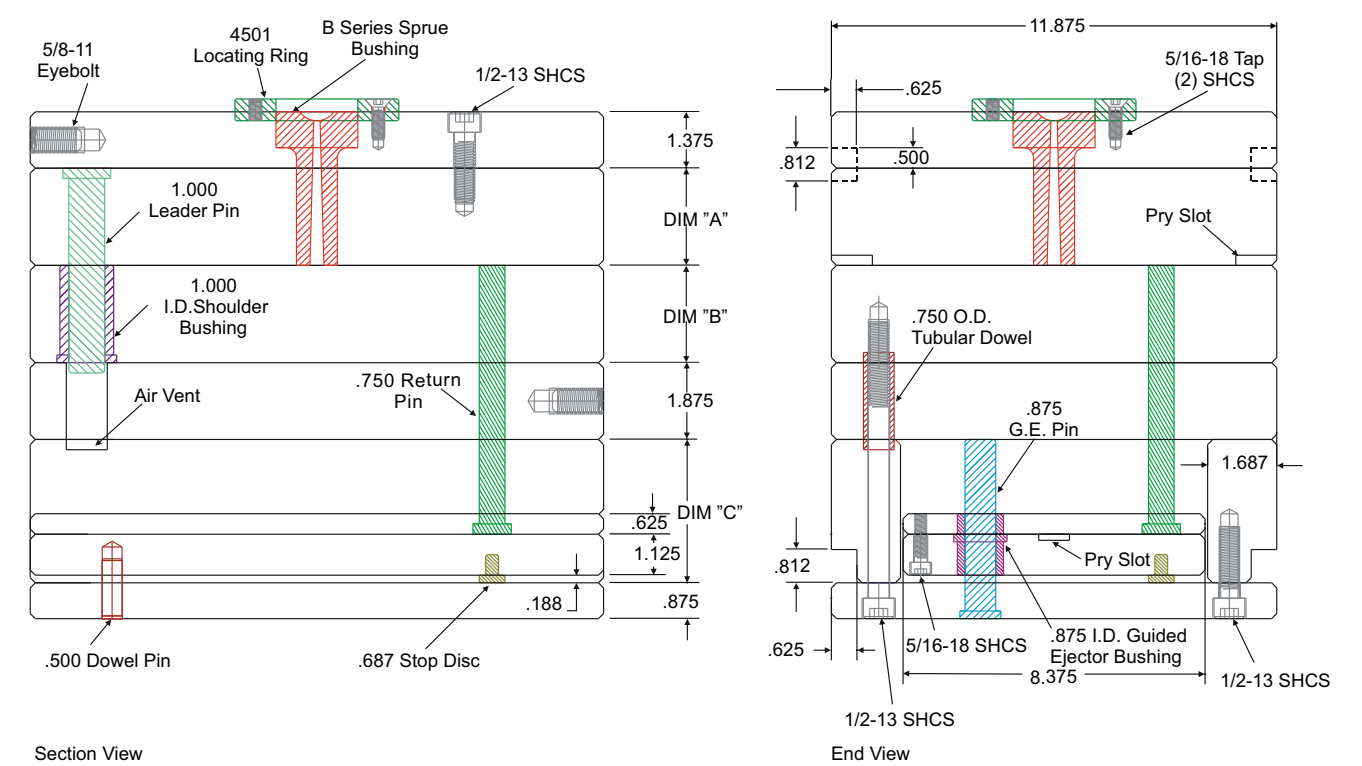
C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted



Core Plan View

Cavity Plan View



Section View

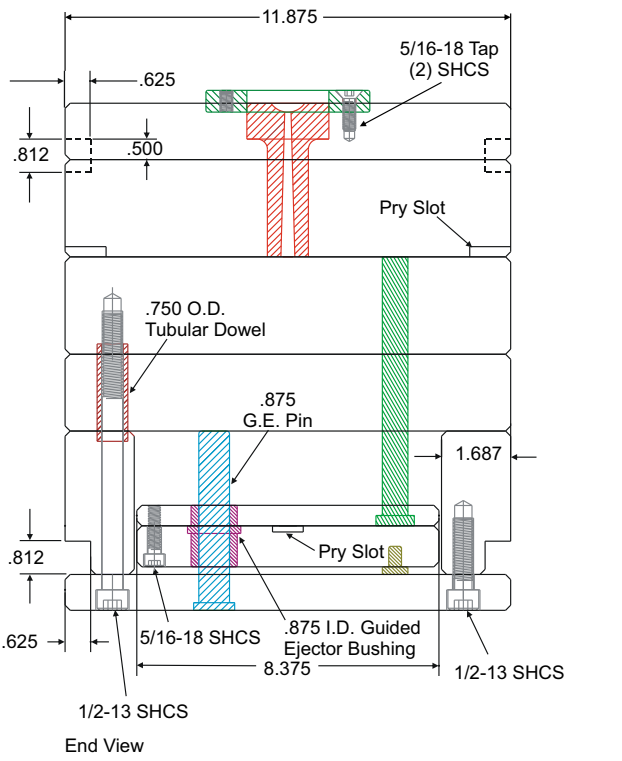
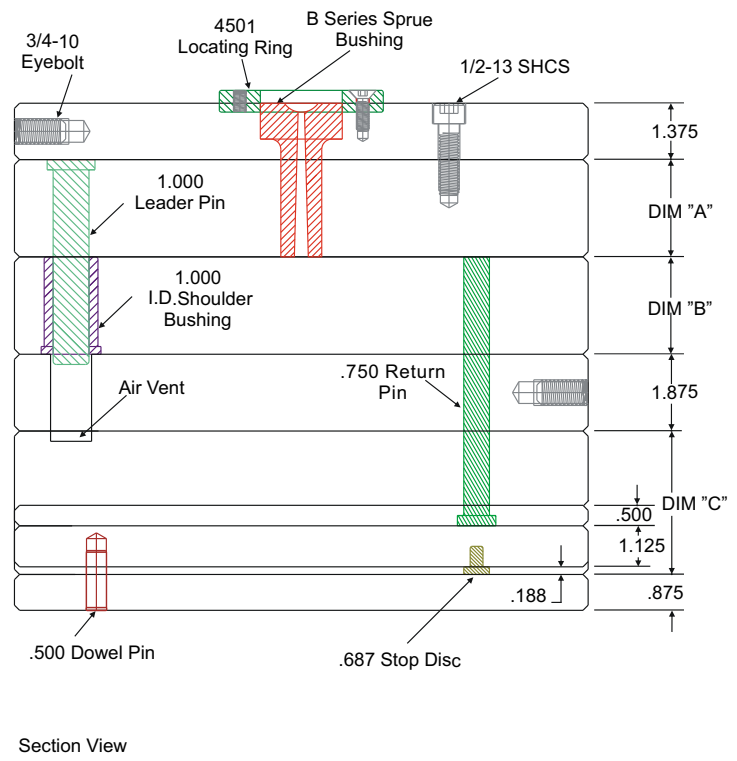
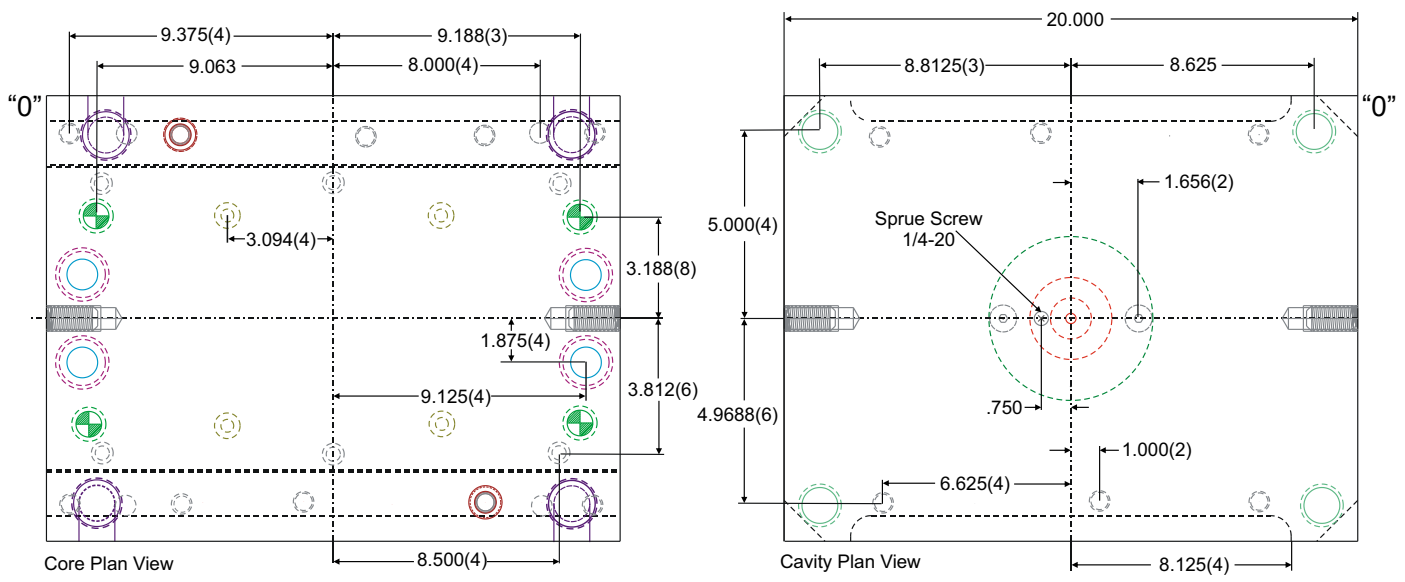
End View

11-7/8" x 20" 1220 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES										
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8	
A	•	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

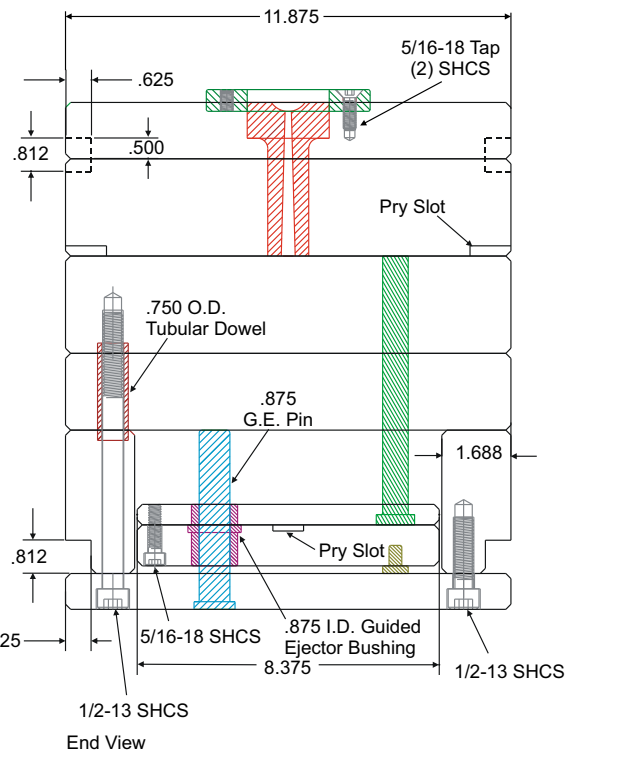
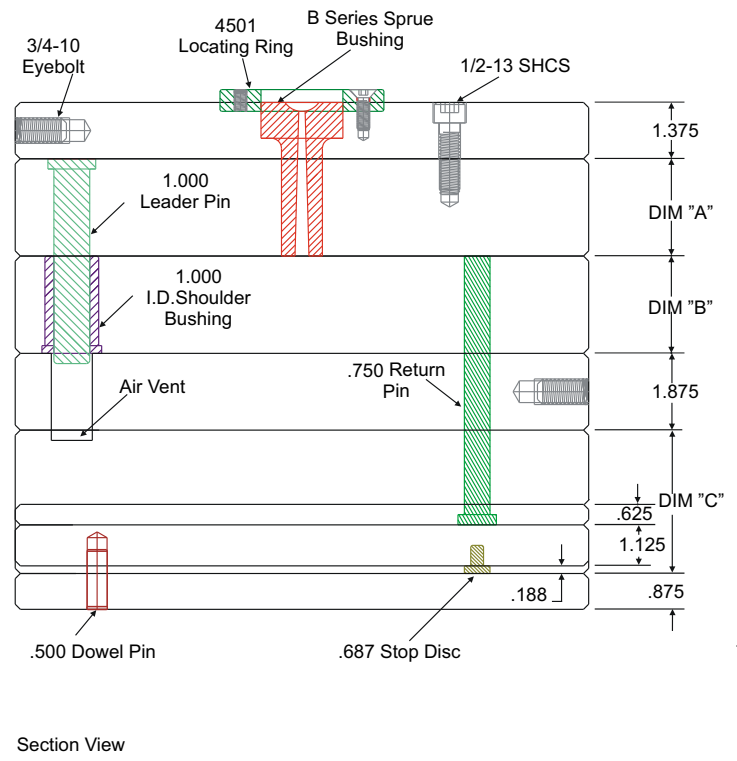
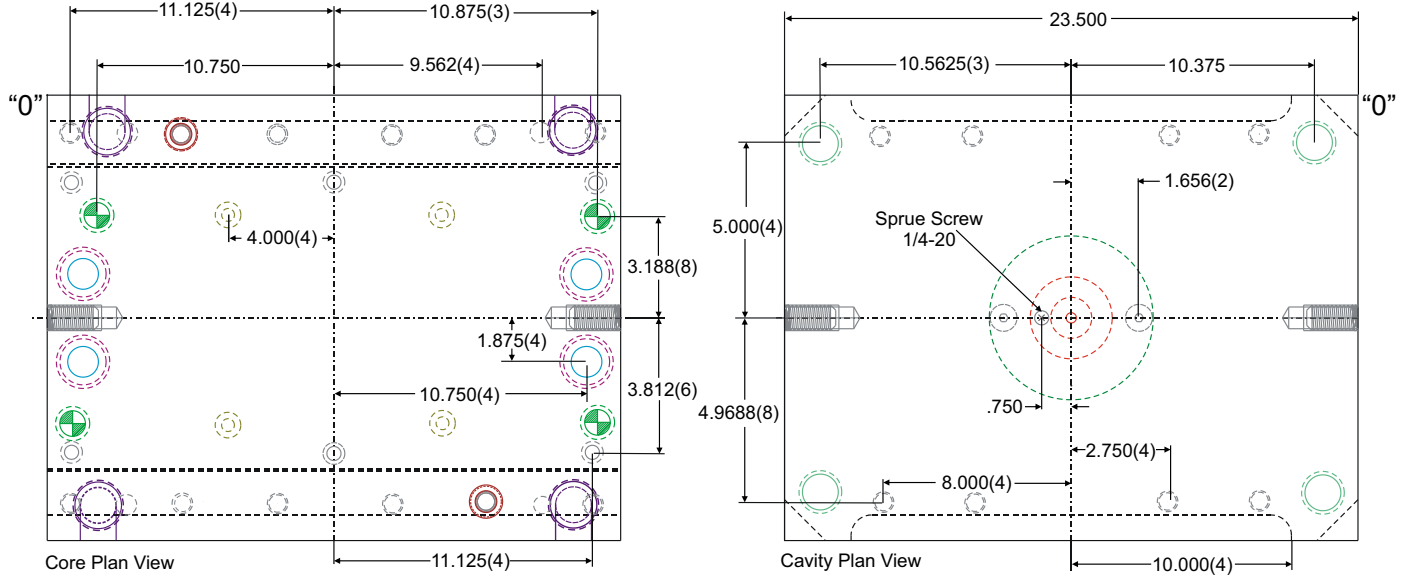


11-7/8" x 23-1/2" 1223 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES										
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8	
A	•	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6



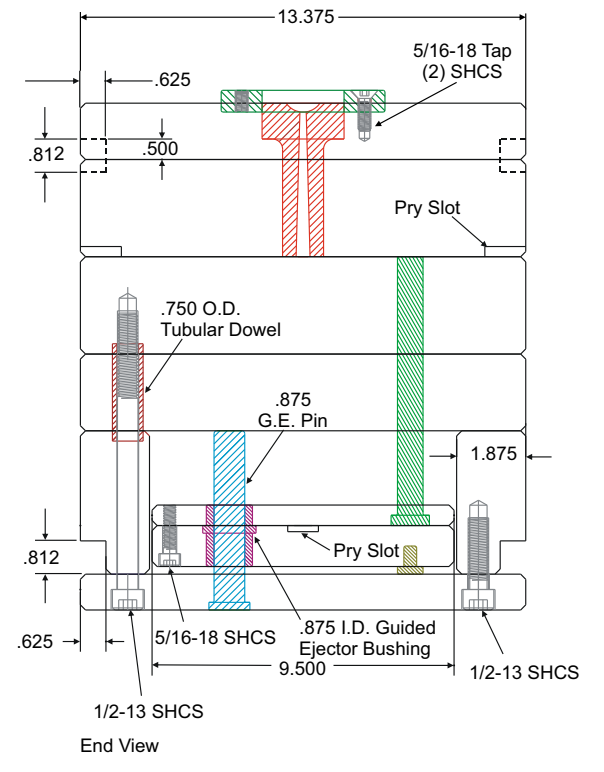
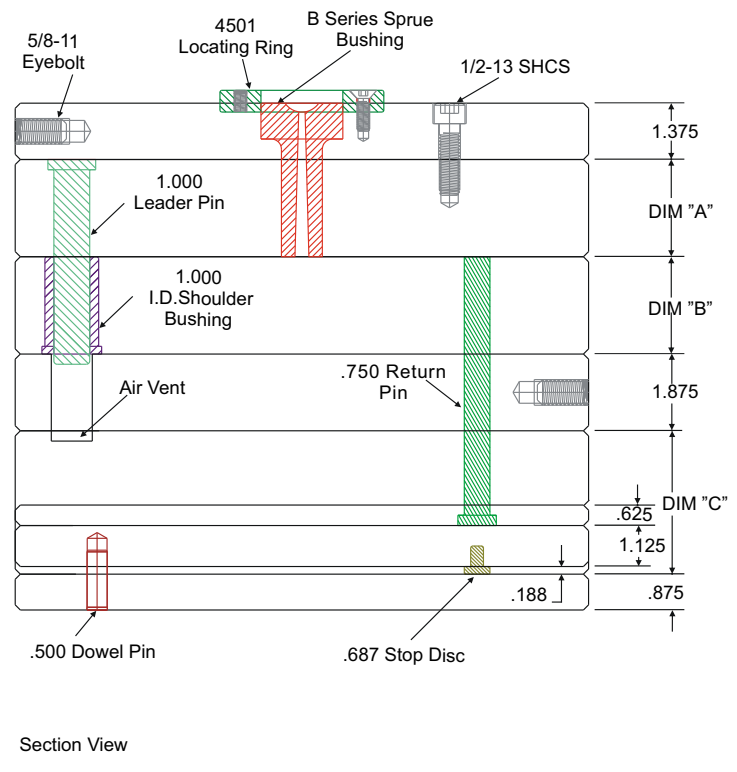
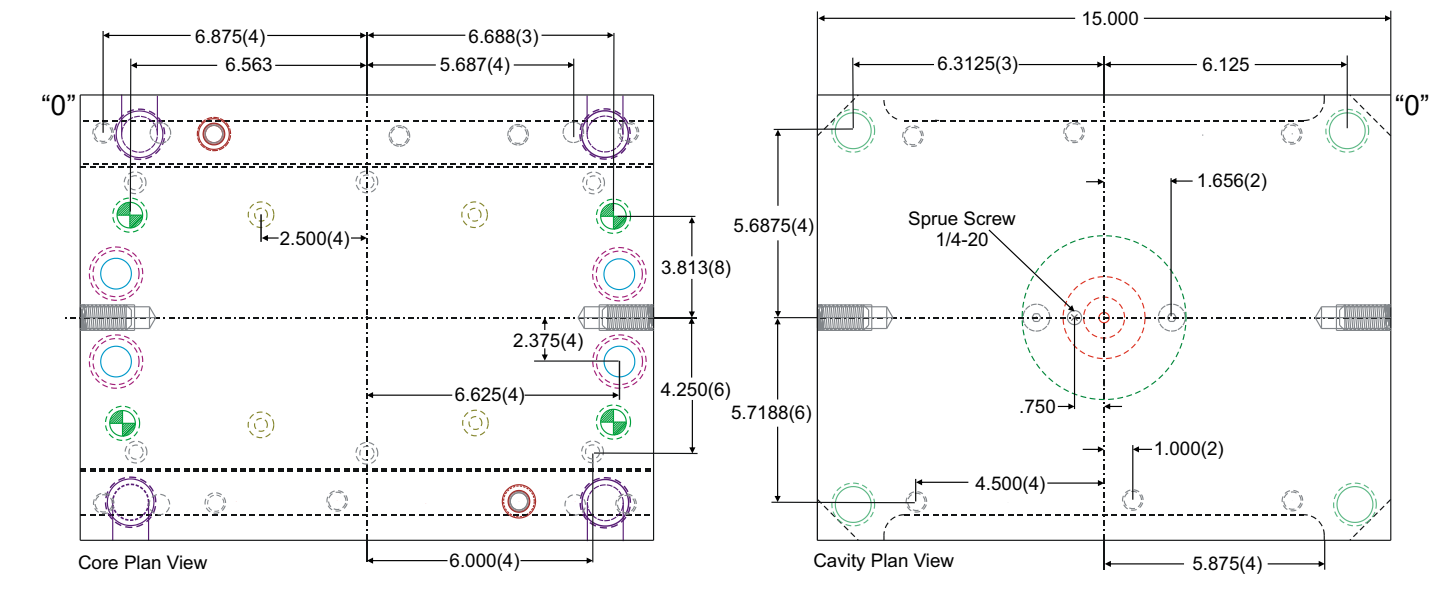
13-3/8" x 15" 1315 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES

	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6



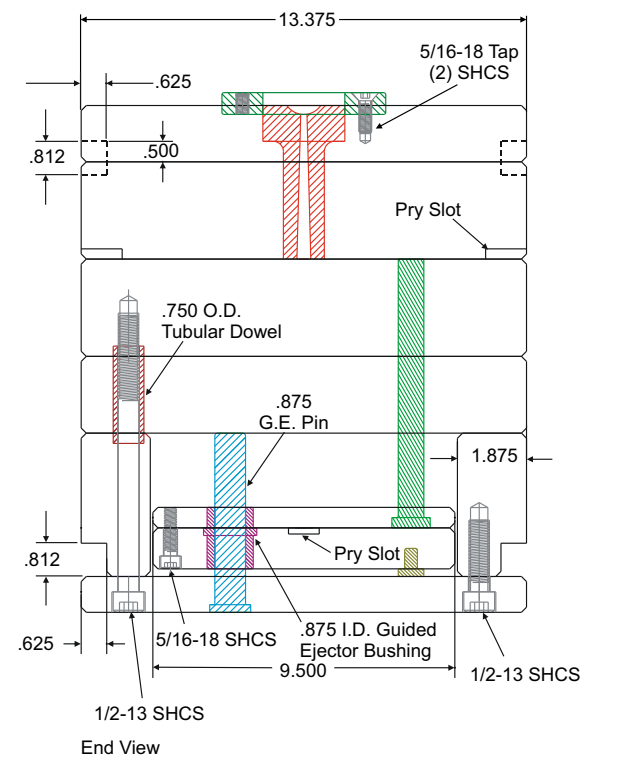
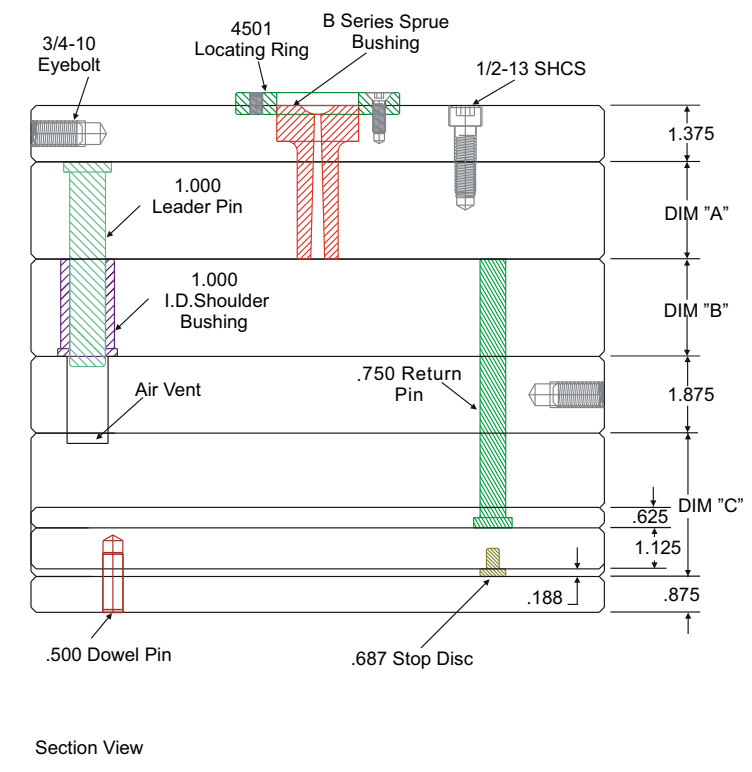
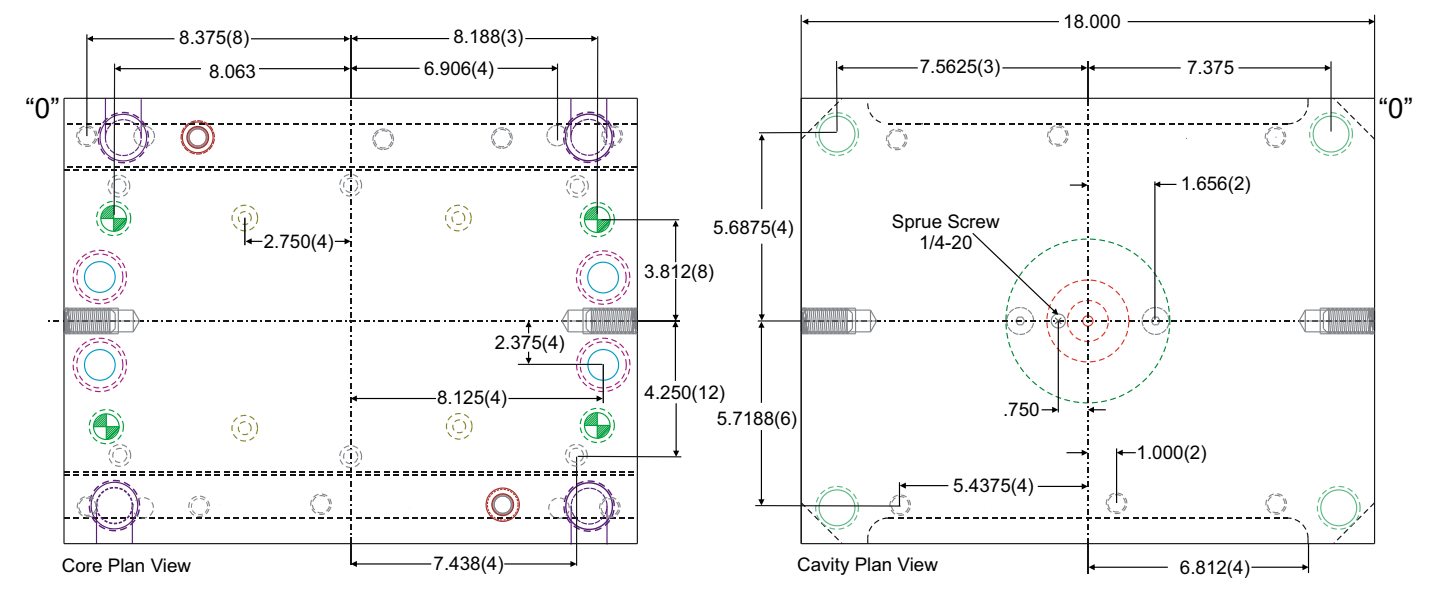
13-3/8" x 18" 1318 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES

	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

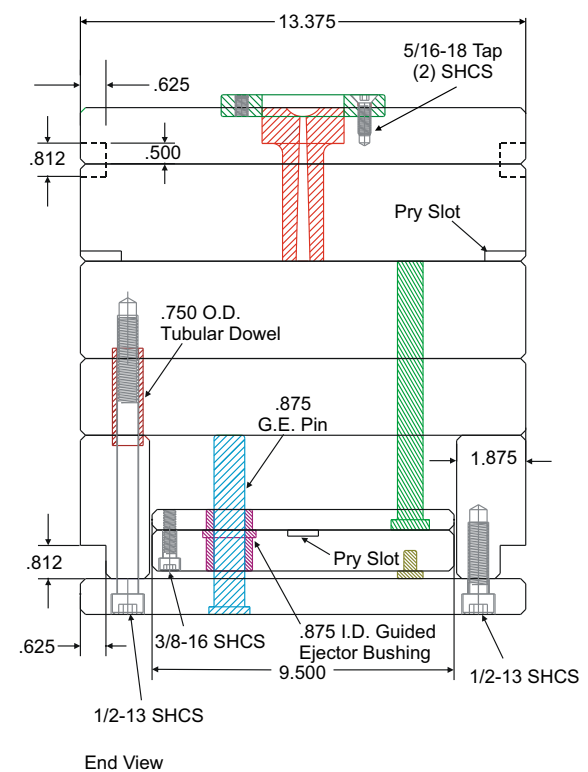
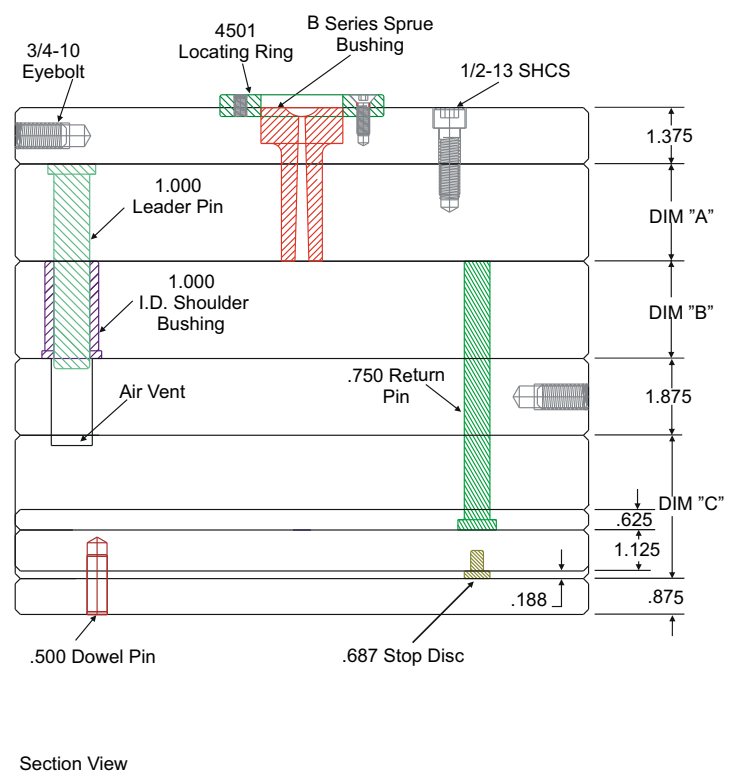
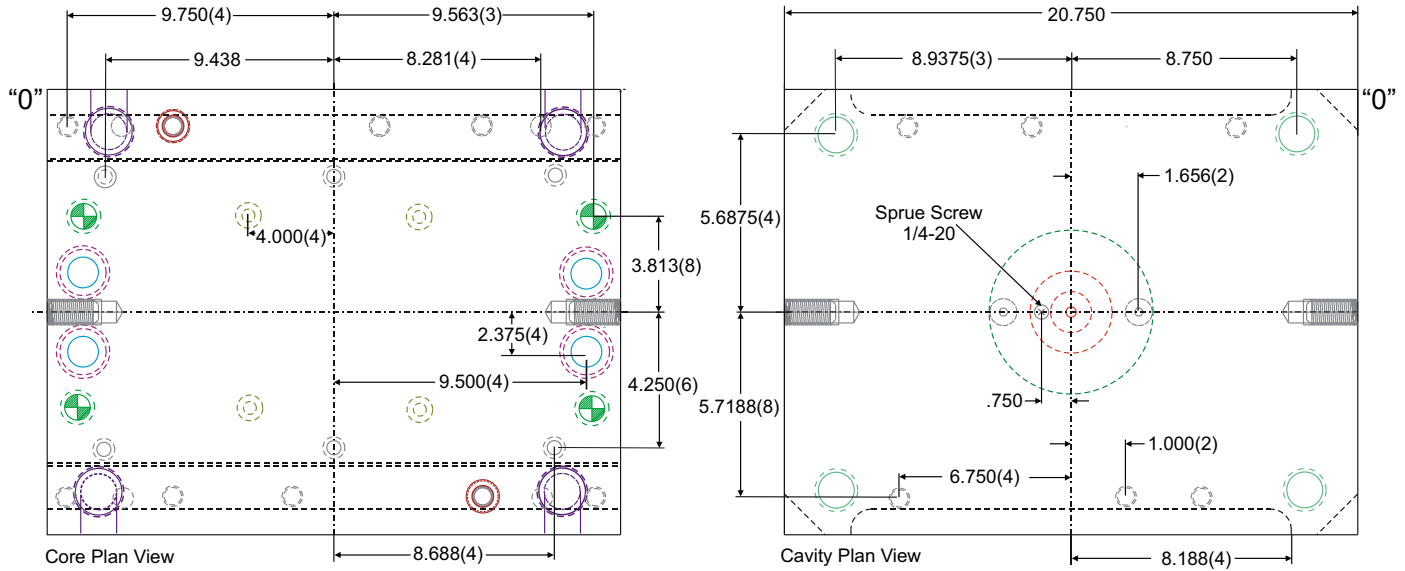


13-3/8" x 20-3/4" 1321 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

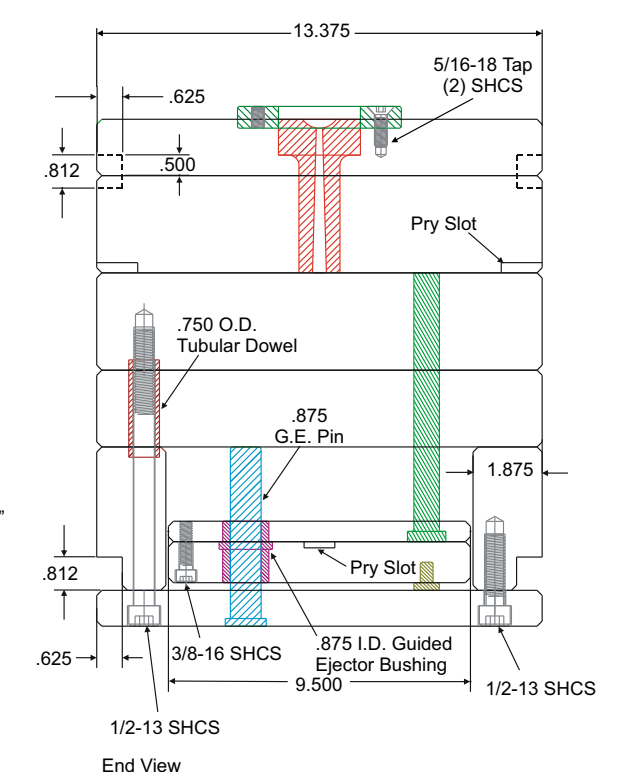
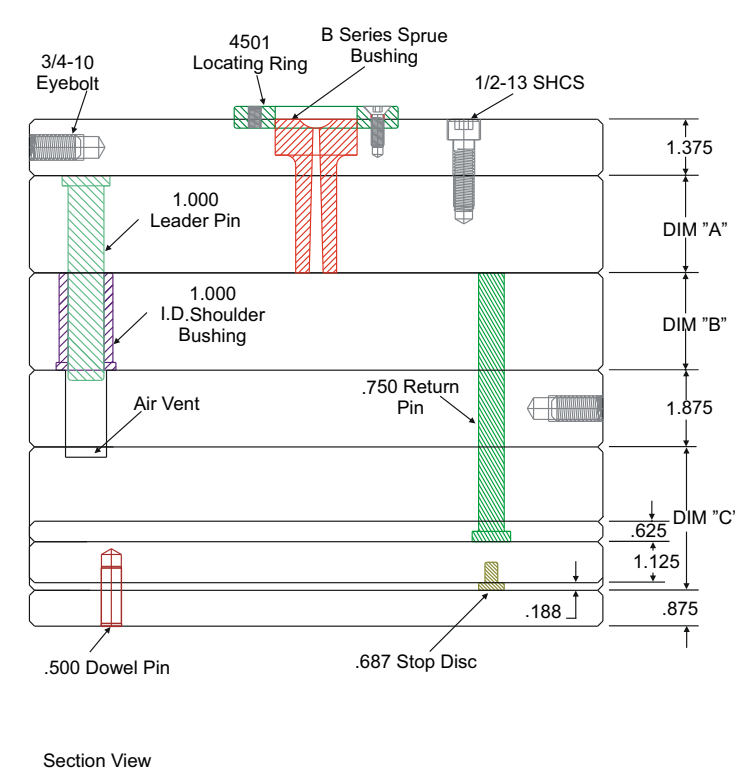
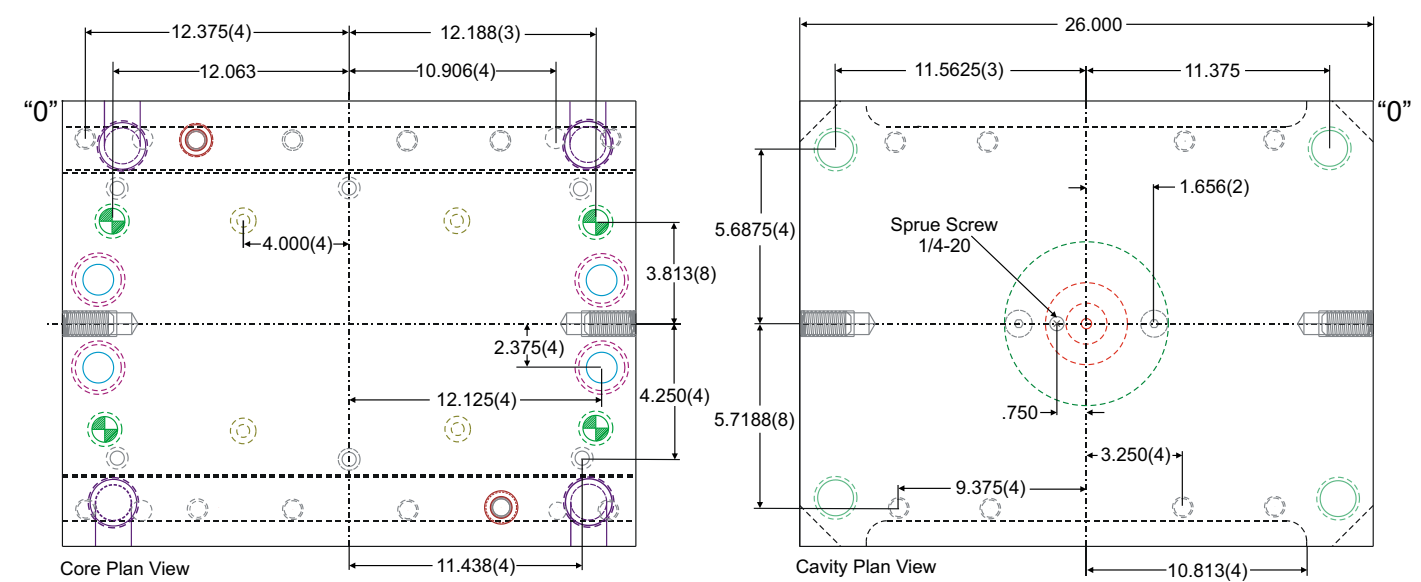


13-3/8" x 26" 1326 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

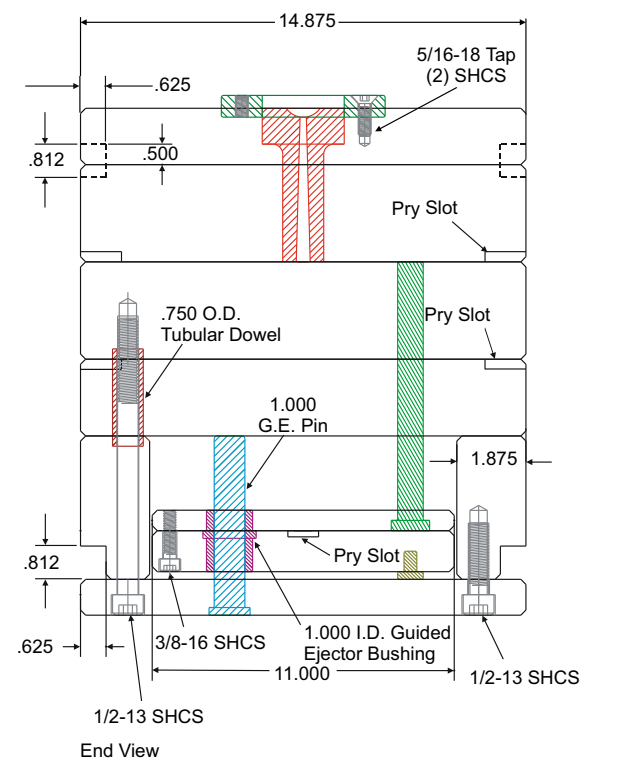
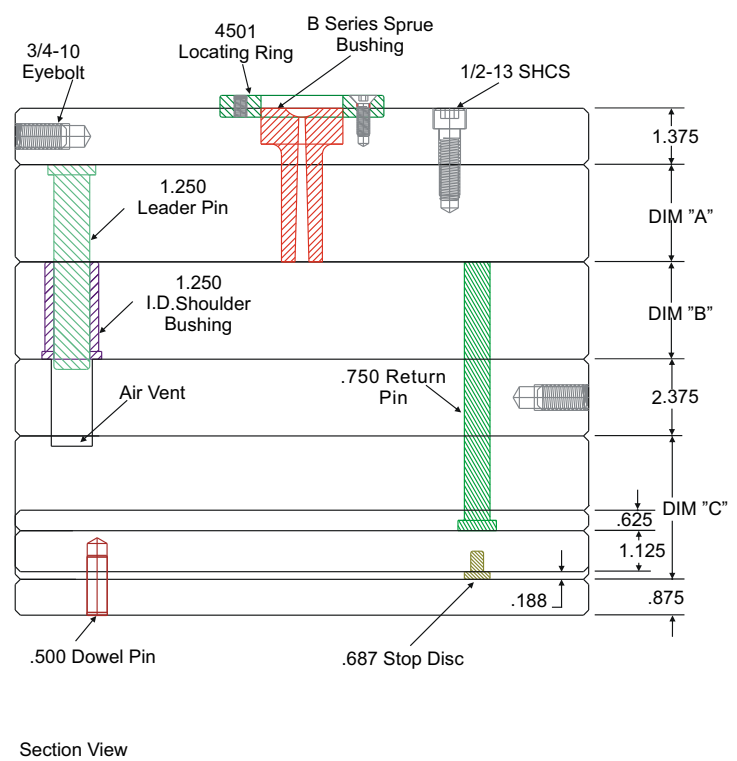
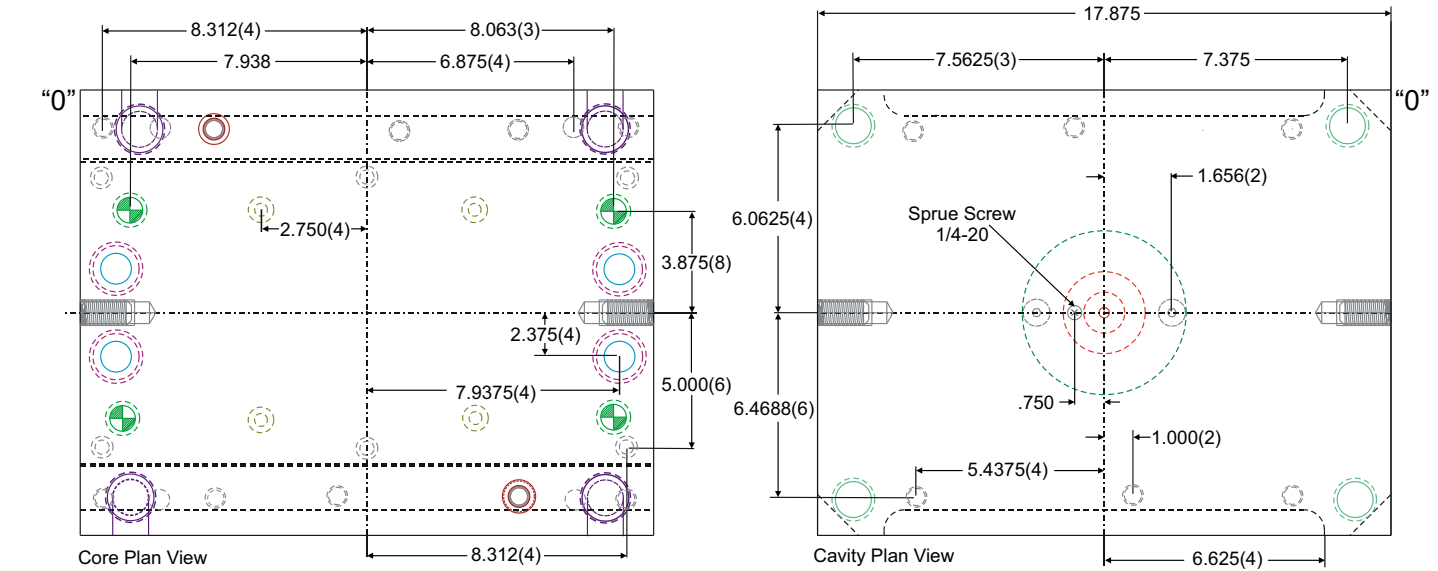


14-7/8" x 17-7/8" 1518 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

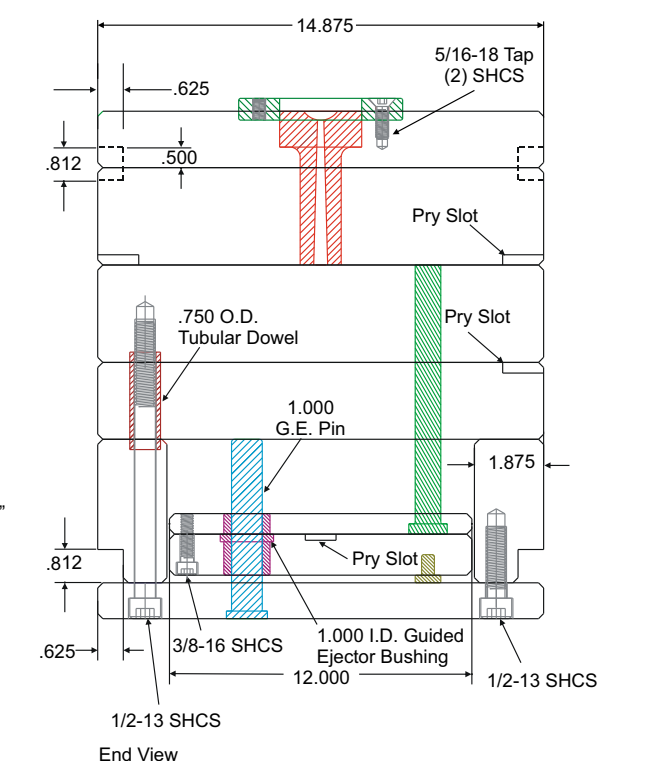
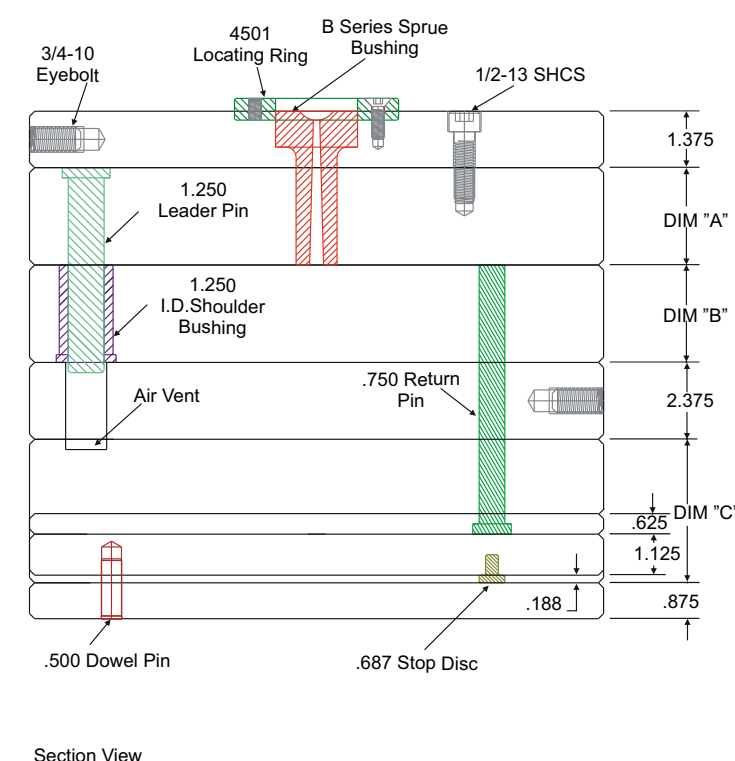
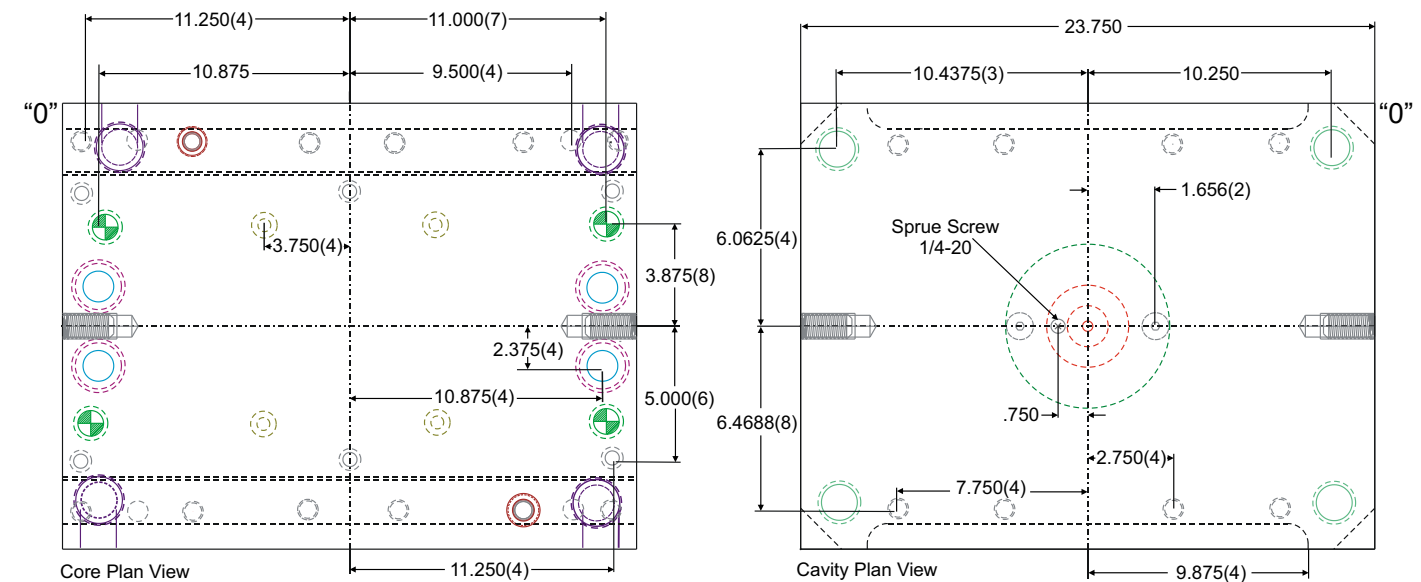


14-7/8" x 23-3/4" 1524 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6



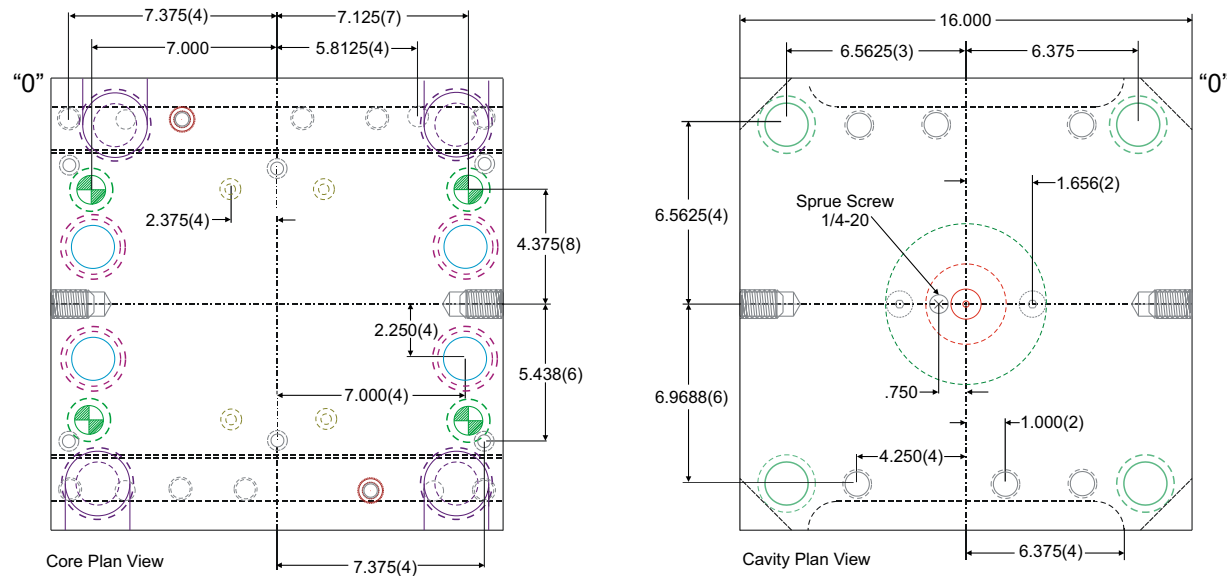
15-7/8" x 16" 1616 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES

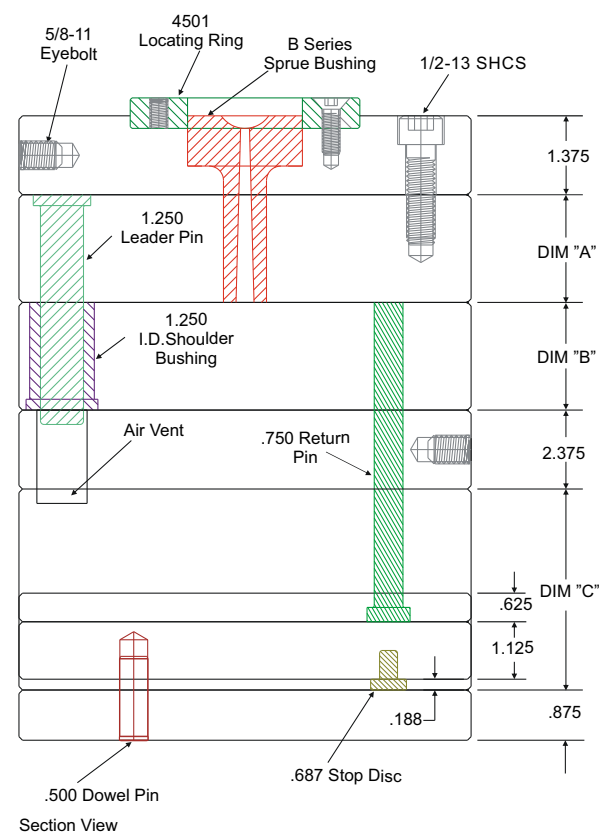
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

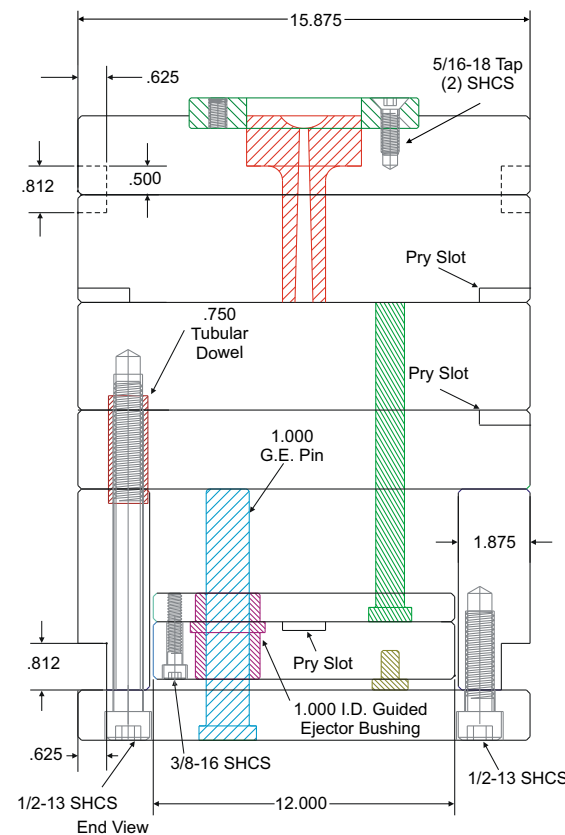


Core Plan View

Cavity Plan View



Section View



End View

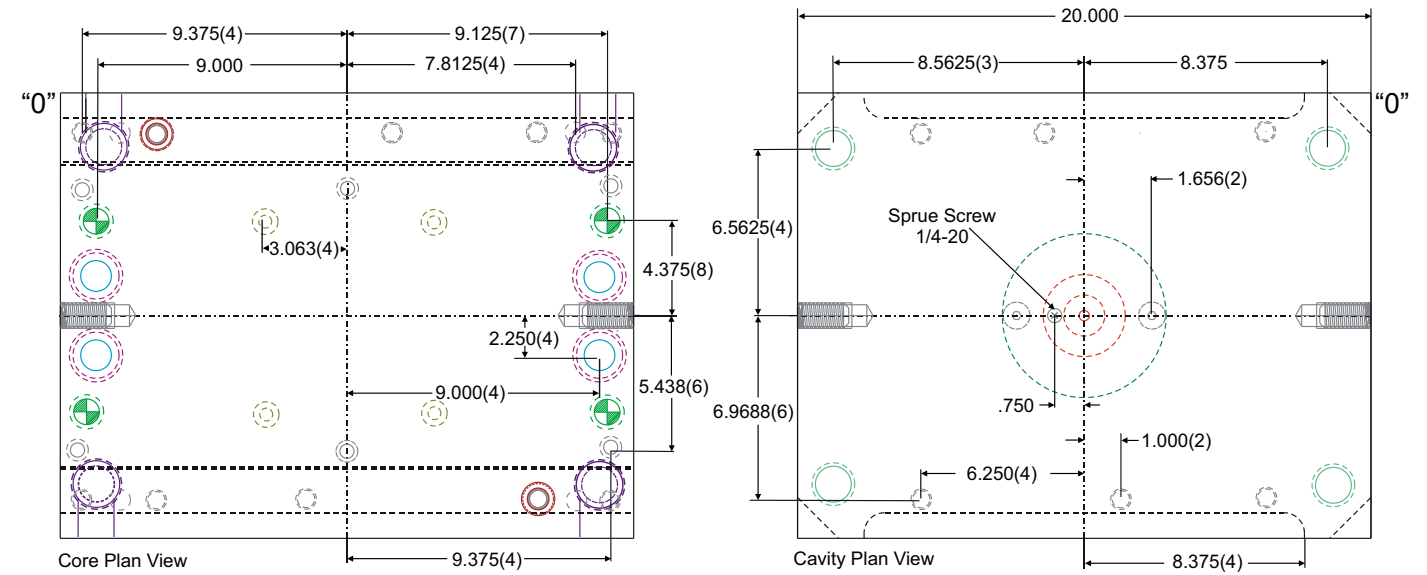
15-7/8" x 20" 1620 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES

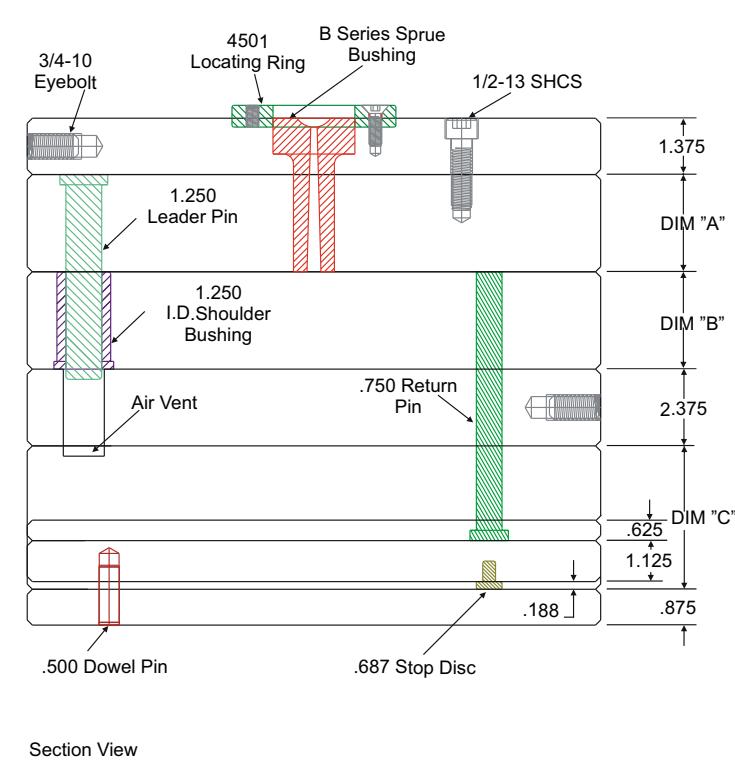
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

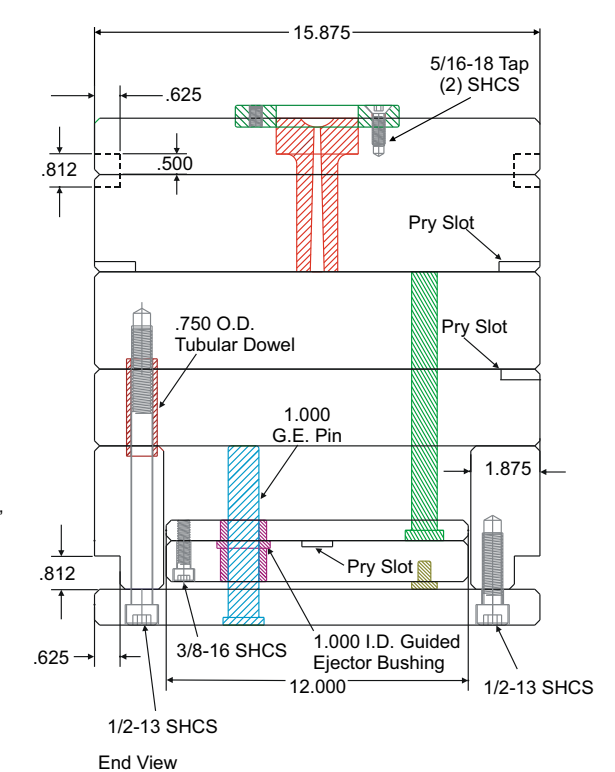


Core Plan View

Cavity Plan View



Section View



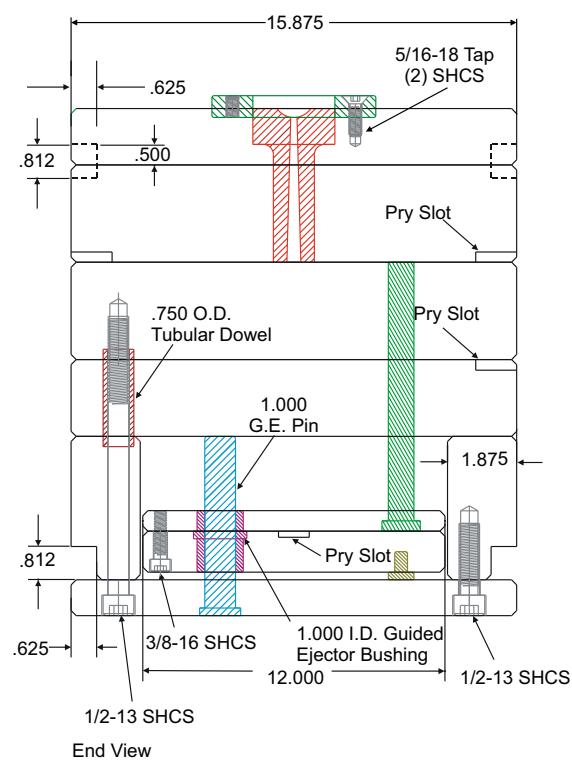
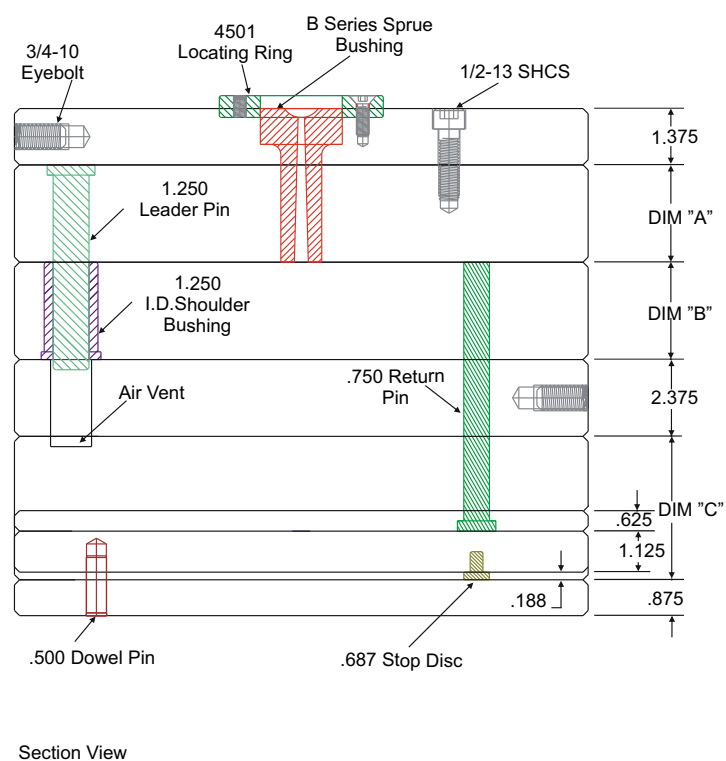
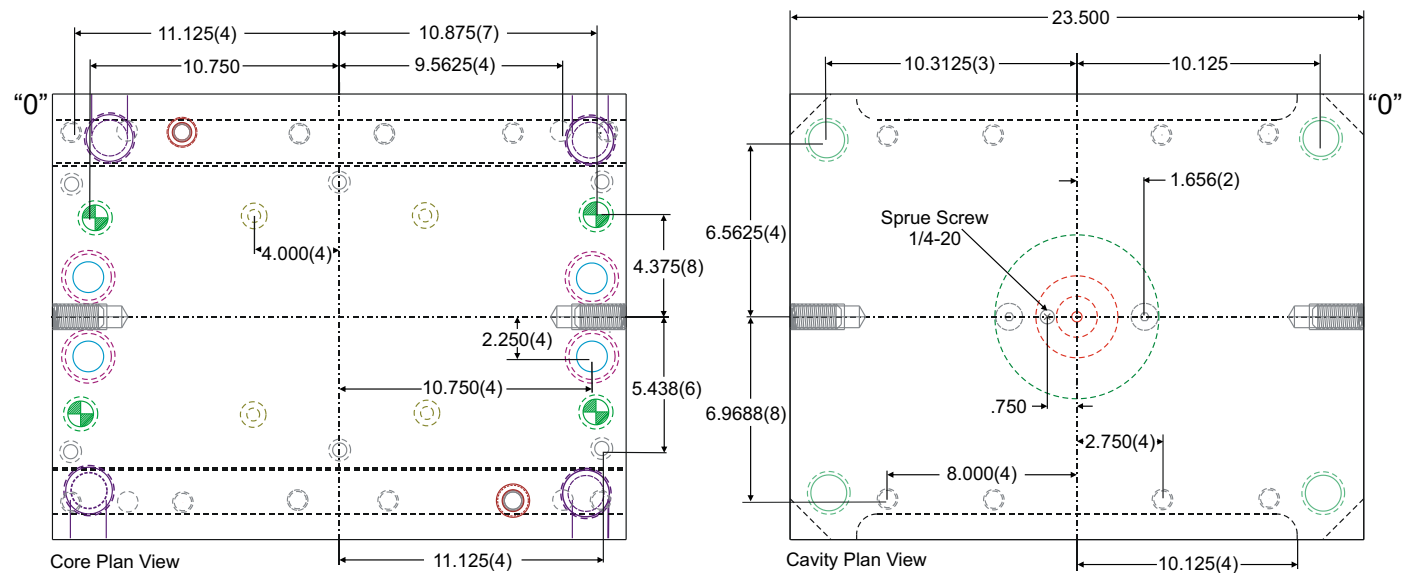
End View

15-7/8" x 23-1/2" 1623 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

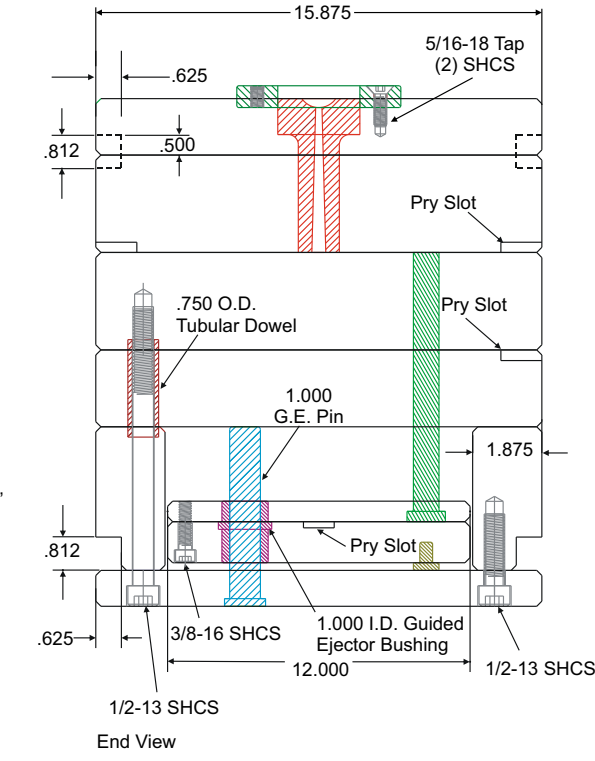
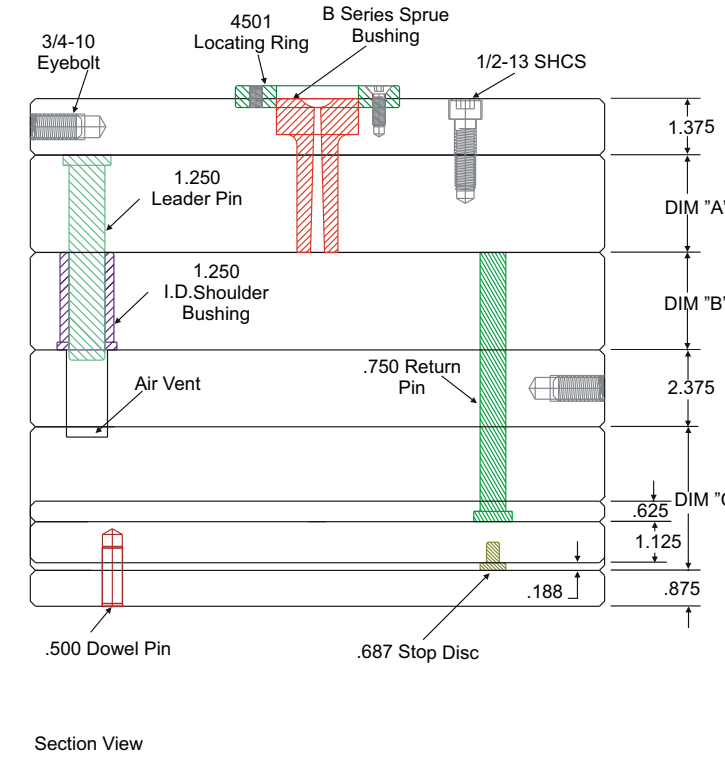
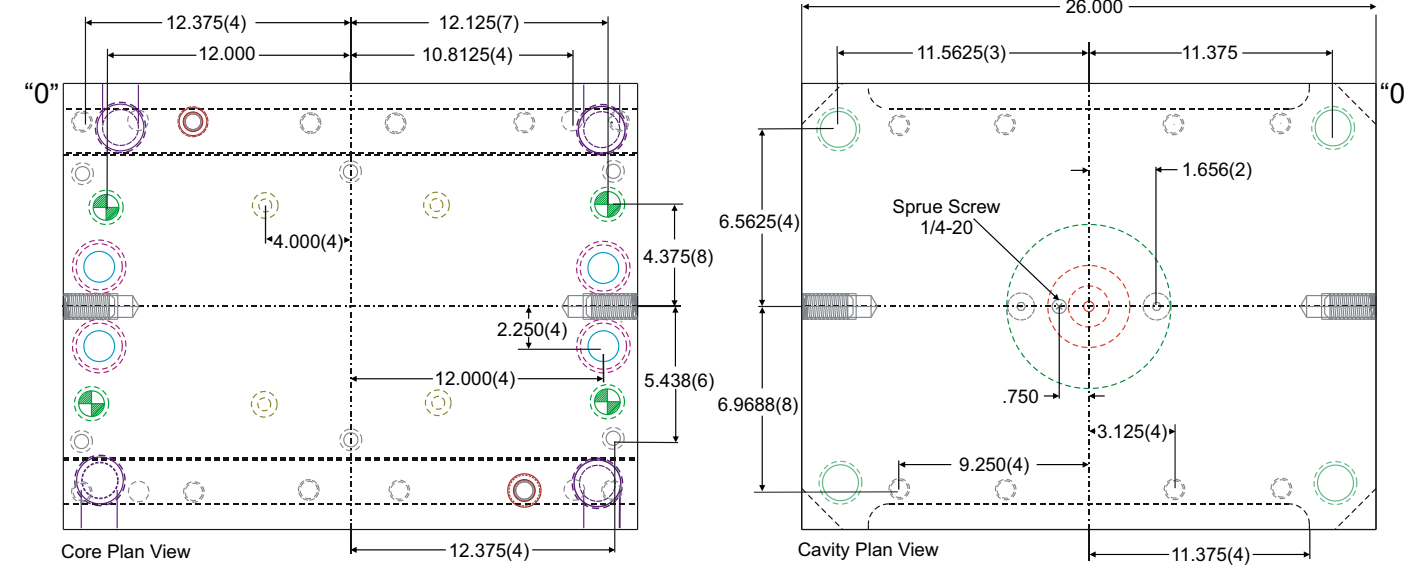


15-7/8" x 26" 1626 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

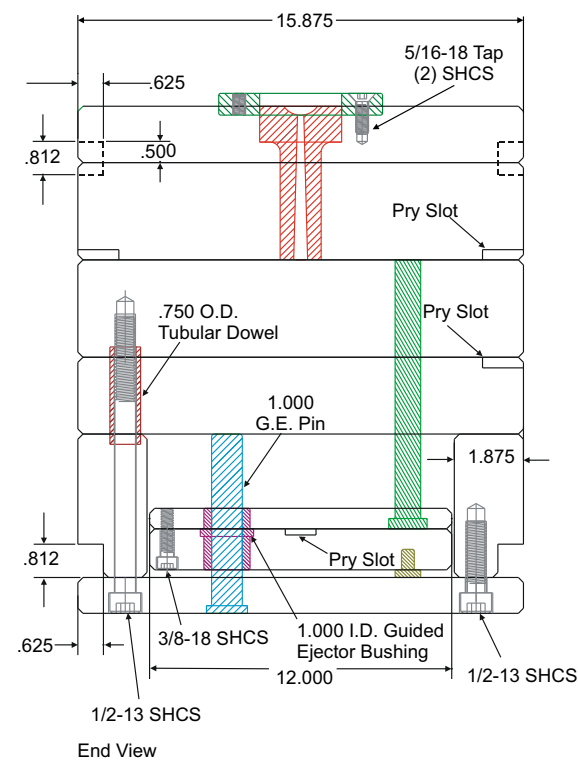
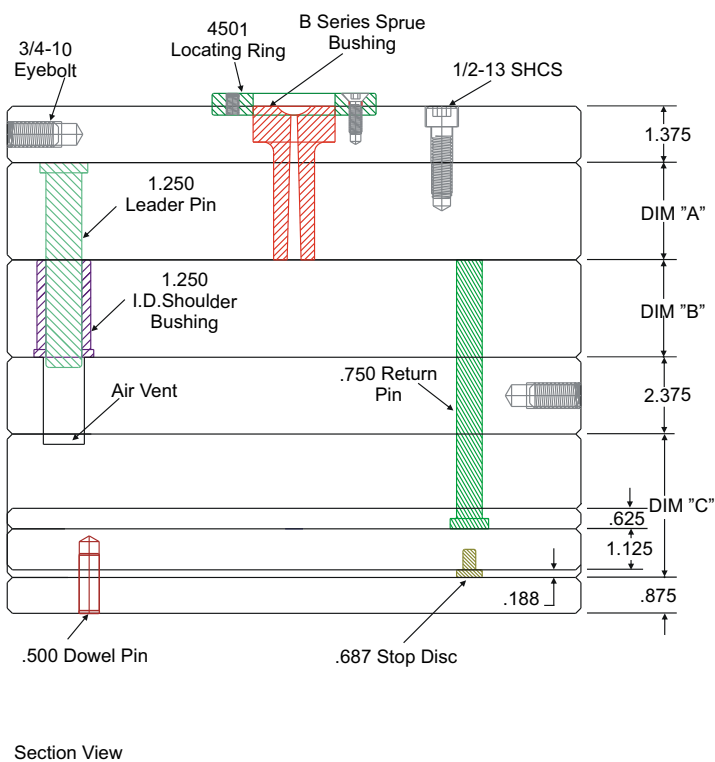
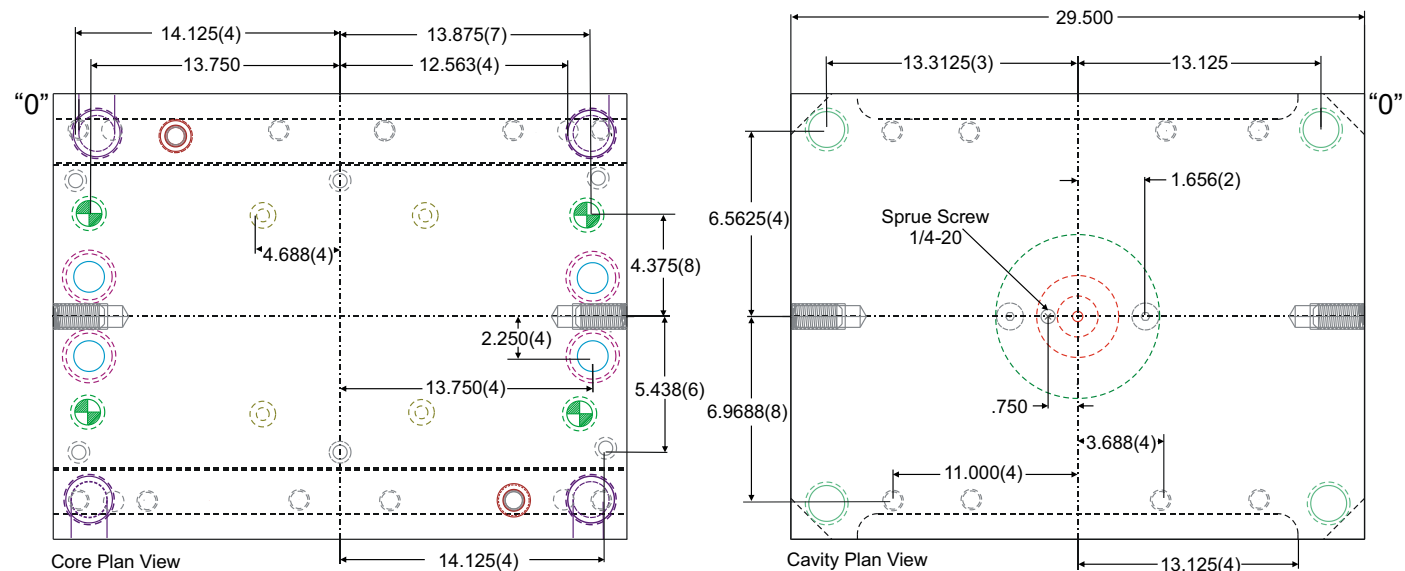


15-7/8" x 29-1/2" 1629 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES										
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8	
A	•	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

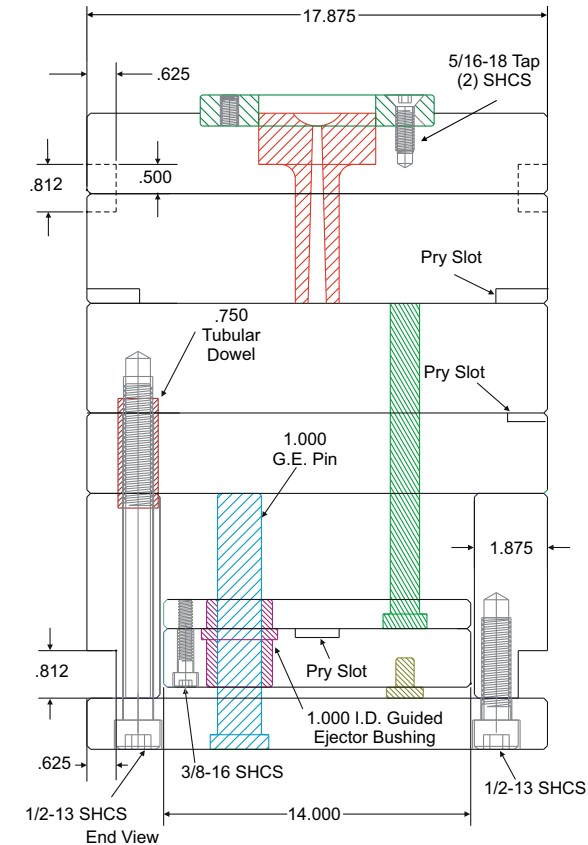
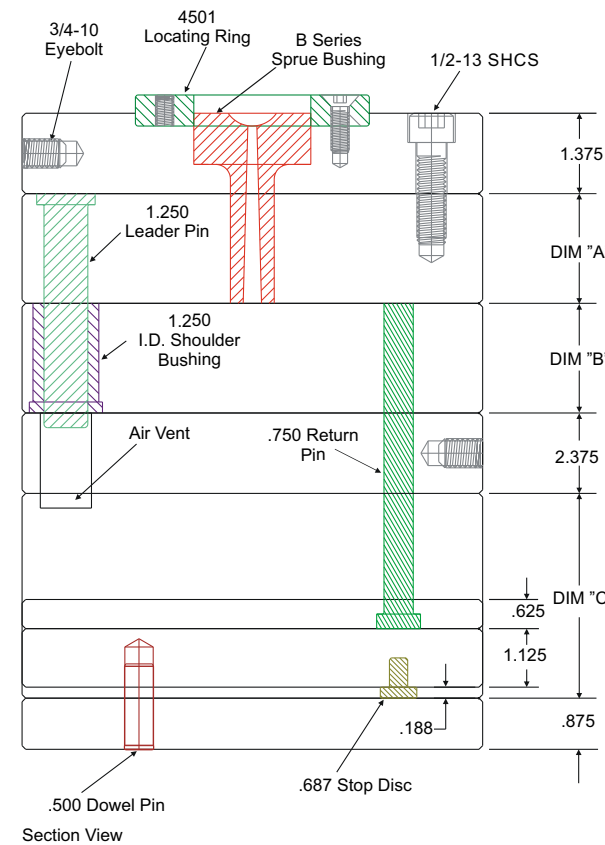
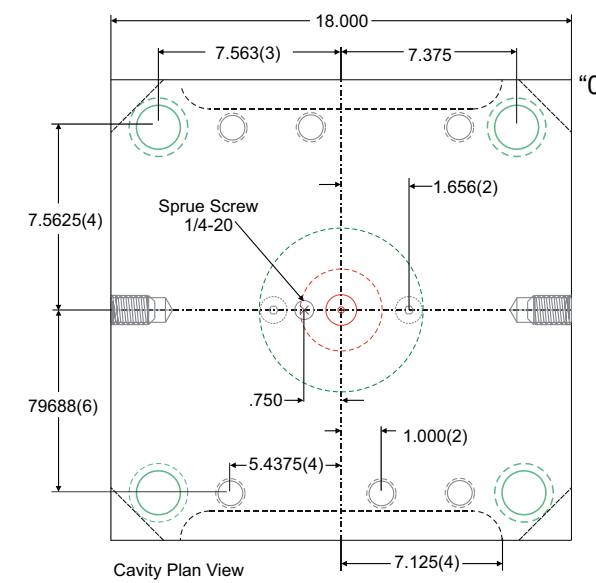
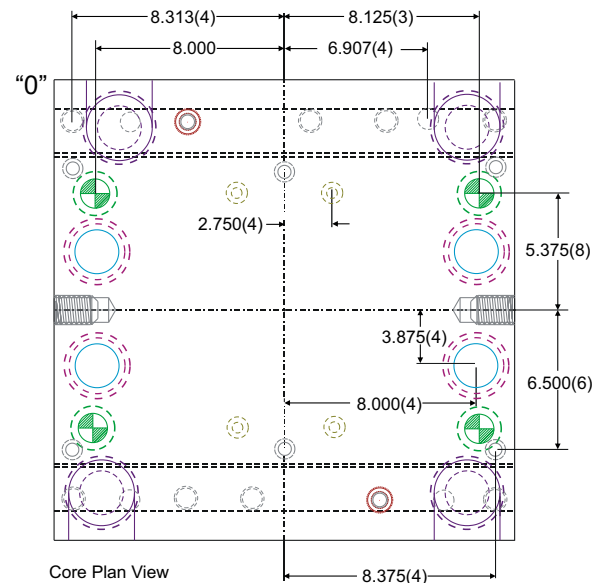


17-7/8" x 18" 1818 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES										
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8	
A	•	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

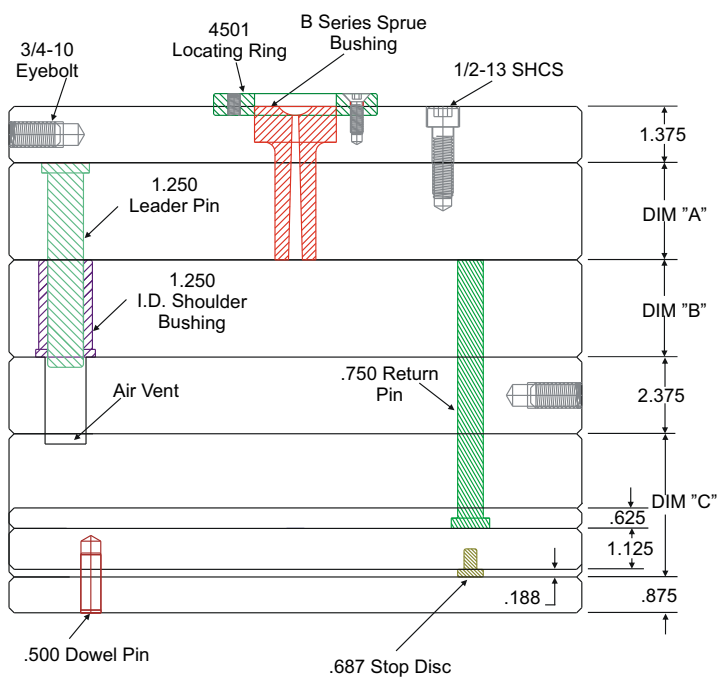
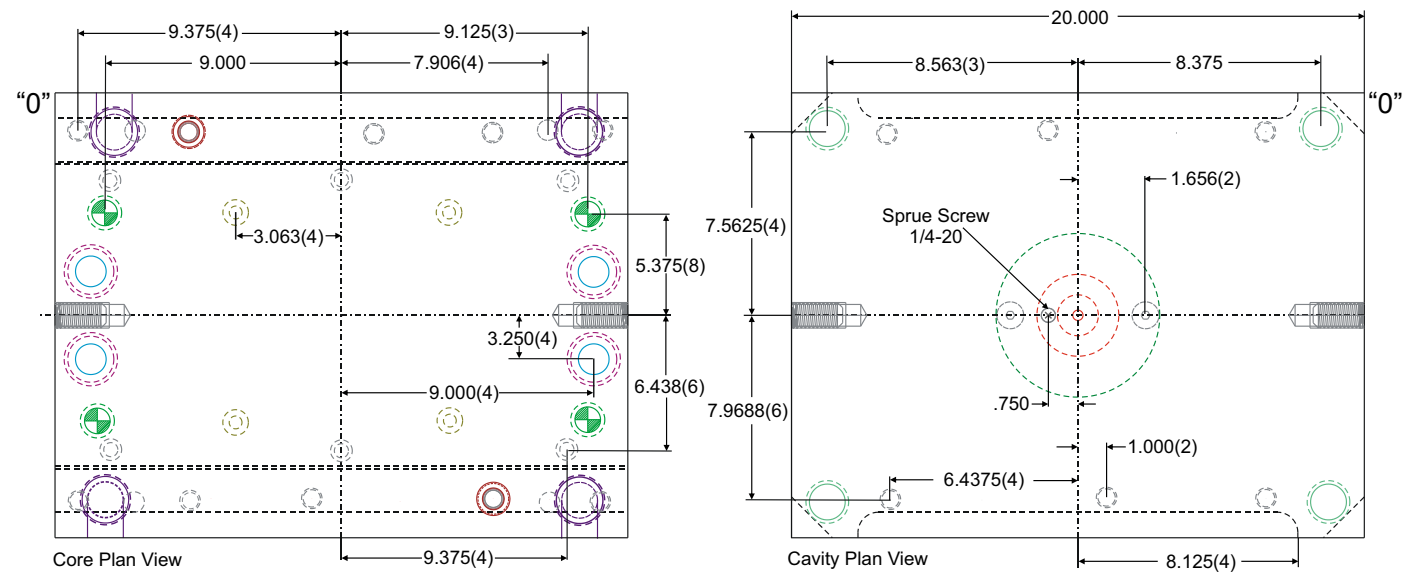


17-7/8" x 20" 1820 Mold Base

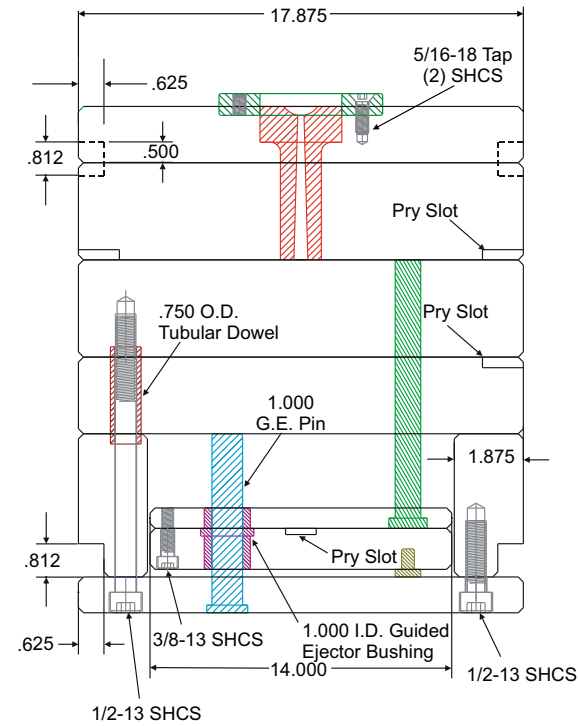
B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6



Section View



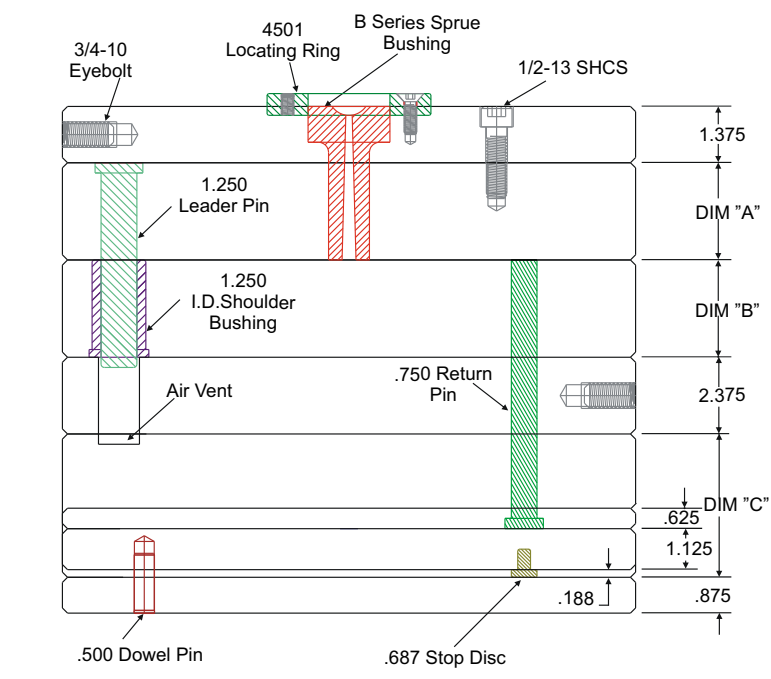
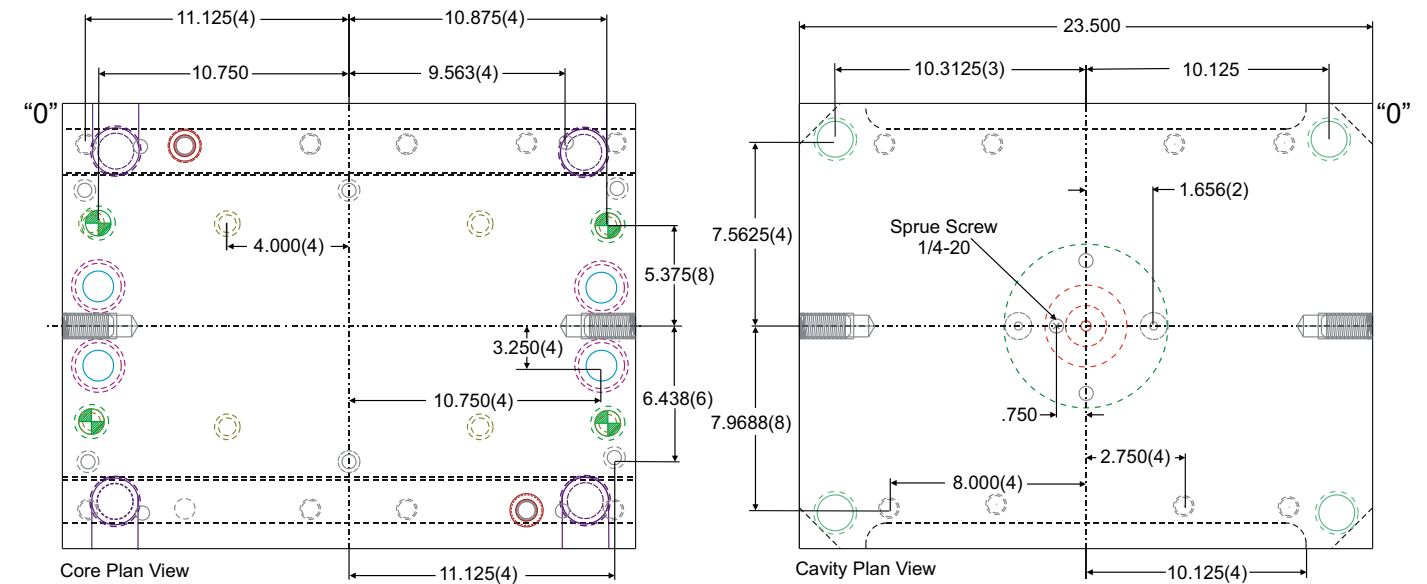
End View

17-7/8" x 23-1/2" 1823 Mold Base

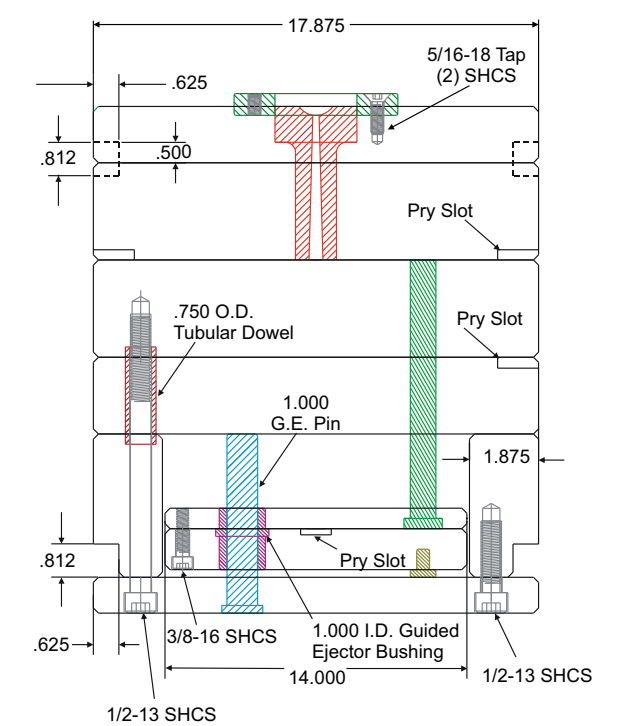
B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6



Section View



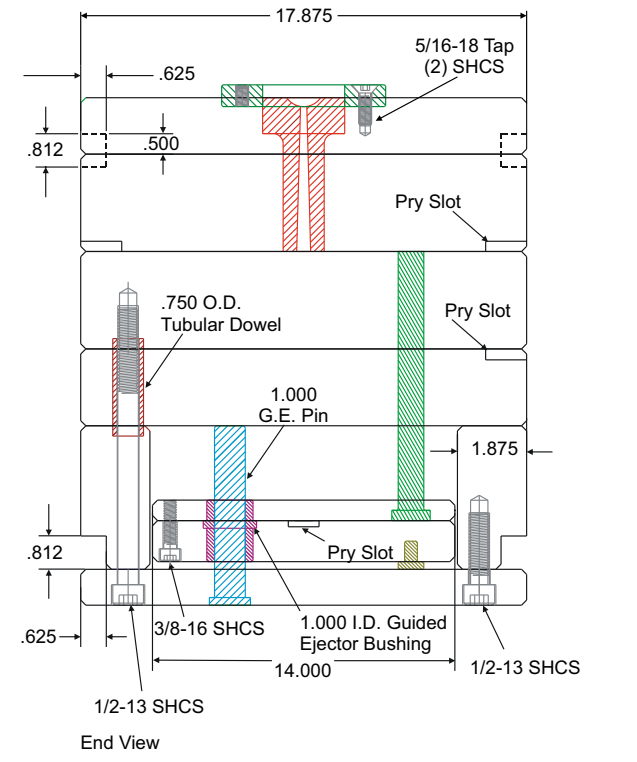
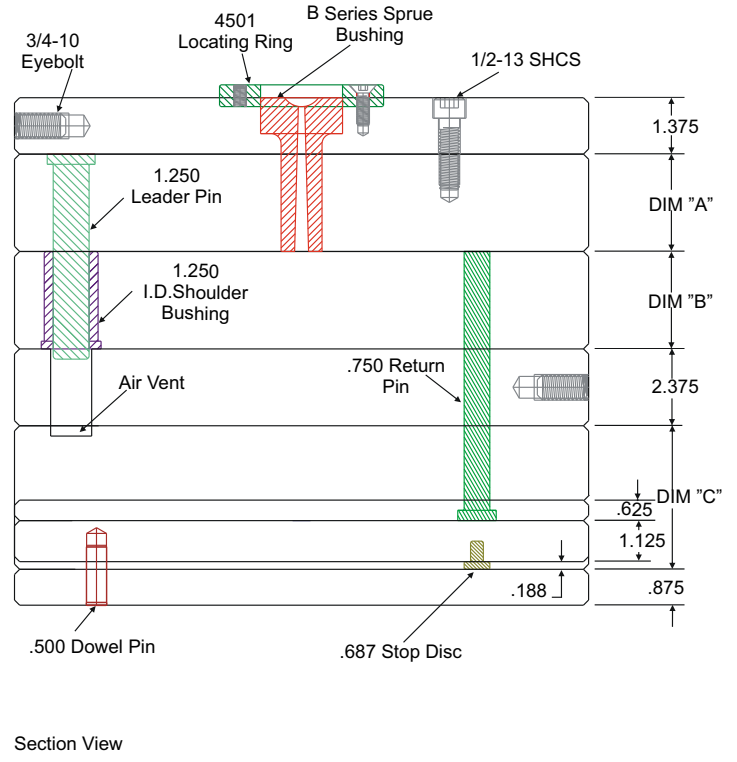
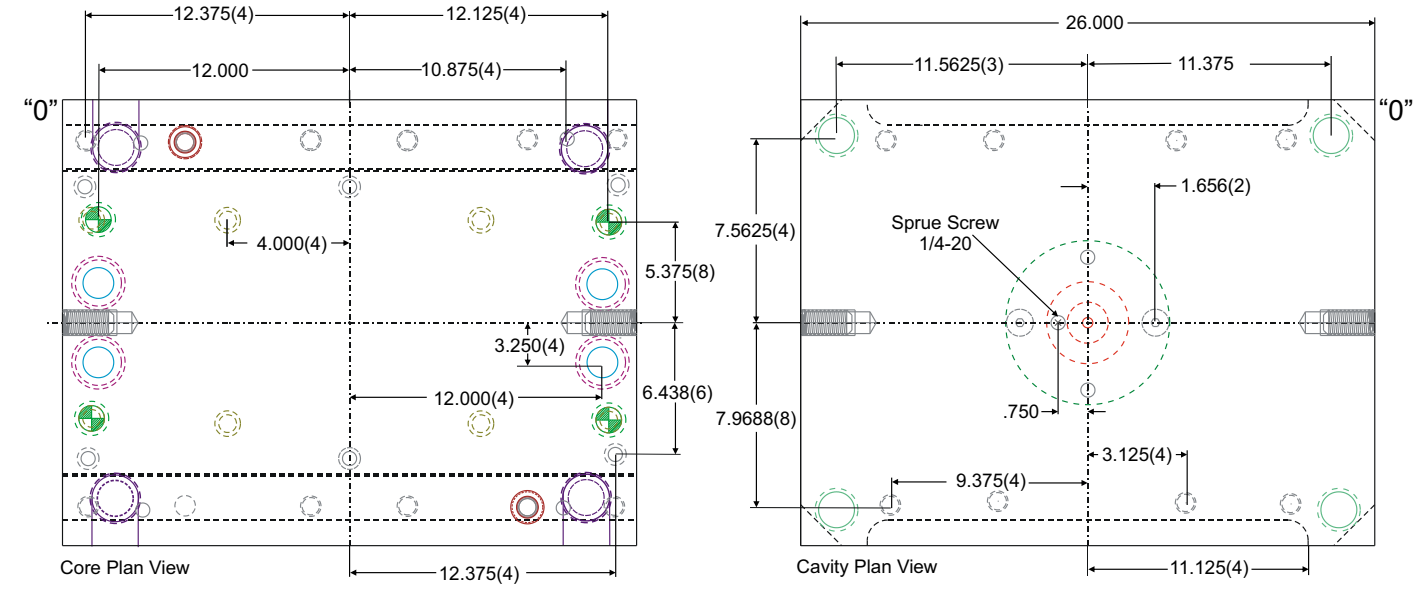
End View

17-7/8" x 26" 1826 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

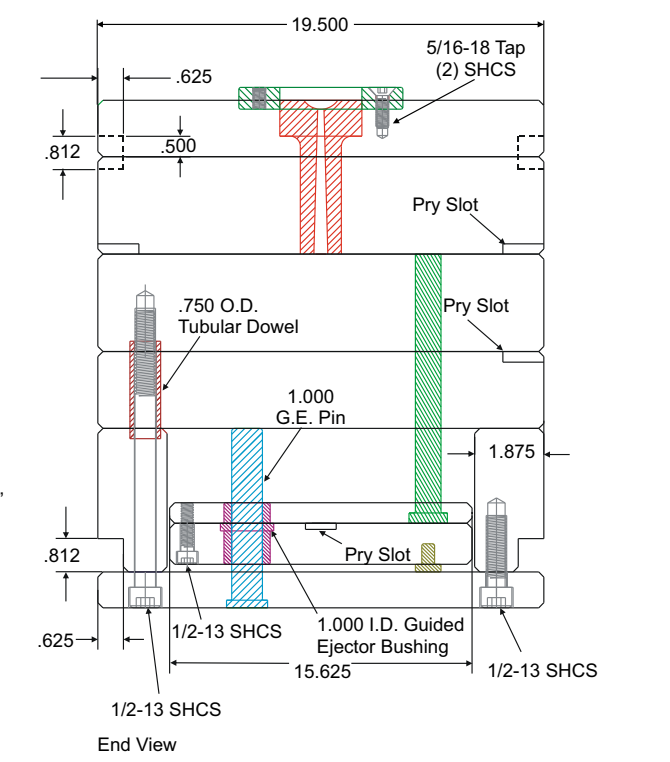
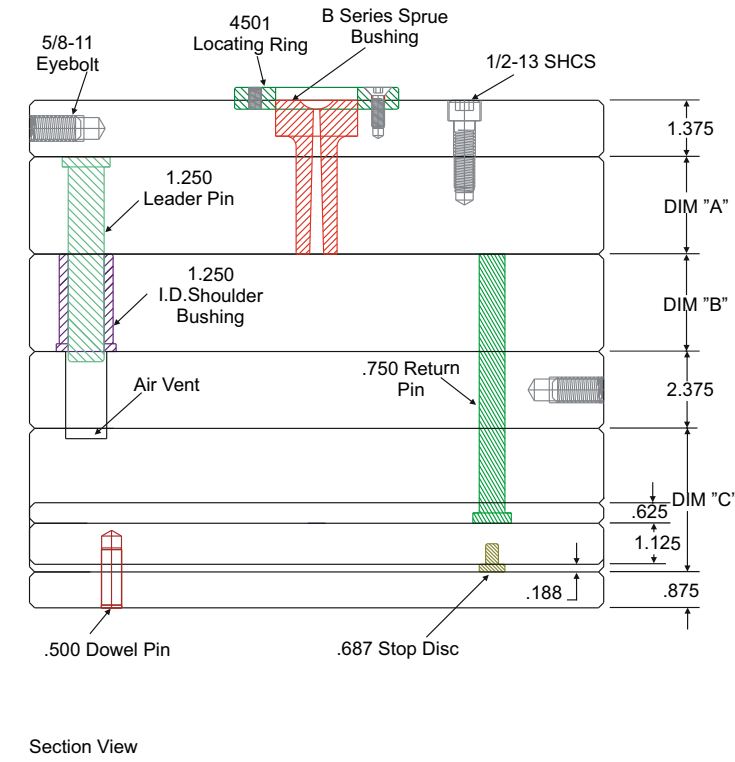
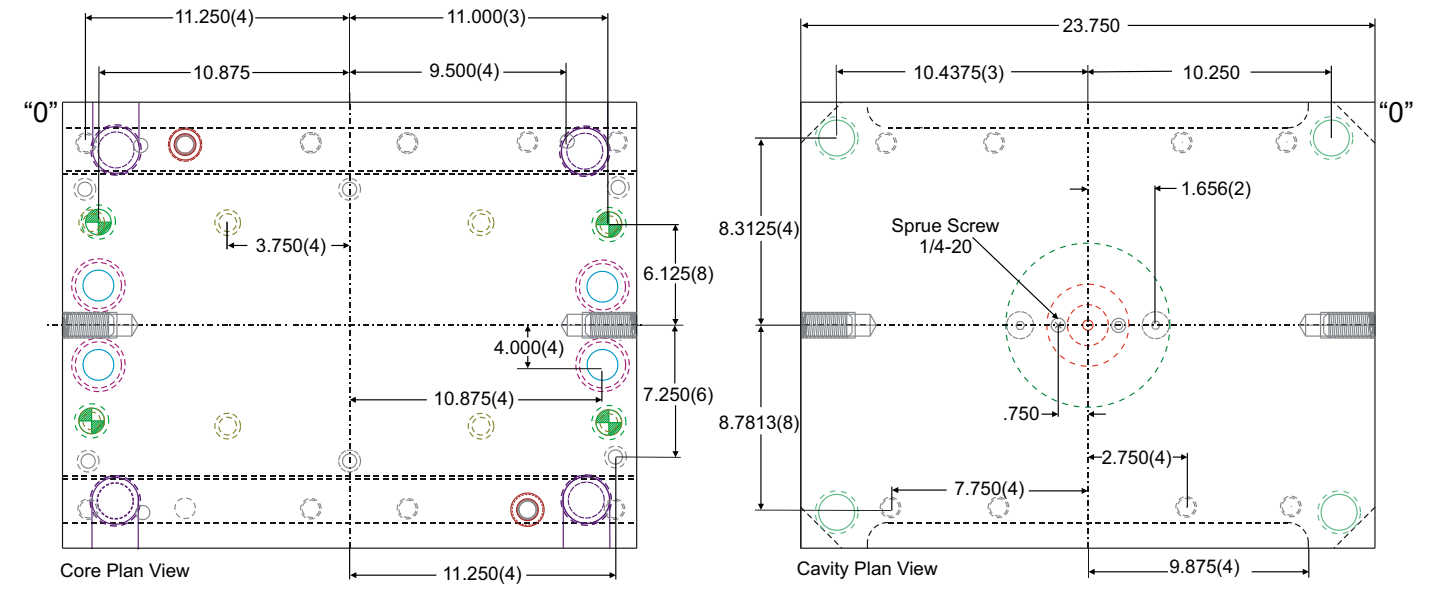


19-1/2" x 23-3/4" 1924 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

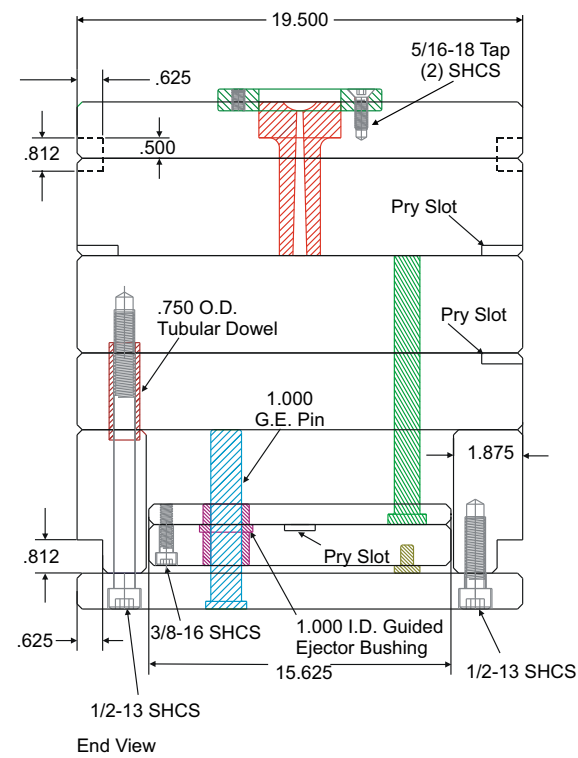
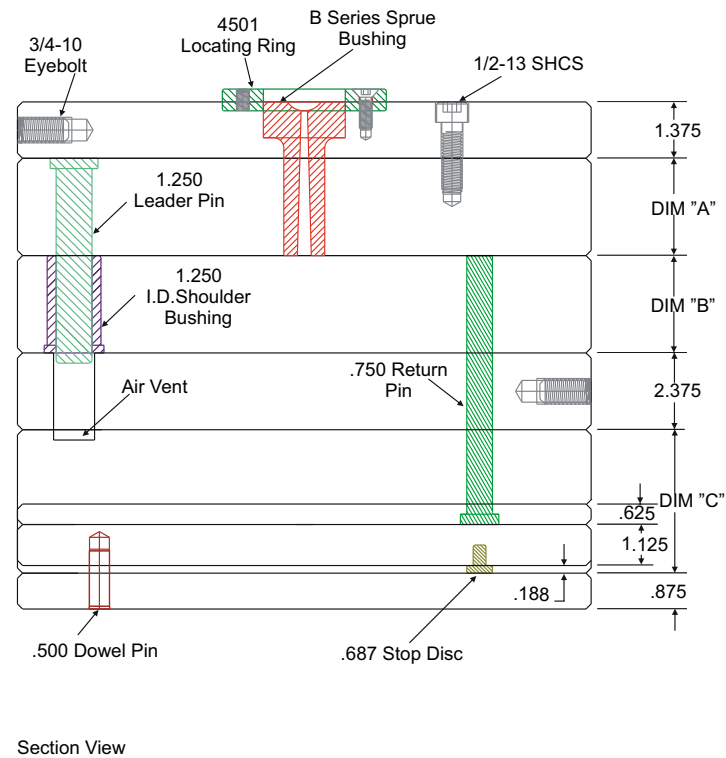
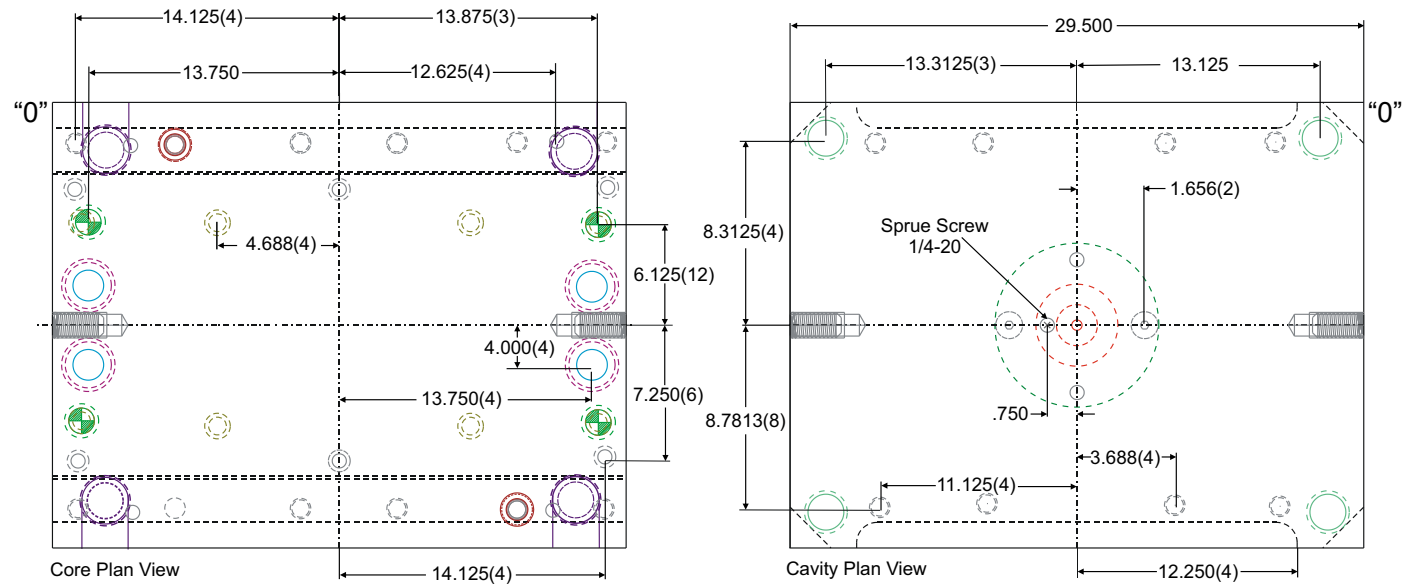


19-1/2" x 29-1/2" 1929 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

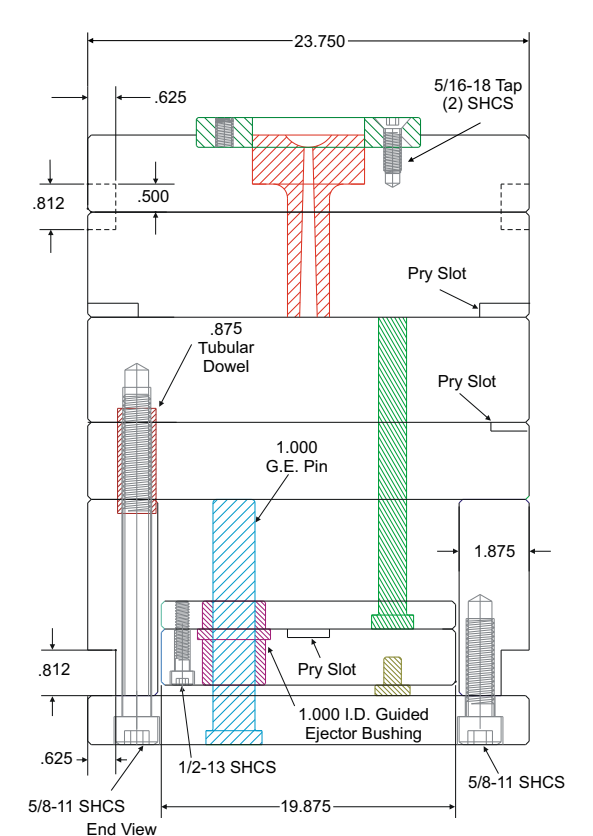
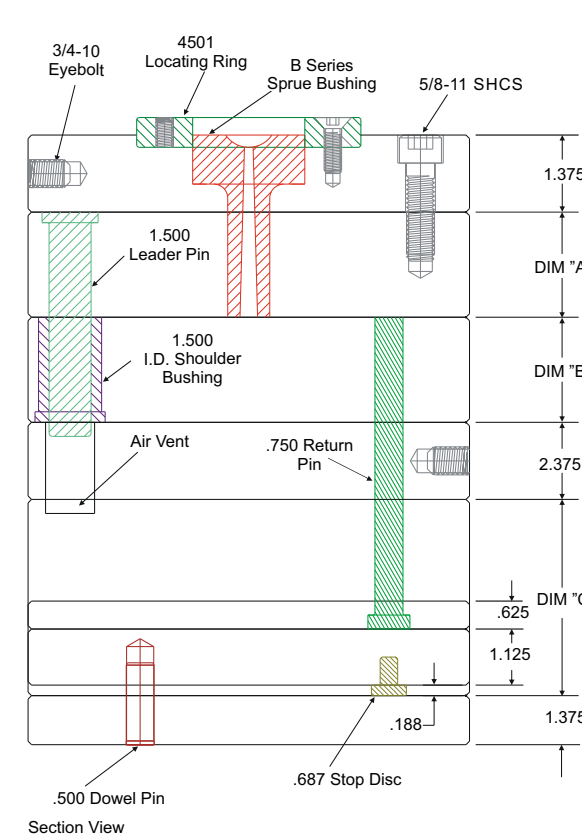
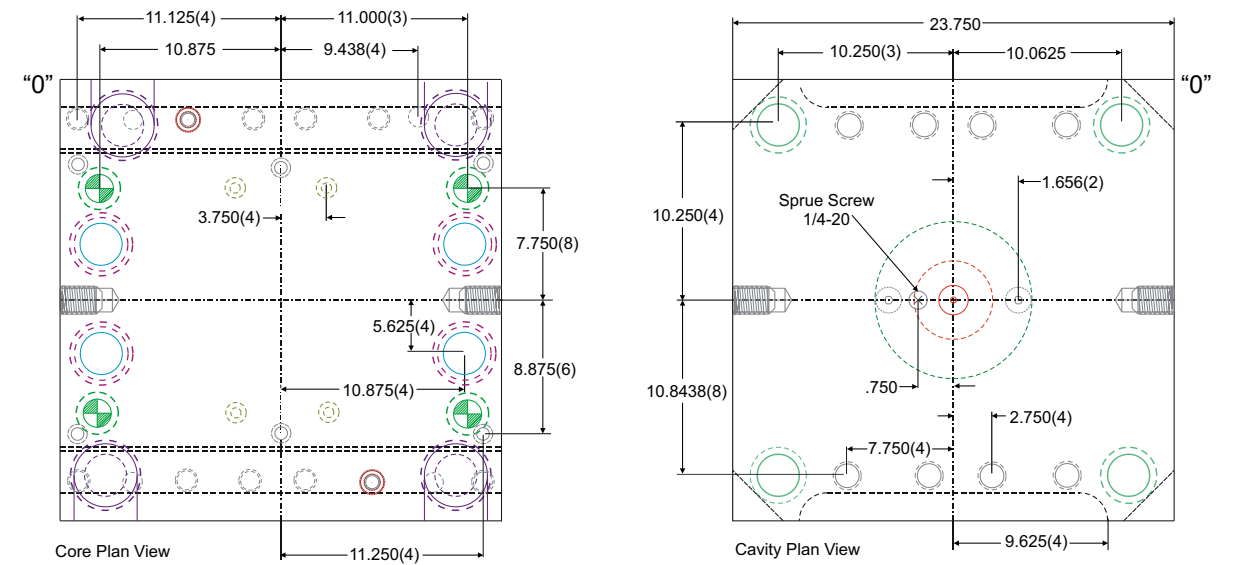


23-3/4" x 23-3/4" 2424 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

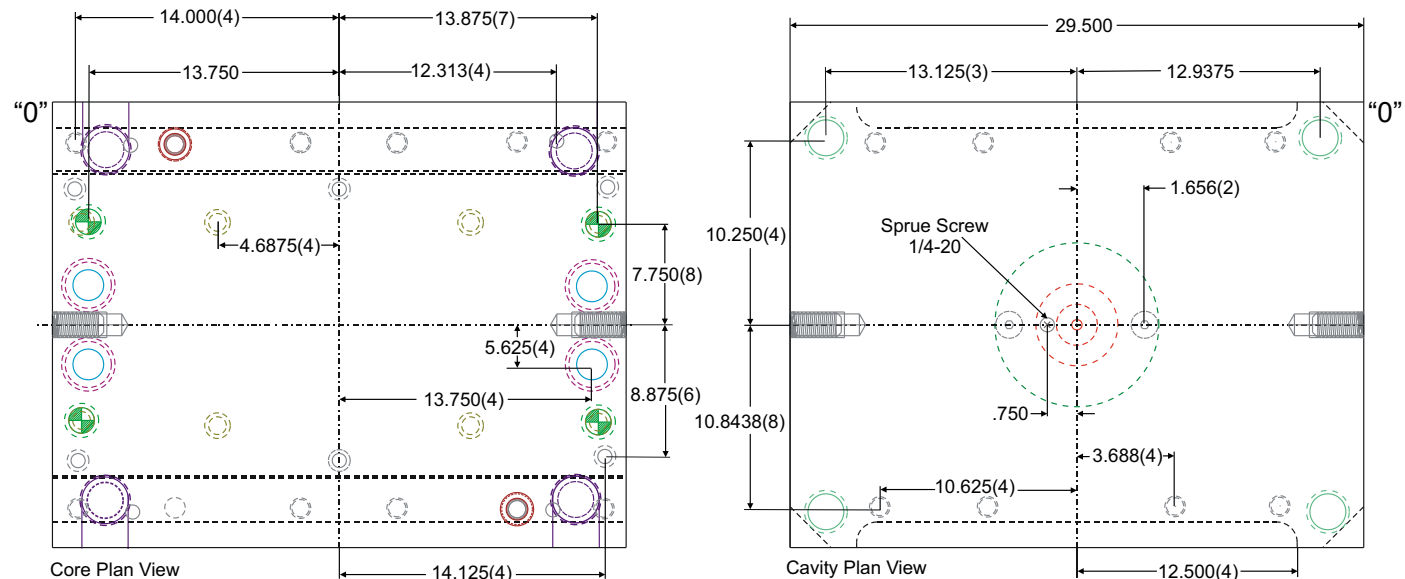


23-3/4" x 29-1/2" 2429 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

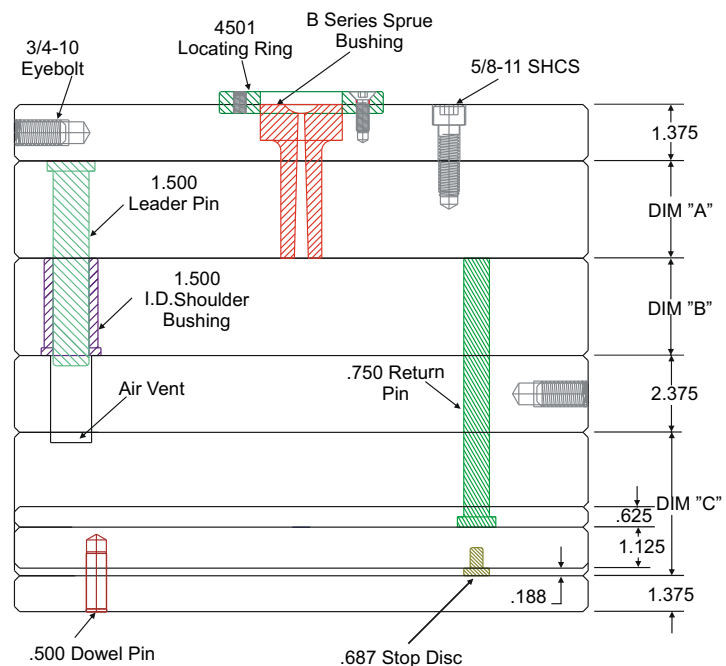
AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

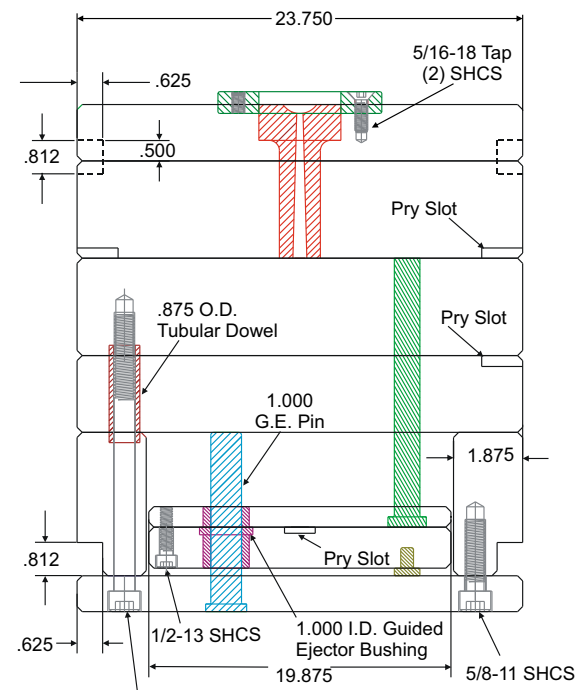


Core Plan View

Cavity Plan View



Section View



5/8-11 SHCS

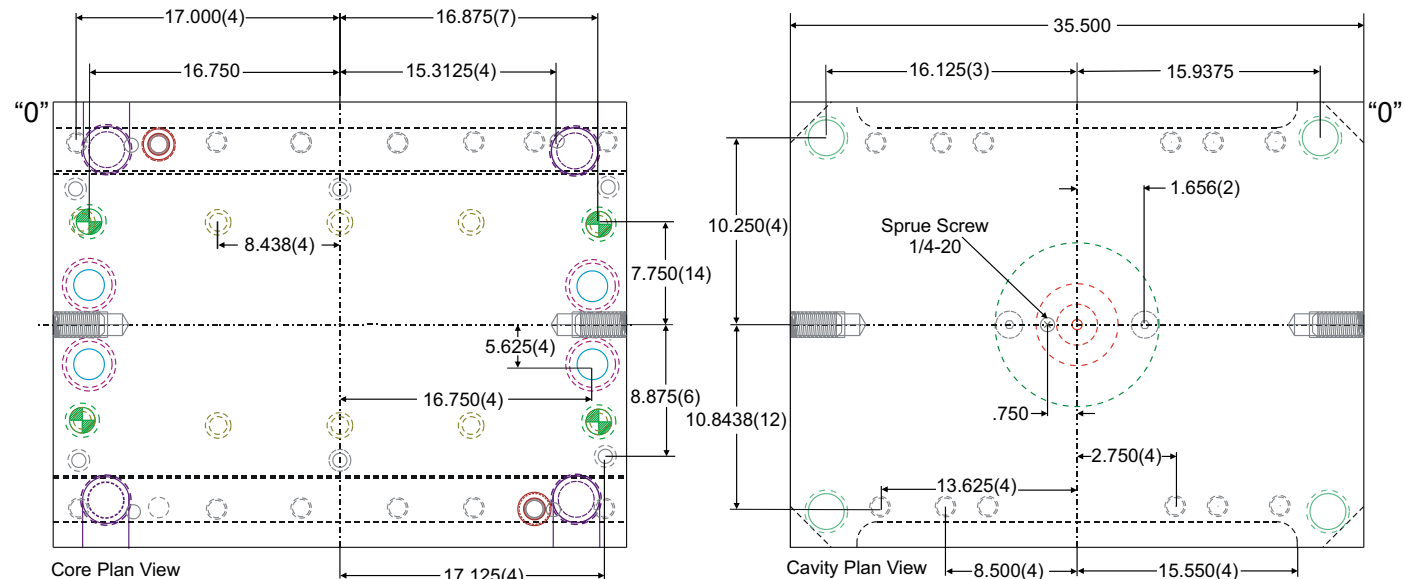
End View

23-3/4" x 35-1/2" 2435 Mold Base

B Series Sprue Bushing = 1.000
Guided Ejection can be omitted

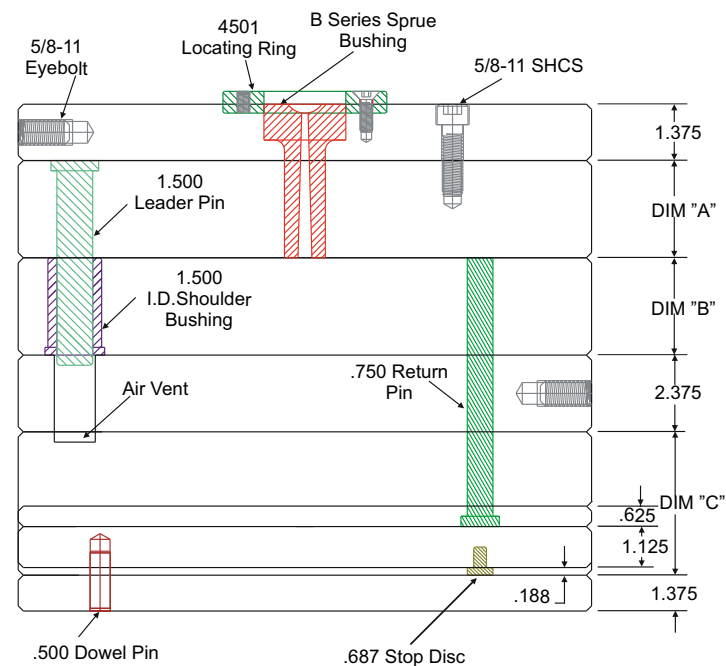
AVAILABLE PLATE THICKNESSES									
	7/8	1-3/8	1-7/8	2-3/8	2-7/8	3-3/8	3-7/8	4-7/8	5-7/8
A	•	•	•	•	•	•	•	•	•
B	•	•	•	•	•	•	•	•	•

C dimensions; 2-1/2, 3, 3-1/2, 4, 4-1/2, 5, 6

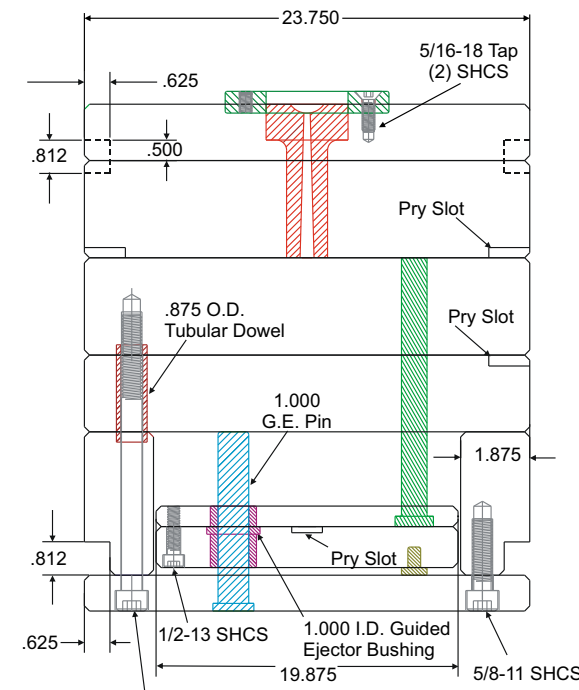


Core Plan View

Cavity Plan View



Section View



5/8-11 SHCS

End View

Stainless Steel Mold Bases

- All plates 420 stainless steel (300-340 BHN)
- Guided ejection
- Locating Ring
- Sprue Bushing
- Finished stop discs
- Ground parting line surfaces
- Interchangeable plates
- Return pins - Inboard location for spring pockets
- Vented leader pins
- Hoist ring holes
- Pry slots
- 3D CAD data available



Standard Stainless Steel A Series Mold Bases are manufactured from 420 stainless steel. 24 different frame size and plate thickness combinations are available. Shuttle style mold bases are also available.

FRAME SIZE	A PLATE THICKNESS	B PLATE THICKNESS	RAIL HEIGHT	CATALOG NO.	
7-7/8" x 7-7/8"	1-3/8"	1-7/8"	3"	88A-13-17-3-SS	
			4"	88A-13-17-4-SS	
		2-3/8"	3"	88A-13-23-3-SS	
			4"	88A-13-23-4-SS	
	1-7/8"	1-7/8"	3"	88A-17-17-3-SS	
			4"	88A-17-17-4-SS	
		2-3/8"	3"	88A-17-23-3-SS	
			4"	88A-17-23-4-SS	
7-7/8" x 11-7/8"	1-3/8"	1-7/8"	3"	812A-13-17-3-SS	
			4"	812A-13-17-4-SS	
		2-3/8"	3"	812A-13-23-3-SS	
			4"	812A-13-23-4-SS	
	1-7/8"	1-7/8"	3"	812A-17-17-3-SS	
			4"	812A-17-17-4-SS	
		2-3/8"	3"	812A-17-23-3-SS	
			4"	812A-17-23-4-SS	
	9-7/8" x 11-7/8"	1-3/8"	1-7/8"	3"	1012A-13-17-3-SS
				4"	1012A-13-17-4-SS
			2-3/8"	3"	1012A-13-23-3-SS
				4"	1012A-13-23-4-SS
1-7/8"		1-7/8"	3"	1012A-17-17-3-SS	
			4"	1012A-17-17-4-SS	
		2-3/8"	3"	1012A-17-23-3-SS	
			4"	1012A-17-23-4-SS	

Custom sizes available upon request

Phone: 800-521-0546 E-mail: sales@pcs-company.com Fax: 800-505-3299
www.pcs-company.com

Aluminum Mold Bases



- Locating ring hole 4.000" diameter
- Milled clamp slots
- Ground parting line surface
- Vented leader pins
- Three piece assembled ejector housing
- Milled ejector plate requiring no rest buttons
- Beveled edges on all corners
- Parting line pry slots
- 3D CAD data available
- Made in the U.S.A.

PCS Standard Aluminum Mold Bases are precision machined from 7075 aluminum. 23 standard frame size and plate thickness combinations are available. Aluminum mold bases have faster cycle times when compared to pre-hardened P-20 molds. Machining costs and lead-time is dramatically reduced when using an Aluminum Mold Base. Aluminum Mold Bases are made to order, please call PCS for lead time.

Aluminum Mold Base Frame Sizes and Available Plate Thicknesses

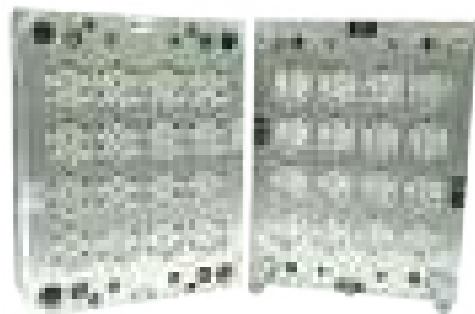
FRAME SIZE	PLATE THICKNESS (A & B PLATE)				RAIL HEIGHT
	1.94"	2.44"	2.94"	3.44"	
8.0" x 8.0"	AL-88-19-19	AL-88-24-24	AL-88-29-29		3"
8.0" x 10.0"	AL-810-19-19	AL-810-24-24	AL-810-29-29		3"
8.0" x 12.0"	AL-812-19-19	AL-812-24-24	AL-812-29-29		3"
10.0" x 10.0"		AL-1010-24-24	AL-1010-29-29	AL-1010-34-34	3"
10.0" x 12.0"		AL-1012-24-24	AL-1012-29-29	AL-1012-34-34	3"
10.0" x 14.0"		AL-1014-24-24	AL-1014-29-29	AL-1014-34-34	3"
12.0" x 12.0"		AL-1212-24-24	AL-1212-29-29	AL-1212-34-34	3-1/2"
12.0" x 14.0"			AL-1214-29-29		3-1/2"
12.0" x 16.0"			AL-1216-29-29		3-1/2"

Note: PCS standard aluminum & PCS standard steel mold bases have different hole location.

Top Clamp Plate thickness is .88". Please see CAD data for details.

Phone: 800-521-0546 E-mail: sales@pcs-company.com Fax: 800-505-3299
www.pcs-company.com

Special Mold Bases



PCS Company special mold bases are manufactured in the U.S.A. to customer 3D CAD data specifications. Machining tolerances are maintained utilizing the latest CNC machinery and tooling. Manufacturing accuracy is inspected and verified using CMM technology. PCS Company manufacturing processes have earned stringent ISO 9001:2008 registration.

Machining Capabilities

Advanced Special Machining

- Finished Bored Holes
- Secondary and Reversed Leader Pins
- Hot Half & Manifolds
- Parting line relief
- Runners
- Finished Tapered Pockets

Pocket Work Straight Wall

- Rough Pockets
- Finished Pockets
- Slide Pockets
- Lock Pockets
- Heel Block Pockets
- Insert Pockets
- Spring Pockets
- Wired EDM

Drilling

- Water Lines (Gun Drilling)
- Ejector Pin Holes
- Angle Pin Holes
- Knock out holes
- Eye bolt holes
- Guided Ejection
- Leader Pins
- Return Pins
- Stripper Bolts
- Spring Return Holes

Slotting

- Pry Bar Slots
- Clamp Slots
- Wire Slots

Additional Capabilities

- Saw Cut
- Grinding

Manufacturing

- 4 axis CNC machines
- Carbide Tooling
- Best practice machining process
- Machining to customer specified tolerances
- Machining programmed to 3D CAD files
- All machining performed in the U.S.A.

Software Capabilities

- 3D CAD Models Preferred
- Native Solid Works
- Parasolid (preferred), STEP, .dxf & IGS

Quality Assurance

- ISO9001:2008 Registered Since 2002
- CMM Inspection
- CAD File Review & Consultation

Quotations & Design

- Fast quote turnaround time
- Online PCS Standard Mold Base CAD library available
- PCS File Share available for fast and easy large file transfer

Blank Finish Ground Mold Plate



- Off the shelf availability
- Plate thickness range: 7/8" - 5-7/8"
- Finish ground +/- .001"
- P20 (#3) steel pre-heat treated 280-320 BHN/28-34 HRC
- Stainless Steel pre-heat treated 300-340 BHN/32-36 HRC

Finish Ground Blank Mold Plate is available in P-20 (#3) steel. Plate thicknesses and frame sizes range across the entire line of PCS standard mold bases. Blank Plate is also available in stainless steel.

FRAME SIZE	P20 (#3) STEEL PLATE THICKNESS								
	7/8"	1-3/8"	1-7/8"	2-3/8"	2-7/8"	3-3/8"	3-7/8"	4-7/8"	5-7/8"
7-7/8" x 7-7/8"	3MP-88-07	3MP-88-13	3MP-88-17	3MP-88-23	3MP-88-27	3MP-88-33	3MP-88-37	3MP-88-47	3MP-88-57
7-7/8" x 11-7/8"	3MP-812-07	3MP-812-13	3MP-812-17	3MP-812-23	3MP-812-27	3MP-812-33	3MP-812-37	3MP-812-47	3MP-812-57
9-7/8" x 8"	3MP-108-07	3MP-108-13	3MP-108-17	3MP-108-23	3MP-108-27	3MP-108-33	3MP-108-37	3MP-108-47	3MP-108-57
9-7/8" x 11-7/8"	3MP-1012-07	3MP-1012-13	3MP-1012-17	3MP-1012-23	3MP-1012-27	3MP-1012-33	3MP-1012-37	3MP-1012-47	3MP-1012-57
9-7/8" x 16"	3MP-1016-07	3MP-1016-13	3MP-1016-17	3MP-1016-23	3MP-1016-27	3MP-1016-33	3MP-1016-37	3MP-1016-47	3MP-1016-57
10-7/8" x 12"	3MP-1112-07	3MP-1112-13	3MP-1112-17	3MP-1112-23	3MP-1112-27	3MP-1112-33	3MP-1112-37	3MP-1112-47	3MP-1112-57
10-7/8" x 14"	3MP-1114-07	3MP-1114-13	3MP-1114-17	3MP-1114-23	3MP-1114-27	3MP-1114-33	3MP-1114-37	3MP-1114-47	3MP-1114-57
10-7/8" x 18"	3MP-1118-07	3MP-1118-13	3MP-1118-17	3MP-1118-23	3MP-1118-27	3MP-1118-33	3MP-1118-37	3MP-1118-47	3MP-1118-57
11-7/8" x 12"	3MP-1212-07	3MP-1212-13	3MP-1212-17	3MP-1212-23	3MP-1212-27	3MP-1212-33	3MP-1212-37	3MP-1212-47	3MP-1212-57
11-7/8" x 15"	3MP-1215-07	3MP-1215-13	3MP-1215-17	3MP-1215-23	3MP-1215-27	3MP-1215-33	3MP-1215-37	3MP-1215-47	3MP-1215-57
11-7/8" x 20"	3MP-1220-07	3MP-1220-13	3MP-1220-17	3MP-1220-23	3MP-1220-27	3MP-1220-33	3MP-1220-37	3MP-1220-47	3MP-1220-57
11-7/8" x 23-1/2"	3MP-1223-07	3MP-1223-13	3MP-1223-17	3MP-1223-23	3MP-1223-27	3MP-1223-33	3MP-1223-37	3MP-1223-47	3MP-1223-57
13-3/8" x 15"	3MP-1315-07	3MP-1315-13	3MP-1315-17	3MP-1315-23	3MP-1315-27	3MP-1315-33	3MP-1315-37	3MP-1315-47	3MP-1315-57
13-3/8" x 18"	3MP-1318-07	3MP-1318-13	3MP-1318-17	3MP-1318-23	3MP-1318-27	3MP-1318-33	3MP-1318-37	3MP-1318-47	3MP-1318-57
13-3/8" x 20-3/4"	3MP-1321-07	3MP-1321-13	3MP-1321-17	3MP-1321-23	3MP-1321-27	3MP-1321-33	3MP-1321-37	3MP-1321-47	3MP-1321-57
13-3/8" x 26"	3MP-1326-07	3MP-1326-13	3MP-1326-17	3MP-1326-23	3MP-1326-27	3MP-1326-33	3MP-1326-37	3MP-1326-47	3MP-1326-57
14-7/8" x 17-7/8"	3MP-1518-07	3MP-1518-13	3MP-1518-17	3MP-1518-23	3MP-1518-27	3MP-1518-33	3MP-1518-37	3MP-1518-47	3MP-1518-57
14-7/8" x 23-3/4"	3MP-1524-07	3MP-1524-13	3MP-1524-17	3MP-1524-23	3MP-1524-27	3MP-1524-33	3MP-1524-37	3MP-1524-47	3MP-1524-57
15-7/8" x 16"	3MP-1616-07	3MP-1616-13	3MP-1616-17	3MP-1616-23	3MP-1616-27	3MP-1616-33	3MP-1616-37	3MP-1616-47	3MP-1616-57
15-7/8" x 20"	3MP-1620-07	3MP-1620-13	3MP-1620-17	3MP-1620-23	3MP-1620-27	3MP-1620-33	3MP-1620-37	3MP-1620-47	3MP-1620-57
15-7/8" x 23-1/2"	3MP-1623-07	3MP-1623-13	3MP-1623-17	3MP-1623-23	3MP-1623-27	3MP-1623-33	3MP-1623-37	3MP-1623-47	3MP-1623-57
15-7/8" x 26"	3MP-1626-07	3MP-1626-13	3MP-1626-17	3MP-1626-23	3MP-1626-27	3MP-1626-33	3MP-1626-37	3MP-1626-47	3MP-1626-57
15-7/8" x 29-1/2"	3MP-1629-07	3MP-1629-13	3MP-1629-17	3MP-1629-23	3MP-1629-27	3MP-1629-33	3MP-1629-37	3MP-1629-47	3MP-1629-57
17-7/8" x 18"	3MP-1818-07	3MP-1818-13	3MP-1818-17	3MP-1818-23	3MP-1818-27	3MP-1818-33	3MP-1818-37	3MP-1818-47	3MP-1818-57
17-7/8" x 20"	3MP-1820-07	3MP-1820-13	3MP-1820-17	3MP-1820-23	3MP-1820-27	3MP-1820-33	3MP-1820-37	3MP-1820-47	3MP-1820-57
17-7/8" x 23-1/2"	3MP-1823-07	3MP-1823-13	3MP-1823-17	3MP-1823-23	3MP-1823-27	3MP-1823-33	3MP-1823-37	3MP-1823-47	3MP-1823-57
17-7/8" x 26"	3MP-1826-07	3MP-1826-13	3MP-1826-17	3MP-1826-23	3MP-1826-27	3MP-1826-33	3MP-1826-37	3MP-1826-47	3MP-1826-57
19-1/2" x 23-3/4"	3MP-1924-07	3MP-1924-13	3MP-1924-17	3MP-1924-23	3MP-1924-27	3MP-1924-33	3MP-1924-37	3MP-1924-47	3MP-1924-57
19-1/2" x 29-1/2"	3MP-1929-07	3MP-1929-13	3MP-1929-17	3MP-1929-23	3MP-1929-27	3MP-1929-33	3MP-1929-37	3MP-1929-47	3MP-1929-57
23-3/4" x 23-3/4"	3MP-2424-07	3MP-2424-13	3MP-2424-17	3MP-2424-23	3MP-2424-27	3MP-2424-33	3MP-2424-37	3MP-2424-47	3MP-2424-57
23-3/4" x 29-1/2"	3MP-2429-07	3MP-2429-13	3MP-2429-17	3MP-2429-23	3MP-2429-27	3MP-2429-33	3MP-2429-37	3MP-2429-47	3MP-2429-57
23-3/4" x 35-1/2"	3MP-2435-07	3MP-2435-13	3MP-2435-17	3MP-2435-23	3MP-2435-27	3MP-2435-33	3MP-2435-37	3MP-2435-47	3MP-2435-57

FRAME SIZE	STAINLESS STEEL PLATE THICKNESS				
	7/8"	1-3/8"	1-7/8"	2-3/8"	2-7/8"
7-7/8" x 7-7/8"	7MP-88-07	7MP-88-13	7MP-88-17	7MP-88-23	7MP-88-27
7-7/8" x 11-7/8"	7MP-812-07	7MP-812-13	7MP-812-17	7MP-812-23	7MP-812-27
9-7/8" x 8"	7MP-108-07	7MP-108-13	7MP-108-17	7MP-108-23	7MP-108-27
9-7/8" x 11-7/8"	7MP-1012-07	7MP-1012-13	7MP-1012-17	7MP-1012-23	7MP-1012-27
10-7/8" x 14"	7MP-1114-07	7MP-1114-13	7MP-1114-17	7MP-1114-23	7MP-1114-27
11-7/8" x 12"	7MP-1212-07	7MP-1212-13	7MP-1212-17	7MP-1212-23	7MP-1212-27
11-7/8" x 15"	7MP-1215-07	7MP-1215-13	7MP-1215-17	7MP-1215-23	7MP-1215-27

Blank #1 Steel Ejector Plates

- Off the shelf availability
- Finish ground to +/- .001"
- Unit of measure in Inches



Finish Ground Machined Ejector Plates are interchangeable and available in 1050 (#1) steel. Ejector Plate thicknesses and frame sizes range across the entire line of PCS standard mold bases.

CATALOG NO.	FRAME SIZE	WIDTH	LENGTH	THICKNESS
1EP-88-10N	7-7/8" x 7-7/8"	5.250	7.865	1.000
1EP-812-10N	7-7/8" x 11-7/8"	5.250	11.865	1.000
1EP-108-10N	9-7/8" x 8"	6.875	7.990	1.000
1EP-1012-10N	9-7/8" x 11-7/8"	6.875	11.865	1.000
1EP-1016-10N	9-7/8" x 16"	6.875	15.990	1.000
1EP-1112-10N	10-7/8" x 12"	7.375	11.990	1.000
1EP-1114-10N	10-7/8" x 14"	7.375	13.990	1.000
1EP-1118-10N	10-7/8" x 18"	7.375	17.990	1.000
1EP-1212-11N	11-7/8" x 12"	8.375	11.990	1.125
1EP-1215-11N	11-7/8" x 15"	8.375	14.990	1.125
1EP-1220-11N	11-7/8" x 20"	8.375	19.990	1.125
1EP-1223-11N	11-7/8" x 23-1/2"	8.375	23.490	1.125
1EP-1315-11N	13-3/8" x 15"	9.500	14.990	1.125
1EP-1318-11N	13-3/8" x 18"	9.500	17.990	1.125
1EP-1321-11N	13-3/8" x 20-3/4"	9.500	20.740	1.125
1EP-1326-11N	13-3/8" x 26"	9.500	25.990	1.125
1EP-1518-11N	14-7/8" x 17-7/8"	11.000	17.865	1.125
1EP-1524-11N	14-7/8" x 23-3/4"	11.000	23.740	1.125
1EP-1616-11N	15-7/8" x 16"	12.000	15.990	1.125
1EP-1620-11N	15-7/8" x 20"	12.000	19.990	1.125
1EP-1623-11N	15-7/8" x 23-1/2"	12.000	23.490	1.125
1EP-1626-11N	15-7/8" x 26"	12.000	25.990	1.125
1EP-1629-11N	15-7/8" x 29-1/2"	12.000	29.490	1.125
1EP-1818-11N	17-7/8" x 18"	14.000	17.990	1.125
1EP-1820-11N	17-7/8" x 20"	14.000	19.990	1.125
1EP-1823-11N	17-7/8" x 23-1/2"	14.000	23.490	1.125
1EP-1826-11N	17-7/8" x 26"	14.000	25.990	1.125
1EP-1924-11N	19-1/2" x 23-3/4"	15.625	23.740	1.125
1EP-1929-11N	19-1/2" x 29-1/2"	15.625	29.490	1.125
1EP-2424-11N	23-3/4" x 23-3/4"	19.875	23.740	1.125
1EP-2429-11N	23-3/4" x 29-1/2"	19.875	29.490	1.125
1EP-2435-11N	23-3/4" x 35-1/2"	19.875	35.490	1.125

Blank #1 Steel Ejector Retainer Plates

- Off the shelf availability
- Finish ground to +.015/- .000"
- Unit of measure in Inches



Finish Ground Machined Ejector Retainer Plates are interchangeable and available in 1050 (#1) steel. Ejector Retainer Plate thicknesses and frame sizes range across the entire line of PCS standard mold bases.

CATALOG NO.	FRAME SIZE	WIDTH	LENGTH	THICKNESS
1ER-88-04N	7-7/8" x 7-7/8"	5.250	7.865	0.500
1ER-812-04N	7-7/8" x 11-7/8"	5.250	11.865	0.500
1ER-108-04N	9-7/8" x 8"	6.875	7.990	0.500
1ER-1012-04N	9-7/8" x 11-7/8"	6.875	11.865	0.500
1ER-1016-04N	9-7/8" x 16"	6.875	15.990	0.500
1ER-1112-04N	10-7/8" x 12"	7.375	11.990	0.500
1ER-1114-04N	10-7/8" x 14"	7.375	13.990	0.500
1ER-1118-04N	10-7/8" x 18"	7.375	17.990	0.500
1ER-1212-04N	11-7/8" x 12"	8.375	11.990	0.500
1ER-1215-04N	11-7/8" x 15"	8.375	14.990	0.500
1ER-1220-04N	11-7/8" x 20"	8.375	19.990	0.500
1ER-1223-05N	11-7/8" x 23-1/2"	8.375	23.490	0.625
1ER-1315-05N	13-3/8" x 15"	9.500	14.990	0.625
1ER-1318-05N	13-3/8" x 18"	9.500	17.990	0.625
1ER-1321-05N	13-3/8" x 20-3/4"	9.500	20.740	0.625
1ER-1326-05N	13-3/8" x 26"	9.500	25.990	0.625
1ER-1518-05N	14-7/8" x 17-7/8"	11.000	17.865	0.625
1ER-1524-05N	14-7/8" x 23-3/4"	11.000	23.740	0.625
1ER-1616-05N	15-7/8" x 16"	12.000	15.990	0.625
1ER-1620-05N	15-7/8" x 20"	12.000	19.990	0.625
1ER-1623-05N	15-7/8" x 23-1/2"	12.000	23.490	0.625
1ER-1626-05N	15-7/8" x 26"	12.000	25.990	0.625
1ER-1629-05N	15-7/8" x 29-1/2"	12.000	29.490	0.625
1ER-1818-05N	17-7/8" x 18"	14.000	17.990	0.625
1ER-1820-05N	17-7/8" x 20"	14.000	19.990	0.625
1ER-1823-05N	17-7/8" x 23-1/2"	14.000	23.490	0.625
1ER-1826-05N	17-7/8" x 26"	14.000	25.990	0.625
1ER-1924-05N	19-1/2" x 23-3/4"	15.625	23.740	0.625
1ER-1929-05N	19-1/2" x 29-1/2"	15.625	29.490	0.625
1ER-2424-05N	23-3/4" x 23-3/4"	19.875	23.740	0.625
1ER-2429-05N	23-3/4" x 29-1/2"	19.875	29.490	0.625
1ER-2435-05N	23-3/4" x 35-1/2"	19.875	35.490	0.625

Ejector Housings #1 Steel

- Off the shelf availability
- Three piece construction provides rigid support for plastic injection molds or die cast dies
- Machined clamp slots included
- Screw & Dowel holes included
- Rail Height finish ground +/- .001"



This Ejector housing is shipped fully assembled with dowel holes and screw holes included saving you time. The dowel and screw holes are accessible allowing you to add any custom changes you need. Purchasing this assembly will assist you in meeting mold build times and assist with any repair projects.

FRAME SIZE	#1 STEEL RAIL HEIGHT (inches)						
	2.5	3.0	3.5	4.0	4.5	5.0	6.0
7-7/8" x 7-7/8"	25-88-1	30-88-1	35-88-1	40-88-1	45-88-1	50-88-1	60-88-1
7-7/8" x 11-7/8"	25-812-1	30-812-1	35-812-1	40-812-1	45-812-1	50-812-1	60-812-1
9-7/8" x 8"	25-108-1	30-108-1	35-108-1	40-108-1	45-108-1	50-108-1	60-108-1
9-7/8" x 11-7/8"	25-1012-1	30-1012-1	35-1012-1	40-1012-1	45-1012-1	50-1012-1	60-1012-1
9-7/8" x 16"	25-1016-1	30-1016-1	35-1016-1	40-1016-1	45-1016-1	50-1016-1	60-1016-1
10-7/8" x 12"	25-1112-1	30-1112-1	35-1112-1	40-1112-1	45-1112-1	50-1112-1	60-1112-1
10-7/8" x 14"	25-1114-1	30-1114-1	35-1114-1	40-1114-1	45-1114-1	50-1114-1	60-1114-1
10-7/8" x 18"	25-1118-1	30-1118-1	35-1118-1	40-1118-1	45-1118-1	50-1118-1	60-1118-1
11-7/8" x 12"	25-1212-1	30-1212-1	35-1212-1	40-1212-1	45-1212-1	50-1212-1	60-1212-1
11-7/8" x 15"	25-1215-1	30-1215-1	35-1215-1	40-1215-1	45-1215-1	50-1215-1	60-1215-1
11-7/8" x 20"	25-1220-1	30-1220-1	35-1220-1	40-1220-1	45-1220-1	50-1220-1	60-1220-1
11-7/8" x 23-1/2"	25-1223-1	30-1223-1	35-1223-1	40-1223-1	45-1223-1	50-1223-1	60-1223-1
13-3/8" x 15"	25-1315-1	30-1315-1	35-1315-1	40-1315-1	45-1315-1	50-1315-1	60-1315-1
13-3/8" x 18"	25-1318-1	30-1318-1	35-1318-1	40-1318-1	45-1318-1	50-1318-1	60-1318-1
13-3/8" x 20-3/4"	25-1321-1	30-1321-1	35-1321-1	40-1321-1	45-1321-1	50-1321-1	60-1321-1
13-3/8" x 26"	25-1326-1	30-1326-1	35-1326-1	40-1326-1	45-1326-1	50-1326-1	60-1326-1
14-7/8" x 17-7/8"	25-1518-1	30-1518-1	35-1518-1	40-1518-1	45-1518-1	50-1518-1	60-1518-1
14-7/8" x 23-3/4"	25-1524-1	30-1524-1	35-1524-1	40-1524-1	45-1524-1	50-1524-1	60-1524-1
15-7/8" x 16"	25-1616-1	30-1616-1	35-1616-1	40-1616-1	45-1616-1	50-1616-1	60-1616-1
15-7/8" x 20"	25-1620-1	30-1620-1	35-1620-1	40-1620-1	45-1620-1	50-1620-1	60-1620-1
15-7/8" x 23-1/2"	25-1623-1	30-1623-1	35-1623-1	40-1623-1	45-1623-1	50-1623-1	60-1623-1
15-7/8" x 26"	25-1626-1	30-1626-1	35-1626-1	40-1626-1	45-1626-1	50-1626-1	60-1626-1
15-7/8" x 29-1/2"	25-1629-1	30-1629-1	35-1629-1	40-1629-1	45-1629-1	50-1629-1	60-1629-1
17-7/8" x 18"	25-1818-1	30-1818-1	35-1818-1	40-1818-1	45-1818-1	50-1818-1	60-1818-1
17-7/8" x 20"	25-1820-1	30-1820-1	35-1820-1	40-1820-1	45-1820-1	50-1820-1	60-1820-1
17-7/8" x 23-1/2"	25-1823-1	30-1823-1	35-1823-1	40-1823-1	45-1823-1	50-1823-1	60-1823-1
17-7/8" x 26"	25-1826-1	30-1826-1	35-1826-1	40-1826-1	45-1826-1	50-1826-1	60-1826-1
19-1/2" x 23-3/4"	25-1924-1	30-1924-1	35-1924-1	40-1924-1	45-1924-1	50-1924-1	60-1924-1
19-1/2" x 29-1/2"	25-1929-1	30-1929-1	35-1929-1	40-1929-1	45-1929-1	50-1929-1	60-1929-1
23-3/4" x 23-3/4"	25-2424-1	30-2424-1	35-2424-1	40-2424-1	45-2424-1	50-2424-1	60-2424-1
23-3/4" x 29-1/2"	25-2429-1	30-2429-1	35-2429-1	40-2429-1	45-2429-1	50-2429-1	60-2429-1
23-3/4" x 35-1/2"	25-2435-1	30-2435-1	35-2435-1	40-2435-1	45-2435-1	50-2435-1	60-2435-1

Blank #7 Stainless Steel Ejector & Ejector Retainer Plates

Ejector Plates



- Off the shelf availability
- Finish ground to +/- .001"
- Unit of measure in Inches

Finish Ground Machined Ejector Plates are interchangeable and available in #7 stainless steel. Ejector Plate thicknesses and frame sizes range across the stainless steel line of PCS standard mold bases.

CATALOG NO.	FRAME SIZE	WIDTH	LENGTH	THICKNESS
7EP-88-10N	7-7/8" x 7-7/8"	5.250	7.865	1.000
7EP-812-10N	7-7/8" x 11-7/8"	5.250	11.865	1.000
7EP-108-10N	9-7/8" x 8"	6.875	7.990	1.000
7EP-1012-10N	9-7/8" x 11-7/8"	6.875	11.865	1.000
7EP-1114-10N	10-7/8" x 14"	7.375	13.990	1.000
7EP-1212-11N	11-7/8" x 12"	8.375	11.990	1.125
7EP-1215-11N	11-7/8" x 15"	8.375	14.990	1.125

Ejector Retainer Plates



- Off the shelf availability
- Finish ground to +.015" -.000"
- Unit of measure in Inches

Finish Ground Machined Ejector Retainer Plates are interchangeable and available in #7 stainless steel. Ejector Retainer Plate thicknesses and frame sizes range across the stainless steel line of PCS standard mold bases.

CATALOG NO.	FRAME SIZE	WIDTH	LENGTH	THICKNESS
7ER-88-04N	7-7/8" x 7-7/8"	5.250	7.8650	0.500
7ER-812-04N	7-7/8" x 11-7/8"	5.250	11.865	0.500
7ER-108-04N	9-7/8" x 8"	6.875	7.990	0.500
7ER-1012-04N	9-7/8" x 11-7/8"	6.875	11.865	0.500
7ER-1114-04N	10-7/8" x 14"	7.375	13.990	0.500
7ER-1212-04N	11-7/8" x 12"	8.375	11.990	0.500
7ER-1215-04N	11-7/8" x 15"	8.375	14.990	0.500

Blank #7 Stainless Steel Rails

- Off the shelf availability
- Machined on all sides
- Rail Height ("T") finish ground +/- .001"
- Unit of measure in Inches
- Ships in pairs

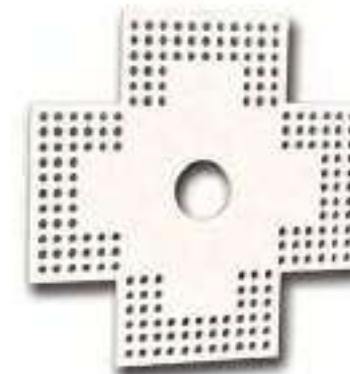


CATALOG NO.	FRAME SIZE	WIDTH	LENGTH	RAIL HEIGHT
7RL-88-24N	7-7/8" x 7-7/8"	1-1/4"	7-7/8"	2-1/2"
7RL-88-30N	7-7/8" x 7-7/8"	1-1/4"	7-7/8"	3"
7RL-88-34N	7-7/8" x 7-7/8"	1-1/4"	7-7/8"	3-1/2"
7RL-88-40N	7-7/8" x 7-7/8"	1-1/4"	7-7/8"	4"
7RL-812-24N	7-7/8" x 11-7/8"	1-1/4"	11-7/8"	2-1/2"
7RL-812-30N	7-7/8" x 11-7/8"	1-1/4"	11-7/8"	3"
7RL-812-34N	7-7/8" x 11-7/8"	1-1/4"	11-7/8"	3-1/2"
7RL-812-40N	7-7/8" x 11-7/8"	1-1/4"	11-7/8"	4"
7RL-108-24N	9-7/8" x 8"	1-7/16"	8"	2-1/2"
7RL-108-30N	9-7/8" x 8"	1-7/16"	8"	3"
7RL-108-34N	9-7/8" x 8"	1-7/16"	8"	3-1/2"
7RL-108-40N	9-7/8" x 8"	1-7/16"	8"	4"
7RL-1012-24N	9-7/8" x 11-7/8"	1-7/16"	11-7/8"	2-1/2"
7RL-1012-30N	9-7/8" x 11-7/8"	1-7/16"	11-7/8"	3"
7RL-1012-34N	9-7/8" x 11-7/8"	1-7/16"	11-7/8"	3-1/2"
7RL-1012-40N	9-7/8" x 11-7/8"	1-7/16"	11-7/8"	4"
7RL-1114-24N	10-7/8" x 14"	1-11/16"	14"	2-1/2"
7RL-1114-30N	10-7/8" x 14"	1-11/16"	14"	3"
7RL-1114-34N	10-7/8" x 14"	1-11/16"	14"	3-1/2"
7RL-1114-40N	10-7/8" x 14"	1-11/16"	14"	4"
7RL-1212-24N	11-7/8" x 12"	1-11/16"	12"	2-1/2"
7RL-1212-30N	11-7/8" x 12"	1-11/16"	12"	3"
7RL-1212-34N	11-7/8" x 12"	1-11/16"	12"	3-1/2"
7RL-1212-40N	11-7/8" x 12"	1-11/16"	12"	4"
7RL-1215-24N	11-7/8" x 15"	1-11/16"	15"	2-1/2"
7RL-1215-30N	11-7/8" x 15"	1-11/16"	15"	3"
7RL-1215-34N	11-7/8" x 15"	1-11/16"	15"	3-1/2"
7RL-1215-40N	11-7/8" x 15"	1-11/16"	15"	4"

Insulator Sheets

Features:

- 128 standard sizes available
- Pre-cut to mold base size
- With or without center holes
- 1/4" & 1/2" thicknesses available
- Most orders ship same day
- Low thermal conductivity
- Reduces heat loss
- Oil & moisture resistant
- High heat compressive strength
- Asbestos free
- Custom sizes available
- Special machining available
- Made in the U.S.A.



PROPERTY	UNITS	METHOD	GRADE	HT
Max Service Temperature	°F			550
Thermal Conductivity	Btu/ft/in/°F	C-177		1.9
Compressive Strength				
@ 75°F	PSI	D-695		49,000
@ 302°F	PSI	D-695		27,000
@ 395°F	PSI	D-695		18,000
@ 425°F	PSI	D-695		17,500
Compressive Modulus				
@ 75°F	PSI	D-790		31,000
Char Impact Strength	ft lb/in	D-256		8.0
Hardness	Rockwell M	D-785		96
Water Absorption	%	D-670		0.2
Thermal Expansion	10-5/in/°C	D-696		1.9
Flammability		UL 94*		V-0
Resistance to lubricants and hydraulic fluid				No Effect
Density	lb/in ³			1.25
Thickness Tolerance	in			±.002

White Board Grade HT is a high compressive strength, heat resistant composite material. Finished to a close thickness tolerance, it is ideal for insulation between the mold and press or within the mold itself.
PLEASE PROVIDE A 2D AUTO CAD DWG FILE FOR CUSTOM INSULATOR SHEETS.

1/4" Insulator Sheets

CATALOG NO.	WIDTH	LENGTH
Thickness 1/4" with Center Hole		
IN-88-2H	7.875	7.875
IN-812-2H	7.875	11.875
IN-108-2H	9.875	8.000
IN-1012-2H	9.875	11.875
IN-1016-2H	9.875	16.000
IN-1112-2H	10.875	12.000
IN-1114-2H	10.875	14.000
IN-1118-2H	10.875	18.000
IN-1212-2H	11.875	12.000
IN-1215-2H	11.875	15.000
IN-1220-2H	11.875	20.000
IN-1220-2H	11.875	23.500
IN-1315-2H	13.375	15.000
IN-1318-2H	13.375	18.000
IN-1321-2H	13.375	20.750
IN-1326-2H	13.375	26.000
IN-1518-2H	14.875	17.875
IN-1524-2H	14.875	23.750
IN-1616-2H	15.875	16.000
IN-1620-2H	15.875	20.000
IN-1623-2H	15.875	23.500
IN-1626-2H	15.875	26.000
IN-1629-2H	15.875	29.500
IN-1818-2H	17.875	18.000
IN-1820-2H	17.875	20.000
IN-1823-2H	17.875	23.500
IN-1826-2H	17.875	26.000
IN-1924-2H	19.500	23.750
IN-1929-2H	19.500	29.500
IN-2424-2H	23.750	23.750
IN-2429-2H	23.750	29.500
IN-2435-2H	23.75	35.500

CATALOG NO.	WIDTH	LENGTH
Thickness 1/4" Without Center Hole (Blank)		
IN-88-2	7.875	7.875
IN-812-2	7.875	11.875
IN-108-2	9.875	8.000
IN-1012-2	9.875	11.875
IN-1016-2	9.875	16.000
IN-1112-2	10.875	12.000
IN-1114-2	10.875	14.000
IN-1118-2	10.875	18.000
IN-1212-2	11.875	12.000
IN-1215-2	11.875	15.000
IN-1220-2	11.875	20.000
IN-1223-2	11.875	23.500
IN-1315-2	13.375	15.000
IN-1318-2	13.375	18.000
IN-1321-2	13.375	20.750
IN-1326-2	13.375	26.000
IN-1518-2	14.875	17.875
IN-1524-2	14.875	23.750
IN-1616-2	15.875	16.000
IN-1620-2	15.875	20.000
IN-1623-2	15.875	23.500
IN-1626-2	15.875	26.000
IN-1629-2	15.875	29.500
IN-1818-2	17.875	18.000
IN-1820-2	17.875	20.000
IN-1823-2	17.875	23.500
IN-1826-2	17.875	26.000
IN-1924-2	19.500	23.750
IN-1929-2	19.500	29.500
IN-2424-2	23.750	23.750
IN-2429-2	23.750	29.500
IN-2435-2	23.750	35.50

STANDARD SHEETS		
IN-1836-2	18	36
IN-2436-2	24	36
IN-3636-2	36	36

TOLERANCES	
Width	-.060 - .120
Length	-.060 - .120

Special sizes to a maximum of 48" x 96" available.

Phone: 800-521-0546 E-mail: sales@pcs-company.com Fax: 800-505-3299
 www.pcs-company.com

1/2" Insulator Sheets

CATALOG NO.	WIDTH	LENGTH
Thickness 1/2" with Center Hole		
IN-88-4H	7.875	7.875
IN-812-4H	7.875	11.875
IN-108-4H	9.875	8.000
IN-1012-4H	9.875	11.875
IN-1016-4H	9.875	16.000
IN-1112-4H	10.875	12.000
IN-1114-4H	10.875	14.000
IN-1118-4H	10.875	18.000
IN-1212-4H	11.875	12.000
IN-1215-4H	11.875	15.000
IN-1220-4H	11.875	20.000
IN-1223-4H	11.875	23.500
IN-1315-4H	13.375	15.000
IN-1318-4H	13.375	18.000
IN-1321-4H	13.375	20.750
IN-1326-4H	13.375	26.000
IN-1518-4H	14.875	17.875
IN-1616-4H	15.875	16.000
IN-1524-4H	14.875	24.750
IN-1620-4H	15.875	20.000
IN-1623-4H	15.875	23.500
IN-1626-4H	15.875	26.000
IN-1629-4H	15.875	29.500
IN-1818-4H	17.875	18.000
IN-1820-4H	17.875	20.000
IN-1823-4H	17.875	23.500
IN-1826-4H	17.875	26.000
IN-1924-4H	19.500	23.750
IN-1929-4H	19.500	29.500
IN-2424-4H	23.750	23.750
IN-2429-4H	23.750	29.500
IN-2435-4H	23.750	35.500

CATALOG NO.	WIDTH	LENGTH
Thickness 1/2" Without Center Hole (Blank)		
IN-88-4	7.875	7.875
IN-812-4	7.875	11.875
IN-108-4	9.875	8.000
IN-1012-4	9.875	11.875
IN-1016-4	9.875	16.000
IN-1112-4	10.875	12.000
IN-1114-4	10.875	14.000
IN-1118-4	10.875	18.000
IN-1212-4	11.875	12.000
IN-1215-4	11.875	15.000
IN-1220-4	11.875	20.000
IN-1223-4	11.875	23.500
IN-1315-4	13.375	15.000
IN-1318-4	13.375	18.000
IN-1321-4	13.375	20.750
IN-1326-4	13.375	26.000
IN-1518-4	14.875	17.875
IN-1524-4	14.875	23.750
IN-1616-4	15.875	16.000
IN-1620-4	15.875	20.000
IN-1623-4	15.875	23.500
IN-1626-4	15.875	26.000
IN-1629-4	15.875	29.500
IN-1818-4	17.875	18.000
IN-1820-4	17.875	20.000
IN-1823-4	17.875	23.500
IN-1826-4	17.875	26.000
IN-1924-4	19.500	23.750
IN-1929-4	19.500	29.500
IN-2424-4	23.750	23.750
IN-2429-4	23.750	29.500
IN-2435-4	23.750	35.500

STANDARD SHEETS		
IN-1836-4	18	36
IN-2436-4	24	36
IN-3636-4	36	36

TOLERANCES	
Width	-.060 - .120
Length	-.060 - .120

Special sizes to a maximum of 48" x 96" available.

Phone: 800-521-0546 E-mail: sales@pcs-company.com Fax: 800-505-3299
 www.pcs-company.com

F.I.T.S.® Product Line

Maximize production changeovers and reduce downtime with a more cost effective approach to injection molding.



F.I.T.S.® (Fast Interchangeable Tooling System) replaces the need for standard mold bases by utilizing a frame and interchangeable inserts for short production runs, sampling and prototyping.

Features and Benefits:

- Inserts for F.I.T.S. U-Style Frames
- A & B Plates #3 Steel - All other #2 Steel
- Compatible with M.U.D.® style U-Frames
- All plate outer edges have .03 chamfer
- F.I.T.S. return pin (NP25-6) available
- Guided Ejection included as standard
- Add "G" to item number to omit guided ejection
- Special F.I.T.S. machining available upon request
- Plus Style F.I.T.S. guided ejection cannot be omitted

What is inside a standard PCS F.I.T.S.® insert?:

DESCRIPTION	SOLID QTY	SOLID PLUS QTY	DESCRIPTION	LAMINATED QTY	LAMINATED PLUS QTY	DESCRIPTION	T-STYLE QTY	T-STYLE PLUS QTY
A Support Plate	N/A	N/A	A Support Plate	1	1	A Support Plate	1	1
A Plate	1	1	A Plate	1	1	A Plate	1	1
B Plate	1	1	B Plate	1	1	B Plate	1	1
B Support Plate	N/A	N/A	B Support Plate	1	1	B Support Plate	1	1
Ejector Plate	1	1	Ejector Plate	1	1	Ejector Plate	1	1
Retainer Plate	1	1	Retainer Plate	1	1	Retainer Plate	1	1
Guided Ej Pins	2	2	Guided Ej Pins	2	2	Guided Ej Pins	2	2
Guided Ej Bushings	2	2	Guided Ej Bushings	2	2	Guided Ej Bushings	2	2
Tube Dowels	N/A	N/A	Tube Dowels	4	4	Tube Dowels	4	4
Assembly Screws	4	4	Assembly Screws	8	8	Assembly Screws	8	8
Leader Pins	2	4	Leader Pins	2	4	Leader Pins	2	4
Bushings	2	4	Bushings	2	4	Bushings	2	4
Return Pins	0	4	Return Pins	0	4	Return Pins	0	4
Snap Rings	4	8	Snap Rings	N/A	N/A	Snap Rings	4	8

PCS F.I.T.S.® into your production

M.U.D. is a registered trademark of DME

Phone: 800-521-0546 E-mail: sales@pcs-company.com Fax: 800-505-3299
www.pcs-company.com

F.I.T.S. Frames & Inserts

SERIES	SOLID	SERIES	LAMINATED	SERIES	T-STYLE	
05/05	FTS-0505-221G	08/09	FTL-0809-284*	08/09	FTT-0809-201*	
	FTS-0505-222G		FTL-0809-285*		FTT-0809-202*	
08/09	FTS-0809-221*		FTL-0809-286*		FTT-0809-203*	
	FTS-0809-222*		FTL-0809-287*		FTT-0809-204*	
	FTS-0809-223*		FTL-0809-288*		FTT-0809-205*	
	FTS-0809-224*		FTL-0809-289*		FTT-0809-206*	
	FTS-0809-225*		FTL-0809-290*	08/10	FTT-0810-201	
	FTS-0809-226*		08/10		FTL-0810-284	FTT-0810-202
	FTS-0809-227*				FTL-0810-285	FTT-0810-203
	FTS-0809-228*	FTL-0810-286			FTT-0810-204	
	FTS-0809-229*	FTL-0810-287			FTT-0810-205	
	FTS-0809-230*	FTL-0810-288		FTT-0810-206		
	08/10	FTS-0810-221	FTL-0810-289	84/90	FTT-8490-204	
FTS-0810-222		FTL-0810-290	FTT-8490-206			
FTS-0810-223		FTL-8490-281	FTT-8490-207			
FTS-0810-224		FTL-8490-282	10/12			
FTS-0810-225		FTL-8490-283				
FTS-0810-226		FTL-8490-284				
FTS-0810-227		FTL-8490-285				
FTS-0810-227	FTL-8490-286					
84/90	FTS-8490-221	FTL-8490-287	10/14			
	FTS-8490-222	FTL-1012-285				
	FTS-8490-223	FTL-1012-286				
	FTS-8490-224	FTL-1012-288				
	FTS-8490-225	FTL-1012-289				
	FTS-8490-226	FTL-1014-285				
	FTS-8490-227	FTL-1014-286				
	FTS-8490-228	FTL-1014-288				
	FTS-8490-229	FTL-1014-289				
	FTS-8490-230	10/12				
	10/12			FTS-1012-224		
FTS-1012-225						
FTS-1012-226						
FTS-1012-227						
FTS-1012-228						
10/14	FTS-1014-224	10/14				
	FTS-1014-225					
	FTS-1014-226					
	FTS-1014-227					
	FTS-1014-228					
	FTS-1014-229					
	FTS-1014-230					

* - Plus style F.I.T.S. include 4 Leader Pins and 4 Return Pins (guided ejection cannot be omitted)



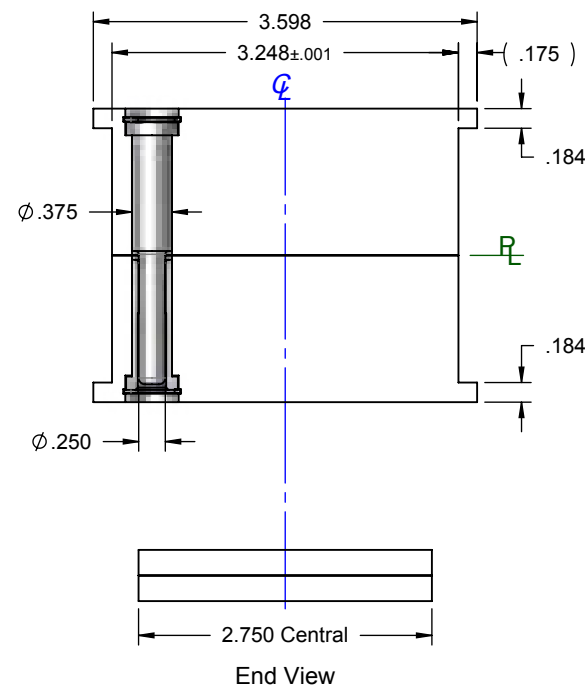
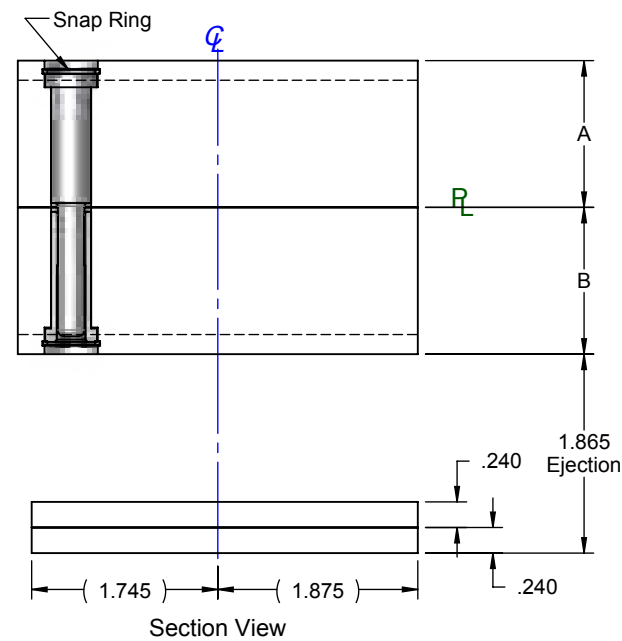
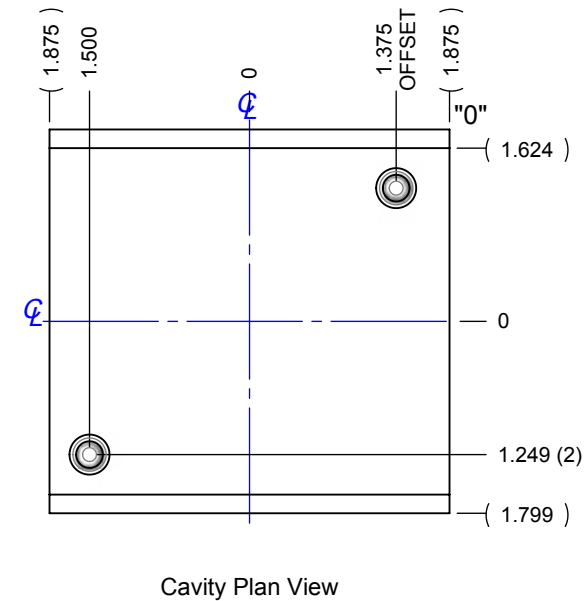
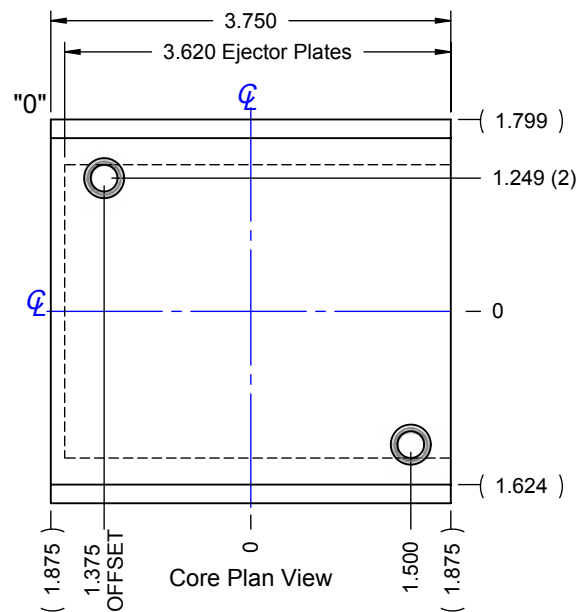
F.I.T.S. U STYLE FRAMES	
SERIES	ITEM NUMBER
05/05	0505-UF-321
08/09	0809-UF-321
08/10	0810-UF-321
84/90	8490-UF-321
10/12	1012-UF-321
10/14	1014-UF-321

Phone: 800-521-0546 E-mail: sales@pcs-company.com Fax: 800-505-3299
www.pcs-company.com

F.I.T.S. 05/05 Series SOLID Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-.000	
	A	B
FTS-0505-221G	1.376	1.376
FTS-0505-222G	1.876	1.876

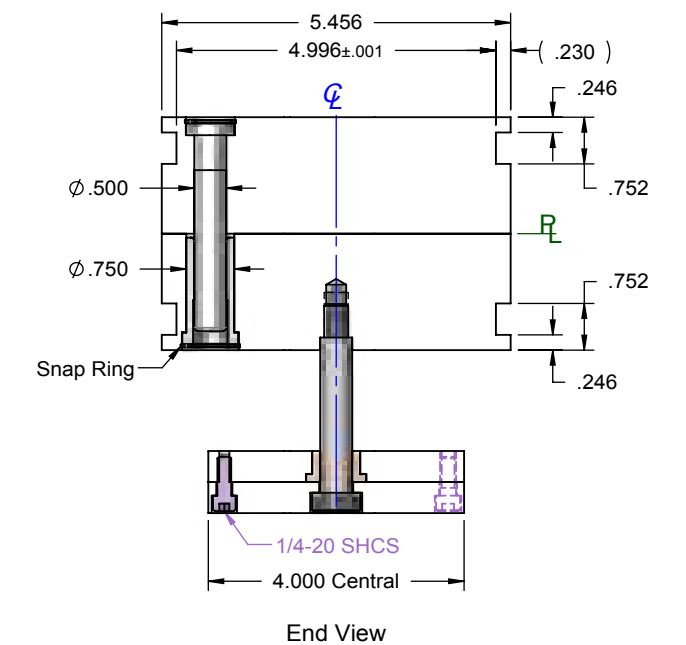
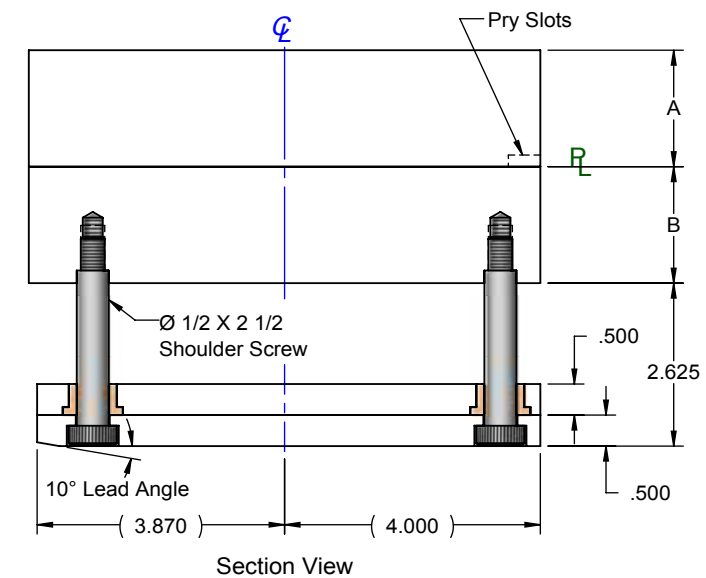
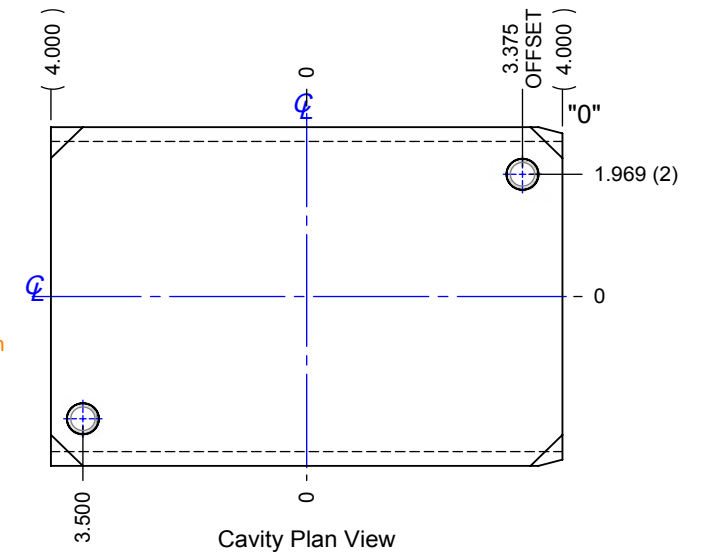
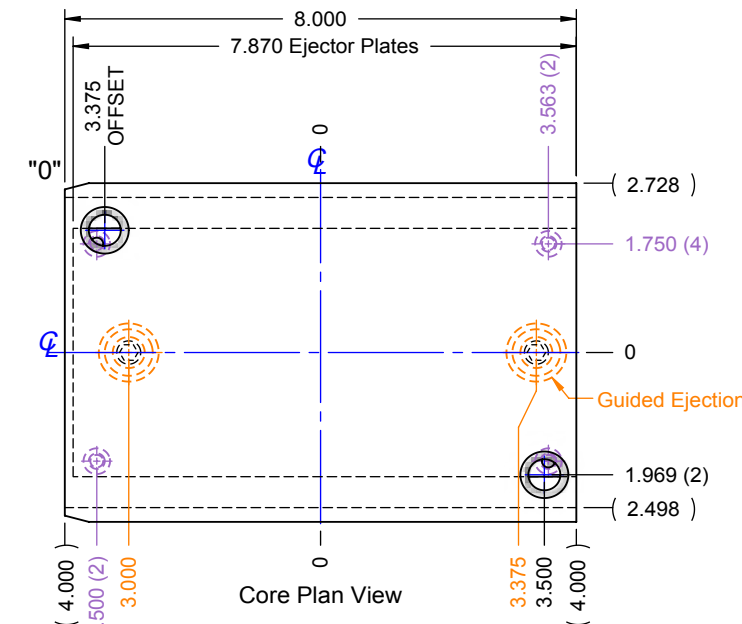
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
A	1.376	3AS-0505-13
	1.876	3AS-0505-17
B	1.376	3BS-0505-13G
	1.876	3BS-0505-17G
RETAINER	0.240	2ER-0505-02N
EJECTOR	0.240	2EP-0505-02N



F.I.T.S. 08/09 Series SOLID Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-.000	
	A	B
FTS-0809-221	1.376	1.376
FTS-0809-222	1.376	1.876
FTS-0809-223	1.876	1.376
FTS-0809-224	1.876	1.876
FTS-0809-225	1.876	2.376
FTS-0809-226	2.376	1.876
FTS-0809-227	2.376	2.376
FTS-0809-228	2.376	2.876
FTS-0809-229	2.876	2.376
FTS-0809-230	2.876	2.876

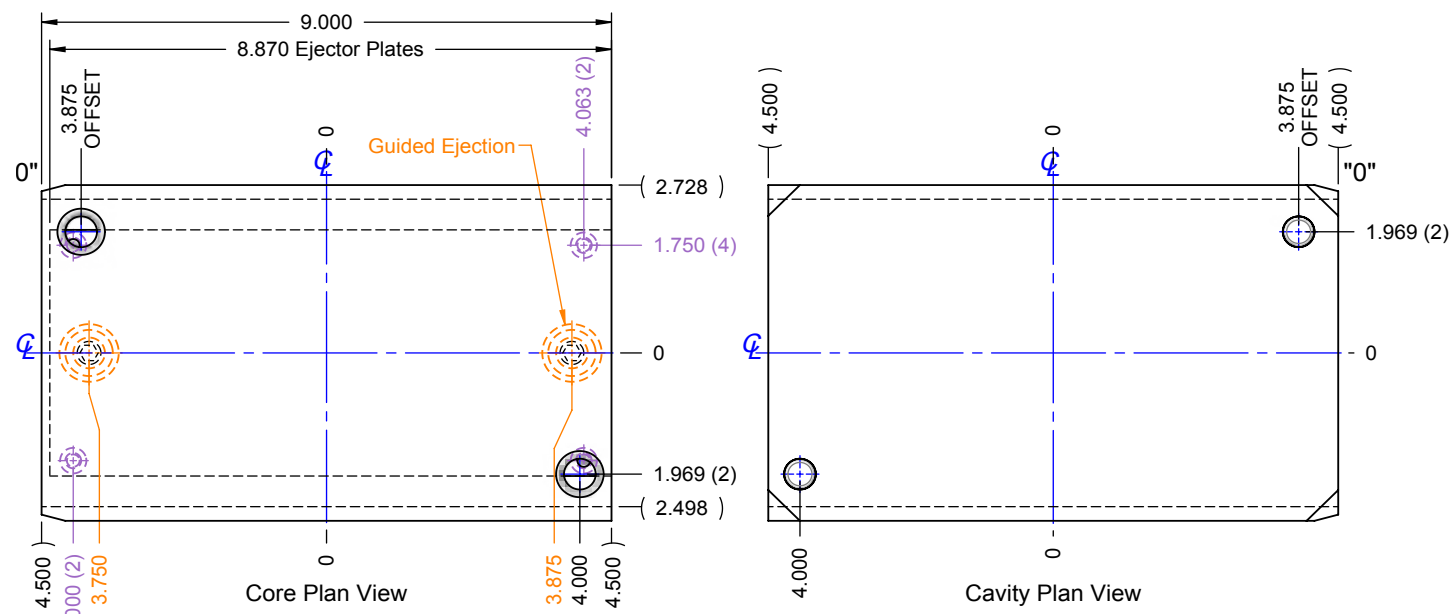
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
A	1.376	3AS-0809-13
	1.876	3AS-0809-17
	2.376	3AS-0809-23
	2.876	3AS-0809-27
B	1.376	3BS-0809-13
	1.876	3BS-0809-17
	2.376	3BS-0809-23
	2.876	3BS-0809-27
RETAINER	0.500	2ER-0809-04
EJECTOR	0.500	2EP-0809-04



F.I.T.S. 08/10 Series SOLID Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/- .000	
	A	B
FTS-0810-221	1.376	1.376
FTS-0810-222	1.376	1.876
FTS-0810-223	1.876	1.376
FTS-0810-224	1.876	1.876
FTS-0810-225	1.876	2.376
FTS-0810-226	2.376	1.876
FTS-0810-227	2.376	2.376

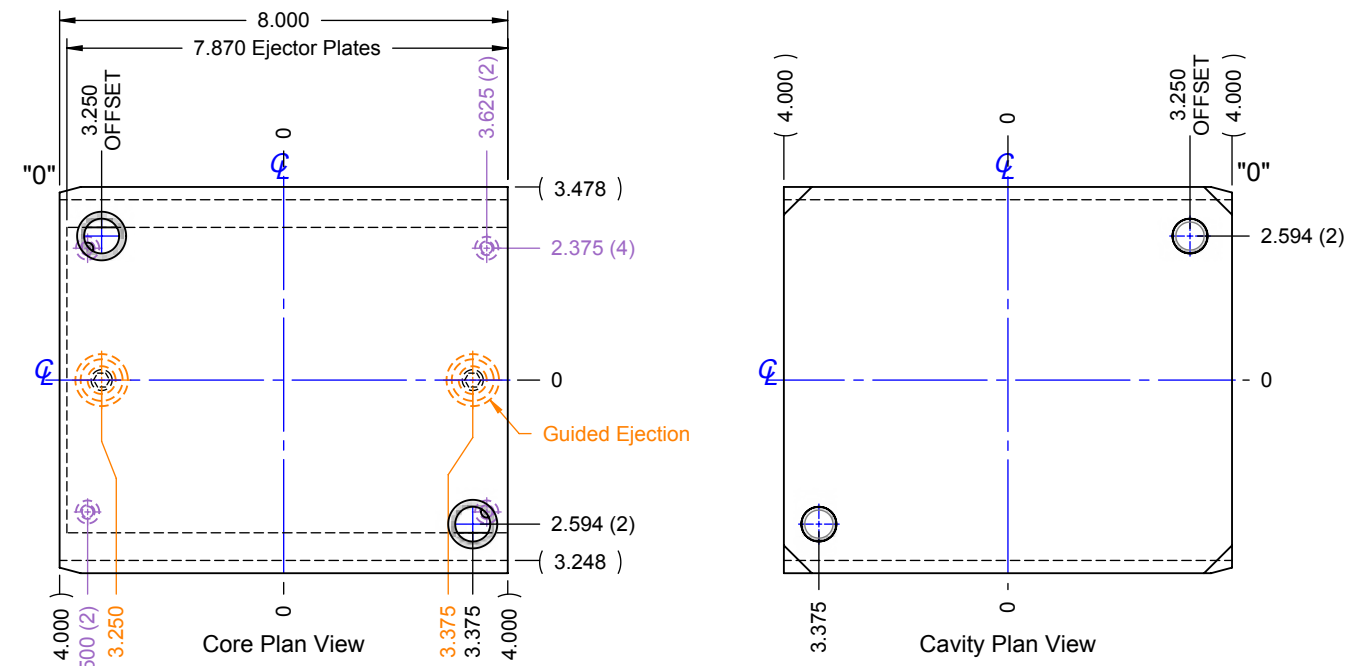
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
A	1.376	3AS-0810-13
	1.876	3AS-0810-17
	2.376	3AS-0810-23
B	1.376	3BS-0810-13
	1.876	3BS-0810-17
	2.376	3BS-0810-23
RETAINER	0.500	2ER-0810-04
EJECTOR	0.500	2EP-0810-04



F.I.T.S. 84/90 Series SOLID Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/- .000	
	A	B
FTS-8490-221	1.376	1.376
FTS-8490-222	1.376	1.876
FTS-8490-223	1.876	1.376
FTS-8490-224	1.876	1.876
FTS-8490-225	1.876	2.376
FTS-8490-226	2.376	1.876
FTS-8490-227	2.376	2.376
FTS-8490-228	2.376	2.876
FTS-8490-229	2.876	2.376
FTS-8490-230	2.876	2.876

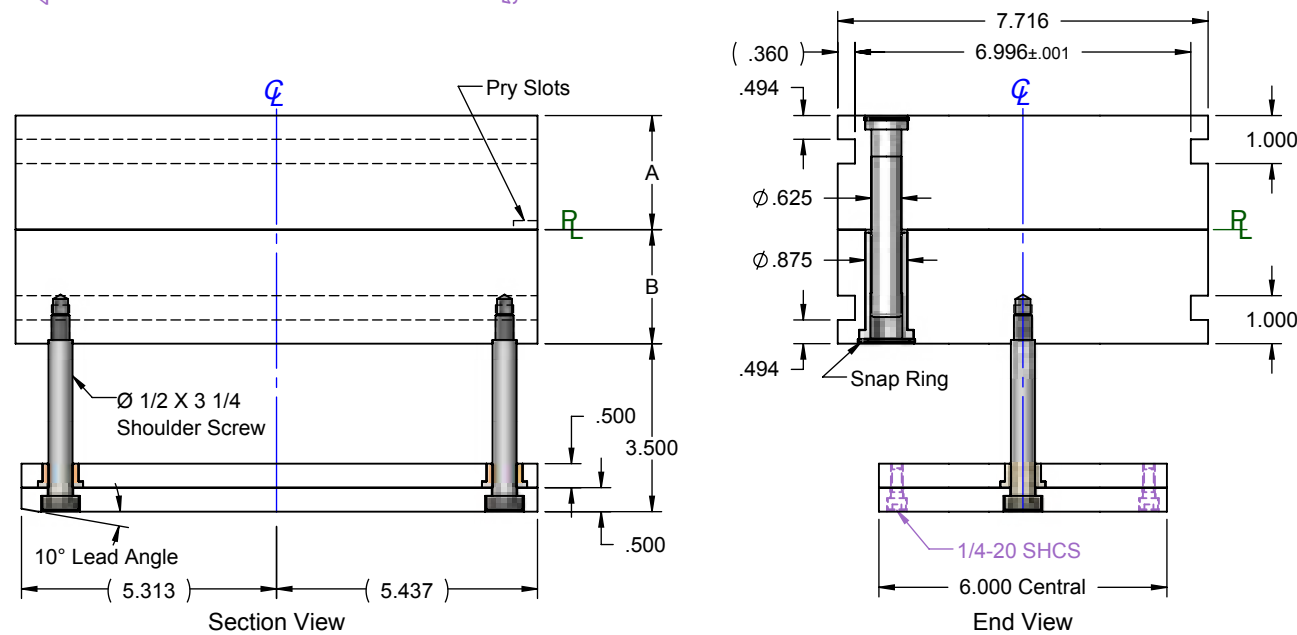
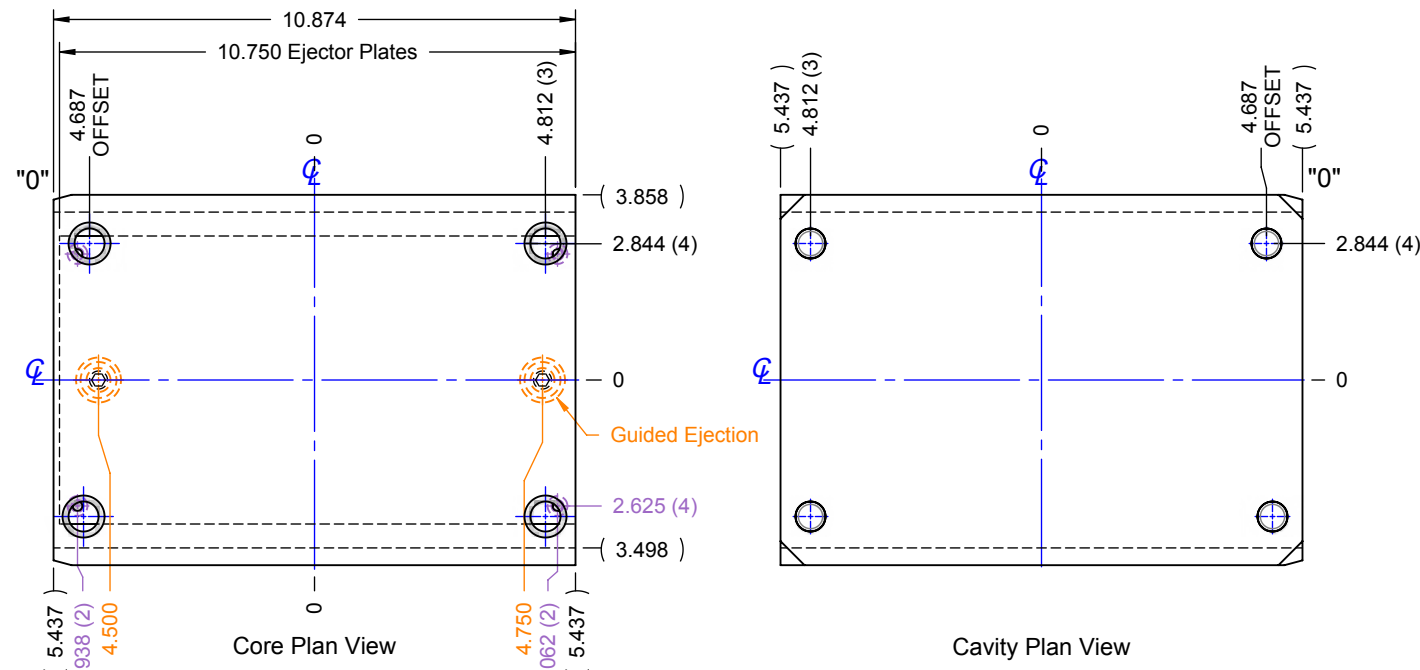
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
A	1.376	3AS-8490-13
	1.876	3AS-8490-17
	2.376	3AS-8490-23
	2.876	3AS-8490-27
B	1.376	3BS-8490-13
	1.876	3BS-8490-17
	2.376	3BS-8490-23
	2.876	3BS-8490-27
RETAINER	0.500	2ER-8490-04
EJECTOR	0.500	2EP-8490-04



F.I.T.S. 10/12 Series SOLID Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-0.000	
	A	B
FTS-1012-224	1.876	1.876
FTS-1012-225	1.876	2.376
FTS-1012-226	2.376	1.876
FTS-1012-227	2.376	2.376
FTS-1012-228	2.376	2.876
FTS-1012-229	2.876	2.376
FTS-1012-230	2.876	2.876

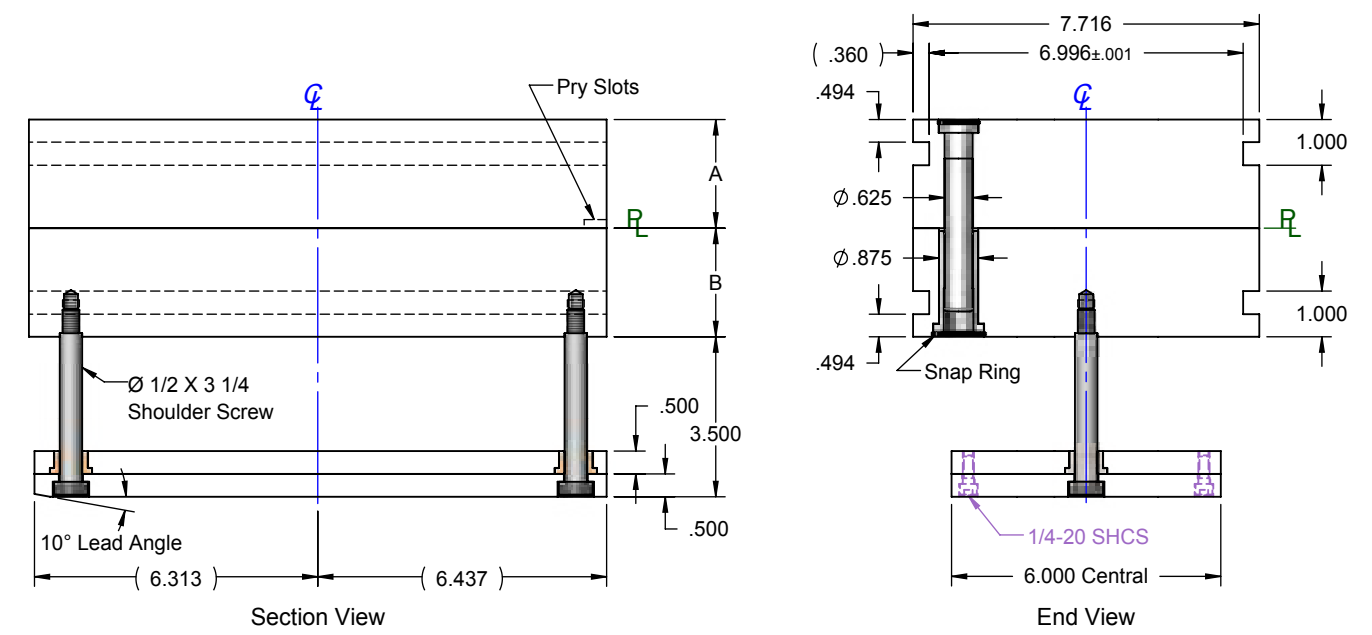
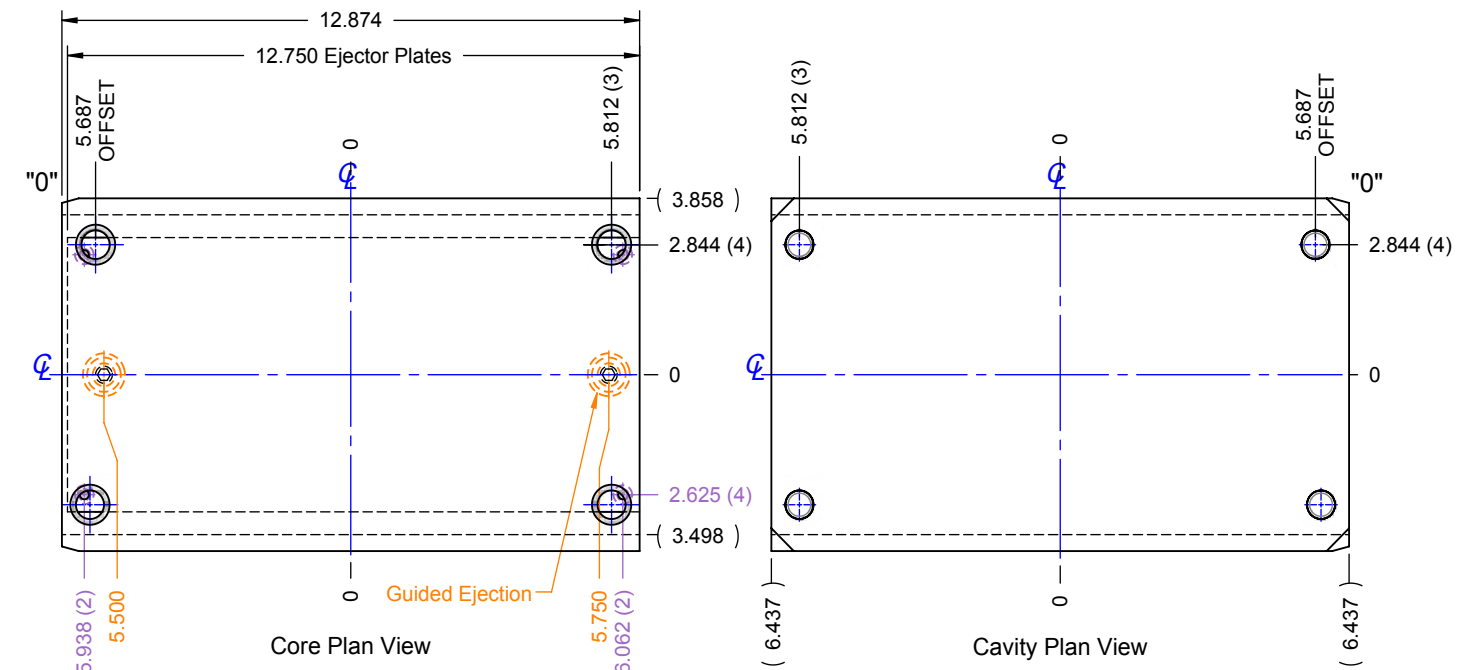
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
A	1.876	3AS-1012-17
	2.376	3AS-1012-23
	2.876	3AS-1012-27
B	1.876	3BS-1012-17
	2.376	3BS-1012-23
	2.876	3BS-1012-27
RETAINER	0.500	2ER-1012-04
EJECTOR	0.500	2EP-1012-04



F.I.T.S. 10/14 Series SOLID Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-0.000	
	A	B
FTS-1014-224	1.876	1.876
FTS-1014-225	1.876	2.376
FTS-1014-226	2.376	1.876
FTS-1014-227	2.376	2.376
FTS-1014-228	2.376	2.876
FTS-1014-229	2.876	2.376
FTS-1014-230	2.876	2.876

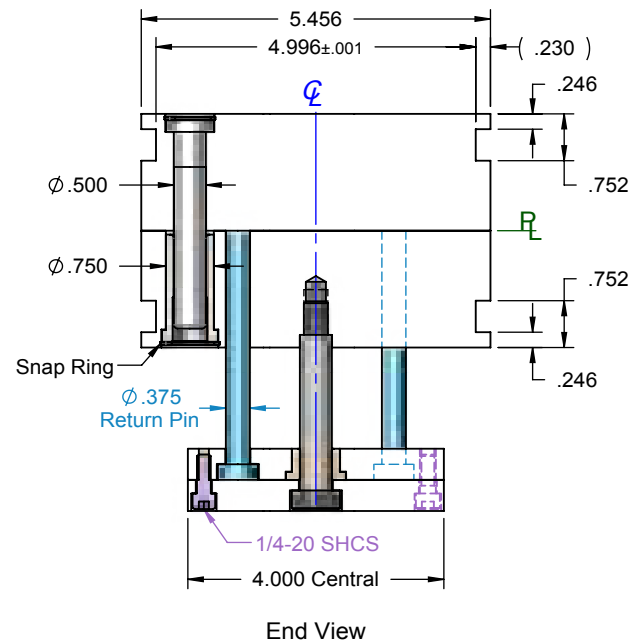
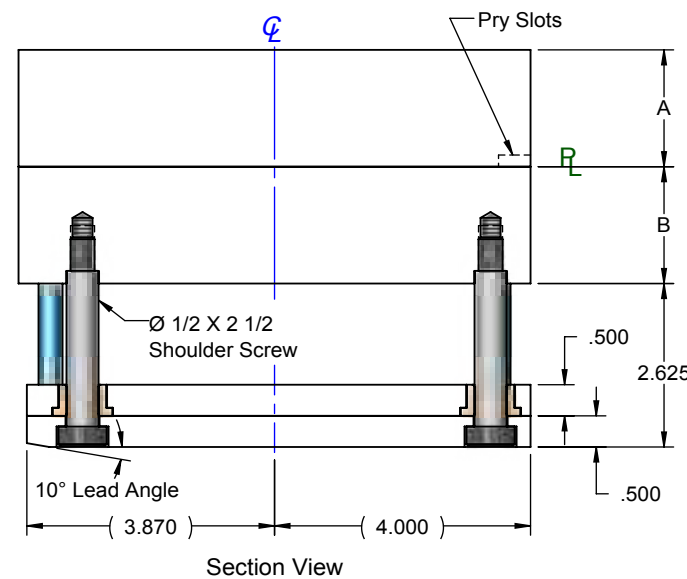
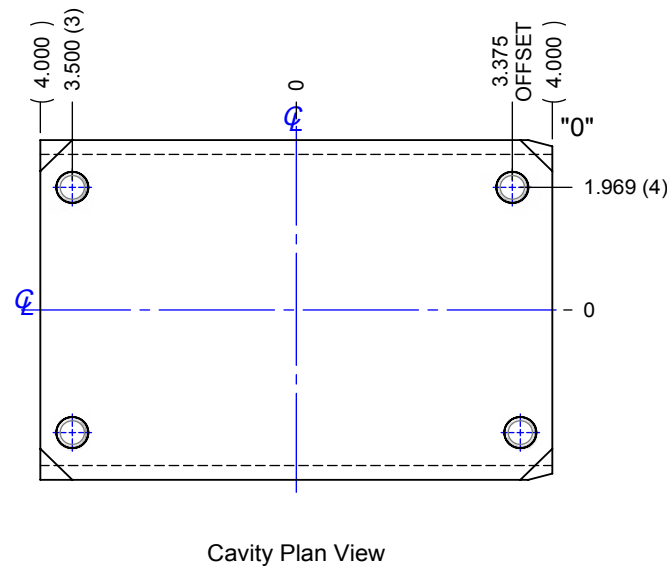
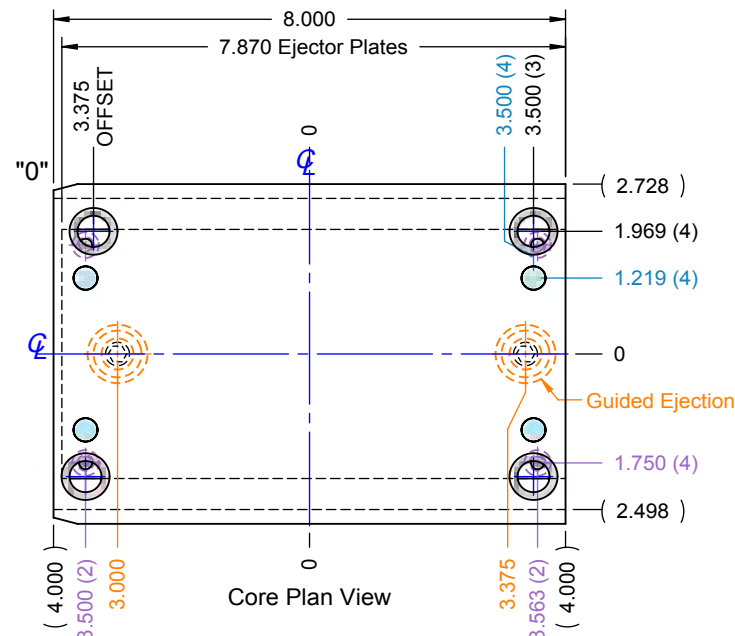
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
A	1.876	3AS-1014-17
	2.376	3AS-1014-23
	2.876	3AS-1014-27
B	1.876	3BS-1014-17
	2.376	3BS-1014-23
	2.876	3BS-1014-27
RETAINER	0.500	2ER-1014-04
EJECTOR	0.500	2EP-1014-04



F.I.T.S. 08/09 Series SOLID PLUS Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-0.000	
	A	B
FTS-0809-221-X	1.376	1.376
FTS-0809-222-X	1.376	1.876
FTS-0809-223-X	1.876	1.376
FTS-0809-224-X	1.876	1.876
FTS-0809-225-X	1.876	2.376
FTS-0809-226-X	2.376	1.876
FTS-0809-227-X	2.376	2.376
FTS-0809-228-X	2.376	2.876
FTS-0809-229-X	2.876	2.376
FTS-0809-230-X	2.876	2.876

F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
A	1.376	3AS-0809-13X
	1.876	3AS-0809-17X
	2.376	3AS-0809-23X
	2.876	3AS-0809-27X
B	1.376	3BS-0809-13X
	1.876	3BS-0809-17X
	2.376	3BS-0809-23X
	2.876	3BS-0809-27X
RETAINER	0.500	2ER-0809-04X
EJECTOR	0.500	2EP-0809-04



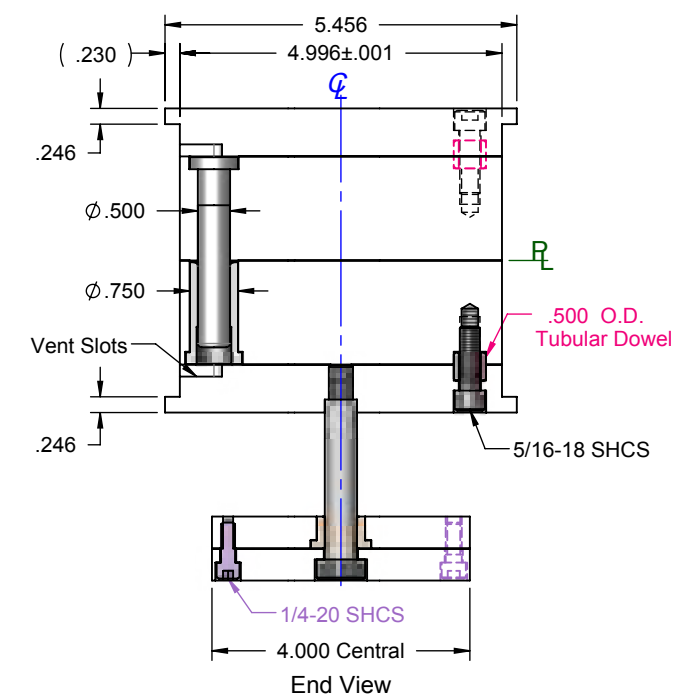
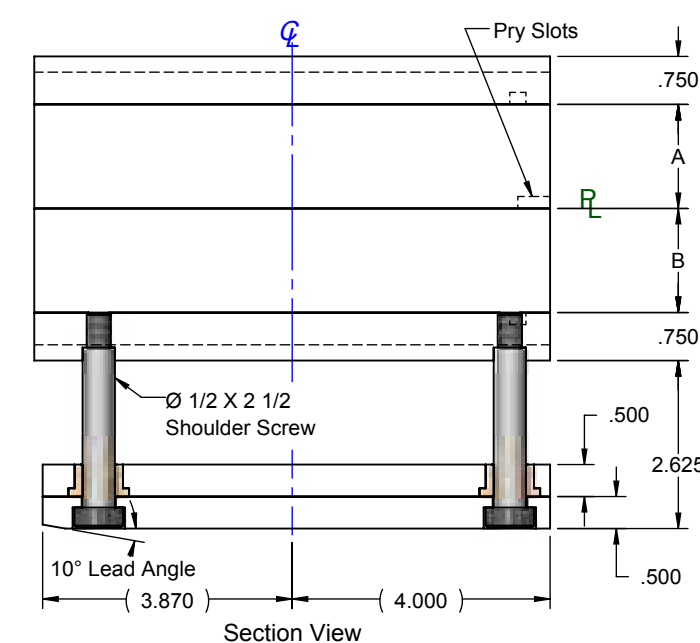
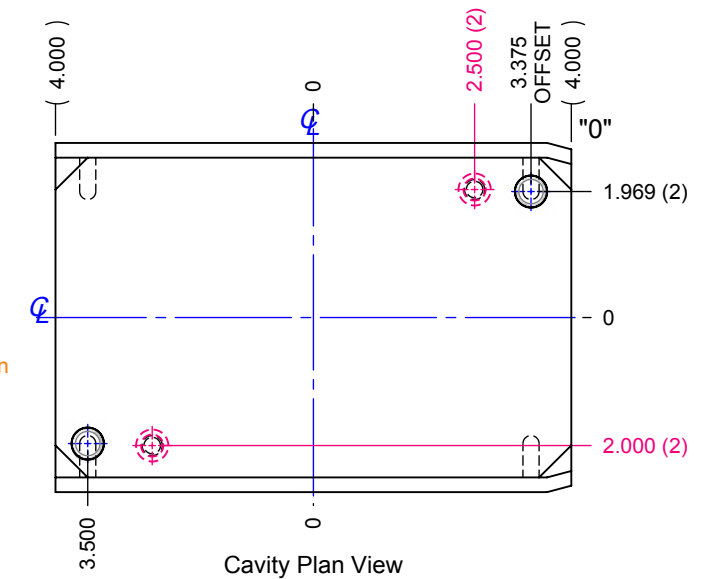
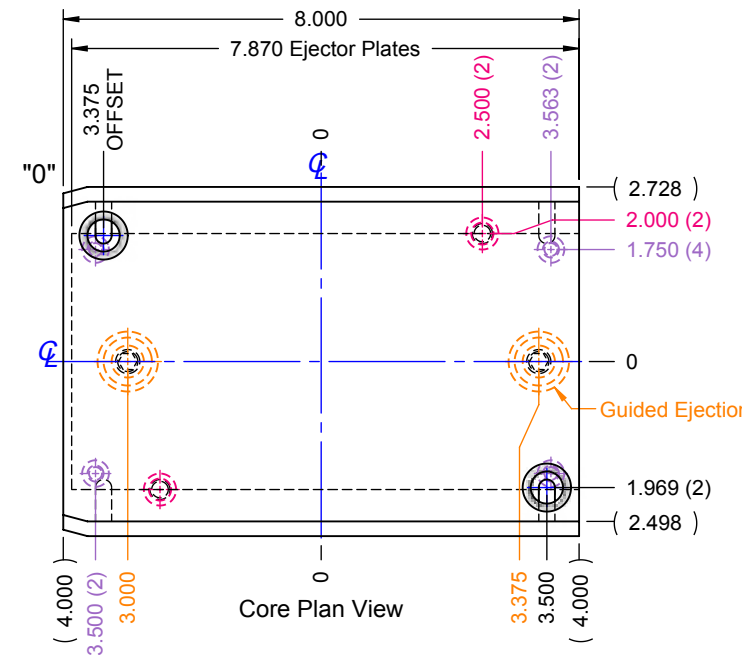
Section View

End View

F.I.T.S. 08/09 Series LAMINATED Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-0.000	
	A	B
FTL-0809-284	1.126	1.126
FTL-0809-285	1.126	1.626
FTL-0809-286	1.626	1.126
FTL-0809-287	1.626	1.626
FTL-0809-288	1.626	2.126
FTL-0809-289	2.126	1.626
FTL-0809-290	2.126	2.126

F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	0.750	2SP-0809-06G
A	1.126	3AL-0809-11
	1.626	3AL-0809-15
	2.126	3AL-0809-21
B	1.126	3BL-0809-11
	1.626	3BL-0809-15
	2.126	3BL-0809-21
SUPPORT B	0.750	2SP-0809-06
RETAINER	0.500	2ER-0809-04
EJECTOR	0.500	2EP-0809-04



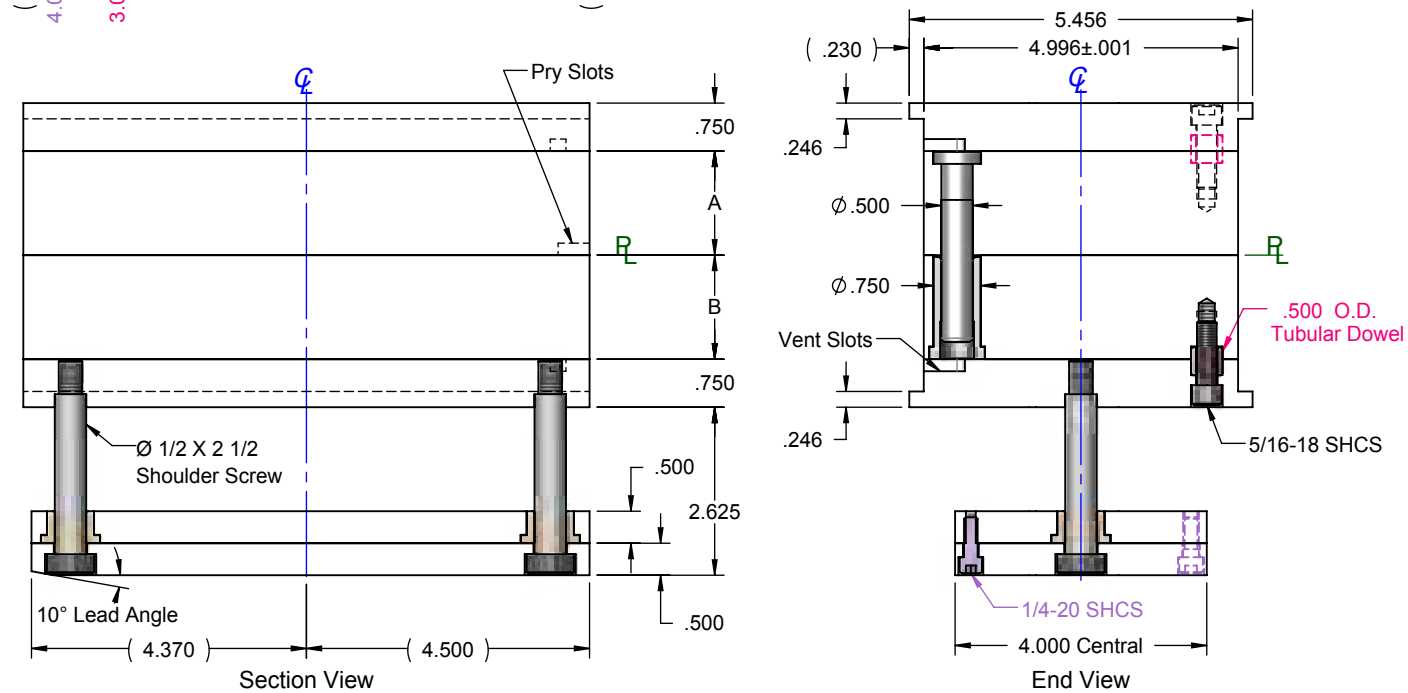
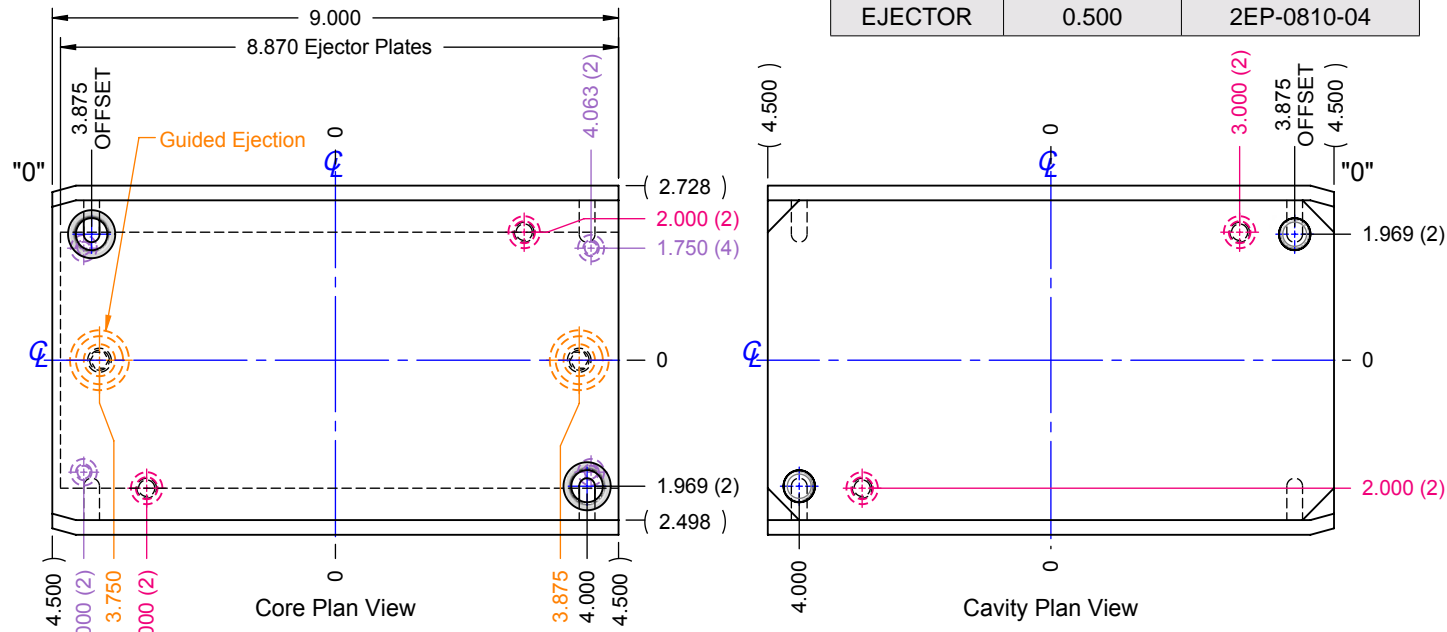
Section View

End View

F.I.T.S. 08/10 Series LAMINATED Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-.000	
	A	B
FTL-0810-284	1.126	1.126
FTL-0810-285	1.126	1.626
FTL-0810-286	1.626	1.126
FTL-0810-287	1.626	1.626
FTL-0810-288	1.626	2.126
FTL-0810-289	2.126	1.626
FTL-0810-290	2.126	2.126

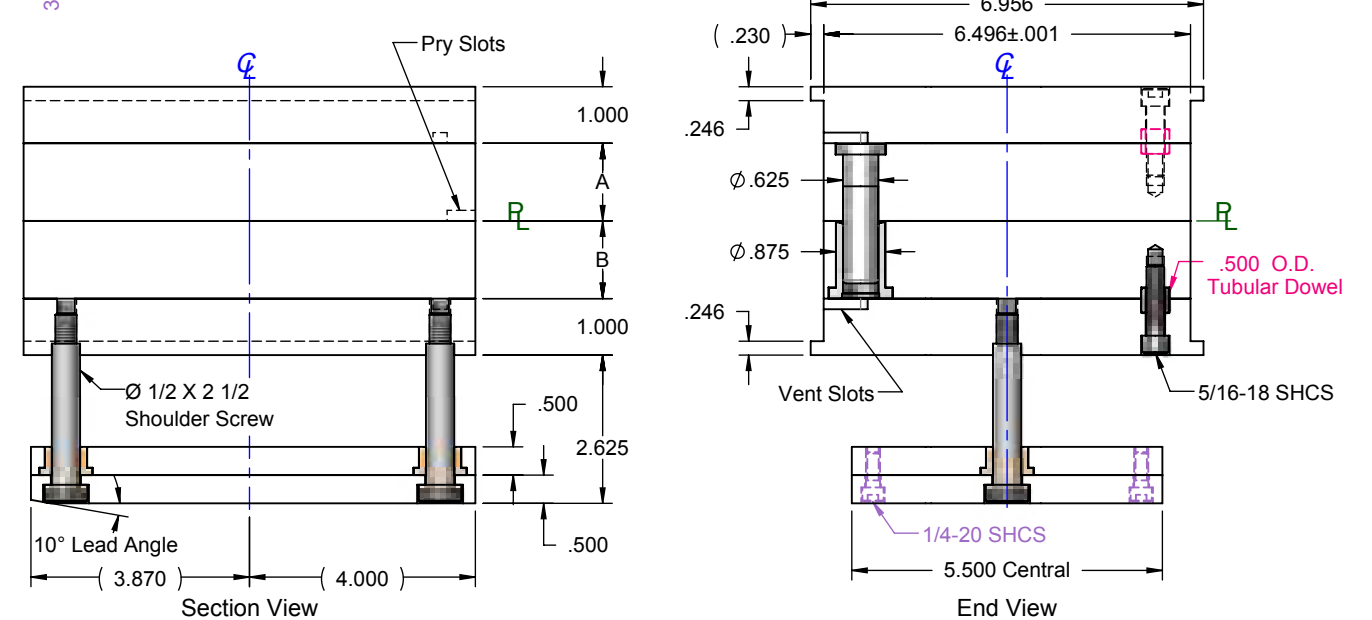
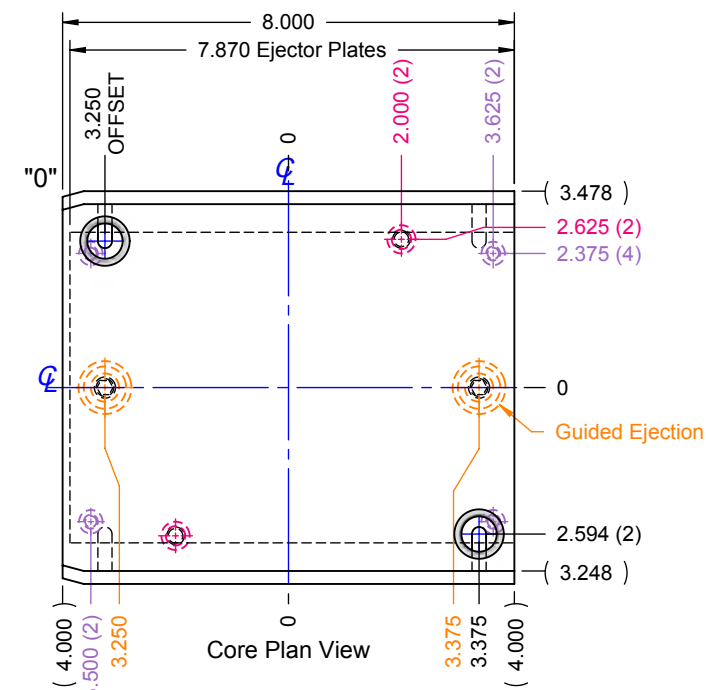
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	0.750	2SP-0810-06G
A	1.126	3AL-0810-11
	1.626	3AL-0810-15
	2.126	3AL-0810-21
B	1.126	3BL-0810-11
	1.626	3BL-0810-15
	2.126	3BL-0810-21
SUPPORT B	0.750	2SP-0810-06
RETAINER	0.500	2ER-0810-04
EJECTOR	0.500	2EP-0810-04



F.I.T.S. 84/90 Series LAMINATED Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-.000	
	A	B
FTL-8490-281	0.876	0.876
FTL-8490-282	0.876	1.376
FTL-8490-283	1.376	0.876
FTL-8490-284	1.376	1.376
FTL-8490-285	1.376	1.876
FTL-8490-286	1.876	1.376
FTL-8490-287	1.876	1.876

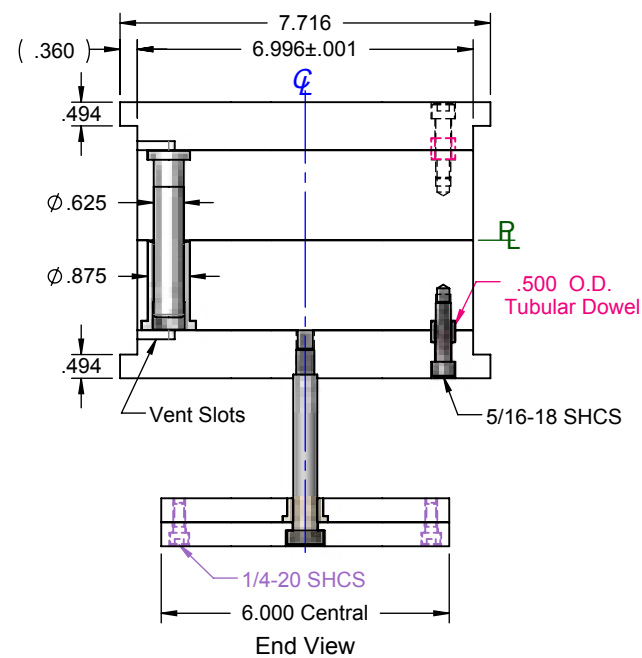
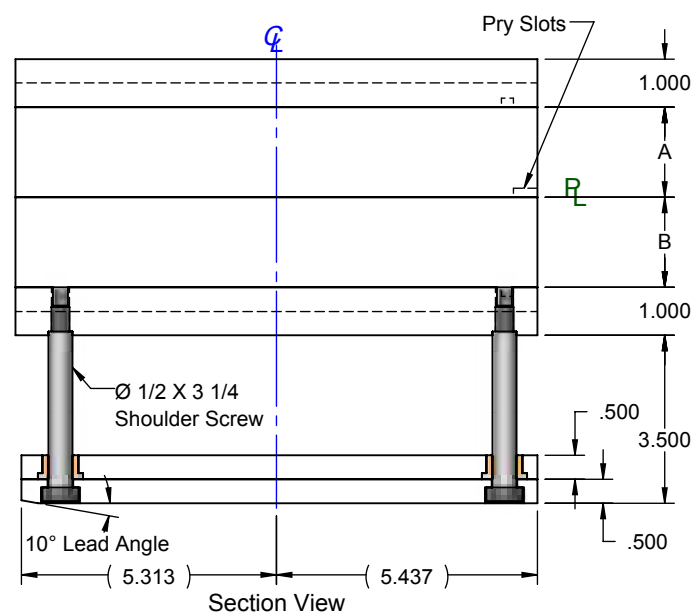
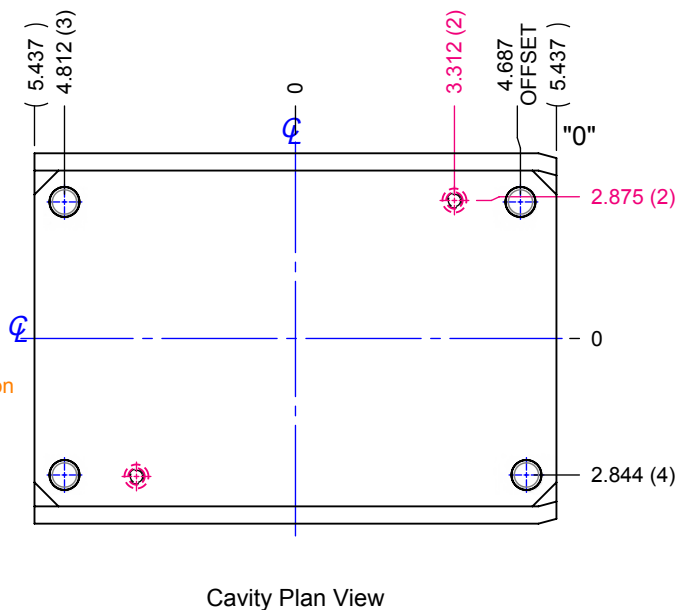
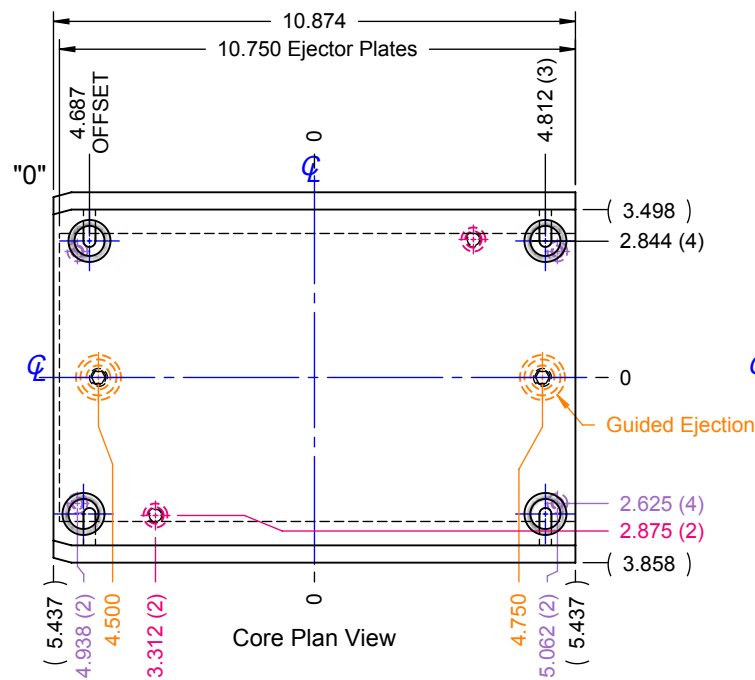
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	1.000	2SP-8490-10G
A	0.876	3AL-8490-07
	1.376	3AL-8490-13
	1.876	3AL-8490-17
B	0.876	3BL-8490-07
	1.376	3BL-8490-13
	1.876	3BL-8490-17
SUPPORT B	1.000	2SP-8490-10
RETAINER	0.500	2ER-8490-04
EJECTOR	0.500	2EP-8490-04



F.I.T.S. 10/12 Series LAMINATED Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-0.000	
	A	B
FTL-1012-285	1.376	1.376
FTL-1012-286	1.376	1.876
FTL-1012-288	1.876	1.376
FTL-1012-289	1.876	1.876

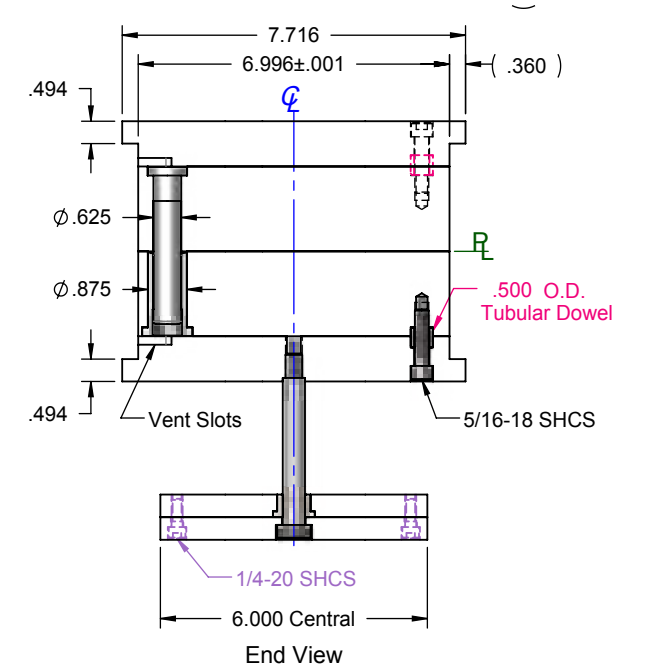
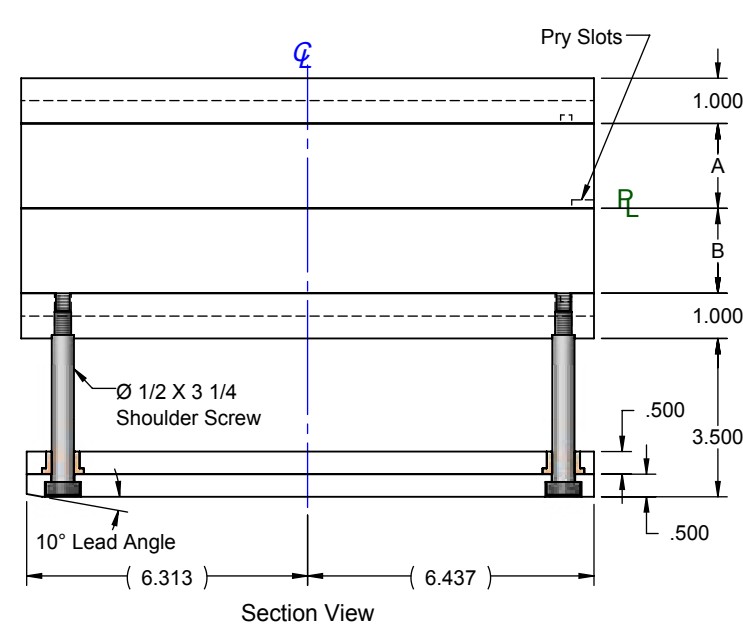
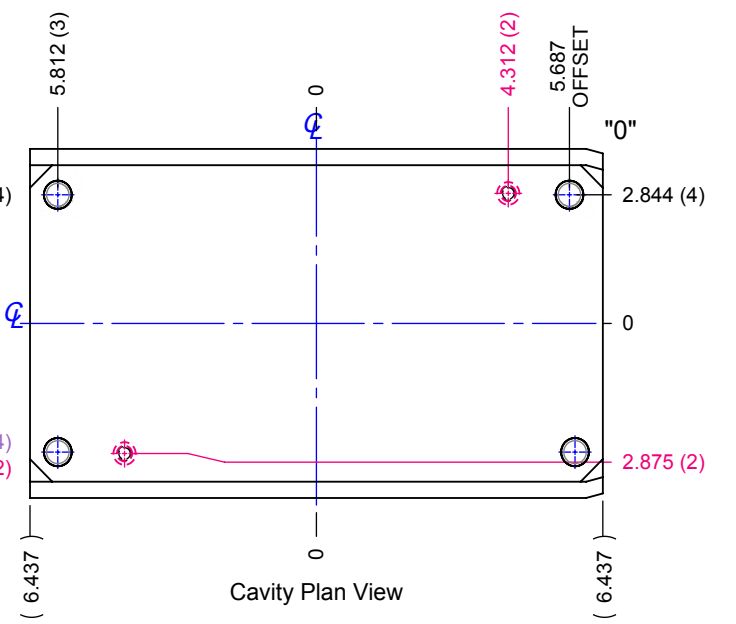
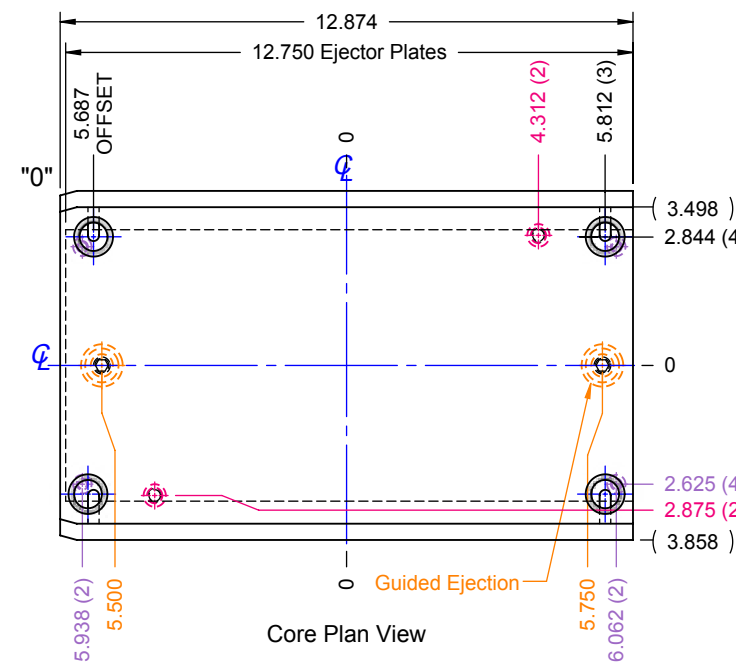
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	1.000	2SP-1012-10G
A	1.376	3AL-1012-13
	1.876	3AL-1012-17
B	1.376	3BL-1012-13
	1.876	3BL-1012-17
SUPPORT B	1.000	2SP-1012-10
RETAINER	0.500	2ER-1012-04
EJECTOR	0.500	2EP-1012-04



F.I.T.S. 10/14 Series LAMINATED Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-0.000	
	A	B
FTL-1014-285	1.376	1.376
FTL-1014-286	1.376	1.876
FTL-1014-288	1.876	1.376
FTL-1014-289	1.876	1.876

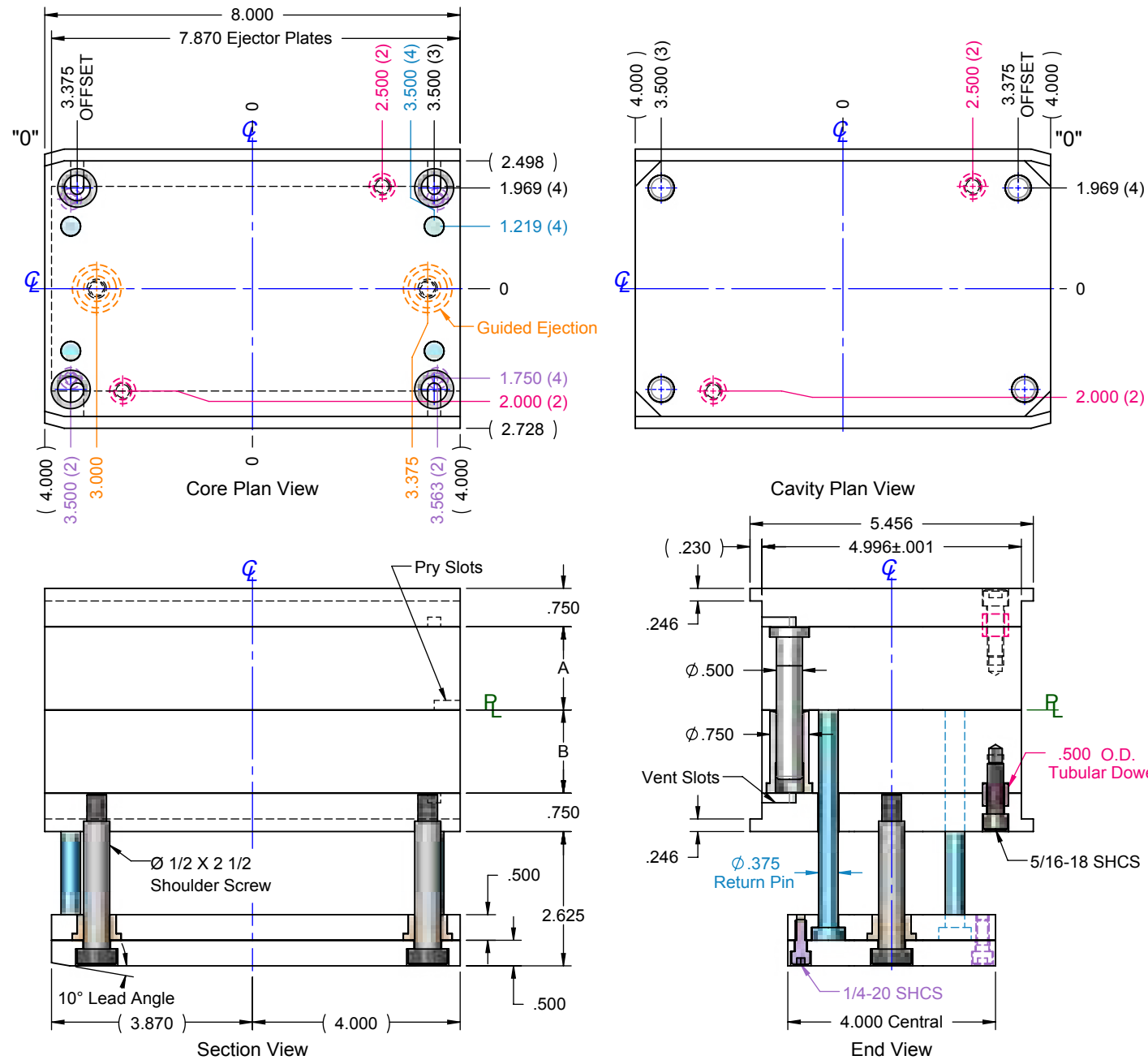
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	1.000	2SP-1014-10G
A	1.376	3AL-1014-13
	1.876	3AL-1014-17
B	1.376	3BL-1014-13
	1.876	3BL-1014-17
SUPPORT B	1.000	2SP-1014-10
RETAINER	0.500	2ER-1014-04
EJECTOR	0.500	2EP-1014-04



F.I.T.S. 08/09 Series LAMINATED Plus Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-0.000	
	A	B
FTL-0809-284-X	1.126	1.126
FTL-0809-285-X	1.126	1.626
FTL-0809-286-X	1.626	1.126
FTL-0809-287-X	1.626	1.626
FTL-0809-288-X	1.626	2.126
FTL-0809-289-X	2.126	1.626
FTL-0809-290-X	2.126	2.126

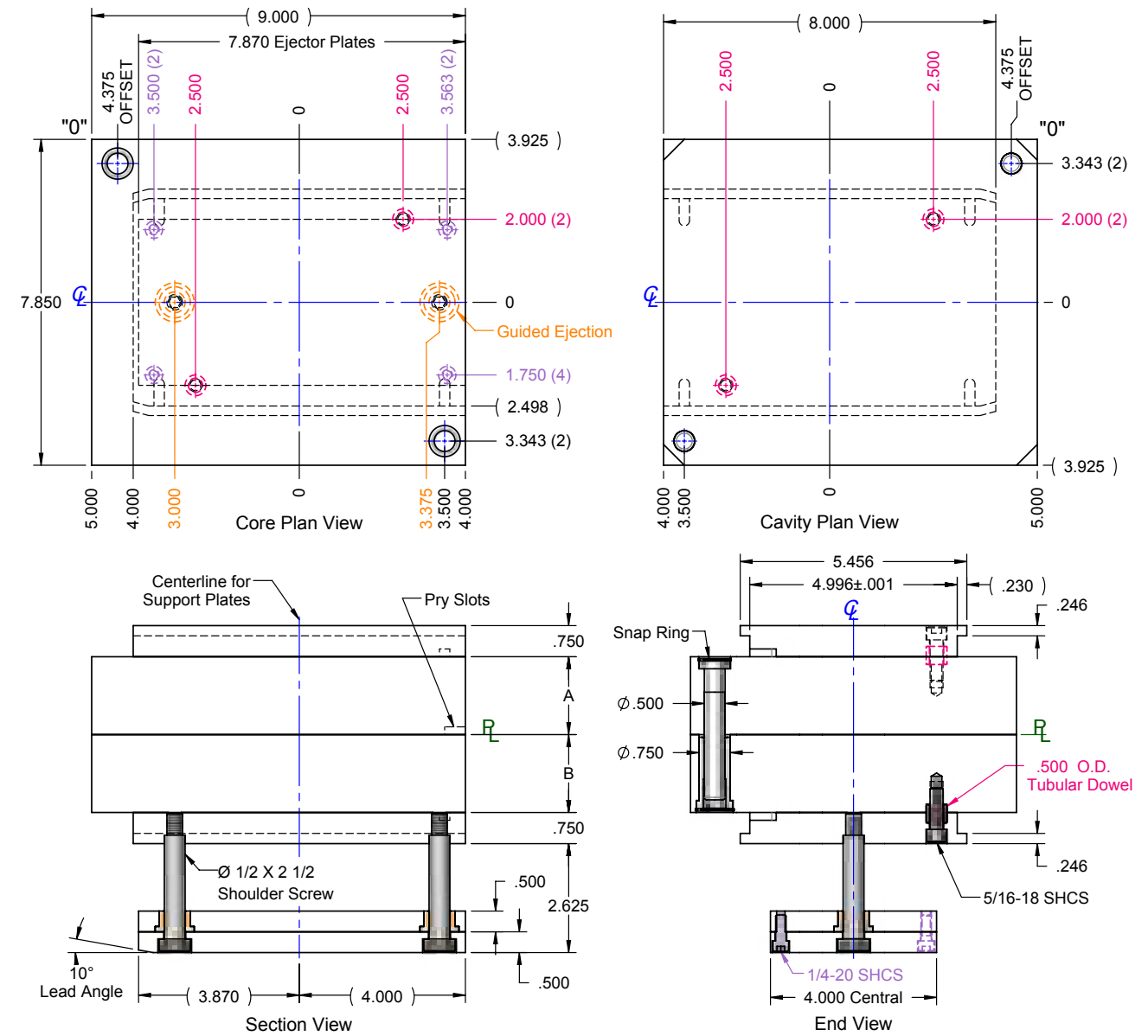
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	0.750	2SP-0809-06G
A	1.126	3AL-0809-11X
	1.626	3AL-0809-15X
	2.126	3AL-0809-21X
B	1.126	3BL-0809-11X
	1.626	3BL-0809-15X
	2.126	3BL-0809-21X
SUPPORT B	0.750	2SP-0809-06X
RETAINER	0.500	2ER-0809-04X
EJECTOR	0.500	2EP-0809-04



F.I.T.S. 08/09 Series T-Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/-0.000	
	A	B
FTT-0809-201	1.001	1.001
FTT-0809-202	1.001	1.501
FTT-0809-203	1.251	1.251
FTT-0809-204	1.501	1.001
FTT-0809-205	1.501	1.501
FTT-0809-206	1.876	1.876

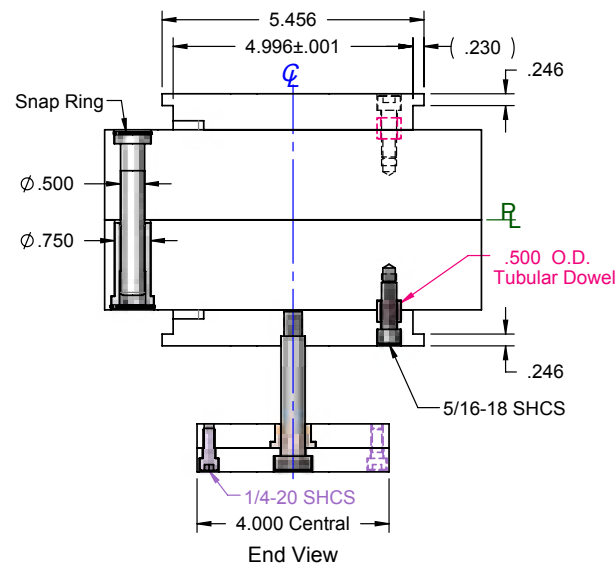
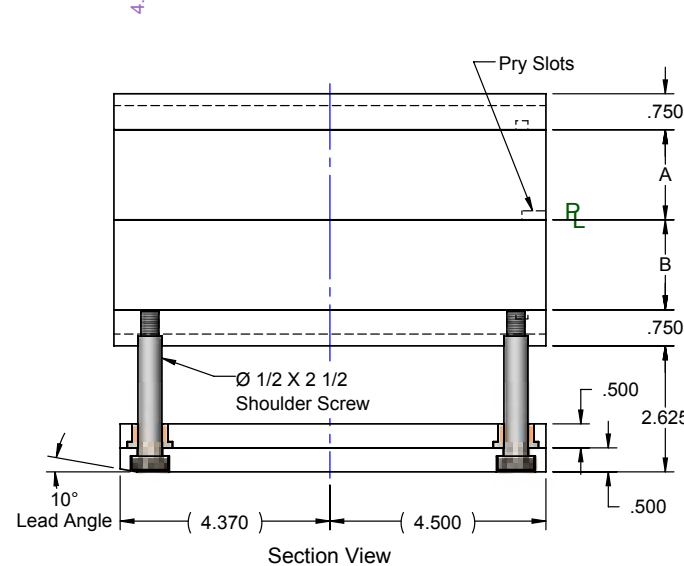
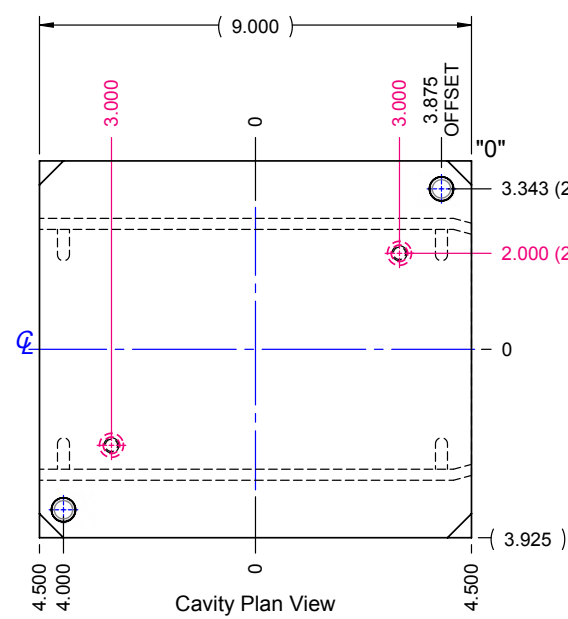
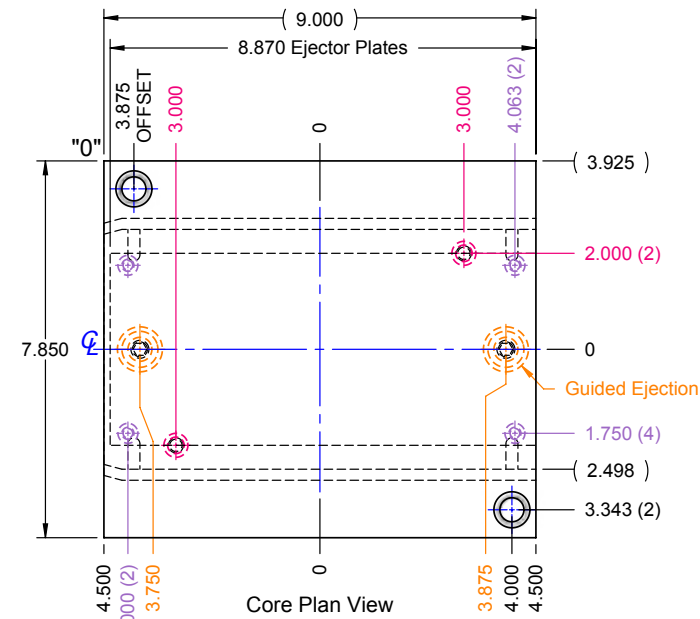
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	0.750	2SP-0809-06G
A	1.001	3AT-0809-10
	1.251	3AT-0809-12
	1.501	3AT-0809-14
	1.876	3AT-0809-17
B	1.001	3BT-0809-10
	1.251	3BT-0809-12
	1.501	3BT-0809-14
	1.876	3BT-0809-17
SUPPORT B	0.750	2SP-0809-06
RETAINER	0.500	2ER-0809-04
EJECTOR	0.500	2EP-0809-04



F.I.T.S. 08/10 Series T-Style Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS +.002/- .000	
	A	B
FTT-0810-201	1.001	1.001
FTT-0810-202	1.001	1.501
FTT-0810-203	1.251	1.251
FTT-0810-204	1.501	1.001
FTT-0810-205	1.501	1.501
FTT-0810-206	1.876	1.876

F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	0.750	2SP-0810-06G
A	1.001	3AT-0810-10
	1.251	3AT-0810-12
	1.501	3AT-0810-14
	1.876	3AT-0810-17
B	1.001	3BT-0810-10
	1.251	3BT-0810-12
	1.501	3BT-0810-14
	1.876	3BT-0810-17
SUPPORT B	0.750	2SP-0810-06
RETAINER	0.500	2ER-0809-04
EJECTOR	0.500	2EP-0809-04

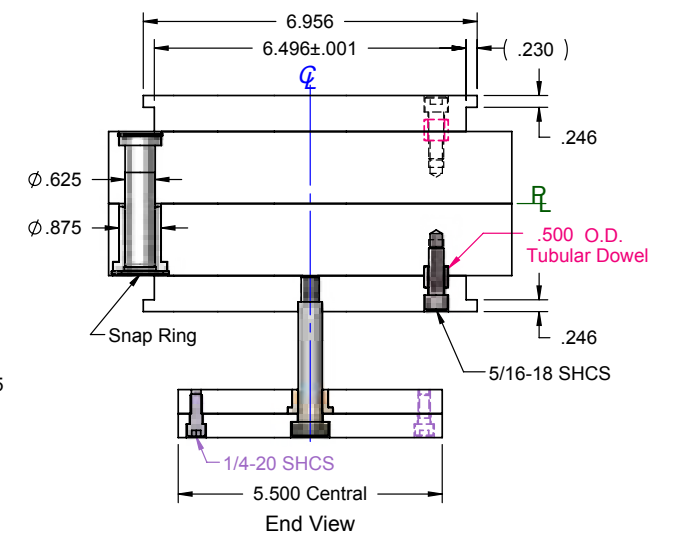
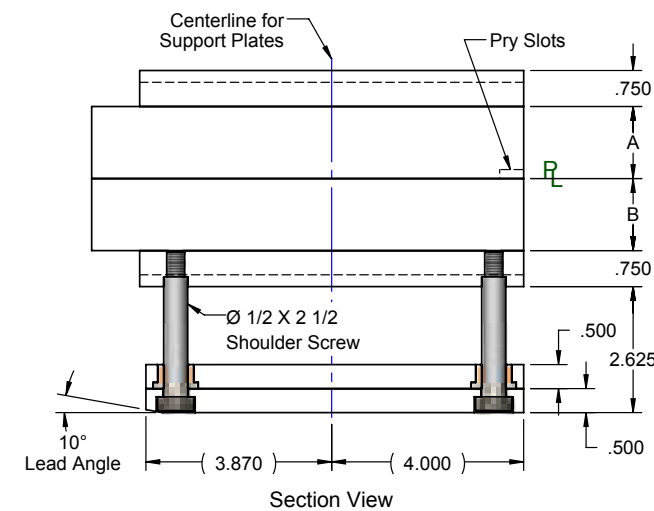
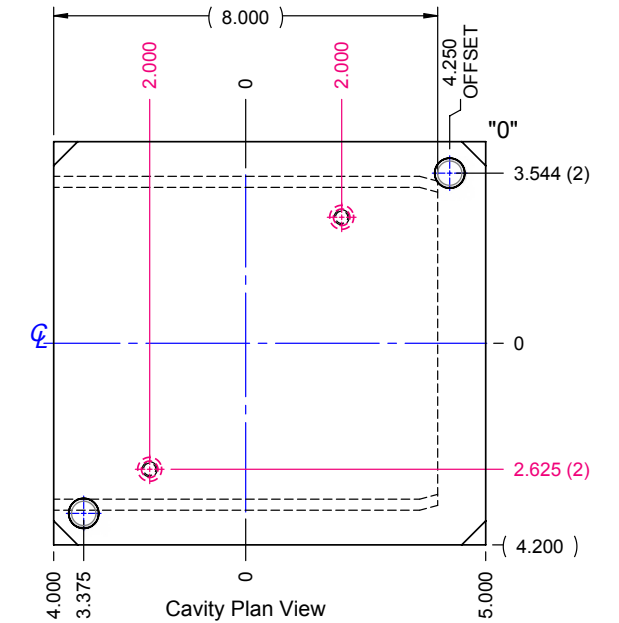
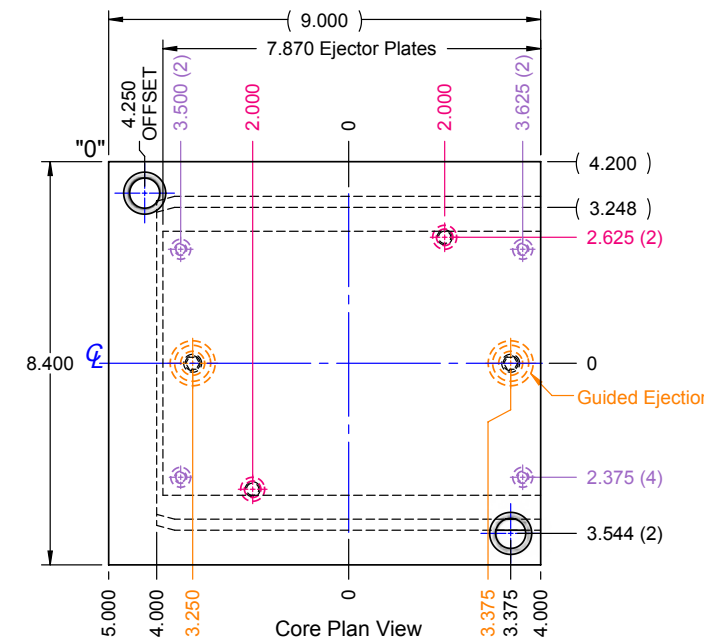


F.I.T.S. INSERT ASSEMBLY

CATALOG NO.	PLATE THICKNESS +.002/- .000	
	A	B
FTT-8490-204	1.251	1.251
FTT-8490-206	1.501	1.501
FTT-8490-207	1.876	1.876

F.I.T.S. 84/90 Series T-Style Inserts

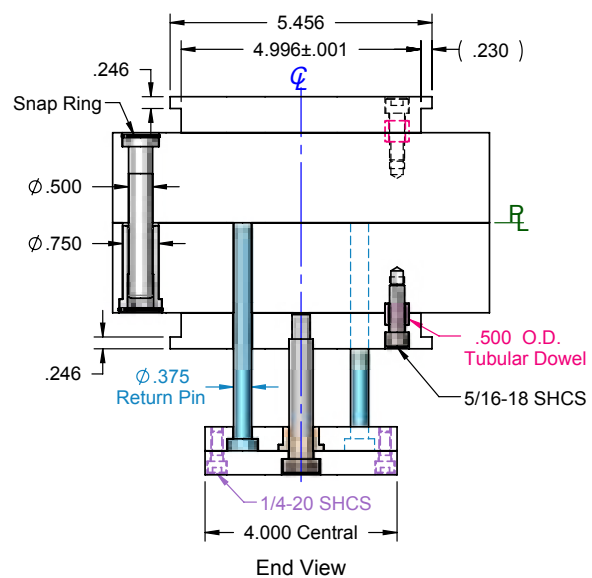
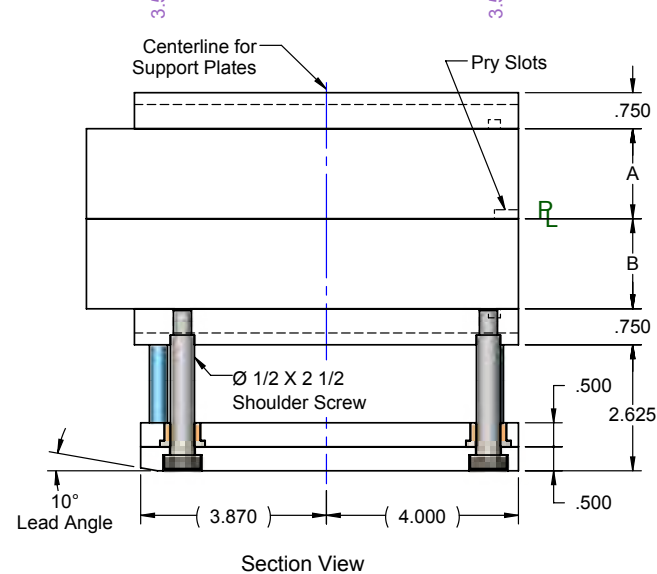
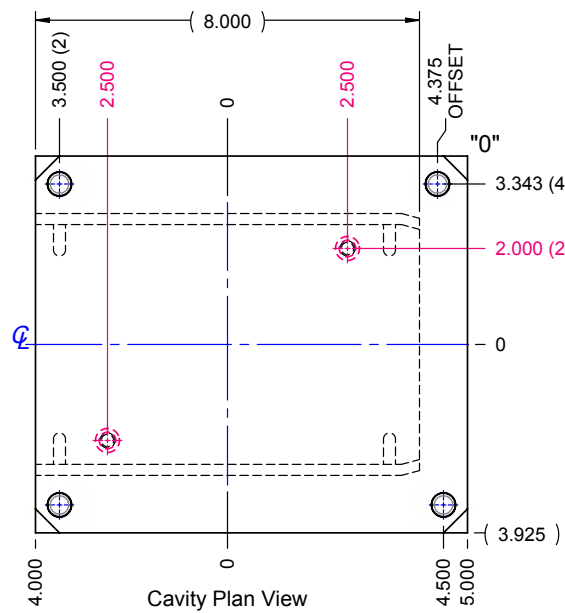
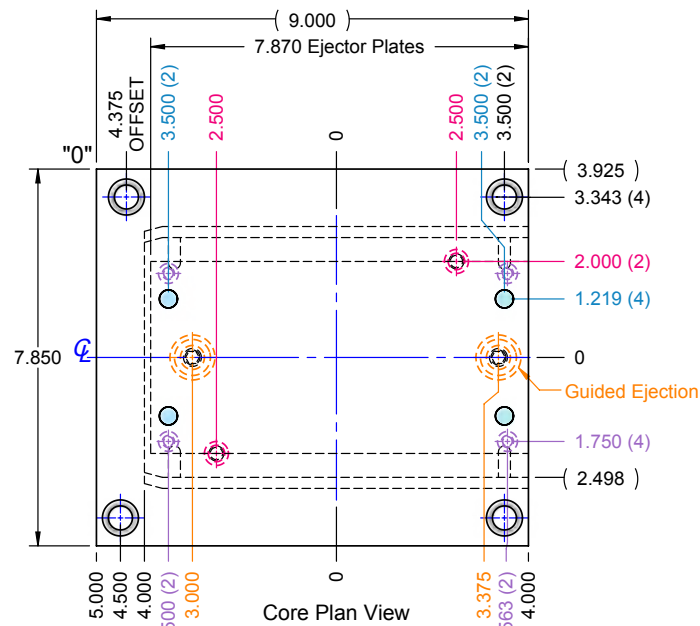
F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	0.750	2SP-8490-06G
A	1.251	3AT-8490-12
	1.501	3AT-8490-14
	1.876	3AT-8490-17
B	1.251	3BT-8490-12
	1.501	3BT-8490-14
	1.876	3BT-8490-17
SUPPORT B	0.750	2SP-8490-06
RETAINER	0.500	2ER-8490-04
EJECTOR	0.500	2EP-8490-04



F.I.T.S. 08/09 Series T-Style Plus Inserts

F.I.T.S. INSERT ASSEMBLY		
CATALOG NO.	PLATE THICKNESS $+.002/-0.000$	
	A	B
FTT-0809-201-X	1.001	1.001
FTT-0809-202-X	1.001	1.501
FTT-0809-203-X	1.251	1.251
FTT-0809-204-X	1.501	1.001
FTT-0809-205-X	1.501	1.501
FTT-0809-206-X	1.876	1.876

F.I.T.S. REPLACEMENT PLATES		
PLATE	PLATE THICKNESS	CATALOG NO.
SUPPORT A	0.750	2SP-0809-06G
A	1.001	3AT-0809-10X
	1.251	3AT-0809-12X
	1.501	3AT-0809-14X
	1.876	3AT-0809-17X
B	1.001	3BT-0809-10X
	1.251	3BT-0809-12X
	1.501	3BT-0809-14X
	1.876	3BT-0809-17X
SUPPORT B	0.750	2SP-0809-06X
RETAINER	0.500	2ER-0809-04X
EJECTOR	0.500	2EP-0809-04



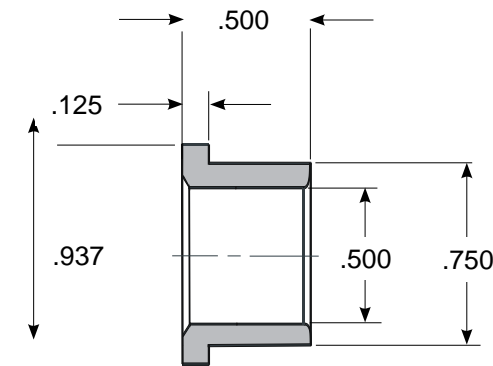
F.I.T.S.® Guided Ejector Bushings



- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Keeps ejector assembly aligned
- Extends the life of ejection components

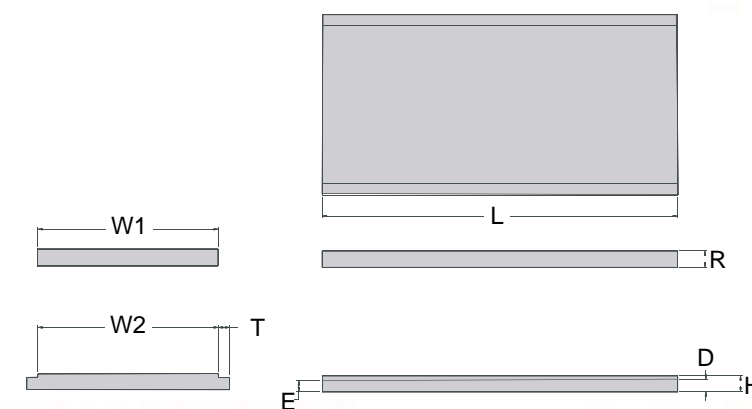
PCS F.I.T.S.™ Oilite Guided Ejector Bushing is designed to be used with F.I.T.S.™ assemblies. Galling is eliminated with the use of a F.I.T.S.™ Guided Ejector Bushing.

SPECIFICATIONS	
Material Type	Oilite
Unit of Measure	Inch



CATALOG NO.	L OVERALL LENGTH	I.D.	O.D.	H HEAD DIAMETER	HEAD THICKNESS	PF PRESS FIT DIAMETER
FE-50-50	0.5	0.5	0.75	0.937	.125	1

F.I.T.S.® Sleeve Ejector Plate Sets



CATALOG NO.	W1	W2	L	R	H	D	E	T
1SE-0809-72	4.00	4.00	7.88	0.360	0.360	0.283	0.247	0.250

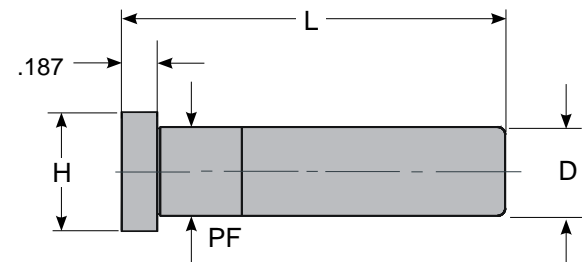
F.I.T.S.® Leader Pins

- Maintains proper alignment of mold halves
- Manufactured from Hardened Steel
- Also known as guide pins

F.I.T.S.™ Leader Pins are designed to be used with F.I.T.S.™ assemblies. These leader pins are manufactured from hardened steel and assist in maintaining proper alignment between mold halves.



SPECIFICATIONS	
Material Type	SUJ2
T Head Thickness	0.187
Unit of Measure	Inch

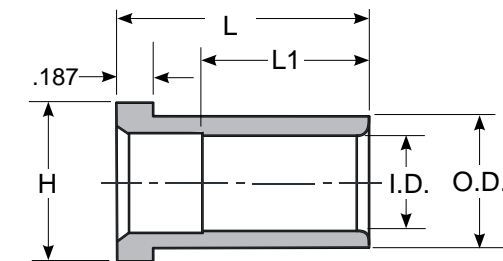


CATALOG NO.	D PIN DIAMETER	L OVERALL LENGTH	NOMINAL DIAMETER	H HEAD DIAMETER	PF PRESS FIT DIAMETER
FL-50-17	0.499	1.875	1/2	0.75	0.5005
FL-50-20	0.499	2	1/2	0.75	0.5005
FL-50-22	0.499	2.25	1/2	0.75	0.5005
FL-50-23	0.499	2.375	1/2	0.75	0.5005
FL-50-24	0.499	2.5	1/2	0.75	0.5005
FL-50-26	0.499	2.75	1/2	0.75	0.5005
FL-50-27	0.499	2.87	1/2	0.75	0.5005
FL-50-30	0.499	3	1/2	0.75	0.5005
FL-50-32	0.499	3.25	1/2	0.75	0.5005
FL-50-33	0.499	3.375	1/2	0.75	0.5005
FL-62-14	0.624	1.5	5/8	0.875	0.6255
FL-62-20	0.624	2	5/8	0.875	0.6255
FL-62-22	0.624	2.25	5/8	0.875	0.6255
FL-62-24	0.624	2.5	5/8	0.875	0.6255
FL-62-26	0.624	2.75	5/8	0.875	0.6255
FL-62-30	0.624	3	5/8	0.875	0.6255
FL-62-32	0.624	3.25	5/8	0.875	0.6255
FL-62-34	0.624	3.5	5/8	0.875	0.6255
FL-62-40	0.624	4	5/8	0.875	0.6255
FL-62-41	0.624	4.125	5/8	0.875	0.6255

F.I.T.S.® Shoulder Bushings

- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Hardened and Precision Ground
- Perfect for mold alignment

SPECIFICATIONS	
L Overall Length Tolerance	-0.030 / -0.050
Material Type	4130
T Head Thickness	0.187
Unit of Measure	Inch



CATALOG NO.	H HEAD DIAMETER	I.D.	L OVERALL LENGTH	L1 I.D. BEARING LENGTH	NOMINAL DIAMETER	O.D.
FB-50-06	0.875	0.5005	0.75	1	1/2	0.7505
FB-50-07	0.875	0.5005	0.87	1	1/2	0.7505
FB-50-10	0.875	0.5005	1.00	1	1/2	0.7505
FB-50-11	0.875	0.5005	1.12	1	1/2	0.7505
FB-50-12	0.875	0.5005	1.25	1	1/2	0.7505
FB-50-13	0.875	0.5005	1.37	1	1/2	0.7505
FB-50-14	0.875	0.5005	1.5	1	1/2	0.7505
FB-50-15	0.875	0.5005	1.62	1	1/2	0.7505
FB-50-16	0.875	0.5005	1.75	1	1/2	0.7505
FB-50-17	0.875	0.5005	1.88	1	1/2	0.7505
FB-50-21	0.875	0.5005	2.12	1	1/2	0.7505
FB-50-22	0.875	0.5005	2.25	1	1/2	0.7505
FB-62-07	1.125	0.6255	0.87	1.25	5/8	0.8755
FB-62-10	1.125	0.6255	1.00	1.25	5/8	0.8755
FB-62-11	1.125	0.6255	1.12	1.25	5/8	0.8755
FB-62-12	1.125	0.6255	1.25	1.25	5/8	0.8755
FB-62-13	1.125	0.6255	1.37	1.25	5/8	0.8755
FB-62-14	1.125	0.6255	1.5	1.25	5/8	0.8755
FB-62-15	1.125	0.6255	1.62	1.25	5/8	0.8755
FB-62-16	1.125	0.6255	1.75	1.25	5/8	0.8755
FB-62-17	1.125	0.6255	1.88	1.25	5/8	0.8755
FB-62-21	1.125	0.6255	2.12	1.25	5/8	0.8755
FB-62-22	1.125	0.6255	2.25	1.25	5/8	0.8755
FB-62-23	1.125	0.6255	2.37	1.25	5/8	0.8755
FB-62-27	1.125	0.6255	2.88	1.25	5/8	0.8755

F.I.T.S.® Snap Rings

- Used with F.I.T.S.™ assemblies
- Available to support three diameters of pins or bushings

F.I.T.S.™ Snap Rings are available to support three diameters of pins and bushings. These Snap Rings are designed to be used with F.I.T.S.™ assemblies.



SPECIFICATIONS	
Unit of Measure	Inch
Material Type	Spring Steel

CATALOG NO.	HEAD DIAMETER OF BUSHING
HO-75	3/4
HO-87	7/8
HO-112	1-1/8

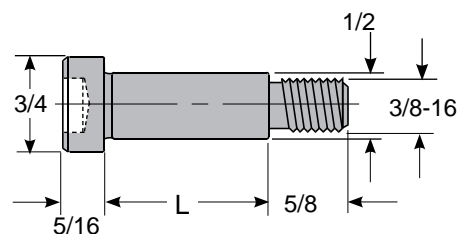
F.I.T.S.® Socket Head Shoulder Screws

- Available in two shoulder lengths
- Used for guided ejection

F.I.T.S.™ Socket Head Shoulder Screws are available in two different lengths and are designed to be used for guided ejection.



SPECIFICATIONS	
Thread Diameter	3/8-16
H Head Diameter	0.75
Head Thickness	5/16
Material Type	Alloy Steel
Thread Diameter	3/8-16
Thread Length	0.54
Unit of Measure	Inch



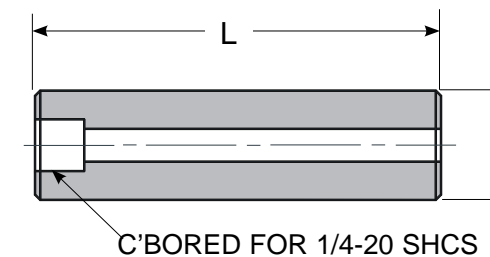
CATALOG NO.	L SHOULDER LENGTH	THREAD LENGTH
FSB33-2500	2-1/2	0.54
FSB33-3250	3-1/4	5/8

F.I.T.S.® Support Pillars

- Used with F.I.T.S.™ assemblies
- Available in multiple lengths and diameters
- Counterbored for 1/4-20 SHCS
- Lengths are flat & parallel .0002
- Helps to reduce flash



SPECIFICATIONS	
Material Type	1040
Unit of Measure	Inch



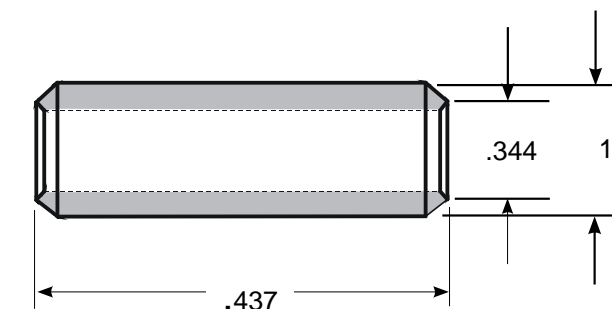
CATALOG NO.	D DIAMETER	L OVERALL LENGTH
FZ-07-26	3/4	2.625
FZ-07-35	3/4	3.5
FZ-10-26	1	2.625
FZ-10-35	1	3.5
FZ-12-26	1-1/4	2.625
FZ-12-35	1-1/4	3.5

F.I.T.S.® Tubular Dowels

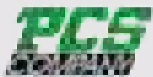
- Used with F.I.T.S.™ assemblies
- Aligns the "B" plate, support plate and ejector housing
- Allows more room for waterlines by superimposing the dowel pin & cap screw



SPECIFICATIONS	
Material Type	Alloy Steel
Unit of Measure	Inch



CATALOG NO.	L OVERALL LENGTH	I.D.	O.D.	D DIAMETER	NOMINAL DIAMETER
TD5-437	0.437	0.344	0.5002	1/2	1/2



Turn To The Industry Experts

Visit the PCS Company CAD File Library online

- Complete catalog
- View of product specifications
- Instant downloads
- 360 degree views
- 3D & 2D Views
- Mold assembly configuration
- Downloads available in many formats
- No login required

PART EJECTION

Blades

Ejector Blades.....B20

Knockouts

Hex Series Knockout Rod Extensions.....B29

Round Series Knockout Rod Extensions.....B30

Pins

Armor Coated Ejector Pins.....B14

Armor Coated Ejector Pins - Oversized.....B16

Armor Coated Step Pins.....B18

Armor Coated Step Pins - Oversized.....B19

Hardened Throughout Ejectors Pins.....B3

Hardened Throughout Ejector Pins - D-Head.....B6

Hardened Throughout Ejectors Pins - Oversized.....B4

Hardened Throughout Step Pins.....B7

Hardened Throughout Step Pins - D-Head.....B8

Hardened Throughout Step Pins - Oversized.....B9

Nitrided Ejector Pins.....B11

Nitrided Ejector Pins - D-Head.....B13

Nitrided Ejector Pins - Oversized.....B12

PART EJECTION

PCS CUMSA™ Accelerated Ejector.....B26

PCS CUMSA™ Headless Ejector Pin Base.....B28

PCS CUMSA™ Plate Accelerator.....B27

Sleeves

 Ejector Sleeve Extensions.....B25

 Nitrided Ejector Sleeves.....B22

 Oversized Ejector Sleeves.....B23

 Thin Wall Ejector Sleeves.....B24

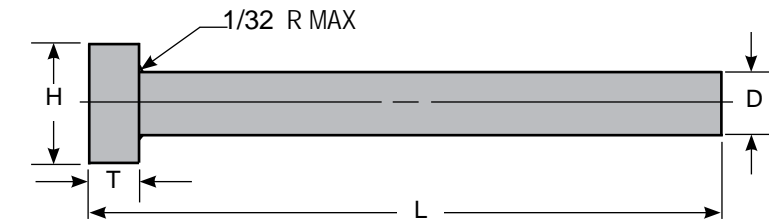
Hardened Throughout™ Ejector Pins

- Can be used as an ejector or core pin
- Reduces “dishing” effect common to nitrided pins
- Pins 6” and longer have annealed heads to minimize brittleness and allow for easier machining
- All pin sizes with diameter greater than 3/32” are etched for identification
- Made in the U.S.A.



SPECIFICATIONS	
R Pin to Head Radius	R.030
Core Hardness	50 - 52 Rc
Surface Hardness	62 - 65 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch

D PIN DIAMETER TOLERANCES	
P3 - P33	+ .0000 / - .0003
P34 - P47	+ .0000 / - .0005



D PIN DIA.	ACTUAL SIZE	H HEAD DIA. +.000 -.010	T HEAD THICK. +.000 -.002	L OVERALL LENGTH +.062 / -.000											
				4"		6"		8"		10"		12"		14"	
				STD	STD	.005 OS	STD	STD	.005 OS	STD	STD	.005 OS	STD	STD	.005 OS
1/32	.0307	1/8	1/8	P3-4	P3-6	P3-6 OS									
3/64	.0464	5/32	1/8	P4-4	P4-6	P4-6 OS									
1/16	.0620	3/16	1/8	P5-4	P5-6	P5-6 OS	P5-8	P5-10	P5-10 OS						
5/64	.0776	13/64	1/8	P6-4	P6-6	P6-6 OS	P6-8	P6-10	P6-10 OS						
3/32	.0933	7/32	1/8	P7-4	P7-6	P7-6 OS	P7-8	P7-10	P7-10 OS						
7/64	.1089	15/64	1/8	P8-4	P8-6	P8-6 OS	P8-8	P8-10	P8-10 OS						
1/8	.1245	1/4	1/8	P9-4	P9-6	P9-6 OS	P9-8	P9-10	P9-10 OS	P9-12	P9-14	P9-14 OS			
9/64	.1401	1/4	1/8	P10-4	P10-6	P10-6 OS		P10-10	P10-10 OS		P10-14	P10-14 OS			
5/32	.1557	9/32	5/32	P11-4	P11-6	P11-6 OS	P11-8	P11-10	P11-10 OS	P11-12	P11-14	P11-14 OS			
11/64	.1714	11/32	3/16	P12-4	P12-6	P12-6 OS		P12-10	P12-10 OS		P12-14	P12-14 OS			
3/16	.1870	3/8	3/16	P13-4	P13-6	P13-6 OS	P13-8	P13-10	P13-10 OS	P13-12	P13-14	P13-14 OS			
13/64	.2026	3/8	3/16	P14-4	P14-6	P14-6 OS		P14-10	P14-10 OS		P14-14	P14-14 OS			
7/32	.2183	13/32	3/16	P15-4	P15-6	P15-6 OS	P15-8	P15-10	P15-10 OS		P15-14	P15-14 OS			
15/64	.2339	13/32	3/16	P16-4	P16-6			P16-10	P16-10 OS		P16-14	P16-14 OS			
1/4	.2495	7/16	3/16	P17-4	P17-6	P17-6 OS	P17-8	P17-10	P17-10 OS	P17-12	P17-14	P17-14 OS			
17/64	.2651	7/16	1/4	P18-4	P18-6			P18-10	P18-10 OS		P18-14	P18-14 OS			
9/32	.2807	7/16	1/4	P19-4	P19-6		P19-8	P19-10	P19-10 OS		P19-14	P19-14 OS			
19/64	.2964	1/2	1/4	P20-4	P20-6			P20-10	P20-10 OS		P20-14	P20-14 OS			
5/16	.3120	1/2	1/4	P21-4	P21-6	P21-6 OS	P21-8	P21-10	P21-10 OS		P21-14	P21-14 OS			
21/64	.3276	9/16	1/4	P22-4	P22-6			P22-10	P22-10 OS		P22-14	P22-14 OS			

Continued on next page

Hardened Throughout™ Ejector Pins

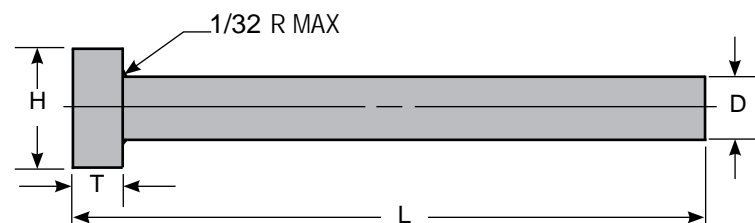
- Can be used as an ejector or core pin
- Reduces “dishing” effect common to nitrided pins
- Pins 6” and longer have annealed heads to minimize brittleness and allow for easier machining
- All pin sizes with diameter greater than 3/32” are etched for identification
- Made in the U.S.A.



SPECIFICATIONS	
R Pin to Head Radius	R.030
Core Hardness	50 - 52 Rc
Surface Hardness	62 - 65 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch

D PIN DIAMETER TOLERANCES

P3 - P33	+0.000 / -.0003
P34 - P47	+0.000 / -.0005



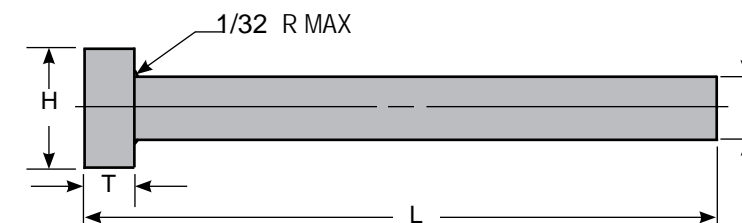
D PIN DIA.	ACTUAL SIZE	H HEAD DIA. +.000 / -.010	T HEAD THICK. +.000 / -.002	L OVERALL LENGTH +.062 / -.000											
				4"		6"		8"		10"		12"		14"	
				STD	STD	.005 OS	STD	STD	.005 OS	STD	STD	.005 OS	STD	STD	.005 OS
11/32	.3433	9/16	1/4	P23-4	P23-6			P23-10	P23-10 OS			P23-14	P23-14 OS		
23/64	.3589	5/8	1/4	P24-4	P24-6			P24-10	P24-10 OS			P24-14	P24-14 OS		
3/8	.3745	5/8	1/4	P25-4	P25-6	P25-6 OS	P25-8	P25-10	P25-10 OS	P25-12	P25-14	P25-14 OS			
25/64	.3901	37/64	1/4	P26-4	P26-6			P26-10	P26-10 OS		P26-14	P26-14 OS			
13/32	.4057	11/16	1/4	P27-4	P27-6			P27-10	P27-10 OS		P27-14	P27-14 OS			
27/64	.4214	11/16	1/4	P28-4	P28-6			P28-10	P28-10 OS		P28-14	P28-14 OS			
7/16	.4370	11/16	1/4	P29-4	P29-6			P29-10	P29-10 OS		P29-14	P29-14 OS			
29/64	.4526	45/64	1/4	P30-4	P30-6			P30-10	P30-10 OS		P30-14	P30-14 OS			
15/32	.4683	3/4	1/4	P31-4	P31-6			P31-10	P31-10 OS		P31-14	P31-14 OS			
31/64	.4839	3/4	1/4	P32-4	P32-6			P32-10	P32-10 OS		P32-14	P32-14 OS			
1/2	.4995	3/4	1/4	P33-4	P33-6	P33-6 OS	P33-8	P33-10	P33-10 OS	P33-12	P33-14	P33-14 OS			
17/32	.5307	25/32	1/4	P34-4	P34-6	P34-6 OS	P34-8	P34-10	P34-10 OS	P34-12	P34-14	P34-14 OS			
9/16	.5620	13/16	1/4	P35-4	P35-6	P35-6 OS	P35-8	P35-10	P35-10 OS	P35-12	P35-14	P35-14 OS			
5/8	.6245	7/8	1/4	P37-4	P37-6	P37-6 OS	P37-8	P37-10	P37-10 OS	P37-12	P37-14	P37-14 OS			
11/16	.6870	15/16	1/4	P39-4	P39-6	P39-6 OS	P39-8	P39-10	P39-10 OS	P39-12	P39-14	P39-14 OS			
3/4	.7495	1	1/4	P41-4	P41-6	P41-6 OS	P41-8	P41-10	P41-10 OS	P41-12	P41-14	P41-14 OS			
7/8	.8745	1-1/8	1/4	P45-4	P45-6	P45-6 OS	P45-8	P45-10	P45-10 OS	P45-12	P45-14	P45-14 OS			
1	.9995	1-1/4	1/4	P47-4	P47-6	P47-6 OS	P47-8	P47-10	P47-10 OS	P47-12	P47-14	P47-14 OS			

Hardened Throughout™ Ejector Pins - Oversized

- Can be used as an ejector or core pin
- Reduces “dishing” effect common to nitrided pins
- Pins 6” and longer have annealed heads to minimize brittleness and allow for easier machining
- All pin sizes with diameter greater than 3/32” are etched for identification
- Made in the U.S.A.



SPECIFICATIONS	
R Pin to Head Radius	R.030
Core Hardness	50 - 52 Rc
Surface Hardness	62 - 65 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch



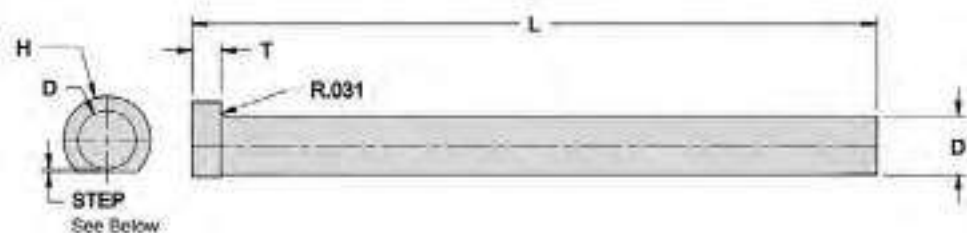
CATALOG NO.	ACTUAL PIN DIAMETER +.0000 / -.0003	D NOMINAL PIN DIAMETER	H HEAD DIAMETER +.000 / -.010	T HEAD THICKNESS +.000 / -.002	L OVERALL LENGTH +.062 / -.000	OVERSIZE INCREMENTS
P9-8 OS-1	.1255	1/8	1/4	1/8	8	.001 Oversize
P9-8 OS-2	.1265					.002 Oversize
P9-8 OS-3	.1275					.003 Oversize
P9-8 OS-4	.1285					.004 Oversize
P11-8 OS-1	.1567	5/32	9/32	5/32	8	.001 Oversize
P11-8 OS-2	.1577					.002 Oversize
P11-8 OS-3	.1587					.003 Oversize
P11-8 OS-4	.1597					.004 Oversize
P13-8 OS-1	.1880	3/16	3/8	3/16	8	.001 Oversize
P13-8 OS-2	.1890					.002 Oversize
P13-8 OS-3	.1900					.003 Oversize
P13-8 OS-4	.1910					.004 Oversize
P17-8 OS-1	.2505	1/4	7/16	3/16	8	.001 Oversize
P17-8 OS-2	.2515					.002 Oversize
P17-8 OS-3	.2525					.003 Oversize
P17-8 OS-4	.2535					.004 Oversize
P17-8 OS-6	.2555					.006 Oversize
P17-8 OS-7	.2565					.007 Oversize
P17-8 OS-8	.2575					.008 Oversize

Hardened Throughout™ Ejector Pins - D-Head

- Designed to prevent pin rotation
- No secondary machining required
- Pins 6" and longer have annealed heads to minimize brittleness and allow for easier machining
- Reduces "dishing" effect common to nitrided pins
- Precision ground to 4 - 10 micro-inch finish
- Made in the U.S.A.



SPECIFICATIONS	
R Pin to Head Radius	R.030
Core Hardness	50 - 52 Rc
Surface Hardness	62 - 65 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch



D PIN DIAMETER TOLERANCES	
DHP7 - DHP33	+0.0000 / -.0003
DHP35 - DHP47	+0.0000 / -.0005

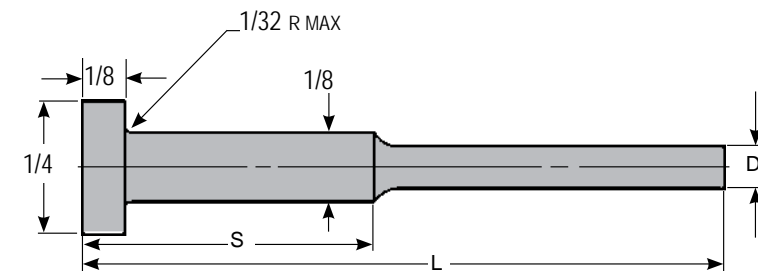
D PIN DIA.	ACTUAL SIZE	H HEAD DIA. +.000 -.010	T HEAD THICK. +.000 -.002	STEP TOLERANCE	L OVERALL LENGTH +.062 / -.000				
					4"	6"	10"	14"	
3/32	.0933	7/32	1/8	.006 +/- .002	DHP7-4	DHP7-6			
1/8	.1245	1/4				DHP9-6	DHP9-10	DHP9-14	
9/64	.1401	1/4					DHP10-10		
5/32	.1557	9/32	5/32			DHP11-6	DHP11-10	DHP11-14	
3/16	.1870	3/8				DHP13-6	DHP13-10	DHP13-14	
7/32	.2183	13/32			3/16		DHP15-6	DHP15-10	DHP15-14
1/4	.2495	7/16				DHP17-6	DHP17-10	DHP17-14	
9/32	.2807	7/16	1/4					DHP19-10	
5/16	.3120	1/2					DHP21-10	DHP21-14	
11/32	.3433	9/16						DHP23-10	
3/8	.3745	5/8	1/4	.007 +/- .003		DHP25-6	DHP25-10	DHP25-14	
13/32	.4057	11/16						DHP27-10	
7/16	.4370	11/16					DHP29-6	DHP29-10	
1/2	.4995	3/4					DHP33-6	DHP33-10	DHP33-14
9/16	.5620	15/16					DHP35-6		
5/8	.6245	1					DHP37-6	DHP37-10	DHP37-14
3/4	.8745	1-1/8					DHP41-6	DHP41-10	DHP41-14
1	.9995	1-1/4					DHP47-6	DHP47-10	DHP47-14

To order D-Head Ejector Pins with the flat ground tangent to the pin diameter, specify "T" after the PCS part number (Ex: DHP9-6T)

Hardened Throughout™ Step Pins

- Reduces "dishing" effect common to nitrided pins
- Pins 6" and longer have annealed heads to minimize brittleness and allow for easier machining
- All pin sizes with diameter greater than 3/32" are etched for identification

SPECIFICATIONS	
Head Diameter Tolerance	+0.000 / -.010
Shoulder Diameter Tolerance	+0.000 / -.001
Head Thickness Tolerance	+0.000 / -.002
Core Hardness	50 - 52 Rc
Surface Hardness	62 - 65 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch



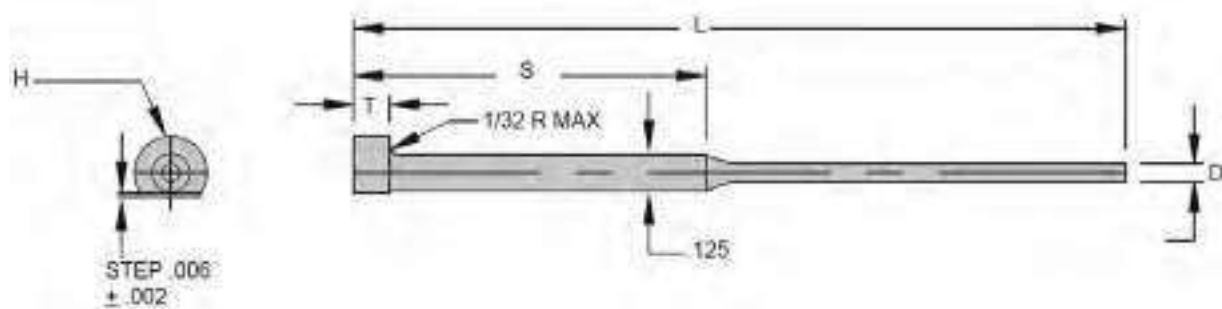
D NOMINAL PIN DIA.	ACTUAL PIN DIA. +.000 / -.0003	S SHOULDER LENGTH +.010 / -.010	L OVERALL LENGTH +.062 / -.000			
			6"	8"	10"	14"
1/32	.0307	1/2	SP3-6 1/2			
		2	SP3-62			
		3		SP3-83		
3/64	.0464	4		SP3-84		
		1/2	SP4-6 1/2			
		2	SP4-62			SP4-102
3/16	.0620	3		SP4-83		
		4		SP4-84	SP4-104	
		1/2	SP5-6 1/2			SP5-10 1/2
1/16	.0620	2	SP5-62			SP5-102
		3		SP5-83		
		4		SP5-84	SP5-104	
5/64	.0776	1/2	SP6-6 1/2			SP6-10 1/2
		2	SP6-62			SP6-102
		3		SP6-83		
3/32	.0933	4		SP6-84	SP6-104	
		1/2	SP7-6 1/2			SP7-10 1/2
		2	SP8-62			SP7-102
7/64	.1089	3		SP7-83		
		4		SP7-84	SP7-104	
		1/2	SP8-6 1/2			SP8-10 1/2
7/64	.1089	2	SP8-62			SP8-102
		3		SP8-83		
		4		SP8-84	SP8-104	

Hardened Throughout™ Step Pins - D-Head

- Designed to prevent pin rotation
- No secondary machining required
- Reduces “dishing” effect common to nitrided pins
- Precision ground to 4 - 10 micro-inch finish



SPECIFICATIONS	
Annealed Head	Yes
R Pin to Head Radius	R.030
SD Shoulder Diameter	.125
Step Tolerance	.006 + .002
Core Hardness	50 - 52 Rc
Surface Hardness	62 - 65 Rc
Etched for Identification	Yes
Material Type	Premium Hot Work Steel
Unit of Measure	Inch

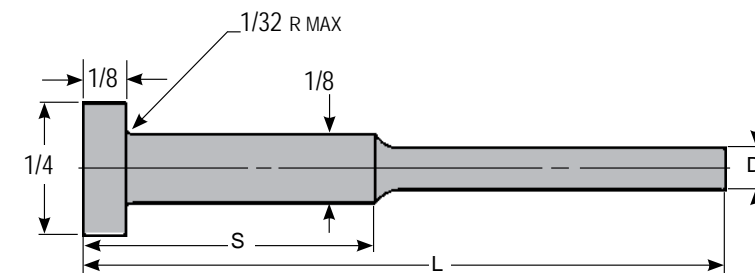


CATALOG NO.	ACTUAL PIN DIAMETER +.000 / -.0003	D NOMINAL PIN DIA.	H HEAD DIAMETER	T HEAD THICKNESS	S SHOULDER LENGTH	L OVERALL LENGTH
DSP3-62	.0307	1/32	1/4	1/8	2	6
DSP4-62	.0464	3/64	1/4	1/8	2	6
DSP5-62	.0620	1/16	1/4	1/8	2	6
DSP6-62	.0776	5/64	1/4	1/8	2	6
DSP6-83	.0776	5/64	1/4	1/8	2	6
DSP7-62	.0933	3/32	1/4	1/8	2	6
DSP8-62	.1089	7/64	1/4	1/8	2	6
DSP8-102	.1089	7/64	1/4	1/8	2	10

Hardened Throughout™ Step Pins - .005 Oversized

- Reduces “dishing” effect common to nitrided pins
- Pins 6” and longer have annealed heads to minimize brittleness and allow for easier machining
- All pin sizes with diameter greater than 3/32” are etched for identification

SPECIFICATIONS	
Head Diameter Tolerance	+.000 / -.010
Shoulder Diameter Tolerance	+.000 / -.001
Head Thickness Tolerance	+.000 / -.002
Core Hardness	50 - 52 Rc
Surface Hardness	62 - 65 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch

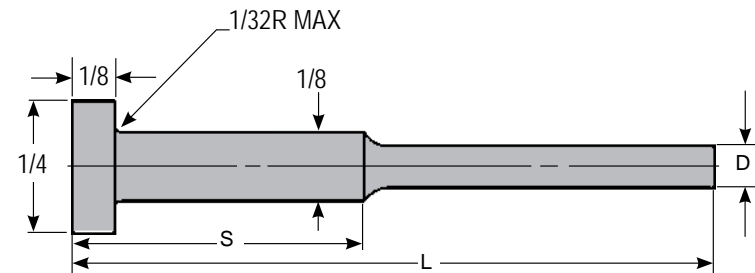


D NOMINAL PIN DIA.	ACTUAL PIN DIAMETER +.000 / -.0003	S SHOULDER LENGTH +.010 / -.010	L OVERALL LENGTH +.062 / -.000			
			6"	8"	10"	14"
			.005 OS	.005 OS	.005 OS	.005 OS
1/32	.0307	1/2	SP3-6 1/2 OS			
		2	SP3-62 OS			
		3		SP3-83 OS		
		4		SP3-84 OS		
3/64	.0464	1/2	SP4-6 1/2 OS			
		2	SP4-62 OS		SP4-102 OS	
		3		SP4-83 OS		
		4		SP4-84 OS	SP4-104 OS	
1/16	.0620	1/2	SP5-6 1/2 OS		SP5-10 1/2 OS	
		2	SP5-62 OS		SP5-102 OS	SP5-142 OS
		3		SP5-83 OS		
		4		SP5-84 OS	SP5-104 OS	
5/64	.0776	1/2	SP6-6 1/2 OS		SP6-10 1/2 OS	
		2	SP6-62 OS		SP6-102 OS	SP6-142 OS
		3		SP6-83 OS		
		4		SP6-84 OS	SP6-104 OS	
3/32	.0933	1/2	SP7-6 1/2 OS		SP7-10 1/2 OS	
		2	SP8-62 OS		SP7-102 OS	SP7-142 OS
		3		SP7-83 OS		
		4		SP7-84 OS	SP7-104 OS	
7/64	.1089	1/2	SP8-6 1/2 OS		SP8-10 1/2 OS	
		2	SP8-62 OS		SP8-102 OS	SP8-142 OS
		3		SP8-83 OS		
		4		SP8-84 OS	SP8-104 OS	

Hardened Throughout™ Step Pins - Oversized

- .001 increments oversized
- Reduces "dishing" effect common to nitrided pins
- All pin sizes with diameter greater than 3/32 are etched for identification.

SPECIFICATIONS	
Head Diameter Tolerance	+ .000 / - .010
Shoulder Diameter Tolerance	+ .000 / - .001
Head Thickness Tolerance	+ .000 / - .002
Overall Length	8
Core Hardness	50 - 52 Rc
Surface Hardness	62 - 65 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch



D NOMINAL PIN DIA.	ACTUAL PIN DIAMETER +.000 / -.0003	S SHOULDER LENGTH +.010 / -.010	L OVERALL LENGTH = 8" +.062 / -.000			
			.001 OS	.002 OS	.003 OS	.004 OS
1/32	.0307	2	SP3-82 OS-1	SP3-82 OS-2	SP3-82 OS-3	SP3-82 OS-4
3/64	.0464	1/2	SP4-8 1/2 OS-1	SP4-8 1/2 OS-2	SP4-8 1/2 OS-3	SP4-8 1/2 OS-4
		2	SP4-82 OS-1	SP4-82 OS-2	SP4-82 OS-3	SP4-82 OS-4
1/16	.0620	1/2	SP5-8 1/2 OS-1	SP5-8 1/2 OS-2	SP5-8 1/2 OS-3	SP5-8 1/2 OS-4
		2	SP5-82 OS-1	SP5-82 OS-2	SP5-82 OS-3	SP5-82 OS-4
5/64	.0776	1/2	SP6-8 1/2 OS-1	SP6-8 1/2 OS-2	SP6-8 1/2 OS-3	SP6-8 1/2 OS-4
		2	SP6-82 OS-1	SP6-82 OS-2	SP6-82 OS-3	SP6-82 OS-4
3/32	.0933	1/2	SP7-8 1/2 OS-1	SP7-8 1/2 OS-2	SP7-8 1/2 OS-3	SP7-8 1/2 OS-4
		2	SP7-82 OS-1	SP7-82 OS-2	SP7-82 OS-3	SP7-82 OS-4
7/64	.1089	2	SP8-82 OS-1	SP8-82 OS-2	SP8-82 OS-3	SP8-82 OS-4

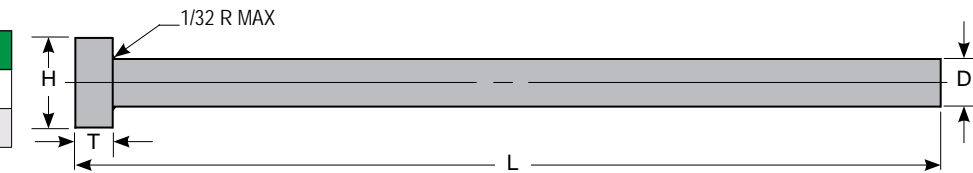
Nitrided Ejector Pins

- Precision ground hotwork steel
- 4 - 10 micro-inch finish minimizes wear & prolongs life
- All heads annealed
- All pin sizes with diameter greater than 3/32" are etched for identification

SPECIFICATIONS	
R Pin to Head Radius	R.030
Core Hardness	40 - 45 Rc
Surface Hardness	65 - 74 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



D PIN DIAMETER TOLERANCES	
NP3 - NP33	+ .0005 / - .0008
NP35 - NP47	+ .0005 / - .0010

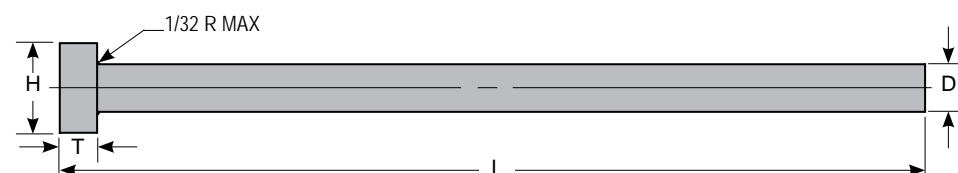


D PIN DIA.	ACTUAL SIZE	H HEAD DIA. +.000 -.010	T HEAD THICK. +.000 -.002	L OVERALL LENGTH +.062 / -.000						
				6"	10"	14"	18"	25"	36"	39"
1/32	.0307	1/8	1/8	NP3-6						
1/16	.0620	3/16	1/8	NP5-6						
5/64	.0776	13/64	1/8	NP6-6	NP6-10					
3/32	.0933	7/32	1/8	NP7-6	NP7-10					
7/64	.1089	15/64	1/8	NP8-6	NP8-10					
1/8	.1245	1/4	1/8	NP9-6	NP9-10	NP9-14	NP9-18	NP9-25		
9/64	.1401	1/4	1/8		NP10-10	NP10-14				
5/32	.1557	9/32	5/32	NP11-6	NP11-10	NP11-14	NP11-18	NP11-25		
11/64	.1714	11/32	3/16		NP12-10	NP12-14				
3/16	.1870	3/8	3/16	NP13-6	NP13-10	NP13-14	NP13-18	NP13-25		NP13-39
13/64	.2026	3/8	3/16		NP14-10	NP14-14				
7/32	.2183	13/32	3/16	NP15-6	NP15-10	NP15-14		NP15-25		
15/64	.2339	13/32	3/16		NP16-10	NP16-14				
1/4	.2495	7/16	3/16	NP17-6	NP17-10	NP17-14	NP17-18	NP17-25	NP17-36	NP17-39
17/64	.2651	7/16	1/4		NP18-10	NP18-14		NP18-25		
9/32	.2807	7/16	1/4	NP19-6	NP19-10	NP19-14	NP19-18	NP19-25		
19/64	.2964	1/2	1/4		NP20-10	NP20-14				
5/16	.3120	1/2	1/4	NP21-6	NP21-10	NP21-14	NP21-18	NP21-25	NP21-36	
21/64	.3276	9/16	1/4		NP22-10	NP22-14		NP22-25		
11/32	.3433	9/16	1/4	NP23-6	NP23-10	NP23-14		NP23-25		
23/64	.3589	5/8	1/4		NP24-10	NP24-14				
3/8	.3745	5/8	1/4	NP25-6	NP25-10	NP25-14	NP25-18	NP25-25	NP25-36	NP25-39
13/32	.4057	11/16	1/4	NP27-6	NP27-10	NP27-14	NP27-18	NP27-25		
7/16	.4370	11/16	1/4	NP29-6	NP29-10	NP29-14	NP29-18	NP29-25	NP29-36	
15/32	.4683	3/4	1/4		NP31-10		NP31-18	NP31-25		
1/2	.4995	3/4	1/4	NP33-6	NP33-10	NP33-14	NP33-18	NP33-25	NP33-36	NP33-39
9/16	.5620	13/16	1/4	NP35-6	NP35-10	NP35-14	NP35-18	NP35-25		
5/8	.6245	7/8	1/4	NP37-6	NP37-10	NP37-14	NP37-18	NP37-25	NP37-36	NP37-39
11/16	.6870	15/16	1/4		NP39-10		NP39-18	NP39-25		
3/4	.7495	1	1/4	NP47-6	NP47-10	NP47-14	NP47-18	NP47-25	NP47-36	NP47-39
7/8	.8745	1-1/8	1/4		NP45-10		NP45-18	NP45-25		
1	.9995	1-1/4	1/4	NP47-6	NP47-10	NP47-14	NP47-18	NP47-25	NP47-36	NP47-39

Nitrided Ejector Pins - Oversized

- Precision ground hotwork steel
- 4 - 10 micro-inch finish minimizes wear & prolongs life
- All heads annealed
- All pin sizes with diameter greater than 3/32" are etched for identification

SPECIFICATIONS	
R Pin to Head Radius	R.030
Core Hardness	40 - 45 Rc
Surface Hardness	65 - 74 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch

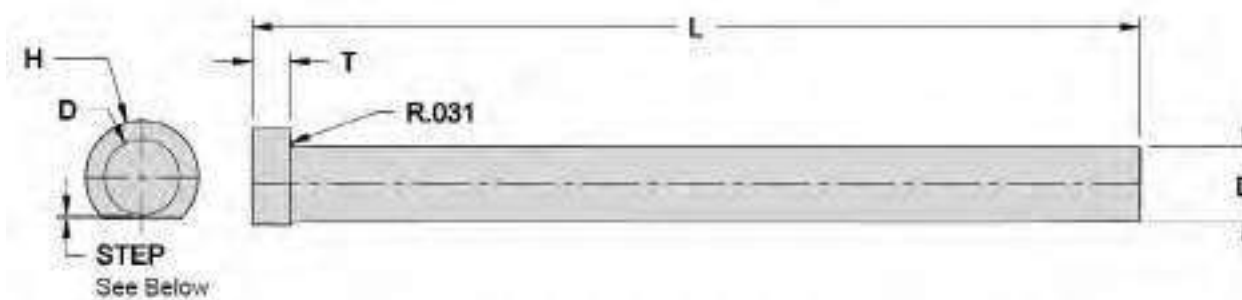


D PIN DIA.	ACTUAL SIZE +.0005/- .0008	H HEAD DIA. +.000 /-.010	T HEAD THICK. +.000 /-.002	L OVERALL LENGTH +.062 / -.000		
				10" .005 OS	14" .005 OS	18" .005 OS
1/8	.1245	1/4	1/8	NP9-10	NP9-14	
9/64	.1401	1/4	1/8			
5/32	.1557	9/32	5/32	NP11-10	NP11-14	
11/64	.1714	11/32	3/16			
3/16	.1870	3/8	3/16	NP13-10	NP13-14	
13/64	.2026	3/8	3/16			
7/32	.2183	13/32	3/16	NP15-10		
15/64	.2339	13/32	3/16			
1/4	.2495	7/16	3/16	NP17-10	NP17-14	NP17-18
17/64	.2651	7/16	1/4			
9/32	.2807	7/16	1/4	NP19-10		
19/64	.2964	1/2	1/4			
5/16	.3120	1/2	1/4	NP21-10	NP21-14	NP21-18
21/64	.3276	9/16	1/4			
11/32	.3433	9/16	1/4	NP23-10		
23/64	.3589	5/8	1/4			
3/8	.3745	5/8	1/4	NP25-10	NP25-14	NP25-18
13/32	.4057	11/16	1/4	NP27-10		
7/16	.4370	11/16	1/4	NP29-10	NP29-14	
15/32	.4683	3/4	1/4	NP31-10		
1/2	.4995	3/4	1/4	NP33-10	NP33-14	

Nitrided Ejector Pins - D-Head

- Designed to prevent pin rotation
- Manufactured from premium hot work steel
- Annealed heads
- All pin sizes with diameter greater than 3/32 are etched for identification.
- Precision ground to 4 - 10 micro-inch finish

SPECIFICATIONS	
R Pin to Head Radius	R.030
Core Hardness	40 - 45 Rc
Surface Hardness	65 - 74 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



D PIN DIA. +.000 -.001	ACTUAL SIZE	H HEAD DIA. +.000 -.010	T HEAD THICK. +.000 -.002	STEP TOLERANCE	L OVERALL LENGTH +.062 / -.000				
					6"	10"	14"	18"	25"
1/8	.1245	1/4	1/8	.006 +/- .002	DNP9-6	DNP9-10	DNP9-14		
5/32	.1557	9/32	5/32		DNP11-6	DNP11-10	DNP11-14	DNP11-18	DNP11-25
3/16	.1870	3/8	3/16		DNP13-6	DNP13-10	DNP13-14	DNP13-18	DNP13-25
1/4	.2495	7/16	3/16		DNP17-6	DNP17-10	DNP17-14	DNP17-18	DNP17-25
5/16	.3120	1/2	3/16		DNP21-6	DNP21-10	DNP21-14	DNP21-18	DNP21-25
3/8	.3745	5/8	1/4	.007 +/- .003	DNP25-6	DNP25-10	DNP25-14	DNP25-18	DNP25-25
1/2	.4995	3/4	1/4		DNP33-6	DNP33-10	DNP33-14	DNP33-18	DNP33-25
5/8	.6245	7/8	1/4		DNP37-6	DNP37-10	DNP37-14	DNP37-18	DNP37-25
3/4	.8745	1	1/4		DNP41-6	DNP41-10	DNP41-14	DNP41-18	DNP41-25
1	.9995	1-1/4	1/4		DNP47-6	DNP47-10	DNP47-14	DNP47-18	DNP47-25

To order D-Head Ejector Pins with the flat ground tangent to the pin diameter, specify "T" after the PCS part number (Ex: DNP9-6T)

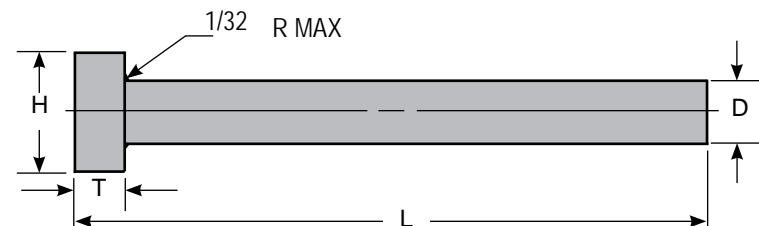
Armor Coated Ejector Pins

- Surface treatment reduces wear, friction, and inhibits corrosion
- Coating will not chip, crack, or peel from base metal
- Enhances metal hardness, adds lubricity
- Coating thickness of 5 to 7 microns
- All pin sizes with diameter greater than 3/32" are etched for identification
- Pins 6" and longer have annealed heads to minimize brittleness and allow for easier machining



SPECIFICATIONS	
Coating Thickness	0.000050 - 0.000070
Coating Type	Armor Coated
Core Hardness	50 - 52 Rc
Surface Hardness	70 - 72 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch

D PIN DIAMETER TOLERANCES	
AR3 - AR33	+0.0005 / -.0008
AR34 - AR47	+0.0005 / -.0010



CATALOG NO.	D PIN DIA.	ACTUAL SIZE +.0000 -.0003	H HEAD DIA. +.000 -.010	T HEAD THICK. +.000 -.002	L OVERALL LENGTH +.062 / -.000										
					4"	6"	8"	10"	12"	14"	18"	25"	36"		
AR3-	1/32	.0307	1/8	1/8		•									
AR4-	3/64	.0464	5/32	1/8		•									
AR5-	1/16	.0620	3/16	1/8	•	•		•							
AR6-	5/64	.0776	13/64	1/8		•									
AR7-	3/32	.0933	7/32	1/8		•	•	•							
AR8-	7/64	.1089	15/64	1/8	•			•							
AR8-	1/8	.1245	1/4	1/8		•		•	•	•					
AR10-	9/64	.1401	1/4	1/8				•		•					
AR11-	5/32	.1557	9/32	5/32		•		•	•	•		•			
AR12-	11/64	.1714	11/32	3/16				•		•					
AR13-	3/16	.1870	3/8	3/16		•		•		•		•			
AR14-	13/64	.2026	3/8	3/16		•		•		•					
AR15-	7/32	.2183	13/32	3/16		•		•		•			•		
AR16-	15/64	.2339	13/32	3/16				•		•					
AR17-	1/4	.2495	7/16	3/16		•	•	•	•	•		•	•		•
AR18-	17/64	.2651	7/16	1/4		•		•		•					
AR19-	9/32	.2807	7/16	1/4	•	•		•		•		•			
AR20-	19/64	.2964	1/2	1/4		•		•		•					

Add length to catalog number (I.E. AR3-6)

Continued on next page

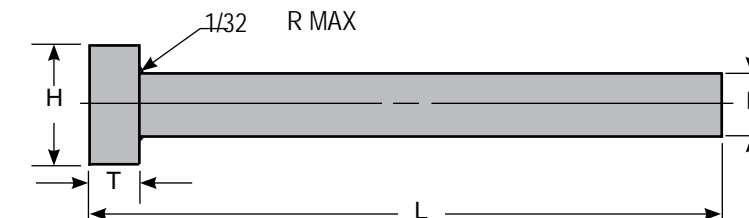
Armor Coated Ejector Pins

- Surface treatment reduces wear, friction, and inhibits corrosion
- Coating will not chip, crack, or peel from base metal
- Enhances metal hardness, adds lubricity
- Coating thickness of 5 to 7 microns
- All pin sizes with diameter greater than 3/32" are etched for identification
- Pins 6" and longer have annealed heads to minimize brittleness and allow for easier machining



SPECIFICATIONS	
Coating Thickness	0.000050 - 0.000070
Coating Type	Armor Coated
Core Hardness	50 - 52 Rc
Surface Hardness	70 - 72 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch

D PIN DIAMETER TOLERANCES	
AR3 - AR33	+0.0005 / -.0008
AR34 - AR47	+0.0005 / -.0010



CATALOG NO.	D PIN DIA.	ACTUAL SIZE +.0000 -.0003	H HEAD DIA. +.000 -.010	T HEAD THICK. +.000 -.002	L OVERALL LENGTH +.062 / -.000										
					4"	6"	8"	10"	12"	14"	18"	25"	36"		
AR21-	5/16	.3120	1/2	1/4		•	•	•	•	•	•	•	•		
AR22-	21/64	.3276	9/16	1/4						•					
AR23-	11/32	.3433	9/16	1/4	•	•		•		•					
AR24-	23/64	.3589	5/8	1/4				•		•					
AR25-	3/8	.3745	5/8	1/4		•		•	•	•	•	•	•	•	•
AR26-	25/64	.3901	37/64	1/4		•		•							
AR27-	13/32	.4057	11/16	1/4				•		•					
AR29-	7/16	.4370	11/16	1/4	•	•		•		•	•	•	•		
AR30-	29/64	.4526	45/64	1/4				•							
AR33-	1/2	.4995	3/4	1/4		•		•	•	•	•	•	•	•	•
AR34-	17/32	.5307	25/32	1/4				•							
AR35-	9/16	.5620	13/16	1/4		•		•		•					
AR37-	5/8	.6245	7/8	1/4		•		•		•	•	•	•		
AR39-	11/16	.6870	15/16	1/4				•						•	
AR41-	3/4	.7495	1	1/4		•		•	•	•	•	•	•	•	•
AR45-	7/8	.8745	1-1/8	1/4									•	•	•
AR47-	1	.9995	1-1/4	1/4			•	•		•	•	•	•	•	•

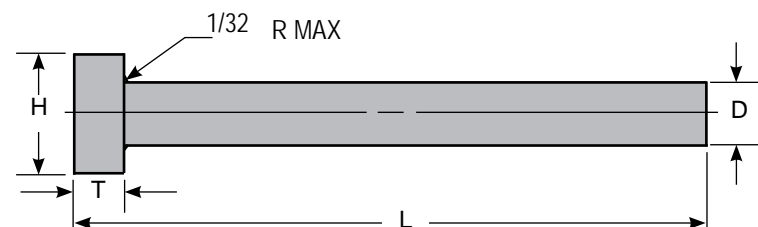
Add length to catalog number (I.E. AR21-6)

Armor Coated Ejector Pins - Oversized

- Surface treatment reduces wear, friction, and inhibits corrosion
- Coating will not chip, crack, or peel from base metal
- Enhances metal hardness, adds lubricity
- All pin sizes with diameter greater than 3/32" are etched for identification
- Pins 6" and longer have annealed heads to minimize brittleness and allow for easier machining



SPECIFICATIONS	
Coating Thickness	0.000050 - 0.000070
Coating Type	Armor Coated
Core Hardness	50 - 52 Rc
Material Type	Premium Hot Work Steel
Surface Hardness	70 - 72 Rc
Unit of Measure	Inch



D PIN DIAMETER TOLERANCES	
AR5 - AR33	+0.0005 / -.0008
AR37 - AR41	+0.0005 / -.0010

D PIN DIA.	ACTUAL SIZE	H HEAD DIA. +.000 / -.010	T HEAD THICK. +.000 / -.002	L OVERALL LENGTH +.062 / -.000		
				6" .005 OS	10" .005 OS	14" .005 OS
1/16	.067	3/16	1/8		AR5-10 OS	
5/64	.0826	13/64	1/8		AR6-10 OS	
3/32	.0983	7/32	1/8		AR7-10 OS	
7/64	.1139	15/64	1/8		AR8-10 OS	
1/8	.1295	1/4	1/8	AR9-6 OS	AR9-10 OS	AR9-14 OS
9/64	.1451	1/4	1/8	AR10-6 OS	AR10-10 OS	
5/32	.1607	9/32	5/32	AR11-6 OS	AR11-10 OS	AR11-14 OS
11/64	.1764	11/32	3/16		AR12-10 OS	
3/16	.1920	3/8	3/16	AR13-6 OS	AR13-10 OS	AR13-14 OS
13/64	.2076	3/8	3/16		AR14-10 OS	
7/32	.2233	13/32	3/16	AR15-6 OS	AR15-10 OS	AR15-14 OS
15/64	.2389	13/32	3/16		AR16-10 OS	
1/4	.2545	7/16	3/16	AR17-6 OS	AR17-10 OS	AR17-14 OS

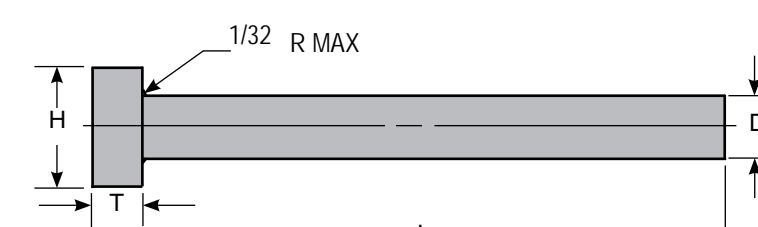
Continued on next page

Armor Coated Ejector Pins - Oversized

- Surface treatment reduces wear, friction, and inhibits corrosion
- Coating will not chip, crack, or peel from base metal
- Enhances metal hardness, adds lubricity
- All pin sizes with diameter greater than 3/32" are etched for identification
- Pins and longer have annealed heads to minimize brittleness and allow for easier machining



SPECIFICATIONS	
Coating Thickness	0.000050 - 0.000070
Coating Type	Armor Coated
Core Hardness	50 - 52 Rc
Material Type	Premium Hot Work Steel
Surface Hardness	70 - 72 Rc
Unit of Measure	Inch

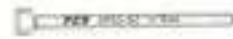


D PIN DIAMETER TOLERANCES	
AR5 - AR33	+0.0005 / -.0008
AR37 - AR41	+0.0005 / -.0010

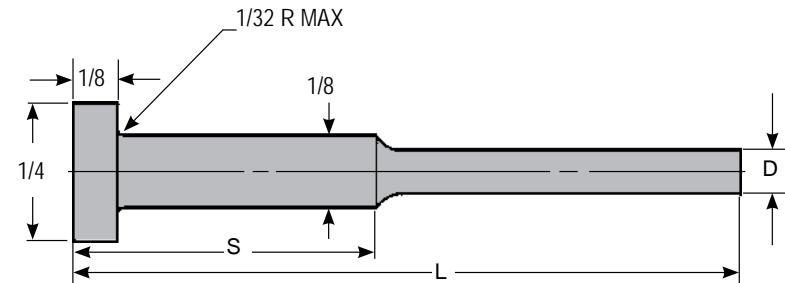
D PIN DIA.	ACTUAL SIZE	H HEAD DIA. +.000 / -.010	T HEAD THICK. +.000 / -.002	L OVERALL LENGTH +.062 / -.000		
				6" .005 OS	10" .005 OS	14" .005 OS
17/64	.2701	7/16	1/4	AR18-6 OS	AR18-10 OS	
9/32	.2857	7/16	1/4	AR19-6 OS	AR19-10 OS	
19/64	.3014	1/2	1/4		AR20-10 OS	
5/16	.3170	1/2	1/4		AR21-10 OS	AR21-14 OS
21/64	.3326	9/16	1/4		AR22-10 OS	
11/32	.3433	9/16	1/4		AR23-10 OS	
3/8	.3795	5/8	1/4		AR25-10 OS	AR25-14 OS
7/16	.4420	11/16	1/4		AR29-10 OS	AR29-14 OS
1/2	.5045	3/4	1/4		AR33-10 OS	AR33-14 OS
5/8	.6295	7/8	1/4			AR37-14 OS
11/16	.6920	15/16	1/4			AR39-14 OS
3/4	.7545	1	1/4			AR41-14 OS

Armor Coated Step Pins

- Surface treatment reduces wear, friction, and inhibits corrosion
- Coating will not chip, crack, or peel from base metal
- All pin sizes with diameter greater than 3/32" are etched for identification
- Pins 6" and longer have annealed heads to minimize brittleness and allow for easier machining



SPECIFICATIONS	
Head Diameter Tolerance	+ .000 / - .010
Shoulder Diameter Tolerance	+ .000 / - .001
Head Thickness Tolerance	+ .000 / - .002
Coating Thickness	0.000050 - 0.000070
Coating Type	Armor Coated
Core Hardness	50 - 52 Rc
Surface Hardness	70 - 72 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch



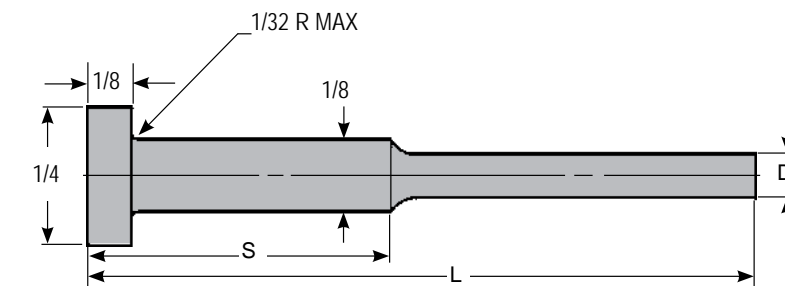
D NOMINAL PIN DIA.	ACTUAL PIN DIA. +.0000 -.0003	S SHOULDER LENGTH +.010 / -.010	L OVERALL LENGTH +.062 / -.000			
			6"	8"	10"	14"
1/32	.0307	1/2	ARS3-6 1/2			
		2	ARS3-62	ARS3-82		
		3		ARS3-83		
		4		ARS3-84		
3/64	.0464	1/2	ARS4-6 1/2			
		2	ARS4-62	ARS4-82	ARS4-102	
		3		ARS4-83		
		4		ATS4-84	ARS4-104	
1/16	.0620	1/2	ARS5-6 1/2		ARS5-10 1/2	
		2	ARS5-62		ARS5-102	ARS5-142
		3		ARS5-83		
		4		ARS5-84	ARS5-104	
5/64	.0776	1/2	ARS6-6 1/2			
		2	ARS6-62		ARS6-102	
		3		ARS6-83		
		4		ARS6-84	ARS6-104	
3/32	.0933	1/2	ARS7-6 1/2			
		2	ARS7-62		ARS7-102	ARS7-142
		3		ARS7-83		
		4		ARS7-84	ARS7-104	
7/64	.1089	1/2	ARS8-6 1/2			
		2	ARS8-62		ARS8-102	ARS8-142

Armor Coated Step Pins - Oversized

- Surface treatment reduces wear, friction, and inhibits corrosion
- Coating will not chip, crack, or peel from base metal
- Enhanced metal hardness and added lubricity
- All pin sizes with diameter greater than 3/32" are etched for identification
- Pins 6" and longer have annealed heads to minimize brittleness and allow for easier machining



SPECIFICATIONS	
Head Diameter Tolerance	+ .000 / - .010
Shoulder Diameter Tolerance	+ .000 / - .001
Head Thickness Tolerance	+ .000 / - .002
Coating Thickness	0.000050 - 0.000070
Coating Type	Armor Coated
Core Hardness	50 - 52 Rc
Surface Hardness	70 - 72 Rc
Material Type	Premium Hot Work Steel
Unit of Measure	Inch



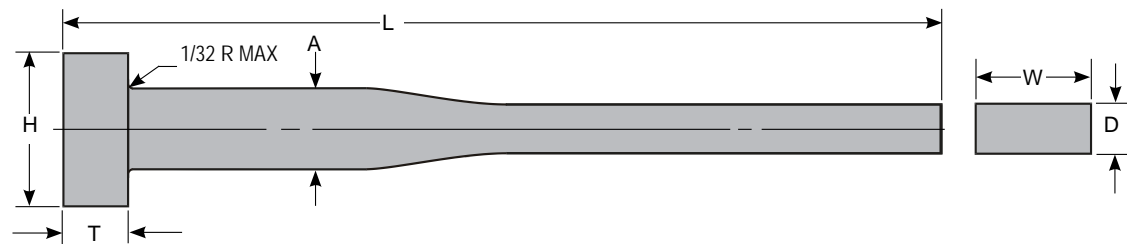
D NOMINAL PIN DIA.	ACTUAL PIN DIA. +.0000 -.0003	S SHOULDER LENGTH +.010 / -.010	L OVERALL LENGTH +.062 / -.000		
			6" .005 OS	8" .005 OS	10" .005 OS
1/32	.0307	1/2	ARS3-6 1/2 OS		
		2	ARS3-62 OS	ARS3-82 OS	
		3		ARS3-83 OS	
3/64	.0464	1/2	ARS4-6 1/2 OS		
		2	ARS4-62 OS		ARS4-102 OS
		1/2	ARS5-6 1/2 OS		
1/16	.0620	2	ARS5-62 OS		ARS5-102 OS
		4			ARS5-104 OS
		1/2	ARS6-6 1/2 OS		
5/64	.0776	2	ARS6-62 OS		ARS6-102 OS
		3		ARS6-83 OS	
		1/2	ARS7-6 1/2 OS		
3/32	.0933	2	ARS7-62 OS		
		1/2	ARS8-6 1/2 OS		
		2	ARS8-62 OS		ARS8-102 OS

Ejector Blades

- One piece construction to improve strength
- Blades are etched for identification
- Corner radius on blade cross-section can be special ordered

SPECIFICATIONS	
Core Hardness	50 - 52 Rc
Surface Hardness	50 - 52 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch

CATALOG NO.	W BLADE WIDTH +.0000 -.0003	A PIN DIA. +.000 -.001	H HEAD DIA. +.000 -.010	T HEAD THICK. +.000 -.002
BE9-	.100	.125	1/4	1/8
BE11-	.140	.156	9/32	5/32
BE13-	.172	.187	3/8	3/16



D BLADE THICK. +.0000 / -.0003	BLADE LENGTH	L OVERALL LENGTH +.062 / -.000					
		5"	6"	6-3/8"	7-3/8"	8"	8-3/8"
.024	4-3/8		BE9-2446				
.032	3	BE9-3235	BE9-3236				
.032	4-3/8			BE9-3246	BE9-3247		
.046	3	BE9-4635	BE9-4636				
.046	4-3/8			BE9-4646	BE9-4647		
.024	4-3/8			BE11-2446			
.032	3		BE11-3236			BE11-3238	
.032	4-3/8			BE11-3246	BE11-3247		BE11-3248
.046	3		BE11-4636			BE11-4638	
.046	4-3/8			BE11-4646	BE11-4647		BE11-4648
.024	4-3/8			BE13-2446			
.032	3		BE13-3236			BE13-3238	
.032	4-3/8			BE13-3246	BE13-3247		BE13-3248
.046	3		BE13-4636			BE13-4638	
.046	4-3/8			BE13-4646	BE13-4647		BE13-4648
.062	3		BE13-6236			BE13-6238	
.062	4-3/8			BE13-6246	BE13-6247		BE13-6248

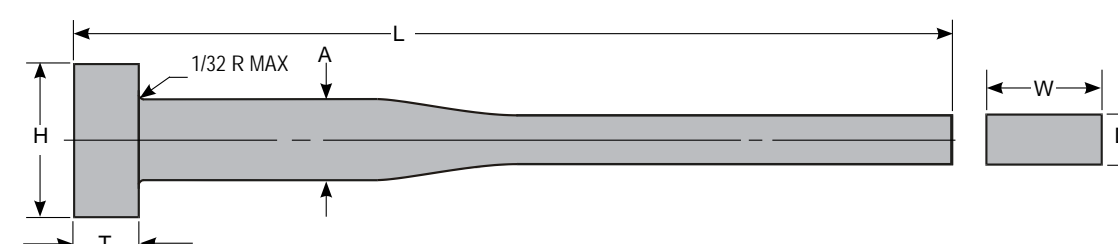
Continued on next page

Ejector Blades

- One piece construction to improve strength
- Blades are etched for identification
- Corner radius on blade cross-section can be special ordered

SPECIFICATIONS	
Core Hardness	50 - 52 Rc
Surface Hardness	50 - 52 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch

CATALOG NO.	W BLADE WIDTH +.0000 -.0003	A PIN DIA. +.000 -.001	H HEAD DIA. +.000 -.010	T HEAD THICK. +.000 -.002
BE17-	.234	.250	7/16	3/16
BE21-	.296	.312	1/2	1/4
BE25-	.359	.375	5/8	1/4
BE33-	.484	.500	3/4	1/4



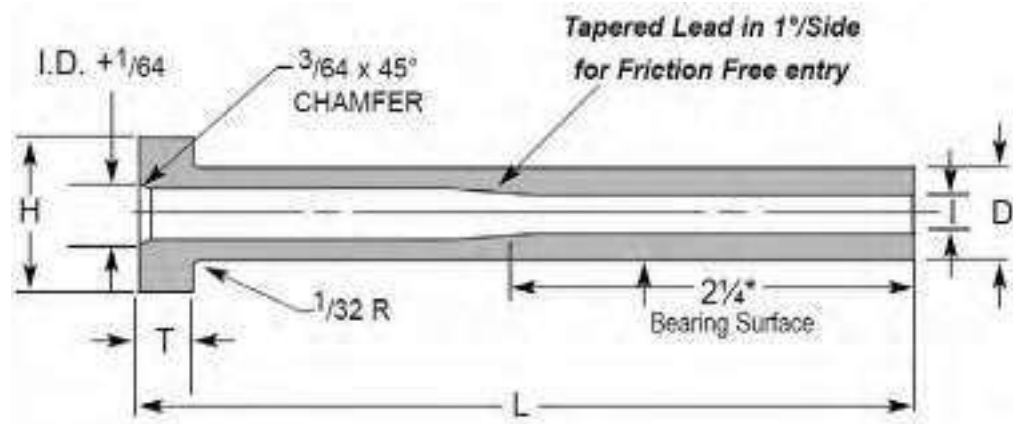
D BLADE THICK. +.0000 -.0003	BLADE LENGTH	L OVERALL LENGTH +.062 / -.000							
		5"	6"	6-3/8"	7-3/8"	8"	8-3/8"	9-3/8"	10-3/8"
.032	3	BE17-3235	BE17-3236			BE17-3238			
.032	4-3/8			BE17-3246	BE17-3247		BE17-3248	BE17-3249	BE17-32410
.046	3	BE17-4635	BE17-4636			BE17-4638			
.046	4-3/8			BE17-4646	BE17-4647		BE17-4648	BE17-4649	BE17-46410
.062	3	BE17-6235	BE17-6236			BE17-6238			
.062	4-3/8			BE17-6246	BE17-6247		BE17-6248	BE17-6249	BE17-62410
.032	4-3/8			BE21-3246	BE21-3247		BE21-3248	BE21-3249	BE21-32410
.046	4-3/8			BE21-4646	BE21-4647		BE21-4648	BE21-4649	BE21-46410
.062	4-3/8			BE21-6246	BE21-6247		BE21-6248	BE21-6249	BE21-62410
.078	4-3/8			BE21-7846	BE21-7847		BE21-7848	BE21-7849	BE21-78410
.032	4-3/8			BE25-3246	BE25-3247		BE25-3248	BE25-3249	BE25-32410
.046	4-3/8			BE25-4646	BE25-4647		BE25-4648	BE25-4649	BE25-46410
.062	4-3/8			BE25-6246	BE25-6247		BE25-6248	BE25-6249	BE25-62410
.078	4-3/8			BE25-7846	BE25-7847		BE25-7848	BE25-7849	BE25-78410
.062	4-3/8			BE33-6256	BE33-6257		BE33-6258	BE33-6259	BE33-62510
.078	4-3/8			BE33-7856	BE33-7857		BE33-7858	BE33-7859	BE33-78510

Nitrided Ejector Sleeves

- Can be used to eject the part
- Serve as a bushing for the ejector pin
- Etched for easy identification



SPECIFICATIONS	
Bearing Length Tolerance	+ .032 / - .000
I.D. Hardness	68 - 74 Rc Nitrided
O.D. Hardness	68 - 74 Rc Nitrided
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



CATALOG NO.	I I.D. +.0005 - .0000	D O.D. +.000 - .001	H HEAD DIA. +.000 - .001	T HEAD THICK. +.000 - .002	L OVERALL LENGTH +.032 / - .000											
					3"	4"	5"	6"	7"	8"	9"	10"	11"	12"	13"	14"
SL13-*	3/32	3/16	3/8	3/16	•	•	•	•	•							
SL15-*	1/8	7/32	13/32	3/16	•	•	•	•	•	•						
SL17-	5/32	1/4	7/16	3/16		•	•	•	•	•	•	•	•	•	•	•
SL21-	3/16	5/16	1/2	1/4		•	•	•	•	•	•	•	•	•	•	•
SL23-	7/32	11/32	9/16	1/4		•	•	•	•	•	•	•	•	•	•	•
SL25-	1/4	3/8	5/8	1/4		•	•	•	•	•	•	•	•	•	•	•
SL29-	5/16	7/16	11/16	1/4		•	•	•	•	•	•	•	•	•	•	•
SL33-	3/8	1/2	3/4	1/4		•	•	•	•	•	•	•	•	•	•	•
SL37-	7/16	5/8	7/8	1/4		•	•	•	•	•	•	•	•	•	•	•
SL39-	1/2	11/16	15/16	1/4		•	•	•	•	•	•	•	•	•	•	•
SL41-	9/16	3/4	1	1/4		•	•	•	•	•	•	•	•	•	•	•
SL45-	5/8	7/8	1-1/8	1/4		•	•	•	•	•	•	•	•	•	•	•
SL47-	3/4	1	1-1/4	1/4		•	•	•	•	•	•	•	•	•	•	•

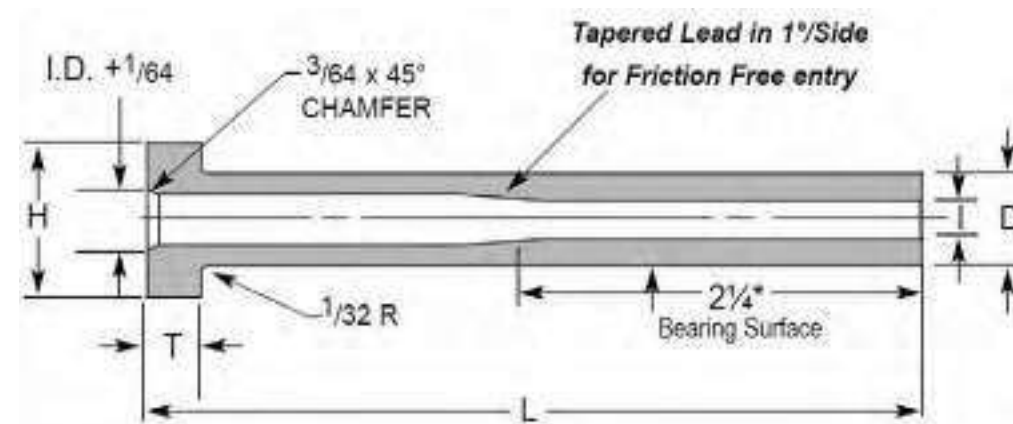
*SL13 & SL15 Bearing Length is 1-3/4"
Add length to catalog number (i.e. SL13-3)

Oversized Ejector Sleeves

- Can be used to eject the part
- Serve as a bushing for the ejector pin
- Etched for easy identification
- O.D. is .005 oversized



SPECIFICATIONS	
I.D. Hardness	65 - 74 Rc
O.D. Hardness	65 - 74 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



CATALOG NO.	I I.D. +.0005 - .0000	D O.D. +.000 - .001	H HEAD DIA. +.000 - .001	T HEAD THICK. +.000 - .002	L OVERALL LENGTH +.032 / - .000							
					4"	5"	6"	7"	8"	9"	10"	
OSL13-*	3/32	3/16	3/8	3/16	•	•	•	•	•	•	•	•
OSL15-*	1/8	7/32	13/32	3/16	•	•	•					
OSL17-	5/32	1/4	7/16	3/16	•	•	•	•	•	•	•	•
OSL21-	3/16	5/16	1/2	1/4	•	•	•	•	•	•	•	•
OSL25-	1/4	3/8	5/8	1/4	•	•	•	•	•	•	•	•
OSL29-	5/16	7/16	11/16	1/4	•	•	•	•	•	•	•	•
OSL33-	3/8	1/2	3/4	1/4	•	•	•	•	•	•	•	•

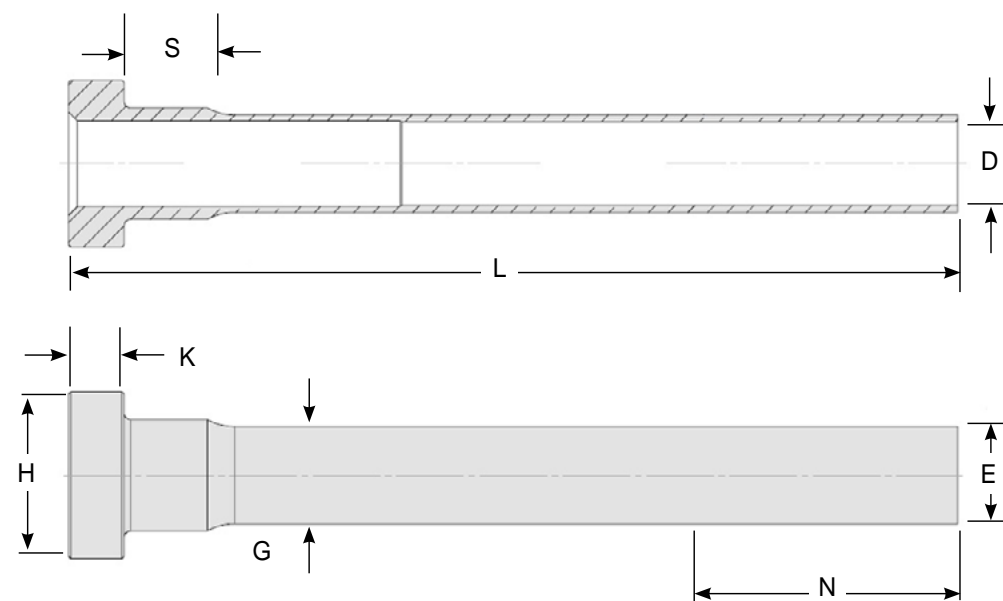
*OSL13 & OSL15 Bearing Length is 1-3/4"
Add length to catalog number (i.e. SL13-3)

Thin Wall Ejector Sleeves

- Eliminate the need to machine a step in standard sleeves
- Can be used as alternative to standard sleeves in applications where the wall foot print is too large
- Nickel coating provides added durability & increased corrosion protection
- Electroless Nickel Coated .00003" - .00007" thick



SPECIFICATIONS	
Material Type	A2 Tool Steel
Core Hardness	58 - 60 Rc
Unit of Measure	Inch

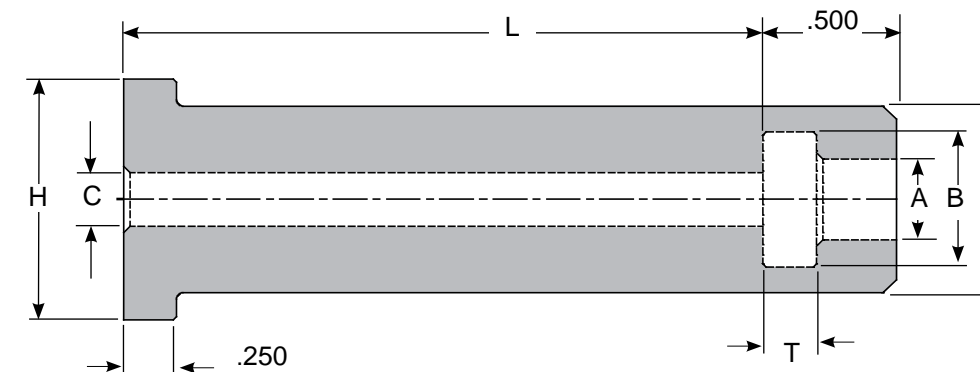
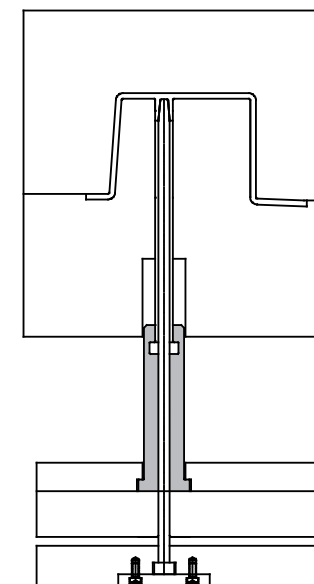


NOMINAL SLEEVE I.D.	D I.D. +.0003 -0.0000	E O.D. -0.0003 -0.0007	G SHOULDER DIAMETER +.000 -0.001	H HEAD DIA. +.000 -0.010	K HEAD THICK. +.000 -0.002	N BEARING LENGTH	S SHOULDER LENGTH +.010 -0.010	L OVERALL LENGTH +.032 / -0.000	
								4"	6"
3/32	.0937	.1563	.188	.37	.187	1.75	.500	TWS13-4	TWS13-6
1/8	.1250	.1875	.219	.40	.187	1.75	.500	TWS15-4	TWS15-6
5/32	.1562	.2187	.250	.43	.187	2.50	.500	TWS17-4	TWS17-6
3/16	.1875	.2500	.312	.50	.250	2.50	.625	TWS21-4	TWS21-6
7/32	.2187	.2813	.344	.56	.250	2.50	.625	TWS23-4	TWS23-6
1/4	.2500	.3125	.375	.62	.250	2.50	.625	TWS25-4	TWS25-6
5/16	.3125	.3750	.438	.68	.250	2.50	.625	TWS29-4	TWS29-6
3/8	.3750	.4375	.500	.75	.250	2.50	.625	TWS33-4	TWS33-6

Ejector Sleeve Extensions

- Lengthens sleeves quickly and inexpensively
- Four lengths available for more versatility
- Special lengths available upon request

SPECIFICATIONS	
Extension Head Thickness	.250
Pin Head Cavity Length	.500
Material Type	12L14
Unit of Measure	Inch



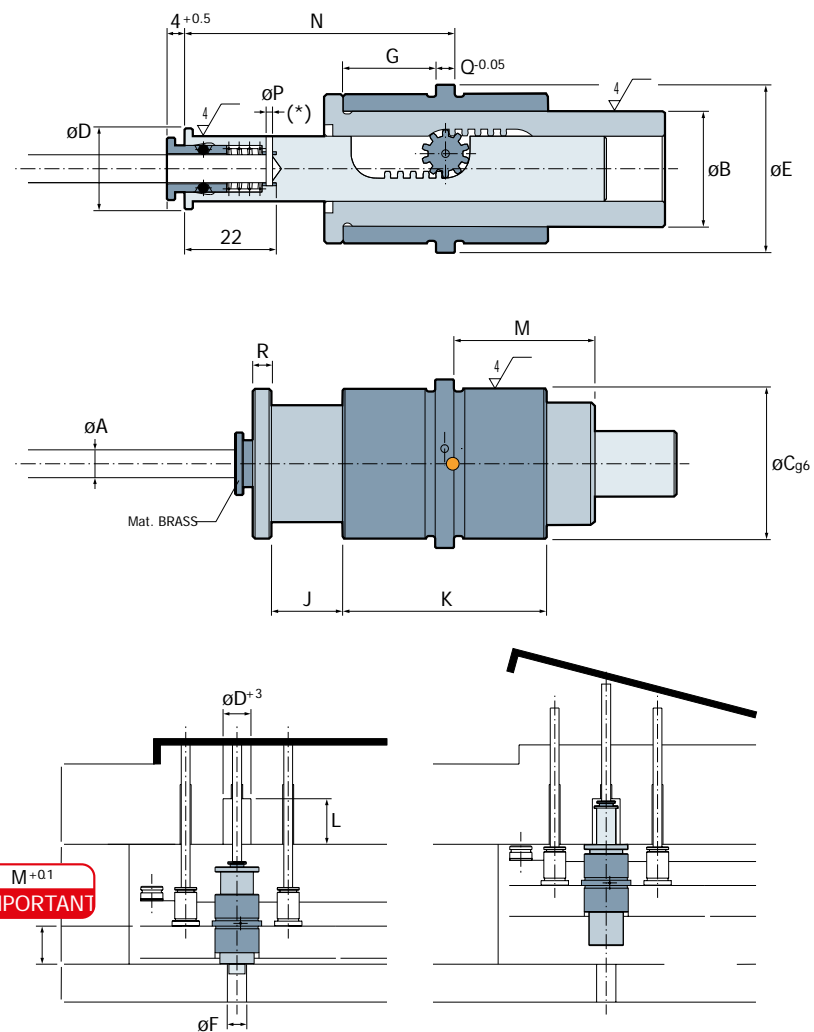
NOMINAL SLEEVE I.D.	D O.D. +.000 -0.002	A +.002 -0.000	B +.005 -0.000	T +.002 -0.0000	C I.D. +.03 -0.00	H +.000 -0.010	OVERALL LENGTH			
							2.50"	3.00"	3.50"	4.00"
							L SHOULDER LENGTH			
							2.00"	2.50"	3.00"	3.50"
3/32	.625	.193	.385	.188	.17	.875	SLX13-20	SLX13-25	SLX13-30	
1/8	.625	.224	.416	.188	.17	.875	SLX15-20	SLX15-25	SLX15-30	
5/32	.625	.255	.448	.188	.17	.875	SLX17-20	SLX17-25	SLX17-30	SLX17-35
3/16	.875	.318	.510	.251	.22	1.125	SLX21-20	SLX21-25	SLX21-30	SLX21-35
7/32	.875	.349	.570	.251	.25	1.125	SLX23-20	SLX23-25	SLX23-30	SLX23-35
1/4	.875	.380	.630	.251	.28	1.125	SLX25-20	SLX25-25	SLX25-30	SLX25-35
5/16	1.000	.443	.698	.251	.34	1.250	SLX29-20	SLX29-25	SLX29-30	SLX29-35
3/8	1.000	.505	.760	.251	.41	1.250	SLX33-20	SLX33-25	SLX33-30	SLX33-35

PCS CUMSA™ Accelerated Ejector

- Compact size with increase stroke length to assist in part ejection
- Cylindrical shape for easy installation
- Provides increased stroke of selected ejector pins 2:1
- Utilizes the ejector base retainer system



SPECIFICATIONS	
Hardness	53 - 57 Rc
Material Type	1.7225
Unit of Measure	Metric DIN



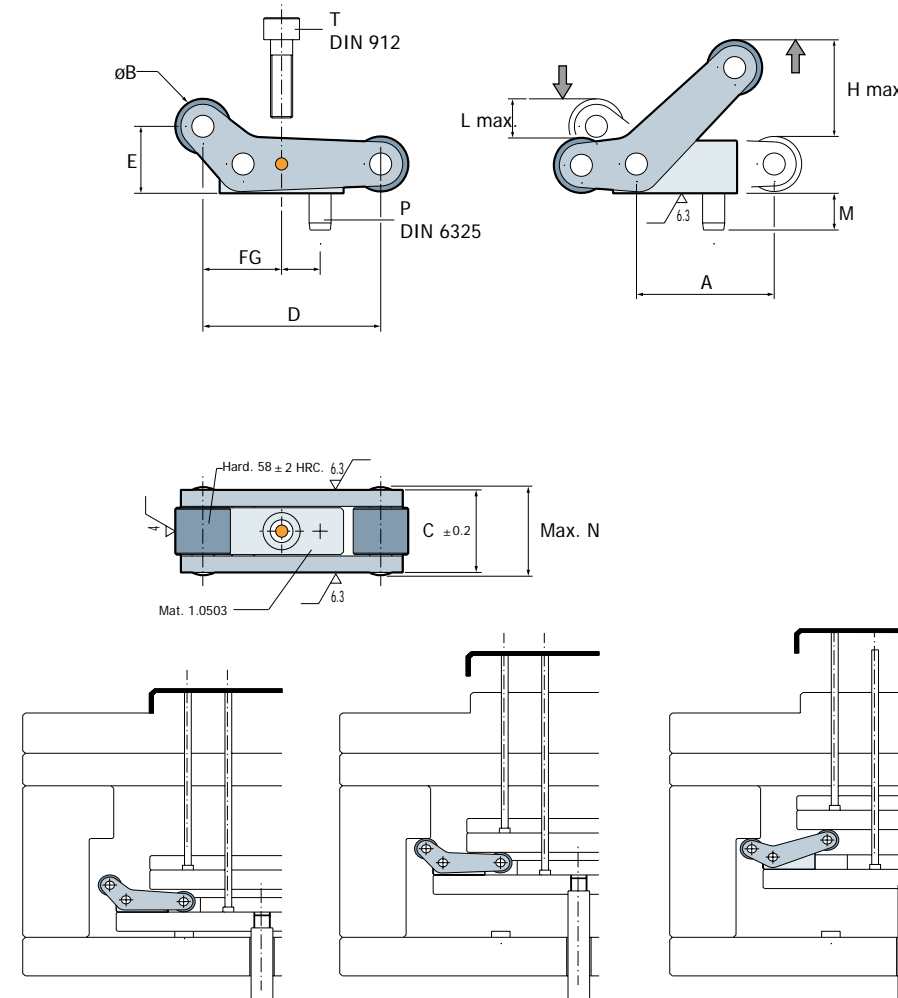
CATALOG NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R
AE 031620	3	16	20	12.5	22	13	14	8	32	22	17	37	-	4	3
AE 032430	3	24	30	12.5	22	13	14	8	32	22	17	37	-	4	3
AE 041620	4	16	20	12.5	22	13	14	8	32	22	17	37	2	4	3
AE 052430	5	24	30	16	34	16	20	15	44	36	27	57	2	4	3
AE 062430	6	24	30	16	34	16	20	15	44	36	27	57	2	4	3
AE 082430	8	24	30	17	34	17	20	15	44	36	27	57	2	4	3
AE 103036	10	30	36	21.5	40	21	28	20	62	46	34	78	2	6	4
AE 123036	12	30	36	21.5	40	21	28	20	62	46	34	78	2	6	4

PCS CUMSA™ Plate Accelerator

- Simple mechanical double ejector system
- Minimum space required for installation
- Avoids complex systems
- Offers a standard solution for molders



SPECIFICATIONS	
Hardness	56 - 60 Rc
Material Type	1.0503
Unit of Measure	Metric DIN



CATALOG NO.	A	B	C	D	E	F	G	H MAX.	L MAX.	M	N	P	T	MAX. FORCE
EP 200813	20	8	13.2	25.8	9.4	11.4	6	13.6	5.5	5	15	Ø 2.5 X 10	M3 X 12	125 kg
EP 251016	25	10	16	32.3	11.8	14.3	7	17	6.8	6	18.5	Ø 3 X 12	M4 X 16	250 kg
EP 371522	37.5	15	22	48.5	17.7	21.5	10.5	25.5	10.2	8	25	Ø 4 X 16	M6 X 25	350 kg
EP 502030	50	20	30	64.6	23.6	28.6	14	34	13.6	10	34	Ø 5 X 20	M8 X 30	800 kg

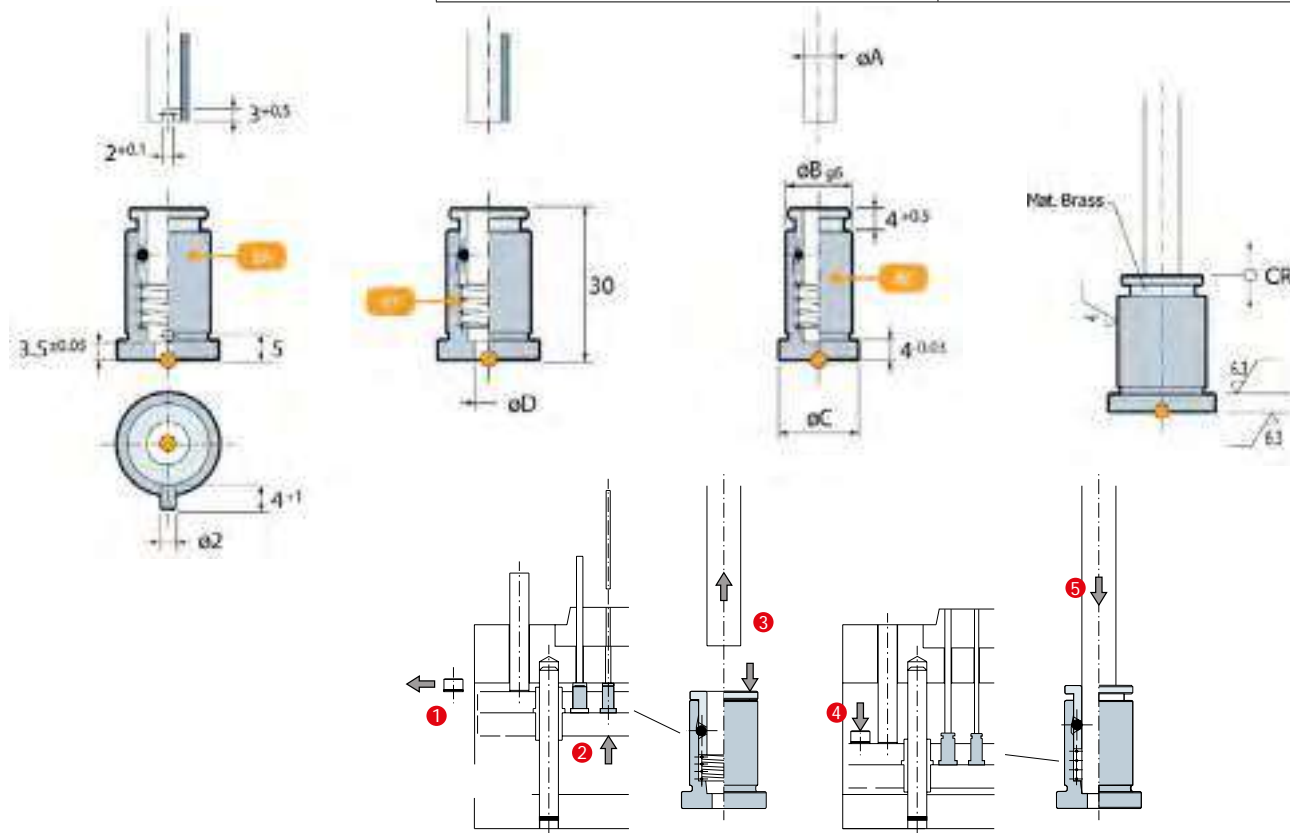
PCS CUMSA™ Headless Ejector Pin Bases

- Removes pin from the Parting Line
- Compact design
- Pins can be replaced from the front of the mold, eliminating the need to disassemble
- Mating headless pins available upon request



The Headless Ejector Pin Base incorporates a unique locking design that holds the ejector pin in place until the top collar is compressed. Due to the special design of the base, Headless Ejector Pins can be replaced from the front of the mold, eliminating the need to disassemble.

SPECIFICATIONS	
Material Type	1.7242
Surface Hardness	56 - 60 Rc
Unit of Measure	Metric DIN

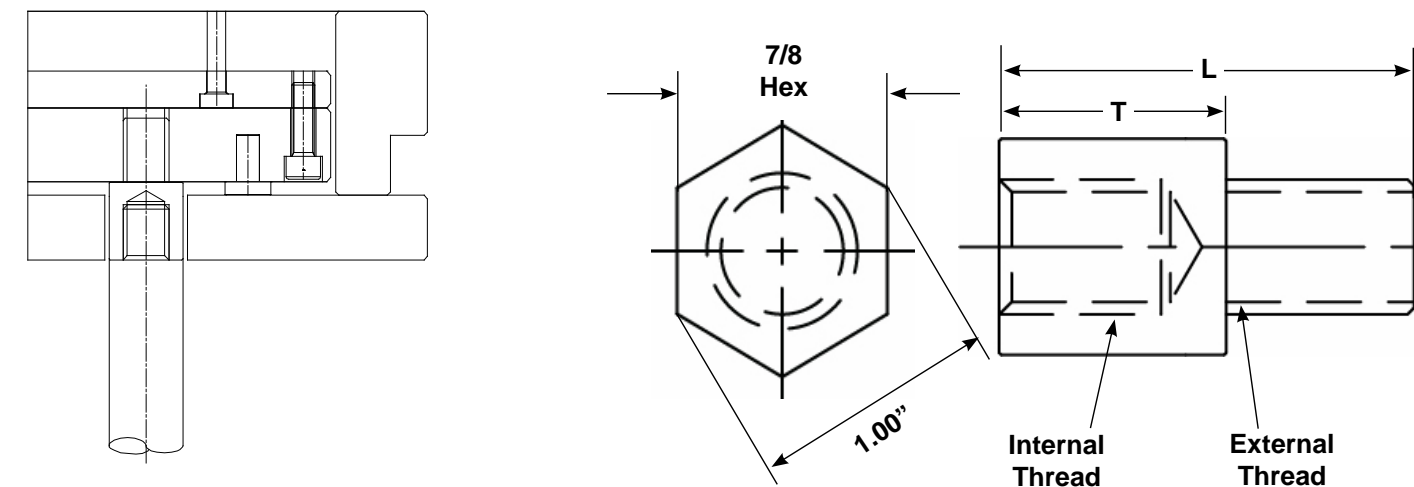


CATALOG NO.	A MATING PIN DIA.	B BASE O.D.	C HEAD O.D.	D KNOCKOUT DIAMETER	CR (N) ROTATIONAL TORQUE		
BE 031115	-	-	3	11	15	—	> =2.550
BE 041216	-	-	4	12	16	—	> =2.500
BE 051317	-	-	5	13	17	—	> =3.800
-	BA 061418	BT 061418	6	14	18	3.5	> =3.800
-	BA 081620	BT 081620	8	16	20	5.5	> =5.100
-	BA 101822	BT 101822	10	18	22	7	> =6.400
-	BA 122024	BT 122024	12	20	24	9	> =7.600

Hex Series Knockout Rod Extensions

- Increases ejection stroke for knockout rod
- Black oxide coating helps to inhibit corrosion

SPECIFICATIONS	
Hex Size	7/8
Material Type	4140
Surface Hardness	28 - 32 Rc
Unit of Measure	Inch



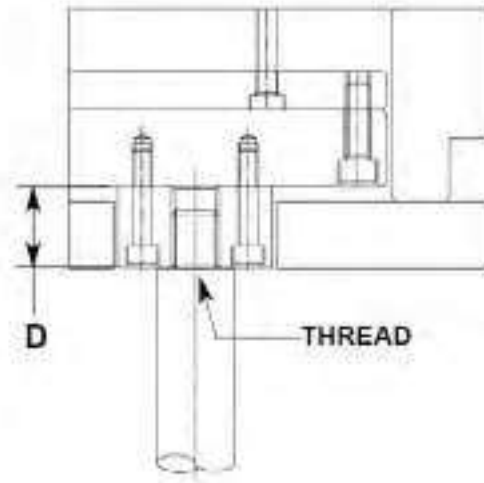
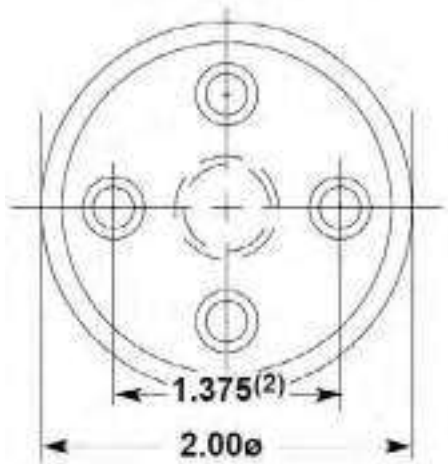
CATALOG NO.	L OVERALL LENGTH	T SHOULDER LENGTH	THREAD SIZE
KRE37-10	1.672	1.052	3/8-16
KRE50-10	1.672	1.052	1/2-13
KRE50-15	2.175	1.552	1/2-13
KRE62-10	1.922	1.052	5/8-11
KRE62-15	2.422	1.552	5/8-11
KRE75-10	1.672	1.052	3/4-10
KRE75-15	2.422	1.552	3/4-10
KRE75-10NT	1.922	1.052	No Female Thread
KRE75-15NT	2.422	1.552	No Female Thread

Round Series Knockout Rod Extensions

- Increases ejection stroke for knockout rod
- Black oxide coating helps to inhibit corrosion
- 1/4 -20 SCHS included



SPECIFICATIONS	
Material Type	4140
Surface Hardness	28 - 32 Rc
Unit of Measure	Inch



CATALOG NO.	D OVERALL HEIGHT	THREAD SIZE
KR37-10	1.052	3/8-16
KR37-15	1.552	3/8-16
KR50-10	1.052	1/2-13
KR50-15	1.552	1/2-13
KR62-10	1.052	5/8-11
KR62-15	1.552	5/8-11
KR75-10	1.052	3/4-10
KR75-15	1.552	3/4-10
KR75-10NT	1.052	No Female Thread
KR75-15NT	1.552	No Female Thread

MOLD ACTION

Angle Pins.....	C3
Cores	
PCS CUMSA™ Compact Coring Unit.....	C5
PCS CUMSA™ Double Ejectors.....	C8
PCS CUMSA™ Flexible Cores.....	C6
PCS CUMSA™ Sprung Cores.....	C7
PCS CUMSA™ Tulip Ejectors.....	C9
Lifters	
E-Z Lifter Series.....	C10
PCS CUMSA™ Compact Housing Lifters.....	C19
Trunnion Lifter.....	C20
Plate Sequence Control	
Friction Puller.....	C67
Latch Lock Sets.....	C56
Roller Pulling Assemblies.....	C63
Ready Slide Assemblies	
100 Series Ready Slide Assemblies.....	C22
200 Series Ready Slide Assemblies.....	C24
300 Series Ready Slide Assemblies.....	C26

MOLD ACTION

Slides

PCS CUMSA™ Auto Slide Retainer.....C29

PCS CUMSA™ Modular Retainer.....C30

Slide Latch.....C32

Slide Retainers.....C31

Wear Products

Bronze Plated Wear Plate.....C36

Gib Assemblies.....C44

Gib Base Plates.....C47

L-Gibs.....C40

Self-Lubricating Wear Plate.....C38

Side Plates.....C39

T-Slides for Gib Assemblies.....C46

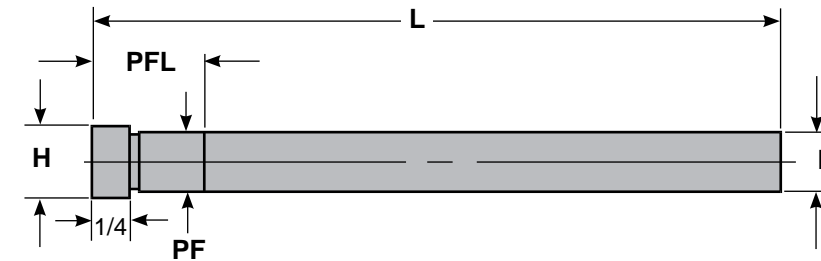
Wear Strips.....C48

Standard Angle Pins

- Premium hot work steel
- Used with PCS lifters and slides
- Precision ground, nitrided



SPECIFICATIONS	
T Head Thickness	1/4
T Head Thickness Tolerance	+0.000 / -.005
Core Hardness	35 - 40 Rc
Surface Hardness	65 - 74 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



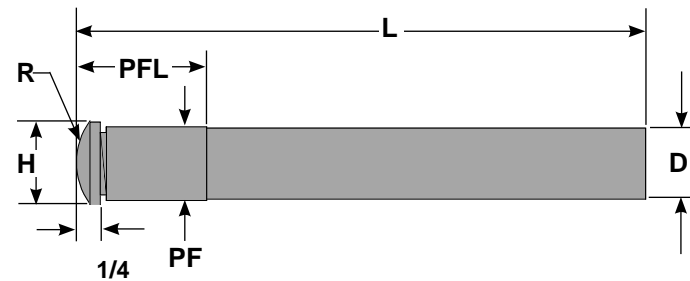
CATALOG NO.	NOMINAL PIN DIAMETER	D ACTUAL PIN DIAMETER +.0000 -.0005	PF PRESSFIT DIAMETER +.0005 -.0000	H HEAD DIAMETER +.000 -.010	PFL PRESSFIT LENGTH	L OVERALL LENGTH +.125 +.000
A25-L6	3/8	0.374	0.376	1/2	7/8	6
A25-L10	3/8	0.374	0.376	1/2	1-3/8	10
A33-L6	1/2	0.499	0.501	5/8	7/8	6
A33-L10	1/2	0.499	0.501	5/8	1-3/8	10
A37-L6	5/8	0.624	0.626	3/4	7/8	6
A37-L10	5/8	0.624	0.626	3/4	1-3/8	10
A41-L10	3/4	0.749	0.751	7/8	1-3/8	10

Radius Angle Pins

- Pre-machined spherical radius on head
- Used with PCS lifters and slides
- Premium hot work steel
- Precision ground, nitrided



SPECIFICATIONS	
Core Hardness	35 - 40 Rc
Surface Hardness	65 - 74 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



CATALOG NO.	NOMINAL PIN DIA.	D ACTUAL PIN DIA. +0.000 -0.005	PF PRESS FIT DIAMETER +0.005 -0.000	R HEAD RADIUS	H HEAD DIAMETER +0.00 -0.010	T HEAD THICKNESS +0.00 -0.005	PFL PRESSFIT LENGTH	L OVERALL LENGTH +0.125 +0.000
APR25-L5	3/8	0.374	0.376	3/8	1/2	1/4	7/8	5
APR25-L6	3/8	0.374	0.376	3/8	1/2	1/4	7/8	6
APR25-L7	3/8	0.374	0.376	3/8	1/2	1/4	1-3/8	7
APR25-L10	3/8	0.374	0.376	3/8	1/2	1/4	1-3/8	10
APR33-L5	1/2	0.499	0.501	1/2	5/8	1/4	7/8	5
APR33-L6	1/2	0.499	0.501	1/2	5/8	1/4	7/8	6
APR33-L7	1/2	0.499	0.501	5/8	5/8	1/4	1-3/8	7
APR33-L10	1/2	0.499	0.501	1/2	5/8	1/4	1-3/8	10
APR37-L6	5/8	0.624	0.626	5/8	3/4	1/4	7/8	6
APR37-L10	5/8	0.624	0.626	5/8	3/4	1/4	1-3/8	10
APR41-L7	3/4	0.749	0.751	3/4	7/8	1/4	1-3/8	7
APR41-L10	3/4	0.749	0.751	3/4	7/8	1/4	1-3/8	10
APR41-L14	3/4	0.749	0.751	3/4	7/8	1/4	1-3/8	14
APR47-L10	1	0.999	1.001	1	1-1/8	5/16	1-3/8	10
APR47-L14	1	0.999	1.001	1	1-1/8	5/16	1-3/8	14

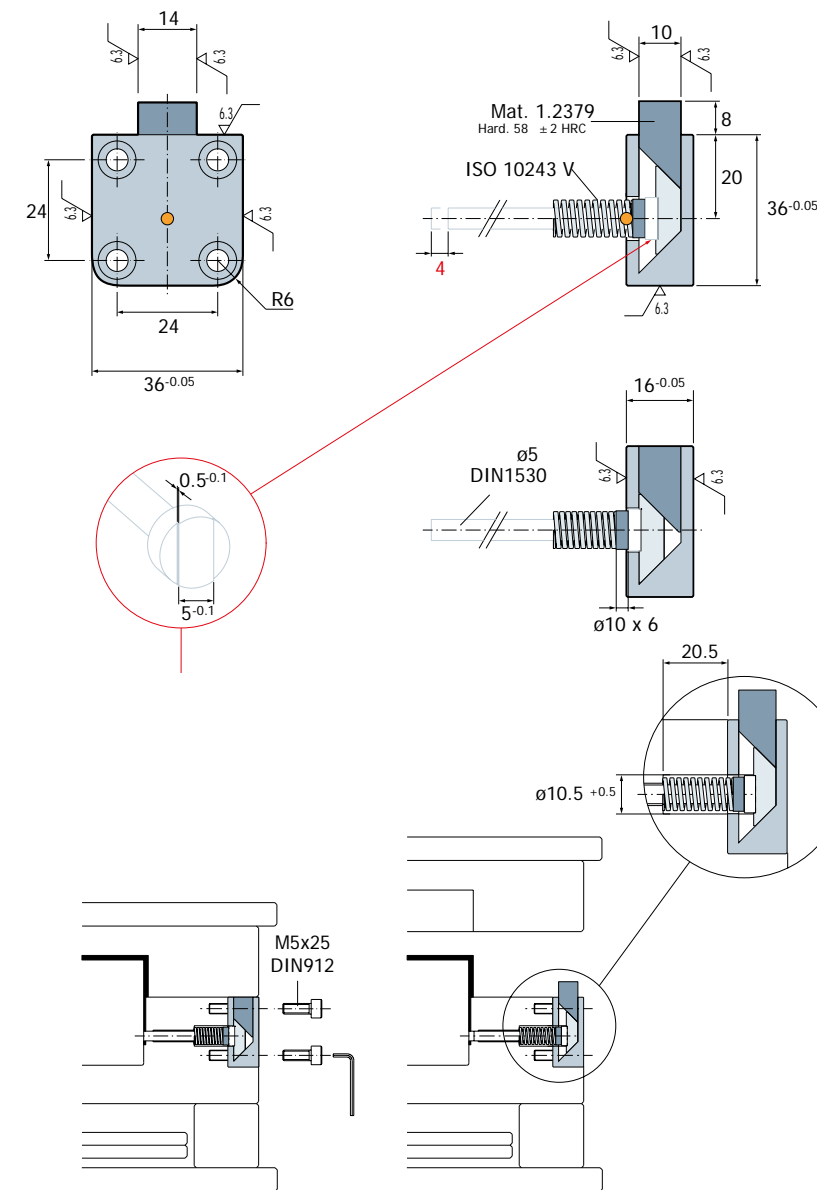
PCS CUMSA™ Compact Coring Units

- Cores out holes with a maximum 4mm part thickness
- Easy to install from outside of the mold
- Installation contained on one half of the mold
- Pin not included

The Compact Coring Unit cores out holes with a maximum 4 mm part thickness. This unit is easy to install from outside of the mold as installation is contained on one half of the mold. This compact solution reduces the costs associated with machining and fitting.



SPECIFICATIONS	
Material Type	1.2344
Unit of Measure	Metric DIN



CATALOG NO.
UA 363616

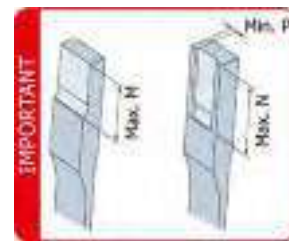
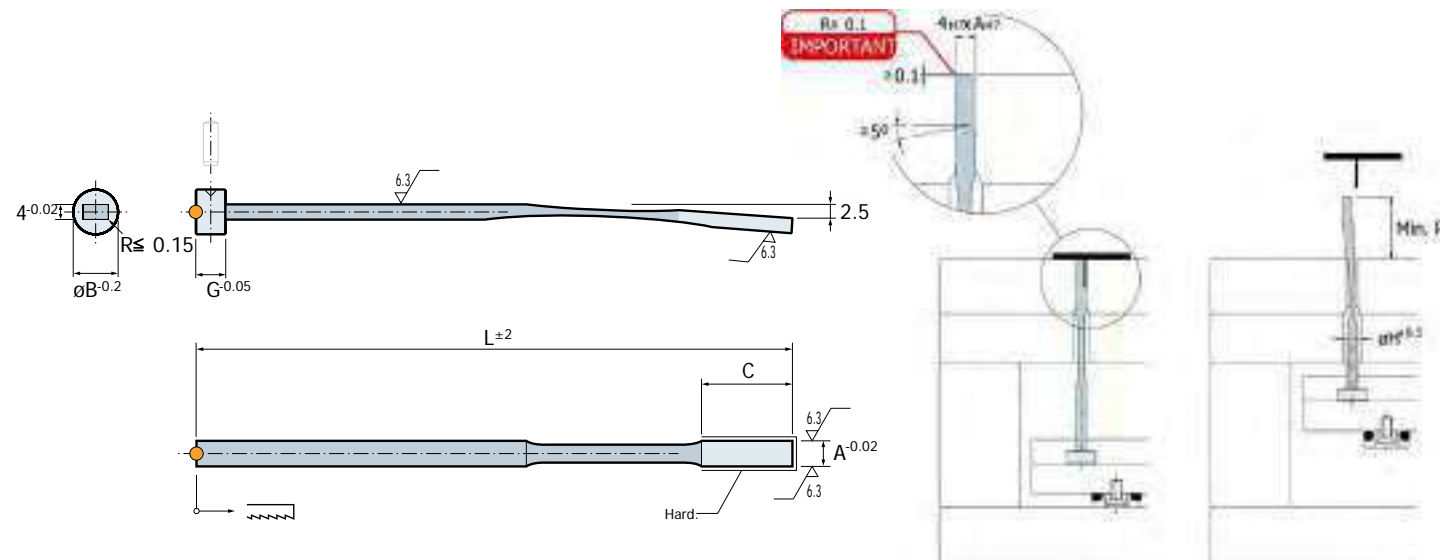
PCS CUMSA™ Flexible Cores

- Minimum space required for installation
- Includes simple adjustment system
- Ejects first then releases undercut

Flexible Cores are useful when releasing small undercuts ranging in thickness from 6 mm to 12 mm. These cores are easy to install and come ready to be machined. The need for slides can be eliminated when using the Flexible Core. For variations of undercuts, refer to the Tulip or Double Ejector.



SPECIFICATIONS	
Hardness	42 - 48 Rc
Material Type	1.2101
Unit of Measure	Metric DIN



CATALOG NO.	A	B	C	G	H	L	M	N	P	R	BALINIT C®
PF 044150	4	8	24	6	5	150	12	14	0.8	30	•
PF 054150	5	8	24	6	6	150	12	14	0.8	30	•
PF 064200	6	12	30	8	7	200	18	20	1	36	•
PF 0642WB	6	12	30	8	7	200	18	20	1	36	•
PF 084200	8	14	30	8	9	200	18	20	1	36	•
PF 104200	10	16	30	8	11	200	18	20	1	36	•
PF 124200	12	18	30	8	13	200	18	20	1	36	•

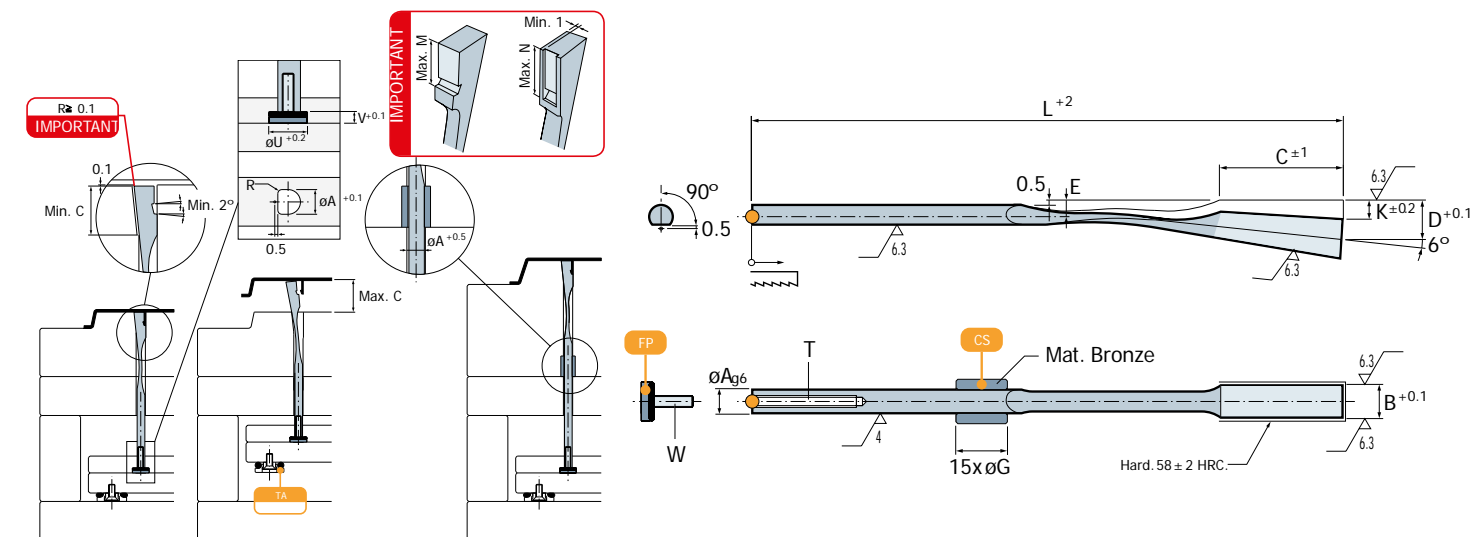
PCS CUMSA™ Sprung Cores

- Minimum space required for installation
- Manufactured from spring steel
- Allows release of small undercuts
- Used for part ejections and activated by ejector plate

A Sprung Core is an excellent way to mold parts with undercuts without the need for a slide assembly. Manufactured from spring steel, the Sprung Core flexes away from the molded undercut in an arcing motion as the ejector plate(s) travel forward. The solid, one-piece, design allows for less machining and ease of installation.



SPECIFICATIONS	
Hardness	56 - 60 Rc
Material Type	1.8159
Unit of Measure	Metric DIN



CATALOG NO.	A	B	C	D	E	K	L	M	N	R	T	U	V	W	CS
PW060622	6	6.2	22	9	3.5	3.5	125	16	18	1.25	M4x36	12	5	M4x16	—
PW060630	6	6.2	30	10	3.5	4.5	175	20	26	1.25	M4x36	12	5	M4x16	•
PW060822	6	8.2	22	9	3.5	3.5	125	16	18	1.25	M4x36	12	5	M4x16	—
PW060830	6	8.2	30	10	3.5	4.5	175	20	26	1.25	M4x36	12	5	M4x16	•
PW080825	8	8.2	25	11.5	4.5	4.5	140	18	21	2	M5x36	14	6	M5x16	—
PW081025	8	10.2	25	11.5	4.5	4.5	140	18	21	2	M5x36	14	6	M5x16	—
PW081030	8	10.2	30	11.2	4.5	4.5	175	20	26	2	M5x36	14	6	M5x16	•
PW081225	8	12.2	25	11.5	4.5	4.5	140	18	21	2	M5x36	14	6	M5x16	—
PW081230	8	12.2	30	11.2	4.5	4.5	175	20	26	2	M5x36	14	6	M5x16	•
PW101430	10	14.2	30	13.6	5.5	5.5	175	20	26	2.5	M6x36	18	8	M6x16	•
PW101630	10	16.2	30	13.6	5.5	5.5	175	20	26	2.5	M6x36	18	8	M6x16	•
PW101830	10	18.2	30	13.6	5.5	5.5	175	20	26	2.5	M6x36	18	8	M6x16	•

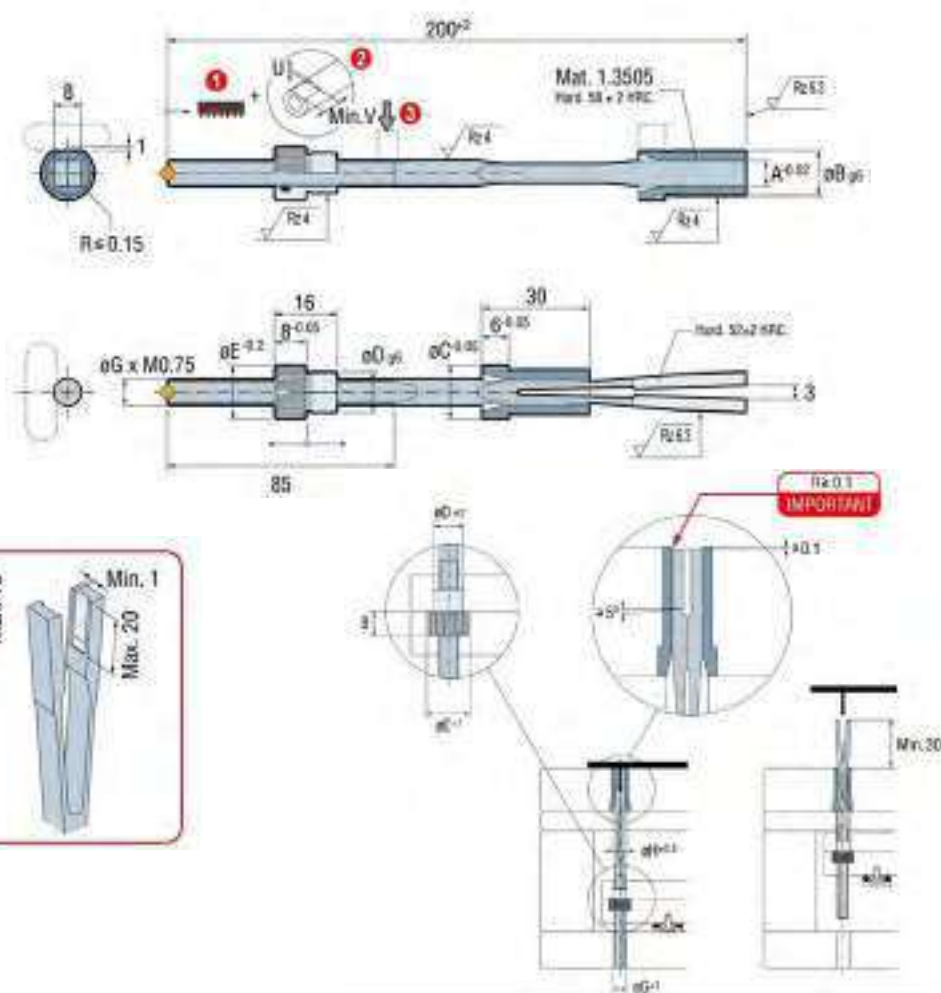
PCS CUMSA™ Double Ejectors

- Simple and easy to install
- Two separate movements in one component
- Minimal footprint
- No need for complex mechanical systems

Double Ejectors are useful when releasing undercuts ranging in thickness from 6 mm to 12 mm. These cores are easy to install and come ready to be machined. The need for slides can be eliminated when using the Double Ejector.



SPECIFICATIONS	
Hardness	42 - 48 Rc
Material Type	1.2101
Unit of Measure	Metric DIN



CATALOG NO.	A	B	C	D	E	G	H	U	V
ED 068200	6	12	14	10	14	6	10	0.5	10
ED 068350	6	12	14	10	14	6	10	0.5	10
ED 088200	8	14	16	12	16	8	12	0.5	10
ED 108200	10	16	18	14	18	8	14	0.5	15
ED 128200	12	16	18	16	20	8	15	0.5	15

Special lengths of 275 mm and 350 mm upon request

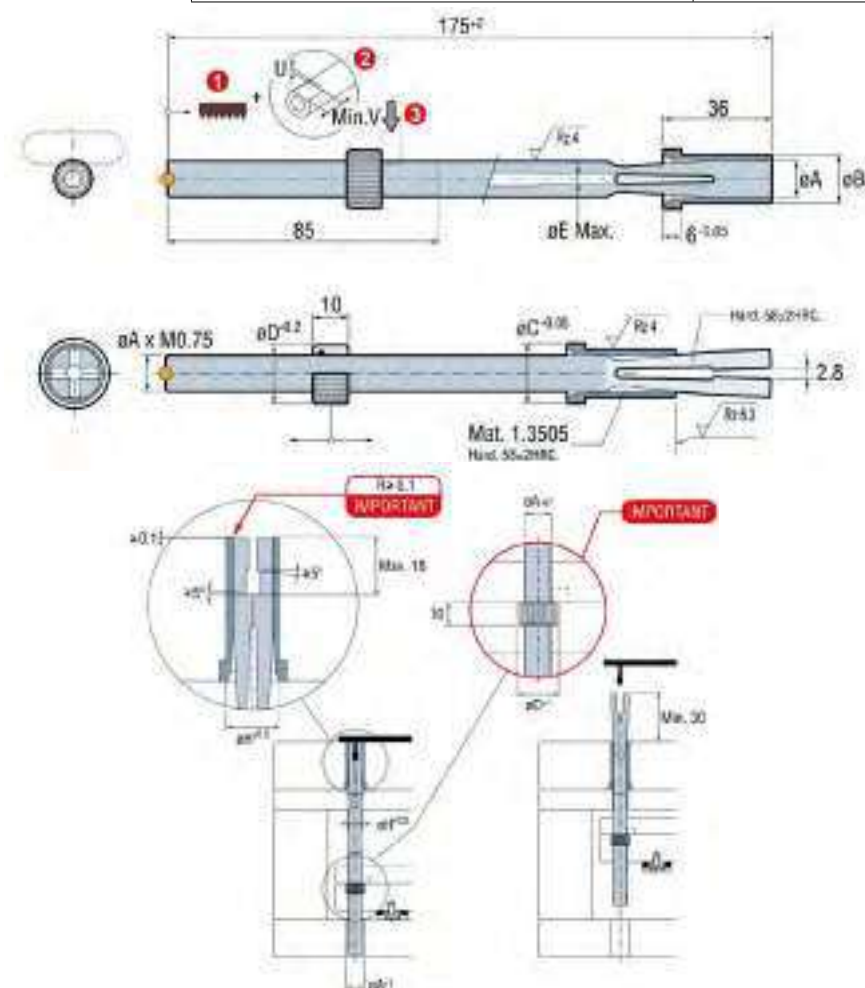
PCS CUMSA™ Tulip Ejectors

- Simple and easy to install
- Four separate movements in one component
- Minimal footprint
- No need for complex mechanical systems

Tulips have four separate movements in one component and are useful when releasing undercuts ranging in thickness from 6 mm to 16 mm. These cores are easy to install and come ready to be machined. The need for slides can be eliminated when using the Tulip.



SPECIFICATIONS	
Hardness	42 - 48 Rc
Material Type	1.2101
Unit of Measure	Metric DIN



CATALOG NO.	A	B	C	D	E	H	U	V
EE 060175	6	10	12	12	-	9	0.5	10
EE 082175	8	12	14	14	2	11	0.5	10
EE 103175	10	14	16	16	3	13	0.5	15
EE 124175	12	16	18	18	4	15	0.5	15
EE 168175	16	20	22	22	8	19	1	20

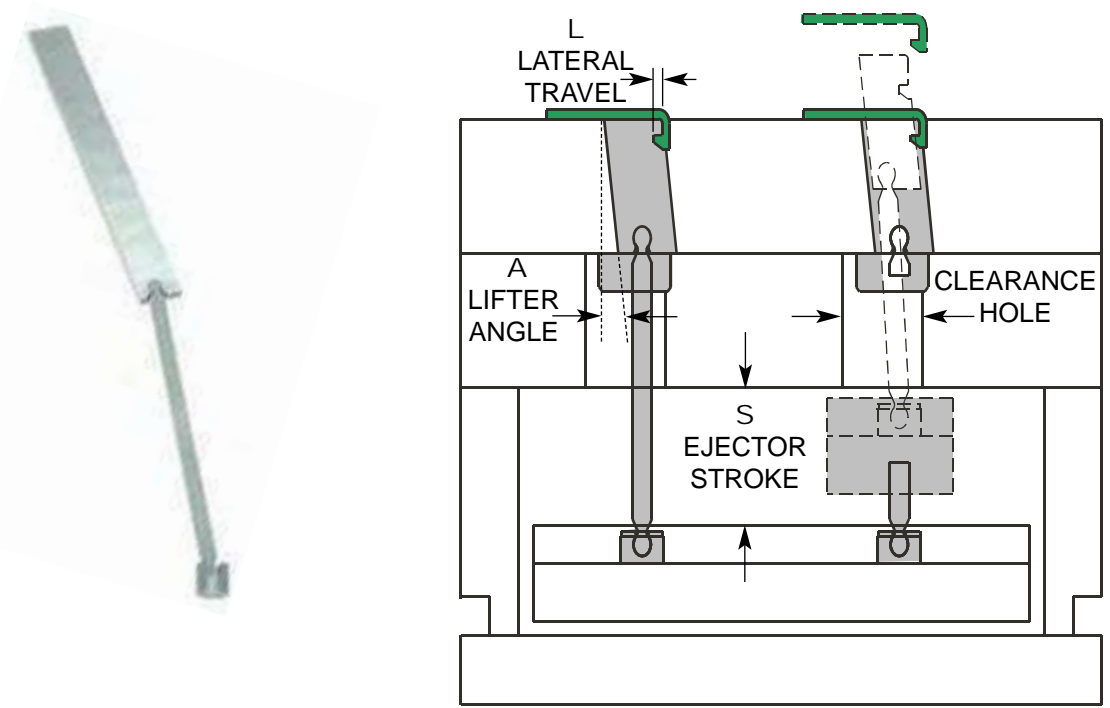
Special lengths of 275 mm and 350 mm upon request

E-Z Lifter Application Guide Choosing your E-Z Lifter System

1. Determine a Lifter Blank Size



2. Determine / Calculate Angle



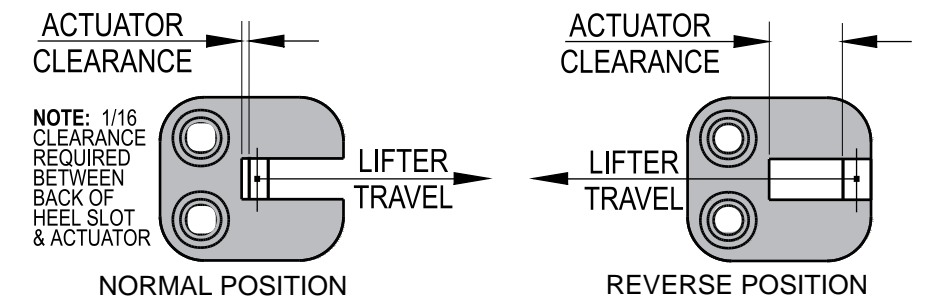
EJECTION STROKE(S)	TYPICAL EXAMPLES						
	LIFTER ANGLE (A)						
	5°	6°	7°	8°	9°	10°	11°
.813	.071	.085	.100	.114	.129	.143	.158
1.063	.093	.112	.131	.149	.168	.187	.207
1.563	.137	.164	.192	.220	.248	.276	.304
2.063	.180	.217	.253	.290	.327	.364	.401
2.563	.224	.269	.315	.360	.406	.452	.498
3.063	.268	.322	.376	.430	.485	.540	.595

TO DETERMINE ANGLE
 $L/S = \tan A$
SEE CHART FOR REFERENCE

E-Z Lifter Application Guide Choosing your E-Z Lifter System

3. Choose Heel Plate Size & Position

- A. Standard
- B. Mini / Compact



4. Determine Retainer Type



5. Determine Actuator Length

- A. Retainer type will determine the actuator length
- B. Determine distance between the knuckle center line of the Lifter Blank to the knuckle centerline of the Retainer while the Lifter is in the retracted position

NOTE: Blank length, ejector plate thickness, or retainer position



E-Z Lifter Application Guide

Retainer Pockets

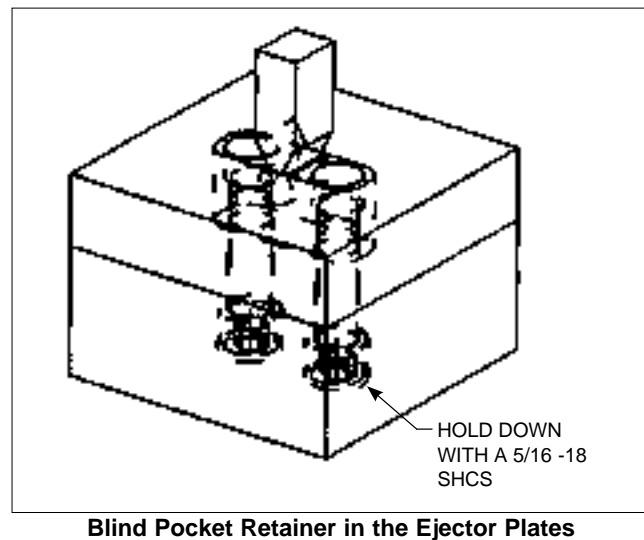
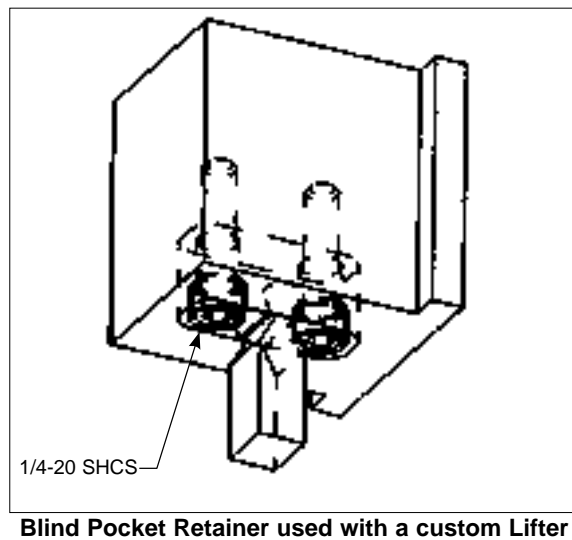
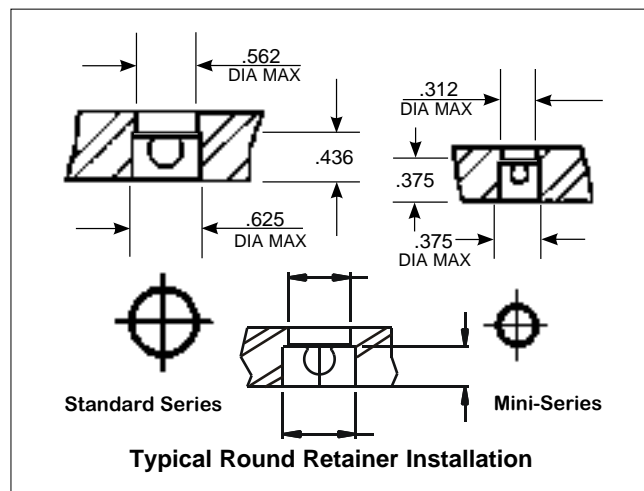
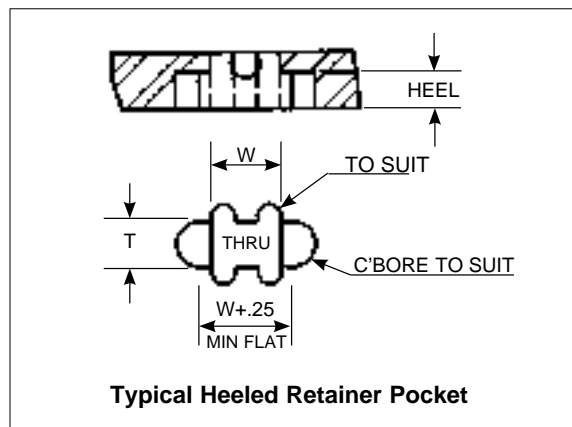
Retainers come in three styles:

- Heeled
- Round
- Blind Pocket

Retainers secure the lower knuckle of the Actuator to the ejector assembly. Pocket machining details are shown for most standard mold base assemblies in the illustration below.

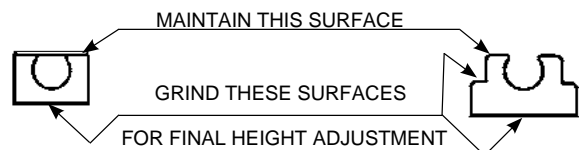
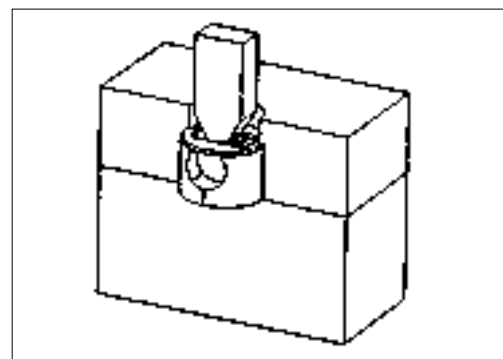
Blind Pocket Retainers are designed to be used at either end of the Actuator:

- Pocket into the bottom of large custom made lifters for linkage to the ejector assembly.
- Pocket into the pin plate or ejector plate for retrofit situations or as an alternate to the heeled and round retainers. See illustrations below for examples of these applications.



Centering Washer

The centering washer with the round retainers is necessary to keep the axis of the Actuators centered in the round Retainer pocket. This washer in conjunction with the heel plate assures that the thrust will be along the axis of the Actuator. The illustration at the right is a typical installation of the round retainer with the centering washer. When adjusting final height on the retainer, grind only the bottom surface of the retainer as shown below.



E-Z Lifter™ Compact Series

- Smooth pivoting motion inhibits galling and reduces wear
- Design eliminates blow back problems
- Heel plates stabilize actuator and act as a positive stop
- Pre-hardened Lifter blanks, no heat treat necessary
- No moving parts in ejector plate (no wear plate assemblies of sliding shoes)
- Simple stationary retainer installed between the ejector plates saves time and machining costs
- All E-Z Lifter™ components in stock
- Patent No. 5,281,127

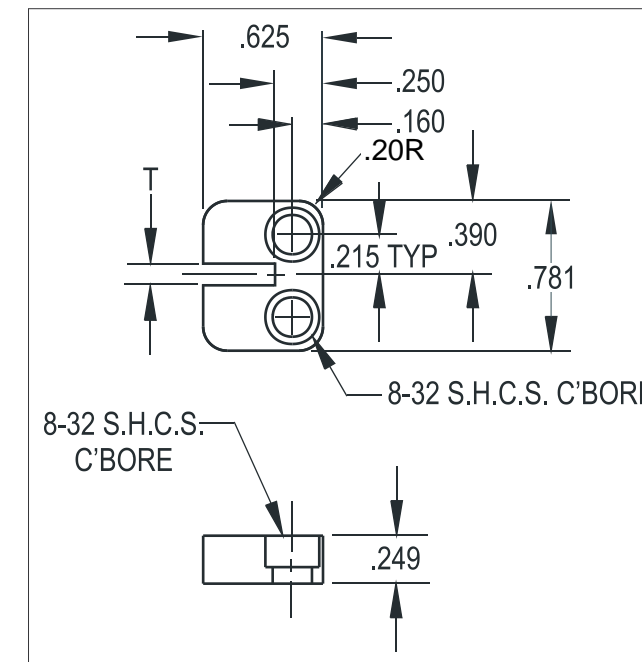
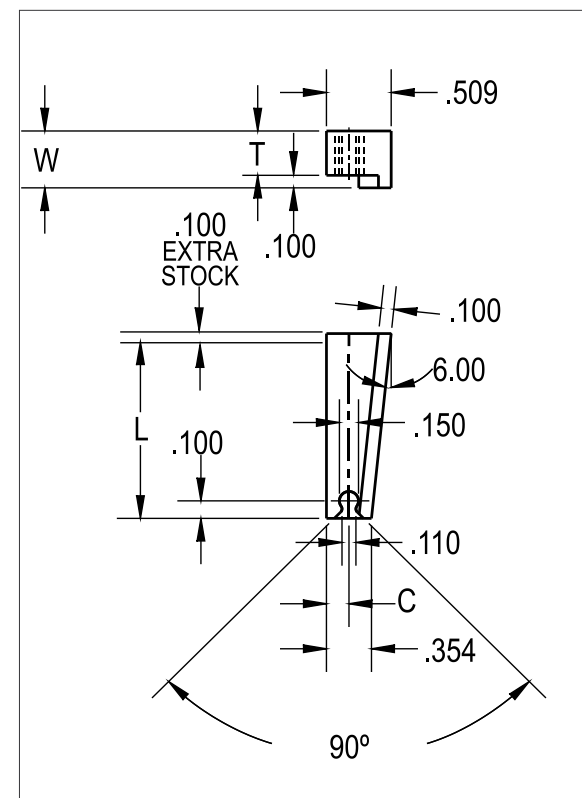


LIFTER BLANKS

LIFTER BLANKS SPECIFICATIONS	
Material Type	Pre-Hardened S-7 Steel
Surface Hardness	54 - 56 Rc
Unit of Measure	Inch

HEEL PLATE

HEEL PLATE SPECIFICATIONS	
Material Type	A-2
Surface Hardness	40 - 44 Rc
Unit of Measure	Inch



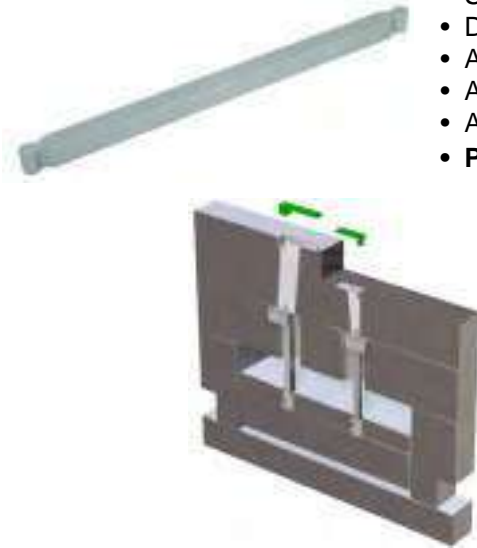
LIFTER BLANKS					
CATALOG NO.	T -.0005 -.001	W	L +.000 -.001	C	COMPATIBLE ACTUATOR
TL1*	.325	0.425	1.375	.145	AM20
TL2*	.483	0.583	1.375	.177	AM20

HEEL PLATES	
CATALOG NO.	T +.005 -.000
MHP-100	.103
MHP-200	.203

*For mirrored lifter blanks, please add "-L" to part # when ordering. (i.e. TL1-L)

E-Z Lifter™ Compact Series

- Smooth pivoting motion inhibits galling and reduces wear
- Design eliminates blow back problems
- Actuators connect lifter blank with retainer
- Available in various lengths
- All E-Z Lifter™ components in stock
- **Patent No. 5,281,127**



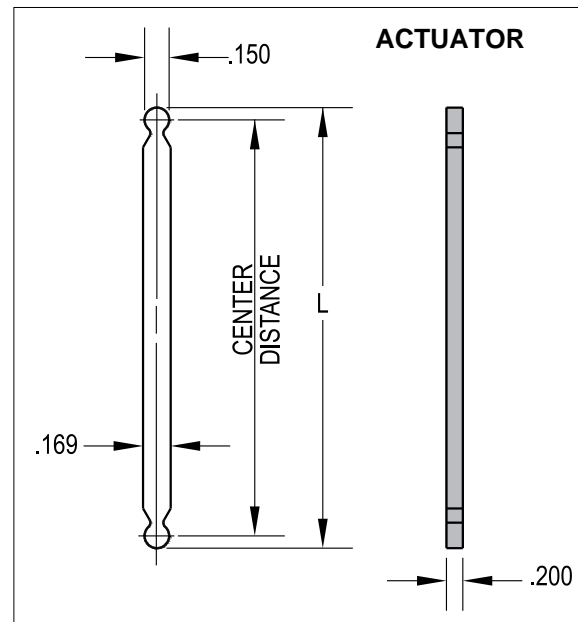
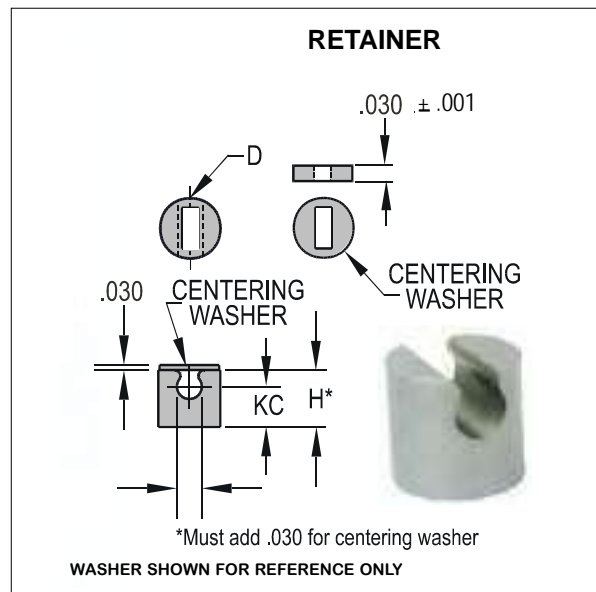
ACTUATORS

ACTUATORS SPECIFICATIONS	
Material Type	O-1
Surface Hardness	50 - 52 Rc
Unit of Measure	Inch

ACTUATORS		
CATALOG NO.	CENTER DISTANCE	L OVERALL LENGTH +.001 / -.001
AM20-269	2.542	2.692
AM20-319	3.042	3.192
AM20-369	3.542	3.692
AM20-419	4.042	4.192
AM20-469	4.542	4.692
AM20-519	5.042	5.192

RETAINERS

RETAINER SPECIFICATIONS	
Material Type	Hot Work Tool Steel
Surface Hardness	50 - 52 Rc
Unit of Measure	Inch



RETAINER			
CATALOG NO.	H +.002 -.002	KC +.002 -.002	D -.0005 -.0008
HR375RM	.345	.245	.375

CENTERING WASHER	
CATALOG NO.	SLOT SIZE
AM10 WASHER	.103 x .220
AM20 WASHER	.203 x .220

Included with actuator & retainer. Can be purchased separately.

E-Z Lifter™ Mini Series

- Smooth pivoting motion inhibits galling and reduces wear
- Design eliminates blow back problems
- Heel plates stabilize actuator and act as a positive stop
- Pre-hardened Lifter blanks, no heat treat necessary
- No moving parts in ejector plate (no wear plate assemblies of sliding shoes)
- Simple stationary retainer installed between the ejector plates saves time and machining costs
- All E-Z Lifter™ components in stock
- **Patent No. 5,281,127**

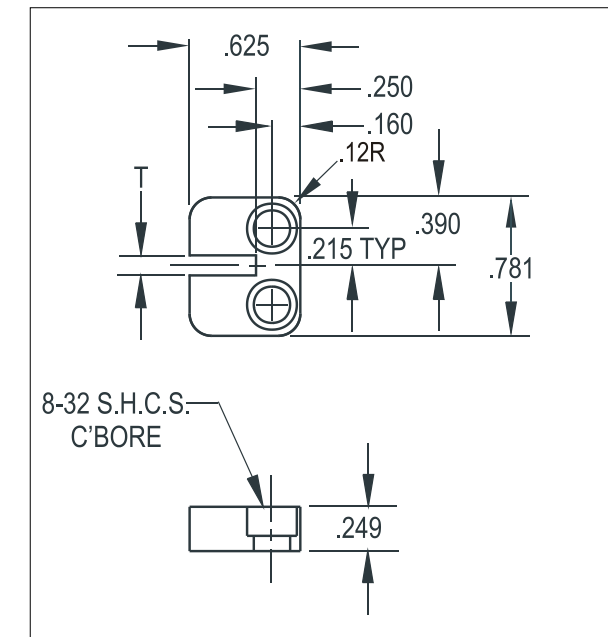
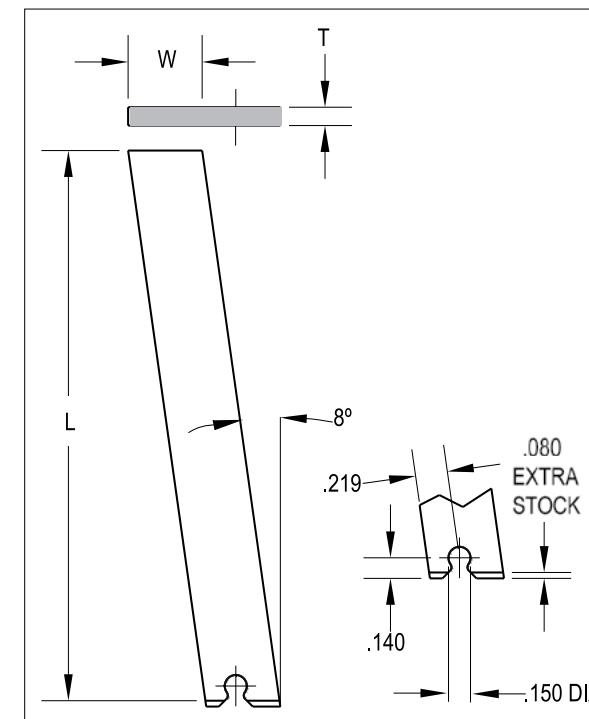


LIFTER BLANKS

LIFTER BLANKS SPECIFICATIONS	
Material Type	Pre-Hardened S-7 Steel
Surface Hardness	54 - 56 Rc
Unit of Measure	Inch

HEEL PLATE

HEEL PLATE SPECIFICATIONS	
Material Type	A-2
Surface Hardness	40 - 44 Rc
Unit of Measure	Inch



Drilled and counterbored for securing in recessed pocket

LIFTER BLANKS				
CATALOG NO.	T -.0005 -.001	W	L +.060 -.001	COMPATIBLE ACTUATOR
LR-01204M	.1250	.500	3.83	AM10
LR-01804M	.1875	.500	3.83	AM10
LR-02504M	.2500	.500	3.83	AM20

HEEL PLATES	
CATALOG NO.	T +.005 -.000
MHP-100	.103
MHP-200	.203

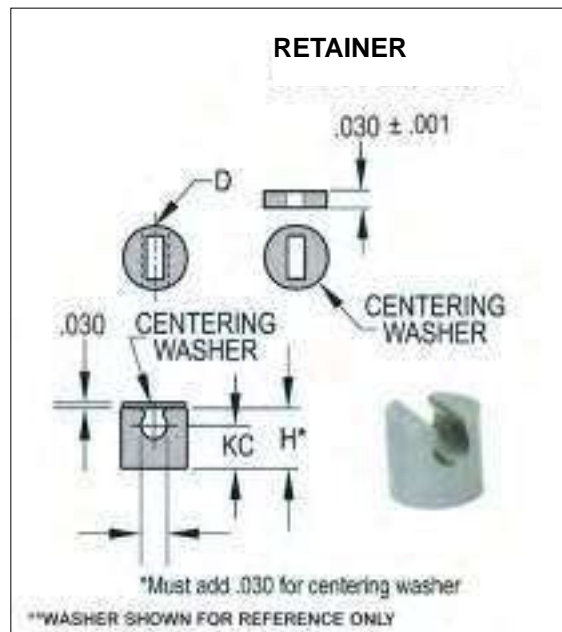
E-Z Lifter™ Mini Series

- Smooth pivoting motion inhibits galling and reduces wear
- Design eliminates blow back problems
- Actuators connect lifter blank with retainer
- Available in various lengths
- All E-Z Lifter™ components in stock
- Special actuators available upon request
- **Patent No. 5,281,127**



RETAINERS

RETAINER SPECIFICATIONS	
Material Type	Hot Work Tool Steel
Surface Hardness	50 - 52 Rc
Unit of Measure	Inch

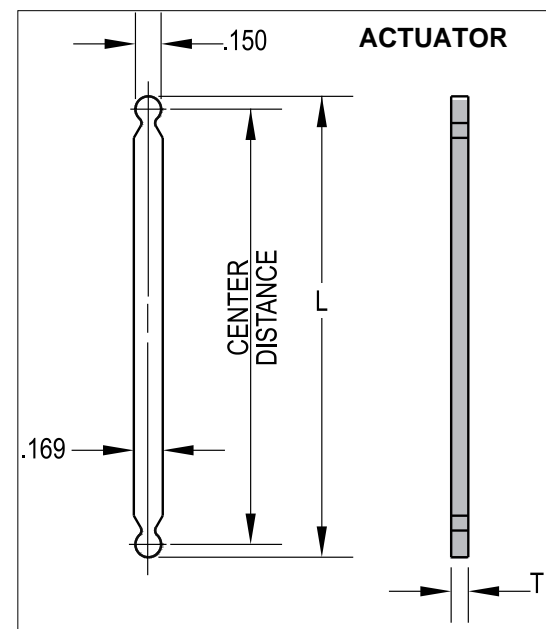


RETAINER			
CATALOG NO.	H	KC	D
	+.002 -.002	+.002 -.002	-.0005 -.0008
HR375RM	.345	.245	.375

ACTUATORS

ACTUATORS SPECIFICATIONS	
Material Type	O-1
Surface Hardness	50 - 52 Rc
Unit of Measure	Inch

ACTUATORS			
CATALOG NO.		CENTER DISTANCE	L OVERALL LENGTH +.001 / -.001
T = .100	T = .200		
AM10-269	AM20-269	2.542	2.692
AM10-319	AM20-319	3.042	3.192
AM10-369	AM20-369	3.542	3.692
AM10-419	AM20-419	4.042	4.192
AM10-469	AM20-469	4.542	4.692
AM10-519	AM20-519	5.042	5.192

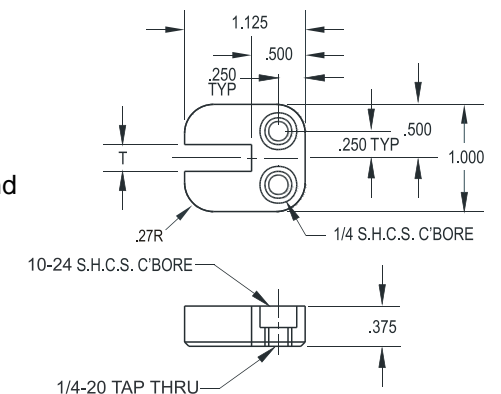


CENTERING WASHER	
CATALOG NO.	SLOT SIZE
AM10 WASHER	.103 x .220
AM20 WASHER	.203 x .220

Included with actuator & retainer. Can be purchased separately

E-Z Lifter™ Standard Series

- Smooth pivoting motion inhibits galling and reduces wear
- Design eliminates blow back problems
- Heel plates stabilize actuator and act as a positive stop
- Pre-hardened Lifter blanks, no heat treat necessary
- No moving parts in ejector plate (no wear plate assemblies of sliding shoes)
- Simple stationary retainer installed between the ejector plates saves time and machining costs
- All E-Z Lifter™ components in stock
- **Patent No. 5,281,127**

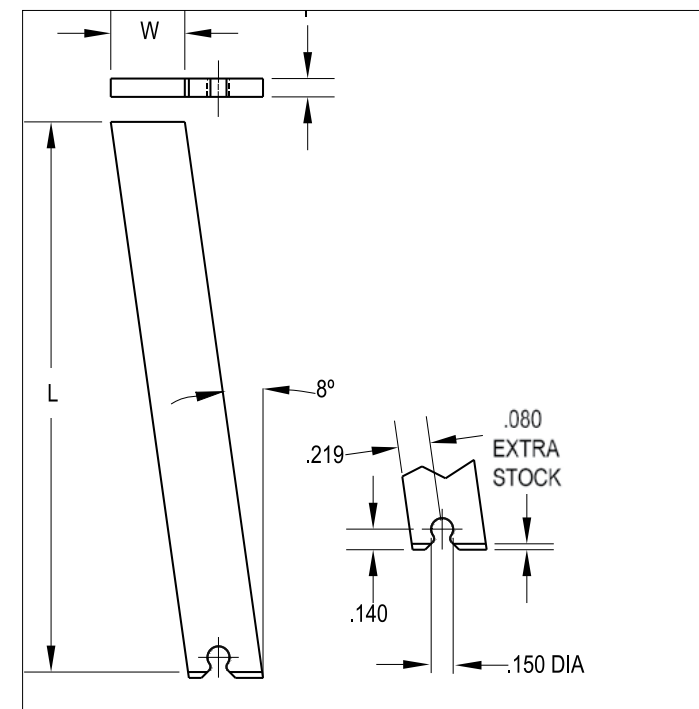


HEEL PLATE

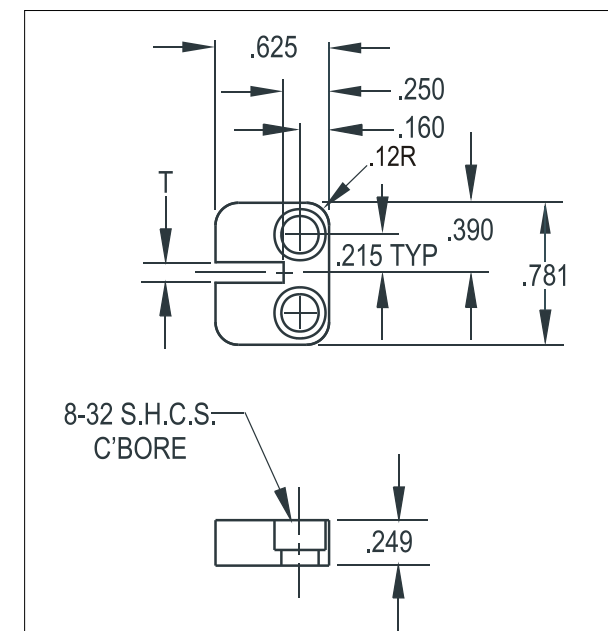
HEEL PLATE SPECIFICATIONS	
Material Type	A-2
Surface Hardness	40 - 44 Rc
Unit of Measure	Inch

LIFTER BLANKS

LIFTER BLANKS SPECIFICATIONS	
Material Type	Pre-Hardened S-7 Steel
Surface Hardness	54 - 56 Rc
Unit of Measure	Inch



LIFTER BLANKS				
CATALOG NO.	T	W	L	COMPATIBLE ACTUATOR
LR02504	.250	1.000	3.83	A25
LR03804	.375	1.000	3.83	A25
LR05004	.500	1.000	3.83	A25 & A50
LR06204	.625	1.000	3.83	A25 & A50
LR07504	.750	1.250	4.00	A50
LR10004	1.000	1.250	4.00	A50
LR15004	1.500	1.500	4.00	A50



HEEL PLATES	
CATALOG NO.	T
	+.005 -.000
HP-100	.250
HP-200	.500

E-Z Lifter™ Standard Series

RETAINERS



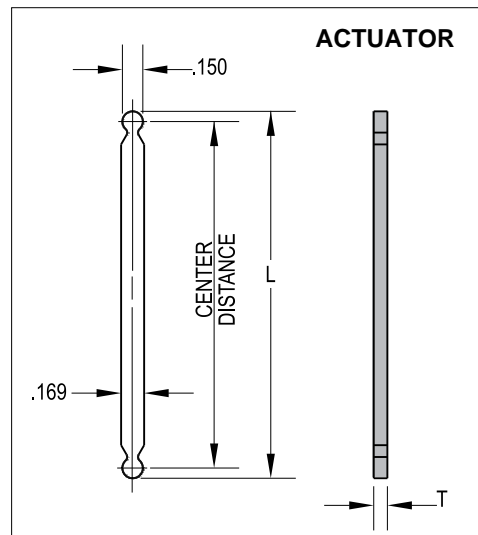
ACTUATORS

ACTUATORS SPECIFICATIONS

Material Type	O-1
Surface Hardness	50-52 Rc
Unit of Measure	Inch

ACTUATORS

CATALOG NO.		CENTER DISTANCE	L OVERALL LENGTH +.001 / -.001
T = .240	T = .490		
A25-325	A50-325*	2.938	3.250
A25-375	A50-375*	3.438	3.750
A25-400	A50-400*	3.688	4.000
A25-425	A50-425*	3.938	4.250
A25-450	A50-450*	4.188	4.500
A25-475	A50-475*	4.438	4.750
A25-525	A50-525*	4.938	5.250



*Centering washer not used with A50 series actuator

BLIND POCKET RETAINER

- Designed to be fastened from top with 1/4 SHCS or from the bottom with 5/16 SHCS
- Adjustments may be made by grinding the bottom of retainer

ROUND RETAINER

- Simplest installation requiring only a drilled and counterbored hole
- ONLY HR625R supplied with a .030" thick centering washer
- Centering washer slot size is .253 x .377
- HR750R Retainer to be used with A50 Actuator

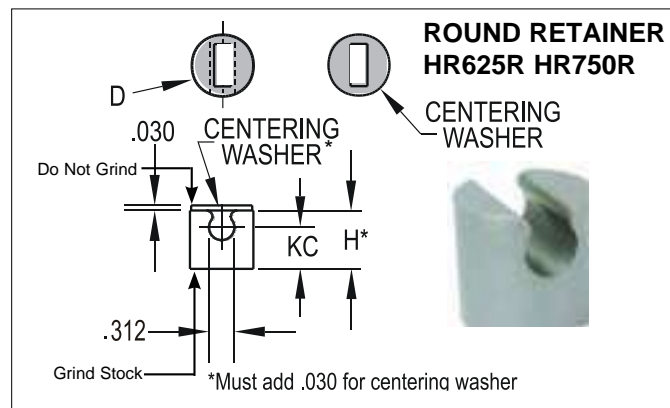
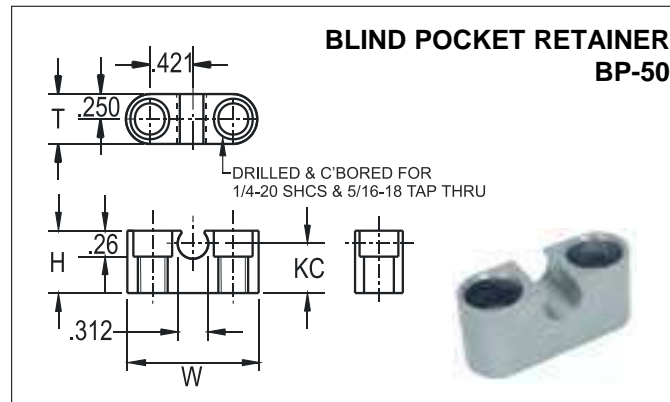
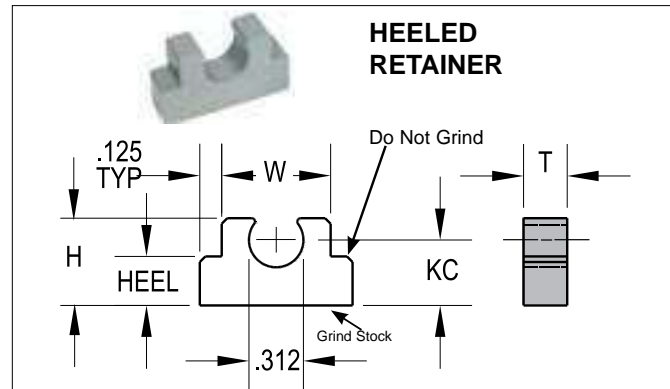
HEELED RETAINERS

- No fasteners are required - only a heel pocket is necessary for installation

RETAINER SPECIFICATIONS	
Material Type	Hot Work Tool Steel
Surface Hardness	50-52 Rc
Unit of Measure	Inch

RETAINER

CATALOG NO.	H +.002 -.002	HEEL	W +.000 -.002	KC +.002 -.002	T +.000 -.002	D -.0005 -.0008
BP-50	.625	-	1.375	.500	.500	-
HR-25	.500	.281	.625	.375	.250	-
HR-50	.625	.406	.750	.500	.500	-
HR625R	.406	-	-	.281	-	.625
HR750R	.406	-	-	.281	-	.750



PCS CUMSA™ Compact Housing Lifters

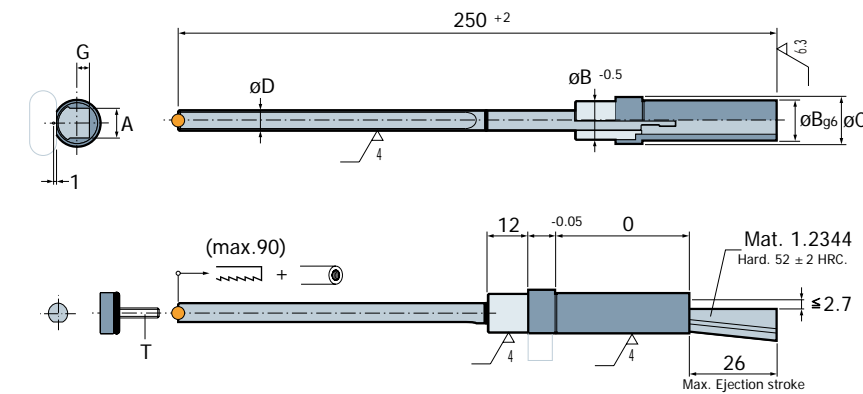
- Used to release small undercuts
- Pre-adjusted base unit and slides
- Undercut and ejection are in the same direction

Compact Housing Lifters are used to release small undercuts. This unit is completely pre-adjusted and easy to install. With the vertical movement being perpendicular to the ejector plates, minimum space is required for installation.

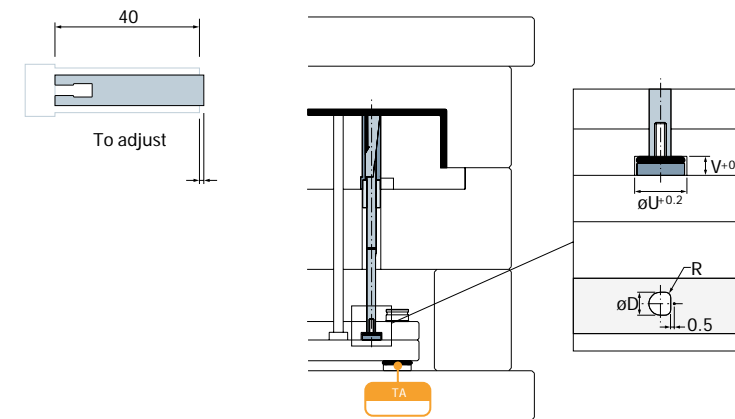


SPECIFICATIONS

Material Type	1.4034
Surface Hardness	48-52 Rc
Unit of Measure	Metric DIN



CATALOG NO.	A	B	C	D	G	T	U	V	R
PS 062250	6.2	10	12	6	3.4	M4X16	12	5	1.25
PS 082250	8.2	12	14	6	4	M4X16	12	5	1.25
PS 102250	10.2	14	16	8	4.2	M5X16	14	6	2
PS 122250	12.2	16	18	8	4.2	M5X17	14	6	2



LIFTER REPLACEMENT	FOR
RP 064000	PS 062250
RP 084000	PS 082250
RP104000	PS 102250
RP124000	PS122250

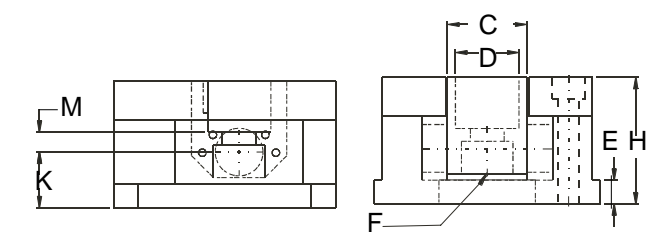
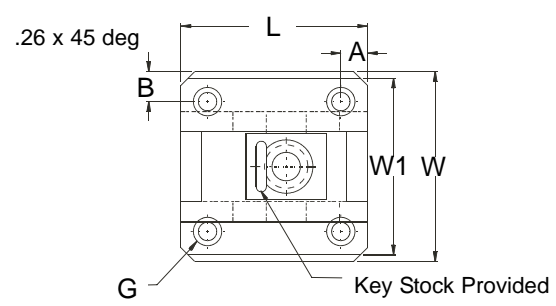
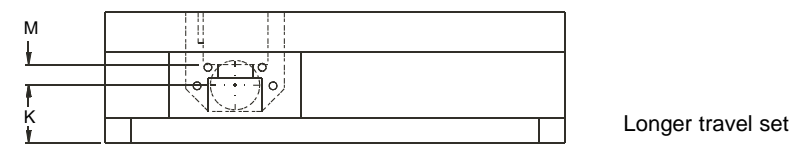
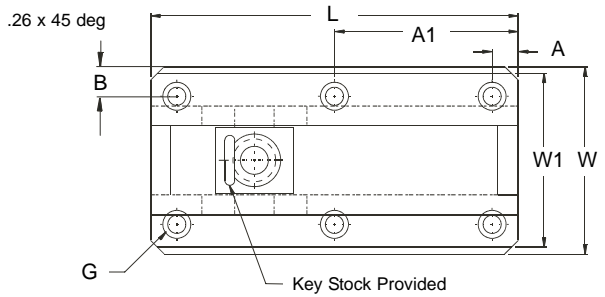
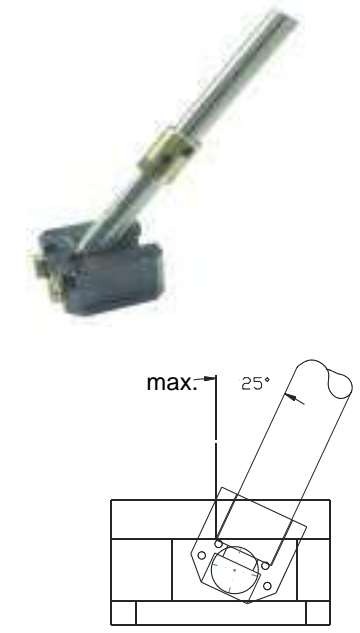
Trunnion - Lifter Base

- Grease grooves standard
- Bearing block C954 material
- Designed to be used with PCS Trunnion lifter rods

PCS Trunnion Lifters assist in accommodating movement or action within the mold. Trunnion Lifters reduce the amount of complex machining needed to incorporate a slide, lifter or cam into the mold.

SPECIFICATIONS	
A	0.5
E	0.375
A Tolerance	+ .005 / - .005
E Tolerance	+ .000 / - .005
Material Type	Bearing Block: C954, All other: P20 Steel
Unit of Measure	Inch

REPLACEMENT BEARING BLOCKS	
Assembly	Grease Grooves
TLB-050	BBP-050
TLB-075	BBP-075
TLB-100	BBP-100



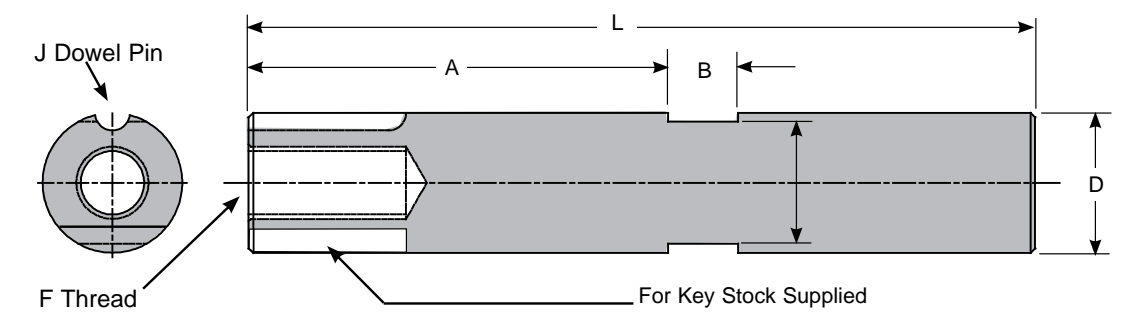
CATALOG NO.	W +.000 -.010	L +.000 -.010	H +.000 -.100	W1 +.000 -.010	A1 +.005 -.005	B +.005 -.005	C	D	F	G	K	M	STROKE
TLB-050	2.190	3.000	1.500	1.940	-	.343	.625	1/2	1/4	10-24	.734	.265	1.5
TLB-075	2.888	3.250	1.750	2.702	-	.363	.875	3/4	3/8	1/4-20	.859	.241	1.5
TLB-075-L	2.888	5.000	1.750	2.700	2	.363	.875	3/4	3/8	1/4-20	.859	.241	3.25
TLB-075-XL	2.888	7.000	1.750	2.700	3.5	.363	.875	3/4	3/8	1/4-20	.859	.241	5.25
TLB-100	3.562	3.500	2.000	3.312	-	.438	1.250	1	1/2	5/16-18	.875	.313	1.5
TLB-100-L	3.562	5.000	2.000	3.312	2.5	.438	1.250	1	1/2	5/16-18	.875	.313	3
TLB-100-XL	3.562	7.000	2.000	3.312	3	.438	1.250	1	1/2	5/16-18	.875	.313	5

Trunnion - Lifter Rod

- Hardened steel material
- Designed to be used with PCS Trunnion lifter base

PCS Trunnion Lifters assist in accommodating movement or action within the mold. Trunnion Lifters reduce the amount of complex machining needed to incorporate a slide, lifter or cam into the mold.

SPECIFICATIONS	
Coating	Nitride
Material Type	P20 Steel
Surface Hardness	65 -74 Rc
Unit of Measure	Inch



Material: P20 Nitrided

CATALOG NO.	NOMINAL DIAMETER	L +.06 -.00	D +.000 -.001	A +.010 -.010	B +.005 -.0000	C	F	J
LR050-12	1/2	12	.499	2	3/8	3/8	1/4-20	1/8
LR050-18	1/2	18	.499	2	3/8	3/8	1/4-20	1/8
LR075-06	3/4	6	.749	2.5	1/2	5/8	3/8-16	1/4
LR075-12	3/4	12	.749	2.5	1/2	5/8	3/8-16	1/4
LR075-18	3/4	18	.749	2.5	1/2	5/8	3/8-16	1/4
LR075-30	3/4	30	.749	2.5	1/2	5/8	3/8-16	1/4
LR100-06	1	6	.999	3	1/2	7/8	1/2-13	1/4
LR100-12	1	12	.999	3	1/2	7/8	1/2-13	1/4
LR100-24	1	24	.999	3	1/2	7/8	1/2-13	1/4
LR100-36	1	36	.999	3	1/2	7/8	1/2-13	1/4

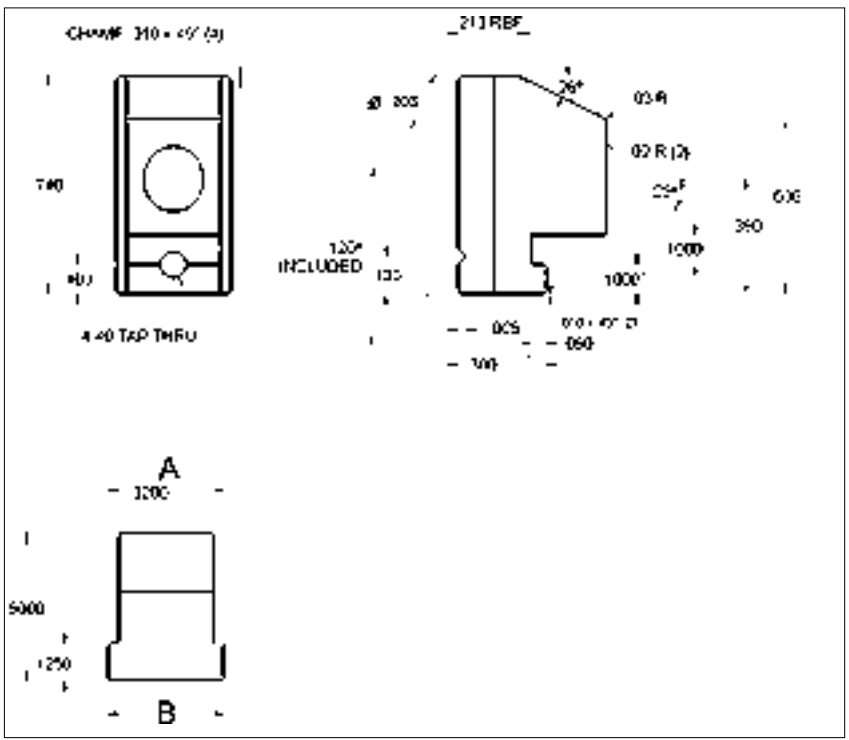
100 Series Ready Slide Assemblies

- Armorclad surface treatment on slide
- Reduces lead time
- Easy installation
- Mounting screws provided
- The lubricious properties of the armor coating treatment combined with the qualities of graphitic tool steel (0-6) provide a smooth acting slide system
- Units are finished with grind stock on overall width, bottom of guide shoe, and wedge angle

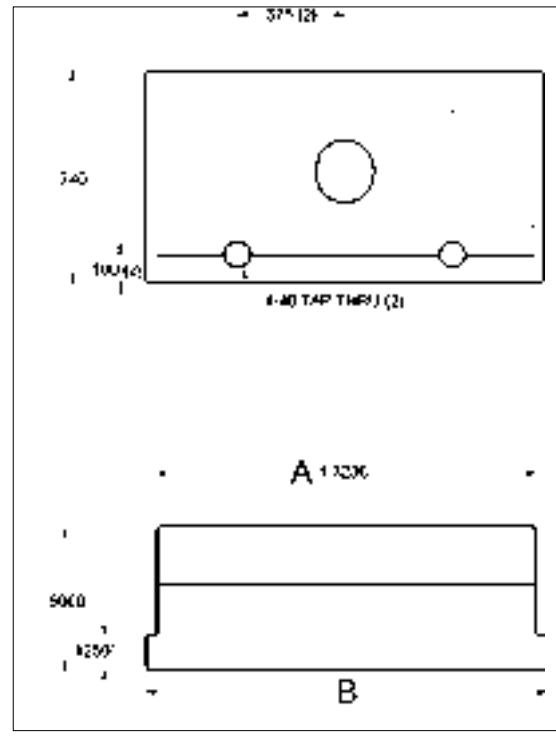


SLIDE SPECIFICATIONS	
Surface Treatment	Armor Coated
Hardness	50 - 52 Rc
Material Type	Hot Work Tool Steel Hardened & Ground
Unit of Measure	Inch

RSA-101



RSA-102

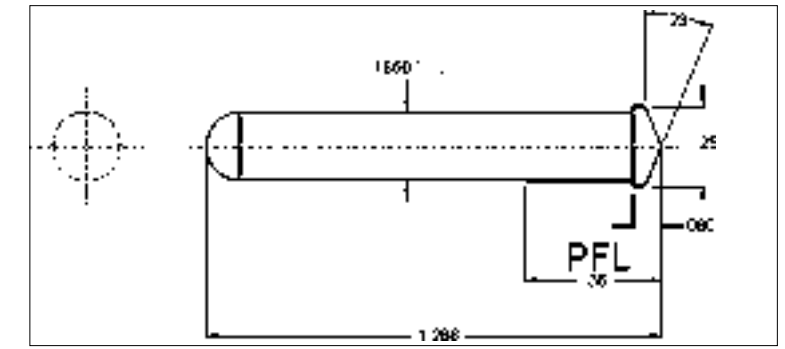


READY SLIDE ASSEMBLY				
CATALOG NO.	OVERALL WIDTH	OVERALL HEIGHT	MAX CAM STROKE	SLIDE HEIGHT
RSA-101	.760	1.190	.250	.500
RSA-102	1.760	1.190	.250	.500

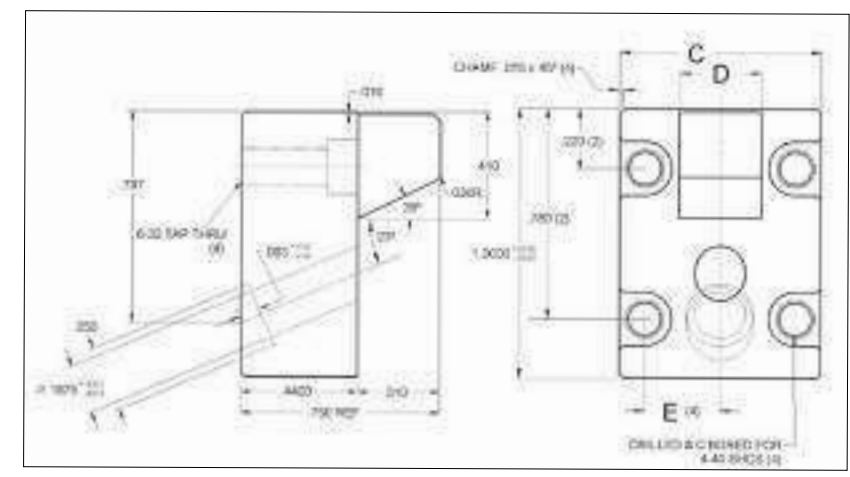
ANGLE PIN	SLIDE				WEDGE			GUIDE SHOE			
CATALOG NO.	CATALOG NO.	A	B	CATALOG NO.	C	D	E	CATALOG NO.	G	H	J
RSA-100-AP	RSA-101-SL	.3200	.390	RSA-101-W	.760	.305	.280	RSA-101-SH	.760	.400	.280
	RSA-102-SL	1.3200	1.390	RSA-102-W	1.760	1.305	.781	RSA-102-SH	1.760	1.400	.781

100 Series Ready Slide Assemblies

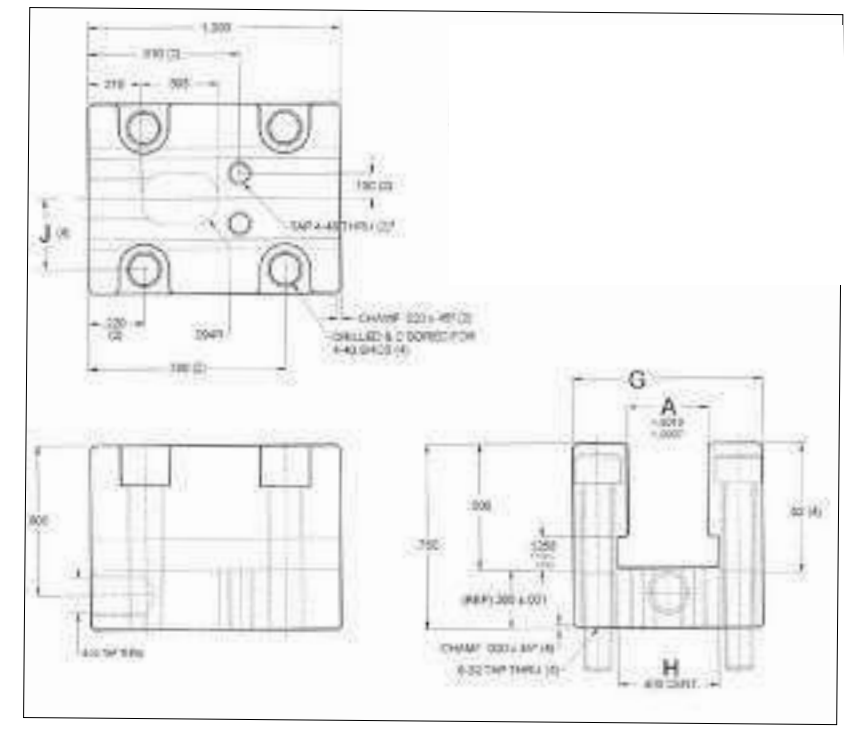
ANGLE PIN SPECIFICATIONS	
Hardness	50 - 52 Rc
Material Type	Hot Work Tool Steel Hardened & Ground
Unit of Measure	Inch



WEDGE SPECIFICATIONS	
Hardness	54 - 56 Rc
Material Type	S-7 Hardened & Ground
Unit of Measure	Inch



GUIDE SHOE SPECIFICATIONS	
Hardness	54 - 56 Rc
Material Type	06 Hardened & Ground
Unit of Measure	Inch



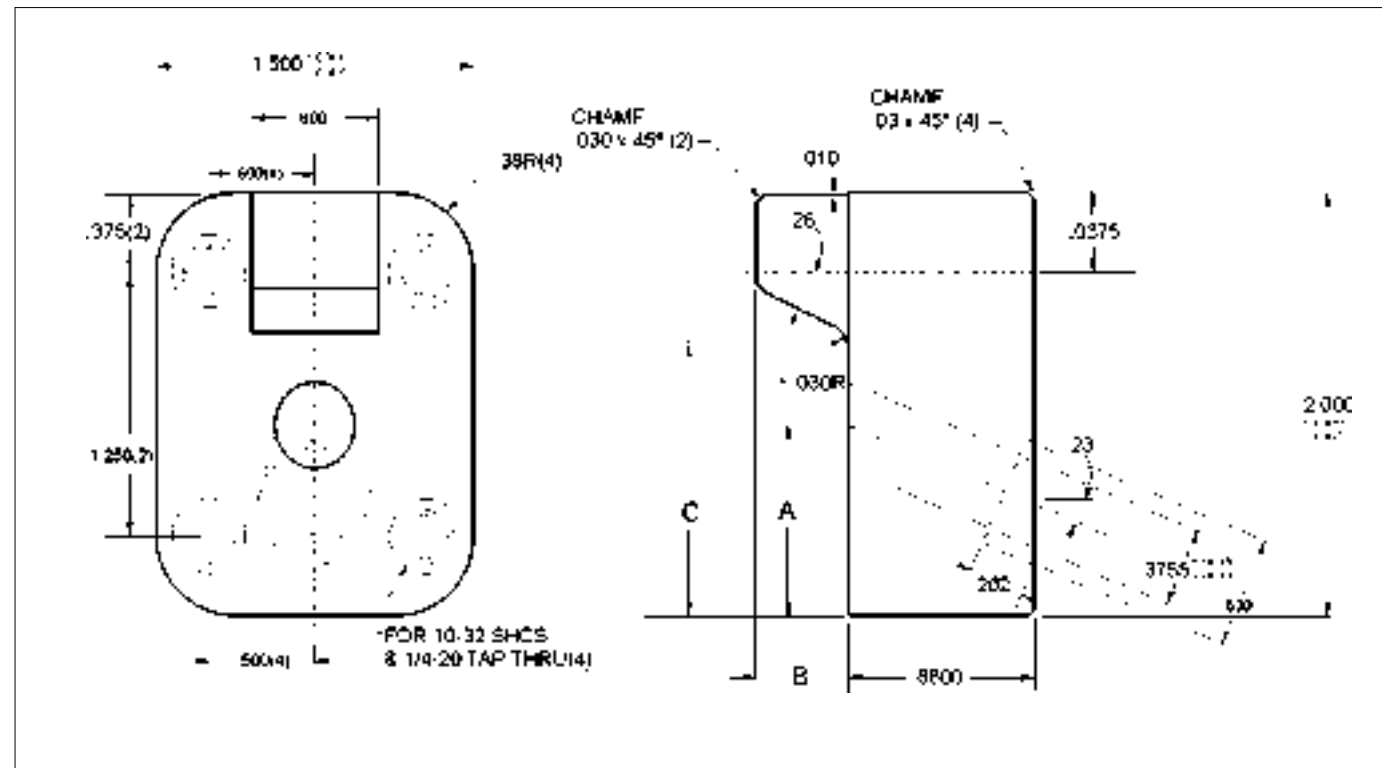
Note: 4-48 (4) on RSA-102 for spring plunger set screws (provided)

200 Series Ready Slide Assemblies

- Armorclad surface treatment on slide
- Reduces lead time
- Easy installation
- Mounting screws provided
- The lubricious properties of the armor coating treatment combined with the qualities of graphitic tool steel (0-6) provide a smooth acting slide system
- Units are finished with grind stock on overall width, bottom of guide shoe, and wedge angle



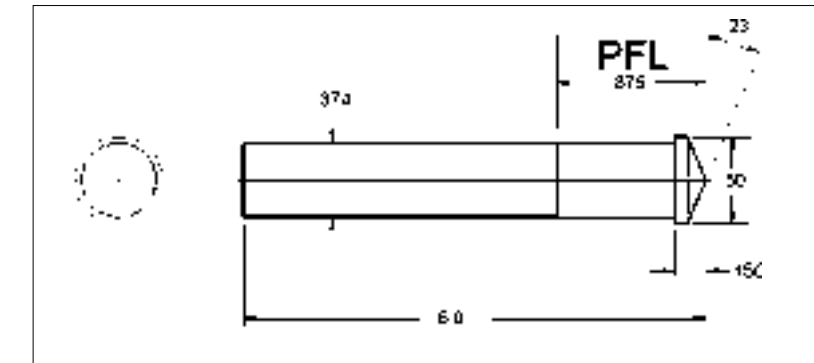
WEDGE SPECIFICATIONS	
Hardness	54 - 56 Rc
Material Type	S-7 Hardened & Ground
Unit of Measure	Inch



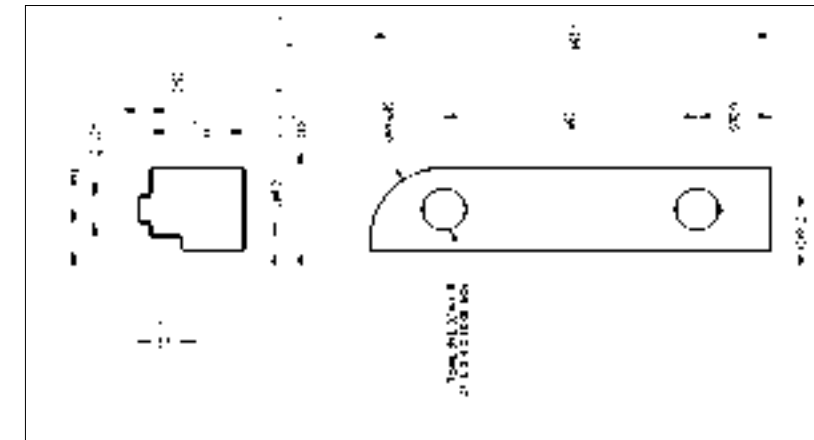
READY SLIDE ASSEMBLY					WEDGE			
CATALOG NO.	OVERALL WIDTH	OVERALL HEIGHT	MAX CAM STROKE	SLIDE HEIGHT	CATALOG NO.	A	B	C
RSA-201	1.500	1.765	.500	.625	RSA-201-W	.900	.440	1.625
RSA-202	1.500	2.265	.600	.625	RSA-223-W	.690	.620	1.115
RSA-203	1.500	2.765	.600	.625	RSA-223-W	.690	.620	1.115

200 Series Ready Slide Assemblies

ANGLE PIN SPECIFICATIONS	
Hardness	40 - 42 Rc
Material Type	Hot Work Tool Steel Hardened & Ground
Unit of Measure	Inch



GUIDE SPECIFICATIONS	
Hardness	54 - 56 Rc
Material Type	06 Hardened & Ground
Unit of Measure	Inch

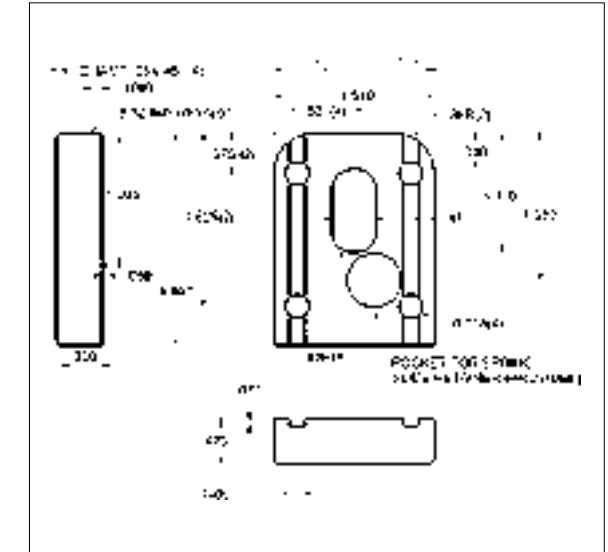


READY SLIDE ASSEMBLY	GUIDE			
	CATALOG NO.		H	J
	LEFT GIB	RIGHT GIB		
RSA-201	RSA-201-GL	RSA-201-GR	.460	.151
RSA-202	RSA-202-GL	RSA-202-GR	.960	.188
RSA-203	RSA-203-GL	RSA-203-GR	1.460	.188

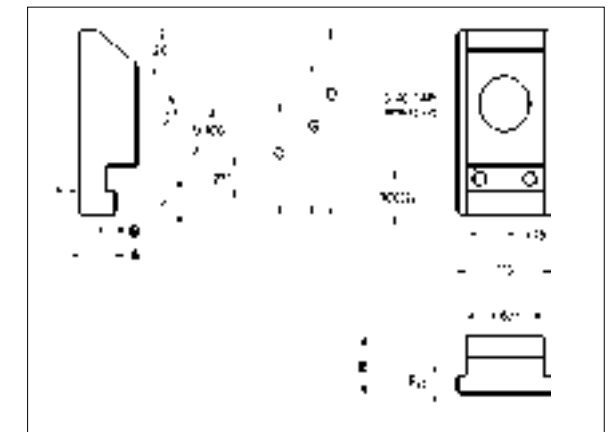
READY SLIDE ASSEMBLY	ANGLE PIN	SLIDE								WEAR PLATE
		CATALOG NO.	CATALOG NO.	A	B	C	D	E	F	
RSA-201	RSA-200-AP	RSA-201-SL	.285	.080	.900	1.490	.460	.150	1.335	RSA-200-WP
RSA-202		RSA-202-SL	.610	.100	.690	1.390	.960	.187	1.125	
RSA-203		RSA-203-SL	.850	.100	.690	1.390	1.460	.187	1.125	

All mounting screws provided

WEAR PLATE SPECIFICATIONS	
Hardness	54 - 56 Rc
Material Type	06 Hardened & Ground
Unit of Measure	Inch



SLIDE SPECIFICATIONS	
Hardness	50 - 52 Rc
Material Type	Hot Work Tool Steel Hardened & Ground
Unit of Measure	Inch

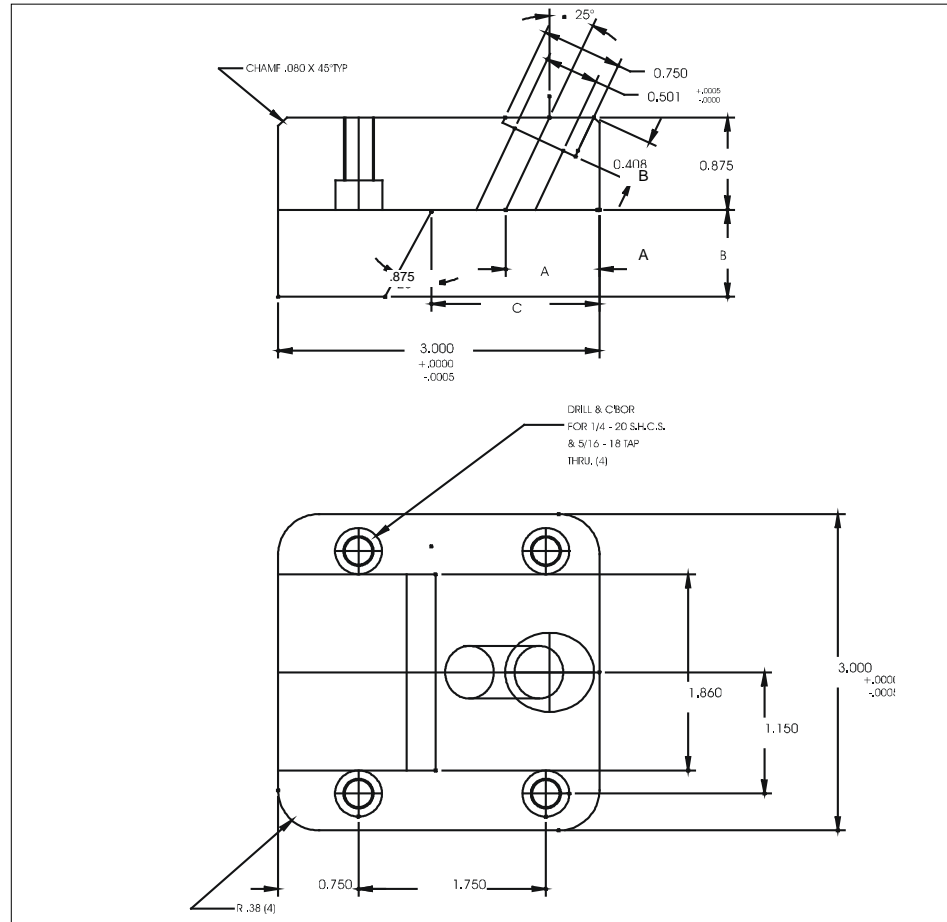


300 Series Ready Slide Assemblies

- Armorclad surface treatment on slide
- Reduces lead time
- Easy installation
- Mounting screws provided
- The lubricious properties of the armor coating treatment combined with the qualities of graphitic tool steel (0-6) provide a smooth acting slide system
- Longer guides and wear plate available for longer slide stroke
- Units are finished with grind stock on overall width, bottom of guide shoe, and wedge angle



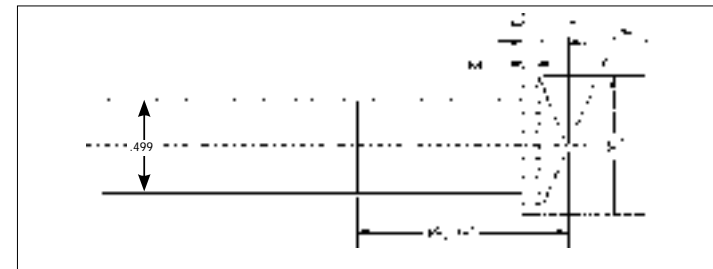
WEDGE SPECIFICATIONS	
Hardness	54 - 56 Rc
Material Type	S-7 Hardened & Ground
Unit of Measure	Inch



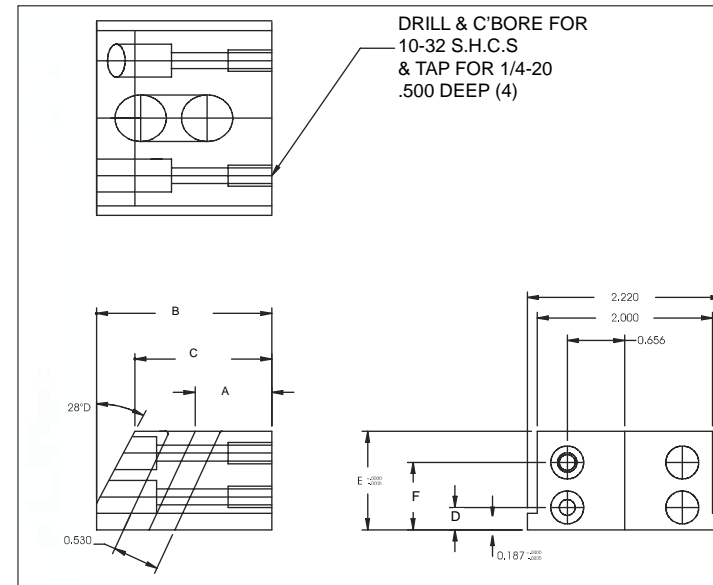
READY SLIDE ASSEMBLY					WEDGE			
CATALOG NO.	OVERALL WIDTH	OVERALL HEIGHT	MAX CAM STROKE	SLIDE HEIGHT	CATALOG NO.	A	B	C
RSA-301	3.000	1.680	1.125	2.000	RSA-301-W	.500	.630	1.660
RSA-302	3.000	2.430	1.000	2.000	RSA-323-W	.820	.880	1.550
RSA-303	3.000	2.930	1.000	2.000	RSA-323-W	.820	.880	1.550

300 Series Ready Slide Assemblies

ANGLE PIN SPECIFICATIONS	
Hardness	40 - 42 Rc
Material Type	Hot Work Tool Steel Hardened & Ground
Unit of Measure	Inch



SLIDE SPECIFICATIONS	
Surface Treatment	Armor Coating
Hardness	50 - 52 Rc
Material Type	Hot Work Tool Steel Hardened & Ground
Unit of Measure	Inch

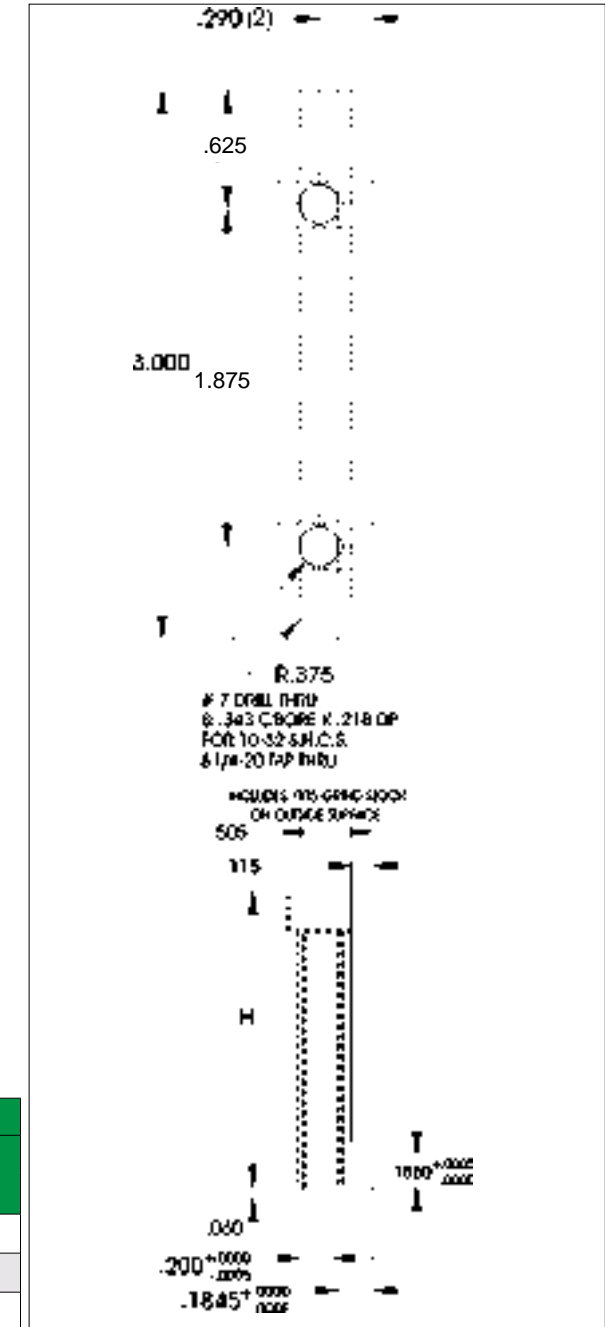


READY SLIDE ASSEMBLY CATALOG NO.	GUIDE CATALOG NO.		H
	LEFT GIB	RIGHT GIB	
RSA-301	RSA-301-GL	RSA-301-GR	.625
RSA-302	RSA-302-GL	RSA-302-GR	1.125
RSA-303	RSA-303-GL	RSA-303-GR	1.625

READY SLIDE ASSEMBLY CATALOG NO.	ANGLE PIN CATALOG NO.	GUIDE CATALOG NO.	SLIDE					
			A	B	C	D	E	F
RSA-301	RSA-300-AP	RSA-301-SL	.875	1.875	1.671	.313	.625	-
RSA-302		RSA-302-SL	.875	2.000	1.562	.375	1.125	.875
RSA-303		RSA-303-SL	.875	2.000	1.562	.531	1.625	1.225

All mounting screws provided

GUIDE SPECIFICATIONS	
Hardness	54 - 56 Rc
Material Type	06 Hardened & Ground
Unit of Measure	Inch



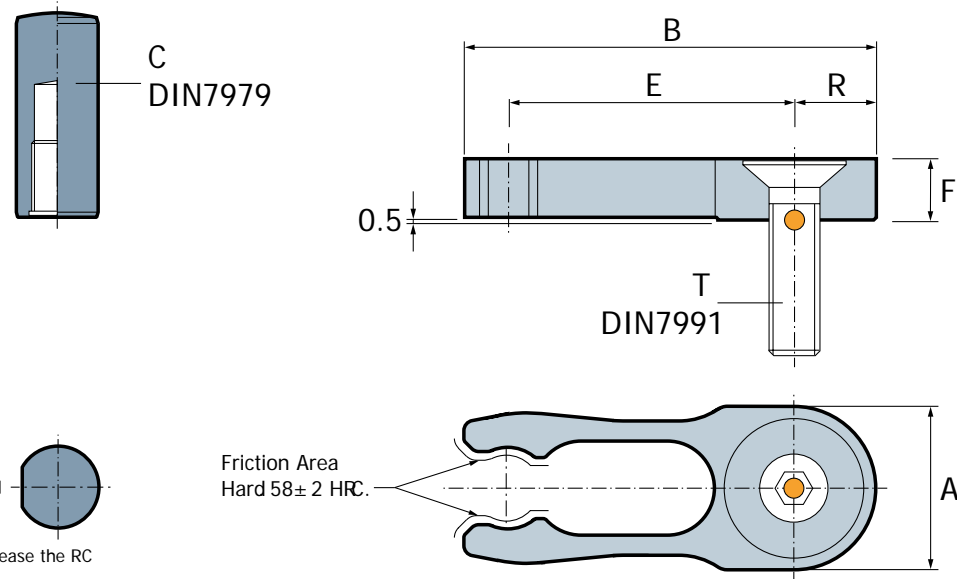
PCS CUMSA™ Slide Retainers

- Simple Compact Design
- Easy Installation
- Minimal space required for installation and access
- Maximum working temperature of 150°C



CUMSA Slide Retainers mechanically hold a slide in the retracted position upon mold opening. Less machining is required for installation when compared with similar products, reducing costs and downtime.

SPECIFICATIONS	
Hardness	42 - 48 Rc
Material Type	1.8159
Unit of Measure	Metric DIN



CATALOG NO.	A	B	C	E	F	G	H	K	MAX WEIGHT	R	T
RC 123006	12	30	6 X 20	21	5	4	16	5 Kg.	4 Kg.	6	M5 X 0.80 X 0.16"
RC 164008	16	40	8 X 20	28	6	5	15	7 Kg.	6 Kg.	8	M6 X 1.00 X 0.25"
RC 205010	20	50	10 X 24	34	8	6	17	14 Kg.	12 Kg.	10	M8 X 1.25 X 0.30"
RC 246012	24	60	12 X 32	42	10	7	23	21 Kg.	18 Kg.	12	M10 X 1.50 X 0.40"
RC 328012	32	80	16 X 40	56	12	9	27	28 Kg.	25 Kg.	16	M12 X 1.75 X 0.50"
RC 328016	32	80	16 X 40	56	16	9	25	38 Kg.	32 Kg.	16	M12 X 1.75 X 0.50"

Slide Latch

- Designed to prevent slipping of slide within the mold base
- Small footprint
- Holds rated weight without the use of hydraulics
- Provides slide retention
- Easily retrofitted into molds with existing slides
- 3 sizes available

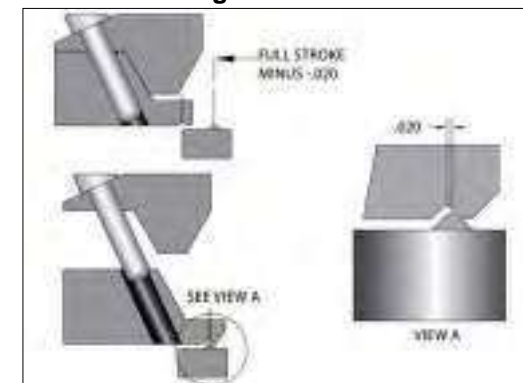


The Slide Latch is designed to provide slide retention within the mold base. Three sizes are available, each holding its rated weight without the use of hydraulics. The Slide Latch can be used within new molds as well as retrofitted into molds with existing slides.

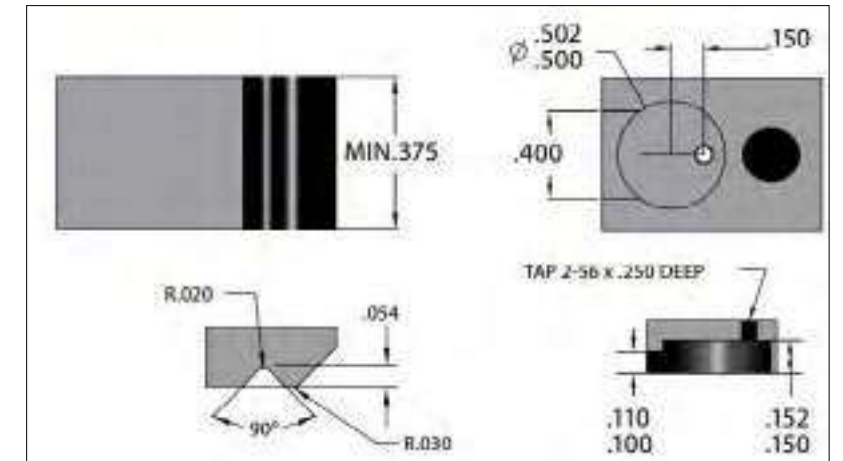
SPECIFICATIONS	
Material Type	D-2
Hardness	56 - 58 Rc
Unit of Measure	Inch



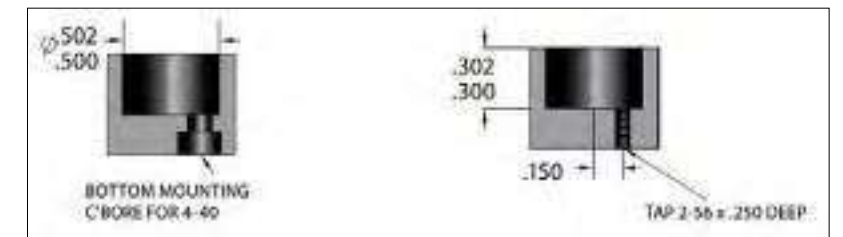
Design Guidelines



Installation Instructions- Lock



Installation Instructions- Body



CATALOG NO.	DESCRIPTION
SLK-8A	Complete Assembly
SLK-8SP	Replacement Spring

Continued on next page

Slide Latch

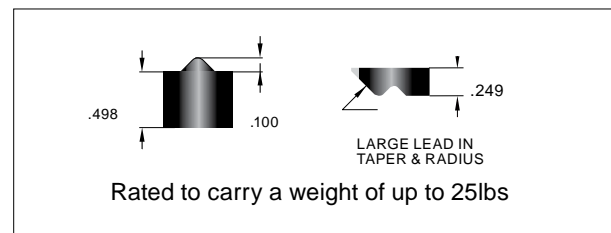
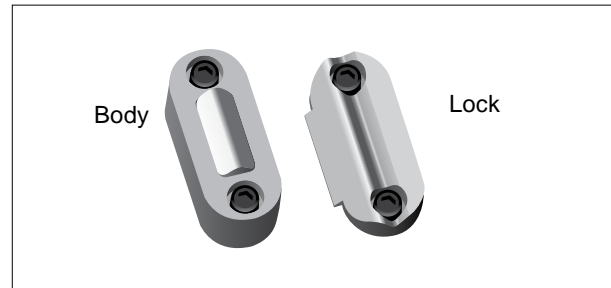


- Designed to prevent slipping of slide within the mold base
- Small footprint
- Holds rated weight without the use of hydraulics
- Provides slide retention
- Easily retrofitted into molds with existing slides
- 3 sizes available

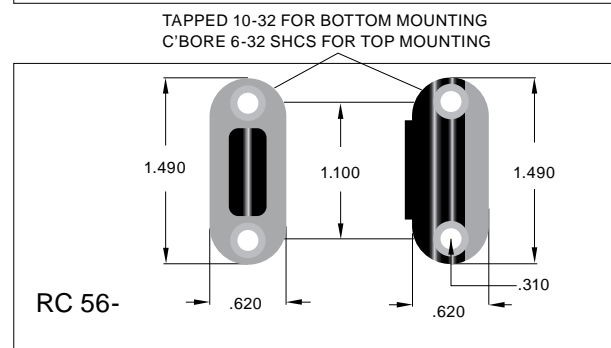
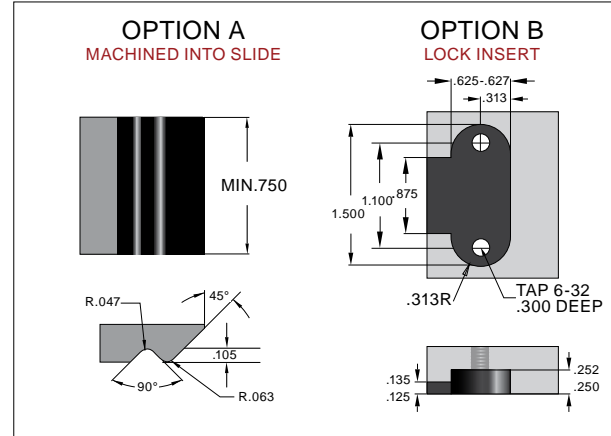
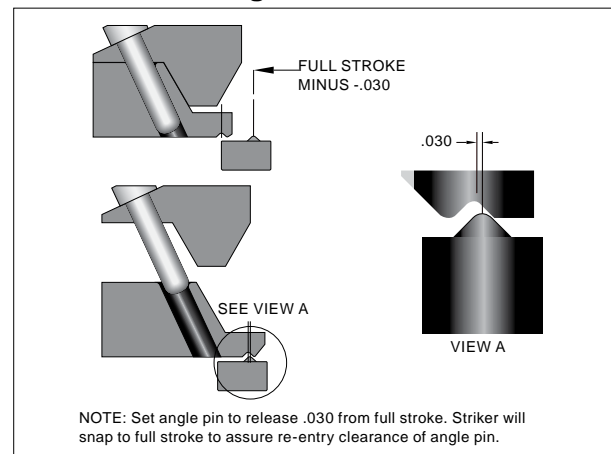
The Slide Latch is designed to provide slide retention within the mold base. Three sizes are available, each holding its rated weight without the use of hydraulics. The Slide Latch can be used within new molds as well as retrofitted into molds with existing slides.

SPECIFICATIONS	
Material Type	D-2
Hardness	56 - 58 Rc
Unit of Measure	Inch

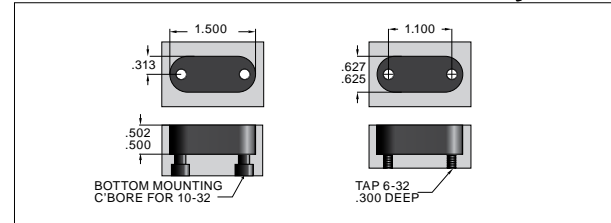
Installation Instructions - Lock



Design Guidelines



Installation Instructions - Body



CATALOG NO.	DESCRIPTION
SLK-25A	Complete Assembly
SLK-25SP	Replacement Spring

Slide Latch

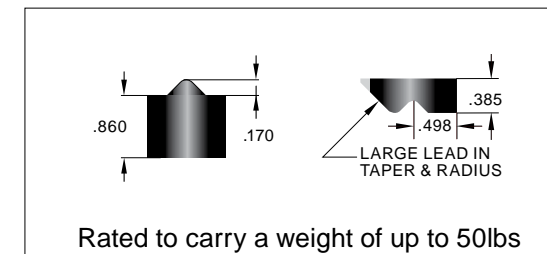
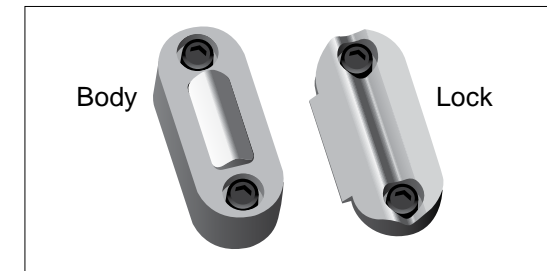


- Designed to prevent slipping of slide within the mold base
- Small footprint
- Holds rated weight without the use of hydraulics
- Provides slide retention
- Easily retrofitted into molds with existing slides
- 3 sizes available

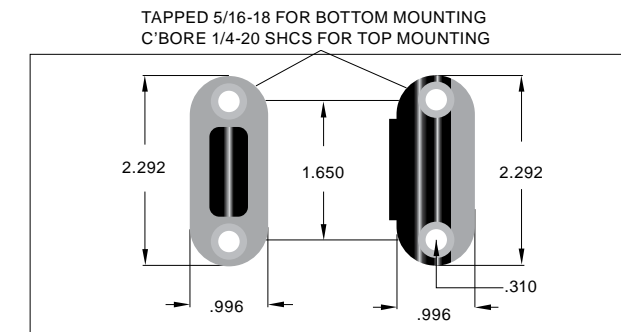
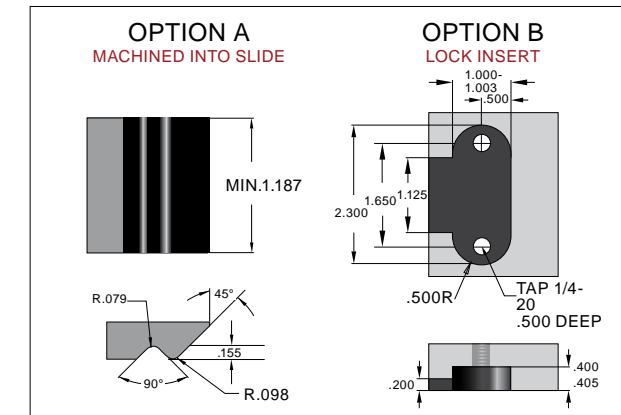
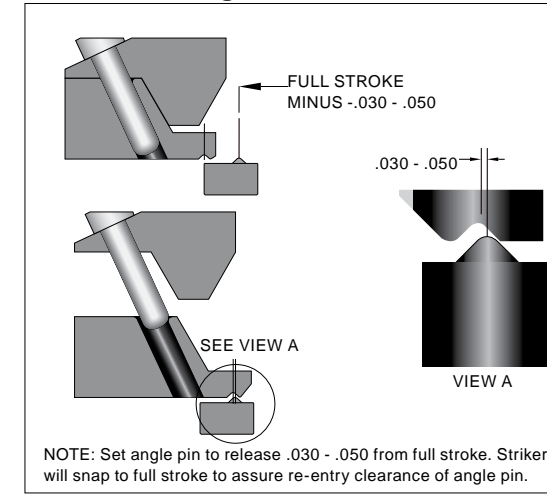
The Slide Latch is designed to provide slide retention within the mold base. Three sizes are available, each holding its rated weight without the use of hydraulics. The Slide Latch can be used within new molds as well as retrofitted into molds with existing slides.

SPECIFICATIONS	
Material Type	D-2
Hardness	56 - 58 Rc
Unit of Measure	Inch

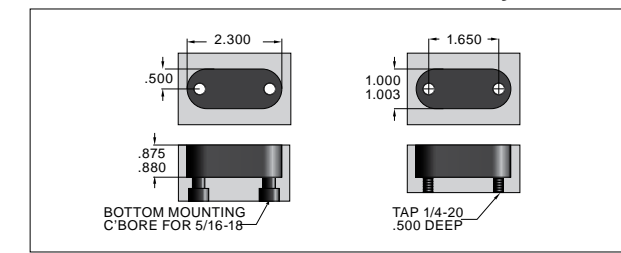
Installation Instructions - Lock



Design Guidelines



Installation Instructions - Body



CATALOG NO.	DESCRIPTION
SLK-50A	Complete Assembly
SLK-50SP	Replacement Spring

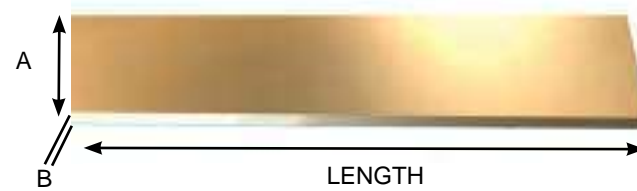
Bronze Plated Wear Plate - Inch

- Ground top & bottom
- Machined edges
- Cut to Length - 1/2" increments
- Priced per inch
- In order to be flat this material must be fastened down to a flat mounting surface
- Exact lengths available up to 48"
- Not available for purchase online



Bronze Plated Wear Plate is used to reduce wear and give added support to moving components within a mold. PCS Bronze Plated Wear Plate is sold by the inch and cut to customer specified lengths up to 48".

SPECIFICATIONS	
Bronze Plating Thickness	.008 - .010
Material Type	Bronze Plated Steel
Unit of Measure	Inch



A WIDTH +.000 -.060	B THICKNESS +.002 / -.002								
	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
1	FP09-1000	FP13-1000	FP17-1000	FP21-1000	FP25-1000	FP33-1000	FP37-1000	FP41-1000	FP47-1000
1-1/4	FP09-1250	FP13-1250	FP17-1250	FP21-1250	FP25-1250	FP33-1250	FP37-1250	FP41-1250	FP47-1250
1-1/2	FP09-1500	FP13-1500	FP17-1500	FP21-1500	FP25-1500	FP33-1500	FP37-1500	FP41-1500	FP47-1500
1-3/4	FP09-1750	FP13-1750	FP17-1750	FP21-1750	FP25-1750	FP33-1750	FP37-1750	FP41-1750	FP47-1750
2	FP09-2000	FP13-2000	FP17-2000	FP21-2000	FP25-2000	FP33-2000	FP37-2000	FP41-2000	FP47-2000
2-1/2	FP09-2500	FP13-2500	FP17-2500	FP21-2500	FP25-2500	FP33-2500	FP37-2500	FP41-2500	FP47-2500
3	FP09-3000	FP13-3000	FP17-3000	FP21-3000	FP25-3000	FP33-3000	FP37-3000	FP41-3000	FP47-3000
3-1/2	FP09-3500	FP13-3500	FP17-3500	FP21-3500	FP25-3500	FP33-3500	FP37-3500	FP41-3500	FP47-3500
4	FP09-4000	FP13-4000	FP17-4000	FP21-4000	FP25-4000	FP33-4000	FP37-4000	FP41-4000	FP47-4000
4-1/2	FP09-4500	FP13-4500	FP17-4500	FP21-4500	FP25-4500	FP33-4500	FP37-4500	FP41-4500	FP47-4500
5	FP09-5000	FP13-5000	FP17-5000	FP21-5000	FP25-5000	FP33-5000	FP37-5000	FP41-5000	FP47-5000
6	FP09-6000	FP13-6000	FP17-6000	FP21-6000	FP25-6000	FP33-6000	FP37-6000	FP41-6000	FP47-6000
8		FP13-8000	FP17-8000	FP21-8000	FP25-8000	FP33-8000	FP37-8000	FP41-8000	FP47-8000
10			FP17-10000	FP21-10000	FP25-10000	FP33-10000	FP37-10000	FP41-10000	FP47-10000
12			FP17-12000	FP21-12000	FP25-12000	FP33-12000	FP37-12000	FP41-12000	FP47-12000

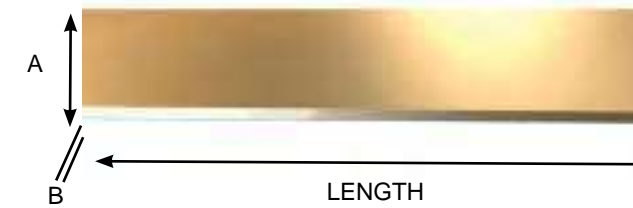
Bronze Plated Wear Plate - Metric

- Ground top & bottom
- Machined edges
- Cut to Length - 1/2" increments
- Priced per inch
- In order to be flat this material must be fastened down to a flat mounting surface.
- Exact lengths available up to 1219 mm (48")
- Not available for purchase online



Metric Bronze Plated Wear Plate is used to reduce wear and give added support to moving components within a mold. PCS Metric Bronze Plated Wear Plate is sold by the inch and cut to customer specified lengths up to 48".

SPECIFICATIONS	
Bronze Plating Thickness	0.20 - 0.25 mm
Material Type	Bronze Plated Steel
Unit of Measure	Metric DIN



A WIDTH +.000 -1.524	B THICKNESS +.000 / -.051 MM						
	4 MM	5 MM	6 MM	8 MM	10 MM	12 MM	15 MM
25 mm (.981)	FPM4-25	FPM5-25	FPM6-25	FPM8-25	FPM10-25		
30 mm (1.181)		FPM5-30	FPM6-30		FPM10-30		
35 mm (1.377)	FPM4-35		FPM6-35		FPM10-40		
40 mm (1.574)	FPM4-40	FPM5-40	FPM6-40		FPM10-50		
50 mm (1.968)			FPM6-50		FPM10-60		
60 mm (2.362)	FPM4-60		FPM6-60	FPM8-60	FPM10-75		
75 mm (2.952)		FPM5-75	FPM6-75	FPM8-75	FPM10-100	FPM12-75	
100 mm (3.937)	FPM4-100	FPM5-100		FPM8-100	FPM10-125	FPM12-100	
125 mm (4.921)				FPM8-125	FPM10-150	FPM12-125	FPM15-125
150 mm (5.905)						FPM12-150	
200 mm (7.874)						FPM12-200	

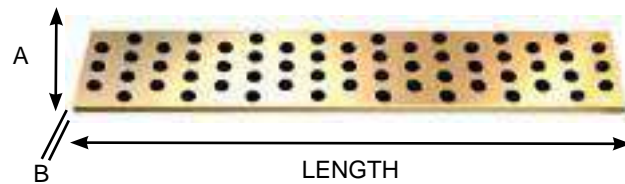
Self-Lubricating Wear Plate - Inch

- Ground top & bottom
- Machined edges
- Cut to Length - 1/2" increments
- Priced per inch
- Greaseless applications
- In order to be flat this material must be fastened down to a flat mounting surface.
- Exact lengths available up to 48"
- Not available for purchase online



Self-Lubricating Bronze Plated Wear Plate contains graphite plugs and is used to reduce wear and give added support to moving components within a mold. PCS Self-Lubricating Bronze Plated Wear Plate is sold by the inch and cut to customer specified lengths up to 48".

SPECIFICATIONS	
Bronze Plating Thickness	.008 - .010
Material Type	Solid Bronze with graphite plugs
Unit of Measure	Inch



A WIDTH +.000 -.060	B THICKNESS +.002 / -.002				
	1/4"	3/8"	1/2"	3/4"	1"
1	SLFP17-1000	SLFP25-1000	SLFP33-1000	SLFP41-1000	SLFP47-1000
1-1/2	SLFP17-1500	SLFP25-1500	SLFP33-1500	SLFP41-1500	SLFP47-1500
2	SLFP17-2000	SLFP25-2000	SLFP33-2000	SLFP41-2000	SLFP47-2000
2-1/2	SLFP17-2500	SLFP25-2500	SLFP33-2500	SLFP41-2500	SLFP47-2500
3	SLFP17-3000	SLFP25-3000	SLFP33-3000	SLFP41-3000	SLFP47-3000
4	SLFP17-4000	SLFP25-4000	SLFP33-4000	SLFP41-4000	SLFP47-4000
5	SLFP17-5000	SLFP25-5000	SLFP33-5000	SLFP41-5000	SLFP47-5000
6	SLFP17-6000	SLFP25-6000	SLFP33-6000	SLFP41-6000	SLFP47-6000

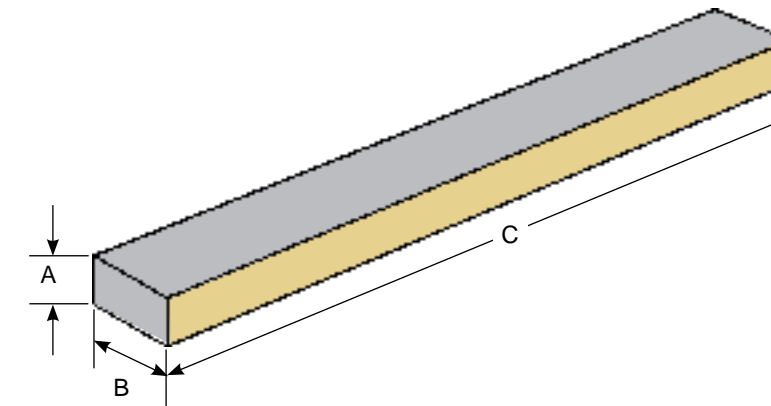
Side Plates

- Exact lengths available up to 96"
- Cut to Length - 1/2" increments
- Not available for purchase online
- Priced per inch

Side Plates are bronze plated and ground top and bottom. These plates are sold by the inch and cut to customer specified lengths.



SPECIFICATIONS	
Material Type	Bronze Plated Steel
Unit of Measure	Inch



B WIDTH +.000 -.005	A THICKNESS -.018 / -.020						
	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	2"
1	SP33-1000	SP37-1000	SP41-1000				
1-1/2	SP33-1500		SP41-1500	SP47-1500			
2		SP37-2000	SP41-2000	SP47-2000	SP125-2000	SP150-2000	SP200-2000
2-1/2							
3				SP47-3000	SP125-3000		

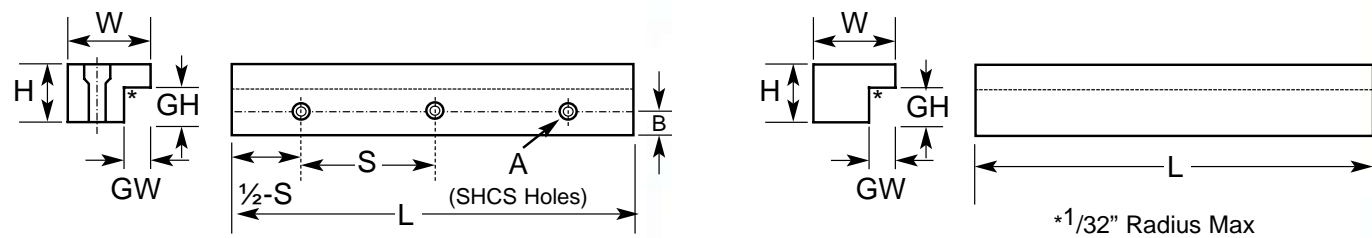
Standard L-Gibs

- One-piece construction
- 7 Sizes available
- Available with or without mounting holes

PCS L-Gibs are used to make custom cams and slides. These L-Gibs are made from steel and have been electroplated with bronze. The bronze electroplating gives these components exceptional strength and lubricity.



SPECIFICATIONS	
Plating Thickness	.008 - .010
Material Type	Bronze Plated Steel
Unit of Measure	Inch



CATALOG NO.	GW GIB WIDTH	GH GIB HEIGHT	W OVERALL WIDTH	H OVERALL HEIGHT	L OVERALL LENGTH	S MOUNTING HOLE SPREAD	NO. OF SCREW HOLES	A MOUNTING HOLE CLEARANCE DIAMETER	B MOUNTING HOLE LOCATION OFF EDGE
L-4-6-3	.1875 (4.76mm)	.3125 (7.94mm)	.750 (19.05mm)	.485 (12.32mm)	5.25 (133mm)	1.75 (44.5mm)	3	.25 (M6)	.28 (7.1mm)
L-4-6-4					7.0 (178mm)		4		
L-4-6-5					8.75 (222mm)		5		
L-4-6-5-NH					8.75 (222mm)		No Mounting Holes		
L-5-8-3	.250 (6.35mm)	.375 (9.53mm)	1.000 (25.4mm)	.610 (15.5mm)	6 (152mm)	2.00 (50.8mm)	3	.31 (M8)	.38 (9.7mm)
L-5-8-5-NH					10 (254mm)				
L-7-10-3	.375 (9.53mm)	.500 (12.7mm)	1.25 (31.75mm)	.860 (21.8)	7.5 (190mm)	2.50 (63.5mm)	3	.39 (M10)	.44 (11.2mm)
L-7-10-5-NH					12.5 (317mm)				
L-10-12-5-NH	.500 (12.70mm)	.750 (19.05mm)	1.500 (38.1mm)	1.235 (31.4mm)	15 (381mm)	No Mounting Holes			

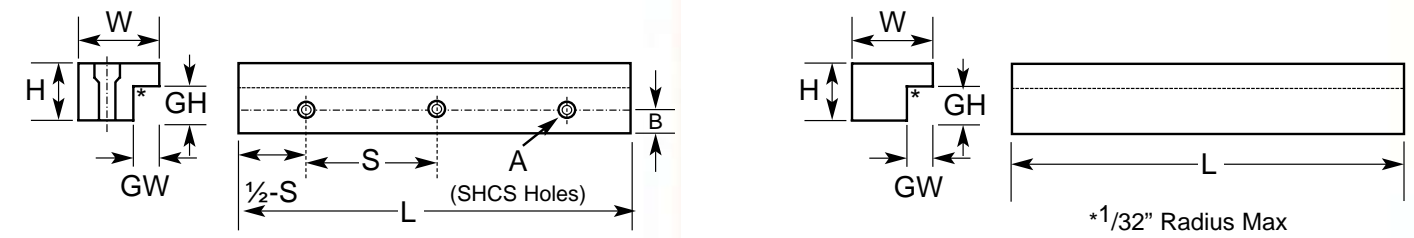
Self-Lubricating L-Gibs

- One-piece construction
- 7 Sizes available
- Available with or without mounting holes
- Graphite plugs for greaseless applications

PCS Self-Lubricating L-Gibs are used to make custom cams and slides. These L-Gibs are made of solid bronze and contain graphite plugs. The graphite plugs eliminate the need for grease which makes these L-Gibs perfect for medical, food grade or high speed applications.



SPECIFICATIONS	
Plating Thickness	.008 - .010
Material Type	Solid Bronze with graphite plugs
Unit of Measure	Inch



CATALOG NO.	GW GIB WIDTH	GH GIB HEIGHT	W OVERALL WIDTH	H OVERALL HEIGHT	L OVERALL LENGTH	S MOUNTING HOLE SPREAD	NO. OF SCREW HOLES	A MOUNTING HOLE CLEARANCE DIAMETER	B MOUNTING HOLE LOCATION OFF EDGE
SLL-4-6-5	.1875 (4.76mm)	.3125 (7.94mm)	.750 (19.05mm)	.485 (12.32mm)	8.75 (222mm)	1.75 (44.5mm)	5	.25 (M6)	.28 (7.1mm)
SLL-4-6-5-NH					8.75 (222mm)				
SLL-5-8-5	.250 (6.35mm)	.375 (9.53mm)	1.000 (25.4mm)	.610 (15.5mm)	6 (152mm)	2.00 (50.8mm)	5	.31 (M8)	.38 (9.7mm)
SLL-5-8-5-NH					10 (254mm)				
SLL-7-10-5	.375 (9.53mm)	.500 (12.7mm)	1.25 (31.75mm)	.860 (21.8)	7.5 (190mm)	2.50 (63.5mm)	3	.39 (M10)	.44 (11.2mm)
SLL-7-10-5-NH					12.5 (317mm)				
SLL-10-12-5	.500 (12.70mm)	.750 (19.05mm)	1.500 (38.1mm)	1.235 (31.4mm)	15 (381mm)	3.00 (76.2mm)	5	.39 (M10)	.50 (12.7mm)
SLL-10-12-5-NH					No Mounting Holes				
SLL-12-16-6	.625 (15.88mm)	.875 (22.23mm)	2.000 (50.8mm)	1.470 (37.3mm)	16.0 (406mm)	4.00 (101.6mm)	6	.50 (M12)	.69 (17.5mm)
SLL-12-16-6-NH					16.0 (406mm)				
SLL-16-20-8-NH	.750 (19.05mm)	1.250 (31.75mm)	2.500 (63.5mm)	1.470 (37.3mm)	32.0 (813mm)	No Mounting Holes			
SLL-20-24-8	1.000 (25.40mm)	1.500 (38.10mm)	3.000 (76.2mm)	2.470 (62.74mm)	24.0 (610mm)	6.00 (152.4mm)	8	.62 (M16)	1.0 (25.4mm)
SLL-20-24-8-NH					48.0 (1219mm)				

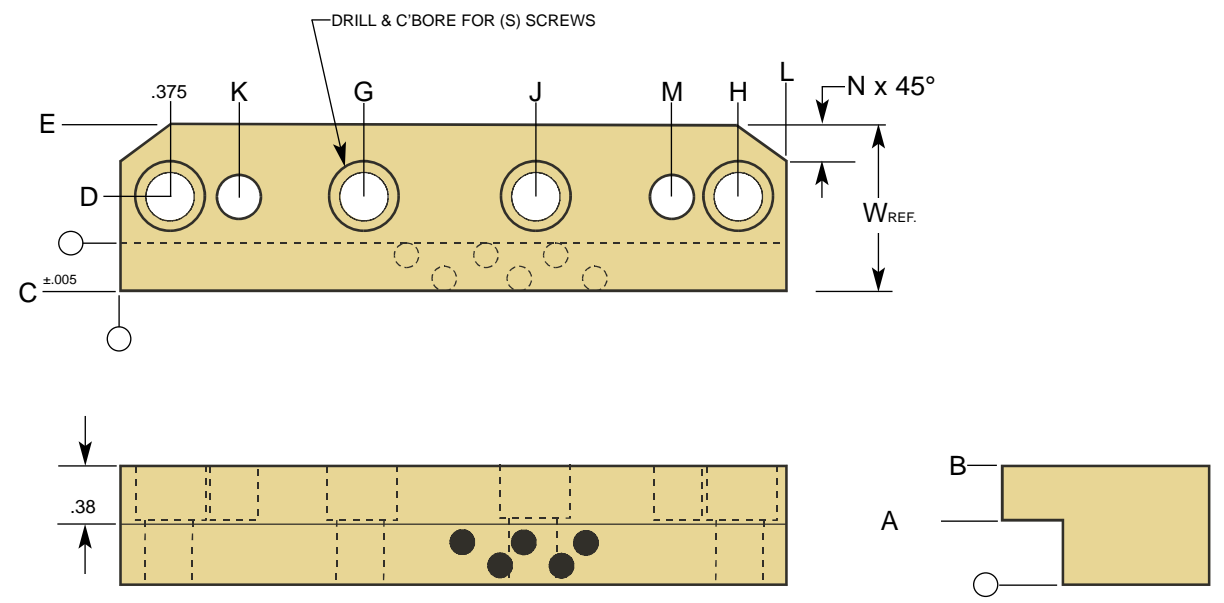
L-Gib for Gib Assemblies

- Used with standard gib assemblies
- Graphite plugs for greaseless applications
- L-gibs are provided with screw holes and are spot drilled for dowels

PCS L-Gibs for Gib Assemblies are used to make custom cams and slides.



SPECIFICATIONS	
Material Type	Solid Bronze with graphite plugs
Unit of Measure	Inch



CATALOG NO.	L +.010 -.010	W +.00 -.005	A +.001 -.000	B +.010 -.010	C +.010 -.010	D +.005 -.005	E +.005 -.005	G	H +.005 -.005	K +.005 -.005	M +.005 -.005	N	HOLES	S
2GAL16GT	2.00	0.750	0.312	0.75	0.188	0.28	0.56	—	1.625	1.00	—	0.26	2	1/4 or M6
2GAL24GT	3.00	0.750	0.312	0.75	0.188	0.28	0.56	—	2.625	0.88	2.12	0.26	2	
2GAL32GT	4.00	0.750	0.312	0.75	0.188	0.28	0.56	2.00	3.625	0.88	3.12	0.26	3	
3GAL32GT	4.00	1.000	0.375	0.75	0.250	0.37	0.75	2.00	3.625	0.88	3.12	0.26	3	5/16 OR M8
3GAL40GT	5.00	1.000	0.375	0.75	0.250	0.37	0.75	2.50	4.625	0.88	4.12	0.26	3	5/16 OR M8
4GAL32GT	4.00	1.255	0.500	0.88	0.375	0.37	0.88	2.00	3.625	0.88	3.12	0.32	3	
4GAL40GT	5.00	1.255	0.500	0.88	0.375	0.37	0.88	2.50	4.625	0.88	4.12	0.32	3	
4GAL48GT	6.00	1.255	0.500	0.88	0.375	0.37	0.88	2.12	5.625	0.88	5.12	0.32	4	5/16 OR M8
6GAL32GT	4.00	1.500	0.750	1.25	0.500	0.44	1.00	2.00	3.625	0.88	3.12	0.32	3	

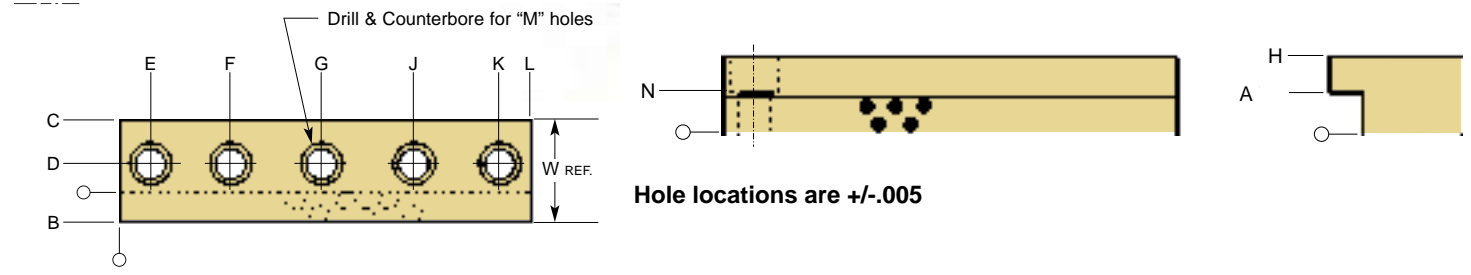
L-Gib for Gib Assemblies

- Used with standard gib assemblies
- Graphite plugs for greaseless applications
- L-gibs are provided with screw holes and are spot drilled for dowels

PCS L-Gibs for Gib Assemblies are used to make custom cams and slides.



SPECIFICATIONS	
Material Type	Solid Bronze with graphite plugs
Unit of Measure	Inch



CATALOG NO.		L +.010 -.010	W +.00 -.005	A +.001 -.000	B +.010 -.010	C +.010 -.010	D +.005 -.005	E +.005 -.005	G	H +.005 -.005	K +.005 -.005	M +.005 -.005	N
2LG42G	2LG42NG	5.25	.75	.312	.18	.56	.28	.88	2.62	.75	4.38	3	1/4 OR M6
2LG56G	2LG56NG	7.00	.75	.312	.18	.56	.28	.88	—	.75	6.12	4	
2LG70G	2LG70NG	8.75	.75	.312	.18	.56	.28	.88	4.38	.75	7.88	5	
3LG48G	3LG48NG	6.00	1.00	.375	.25	.75	.38	1.00	3.00	.75	5.00	3	5/16 OR M8
3LG64G	3LG64NG	8.00	1.00	.375	.25	.75	.38	1.00	—	.75	7.00	4	
3LG80G	3LG80NG	10.00	1.00	.375	.25	.75	.38	1.00	5.00	.75	9.00	5	
4LG48G	4LG48NG	6.00	1.25	.500	.38	.88	.44	1.00	3.00	.88	5.00	3	3/8 OR M10
4LG60G		7.50	1.25	.500	.38	.88	.44	1.25	3.75	.88	6.75	3	
4LG80G	4LG80NG	10.00	1.25	.500	.38	.88	.44	1.25	—	.88	8.75	4	
4LG100G	4LG100NG	12.50	1.25	.500	.38	.88	.44	1.25	6.25	.88	11.25	5	3/8 OR M10
6LG48G	6LG48NG	6.00	1.50	.750	.50	1.00	.50	1.00	3.00	1.25	5.00	3	
6LG96G	6LG96NG	12.00	1.50	.750	.50	1.00	.50	1.50	—	1.25	1.5	4	
6LG72G	6LG72NG	9.00	1.50	.750	.50	1.00	.50	1.50	4.50	1.25	7.5	3	1/2 OR M12
	6LG120NG	15.00	1.50	.750	.50	1.00	.50	1.50	7.50	1.25	13.5	5	
7LG64G	7LG64NG	8.00	2.00	.875	.62	1.37	.68	1.00	—	1.50	7.00	4	
7LG96G	7LG96NG	12.00	2.00	.875	.62	1.37	.68	1.50	—	1.50	1.50	4	5/8 OR M16
7LG128G		16.00	2.00	.875	.62	1.37	.68	2.00	—	1.50	14.00	4	
	10LG96NG	12.00	2.5	1.25	.75	1.75	.88	1.50	—	2.00	1.50	4	
10LG144G		18.00	2.5	1.25	.75	1.75	.88	2.25	—	2.00	15.75	4	5/8 OR M16
10LG192G		24.00	2.5	1.25	.75	1.75	.88	3.00	—	2.00	21.00	4	

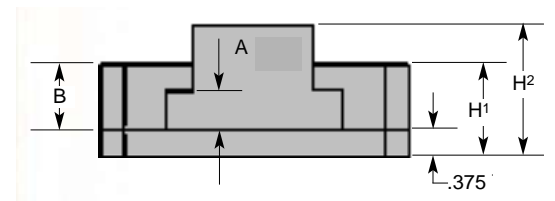
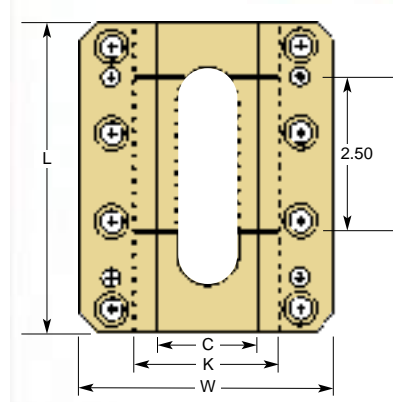
Standard Gib Assemblies

- Includes 2 Legs , 1 Base Plate , 1 T-Slide (T-Slide Optional)
- Pre-drilled screw and dowel holes
- Base plate thru holes allow for easy assembly
- Graphite plugs for greaseless applications



PCS Standard Gib Assemblies are used to make custom cams and slides and have a solid bronze construction.

SPECIFICATIONS	
Material Type	Solid Bronze with graphite plugs
Unit of Measure	Inch



CATALOG NO.			L +.010 -.010	W +.010 -.010	A +.010 -.010	B +.010 -.010	C +.010 -.010	H1 +.010 -.010	H2 +.010 -.010	K +.010 -.010
GIB ASSEMBLY DRILLED WITH T-SLIDE	GIB ASSEMBLY NOT DRILLED WITH T-SLIDE	GIB ASSEMBLY DRILLED WITHOUT T-SLIDE								
2GA16GTS		2GA16GT	2.00	2.62	.312	.75	1.12	1.12	1.62	1.50
2GA24GTS	2GA24NGTS	2GA24GT	3.00							
2GA32GTS		2GA32GT	4.00							
3GA24GTS	3GA24NGTS	3GA24GT	3.00	3.12	.38	.75	1.12	1.12	1.62	1.62
3GA32GTS	3GA32NGTS	3GA32GT	4.00							
3GA40GTS	3GA40NGTS	3GA40GT	5.00							
4GA24GTS		4GA24GT	3.00	4.12	.50	.88	1.62	1.25	1.75	2.36
4GA32GTS		4GA32GT	4.00							
4GA40GTS	4GA40NGTS	4GA48GT	5.00							
4GA48GTS			6.00	4.62	.75	1.25	1.62	1.62	2.12	2.62
6GA32GTS			4.00							
6GA40GTS			5.00							
		6GA48GT	6.00							

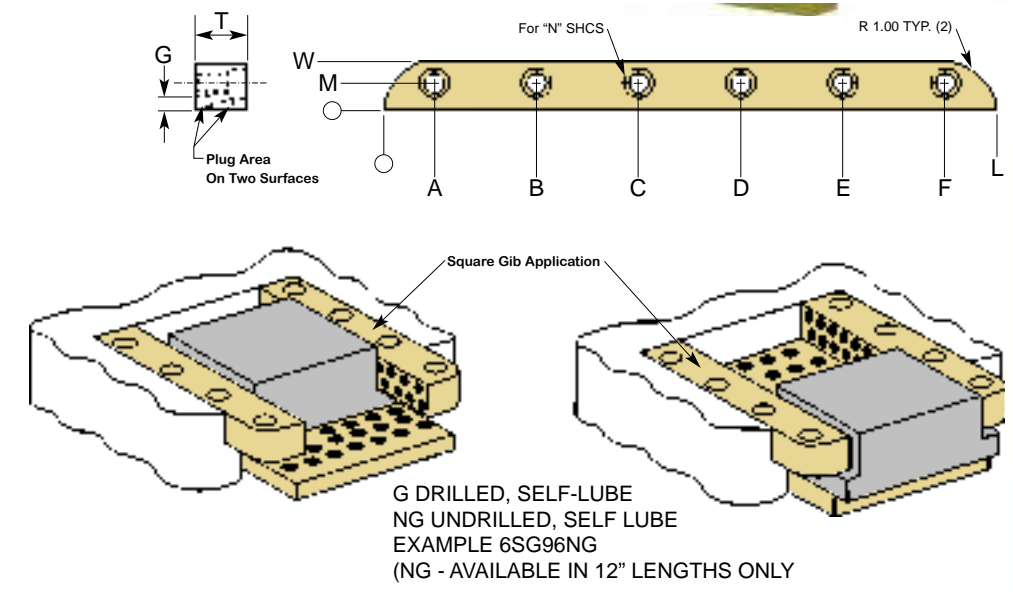
Square Gib Assemblies

- Includes 2 Legs , 1 Base Plate
- Pre-drilled screw and dowel holes
- Base plate thru holes allow for easy assembly
- Graphite plugs for greaseless applications



PCS Square Gib Assemblies are used to make custom cams and slides and have a solid bronze construction.

SPECIFICATIONS	
Material Type	Solid Bronze with graphite plugs
Unit of Measure	Inch



G DRILLED, SELF-LUBE
NG UNDRILLED, SELF LUBE
EXAMPLE 6SG96NG
(NG - AVAILABLE IN 12" LENGTHS ONLY)

CATALOG NO.	L +.010 -.010	W +.010 -.010	T +.010 -.010	A +.010 -.010	B +.010 -.010	C	D +.010 -.010	E +.010 -.010	F +.010 -.010	M +.010 -.010	N SCREW SIZE	G +.010 -.010
6SG32G	4	1.00	0.75	1	2.00	3.00				0.625	3/8	0.39
6SG40G	5				2.50	4.00						
6SG48G	6				3.00	5.00						
6SG48NG	6			-	-	-				-	-	
6SG64G	8			1	3.00	5.00	7.00			0.625	3/8	0.62
6SG80G	10	3.00	5.00		7.00	9.00						
6SG96G	12	3.00	5.00		7.00	9.00	11.00					
6SG96NG	12			-	-	-				-	-	
8SG32G	4	1.25	1.00	1	2.00	3.00				0.875	3/8	0.62
8SG40G	5				2.50	4.00						
8SG48G	6				3.00	5.00						
8SG64G	8			1	3.00	5.00	7.00			0.875	3/8	0.62
8SG80G	10	3.00	5.00		7.00	9.00						
8SG96G	12	3.00	5.00		7.00	9.00	11.00					
8SG96NG	12			-	-	-				-	-	
12SG96NG	12	2.00	1.50	-	-	-				-	-	0.86

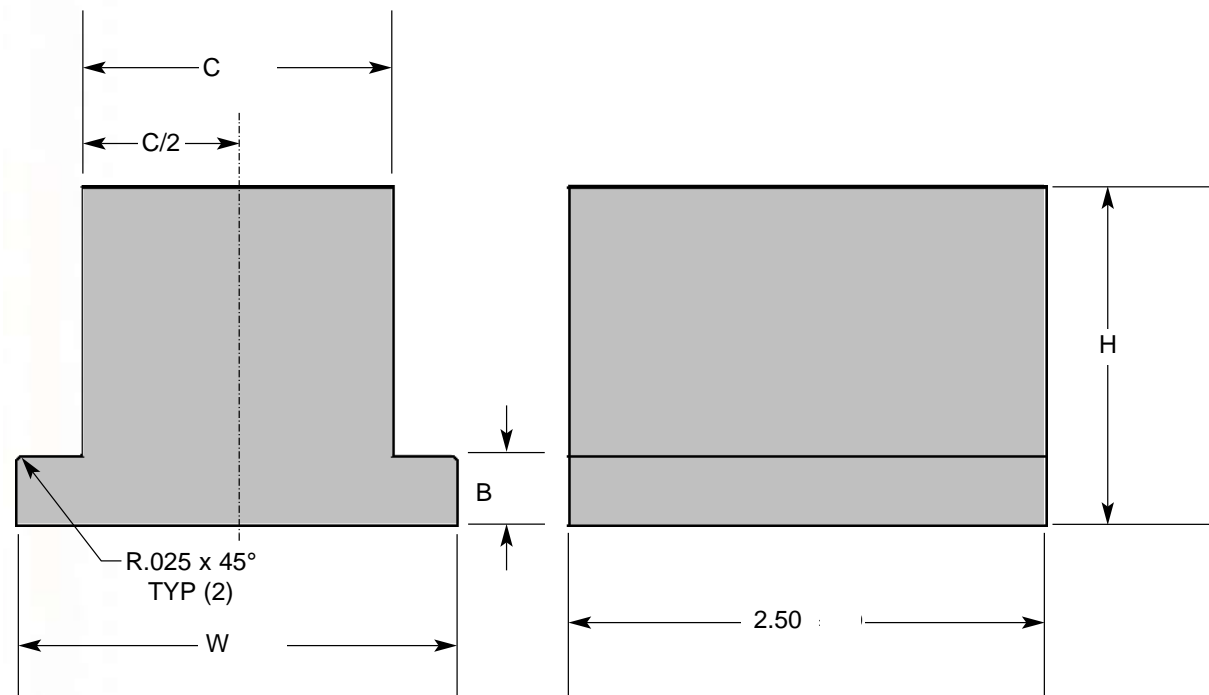
T-Slides for Gib Assemblies

- Available in four standard sizes
- Works with any standard or square gib assembly
- Break all sharp corners



PCS T-Slides are used to make custom cams and slides.

SPECIFICATIONS	
Material Type	4140
Unit of Measure	Inch



CATALOG NO.	W +.002 -.002	B +.003 -.000	C +.005 -.005	C/2 +.002 -.002	H +.010 -.010
2GASLIDE	1.493	0.038	1.110	0.555	1.25
3GASLIDE	1.617	0.371	1.110	0.555	1.25
4GASLIDE	2.367	0.496	1.610	0.805	1.38
6GASLIDE	2.617	0.746	1.610	0.805	1.75

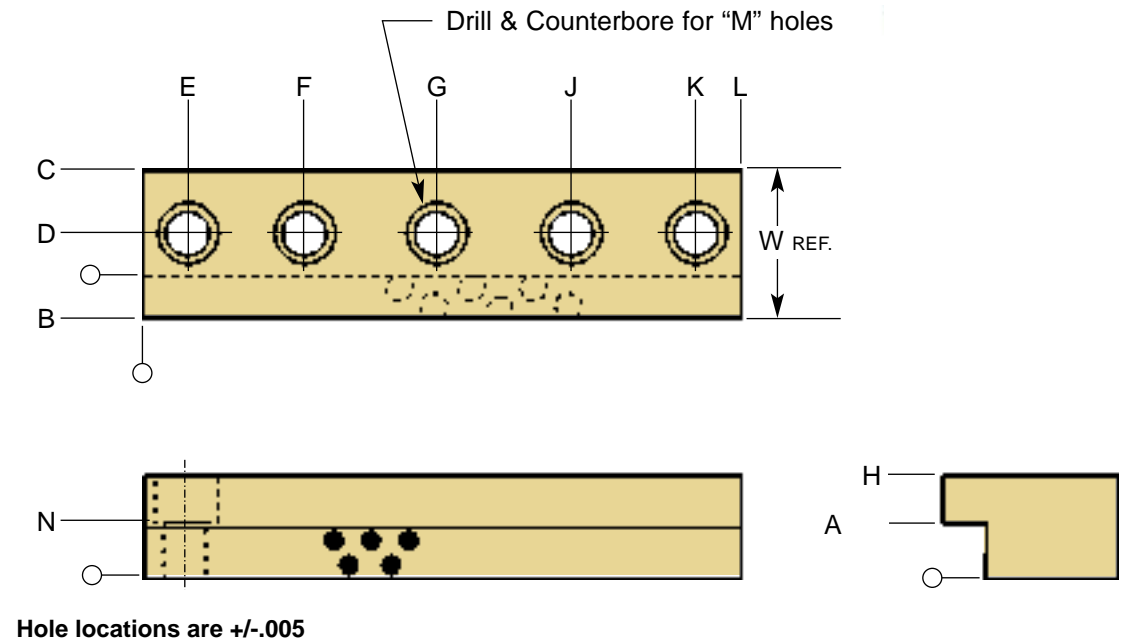
Gib Base Plates

- Graphite plugs for greaseless applications
- Used in gib assemblies
- Can be ordered individually



PCS Gib Base Plates are used to make custom cams and slides. These Gib Base Plates have a solid bronze construction.

SPECIFICATIONS	
Material Type	Solid Bronze with graphite plugs
Unit of Measure	Inch



Hole locations are +/- .005

CATALOG NO.	L +.010 -.010	W +.000 -.005	A +.010 -.010	B +.010 -.010	C +.010 -.010	D +.010 -.010	E +.010 -.010	G	H +.010 -.010	M +.010 -.010	N +.005 -.005	NO. OF HOLES	S +.005 -.005
2GAB16GT	2.00	2.6200	0.69	1.31	0.38	0.26	1.50	—	1.625	0.28	2.34	4	0.28
2GAB24GT	3.00	2.6200	0.88	2.12	0.38	0.26	1.50	—	2.625	0.28	2.34	6	0.28
2GAB32GT	4.00	2.6200	1.00	3.00	0.38	0.26	1.50	2.000	3.625	0.28	2.34	6	0.28
3GAB32GT	4.00	3.1200	1.00	3.00	0.50	0.26	1.68	2.000	3.625	0.38	2.74	6	0.38
3GAB40GT	5.00	3.1200	1.00	4.00	0.50	0.26	1.68	2.500	4.625	0.38	2.74	6	0.38
4GAB24G	3.00	4.1200	1.00	2.00	0.50	0.32	2.44	—	2.625	0.50	3.62	4	0.38
4GAB32GT	4.00	4.1200	1.00	3.00	0.50	0.32	2.44	2.000	3.625	0.50	3.62	6	0.38
6GAB40GT	5.00	4.6200	1.00	4.00	0.50	0.32	2.75	2.500	4.625	0.56	4.06	6	0.38

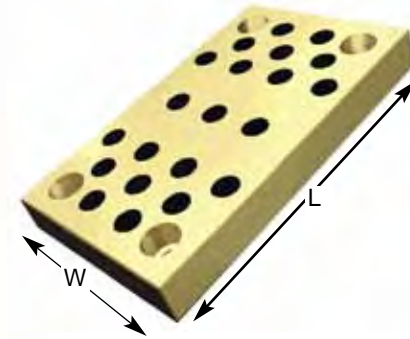
Self-Lubricating Solid Bronze Wear Strips

- Width and length of wearstrip determines hole pattern regardless of thickness
- Greaseless applications
- Protects mold from damage due to high wear conditions

Self-Lubricating Solid Bronze Wear Strip is used to reduce wear and give added support to moving components within a mold. PCS Self-Lubricating Solid Bronze Wear Strip is available in many thickness, width and length combinations.



SPECIFICATIONS	
Material Type	Solid Bronze with graphite plugs
Thickness Tolerance	±.001
Width Tolerance	+0.01 / -.060
Length Tolerance	+0.062 / -.000
Unit of Measure	Inch



THICKNESS 1/4" (.250 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
28-32G		1	4
28-40G	28-40NG	1	5
28-48G	28-48NG	1	6
28-64G	28-64NG	1	8
28-80G		1	10
28-96G	28-96NG	1	12
212-32G	212-32NG	1.5	4
212-40G	212-40NG	1.5	5
212-48G	212-48NG	1.5	6
212-64G	212-64NG	1.5	8
212-80G	212-80NG	1.5	10
216-32G	216-32NG	2	4
216-40G	216-40NG	2	5
216-48G		2	6
216-64G	216-64NG	2	8
216-80G	216-80NG	2	10
216-96G	216-96NG	2	12

For drilled hole location patterns see page C55

THICKNESS 1/4" (.250 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
220-32G	220-32NG	2.5	4
220-40G	220-40NG	2.5	5
	220-48NG	2.5	6
220-64G	220-64NG	2.5	8
220-80G	220-80NG	2.5	10
220-96G	220-96NG	2.5	12
224-32G	224-32NG	3	4
	224-40NG	3	5
	224-48NG	3	6
224-64G	224-64NG	3	8
	224-80NG	3	10
224-96G	224-96NG	3	12
232-32G	232-32NG	4	4
232-40G	232-40NG	4	5
232-48G	232-48NG	4	6
232-64G	232-64NG	4	8
232-80G	232-80NG	4	10
232-96G	232-96NG	4	12

Continued on next page

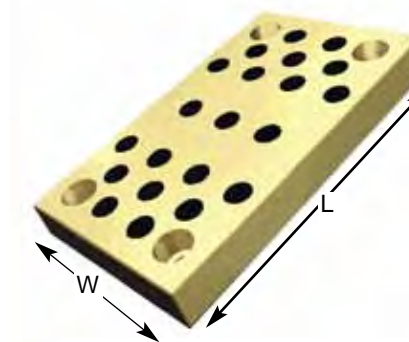
Self-Lubricating Solid Bronze Wear Strips

- Width and length of wearstrip determines hole pattern regardless of thickness
- Greaseless applications
- Protects mold from damage due to high wear conditions

Self-Lubricating Solid Bronze Wear Strip is used to reduce wear and give added support to moving components within a mold. PCS Self-Lubricating Solid Bronze Wear Strip is available in many thickness, width and length combinations.



SPECIFICATIONS	
Material Type	Solid Bronze with graphite plugs
Thickness Tolerance	±.001
Width Tolerance	+0.01 / -.060
Length Tolerance	+0.062 / -.000
Unit of Measure	Inch



THICKNESS 3/8" (.375 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
	38-32NG	1	4
	38-48NG	1	6
38-64G	38-64NG	1	8
38-80G	38-80NG	1	10
	38-96NG	1	12
	312-32NG	1.5	4
	312-48NG	1.5	6
312-64G	312-64NG	1.5	8
312-80G		1.5	10
312-96G		1.5	12
	316-32NG	2	4
	316-40NG	2	5
316-48G		2	6
316-64G	316-64NG	2	8
316-80G	316-80NG	2	10
	316-96NG	2	12
320-32G	320-32NG	2.5	4

For drilled hole location patterns see page C55

THICKNESS 3/8" (.375 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
320-40G	320-40NG	2.5	5
	320-48NG	2.5	6
	320-64NG	2.5	8
320-80G		2.5	10
320-96G		2.5	12
	324-24NG	3	3
324-32G	324-32NG	3	4
324-48G	324-48NG	3	6
324-64G	324-64NG	3	8
324-80G	324-80NG	3	10
324-96G	324-96NG	3	12
332-32G	332-32NG	4	4
332-40G	332-40NG	4	5
332-48G	332-48NG	4	6
332-64G	332-64NG	4	8
332-80G	332-80NG	4	10
332-96G	332-96NG	4	12

Continued on next page

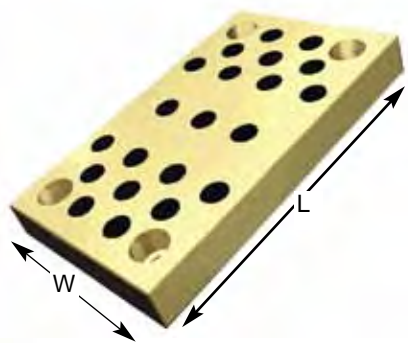
Self-Lubricating Solid Bronze Wear Strips

- Width and length of wearstrip determines hole pattern regardless of thickness
- Greaseless applications
- Protects mold from damage due to high wear conditions



Self-Lubricating Solid Bronze Wear Strip is used to reduce wear and give added support to moving components within a mold. PCS Self-Lubricating Solid Bronze Wear Strip is available in many thickness, width and length combinations.

SPECIFICATIONS	
Material Type	Solid Bronze with graphite plugs
Thickness Tolerance	±.001
Width Tolerance	+ .01 / - .060
Length Tolerance	+ .062 / - .000
Unit of Measure	Inch



THICKNESS 1/2" (.500 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
	412-24NG	1.5	3
	412-32NG	1.5	4
412-48G		1.5	6
	412-64NG	1.5	8
416-24G		2	3
416-48G		2	6
	416-64NG	2	8
416-96G		2	12
420-24G		2.5	3
420-32G	420-32NG	2.5	4
	420-40NG	2.5	5
420-64G	420-64NG	2.5	8
424-24G		3	3
	424-40NG	3	5
424-48G		3	6
424-64G		3	8
424-80G		3	10

THICKNESS 5/8" (.625 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
424-96G	424-96NG	3	12
432-32G		4	4
	432-48NG	4	6
432-64G	432-64NG	4	8
432-80G	432-80NG	4	10
	432-96NG	4	12
	512-48NG	1.5	6
	516-32NG	2	4
	516-48NG	2	6
516-64G		2	8
	516-96NG	2	12
	524-40NG	3	5
532-32G		4	4
	532-40NG	4	5

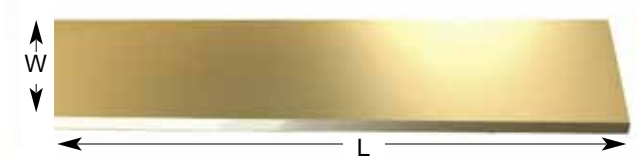
For drilled hole location patterns see page C55

Solid Bronze Wear Strips

- Width and length of wearstrip determines hole pattern regardless of thickness
- Protects mold from damage due to high wear conditions

Solid Bronze Wear Strip is used to reduce wear and give added support to moving components within a mold. PCS Solid Bronze Wear Strip is available in many thickness, width and length combinations.

SPECIFICATIONS	
Material Type	Solid Bronze
Thickness Tolerance	±.001
Width Tolerance	+ .01 / - .060
Length Tolerance	+ .062 / - .000
Unit of Measure	Inch



THICKNESS 1/4" (.250 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
28-32N		1	4
28-40N		1	5
28-48	28-48N	1	6
28-64	28-64N	1	8
28-80	28-80N	1	10
28-96	28-96N	1	12
212-32	212-32N	1.5	4
	212-40N	1.5	5
	212-48N	1.5	6
212-64	212-64N	1.5	8
	212-80N	1.5	10
212-96	212-96N	1.5	12
216-32	216-32N	2	4
	216-40N	2	5
	216-48N	2	6
216-64	216-64N	2	8
216-80	216-80N	2	10
216-96	216-96N	2	12

THICKNESS 1/4" (.250 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
220-32	220-32N	2.5	4
220-40	220-40N	2.5	5
220-64	220-64N	2.5	8
	220-80N	2.5	10
220-96	220-96N	2.5	12
224-32	224-32N	3	4
224-40	224-40N	3	5
224-48	224-48N	3	6
224-64	224-64N	3	8
224-80	224-80N	3	10
	224-96N	3	12
	232-32N	4	4
232-40	232-40N	4	5
232-48	232-48N	4	6
	232-64N	4	8
232-80	232-80N	4	10
232-96	232-96N	4	12

For drilled hole location patterns see page C55

Continued on next page

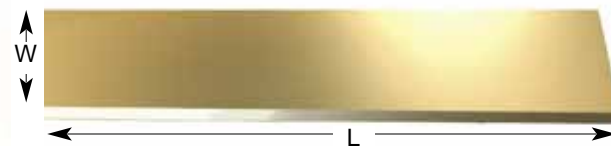
Solid Bronze Wear Strips

- Width and length of wearstrip determines hole pattern regardless of thickness
- Protects mold from damage due to high wear conditions

Solid Bronze Wear Strip is used to reduce wear and give added support to moving components within a mold. PCS Solid Bronze Wear Strip is available in many thickness, width and length combinations.



SPECIFICATIONS	
Material Type	Solid Bronze
Thickness Tolerance	±.001
Width Tolerance	+ .01 / - .060
Length Tolerance	+ .062 / - .000
Unit of Measure	Inch



THICKNESS 3/8" (.375 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
	38-32N	1	4
	38-40N	1	5
	38-48N	1	6
	38-80N	1	10
	38-96N	1	12
312-32	312-32N	1.5	4
	312-40N	1.5	5
312-48	312-48N	1.5	6
312-64	312-64N	1.5	8
316-32	316-32N	2	4
316-40	316-40N	2	5
316-48	316-48N	2	6
316-64	316-64N	2	8
	316-80N	2	10
316-96	316-96N	2	12
320-32	320-32N	2.5	4
	320-40N	2.5	5
320-48		2.5	6
320-64	320-64N	2.5	8
	320-80N	2.5	10
	320-96N	2.5	12

THICKNESS 3/8" (.375 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
324-32	324-32N	3	4
324-40	324-40N	3	5
324-48	324-48N	3	6
324-64	324-64N	3	8
324-80	324-80N	3	10
324-96	324-96N	3	12
332-32	332-32N	4	4
332-40	332-40N	4	5
332-48	332-48N	4	6
332-64	332-64N	4	8
332-80	332-80N	4	10
332-96	332-96N	4	12

For drilled hole location patterns see page C55

Continued on next page

Solid Bronze Wear Strips

- Width and length of wearstrip determines hole pattern regardless of thickness
- Protects mold from damage due to high wear conditions

Solid Bronze Wear Strip is used to reduce wear and give added support to moving components within a mold. PCS Solid Bronze Wear Strip is available in many thickness, width and length combinations.



SPECIFICATIONS	
Material Type	Solid Bronze
Thickness Tolerance	±.001
Width Tolerance	+ .01 / - .060
Length Tolerance	+ .062 / - .000
Unit of Measure	Inch



THICKNESS 1/2" (.500 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
412-24	412-24N	1.5	3
	412-32N	1.5	4
	412-40N	1.5	5
	412-48N	1.5	6
	412-64N	1.5	8
	412-80N	1.5	10
	412-96N	1.5	12
416-24	416-24N	2	3
416-32	416-32N	2	4
416-40	416-40N	2	5
416-48	416-48N	2	6
416-64	416-64N	2	8
416-80	416-80N	2	10
416-96	416-96N	2	12
	420-24N	2.5	3
	420-32N	2.5	4
	420-40N	2.5	5
	420-48N	2.5	6
	420-64N	2.5	8
420-80	420-80N	2.5	10
420-96	420-96N	2.5	12

THICKNESS 1/2" (.500 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
424-24	424-24N	3	3
424-32	424-32N	3	4
424-40	424-40N	3	5
424-48	424-48N	3	6
424-64	424-64N	3	8
432-32	432-32N	4	4
	432-40N	4	5
432-48	432-48N	4	6
432-64	432-64N	4	8
432-80	432-80N	4	10
432-96	432-96N	4	12

For drilled hole location patterns see page C55

Continued on next page

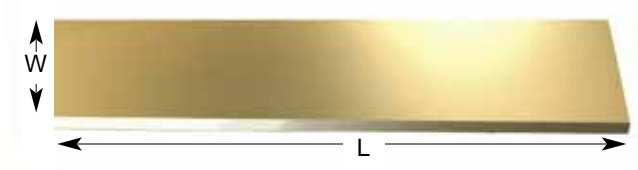
Solid Bronze Wear Strips

- Width and length of wearstrip determines hole pattern regardless of thickness
- Protects mold from damage due to high wear conditions

Solid Bronze Wear Strip is used to reduce wear and give added support to moving components within a mold. PCS Solid Bronze Wear Strip is available in many thickness, width and length combinations.



SPECIFICATIONS	
Material Type	Solid Bronze
Thickness Tolerance	±.001
Width Tolerance	+ .01 / - .060
Length Tolerance	+ .062 / - .000
Unit of Measure	Inch



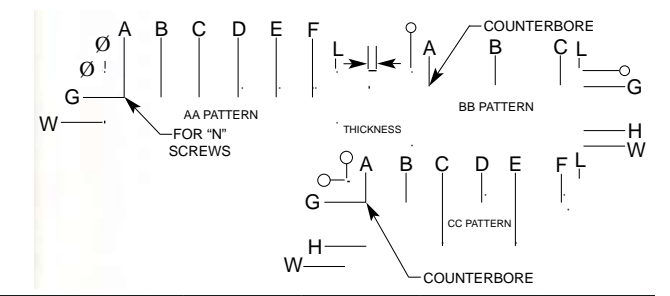
THICKNESS 5/8" (.625 +/- .001)			
CATALOG NO.		WIDTH	LENGTH
DRILLED	NOT DRILLED		
512-24	512-24N	1.5	3
512-32	512-32N	1.5	4
	512-40N	1.5	5
	512-48N	1.5	6
	512-64N	1.5	8
	512-80N	1.5	10
	512-96N	1.5	12
	516-24N	2	3
	516-32N	2	4
	516-40N	2	5
	516-80N	2	10
	524-32N	3	4
	532-32N	4	4
	532-40N	4	5
	532-48N	4	6
	532-64N	4	8
	532-80N	4	10

For drilled hole location patterns see page C55

Wearstrips Hole Locations

- Material: Solid Bronze with or without graphite plugs
- Width and length of wearstrip determines hole pattern regardless of thickness

THICKNESS		N
1/4	.250	For 1/4" Flat Head Screw
3/8	.375	For 1/4" Socket Head Screw
1/2	.500	For 5/16" Socket Head Screw
5/8	.625	For 5/16" Socket Head Screw



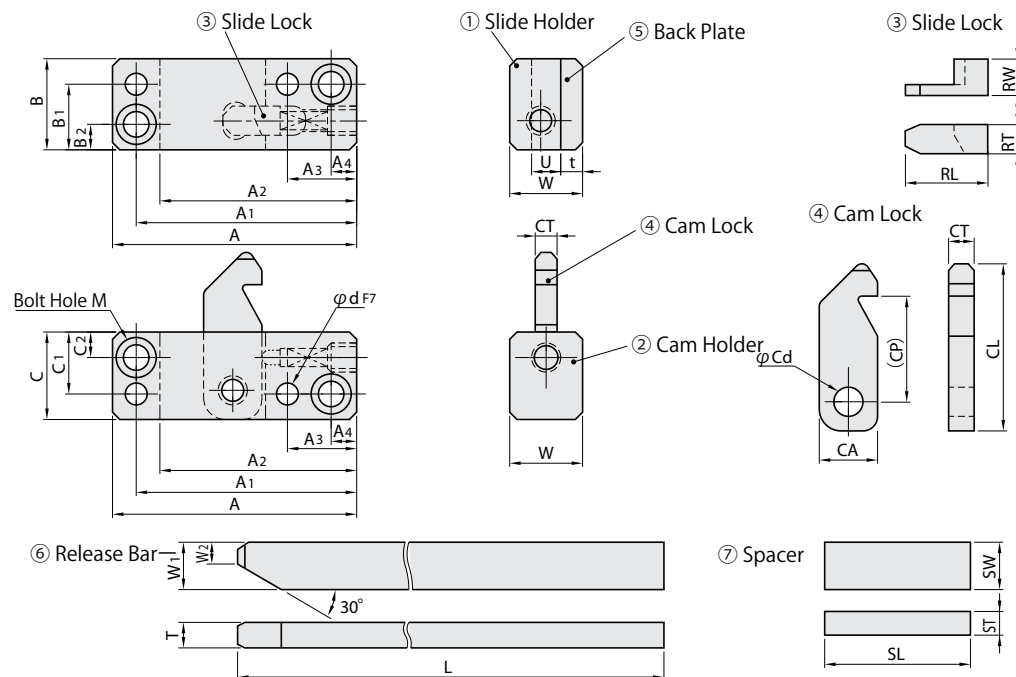
W WIDTH	L LENGTH	SCREW HOLES		HOLE LOCATION							
		AMT.	PATT.	A	B	C	D	E	F	G	H
*1.00	4.00	2	AA	1.00	3.00	-	-	-	-	0.50	-
*1.00	5.00	3	AA	0.50	2.50	4.50	-	-	-	0.50	-
*1.00	6.00	3	AA	1.00	3.00	5.00	-	-	-	0.50	-
*1.00	8.00	4	AA	1.00	3.00	5.00	7.00	-	-	0.50	-
*1.00	10.00	5	AA	1.00	3.00	5.00	7.00	9.00	-	0.50	-
*1.00	12.00	6	AA	1.00	3.00	5.00	7.00	9.00	11.00	0.50	-
1.50	3.00	2	AA	0.50	2.50	-	-	-	-	0.75	-
1.50	4.00	2	AA	1.00	3.00	-	-	-	-	0.75	-
1.50	5.00	3	AA	0.50	2.50	4.50	-	-	-	0.75	-
1.50	6.00	3	AA	1.00	3.00	5.00	-	-	-	0.75	-
1.50	8.00	4	AA	1.00	3.00	5.00	7.00	-	-	0.75	-
1.50	10.00	5	AA	1.00	3.00	5.00	7.00	9.00	-	0.75	-
1.50	12.00	6	AA	1.00	3.00	5.00	7.00	9.00	11.00	0.75	-
2.00	3.00	2	AA	0.50	2.50	-	-	-	-	1.00	-
2.00	4.00	2	AA	1.00	3.00	-	-	-	-	1.00	-
2.00	5.00	3	AA	0.50	2.50	4.50	-	-	-	1.00	-
2.00	6.00	3	AA	1.00	3.00	5.00	-	-	-	1.00	-
2.00	8.00	4	AA	1.00	3.00	5.00	7.00	-	-	1.00	-
2.00	10.00	5	AA	1.00	3.00	5.00	7.00	9.00	-	1.00	-
2.00	12.00	6	AA	1.00	3.00	5.00	7.00	9.00	11.00	1.00	-
2.50	3.00	2	AA	0.50	2.50	-	-	-	-	1.25	-
2.50	4.00	2	AA	1.00	3.00	-	-	-	-	1.25	-
2.50	5.00	3	AA	0.50	2.50	4.50	-	-	-	1.25	-
2.50	6.00	3	AA	1.00	3.00	5.00	-	-	-	1.25	-
2.50	8.00	4	AA	1.00	3.00	5.00	7.00	-	-	1.25	-
2.50	10.00	5	AA	1.00	3.00	5.00	7.00	9.00	-	1.25	-
2.50	12.00	6	AA	1.00	3.00	5.00	7.00	9.00	11.00	1.25	-
3.00	3.00	4	BB	0.50	2.50	-	-	-	-	0.50	2.50
3.00	4.00	4	BB	1.00	3.00	-	-	-	-	0.50	2.50
3.00	5.00	4	BB	0.50	4.50	-	-	-	-	0.50	2.50
3.00	6.00	4	BB	1.00	5.00	-	-	-	-	0.50	2.50
3.00	8.00	6	CC	1.00	3.00	5.00	-	-	7.00	0.50	2.50
3.00	10.00	6	BB	1.00	5.00	9.00	-	-	-	0.50	2.50
3.00	12.00	8	CC	1.00	3.00	5.00	7.00	9.00	11.00	0.50	2.50
4.00	4.00	4	BB	1.00	3.00	-	-	-	-	1.00	3.00
4.00	5.00	4	BB	0.50	4.50	-	-	-	-	1.00	3.00
4.00	6.00	4	BB	1.00	5.00	-	-	-	-	1.00	3.00
4.00	8.00	6	CC	1.00	3.00	5.00	-	-	7.00	1.00	3.00
4.00	10.00	6	BB	1.00	5.00	9.00	-	-	-	1.00	3.00
4.00	12.00	8	CC	1.00	3.00	5.00	7.00	9.00	11.00	1.00	3.00

Latch Lock Sets - For Light, Medium & Heavy Load



- Compact and easy to Mount
- Enables Accurate mold opening movement with no reaction
- Can be used for low pressure molding as it imposes little load when locking
- Function regardless of the order of the mold closing process
- Slide Lock retreats if the runner stopper side closes before the parting line

Latch Locks provide plate sequence control to mechanically draw floating plates and inserts. Floating plates are secured in place during mold opening and closing to prevent damage to the mold. Latch Locks are externally mounted which leaves more real estate available within the mold.



ITEM	① SLIDE HOLDER	② CAM HOLDER	③ SLIDE LOCK	④ CAM LOCK	⑤ BACK PLATE	⑥ RELEASE BAR	⑦ SPACER
Material type	Tool Steel H13	Tool Steel H13	SKD11	SKD11	SK	S45C	S45C
Hardness	50-55 Rc	50-55 Rc	58 Rc	58 Rc	50 Rc	45 Rc	N/A

ASSEMBLY CATALOG NO.	① SLIDE HOLDER ② CAM HOLDER													③ SLIDE LOCK				
	A	A1	A2	A3	A4	B	B1	B2	C	C1	C2	W	U	Bolt hole M	d	RL	RT	RW
PL0068	68	61.5	55	19	7	26	19	7	24	17	7	20	8	For M6	φ 6	18	7	11
PL0088	88	79	70	24	9	38	29	9	30	21	9	30	12	For M8	φ 8	20	9	16
PL0104	104	93	82	27	11	48	37	11	38	27	11	45	20	For M10	φ10	24	12	26

ASSEMBLY CATALOG NO.	④ CAM LOCK					⑤ t	⑥ RELEASE BAR				⑦ SPACER			ACCESSORIES		
	CL	CP	CA	CT	Cd		W1	W2	T	L	SW	ST	SL	BOLT 4 PCS.	DOWEL PIN 4 pcs.	SPRING 2 PCS.
PL0068	45	28	16	7.5	8	6	13	5.9	7	250	13	6.5	40	PLF0003	PLD0001	PS0001
PL0088	64	41	20	10	10	7	16	8	10	300	16	8	50	PLF0008	PLD0002	PS0002
PL0104	84	53.5	25	18	13	8	20	9.5	15.5	350	20	10.2	55	PLF0011	PLD0003	PS0002

Latch Lock Sets - For Light, Medium & Heavy Load



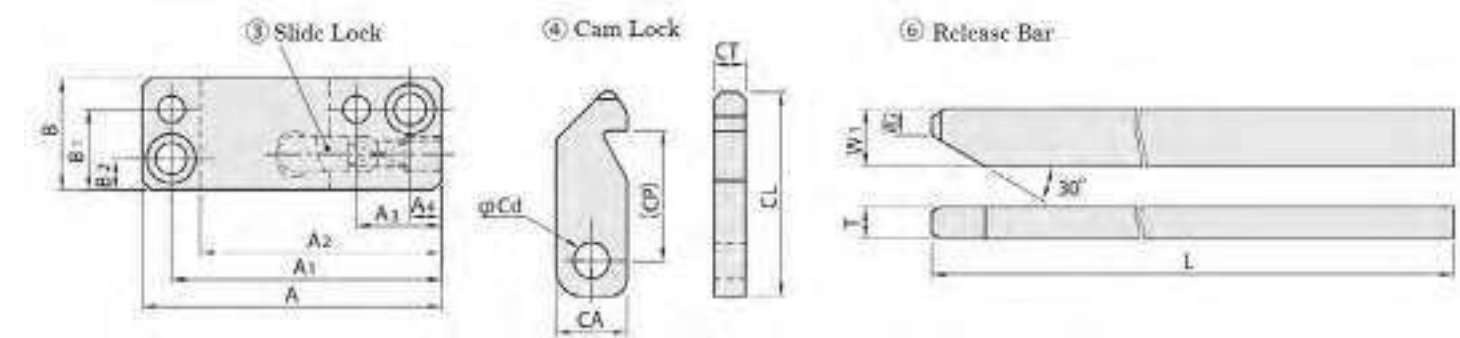
- Compact and easy to mount
- Enables accurate mold opening movement with no reaction
- Can be used for low pressure molding as it imposes little load when locking
- Function regardless of the order of the mold closing process
- Slide Lock retreats if the runner stopper side closes before the parting line

Latch Locks provide plate sequence control to mechanically draw floating plates and inserts. Floating plates are secured in place during mold opening and closing to prevent damage to the mold. Latch Locks are externally mounted which leaves more real estate available within the mold.

Components (Single Items)

Consumable components-cam locks, slide locks and release bars can be purchased independently.

ASSEMBLY CATALOG NO.	SLIDE LOCK ONLY	CAM LOCK ONLY	RELEASE BAR ONLY
For PL0068	PLS0001	PLK0001	PLR0001
For PL0088	PLS0002	PLK0002	PLR0002
For PL0104	PLS0003	PLK0003	PLR0003



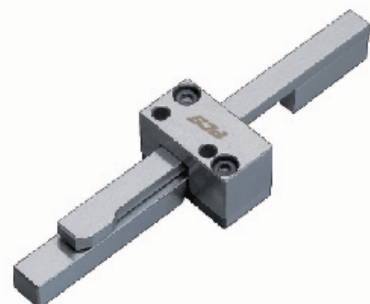
Components (Unit)

Use when a cam holder unit is necessary, such as during two-color molding or insert molding, or when a lock set with a long release bar is necessary.

ASSEMBLY CATALOG NO.	SLIDE HOLDER UNIT ①③⑤+ACCESSORIES	CAM HOLDER UNIT ②④+ACCESSORIES	(L: 300MM) RELEASE BAR LONG TYPE
PL0068	PLH0001	PLC0011	PLR0011
PL0088	PLH0002	PLC0012	N/A

When PL0068 with a long release bar is necessary, use PLH0001, PLC0011 and PLR0011.

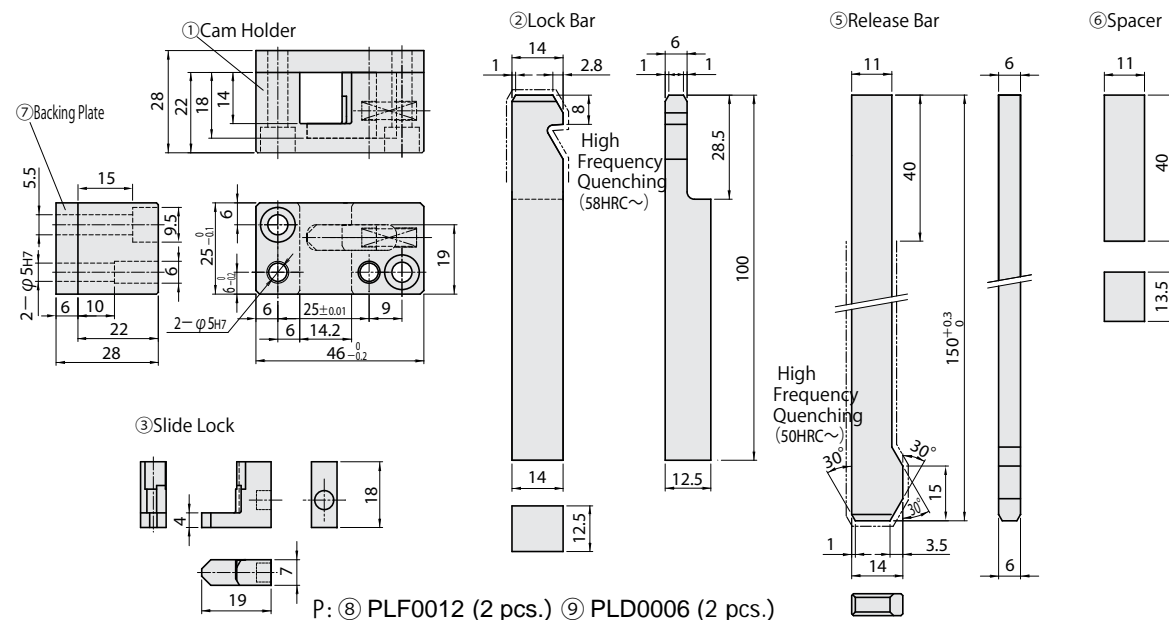
Latch Lock Sets - For Compact Load



- Compact and easy to mount
- Enables accurate mold opening movement with no reaction
- Can be used for low pressure molding as it imposes little load when locking
- Function regardless of the order of the mold closing process
- Space saving--the lock bar and release bar are constructed in such a way that they overlap when operating, thus realizing compactness (width is 46 mm).

Latch Locks provide plate sequence control to mechanically draw floating plates and inserts. Floating plates are secured in place during mold opening and closing to prevent damage to the mold. Latch Locks are externally mounted which leaves more real estate available within the mold.

SPECIFICATIONS		
ITEMS	MATERIAL TYPE	HARDNESS
① Cam holder	SKD61	50-55 Rc
② Lock bar	SKS3	58 Rc (High frequency quenching)
③ Slide lock	SKD11	58-60 Rc
④ Spring	SUS631	
⑤ Release bar	SKS3	50 Rc (High frequency quenching)
⑥ Spacer	S45C	
⑦ Backing plate	SKS3	50 Rc



Parting Lock Set

COMPONENTS	CATALOG NO.
①-⑦ Sets	PL0046

Release bar long type

COMPONENTS	CATALOG NO.
⑤ (Length: 250 mm) ⑥	PLR0021

If a lock set with long release bar is necessary, use PLC0013H, PLR0021 and PLL0001.

Cam holder unit

COMPONENTS	CATALOG NO.
①③④⑦+Accessories	PLC0013

Components (Single Items)

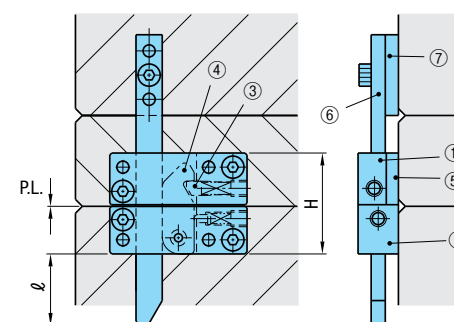
COMPONENTS	CATALOG NO.
② Lock bar	PLL0001
③ Slide lock	PLS0004
⑤ Release bar	PLR0004

Consumable components--lock bars, slide locks and release bars can be purchased independently.

Latch Lock -Installation Guide

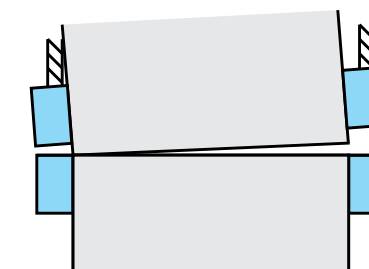
Notes

1. Always use 2 or more sets on a mold.
2. Use this parting lock set within the following load limits:
 - PL0068/PL0046 - 1 ton or less per mold (when 2 sets are used)
 - PL0088 - 1.8 tons or less per mold (when 2 sets are used)
 - PL0104 - 4 tons or less per mold (when 2 sets are used)
3. Maintain proper alignment of the right and left release points to avoid uneven contact and resultant breakage.

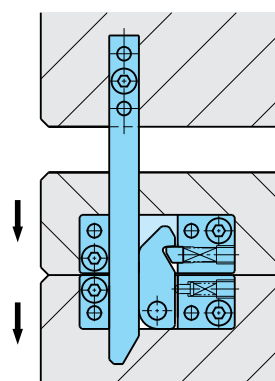


(Fig. 1) Mold closed

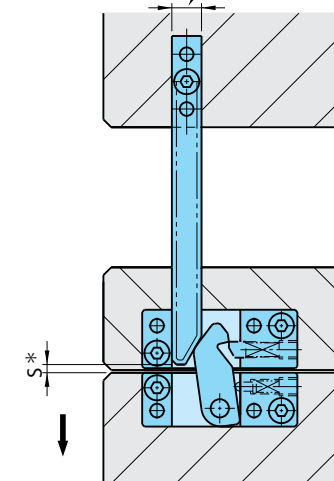
ASSEMBLY CATALOG NO.	H
PL0068	50
PL0088	68
PL0104	86



The release bar's sliding face has been reinforced up to 45 Rc or higher through induction hardening. The side faces have been under 30 Rc for drilling of mounting holes.



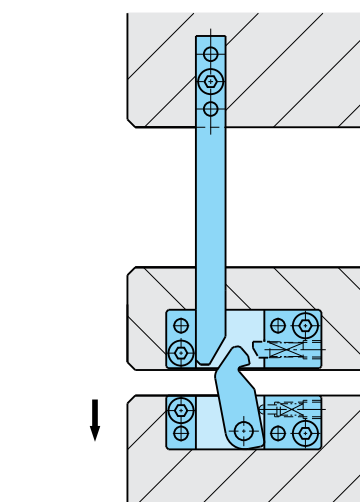
(Fig. 2) Mold opened



(Fig. 3) Release point of the cam lock

The release point is where the release bar's end comes above the S (mm) cam holder's top surface.

Use the S (mm) values shown in the table as reference only. Make sure to check the actual release timing on the site.



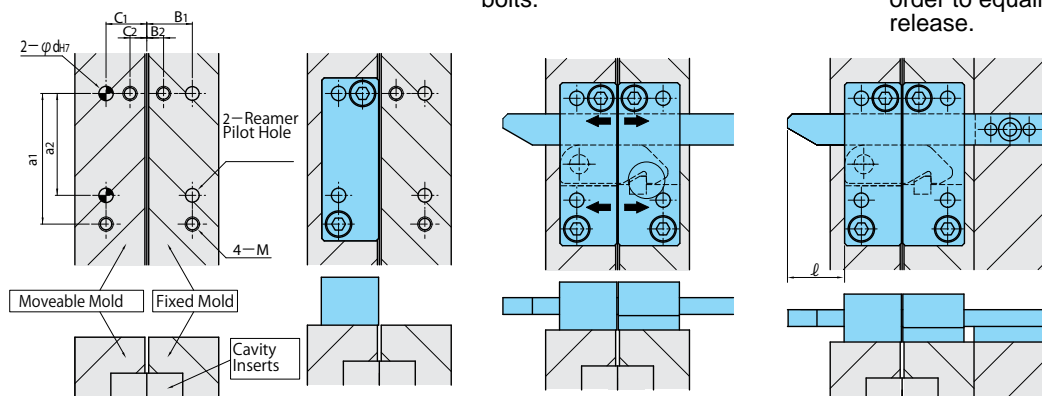
(Fig. 4) Parting Line is released

ASSEMBLY CATALOG NO.	S (mm)
PL0068	Approx. 2
PL0088	Approx. 11
PL0104	Approx. 15

Latch Lock - Installation Guide

Method of installing the parting

- Form bolt holes and reamer holes in the mold parallel to the parting line face to a pitch accuracy within ± 0.01 . If the pitch accuracy is within ± 0.02 , form the holes to the reamer pilot hole dimension. (Machine the holes while taking into consideration the clearance between the insert and the mold.)
- Install the cam holder on the movable mold.
- In order to eliminate looseness between the cam lock and the slide lock, insert the release bar, temporarily fix the slide holder while pulling it parallel to the cam holder, ream the holes and press-fit the dowel pins. In this condition, confirm that the release bar operates smoothly, and then tighten the slide holder with the bolts.
- Install the mold in the molding machine, cut the release bar to the necessary length, form the bolt holes and reamer pilot holes, temporarily fix the release bar, check the sliding operation of the parting lock, and then ream the holes and press-fit the dowel pins. Make the overhang length ℓ of each release bar the same in order to equalize the timing of the release.

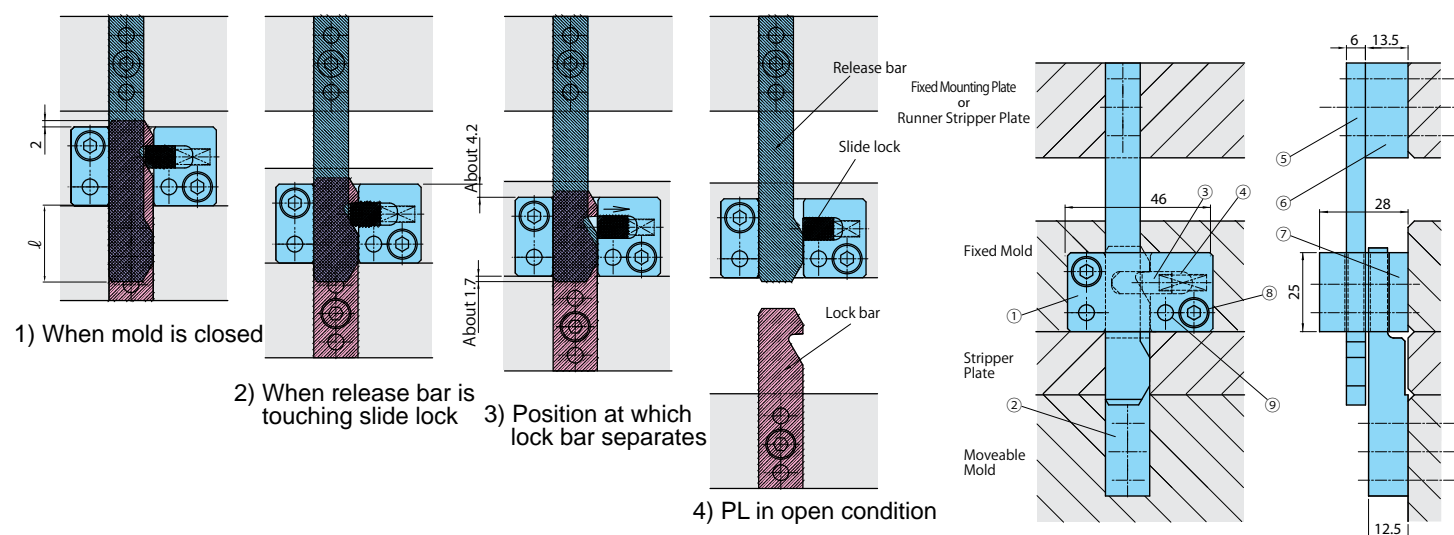


CATALOG NO.	a1	a2	C1	C2	B1	B2	M	dH7	Reamer pilot hole M0.3
PL0068	54.5	42.5	17	7	19	7	M 6	6	φ5.7
PL0088	70	55	21	9	29	9	M 8	8	φ7.7
PL0104	82	66	27	11	37	11	M10	10	φ9.7

Precautions

- If you form the dowel pin hole of the parting lock set by NC machining, the following trouble will occur.
- The positions of the cam lock and slide lock will become misaligned, making it difficult to insert the slide bar. This in turn may result in damage to the cam lock or another part.
 - A clearance will occur between the cam lock and the slide lock, resulting in defective molding. For the above reasons, carry out position adjustment by matching with the actual part.

Example of PL0046 operation



How to Mount

- Form bolt holes and reamer holes using NC machining, and install the cam holder parallel to the PL face.
- Cut the cam lock to the necessary length, form the bolt holes and reamer pilot holes, tighten the cam lock with the bolts while pulling it, carry out position adjustment by matching with the actual part, form the dowel holes, and fix the cam lock.
- Cut the release bar to the necessary length, and install it perpendicular to the mold. Make the overhang length ℓ of each release bar the same in order to equalize the release points.

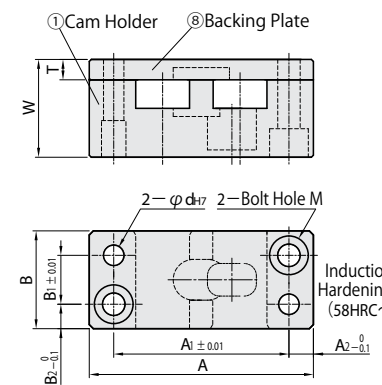
Latch Locks - Mold Opening/Closing Type

- Compact and easy to mount
- Enables accurate mold opening movement with no reaction
- Can be used for low pressure molding as it imposes little load when locking
- Function regardless of the order of the mold closing process
- Slide Lock retreats if the runner stripper side closes before the parting line



Latch Locks provide plate sequence control to mechanically draw floating plates and inserts. Floating plates are secured in place during mold opening and closing to prevent damage to the mold. Latch Locks are externally mounted which leaves more real estate available within the mold.

SPECIFICATIONS		
NAME	MATERIAL TYPE	HARDNESS
① Cam holder	Alloy tool steel	50 - 55 Rc
② Lock bar		58 Rc
③ Lock pin		58 - 60 Rc
④ Slide Lock		58 - 60 Rc
⑤ Spring	SUS631	
⑥ Release bar	Alloy tool steel	58 Rc
⑦ Spacer	S45C	
⑧ Backing plate	Alloy tool steel	50 Rc
⑨ SHCS	SCM435	38 - 43 Rc
⑩ Dowel pin	SUJ2	45 - 50 Rc

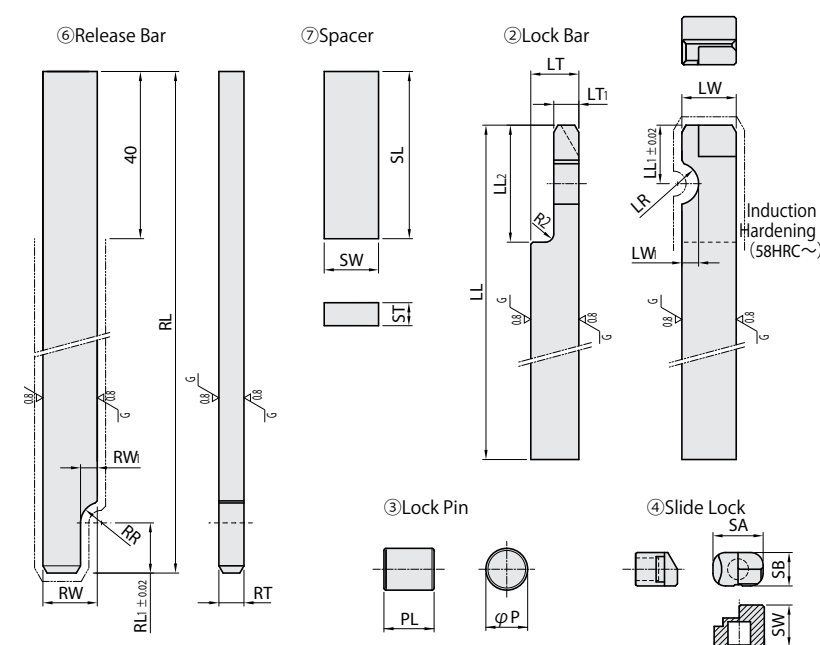


Set

COMPONENTS	CATALOG NO.
①-⑩ Set	PL0055
	PL0067

Components (Single Items)

COMPONENTS	USE WITH	CATALOG NO.
② Lock bar	PL0055	PLL0002
	PL0067	PLL0003
④ Slide lock	PL0055	PLS0005
	PL0067	PLS0006
⑥ Release bar	PL0055	PLR0005
	PL0067	PLR0006



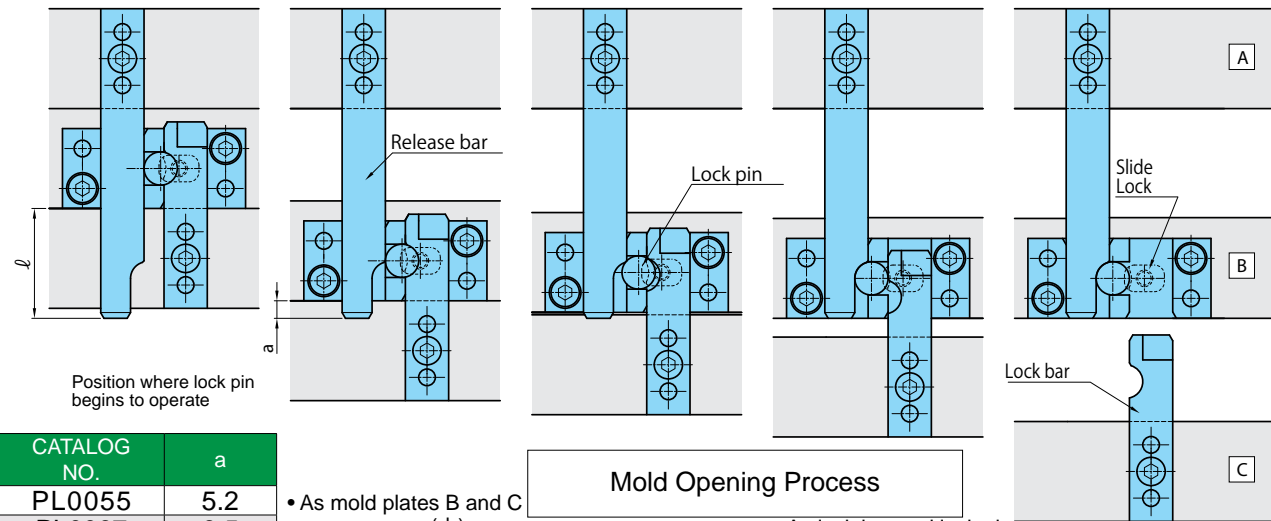
CATALOG NO.	① CAM HOLDER ⑧ BACKING PLATE										② LOCK BAR							
	A	A1	A2	B	B1	B2	d	M	W	T	LW	LW1	LR	LL	LL1	LL2	LT	LT1
PL0055	55	43	6	24	12	6	5	5	24	5	13	4	5	100	14	28	11.5	6
PL0067	67	53	7	32	16	8	6	6	32.5	6	18	5	6	150	18	36	16.5	10

CATALOG NO.	③ LOCK PIN		④ SLIDE LOCK		⑤ SPRING	⑥ RELEASE BAR					⑦ SPACER			ACCESSORIES			
	P	PL	SA	SB		SW	RW	RW1	RR	RL	RL1	RT	SW	SL	ST	⑨ BOLT	⑩ DOWEL PIN
PL0055	10	12	12	8	10	PS0003	13	4	5	150	12	6	13	40	5.5	PLF0001	PLD0003
PL0067	12	17	16	10	13	PS0004	16	5	6	200	16	10	16	50	6.6	PLF0005	PLD0004

Latch Locks - Installation Guide

Notes

- Mold closing control (closing PL surface after closing the stripper plate, etc.), which was not possible with the conventional latch lock sets (PL0068 and PL0046), is now possible.
- The lock bar is long, so it can also be used for thrusting out the stripper plate.
- Enables accurate mold opening and closing movement with no reaction.



- As mold plates B and C move, space (I) opens
- Space (II) begins to open

Mold Opening Process
 Lock pin moves to the concave part of release bar
 As lock bar and lock pin separate, mold plates B and C become apart

Slide lock holds down lock pin, and die plate B keeps Space (I)

Space (I) closes after Space (II) closes

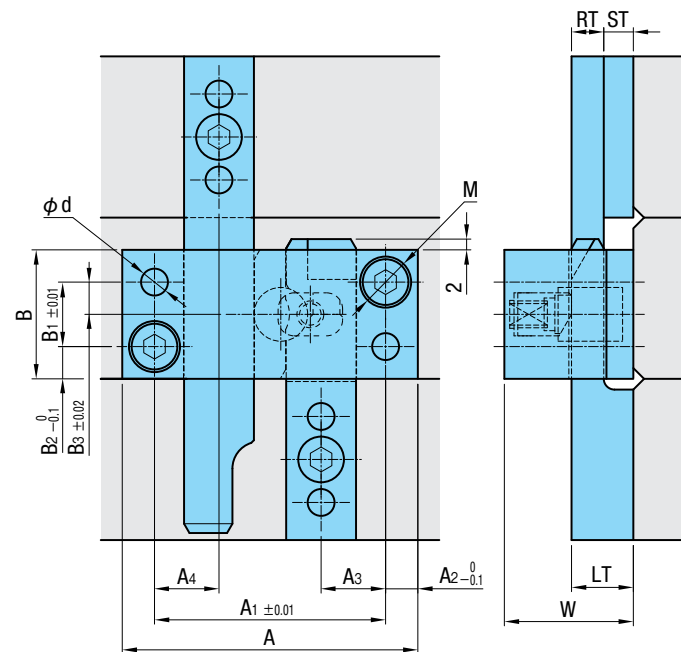
Lock pin moves to the concave part of lock bar
 Slide lock is released by lock bar

Operation check diagram

Mold Closing Process

Mounting

- (1) Mount 2 or more parting lock sets at symmetrical positions on the mold. PL0055 : 10KN or less for 1 mold/when mounting 2 sets, PL0067 : 20KN or less for 1 mold/when mounting 2 sets
- (2) Form bolt holes and reamer holes using NC machining, and install the cam holder parallel to the PL face.
- (3) Cut the lock bar to the necessary length, form the bolt holes and reamer pilot holes, tighten the cam lock with the bolts while pulling it, carry out position adjustment by matching with the actual part, form the dowel holes, and fix the cam lock.
- (4) Cut the release bar to the necessary length, and install it perpendicularly to the mold. Make the overhang length l of each release bar the same in order to equalize the release points. (Maintain proper alignment of the release points to avoid uneven contact and resultant breakage.)



Roller Pulling Assemblies - Standard/Long Type

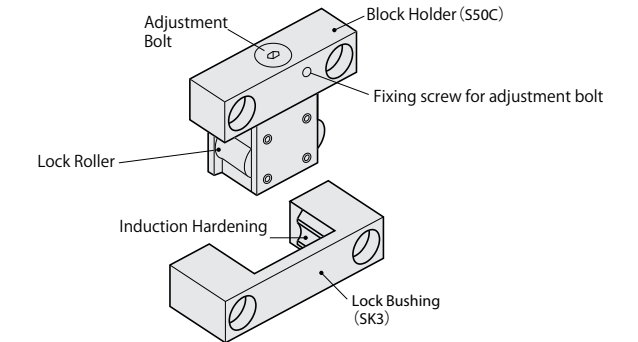
- Enables well-balanced mold opening/closing through its mechanism composed of a Belleville spring, internal rollers and lock rollers.
- The lock bushing's vertically symmetrical design allows a worn piece to be reused by reinstalling it in reverse.
- The lock holder's back recess enables it to be used even on a stepped mold plates.
- For heat resistant type, the adjusting bolt differs from standard type for identification. (Standard type: black oxide coated, Heat resistant type: Trivalent Chromate coated)

Load Adjustment and Load Characteristics

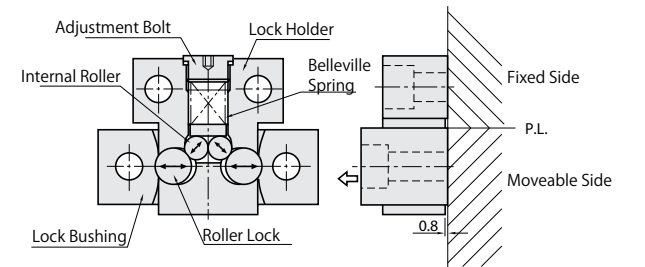
- Opening/closing load can be adjusted using an Allen wrench. The load is maximum when the adjustment bolt is fully tightened, 50% when it is loosened a half rotation, 0 when it is loosened 1 rotation or more. *For PLS0010, the load decreases about 25% when the adjustment bolt is loosened a half rotation, 70% when it is loosened one rotation.
- The load for mold closing is about 50% of mold opening.
- A fixing screw is provided on the load adjustment bolt. Loosen it to perform load adjustment, and make sure to tighten it after adjustment is completed.

Note: Make sure to assemble the right and left unit symmetrically for well balanced operation.

Features

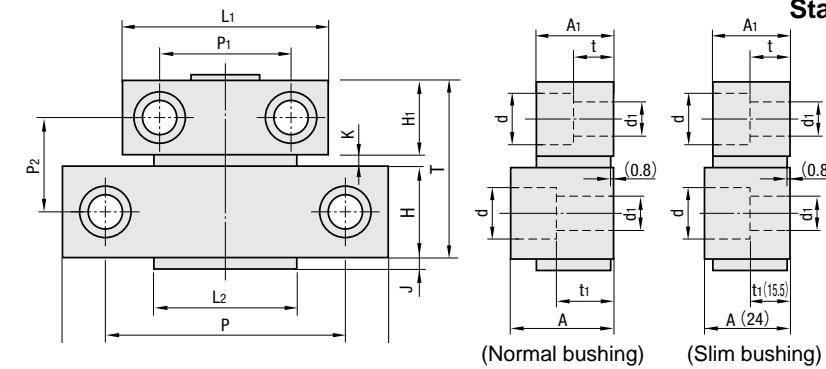


Structure and Usage

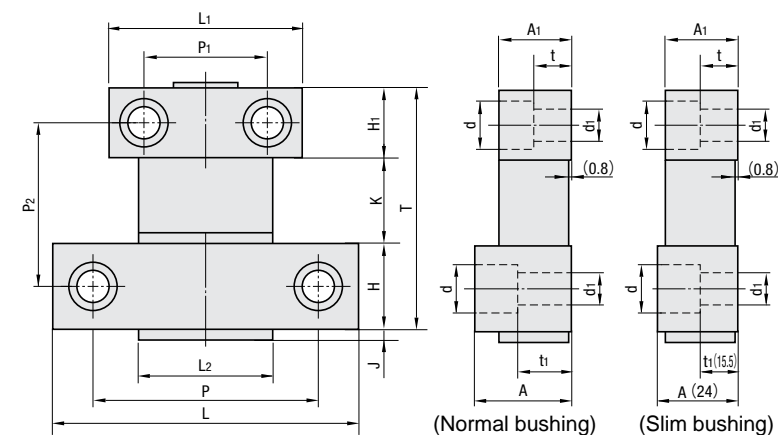


- Mount it in parallel to the parting line.
- The roller lock set can be removed by pulling it in the direction of arrow in the figure.

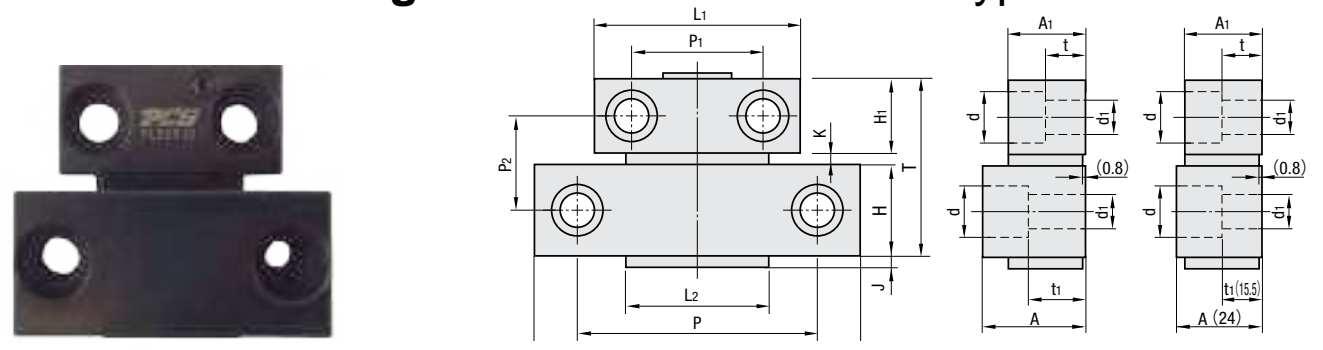
Standard Type/Standard Type - High Heat Resistance



Long Type/Long Type - High Heat Resistance



Roller Pulling Assemblies - Standard Type



Standard Type (Normal Bushing) - Withstands temperatures up to 175°F, 80°C

CATALOG NO.	MAX. USABLE LOAD	L	L1	L2	T	H	H1	J	K	P	P1	P2	A	A1	t	t1	d	d1	P 2 PCS. EACH
PLS0010	981N {100kgf}	48	36	25	42	22	18	2	2	36	24	22	24	16	9.5	18	11	6.5	PLF0002 PLF0004
PLS0020	1961N {200kgf}	54	42							40	28								9
PLS0030	2942N {300kgf}	65	46	35	48.5	25	20	3.5	3.5	50	31	26	27	19	9.5	17	14	9	PLF0004 PLF0005
PLS0060	5884N {600kgf}	73	50							52	33								PLF0007 PLF0008
PLS0080	7845N {800kgf}									34	PLF0007 PLF0008								

Standard Type (Slim Bushings) - Withstands temperatures up to 175°F, 80°C

CATALOG NO.	MAX. USABLE LOAD	L	L1	L2	T	H	H1	J	K	P	P1	P2	A	A1	t	t1	d	d1	P 2 PCS. EACH
PLSS0030	2942N {300kgf}	65	46	35	48.5	25	20	3.5	3.5	50	31	26	24	19	9.5	15.5	11	7	PLF0003 PLF0004
PLSS0060	5884N {600kgf}	73	50							52	33								PLF0006 PLF0007
PLSS0080	7845N {800kgf}									34	PLF0006 PLF0007								

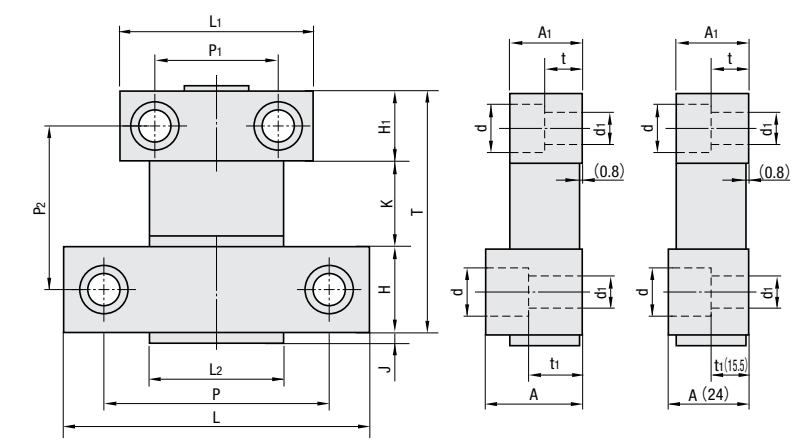
Standard Type (Normal Bushing - High Heat Resistance) - Withstands temperatures up to 300°F, 150°C

CATALOG NO.	MAX. USABLE LOAD	L	L1	L2	T	H	H1	J	K	P	P1	P2	A	A1	t	t1	d	d1	P 2 PCS. EACH
PLS0020H	1961N {200kgf}	54	42	25	42	22	18	2	2	40	28	22	24	16	9	16	11	6.5	PLF0002 PLF0003
PLS0030H	2942N {300kgf}	65	46	35	48.5	25	20	3.5	3.5	50	31	26	27	19	9.5	17			14
PLS0060H	5884N {600kgf}	73	50							52	33						PLF0007 PLF0008		
PLS0080H	7845N {800kgf}									34	PLF0007 PLF0008								
PLS0100H	9807N {1000kgf}	103	65	48	58	30	24	4	4	76	42	31	34	25	13	19	17	11	PLF0009 PLF0010

Standard Type (Slim Bushings - High Heat Resistance) - Withstands temperatures up to 300°F, 150°C

CATALOG NO.	MAX. USABLE LOAD	L	L1	L2	T	H	H1	J	K	P	P1	P2	A	A1	t	t1	d	d1	P 2 PCS. EACH
PLSS0030H	2942N {300kgf}	65	46	35	48.5	25	20	3.5	3.5	50	31	26	24	19	9.5	15.5	11	7	PLF0003 PLF0004
PLSS0060H	5884N {600kgf}	73	50							52	33								PLF0006 PLF0007
PLSS0080H	7845N {800kgf}									34	PLF0006 PLF0007								

Roller Pulling Assemblies - Long Type



Long Type (Normal Bushing) - Withstands temperatures up to 150°F, 80°C

CATALOG NO.	MAX. USABLE LOAD	L	L1	L2	T	H	H1	J	K	P	P1	P2	A	A1	t	t1	d	d1	P 2 PCS. EACH	
PLS0060L	5884N {600kgf}	73	50	35	79.5	25	20	3.5	34.5	52	33	65	27	19	9.5	17	14	9	PLF0007 PLF0008	
PLS0080L	7845N {800kgf}				87.5				42.5											57
PLS0100L	9807N {1000kgf}				103				65											48

Long Type (Slim Bushing) - Withstands temperatures up to 150°F, 80°C

CATALOG NO.	MAX. USABLE LOAD	L	L1	L2	T	H	H1	J	K	P	P1	P2	A	A1	t	t1	d	d1	P 2 PCS. EACH
PLSS0080L	7845N {800kgf}	73	50	35	87.5	25	20	3.5	42.5	52	33	65	24	19	9.5	15.5	14	9	PLF0006 PLF0007

Long Type (Normal Bushing - High Heat Resistance) - Withstands temperatures up to 300°F, 150°C

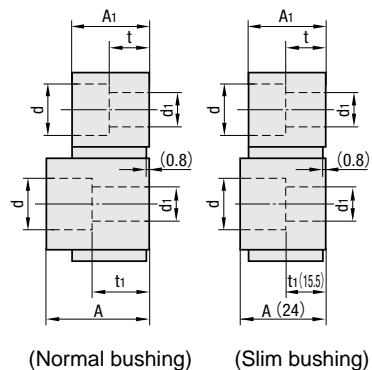
CATALOG NO.	MAX. USABLE LOAD	L	L1	L2	T	H	H1	J	K	P	P1	P2	A	A1	t	t1	d	d1	P 2 PCS. EACH	
PLS0060LH	5884N {600kgf}	73	50	35	79.5	25	20	3.5	34.5	52	33	65	27	19	9.5	17	14	9	PLF0007 PLF0008	
PLS0080LH	7845N {800kgf}				87.5				42.5											57
PLS0100LH	9807N {1000kgf}				103				65											48

Long Type (Slim Bushing - High Heat Resistance) - Withstands temperatures up to 300°F, 150°C

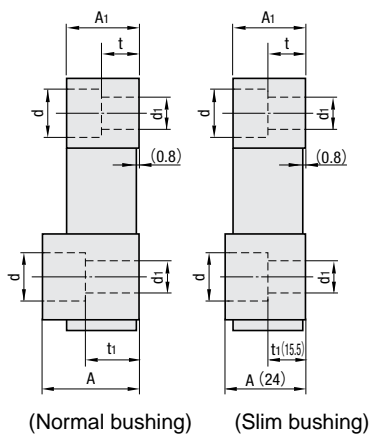
CATALOG NO.	MAX. USABLE LOAD	L	L1	L2	T	H	H1	J	K	P	P1	P2	A	A1	t	t1	d	d1	P 2 PCS. EACH
PLSS0080LH	7845N {800kgf}	73	50	35	87.5	25	20	3.5	42.5	52	33	65	24	19	9.5	15.5	14	9	PLF0006 PLF0007

Roller Pulling Assemblies - Normal & Slim Bushings

Standard Type/Standard Type - High Heat Resistance



Long Type/Long Type - High Heat Resistance



Normal Bushing Component

CATALOG NO.	APPLICATION
PLB1000	For PLS0010(H)
PLB2000	For PLS0020(H)
PLB3000	For PLS0030(H) For PLSS0030(H)
PLB6080	For PLS0060(H) - PLS0080L(H) - PLS0060L(H) - PLS0080(H) For PLSS0060(H) - PLSS0080L(H) - PLSS0080(H)
PLB1100	For PLS0100(H) PLS0100L(H)

Slim Bushing Component

CATALOG NO.	APPLICATION
PLBS3000	For PLSS0030(H) For PLS0030(H)
PLBS6080	For PLS0060(H) - PLS0080L(H) PLS0080(H) For PLSS0060(H) - PLSS0080L(H) PLSS0080(H)

For use in 2-color molding, insert molding, etc. that require additional lock bushings.

Friction Puller

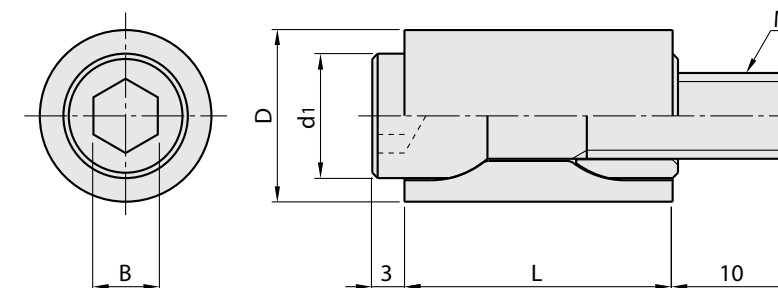
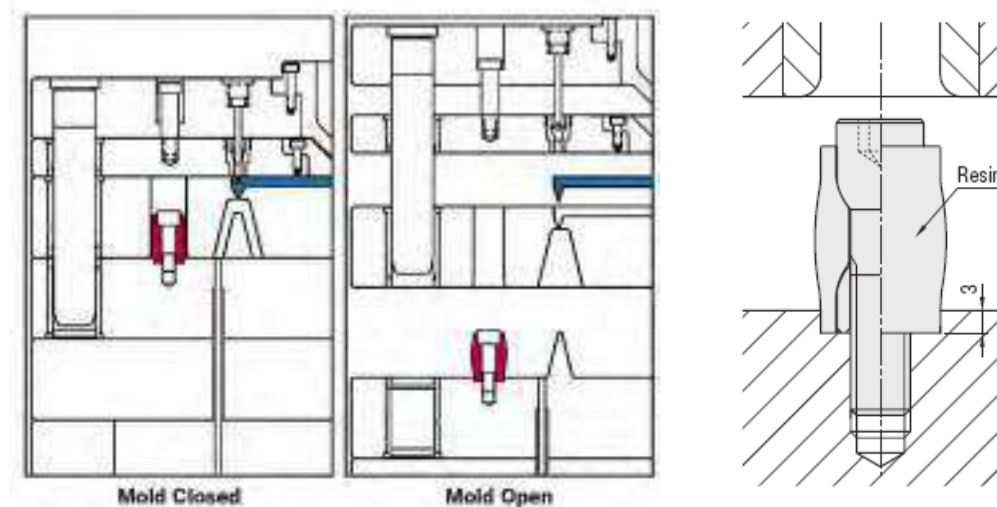
- Provides smooth plate sequence control
- Systematically draw floating plates & inserts apart
- Maximum Operating Temperature of 250°F (120°F)
- Four available sizes: 10mm, 13mm, 16mm, 20mm
- For installation, tighten screw to the desired amount of friction

Friction Pullers are designed to provide plate sequence control. The Friction Puller controls plate movement and utilizes friction at a particular setting to release the plate once travel limits are reached. This product can be used to systematically draw floating plates and inserts. Available sizes include: 10mm, 13mm, 16mm, and 20mm.



SPECIFICATIONS

Bolt Material Type	SCM435
Maximum Operating Temperature	250°F (120°C)
Resin Material Type	Heat-Stabilized, Lubricated Nylon 6
Ring Material Type	S45C
Unit of Measure	Inch



CATALOG NO.	B	D	D1	L	M	MAX FORCE
FP-10P	4	10	7.6	17	M5-.8	32.5 kg (70 lbs)
FP-13P	5	13	9.6	20	M6-1	62.5 kg (135 lbs)
FP-16P	6	16	11.6	25	M8-1.25	150.0 kg (330 lbs)
FP-20P	6	20	14.6	30	M10-1.5	212.5 kg (470 lbs)



MOLD ALIGNMENT

Guide Locks.....	D12
Multi-Plate Locks.....	D14
Radius Top Locks - Black & Gold.....	D7
Radius Top Locks - Black & Silver.....	D5
Shoulder Plates for Tapered Interlocks.....	D16
Shuttle Mold Side Locks.....	D11
Shuttle Mold Top Locks.....	D4
Side Locks.....	D10
Tapered Bar Locks.....	D13
Tapered Round Interlocks.....	D15
Top Locks - Black & Gold.....	D6
Top Locks - Black & Silver.....	D3
Tri-Side Locks.....	D8
Tri-Lock Top Locks.....	D9



Our family of mold locks include more than ten different styles. PCS locks are easily installed and provide a dependable, smooth acting, long lasting locking system.

- Top Locks
- Tri-Locks
- Side-Locks
- Guide Locks
- Tapered Bar Locks
- Multi-Plate Locks
- Tapered Round Interlocks
- Shoulder Plates



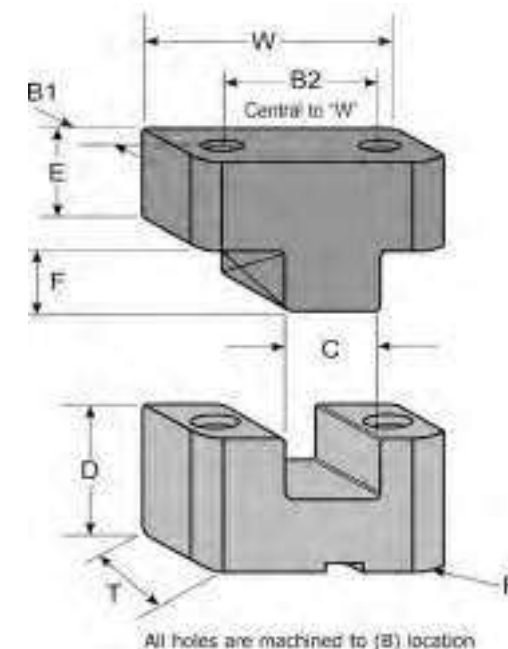
Top Locks - Black & Silver

- Thickness is relieved on male insert past the parting line
- Armor Coating coating provides increased lubricity
- Female inserts are notched for easy removal
- Exposed edges chamfered
- Grease grooves present on male insert

PCS Top Locks provide positive alignment between mold halves. These locks are hardened and precision ground to assure complete interchangeability. The lubricious properties of Armor Coating treatment combined with the qualities of graphitic tool steel provide a dependable, smooth acting, long lasting locking system.



SPECIFICATIONS	
Chamfered Edges	Yes
Female Material Type	8620
Female Coating/Finish	Armor Coating
Female Coating/Finish Hardness	70 - 72 Rc
Female Hardness	54 - 58 Rc
Male Material Type	Hot Work Tool Steel
Male Coating/Finish	Black Oxide
Male Hardness	52 - 56 Rc
Unit of Measure	Inch



CATALOG NO.	W +.0000 -.0004	T +.000 -.002	F +.000 -.010	OVERALL HEIGHT	C +.000 -.010	B1 +.010 -.010	B2 +.010 -.010	D +.000 -.002	R +.010 -.000	E +.000 -.002	SHCS MALE	SHCS FEMALE
TL-100	1.0000	.500	.275	.875	.3750	.250	.688	.500	.187	.375	6-32 x 1/2	6-32 x 1/2
TL-125	1.2500	.625	.375	1.125	.4380	.312	.875	.625	.250	.500	6-32 x 5/8	6-32 x 5/8
TL-150	1.5000	.875	.500	1.625	.5000	.437	1.000	.875	.250	.750	8-32 x 7/8	8-32 x 7/8
TL-200	2.0000	1.000	.625	1.875	.7500	.500	1.375	1.125	.375	.750	10-32 x 7/8	10-32 x 7/8
TL-300	3.0000	1.125	.75	2.25	1.1250	.562	2.250	1.500	.500	.750	1/4-20 x 7/8	1/4-20 x 7/8

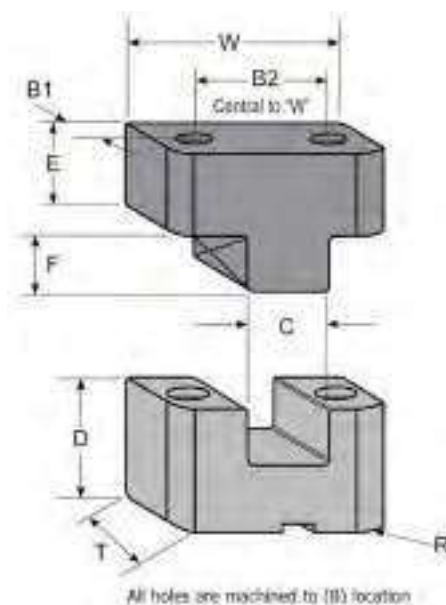
Shuttle Mold Top Locks



- Dimensionally checked and packaged as a precision matched set
- Thickness is relieved on male insert past the parting line
- Armor Coating provides increased lubricity
- Female inserts are notched for easy removal
- Exposed edges chamfered
- Grease grooves present on male insert

Shuttle Mold Top Locks come standard with two female halves and one male half. PCS Top Locks provide positive alignment between mold halves. These locks are hardened and precision ground to assure complete interchangeability. The lubricious properties of Armor Coating treatment combined with the qualities of graphitic tool steel provide a dependable, smooth acting, long lasting locking system.

SPECIFICATIONS	
Chamfered Edges	Yes
Female Material Type	8620
Female Coating/Finish	Armor Coating
Female Coating/Finish Hardness	70 - 72 Rc
Female Hardness	54 - 58 Rc
Male Material Type	Hot Work Tool Steel
Male Coating/Finish	Black Oxide
Male Hardness	52 - 56 Rc
Unit of Measure	Inch



CATALOG NO.	W +.0000 -.0004	T +.000 -.002	F +.000 -.010	OVERALL HEIGHT	C .0002 TOTAL	B1 +.010 -.010	B2 +.010 -.010	D +.000 -.002	R +.010 -.000	E +.000 -.002	SHCS MALE	SHCS FEMALE
STL-100	1.0000	.500	.275	.875	.3750	.250	.688	.500	.187	.375	6-32 x 1/2	6-32 x 5/8
STL-125	1.2500	.625	.375	1.125	.4380	.312	.875	.625	.250	.500	6-32 x 1/2	6-32 x 5/8
STL-150	1.5000	.875	.500	1.625	.5000	.437	1.000	.875	.250	.750	8-32 x 3/4	8-32 x 3/4
STL-200	2.0000	1.000	.625	1.875	.7500	.500	1.375	1.125	.375	.750	10-32 x 3/4	10-32 x 3/4
STL-300	3.0000	1.125	.750	2.250	1.125	.562	2.250	1.500	.500	.750	1/4-20 x 3/4	1/4-20 x 1-1/2

Phone: 800-521-0546 E-mail: sales@pcs-company.com Fax: 800-505-3299
www.pcs-company.com

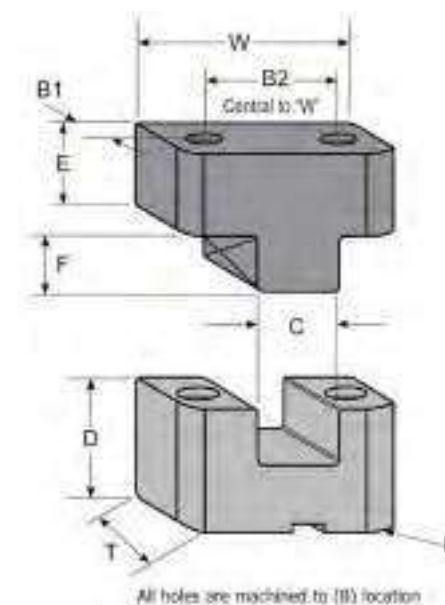
Radius Top Locks - Black & Silver

- Thickness is relieved on male insert past the parting line
- Armor Coating provides increased lubricity
- Female inserts are notched for easy removal
- Exposed edges chamfered
- Grease grooves present on male insert
- Radius on all four corners

PCS Radius Top Locks provide positive alignment between mold halves and come standard with dual radii which allows for them to be mounted internally. These locks are hardened and precision ground to assure complete interchangeability. The lubricious properties of Armor Coating treatment combined with the qualities of graphitic tool steel provide a dependable, smooth acting, long lasting locking system.



SPECIFICATIONS	
Chamfered Edges	Yes
Female Material Type	8620
Female Coating/Finish	Armor Coating
Female Coating/Finish Hardness	70 - 72 Rc
Female Hardness	54 - 58 Rc
Male Material Type	Hot Work Tool Steel
Male Coating/Finish	Black Oxide
Male Hardness	52 - 56 Rc
Unit of Measure	Inch



CATALOG NO.	W +.0000 -.0004	T +.000 -.002	F +.000 -.010	OVERALL HEIGHT	C .0002 Total	B1 +.010 -.010	B2 +.010 -.010	D +.000 -.002	R +.010 -.000	E +.000 -.002	SHCS MALE	SHCS FEMALE
TL-100R	1.0000	.500	.275	.875	.3750	.250	.688	.500	.187	.375	6-32 x 1/2	6-32 x 1/2
TL-125R	1.2500	.625	.375	1.125	.4380	.312	.875	.625	.250	.500	6-32 x 5/8	6-32 x 5/8
TL-150R	1.5000	.875	.500	1.625	.5000	.437	1.000	.875	.250	.750	8-32 x 7/8	8-32 x 7/8
TL-200R	2.0000	1.000	.625	1.875	.7500	.500	1.375	1.125	.375	.750	10-32 x 7/8	10-32 x 7/8
TL-300R	3.0000	1.125	.75	2.250	1.1250	.562	2.250	1.500	.500	.750	1/4-20 x 7/8	1/4-20 x 7/8

Phone: 800-521-0546 E-mail: sales@pcs-company.com Fax: 800-505-3299
www.pcs-company.com

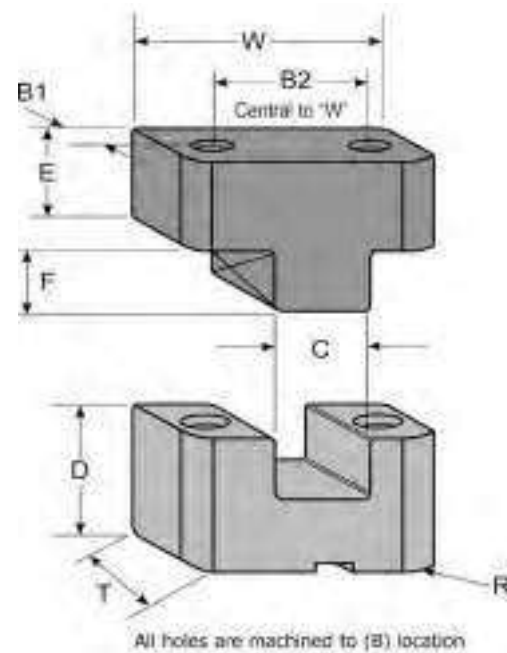
Top Locks - Black and Gold

- Thickness is relieved on male insert past the parting line
- Female inserts are notched for easy removal
- Exposed edges chamfered
- Grease grooves present on male insert



PCS Black & Gold Top Locks provide positive alignment between mold halves and are priced well below the competition. These locks are hardened and precision ground to assure complete interchangeability.

SPECIFICATIONS	
Female Material Type	A-2
Female Coating/Finish	Titanium Nitride
Female Coating/Finish Hardness	70-72 Rc
Female Hardness	58-65 Rc
Male Material Type	Hot Work Tool Steel
Male Coating/Finish	Melonite
Male Coating/Finish Hardness	80 Rc
Male Hardness	40-44 Rc
Unit of Measure	Inch



CATALOG NO.	W +.0000 -.0004	T +.000 -.002	F +.000 -.010	OVERALL HEIGHT	C .0002	B1 +.010	B2 +.010	D +.000 -.002	R +.010 -.000	E +.000 -.002	SHCS MALE	SHCS FEMALE
TL-125P	1.2500	.750	.375	1.125	.4378	.375	.875	.625	.260	.500	8-32 x 5/8	8-32 x 3/4
TL-150P	1.5000	1.000	.500	1.250	.4998	.500	1.000	.875	.260	.375	10-32 x 1/2	10-32 x 1
TL-200P	2.0000	1.125	.500	1.500	.7498	.563	1.375	.875	.385	.625	1/4-20 x 3/4	1/4-20 x 1
TL-250P	2.5000	1.500	.750	2.000	.9998	.750	1.750	1.375	.385	.625	1/4-20 x 3/4	1/4-20 x 1 1/2
TL-300P	3.0000	1.750	.750	2.125	1.1248	.875	2.250	1.250	.510	.875	5/16-18 x 1	5/16-18 x 1-1/4

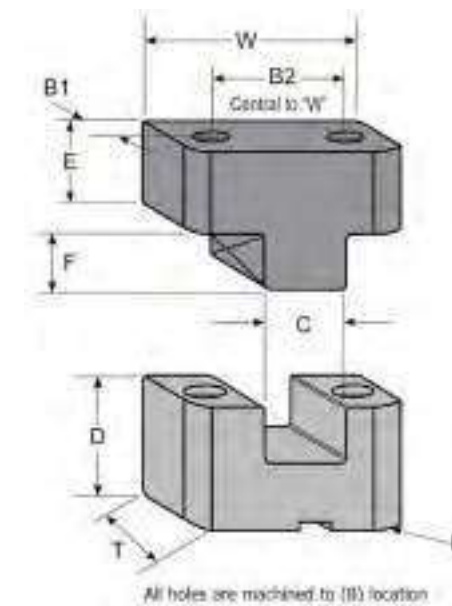
Radius Top Locks - Black and Gold

- Thickness is relieved on male insert past the parting line
- Female inserts are notched for easy removal
- Exposed edges chamfered
- Grease grooves present on male insert
- Radius on all four corners



PCS Black & Gold Radius Top Locks come standard with dual radii which allows for them to be mounted internally. These locks provide positive alignment between mold halves and are priced well below the competition. These locks are hardened and precision ground to assure complete interchangeability.

SPECIFICATIONS	
Female Material Type	A-2
Female Coating/Finish	Titanium Nitrided
Female Coating/Finish Hardness	70-72 Rc
Female Hardness	58-65 Rc
Male Material Type	Hot Work Tool Steel
Male Coating/Finish	Melonite
Male Coating/Finish Hardness	80 Rc
Male Hardness	40-44 Rc
Unit of Measure	Inch



CATALOG NO.	W +.0000 -.0004	T +.000 -.002	F +.000 -.010	OVERALL HEIGHT	C .0002	B1 +.010	B2 +.010	D +.000 -.002	R +.010 -.000	E +.000 -.002	SHCS MALE	SHCS FEMALE
TL-125PR	1.2500	.750	.375	1.125	.4378	.375	.875	.625	.260	.500	8-32 x 5/8	8-32 x 3/4
TL-150PR	1.5000	1.000	.500	1.250	.4998	.500	1.000	.875	.260	.375	10-32 x 1/2	10-32 x 1
TL-200PR	2.0000	1.125	.500	1.500	.7498	.563	1.375	.875	.385	.625	1/4-20 x 3/4	1/4-20 x 1
TL-250PR	2.5000	1.500	.750	2.000	.9998	.750	1.750	1.375	.385	.625	1/4-20 x 3/4	1/4-20 x 1 1/2
TL-300PR	3.0000	1.750	.750	2.125	1.1248	.875	2.250	1.250	.750	.875	5/16-18 x 1	5/16-18 x 1-1/4

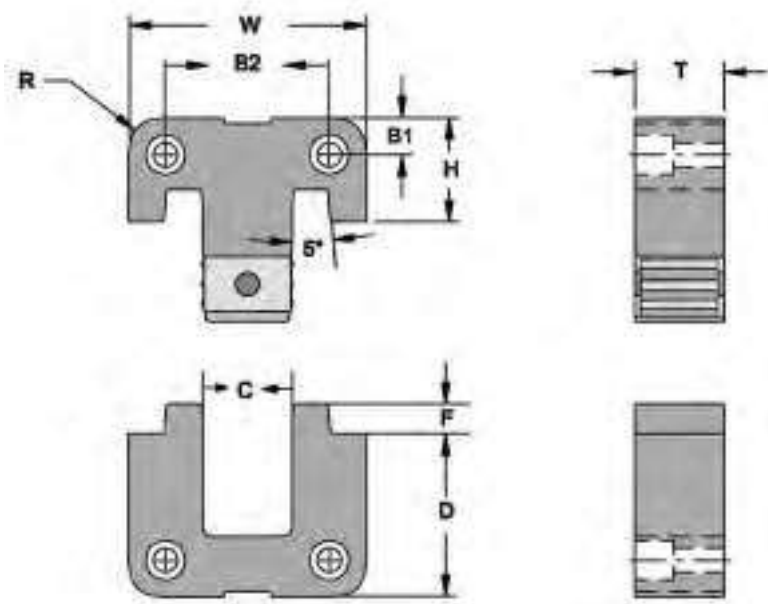
Tri-Side Locks



- Combines roller, straight and taper lock technologies
- Large roller bearings eliminate galling
- 5° taper guarantees zero tolerance positioning
- Stainless steel retainer
- Black oxide surface finish
- SHCS Included

PCS Tri-Locks combine roller, straight and taper lock technologies. The use of large roller bearings eliminate galling during initial alignment. The 5° tapered interlock guarantees zero tolerance positioning. PCS Tri-Locks have three times more locking contact than standard industry locks.

SPECIFICATIONS	
Female Material Type	A-2
Female Coating/Finish	Black Oxide
Female Hardness	58 - 60 Rc
Male Material Type	A-2
Male Coating/Finish	Black Oxide
Male Hardness	58 - 60 Rc
Unit of Measure	Inch



CATALOG NO.	W +.0000 -.0004	T +.002 -.002	C +.0002 -.0002	H +.0000 -.0002	F +.010 -.010	OVERALL HEIGHT	B1 +.010 -.010	B2 +.010 -.010	D +.0000 -.0002	R .010	E	SHCS FEMALE	SHCS MALE
KSL-150	1.500	.500	.563	.875	.300	1.750	.250	1.000	.875	.187	.450	8/32 x 5/8	8/32 x 5/8
KSL-200S*	2.000	.500	.750	.875	.250	2.240	.312	1.375	1.375	.250	.625	10-32 x 5/8	10-32 x 5/8
KSL-200	2.000	.500	.750	.875	.250	2.250	.312	1.375	1.375	.250	.625	10-32 x 5/8	10-32 x 5/8
KSL-300	3.000	.750	1.000	.875	.480	2.750	.375	2.250	1.875	.250	.675	1/4-20 x 1	1/4-20 x 1

* The "S" suffix indicates that the Tri-Locks are for a Shuttle Mold

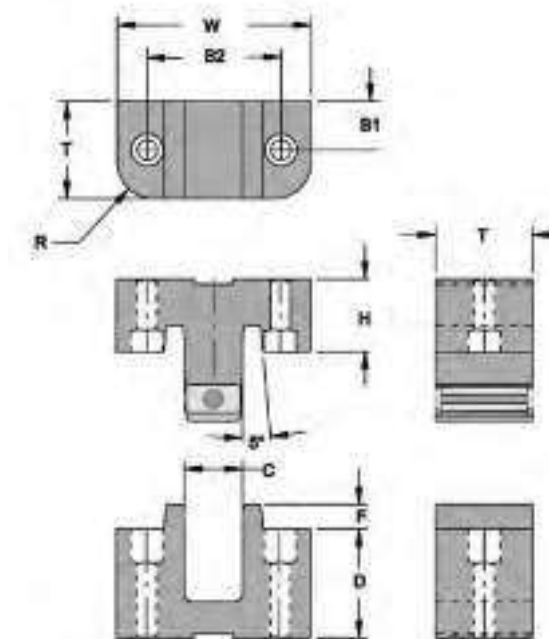
Tri-Lock Top Locks



- Combines roller, straight and taper lock technologies
- Large roller bearings eliminate galling
- 5° taper guarantees zero tolerance positioning
- Stainless steel retainer
- Black oxide surface finish
- SHCS Included

PCS Tri-Locks combine roller, straight and taper lock technologies. The use of large roller bearings eliminate galling during initial alignment. The 5° tapered interlock guarantees zero tolerance positioning. PCS Tri-Locks have three times more locking contact than standard industry locks.

SPECIFICATIONS	
Female Material Type	A-2
Female Coating/Finish	Black Oxide
Female Hardness	58 - 60 Rc
Male Material Type	A-2
Male Coating/Finish	Black Oxide
Male Hardness	58 - 60 Rc
Unit of Measure	Inch



CATALOG NO.	W +.0000 -.0004	T +.002 -.002	C +.0002 -.0002	H +.0000 -.0002	F +.010 -.010	OVERALL HEIGHT	B1 +.010 -.010	B2 +.010 -.010	D +.0000 -.0002	R .010	E	SHCS FEMALE	SHCS MALE
KTL-200	2.000	1.000	.600	.750	.250	1.875	.500	1.375	1.125	.375	.525	10-32 x 7/8	10-32 x 7/8
KTL-300	3.000	1.125	1.000	.750	.380	2.250	.562	2.250	1.500	.500	.675	1/4-20 x 1-3/4	1/4-20 x 7/8
KTL-300S*	3.000	1.125	1.000	.750	.380	2.250	.562	2.250	1.500	.500	.675	1/4-20 x 1-1/2	1/4-20 x 3/4

* The "S" suffix indicates that the Tri-Locks are for a Shuttle Mold

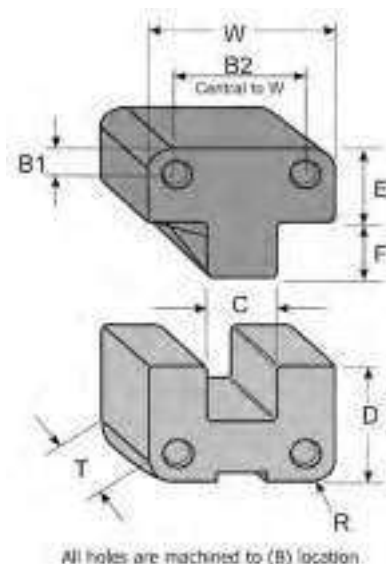
Side Locks



- Thickness is relieved on male insert past the parting line
- Armor Coating provides increased lubricity
- Female inserts are notched for easy removal
- Exposed edges chamfered
- Grease grooves present on male insert

PCS Side Locks provide positive alignment between mold halves. These locks are hardened and precision ground to assure complete interchangeability. The lubricious properties of Armor Coating treatment combined with the qualities of graphitic tool steel provide a dependable, smooth acting, long lasting locking system.

SPECIFICATIONS	
Female Material Type	8620
Female Coating/Finish	Armor Coating
Female Coating/Finish Hardness	70 - 72 Rc
Female Hardness	54 - 58 Rc
Male Material Type	Hot Work Tool Steel
Male Coating/Finish Hardness	Black Oxide
Male Hardness	52 - 56 Rc
Unit of Measure	Inch



All holes are machined to (B) location.

CATALOG NO.	RECOMMENDED MOLD SIZE
PA-100	8x8 - 8x12
PA-125	8x12 - 11x14
PA-150	8x12 - 11x14
PA-200	8x12 - 11x14
PA-300	11x14 - 14x18
PA-400	14x18 - 16x26
PA-500	16x26 - 18x36
PA-600	18x36 or LARGER

CATALOG NO.	W +.0000 -.0004	T +.000 -.002	F +.000 -.010	OVERALL HEIGHT	C	B1 +.010 -.010	B2 +.010 -.010	D +.000 -.002	R +.010 -.000	E +.000 -.002	SHCS MALE	SHCS FEMALE
PA-100	1.0000	.375	.530	2.000	.500	.250	.500	1.125	.187	.875	10-32 x 1/2	10-32 x 1/2
PA-125	1.2500	.500	.660	2.000	.500	.250	.750	1.125	.187	.875	8-32 x 5/8	8-32 x 5/8
PA-150	1.5000	.500	.560	1.750	.563	.250	1.000	.875	.187	.875	8-32 x 5/8	8-32 x 5/8
PA-200	2.0000	.500	.660	2.250	.750	.312	1.375	1.375	.250	.875	10-32 x 5/8	10-32 x 5/8
PA-300	3.0000	.750	1.13	2.750	1.250	.375	2.250	1.875	.250	.875	1/4-20 x 1	1/4-20 x 1
PA-400	4.0000	1.000	1.13	3.750	1.500	.500	3.000	2.375	.500	1.375	3/8-16 x 1-1/4	3/8-16 x 1-1/4
PA-500	5.0000	1.250	1.63	4.250	2.000	.625	3.750	2.875	.500	1.375	1/2-13 x 1-1/2	1/2-13 x 1-1/2
PA-600	6.0000	1.500	1.63	4.250	2.500	.625	4.750	2.875	.500	1.375	1/2-13 x 1-3/4	1/2-13 x 1-3/4

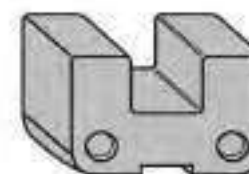
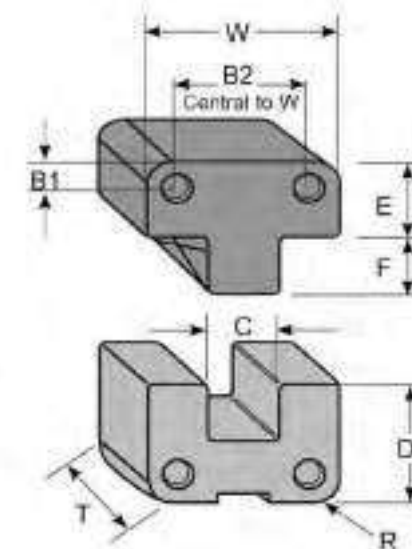
Shuttle Mold Side Locks



- Dimensionally checked and packaged as a precision matched set
- Thickness is relieved on male insert past the parting line
- Armor Coating provides increased lubricity
- Female inserts are notched for easy removal
- Exposed edges chamfered
- Grease grooves present on male insert

PCS Shuttle Mold Side Locks come standard with two female halves and one male half. These locks provide positive alignment between mold halves. These locks are hardened and precision ground to assure complete interchangeability. The lubricious properties of Armor Coating treatment combined with the qualities of graphitic tool steel provide a dependable, smooth acting, long lasting locking system.

SPECIFICATIONS	
Female Material Type	8620
Female Coating/Finish	Armor Coating
Female Coating/Finish Hardness	70 - 72 Rc
Female Hardness	54 - 58 Rc
Male Material Type	Hot Work Tool Steel
Male Coating/Finish	Black Oxide
Male Hardness	50 - 52 Rc
Unit of Measure	Inch



CATALOG NO.	RECOMMENDED MOLD SIZE
SPA-100	8x8 - 8x12
SPA-125	8x12 - 11x14
SPA-150	8x12 - 11x14
SPA-200	8x12 - 11x14
SPA-300	11x14 - 14x18
SPA-400	14x18 - 16x26
SPA-500	16x26 - 18x36

CATALOG NO.	W +.0000 -.0004	T +.000 -.002	F +.000 -.010	OVERALL HEIGHT	C	B1 +.010 -.010	B2 +.010 -.010	D +.000 -.002	R +.010 -.000	E +.000 -.002	SHCS MALE	SHCS FEMALE
SPA-100	1.0000	.375	.530	2.000	.5000	.250	.500	1.125	.187	.875	10-32 x 1/2	10-32 x 1/2
SPA-125	1.2500	.500	.660	2.000	.5000	.250	.750	1.125	.187	.875	8-32 x 5/8	8-32 x 5/8
SPA-150	1.5000	.500	.560	1.750	.5630	.250	1.000	.875	.187	.875	8-32 x 5/8	8-32 x 5/8
SPA-200	2.0000	.500	.660	2.250	.7500	.312	1.375	1.375	.25	.875	10-32 x 5/8	10-32 x 5/8
SPA-300	3.0000	.750	1.130	2.750	1.2500	.375	2.250	1.875	.25	.875	1/4-20 x 1	1/4-20 x 1
SPA-400	4.0000	1.000	1.130	3.750	1.5000	.500	3.000	2.375	.5	1.375	3/8-16 x 1-1/4	3/8-16 x 1-1/4
SPA-500	5.0000	1.250	1.630	4.250	2.0000	.625	3.750	2.875	.5	1.375	1/2-13 x 1-1/2	1/2-13 x 1-1/2

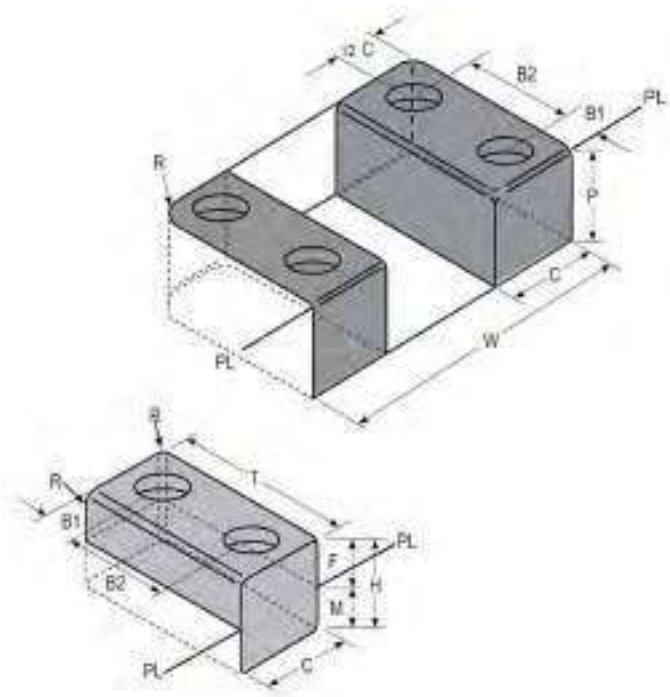
Guide Locks

- Extra long point of engagement
- Provides accurate alignment for molds with interlocking cavities and cores
- Chamfered edges
- Will not bind under unequal mold half thermal expansion
- Armor Coating coating provides increased lubricity



Guide Locks provide positive, accurate alignment for molds with interlocking cavities and cores. The lubricious properties of the Armor Coating treatment combined with the qualities of graphitic tool steel provide a dependable, smooth acting, long lasting locking system.

SPECIFICATIONS	
Female Material Type	Hot Work Tool Steel
Female Coating/Finish	Black Oxide
Female Hardness	52 - 56 Rc
Male Material Type	8620
Male Coating/Finish	Armor Coating
Male Coating/Finish Hardness	70 - 72 Rc
Male Hardness	54 - 58 Rc
Unit of Measure	Inch



CATALOG NO.	W	T +.000 -.010	H +.000 -.010	F	M	C +.0000 -.0005	B1 +.010 -.010	B2 +.010 -.010	R +.010 -.000	P +.000 -.002	SHCS MALE	SHCS FEMALE
GL-112	1.125	.750	.668	.480	.188	.3750	.200	.350	.125	.500	6-32 x 5/8	6-32 x 1/2
GL-150	1.500	1.000	.855	.605	.250	.5000	.270	.460	.218	.625	10-32 x 3/4	10-32 x 5/8
GL-225	2.250	1.500	1.230	.855	.375	.7500	.344	.812	.250	.875	1/4-20 x 1-1/4	1/4-20 x 7/8
GL-300	3.000	2.000	1.605	1.105	.500	1.0000	.500	1.000	.375	1.125	3/8-16 x 1-1/2	3/8-16 x 1
GL-375	3.750	2.500	1.855	1.355	.500	1.2500	.500	1.500	.375	1.375	3/8-16 x 1-3/4	3/8-16 x 1-1/4

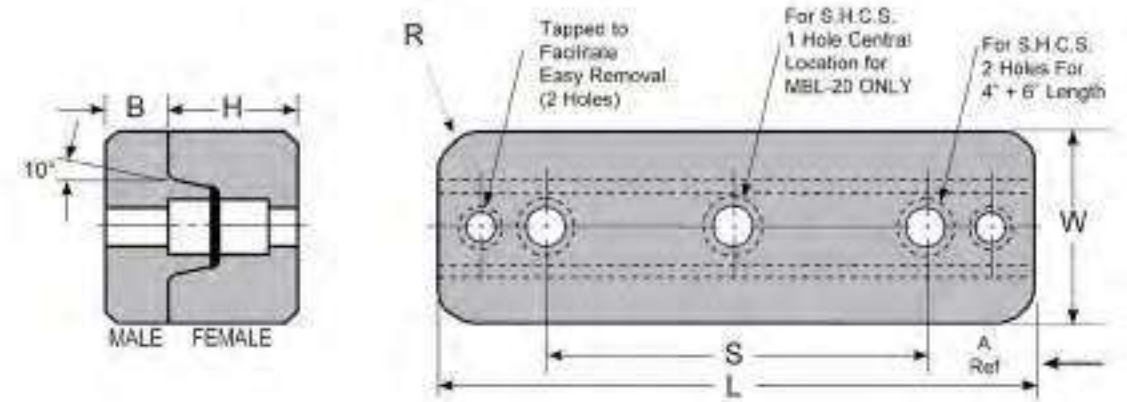
Tapered Bar Locks

- Provides positive alignment between mold halves
- Maintains alignment while allowing for thermal expansion
- Shock resistant S-7 tool steel
- Hardened and precision ground to assure interchangeability

Tapered Bar Locks provide positive alignment between mold halves. These locks are manufactured from S-7 steel and are hardened and precision ground to ensure interchangeability. Tapered Bar Locks maintain alignment of the mold while allowing for thermal expansion.



SPECIFICATIONS	
S Mounting Hole Spread Tolerance	+ .005 / - .005
Material Type	S-7
Hardness	56 - 58 Rc
Unit of Measure	Inch



CATALOG NO.		L	W	H	B	R	SHCS MALE	SHCS FEMALE	TAPPED FOR REMOVAL	A REF. MOUNTING HOLE LOCATION FROM EDGE
MALE	FEMALE	+.010 -.010	+.000 -.001	+.001 -.001	+.001 -.001	+.010 -.000				
MBL-20	FBL-20	1.980	.999	.690	.312	.250	#10 - 24	#10 - 24	1/4 - 20	CTR
MBL-40	FBL-40	3.980	1.249	.870	.375	.312	1/4 - 20	1/4 - 20	1/4 - 20	.74
MBL-60	FBL-60	5.980	1.499	1.000	.500	.375	5/16 - 18	5/16 - 18	5/16 - 18	.99

INSTALLATION INSTRUCTIONS

The mounting pocket in the "A" half of the mold should be accurately aligned with the mounting pocket in the "B" half of the mold. The width of each pocket serves as a precision keyway to maintain the steadfast position of each bar lock. Each pocket must be flat and parallel to the parting line. The mating bar lock should be fit with a slight preload to assure metal to metal contact. The pocket lengths should be long enough to provide clearance.

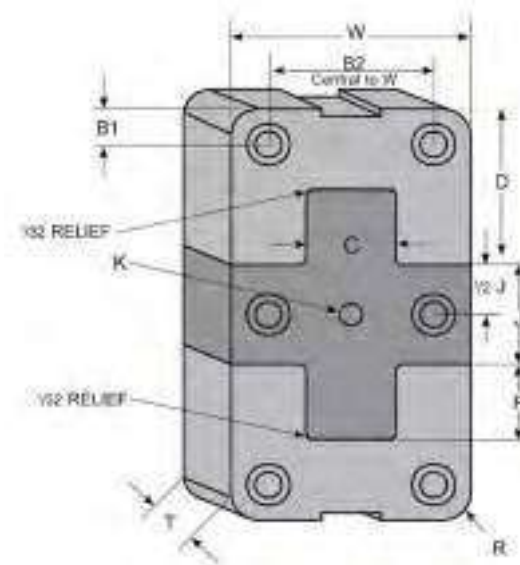
Multi-Plate Locks

- Provides positive & accurate alignment of mold halves prior to mold closing
- Chamfered edges
- Will not bind under unequal mold half thermal expansion
- Armor Coating provides increased lubricity
- Custom Sizes Available Upon Request



Multi-Plate Locks provide positive, accurate alignment of mold halves from 1/2" to 1-5/8" prior to mold closing. The female inserts are notched which allows for easy removal. The lubricious properties of the Armor Coating treatment combined with the qualities of graphitic tool steel provide a dependable, smooth acting, long lasting locking system.

SPECIFICATIONS	
R Corner Radius	.25
R Corner Radius Tolerance	+ .010 / - .000
Female Material Type	8620
Female Coating/Finish	Armor Coating
Female Coating/Finish Hardness	70 - 72 Rc
Female Hardness	54 - 58 Rc
Male Material Type	Hot Work Tool Steel
Male Coating/Finish	Black Oxide
Male Hardness	52 - 56 Rc
Unit of Measure	Inch



CATALOG NO.	W +.0000 -.0004	T +.000 -.002	C	F +.000 -.010	K SLIP FIT FOR DOWEL	B1 +.010 -.010	B2 +.010 -.010	E +.000 -.004	D +.000 -.002	SHCS MALE	SHCS FEMALE
MPA-287	2.0000	.500	.750	.660	.188	.312	1.375	.875	1.375	10-32 x 5/8	10-32 x 5/8
MPA-2137	2.0000	.500	.750	.660	.188	.312	1.375	1.375	1.375	10-32 x 5/8	10-32 x 5/8
MPA-387	3.0000	.750	1.250	1.130	.251	.375	2.250	.875	1.875	1/4-20 x 3/4	1/4-20 x 3/4
MPA-3137	3.0000	.750	1.250	1.130	.251	.375	2.250	1.375	1.875	1/4-20 x 3/4	1/4-20 x 3/4

Tapered Round Interlocks

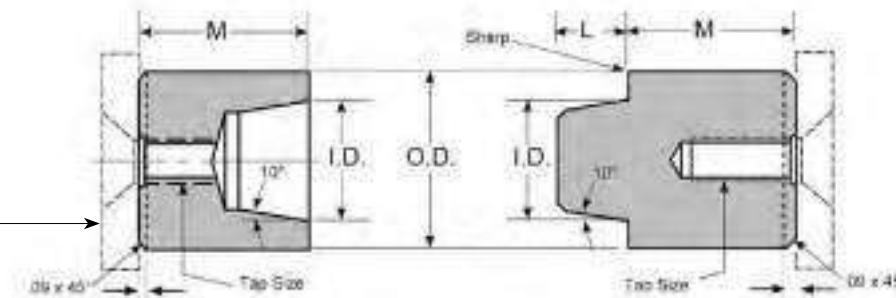
- Provides positive alignment between mold halves
- Maintains alignment while allowing for thermal expansion
- Shock resistant S-7 tool steel
- Hardened and precision ground to assure interchangeability
- Shoulder plate required for installation

Tapered Round Locks provide positive alignment between mold halves. These locks are manufactured from S-7 steel and are hardened and precision ground to ensure interchangeability. Tapered Round Locks maintain alignment of mold while allowing for thermal expansion.



SPECIFICATIONS	
M Male Insert Base Height Tolerance	+ .015 / + .020
Female Material Type	S-7
Female Hardness	56 - 58 Rc
Male Material Type	S-7
Male Hardness	56 - 58 Rc
Unit of Measure	Inch

See page D16 for
Shoulder Plate
Information



CATALOG NO.		O.D. +.0000 / -.0005	I.D. +/- .0005	M MALE INSERT BASE HEIGHT	THREAD SIZE
MR-051	FR-051	.5000	.312	.875	10-24
MR-052	FR-052			1.187	
MR-053	FR-053			1.375	
MR-071	FR-071	.7500	.500	.875	1/4-20
MR-072	FR-072			1.187	
MR-073	FR-073			1.375	
MR-101	FR-101	1.0000	.625	.875	1/4-20
MR-102	FR-102			1.187	
MR-103	FR-103			1.375	
MR-150	FR-150	1.5000	1.000	1.125	5/16-18
MR-151	FR-151			1.375	
FR-152		1.5000	1	1.625	5/16-18

NOTE: Grind stock is provided on the FEMALE interlock surface. To register the interlock on the tapered surfaces, stock must be ground from the front face of the female until there is a slight clearance between the faces of the male and female when assembled. PRECISION FITTING of interlocks requires grinding the necessary amount of stock from the female face to obtain contact on tapered surfaces AND male and female faces simultaneously.

There is a grind stock on the back of both male and female interlocks. After fitting the front taper the backs of the interlocks are ground to match mold plate thickness or to meet design requirement.

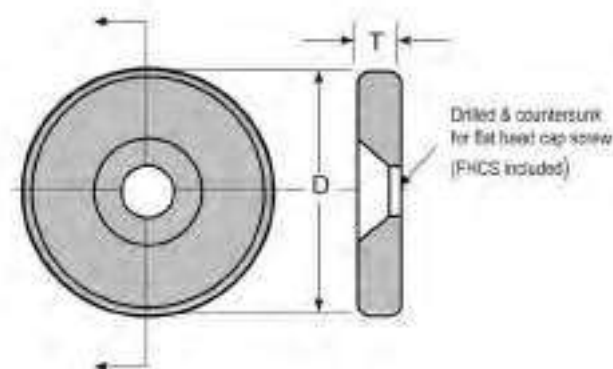
Shoulder Plates For Tapered Interlocks

- Required for use with round tapered interlocks
- FHCS Included
- Black Oxide surface finish



Shoulder Plates are designed to work specifically with Tapered Round Interlocks. Tapered Round Interlocks provide positive alignment between mold halves. These locks are manufactured from 4140 steel and are hardened and precision ground to ensure interchangeability. Tapered Round Locks maintain alignment of the mold while allowing for thermal expansion.

SPECIFICATIONS	
Material Type	4140
Hardness	48 - 52 Rc
Unit of Measure	Inch



CATALOG NO.	O.D. +.000 / - .005	D DIAMETER	T THICKNESS +.000 / -.002	MOUNTING SCREW SIZE
SP-05	1/2	11/16	3/16	10-24
SP-07	3/4	1	3/16	1/4-20
SP-10	1	1-3/16	3/16	1/4-20
SP-15	1-1/2	1-11/16	1/4	5/16-18

MOLD COOLING

Adjustable Hex Pipe Nipples.....	E17
Brass Baffles.....	E3
Brass Waterline Rods & Spacers.....	E38
Cascade Assemblies.....	E6
Cascade Brass Tubes.....	E17
Cascade Pipe Nipples.....	E16
Cascade Stainless Steel Tubes.....	E18
Connector Plugs.....	E25
Connector Seals.....	E32
Cooling Pins and Heat Transfer Compound.....	E50
Cover Plugs & Male Hose Barbs.....	E40
Diverter Rods.....	E37
Extension Plugs.....	E20
Heavy Duty Pipe Plug Fittings & Diverter Plugs.....	E3
Hex Key Extension Elbows.....	E46
Hex Key Extension Pipes.....	E47
Hex Key Female to Female Street Elbows.....	E45
Hex Key Female to Male Street Elbows.....	E44

MOLD COOLING

Kool Flow Manifold™.....	E52
FB2 Assemblies.....	E55
FB2 Individual Components.....	E61
FB3 Assemblies.....	E62
FB3 Individual Components.....	E74
FB4 Assemblies.....	E76
FB4 Individual Components.....	E79
O-Ring Plugs.....	E34
Piston Tubes.....	E39
Pressure Plugs.....	E35
Push-Lok Hose Barbs & Combination Hose Inserts.....	E41
Replacement Heads.....	E11
Safety Clips.....	E32
Socket Connectors.....	E29
Standard Brass Extension Elbows.....	E42
Standard Elbows, Zinc Plated.....	E43
Threadless Plugs.....	E33
Water Jumpers.....	E48

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 baffles
- Solid brass
- Longer lengths available
- Same tolerances as PCS straight and Spiral baffles
- 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 waterlines
- 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

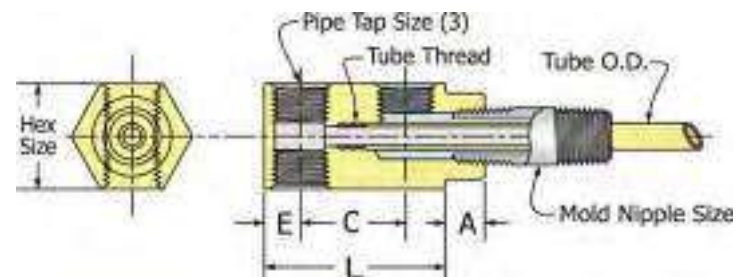
Nipple Type Cascade Assemblies

- Most popular style of cascade
- Efficient design improves cooling rates
- 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

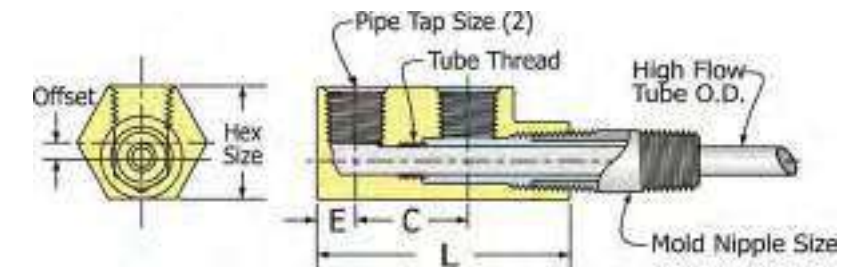
High-Flow Cascade Assemblies

- 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)	TUBE 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%

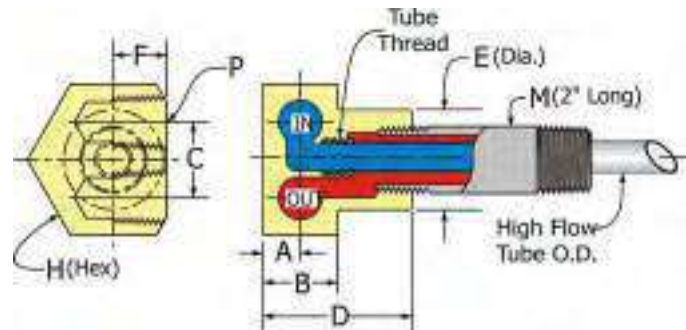
Compact Cascade Assemblies

- 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)	TUBE 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

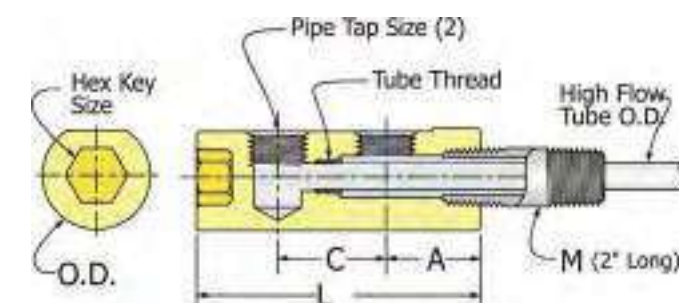
Hex Key Cascade Assemblies

- 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

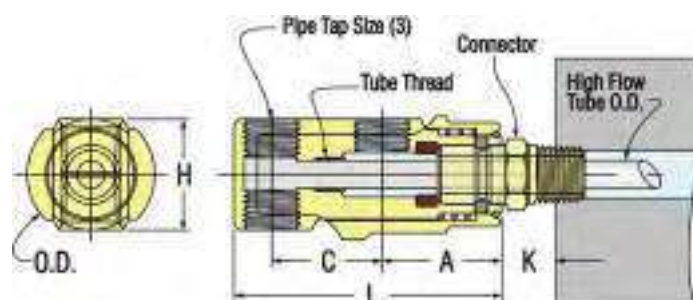
Quick-Coupler Type Cascade Assemblies

- High flow design provides maximum cooling rates
- 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 cascades

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	
Material Type	Brass
Unit of Measure	Inch

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	12	
BPN16-	1/16	5/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
BPN18-	1/8	3/4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
BPN14-	1/4	7/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
BPN38-	3/8	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
BPN12-	1/2	1-1/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Add length to end of catalog number (i.e. BPN16-1 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	
Material Type	Stainless Steel
Unit of Measure	Inch

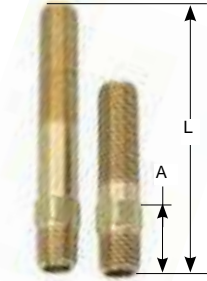
CATALOG NO.	PIPE SIZE (NPT)	OVERALL LENGTH																	
		CLOSE	1-1/2	2	2-1/2	3	3-1/2	4	4-1/2	5	5-1/2	6	7	8	9	10	11	12	
SSPN16-	1/16	5/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SSPN18-	1/8	3/4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SSPN14-	1/4	7/8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SSPN38-	3/8	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
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 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	1/4
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 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	1/4
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 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
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 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
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 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



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 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



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 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



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 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



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 feature

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 feature

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 feature

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 feature

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	PC-351, PC-351F, PC-352, PC-352F, PC-353, PC-353F, PC-354, PC-354F
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	PC-351, PC-351F, PC-352, PC-352F, PC-353, PC-353F, PC-354, PC-354F
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				PC-351, PC-351F, PC-352, PC-352F, PC-353, PC-353F, PC-354, PC-354F
PS-326V	PS-326VP	3/8	3/8	
PS-328V	PS-328VP	3/8	1/2	

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 feature

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 with stand 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

Continued on next page

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 with stand 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	PC-250NB, PC-251NB, PC-252NB, PC-253NB
PS-216NB		3/8	3/8	
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 channels
- 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	—	—	—

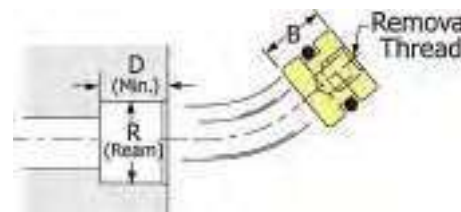
O-Ring Plugs

- 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

Pressure Plugs

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

Pressure 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" taper.



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

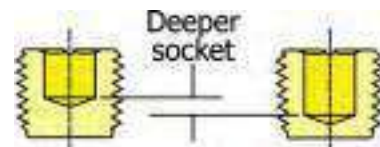
Heavy Duty Pipe Plug Fittings

- 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

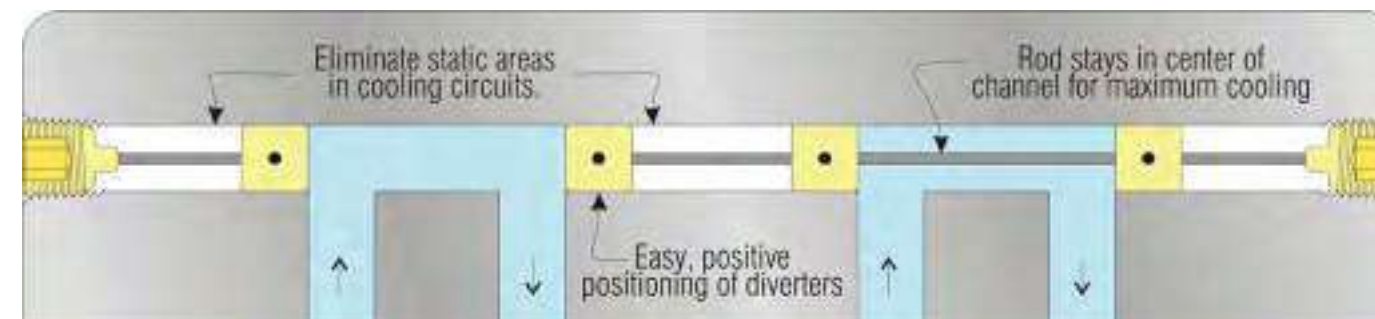
Diverter Rods

- 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 couplers 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

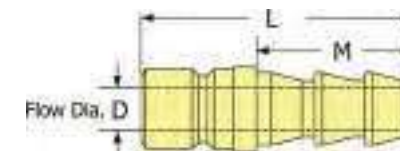
Combination Hose Inserts

- Eliminates multi-fittings
- 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

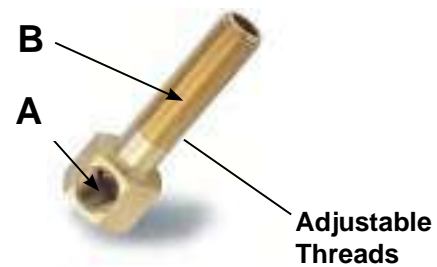
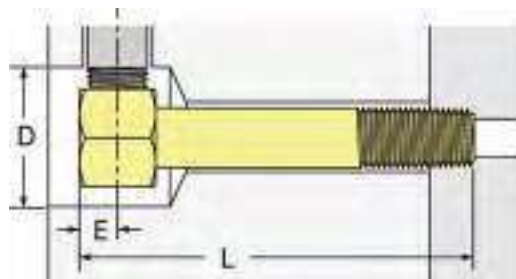
Standard Brass Extension Elbows

- 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							
						2-1/2	4	5-1/2	7	8-1/2	10	11-1/2	13
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)

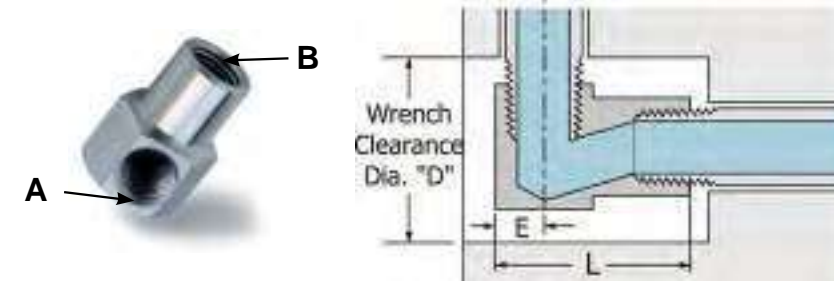
Standard Elbows, Zinc Plated

- 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

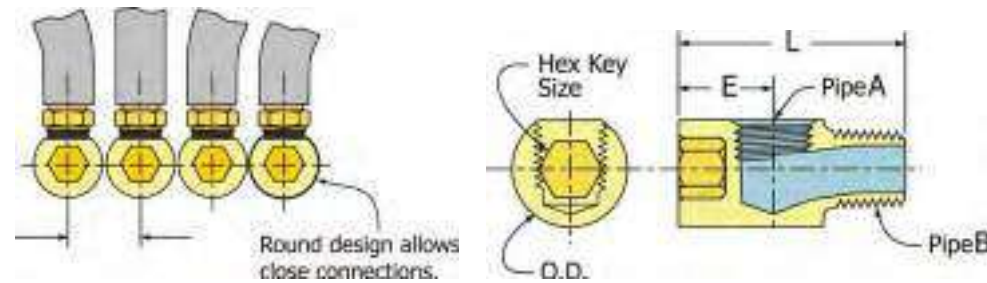
Hex Key Female to Male Street Elbows

- 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

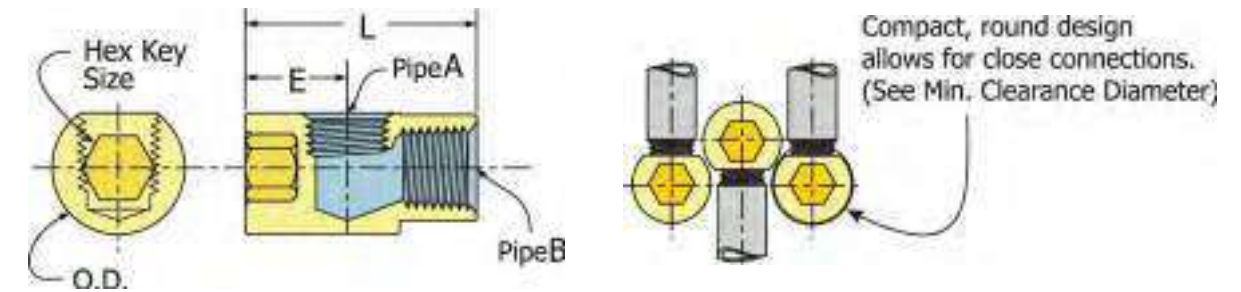
Hex Key Female to Female Street Elbows

- 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

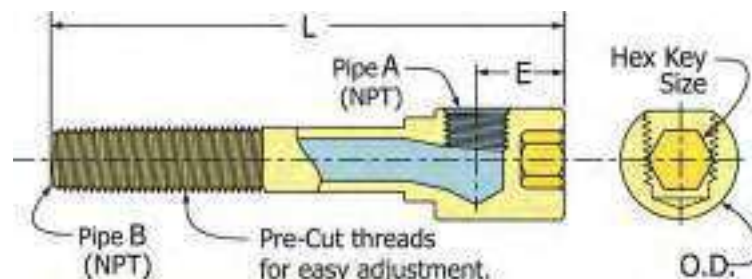
Hex Key Extension Elbows

- 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. DIA.	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)

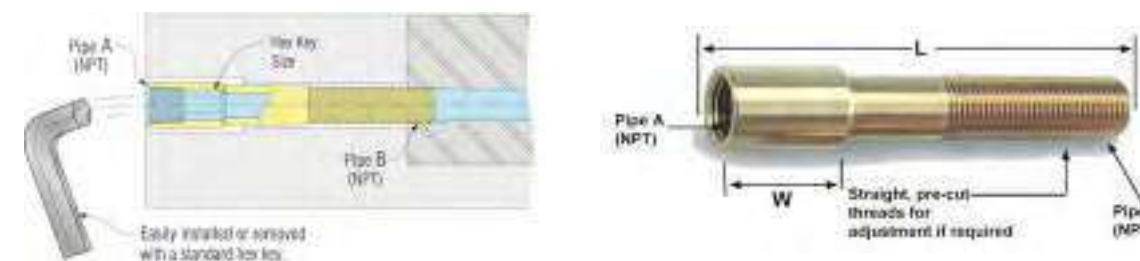
Hex Key Extension Pipes

- 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

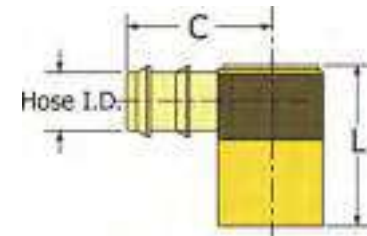
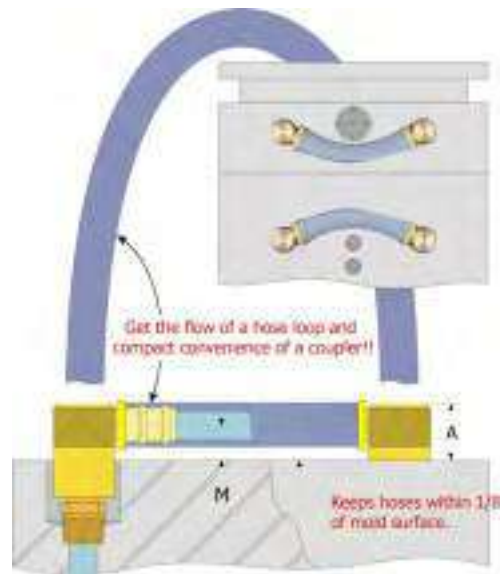
Socket Type Water Jumpers

- 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

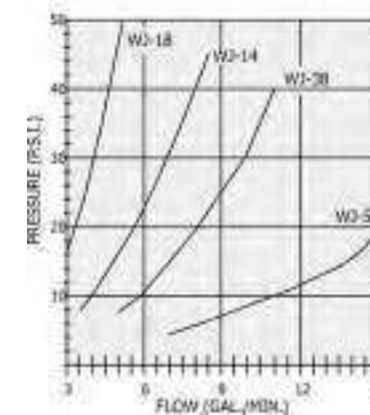
- Recessed to prevent damage or accidental disconnect
- Eliminate crimped hoses and setup errors
- Viton O-ring seals
- All brass construction
- Easy hex key installation



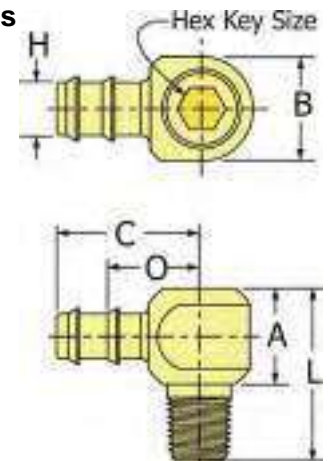
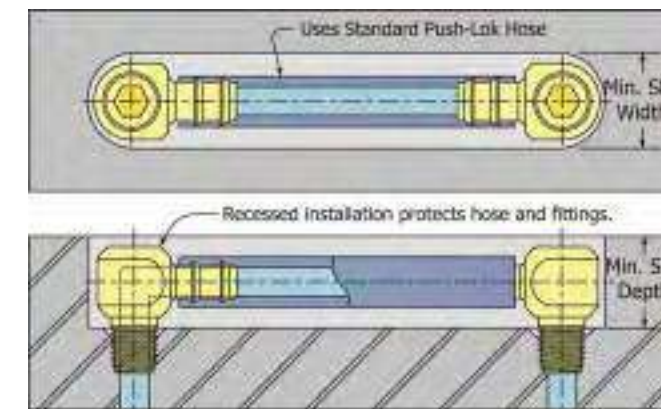
Swivel Type Water Jumpers have an all brass construction. The swivel body allows for installation where space is limited. These Water Jumpers are recessed to prevent accidental disconnect or damage and the adjustable thread allows for perfect positioning.

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 isothermic device allows for optimal heat transfer rates within cores and slides.

SPECIFICATIONS	
Material Type	Heat Pipe
Unit of Measure	Inch

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	10
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.

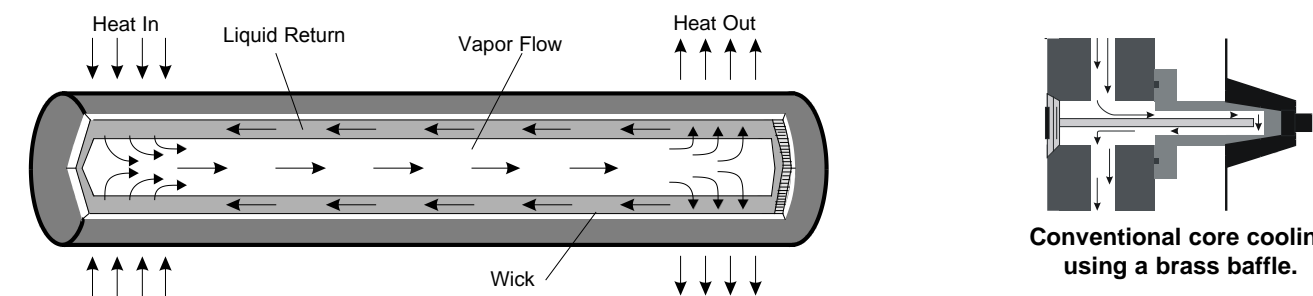
Applications

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™

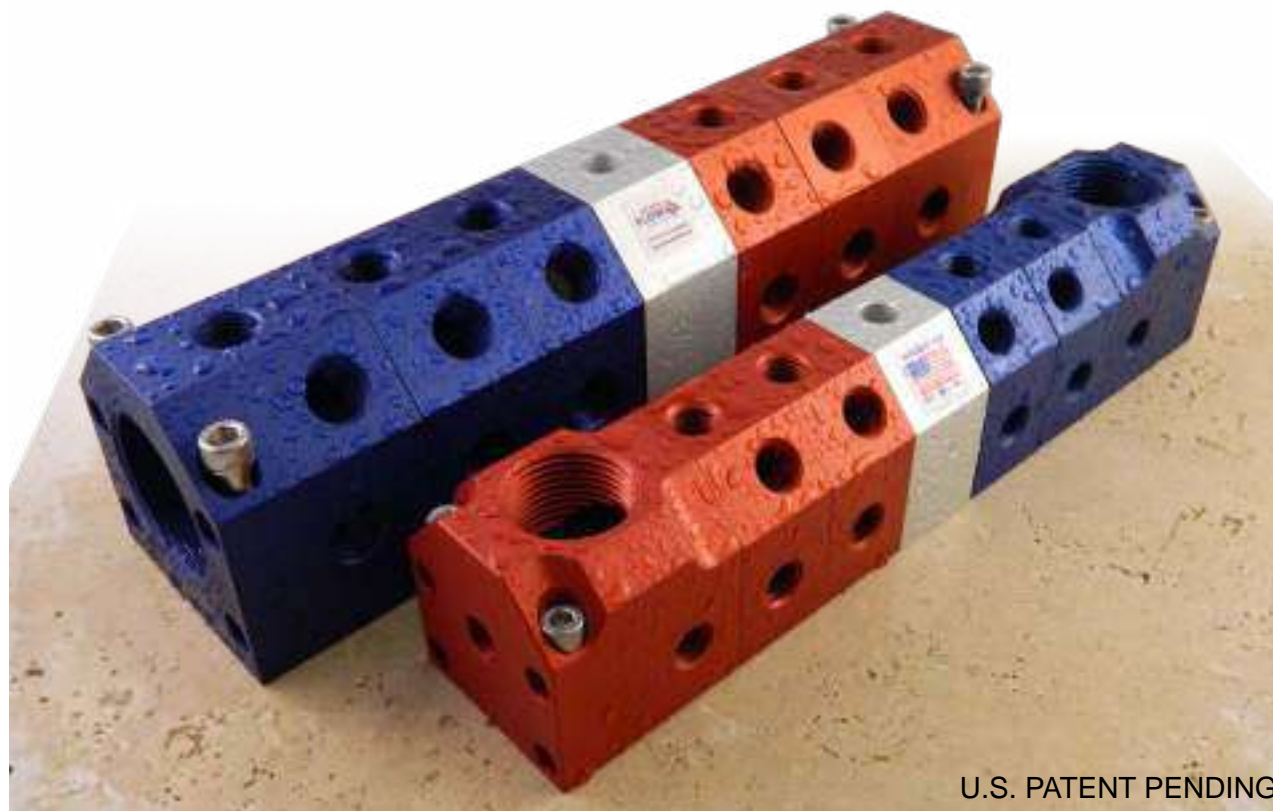


The FB Series water manifold is exactly what you expect from the industry's number one water manifold supplier. Designed with our exclusive FLEX BLOCK TECHNOLOGY features, the FB Series delivers superior design and flexibility to meet the most demanding applications. Nobody knows water manifolds like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



90° Inlet
 (3) 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



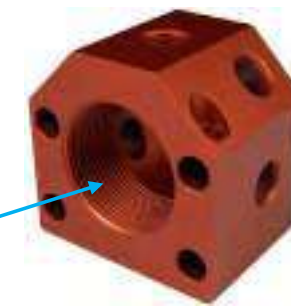
90° Inlet
 (3) Outlet Holes



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



90° Inlet
 (3) 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.

Port-to-Blank (PB)



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

90° Port-to-Blank (PB)



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

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

Port-to-Divide (PD)



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

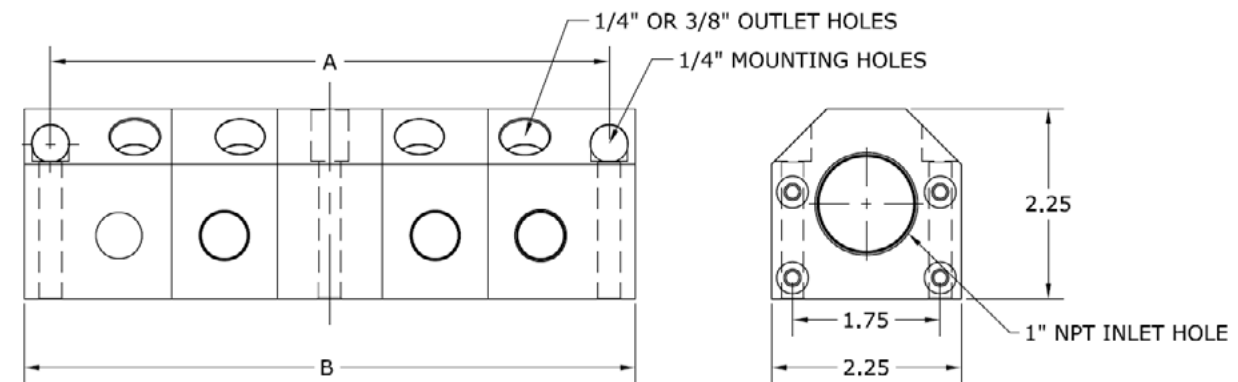
- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- Viton O-Rings and Tie Rods included
- Manifolds are available for pH levels above 7.8

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

Continued on next page

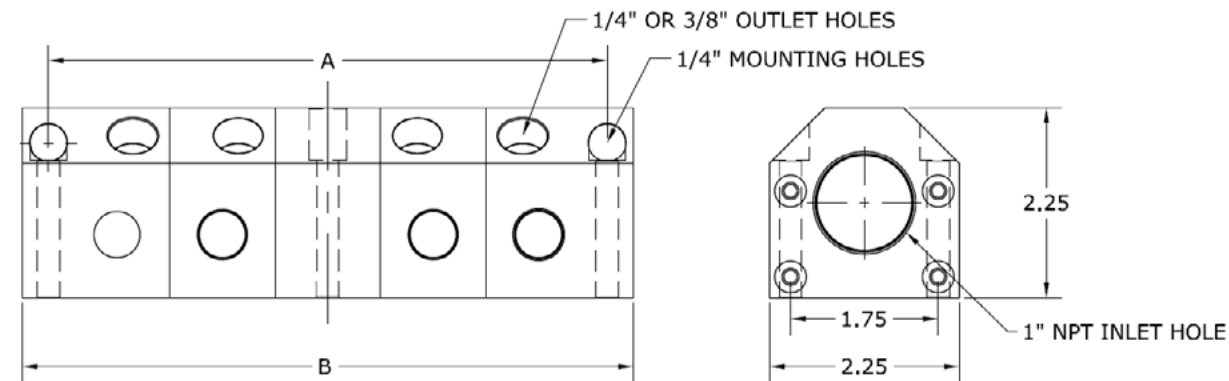
FB2 Port-to-Divide Assemblies



- 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

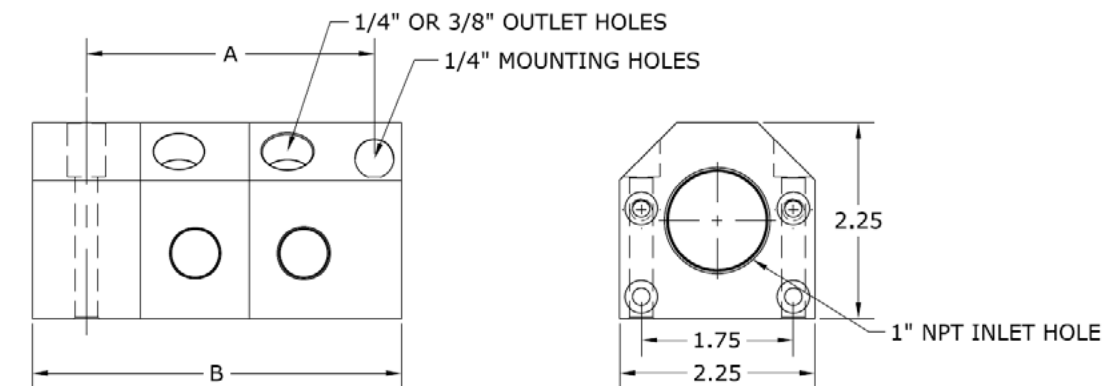
FB2 Port-to-Blank Assemblies

- 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

Continued on next page

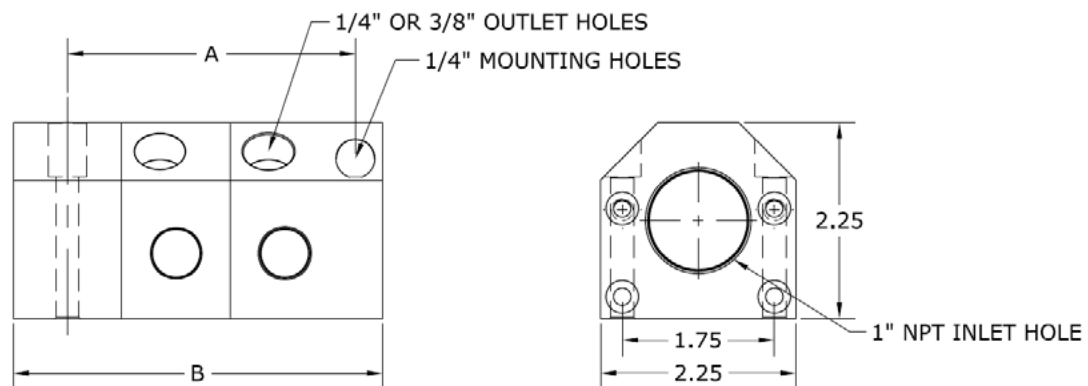
FB2 Port-to-Blank Assemblies



- 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

Continued on next page

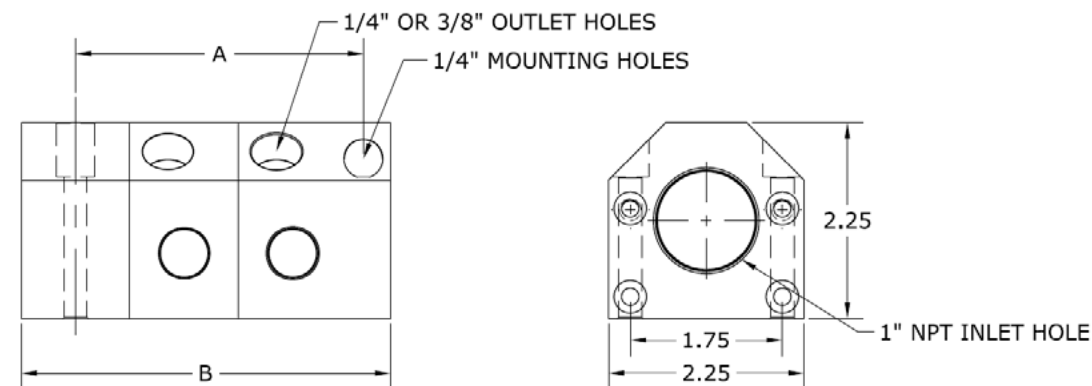
FB2 Port-to-Blank Assemblies



- 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

Continued on next page

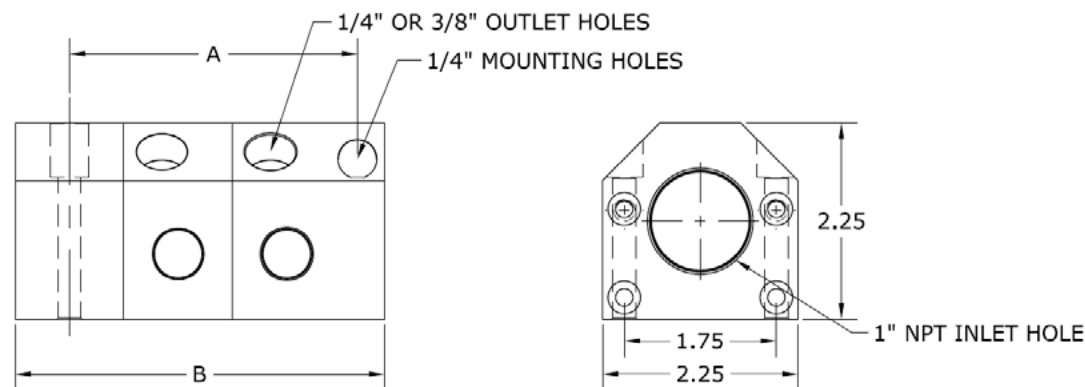
FB2 Port-to-Blank Assemblies



- 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 Configurations

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 Modifications
 - Spare Parts Inventory
 - Build your own Assemblies



Front

Back



Front

Back



Front

Back



Front

Back



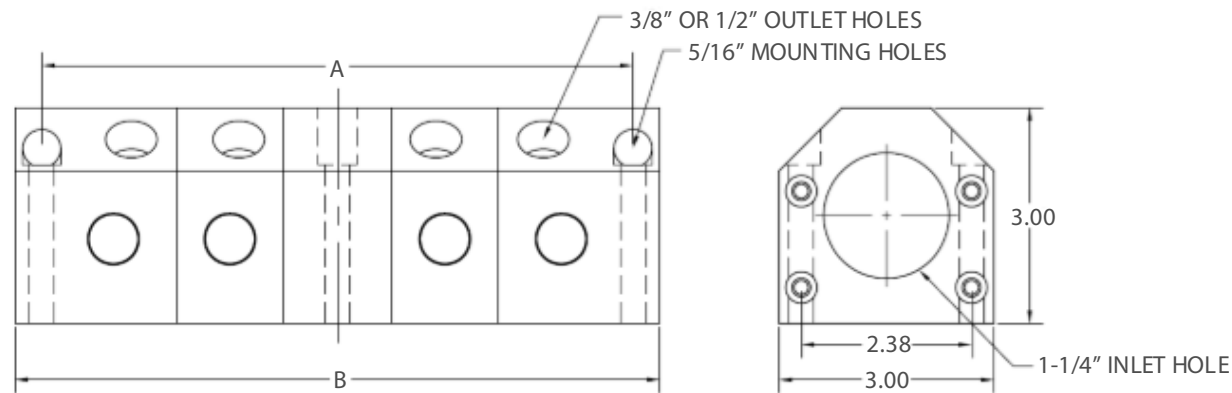
FB3 Port-to-Divide Assemblies

- 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

Continued on next page

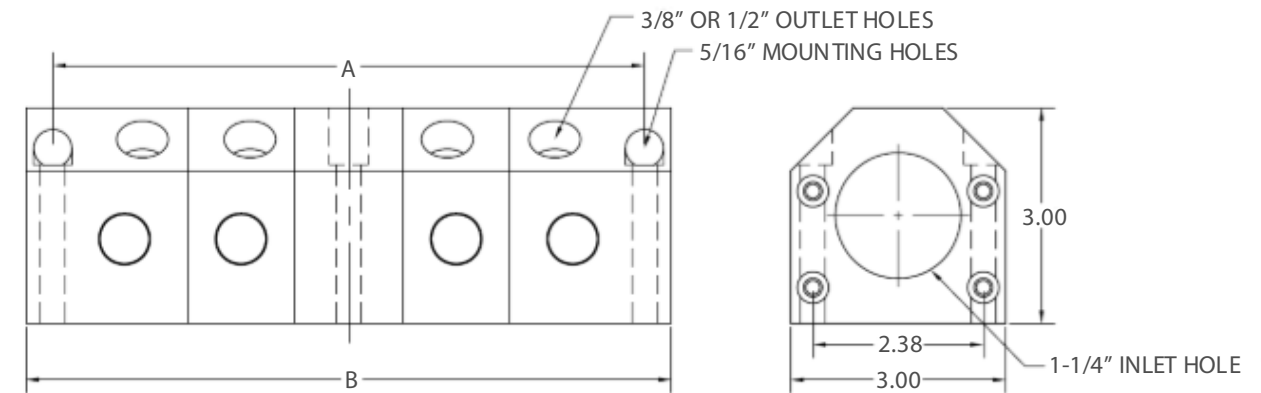
FB3 Port-to-Divide Assemblies

- 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

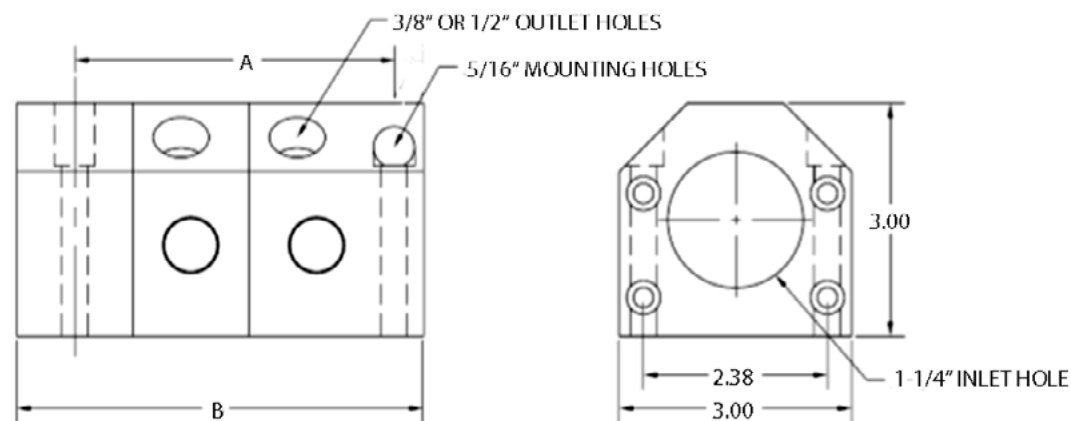
FB3 Port-to-Blank Assemblies



- 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

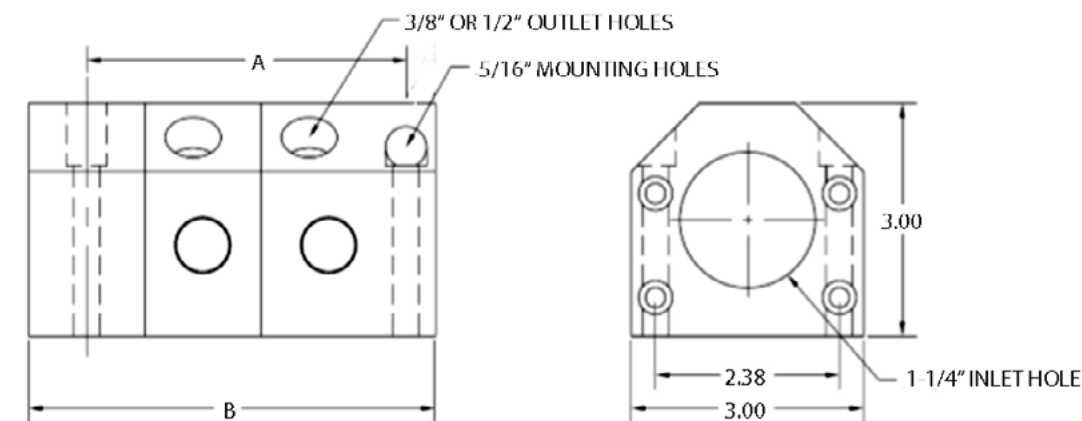
Continued on next page

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)						
FB3-4-8-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

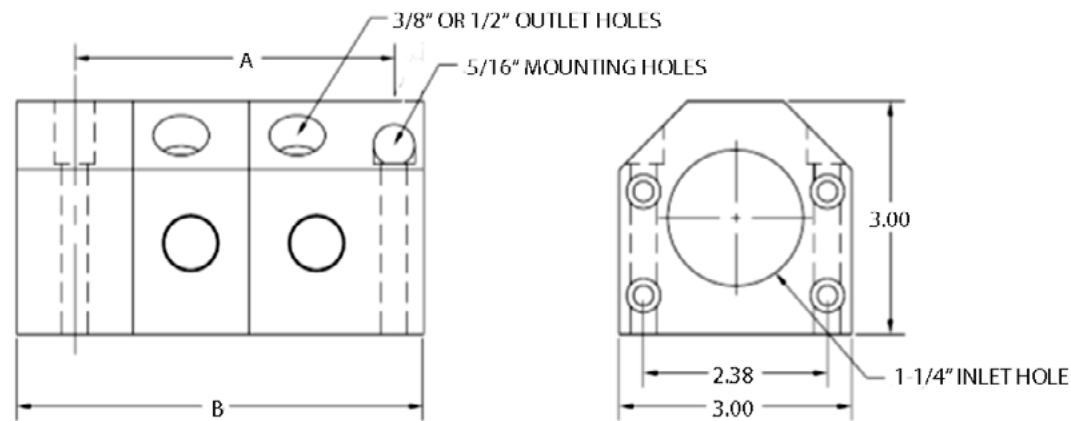
FB3 Port-to-Blank Assemblies



- Modular construction
- 6061-T6 Aluminum Material
- Anodized for corrosion protection
- Pre-drilled mounting holes
- 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)						
FB390-1-6-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

Continued on next page

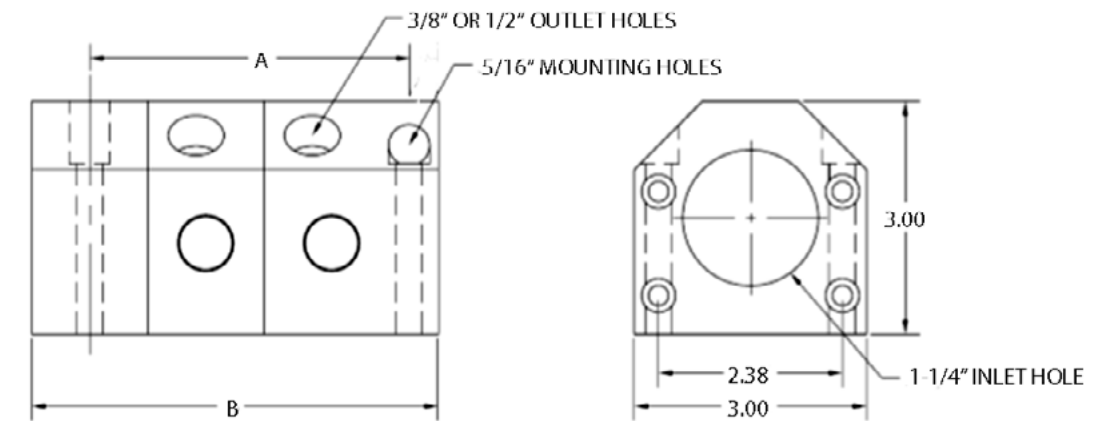
FB3 Port-to-Blank Assemblies



- 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

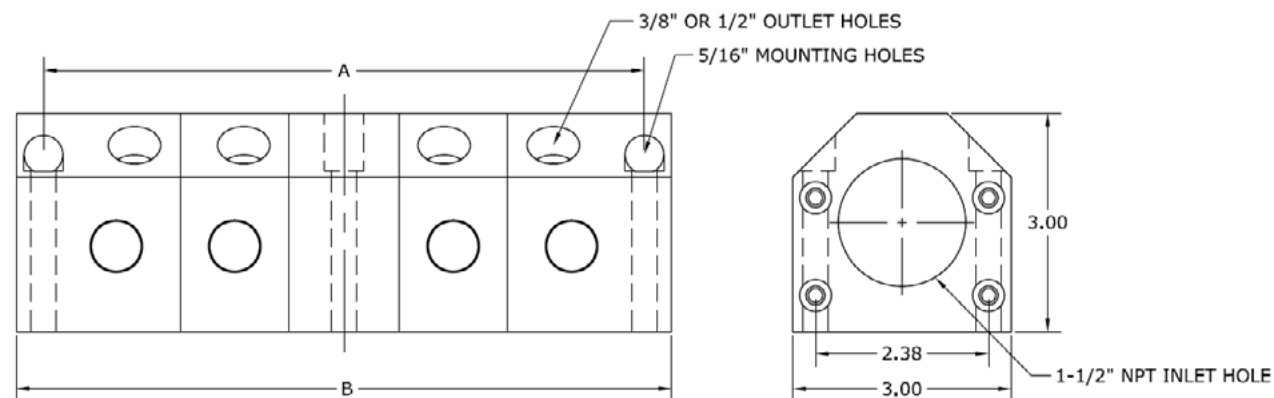
FB3 Port-to-Divide Assemblies

- 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

Continued on next page

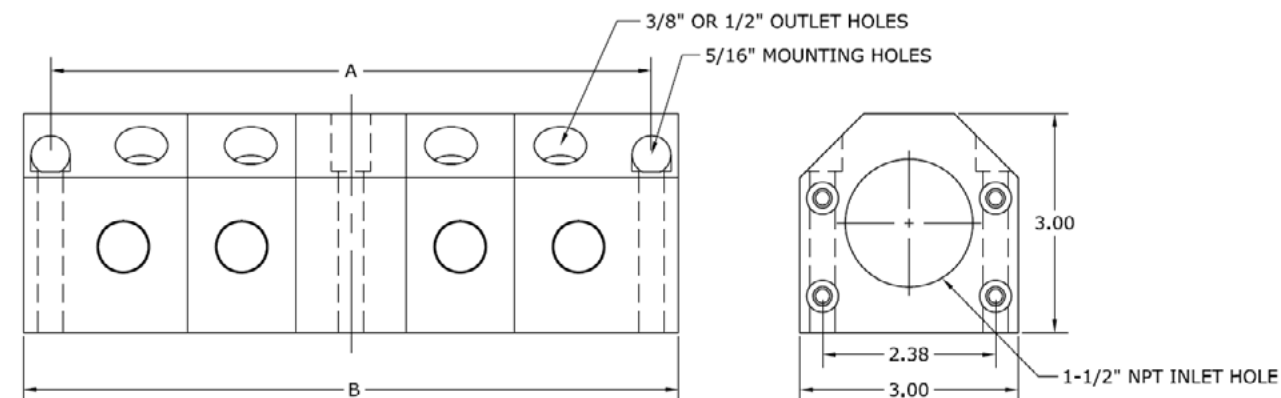
FB3 Port-to-Divide Assemblies

- 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

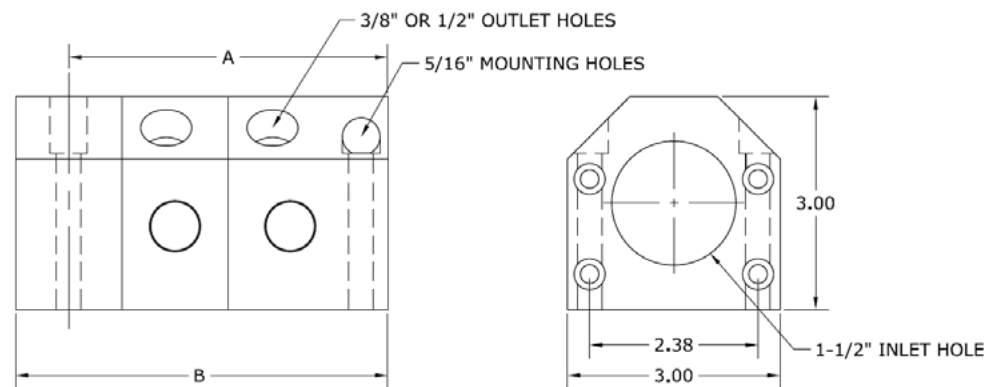
FB3 Port-to-Blank Assemblies



- 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

Continued on next page

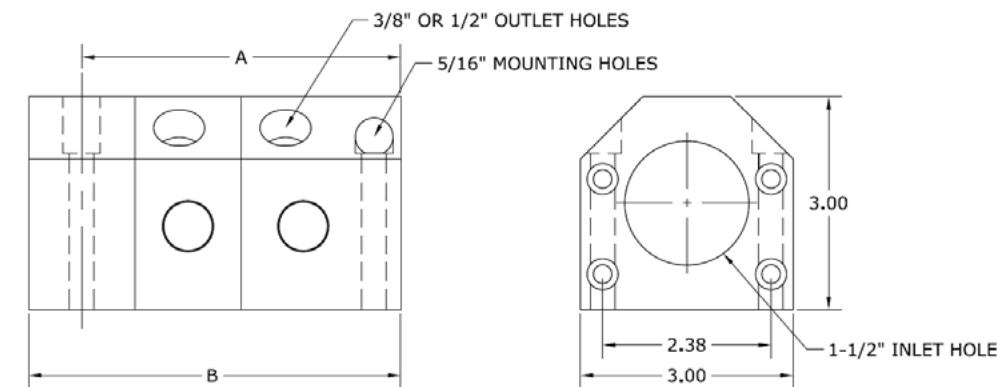
FB3 Port-to-Blank Assemblies



- 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)						
FB3-4-8-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

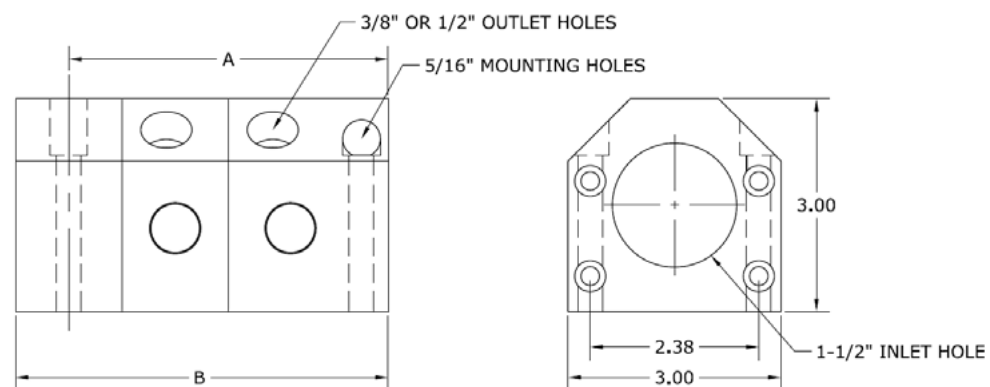
FB3 Port-to-Blank Assemblies



- 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)						
FB390-1-6-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

Continued on next page

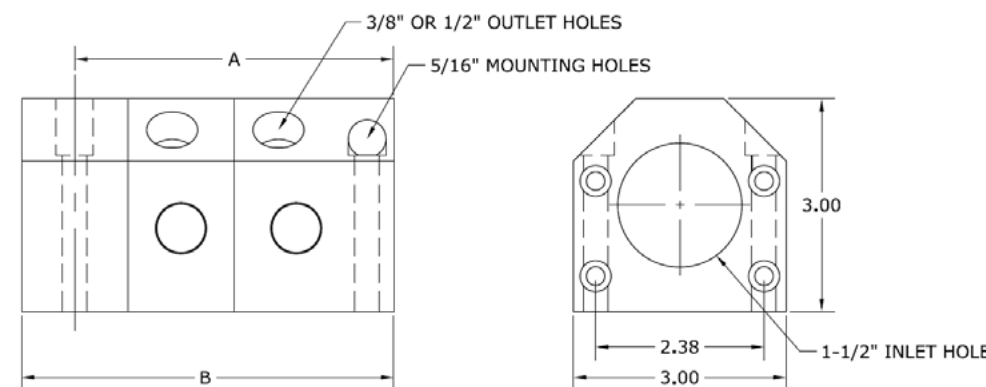
FB3 Port-to-Blank Assemblies



- 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



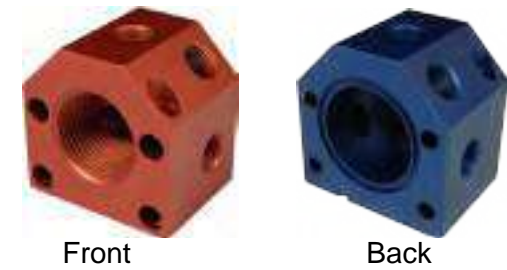
CATALOG NO.	OUTLET HOLE SIZE	BLOCK COLOR	NO. OF OUTLETS	NO. OF INLETS	DIMENSION A	DIMENSION B
90° Port-to-Blank (PB)						
FB390-4-8-B-PB-1.5	1/2	Blue	18	1	7.88	9
FB390-5-8-B-PB-1.5	1/2	Blue	23	1	9.38	10.5
FB390-1-8-R-PB-1.5	1/2	Red	3	2	3.38	4.5
FB390-2-8-R-PB-1.5	1/2	Red	8	1	4.88	6
FB390-3-8-R-PB-1.5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

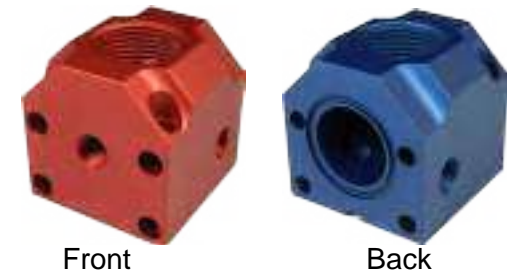
Block Size: 3.00" W x 3.00" H
 Material: 6061-T6 Alum Manifold Bar Stock
 Finish: Anodized
 Mounting Hole Size: 5/16" SHCS
 Inlet Hole: 1-1/4" or 1-1/2" NPT
 Outlet Hole: 3/8" or 1/2"

- Blocks Sold Individually:**
- After Purchase Modifications
 - Spare Parts Inventory
 - Build your own Assemblies



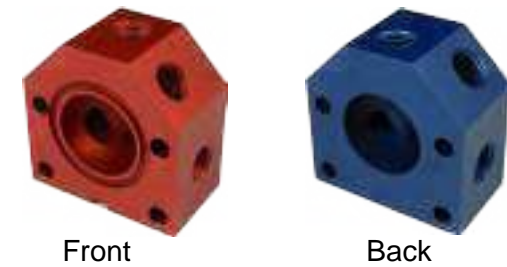
First Block—Straight

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 Modifications
 - 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 Configurations



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

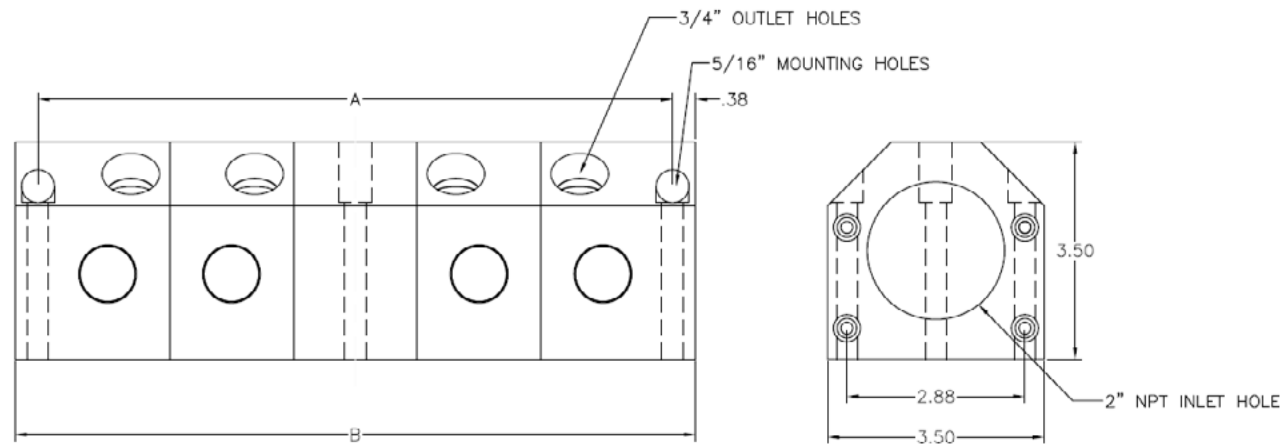
FB4 Port-to-Divide Assemblies



- 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 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

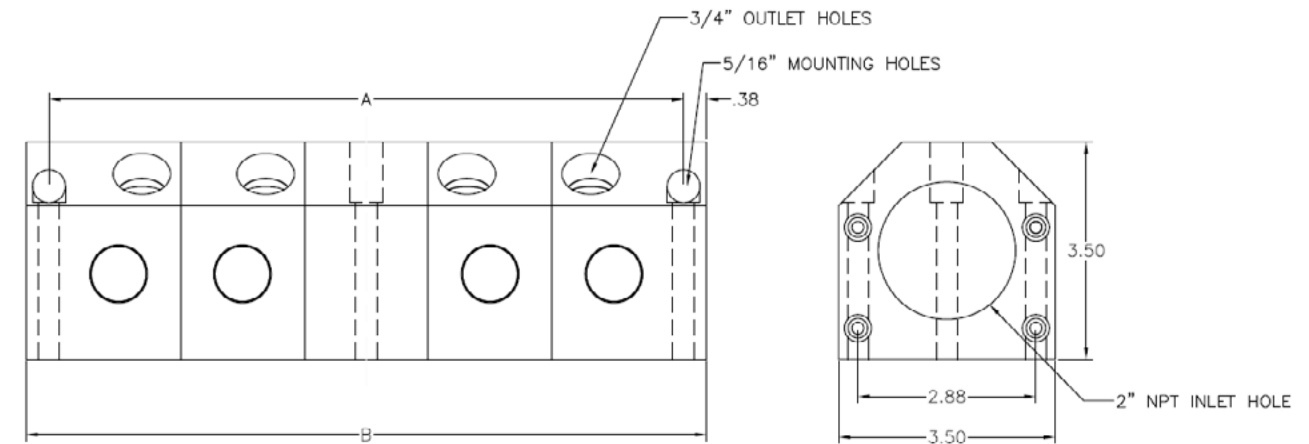
FB4 Port-to-Blank Assemblies



- 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 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

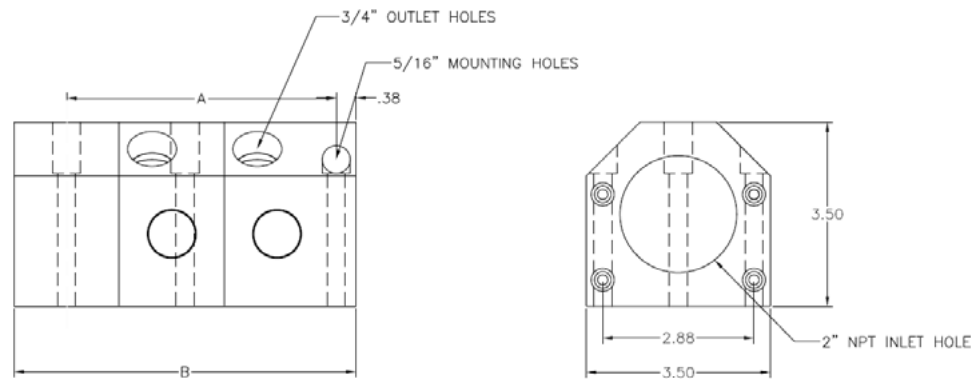
FB4 Port-to-Blank Assemblies



- 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 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

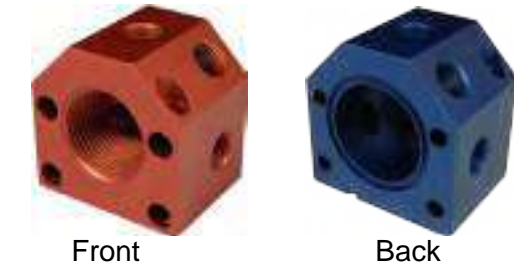
FB4 Series = 2" NPT Inlet

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 Modifications
 - Spare Parts Inventory
 - Build your own Assemblies

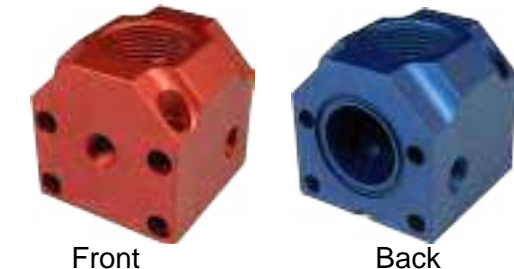
First Block—Straight—(2" NPT Inlet)

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



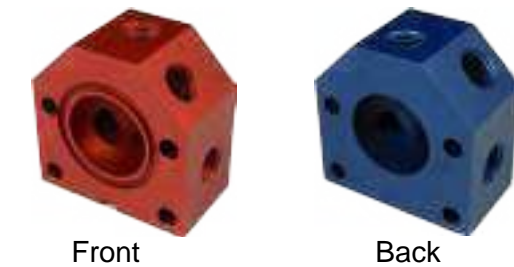
First Block—90°—(2" NPT Inlet)

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



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



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 Configurations

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

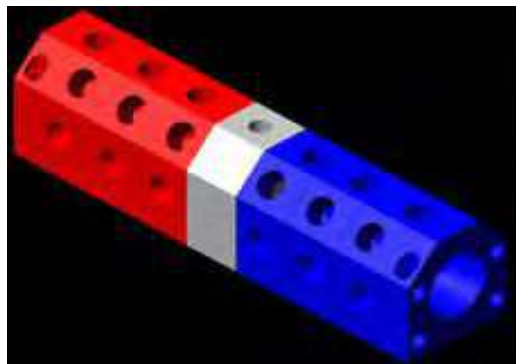


Visit our Online e-KOOL Configurator!

Configure an Assembly Part Number:

Style:	DN480d
Inlet:	1.50"
90 Degree Inlet:	7ku
Port Out:	1/2"
Stations:	3
Color:	

Part Number: H83-3-8-F13
 Price: \$231.75
 CAD File(s): H83 3 8 PD.zip



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



MOLD DATE & RECYCLING INSERTS

Center Inserts.....	F8
PCS CUMSA™ Block Base & Block Insert.....	F9
PCS CUMSA™ Date Stamp Plus.....	F5
PCS CUMSA™ Double Date Stamp.....	F4
PCS CUMSA™ Micro Dater & Inserts.....	F7
PCS CUMSA™ Recycling & Mark Inserts.....	F10
PCS CUMSA™ Standard Date Stamps.....	F3
PCS CUMSA™ Temperature Dater & Insert.....	F6

Check out the other PCS CUMSA™ products

- Ejection
- Undercuts
- Slides



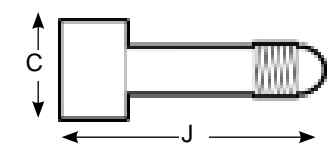
PCS CUMSA™ Standard Date Stamps

- 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			
Size	Characters	Arrow Head	Arrow Body
3 mm	.004 - .008	.016 - .020	.016 - .020
4 - 5 mm	.004 - .006	.016 - .020	.016 - .022
6 mm	.004 - .008	.016 - .020	.016 - .020
8 mm	.006 - .010	.016 - .020	.016 - .020
10 - 16 mm	.008 - .012	.020 - .024	.020 - .024
20 mm	.008 - .012	.020 - .024	.020 - .024

CENTER INSERTS WITH ARROW & YEAR		
CATALOG NO.	C	J
DP 2275-xx	2.2	7.5
DP 3075-xx	3.0	7.5
DP 3217-xx	3.2	17.0
DP 4717-xx	4.7	17.0
DP 5717-xx	5.7	17.0
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)

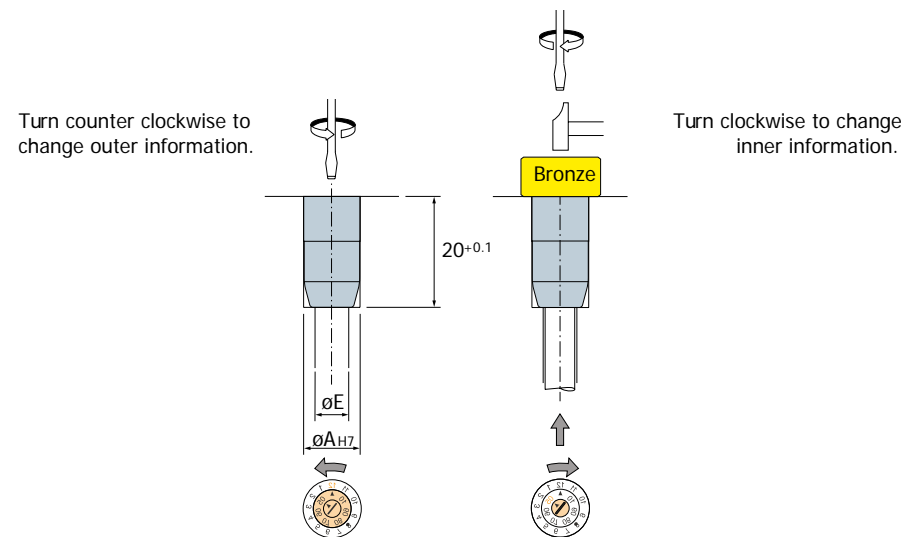
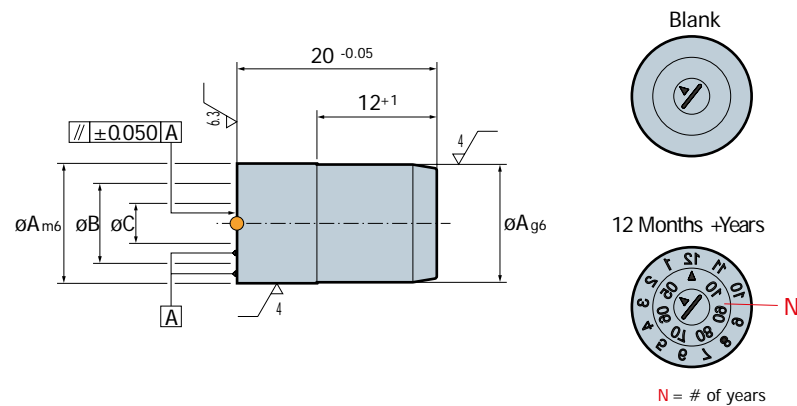
Double Date Stamp

- 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



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)

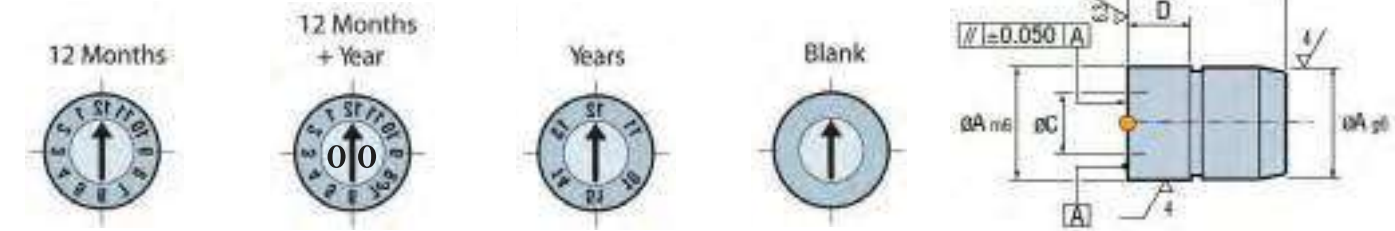
Date Stamp Plus

- 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.

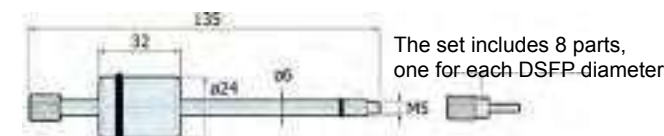


SPECIFICATIONS	
Hardness	48 - 54 Rc
Material Type	INOX. 1.4034
Unit of Measure	Metric DIN

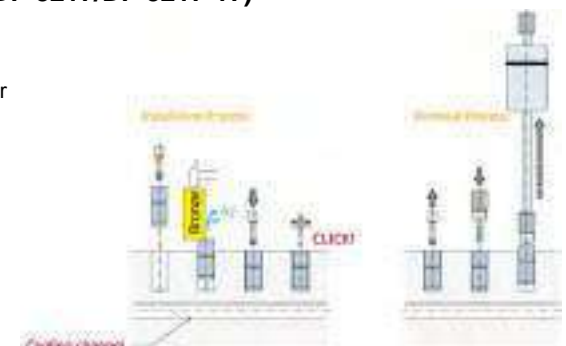


12 MONTHS ARROW ONLY	12 MONTHS + YR.	YEARS	BLANK	A mm	C mm	D mm	L mm
DSFP 0422	DSFP 0422-xx	DSFP 04-Yxx	DSFP 04BLANK-A	4	2.2	5.5	12
DSFP 0530	DSFP 0530-xx	DSFP 05-Yxx	DSFP 05BLANK-A	5	3	5.5	12
DSFP 0632	DSFP 0632-xx	DSFP 06-Yxx	DSFP 06BLANK-A	6	3.2	8	20
DSFP 0847	DSFP 0847-xx	DSFP 08-Yxx	DSFP 08BLANK-A	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)



The set includes 8 parts, one for each DSFP diameter



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.

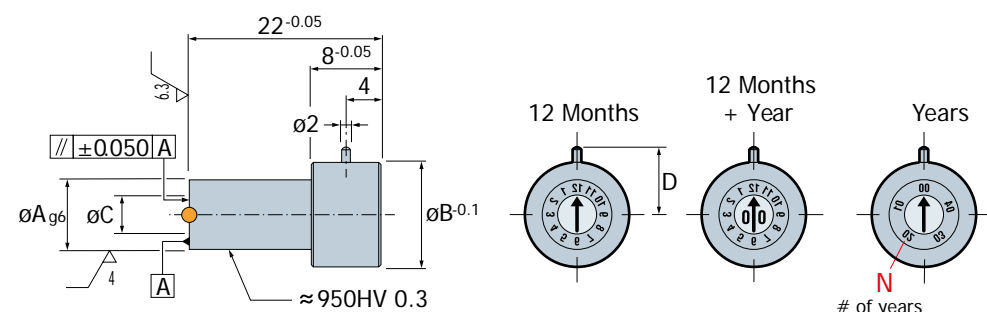
Temperature Dater & Insert

- 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..

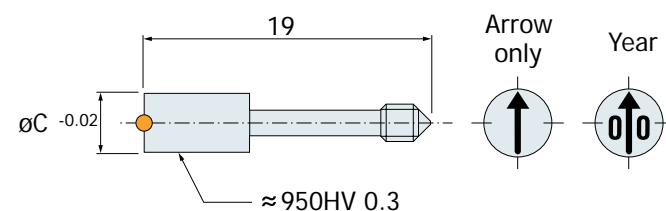


SPECIFICATIONS	
Material Type	1.2344 Nitrided & Inconel 2.4669
Unit of Measure	Metric DIN

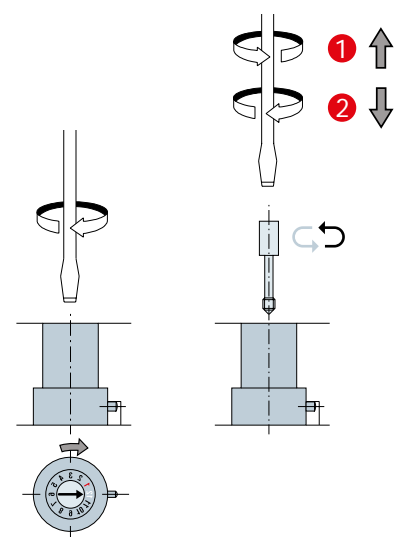


CATALOG NO.	12 MO. + YEAR	YEARS	A	B	C	D	N
FT 0847SF	FT 084712-xx	FT 084705-xx	8	12	4.7	11	5
FT 1267SF	FT 126712-xx	FT 126708-xx	12	16	6.7	12	8

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)

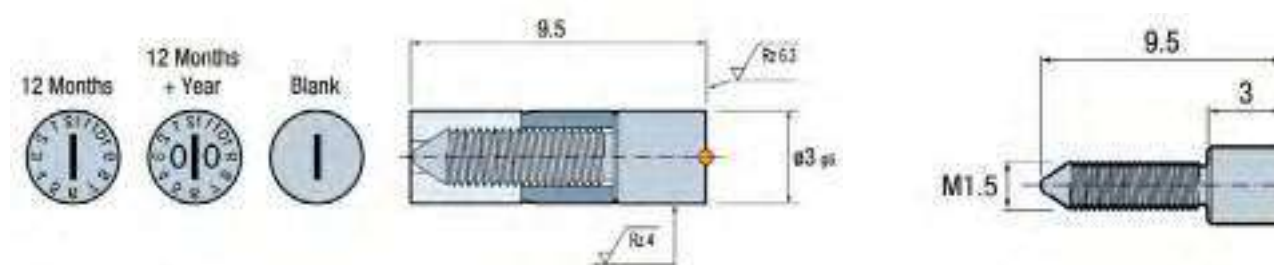
Micro Dater & Inserts

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

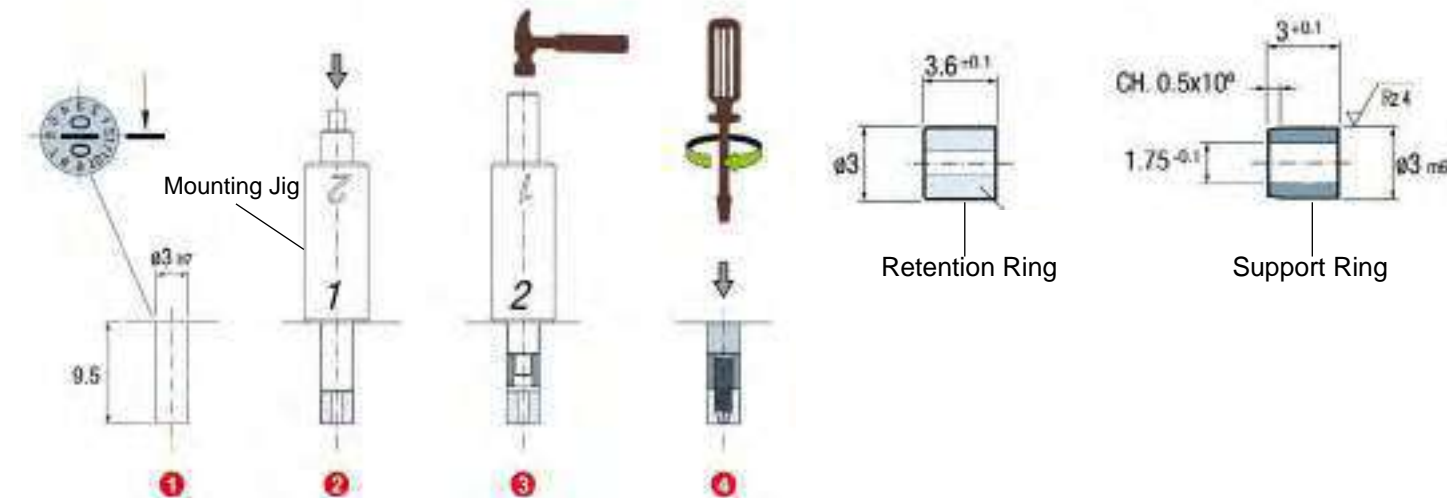
The Micro Daters are ideal for limited spaces due to its small size (only 3mm diameter).



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

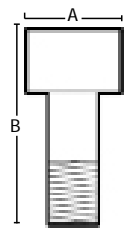


- Sits flush within body assembly
- Designed for efficient installation and removal
- Stainless steel construction
- Provides excellent traceability

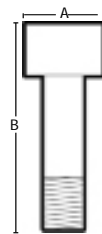
This center insert has a stainless steel construction and is always at the same level as the body of the date stamp. Diameters ranging 4 mm to 20 mm are available. Center Inserts are easily changed reducing downtime.

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

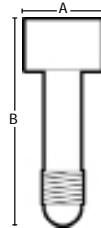
CH Series
Compact Height



RF Series
Remains Flush



CUMSA Series
PCS Standard



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

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

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

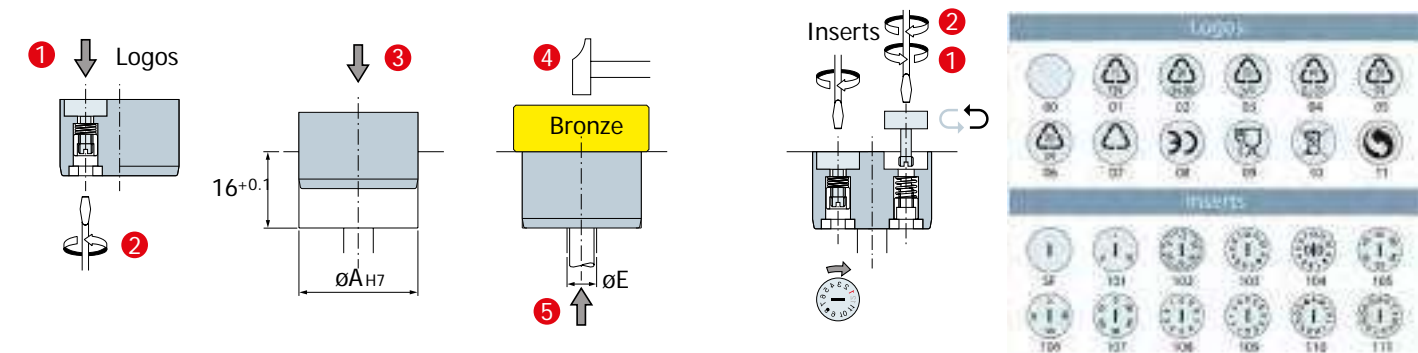
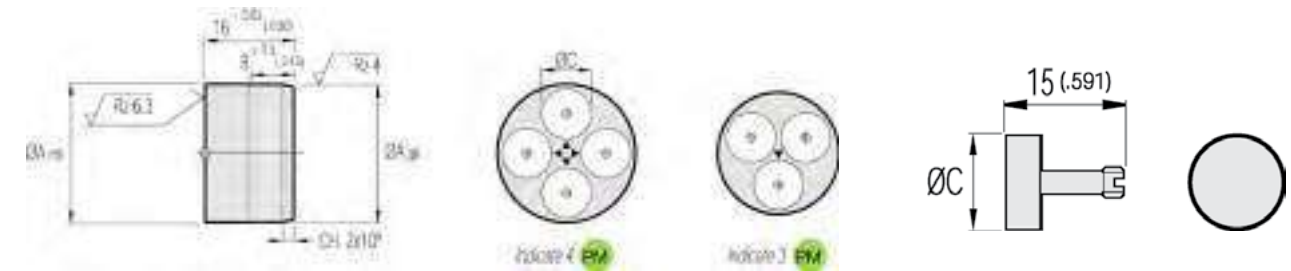
Block Base & Block Insert

- 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

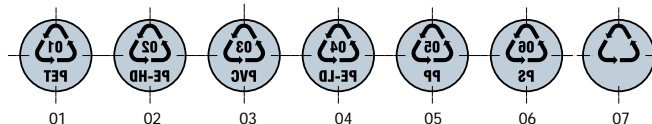
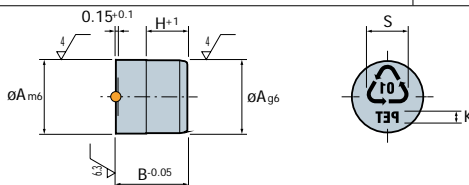
Note: When ordering add the desired number after the reference.

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

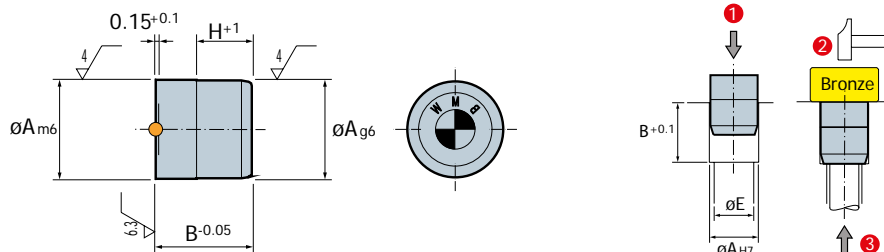
Note: When ordering add the desired recycle number after the reference (i.e. IR 1012-01)

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

GENERAL MOLD COMPONENTS

Air Poppet Valves.....	G7
Core Pins.....	G36
Core Pin Retainers.....	G38
Cycle Counters.....	G3
Die Bushings.....	G27
Double Air Valves.....	G10
Dowel Pins.....	G40
Flat Head Cap Screws.....	G42
Guided Ejector Bushings.....	G23
Limit Switches.....	G55
Locating Rings.....	G58
moldMAX™ Pins.....	G39
PCS CUMSA™ Safety Stopper & Shock Absorber.....	G76
PCS CUMSA™ Sprue Adjusters.....	G66
Red E Vault™.....	G6
Return Pins.....	G61
Shoulder Bushings.....	G11
Shoulder Leader Pins - Guided Ejector.....	G51
Shoulder Leader Pins - Small Mold Assemblies.....	G54
Shoulder Leader Pins - Standard.....	G47

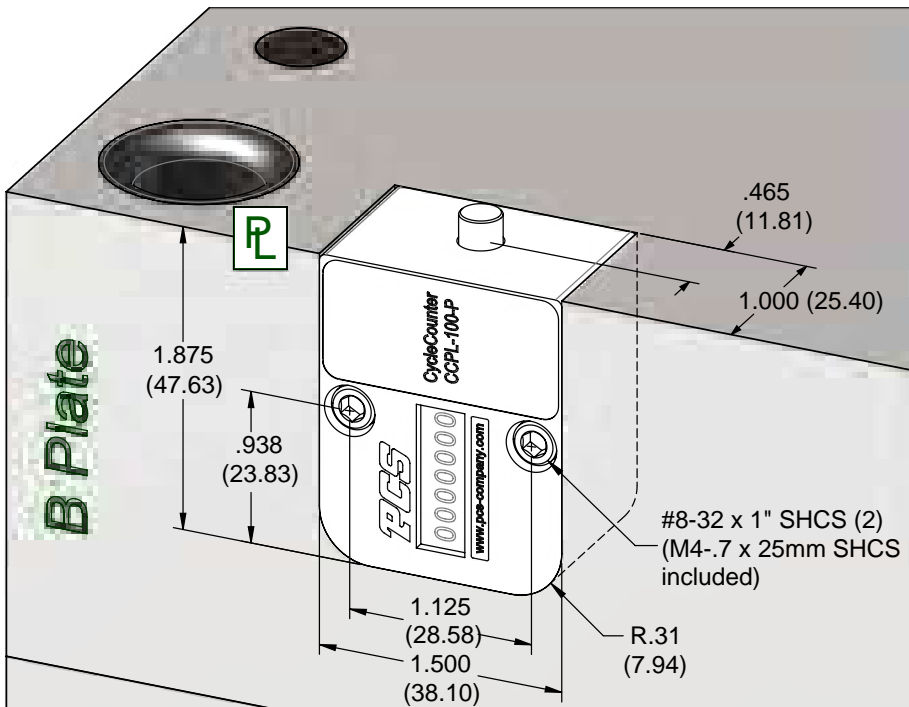
GENERAL MOLD COMPONENTS

Smartlock® Slide Retainer and Limit Switch.....	G57
Socket Head Shoulder Screws - Stripper Bolt.....	G46
Socket Head Cap Screws.....	G43
Springs.....	G62
Sprue Bushing & Extensions.....	G67
Stop Pins, Discs, Spacers, & Buttons.....	G73
Straight Bushings.....	G18
Straight Leader Pins - Guided Ejector.....	G52
Straight Leader Pins - Standard.....	G49
Stripper Plate Bushings.....	G72
Support Pillars.....	G77
Threaded Locating Pin Accessory.....	G78
Tubular Dowel Pins.....	G41
Tunnel Gate Inserts.....	G79
Round Gate Inserts.....	G81
Square Gate Inserts.....	G84
Version SGC - Ready for Side Gating.....	G88
Version TPS - Ready for Side Gating.....	G91
Version TGC- Ready for Vertical Gating.....	G95
Version TGLL- Gating Below Parting Line.....	G100
Version TGHL- Gating Above Parting Line.....	G101
Retaining Bushing.....	G104
Supplementary Tips.....	G105
Tunnel Gate Inserts- Accessories.....	G106

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

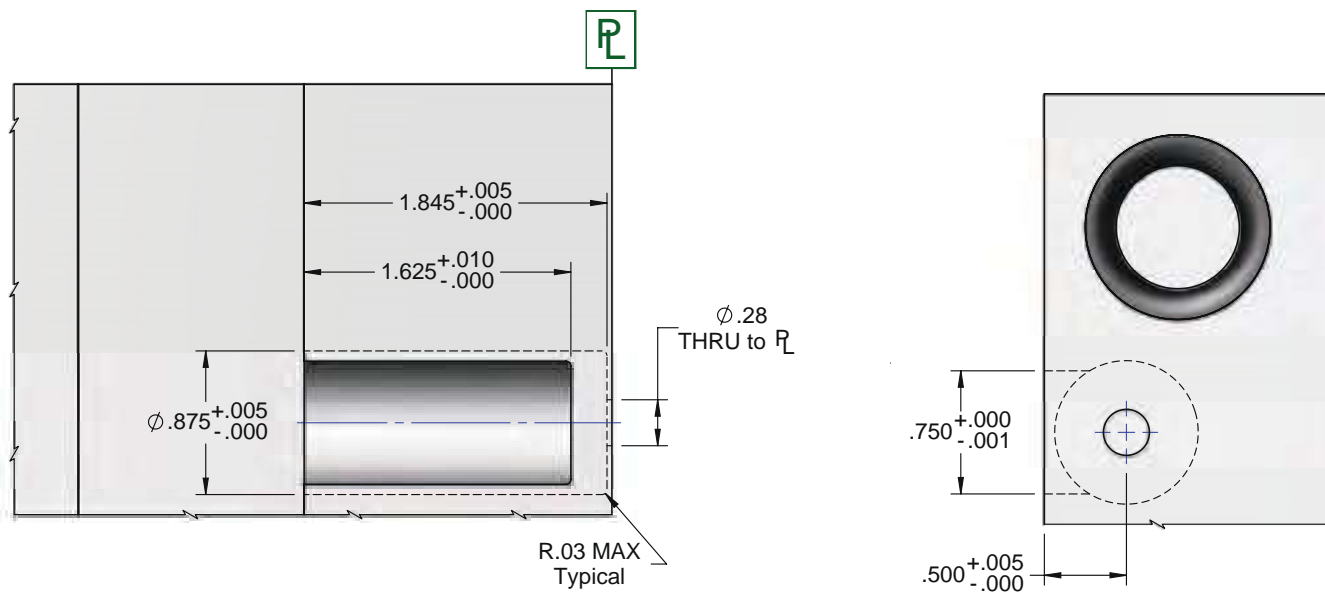
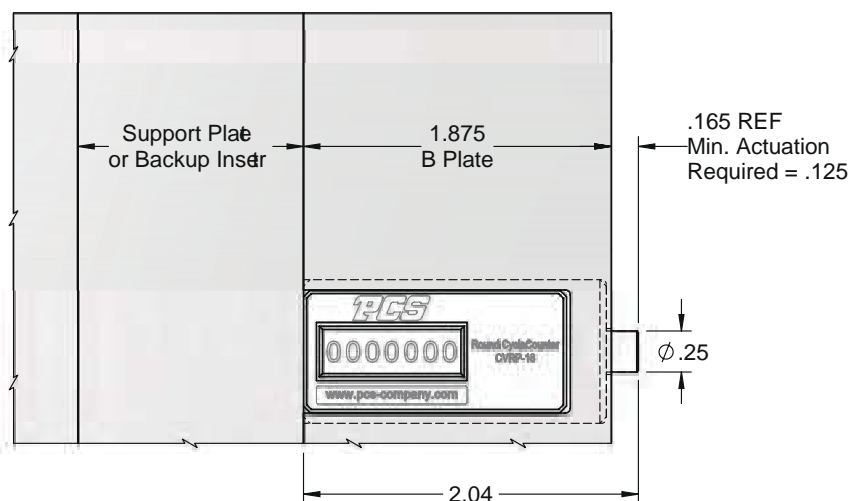
Round Cycle Counter



- 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 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.

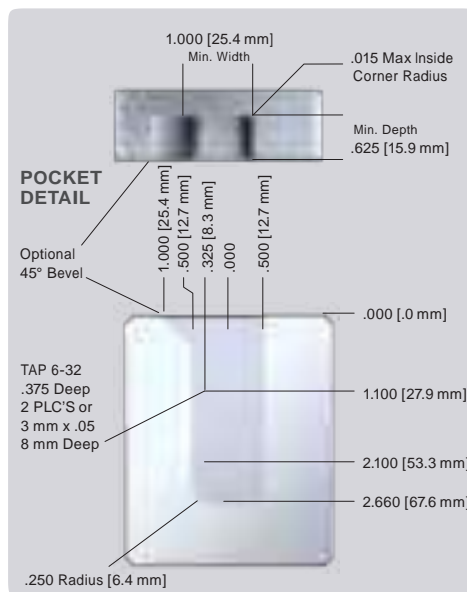
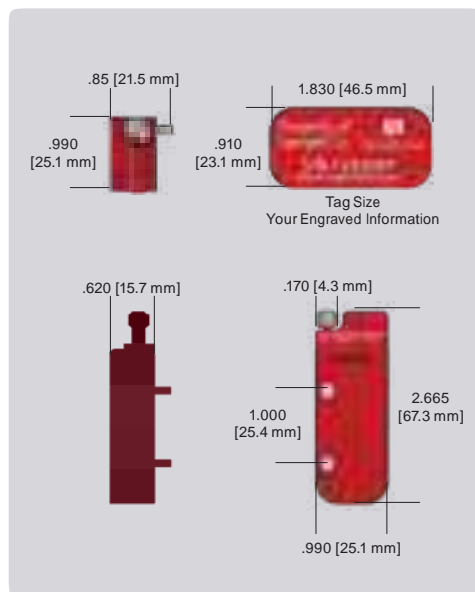
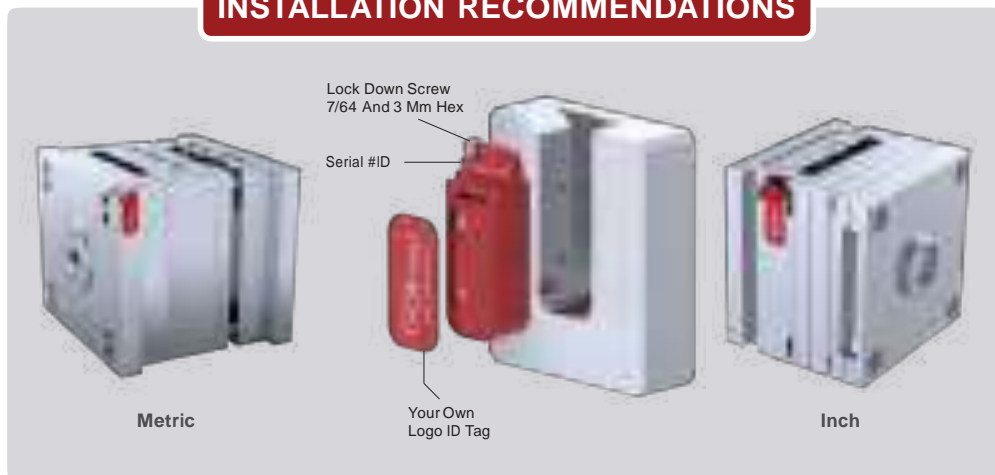
Red E Vault™



- 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 E Vault™ makes sure your data is easily accessible and never compromised.

INSTALLATION RECOMMENDATIONS



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

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

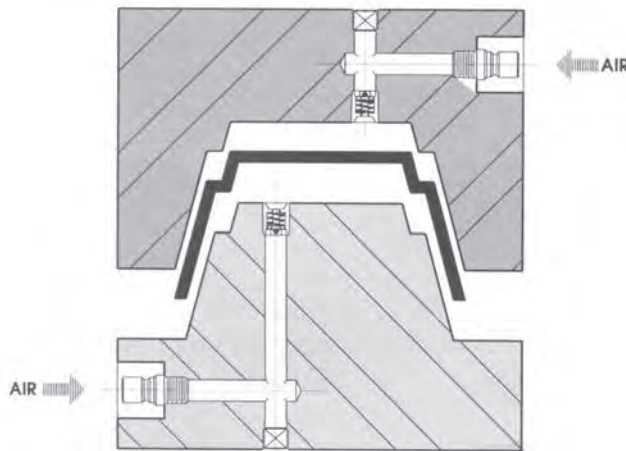
Tolerances indicate suggested clearance and press-fit for proper installation. Individual valve sizes vary within their tolerance range. Use brass piece (or similar material) to gently press the valve into cavity area. To remove, simply use a soft punch from the clearance hole side.

Note:

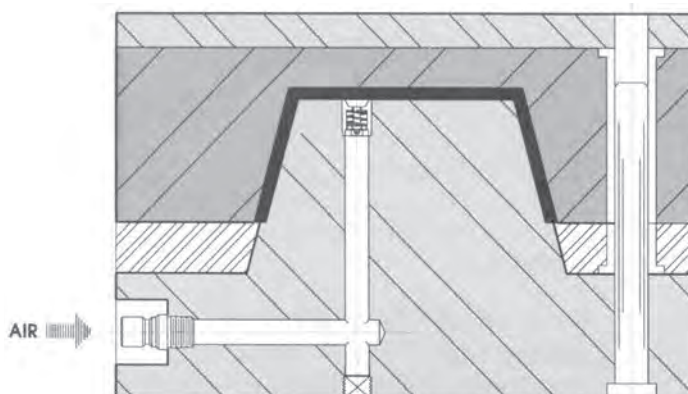
Air line must be cleared of all debris prior to valve installation

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



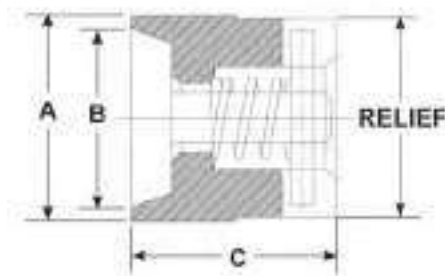
Air Poppet Valves Inch



- 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	+0.0003/-0.0000
B Poppet Disc Diameter Tolerance	+0.005/-0.005
C Overall Length Tolerance	+0.002/-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

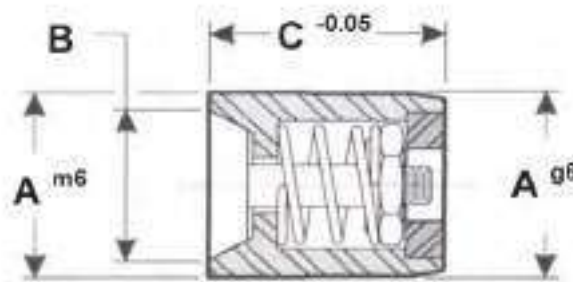
Air Poppet Valves Metric

- 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

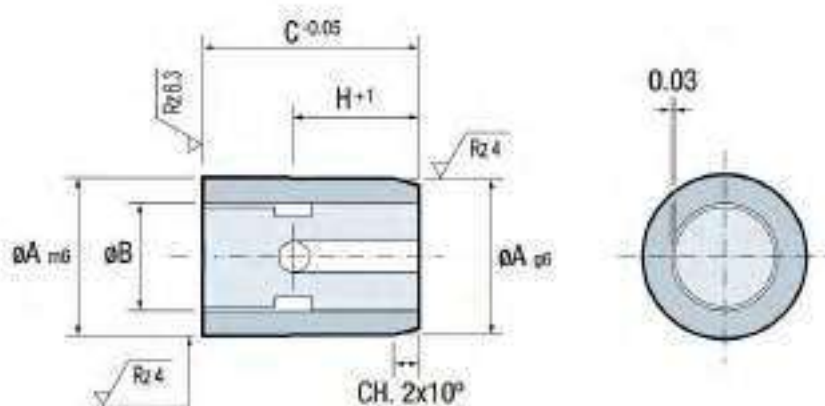
Double Air Valves

- Effective method of semi pneumatic ejection
- Allows air to pass through gap when pressure is applied
- Acts as a vent to relieve gas pressure
- Precision tolerance of 0.0012" prevents plastic from entering gap during injection



Double Air Valves are designed for tools with ribs or areas forming gas traps or vacuum conditions. These are manufactured from stainless steel with the advantage of high airflow, excellent rust resistance and heat elimination.

SPECIFICATIONS	
C Overall Length Tolerance	-0.05 mm
Operating Pressure	60 - 90 psi
Surface Hardness	50-55 Rc
Material Type	AISI 420 Stainless Steel
Unit of Measure	Metric DIN



CATALOG NO.	A BODY O.D.	B POPPET DISC DIAMETER	C OVERALL LENGTH
DV 080512	8	5	12
DV 100612	10	6	12
DV 120812	12	8	12
DV 161020	16	10	20

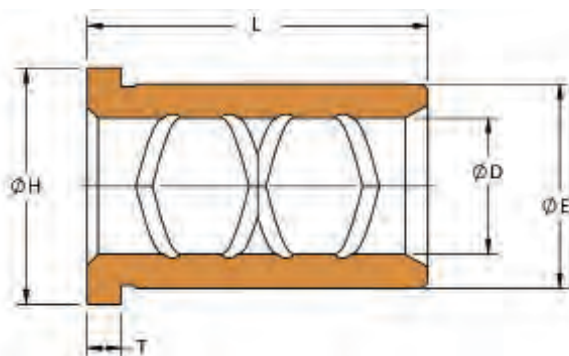
Shoulder Bushings - Solid Bronze

- High-strength precision ground bronze
- Extends mold lifetime
- Increased lubricity for smooth operation
- Internal grease grooves help prevent galling
- Resists wear & abrasion on high compressive loads

PCS Solid Bronze Shoulder Bushings are made from solid bronze with nominal diameters ranging from 3/4" to 3". Internal grease grooves help prevent galling for a smooth operation.



SPECIFICATIONS				
NOMINAL I.D.	D +.0005 / - .0000	E +.0005 / - .0000	H +.00 / -.01	T +.000 / - .005
3/4	0.7505	1.1255	1.302	0.187
7/8	0.8755	1.2505	1.427	0.187
1	1.0005	1.3755	1.552	0.187
1-1/4	1.2505	1.6255	1.802	0.187
1-1/2	1.5005	2.0005	2.177	0.187
2	2.0005	2.5005	2.677	0.187
2-1/2	2.5005	3.2505	3.427	0.187
3	3.0005	3.7505	3.990	0.500



Standard: Inch
Material: AMPCO 18 Bronze
Hardness: 92 Brinell Typical

L LENGTH -.030 / - .060	CATALOG NO.							
	I.D. = 3/4"	I.D. = 7/8"	I.D. = 1"	I.D. = 1-1/4"	I.D. = 1-1/2"	I.D. = 2"	I.D. = 2-1/2"	I.D. = 3"
7/8	SBF 06-07	SBF 07-07	SBF 08-07	SBF 10-07	SBF 12-07			
1-3/8	SBF 06-13	SBF 07-13	SBF 08-13	SBF 10-13	SBF 12-13	SBF 16-13	SBF 20-13	
1-7/8	SBF 06-17	SBF 07-17	SBF 08-17	SBF 10-17	SBF 12-17	SBF 16-17	SBF 20-17	
2-3/8	SBF 06-23	SBF 07-23	SBF 08-23	SBF 10-23	SBF 12-23	SBF 16-23	SBF 20-23	
2-7/8	SBF 06-27	SBF 07-27	SBF 08-27	SBF 10-27	SBF 12-27	SBF 16-27	SBF 20-27	
3-3/8	SBF 06-33	SBF 07-33	SBF 08-33	SBF 10-33	SBF 12-33	SBF 16-33	SBF 20-33	
3-7/8	SBF 06-37	SBF 07-37	SBF 08-37	SBF 10-37	SBF 12-37	SBF 16-37	SBF 20-37	SBF 24-37
4-3/8	SBF 06-43	SBF 07-43	SBF 08-43	SBF 10-43	SBF 12-43	SBF 16-43	SBF 20-43	
4-7/8	SBF 06-47	SBF 07-47	SBF 08-47	SBF 10-47	SBF 12-47	SBF 16-47	SBF 20-47	SBF 24-47
5-7/8	SBF 06-57	SBF 07-57	SBF 08-57	SBF 10-57	SBF 12-57	SBF 16-57	SBF 20-37	SBF 24-57
7-7/8								SBF 24-77

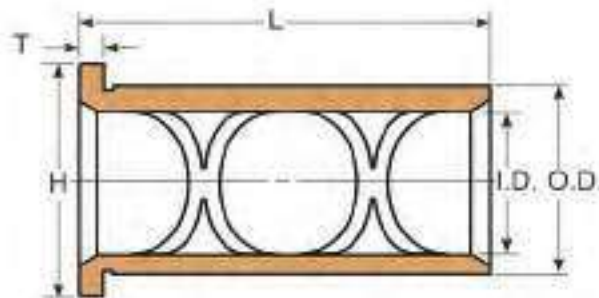
Shoulder Bushings- Bronze Plated



- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Perfect for mold alignment
- Contains internal grease grooves

PCS Bronze-Plated Shoulder Bushings are precision ground. Nominal diameters ranging from 3/4" to 3" are available. PCS Bronze-Plated Shoulder Bushings reduce friction on leader pins and are press-fit into place. Included internal grease grooves help prevent galling which aids in a smooth operation.

SPECIFICATIONS				
NOMINAL I.D.	I.D. +.0005 / - .0000	O.D. +.0005 / - .0000	H +.00 / -.01	T +.000 / - .005
3/4	0.7505	1.1255	1.302	0.187
7/8	0.8755	1.2505	1.427	0.187
1	1.0005	1.3755	1.552	0.187
1-1/4	1.2505	1.6255	1.802	0.187
1-1/2	1.5005	2.0005	2.177	0.187
2	2.0005	2.5005	2.677	0.187
2-1/2	2.5005	3.2505	3.427	0.187
3	3.0005	3.7505	3.990	0.500



Standard: Inch
Material: Bronze Plated Steel
Hardness: 180 Brinell

L LENGTH -.030 / - .060	CATALOG NO.							
	I.D. = 3/4"	I.D. = 7/8"	I.D. = 1"	I.D. = 1-1/4"	I.D. = 1-1/2"	I.D. = 2"	I.D. = 2-1/2"	I.D. = 3"
7/8	LBB 06-07	LBB 07-07	LBB 08-07	LBB 10-07	LBB 12-07			
1-3/8	LBB 06-13	LBB 07-13	LBB 08-13	LBB 10-13	LBB 12-13	LBB 16-13	LBB 20-13	
1-7/8	LBB 06-17	LBB 07-17	LBB 08-17	LBB 10-17	LBB 12-17	LBB 16-17	LBB 20-17	
2-3/8	LBB 06-23	LBB 07-23	LBB 08-23	LBB 10-23	LBB 12-23	LBB 16-23	LBB 20-23	
2-7/8	LBB 06-27	LBB 07-27	LBB 08-27	LBB 10-27	LBB 12-27	LBB 16-27	LBB 20-27	
3-3/8	LBB 06-33	LBB 07-33	LBB 08-33	LBB 10-33	LBB 12-33	LBB 16-33	LBB 20-33	
3-7/8	LBB 06-37	LBB 07-37	LBB 08-37	LBB 10-37	LBB 12-37	LBB 16-37	LBB 20-37	LBB 24-37
4-3/8	LBB 06-43	LBB 07-43	LBB 08-43	LBB 10-43	LBB 12-43	LBB 16-43	LBB 20-43	
4-7/8	LBB 06-47	LBB 07-47	LBB 08-47	LBB 10-47	LBB 12-47	LBB 16-47	LBB 20-47	LBB 24-47
5-7/8	LBB 06-57	LBB 07-57	LBB 08-57	LBB 10-57	LBB 12-57	LBB 16-57	LBB 20-37	LBB 24-57
7-7/8								LBB 24-77

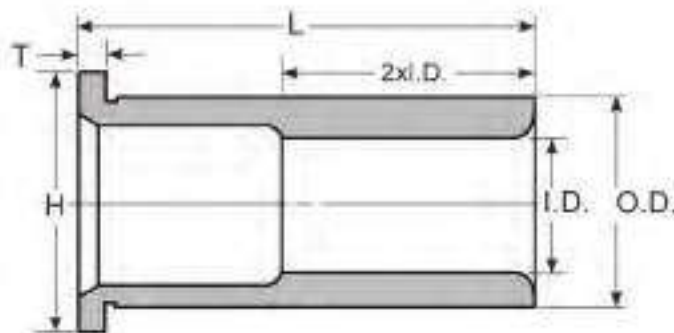
Shoulder Bushings - Hardened & Precision Ground

- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Case-Hardened



PCS Shoulder Bushings are hardened and precision ground. Nominal diameters ranging from 3/4" to 3" are available. PCS Shoulder Bushings reduce friction on leader pins and are press-fit into place.

SPECIFICATIONS				
NOMINAL I.D.	I.D. +.0005 / - .0000	O.D. +.0005 / - .0000	H MAX	T +.000 / - .005
3/4	0.7505	1.1255	1.1255	0.187
7/8	0.8755	1.2505	1.1.375	0.187
1	1.0005	1.3755	1.500	0.187
1-1/4	1.2505	1.6255	1.750	0.187
1-1/2	1.5005	2.0005	2.125	0.187
2	2.0005	2.5005	2.625	0.187
2-1/2	2.5005	3.2505	3.375	0.187
3	3.0005	3.7505	3.937	0.500



Standard: Inch
Material: 4130
Hardness: 58 - 62 Rc

L LENGTH -.030 / - .060	CATALOG NO.							
	I.D. = 3/4"	I.D. = 7/8"	I.D. = 1"	I.D. = 1-1/4"	I.D. = 1-1/2"	I.D. = 2"	I.D. = 2-1/2"	I.D. = 3"
7/8	BU-100	BU-200	BU-300	BU-400	BU-500			
1-3/8	BU-101	BU-201	BU-301	BU-401	BU-501	BU-601	BU-701	
1-7/8	BU-102	BU-202	BU-302	BU-402	BU-502	BU-602	BU-702	
2-3/8	BU-103	BU-203	BU-303	BU-403	BU-503	BU-603	BU-703	
2-7/8	BU-104	BU-204	BU-304	BU-404	BU-504	BU-604	BU-704	
3-3/8	BU-105	BU-205	BU-305	BU-405	BU-505	BU-605	BU-705	
3-7/8	BU-106	BU-206	BU-306	BU-406	BU-506	BU-606	BU-706	BU-806
4-3/8			BU-307	BU-407	BU-507	BU-607	BU-707	
4-7/8		BU-208	BU-308	BU-408	BU-508	BU-608	BU-708	BU-808
5-7/8		BU-209	BU-309	BU-409	BU-509	BU-609	BU-709	BU-809
7-7/8								BU-811

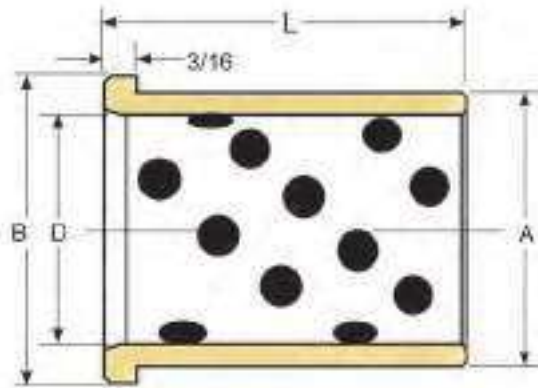
Shoulder Bushings- Self-Lubricating



- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Perfect for mold alignment
- Solid bronze with graphite plugs

PCS Self-Lubricating Shoulder Bushings are solid bronze with graphite plugs. Nominal diameters ranging from 3/4" to 3" are available. PCS Self-Lubricating Shoulder Bushings reduce friction on leader pins and are press-fit into place. These bushings do not require grease which makes them great for food-grade, medical and high-speed applications.

SPECIFICATIONS	
A O.D. Tolerance	+ .0005 - .0000
B Head Diameter Tolerance	+ 0 / - .010
D I.D. Tolerance	+ .0005 / - .0000
Head Thickness Tolerance	+ 0 / - .010
L Overall Length Tolerance	+ .000 / - .060



Standard: Inch

Material: AMPCO 18 Bronze with graphite plugs

Hardness: 92 Brinell Typical

CATALOG NO.	NOMINAL I.D.	D	A	B	L				
S750-7G	3/4	.7505	1.1255	1.30	7/8				
S750-11G					1-3/8				
S750-15G					1-7/8				
S750-19G					2-3/8				
S750-23G					2-7/8				
S750-27G					3-3/8				
S750-31G					3-7/8				
S750-35G					4-3/8				
S750-39G					4-7/8				
S875-7G					7/8	.8755	1.2505	1.43	7/8
S875-11G									1-3/8
S875-15G									1-7/8
S875-19G	2-3/8								
S875-23G	2-7/8								
S875-27G	3-3/8								
S875-31G	3-7/8								
S875-35G	4-3/8								

CATALOG NO.	NOMINAL I.D.	D	A	B	L
S1000-7G	1	1.0005	1.3755	1.55	7/8
S1000-11G					1-3/8
S1000-15G					1-7/8
S1000-19G					2-3/8
S1000-23G					2-7/8
S1000-27G					3-3/8
S1000-31G					3-7/8
S1000-35G					4-3/8
S1000-39G					4-7/8
S1000-47G					5-7/8

Continued on next page

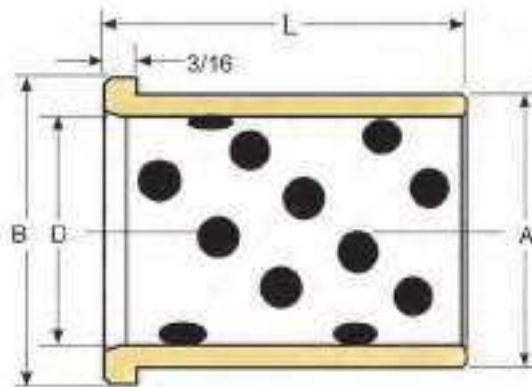
Shoulder Bushings- Self-Lubricating

- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Perfect for mold alignment
- Solid bronze with graphite plugs



PCS Self-Lubricating Shoulder Bushings are solid bronze with graphite plugs. Nominal diameters ranging from 3/4" to 3" are available. PCS Self-Lubricating Shoulder Bushings reduce friction on leader pins and are press-fit into place. These bushings do not require grease which makes them great for food-grade, medical and high-speed applications.

SPECIFICATIONS	
A O.D. Tolerance	+0.0005 -0.0000
B Head Diameter Tolerance	+ 0 / - .010
D I.D. Tolerance	+0.0005 / -0.0000
Head Thickness Tolerance	+ 0 / -0.010
L Overall Length Tolerance	+0.000 / -0.060



Standard: Inch
Material: AMPCO 18 Bronze with graphite plugs
Hardness: 92 Brinell Typical

CATALOG NO.	NOMINAL I.D.	D	A	B	L
S1250-7G	1-1/4	1.2505	1.6255	1.80	7/8
S1250-11G					1-3/8
S1250-15G					1-7/8
S1250-19G					2-3/8
S1250-23G					2-7/8
S1250-27G					3-3/8
S1250-31G					3-7/8
S1250-35G					4-3/8
S1250-39G					4-7/8
S1250-47G					5-7/8

CATALOG NO.	NOMINAL I.D.	D	A	B	L
S1500-7G	1-1/2	1.5005	2.0005	2.18	7/8
S1500-11G					1-3/8
S1500-15G					1-7/8
S1500-19G					2-3/8
S1500-23G					2-7/8
S1500-27G					3-3/8
S1500-31G					3-7/8
S1500-35G					4-3/8
S1500-39G					4-7/8
S1500-47G					5-7/8

Continued on next page

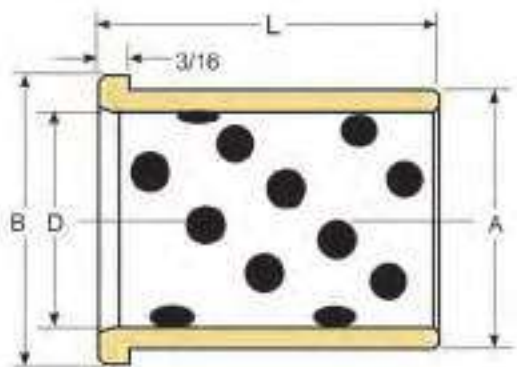
Shoulder Bushings- Self-Lubricating



- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Perfect for mold alignment
- Solid bronze with graphite plugs

PCS Self-Lubricating Shoulder Bushings are solid bronze with graphite plugs. Nominal diameters ranging from 3/4" to 3" are available. PCS Self-Lubricating Shoulder Bushings reduce friction on leader pins and are press-fit into place. These bushings do not require grease which makes them great for food-grade, medical and high-speed applications.

SPECIFICATIONS	
A O.D. Tolerance	+0.0005 / -.0000
B Head Diameter Tolerance	+ 0 / -.010
D I.D. Tolerance	+0.0005 / -.0000
Head Thickness Tolerance	+ 0 / -.010
L Overall Length Tolerance	+0.000 / -.060



Standard: Inch

Material: AMPCO 18 Bronze with graphite plugs

Hardness: 92 Brinell Typical

CATALOG NO.	NOMINAL I.D.	D	A	B	L
S2000-11G	2	2.0005	2.5005	2.68	1-3/8
S2000-15G					1-7/8
S2000-19G					2-3/8
S2000-23G					2-7/8
S2000-27G					3-3/8
S2000-31G					3-7/8
S2000-35G					4-3/8
S2000-39G					4-7/8
S2000-47G					5-7/8

CATALOG NO.	NOMINAL I.D.	D	A	B	L
S2500-11G	2-1/2	2.5005	3.2505	3.43	1-3/8
S2500-15G					1-7/8
S2500-19G					2-3/8
S2500-23G					2-7/8
S2500-27G					3-3/8
S2500-31G					3-7/8
S2500-35G					4-3/8
S2500-39G					4-7/8
S2500-47G					5-7/8
S3000-27G					3
S3000-31G	3-7/8				
S3000-39G	4-7/8				
S3000-47G	5-7/8				

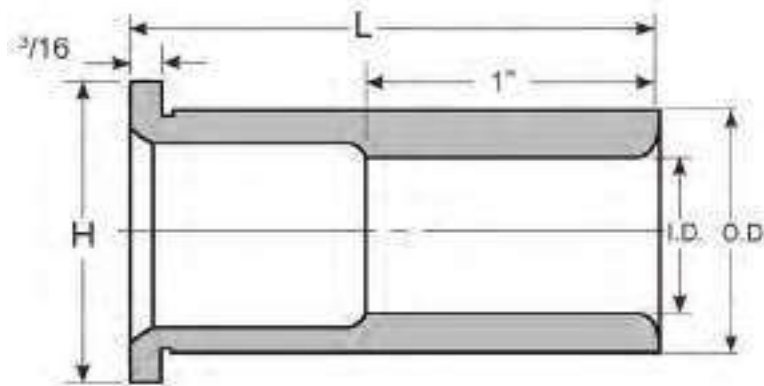
Shoulder Bushings - Small Mold Assemblies

- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Perfect for mold alignment

PCS Shoulder Bushings for Small Mold Assemblies are case-hardened. Lengths ranging from 7/8" and 2-3/8" are available with a 1/2" nominal diameter. PCS Shoulder Bushings reduce friction on leader pins and are press-fit into place.



SPECIFICATIONS			
NOMINAL I.D.	I.D. +.0005 / - .0000	O.D. +.0005 / - .0000	H MAX
1/2"	0.500	0.7505	.853



Standard: Inch
Material: 4130
Hardness: 58 - 60 Rc

CATALOG NO.	L OVERALL LENGTH
A-5690	7/8
A-5691	1-3/8
A-5692	1-7/8
A-5693	2-3/8

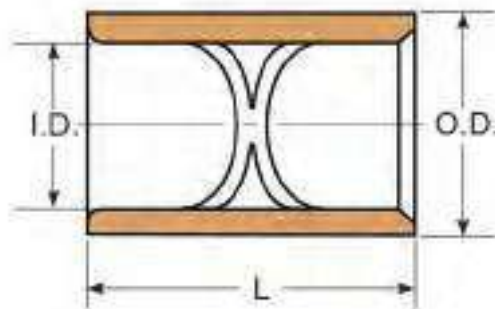
Straight Bushings - Bronze Plated



- Bushings are stocked to dimensions & tolerances shown
- Precision Ground
- Perfect for mold alignment
- Contains internal grease grooves
- Bronze Plated Steel
- For use with leader pins
- Reduce friction

PCS Bronze-Plated Straight Bushings are precision ground. Nominal diameters ranging from 3/4" to 2-1/2" are available. PCS Bronze-Plated Straight Bushings reduce friction on leader pins and are press-fit into place. Included internal grease grooves help prevent galling which aids in a smooth operation.

SPECIFICATIONS	
I.D. Tolerance	+0.0005 / -0.0000
O.D. Tolerance	+0.0005 / -0.0000
L Overall Length Tolerance	-.030 / -.060



Standard: Inch
Material: Bronze Plated Steel
Hardness: 180 Brinell

CATALOG NO.	NOMINAL I.D.	I.D.	O.D.	L OVERALL LENGTH
STB 06-07	3/4	.7505	1.1255	7/8
STB 06-13	3/4	.7505	1.1255	1-3/8
STB 07-13	7/8	.8755	1.2505	1-3/8
STB 08-13	1	1.0005	1.3755	1-3/8
STB 10-13	1-1/4	1.2505	1.6255	1-3/8
STB 10-17	1-1/4	1.2505	1.6255	1-7/8
STB 12-13	1-1/2	1.5005	2.0005	1-3/8
STB 12-17	1-1/2	1.5005	2.0005	1-7/8
STB 16-37	2	2.0005	2.5005	3-7/8
STB 20-47	2-1/2	2.5005	3.2505	4-7/8
STB 24-47	3	3.0005	3.7505	4-7/8

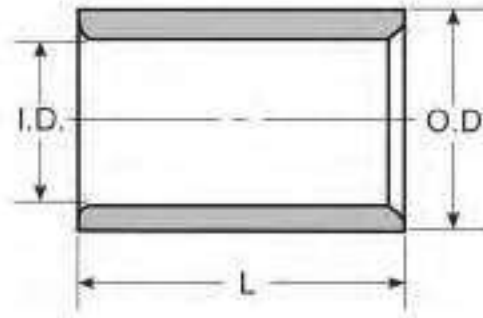
Straight Bushings - Hardened & Precision Ground

- Bushings are stocked to dimensions & tolerances shown
- Case-Hardened
- Perfect for mold alignment
- Press-fit installation
- For use with leader pins
- Reduce friction

PCS Straight Bushings are hardened and precision ground. Nominal diameters ranging from 3/4" to 2-1/2" are available. PCS Straight Bushings reduce friction on leader pins and are press-fit into place.



SPECIFICATIONS	
I.D. Tolerance	+.0005 / -.0000
O.D. Tolerance	+.0005 / -.0000
L Overall Length Tolerance	-.030 / -.060



Standard: Inch
Material: 4130
Hardness: 58 - 62 Rc

CATALOG NO.	NOMINAL I.D.	I.D.	O.D.	L OVERALL LENGTH
ST-100	3/4	0.7505	1.1255	7/8
ST-101	3/4	0.7505	1.1255	1-3/8
ST-200	7/8	0.8755	1.2505	1-3/8
ST-300	1	1.0005	1.3755	1-3/8
ST-400	1-1/4	1.2505	1.6255	1-3/8
ST-401	1-1/4	1.2505	1.6255	1-7/8
ST-500	1-1/2	1.5005	2.0005	1-3/8
ST-501	1-1/2	1.5005	2.0005	1-7/8
ST-600	2	2.0005	2.5005	3-7/8
ST-700	2-1/2	2.5005	3.2505	4-7/8

Straight Bushings - Self-Lubricating

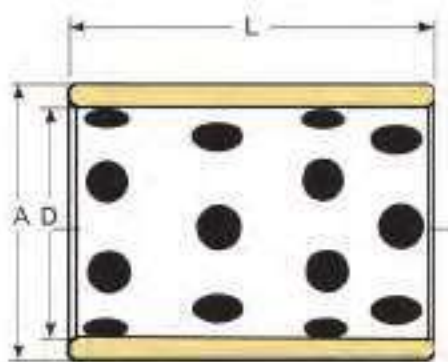
- Bushings are stocked to dimensions & tolerances shown
- Solid bronze with graphite plugs
- Perfect for mold alignment
- Greaseless application
- For use with leader pins



PCS Self-Lubricating Straight Bushings are solid bronze with graphite plugs. Nominal diameters ranging from 3/4" to 3" are available. PCS Self-Lubricating Straight Bushings reduce friction on leader pins and are press-fit into place. These bushings do not require grease which makes them great for food-grade, medical and high-speed applications.

SPECIFICATIONS

D I.D. Tolerance	+ .0005 / - .0000
A O.D. Tolerance	+ .0005 / - .0000
L Overall Length Tolerance	+ .000 / - .060



Standard: Inch

Material: AMPCO 18 Bronze with graphite plugs

Hardness: 92 Brinell Typical

CATALOG NO.	NOMINAL I.D.	D	A	L			
MS750-7	3/4	.7505	1.1255	7/8			
MS750-11				1-3/8			
MS750-12				1-1/2			
MS875-10	7/8	.8755	1.2505	1-1/4			
MS875-12				1-1/2			
MS100-10	1	1.0005	1.3755	1-1/4			
MS100-11				1-3/8			
MS100-12				1-1/2			
MS100-14				1-3/4			
MS100-16				2			
MS100-24				3			
MS125-10				1-1/4	1.2505	1.6255	1-1/4
MS125-11							1-3/8
MS125-12	1-1/2						
MS125-14	1-3/4						
MS125-15	1-7/8						
MS125-16	2						
MS125-24	3						

CATALOG NO.	NOMINAL I.D.	D	A	L
MS150-10	1-1/2	1.5005	2.0005	1-1/4
MS150-11				1-3/8
MS150-12				1-1/2
MS150-14				1-3/4
MS150-15				1-7/8
MS150-16				2
MS150-24				3
MS175-10				1-3/4
MS175-12	1-1/2			
MS175-14	1-3/4			
MS175-16	2			
MS175-20	2-1/2			
MS175-24	3			
MS175-28	3-1/2			
MS175-32	4			

Continued on next page

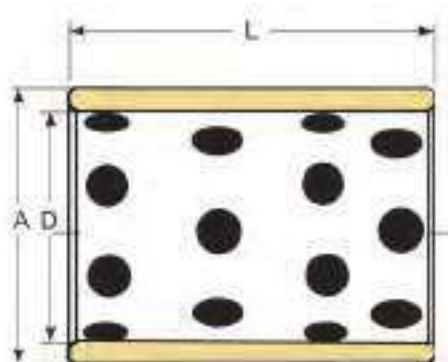
Straight Bushings - Self-Lubricating

- Bushings are stocked to dimensions & tolerances shown
- Solid bronze with graphite plugs
- Perfect for mold alignment
- Greaseless application
- For use with leader pins

PCS Self-Lubricating Straight Bushings are solid bronze with graphite plugs. Nominal diameters ranging from 3/4" to 3" are available. PCS Self-Lubricating Straight Bushings reduce friction on leader pins and are press-fit into place. These bushings do not require grease which makes them great for food-grade, medical and high-speed applications.



SPECIFICATIONS	
D I.D. Tolerance	+0.0005 / -0.0000
A O.D. Tolerance	+0.0005 / -0.0000
L Overall Length Tolerance	+0.000 / -0.060



Standard: Inch

Material: AMPCO 18 Bronze with graphite plugs

Hardness: 92 Brinell Typical

CATALOG NO.	NOMINAL I.D.	D	A	L
MS200-10	2	2.005	2.5005	1-1/4
MS200-12				1-1/2
MS200-16				2
MS200-20				2-1/2
MS200-24				3
MS200-31				3-7/8
MS225-12				2-1/4
MS225-16	2			
MS225-20	2-1/2			
MS225-24	3			
MS250-12	2-1/2	2.5005	3.2505	1-1/2
MS250-16				2
MS250-24				3
MS250-39				4-7/8

CATALOG NO.	NOMINAL I.D.	D	A	L
MS300-16	3	3.0005	3.7505	2
MS300-20				2-1/2
MS300-24				3
MS300-28				3-1/2
MS300-39				4-7/8

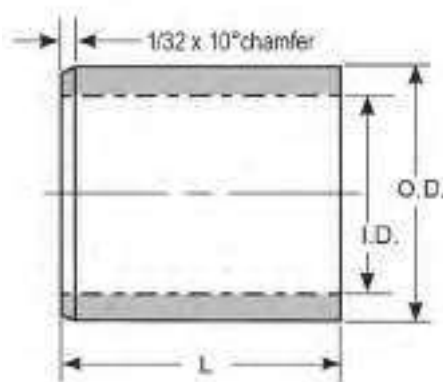
Straight Bushings - Small Mold Assemblies

- Bushings are stocked to dimensions & tolerances shown
- Case-Hardened
- Perfect for mold alignment
- Press-fit installation
- For use with leader pins



PCS Straight Bushings for Small Mold Assemblies are case-hardened. Lengths of 7/8" and 1-3/8" are available with a 1/2" nominal diameter. PCS Straight Bushings reduce friction on leader pins and are press-fit into place.

SPECIFICATIONS	
I.D. Tolerance	+0.0005 / -.0000
O.D. Tolerance	+0.0005 / -.0000
L Overall Length Tolerance	+0.000 / -.060



Standard: Inch

Material: 4130

Hardness: 58 - 62 Rc

CATALOG NO.	L OVERALL LENGTH
I.D.= 1/2	
A-5498	7/8
A-5499	1-3/8

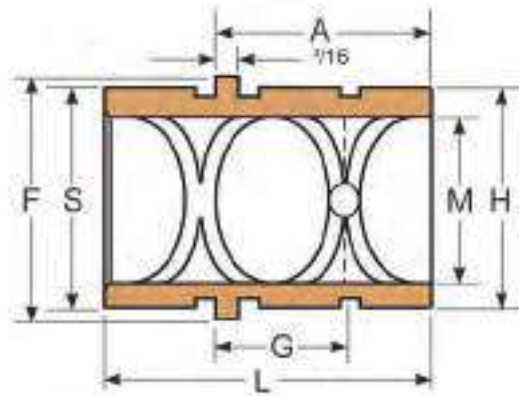
Guided Ejector Bushings - Solid Bronze

- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Keeps ejector assembly aligned
- Extends the life of ejection components
- Contains internal grease grooves
- Designed for Counterbore plates & Ejector Retainer plates

PCS Solid Bronze Guided Ejector Bushings are available in nominal diameters ranging from 1/2" to 2". Included internal grease grooves help prevent galling which aids in a smooth operation.



SPECIFICATIONS	
M I.D. Tolerance	+0.0005 / -0.0000
H Press Fit O.D. Tolerance	+0.0005 / -0.0000
L Overall Length Tolerance	+0.000 / -0.062
F Rib O.D. Tolerance	+0.000 / -0.010
S Slip Fit O.D. Tolerance	+0.000 / -0.001
A Ejector Plate Length Tolerance	+0.000 / -0.030
T Rib Thickness	3/16



Standard: Inch

Material: AMPCO 18 Bronze

Hardness: 92 Brinell Typical

CATALOG NO.	M I.D.	H PRESS FIT O.D.	L OVERALL LENGTH	F RIB O.D.	S SLIP FIT O.D.	A EJECTOR PLATE LENGTH	G LUBE HOLE LOCATION
BGEB-100	1.001	1.3755	1.75	1.552	1.374	1.12	.62
BGEB-125	1.251	1.6255	1.75	1.802	1.624	1.12	.62
BGEB-500	.501	.7505	1.50	.853	.749	1.00	.56
BGEB-750	.751	1.1255	1.50	1.302	1.124	1.00	.56
BGEB-875	.876	1.2505	1.50	1.427	1.249	1.00	.56

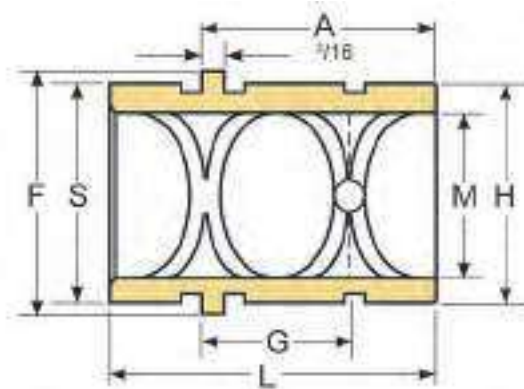
Guided Ejector Bushings - Solid Bronze - Flange



- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Keeps ejector assembly aligned
- Extends the life of ejection components
- Contains internal grease grooves
- Designed for Counterbore plates & Ejector Retainer plates

PCS Solid Bronze Guided Ejector Bushings are available in nominal diameters ranging from 3/4" to 1-1/4". Included internal grease grooves help prevent galling which aids in a smooth operation. The redesigned flange saves machining time.

SPECIFICATIONS	
M I.D. Tolerance	+0.0005 / -0.0000
H Press Fit O.D. Tolerance	+0.0005 / -0.0000
L Overall Length Tolerance	+0.000 / -0.062
F Rib O.D. Tolerance	+0.000 / -0.010
S Slip Fit O.D. Tolerance	+0.000 / -0.001
A Ejector Plate Length Tolerance	+0.000 / -0.030
T Rib Thickness	3/16
T Rib Thickness Tolerance	+/- .010



Standard: Inch

Material: AMPCO 18 Bronze

Hardness: 92 Brinell Typical

CATALOG NO.	M I.D.	H PRESS FIT O.D.	L OVERALL LENGTH	F RIB O.D.	S SLIP FIT O.D.	A EJECTOR PLATE LENGTH	G LUBE HOLE LOCATION
RGEB-750	.751	1.1255	1.50	1.302	1.124	1.187	.747
RGEB-875	.876	1.2505	1.50	1.427	1.249	1.187	.747
RGEB-100	1.001	1.3755	1.75	1.552	1.374	1.312	.807
RGEB-125	1.251	1.6255	1.75	1.802	1.624	1.312	.807

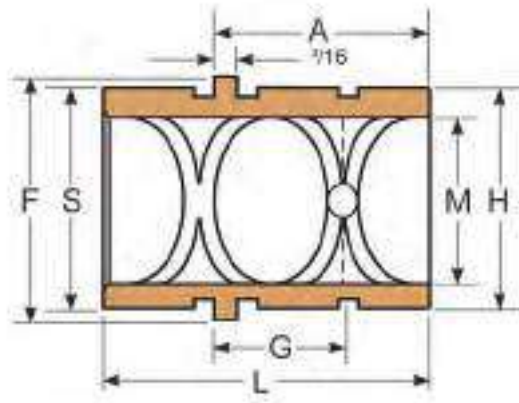
Guided Ejector Bushings - Bronze Plated

- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Keeps ejector assembly aligned
- Extends the life of ejection components
- Contains internal grease grooves

PCS Bronze Plated Guided Ejector Bushings are available in nominal diameters ranging from 1/2" to 2". Included internal grease grooves help prevent galling which aids in a smooth operation.



SPECIFICATIONS	
M I.D. Tolerance	+0.0005 / -0.0000
H Press Fit O.D. Tolerance	+0.0005 / -0.0000
L Overall Length Tolerance	+0.000 / -0.062
F Rib O.D. Tolerance	+0.000 / -0.010
S Slip Fit O.D. Tolerance	+0.000 / -0.001
A Ejector Plate Length Tolerance	+0.000 / -0.030
T Rib Thickness	3/16



Standard: Inch
Material: Bronze Plated Steel
Hardness: 180 Brinell

CATALOG NO.	M I.D.	H PRESS FIT O.D.	L OVERALL LENGTH	F RIB O.D.	S SLIP FIT O.D.	A EJECTOR PLATE LENGTH	G LUBE HOLE LOCATION
GEB-100	1.001	1.3755	1.75	1.552	1.374	1.12	.62
GEB-125	1.251	1.6255	1.75	1.802	1.624	1.12	.62
GEB-150	1.501	2.0005	1.75	2.177	1.999	1.12	.62
GEB-200	2.001	2.5005	2.25	2.687	2.499	1.62	.80
GEB-750	.751	1.1255	1.50	1.302	1.124	1.00	.56
GEB-875	.876	1.2505	1.50	1.427	1.249	1.00	.56

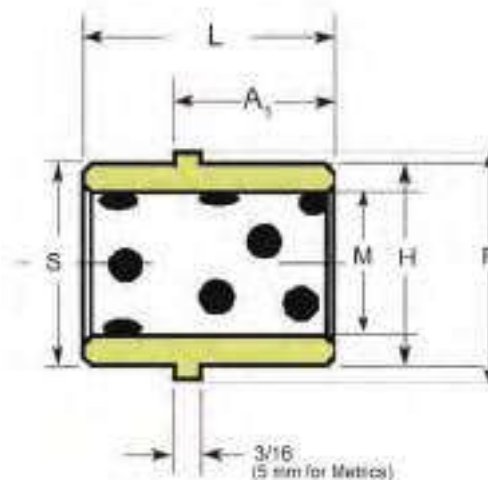
Guided Ejector Bushings - Self-Lubricating

- Bushings are stocked to dimensions & tolerances shown
- Eliminates galling to leader pins
- Keeps ejector assembly aligned
- Extends the life of ejection components



PCS Bronze Self Lubricating Guided Ejector Bushings are available in nominal diameters ranging from 3/4" to 2". The self-lubricating graphite plugs eliminate the need for grease which makes these bushings perfect for food grade, medical and high speed applications.

SPECIFICATIONS	
M I.D. Tolerance	+ .0005 / - .0000
H Press Fit O.D. Tolerance	+ .0005 / - .0000
S Slip Fit O.D. Tolerance	+ .000 / - .001
F Shoulder O.D. Tolerance	+ .010 / - .010
A Ejector Plate Length Tolerance	+ .00 / - .03
L Overall Length Tolerance	+ .00 / - .03
T Rib Thickness	3/16
T Rib Thickness Tolerance	+ .010 / - .010



Standard: Inch

Material: AMPCO 18 Bronze with graphite plugs

Hardness: 92 Brinell Typical

CATALOG NO.	NOMINAL I.D.	M I.D.	H PRESS FIT O.D.	S SLIP FIT O.D.	F RIB O.D.	A EJECTOR PLATE LENGTH	L OVERALL LENGTH
ME-750	3/4	.751	1.1255	1.124	1.302	1	1-1/2
ME-875	7/8	.876	1.2505	1.249	1.427	1	1-1/2
ME-1000	1	1.001	1.3755	1.374	1.552	1-1/8	1-3/4
ME-1000L	1	1.001	1.3755	1.374	1.552	1-5/8	2
ME-1250	1-1/4	1.251	1.6255	1.624	1.802	1-1/8	1-3/4
ME-1250L	1-1/4	1.251	1.6255	1.624	1.802	1-7/8	2-1/2
ME-1500	1-1/2	1.501	2.0005	1.999	2.177	1-1/8	1-3/4
ME-1500L	1-1/2	1.501	2.0005	1.999	2.177	1-7/8	2-1/2
ME-2000	2	2.001	2.5005	2.499	2.687	1-5/8	2-1/4

Die Bushings - Solid Bronze, Grind Stock

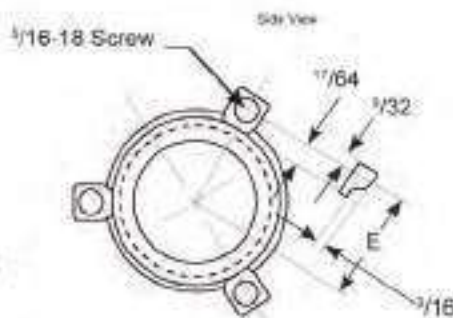
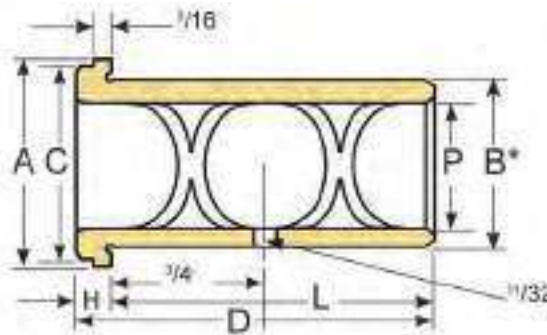
- Supplied with +.015 grind stock
- D-clamps & D-screws are included
- Plating thickness .004 - .005 per side

PCS Solid Bronze Die Bushings are precision ground. Nominal diameters ranging from 3/4" to 4-1/2" are available. Included internal grease grooves help prevent galling which aids in a smooth operation. D-Clamps and D-Screws are included with each bushing.



SPECIFICATIONS	
B Press Fit O.D. Tolerance	-.0002 / -.0005
D Overall Length Tolerance	+.000 / -.010
H Head Thickness Tolerance	+.000 / -.010
Shoulder Width	3/16

I.D. TOLERANCES	
3/4 to 1-1/2	+.0006 +.0010 +.0007
1-3/4 & 2	+.0012 +.0012 +.0018 +.0014
2-1/2	+.0023 +.0018 +.0028 +.0025 +.0035
3	
3-3/4	
4-1/2	



* Bushings 2-1/2" dia. & larger have 1-1/4" dimension

Standard: Inch

Material: AMPCO 18 Bronze

Hardness: 92 Brinell Typical

CATALOG NO.	P I.D.	A HEAD DIAMETER	C RIB O.D.	B PRESS FIT O.D.	D OVERALL LENGTH	H HEAD THICKNESS	L WRING FIT LENGTH	# OF CLAMPS & SCREWS	E CLAMP SCREW RADIUS OFF CENTERLINE
SC-750-SB	3/4	1-5/16	1-1/8	1.125	1-9/16	1/2	1-1/16	2	55/64
SC-750-LB	3/4	1-5/16	1-1/8	1.125	2-5/16	1/2	1-13/16	2	55/64
SC-875-SB	7/8	1-9/16	1-3/8	1.375	1-9/16	1/2	1-1/16	2	63/64
SC-100-SB	1	1-3/4	1-9/16	1.5	1-7/8	1/2	1-3/8	3	1-5/64
SC-100-LB	1	1-3/4	1-9/16	1.5	2-7/8	1/2	2-3/8	3	1-5/64
SC-125-SB	1-1/4	2-1/8	1-15/16	1.75	2-3/8	1/2	1-7/8	3	1-17/64
SC-125-LB	1-1/4	2-1/8	1-15/16	1.75	3-3/8	1/2	2-7/8	3	1-17/64
SC-150-SB	1-1/2	2-3/8	2-3/16	2	2-3/8	1/2	1-7/8	3	1-25/64
SC-150-LB	1-1/2	2-3/8	2-3/16	2	3-3/8	1/2	2-7/8	3	1-25/64
SC-175-SB	1-3/4	2-5/8	2-7/16	2.25	2-7/8	1/2	2-3/8	3	1-33/64
SC-175-LB	1-3/4	2-5/8	2-7/16	2.25	3-7/8	1/2	3-3/8	3	1-33/64
SC-200-SB	2	2-15/16	2-3/4	2.5	2-7/8	1/2	2-3/8	4	1-43/64
SC-200-LB	2	2-15/16	2-3/4	2.5	3-7/8	1/2	3-3/8	4	1-43/64
SC-250-SB	2-1/2	3-3/8	3-3/16	3	3	3/8	2-5/8	4	1-57/64

Continued on next page

Die Bushings - Solid Bronze, Grind Stock

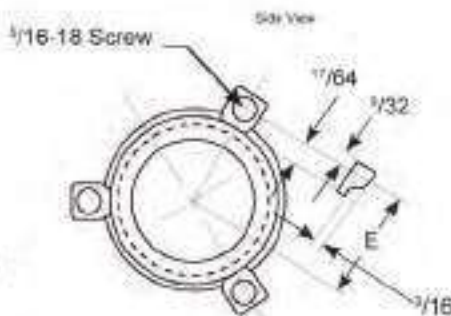
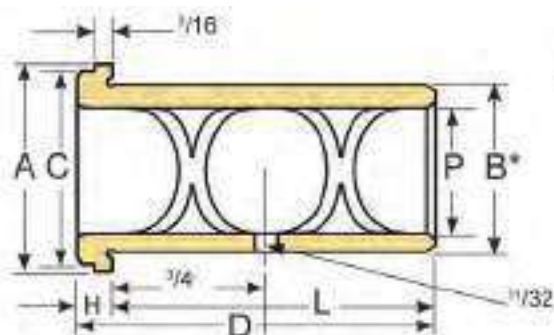
- Supplied with +.015 grind stock
- D-clamps & D-screws are included
- Plating thickness .004 - .005 per side



PCS Solid Bronze Die Bushings are precision ground. Nominal diameters ranging from 3/4" to 4-1/2" are available. Included internal grease grooves help prevent galling which aids in a smooth operation. D-Clamps and D-Screws are included with each bushing.

SPECIFICATIONS

B Press Fit O.D. Tolerance	-0.0002 / -0.0005
D Overall Length Tolerance	+0.000 / -0.010
H Head Thickness Tolerance	+0.000 / -0.010
Shoulder Width	3/16



* Bushings 2-1/2" dia. & larger have 1-1/4" dimension

I.D. TOLERANCES

3/4 to 1-1/2	+0.0006 +0.0010
1-3/4 & 2	+0.0007 +0.0012
2-1/2	+0.0012 +0.0018
3	+0.0014 +0.0023
3-3/4	+0.0018 +0.0028
4-1/2	+0.0025 +0.0035

Standard: Inch

Material: AMPCO 18 Bronze

Hardness: 92 Brinell Typical

CATALOG NO.	P I.D.	A HEAD DIAMETER	C RIB O.D.	B PRESS FIT O.D.	D OVERALL LENGTH	H HEAD THICKNESS	L WRING FIT LENGTH	# OF CLAMPS & SCREWS	E CLAMP SCREW RADIUS OFF CENTERLINE
SC-250-MB	2-1/2	3-3/8	3-3/16	3	4	3/8	3-5/8	4	1-57/64
SC-250-LB	2-1/2	3-3/8	3-3/16	3	5	3/8	4-5/8	4	1-57/64
SC-300-SB	3	3-7/8	3-11/16	3.5	4	3/8	3-5/8	6	2-9/64
SC-300-MB	3	3-7/8	3-11/16	3.5	5	3/8	4-5/8	6	2-9/64
SC-300-LB	3	3-7/8	3-11/16	3.5	6	3/8	5-5/8	6	2-9/64
SC-375-B	3-3/4	4-7/8	4-11/16	4.5	7	3/8	6-5/8	6	2-41/64
SC-450-B	4-1/2	5-7/8	5-11/16	5.5	8	3/8	7-5/8	6	3-9/64

Die Bushings - Solid Bronze, Finish Ground

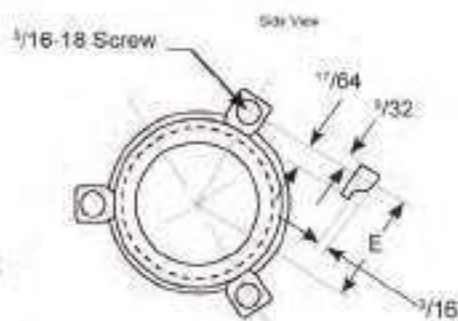
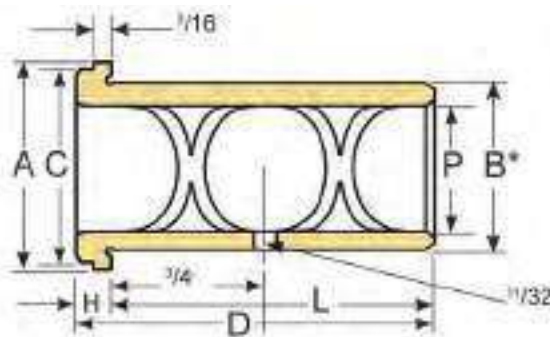
- D-clamps & D-screws are included
- Plating thickness .004 - .005 per side

PCS Solid Bronze Die Bushings are precision ground. Nominal diameters ranging from 3/4" to 4-1/2" are available. Included internal grease grooves help prevent galling which aids in a smooth operation. D-Clamps and D-Screws are included with each bushing.



SPECIFICATIONS	
B Press Fit O.D. Tolerance	-.0002 / -.0005
D Overall Length Tolerance	+.000 / -.010
H Head Thickness Tolerance	+.000 / -.010
Shoulder Width	3/16

I.D. TOLERANCES	
3/4 to 1-1/2	+0.0006 +0.0010
1-3/4 & 2	+0.0007 +0.0012
2-1/2	+0.0012 +0.0018
3	+0.0014 +0.0023
3-3/4	+0.0018 +0.0028
4-1/2	+0.0025 +0.0035



* Bushings 2-1/2" dia. & larger have 1-1/4" dimension

Standard: Inch

Material: AMPCO 18 Bronze

Hardness: 92 Brinell Typical

CATALOG NO.	P I.D.	A HEAD DIAMETER	C RIB O.D.	B PRESS FIT O.D.	D OVERALL LENGTH	H HEAD THICKNESS	L WRING FIT LENGTH	# OF CLAMPS & SCREWS	E CLAMP SCREW RADIUS OFF CENTERLINE
GSC-750-SB	3/4	1-5/16	1-1/8	1.125	1-9/16	1/2	1-1/16	2	55/64
GSC-750-LB	3/4	1-5/16	1-1/8	1.125	2-5/16	1/2	1-13/16	2	55/64
GSC-875-SB	7/8	1-9/16	1-3/8	1.375	1-9/16	1/2	1-1/16	2	63/64
GSC-100-SB	1	1-3/4	1-9/16	1.5	1-7/8	1/2	1-3/8	3	1-5/64
GSC-100-LB	1	1-3/4	1-9/16	1.5	2-7/8	1/2	2-3/8	3	1-5/64
GSC-125-SB	1-1/4	2-1/8	1-15/16	1.75	2-3/8	1/2	1-7/8	3	1-17/64
GSC-125-LB	1-1/4	2-1/8	1-15/16	1.75	3-3/8	1/2	2-7/8	3	1-17/64
GSC-150-SB	1-1/2	2-3/8	2-3/16	2	2-3/8	1/2	1-7/8	3	1-25/34
GSC-150-LB	1-1/2	2-3/8	2-3/16	2	3-3/8	1/2	2-7/8	3	1-25/34
GSC-200-SB	2	2-15/16	2-3/4	2.5	2-7/8	1/2	2-3/8	4	1-43/64
GSC-200-LB	2	2-15/16	2-3/4	2.5	3-7/8	1/2	3-3/8	4	1-43/64
GSC-250-SB	2-1/2	3-3/8	3-3/16	3	3	3/8	2-5/8	4	1-57/64
GSC-250-MB	2-1/2	3-3/8	3-3/16	3	4	3/8	3-5/8	4	1-57/64
GSC-250-LB	2-1/2	3-3/8	3-3/16	3	5	3/8	4-5/8	4	1-57/64
GSC-300-SB	3	3-7/8	3-11/16	3.5	3	3/8	2-5/8	6	2-9/64
GSC-300-MB	3	3-7/8	3-11/16	3.5	4	3/8	3-5/8	6	2-9/64
GSC-375-B	3-3/4	4-7/8	4-11/16	4.5	7	3/8	6-5/8	6	2-41/64

Die Bushings - Bronze Plated, Grind Stock

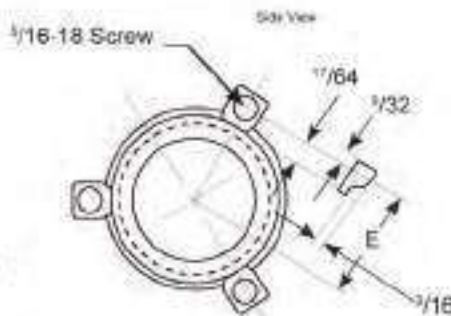
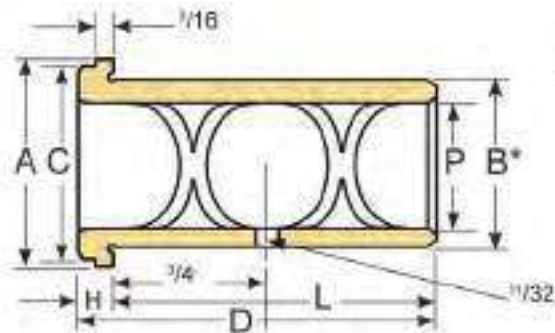
- Supplied with +.015 grind stock
- D-clamps & D-screws are included
- Plating thickness .004 - .005 per side



PCS Bronze Plated Die Bushings are centrifugally cast and precision ground. Nominal diameters ranging from 3/4" to 4-1/2" are available. Included internal grease grooves help prevent galling which aids in a smooth operation. D-Clamps and D-Screws are included with each bushing.

SPECIFICATIONS

B Press Fit O.D. Tolerance	-0.002 / -0.005
D Overall Length Tolerance	+0.000 / -0.010
H Head Thickness Tolerance	+0.000 / -0.010
Plating Thickness/ per side	0.004 - 0.005
Shoulder Width	3/16



I.D. TOLERANCES

3/4 to 1-1/2	+0.006 +0.010
1-3/4 & 2	+0.007 +0.012
2-1/2	+0.012 +0.018
3	+0.014 +0.023
3-3/4	+0.018 +0.028
4-1/2	+0.025 +0.035

* Bushings 2-1/2" dia. & larger have 1-1/4" dimension

Standard: Inch

Material: Bronze Plated Steel

Hardness: 180 Brinell

CATALOG NO.	P I.D.	A HEAD DIAMETER	C RIB O.D.	B PRESS FIT O.D.	D OVERALL LENGTH	H HEAD THICKNESS	L WRING FIT LENGTH	# OF CLAMPS & SCREWS	E CLAMP SCREW RADIUS OFF CENTERLINE
SC-750-S	3/4	1-5/16	1-1/8	1.125	1-9/16	1/2	1-1/16	2	55/64
SC-750-L	3/4	1-5/16	1-1/8	1.125	2-5/16	1/2	1-13/16	2	55/64
SC-875-S	7/8	1-9/16	1-3/8	1.375	1-9/16	1/2	1-1/16	2	63/64
SC-875-L	7/8	1-9/16	1-3/8	1.375	2-5/16	1/2	1-13/16	2	63/64
SC-100-S	1	1-3/4	1-9/16	1.5	1-7/8	1/2	1-3/8	3	1-5/64
SC-100-L	1	1-3/4	1-9/16	1.5	2-7/8	1/2	2-3/8	3	1-5/64
SC-125-S	1-1/4	2-1/8	1-15/16	1.75	2-3/8	1/2	1-7/8	3	1-17/64
SC-125-L	1-1/4	2-1/8	1-15/16	1.75	3-3/8	1/2	2-7/8	3	1-17/64
SC-150-S	1-1/2	2-3/8	2-3/16	2	2-3/8	1/2	1-7/8	3	1-25/64
SC-150-L	1-1/2	2-3/8	2-3/16	2	3-3/8	1/2	2-7/8	3	1-25/64
SC-175-S	1-3/4	2-5/8	2-7/16	2.25	2-7/8	1/2	2-3/8	3	1-33/64
SC-175-L	1-3/4	2-5/8	2-7/16	2.25	3-7/8	1/2	3-3/8	3	1-33/64
SC-200-S	2	2-15/16	2-3/4	2.5	2-7/8	1/2	2-3/8	4	1-43/64
SC-200-L	2	2-15/16	2-3/4	2.5	3-7/8	1/2	3-3/8	4	1-43/64

Continued on next page

Die Bushings - Bronze Plated, Grind Stock

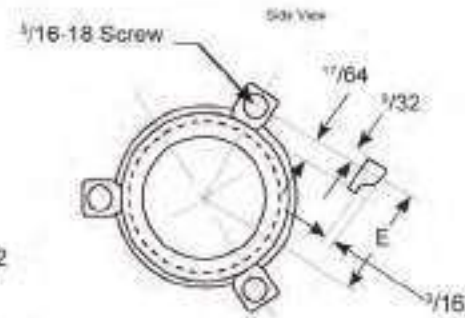
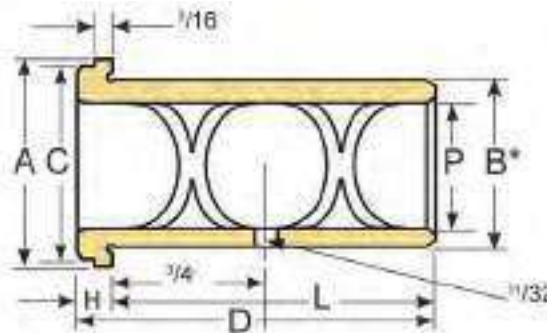
- Supplied with +.015 grind stock
- D-clamps & D-screws are included
- Plating thickness .004 - .005 per side

PCS Bronze Plated Die Bushings are centrifugally cast and precision ground. Nominal diameters ranging from 3/4" to 4-1/2" are available. Included internal grease grooves help prevent galling which aids in a smooth operation. D-Clamps and D-Screws are included with each bushing.



SPECIFICATIONS	
B Press Fit O.D. Tolerance	-.0002 / -.0005
D Overall Length Tolerance	+.000 / -.010
H Head Thickness Tolerance	+.000 / -.010
Plating Thickness/ per side	0.004 - 0.005
Shoulder Width	3/16

I.D. TOLERANCES	
3/4 to 1-1/2	+ .0006 + .0010
1-3/4 & 2	+ .0007 + .0012
2-1/2	+ .0012 + .0018
3	+ .0014 + .0023
3-3/4	+ .0018 + .0028
4-1/2	+ .0025 + .0035



* Bushings 2-1/2" dia. & larger have 1-1/4" dimension

Standard: Inch
Material: Bronze Plated Steel
Hardness: 180 Brinell

CATALOG NO.	P I.D.	A HEAD DIAMETER	C RIB O.D.	B PRESS FIT O.D.	D OVERALL LENGTH	H HEAD THICKNESS	L WRING FIT LENGTH	# OF CLAMPS & SCREWS	E CLAMP SCREW RADIUS OFF CENTERLINE
SC-250-S	2-1/2	3-3/8	3-3/16	3	3	3/8	2-5/8	4	1-57/64
SC-250-M	2-1/2	3-3/8	3-3/16	3	4	3/8	3-5/8	4	1-57/64
SC-250-L	2-1/2	3-3/8	3-3/16	3	5	3/8	4-5/8	4	1-57/64
SC-300-S	3	3-7/8	3-11/16	3.5	4	3/8	3-5/8	6	2-9/64
SC-300-M	3	3-7/8	3-11/16	3.5	5	3/8	4-5/8	6	2-9/64
SC-300-L	3	3-7/8	3-11/16	3.5	6	3/8	5-5/8	6	2-9/64

Die Bushings - Bronze Plated, Finish Ground

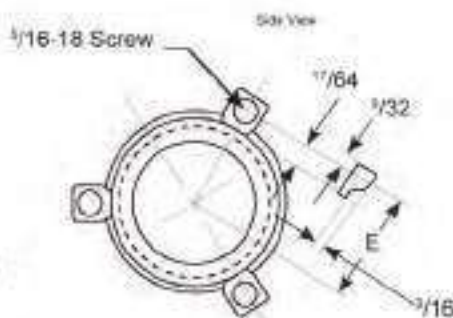
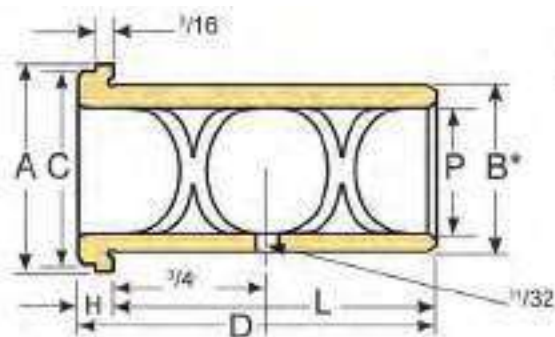
- D-clamps & D-screws are included
- Plating thickness .004 - .005 per side



PCS Bronze Plated Die Bushings are centrifugally cast and precision ground. Nominal diameters ranging from 3/4" to 4-1/2" are available. Included internal grease grooves help prevent galling which aids in a smooth operation. D-Clamps and D-Screws are included with each bushing.

SPECIFICATIONS

B Press Fit O.D. Tolerance	+0.0000 / -.0002
D Overall Length Tolerance	+0.000 / -.010
H Head Thickness Tolerance	+0.000 / -.010
Shoulder Width	3/16



* Bushings 2-1/2" dia. & larger have 1-1/4" dimension

I.D. TOLERANCES

3/4 to 1-1/2	+0.0006 +0.0010
1-3/4 & 2	+0.0007 +0.0012
2-1/2	+0.0012 +0.0018
3	+0.0014 +0.0023
3-3/4	+0.0018 +0.0028
4-1/2	+0.0025 +0.0035

Standard: Inch

Material: Bronze Plated Steel

Hardness: 180 Brinell

CATALOG NO.	P I.D.	A HEAD DIAMETER	C RIB O.D.	B PRESS FIT O.D.	D OVERALL LENGTH	H HEAD THICKNESS	L WRING FIT LENGTH	# OF CLAMPS & SCREWS	E CLAMP SCREW RADIUS OFF CENTERLINE
GSC-750-S	3/4	1-5/16	1-1/8	1.125	1-9/16	1/2	1-1/16	2	55/64
GSC-875-S	7/8	1-9/16	1-3/8	1.375	1-9/16	1/2	1-1/16	2	63/64
GSC-875-L	7/8	1-9/16	1-3/8	1.375	2-5/16	1/2	1-13/16	2	63/64
GSC-100-L	1	1-3/4	1-9/16	1.5	2-7/8	1/2	2-3/8	3	1-5/64
GSC-125-S	1-1/4	2-1/8	1-15/16	1.75	2-3/8	1/2	1-7/8	3	1-17/64
GSC-125-L	1-1/4	2-1/8	1-15/16	1.75	3-3/8	1/2	2-7/8	3	1-17/64
GSC-150-S	1-1/2	2-3/8	2-3/16	2	2-3/8	1/2	1-7/8	3	1-25/64
GSC-150-L	1-1/2	2-3/8	2-3/16	2	3-3/8	1/2	2-7/8	3	1-25/64
GSC-200-S	2	2-15/16	2-3/4	2.5	2-7/8	1/2	2-3/8	4	1-43/64
GSC-200-L	2	2-15/16	2-3/4	2.5	3-7/8	1/2	3-3/8	4	1-43/64
GSC-250-S	2-1/2	3-3/8	3-3/16	3	3	3/8	2-5/8	4	1-57/64
GSC-250-M	2-1/2	3-3/8	3-3/16	3	4	3/8	3-5/8	4	1-57/64
GSC-250-L	2-1/2	3-3/8	3-3/16	3	5	3/8	4-5/8	4	1-57/64
GSC-300-S	3	3-7/8	3-11/16	3.5	4	3/8	3-5/8	6	2-9/64
GSC-300-M	3	3-7/8	3-11/16	3.5	5	3/8	4-5/8	6	2-9/64
GSC-300-L	3	3-7/8	3-11/16	3.5	6	3/8	5-5/8	6	2-9/64

Die Bushings - Bronze Self-Lubricating, Grind Stock

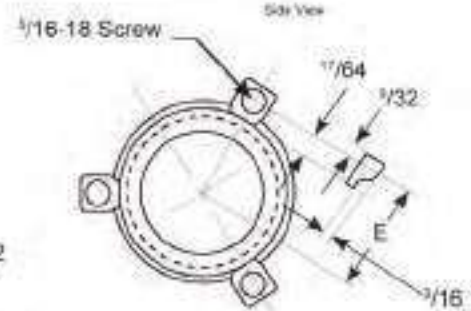
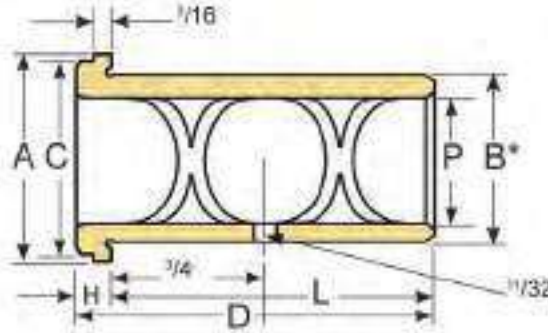
- Supplied with +.015 grind stock
- Plating thickness .004 - .005 per side
- D-clamps & D-screws are included
- Greaseless application

PCS Self Lubricating Bronze Die Bushings are precision ground. Nominal diameters ranging from 3/4" to 4-1/2" are available. The self-lubricating graphite plugs eliminate the need for grease which makes these bushings perfect for food grade, medical and high speed applications. D-Clamps and D-Screws are included with each bushing.



SPECIFICATIONS	
B Press Fit O.D. Tolerance	+0.0000 / -.0002
D Overall Length Tolerance	+0.000 / -.010
H Head Thickness Tolerance	+0.000 / -.010
Shoulder Width	3/16

I.D. TOLERANCES	
3/4 to 1-1/2	+0.0006 +0.0010
1-3/4 & 2	+0.0007 +0.0012
2-1/2	+0.0012 +0.0018
3	+0.0014 +0.0023
3-3/4	+0.0018 +0.0028
4-1/2	+0.0025 +0.0035



* Bushings 2-1/2" dia. & larger have 1-1/4" dimension

Standard: Inch
Material: AMPCO 18 Bronze with graphite plugs
Hardness: 92 Brinell Typical

CATALOG NO.	P I.D.	A HEAD DIAMETER	C RIB O.D.	B PRESS FIT O.D.	D OVERALL LENGTH	H HEAD THICKNESS	L WRING FIT LENGTH	# OF CLAMPS & SCREWS	E CLAMP SCREW RADIUS OFF CENTERLINE
SCB-750-S	3/4	1-5/16	1-1/8	1.125	1-9/16	1/2	1-1/16	2	55/64
SCB-750-L	3/4	1-5/16	1-1/8	1.125	2-5/16	1/2	1-13/16	2	55/64
SCB-875-S	7/8	1-9/16	1-3/8	1.375	1-9/16	1/2	1-1/16	2	63/64
SCB-875-L	7/8	1-9/16	1-3/8	1.375	2-5/16	1/2	1-13/16	2	63/64
SCB-100-S	1	1-3/4	1-9/16	1.5	1-7/8	1/2	1-3/8	3	1-5/64
SCB-100-L	1	1-3/4	1-9/16	1.5	2-7/8	1/2	2-3/8	3	1-5/64
SCB-125-S	1-1/4	2-1/8	1-15/16	1.75	2-3/8	1/2	1-7/8	3	1-17/64
SCB-125-L	1-1/4	2-1/8	1-15/16	1.75	3-3/8	1/2	2-7/8	3	1-17/64
SCB-150-S	1-1/2	2-3/8	2-3/16	2	2-3/8	1/2	1-7/8	3	1-25/64
SCB-150-L	1-1/2	2-3/8	2-3/16	2	3-3/8	1/2	2-7/8	3	1-25/64
SCB-175-S	1-3/4	2-5/8	2-7/16	2.25	2-7/8	1/2	2-3/8	3	1-33/64
SCB-175-L	1-3/4	2-5/8	2-7/16	2.25	3-7/8	1/2	3-3/8	3	1-33/64
SCB-200-S	2	2-15/16	2-3/4	2.5	2-7/8	1/2	2-3/8	4	1-43/64
SCB-200-L	2	2-15/16	2-3/4	2.5	3-7/8	1/2	3-3/8	4	1-43/64

Continued on next page

Die Bushings - Bronze Self-Lubricating, Grind Stock

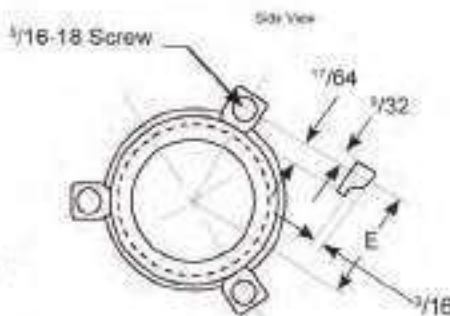
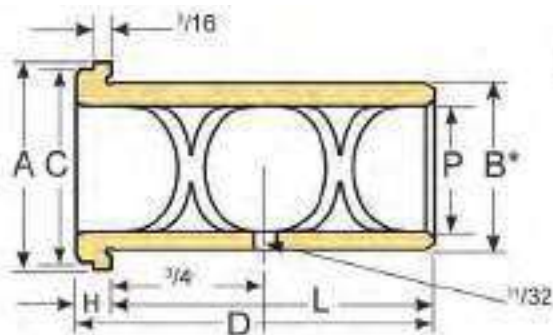


- Supplied with +.015 grind stock
- Plating thickness .004 - .005 per side
- D-clamps & D-screws are included
- Greaseless application

PCS Self Lubricating Bronze Die Bushings are precision ground. Nominal diameters ranging from 3/4" to 4-1/2" are available. The self-lubricating graphite plugs eliminate the need for grease which makes these bushings perfect for food grade, medical and high speed applications. D-Clamps and D-Screws are included with each bushing.

SPECIFICATIONS

B Press Fit O.D. Tolerance	+ .0000 / - .0002
D Overall Length Tolerance	+ .000 / - .010
H Head Thickness Tolerance	+ .000 / - .010
Shoulder Width	3/16



I.D. TOLERANCES

3/4 to 1-1/2	+ .0006 + .0010
1-3/4 & 2	+ .0007 + .0012
2-1/2	+ .0012 + .0018
3	+ .0014 + .0023
3-3/4	+ .0018 + .0028
4-1/2	+ .0025 + .0035

* Bushings 2-1/2" dia. & larger have 1-1/4" dimension

Standard: Inch

Material: AMPCO 18 Bronze with graphite plugs

Hardness: 92 Brinell Typical

CATALOG NO.	P I.D.	A HEAD DIAMETER	C RIB O.D.	B PRESS FIT O.D.	D OVERALL LENGTH	H HEAD THICKNESS	L WRING FIT LENGTH	# OF CLAMPS & SCREWS	E CLAMP SCREW RADIUS OFF CENTERLINE
SCB-250-S	2-1/2	3-3/8	3-3/16	3	3	3/8	2-5/8	4	1-57/64
SCB-250-M	2-1/2	3-3/8	3-3/16	3	4	3/8	3-5/8	4	1-57/64
SCB-250-L	2-1/2	3-3/8	3-3/16	3	5	3/8	4-5/8	4	1-57/64
SCB-300-X	3	3-7/8	3-11/16	3.5	3	3/8	2-5/8	6	2-9/64
SCB-300-S	3	3-7/8	3-11/16	3.5	4	3/8	3-5/8	6	2-9/64
SCB-300-M	3	3-7/8	3-11/16	3.5	5	3/8	4-5/8	6	2-9/64
SCB-300-L	3	3-7/8	3-11/16	3.5	6	3/8	5-5/8	6	2-9/64
SCB-375-S	3-3/4	4-7/8	4-11/16	4.5	7	3/8	6-5/8	6	2-41/64

Die Bushings - Self-Lubricating, Finish Ground

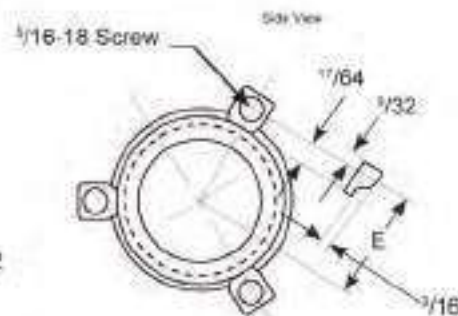
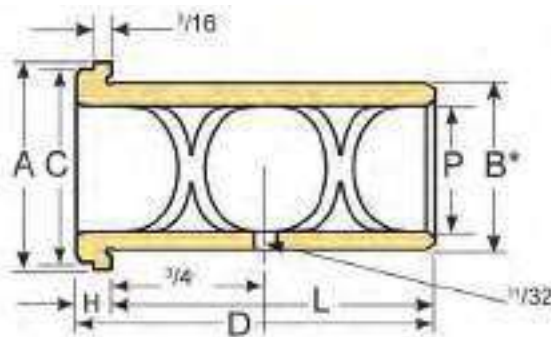
- D-clamps & D-screws are included
- Plating thickness .004 - .005 per side
- Perfect for mold or die alignment
- Greaseless application

PCS Self Lubricating Bronze Die Bushings are precision ground. Nominal diameters ranging from 3/4" to 4-1/2" are available. The self-lubricating graphite plugs eliminate the need for grease which makes these bushings perfect for food grade, medical and high speed applications. D-Clamps and D-Screws are included with each bushing.



SPECIFICATIONS	
B Press Fit O.D. Tolerance	-.0002 / -.0005
D Overall Length Tolerance	+.000 / -.010
L Overall Length Tolerance	+.000 / -.010
Shoulder Width	3/16

I.D. TOLERANCES	
3/4 to 1-1/2	+ .0006 + .0010
1-3/4 & 2	+ .0007 + .0012
2-1/2	+ .0012 + .0018
3	+ .0014 + .0023
3-3/4	+ .0018 + .0028
4-1/2	+ .0025 + .0035



* Bushings 2-1/2" dia. & larger have 1-1/4" dimension

Standard: Inch

Material: AMPCO 18 Bronze with graphite plugs

Hardness: 92 Brinell Typical

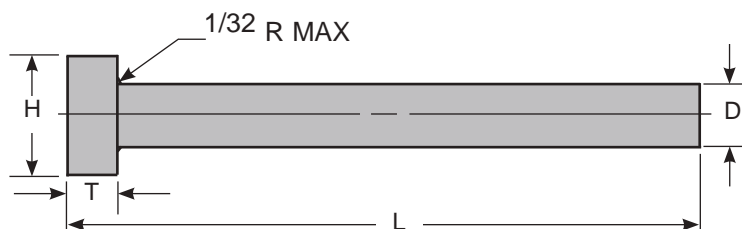
CATALOG NO.	P I.D.	A HEAD DIAMETER	C RIB O.D.	B PRESS FIT O.D.	D OVERALL LENGTH	H HEAD THICKNESS	L WRING FIT LENGTH	# OF CLAMPS & SCREWS	E CLAMP SCREW RADIUS OFF CENTERLINE
GSCB-875-S	7/8	1-9/16	1-3/8	1.375	1-9/16	1/2	1-1/16	2	63/64
GSCB-100-S	1	1-3/4	1-9/16	1.5	1-9/16	1/2	1-3/8	3	1-5/64
GSCB-100-L	1	1-3/4	1-9/16	1.5	2-7/8	1/2	2-3/8	3	1-5/64
GSCB-125-S	1-1/4	2-1/8	1-15/16	1.75	2-3/8	1/2	1-7/8	3	1-17/64
GSCB-125-L	1-1/4	2-1/8	1-15/16	1.75	3-3/8	1/2	2-7/8	3	1-17/64
GSCB-150-S	1-1/2	2-3/8	2-3/16	2	2-3/8	1/2	1-7/8	3	1-25/64
GSCB-150-L	1-1/2	2-3/8	2-3/16	2	3-3/8	1/2	2-7/8	3	1-25/64
GSCB-175-L	1-3/4	2-5/8	2-7/16	2.25	3-7/8	1/2	3-3/8	3	1-33/64
GSCB-200-S	2	2-15/16	2-3/4	2.5	2-7/8	1/2	2-3/8	4	1-43/64
GSCB-200-L	2	2-15/16	2-3/4	2.5	3-7/8	1/2	3-3/8	4	1-43/64
GSCB-250-S	2-1/2	3-3/8	3-3/16	3	3	3/8	2-5/8	4	1-57/64
GSCB-250-L	2-1/2	3-3/8	3-3/16	3	5	3/8	4-5/8	4	1-57/64
GSCB-300-S	3	3-7/8	3-11/16	3.5	4	3/8	3-5/8	6	2-9/64

Soft Core Pins



- Hot forged heads
- Etched for identification
- Core pins 6" and longer have annealed heads
- We cut pins to length

SPECIFICATIONS	
Core Hardness	30 - 35 Rc
Surface Hardness	30 - 35 Rc
Etched for Identification	Yes
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



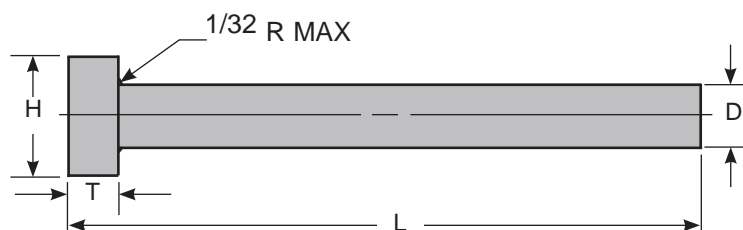
D PIN DIA +.0005 / +.0010	H HEAD DIA +.000 / -.010	T HEAD THICK. +.000 / -.010	L OVERALL LENGTH +.062 / -.000			
			3"	6"	10"	14"
3/32	1/4	1/8	CPS7-3	CPS7-6	CPS7-10	CPS7-14
4/64	1/4	1/8	CPS8-3	CPS8-6	CPS8-10	CPS8-14
1/8	1/4	1/8	CPS9-3	CPS9-6	CPS9-10	CPS9-14
9/64	1/4	1/8	CPS10-3	CPS10-6	CPS10-10	CPS10-14
5/32	9/32	5/32	CPS11-3	CPS11-6	CPS11-10	CPS11-14
11/64	11/32	3/16	CPS12-3	CPS12-6	CPS12-10	CPS12-14
3/16	3/8	3/16	CPS13-3	CPS13-6	CPS13-10	CPS13-14
13/64	3/8	3/16	CPS14-3	CPS14-6	CPS14-10	CPS14-14
7/32	13/32	3/16	CPS15-3	CPS15-6	CPS15-10	CPS15-14
1/4	7/16	3/16	CPS17-3	CPS17-6	CPS17-10	CPS17-14
9/32	7/16	1/4	CPS19-3	CPS19-6	CPS19-10	CPS19-14
5/16	1/2	1/4	CPS21-3	CPS21-6	CPS21-10	CPS21-14
11/32	9/16	1/4	CPS23-3	CPS23-6	CPS23-10	CPS23-14
3/8	5/8	1/4	CPS25-3	CPS25-6	CPS25-10	CPS25-14
13/32	11/16	1/4	CPS27-3	CPS27-6	CPS27-10	CPS27-14
7/16	11/16	1/4	CPS29-3	CPS29-6	CPS29-10	CPS29-14
15/32	3/4	1/4	CPS31-3	CPS31-6	CPS31-10	CPS31-14
1/2	3/4	1/4	CPS33-3	CPS33-6	CPS33-10	CPS33-14
9/16	13/16	1/4	CPS35-3	CPS35-6	CPS35-10	CPS35-14
5/8	7/8	1/4	CPS37-3	CPS37-6	CPS37-10	CPS37-14
3/4	1	1/4	CPS41-3	CPS41-6	CPS41-10	CPS41-14
7/8	1-1/8	1/4		CPS45-6	CPS45-10	CPS45-14
1	1-1/4	1/4		CPS47-6	CPS47-10	CPS47-14

Hard Core Pins

- Premium hot work steel
- Hot forged heads
- Etched for identification
- Core pins 6" and longer have annealed heads
- We cut pins to length



SPECIFICATIONS	
Core Hardness	50 - 55 Rc
Surface Hardness	50 - 55 Rc
Etched for Identification	Yes
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



D PIN DIA +.0005 / +.0010	H HEAD DIA +.000 / -.010	T HEAD THICK. +.000 / -.010	L OVERALL LENGTH +.062 / -.000			
			3"	6"	10"	14"
3/32	1/4	1/8	CPH7-3	CPH7-6	CPH7-10	CPH7-14
4/64	1/4	1/8	CPH8-3	CPH8-6	CPH8-10	CPH8-14
1/8	1/4	1/8	CPH9-3	CPH9-6	CPH9-10	CPH9-14
9/64	1/4	1/8	CPH10-3	CPH10-6	CPH10-10	CPH10-14
5/32	9/32	5/32	CPH11-3	CPH11-6	CPH11-10	CPH11-14
11/64	11/32	3/16	CPH12-3	CPH12-6	CPH12-10	CPH12-14
3/16	3/8	3/16	CPH13-3	CPH13-6	CPH13-10	CPH13-14
13/64	3/8	3/16	CPH14-3	CPH14-6	CPH14-10	CPH14-14
7/32	13/32	3/16	CPH15-3	CPH15-6	CPH15-10	CPH15-14
1/4	7/16	3/16	CPH17-3	CPH17-6	CPH17-10	CPH17-14
9/32	7/16	1/4	CPH19-3	CPH19-6	CPH19-10	CPH19-14
5/16	1/2	1/4	CPH21-3	CPH21-6	CPH21-10	CPH21-14
11/32	9/16	1/4	CPH23-3	CPH23-6	CPH23-10	CPH23-14
3/8	5/8	1/4	CPH25-3	CPH25-6	CPH25-10	CPH25-14
13/32	11/16	1/4	CPH27-3	CPH27-6	CPH27-10	CPH27-14
7/16	11/16	1/4	CPH29-3	CPH29-6	CPH29-10	CPH29-14
15/32	3/4	1/4	CPH31-3	CPH31-6	CPH31-10	CPH31-14
1/2	3/4	1/4	CPH33-3	CPH33-6	CPH33-10	CPH33-14
9/16	13/16	1/4	CPH35-3	CPH35-6	CPH35-10	CPH35-14
5/8	7/8	1/4	CPH37-3	CPH37-6	CPH37-10	CPH37-14
3/4	1	1/4	CPH41-3	CPH41-6	CPH41-10	CPH41-14
7/8	1-1/8	1/4		CPH45-6	CPH45-10	CPH45-14
1	1-1/4	1/4		CPH47-6	CPH47-10	CPH47-14

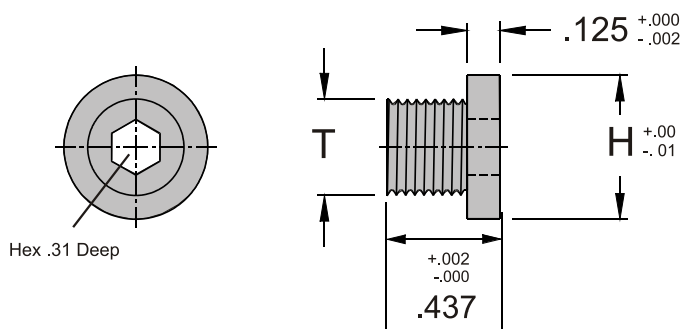
Core Pin Retainers - Steel

- Better alternative to the common set screw
- Convenient hex key installation
- For use with PCS Core Pins



Core Pin Retainers are made of hardened steel. These retainers eliminate the need for back up plates and are a better alternative than the common set screw. Four sizes are available to more closely match the core pin diameter.

SPECIFICATIONS	
H Head Diameter Tolerance	+0.00 / -.01
Head Thickness Tolerance	+0.000 / -.002
L Overall Length Tolerance	+0.002 / -.000
Unit of Measure	Inch



CATALOG NO.	H HEAD DIAMETER	T SCREW SIZE	HEX SIZE	RECOMMENDED CORE PINS
CPR-375	.56	3/8-24	3/16	3/32 thru 5/32 Diameter Pins
CPR-500	.68	1/2-20	1/4	11/64 thru 9/32 Diameter Pins
CPR-750	.93	3/4-16	3/8	5/16 thru 7/16 Diameter Pins
CPR-875	1.06	7/8-14	3/8	15/32 thru 9/16 Diameter Pins

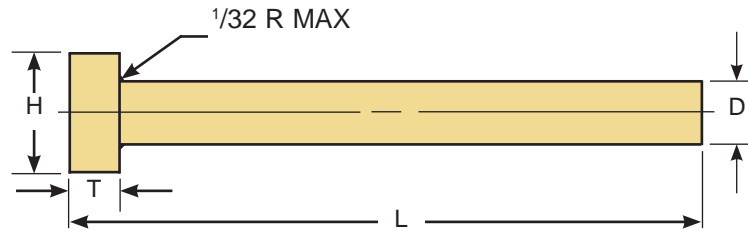
modalMAX™ Pins

- Resists corrosion, galling, and seizing
- Rapid and uniform heat removal reduces post cycle shrinkage and warpage
- Allows for shorter cycle times with enhanced dimensional control
- Superior thermal conductivity
- Special diameters available upon request

PCS modalMAX™ Pins are made of high strength alloyed copper with superior thermal conductivity. Due to its rapid and uniform heat removal properties, this pin helps to reduce post cycle shrinkage and warpage. ModalMAX™ pin diameters range from 1/8" to 3/4" and lengths range from 4" to 18".



SPECIFICATIONS	
Hardness	36 - 42 Rc
Material Type	Alloyed Copper
Unit of Measure	Inch



Material	Thermal Conductivity	Wear Resistance	Thermal Expansion	Hardness	Weldability	Machinability	Polishability	Corrosion Resistance	Total Score
	4	7	9.0	7	10	7	10	10	55
P20 Tool Steel	1	5	6.5	6	4	3	5	5	29
Hardened Steel	1	10	6.5	10	2	1	2	5	31
420 Stainless	1	5	6.5	6	4	2	4	8	30

D PIN DIA +.000 -.001	H HEAD DIA +.000 -.015	T HEAD THICK. +.000 -.002	L OVERALL LENGTH +.062 / -.000			
			3"	6"	10"	14"
.1250	1/4	1/8	CPM9-3	CPM9-6	CPM9-10	CPM9-14
.1563	9/32	5/32	CPM11-3	CPM11-6	CPM11-10	CPM11-14
.1875	3/8	3/16	CPM13-3	CPM13-6	CPM13-10	CPM13-14
.2188	13/32	3/16	CPM15-3	CPM15-6	CPM15-10	CPM15-14
.2500	7/16	3/16	CPM17-3	CPM17-6	CPM17-10	CPM17-14
.2812	7/16	1/4	CPM19-3	CPM19-6	CPM19-10	CPM19-14
.3125	1/2	1/4	CPM21-3	CPM21-6	CPM21-10	CPM21-14
.3750	5/8	1/4	CPM25-3	CPM25-6	CPM25-10	CPM25-14
.4375	11/16	1/4	CPM29-3	CPM29-6	CPM29-10	CPM29-14
.5000	3/4	1/4	CPM33-3	CPM33-6	CPM33-10	CPM33-14
.5625	13/16	1/4	CPM35-3	CPM35-6	CPM35-10	CPM35-14
.6250	7/8	1/4	CPM37-3	CPM37-6	CPM37-10	CPM37-14
.7500	1	1/4	CPM41-3	CPM41-6	CPM41-10	CPM41-14

Dowel Pins

- Heat treated for greater strength and surface hardness
- Chamfered end provides easier insertion
- Aligns plates within mold base
- Hardened steel construction
- Precision ground .0002 over-sized



PCS Dowel Pins are precision ground and are available in nominal diameters ranging from 1/8" to 1". These Dowel Pins are heat treated for greater strength and surface hardness. The chamfered edges allow for easy insertion into the reamed hole.

SPECIFICATIONS	
Chamfer	45 Deg x .030
Material Type	Alloy Steel
Unit of Measure	Inch

LENGTH	CATALOG NO.								
	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
3/8	DP9-375								
1/2	DP9-500	DP13-500	DP17-500						
3/4	DP9-750	DP13-750	DP17-750		DP25-750				
1	DP9-1000	DP13-1000	DP17-1000	DP21-1000	DP25-1000	DP33-1000			
1-1/4			DP17-1250	DP21-1250	DP25-1250	DP33-1250			
1-1/2		DP13-1500	DP17-1500	DP21-1500	DP25-1500	DP33-1500	DP37-1500		
2	DP9-2000	DP13-2000	DP17-2000	DP21-2000	DP25-2000	DP33-2000	DP37-2000	DP41-2000	DP47-2000
2-1/2			DP17-2500		DP25-2500	DP33-2500	DP37-2500	DP41-2500	
3					DP25-3000	DP33-3000	DP37-3000	DP41-3000	DP47-3000
4						DP33-4000	DP37-4000	DP41-4000	DP47-4000
5							DP37-5000	DP41-5000	DP47-5000

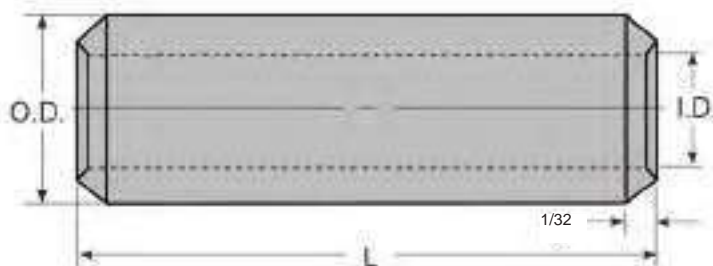
Tubular Dowel Pins

- Aligns the “B” plate, support plate and ejector housing
- Allows more room for waterlines by superimposing the dowel pin & cap screw
- Hardened steel construction

Tubular Dowel Pins are hardened and precision ground. They are used to align the B Plate, Support Plate and ejector housing. Tubular Dowels allow more room for cooling channels by superimposing the dowel pin and cap screw.



SPECIFICATIONS	
Chamfer	1/32
Material Type	Alloy Steel
Unit of Measure	Inch



CATALOG NO.	NOMINAL DIA.	O.D. +.0001 / -.0001	I.D. +.005	L OVERALL LENGTH
TD3-375	3/8	0.3752	0.260	0.375
TD3-875		0.3752	0.260	0.875
TD6-500	5/8	0.6252	0.385	0.500
TD6-1375		0.6252	0.385	1.375
TD6-1875		0.6252	0.385	1.875
TD6-2375		0.6252	0.385	2.375
TD7-375	3/4	0.7502	0.510	0.375
TD7-500		0.7502	0.510	0.500
TD7-1375		0.7502	0.510	1.375
TD7-1875		0.7502	0.510	1.875
TD7-2375		0.7502	0.510	2.375
TD7-2875		0.7502	0.510	2.875
TD7-3375		0.7502	0.510	3.375
TD7-3875		0.7502	0.510	3.875
TD8-500	7/8	0.8752	0.635	0.500
TD8-2375		0.8752	0.635	2.375
TD8-2875		0.8752	0.635	2.875

Flat Head Cap Screws

- Ideal for thin sections where heads cannot protrude
- Enables fastening with flush finish
- Standard 82° angle underneath head



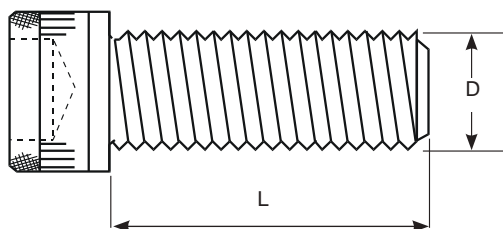
Flat Head Cap Screws are used in countersunk holes. These screws are useful in tools and dies where moving parts pass over the fastened area.

SPECIFICATIONS	
Material Type	Alloy Steel / Thermal Black Oxide Coated
Thread Class	3A

CATALOG NO.	D THREAD DIAMETER	E THREAD LENGTH	H HEAD DIAMETER	SIZE OF HEX KEY
FHCS1024-500	10-24	1/2	Min: 0.117 Max: 0.138	0.035
FHCS1024-625		5/8		
FHCS1024-750		3/4		
FHCS1720-500	1/4-20	1/2	Min: 0.480 Max: 0.531	0.156
FHCS1720-625		5/8		
FHCS1720-750		3/4		
FHCS1720-875	7/8	7/8	Min: 0.480 Max: 0.531	0.156
FHCS1720-1000	1/4-20	1	Min: 0.480 Max: 0.531	0.156
FHCS1720-1250		1 1/4		
FHCS2118-500	1/2	1/2	Min: 0.600 Max: 0.656	0.188
FHCS2118-875	1/2	7/8	Min: 0.600 Max: 0.656	0.188

Socket Head Cap Screws

- Material: High quality alloy steel
- Heat Treatment: 38 - 43 Rc
- Tensile Strength: 180,000 psi
- Thread Class: 3A

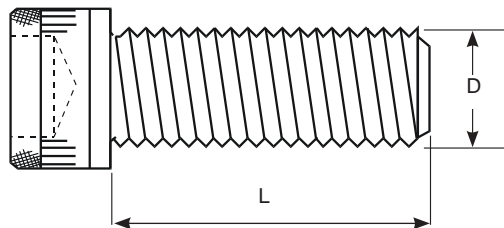


CATALOG NO.	D THREAD DIAMETER	THREADS PER INCH	L LENGTH	CATALOG NO.	D THREAD DIAMETER	THREADS PER INCH	L LENGTH
CS0440-250F	No. 4	40	1/4	CS1032-375	No. 10	32	3/8"
CS0440-375			3/8	CS1032-500			1/2
CS0440-500			1/2	CS1032-625			5/8
CS0440-750			3/4	CS1032-750			3/4
CS0440-1000			1	CS1032-875			7/8
CS0540-250	No. 5	40	1/4	CS1032-1000			1
CS0632-250	No. 6	32	1/4	CS1032-1250			1-1/4
CS0632-375			3/8	CS1032-1500			1-1/2
CS0632-500			1/2	CS1032-1750			1-3/4
CS0632-625			5/8	CS1032-2000			2
CS0632-750			3/4	CS1032-2250	2-1/4		
CS0632-875			7/8	CS1720-375	3/8		
CS0632-1000	1	CS1720-500	1/2				
CS0832-250L	No. 8	32	1/4	CS1720-625	5/8		
CS0832-250			1/4	CS1720-750	3/4		
CS0832-375			3/8	CS1720-875	7/8		
CS0832-500			1/2	CS1720-1000	1		
CS0832-625			5/8	CS1720-1250	1-1/4		
CS0832-750			3/4	CS1720-1500	1-1/2		
CS0832-875			7/8	CS1720-1750	1-3/4		
CS0832-1000			1	CS1720-2000	2		
CS0832-1250			1-1/4	CS1720-2250	2-1/4		
CS1024-375			No. 10	24	3/8	CS1720-2500	2-1/2
CS1024-500	1/2	CS1720-2750			2-3/4		
CS1024-625	5/8	CS1720-3000			3		
CS1024-750	3/4	CS1720-3250			3-1/4		
CS1024-875	7/8	CS1720-3500			3-1/2		
CS1024-1000	1	CS1720-4000			4		
CS1024-1250	1-1/4	CS1720-4500			4-1/2		
CS1024-1500	1-1/2	CS2118-500			1/2		
CS1024-1750	1-3/4	CS2118-625			5/8		
CS1024-2000	2	CS2118-750			3/4		

Continued on next page

Socket Head Cap Screws

- Material: High quality alloy steel
- Heat Treatment: 38 - 43 Rc
- Tensile Strength: 180,000 psi
- Thread Class: 3A

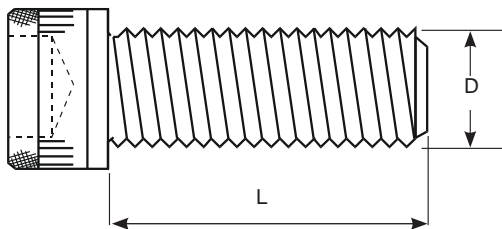


CATALOG NO.	D THREAD DIAMETER	THREADS PER INCH	L LENGTH	CATALOG NO.	D THREAD DIAMETER	THREADS PER INCH	L LENGTH
CS2118-875	5/16	18	7/8	CS2516-5000	3/8	16	5
CS2118-1000			1	CS2516-6000			6
CS2118-1250			1-1/4	CS2516-6500			6-1/2
CS2118-1500			1-1/2	CS3313-500	1/2		
CS2118-1750			1-3/4	CS3313-625	5/8		
CS2118-2000			2	CS3313-750	3/4		
CS2118-2250			2-1/4	CS3313-875	7/8		
CS2118-2500			2-1/2	CS3313-1000	1		
CS2118-2750			2-3/4"	CS3313-1250	1-1/4		
CS2118-3000			3	CS3313-1500	1-1/2		
CS2118-3250			3-1/4	CS3313-1750	1-3/4		
CS2118-3500			3-1/2	CS3313-2000	2		
CS2118-4000			4	CS3313-2250	2-1/4		
CS2118-5500			5-1/2	CS3313-2500	2-1/2		
CS2516-1000SP	3/8	16	1	CS3313-2750	1/2	13	2-3/4
CS2516-500			1/2	CS3313-3000			3
CS2516-625			5/8	CS3313-3250			3-1/4
CS2516-750			3/4	CS3313-3500			3-1/2
CS2516-875			7/8	CS3313-3750			3-3/4
CS2516-1000			1	CS3313-4000			4
CS2516-1250			1-1/4	CS3313-4250			4-1/4
CS2516-1500			1-1/2	CS3313-4500			4-1/2
CS2516-1750			1-3/4	CS3313-4750			4-3/4
CS2516-2000			2	CS3313-5000			5
CS2516-2250			2-1/4	CS3313-5250			5-1/4
CS2516-2500			2-1/2	CS3313-5500			5-1/2
CS2516-2750			2-3/4	CS3313-5750			5-3/4
CS2516-3000			3	CS3313-6000			6
CS2516-3250			3-1/4	CS3313-6500			6-1/2
CS2516-3500			3-1/2	CS3313-7000			7
CS2516-4000			4	CS3313-7500			7-1/2
CS2516-4500			4-1/2	CS3313-8000			8

Continued on next page

Socket Head Cap Screws

- Material: High quality alloy steel
- Heat Treatment: 38 - 43 Rc
- Tensile Strength: 180,000 psi
- Thread Class: 3A



CATALOG NO.	D THREAD DIAMETER	THREADS PER INCH	L LENGTH
CS3313-8500	1/2	13	8-1/2
CS3313-9000			9
CS3313-9500			9-1/2
CS3313-10000			10
CS3313-10500			10-1/2
CS3313-12000			12
CS3711-1000			5/8
CS3711-1250	1-1/4		
CS3711-1500	1-1/2		
CS3711-1750	1-3/4		
CS3711-2000	2		
CS3711-2250	2-1/4		
CS3711-2500	2-1/2		
CS3711-2750	2-3/4		
CS3711-3000	3		
CS3711-3250	3-1/4		
CS3711-3500	3-1/2		
CS3711-3750	3-3/4		
CS3711-4000	4		
CS3711-4250	4-1/4		
CS3711-4500	4-1/2		
CS3711-4750	4-3/4		
CS3711-5000	5		
CS3711-5500	5-1/2		
CS3711-6000	6		
CS3711-6500	6-1/2		
CS3711-7000	7		
CS3711-7500	7-1/2		
CS3711-8000	8		
CS3711-8500	8-1/2		
CS3711-9000	9		
CS3711-10000	10		
CS3711-11000	11		

CATALOG NO.	D THREAD DIAMETER	THREADS PER INCH	L LENGTH
CS3711-12000	5/8	11	12
CS4110-2000	3/4	10	2
CS4110-2250			2-1/4
CS4110-2500			2-1/2
CS4110-2750			2-3/4
CS4110-3000			3
CS4110-3250			3-1/4
CS4110-3500			3-1/2
CS4110-4000			4
CS4110-4500			4-1/2
CS4110-5000			5
CS4110-5500			5-1/2
CS4110-6000			6
CS4110-6500			6-1/2
CS4110-7000			7
CS4110-8000			8
CS4110-9000			9
CS4110-10000			10
CS4110-12000			12
CS4708-1500	1	8	1-1/2
CS4708-2000			2
CS4708-2500			2-1/2
CS4708-3000			3
CS4708-3500			3-1/2
CS4708-4000			4
CS4708-4500			4-1/2
CS4708-5000			5
CS4708-5500			5-1/2
CS4708-6000			6
CS4708-7000			7
CS4708-8000			8

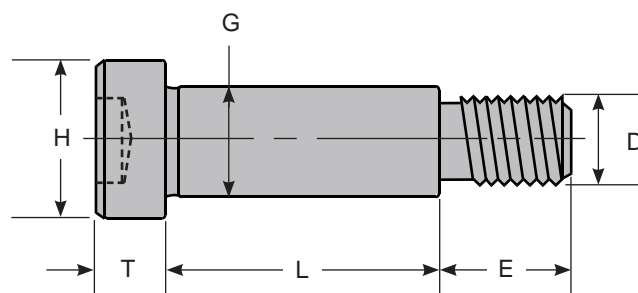
Socket Head Shoulder Screws - Stripper Bolt



- Material: High quality alloy steel
- Heat Treatment: 36 - 43 Rc
- Tensile Strength: 160,000 psi
- Thread Class: 3A

Socket Head Shoulder Screws are made of a high grade alloy steel. These class 3A coarse type screws have a high tensile strength and a surface hardness of 36 - 43 Rc.

GENERAL DIMENSIONS						
SHOULDER DIAMETER	1/4	5/16	3/8	1/2	5/8	3/4
D THREAD	#10-24	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11
E THREAD LENGTH	3/8	7/16	1/2	5/8	3/4	7/8
H HEAD DIAMETER	3/8	7/16	9/16	3/4	7/8	1
T HEAD HEIGHT	3/16	7/32	1/4	5/16	3/8	1/2
SIZE OF HEX KEY	1/8	5/32	3/16	1/4	5/16	3/8

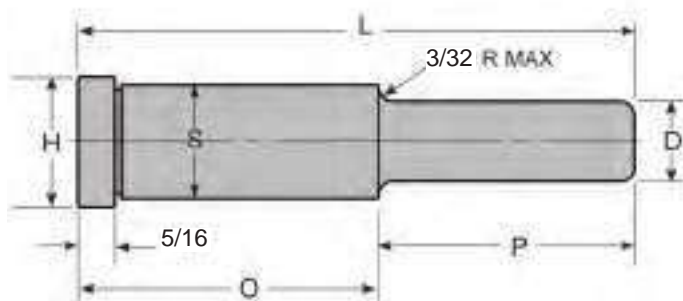


L SHOULDER LENGTH	G SHOULDER DIAMETER					
	1/4	5/16	3/8	1/2	5/8	3/4
1	SB17-1000	SB21-1000	SB25-1000	SB33-1000		
1-1/4	SB17-1250	SB21-1250	SB25-1250	SB33-1250	SB37-1250	
1-1/2	SB17-1500	SB21-1500	SB25-1500	SB33-1500	SB37-1500	SB41-1500
1-3/4		SB21-1750	SB25-1750	SB33-1750	SB37-1750	SB41-1750
2		SB21-2000	SB25-2000	SB33-2000	SB37-2000	SB41-2000
2-1/4			SB25-2250	SB33-2250	SB37-2250	SB41-2250
2-1/2			SB25-2500	SB33-2500	SB37-2500	SB41-2500
2-3/4			SB25-2750	SB33-2750	SB37-2750	SB41-2750
3			SB25-3000	SB33-3000	SB37-3000	SB41-3000
3-1/4			SB25-3250	SB33-3250	SB37-3250	SB41-3250
3-1/2			SB25-3500	SB33-3500	SB37-3500	SB41-3500
3-3/4			SB25-3750	SB33-3750	SB37-3750	SB41-3750
4			SB25-4000	SB33-4000	SB37-4000	SB41-4000
4-1/4				SB33-4250	SB37-4250	SB41-4250
4-1/2				SB33-4500	SB37-4500	SB41-4500
4-3/4				SB33-4750	SB37-4750	SB41-4750
5				SB33-5000	SB37-5000	SB41-5000
5-1/2				SB33-5500	SB37-5500	SB41-5500
6				SB33-6000	SB37-6000	SB41-6000
7						SB41-7000

Shoulder Leader Pins - Standard

- Provide initial alignment of cavity and core halves
- Press-fit installation

SPECIFICATIONS	
Hardness	Case Hardened 58-60 Rc
Material Type	4150
Unit of Measure	Inch



GENERAL DIMENSIONS			
NOMINAL DIA	D +.0000 -.0005	S +.0005 -.0000	H MAX +.000 -.010
3/4	.749	1.126	1.250
1	.999	1.376	1.500
1-1/4	1.249	1.626	1.750

CATALOG NO.			O PRESS FIT LENGTH	P PIN LENGTH	L OVERALL LENGTH -.030 / -.060
D = 3/4	D = 1	D = 1-1/4			
W-0707			7/8	7/8	1-3/4
W-0713				1-3/8	2-1/4
W-0723				2-3/8	3-1/4
W-0727	Y-0727			2-7/8	3-3/4
W-1307	Y-1307		1-3/8	7/8	2-1/4
W-1313	Y-1313	Z-1333		1-3/8	2-3/4
W-1317	Y-1317			1-7/8	3-1/4
W-1323	Y-1327			2-3/8	3-3/4
W-1327				2-7/8	4-1/4
W-1333	Y-1333			3-3/8	4-3/4
W-1707			1-7/8	7/8	2-3/4
W-1713	Y-1713	Z-1713		1-3/8	3-1/4
W-1717	Y-1717			1-7/8	3-3/4
W-1723	Y-1723	Z-1723		2-3/8	4-1/4
W-1727	Y-1727	Z-1727		2-7/8	4-3/4
W-1733	Y-1733			3-3/8	5-1/4
W-1737	Y-1737	Z-1737		3-7/8	5-3/4
W-2307			2-3/8	7/8	3-1/4
W-2313	Y-2313			1-3/8	3-3/4
W-2317	Y-2317			1-7/8	4-1/4
W-2323	Y-2323			2-3/8	4-3/4
W-2327	Y-2327	Z-2327		2-7/8	6-1/4
	Y-2333			3-3/8	5-3/4
W-2337	Y-2337	Z-2337		3-7/8	6-1/4

Continued on next page

Shoulder Leader Pins - Standard

- Provide initial alignment of cavity and core halves
- Press-fit installation

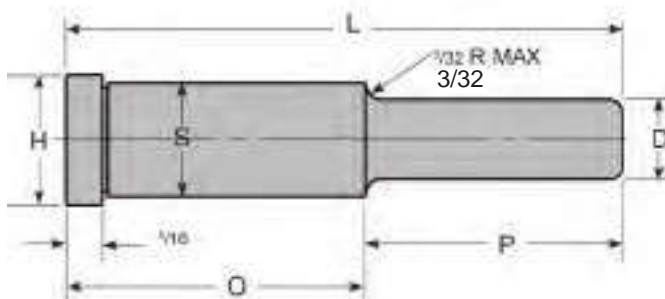


SPECIFICATIONS

Hardness	Case Hardened 58-60 Rc
Material Type	4150
Unit of Measure	Inch

GENERAL DIMENSION

NOMINAL DIA	D +.0000 -.0005	S +.0005 -.0000	H MAX +.000 -.010
3/4	.749	1.126	1.250
1	.999	1.376	1.500
1-1/4	1.249	1.626	1.750

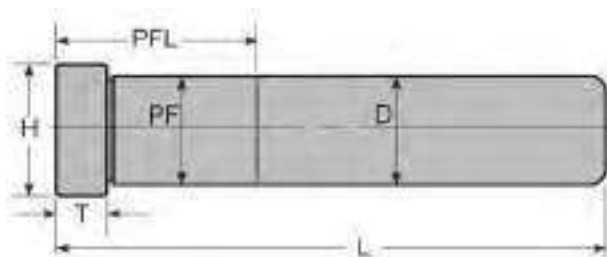


CATALOG NO.			O PRESS FIT LENGTH	P PIN LENGTH	L OVERALL LENGTH -.030 / -.060
D = 3/4	D = 1	D = 1-1/4			
W-2713	Y-2717		2-7/8	1-3/8	4-1/4
W-2717	Y-2723			1-7/8	4-3/4
W-2723	Y-2727	Z-2723		2-3/8	5-1/4
W-2727				2-7/8	5-3/4
	Y-2733			3-3/8	6-1/4
W-2737	Y-2737			3-7/8	6-3/4
	Y-2743	Z-2743		4-3/8	
W-3317	Y-3317		3-3/8	1-7/8	5-1/4
W-3323	Y-3323	Z-3323		2-3/8	5-3/4
	Y-3327			2-7/8	6-1/4
W-3333	Y-3333	Z-3333		3-3/8	6-3/4
	Y-3343	Z-3343	4-3/8	7-3/4	
W-3723	Y-3723		3-7/8	2-3/8	6-1/4
W-3727	Y-3727	Z-3727		2-7/8	6-3/4
	Y-3737	Z-3737		3-7/8	7-3/4
	Y-3747	Z-3747		4-7/8	8-3/4
	Y-4327			2-7/8	7-1/4
	Y-4337		4-3/8	3-7/8	8-1/4
	Y-4343			4-3/8	8-3/4
		Z-4347		4-7/8	9-1/4
	Y-4737		4-7/8	3-7/8	8-3/4
	Y-4743			4-3/8	9-1/4
	Y-4747	Z-4747		4-7/8	9-3/4
		Z-4757		5-7/8	10-3/4
	Y-5737	Z-5737	5-7/8	3-7/8	9-3/4
		Z-5743		4-3/8	10-1/4
	Y-5757	Z-5757		5-7/8	11-3/4

Straight Leader Pins - Standard

- Provide initial alignment of cavity and core halves
- Press-fit installation

SPECIFICATIONS	
Hardness	Case Hardened 58-60 Rc
Material Type	4150
Unit of Measure	Inch



GENERAL DIMENSIONS				
NOMINAL DIA.	D +.0000 -.0005	PF +.0005 -.0000	H +.000 -.010	T +.000 -.005
3/4	.749	.751	.990	3/16
7/8	.874	.876	1.115	1/4
1	.999	1.001	1.240	1/4
1-1/4	1.249	1.251	1.490	5/16

L -.031 -.062	D = 3/4		D = 7/8		D = 1		D = 1-1/4		L -.031 -.062
	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	
1-3/4	7/8	100-GL	7/8	200-GL	7/8	300-GL			1-3/4
2-1/4	7/8	101-GL	7/8	201-GL	7/8	301-GL			2-1/4
2-3/4	7/8	102-GL	7/8	202-GL	7/8	302-GL	7/8	402-GL	2-3/4
3-1/4	7/8	103-GL	7/8	203-GL	7/8	303-GL	7/8	403-GL	3-1/4
3-3/4	7/8	104-GL	7/8	204-GL	7/8	304-GL	7/8	404-GL	3-3/4
4-1/4	1-3/8	105-GL	1-3/8	205-GL	1-3/8	305-GL	7/8	405-GL	4-1/4
4-3/4	1-3/8	106-GL	1-3/8	206-GL	1-3/8	306-GL	1-3/8	406-GL	4-3/4
5-1/4	1-3/8	107-GL	1-3/8	207-GL	1-3/8	307-GL	1-3/8	407-GL	5-1/4
5-3/4	1-7/8	108-GL	1-3/8	208-GL	1-3/8	308-GL	1-3/8	408-GL	5-3/4
6-1/4	1-7/8	109-GL	1-7/8	209-GL	1-3/8	309-GL	1-3/8	409-GL	6-1/4
6-3/4	1-7/8	110-GL	1-7/8	210-GL	1-7/8	310-GL	1-7/8	410-GL	6-3/4
7-1/4	1-7/8	111-GL	1-7/8	211-GL	1-7/8	311-GL	1-7/8	411-GL	7-1/4
7-3/4	1-7/8	112-GL	1-7/8	212-GL	1-7/8	312-GL	1-7/8	412-GL	7-3/4
8-1/4		113-GL	1-7/8	213-GL	1-7/8	313-GL	1-7/8	413-GL	8-1/4
8-3/4		114-GL	1-7/8	214-GL	1-7/8	314-GL	1-7/8	414-GL	8-3/4
9-1/4	1-7/8	115-GL	1-7/8	215-GL	1-7/8	315-GL	1-7/8	415-GL	9-1/4
9-3/4		116-GL		216-GL	1-7/8	316-GL	1-7/8	416-GL	9-3/4
10-1/4		117-GL		217-GL	1-7/8	317-GL	1-7/8	417-GL	10-1/4
10-3/4		118-GL	1-7/8	218-GL	1-7/8	318-GL	1-7/8	418-GL	10-3/4
11-1/4				219-GL	1-7/8	319-GL	1-7/8	419-GL	11-1/4
11-3/4				220-GL	1-7/8	320-GL	1-7/8	420-GL	11-3/4
12-1/4			1-7/8	221-GL	1-7/8	321-GL	1-7/8	421-GL	12-1/4
12-3/4							1-7/8	422-GL	12-3/4
13-3/4							1-7/8	423-GL	13-3/4
14-3/4							1-7/8	424-GL	14-3/4
15-3/4							1-7/8	425-GL	15-3/4

Continued on next page

Straight Leader Pins - Standard

- Provide initial alignment of cavity and core halves
- Press-fit installation

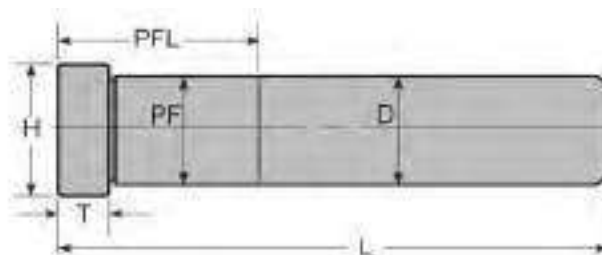


SPECIFICATIONS

Hardness	Case Hardened 58-60 Rc
Material Type	4150
Unit of Measure	Inch

GENERAL DIMENSIONS

NOMINAL DIA.	D +.0000 -.0005	PF +.0005 -.0000	H +.000 -.010	T +.000 -.005
3/4	.749	.751	.990	3/16
7/8	.874	.876	1.115	1/4
1	.999	1.001	1.240	1/4
1-1/4	1.249	1.251	1.490	5/16



L -.031 -.062	D = 1-1/2		D = 2		D = 2-1/2		D = 3		L -.031 -.062
	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	
3-3/4	1-3/8	504-GL							3-3/4
4-1/4	1-3/8	505-GL							4-1/4
4-3/4	1-3/8	506-GL							4-3/4
5-1/4	1-3/8	507-GL							5-1/4
5-3/4	1-3/8	508-GL	1-7/8	608-GL	2-3/8	708-GL			5-3/4
6-1/4	1-3/8	509-GL							6-1/4
6-3/4	1-3/8	510-GL	1-7/8	610-GL	2-3/8	710-GL			6-3/4
7-1/4									7-1/4
7-3/4	1-7/8	512-GL	1-7/8	612-GL	2-3/8	712-GL			7-3/4
8-1/4									8-1/4
8-3/4	1-7/8	514-GL	1-7/8	614-GL	2-3/8	714-GL			8-3/4
9-1/4									9-1/4
9-3/4	1-7/8	516-GL	1-7/8	616-GL	2-3/8	716-GL			9-3/4
10-1/4									10-1/4
10-3/4	1-7/8	518-GL	1-7/8	616-GL	2-3/8	718-GL			10-3/4
11-1/4									11-1/4
11-3/4	1-7/8	520-GL	1-7/8	620-GL	2-3/8	720-GL			11-3/4
12-1/4									12-1/4
12-3/4	1-7/8	522-GL	1-7/8	622-GL	2-3/8	722-GL	2-7/8	822-GL	12-3/4
13-3/4	1-7/8	523-GL	1-7/8	623-GL	2-3/8	723-GL			13-3/4
14-3/4	1-7/8	524-GL	1-7/8	624-GL	2-3/8	724-GL	2-7/8	824-GL	14-3/4
15-3/4	1-7/8	525-GL	1-7/8	625-GL	2-3/8	725-GL			15-3/4
16-3/4			2-3/8	628-GL	2-3/8	728-GL	2-7/8	828-GL	16-3/4
18-3/4			2-3/8	630-GL	2-3/8	730-GL	2-7/8	830-GL	18-3/4

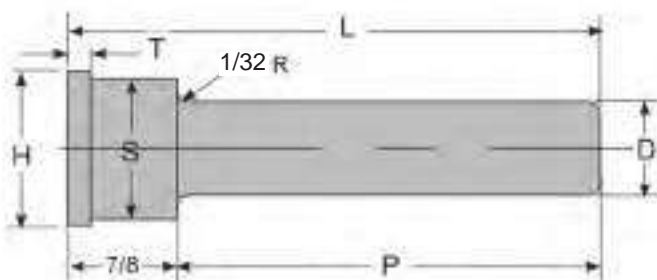
Shoulder Leader Pins - Guided Ejector

- Provide initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with any standard PCS bushings
- Case hardened steel
- Designed for 7/8" Bottom Clamp Plate

Leader Pins provide initial alignment of cavity and core halves. PCS Shoulder Guided Ejector Leader Pins are manufactured from 4150 steel. These pins come standard with a 7/8" press-fit length. These leader pins can be used with PCS standard bushings.



SPECIFICATIONS	
Hardness	Case Hardened 58-60 Rc
Material Type	4150
Unit of Measure	Inch



CATALOG NO.	NOMINAL DIA.	ACTUAL PIN DIAMETER +.0000 / -.0005	S PRESS FIT DIAMETER +.0005/- .0000	P PIN LENGTH	L OVERALL LENGTH -.030/- .060	H HEAD DIAMETER +.000/- .010	T HEAD THICK +.000/- .015
004-GSP	1/2	0.499	0.751	2-7/8	3-3/4	0.853	.187
005-GSP		0.499	0.751	3-3/8	4-1/4	0.853	.187
006-GSP		0.499	0.751	3-7/8	4-3/4	0.853	.187
007-GSP		0.499	0.751	4-3/8	5-1/4	0.853	.187
105-GSP	3/4	0.749	1.126	3-3/8	4-1/4	1.250	.312
106-GSP		0.749	1.126	3-7/8	4-3/4	1.250	.312
107-GSP		0.749	1.126	4-3/8	5-1/4	1.250	.312
108-GSP		0.749	1.126	4-7/8	5-3/4	1.250	.312
305-GSP	1	0.999	1.376	3-3/8	4-1/4	1.500	.312
306-GSP		0.999	1.376	3-7/8	4-3/4	1.500	.312
307-GSP		0.999	1.376	4-3/8	5-1/4	1.500	.312
308-GSP		0.999	1.376	4-7/8	5-3/4	1.500	.312

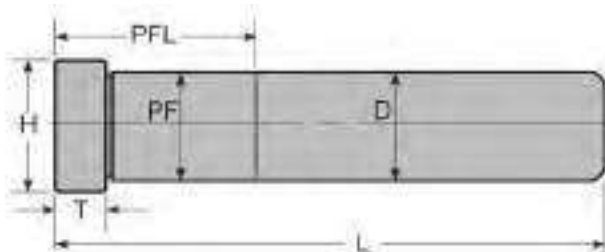
Straight Leader Pins - Guided Ejector

- Provide initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with any standard PCS bushings
- Case hardened steel
- Designed for 7/8" Bottom Clamp Plate



Leader Pins provide initial alignment of cavity and core halves. PCS Guided Ejector Leader Pins are manufactured from 4150 steel. These leader pins come standard with a press-fit length of 7/8" and can be used with PCS standard bushings.

SPECIFICATIONS	
PFL Press Fit Length	7/8
Hardness	Case Hardened 58-60 Rc
Material Type	4150
Unit of Measure	Inch



CATALOG NO.	NOMINAL DIA.	ACTUAL PIN DIAMETER +.0000/- .0005	PF PRESS FIT DIAMETER +.0005/- .0000	H HEAD DIAMETER +.000/- .010	T HEAD THICKNESS +.000/- .015	L OVERALL LENGTH -.03 / -.06
005-GLS	1/2	0.499	0.501	0.615	3/16	4-1/4
006-GLS						4-3/4
007-GLS						5-1/4
008-GLS						5-3/4
009-GLS						6-1/4
105-GLS	3/4	0.749	0.751	0.990	3/16	4-1/4
106-GLS						4-3/4
107-GLS						5-1/4
108-GLS						5-3/4
109-GLS						6-1/4
205-GLS	7/8	0.874	0.876	1.115	1/4	4-1/4
206-GLS						4-3/4
207-GLS						5-1/4
208-GLS						5-3/4
209-GLS						6-1/4

Continued on next page

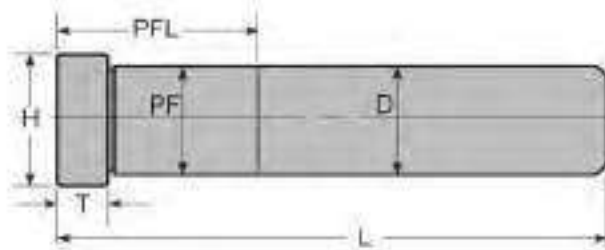
Straight Leader Pins - Guided Ejector

- Provide initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with any standard PCS bushings
- Case hardened steel
- Designed for 7/8" Bottom Clamp Plate

Leader Pins provide initial alignment of cavity and core halves. PCS Guided Ejector Leader Pins are manufactured from 4150 steel. These leader pins come standard with a press-fit length of 7/8" and can be used with PCS standard bushings.



SPECIFICATIONS	
PFL Press Fit Length	7/8
Hardness	Case Hardened 58-60 Rc
Material Type	4150
Unit of Measure	Inch



CATALOG NO.	NOMINAL DIA.	ACTUAL PIN DIAMETER +.0000/- .0005	PF PRESS FIT DIAMETER +.0005/- .0000	H HEAD DIAMETER +.000/- .010	T HEAD THICKNESS +.000/- .015	L OVERALL LENGTH -.03 / -.06
305-GLS	1	0.999	1.001	1.240	1/4	4-1/4
306-GLS						4-3/4
307-GLS						5-1/4
308-GLS						5-3/4
309-GLS						6-1/4
405-GLS	1-1/4	1.249	1.251	1.490	5/16	4-1/4
406-GLS						4-3/4
407-GLS						5-1/4
408-GLS						5-3/4
409-GLS						6-1/4

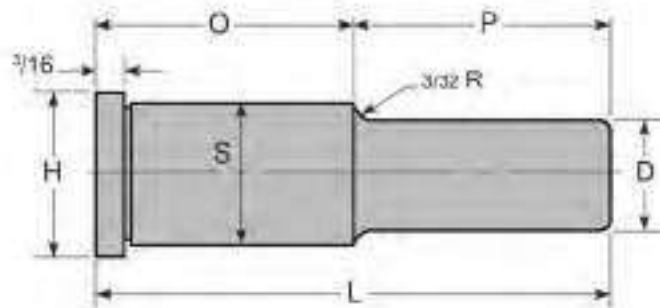
Shoulder Leader Pins - Small Mold Assemblies

- Provide initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with any standard PCS bushings
- Case hardened steel



Leader Pins provide initial alignment of cavity and core halves. PCS Shoulder Leader Pins for Small Mold Assemblies are manufactured from 4150 steel. Pins come standard with a diameter of 1/2". These leader pins can be used with PCS standard bushings.

SPECIFICATIONS	
S Press Fit Diameter Tolerance	+0.0005 / -.0000
T Head Thickness Tolerance	+0.000 / -.0005
S Press Fit Diameter	.751
T Head Thickness	3/16
Shoulder Radius	3/32 Max
Hardness	Case Hardened 58-60 Rc
Material Type	4150
Unit of Measure	Inch



CATALOG NO.	D NOMINAL PIN DIAMETER	ACTUAL PIN DIAMETER +.0000/-0.0005	O PRESS FIT LENGTH +.0005/-0.0000	H HEAD DIAMETER +.000/-0.010	P PIN LENGTH	L OVERALL LENGTH -.030/-0.060	
A-0707	1/2	0.499	7/8	0.853	7/8	1-3/4	
A-0713					1-3/8	2-1/4	
A-0717					1-7/8	2-3/4	
A-0723					2-3/8	3-1/4	
A-1307			1-3/8		1-7/8	7/8	2-1/4
A-1313						1-3/8	2-3/4
A-1317						1-7/8	3-1/4
A-1707						7/8	2-3/4
A-1713						1-3/8	3-1/4
A-1717						1-7/8	3-3/4
A-2307			7/8		3-1/4	7/8	3-1/4
A-2713						1-3/8	4-1/4

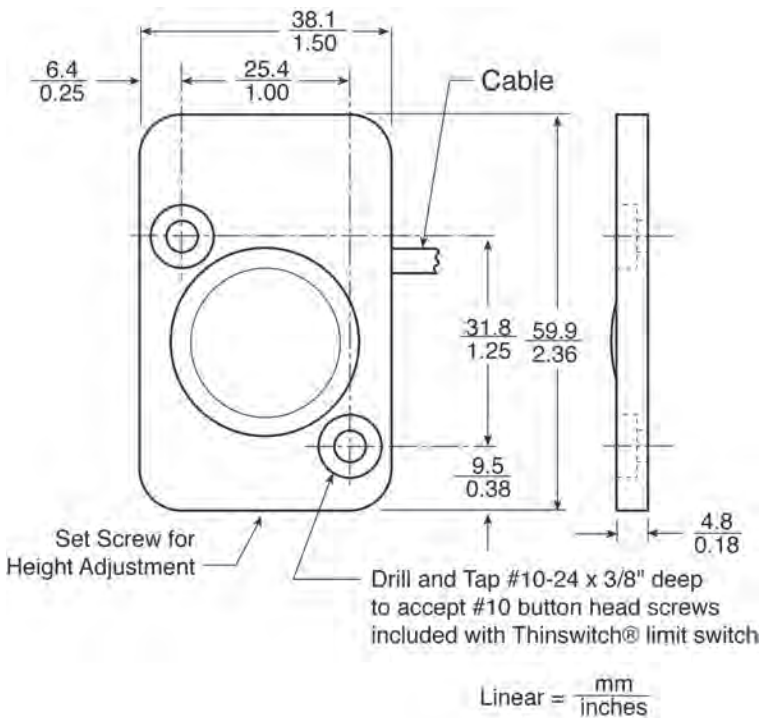
Liquid Resistant Limit Switch

- Over 10 million cycle life
- Standard model rated for 175° F (79.4° C)
- High temperature model rated for 250° (121° C)
- Adjustable actuation between 3/16” and 1/4” from the mold base
- Slim design fits snugly behind the ejector plate between rest buttons
- Wire leads have been stripped and tinned
- Mounting screws and wire clips included



The Liquid Resistant Limit Switch is designed to verify ejector plate return in areas where occasional water or oil may be present. Its slim design allows for it to fit snugly behind the ejector plate between rest buttons. The Liquid Resistant Switch uses the same mounting holes as the original Thinswitch™.

SPECIFICATIONS	
Wire Gauge	22ga stranded
Cycle Life	Over 10 million
Thickness	3/16
Wire Length	6 ft.
Body Material Type	Nylon - Fiberglass Reinforced
Dome Material Type	Polyurethane
Back Cover Material Type	Polyester Film



RATED CURRENT vs. STEEL TEMPERATURE					
T-222-LR			HT-291-L		
Amps	°F	°C	Amps	°F	°C
5.0	85	29.4	5.0	100	37.7
4.0	120	49.0	4.5	155	68.3
3.0	155	68.3	4.0	210	98.8
2.0	175	79.4	3.5	250	121.1

CATALOG NO.	TEMPERATURE RATING C°	TEMPERATURE RATING F°
T-222-LR	79.4°	175°
HT-291-LR	121°	250°

Thinswitch™ Limit Switch

- Over 10 million cycle life
- Standard model rated for 175° F (79.4°C)
- High temperature model rated for 250° (121°C)
- Adjustable holding force: 17 - 27 lbs.
- SPDT switching
- Stainless Steel spring
- Mounting hardware is included



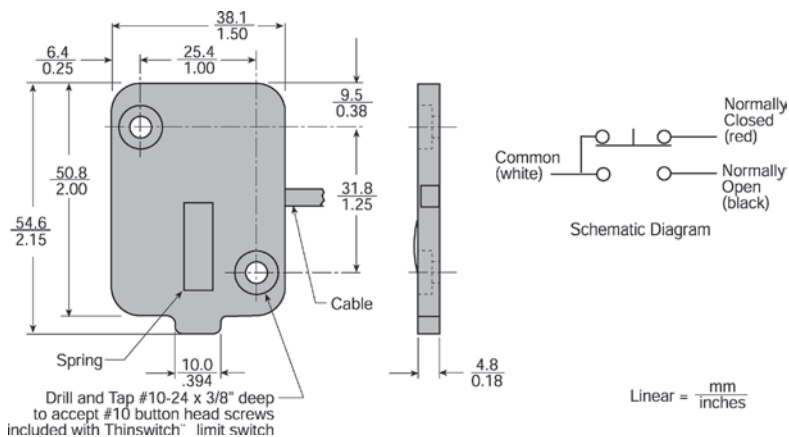
The Thinswitch™ Limit Switch verifies ejector plate return before permitting the mold to close in an injection molding press. It fits inside the ejector housing in the space provided by the rest buttons. The Thinswitch™ can also be used for core slides.

SPECIFICATIONS

Wire Gauge	22ga stranded
Cycle Life	Over 10 million
Wire Length	6 ft.
Body Material Type	Nylon - Fiberglass Reinforced
Spring Material Type	Stainless Steel
Back Cover Material Type	Polyester Film

RATED CURRENT vs. STEEL TEMPERATURE

T-222-LR		HT-291-L			
Amps	°F	°C	Amps	°F	°C
5.0	85	29.4	5.0	100	37.7
4.0	120	49.0	4.5	155	68.3
3.0	155	68.3	4.0	210	98.8
2.0	175	79.4	3.5	250	121.1



CATALOG NO.	TEMPERATURE RATING C°	TEMPERATURE RATING F°	THICKNESS
T-222	79.4°	175°	3/16
HT-291	121°	250°	3/16

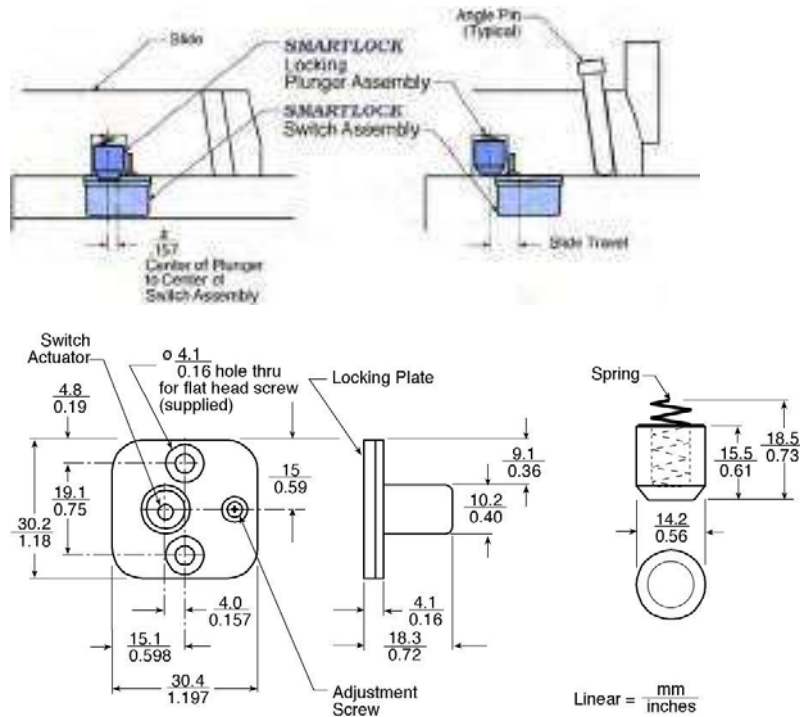
SmartLock® Slide Retainer and Limit Switch

- Over 10 million cycle life
- Standard model rated for 175° F (79.4° C)
- High temperature model rated for 250° (121° C)
- Adjustable holding force: 17 - 27 lbs.
- SPDT switching
- Wire leads have been stripped and tinned
- Fiberglass-reinforced nylon body

Smartlock® is a slide retainer and limit switch in a single unique package. The plunger and detent mechanically hold a slide in the retracted position while the SPDT switch verifies the slide position to the mold close circuit.



SPECIFICATIONS	
Wire Gauge	22ga
Cycle Life	Over 10 million
Wire Length	6 ft.
Body Material Type	Nylon - Fiberglass Reinforced
Spring Material Type	Stainless Steel
Plunger Material Type	Hardened Steel



RATED CURRENT vs. STEEL TEMPERATURE					
T-222-LR			HT-291-L		
Amps	°F	°C	Amps	°F	°C
5.0	85	29.4	5.0	100	37.7
4.0	120	49.0	4.5	155	68.3
3.0	155	68.3	4.0	210	98.8
2.0	175	79.4	3.5	250	121.1

CATALOG NO.	TEMPERATURE RATING C°	TEMPERATURE RATING F°	THICKNESS
SmartLock® Slide Retainer and Limit Switch			
SL-222	79.4°	175°	.79
SL-291	121°	250°	.79
Smartlock® Slide Retainer and Limit Switch with Captive Plunger			
SL-222-CP	79.4°	175°	.79
Wire Clip for Limit Switch			
CT-222	79.4°	175°	.79

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

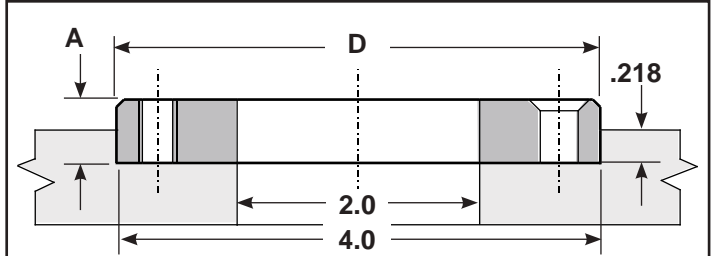
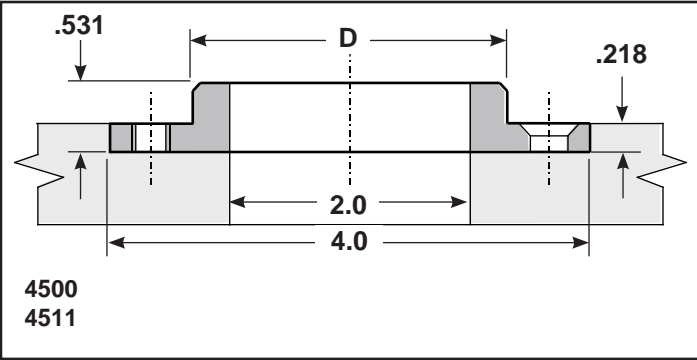


All rings have 3.312 B.C. Except:

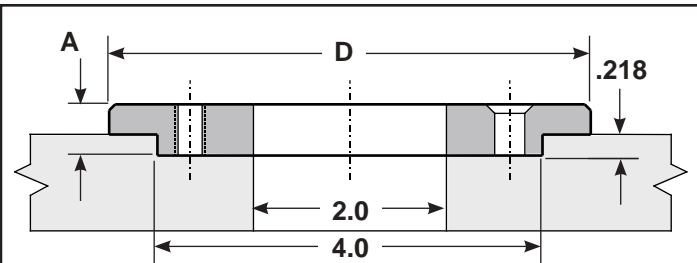
4520, 4522 = 4.625 B.C.

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

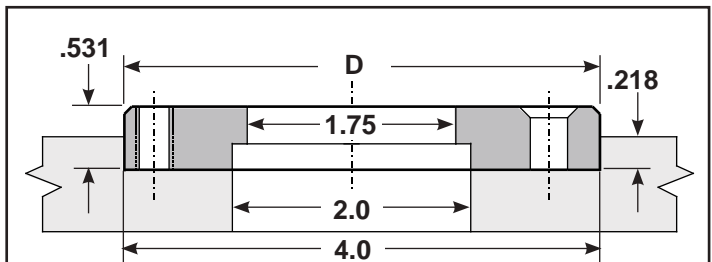
Standard Steel Locating Rings



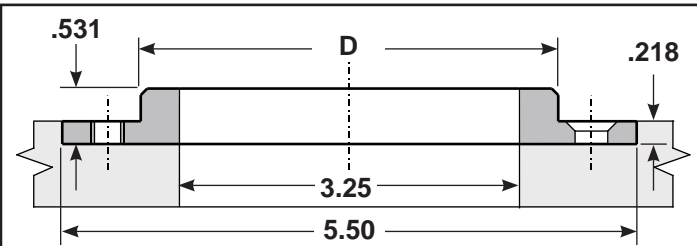
CATALOG NO.	A
4501	.531
4501LN	.437
4503	.218



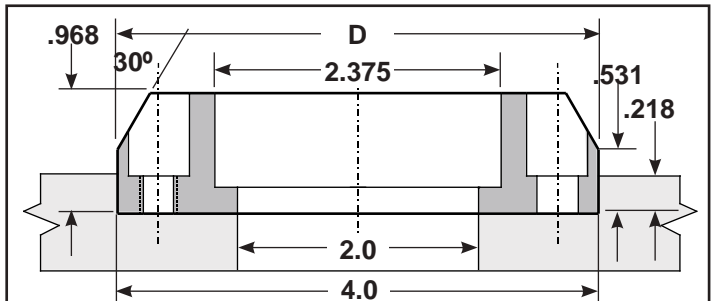
CATALOG NO.	A
4502	.531
4505LN	.437



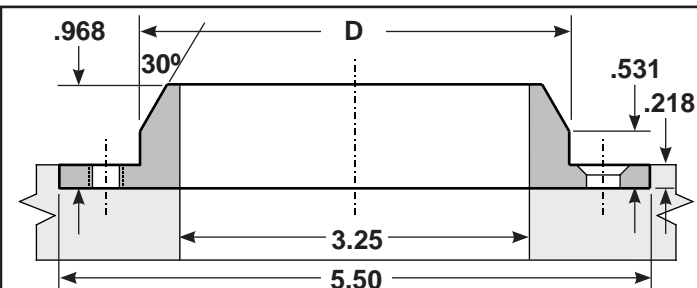
4504
Clamp Type



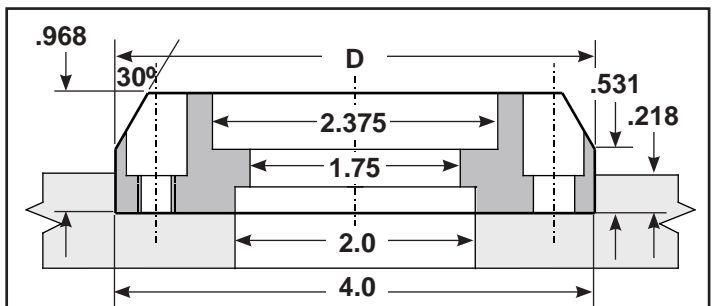
4520
Extension Nozzle Type



4521
Standard Series - Extra Lead In



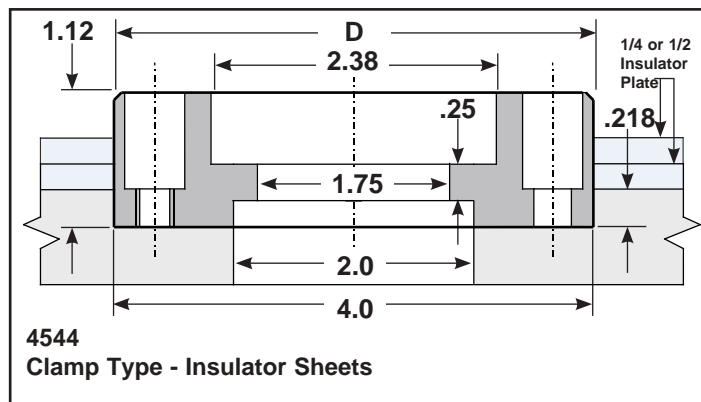
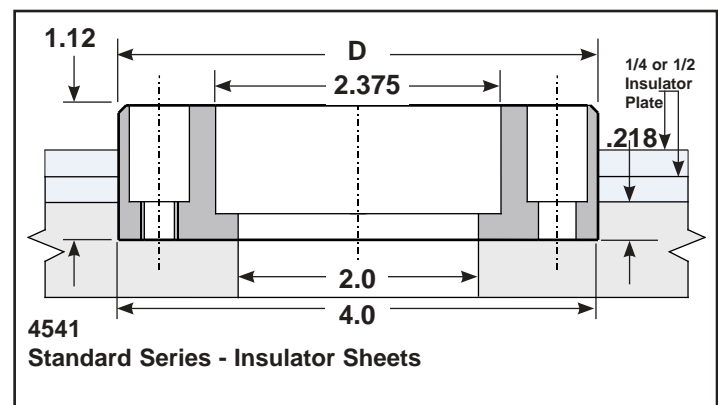
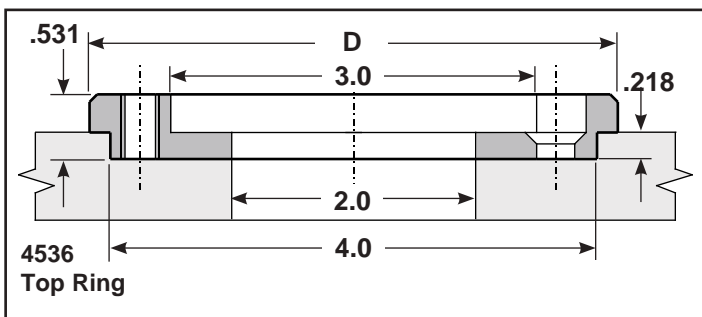
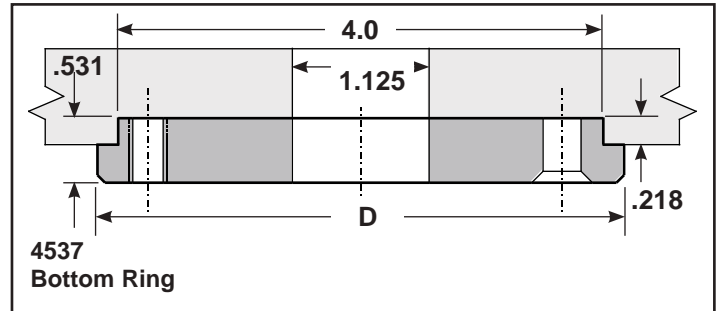
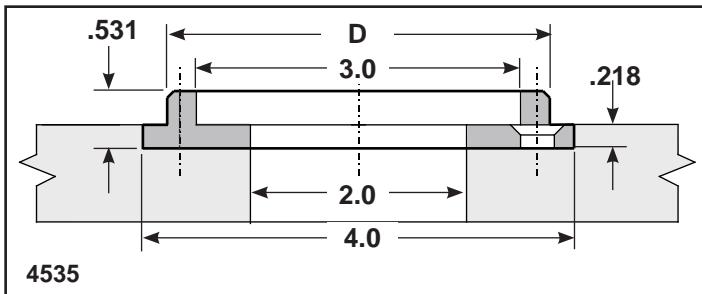
4522
Extension Nozzle Type - Extra Lead In



4524
Clamp Type - Extra Lead In

Custom sizes available upon request

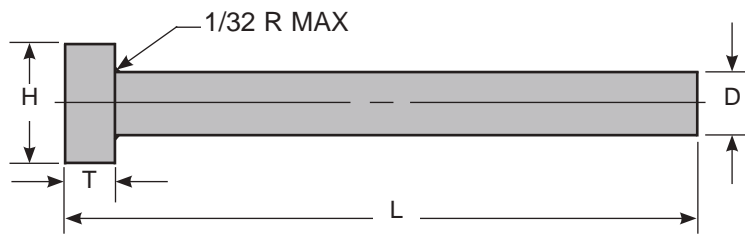
Standard Steel Locating Rings



Return Pins - Nitrided

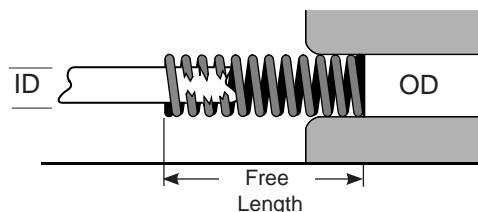
- Ensures positive return of ejector system
- Manufactured from precision hot work steel
- Nitrided

SPECIFICATIONS	
T Head Thickness Tolerance	+ .000 / - .002
T Head Thickness	0.25
Core Hardness	45 - 50 Rc
Surface Hardness	65 - 74 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



CATALOG NO.	D PIN DIAMETER + .000 / - .001	H HEAD DIAMETER + .000 / .010	L OVERALL LENGTH + .013 / + .008
RP-50	0.500	0.750	3-9/16
RP-51	0.500	0.750	4-1/16
RP-52	0.500	0.750	4-9/16
RP-53	0.500	0.750	5-1/16
RP-54	0.500	0.750	5-9/16
RP-55	0.500	0.750	6-1/16
RP-56	0.500	0.750	6-9/16
RP-60	0.625	0.875	4-1/16
RP-61	0.625	0.875	4-9/16
RP-62	0.625	0.875	5-1/16
RP-63	0.625	0.875	5-9/16
RP-64	0.625	0.875	6-1/16
RP-65	0.625	0.875	6-9/16
RP-66	0.625	0.875	7-1/16
RP-67	0.625	0.875	7-9/16
RP-68	0.625	0.875	8-1/16
RP-70	0.750	1.000	4-15/16
RP-71	0.750	1.000	5-7/16
RP-72	0.750	1.000	5-15/16
RP-73	0.750	1.000	6-7/16
RP-74	0.750	1.000	6-15/16
RP-75	0.750	1.000	7-7/16
RP-76	0.750	1.000	7-15/16
RP-77	0.750	1.000	8-7/16
RP-78	0.750	1.000	8-15/16
RP-79	0.750	1.000	9-7/16

Medium Duty Springs



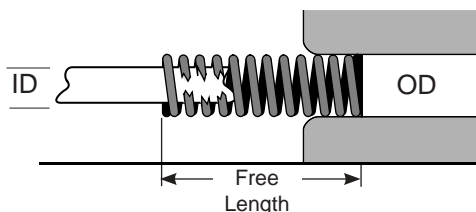
DEFLECTION OF LENGTH	
Maximum	50%
Average Life	40%
Long Life	25%

CATALOG NO.	O.D.	I.D.	FREE LENGTH	LOAD AT 1/10 IN. DEFLECTION (LBS.)		
04M10	3/8	3/16	1	6.0		
04M12			1-1/4	5.4		
04M15			1-1/2	4.0		
04M17			1-3/4	3.4		
04M20			2	2.8		
04M25			2-1/2	2.4		
04M30			3	2.1		
04M120			12	0.6		
05M10			1/2	9/32	1	11.0
05M12					1-1/4	8.2
05M15					1-1/2	6.8
05M17					1-3/4	6.0
05M20	2	5.5				
05M25	2-1/2	4.5				
05M30	3	3.5				
05M35	3-1/2	3.0				
05M45	4-1/2	2.5				
05M55	5-1/2	2.1				
05M65	6-1/2	1.4				
05M75	7-1/2	1.2				
05M120	12	0.7				
06M10	5/8	11/32	1	16.4		
06M12			1-1/4	12.8		
06M15			1-1/2	10.8		
06M17			1-3/4	9.6		
06M20			2	8.8		
06M25			2-1/2	6.0		
06M30			3	5.6		
06M35			3-1/2	4.8		
06M40			4	4.4		
06M120			12	1.6		
07M10			3/4	3/8	1	31.2
07M12					1-1/4	25.6
07M15	1-1/2	20.0				
07M17	1-3/4	17.6				
07M20	2	14.4				
07M25	2-1/2	12.0				
07M30	3	9.6				
07M35	3-1/2	8.0				
07M40	4	7.2				
07M45	4-1/2	6.4				
07M50	5	6.0				
07M55	5-1/2	5.5				
07M60	6	5.0				
07M65	6-1/2	4.5				
07M75	7-1/2	3.8				
07M120	12	2.4				
10M10	1	1/2	1	55.0		
10M12			1-1/4	45.0		
10M15			1-1/2	35.0		
10M17			1-3/4	30.0		
10M20			2	26.0		
10M25			2-1/2	20.0		
10M30			3	16.5		

CATALOG NO.	O.D.	I.D.	FREE LENGTH	LOAD AT 1/10 IN. DEFLECTION (LBS.)		
10M35	1	1/2	3-1/2	15.0		
10M40			4	12.0		
10M45			4-1/2	10.4		
10M50			5	9.6		
10M55			5-1/2	8.8		
10M60			6	8.0		
10M70			7	7.2		
10M80			8	6.0		
10M120			12	4.0		
12M15			1-1/4	5/8	1-1/2	49.6
12M17					1-3/4	42.4
12M20					2	35.2
12M25	2-1/2	28.8				
12M30	3	24.0				
12M35	3-1/2	20.0				
12M40	4	17.6				
12M45	4-1/2	16.0				
12M50	5	13.6				
12M55	5-1/2	12.8				
12M60	6	12.0				
12M70	7	10.4				
12M80	8	8.8				
12M100	10	7.2				
12M120	12	6.0				
15M20	1-1/2	3/4	2	53.0		
15M25			2-1/2	45.0		
15M30			3	36.0		
15M35			3-1/2	30.0		
15M40			4	27.0		
15M45			4-1/2	23.0		
15M50			5	21.0		
15M55			5-1/2	18.5		
15M60			6	17.0		
15M70			7	14.5		
15M80			8	12.8		
15M100			10	10.0		
15M120	12	8.0				
20M25	2	1	2-1/2	100.0		
20M30			3	83.0		
20M35			3-1/2	64.8		
20M40			4	60.0		
20M45			4-1/2	53.0		
20M50			5	47.0		
20M55			5-1/2	39.2		
20M60			6	39.0		
20M70			7	31.2		
20M80			8	28.0		
20M100			10	20.8		
20M120			12	17.5		

Medium Heavy Duty Springs

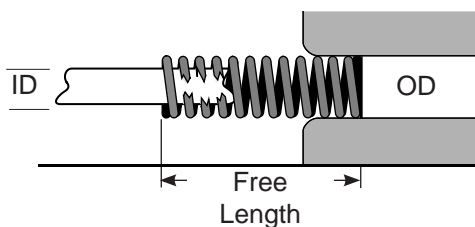
DEFLECTION OF LENGTH	
Maximum	50%
Average Life	40%
Long Life	25%



CATALOG NO.	O.D.	I.D.	FREE LENGTH	LOAD AT 1/10 IN. DEFLECTION (LBS.)
04MH10	3/8	3/16	1	9.0
04MH12			1-1/4	7.3
04MH15			1-1/2	6.7
04MH17			1-3/4	5.8
04MH20			2	5.0
04MH25			2-1/2	4.2
04MH30			3	3.0
04MH120			12	0.9
WIRE .046 X .0767				
05MH10	1/2	9/32	1	16.8
05MH12			1-1/4	13.0
05MH15			1-1/2	9.5
05MH17			1-3/4	8.5
05MH20			2	7.5
05MH25			2-1/2	6.0
05MH30			3	5.7
05MH35			3-1/2	4.0
05MH120	12	1.2		
WIRE .061 X .093				
06MH10	5/8	11/32	1	30.0
06MH12			1-1/4	21.5
06MH15			1-1/2	19.0
06MH17			1-3/4	16.8
06MH20			2	14.8
06MH25			2-1/2	11.5
06MH30			3	10.0
06MH35			3-1/2	8.5
06MH40	4	7.6		
06MH120	12	2.7		
WIRE .081 X .117				
07MH10	3/4	3/8	1	50.0
07MH12			1-1/4	38.0
07MH15			1-1/2	32.0
07MH17			1-3/4	28.0
07MH20			2	24.8
07MH25			2-1/2	19.2
07MH30			3	14.4
07MH35			3-1/2	12.8
07MH40			4	12.0
07MH45			4-1/2	11.2
07MH50			5	9.0
07MH55			5-1/2	8.0
07MH60	6	7.5		
07MH120	12	3.6		
WIRE .093 X .156				
10MH10	1	1/2	1	76.0
10MH12			1-1/4	62.4
10MH15			1-1/2	49.6
10MH17			1-3/4	44.0
10MH20			2	40.0
10MH25			2-1/2	31.0
10MH30			3	25.0
10MH35			3-1/2	21.6
10MH40			4	18.4
10MH45			4-1/2	17.0
10MH50			5	14.4
10MH55			5-1/2	12.8
10MH60	6	12.0		
WIRE .115 X .218				

CATALOG NO.	O.D.	I.D.	FREE LENGTH	LOAD AT 1/10 IN. DEFLECTION (LBS.)
10MH70	1	1/2	7	10.0
10MH80	WIRE		8	8.8
10MH120	.115 X .218		12	6.2
12MH15	1-1/4	5/8	1-1/2	114.4
12MH17			1-3/4	100.8
12MH20			2	86.4
12MH25			2-1/2	62.4
12MH30			3	51.2
12MH35			3-1/2	44.0
12MH40			4	36.8
12MH45			4-1/2	32.0
12MH50			5	29.0
12MH55			5-1/2	26.4
12MH60			6	25.0
12MH70			7	20.0
12MH80	8	18.4		
12MH100	10	14.5		
12MH120	12	12.4		
WIRE .156 X .281				
15MH20	1-1/2	3/4	2	108.0
15MH25			2-1/2	85.6
15MH30			3	62.4
15MH35			3-1/2	52.8
15MH40			4	48.0
15MH45			4-1/2	43.2
15MH50			5	36.8
15MH55			5-1/2	34.4
15MH60			6	30.4
15MH70			7	26.4
15MH80			8	22.0
15MH100			10	17.6
15MH120	12	14.4		
WIRE .187 X .312				
20MH25	2	1	2-1/2	118.4
20MH30			3	96.0
20MH35			3-1/2	80.0
20MH40			4	66.4
20MH45			4-1/2	60.0
20MH50			5	56.0
20MH55			5-1/2	50.4
20MH60			6	47.2
20MH70			7	40.0
20MH80			8	35.2
20MH100			10	26.0
20MH120			12	22.4
WIRE .225 X .437				

Heavy Duty Springs



DEFLECTION OF LENGTH

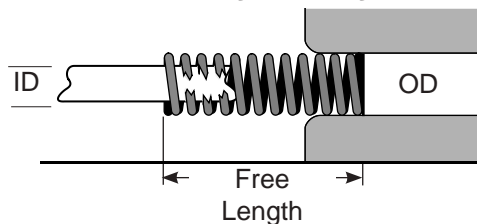
Maximum	50%
Average Life	40%
Long Life	25%

CATALOG NO.	O.D.	I.D.	FREE LENGTH	LOAD AT 1/10 IN. DEFLECTION (LBS.)		
04H10	3/8	3/16	1	11.0		
04H12			1-1/4	9.8		
04H15			1-1/2	8.0		
04H17			1-3/4	8.4		
04H20			2	7.2		
04H25			2-1/2	5.5		
04H30			3	4.2		
04H120			12	1.2		
05H10			1/2	9/32	1	23.6
05H12					1-1/4	18.6
05H15					1-1/2	15.5
05H17					1-3/4	13.8
05H20	2	11.0				
05H25	2-1/2	8.4				
05H30	3	7.4				
05H35	3-1/2	6.0				
05H120	12	1.6				
06H10	5/8	11/32			1	42.4
06H12					1-1/4	29.6
06H15					1-1/2	27.2
06H17			1-3/4	24.0		
06H20			2	20.8		
06H25			2-1/2	17.0		
06H30			3	14.4		
06H35			3-1/2	12.2		
06H40			4	10.8		
06H120			12	3.0		
07H10			3/4	3/8	1	108.0
07H12					1-1/4	88.0
07H15	1-1/2	65.6				
07H17	1-3/4	60.0				
07H20	2	49.6				
07H25	2-1/2	40.0				
07H30	3	34.0				
07H35	3-1/2	28.0				
07H40	4	25.0				
07H45	4-1/2	22.0				
07H50	5	19.5				
07H55	5-1/2	17.0				
07H60	6	16.0				
07H120	12	8.0				
10H10	1	1/2	1	208.0		
10H12			1-1/4	171.2		
10H15			1-1/2	118.4		
10H17			1-3/4	104.0		
10H20			2	90.0		
10H25			2-1/2	68.0		
10H30			3	54.4		
10H35			3-1/2	45.6		
10H40			4	40.0		
10H45			4-1/2	35.2		
10H50			5	31.2		
10H55			5-1/2	28.8		

CATALOG NO.	O.D.	I.D.	FREE LENGTH	LOAD AT 1/10 IN. DEFLECTION (LBS.)
10H60	1	1/2	6	25.6
10H70	WIRE .159 X .225		7	22.4
10H120			12	12.0
12H15			1-1/2	212.0
12H17	1-1/4	5/8	1-3/4	181.6
12H20			2	149.6
12H25			2-1/2	117.6
12H30			3	95.2
12H35			3-1/2	75.2
12H40			4	66.4
12H45			4-1/2	58.4
12H50			5	53.0
12H55			5-1/2	47.2
12H60			6	42.4
12H70			7	36.8
12H80			8	32.8
12H100	10	25.6		
12H120	12	20.8		
15H20	1-1/2	3/4	2	190.4
15H25			2-1/2	155.0
15H30			3	130.0
15H35			3-1/2	106.4
15H40			4	91.2
15H45			4-1/2	78.4
15H50			5	71.2
15H55			5-1/2	64.0
15H60			6	58.4
15H70			7	49.6
15H80			8	43.2
15H100			10	34.4
15H120	12	28.8		
20H25	2	1	2-1/2	260.0
20H30			3	200.0
20H35			3-1/2	170.0
20H40			4	150.0
20H45			4-1/2	120.0
20H50			5	110.0
20H55			5-1/2	100.0
20H60			6	94.0
20H70			7	82.0
20H80			8	73.0
20H100			10	55.0
20H120			12	42.0

Extra Heavy Duty Springs

DEFLECTION OF LENGTH	
Maximum	50%
Average Life	40%
Long Life	25%



CATALOG NO.	O.D.	I.D.	FREE LENGTH	LOAD AT 1/10 N. DEFLECTION (LBS.)
04X10	3/8	3/16	1	22.0
04X12			1-1/4	16
04X15			1-1/2	12.5
04X17			1-3/4	11.5
04X20			2	9.0
04X25			2-1/2	7.0
04X30			3	6.5
04X120			12	1.5
WIRE .059 X .080				
05X10	1/2	9/32	1	32.0
05X12			1-1/4	24
05X15			1-1/2	20
05X17			1-3/4	17
05X20			2	14
05X25			2-1/2	11.5
05X30			3	9
05X35			3-1/2	8
05X120	12	2.5		
WIRE .084 X .097				
06X10	5/8	11/32	1	63.0
06X12			1-1/4	47.0
06X15			1-1/2	38.0
06X17			1-3/4	32.0
06X20			2	29.0
06X25			2-1/2	22.0
06X30			3	19.0
06X35			3-1/2	16.0
06X40	4	13.5		
06X120	12	4.5		
WIRE .110 X .126				
07X10	3/4	3/8	1	140.0
07X12			1-1/4	110.0
07X15			1-1/2	89.0
07X17			1-3/4	75.0
07X20			2	68.0
07X25			2-1/2	50.0
07X30			3	40.5
07X35			3-1/2	34.5
07X40			4	30.0
07X45			4-1/2	26.5
07X50			5	23.5
07X55			5-1/2	21.5
07X60	6	19.5		
07X120	12	9.5		
WIRE .135 X .165				
10X15	1	1/2	1-1/2	160.0
10X20			2	116.0
10X25			2-1/2	89.6
10X30			3	73.6
10X35			3-1/2	62.4
10X40			4	55.2
10X45			4-1/2	48.8
10X50			5	43.2
10X60			6	36.0
10X120			12	17.6
WIRE .188 X .225				

CATALOG NO.	O.D.	I.D.	FREE LENGTH	LOAD AT 1/10 N. DEFLECTION (LBS.)
12X20	1-1/4	5/8	2	192.0
12X25			2-1/2	144.0
12X30			3	118.4
12X35			3-1/2	100.8
12X40			4	84.0
12X45			4-1/2	78.4
12X50			5	68.0
12X60			6	56.0
WIRE .225 X .295				
12X80	1-1/2	3/4	8	41.6
12X100			10	33.6
12X120			12	26.4
15X20			2	376.0
15X25			2-1/2	294.4
15X30			3	231.2
15X35			3-1/2	196.0
15X40			4	171.2
15X45			4-1/2	148.0
15X50			5	136.0
15X60			6	110.4
15X80			8	80.8
15X10	10	67.2		
15X12	12	54.4		
WIRE .300 X .300				
20X25	2	1	2-1/2	381.6
20X30			3	312.0
20X35			3-1/2	254.4
20X40			4	220.
20X45			4-1/2	188.8
20X50			5	172.8
20X60			6	141.6
20X80			8	100
20X100	10	84.0		
20X120	12	71.0		
WIRE .365 X .460				

PCS CUMSA™ Sprue Adjuster

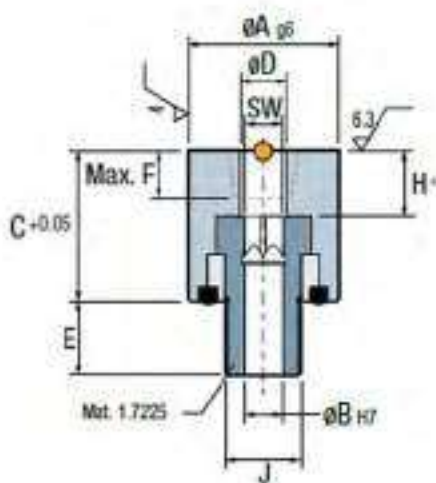
- Two models available
- Can be installed in the cavity or in the core
- Allows for trapezoidal or full round runners



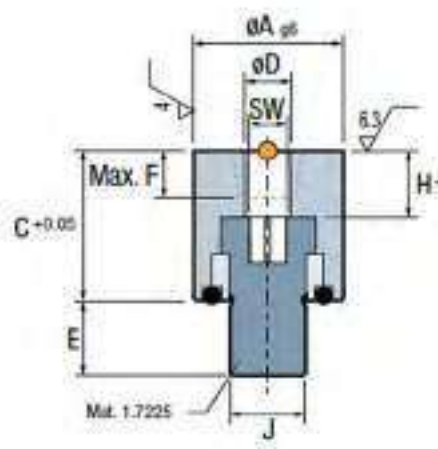
The CUMSA™ Sprue Adjuster allows for runner shut off directly from the parting line. Two models are available, depending on whether or not an ejector pin is required.

SPECIFICATIONS

Hardness	48 ±3 RC
Material Type	INOX 1.4034
Unit of Measure	Metric DIN



With ejector bore



Without ejector bore

CATALOG NO.	A	C	D	E	F	H	J	SW
SA120014	12	14	4	6	3	5	M6 X 1.00	3
SA120314	12	14	4	6	3	5	M6 X 1.00	3
SA160016	16	16	5	8	5	7	M8 X 1.25	4
SA160416	16	16	5	8	5	7	M8 X 1.25	4
SA200018	20	18	6	10	6	9	M10 X 1.75	5
SA200518	20	18	6	10	6	9	M10 X 1.75	5

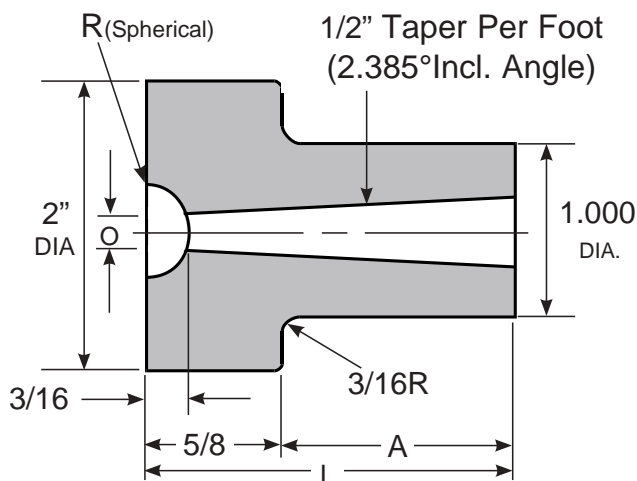
Sprue Bushing A Series - 1/2" Radius

- Manufactured from Premium Hotwork Steel
- Hardened and polished
- Allows for transfer of plastic from nozzle to runner system

Sprue bushings accept the machine nozzle and allow for plastic to enter the mold. PCS Sprue Bushings are manufactured from premium hotwork steel and are hardened and polished.



SPECIFICATIONS	
Head Diameter	2.000
Body Diameter	1.000
Body to Shoulder Radius	3/16
Head Thickness	.625
Radius	1/2
O Orifice Tolerance	+0.010 / -.000
Surface Hardness	42 - 46 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



CATALOG NO.	A BODY LENGTH	L OVERALL LENGTH	O ORIFICE
A-600-51	1.190	1.815	5/32
A-600-91	1.190	1.815	9/32
A-602-71	2.190	2.312	7/32
A-602-91	2.190	2.312	9/32
A-605-51	2.190	2.312	5/32

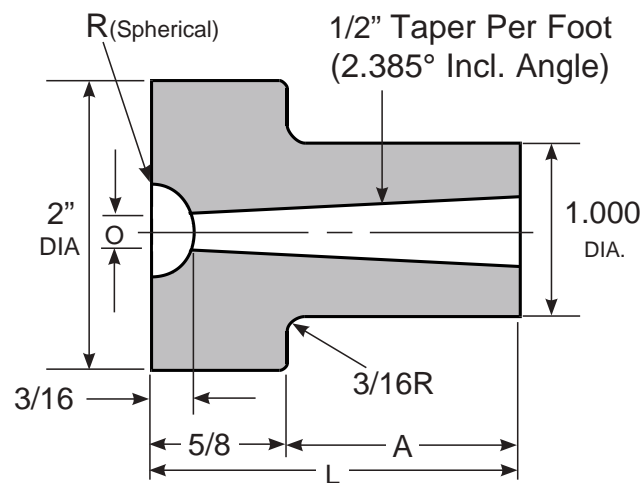
Sprue Bushing A Series - 3/4" Radius

- Manufactured from Premium Hotwork Steel
- Hardened and polished
- Allows for transfer of plastic from nozzle to runner system

Sprue bushings accept the machine nozzle and allow for plastic to enter the mold. PCS Sprue Bushings are manufactured from premium hotwork steel and are hardened and polished.



SPECIFICATIONS	
Head Diameter	2.000
Body Diameter	1.000
Body to Shoulder Radius	3/16
Head Thickness	.625
Radius	3/4
O Orifice Tolerance	+.010 / -.000
Surface Hardness	42 - 46 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



CATALOG NO.	A BODY LENGTH	L OVERALL LENGTH	O ORIFICE
A-600-73	1.190	1.815	7/32
A-601-53	1.190	1.815	5/32
A-602-53	2.190	2.312	5/32
A-602-73	2.190	2.312	7/32
A-604-53	2.190	2.312	5/32

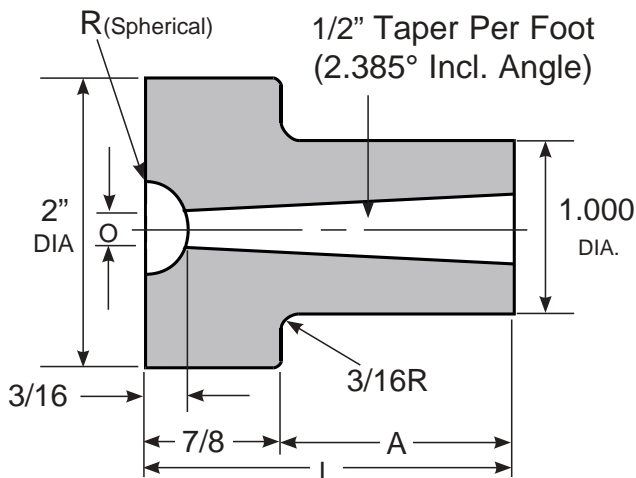
Sprue Bushing B Series - 1/2" & 3/4" Radius

- Manufactured from Premium Hotwork Steel
- Hardened and polished
- Allows for transfer of plastic from nozzle to runner system

Sprue bushings accept the machine nozzle and allow for plastic to enter the mold. PCS Sprue Bushings are manufactured from premium hotwork steel and are hardened and polished.



SPECIFICATIONS	
Head Diameter	2.000
Body Diameter	1.000
Body to Shoulder Radius	3/16
Head Thickness	.875
O Orifice Tolerance	+0.010 / -.000
Surface Hardness	46 - 48 RC
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



A	L LENGTH	O ORIFICE							
		5/32"		7/32"		9/32"		11/32"	
		RADIUS							
		1/2"	3/4"	1/2"	3/4"	1/2"	3/4"	1/2"	3/4"
29/32	1-25/32	B-600-51	B-600-53	B-600-71	B-600-73	B-600-91	B-600-93	B-600-112	B-600-134
1-13/32	2-9/32	B-601-51	B-601-53	B-601-71	B-601-73	B-601-91	B-601-93	B-601-112	
1-29/32	2-25/32	B-602-51	B-602-53	B-602-71	B-602-73	B-602-91	B-602-93	B-602-112	B-602-134
2-13/32	3-9/32	B-603-51	B-603-53	B-603-71	B-603-73	B-603-91	B-603-93	B-603-112	B-603-134
2-29/32	3-25/32	B-604-51	B-604-53	B-604-71	B-604-73	B-604-91	B-604-93	B-604-112	B-604-134
3-13/32	4-9/32	B-605-51	B-605-53	B-605-71	B-605-73	B-605-91	B-605-93	B-605-112	B-605-134
3-29/32	4-25/32	B-606-51	B-606-53	B-606-71	B-606-73	B-606-91	B-606-93	B-606-112	B-606-134
4-13/32	5-9/32	B-607-51	B-607-53	B-607-71	B-607-73	B-607-91	B-607-93	B-607-112	B-607-134
4-29/32	5-25/32	B-608-51	B-608-53	B-608-71	B-608-73	B-608-91	B-608-93	B-608-112	B-608-134
5-29/32	6-25/32			B-609-71	B-609-73	B-609-91	B-609-93	B-609-112	B-609-134
6-29/32	7-25/32	B-610-51	B-610-53	B-610-71	B-610-73	B-610-91	B-610-93	B-610-112	B-610-134

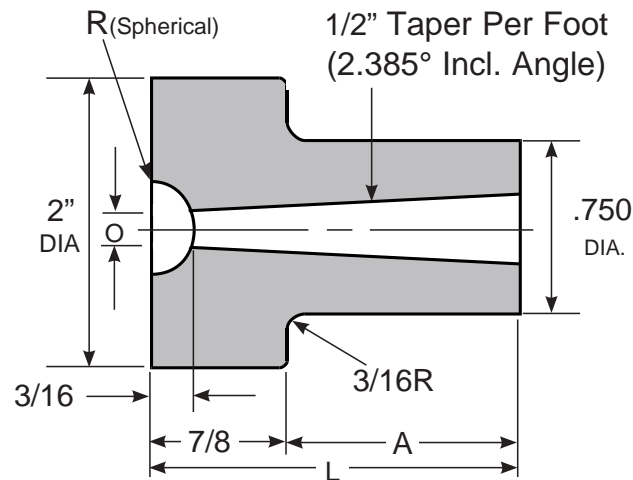
Sprue Bushing U Series - 1/2" & 3/4" Radius

- Manufactured from Premium Hotwork Steel
- Hardened and polished
- Allows for transfer of plastic from nozzle to runner system



Sprue bushings accept the machine nozzle and allow for plastic to enter the mold. PCS Sprue Bushings are manufactured from premium hotwork steel and are hardened and polished.

SPECIFICATIONS	
Head Diameter	2.000
Body Diameter	0.750
Body to Shoulder Radius	1/8
Head Thickness	.875
O Orifice Tolerance	+0.010 / -.000
Surface Hardness	42 - 46 Rc
Material Type	Hot Work Tool Steel
Unit of Measure	Inch



A	L LENGTH	O ORIFICE					
		5/32"		7/32"		9/32"	
		RADIUS					
		1/2"	3/4"	1/2"	3/4"	1/2"	3/4"
29/32	1-25/32	U-600-51	U-600-53	U-600-71	U-600-73	U-600-91	U-600-93
1-13/32	2-9/32	U-601-51	U-601-53	U-601-71	U-601-73	U-601-91	U-601-93
1-29/32	2-25/32	U-602-51	U-602-53	U-602-71	U-602-73	U-602-91	U-602-93
2-13/32	3-9/32	U-603-51	U-603-53	U-603-71	U-603-73	U-603-91	U-603-93
2-29/32	3-25/32	U-604-51	U-604-53	U-604-71	U-604-73	U-604-91	U-604-93
3-13/32	4-9/32	U-605-51	U-605-53	U-605-71	U-605-73	U-605-91	U-605-93
3-29/32	4-25/32	U-606-51	U-606-53	U-606-71	U-606-73	U-606-91	U-606-93

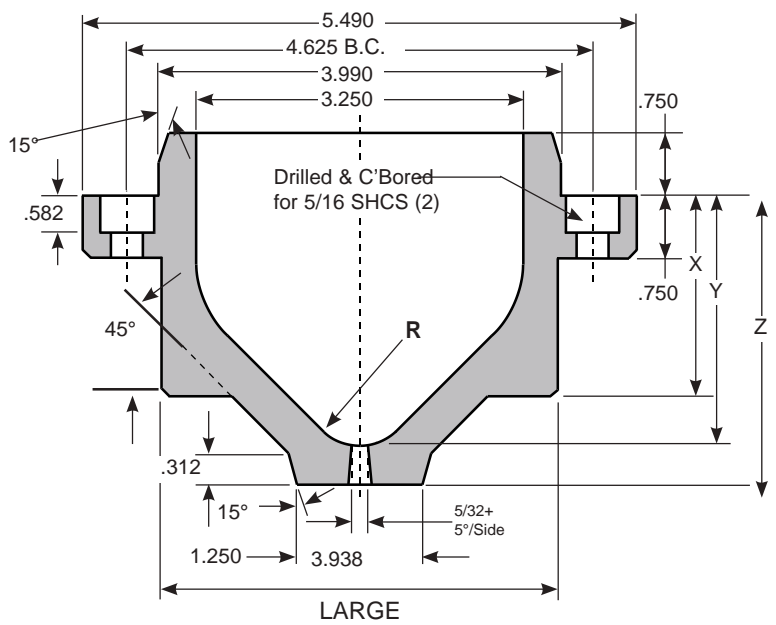
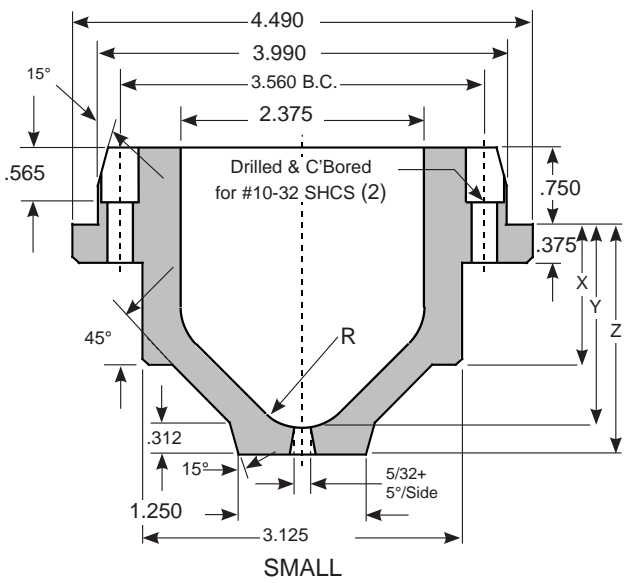
Sprue Bushing Extensions

- Can be used with 1-3/8" and 1-7/8" top clamp plate
- Tapered lead allows for easier installation in the molding machine platen
- Available in 1/2" and 3/4" radius with a 5/32" diameter hole (5° taper per side)
- Extra grind stock provided for fitting at assembly
- Used in three plate molds

Sprue bushings accept the machine nozzle and allow for plastic to enter the mold. PCS Sprue Bushings are manufactured from premium hotwork steel and are hardened and polished. Sprue Bushing Extensions are available for use with T-Series and stripper plate molds.



SPECIFICATIONS	
Surface Hardness	28 - 32 Rc
Material Type	4150
Unit of Measure	Inch



CATALOG NO.	RADIUS	X EXTENSION LENGTH +.002 / -.000	Y LENGTH TO SPHERICAL SEAT +.002 / -.002	Z LENGTH TO TIP SURFACE +.005 / -.000
SBES-30-5	1/2	1.375	2.000	2.265
SBES-35-5		1.875	2.500	2.765
SBEL-35-5		1.875	2.375	2.765
SBEL-40-5		2.375	2.875	3.265
SBES-30-7	3/4	1.375	2.000	2.265
SBES-35-7		1.875	2.500	2.765
SBEL-35-7		1.875	2.312	2.765
SBEL-40-7		2.375	2.812	3.265

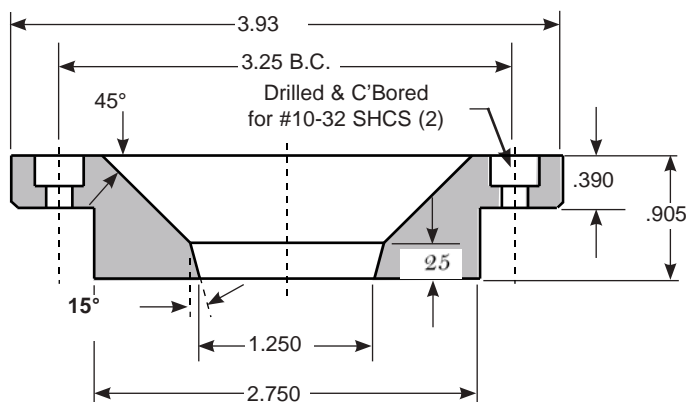
Stripper Plate Bushings

- Used with sprue bushing extension
- Accommodates both the large and small sprue bushing extensions
- Pre-hardened steel 300 Bhn
- Used with stripper plate mold bases
- SHCS Included



Stripper Plate Bushings are manufactured from pre hardened steel. These bushings are used with stripper plate mold bases and can accommodate both the large and small sprue bushing extensions.

SPECIFICATIONS	
I.D. Tolerance	+0.001 / -.000
O.D. Tolerance	+0.000 / -.002
Surface Hardness	300 Bhn
Material type	4150
Unit of Measure	Inch



CATALOG NO.	I.D.	O.D.
SPB-40	1.25	3.93

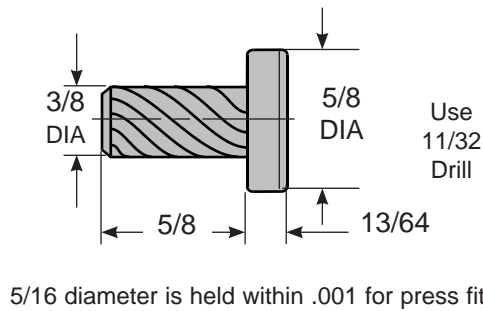
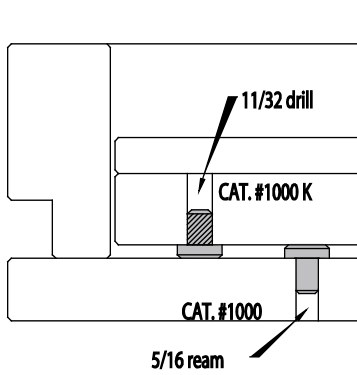
Stop Pins

- Knurled and standard pins available
- Prevents ejector plates from crashing into the mold
- Black-Oxide surface finish

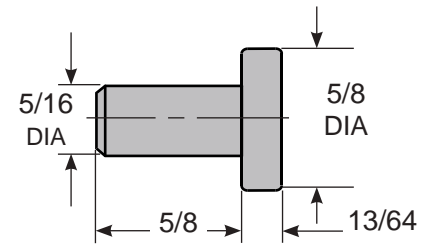
Stop Pins are made from hardened steel and are used to stop the ejector system from crashing into the backside of the mold. Stop Pins are available with a standard or spiral shank.



SPECIFICATIONS	
Hardness	38 - 44 Rc
Head Diameter	5/8
Material Type	1038
Pin Length	5/8
Head Thickness	13/64
Unit of Measure	Inch



SPIRAL SHANK



STANDARD

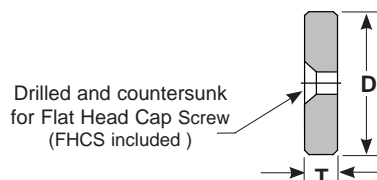
CATALOG NO.	PIN DIAMETER	SHANK TYPE
1000	5/16	Standard
1000-K	3/8	Spiral

Stop Disc



- Hardened steel material
- FHCS included
- Prevents ejector plates from crashing into the mold
- Black-Oxide surface finish

SPECIFICATIONS	
Thickness Tolerance	+0.0005 / -0.0005
Hardness	58 - 62 Rc
Material Type	8620
Unit of Measure	Inch



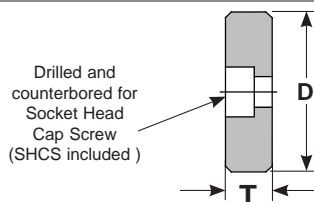
CATALOG NO.	D DIAMETER	T THICKNESS	FLAT HEAD CAP SCREW SIZE
SD-05	11/16	3/16	#10-24
SD-07	1	3/16	#10-24
SD-10	1-3/16	3/16	#10-24
SD-15	1-11/16	1/4	1/4-20

Stop Spacers

- Hardened steel material 58 - 62 Rc
- Drilled and counterbored for SHCS
- SHCS included
- Prevents ejector plates from crashing into the mold
- Black-Oxide surface finish



SPECIFICATIONS	
Thickness Tolerance	+0 / - .002
Hardness	58 - 62 Rc
Material Type	8620
Socket Head Cap Screw Size	1/4-20
Unit of Measure	Inch

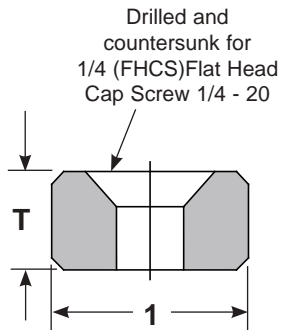


CATALOG NO.	D DIAMETER	T THICKNESS
SS-05	1	1/2
SS-15	1-3/16	1/2
SS-20	1-11/16	1/2
SS-25	1-11/16	1

Stop Button

- Hardened steel material
- .015 grindstock from nominal dimension
- Drilled and countersunk for FHCS 1/4 - 20
- Prevents ejector plates from crashing into the mold
- Black-Oxide surface finish

SPECIFICATIONS	
Thickness Tolerance	+0.005 / -.000
Diameter	1.00
Hardness	58-62 Rc
Material Type	8620
Unit of Measure	Inch



- Hardened
- .010 - .020 grindstock

CATALOG NO.	T THICKNESS
SB-03	3/16
SB-04	1/4
SB-06	3/8
SB-08	1/2
SB-10	5/8
SB-12	3/4
SB-16	1

PCS CUMSA™ Safety Stopper and Shock Absorber

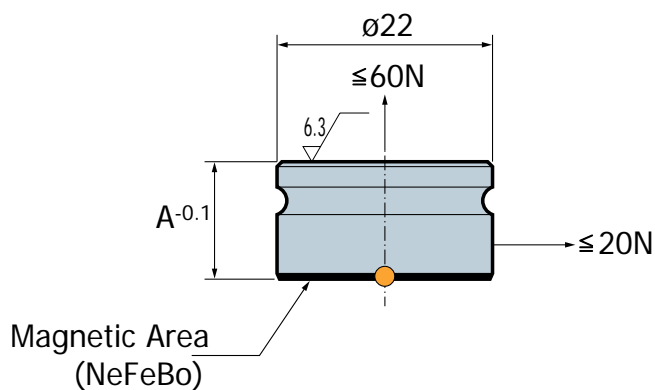
- Very strong magnetic blocks enable quick removal when used as a stopper
- Absorbs shocks and vibrations of the ejector plates

The CUMSA Safety Stopper is placed under the ejector plates to prevent the mold from crashing. The Safety Stopper consists of strong magnetic blocks which enable quick removal from the mold.



SPECIFICATIONS

Diameter	28
Hardness	58 +/- 3 Rc
Material Type	1.7242
Unit of Measure	Metric DIN



CATALOG NO.	A OVERALL HEIGHT
TM 102214	10
TM 122214	12.5
TM 152214	15
TM 202214	20
TA 280806	10

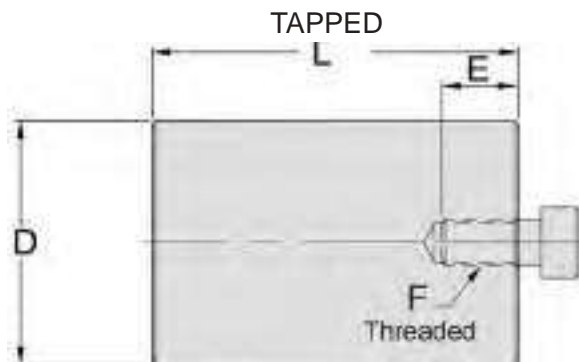
Support Pillars

- Manufactured from SAE 1040 steel
- Lengths are flat & parallel within .0002
- Protect mold base plates from bowing
- Helps to reduce flash

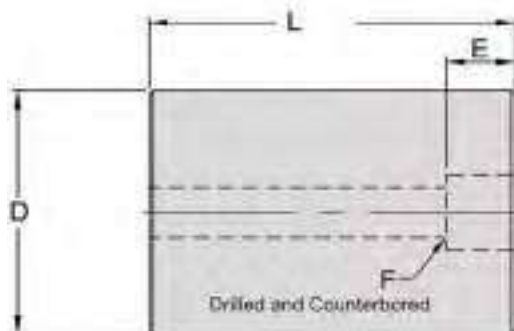


SPECIFICATIONS			
TAPPED			
D +.000 -.015	E +.01 -.00	F	
1	5/8	3/8-16	3/8-16 x 1 SHCS included FREE
1-1/4			
1-1/2			
1-3/4			
2			
2-1/2	1-1/4	5/8-11	not included
3			
4			

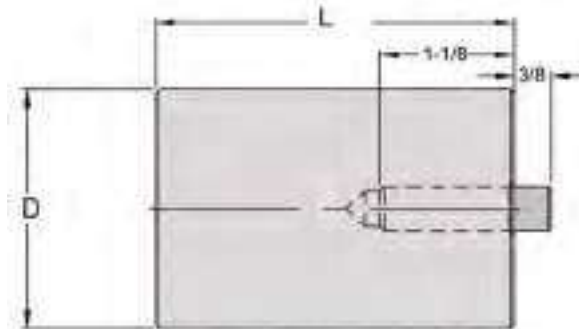
SPECIFICATIONS		
DRILLED & COUNTERBORED		
D +.000 -.015	E +.01 -.00	F
1-1/4	9/16	3/8
1-1/2		
2	3/4	5/8
3		



DRILLED & COUNTERBORED



DOWELED



3/8 x 1-1/2 Dowel Pin Included

D DIA +.000 / -.015	L LENGTH +.002 / +.001	TAPPED HOLE	DRILLED C'BORED	DOWELED
1	2.500	1025		
	3.000	1030		
	3.500	1035		
	4.000	1040		
	4.500	1045		
1-1/4	2.500	1225	DC-1225	D-1225
	3.000	1230	DC-1230	D-1230
	3.500	1235	DC-1235	D-1235
	4.000	1240	DC-1240	
	4.500	1245		
	5.000	1250	DC-1250	
1-1/2	2.500	1525		D-1525
	3.000	1530		D-1530
	3.500	1535	DC-1535	D-1535
	4.000	1540	DC-1540	D-1540
	4.500	1545		D-1545
	5.000	1550	DC-1550	D-1550
1-3/4	2.500	1725		
	3.000	1730		
	3.500	1735		
	4.000	1740		
	4.500	1745		
	5.000	1750		
2	2.500	2025		
	3.000	2030		D-2030
	3.500	2035		D-2035
	4.000	2040		D-2040
	4.500	2045		D-2045
	5.000	2050	DC-2050	
2-1/2	2.500	2225		
	3.000	2230		
	3.500	2235		
	4.000	2240		
	4.500	2245		
	5.000	2250		
3	2.500	2525		
	3.000	2530		
	3.500	2535		
	4.000	2540		
	4.500	2545		
	5.000	2550		
4	2.500	2825		
	3.000	2830		
	3.500	2835		
	4.000	2840		
4	4.000	3040		
	4.500	3045		
	5.000	3050	DC-3050	
	6.000	3060	DC-3060	
4	6.000	3260		
	8.000	3080	DC-3080	
	5.000	4050		
	6.000	4060		
4	6.000	4060		
	8.000	4080		

Custom sizes available upon request

Threaded Locating Pin Accessory

- Manufactured from SAE 1040 steel
- Allows a tapped support pillar to be doweled in place
- Doweled section, 3/8" in length



The Threaded Locating Pin Accessory contains 3/8-16 external threads on one end and a .3750" diameter doweled section on the other end. It can be installed into a 3/8-16 tapped hole on the end of a support pillar to allow for doweled installation.

SPECIFICATIONS	
Material Type	SAE 1040
D Diameter	3/8
L Overall Length	1
Unit of Measure	Inch

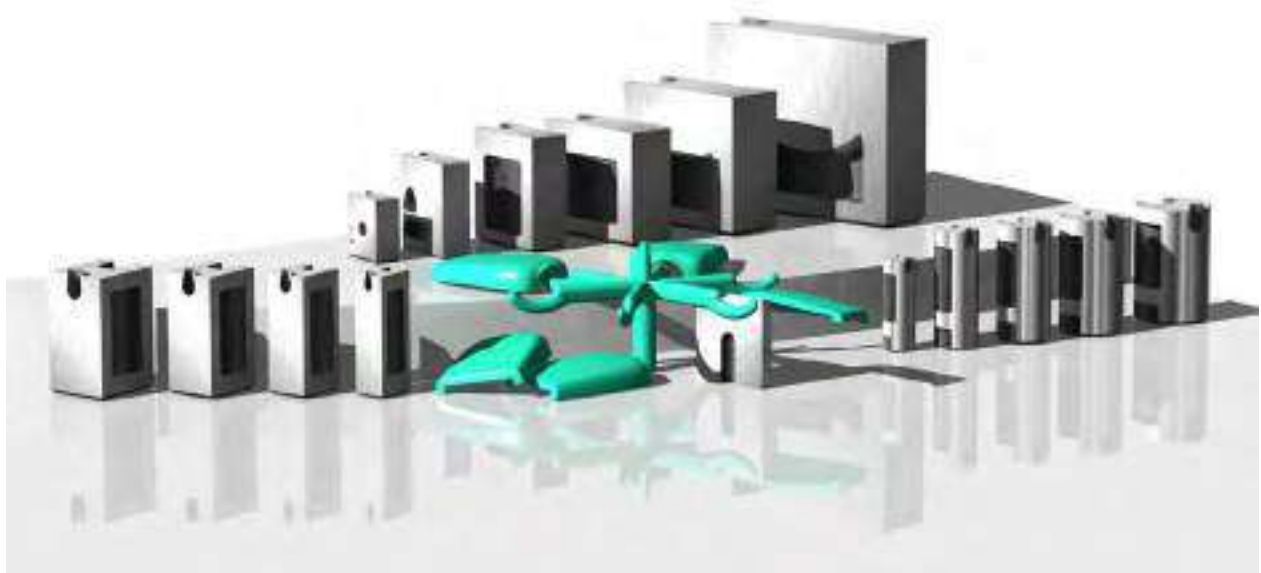
CATALOG NO.	DIAMETER	OVERALL LENGTH
TLP-38	3/8	1

Tunnel Gate Inserts

- Time and cost reduction with fast and easy application
- Made of highly wear-resistant hot work tool steel M2 (1.3343)
- High degree of reliability in production process
- ILVisible gate marks through underside gating
- Single-part design for compact dimensions
- Available in many different versions and sizes
- Integrated cutting edge for exact sprue separation
- Suitable for all plastics with optimized feed channel geometry
- Up to 60% filler content (e.g. glass fiber) is possible
- Use of MIM process ensures smooth feed channels and exact gate sizes

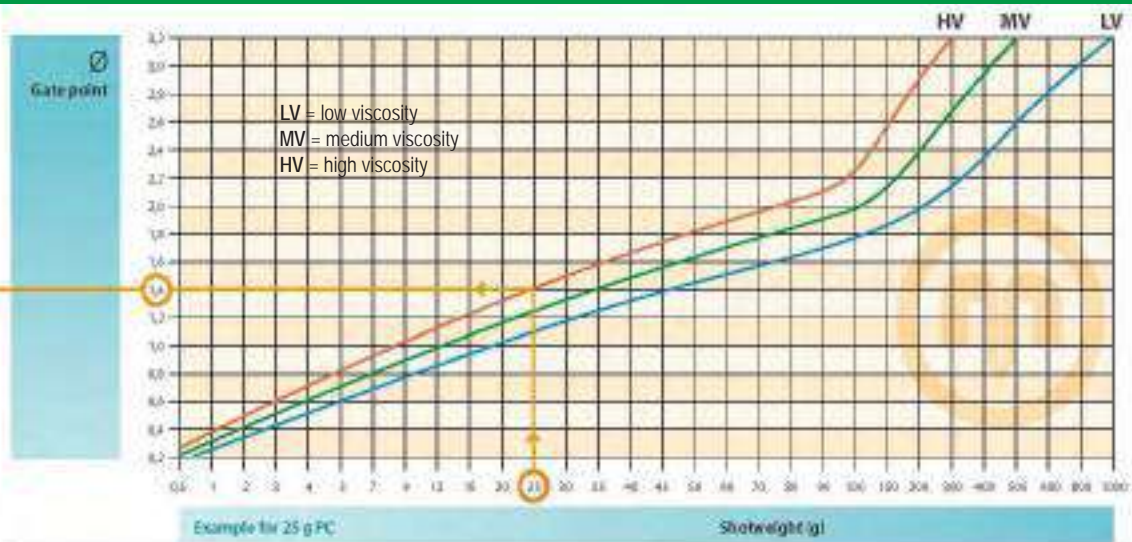


i-mold “Molding Innovations” stands for intelligent solutions and unique, innovative injection molded products. The tunnel gate inserts from i-mold are recognized worldwide as innovative products with high cost-reducing potential for moldmakers and molders.



Tunnel Gate Inserts - Technical Information

VISCOSITY GRAPH



Caution: When using filled plastics (glass fibres, carbon fibres, etc) you should increase the computed gate diameter by 20%.

The recommended shotweights and gate diameters are guide values only. Please also take into account such individual parameters as part geometry, mold design, type of plastic and fillers.

GATE DIAMETER

Ø	Cross-sectional area mm ²						
		TGS/TGR	TGC-XS SGC-XS	TGC-S SGC-S TPS-S	TGC-1 SGC-1 TPS-1	TGC-2 SGC-2 TPS-2	TGC-3/4 SGC-3/4 TPS-3
0.4	0.13	0.6	0.4	0.4			
0.6	0.28	0.6	0.6	0.5	0.6		
0.8	0.50	1.2	0.8	0.8	0.8	0.8	
1.0	0.78	1.6		1.0	1.0	1.0	
1.2	1.13	2.0		1.2	1.2	1.2	
1.4	1.54	2.4		1.4	1.4	1.4	
1.6	2.01	2.8			1.8	1.6	
1.8	2.54					1.8	
2.0	3.14					2.1	
2.2	3.8						0.5 x (4.5)
2.4	4.52						0.6 x (4.6)
2.6	5.31						0.7 x (4.7)
2.8	6.15						0.8 x (4.8)
3.0	7.07						0.9 x (4.9)
3.2	8.04						1.0 x (5.0)
3.4	9.04						1.1 x (5.1)
3.6	10.04						1.2 x (5.2)
3.8	11.04						1.3 x (5.3)
4.0	12.04						1.4 x (5.4)
4.2	13.04						1.5 x (5.5)
4.5	15.9						45

TGS / TGR / TGC - SGC - TPS

Round Gate Inserts - TGR

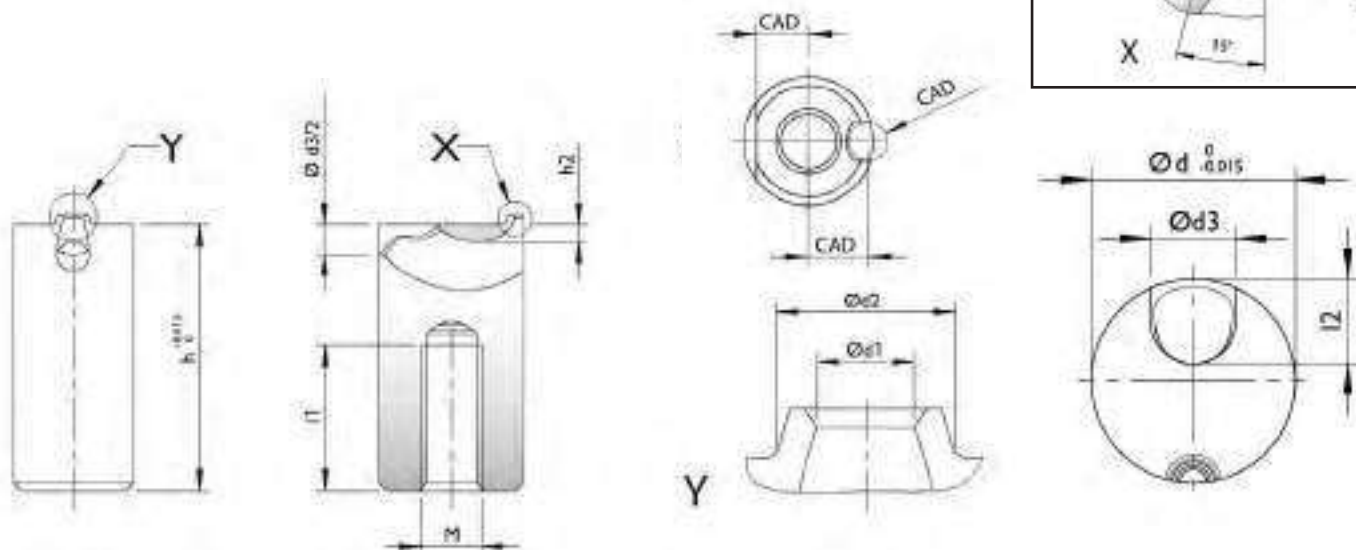
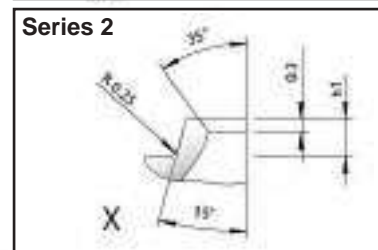
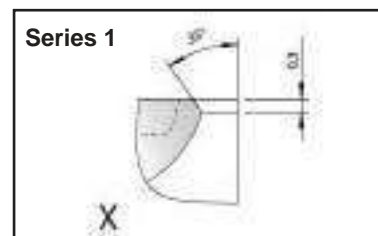
- For flat parting surfaces, including vestige with integrated cutting edge
- Ready to use - no adjustments necessary
- Available in 60 HRC hardness
- Available in Series 1 with machining allowance and Series 2 with vestige

Round Tunnel Gate Inserts are manufactured from wear resistant hot worked steel. Two different types of inserts are available, one with vestige and the other with machining allowance.



SPECIFICATIONS					
	TGR 6	TGR 8	TGR10	TGR 12	TGR 14
GATE POINT	0.6	0.6/0.8	0.8/1.2/1.6	1.2/1.6/2.0	1.6/2.0/2.4/2.8
RUNNER	2.5	3	4	5	6
MAXIMUM SHOT WEIGHT					
LV	3	5	30	50	200
MV	2	4	20	35	120
HV	1	3	12	25	75

LV = LOW VISCOSITY, MV= MEDIUM VISCOSITY, HV= HIGH VISCOSITY



CATALOG NO.	D	D1	D2	D3	H	H1	H2	L1	L2	M	SERIES
TGR6-06-S1-H	6	0.6	-	2.5	17.6	0.6	1.4	10	2.5	4	S1
TGR6-06-S2-H	6	0.6	1.9	2.5	17.0	0.6	0.8	10	2.5	4	S2
TGR8-06-S1-H	8	0.6	-	3	22.6	0.6	1.7	13	3.25	4	S1
TGR8-06-S2-H	8	0.6	1.9	3	22.0	0.6	1.1	13	3.25	4	S2
TGR8-08-S1-H	8	0.8	-	3	22.6	0.6	1.7	13	3.25	4	S1
TGR8-08-S2-H	8	0.8	2.1	3	22.0	0.6	1.1	13	3.25	4	S2
TGR10-08-S1-H	10	0.8	-	4	22.8	0.8	2.0	12	4	5	S1
TGR10-08-S2-H	10	0.8	2.2	4	22.0	0.8	1.2	12	4	5	S2
TGR10-12-S1-H	10	1.2	-	4	22.8	0.8	2.0	12	4	5	S1
TGR10-12-S2-H	10	1.2	2.6	4	22.0	0.8	1.2	12	4	5	S2
TGR10-16-S1-H	10	1.6	-	4	22.8	0.8	2.0	12	4	5	S1
TGR10-16-S2-H	10	1.6	3.0	4	22.0	0.8	1.2	12	4	5	S2

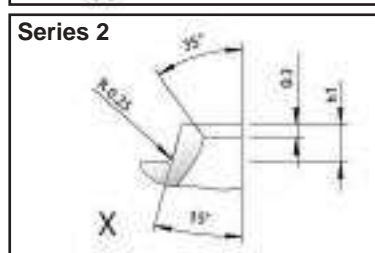
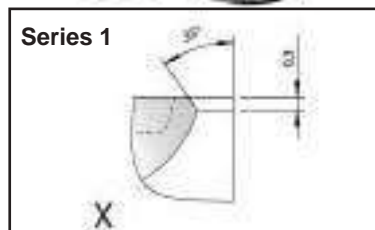
Continued on next page



Round Gate Inserts - TGR

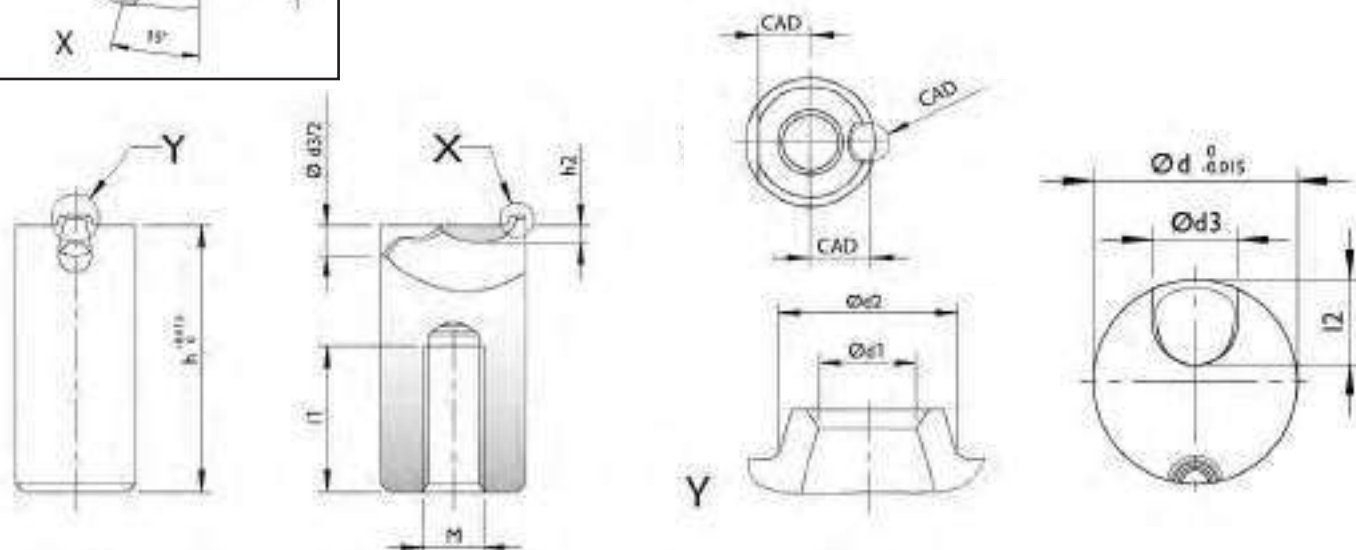
- For flat parting surfaces, including vestige with integrated cutting edge
- Ready to use - no adjustments necessary
- Available in 60 HRC hardness
- Available in Series 1 with machining allowance and Series 2 with vestige

Round Tunnel Gate Inserts are manufactured from wear resistant hot worked steel. Two different types of inserts are available, one with vestige and the other with machining allowance.



SPECIFICATIONS					
	TGR 6	TGR 8	TGR10	TGR 12	TGR 14
GATE POINT	0.6	0.6/0.8	0.8/1.2/1.6	1.2/1.6/2.0	1.6/2.0/2.4/2.8
RUNNER	2.5	3	4	5	6
MAXIMUM SHOT WEIGHT					
LV	3	5	30	50	200
MV	2	4	20	35	120
HV	1	3	12	25	75

LV = LOW VISCOSITY, MV= MEDIUM VISCOSITY, HV= HIGH VISCOSITY



CATALOG NO.	D	D1	D2	D3	H	H1	H2	L1	L2	M	SERIES
TGR12-12-S1-H	12	1.2	-	5	22.8	0.8	2.2	11	5	5	S1
TGR12-12-S2-H	12	1.2	2.6	5	22.0	0.8	1.4	11	5	5	S2
TGR12-16-S1-H	12	1.6	-	5	22.8	0.8	2.2	11	5	5	S1
TGR12-16-S2-H	12	1.6	3.0	5	22.0	0.8	1.4	11	5	5	S2
TGR12-20-S1-H	12	2.0	-	5	22.8	0.8	2.2	11	5	5	S1
TGR12-20-S2-H	12	2.0	3.4	5	22.0	0.8	1.4	11	5	5	S2
TGR14-16-S1-H	14	1.6	-	6	22.8	0.8	2.4	10	6	6	S1
TGR14-16-S2-H	14	1.6	3.0	6	22.0	0.8	1.6	10	6	6	S2
TGR14-20-S1-H	14	2.0	-	6	22.8	0.8	2.4	10	6	6	S1
TGR14-20-S2-H	14	2.0	3.4	6	22.0	0.8	1.6	10	6	6	S2
TGR14-24-S1-H	14	2.4	-	6	22.8	0.8	2.4	10	6	6	S1
TGR14-24-S2-H	14	2.4	3.8	6	22.0	0.8	1.6	10	6	6	S2
TGR14-28-S1-H	14	2.8	-	6	22.8	0.8	2.4	10	6	6	S1
TGR14-28-S2-H	14	2.8	4.2	6	22.0	0.8	1.6	10	6	6	S2

Round Gate Inserts - Installation Examples

with flow promoter

Series 1

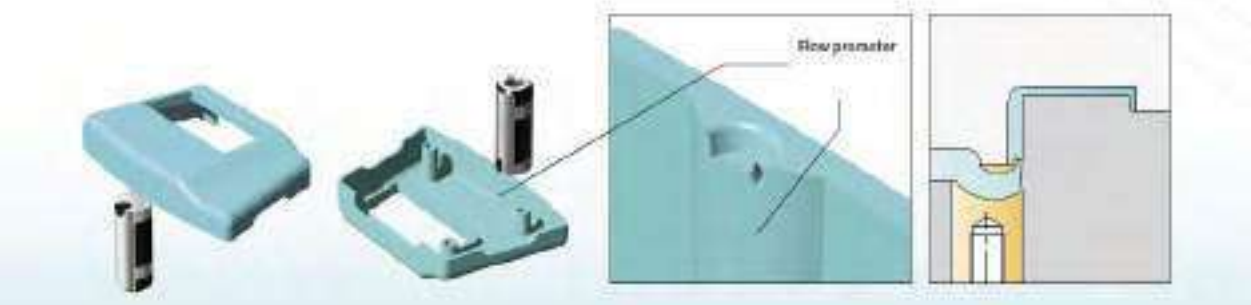


flat, with companion vestige



Series 2

with flow promoter



flat part with companion vestige - installation in fixed half of the mold



flat part without companion vestige

If a 100% clean separation of the sprue is not necessary or if reinforced plastics are being processed, the use of a companion vestige may be waived when molding flat parts.



Square Gate Inserts - TGS

- For flat parting surfaces, including vestige with integrated cutting edge
- Ready to use - no adjustments necessary
- Available in 60 HRC hardness
- Available in Series 1 with machining allowance and Series 2 with vestige

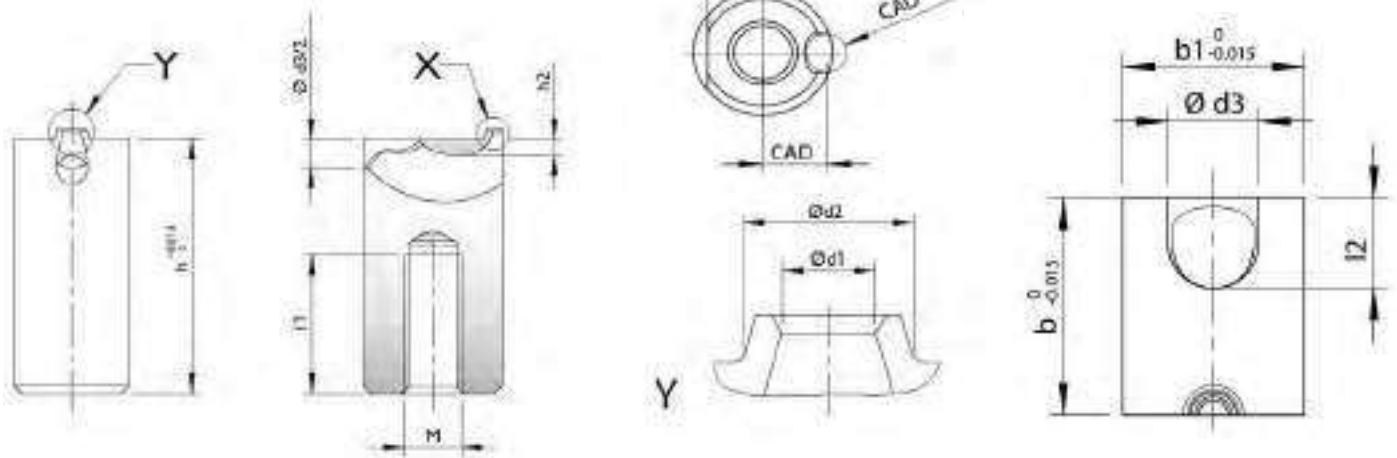
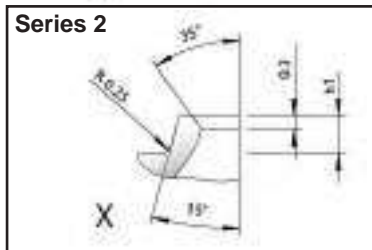
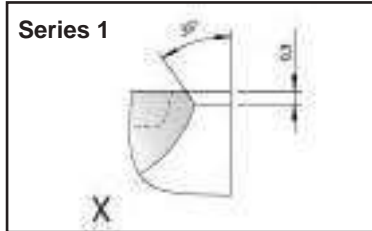
Square Tunnel Gate Inserts are manufactured from wear resistant hot worked steel. Two different types of inserts are available, one with vestige and the other with machining allowance.



SPECIFICATIONS

	TGS 8	TGS 10	TGS 12	TGS 14
GATE POINT RUNNER	0.6/0.8	0.8/1.2/1.6	1.2/1.6/2.0	1.6/2.0/2.4/2.8
	3	4	5	6
MAXIMUM SHOT WEIGHT				
LV	5	30	50	200
MV	4	20	35	120
HV	3	12	25	75

LV = LOW VISCOSITY, MV= MEDIUM VISCOSITY, HV= HIGH VISCOSITY



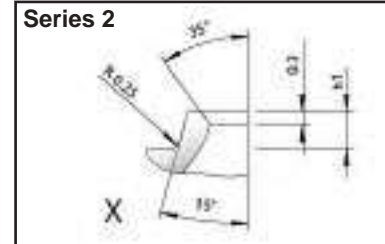
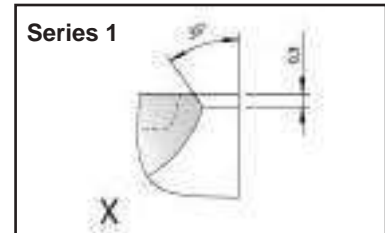
CATALOG NO.	B	B1	D1	D2	D3	H	H1	H2	L1	L2	M	SERIES
TGS8-06-S1-H	8	6	0.6	-	3	22.6	0.6	1.7	13	3.25	4	S1
TGS8-06-S2-H	8	6	0.6	1.9	3	22.0	0.6	1.1	13	3.25	4	S2
TGS8-08-S1-H	8	6	0.8	-	3	22.6	0.6	1.7	13	3.25	4	S1
TGS8-08-S2-H	8	6	0.8	2.1	3	22.0	0.6	1.1	13	3.25	4	S2
TGS10-08-S1-H	10	8	0.8	-	4	22.8	0.8	2.0	12	4	5	S1
TGS10-08-S2-H	10	8	0.8	2.2	4	22.0	0.8	1.2	12	4	5	S2
TGS10-12-S1-H	10	8	0.8	-	4	22.8	0.8	2.0	12	4	5	S1
TGS10-12-S2-H	10	8	1.2	2.6	4	22.0	0.8	1.2	12	4	5	S2
TGS10-16-S1-H	10	8	1.2	-	4	22.8	0.8	2.0	12	4	5	S1
TGS10-16-S2-H	10	8	1.6	3.0	4	22.0	0.8	1.2	12	4	5	S2

Continued on next page

Square Gate Inserts - TGS

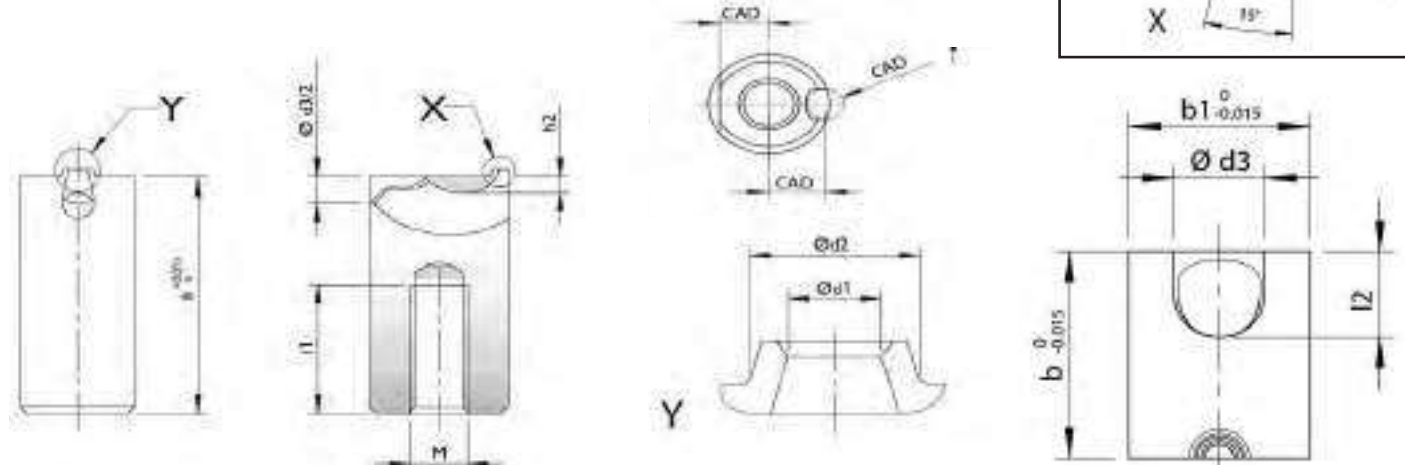
- For flat parting surfaces, including vestige with integrated cutting edge
- Ready to use - no adjustments necessary
- Available in 60 HRC hardness
- Available in Series 1 with machining allowance and Series 2 with vestige

Square Tunnel Gate Inserts are manufactured from wear resistant hot worked steel. Two different types of inserts are available, one with vestige and the other with machining allowance.



SPECIFICATIONS				
	TGS 8	TGS 10	TGS 12	TGS 14
GATE POINT RUNNER	0.6/0.8	0.8/1.2/1.6	1.2/1.6/2.0	1.6/2.0/2.4/2.8
	3	4	5	6
MAXIMUM SHOT WEIGHT				
LV	5	30	50	200
MV	4	20	35	120
HV	3	12	25	75

LV = LOW VISCOSITY, MV= MEDIUM VISCOSITY, HV= HIGH VISCOSITY



CATALOG NO.	B	B1	D1	D2	D3	H	H1	H2	L1	L2	M	SERIES
TGS12-12-S1-H	12	10	1.2	-	5	22.8	0.8	2.2	11	5	5	S1
TGS12-12-S2-H	12	10	1.2	2.6	5	22.0	0.8	1.4	11	5	5	S2
TGS12-16-S1-H	12	10	1.6	-	5	22.8	0.8	2.2	11	5	5	S1
TGS12-16-S2-H	12	10	1.6	3.0	5	22.0	0.8	1.4	11	5	5	S2
TGS12-20-S1-H	12	10	2.0	-	5	22.8	0.8	2.2	11	5	5	S1
TGS12-20-S2-H	12	10	2.0	3.4	5	22.0	0.8	1.4	11	5	5	S2
TGS14-16-S1-H	14	12	1.6	-	6	22.8	0.8	2.4	10	6	6	S1
TGS14-16-S2-H	14	12	1.6	3.0	6	22.0	0.8	1.6	10	6	6	S2
TGS14-20-S1-H	14	12	2.0	-	6	22.8	0.8	2.4	10	6	6	S1
TGS14-20-S2-H	14	12	2.0	3.4	6	22.0	0.8	1.6	10	6	6	S2
TGS14-24-S1-H	14	12	2.4	-	6	22.8	0.8	2.4	10	6	6	S1
TGS14-24-S2-H	14	12	2.4	3.8	6	22.0	0.8	1.6	10	6	6	S2
TGS14-28-S1-H	14	12	2.8	-	6	22.8	0.8	2.4	10	6	6	S1
TGS14-28-S2-H	14	12	2.8	4.2	6	22.0	0.8	1.6	10	6	6	S2

Square Gate Inserts - Installation Examples

rounded edge

Series 1



rounded separation



Series 2

under wall



adapted to part



flat part without companion
vestige

If a 100% clean separation of the sprue is not necessary or if reinforced plastics are being processed, the use of a companion vestige may be waived when molding flat parts.



Square & Round Tunnel Gate Inserts - Series 1 & Series 2

Thermoplastic elastomers (TPE)

- Low Shore hardness = shorter distance L
- Use Centering pin
- Max. hardness 100 Shore A

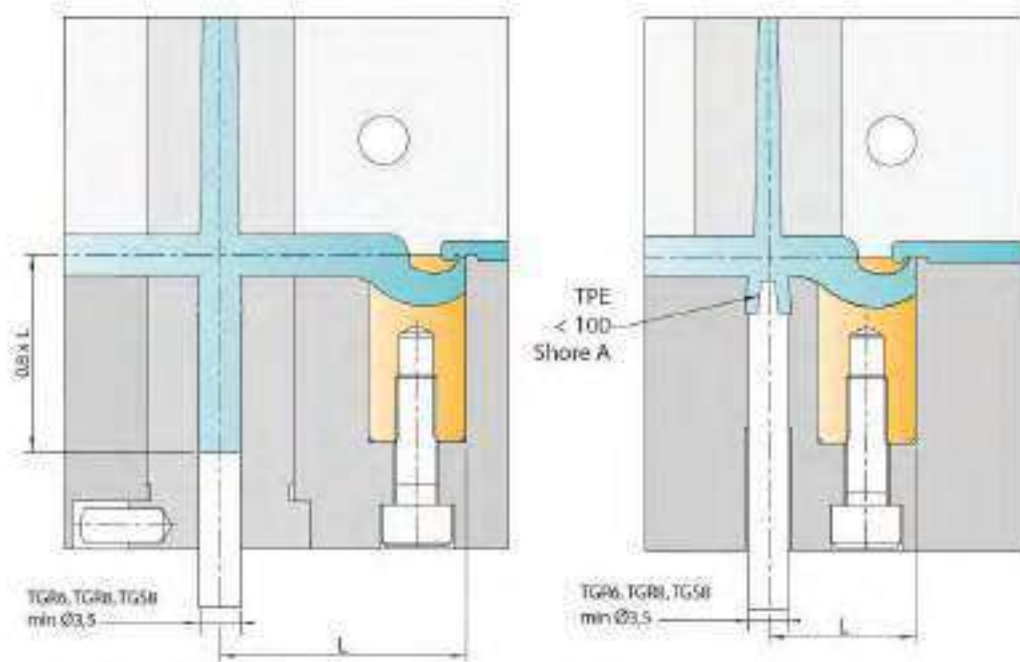


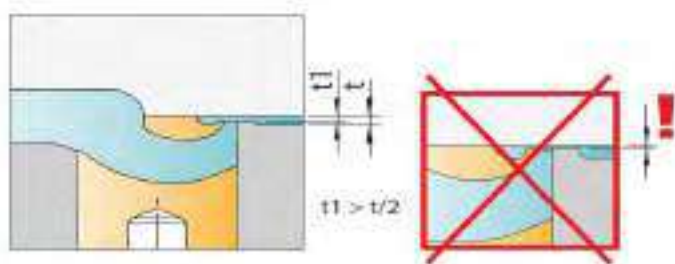
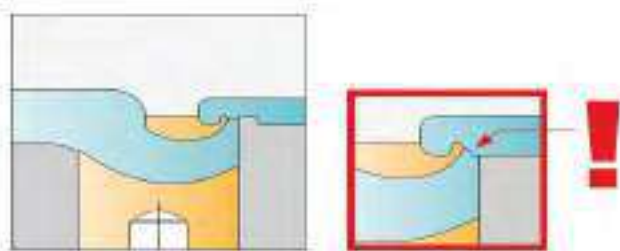
TABLE FOR DISTANCE L

CATALOG NO.	TPE, TPU, ETC.	PE, PP, PET, ETC.	PC/ABS, PA, POM, HI-PC, ETC.	PA+GF, PC, SAN, PMMA, ETC
TGR 6	9-12	12-18	15-22	18-25
TGR/TGS 8	11-14	15-22	19-27	23-30
TGR/TGS 10	15-18	19-27	24-33	28-36
TGR/TGS 12	18-22	22-30	27-36	32-40
TGR/TGS 14	20-25	25-33	30-37	35-43

RECOMMENDATIONS

Companion vestige

Flat parts



For optimum degating (especially of flat parts), we recommend the use of a companion vestige supplementing the vestige with cutting edge. This configuration will ensure that the part is separated from the runner flush with the parting line. Users will find this particularly advantageous in cases where material are susceptible to stringing.

If the molded part is very thin, the calotte must be ground down. ($t_1 > t/2$)

Version SGC - Ready for Side Gating

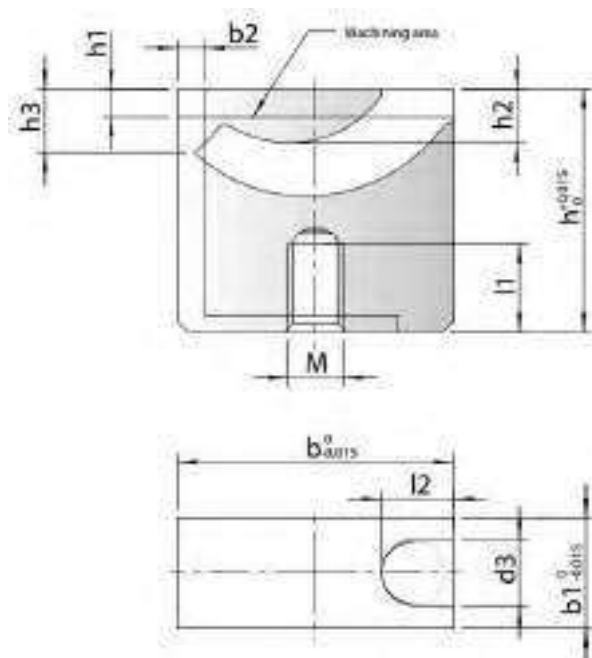
- Curved tunnel permits getting deep inside the part
- Integrated dead-end recess reduces loss of pressure and shear stress
- Highly wear-resistant hot working steel M2 (1.3343)
- Hardness: 52 - 56 HRC



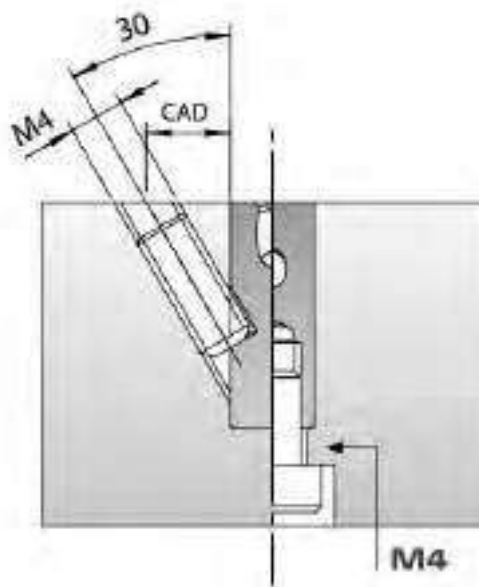
The Contourable Tunnel Gate Insert, Version SGC is designed for side gating. The feed channel of the version SGC comes completely finished inside the Tunnel-Gate Insert.

SPECIFICATIONS					
	SGC-XS	SGC-S	SGC-1	SGC-2	SGC-3
GATE POINT RUNNER	0.4 - 0.8	0.4 - 1.0	0.6-1.4	0.8-2.1	~1, 1 - 3.3
	2.5	2.5	4	6	8
MAXIMUM SHOT WEIGHT					
LV	12	20	35	250	1000
MV	7	12	25	120	500
HV	5	8	15	90	300

LV = LOW VISCOSITY, MV= MEDIUM VISCOSITY, HV= HIGH VISCOSITY



SGC-XS / SGC-S Mounting Possibilities

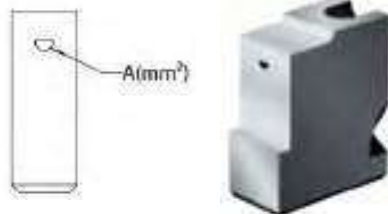


CATALOG NO.	B	B1	B2 MAX.	D3	H	H1 MAX.	H2	H3	L1	L2	M
SGC-XS	10	5	1.1	2.5	12	0.6	1.9	2.0	5	3.2	4
SGCS	15	6	2.0	2.5	18	2	3.5	4.0	8	4	4
SGC1	18	8	1.8	4	22	2	3.5	4.1	9	5.2	5
SGC2	25	10	2.5	6	22	2.5	4.8	5.7	8	6.5	5
SGC3	30	12	2.8	8	27	4.5	7.5	8.4	9	7	6

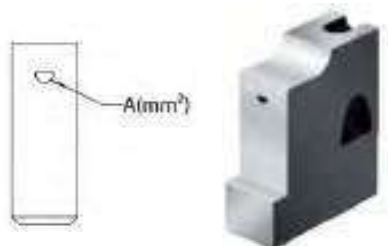
Continued on next page

Version SGC - Ready for Side Gating

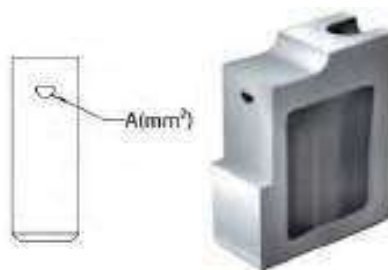
SGC-XS		
A (MM ²)	~O (MM)	B2 (MM)
0.13	0.4	0.9
0.3	0.6	1.0
0.53	0.8	1.1



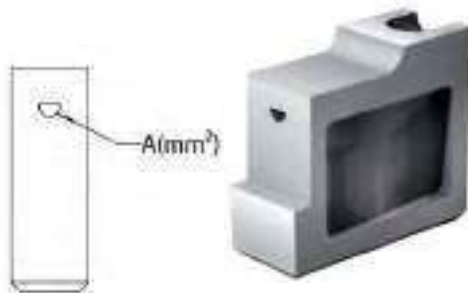
SGC-S		
A (MM ²)	~O (MM)	B2 (MM)
0.15	0.4	1.7
0.33	0.6	1.8
0.55	0.8	1.9
0.79	1.0	2.0



SGC-1		
A (MM ²)	~O (MM)	B2 (MM)
0.28	0.6	1.4
0.53	0.8	1.5
0.82	1	1.6
1.15	1.2	1.7
1.52	1.4	1.8



SGC-2		
A (MM ²)	~O (MM)	B2 (MM)
0.28	0.6	1.7
0.54	0.8	1.8
0.84	1	1.9
1.2	1.2	2
1.57	1.4	2.1
2	1.6	2.2
2.43	1.75	2.3
2.9	1.9	2.4
3.4	2.1	2.5



SGC-3		
A (MM ²)	~O (MM)	B2 (MM)
1	1.1	2
1.75	1.5	2.1
2.56	1.8	2.2
3.43	2.1	2.3
4.35	2.35	2.4
5.32	2.6	2.5
6.33	2.85	2.6
7.38	3	2.7
8.48	3.3	2.8

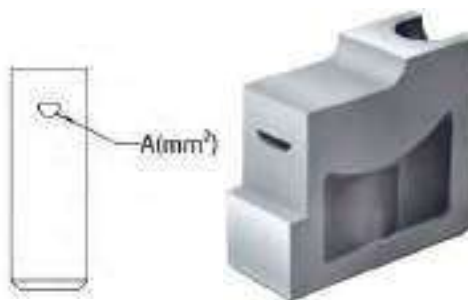
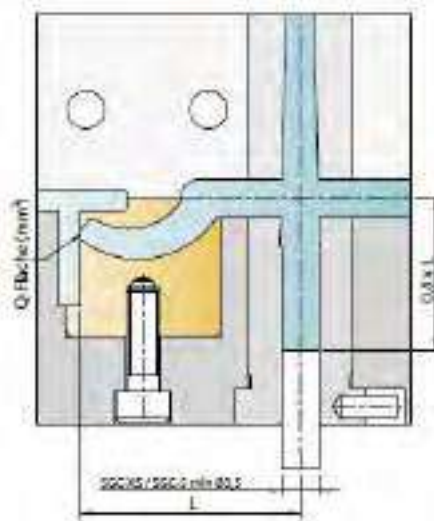


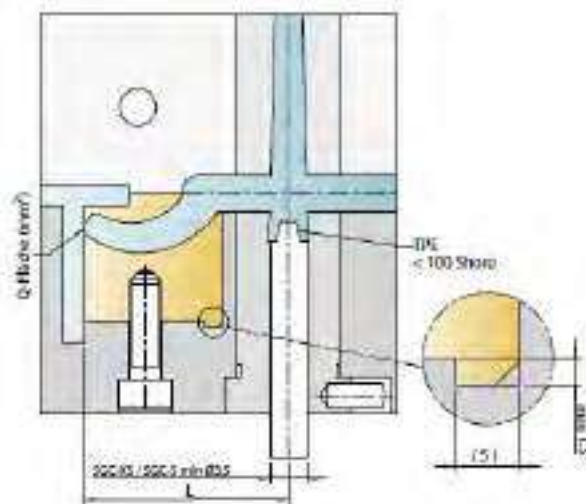
TABLE FOR DISTANCE L				
CATALOG NO.	TPE, TPU, ETC.	PE, PP, PET, ETC.	PC/ABS, PA, POM, HI-PC, ETC.	PA+GF, PC, SAN, PMMA, ETC
SGC-XS	12-16	13-20	16-23	22-29
SGCS	16-21	18-25	21-28	27-34
SGC1	21-26	26-34	31-39	36-45
SGC2	28-33	31-39	36-44	41-50
SGC3	33-38	38-48	43-53	48-58

For standard materials (except TPE)



Thermoplastic elastomers (TPE)

- Low Shore hardness = shorter distance L
- Use centering cone
- Below Shore A 100



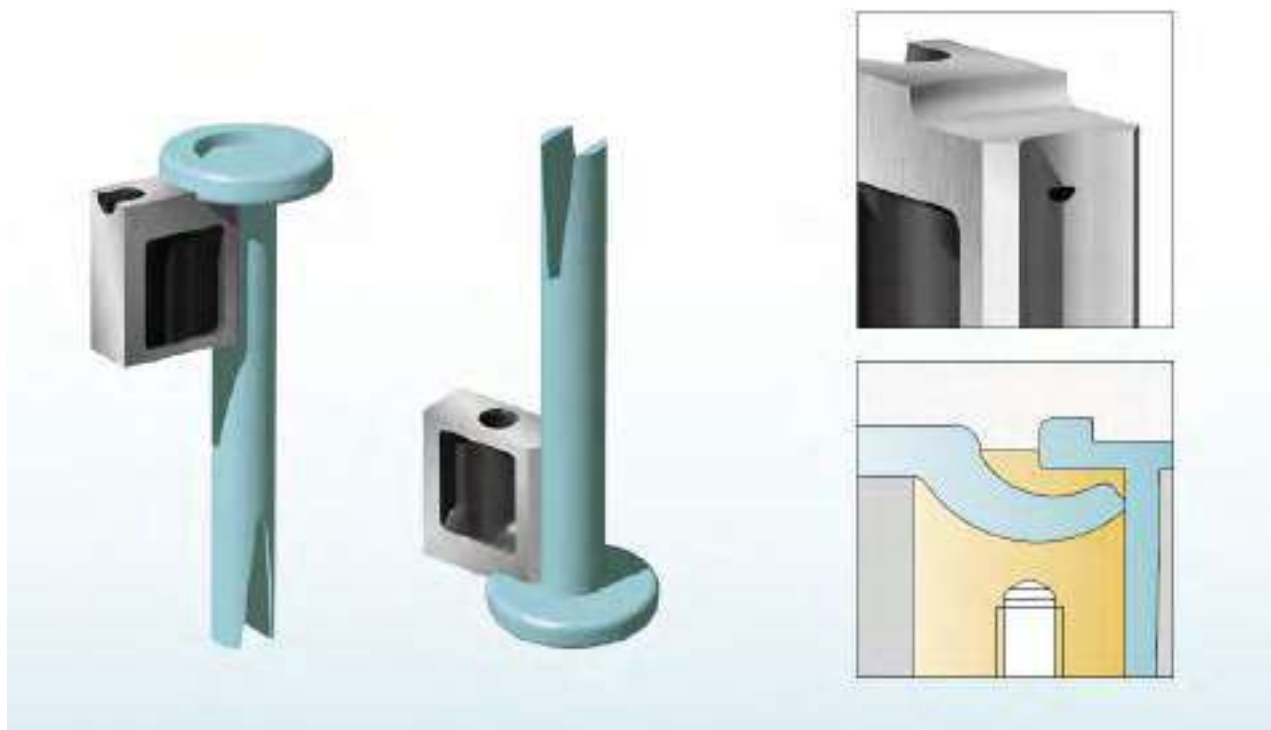
Continued on next page

Version SGC - Installation Examples

Side gating - standard installation



Side gating - adapted to part



Version TPS - Ready for Side Gating

- Straight standard sub-gate for side-gating
- Integrated dead-end recess reduces loss of pressure and shear stress
- Highly wear-resistant hot working steel M2 (1.3343)
- Hardness: 52 - 56 HRC

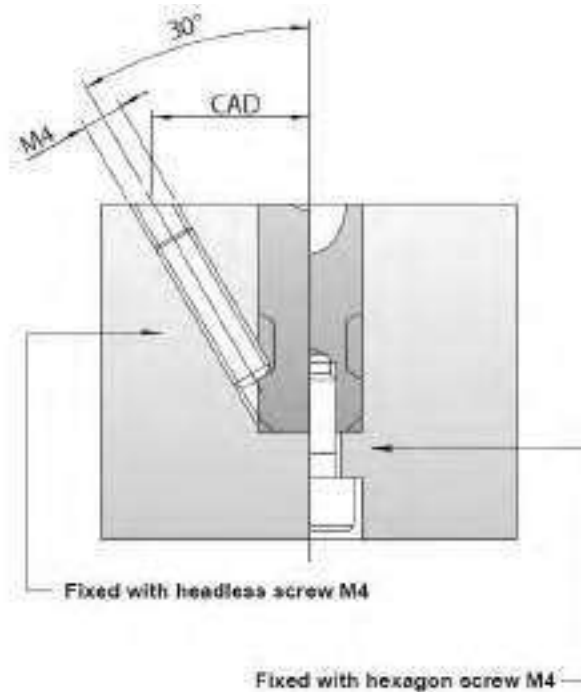
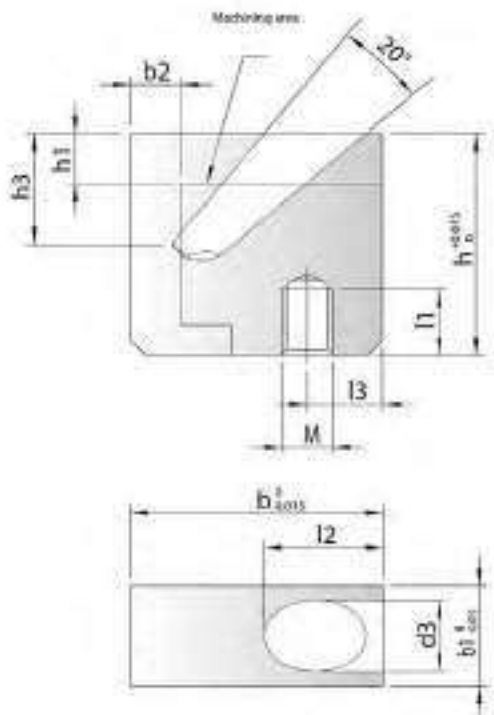
The Contourable Tunnel Gate Insert, Version TPS is designed for side gating. The feed channel of the version TPS comes completely finished inside the Tunnel-Gate Insert.



SPECIFICATIONS				
	TPS-S	TPS-1	TPS-2	TPS-3
GATE POINT RUNNER	0.4-0.8	0.8-1.8	0.8-2.8	1.1-4.5
MAXIMUM SHOT WEIGHT				
LV	30	120	600	1800
MV	20	75	350	1000
HV	12	50	175	600

LV = LOW VISCOSITY, MV= MEDIUM VISCOSITY, HV= HIGH VISCOSITY

TPS Mounting Possibilities

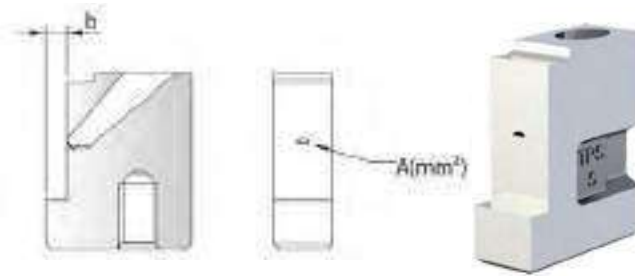


CATALOG NO.	B	B1	B2 MAX.	D3	H	H1 MAX.	H3	L1	L2	L3	M
TPS-S	15	6	2.4	4	18	4	~7	6	7.1	5.5	4
TPS-1	18	8	2.6	6	22	5	~9	6	8.4	6	4
TPS-2	25	10	5	8	22	6	~11	6	11.8	7.5	5
TPS-3	30	12	6.5	10	27	7	~13	6	14.1	8	5

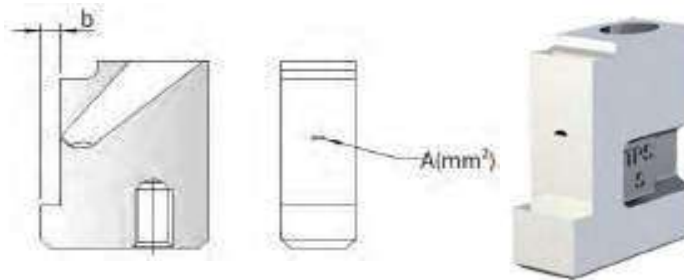
Continued on next page

Version TPS - Ready for Side Gating

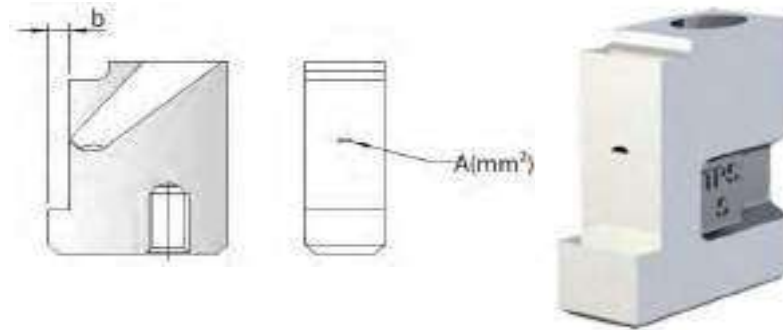
TPS-S		
A (MM ²)	~O (MM)	B2 (MM)
0.12	0.4	2.1
0.40	0.7	2.2
0.75	1.0	2.3
1.13	1.2	2.4



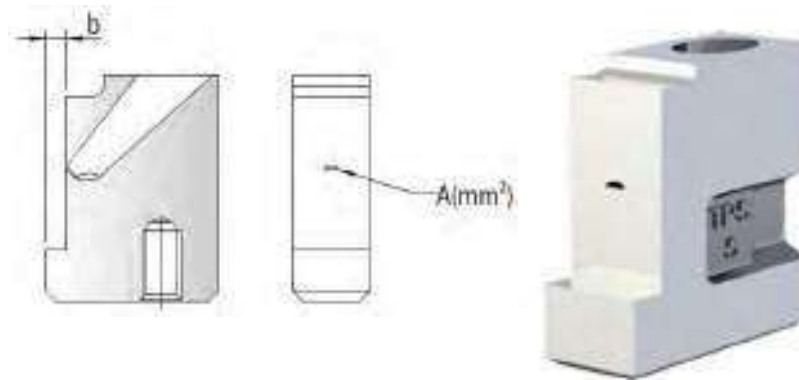
TPS-1		
A (MM ²)	~O (MM)	B2 (MM)
0.49	0.8	2.2
0.92	1.1	2.3
1.42	1.4	2.4
1.97	1.6	2.5
2.56	1.8	2.6



TPS-2		
A (MM ²)	~O (MM)	B2 (MM)
0.54	0.8	4.2
1.05	1.2	4.3
1.64	1.5	4.4
2.3	1.7	4.5
3.0	1.9	4.6
3.76	2.2	4.7
4.55	2.4	4.8
5.37	2.6	4.9
6.23	2.8	5.0



TPS-3		
A (MM ²)	~O (MM)	B2 (MM)
1.0	1.1	5.2
1.81	1.5	5.3
2.7	1.9	5.4
3.67	2.2	5.5
4.7	2.4	5.6
5.78	2.7	5.7
6.92	3.0	5.8
8.09	3.2	5.9
9.3	3.4	6.0
MAX. 15.8	4.5	6.5

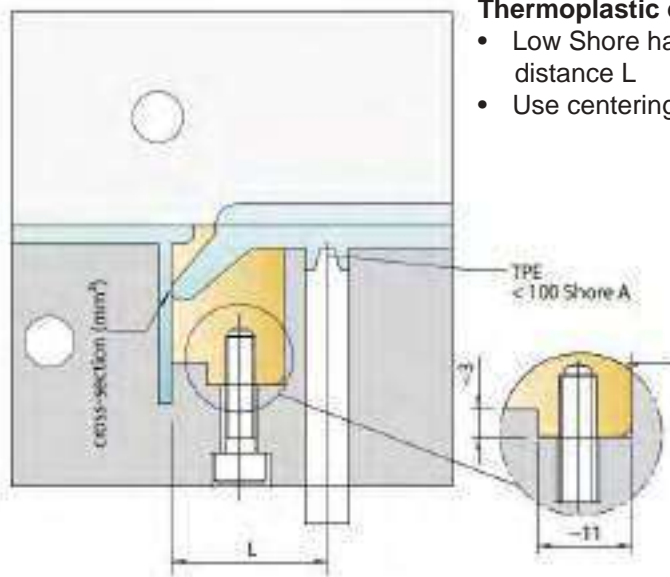
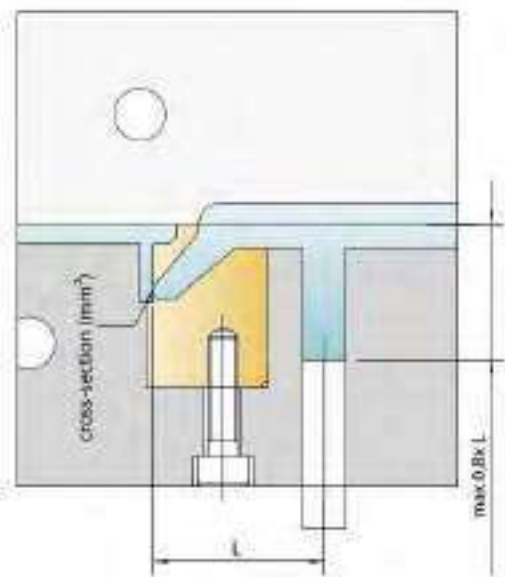


Continued on next page

Version TPS - Ready for Side Gating

Standard installation for shallow and medium contour depths

Special installation for deep contours



Thermoplastic elastomers (TPE)

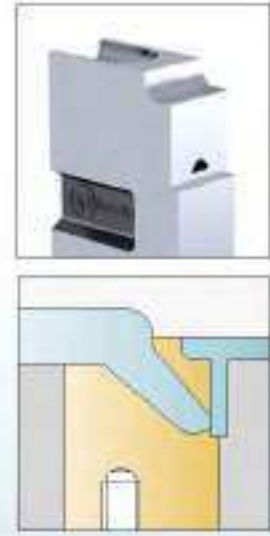
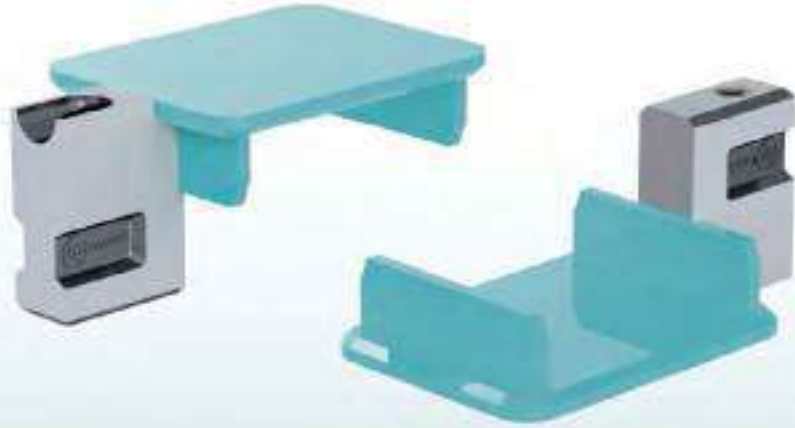
- Low Shore hardness = shorter distance L
- Use centering cone

TABLE FOR DISTANCE L		
CATALOG NO.	MATERIAL TYPE	
	FLEXIBLE MATERIALS	RIGID MATERIALS
TPS-S	~18	~23
TPS-1	~22	~30
TPS-2	~28	~38
TPS-3	~33	~24

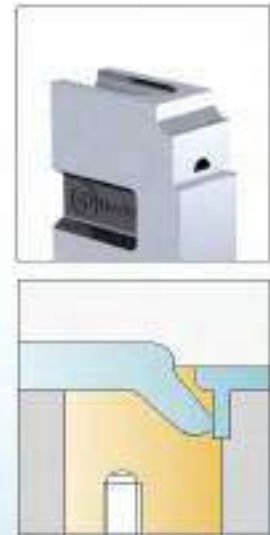
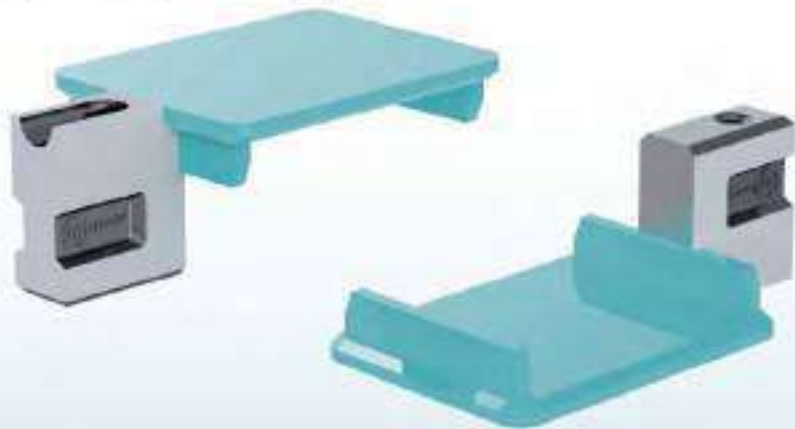
Continued on next page

Version TPS - Installation Examples

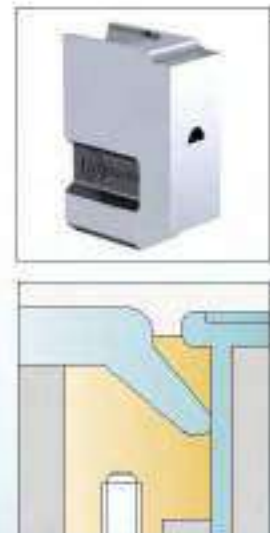
Side gating - standard installation



Side gating - for flat contours



Side gating - for deep contours



Version TGC - Ready for Vertical Gating

- For contouring up to 10mm
- Individually adjustable
- Highly wear-resistant hot working steel M2 (1.3343)
- Hardness: 60 / 40 HRC

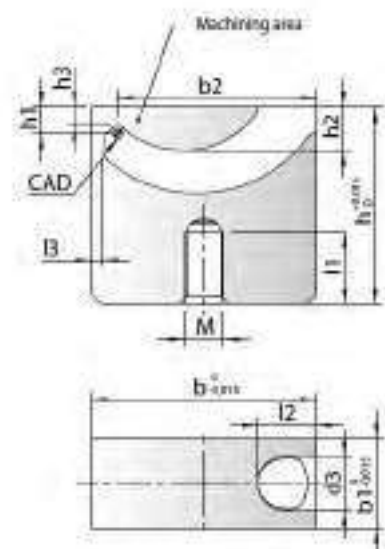
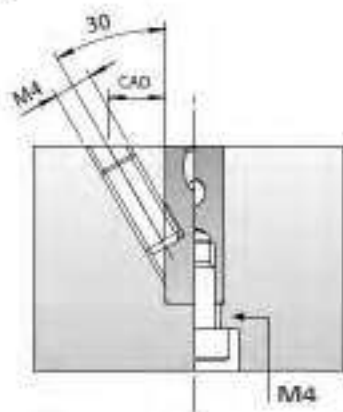
The Contourable Tunnel Gate Insert, Version TGC is designed for vertical gating. The feed channel of the version TGC comes completely finished inside the Tunnel-Gate Insert.



SPECIFICATIONS						
	TGC-XS	TGC-S	TGC-1	TGC-2	TGC-3	TGC-4
GATE POINT RUNNER	0.4 - 0.6	0.4 - 0.8	0.6 - 1.2	0.8 - 1.8	0.5x4.5 - 1.5x5.5	0.5x4.5 - 1.5x5.5
	2.5	2.5	4	6	8	8
MAXIMUM SHOT WEIGHT						
LV	5	12	35	120	1000	1000
MV	4	7	25	75	500	500
HV	3	5	15	50	300	300

LV = LOW VISCOSITY, MV= MEDIUM VISCOSITY, HV= HIGH VISCOSITY

Mounting possibilities

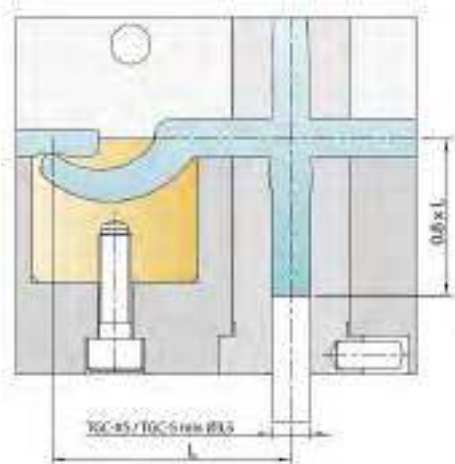


CATALOG NO.	B	B1	B2	D3	H	H1	H2	H3	L1	L2	L3	M	HRC
TGC-XS-U	10	5	8.5	2.5	12	1	1.9	0.6	5	3.2	0.7	4	40
TGC-XS-H	10	5	8.5	2.5	12	1	1.9	0.6	5	3.2	0.7	4	60
TGCS-U	15	6	13.3	2.5	18	2	3.5	1.5	8	4	0.9	4	40
TGCS-H	15	6	13.3	2.5	18	2	3.5	1.5	8	4	0.9	4	60
TGC1-U	18	8	16	4	22	2	3.5	1.3	9	5.2	0.9	5	40
TGC1-H	18	8	16	4	22	2	3.5	1.3	9	5.2	0.9	5	60
TGC2-U	25	10	22.1	6	22	3	4.8	2.1	8	6.5	1.2	5	40
TGC2-H	25	10	22.1	6	22	3	4.8	2.1	8	6.5	1.2	5	60
TGC3-U	30	12	26.9	8	27	5	7.5	4.1	9	7	1.2	6	40
TGC3-H	30	12	26.9	8	27	5	7.5	4.1	9	7	1.2	6	60
TGC4-U	45	12	41.2	8	36	10	16.7	9.1	8	9.6	1.8	6	40
TGC4-H	45	12	41.2	8	36	10	16.7	9.1	8	9.6	1.8	6	60

Continued on next page

Version TGC - Ready for Vertical Gating

For standard materials (except TPE)



Thermoplastic elastomers (TPE)

- Low Shore hardness = shorter distance L
- Use centering cone
- Below Shore A 100

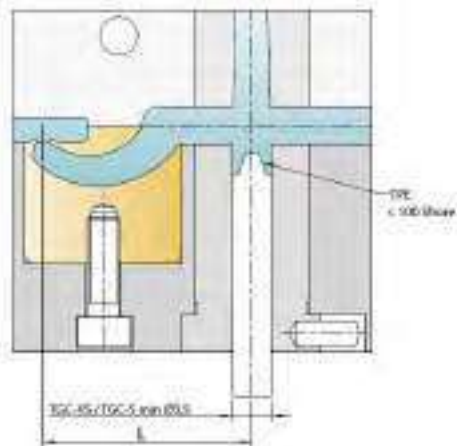
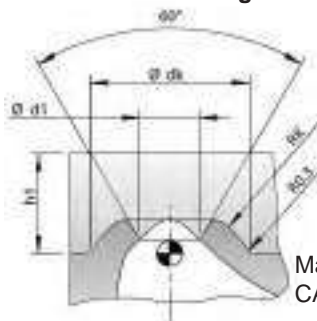


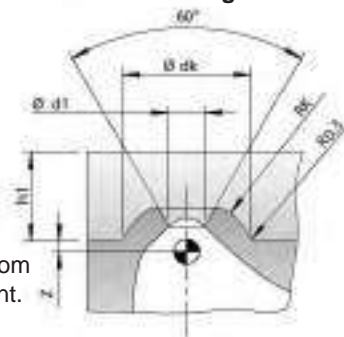
TABLE FOR DISTANCE L				
CATALOG NO.	TPE, TPU, ETC.	PE, PP, PET, ETC.	PC/ABS, PA, POM, HI-PC, ETC.	PA+GF, PC, SAN, PMMA, ETC
TGC-XS	12-16	13-20	16-23	22-29
TGCS	16-21	18-25	21-28	27-34
TGC1	21-26	26-34	31-39	36-45
TGC2	28-33	31-39	36-44	41-50
TGC3	33-38	38-48	43-53	48-58
TGC4	48-53	53-63	58-68	-

VESTIGES TGC-XS / -S / -1 / -2

Standard Vestige



Small Vestige

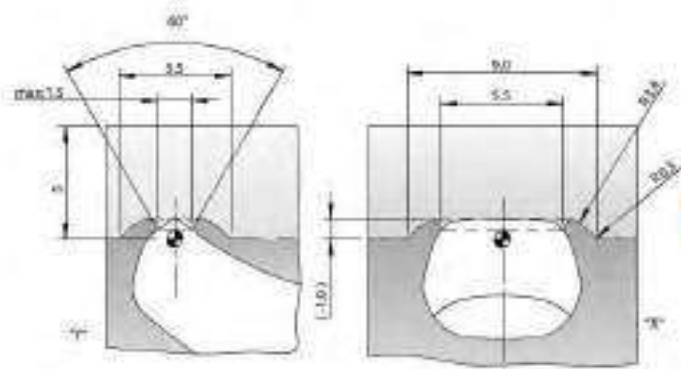


Maintain offset Z from CAD reference point.

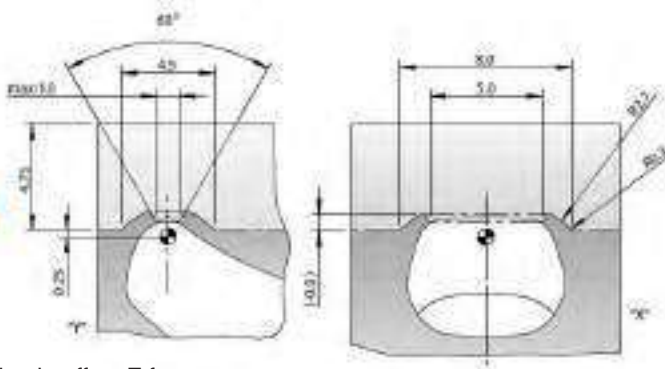
CATALOG NO.	VESTIGE	H1	D1 MAX.	DK	RK	Z
TGC-XS	STANDARD	1.0	0.6	2.5	1.6	-
TGCS	STANDARD	2.0	0.8	2.7	1.7	-
TGC1	SMALL	1.8	0.7	2.6	1.4	0.2
	STANDARD	2.0	1.2	3.2	1.8	-
TGC2	SMALL	2.75	1.2	3.5	2.0	0.25
	STANDARD	3.0	1.8	4.5	2.6	-

VESTIGES TGC-3 / -4

Standard Vestige



Small Vestige



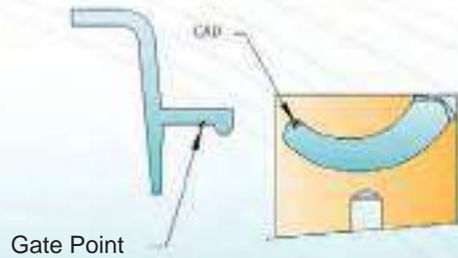
Maintain offset Z from CAD reference point.

Continued on next page

Version TGC - Installation

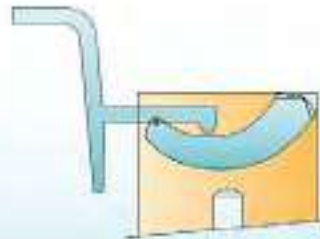
1

CAD reference point



2

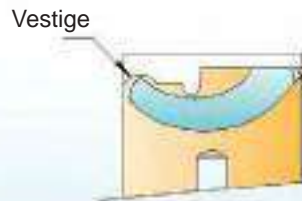
Position the tunnel gate insert



Contour surface of the vestige is contained in the 3D data

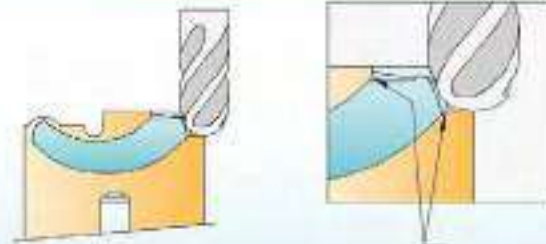
3

Deduct the contour of the part and the vestige*



4

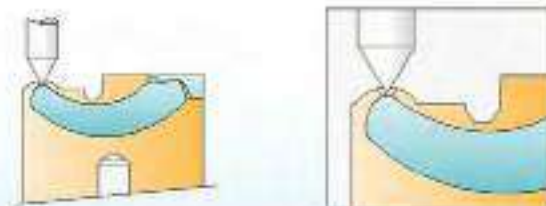
Adapt the feed channel*



Round off the transitions*

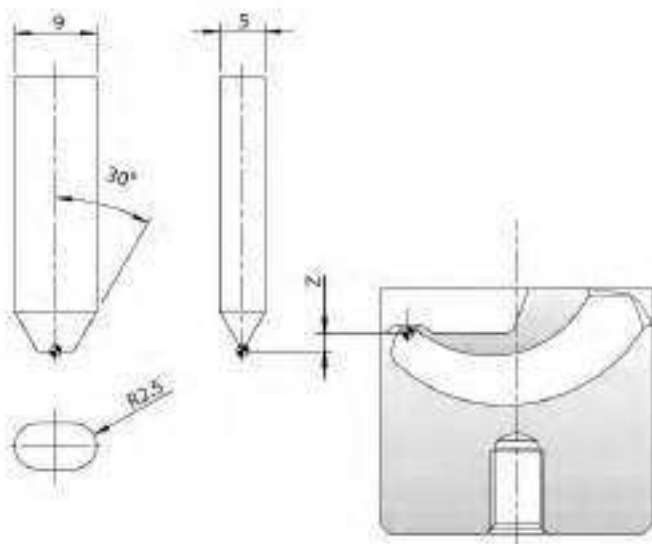
5

Machine the gate



Version TGC - Ready for Vertical Gating

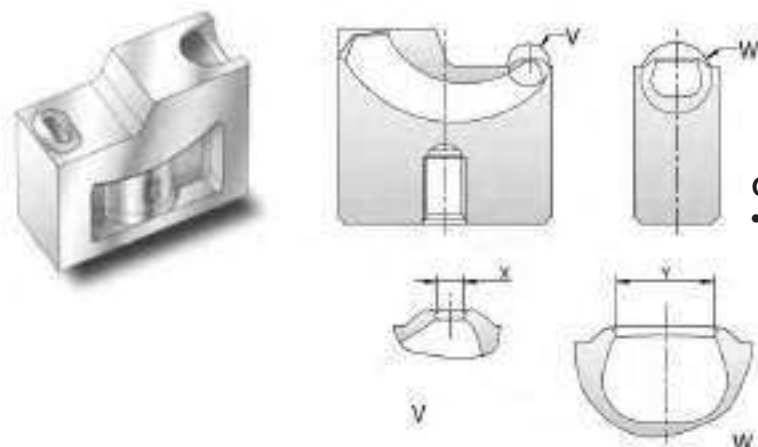
TGC3 + TGC4 | Spark erosion of gate area



Gate Machining by spark erosion

- Simple positioning of electrode via coordinate system

TGC3 + TGC4 | Milling of gate area



Gate Machining by milling

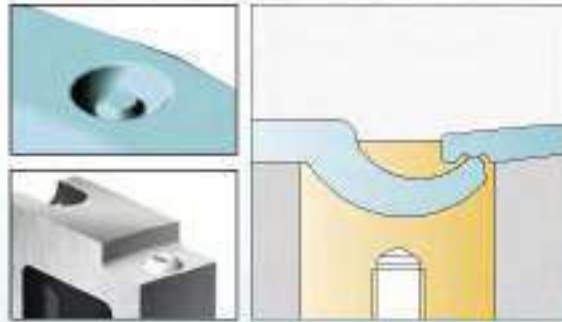
- Easy milling of gate area via Y and Z-axis travel

CROSS-SECTIONAL AREA (MM ²)	SPARK EROSION OF GATE AREA		MILLING OF GATE AREA	
	ELECTRODE DEPTH Z (MM)	WIDTH X (MM)	LENGTH Y (MM)	
7.60	-0.86	1.5	5.5	
7.00	-0.74	1.4	5.4	
6.41	-0.62	1.3	5.3	
5.84	-0.49	1.2	5.2	
5.27	-0.37	1.1	5.1	
4.72	-0.25	1.0	5.0	
4.18	-0.13	0.9	4.9	
3.65	-0.01	0.8	4.8	
3.13	+0.11	0.7	4.7	
2.63	+0.23	0.6	4.6	
2.14	+0.35	0.5	4.5	

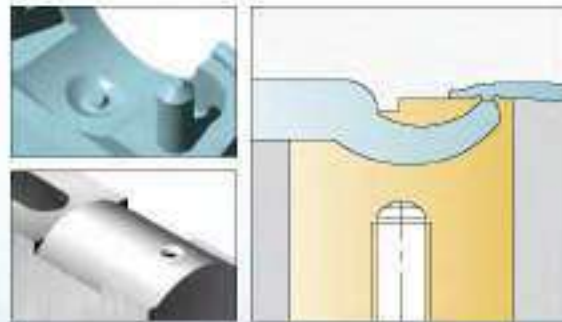
Continued on next page

Version TGC - Installation Examples

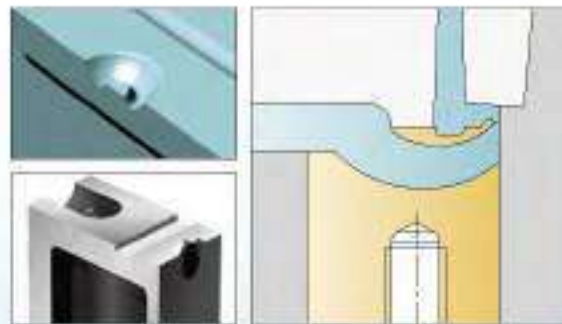
under surface



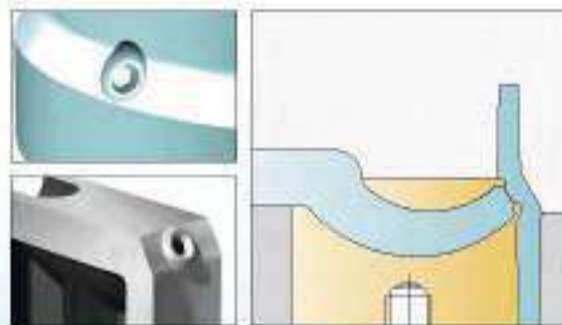
under rounded surface



half-gate point



angled gating



Version TGLL - Gating Below Parting Line

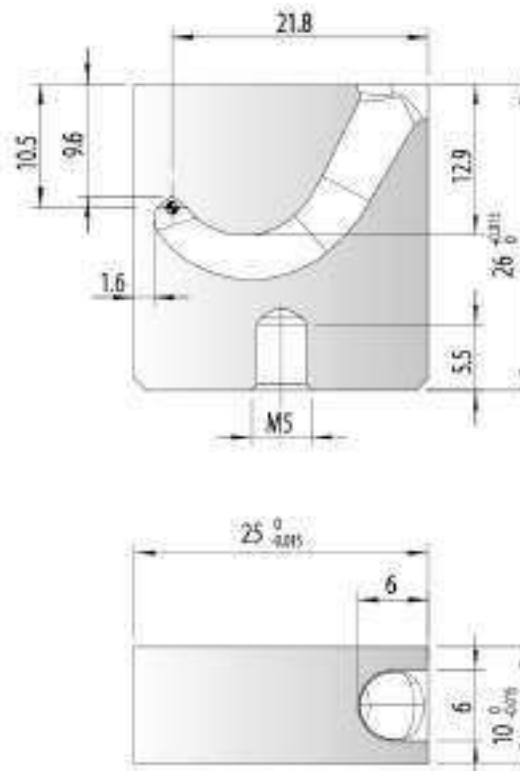
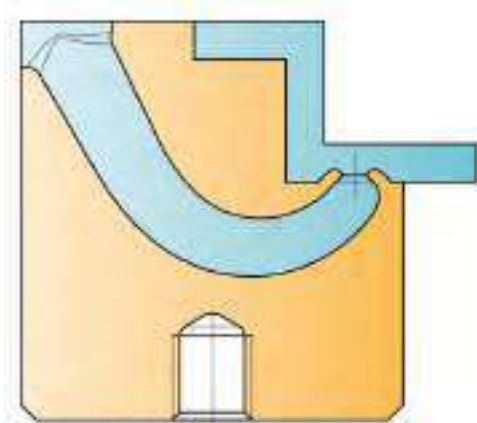


- For contouring up to 10mm
- Individually adjustable
- Highly wear-resistant hot working steel M2 (1.3343)
- Hardness: 54 - 56 HRC

The Contourable Tunnel Gate Insert, Version TGLL is designed for gating below the parting line. The feed channel of the version TGLL comes completely finished inside the Tunnel-Gate Insert.

SPECIFICATIONS	
GATE POINT RUNNER	1.8
MAXIMUM SHOT WEIGHT	
LV	129
MV	75
HV	50

LV = LOW VISCOSITY, MV= MEDIUM VISCOSITY, HV= HIGH VISCOSITY



CATALOG NO.

TGLL

Version TGHL - Gating Above Parting Line

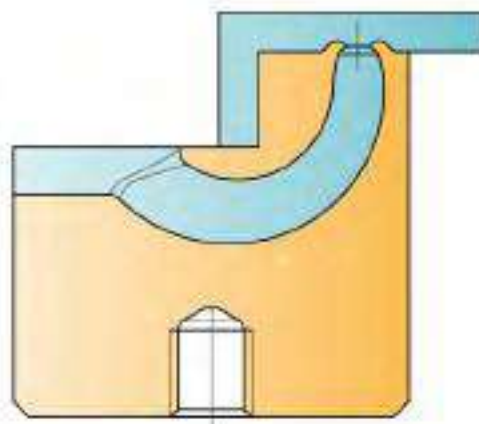
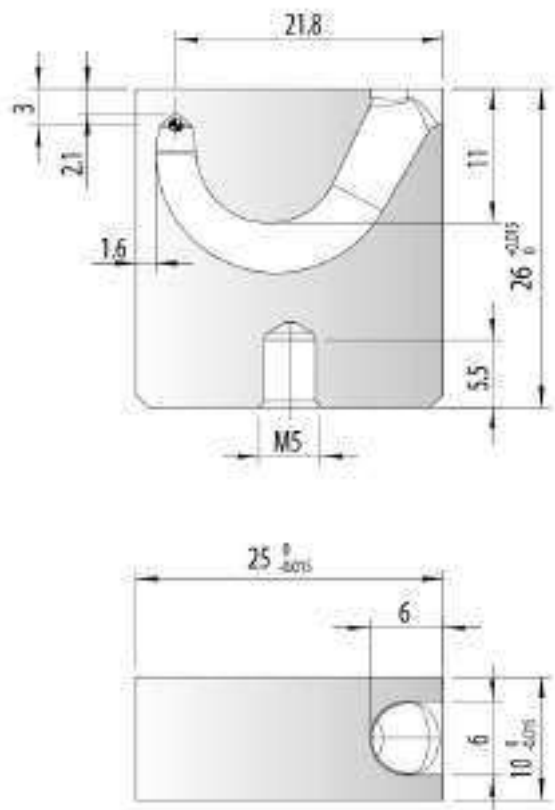
- For contouring up to 10mm
- Individually adjustable
- Highly wear-resistant hot working steel M2 (1.3343)
- Hardness: 54 - 56 HRC

The Contourable Tunnel Gate Insert, Version TGHL is designed for gating above the parting line. The feed channel of the version TGHL comes completely finished inside the Tunnel-Gate Insert.



SPECIFICATIONS	
GATE POINT RUNNER	1.8
MAXIMUM SHOT WEIGHT	
LV	129
MV	75
HV	50

LV = LOW VISCOSITY, MV= MEDIUM VISCOSITY, HV= HIGH VISCOSITY

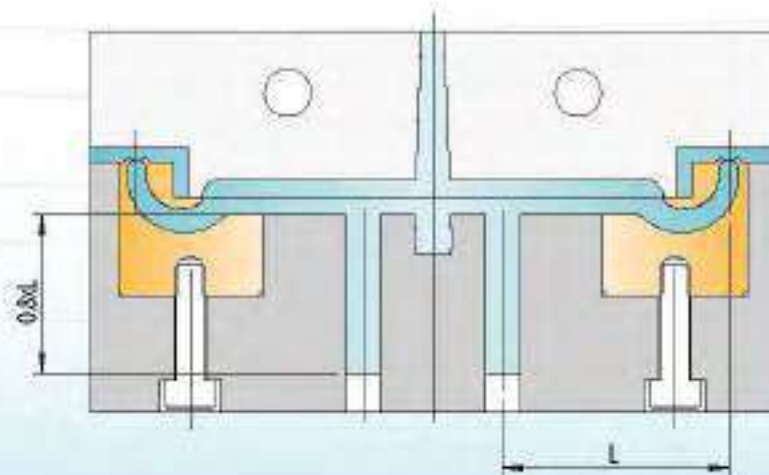


CATALOG NO.

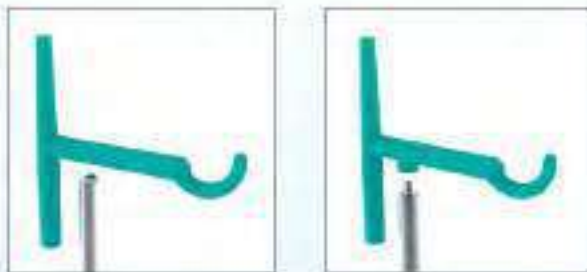
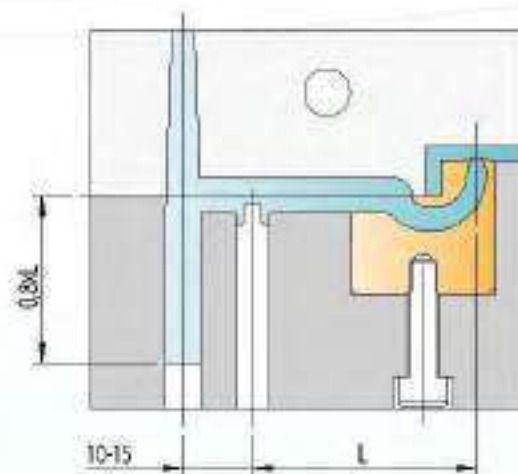
TGHL

Version TGLL & TGHL - Installation

Example of 2 cavities



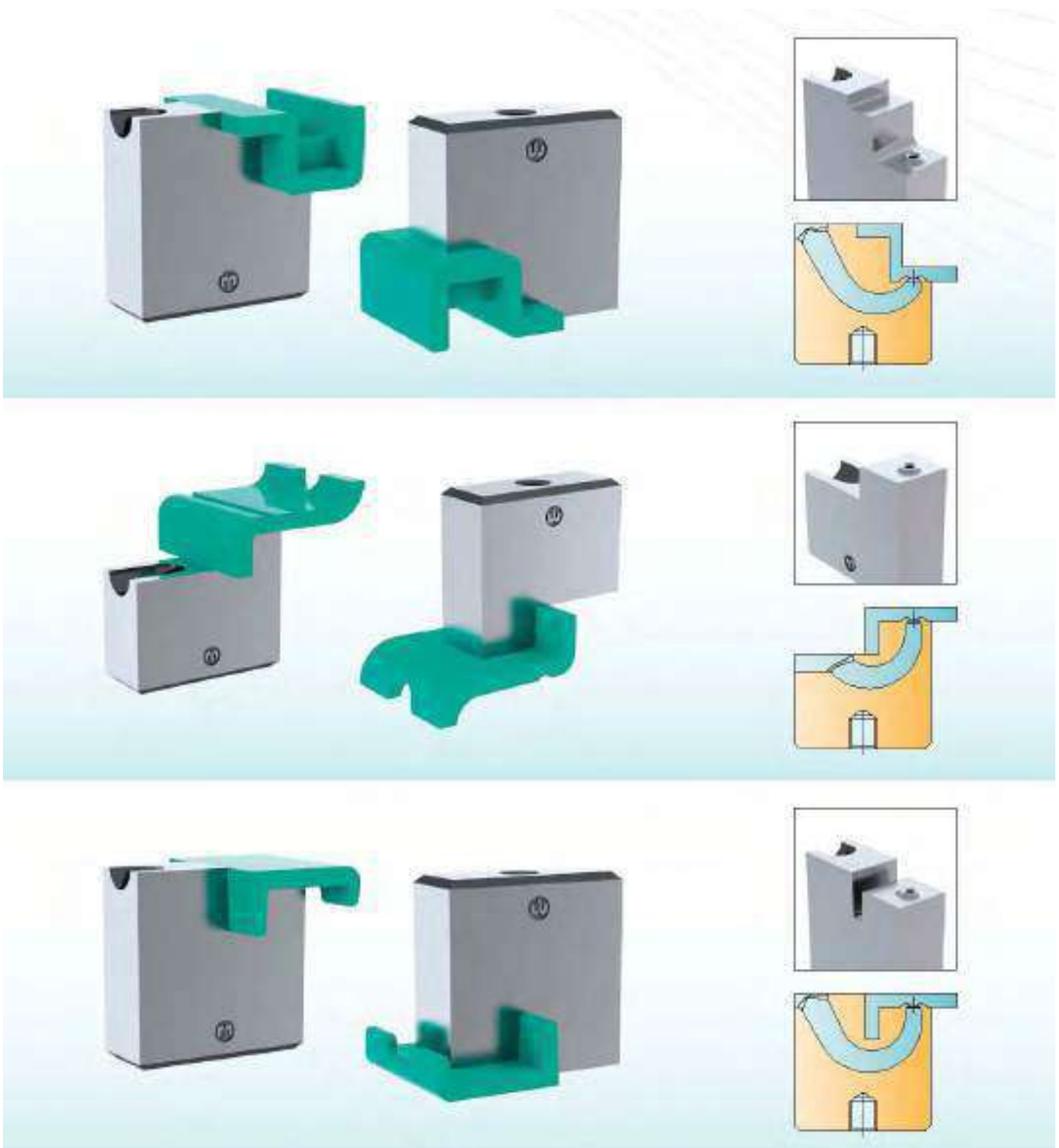
Example of single cavity



Example of supplementary ejector

TABLE FOR DISTANCE L			
CATALOG NO.	TPE, TPU, ETC.	PE, PP, PET, ETC.	PC/ABS, PA, POM, HI-PC, ETC.
TGLL - TGHL	28-34	33-40	39-45

Version TGLL & TGHL - Installation Examples

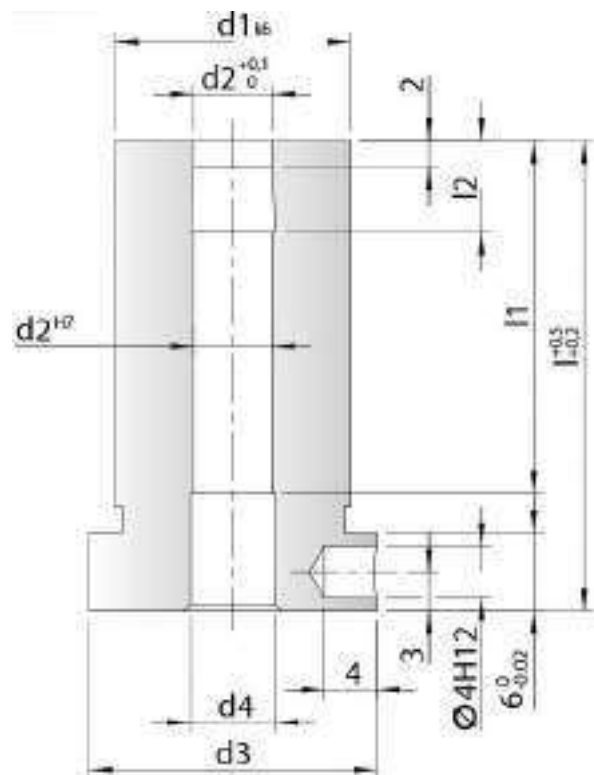
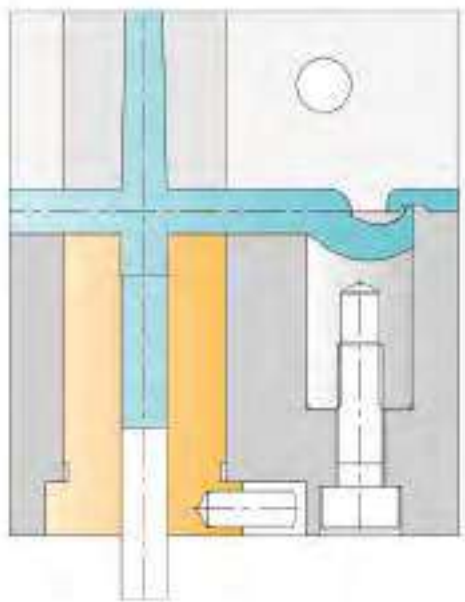


Retaining Bushing



- Material: 1.2826 Steel
- Hardness: 58 HRC

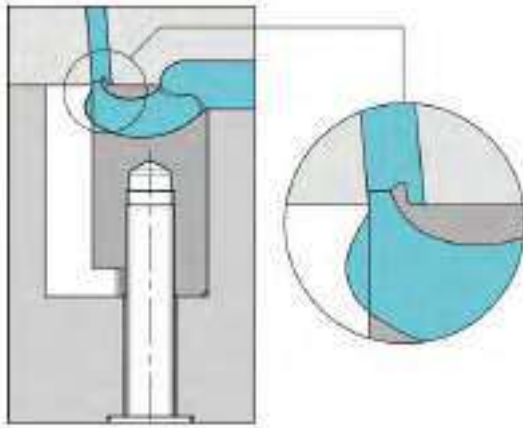
The Retaining Bushing's unique design allows for the use of a longer guide pin and ensures the runner of the tunnel gate insert ejects safely.



CATALOG NO.	L	L1	L2	D1	D2	D3	D4
RB4-36	36	36	7	12	4	16	4.5
RB4-46	46	46					
RB4-56	56	46					
RB6-36	36	36	7	18	6	22	6.5
RB6-46	46	46					
RB6-56	56	56					
RB6-66	66	56					
RB8-46	46	46	9.5	24	8	28	8.5
RB8-56	56	56					
RB8-66	66	66					

Tunnel Gate Inserts - Supplementary Tips

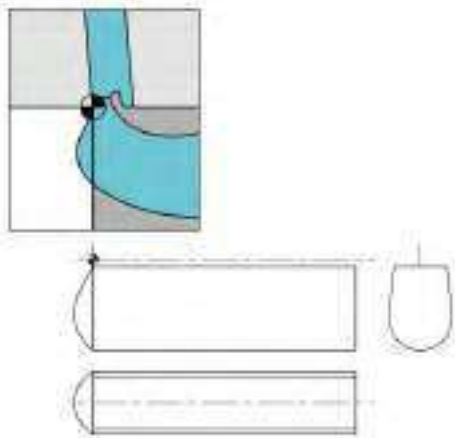
Dead-end recess



For the gating of housing parts we recommend incorporating a dead-end recess in an auxiliary insert or directly in the mould insert.

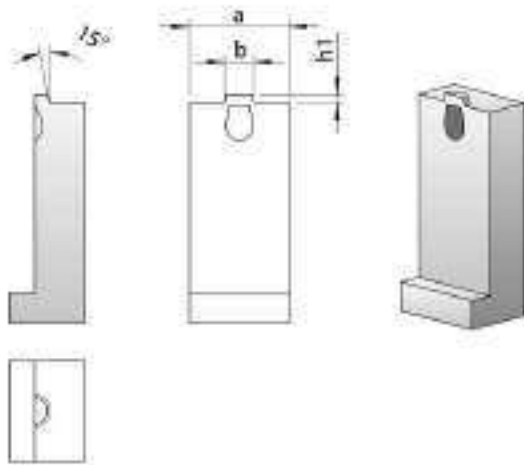
- Optimizes the shear velocity in the gate area
- Gives a superior frontal flow
- Reduces pressure loss
- Helps prevent jetting

Spark-erosion machining of recesses



When machining the recess, take care to avoid undercutting the runner. For 3D data relating to standard insert sizes, please refer to www.i-mold.com.

Auxiliary Insert



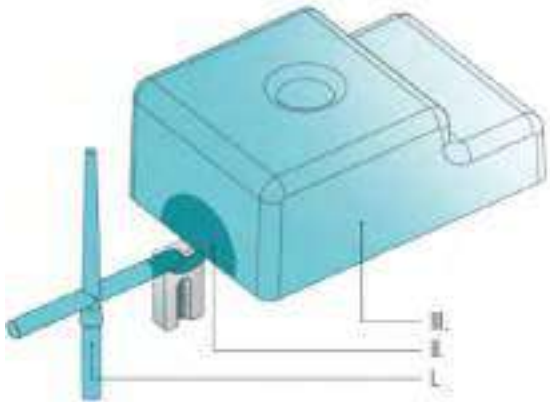
The companion vestige and/or dead-recess can also be incorporated directly in the mould insert. The auxiliary insert should be made of a highly wear-resistant steel.

The dimension a, b, and h1 depend on the actual standard gate insert used.

Tunnel Gate Inserts - Accessories

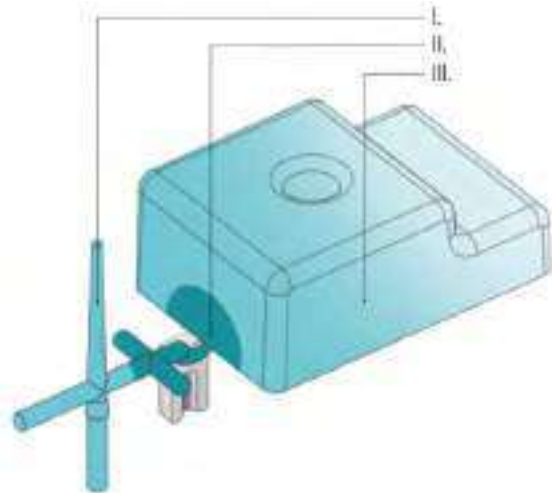
Graduated injection profile

To avoid the risk of jetting and the formation of matt halo effects in the gate area, we recommend the use of a graduated injection profile.



Graduated injection profile by machine:

- I. High injection speed for filling the cold runner
- II. Low injection speed to ensure optimum frontal (laminar) flow
- III. High injection speed for quick mold filling, followed by holding pressure setting



Mechanically graduated injection profile:

- Transverse runner reduces the velocity of the flow front in the gate area while machine parameters remain constant
- For molds frequently used on different injection molding machines

Heat sink paste

When processing temperature-sensitive materials or plastics susceptible to “stringing”, we recommend the use of a heat sink paste in the lateral recesses.



Heat Sink Paste

PE, PP, POM,
PC, PBT, PEI,
PPO, PS

- Prevents localized heating of the gate insert in molding processes with short cycle times
- Improves heat dissipation so that the gate sealing point can be reached sooner
- Enhances degating performance (no stringing, important when processing polyolefins)

It goes without saying that these gate inserts can also be used without heat sink paste. In certain applications the somewhat higher insert temperature permits a longer holding pressure phase.

METRIC DIN

Angle Pins.....	H49
Bronze Plated Guided Ejector Bushings.....	H31
Core Pins.....	H47
Guide Pins - with Collar.....	H3
Guide Pins - without Collar.....	H14
Guide Pin Bushings - with Collar.....	H27
Guide Pin Bushings - without Collar.....	H28
Leader Pins.....	H25
Nitrided Ejector Blades.....	H34
Nitrided Ejector Pins.....	H37
Nitrided Ejector Sleeves.....	H43
Nitrided Step Pins.....	H40
Self-Lube Guide Pin Bushings - with Collar.....	H29
Self-Lubricating Guided Ejector Bushings.....	H32
Shoulder Bushings - Bronze Plated.....	H33

Complete line of Metric DIN Mold Components

- In stock
- Wide variety of standard sizes and components
- Easily cross reference Metric DIN products on our website
- Custom sizes available upon request

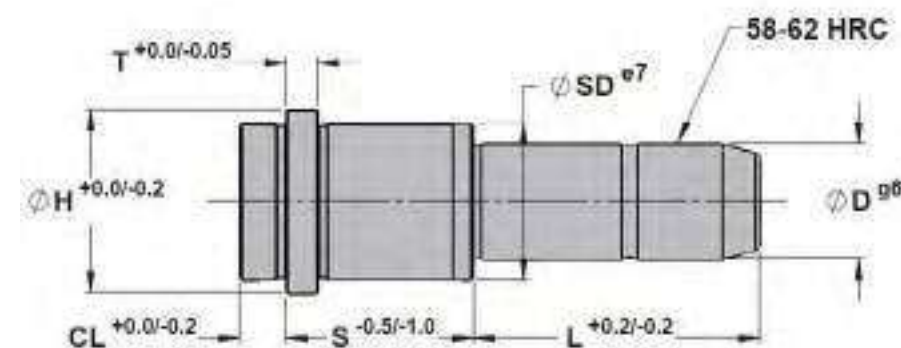


Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																								
							020	025	030	035	045	050	055	060	065	070	075	085	090	095	105	110	125	135	145	150	155	165			
GDP-EC-09-012-	9	14	16	3	3	12		█																							
GDP-EC-09-017-						17																									
GDP-EC-09-022-						22		●																							
GDP-EC-09-027-						27			●																						
GDP-EC-09-036-						36							●																		
GDP-EC-09-046-						46																									
GDP-EC-09-056-						56																									
GDP-EC-10-012-						10	14	16	3	3	12																				
GDP-EC-10-017-											17																				
GDP-EC-10-022-	22		●																												
GDP-EC-10-027-	27			●																											
GDP-EC-10-036-	36																														
GDP-EC-10-046-	46																														
GDP-EC-10-056-	56																														

Add length to end of catalog number (i.e. GDP-EC-09-012-025)

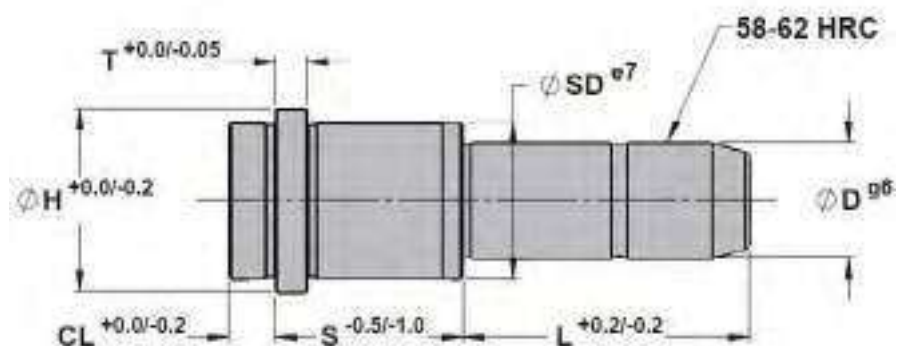
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN
Material: 1.7131 (AISI 5115 Type) Steel
Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																		
							020	025	030	035	045	050	055	060	065	070	075	085	090	095	105	110	125	135	145
GDP-EC-14-017-						17																			
GDP-EC-14-022-						22				●															
GDP-EC-14-027-						27					●														
GDP-EC-14-036-						36						●													
GDP-EC-14-046-						46							●												
GDP-EC-14-056-	14	20	25	6	9	56								●											
GDP-EC-14-066-						66									●										
GDP-EC-14-076-						76																			
GDP-EC-14-086-						86																			
GDP-EC-14-096-						96																			
GDP-EC-14-116-						116																			

Add length to end of catalog number (i.e. GDP-EC-14-017-035)

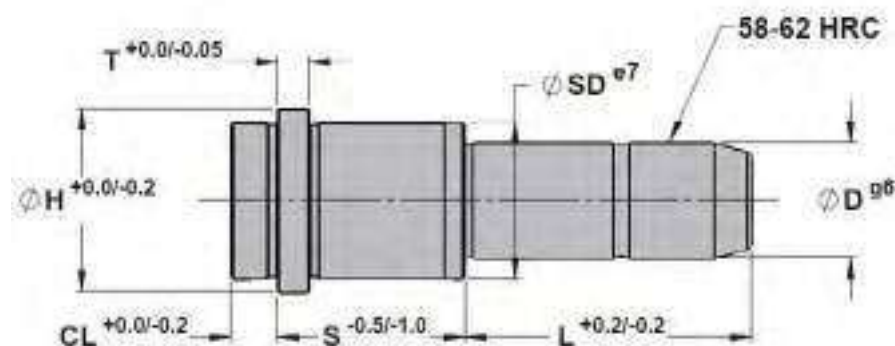
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN
Material: 1.7131 (AISI 5115 Type) Steel
Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																		
							030	035	045	050	055	065	070	075	085	090	095	105	110	115	120	125	135	145	150
GDP-EC-15-017-						17																			
GDP-EC-15-022-						22					●														
GDP-EC-15-027-						27						●													
GDP-EC-15-036-						36							●												
GDP-EC-15-046-						46								●											
GDP-EC-15-056-	15	20	25	6	9	56									●										
GDP-EC-15-066-						66										●									
GDP-EC-15-076-						76																			
GDP-EC-15-086-						86																			
GDP-EC-15-096-						96																			
GDP-EC-15-116-						116																			

Add length to end of catalog number (i.e. GDP-EC-15-017-035)

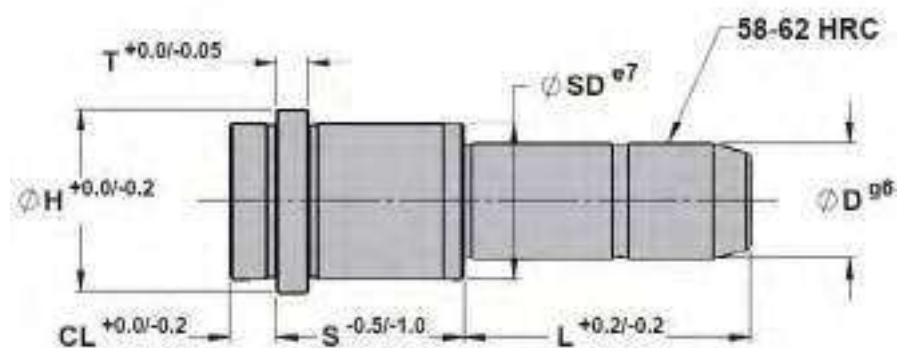
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																								
							030	035	045	050	055	065	070	075	085	090	095	105	110	115	120	125	135	145	150	155	165	225	245	255	
GDP-EC-18-017-	18	26	31	6	9	17	●	■																							
GDP-EC-18-022-						22	■	■																							
GDP-EC-18-027-						27	●	●				●																			
GDP-EC-18-036-						36	●					●																			
GDP-EC-18-046-						46	●	●				●																			
GDP-EC-18-056-						56	●					●																			
GDP-EC-18-066-						66	■					●																			
GDP-EC-18-076-						76						●																			
GDP-EC-18-086-						86						■																			
GDP-EC-18-096-						96						■																			
GDP-EC-18-116-						116																									
GDP-EC-18-136-						136																									

Add length to end of catalog number (i.e. GDP-EC-18-017-035)

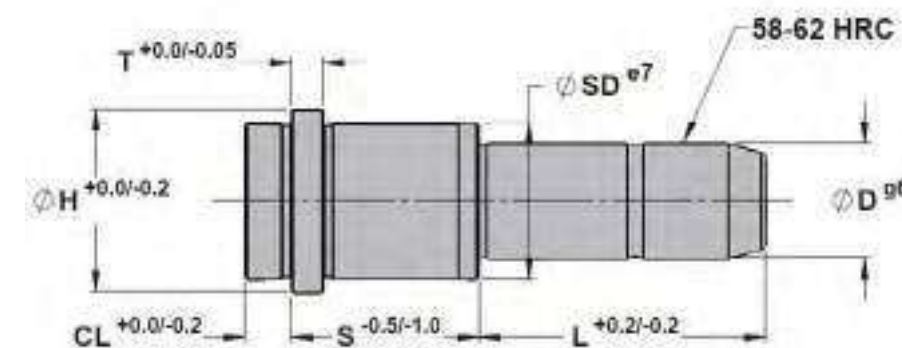
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																								
							035	045	055	065	075	085	095	105	115	120	125	130	135	145	155	165	205	225	245	255	285				
GDP-EC-20-017-	20	26	31	6	9	17	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
GDP-EC-20-022-						22	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-20-027-						27	●	●				●																			
GDP-EC-20-036-						36	●					●																			
GDP-EC-20-046-						46	●	●				●																			
GDP-EC-20-056-						56	●					●																			
GDP-EC-20-066-						66	■					●																			
GDP-EC-20-076-						76						●																			
GDP-EC-20-086-						86						■																			
GDP-EC-20-096-						96						■																			
GDP-EC-20-116-						116																									
GDP-EC-20-136-						136																									

Add length to end of catalog number (i.e. GDP-EC-20-017-035)

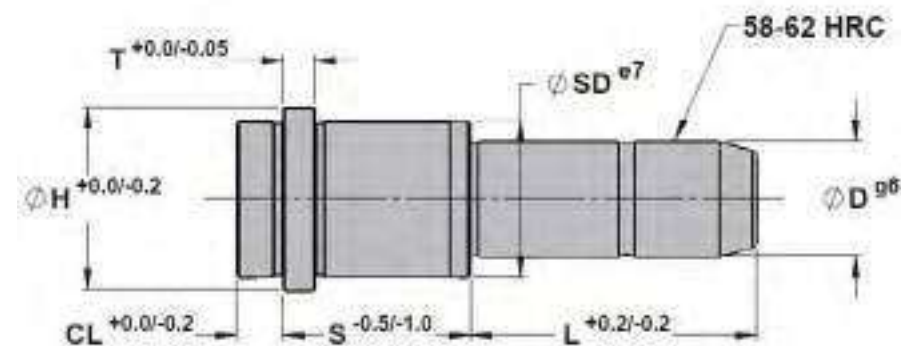
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN
Material: 1.7131 (AISI 5115 Type) Steel
Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																									
							035	045	055	065	075	085	095	105	115	120	125	130	135	145	155	165	205	225	245	255	285					
GDP-EC-22-017-								■																								
GDP-EC-22-022-								■																								
GDP-EC-22-027-								●	●	■	●		●										■	■		■						
GDP-EC-22-036-								●			●												■	■		■						
GDP-EC-22-046-								●	■		●													■	■		■					
GDP-EC-22-056-								●			●													■	■		■					
GDP-EC-22-066-	22	30	35	6	9			■		■														■	■		■					
GDP-EC-22-076-										■																■						
GDP-EC-22-086-										■																	■					
GDP-EC-22-096-										■																		■				
GDP-EC-22-116-											■																		■			
GDP-EC-22-136-												■																		■		
GDP-EC-22-156-													■																		■	

Add length to end of catalog number (i.e. GDP-EC-22-017-035)

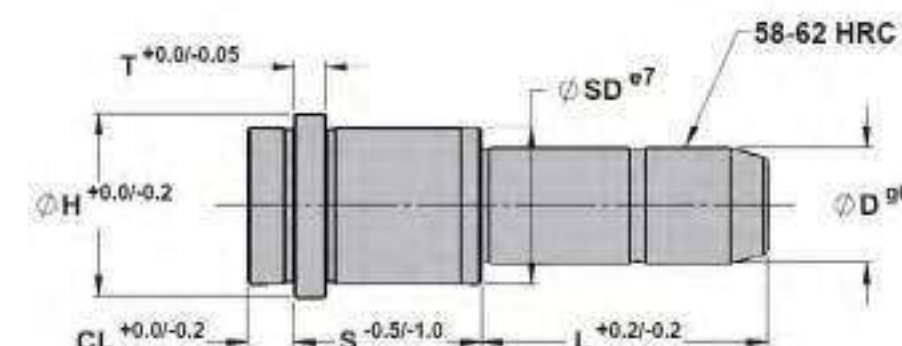
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN
Material: 1.7131 (AISI 5115 Type) Steel
Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																											
							035	045	055	065	075	085	095	105	115	125	130	135	145	155	165	175	185	195	205	225	245	285	295					
GDP-EC-24-017-								■																										
GDP-EC-24-022-								■																										
GDP-EC-24-027-								●	●	■	●		●												■	■		■						
GDP-EC-24-036-								●			●														■	■		■						
GDP-EC-24-046-								●	■		●															■	■		■					
GDP-EC-24-056-								●			●															■	■		■					
GDP-EC-24-066-	24	30	35	6	9			■		■																	■							
GDP-EC-24-076-										■																		■						
GDP-EC-24-086-										■																		■						
GDP-EC-24-096-										■																		■						
GDP-EC-24-116-											■																		■					
GDP-EC-24-136-												■																		■				
GDP-EC-24-156-													■																		■			

Add length to end of catalog number (i.e. GDP-EC-24-017-035)

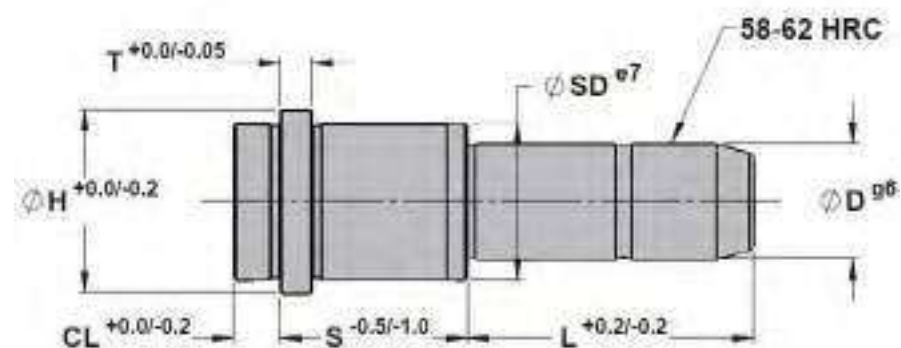
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																							
							035	045	055	065	075	085	095	105	115	125	130	135	145	155	165	175	185	195	205	225	245	285	295	
GDP-EC-30-027-	30	42	47	6	9	27	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
GDP-EC-30-036-						36	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
GDP-EC-30-046-						46	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-30-056-						56	■	■	■	■	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-30-066-						66	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-30-076-						76	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-30-086-						86	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-30-096-						96	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-30-116-						116	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-30-136-						136	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-30-156-						156	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-30-196-						196	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Add length to end of catalog number (i.e. GDP-EC-30-027-045)

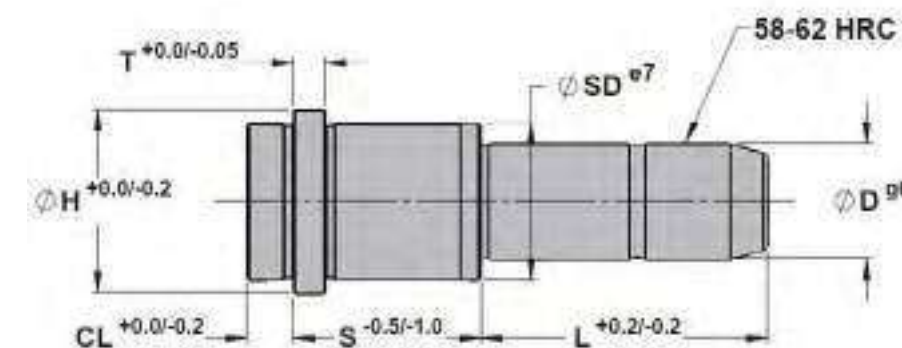
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																								
							045	055	065	075	085	095	105	115	125	135	155	165	175	185	195	205	215	225	235	245	285	295			
GDP-EC-32-027-	32	42	47	6	9	27	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
GDP-EC-32-036-						36	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
GDP-EC-32-046-						46	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-32-056-						56	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-32-066-						66	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-32-076-						76	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-32-086-						86	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-32-096-						96	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-32-116-						116	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-32-136-						136	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-32-156-						156	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-EC-32-196-						196	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Add length to end of catalog number (i.e. GDP-EC-32-027-045)

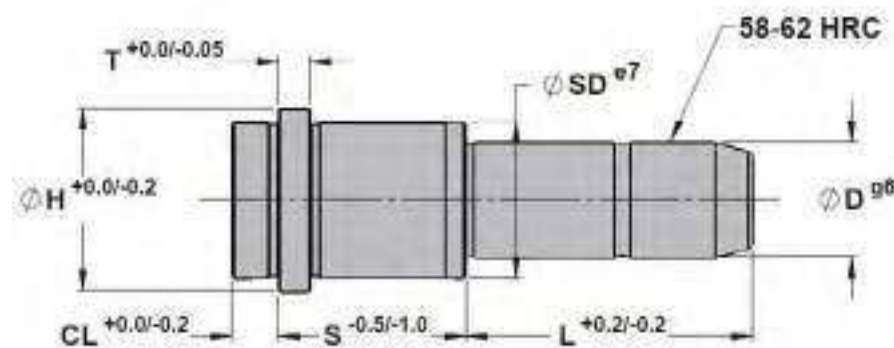
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																							
							045	055	065	075	085	095	105	115	125	135	155	165	175	185	195	205	215	225	235	245	285	295		
GDP-EC-40-056-	40	54	60	10	12	56																								
GDP-EC-40-066-						66																								
GDP-EC-40-076-						76																								
GDP-EC-40-086-						86																								
GDP-EC-40-096-						96																								
GDP-EC-40-116-						116																								
GDP-EC-40-136-						136																								
GDP-EC-40-156-						156																								
GDP-EC-40-196-						196																								
GDP-EC-40-246-						246																								

Add length to end of catalog number (i.e. GDP-EC-40-056-075)

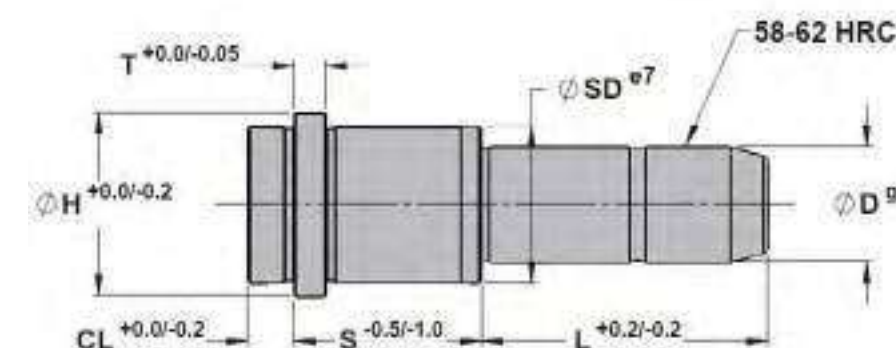
Continued on next page

Metric DIN Guide Pins - with Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
Collar Length Tolerance	+0.0 / -0.2
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	CL	S	L																							
							045	055	065	075	085	095	105	115	125	135	155	165	175	185	195	205	215	225	235	245	285	295		
GDP-EC-42-056-	42	54	60	10	12	56																								
GDP-EC-42-066-						66																								
GDP-EC-42-076-						76																								
GDP-EC-42-086-						86																								
GDP-EC-42-096-						96																								
GDP-EC-42-116-						116																								
GDP-EC-42-136-						136																								
GDP-EC-42-156-						156																								
GDP-EC-42-196-						196																								
GDP-EC-42-246-						246																								

Add length to end of catalog number (i.e. GDP-EC-42-056-075)

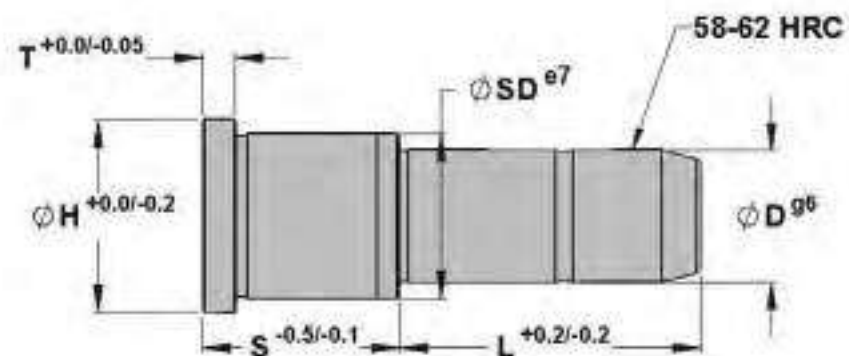


Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	S	L																														
						020	025	030	035	040	045	050	055	065	070	075	085	090	095	105	110															
GDP-ES-09-017-	9	14	16	3	17																															
GDP-ES-09-022-					22																															
GDP-ES-09-027-					27																															
GDP-ES-09-036-					36																															
GDP-ES-09-046-					46																															
GDP-ES-10-017-	10	14	16	3	17																															
GDP-ES-10-022-					22																															
GDP-ES-10-027-					27																															
GDP-ES-10-036-					36																															
GDP-ES-10-046-					46																															

Add length to end of catalog number (i.e. GDP-ES-09-017-020)

Continued on next page

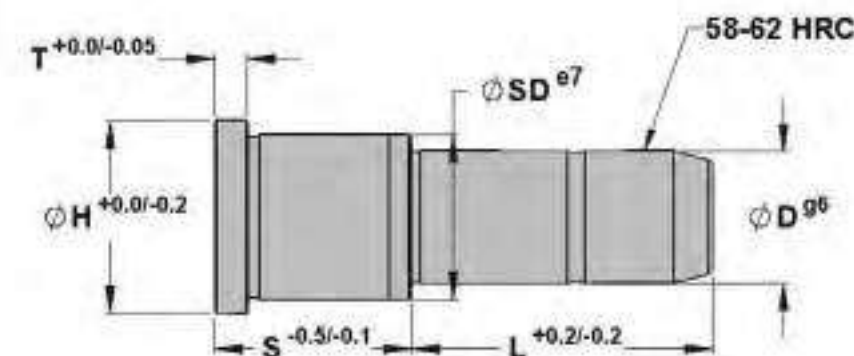


Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	S	L																																	
						020	025	030	035	040	045	050	055	065	070	075	085	090	095	105	110																		
GDP-ES-14-022-	14	20	25	6	22																																		
GDP-ES-14-027-					27																																		
GDP-ES-14-036-					36																																		
GDP-ES-14-046-					46																																		
GDP-ES-14-056-					56																																		
GDP-ES-14-066-					66																																		
GDP-ES-14-076-					76																																		
GDP-ES-14-086-					86																																		

Add length to end of catalog number (i.e. GDP-ES-14-022-020)

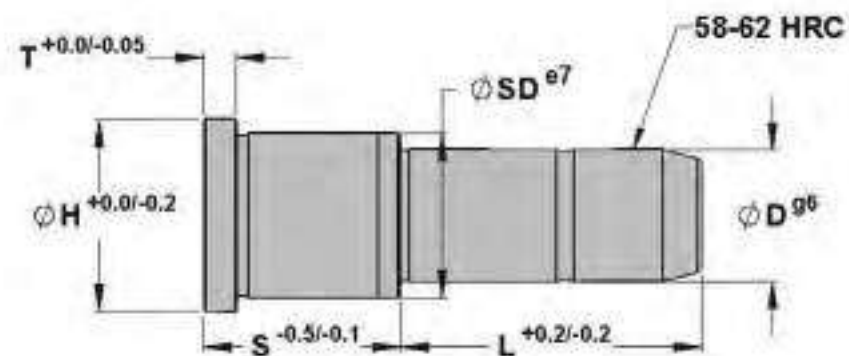
Continued on next page

Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	S	L																			
						020	025	030	035	040	045	050	055	065	070	075	085	090	095	105	110				
GDP-ES-15-022-	15	20	25	6	22	■																			
GDP-ES-15-027-					27	■																			
GDP-ES-15-036-					36	■																			
GDP-ES-15-046-					46	■																			
GDP-ES-15-056-					56	■																			
GDP-ES-15-066-					66	■																			
GDP-ES-15-076-					76	■																			
GDP-ES-15-086-					86	■																			

Add length to end of catalog number (i.e. GDP-ES-15-022-020)

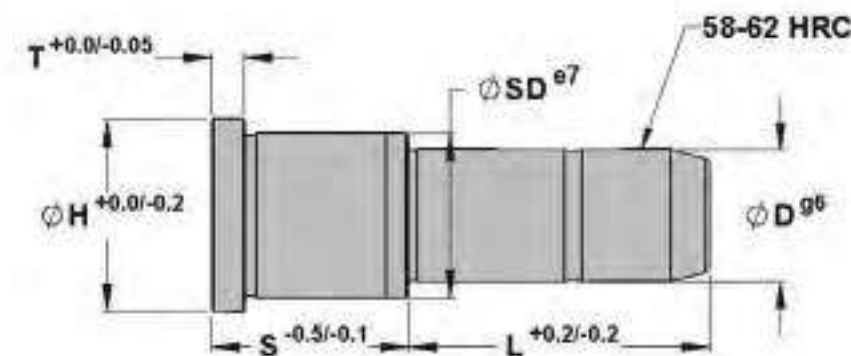
Continued on next page

Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	S	L																					
						020	025	035	040	045	050	055	060	065	070	075	080	085	095	105	115	125	135	155	165		
GDP-ES-18-022-	18	26	31	6	22	■																					
GDP-ES-18-027-					27	■																					
GDP-ES-18-036-					36	■																					
GDP-ES-18-046-					46	■																					
GDP-ES-18-056-					56	■																					
GDP-ES-18-066-					66	■																					
GDP-ES-18-076-					76	■																					
GDP-ES-18-086-					86	■																					
GDP-ES-18-096-					96	■																					
GDP-ES-18-116-					116	■																					

Add length to end of catalog number (i.e. GDP-ES-18-022-020)

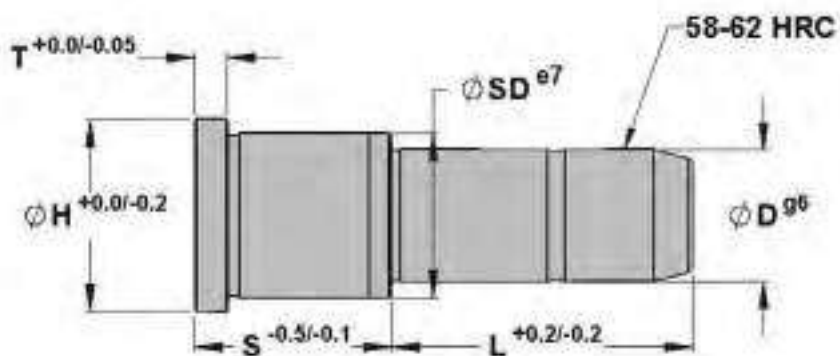
Continued on next page

Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

CATALOG NO.	D	SD	H	T	S	L																						
						020	025	035	040	045	050	055	060	065	070	075	080	085	095	105	115	125	135	155	165			
GDP-ES-20-022-	20	26	31	6	22																							
GDP-ES-20-027-					27																							
GDP-ES-20-036-					36																							
GDP-ES-20-046-					46																							
GDP-ES-20-056-					56																							
GDP-ES-20-066-					66																							
GDP-ES-20-076-					76																							
GDP-ES-20-086-					86																							
GDP-ES-20-096-					96																							
GDP-ES-20-116-					116																							

Add length to end of catalog number (i.e. GDP-ES-20-022-020)

- Stocked items
- 2-3 Week Delivery

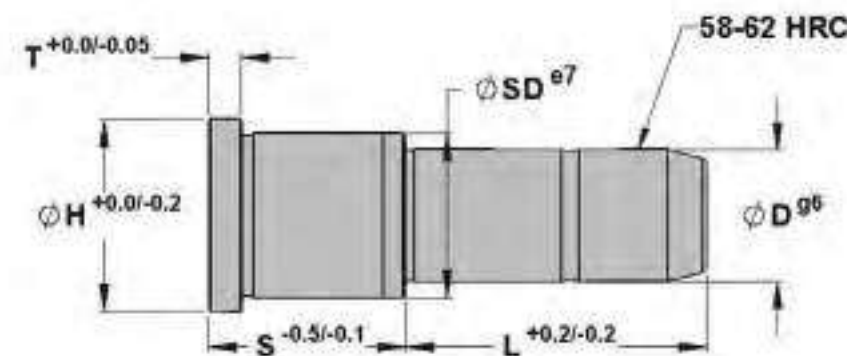
Continued on next page

Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

CATALOG NO.	D	SD	H	T	S	L																					
						020	025	035	040	045	050	055	060	065	070	075	080	085	095	105	115	125	135	155	165		
GDP-ES-22-027-	22	30	35	6	27																						
GDP-ES-22-036-					36																						
GDP-ES-22-046-					46																						
GDP-ES-22-056-					56																						
GDP-ES-22-066-					66																						
GDP-ES-22-076-					76																						
GDP-ES-22-086-					86																						
GDP-ES-22-096-					96																						
GDP-ES-22-116-					116																						
GDP-ES-22-136-					136																						

Add length to end of catalog number (i.e. GDP-ES-22-027-025)

- Stocked items
- 2-3 Week Delivery

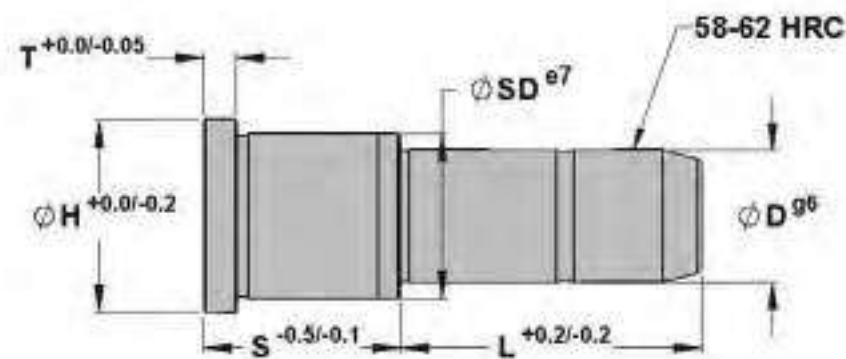
Continued on next page

Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	S	L																				
						025	045	050	055	060	065	070	075	080	085	095	105	115	125	135	155	165	175	195		
GDP-ES-24-027-	24	30	35	6	27	■	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
GDP-ES-24-036-					36	■	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
GDP-ES-24-046-					46	■	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-24-056-					56	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-24-066-					66	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-24-076-					76	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-24-086-					86	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-24-096-					96	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-24-116-					116	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-24-136-					136	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Add length to end of catalog number (i.e. GDP-ES-24-027-025)

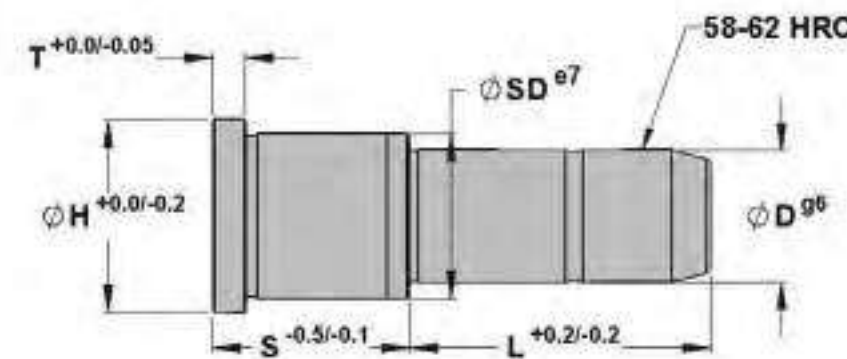
Continued on next page

Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	S	L																					
						025	045	050	055	060	065	070	075	080	085	095	105	115	125	135	155	165	175	195			
GDP-ES-30-027-	30	42	47	6	27	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
GDP-ES-30-036-					36	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
GDP-ES-30-046-					46	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-30-056-					56	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-30-066-					66	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-30-076-					76	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-30-086-					86	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-30-096-					96	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-30-116-					116	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-30-136-					136	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-30-156-					156	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDP-ES-30-196-					196	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Add length to end of catalog number (i.e. GDP-ES-30-027-045)

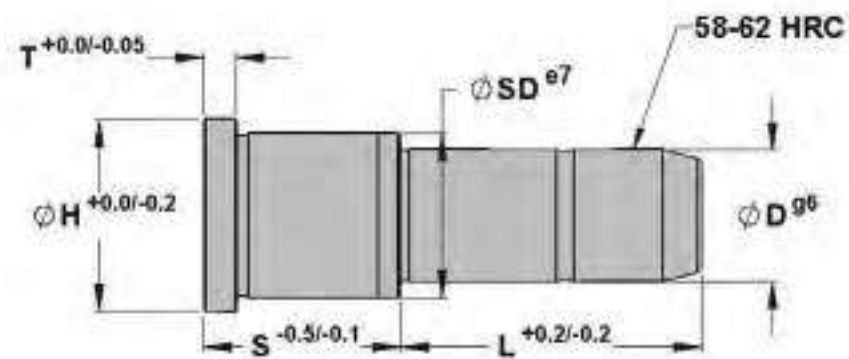
Continued on next page

Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	S	L																					
						045	055	065	075	095	105	115	135	155	165	175	195	215	235								
GDP-ES-32-027-	32	42	47	6	27	■		■			■			■													
GDP-ES-32-036-					36		■			■			■														
GDP-ES-32-056-					56		●			■			■					■									
GDP-ES-32-066-					66		●			■			■														
GDP-ES-32-076-					76					■			■														
GDP-ES-32-086-					86		●			■			■														
GDP-ES-32-096-					96					■			■														
GDP-ES-32-116-					116								■		●												
GDP-ES-32-136-					136									■													
GDP-ES-32-156-					156										■												
GDP-ES-32-196-					196											■											

Add length to end of catalog number (i.e. GDP-ES-32-027-045)

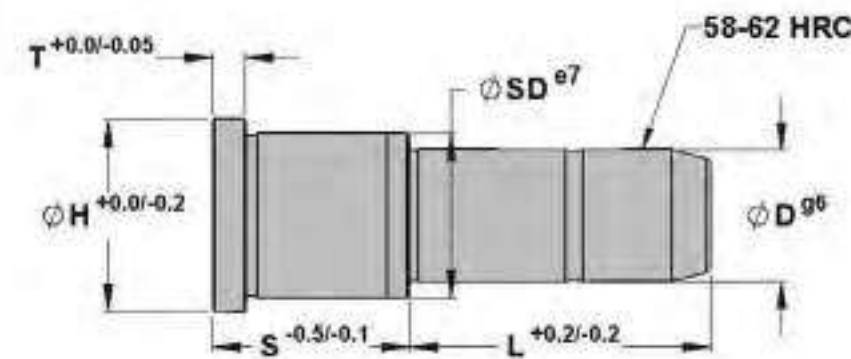
Continued on next page

Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	S	L																					
						045	055	065	075	095	105	115	135	155	165	175	195	215	235								
GDP-ES-40-056-	40	54	60	10	56				■			■		■													
GDP-ES-40-066-					66						■																
GDP-ES-40-076-					76																						
GDP-ES-40-086-					86																						
GDP-ES-40-096-					96																						
GDP-ES-40-116-					116																						
GDP-ES-40-136-					136																						
GDP-ES-40-156-					156																						
GDP-ES-40-196-					196																						

Add length to end of catalog number (i.e. GDP-ES-40-056-075)

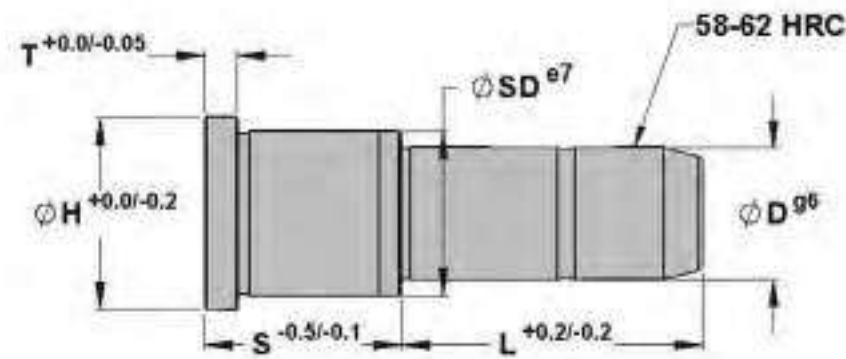
Continued on next page

Metric DIN Guide Pins - without Collar

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Tolerances allow for mating with Metric DIN Guide Bushings
- Custom sizes available upon request



SPECIFICATIONS	
Actual Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.20
L Length Tolerance	+/-0.2
S Shoulder Length Tolerance	-0.5 / -1.0
SD Shoulder Diameter Tolerance	e7
T Head Thickness Tolerance	-0.05 / -0.25



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	SD	H	T	S	L																		
						045	055	065	075	095	105	115	135	155	165	175	195	215	235					
GDP-ES-42-056-	42	54	60	10	56				■								■							
GDP-ES-42-066-					66																			
GDP-ES-42-076-					76																			
GDP-ES-42-086-					86																			
GDP-ES-42-096-					96																			
GDP-ES-42-116-					116																			
GDP-ES-42-136-					136																			
GDP-ES-42-156-					156																			
GDP-ES-42-196-					196																			

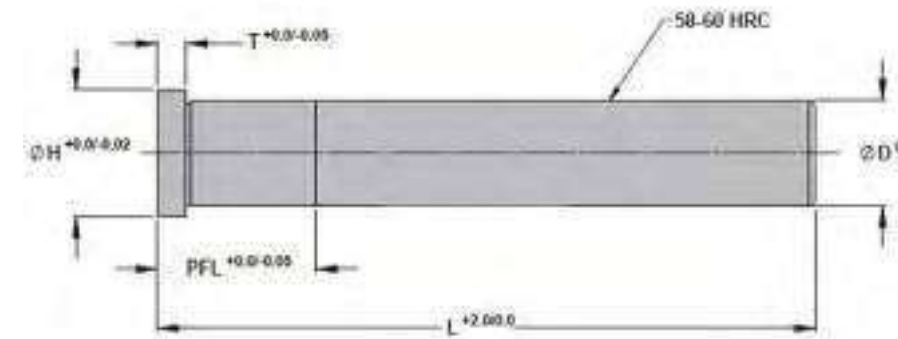
Add length to end of catalog number (i.e. GDP-ES-42-056-075)

Metric DIN Leader Pins

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Custom sizes available upon request



SPECIFICATIONS	
D Pin Diameter Tolerance	-.025/-.030
PF Press Fit Diameter Tolerance	+.025/+.038
H Head Diameter Tolerance	+.00/-.25
T Head Thickness Tolerance	+.00/-.13
PFL Press Fit Length Tolerance	+.0/-0.05
L Length Tolerance	-.76/-1.52



Standard: Metric DIN

Material: 4150 Steel

Surface Treatment: Case-hardened 58 - 60 HRC & Finish Ground

LENGTH L	D = 20 MM		D = 25 MM		D = 30 MM		D = 40 MM		D = 50 MM		D = 60 MM	
	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.
50	25	MLP-20 X 50	25	MLP-25 X 50								
60	25	MLP-20 X 60	25	MLP-25 X 60								
70	25	MLP-20 X 70	25	MLP-25 X 70	25	MLP-30 X 70						
80	25	MLP-20 X 80	25	MLP-25 X 80	25	MLP-30 X 80						
90	25	MLP-20 X 90	25	MLP-25 X 90	25	MLP-30 X 90	35	MLP-40 X 90				
100	25	MLP-20 X 100	25	MLP-25 X 100	25	MLP-30 X 100	35	MLP-40 X 100				
120	35	MLP-20 X 120	35	MLP-25 X 120	35	MLP-30 X 120	35	MLP-40 X 120				
140	35	MLP-20 X 140	35	MLP-25 X 140	35	MLP-30 X 140	35	MLP-40 X 140				
150									45	MLP-50 X 150	60	MLP-60 X 150
160	45	MLP-20 X 160	35	MLP-25 X 160	35	MLP-30 X 160	35	MLP-40 X 160				
175									45	MLP-50 X 175	60	MLP-60 X 175
180	45	MLP-20 X 180	45	MLP-25 X 180	45	MLP-30 X 180	45	MLP-40 X 180				
200	45	MLP-20 X 200	45	MLP-25 X 200	45	MLP-30 X 200	45	MLP-40 X 200	45	MLP-50 X 200	60	MLP-60 X 200
220	45	MLP-20 X 220	45	MLP-25 X 220	45	MLP-30 X 220	45	MLP-40 X 220				
225									45	MLP-50 X 225	60	MLP-60 X 225
240	45	MLP-20 X 240	45	MLP-25 X 240	45	MLP-30 X 240	45	MLP-40 X 240				
250									45	MLP-50 X 250	60	MLP-60 X 250
260			45	MLP-25 X 260	45	MLP-30 X 260	45	MLP-40 X 260				

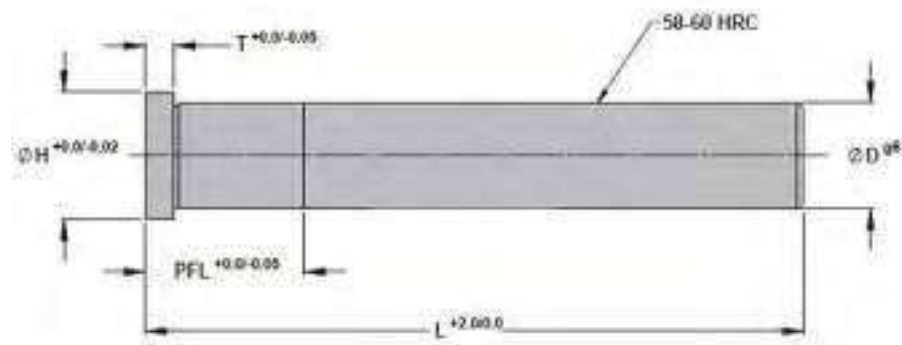
Continued on next page

Metric DIN Leader Pins

- Provides initial alignment of cavity and core halves
- Press-fit installation
- Custom sizes available upon request



SPECIFICATIONS	
D Pin Diameter Tolerance	-.025/-.030
PF Press Fit Diameter Tolerance	+.025/+.038
H Head Diameter Tolerance	+.00/-.25
T Head Thickness Tolerance	+.00/-.13
PFL Press Fit Length Tolerance	+.0/-.05
L Length Tolerance	-.76/-1.52



Standard: Metric DIN

Material: 4150 Steel

Surface Treatment: Case-hardened 58 - 60 HRC & Finish Ground

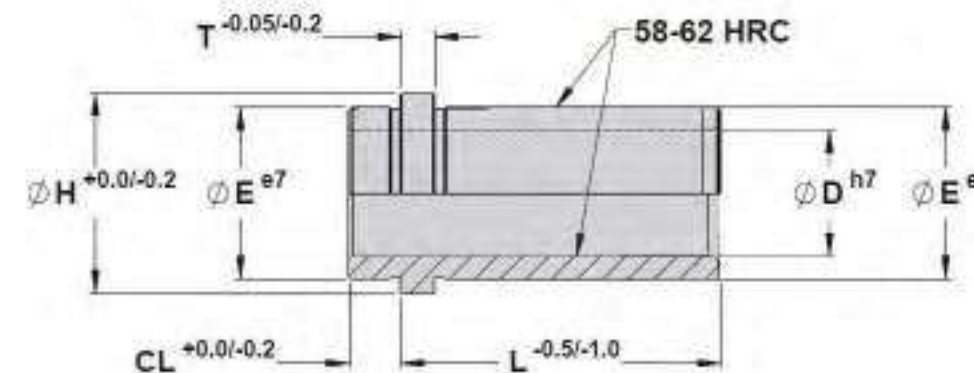
LENGTH L	D = 20 MM		D = 25 MM		D = 30 MM		D = 40 MM		D = 50 MM		D = 60 MM	
	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.	PFL	CATALOG NO.
275									45	MLP-50 X 275	60	MLP-60 X 275
280			45	MLP-25 X 280	45	MLP-30 X 280	45	MLP-40 X 280				
300			45	MLP-25 X 300	45	MLP-30 X 300	45	MLP-40 X 300	45	MLP-50 X 300	60	MLP-60 X 300
325									45	MLP-50 X 325	60	MLP-60 X 325
350									45	MLP-50 X 350	60	MLP-60 X 350
375									45	MLP-50 X 375	60	MLP-60 X 375
400									45	MLP-50 X 400	60	MLP-60 X 400

Metric DIN Guide Pin Bushings - With Collar

- Eliminates galling to Guide Pins
- Custom sizes available upon request



SPECIFICATIONS	
D I.D. Tolerance	H7
E O.D. Tolerance	e7
H Head Diameter Tolerance	0.0 / -0.2
T Head Thickness Tolerance	-0.05 / -0.20
Collar Length Tolerance	0.0 / -0.2
L Length Tolerance	-0.5/-1.0



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

● Stocked items

■ 2-3 Week Delivery

CATALOG NO.	D	E	H	T	CL	L													
						017	022	027	036	046	056	066	076	086	096	116	136	156	246
GDB-ECS-14-	14	20	25	6	9	●	●	●	●	●									
GDB-ECS-15-	15					●	●	●	●	●									
GDB-ECS-18-	18	26	31	6	9		●	●	●	●	●								
GDB-ECS-20-	20					●	●	●	●	●									
GDB-ECS-22-	22	30	35	6	9		●	●	●	●	●	●							
GDB-ECS-24-	24					●	●	●	●	●	●								
GDB-ECS-30-	30	42	47	6	9					●	●	●	●						
GDB-ECS-32-	32								●	●	●	●							
GDB-ECS-40-	40	54	60	10	12														
GDB-ECS-42-	42																		

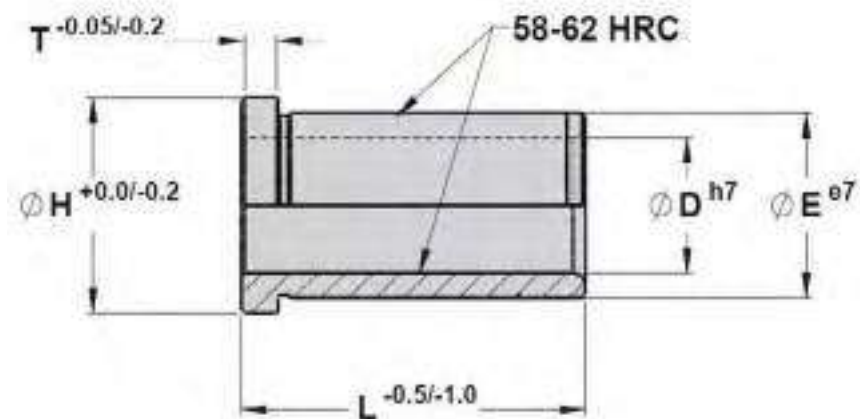
Add length to end of item number (i.e. GDB-ECS-14-017)

Metric DIN Guide Pin Bushings - Without Collar

- Eliminates galling to Guide Pins
- Custom sizes available upon request



SPECIFICATIONS	
D I.D. Tolerance	H7
E O.D. Tolerance	e7
H Head Diameter Tolerance	0.0 / -0.2
T Head Thickness Tolerance	-0.05 / -0.20
Collar Length Tolerance	0.0 / -0.2
L Length Tolerance	-0.5/-1.0



Standard: Metric DIN

Material: 1.7131 (AISI 5115 Type) Steel

Surface Treatment: Case-hardened 58 - 62 HRC & Finish Ground

● Stocked items

■ 2-3 Week Delivery

CATALOG NO.	D	E	H	T	L															
					009	012	017	022	027	036	046	056	066	076	086	096	116	136	156	246
GDB-ESS-09-	09	14	16	6	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
GDB-ESS-10-	10				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESS-14-	14	20	25	6	■	■	■	●	●	●	●	■	■	■	■	■	■	■		
GDB-ESS-15-	15				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESS-18-	18				26	31	6	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESS-20-	20	■	■	■				■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESS-22-	22	30	35	6	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
GDB-ESS-24-	24				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESS-30-	30				42	47	6	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESS-32-	32	■	■	■				■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESS-40-	40	54	60	10	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
GDB-ESS-42-	42				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

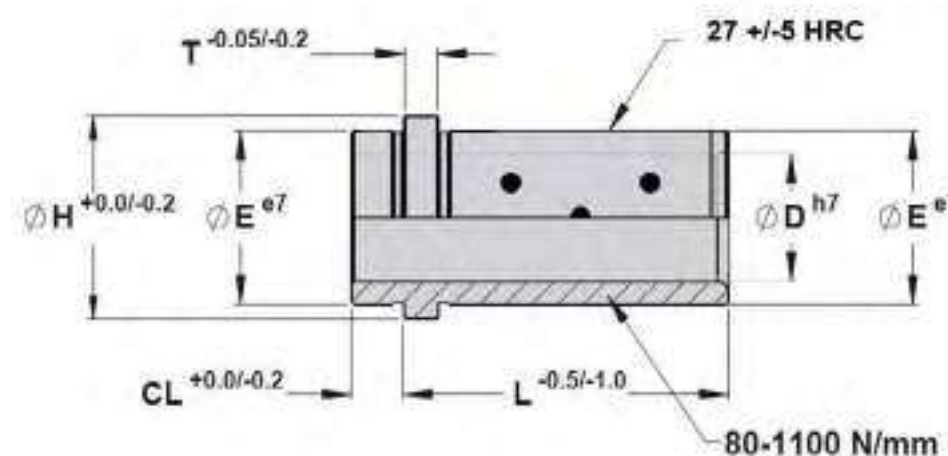
Add length to end of catalog number (i.e. GDB-ESS-09-009)

Metric DIN Self-Lube Guide Pin Bushings - With Collar

- Eliminates galling to Guide Pins
- Does not require grease
- Custom sizes available upon request



SPECIFICATIONS	
D I.D. Tolerance	H7
E O.D. Tolerance	k6
H Head Diameter Tolerance	0.0 / -0.2
T Head Thickness Tolerance	0.0 / -0.2
Collar Length Tolerance	-0.05 / -0.20
L Length Tolerance	-0.5 / -1.0



Standard: Metric DIN

Material: 2.0975 Aluminum Bronze with graphite plugs

Surface Treatment: Finish Ground

● Stocked items

■ 2-3 Week Delivery

CATALOG NO.	D	E	H	T	CL	L																
						017	022	027	036	046	056	066	076	086	096	116	136	156				
GDB-ECL-09-	09	14	16	3	3	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
GDB-ECL-10-	10					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ECL-14-	14	20	25	6	9	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
GDB-ECL-15-	15					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ECL-18-	18					26	31	6	9	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ECL-20-	20	■	■	■	■					■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ECL-22-	22	30	35	6	9	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
GDB-ECL-24-	24					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ECL-30-	30					42	47	6	9	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ECL-32-	32	■	■	■	■					■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ECL-40-	40	51	60	10	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
GDB-ECL-42-	42					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

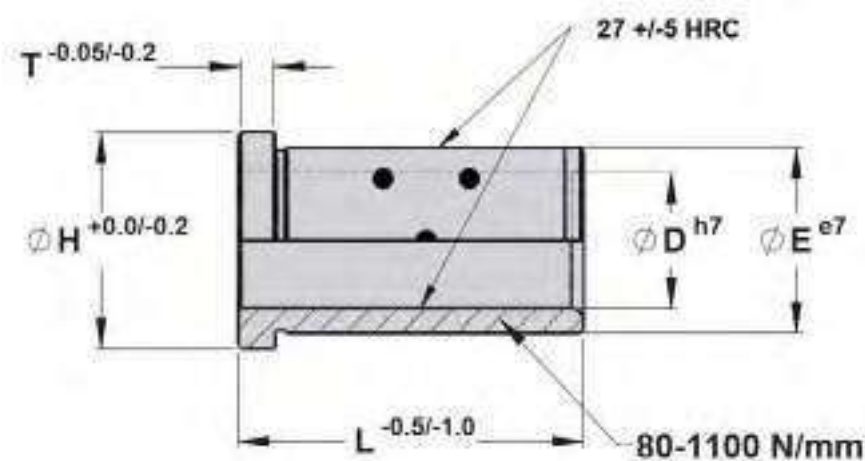
Add length to end of catalog number (i.e. GDB-ECL-09-017)

Metric DIN Self-Lube Guide Pin Bushings - Without Collar

- Eliminates galling to Guide Pins
- Does not require grease
- Custom sizes available upon request



SPECIFICATIONS	
E O.D. Tolerance	k6
D I.D. Tolerance	H7
H Head Diameter Tolerance	+0.0 / -0.2
T Head Thickness Tolerance	-0.05 / -0.20
L Length Tolerance	-0.5 / -1.0



Standard: Metric DIN
Material: 2.0975 Aluminum Bronze with graphite plugs
Surface Treatment: Finish Ground

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D	E	H	T	L												
					017	022	027	036	046	056	066	076	086	096	116	136	
GDB-ESL-09	09	14	16	3	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESL-10	10				■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESL-14	14	20	25	6	■	■	●	●	●	■	■	■	■	■	■	■	■
GDB-ESL-15	15				■	■	●	●	●	■	■	■	■	■	■	■	■
GDB-ESL-18	18	26	31	6	■	■	●	●	●	■	■	■	■	■	■	■	■
GDB-ESL-20	20				■	■	●	●	●	■	■	■	■	■	■	■	■
GDB-ESL-22	22	30	35	6	■	■	●	●	●	■	■	■	■	■	■	■	■
GDB-ESL-24	24				■	■	●	●	●	■	■	■	■	■	■	■	■
GDB-ESL-30	30	42	47	6	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESL-32	32				■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESL-40	40	54	60	10	■	■	■	■	■	■	■	■	■	■	■	■	■
GDB-ESL-42	42				■	■	■	■	■	■	■	■	■	■	■	■	■

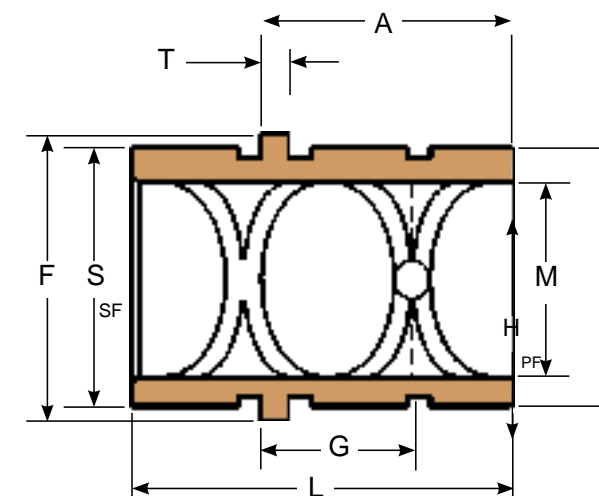
Add length to end of catalog number (i.e. GDB-ESL-09-017)

Metric DIN Bronze Plated - Guided Ejector Bushings

- Press-fit diameter ground to size
- Internal grease grooves help prevent galling
- Opposite end ground for ejector plate removal
- Plating thickness 0.10mm - 0.12mm
- Custom sizes available upon request



SPECIFICATIONS	
M I.D. Tolerance	+0.013 / +.026
H Press Fit O.D. Tolerance	+0.013 / -.000
L Length Tolerance	+0.00 / -.78
F Rib O.D. Tolerance	+0.000 / -.130
S Slip Fit O.D. Tolerance	+0.000 / -.026
A Ejector Plate Length Tolerance	+0.00 / -.38
G Lube Hole Location Tolerance	+0.38 / -.38
T Rib Thickness	5
T Rib Thickness Tolerance	+0.00 / -.13
Plating Thickness/ per side	0.10 mm - 0.12 mm



SF Slip-Fit
 PF Press-Fit

Standard: Metric DIN
Material: Bronze Plated Steel
Surface Treatment: Finish Ground

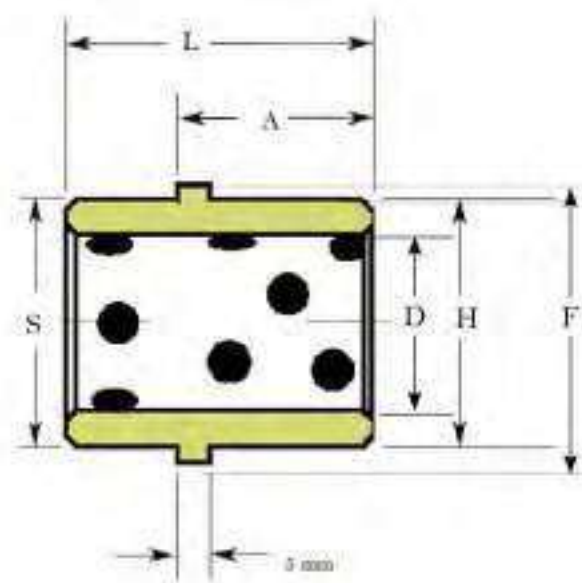
CATALOG NO.	M	H	L	F	S	A	G	T
EJM-20	20 mm	26 mm	37 mm	28 mm	26 mm	25 mm	15 mm	5 mm
EJM-25	25 mm	32 mm	45 mm	35 mm	32 mm	29 mm	16 mm	5 mm
EJM-30	30 mm	38 mm	45 mm	41 mm	38 mm	29 mm	16 mm	5 mm

Metric DIN Self-Lubricating Guided Ejector Bushings

- Finish Ground surface
- Resists abrasion
- Excellent wear characteristics
- Aluminum bronze with graphite plugs
- Custom sizes available upon request



SPECIFICATIONS	
D I.D. Tolerance	+0.013/+0.026
H Press Fit O.D. Tolerance	+0.013 / -0.000
I.D. Tolerance	+0.013 / +0.026
S Slip Fit O.D. Tolerance	+0.000 / -0.026
F Rib O.D. Tolerance	+0.00 / -0.13
A Ejector Plate Length Tolerance	+0.00 / -0.38
L Length Tolerance	+0.00 / -0.76
T Rib Thickness	5 mm
T Rib Thickness Tolerance	+0.00 / -0.13



Standard: Metric DIN
Material: 2.0975 Aluminum Bronze with graphite plugs
Surface Treatment: Finish Ground

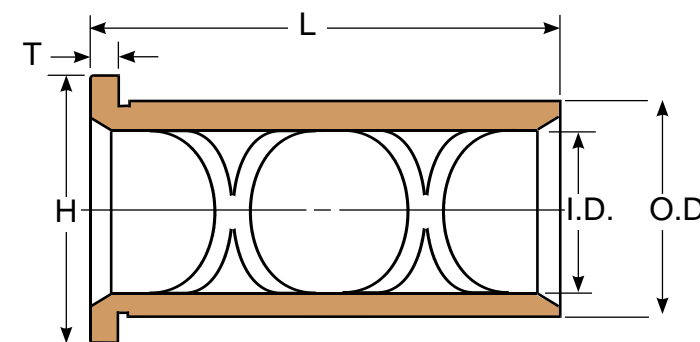
CATALOG NO.	D	H	S	F	A	L
MME-20	20 mm	26 mm	26 mm	28 mm	25 mm	37 mm
MME-25	25 mm	32 mm	32 mm	35 mm	29 mm	45 mm
MME-30	30 mm	38 mm	38 mm	41 mm	29 mm	45 mm

Metric DIN Shoulder Bushings - Bronze Plated

- Eliminates galling to Leader Pins
- Contains internal grease grooves
- Plating thickness of 0.10 mm - 0.12 mm
- Custom sizes available upon request



SPECIFICATIONS	
O.D. Tolerance	+0.013/-0.000 mm
I.D. Tolerance	+0.013/-0.000 mm
H Head Diameter Tolerance	+0.00/-0.13 mm
T Head Thickness	5.00 mm
T Head Thickness Tolerance	+0.00/-0.26 mm
L Length Tolerance	+0.00/-0.76 mm



Note: ID and OD sizes are +0.013 mm +0.026 mm

Standard: Metric DIN
Material: Bronze Plated Steel
Surface Treatment: Finish Ground

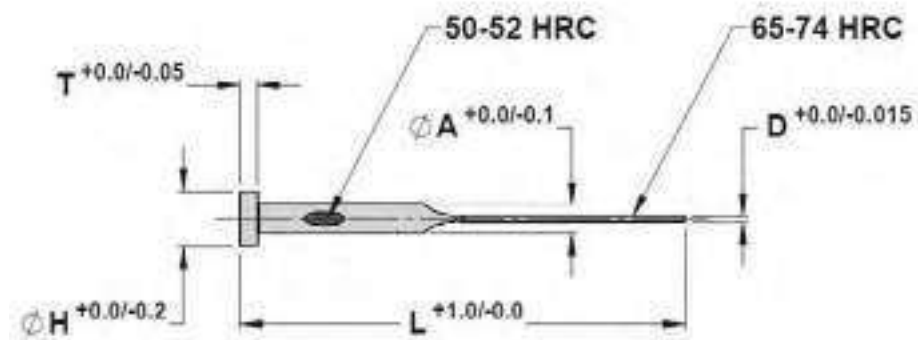
LENGTH L	I.D.					
	20 mm	25 mm	30 mm	40 mm	50 mm	60 mm
	H = 28 mm O.D. = 26	H = 35 O.D. = 32	H = 41 O.D. = 38	H = 53 O.D. = 50	H = 63 O.D. = 60	H = 73 O.D. = 70
25 mm	LBBM-20 X 25	LBBM-25 X 25	LBBM-30 X 25	LBBM-40 X 25		
30 mm	LBBM-20 X 30	LBBM-25 X 30	LBBM-30 X 30	LBBM-40 X 30	LBBM-50 X 30	LBBM-60 X 30
40 mm	LBBM-20 X 40	LBBM-25 X 40	LBBM-30 X 40	LBBM-40 X 40	LBBM-50 X 40	LBBM-60 X 40
50 mm	LBBM-20 X 50	LBBM-25 X 50	LBBM-30 X 50	LBBM-40 X 50	LBBM-50 X 50	LBBM-60 X 50
65 mm	LBBM-20 X 65	LBBM-25 X 65	LBBM-30 X 65	LBBM-40 X 65	LBBM-50 X 65	LBBM-60 X 65
80 mm	LBBM-20 X 80	LBBM-25 X 80	LBBM-30 X 80	LBBM-40 X 80	LBBM-50 X 80	LBBM-60 X 80
100 mm	LBBM-20 X 100	LBBM-25 X 100	LBBM-30 X 100	LBBM-40 X 100	LBBM-50 X 100	LBBM-60 X 100
120 mm	LBBM-20 X 120	LBBM-25 X 120	LBBM-30 X 120	LBBM-40 X 120	LBBM-50 X 120	LBBM-60 X 120
140 mm		LBBM-25 X 140	LBBM-30 X 140	LBBM-40 X 140	LBBM-50 X 140	LBBM-60 X 140
150 mm		LBBM-25 X 150	LBBM-30 X 150	LBBM-40 X 150	LBBM-50 X 150	LBBM-60 X 150

Metric DIN Nitrided Ejector Blades

- One piece construction to improve strength
- Core hardness 50 - 52 Rc
- Nitrided 65 - 74 Rc
- Heads annealed for easier machining
- Corner radius on blade cross-section can be special ordered
- Custom sizes available upon request



SPECIFICATIONS	
W Blade Width Tolerance	+0.000 / -0.015
D Blade Thickness Tolerance	+0.0 / -0.015
A Pin Diameter Tolerance	+0.00 / -0.10
H Head Diameter Tolerance	+0.00 / -0.20
T Head Thickness Tolerance	+0.00 / -0.05
BL Blade Length Tolerance	+2.00 / -0.00
Shoulder Length Tolerance	-1.0 / -0.2
L Overall Length Tolerance	+2.00 / -0.00
Etched for Identification	Yes



- Stocked items
- 2-3 Week Delivery

Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

CATALOG NO.	W BLADE WIDTH	D BLADE THICK.	A PIN DIA.	H HEAD DIA.	T HEAD THICK.	L OVERALL LENGTH													
						063	080	100	125	160	200	250	315	400					
						SHOULDER LENGTH					32	40	50	63	80	100	125	155	200
MB03510-	3.5	1	4	8	3						●								
MB03512-	3.5	1.2	4	8	3			●											
MB03808-	3.8	0.8	4.2	8	3														
MB03810-	3.8	1	4.2	8	3	●					●								
MB03812-	3.8	1.2	4.2	8	3						●								
MB04510-	4.5	1	5	10	3				●	●									
MB04512-	4.5	1.2	5	10	3				●										

Add length to end of catalog number (i.e. MB03510-063)

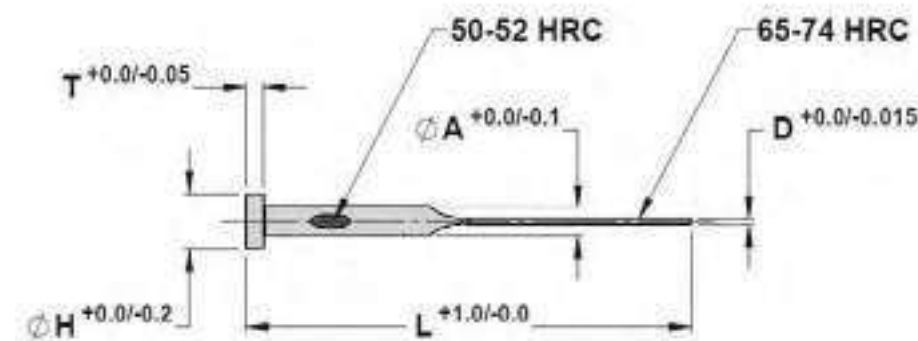
Continued on next page

Metric DIN Nitrided Ejector Blades

- One piece construction to improve strength
- Core hardness 50 - 52 Rc
- Nitrided 65 - 74 Rc
- Heads annealed for easier machining
- Corner radius on blade cross-section can be special ordered
- Custom sizes available upon request



SPECIFICATIONS	
W Blade Width Tolerance	+0.000 / -0.015
D Blade Thickness Tolerance	+0.0 / -0.015
A Pin Diameter Tolerance	+0.00 / -0.10
H Head Diameter Tolerance	+0.00 / -0.20
T Head Thickness Tolerance	+0.00 / -0.05
BL Blade Length Tolerance	+2.00 / -0.00
Shoulder Length Tolerance	-1.0 / -0.2
L Overall Length Tolerance	+2.00 / -0.00
Etched for Identification	Yes



- Stocked items
- 2-3 Week Delivery

Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

CATALOG NO.	W BLADE WIDTH	D BLADE THICK.	A PIN DIA.	H HEAD DIA.	T HEAD THICK.	L OVERALL LENGTH													
						063	080	100	125	160	200	250	315	400					
						SHOULDER LENGTH					32	40	50	63	80	100	125	155	200
MB04515-	4.5	1.5	5	10	3			●	●	●	●								
MB05510-	5.5	1	6	12	5					●									
MB05512-	5.5	1.2	6	12	5				●	●									
MB05515-	5.5	1.5	6	12	5			●			●								
MB05520-	5.5	2	6	12	5														
MB07512-	7.5	1.2	8	14	5														
MB07515-	7.5	1.5	8	14	5				●		●								
MB07520-	7.5	2	8	14	5					●								●	
MB09515-	9.5	1.5	10	16	5														

Add length to end of catalog number (i.e. MB04515-080)

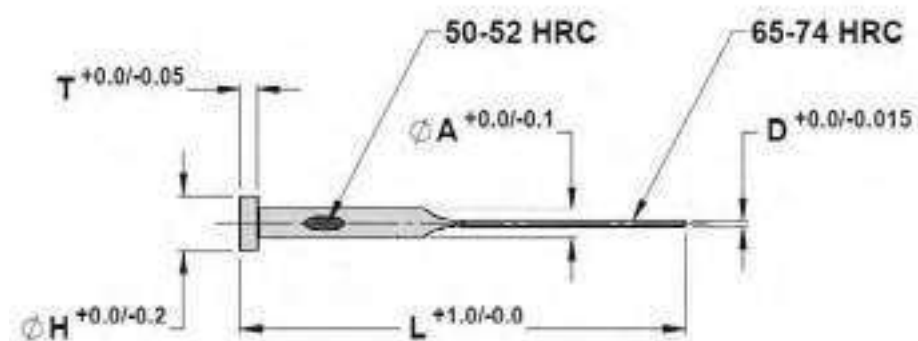
Continued on next page

Metric DIN Nitrided Ejector Blades

- One piece construction to improve strength
- Core hardness 50 - 52 Rc
- Nitrided 65 - 74 Rc
- Heads annealed for easier machining
- Corner radius on blade cross-section can be special ordered
- Custom sizes available upon request



SPECIFICATIONS	
W Blade Width Tolerance	+ .0000 / - .0003
D Blade Thickness Tolerance	+ .0000 / - .0003
A Pin Diameter Tolerance	+ .000 / - .001
H Head Diameter Tolerance	+ .000 / - .010
T Head Thickness Tolerance	+ .000 / - .002
BL Blade Length Tolerance	+ .062 / - .000
Shoulder Length Tolerance	+ .062 / - .000
L Overall Length Tolerance	+ .062 / - .000
Etched for Identification	Yes



Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	W BLADE WIDTH	D BLADE THICK.	A PIN DIA.	H HEAD DIA.	T HEAD THICK.	L OVERALL LENGTH									
						063	080	100	125	160	200	250	315	400	
						SHOULDER LENGTH									
						32	40	50	63	80	100	125	155	200	
MB09520-	9.5	2	10	16	5						●				
MB11520-	11.5	2	12	18	7										
MB11525-	11.5	2.5	12	18	7										
MB15520-	15.5	2	16	22	7										
MB15525-	15.5	2.5	16	22	7										

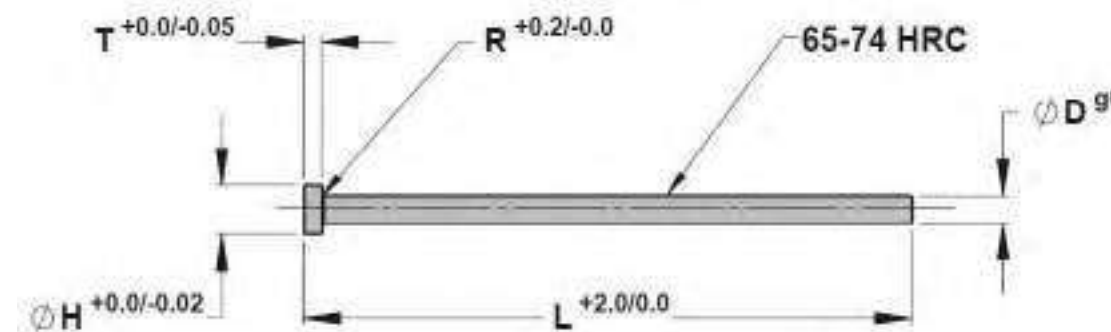
Add length to end of catalog number (i.e. MB09520-160)

Metric DIN Nitrided Ejector Pins

- Manufactured from premium hotwork steel
- Nitrided surface reduces galling
- Custom sizes available upon request



SPECIFICATIONS	
D Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.2
T Head Thickness Tolerance	-0.05
R Pin to Head Radius Tolerance	+0.2
L Overall Length Tolerance	+ 2.0
Core Hardness	42 - 47 Rc
Etched for Identification	No



Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D PIN DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH											
					100	125	160	200	250	315	400	500	630	800	1000	
MP012-	1.2	3	1.5	0.2	●		●									
MP015-	1.5	3	1.5	0.2	●	●	●	●								
MP016-	1.6	3	1.5	0.2												
MP02-	2	4	2	0.2	●	●	●	●	●	●						
MP022-	2.2	4	2	0.2		●		●	●	●						
MP025-	2.5	5	2	0.3		●	●	●	●	●						
MP027-	2.7	5	2	0.3		●	●	●	●	●						
MP03-	3	6	3	0.3	●	●	●	●	●	●	●	●				
MP032-	3.2	6	3	0.3		●	●	●	●	●	●	●				
MP035-	3.5	7	3	0.3		●	●	●	●	●	●	●				
MP037-	3.7	7	3	0.3		●	●	●	●	●	●	●				
MP04-	4	8	3	0.3	●	●	●	●	●	●	●	●	●			
MP041-	4.1	8	3	0.3												

Add length to end of catalog number (i.e. MP012-100)

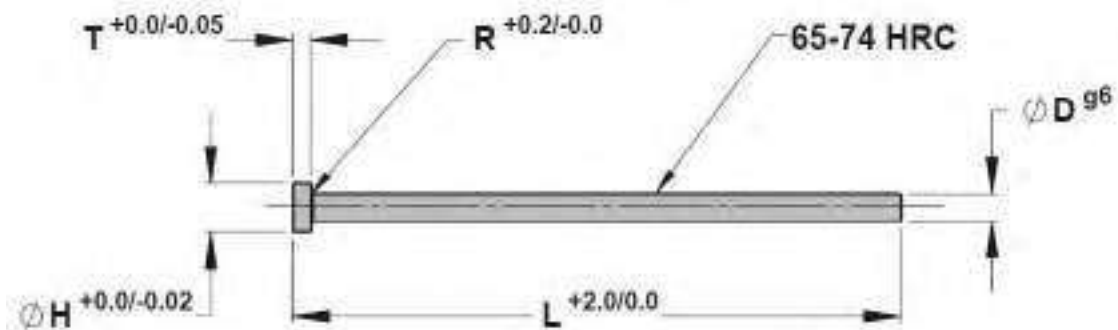
Continued on next page

Metric DIN Nitrided Ejector Pins

- Manufactured from premium hotwork steel
- Nitrided surface reduces galling
- Custom sizes available upon request



SPECIFICATIONS	
D Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.2
T Head Thickness Tolerance	-0.05
R Pin to Head Radius Tolerance	+0.2
L Overall Length Tolerance	+ 2.0
Core Hardness	42 - 47 Rc
Etched for Identification	No



Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D PIN DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH											
					100	125	160	200	250	315	400	500	630	800	1000	
MP042-	4.2	8	3	0.3		●	●	●	●							
MP045-	4.5	8	3	0.3	●	●	●	●	●							
MP05-	5	10	3	0.3		●	●	●	●	●	●	●	●			
MP052-	5.2	10	3	0.3				●	●	●						
MP055-	5.5	10	3	0.3		●	●	●	●	●	●					
MP06-	6	12	5	0.5		●	●	●	●	●	●	●	●	●	●	●
MP061-	6.1	12	5	0.5												
MP062-	6.2	12	5	0.5	●		●		●	●	●	●	●			
MP065-	6.5	12	5	0.5		●	●	●	●	●	●					
MP07-	7	12	5	0.5		●	●	●	●	●	●	●				
MP075-	7.5	12	5	0.5												
MP08-	8	14	5	0.5		●	●	●	●	●	●	●	●	●	●	●
MP082-	8.2	14	5	0.5		●	●	●	●	●	●					
MP085-	8.5	14	5	0.5	●	●	●	●	●	●	●	●	●	●	●	●

Add length to end of catalog number (i.e. MP042-100)

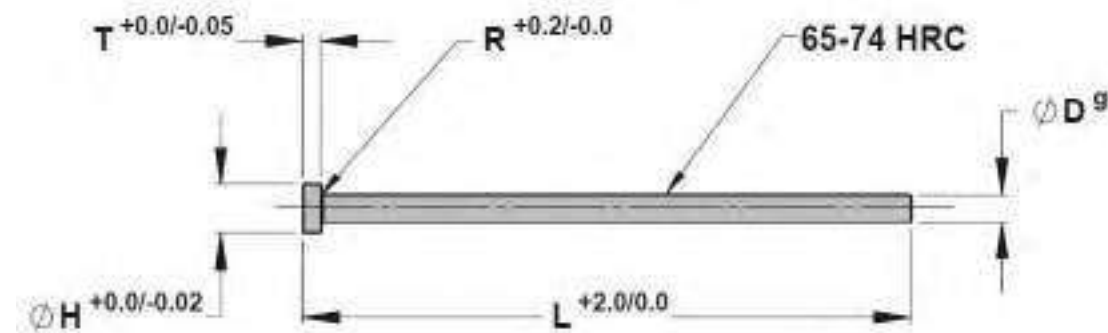
Continued on next page

Metric DIN Nitrided Ejector Pins

- Manufactured from premium hotwork steel
- Nitrided surface reduces galling
- Custom sizes available upon request



SPECIFICATIONS	
D Pin Diameter Tolerance	g6
H Head Diameter Tolerance	-0.2
T Head Thickness Tolerance	-0.05
R Pin to Head Radius Tolerance	+0.2
L Overall Length Tolerance	+ 2.0
Core Hardness	42 - 47 Rc
Etched for Identification	No



Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D PIN DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH											
					100	125	160	200	250	315	400	500	630	800	1000	
MP09-	9	14	5	0.5	●	●	●	●			●	●	●			
MP095-	9.5	14	5	0.5												
MP10-	10	16	5	0.5		●	●	●	●	●	●	●	●	●	●	●
MP102-	10.2	16	5	0.5	●	●	●	●	●							
MP105-	10.5	16	5	0.5	●	●	●	●	●							
MP11-	11	16	5	0.5		●	●	●	●	●						
MP12-	12	18	7	0.8		●	●	●	●	●	●	●	●	●	●	●
MP122-	12.2	18	7	0.8	●	●	●	●	●	●						
MP125-	12.5	18	7	0.8	●	●	●	●	●	●						
MP14-	14	22	7	0.8	●	●	●	●	●	●	●	●	●	●	●	●
MP16-	16	22	7	0.8		●	●	●	●	●	●	●	●	●	●	●
MP162-	16.2	22	7	0.8												
MP18-	18	24	7	0.8	●	●	●	●	●	●	●	●	●	●	●	●
MP20-	20	26	8	1	●	●	●	●	●	●	●	●	●	●	●	●
MP25-	25	32	10	1			●				●	●	●	●	●	●
MP32-	32	40	10	1				●			●	●	●	●	●	●

Add length to end of catalog number (i.e. MP09-100)

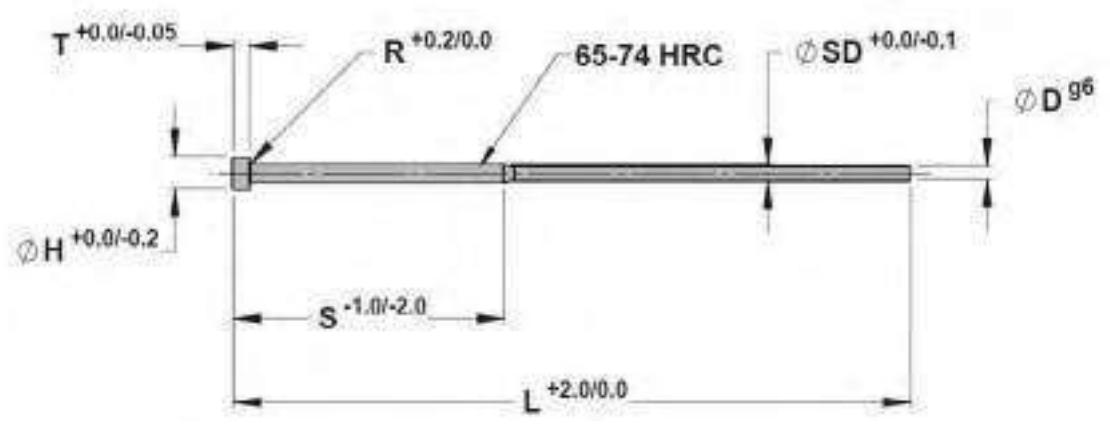


Metric DIN Nitrided Step Pins

- Manufactured from premium hotwork steel
- Nitrided surface reduces galling
- Heads annealed to reduce brittleness & allow for easier machining
- Custom sizes available upon request



SPECIFICATIONS	
D Pin Diameter Tolerance	g6
SD Shoulder Diameter Tolerance	-0.10
H Head Diameter Tolerance	-0.20
T Head Thickness Tolerance	-0.05
R Pin to Head Radius Tolerance	+0.2
S Shoulder Length Tolerance	-1.0/-2.0
L Overall Length Tolerance	+2.0
Core Hardness	50 - 52 Rc
Etched for Identification	Yes



- Stocked items
- 2-3 Week Delivery

Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

CATALOG NO.	D PIN DIA.	SD SHOULDER DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH								
						80	100	120	125	140	160	200	250	
						S SHOULDER LENGTH								
						32	50	50	50	50	63	80	80	
MS07-2-	0.7	2	4	2	0.2									
MS08-2-	0.8	2	4	2	0.2									
MS09-2-	0.9	2	4	2	0.2									
MS10-2-	1	2	4	2	0.2	●					●	●	●	
MS10-3-	1	3	4	2	0.2						●	●		
MS11-2-	1.1	2	4	2	0.2									
MS12-2-	1.2	2	4	2	0.2						●	●	●	
MS13-2-	1.3	2	4	2	0.2									
MS14-2-	1.4	2	4	2	0.2						●	●		

Add length to end of catalog number (i.e. MS07-2-100)

Continued on next page

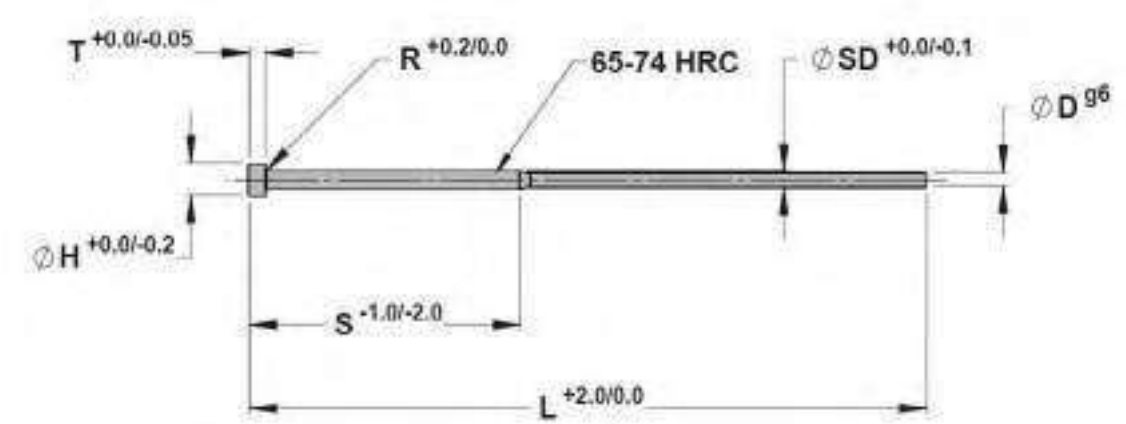


Metric DIN Nitrided Step Pins

- Manufactured from premium hotwork steel
- Nitrided surface reduces galling
- Heads annealed to reduce brittleness & allow for easier machining
- Custom sizes available upon request



SPECIFICATIONS	
D Pin Diameter Tolerance	g6
SD Shoulder Diameter Tolerance	-0.10
H Head Diameter Tolerance	-0.20
T Head Thickness Tolerance	-0.05
R Pin to Head Radius Tolerance	+0.2
S Shoulder Length Tolerance	-1.0/-2.0
L Overall Length Tolerance	+2.0
Core Hardness	50 - 52 Rc
Etched for Identification	Yes



- Stocked items
- 2-3 Week Delivery

Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

CATALOG NO.	D PIN DIA.	SD SHOULDER DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH								
						80	100	120	125	140	160	200	250	
						S SHOULDER LENGTH								
						32	50	50	50	50	63	80	80	
MS15-3-	1.5	3	6	3	0.3	●					●	●	●	
MS16-3-	1.6	3	6	3	0.3									
MS17-3-	1.7	3	6	3	0.3							●	●	
MS18-3-	1.8	3	6	3	0.3							●	●	
MS19-3-	1.9	3	6	3	0.3									
MS20-3-	2	3	6	3	0.3							●	●	
MS21-3-	2.1	3	6	3	0.3									
MS22-3-	2.2	3	6	3	0.3							●	●	●
MS24-3-	2.4	3	6	3	0.3									

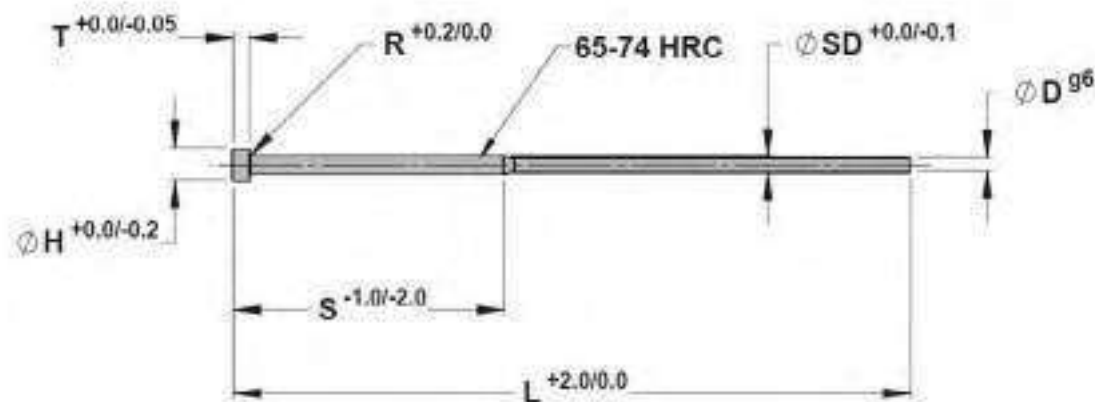
Add length to end of catalog number (i.e. MS15-3-80)

Continued on next page

Metric DIN Nitrided Step Pins

- Manufactured from premium hotwork steel
- Nitrided surface reduces galling
- Heads annealed to reduce brittleness & allow for easier machining
- Custom sizes available upon request

SPECIFICATIONS	
D Pin Diameter Tolerance	g6
SD Shoulder Diameter Tolerance	-0.10
H Head Diameter Tolerance	-0.20
T Head Thickness Tolerance	-0.05
R Pin to Head Radius Tolerance	+0.2
S Shoulder Length Tolerance	-1.0/-2.0
L Overall Length Tolerance	+2.0
Core Hardness	50 - 52 Rc
Etched for Identification	Yes



Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

CATALOG NO.	D PIN DIA.	SD SHOULDER DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH														
						80	100	120	125	140	160	200	250							
						S SHOULDER LENGTH						32	50	50	50	50	63	80	80	
MS25-3-	2.5	3	6	3	0.3															
MS27-3-	2.7	3	6	3	0.3															
MS30-4-	3	4	8	3	0.4															
MS32-4-	3.2	4	8	3	0.4															
MS35-4-	3.5	4	8	3	0.4															

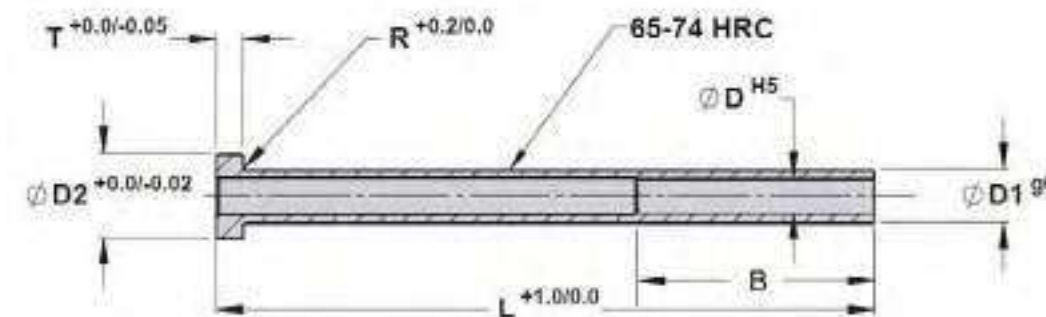
Add length to end of catalog number (i.e. MS25-3-100)

- Stocked items
- 2-3 Week Delivery

Metric DIN Nitrided Ejector Sleeves

- Nitrided O.D. and I.D. 65 - 74 Rc
- Custom sizes available upon request

SPECIFICATIONS	
D I.D. Tolerance	H5
D1 O.D. Tolerance	g6
D2 Head Diameter Tolerance	+0.000 / -0.250
T Head Thickness Tolerance	+0.0000 / -0.0508
B Bearing Length Tolerance	+2.00
R Pin to Head Radius Tolerance	+0.20
L Overall Length Tolerance	+0.13 / -0.00
I.D. Hardness	65 - 74 Rc
O.D. Hardness	65 - 74 Rc



Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D I.D.	D1 O.D.	D2 HEAD DIA.	T HEAD THICK.	B BEARING LENGTH	R RADIUS	L OVERALL LENGTH														
							75	100	125	150	175	200	225	250	275	300	350				
S315-	1.5	3	6	3	35	0.3															
S317-	1.7	3	6	3	35	0.3															
S420-	2.0	4	8	3	35	0.3															
S422-	2.2	4	8	3	35	0.3															
S525-	2.5	5	10	3	35	0.3															
S527-	2.7	5	10	3	45	0.3															
S530-	3.0	5	10	3	45	0.3															
S532-	3.2	5	10	3	45	0.3															
S635-	3.5	6	12	5	45	0.5															
S637-	3.7	6	12	5	45	0.5															
S640-	4.0	6	12	5	45	0.5															
S642-	4.2	6	14	5	45	0.5															
S842-	4.2	8	14	5	45	0.5															
S845-	4.5	8	14	5	45	0.5															

Add length to end of catalog number (i.e. S315-75)

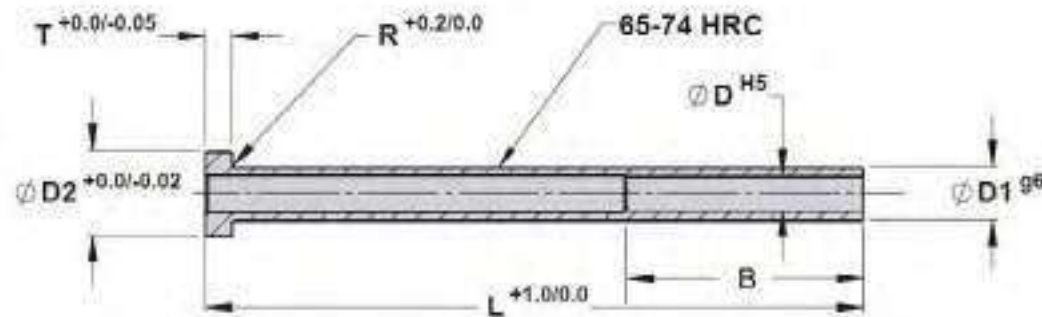
Continued on next page

Metric DIN Nitrided Ejector Sleeves

- Nitrided O.D. and I.D. 65 - 74 Rc
- Custom sizes available upon request



SPECIFICATIONS	
D I.D. Tolerance	H5
D1 O.D. Tolerance	g6
D2 Head Diameter Tolerance	+0.000 / -.250
T Head Thickness Tolerance	+0.0000 / -.0508
B Bearing Length Tolerance	+2.00
R Pin to Head Radius Tolerance	+0.20
L Overall Length Tolerance	+0.813 / -.000
I.D. Hardness	65 - 74 Rc
O.D. Hardness	65 - 74 Rc



Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D I.D.	D1 O.D.	D2 HEAD DIA.	T HEAD THICK.	B BEARING LENGTH	R RADIUS	L OVERALL LENGTH														
							75	100	125	150	175	200	225	250	275	300	350				
S850-	5.0	8	14	5	45	0.5	●	■	●	●	●	●	●	●	●	●	●	●	●	●	●
S852-	5.2	8	14	5	45	0.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1060-	6.0	10	16	5	45	0.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1062-	6.2	10	16	5	45	0.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1065-	6.5	10	16	5	45	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1280-	8.0	12	18	7	45	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1282-	8.2	12	18	7	45	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1285-	8.5	12	18	7	45	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1410-	10.0	14	22	7	45	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S14105-	10.5	14	22	7	55	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1411-	11.0	14	22	7	55	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1612-	12.0	16	22	7	55	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S16125-	12.5	16	22	7	55	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S1814-	14.0	18	24	9	55	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Add length to end of catalog number (i.e. S850-75)

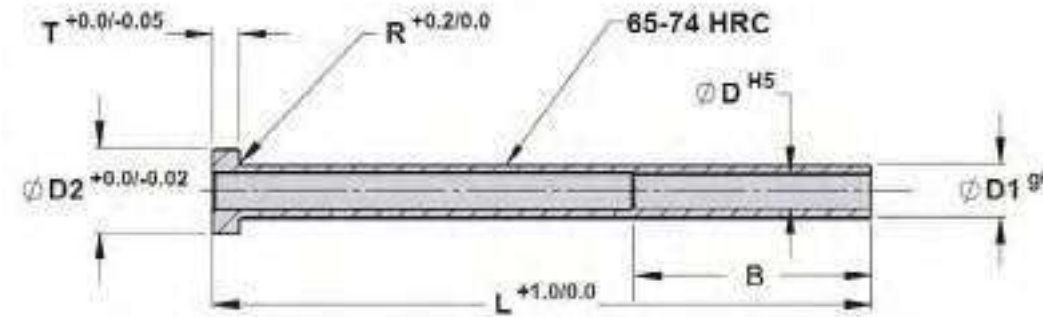
Continued on next page

Metric DIN Nitrided Ejector Sleeves

- Nitrided O.D. and I.D. 65 - 74 Rc
- Custom sizes available upon request



SPECIFICATIONS	
D I.D. Tolerance	H5
D1 O.D. Tolerance	g6
D2 Head Diameter Tolerance	+0.000 / -.250
T Head Thickness Tolerance	+0.0000 / -.0508
Bearing Length Tolerance	+2.00
R Pin to Head Radius Tolerance	+0.20
L Overall Length Tolerance	+0.813 / -.000
I.D. Hardness	65 - 74 Rc
O.D. Hardness	65 - 74 Rc



Standard: Metric DIN
Material: H-13 / 1.2344 Steel
Surface Treatment: Nitrided 65 - 74 HRC

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D I.D.	D1 O.D.	D2 HEAD DIA.	T HEAD THICK.	B BEARING LENGTH	R RADIUS	L OVERALL LENGTH														
							75	100	125	150	175	200	225	250	275	300	350				
S2016-	16.0	20	26	9	55	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S2218-	18.0	22	28	9	55	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

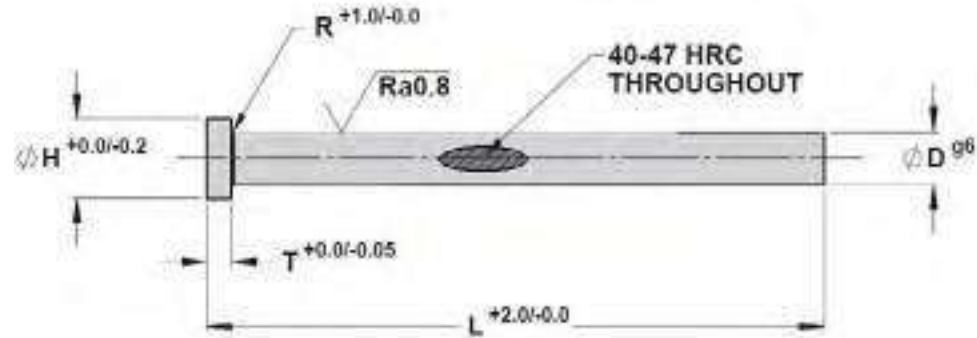
Add length to end of catalog number (i.e. S2016-100)

Metric DIN Core Pins

- Premium hotwork steel
- Tolerances ensure close fit for coring purposes
- Etched for easy Identification
- Heads annealed on core pins 6" or longer



SPECIFICATIONS	
D Pin Diameter Tolerance	g6
Annealed Head	Yes
H Head Diameter Tolerance	-0.20
T Head Thickness Tolerance	-0.05
R Pin to Head Radius Tolerance	+0.20
L Overall Length Tolerance	+2.0
Etched for Identification	Yes



Standard: Metric DIN
 Material: H-13 / 1.2344 Steel
 Through-Hardened: 40 - 47 HRC

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D PIN DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH																		
					80	100	125	160	200	250	315	400	500	630	800	1000							
MC15-	1.5	3	1.5	0.2		●				●													
MC18-	1.8	3	1.5	0.2																			
MC20-	2.0	4	2	0.2		●			●														
MC22-	2.2	4	2	0.2		●																	
MC25-	2.5	5	2	0.3		●			●														
MC27-	2.7	5	2	0.3					●														
MC30-	3.0	6	3	0.3		●			●	●													
MC32-	3.2	6	3	0.3						●													
MC34-	3.4	6	3	0.3																			
MC35-	3.5	7	3	0.3		●			●	●													
MC37-	3.7	7	3	0.3		●				●													
MC40-	4.0	8	3	0.3		●			●	●			●										
MC42-	4.2	8	3	0.3					●														
MC45-	4.2	8	3	0.3		●			●														

Add length to end of catalog number (i.e. MC15-100)

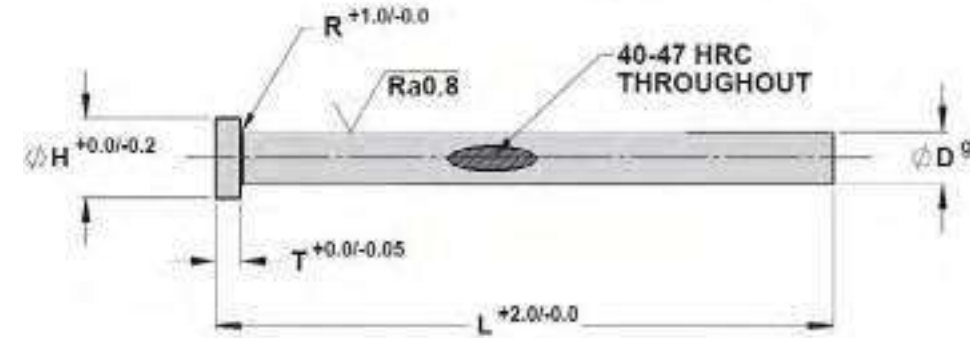
Continued on next page

Metric DIN Core Pins

- Premium hotwork steel
- Tolerances ensure close fit for coring purposes
- Etched for easy Identification
- Heads annealed on core pins 6" or longer



SPECIFICATIONS	
D Pin Diameter Tolerance	g6
Annealed Head	Yes
H Head Diameter Tolerance	-0.20
T Head Thickness Tolerance	-0.05
R Pin to Head Radius Tolerance	+0.20
L Overall Length Tolerance	+2.0
Etched for Identification	Yes



Standard: Metric DIN
 Material: H-13 / 1.2344 Steel
 Through-Hardened: 40 - 47 HRC

- Stocked items
- 2-3 Week Delivery

CATALOG NO.	D PIN DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH																		
					80	100	125	160	200	250	315	400	500	630	800	1000							
MC50-	5.0	10	3	0.3		●			●	●			●										
MC52-	5.2	10	3	0.3		●																	
MC55-	5.5	10	3	0.3		●			●														
MC60-	6.0	12	5	0.5		●			●	●			●										
MC62-	6.2	12	5	0.5		●																	
MC65-	6.5	12	5	0.5		●																	
MC70-	7.0	12	5	0.5		●			●				●										
MC75-	7.5	12	5	0.5					●				●										
MC80-	8.0	14	5	0.5		●			●	●			●	●									
MC82-	8.2	14	5	0.5					●														
MC85-	8.5	14	5	0.5		●			●				●										
MC90-	9.0	14	5	0.5		●			●	●													
MC100	10.0	16	5	0.5		●			●	●													
MC102	10.2	16	5	0.5					●														

Add length to end of catalog number (i.e. MC50-100)

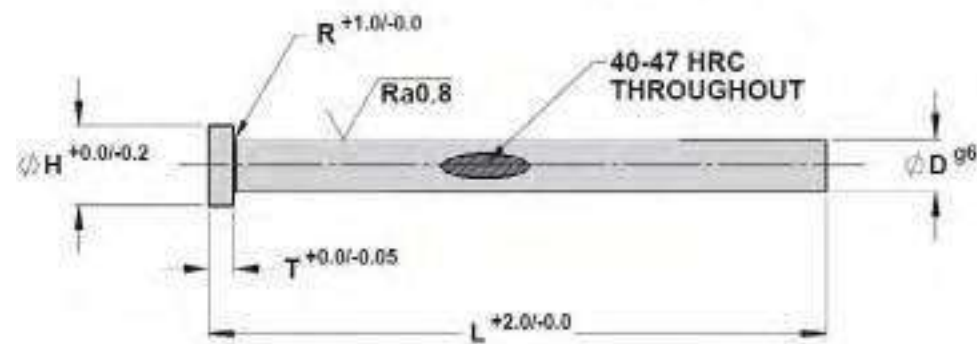
Continued on next page

Metric DIN Core Pins

- Premium hotwork steel
- Tolerances ensure close fit for coring purposes
- Etched for easy Identification
- Heads annealed on core pins 6" or longer



SPECIFICATIONS	
D Pin Diameter Tolerance	g6
Annealed Head	Yes
H Head Diameter Tolerance	-0.20
T Head Thickness Tolerance	-0.05
R Pin to Head Radius Tolerance	+0.20
L Overall Length Tolerance	+2.0
Etched for Identification	Yes



Standard: Metric DIN
 Material: H-13 / 1.2344 Steel
 Through-Hardened: 40 - 47 HRC

● Stocked items
 ■ 2-3 Week Delivery

CATALOG NO.	D PIN DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH													
					80	100	125	160	200	250	315	400	500	630	800	1000		
MC105	10.5	16	5	0.5	●	■	●	■	■	■	■	■	■	■	■	■	■	■
MC110	11.0	16	5	0.5	●	■	●	■	■	■	■	■	■	■	■	■	■	■
MC120	12.0	18	7	0.8	●	■	●	■	■	■	●	■	■	■	■	■	■	■
MC122	12.2	18	7	0.8	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MC125	12.5	18	7	0.8	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MC140	14.0	22	7	0.8	●	■	●	■	■	■	●	■	■	■	■	■	■	■
MC160	16.0	22	7	0.8	●	■	●	■	■	■	■	■	■	■	■	■	■	■
MC180	18.0	24	7	0.8	■	■	●	■	■	■	●	■	■	■	■	■	■	■
MC200	20.0	26	8	1	■	■	●	■	■	■	■	■	■	■	■	■	■	■
MC250	25.0	32	10	1	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MC320	32.0	40	10	1	■	■	■	■	■	■	■	■	■	■	■	■	■	■

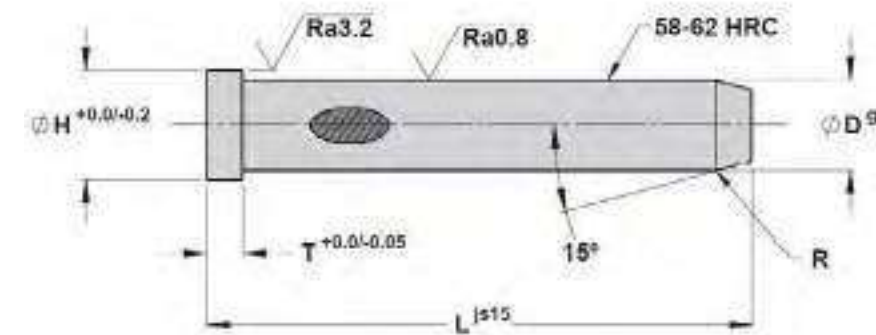
Add length to end of catalog number (i.e. MC105-80)

Metric DIN Angle Pins

- Premium hotwork steel
- Commonly used to actuate slides
- Custom sizes available upon request



SPECIFICATIONS	
D Pin Diameter Tolerance	g6
H Head Diameter Tolerance	+0.0/-0.2
T Head Thickness Tolerance	+0.0/-0.05
L Overall Length Tolerance	js15
Core Hardness	27 +/-5 Rc
Surface Hardness	60 +/-2 Rc



Standard: Metric DIN
 Material: AISI 5115 Steel
 Surface Treatment: Case Hardened 58 - 62 Rc

● Stocked items
 ■ 2-3 Week Delivery

CATALOG NO.	D PIN DIA.	H HEAD DIA.	T HEAD THICK.	R RADIUS	L OVERALL LENGTH																		
					40	60	80	100	110	120	140	160	180	200	210	220	230	240	250	270	300	360	
APD10	10	12	3	5	■	■	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD12	12	16	6	5	■	■	●	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD14	14	18	8	6	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD16	16	20	8	7	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD18	18	22	8	8	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD20	20	24	8	8	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD22	22	26	15	8	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD24	24	28	15	8	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD30	30	34	15	8	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD40	40	48	15	10	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD42	42	48	15	10	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
APD50	50	58	15	10	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Add length to end of catalog number (i.e. APD1060)

Tolerance Chart

Metric DIN Tolerances in (1/1000) Inches

mm	H6	H7	m6	k6	h9	g6	d9
from .039 up to .118	0 +.2362	0 +.3937	+.3150 +.0787	+.2362 +0	0 -.9843	-.0787 -.3150	-.7874 -1.7717
from .118 up to .236	0 +.3150	0 +.4724	+.4724 +.1575	+.3543 +.0394	0 -1.181	-.1575 -.4724	-1.1811 -2.3622
from .236 up to .394	0 +.3543	0 +.5905	+.5905 +.2362	+.3937 +.0394	0 -1.4173	-.1968 -.5512	-1.5748 -2.9921
from .394 up to .709	0 +.4331	0 +.7087	+.7087 +.2756	+.4724 +.0394	0 -1.6929	-.2362 -.6693	-1.9685 -3.6614
from .709 up to 1.181	0 +.5118	0 +.8268	+.8268 +.3150	+.5905 +.0787	0 -2.0472	-.2756 -.7874	-2.5591 -4.6063

Metric DIN Tolerances in (1/1000) Millimeters

mm	H6	H7	m6	k6	h9	g6	d9
from 1 up to 3	0 +6	0 +10	+8 +2	+6 +0	0 -25	-2 -8	-20 -45
from 3 up to 6	0 +8	0 +12	+12 +4	+9 +1	0 -30	-4 -12	-30 -60
from 6 up to 10	0 +9	0 +15	+15 +6	+10 +1	0 -36	-5 -14	-40 -76
from 10 up to 18	0 +11	0 +18	+18 +7	+12 +1	0 -43	-6 -17	-50 -93
from 18 up to 30	0 +13	0 +21	+21 +8	+15 +2	0 -52	-7 -20	-65 -117

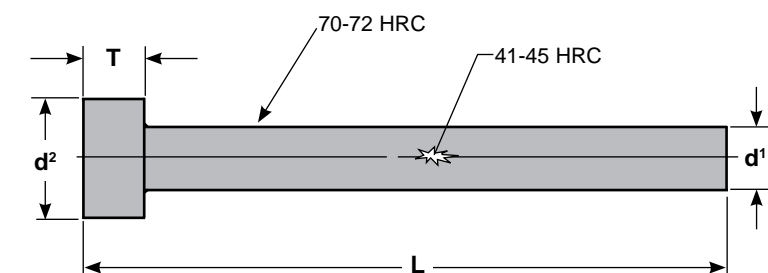
METRIC JIS

Nitrided Ejector Pins.....	13
Nitrided Step Pins.....	14

Metric JIS Nitrided Ejector Pins

- Manufactured from premium hotwork steel
- Nitrided surface reduces galling
- Manufactured to JIS metric specifications

SPECIFICATIONS	
Annealed Head	Yes
Core Hardness	40 - 45 Rc
Surface Hardness	65 - 74 Rc
Etched for Identification	Yes
Material Type	Hot Work Tool Steel
Unit of Measure	Metric JIS



D PIN DIAMETER TOLERANCES	
JMP01 - JMP125	-0.01 / -0.02
JMP14 - JMP20	-0.01 / -0.03

CATALOG NO.	D PIN DIA.	H HEAD DIA. +0.0 -0.2	T HEAD THICK. +0.00 -0.05	L OVERALL LENGTH +2.0												
				100 MM	150 MM	200 MM	250 MM	300 MM	350 MM	400 MM	500 MM	600 MM	650 MM	700 MM	800 MM	1000 MM
JMP01-	1.0	6	4		•											
JMP015-	1.5	6	4		•											
JMP02-	2.0	6	4		•	•	•									
JMP025-	2.5	6	4		•		•									
JMP03-	3.0	6	4		•	•	•	•	•	•	•					
JMP035-	3.5	7	4		•		•									
JMP04-	4.0	8	6	•	•	•	•	•	•							
JMP045-	4.5	8	6		•		•		•		•					
JMP05-	5.0	9	6		•	•	•		•		•					
JMP055-	5.5	9	6			•			•		•					
JMP06-	6.0	10	6		•		•		•		•					
JMP07-	7.0	11	6		•	•	•	•	•	•	•	•				
JMP08-	8.0	13	8		•		•		•		•					
JMP10-	10.0	15	8		•	•	•		•		•		•	•	•	•
JMP12-	12.0	17	8		•		•		•		•					•
JMP125-	12.5	17	8													•
JMP14-	14.0	19	8		•		•		•		•					
JMP15-	15.0	19	8		•											
JMP16-	16.0	21	8		•		•		•		•					
JMP18-	18.0	23	8		•		•		•		•					
JMP20-	20.0	25	8		•		•		•		•					

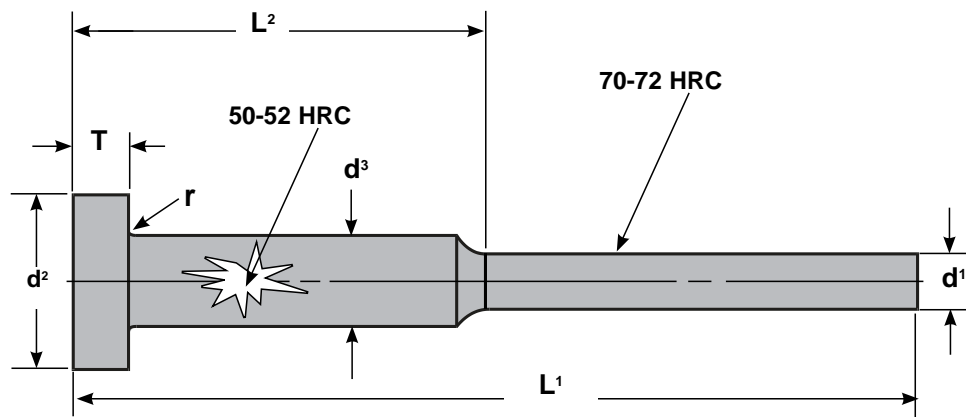
Add overall length to end of catalog number (i.e. JMP01-150)

Metric JIS Nitrided Step Pins

- Manufactured from premium hotwork steel
- Nitrided surface reduces galling
- Manufactured to JIS metric specifications



SPECIFICATIONS	
Annealed Head	Yes
R Pin to Head Radius	R.030
Core Hardness	50 - 52 Rc
Surface Hardness	65 - 74 Rc
Etched for Identification	Yes
Material Type	Hot Work Tool Steel
Unit of Measure	Metric JIS



D1 PIN DIA. -0.01 -0.02	D2 HEAD DIA. +0.0 -0.2	D3 SHOULDER DIA -0.01 -0.02	T HEAD THICK. +0.00 -0.05	L1 OVERALL LENGTH +2.0	
				150	200
				L2 SHOULDER LENGTH -1.0 / -2.0	
				50	70
1.0	6	3.0	4	JMS10-3-150	JMS10-3-200
1.2	6	3.0	4	JMS12-3-150	JMS12-3-200
1.5	6	3.0	4	JMS15-3-150	JMS15-3-200
2.0	8	4.0	6	JMS20-4-150	JMS20-4-200
2.5	8	4.0	6	JMS25-4-150	JMS25-4-200

HOT RUNNER SYSTEMS

Classic & Threaded Nozzle Selection Guide.....	J4
Emerald Ceramic Technology.....	J8
Emerald Classic Nozzle.....	J6
Emerald Hot Runner Systems.....	J3
Emerald Threaded Nozzle.....	J7
Policosmetic Hot Runner Systems.....	J9
Polifast Hot Runner Systems.....	J10
Polimax Hot Runner Systems.....	J11
Polivalve Hot Runner Systems.....	J12

Complete line of Hot Runner Systems

PCS Company offers both Thermal Gate and Valve Gate Hot Runner Systems. For superior gate cosmetics and sequential part filling when surface quality is important, choose a Valve Gate System. For easy maintenance and reliability PCS Company Thermal Gate Systems provide dependable performance. Both Thermal Gate and Valve Gate Systems are available at a complete Hot Half, Manifold & Components, or as a Facility System.



Emerald Hot Runner Systems

PCS Company hot runner systems are developed to offer the customer a competitive option to meet today's demanding delivery requirements. Every system is designed and constructed to ensure that customers have years of reliable performance.

The Emerald systems offers two thermal gate options: Classic & Threaded. Either option is ideal for eight drops or less.



PCS Company Emerald Hot Runner Systems provide ease of design and ease of service. The Emerald Classic and the Emerald Threaded systems are designed to share common components, reducing replacement part inventory.

Affordability, reliability, & delivery; the three most critical success factors in any hot runner system. From initial design to daily use and routine maintenance, PCS Company Emerald Hot Runner Systems perform.

Classic Design



Threaded Design



Classic & Threaded Nozzle Selection Guide

		NOS		NOX		NPS		NPX		POS		PPS		PPX		ENX					
		5	7	5	7	5	7	5	7	5	7	5	7	5	7	5	7				
Tip Style	Flow Channel Diameter (mm)	0.6 -2.0		0.8 -3.0		0.6 -2.0		0.8 -3.0		0.6 -2.0		0.8 -3.0		0.6 -2.0		0.8 -3.0		1.5 -3.0		2.0 -4.0	
	Gate Diameter (mm)	0.6 -2.0		0.8 -3.0		0.6 -2.0		0.8 -3.0		0.6 -2.0		0.8 -3.0		0.6 -2.0		0.8 -3.0		1.5 -3.0		2.0 -4.0	
Low Viscosity	Part Weight (grams)	200	420	200	420	200	420	200	420	350	620	350	620	350	620	350	620	350	620	350	620
	PP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	PS/PE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Medium Viscosity	Part Weight (grams)	120	260	120	260	120	260	120	260	150	310	150	310	150	310	150	310	150	310	150	310
	ABS/SAN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	POM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	PA6/PA66	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	PBT	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call
High Viscosity	Part Weight (grams)	40	110	40	110	40	110	40	110	80	200	80	200	80	200	80	200	80	200	80	200
	PC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	PMMA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	PPO	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call
	PES/PEK	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call
	PPS/PEI	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call	Call

Call PCS Company

A technical discussion with a PCS Company Hot Runner Specialist will determine the appropriate nozzle/resin combination for your specific application.

Continued on next page

Classic & Threaded Nozzle Selection Guide

Emerald Classic

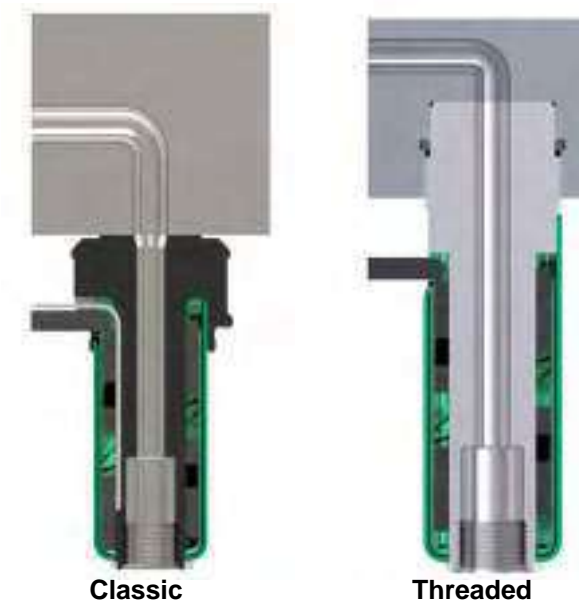
- Available Construction:
 - Complete Hot Half
 - Manifold and Components

Emerald Threaded

- Available Construction:
 - Complete Hot Half
 - Pre-Wired

Each Emerald System is supplied with:

- User manual
- 2D & 3D CAD files
- Customer specified connectors
- Nozzles offered with 5 mm or 7 mm flow channels
- Choice of tips for filled or unfilled resins
- Ceramic insulation technology used on all support pads
- Stainless Steel manifolds
- P20 or Stainless Steel hot half plates



Tip Styles:

NOS: Open Nut point tip style. Used for minimal gate vestige. TZM tip option for abrasive resins.

NOX: Open Nut style with extended point tip. Standard style only. Used for minimal gate vestige.

NPS: Bush Nut style with a point tip. TZM tip option for abrasive resins.

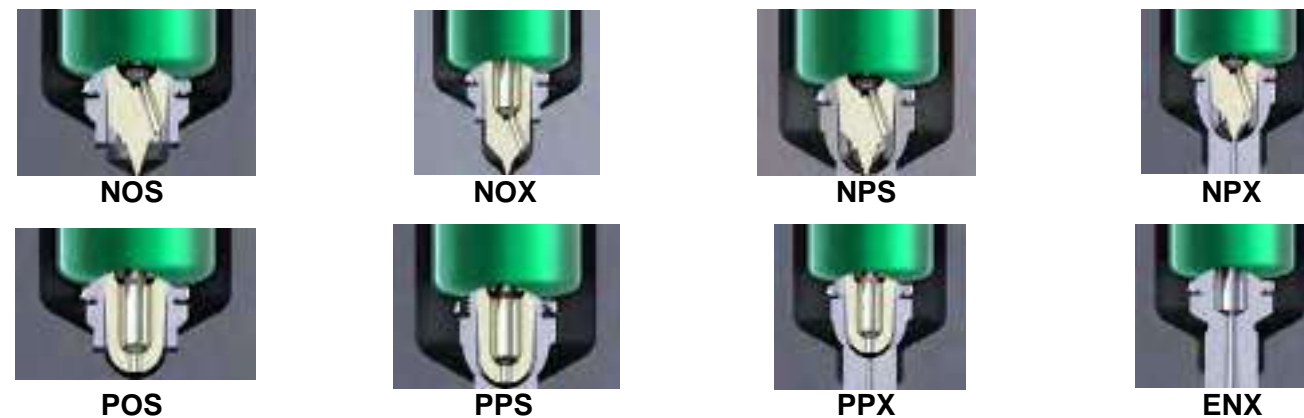
NPX: Extended Bush Nut style with point tip. Applications for gating on a contour or sprue. TZM tip option.

POS: Open Nut style with flow through tip. Open flow for minimal shear and good for recycled resins.

PPS: Bush Nut style with flow through tip. Open flow for minimal shear and good for recycled resins.

PPX: Extended Bush Nut style with flow through tip. Open flow for minimal shear and good for recycled resins.

ENX: Extended Sprue Nut style. Open flow design for less stress. Used for gating into runners



Needles:

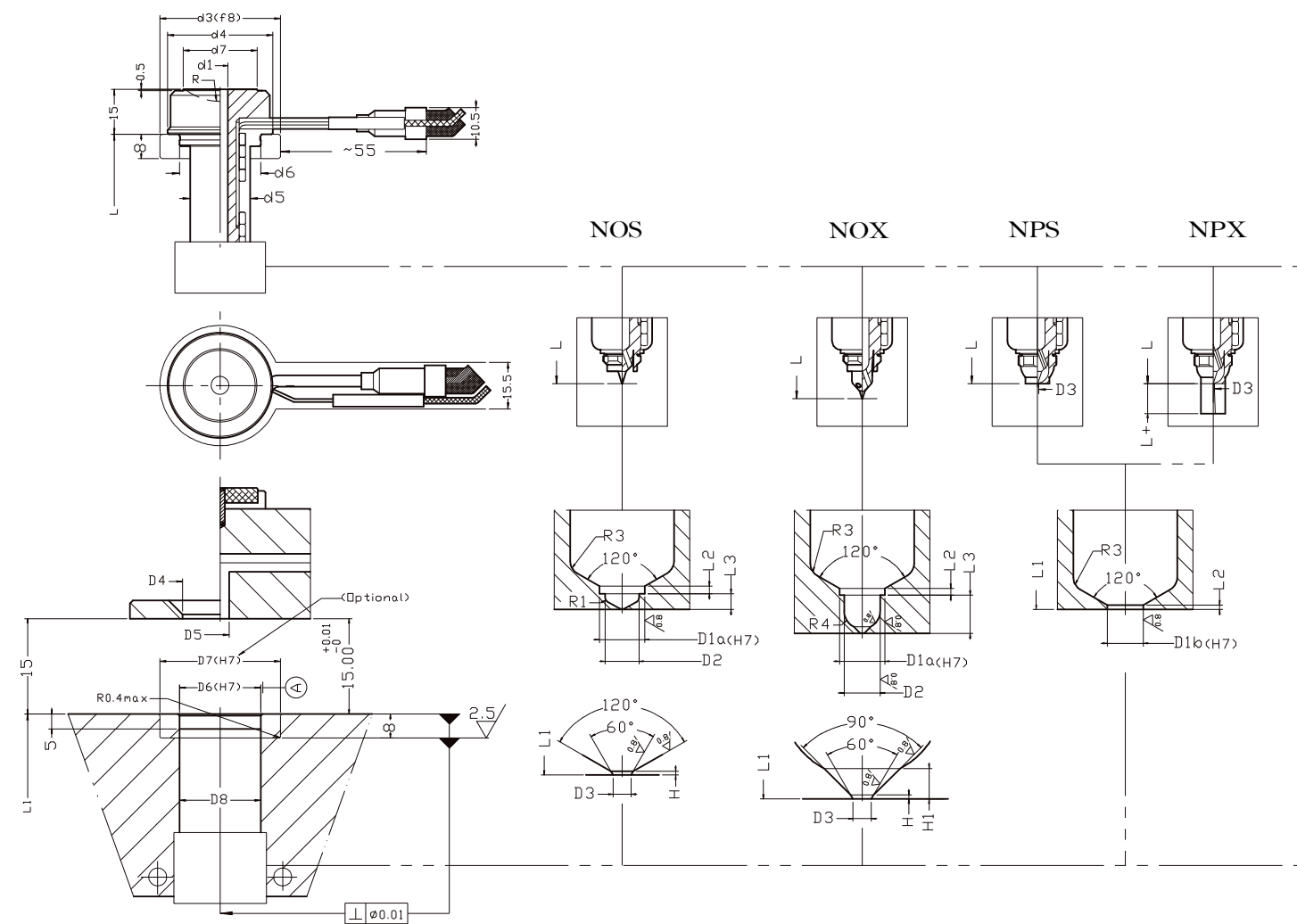
Our standard hardened copper alloy tips are suitable for all non-filled resins. The TZM needle is a wear resistant needle with excellent heat conductivity, and should be used with abrasive resins such as glass filled or mineral filled resins.

Emerald Classic Nozzle

Size	5 mm					
L	40	50	60	80	100	120
L1	40.11	50.13	60.15	80.18	100.22	120.26
L (NOX)	45	55	65	85	105	125
L1 (NOX)	40.11	50.13	60.15	80.18	105.22	125.26
d1	5					
d3	C30,T30					
d4	29					
d5	20					
d6	23					
d7	18					
D4	20					
D5	5					
D6	23					
D7	C30,T30					
D8	23					

Size	7 mm						
L	40	60	80	100	120	140	160
L1	40.12	60.15	80.19	100.23	120.27	140.31	160.34
L (NOX)	45	65	85	105	125	145	165
L1 (NOX)	45.12	65.15	80.19	105.23	125.27	145.31	165.34
d1	7						
d3	C40,T36						
d4	35						
d5	24						
d6	27						
d7	24.5						
D4	26.5						
D5	7						
D6	27						
D7	C40,T36						
D8	27						

C=Ceramic;T=Titanium



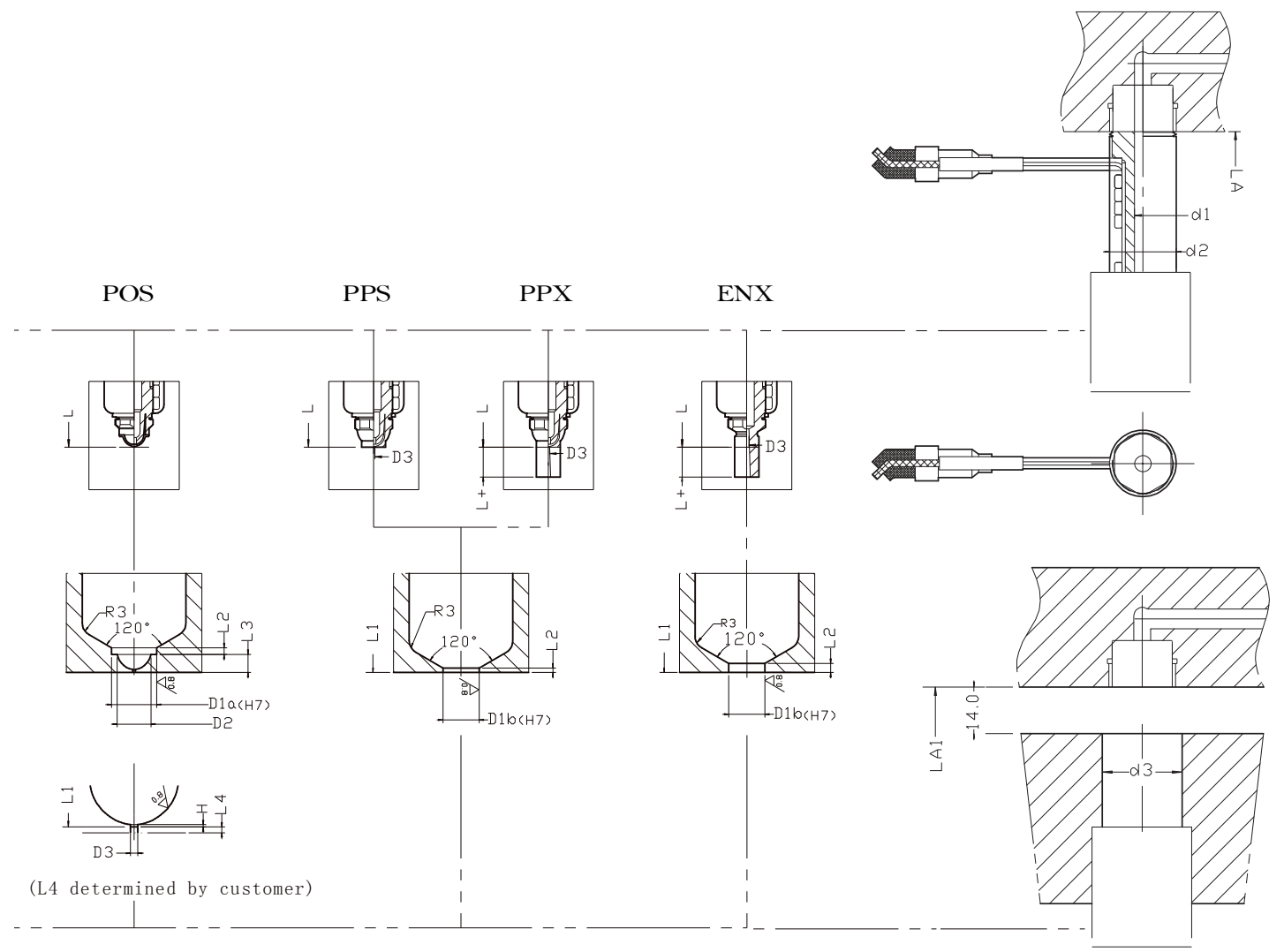
Tip Style	ALL		NOS				NOX					NPS		NPX				
Dimension	D1a	D1b	L2	L3	D2	D3	H	L2	L3	D2	D3	H	H1	L2	D3	L2	LA+	D3
5 mm	10	8	2	3.5	7.5	2 ≥ 0.6	0.2	2	8.5	8	2 ≥ 0.6	0.2	1.5	1	2 ≥ 0.6	1	10	2 ≥ 0.6
7 mm	12	10	2.5	3.5	9	3 ≥ 0.8	0.2	2.5	8.5	9	3 ≥ 0.8	0.2	1.5	1.5	3 ≥ 0.8	1.5	15	3 ≥ 0.8

Tip detail for both Classic and Threaded Nozzles

Emerald Threaded Nozzle

Size	5 mm				
LA	64	74	94	114	134
LA1	64.15	74.17	94.21	114.25	134.29
LA (NOX)	69	79	99	119	139
LA1 (NOX)	69.15	79.17	99.21	119.25	139.29
d1	5				
d2	20				
d3	23				

Size	7 mm					
LA	74	94	114	134	154	174
LA1	74.18	94.22	114.26	134.29	154.33	174.37
LA (NOX)	79	99	119	139	159	179
LA1 (NOX)	79.18	99.22	119.26	139.29	159.33	179.37
d1	7					
d2	23					
d3	27					



Tip Style	ALL		POS				PPS		PPX			ENX			
Dimension	D1a	D1b	L2	L3	D2	D3	H	L2	D3	L2	LA+	D3	L2	LA+	D3
5 mm	10	8	2	3.5	7.5	3 ≥ 0.6	0.2	1	3 ≥ 0.6	1	10	3 ≥ 0.6	2	10	3 ≥ 1.5
7 mm	12	10	2.5	3.5	9	4 ≥ 0.8	0.2	1.5	4 ≥ 0.8	1.5	15	4 ≥ 0.8	2	15	4 ≥ 2

Tip detail for both Classic and Threaded Nozzles

Emerald Ceramic Technology



With only 7% of the heat conductivity of steel, ceramic spacers make an exceptional insulator, which reduces heat loss and mold start up time. When used in manifold designs, ceramic insulation is superior to other materials, and provides incredible strength and support to ensure mold stability.

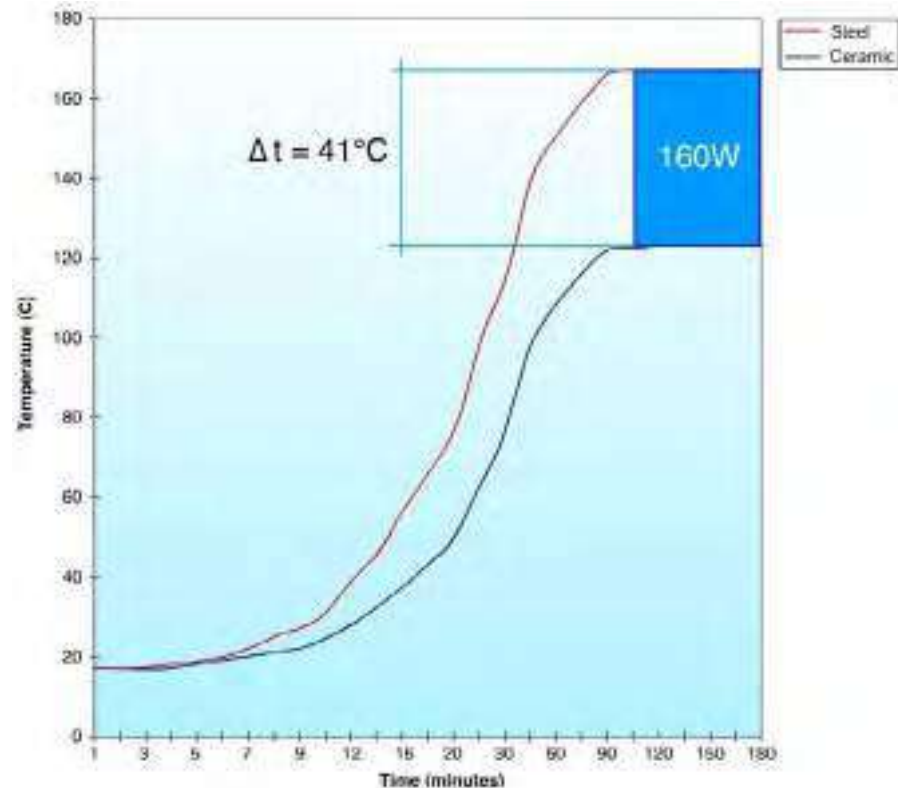
The Ceramic Difference

Comparison of heat loss between Steel & Ceramic manifold spacers.

Ceramic spacers insulate the manifold from the hot runner plates. The reduced heat loss provides increased temperature control of the hot runner system, locking heat into the mold.

The diagram at the right shows the difference between the heat that is transferred from the hot runner manifold to the clamp plate when using steel spacers versus ceramic spacers.

One side of the test manifold used 4 steel spacers and the other side used 4 ceramic spacers.



Hot Runner Systems

Policosmetic™

Policosmetic is the ideal solution for medium sized parts requiring high production levels. Hot half systems are engineered for low heat transfer, excellent thermal stability and uniform balance.

- 4 nozzle series with capacities up to 180 grams and over 1000 grams
- Nozzle flow channels ranges are 6mm, 10mm, 14mm and 18mm
- Tip options are point gate, flow through, ring gate and sprue gate
- Systems can be design as a complete hot half or facility systems
- 13 nozzle lengths up to 300mm
- Multiple thermal tip options such as point gate, flow through, ring gate and sprue gate

Hot Runner Systems

Polifast™

Polifast systems are specifically designed for small parts. The Polifast system is the ideal solution for products that require quick cycles and repeatability.

- Ideal for multi cavity molds
- Uniform manifold balancing
- Manifold and hot half plates constructed of stainless steel
- Polished manifold flow channels
- Multiple thermal gate solutions (point gate, extended point gate, flow through, sprue gate and ring gate tips) to accommodate various gating options
- Nozzles with 4mm flow channels and 6 length options for parts up to 30 grams
- Nozzles with 5mm flow channels and 13 length options for parts up to 80 grams



Hot Runner Systems

Polimax™

Polimax has been developed for a wide range of products. Ideal for both engineered and commodity resins.

- 5 nozzle series with capacities up to 30 grams and over 1000 grams
- Nozzle flow channels range from 5mm to 18mm
- 13 nozzle lengths to accommodate various designs
- Thermal gate tip options for engineered and commodity resins
- Tip options range from point gate, sprue gate or ring gate
- Complete Hot half, Facility and Manifold / Component system options
- Wear resistant needles available for filled resins

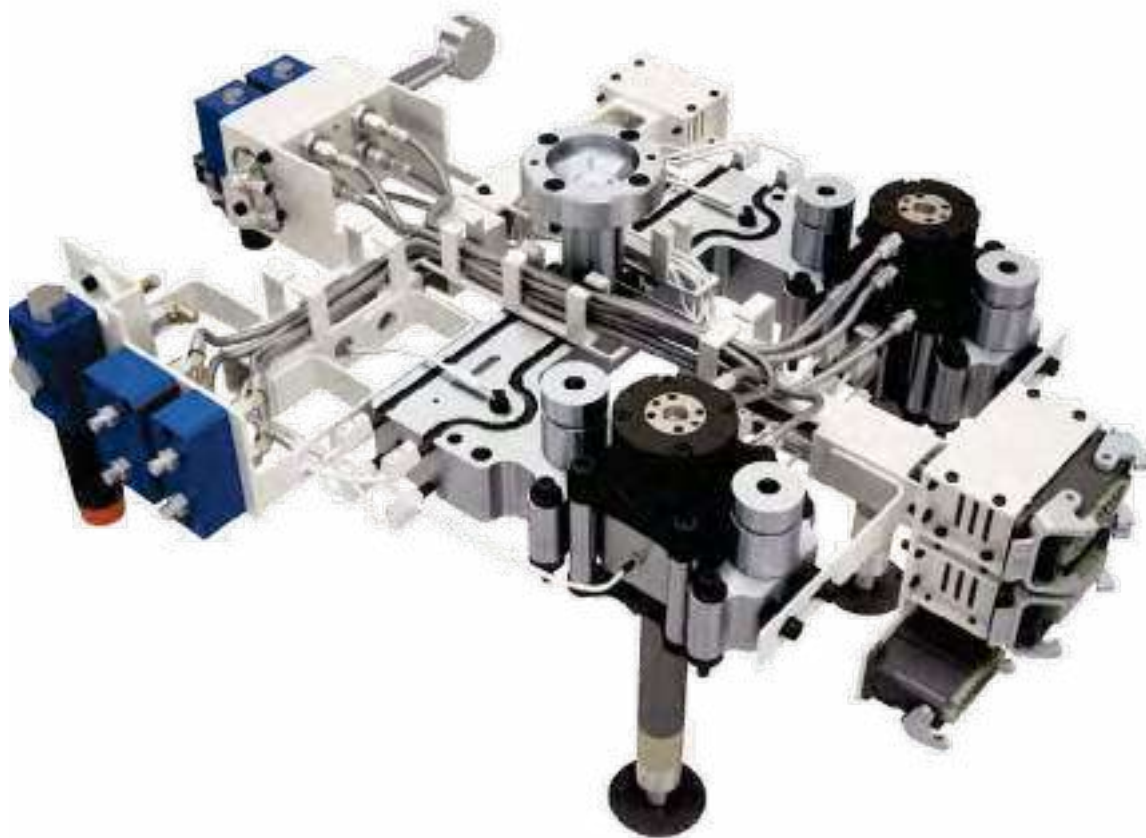


Hot Runner Systems

Polivalve™

Polivalve is the best choice for superior gate cosmetics and the ability to sequentially control the valve gate pins. Zero gate vestige on the molded product which improves part appearance and the need for any secondary trimming of the gate.

- Side entry to the nozzle body from the manifold to ensure minimum flow disturbance, improves system reliability and less pressure loss.
- 12 nozzle lengths that range from 52mm to 500mm
- Full body and bodiless tips options
- 6 nozzle series with valve gate pins that range from 2mm to 8mm diameter molding over 1000 gram parts
- 500 series and up can be designed as a complete hot half or facility systems



TEMPERATURE CONTROL SYSTEMS

Accessories.....	K26
Cables - Mold Power & Thermocouple Conversion OEM Style.....	K22
Cables - Mold Power & Thermocouple for Onyx System.....	K7
Cables - Mold Power & Thermocouple.....	K14
Connectors - Mold OEM Style.....	K23
Connectors - Mold.....	K15
Module - Mainframe Alarm.....	K13
Module - VC-M 15 Amp.....	K8
Module - VC-MP 15 Amp.....	K9
Product Family Comparison.....	K3
Replacement Parts.....	K24
Temperature Controller - Modular Guide.....	K11
Temperature Controller - Modular Mainframe Systems Configuration.....	K13
Temperature Controller - Onyx System.....	K4
Temperature Controller - Single Zone Horizontal.....	K10
Temperature Controller - Visions 3000/2.0 System.....	K29
Temperature Controller - Visions 3000/2.0 WaterFlow/Smart Manifold.....	K34
Terminal Mounting Boxes - Combination OEM Style.....	K21
Terminal Mounting Boxes - Combination.....	K18
Terminal Mounting Boxes - Pre-Wired OEM Style.....	K19
Terminal Mounting Boxes - Pre-wired.....	K17

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	24	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 Controller System Features

- 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



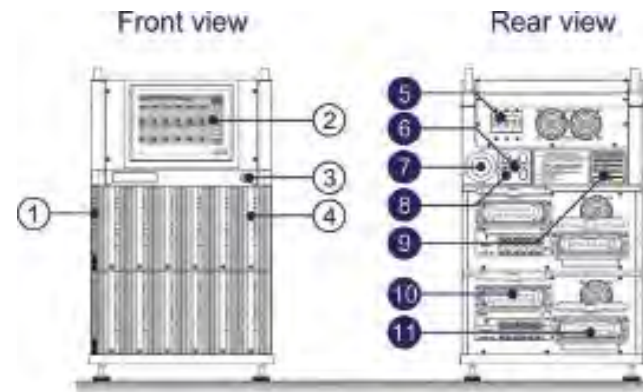
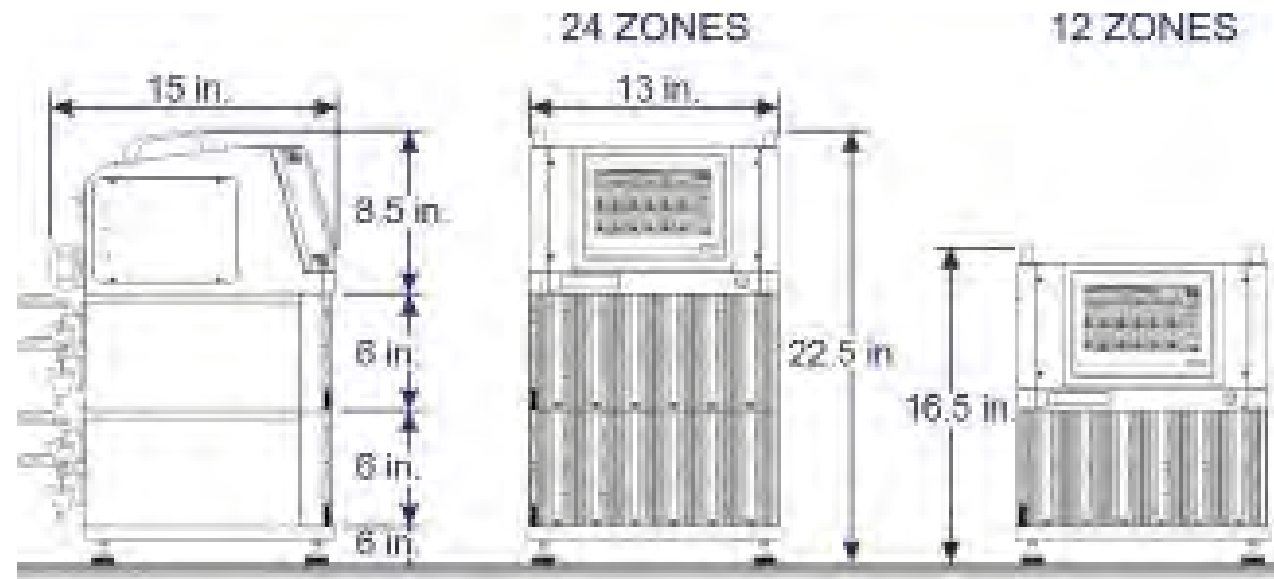
CATALOG NO.	ZONES	WARRANTY	DIMENSIONS	WEIGHT	SHIPPING WEIGHT
TC1200	12	2 year; Human Machine Interface (HMI-screen) 1 year	13" x 15" x 16.5"	48 lbs.	66 lbs.
TC2400	24	2 year; Human Machine Interface (HMI-screen) 1 year	13" x 15" x 22.5"	65 lbs.	85 lbs.

Onyx Controller Specifications



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 Software 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 & Anomaly 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



- ① Zone marking
- ② HMI
- ③ Power indicator
- ④ Temperature control module
- ⑤ Main power switch / NFB
- ⑥ Over-voltage / phase-lose source indicator (OVS)
- ⑦ Power cable
- ⑧ Communications port
- ⑨ Machine name plate
- ⑩ Multi-pole connector 1
- ⑪ Multi-pole connector 2

CATALOG NO.	REPLACEMENT ITEM
TC52-MDL	Onyx Controller Board (2 Zone)
TC52-BUS	BUS Board
TC52-ALM	Alarm Board
TC52-OVP	Over Voltage Protection Board

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.

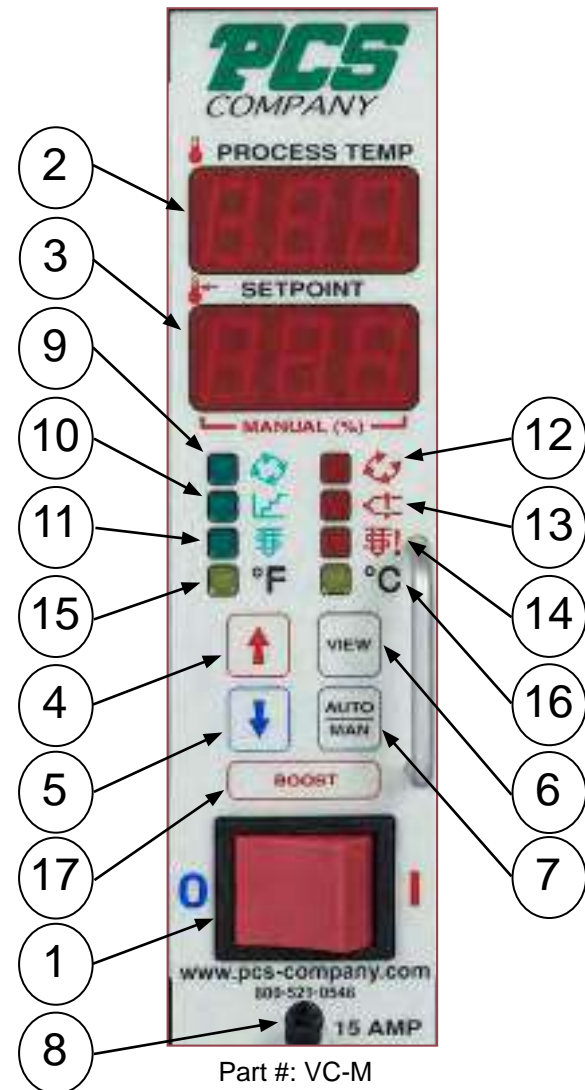
VC-M 15 Amp Module

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 Temperature Scale Indicator
17. User Executed Boost Power Output Mode:
+25% to Current % Power - OR- 100% Power
User Selected via PC Board DIP Switch



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

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

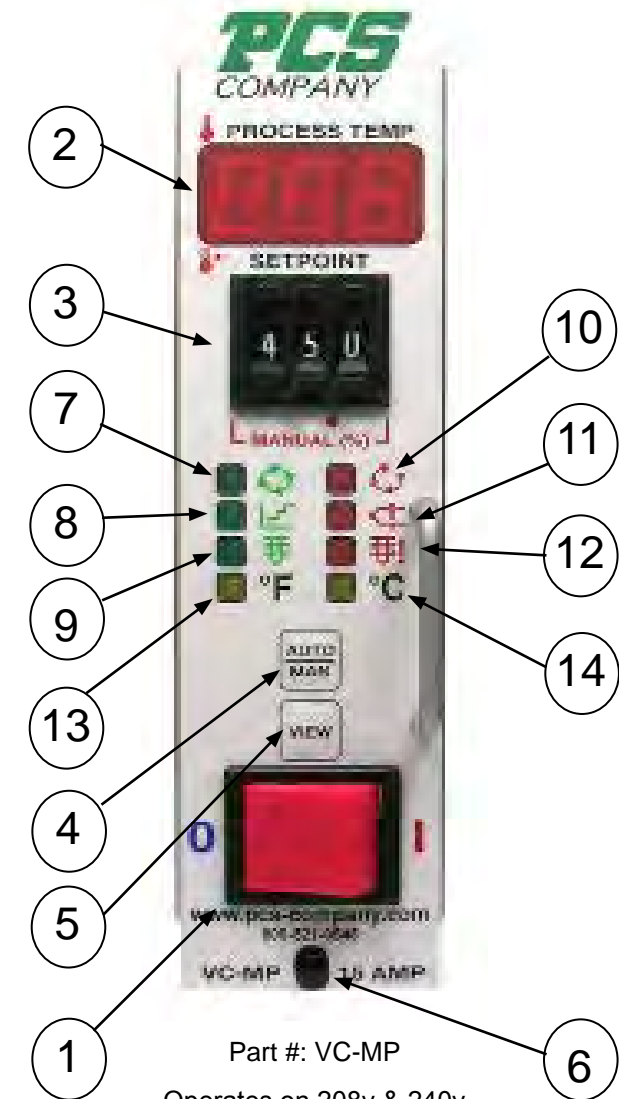
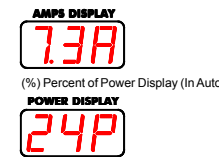
Diagnostics

- 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

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

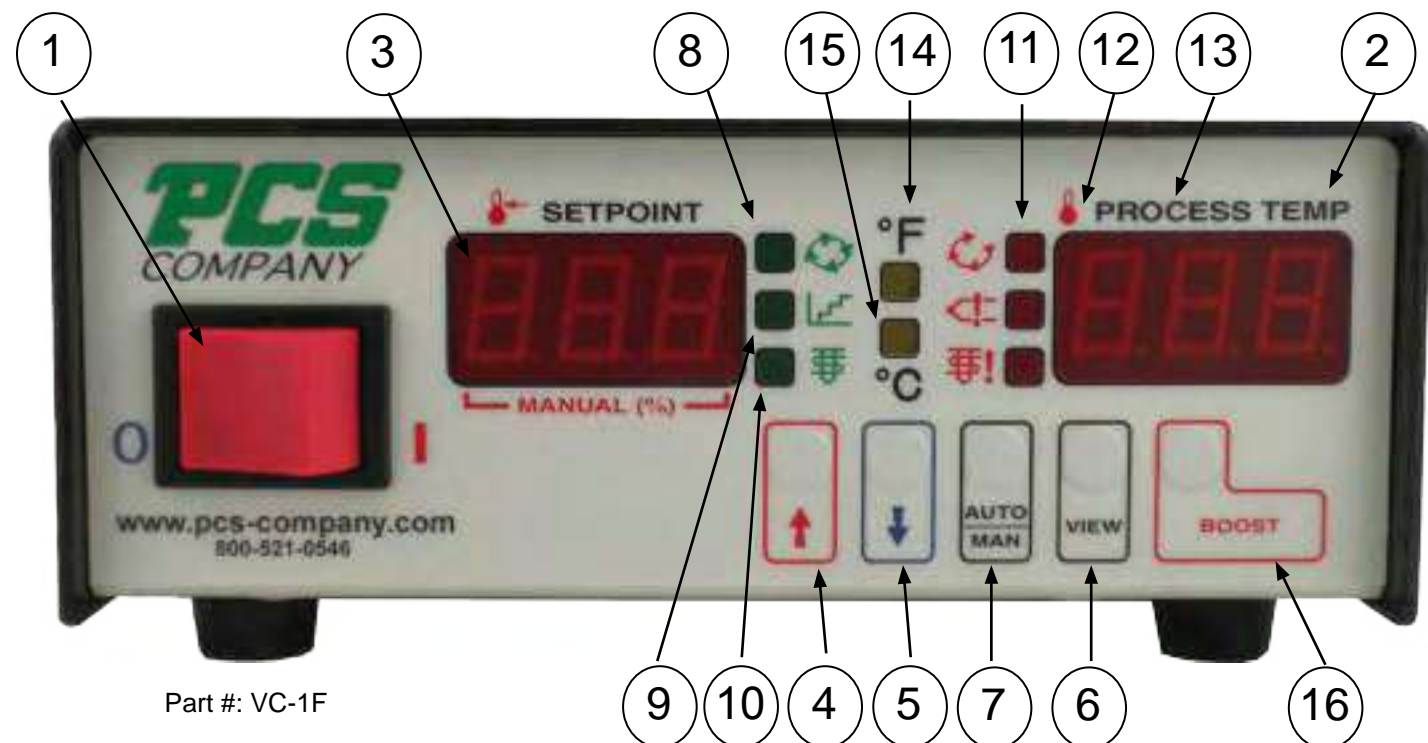


Part #: VC-MP
Operates on 208v & 240v

LED DIAGNOSTIC CODES

Sho	SHORTED THERMOCOUPLE
bAC	REVERSED THERMOCOUPLE
oPE	OPEN THERMOCOUPLE
oPO	OPEN OUTPUT (LOAD OR TRIAC)
ShO	SHORTED OUTPUT (LOAD OR TRIAC)
HI	HIGH TEMP ALARM: 30°F/17°C ABOVE SETPOINT
LO	LOW TEMP ALARM: 30°F/17°C BELOW SETPOINT
FAL	GROUND FAULT (LOAD LEAKAGE TO GROUND)
HLd	T/C BREAK - AUTO TRANSFER TO MANUAL MODE
bSt	USER EXECUTED BOOST POWER OUTPUT

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



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



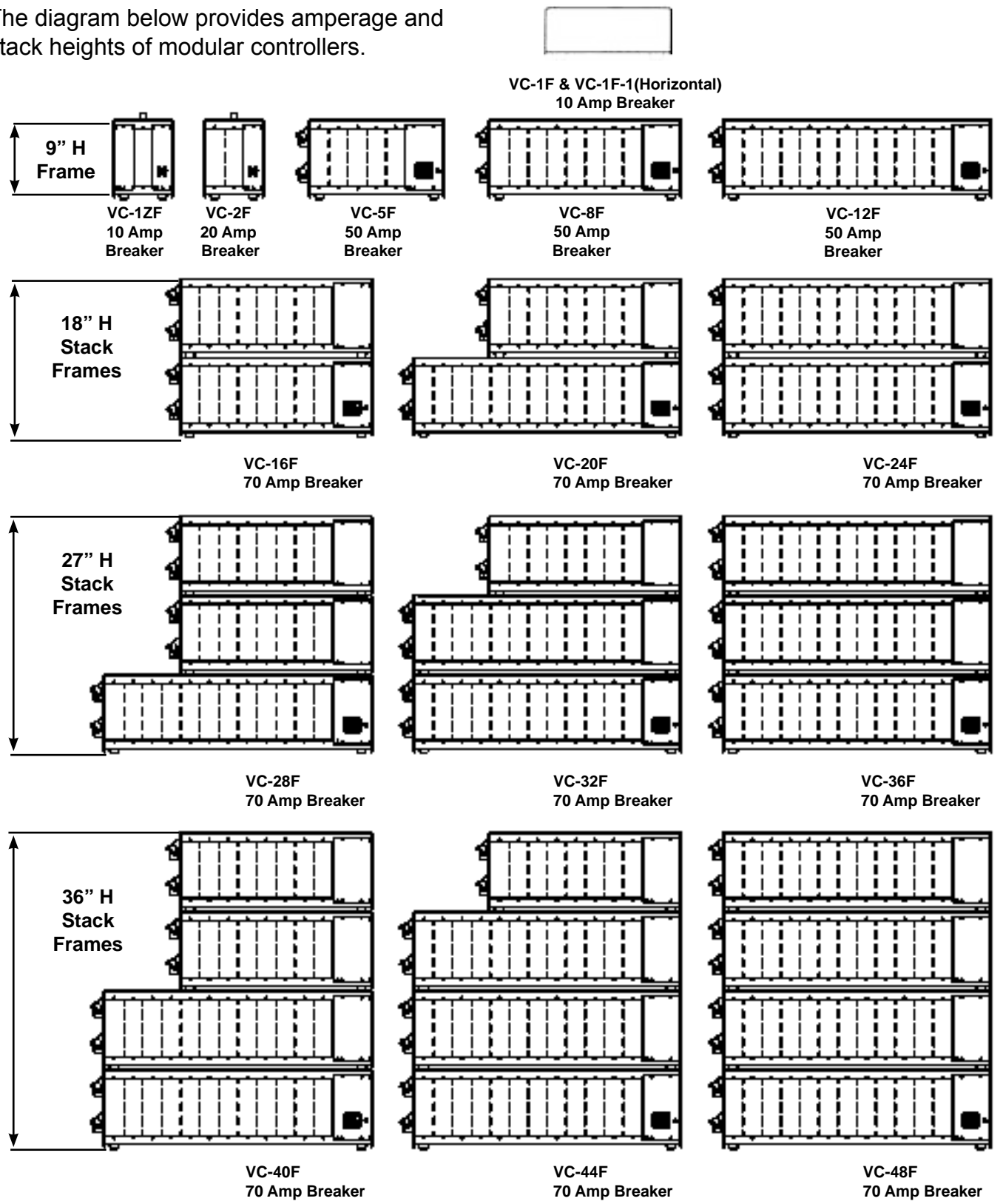
VC-12F Mainframe (modules not included)

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.

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

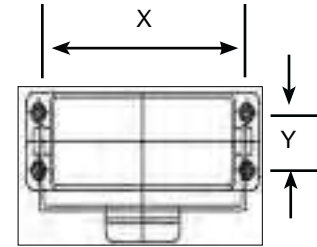
*Custom lengths and connectors available upon request.

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.

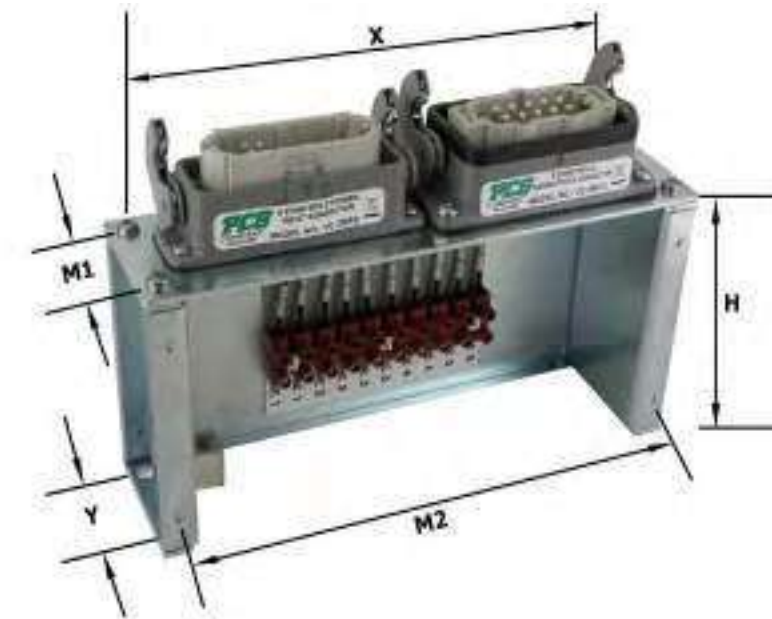


CATALOG NO.	MAINFRAME ZONES	QUANTITY REQUIRED	ADDITIONAL CATALOG NO.	ADDITIONAL QUANTITY REQUIRED
VC-2TB-TS	2	1		
VC-5TB-TS	5	1		
VC-8TB-TS	8	1		
VC-12TB-TS	12	1		
VC-8TB-TS	16	2		
VC-8TB-TS	20*	1	VC-12TB-TS	1
VC-12TB-TS	24	2		
VC-8TB-TS	28*	2	VC-12TB-TS	1
VC-8TB-TS	32*	1	VC-12TB-TS	2
VC-12TB-TS	36	3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



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



VC-2TB-TS



VC-5TB-TS



VC-8TB-TS



VC-12TB-TS

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

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



VC-2TB



VC-5TB



VC-8TB



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



VC-12TB

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



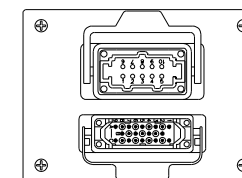
PTC5WTB-TS



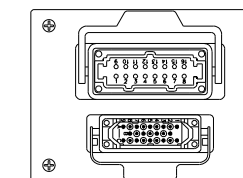
PTC8WTB-TS



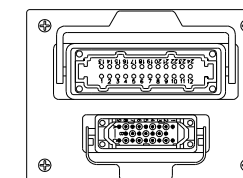
PTC12WTB-TS



PTC5WTB-TS
PCS / DME
Style

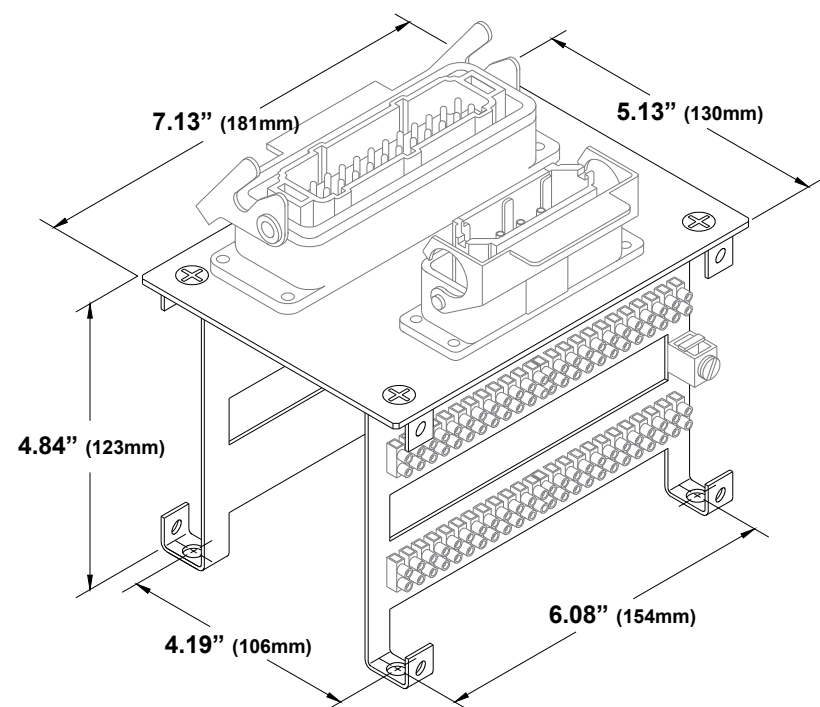


PTC8WTB-TS
PCS / DME
Style



PTC12WTB-TS
PCS / DME
Style

OEM Prewired Terminal Mounting Boxes



PTC12DWTB-TS



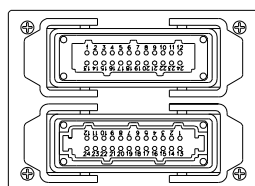
PITC8WTB-TS



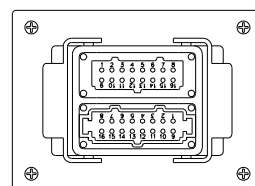
PITC12WTB-TS



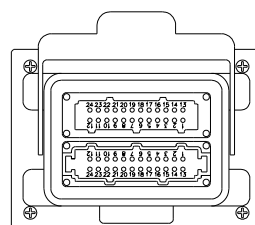
PICH6WTB-TS



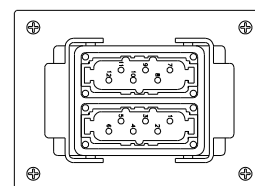
PTC12DWTB-TS
HBE24
Double Latch Style



PITC8WTB-TS
Generic
Style



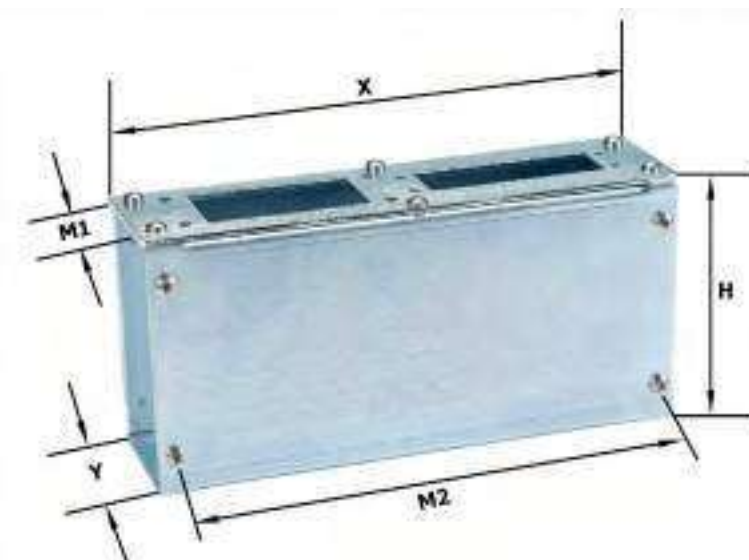
PITC12WTB-TS
Mold Masters
Style



PICH6WTB-TS
DME High
Power Style

OEM Combination Terminal Mounting Boxes

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



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



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

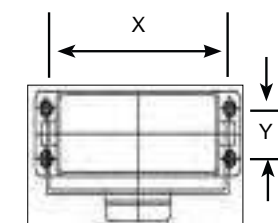
CATALOG NO.	OEM STYLE	# OF ZONES (Max.)	FROM 15 amp MAINFRAME(S)	TO DOUBLE LATCH MOLD END	LENGTH
PITC12-10	Mold Masters Style	12	12 Zone	PITC12	10 ft.
PITC12-20	Mold Masters Style	12	12 Zone	PITC12	20 ft.



*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



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
AC2024F	240v power input connector



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



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



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



CATALOG NO.	ITEM DESCRIPTION
R144-002	Mainframe Rails



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



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



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



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
CKPF-112-BG	Power cable mold end kit



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



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



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



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



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



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



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



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)

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
PIN0114	Male pin for power connector (30 pack)



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



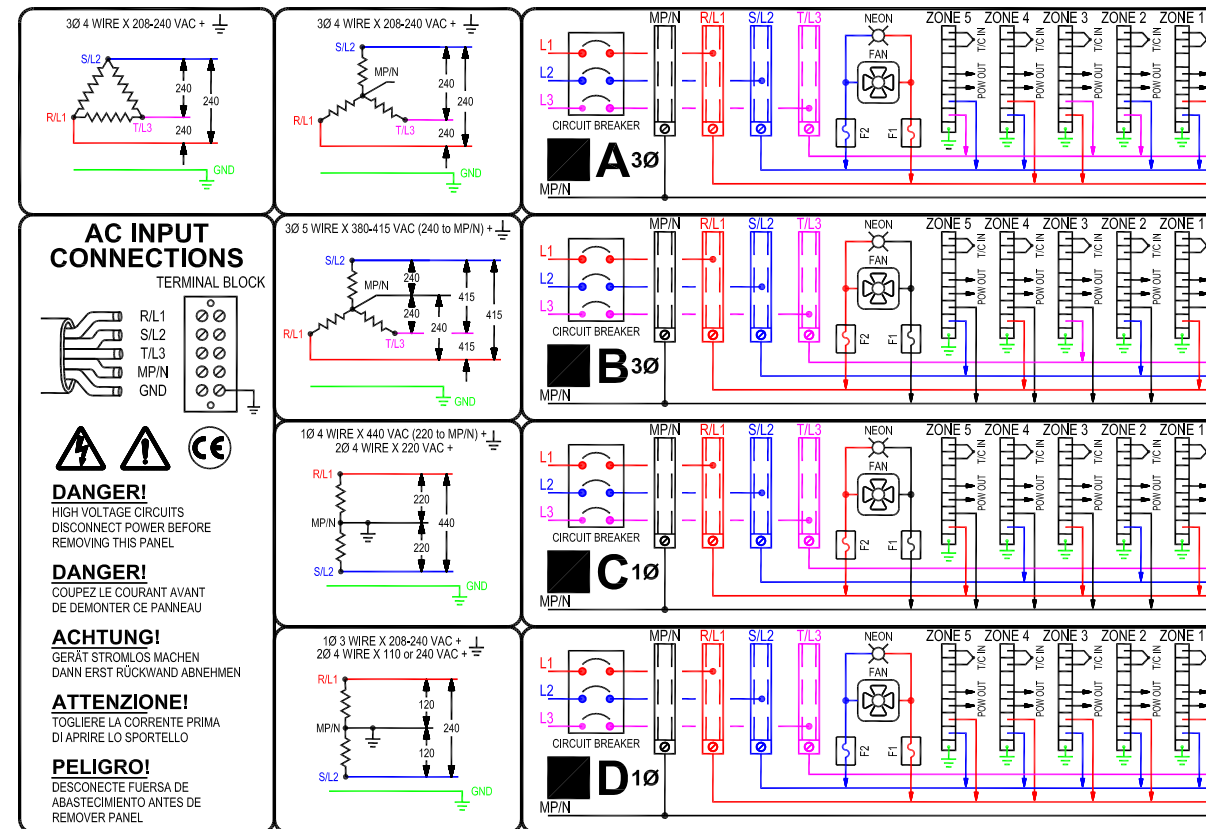
CATALOG NO.	ITEM DESCRIPTION
VC-10BP	Mainframe blank panel



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

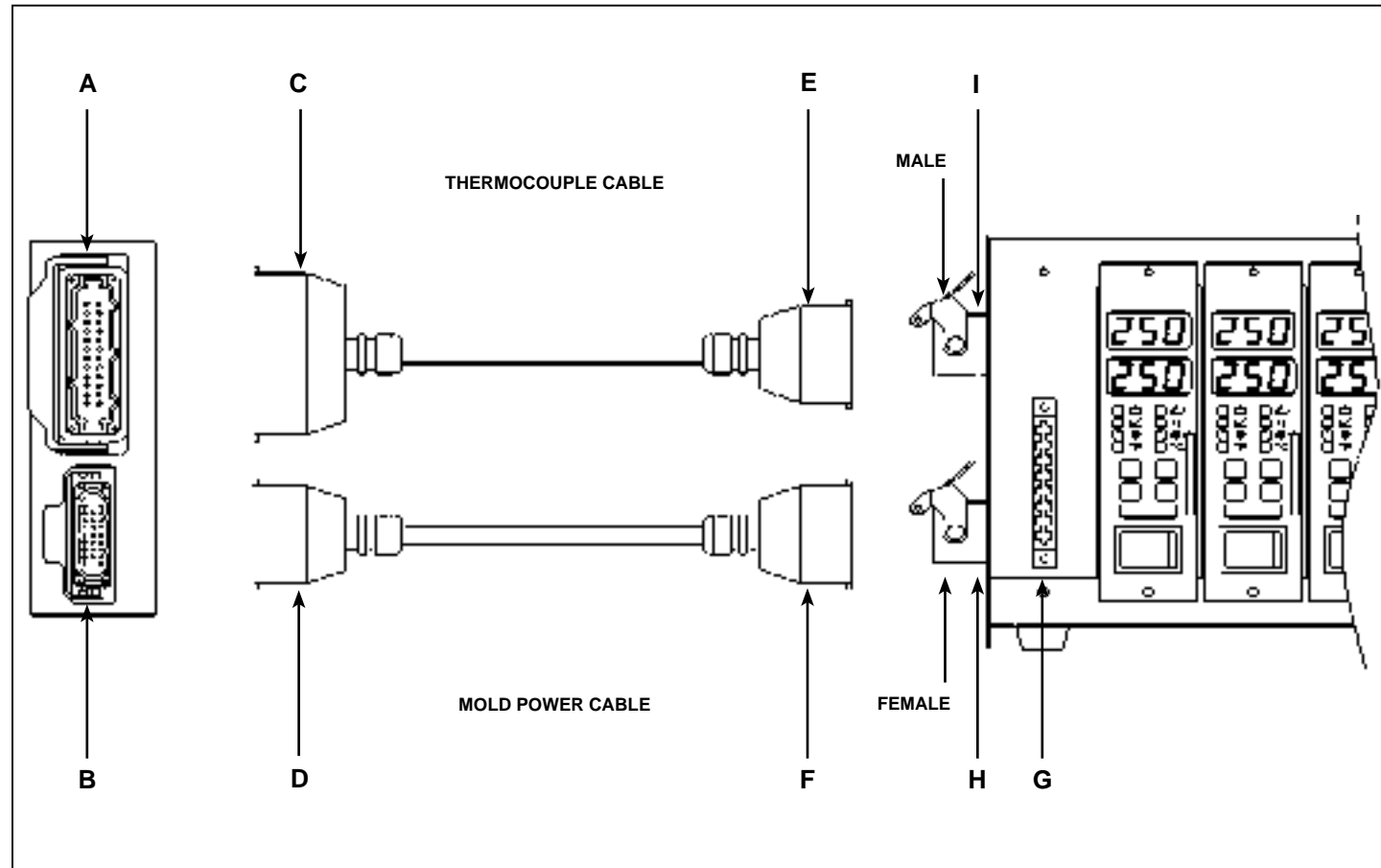
WARNING: The line to line voltage in this system is 440 VAC. The 240 VAC control modules and mainframe internal components will be SEVERELY DAMAGED if connected to this high voltage!
As detailed in diagram "C" above each control zone is powered by the 220 volts developed across one of the two phases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

Visions 3000/2.0 Controller System

The Visions 3000/2.0 Control System is an advanced and affordable Hot Runner Temperature Controller designed for ease of use, reliability and precise temperature control. The Visions 3000/2.0 offers the flexibility to efficiently and economically operate in smaller single unit environments as well as centralized manufacturing facilities with sophisticated high cavitation processes.

In today's demanding environment, the molding industry requires the capabilities of the ATC (Adaptive Thermal Control) self-tuning algorithm and powerful diagnostic (Power Temperature Comparator) features, which provides invaluable insight into the operation of the mold.



The Visions 3000/2.0 temperature control system sets an industry standard with its proven robust design, precise temperature control, sophisticated features, ease of operation, dependability, modular design, flexibility and scalability of size.

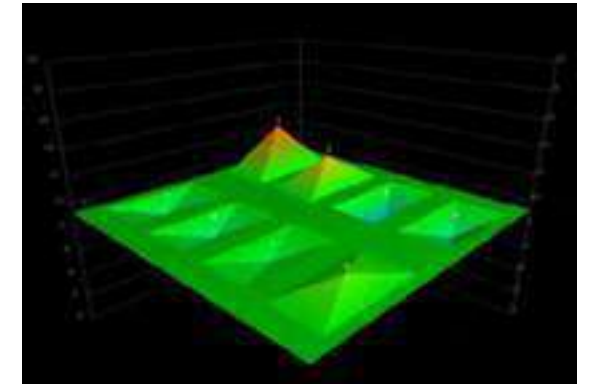
Visions 3000/2.0 software incorporates many exclusive and intuitive features which allows superior operation and control over a wide range of molding applications. The Visions 3000/2.0 software also provides easy access to a variety of informational and diagnostic features, start up functions, adjustable alarm limits, boost, standby, zone slaving, password protection, wiring diagnostics and one-way and two-way communications, to mention just a few.

Visions 3000/2.0 Controller System Features

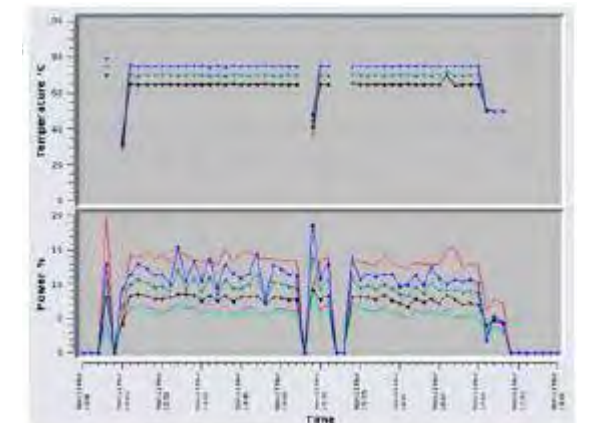
- Affordability**
 The Visions 3000/2.0 incorporates a wide variety of features at an economical price.
- ATC Control Technology**
 Adaptive Thermal Control technology utilizes an advanced algorithm which is adaptable to different molding environments for precise temperature control.
- Boost**
 The boost function is user selectable from the controller display or it can be automatic via peripheral interface. Customized or standard adjustable power group capabilities.
- Communications**
 Visions 3000/2.0 communication software allows sophisticated two-way communication capabilities by ethernet or discrete protocol. Remote devices can operate in either a supervisory function or as a command center.
- Ease of use**
 Turn the system on and enter set points and Visions 3000/2.0 intelligent start up function will do the rest. If any zone does not reach the desired set point, the system will alarm indicating the deficient zone.
- Global Editing Feature**
 Control set points and boost individually or grouped.
- Large Color Touch Screen**
 The visibility of the LCD screen is suitable for any environment.
- Multilingual**
 Visions 3000/2.0 can support English, Spanish, Danish, German and Italian. Other languages optional.
- Power Temperature Comparator**
 A diagnostic feature which displays actual power and temperature versus time.
- Durable**
 The Visions 3000/2.0 unit is manufactured to withstand rigorous industrial environments.
- Safe Mode**
 Allows the system to run at a lower temperature if in idle, for a short period of time.
- Security**
 Three levels of security to protect the system from tampering.
- Service**
 Cards can be changed easily with no interruption, making repairs quick and simple.
- Slaving**
 When one or more zones do not have thermocouple feedback, they can be linked to zones with similar characteristics.
- Soft Start**
 An automatic feature which bakes moisture out of the tool by slowly bringing up the temperature of the mold then supplying power until the measured value is within the proportional band for each zone.
- System Alarm**
 The system will alert the technician if errors occur within the molding operation.
- Tool Database**
 Storage capacity of 100 or more toolsets.
- Maximum Zone Capacity**
 Up to 256 zones of control

Visions 3000/2.0 Controller System Features

- Self Diagnostics**
 The Visions 3000/2.0 Tool Diagnostics Suite performs a full set of functional tests to determine the condition of the mold, controller and machine operation.
- Tool Diagnostics & Validation**
 Troubleshoots new or existing tools, checking for faults such as:
 - Swapped heater or thermocouple wires. If one is found, the controller indicates the affected zone.
 - Heater power monitoring (heater amperage and/or wattage) to detect current leakage
 - Heater resistance monitoring to predict heater failure.
 - Thermocouple open, short, reversed, etc.
 - Measures resistance of each heater for failure analysis.
- Machine Interface**
 Visions 3000/2.0 can take a cyclical or constant input from the machine and tool while in production and trigger a shut down if operations cease after a selectable period of time.
- Visual Diagnostics**
 LED's are visible on the front control panel monitoring CPU communications, fuse condition and output activity of each zone.
- Surface Graphs**
 Surface Graphs provide immediate insight into the operation of all tool zones.
- Trend graphs**
 Provides a scalable display of the historic values for a particular zone.



Trend Chart



Trend Graph

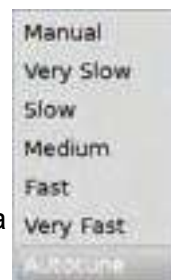


Temperature Zone Display

Visions 3000/2.0 Controller System Enhanced Features

• Individual Heater Auto P.I.D Tuning:

The Visions 3000/2.0 has enhanced the ability to fine tune the most troublesome of molds. Under normal operations, tuning is carried out during the warm up process, individually tuning each heater to control within 0.5° F of set point. The Auto Tune is carried out automatically each time the controller is turned on. Incorrect P.I.D. tuning is the main reason for inconsistent temperature control. For troublesome tools, auto tuning can be turned off allowing the operator to select from a range of 5 different settings which can fine tune the P.I.D. operating to match the tool.



• Individual Heater Alarm Tolerance Settings:

Heaters can be allocated individual settings, to prevent global alarm settings being triggered by minority, problematic thermocouples. Each heater/thermocouple combination has it's own trigger point and values assigned to operate independently.



• Individual Heater Power Consumption Monitoring:

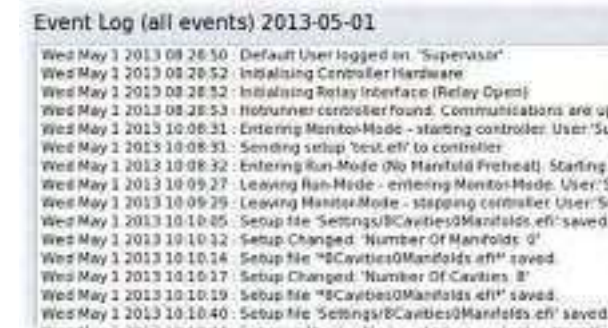
All Cavity heaters power consumption is constantly and individually monitored. Any increase in power demand is the first sign of a developing problem and early detection is vital in preventing avoidable scrap and tool down time in the machine.

• Programmable Manifold Pre-heat Start Up Groups:

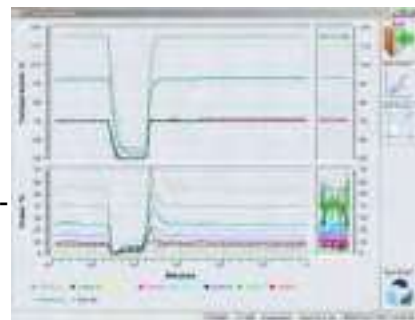
The user has the ability to define the start up sequence of the manifold heaters. This is useful for tools with a large number of heaters that exceed the maximum current available if ramped together and provides the means to program the specific start up recommendations of the hot runner manufacturer, automatically balancing the hot runner during the critical warm up phase.



• 12 Months of Fully Downloadable Production History, Alarm Logs & Graphs:



All production data is automatically stored for a period of 12 months. Data includes, individual heater power usage and temperature during the production cycle, on a second by second basis. All initial set-up settings, user and set point changes made during production, Alarm activations and errors. Water flow (gallons/liters per minute) and water temperature (F° & C°).



Tool diagnostic reports and set up files. All data is date and time stamped and viewable from the Visions 3000/2.0 controller screen or downloadable to a PC or Laptop. Set up data is transferable between Visions 3000/2.0 controllers. Data cannot be deleted by the user and is password protected.



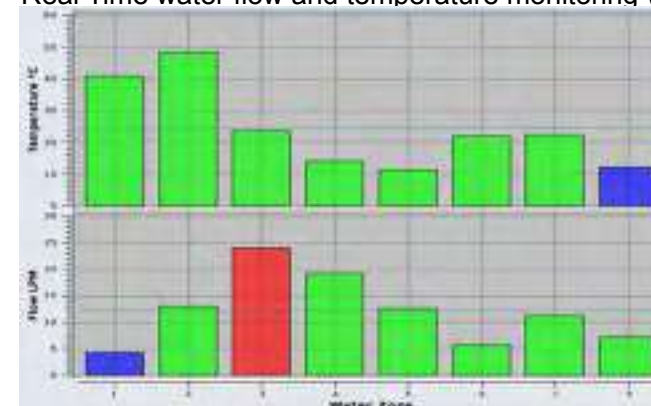
• USB, Ethernet & Wi-Fi for download, upload & real time off site monitoring:

All data can be downloaded via USB to PC or Laptop for back up and viewing. The data can be viewed as a text file, spread sheet or in graph format, allowing for easy distribution of information, internally or to other group. Real time off site monitoring and ITC monitoring can be implemented via the Ethernet/Wi-Fi facility. This feature is particularly valuable for directly supporting International customers.

Visions 3000/2.0 Controller System Enhanced Features

• Real Time Water Flow Monitoring & Alarms (optional):

Real Time water flow and temperature monitoring with warning alarms can now be automated via the Visions 3000/2.0 controller. Flow sensors are precisely installed in the PCS Smart Manifold with an interface module added to the Visions 3000/2.0 control. Any critical drop in the water flow rate will trigger a safety response from the Visions 3000/2.0 controller. If so setup, power can be cut to the tool heaters, a machine stop trigger activated and machine alarm activated. No water, no power! The water data will also show trend changes and gradual flow reduction which is particularly useful for maintenance to monitor the condition of the water filters. Multi channel water mapping of the tool will provide significant information and production



- Open T/C
- Reversed T/C
- Temperature Over/Under
- Open Flow-Sensor
- Flow-rate Over/Under

benefits. All water data and alarm activations are recorded in the downloadable data and graphs history database.

• Minimum Cavity Set Point Temperature:

It's bad practice to turn off unused zones in any mold, this creates cold spots which can effect the balance and flow of material within the system. It's much better to enter a low temperature that keeps the tool balanced, in a manner which won't produce parts in any zones. The minimum set point option allows the supervisor to enter the minimum acceptable temperature, normally around 240° F (depending on the type of material). This will prevent the operator from turning the unused zones off, in its place they will have to enter a temperature instead of turning them off.

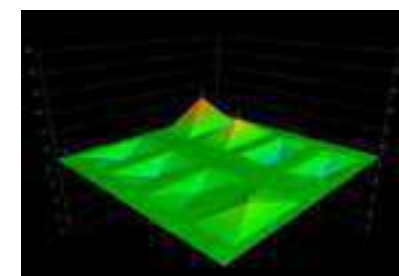
• Saved & Downloadable Diagnostic Reports:

The tool diagnostic function is a very important facility. Not only for diagnosing tool problems, but as a means of tracking the performance and reliability of the heaters & thermocouples over time. Downloadable diagnostic reports allow the tool room to run comparison checks against previous service and repairs data to maintain a contemporaneous record of the tools history. The diagnostic reports provide useful evidence and can be submitted to the tool maker or hot runner manufacturer during quality disputes and tool trials prior to delivery.

1	-> 1 Up, 25 Sec	312.0	28°C
2	-> 2 Up, 26 Sec	370.0	38°C
3	-> 3 Up, 18 Sec	358.0	38°C
4	-> 4 Up, 22 Sec	367.0	18°C
5	-> 4 Up, 23 Sec	398.0	19°C
6	-> 5 Up, 21 Sec	319.0	31°C
7	-> 7 Up, 22 Sec	380.0	32°C
8	-> 8 Up, 17 Sec	68.0	32°C
9	Unit issue	45.0	28°C

• Improved Diagnostic Graphs for Power, Temperature & Water Interrogation:

The diagnostic trend and surface graphs have been improved to provide greater detail while presented in a simpler form. Many of the functions have been automated making them quick and easy to use and under-stand. The information provided is much clearer and more detailed, while being less cluttered. Water flow functions have been added to the suite of graphs, providing detailed analysis of both flow rate and temperature. A time line function has been introduced to the graphs to enable the production history to be searched for by specific times and dates during the previous 12 months.



• Industrial Grade Color Touch Screen Interface:

The introduction of the Linux operating system has presented the opportunity to maximize the potential of the touch screen interface, and fully utilizing all the benefits and advantages of touch screen technology. Like previous Visions 3000/2.0 systems we utilize 4mm safety glass as screen protection so the unit integrity is not compromised by the environment.



Visions 3000/2.0 Controller System WaterFlo/Smart Manifold Option



The Visions 3000/2.0 Controller System is compatible with the WaterFlo/Smart Manifold Option



Visions 3000/2.0 Controller System WaterFlo/Smart Manifold Option

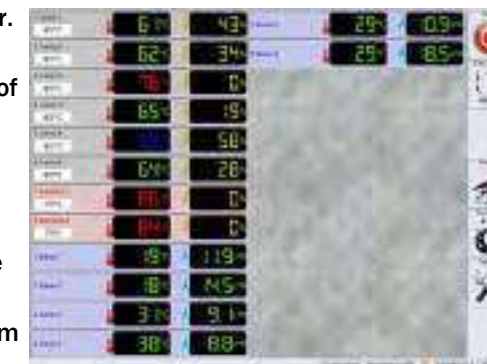
Why Water Flow Monitoring & Hot Runner Controls in One Package ?

It just makes sense!

For the first time PCS offers Injection Molders an affordable solution for the precise monitoring of flow rate and temperature within each channel of a tools cooling system combined with VISIONS 3000 Hot Runner Temperature Controller.

The integration of Smart Manifold with the VISIONS 3000 Hot Runner Control, provides insight into the molding process far beyond what can be derived from the individual systems.

- All Hot Runner & Water Cooling information is displayed together. "Cavities (Gray)" "Manifolds (Red)" "Water (Blue)"
- The system provides precise data for temperature and flow rate of each water channel. (+/-1.5%)
- System can also be configured to monitor the main water input and output pressure.
- By bringing this information together in one place, the linkage of how events in one system affect the behavior of the other can be easily recognized.
- Reduces back and forth time trying to figure out what the problem is and how to best to solve it.
- The ability to see how a change in one cooling channel affects hot runner heating in unassociated areas of the tool.
- The two systems together as a package can greatly improve the efficiency of the molding cycle.
- Improves consistency in quality and deformation stability to a much higher level.
- Provides accurate up to the minute data.
- More effectively protects the mold from catastrophic failures, by alarming if any area is suspect. The VISIONS 3000 has several alarm options ranging from screen notification to molding machine shut down.
- Often overlooked by many molders; the efficiency of each cooling circuit is critical to a stable molding process and the production of high quality, dimensionally stable parts.
- The VISIONS 3000 stores in one place, one year of step by step historical data for each zone of both cooling and hot runner heating operations. This invaluable information is date & time stamped for future reference. There is no more guessing as to what transpired and who did it.
- Tool setting for both the Hot Runner & Cooling Systems can be stored on the VISIONS 3000 database and called up the next time the tool is set-up. The database can store in excess of 100 tool sets.
- Like all VISIONS 3000 systems, the *Smart Manifold* is a robust unit which can withstand the rigors of industrial environments.



The *Smart Manifold* has been meticulously engineered and designed to provide exceptional accuracy. This is only possible by the exclusive design and exacting machining of the manifold extrusion which allow for proper placement of the advanced vortex sensors.

- The *Smart Manifold* works on the Bernoulli principal, meaning there are no moving parts to wear out, which equates to a long service life while also allowing for operation with heavily contaminated water.
- Sensor placement within the *Smart Manifold* have been precisely engineered for maximum temperature and flow accuracy.
- The advanced sensors are retained by a simple clip.



Visions 3000/2.0 Controller System WaterFlo/Smart Manifold Option

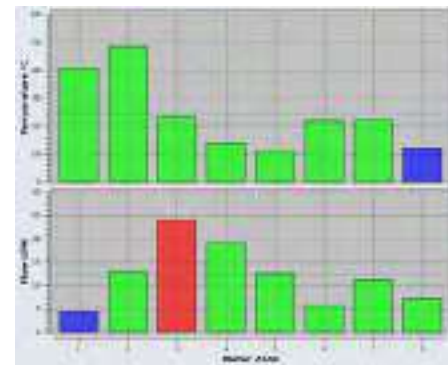
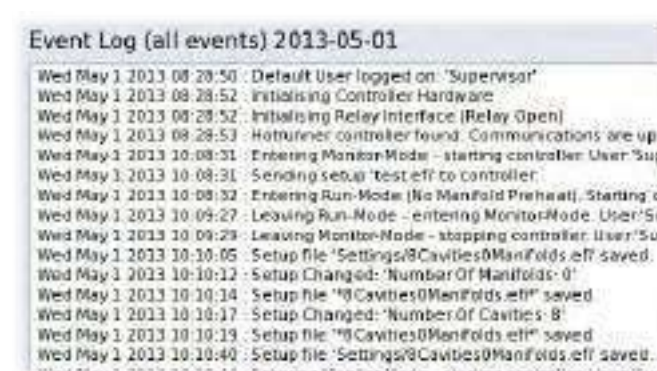
The PCS Intelligent Water Flow Monitoring System can protect your mold, improve quality while also improving cycle time. This is done by quickly identifying cooling problems and alerting to various common cooling channel problems such as:

- No or reduced water flow from the water chiller/heater
- Blocked waterways on a cooling circuit by circuit basis
- Reduction in system operating pressure
- Scale / rust build up
- Inconspicuous / minor leaks
- Incorrect setting of the water chiller / heater
- Faulty water chiller / heater operation
- Incorrect piping



Often overlooked is the importance of historical data. With the PCS system, information is stored for one year, is date and time stamped for tractability. Recording historical data means a performance log for each channel in the water cooling system is stored in the systems memory, allowing the user to track channel by channel performance and identify problems. This Data can be downloaded onto a USB stick or via Ethernet connection.

More importantly historical information provides operational insights not normally available to the user. By displaying data in a graphic format, the user can easily spot trends in deteriorating performance for any channel.



Tool Validation:

The tool Validation function of the VISIONS 3000 can provide documentation certifying the condition of the tools hot runner & cooling systems prior to installation in the molding press. Without proper Tool Validation the molder can only hope there are no problems with all cooling and hot runner zones. Until now it has been both difficult and/or very expensive to measure actual flow rate and temperature for each cooling channel in the mold. Now with the VISIONS 3000 and the *Smart Manifold* you have the ability to read actual flow & temperature elements. With the VISIONS 3000 both the tools hot runner and cooling system can be fully validated and results recorded to establish a base line before the tool is put into production. You now have the ability to compare known actual base line date with actual in-process performance, thereby fully understand tool operation.

Now the VISIONS 3000 with the optional *Smart Manifold*, allows the user to bring all processes elements (Molding Machine, Hot Runner Control & Mold Cooling System) to the light of day, by provide actual feedback on the tools operation, allowing for intelligent decision making.

As any good process engineer will testify, it is not what the machine is told to do that is important; it is what the machine is actually doing that matters.

Visions 3000/2.0 Controller System WaterFlo/Smart Manifold Option

Hardware:

SMART MANIFOLD:

The intelligent design of the *Smart Manifold* allow for the sensors to be located within the Manifold. This produces a slim line unit with a small footprint. The design also provides protection for the sensors by keeping them enclosed within the manifold assembly.

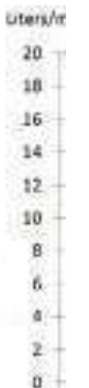
The *Smart Manifolds* are manufactured from custom aluminum extrusions which are black anodized to resist corrosion. These extrusions are designed to specifically produce a precise linear flow path for each sensor. With meticulous attention to detail the sensors locations are positioned to provide accurate measurement.



The manifolds can be mounted on machine platens or the mold with "roll-in" "T-nuts" which fit in Integrated extruded slots, which are located on two faces of the extrusion. The compact slim line design of the manifold enables it to be mounted in the smallest space possible next to the machine, on platens or on the mold, keeping the pipe runs to the absolute minimum.



The *Smart Manifold* has 1-1/2" ports on both ends of the manifold to accommodate main water "in/out" flow. This allows maximum flexibility when connecting the water supply. There are 1/2" ports for the individual channels for both "in" and "return" lines



SENSOR:



The *Smart Manifold* is equipped with very compact sensors that are capable of reading both flow rate & temperature. The sensor is based on the vortex flow measurement principal, which uses a bluff body in the middle of the flow path to create a small eddy current (vortices) and the pressure of this current is measured to determine the flow through a given cross sectional area.

The sensors have no moving parts, this combined with a large flow path, make them ideally suited to mold cooling, even when using heavily contaminated water.

The sensors are integrated directly into the manifold, keeping size to a minimum while protecting them from damage.

Sensors are available with two flow ranges to suit the application (4 gpm/15 lpm & 10 gpm/40 lpm). Sensors are held in place with a simple clip arrangement which makes replacement effortless therefor keeping maintenance very simple.

Sensors are also available which will read out the main system water in-put and out-put pressure, allowing for up to the minute and historical review.

INTERFACE MODULE:

The system is equipped with a interface module which is mounted on the VISIONS 3000 system. The interface module allows multiple manifolds to be daisy-chained together, to seamlessly monitored the system and facilitate true "plug and play" with a simple connection. The interface module allow for the user to easily add additional *Smart Manifolds* at any time.



Visions 3000/2.0 Controller System WaterFlo/Smart Manifold Option

Technical Specifications:

Smart Manifold	
Manifold Feed	1-1/2" NPT
Manifold Ports	1/2" NPT
Number of Ports	4/8/12 Standard (other sizes on request)
Valves (optional)	Color coded ball valves per channel (optional)
Operating Temperature (max)	32° F - 195° F (0° - 90° C)
Operating Pressure (max)	140 PSI
Temperature Sensing	Per Channel (return)
Flow Sensing	Per Channel (return)
Temperature Sensing Main Inlet	Yes (optional)
Power Supply	12 - 24 Vdc

Sensor	
Sensor Type	Vortex
Range (flow)	Series 1 = 4 gal/min (15 liters/min) Series 2 = 10 gal/min (40 liters/min)
Accuracy (flow)	1.5% full scale
Range (temperature)	32° - 195° F (0° - 90° C)
Resolution (temperature)	.5°
Accuracy (temperature)	+/- 1.5% full scale
Sensor Signal	+/- 0.35 - 3.5Vdc
Output Signal	Voltage
Response Time	< 1 sec.
Power Supply	5 Vdc
Burst Pressure	200 PSI @ 100° F

Item #	Item Description
WF-SM4-1	Water Flow - Smart Manifold - 4 Channel - 4 gpm
WF-SM4-2	Water Flow - Smart Manifold - 4 Channel - 10 gpm
WF-SM8-1	Water Flow - Smart Manifold - 8 Channel - 4 gpm
WF-SM8-2	Water Flow - Smart Manifold - 8 Channel - 10 gpm
WF-SM10-1	Water Flow - Smart Manifold - 12 Channel - 4 gpm
WF-SM10-2	Water Flow - Smart Manifold - 12 Channel - 10 gpm
WF-INT	Water Flow - Interface
WF-IOPS	Water Flow - In/Out Pressure Option

HOT SPRUE BUSHINGS

Decimal Equivalents & Tap Drills Sizes.....	L37
Hot Sprue Bushing Benefits PCS - Mini & Standard.....	L3
Hot Sprue Bushing Selection Guide.....	L4
Hot Sprue Bushing Spare Parts - Mini FSB & FSBH.....	L16
Hot Sprue Bushing Spare Parts - PCS Standard HSB	L17
Hot Sprue Bushings - PCS Mini FSB.....	L7
Hot Sprue Bushings - PCS Mini FSBH.....	L8
Hot Sprue Bushings - PCS Mini Introduction.....	L6
Hot Sprue Bushings - PCS Standard HSB.....	L12
Hot Sprue Bushings 200 Series Standard.....	L18
Hot Sprue Bushings 500 Series Standard.....	L21
Hot Sprue Bushings 800 Series Standard.....	L24
Injection Molding Trouble Shooting Guide.....	L35
Resin Material Processing Guide.....	L36
Wattage/Amperage/Resistance Chart.....	L38

HOT SPRUE BUSHINGS

PCS Company Hot Sprue Bushings are ideal for many different applications with options for part weights up to 3000 grams. When incorporated into the mold design, Hot Sprue Bushings reduce waste, minimize cycle time and can be used with both commodity and engineering grade resins.



PCS HOT SPRUE BUSHINGS

PCS Mini Hot Sprue Bushings

- Designed to fit standard industry tooling inserts including FITS®, MUD®, RTI® and others
- Compact design for small part and/or runner applications in A or B series mold bases
- Reduces material waste
- Helps minimize cycle time
- Available in standard inch dimensions
- With and without head heater (one or two zones of control)
- Capability to process commodity and engineered resins filled or unfilled
- Heaters rated at 240 VAC
- J type thermocouple
- In stock at PCS
- Various tip configurations
- Locating Rings in stock at PCS
- Designed for total shot weights up to 70 grams
- Refer to Hot Sprue Selection or call PCS Company
- 2D & 3D CAD data online at www.pcs-company.com

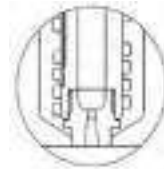


PCS Standard Hot Sprue Bushings

- Replaces the standard cold sprue bushing
- Reduces material waste
- Helps minimize cycle time
- Available in standard inch and metric dimensions
- Standard and High Performance hot sprue bushing assemblies available
- Capability to process commodity and engineered resins filled or unfilled
- Heaters rated at 240 VAC
- J type thermocouple
- Spare thermocouple for the nozzle body
- In stock at PCS
- Various tip configurations
- Locating Rings in stock at PCS
- Locating rings for the 800 and 1000 series hot sprue bushings designed per application
- Designed for total shot weights up to 3000 grams
- 2D & 3D CAD data online at www.pcs-company.com



HOT SPRUE BUSHING SELECTION GUIDE



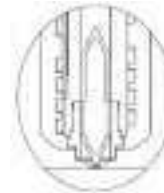
Sprue Nut/ Sprue Gate Tip

Use when the best flow rate for maximum gram weight is required with an allowable gate vestige. Extended tips provide extra material for customer modifications.



Bush Nut/ Ring Gate Tip

Ideal for applications requiring low gate vestiges processing high viscosity resins. Available with standard and wear resistant needles providing the ability to process commodity and engineered resins (filled or unfilled). Extended tips provide extra material for customer modifications.



Open Nut/ Point Gate Tip

Suited for applications processing high viscosity resins where minimal gate vestige is required. Available with standard and wear resistant needles providing the ability to process commodity and engineered resins (filled or unfilled).

NOZZLE	TIP	RECOMMENDED GATE DIAMETER (RANGE)				GATE DIAMETER		RESIN MELT FLOW CAPACITY IN GRAMS		
		MINIMUM (inch)	MAXIMUM (inch)	MINIMUM (mm)	MAXIMUM (mm)	INCH	MM	Low MFI .02 - 7	Med MFI 7 - 16	High MFI 16+
		PCS Mini FSB & FSBH	Sprue Gate Tip - SN	0.040	0.060	1.00	1.52	0.060	1.52	17
	Ring Gate Tip - BN	0.040	0.060	1.00	1.52	0.060	1.52	8	15	35
	Point Gate Tip - ON	0.025	0.060	0.50	1.52	0.060	1.52	8	15	35
PCS HSB Standard	Sprue Gate Tip - EF	0.078	0.078	2.00	2.00	0.078	2.00	200	400	800
	Ring Gate Tip - SN	0.059	0.078	1.50	2.00	0.078	2.00	52	105	210
	Point Gate Tip - ON	0.039	0.102	1.00	2.60	0.102	2.60	52	105	210
PCS 200 Series	Sprue Gate Tip - PID	0.078	0.078	2.00	2.00	0.078	2.00	200	400	800
	Ring Gate Tip - PMA	0.059	0.078	1.50	2.00	0.078	2.00	52	105	210
	Point Gate Tip - PVM	0.039	0.102	1.00	2.60	0.102	2.60	52	105	210
PCS 500 Series	Sprue Gate Tip - PID	0.126	0.126	3.20	3.20	0.126	3.20	300	700	1400
	Ring Gate Tip - PMA	0.078	0.098	2.00	2.50	0.098	2.50	210	490	980
	Point Gate Tip - PVM	0.039	0.118	1.00	3.00	0.118	3.00	210	490	980
PCS 800 Series	Sprue Gate Tip - PID	0.177	0.177	4.50	4.50	0.177	4.50	450	1000	2000
	Ring Gate Tip - PMA	0.098	0.118	2.50	3.00	0.118	3.00	315	700	1400
	Point Gate Tip - PVM	0.078	0.177	2.00	4.50	0.177	4.50	315	700	1400
PCS 1000 Series	Sprue Gate Tip - PID	0.197	0.197	5.00	5.00	0.197	5.00	1000	1500	3000
	Ring Gate Tip - PMA	0.118	0.138	3.00	3.50	0.138	3.50	700	1050	2100
	Point Gate Tip - PVM	0.118	0.256	3.00	6.50	0.256	6.50	700	1050	2100

HOT SPRUE BUSHING SELECTION GUIDE

Resin Application Key:

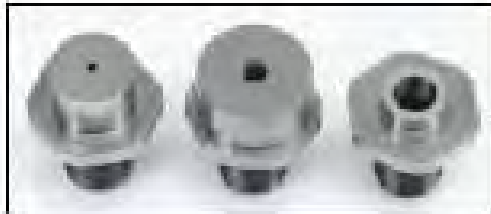
	Low MFI (.02 - 7)		A Amorphous Material		Good Resin Application
	Med MFI (7 - 16)		C Crystalline Material		Contact PCS for Application Recommendations
	High MFI (16+)				Not Recommended for this Resin Application

Filled Resin Capability	Resin Application Key																										
	PBT	PC	PC+ABS	PEEK	PEI	PMMA	PPE+PS	PSU	SB	ABS	FPVC	POM	PP	PPO	PPS	PS	SAN	LCP	PA	PE	PET	PUR	TPE	TPO			
Yes	C	A	C	C	A	C	C	C	A	C	A	C	C	A	C	A	A	C	C	C	C	A	C	C			
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											
Yes																											

PCS MINI HOT SPRUE BUSHINGS

Perfect for small parts and prototyping applications

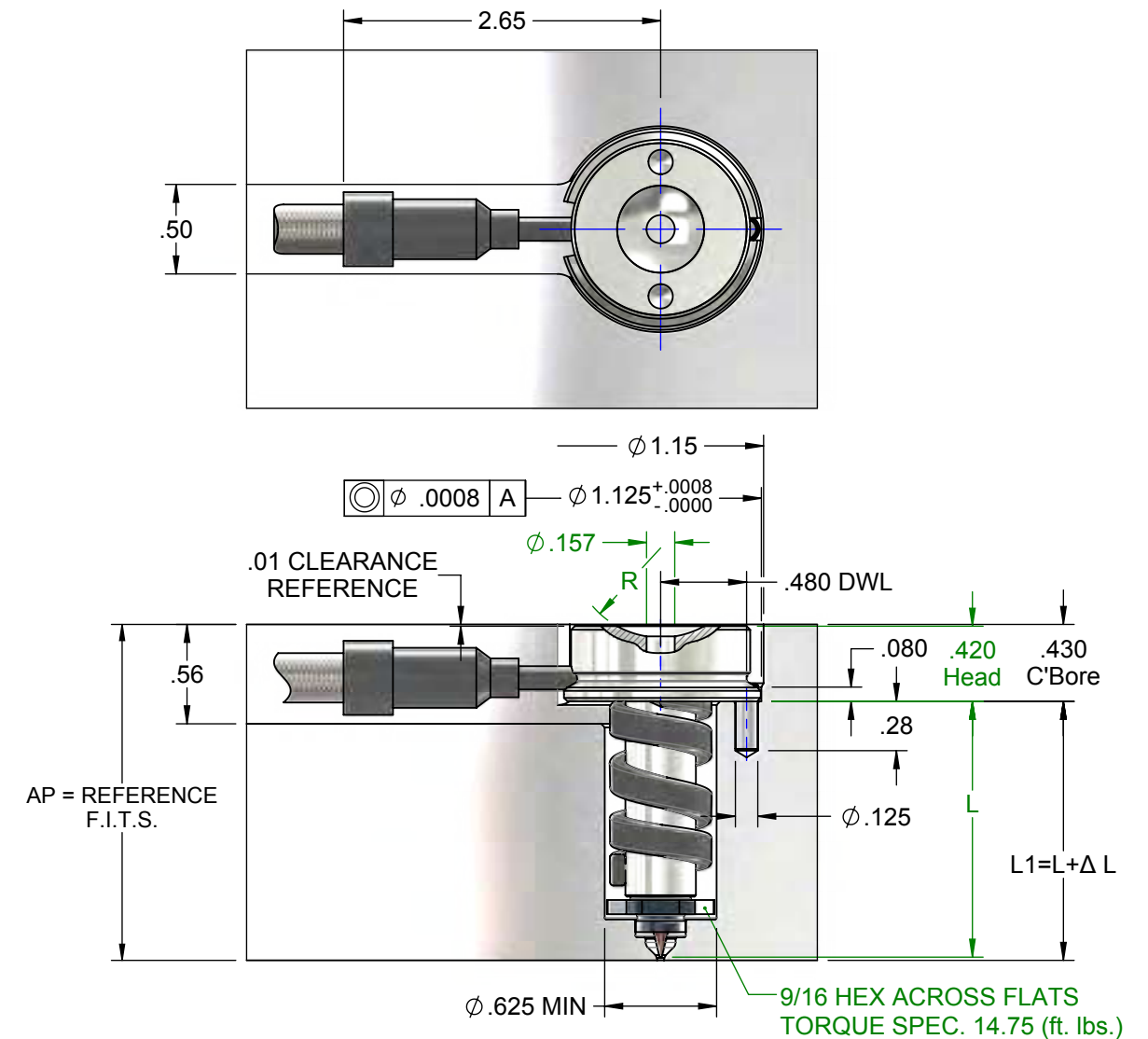
- Economical
- Same Day Shipping
- Standard & High Performance options available
- Wear Resistant Needle available



Features:

- Designed to fit standard industry tooling inserts including FITS®, MUD®, RTI® and others
- Compact design for small part and/or runner applications in A or B series mold bases
- Reduces material waste
- Helps minimize cycle time
- Available in standard inch dimensions
- With and without head heater (one or two zones of control)
- Capability to process commodity and engineered resins filled or unfilled
- J type thermocouple
- Various tip configurations
- Designed for maximum part weights up to 70 grams
- Available in Open Nut, Bush Nut and Sprue nut tips

FSB MINI HOT SPRUE BUSHINGS



L1 = DIMENSION TO BE MAINTAINED IN MOLD

L = NOZZLE COLD LENGTH

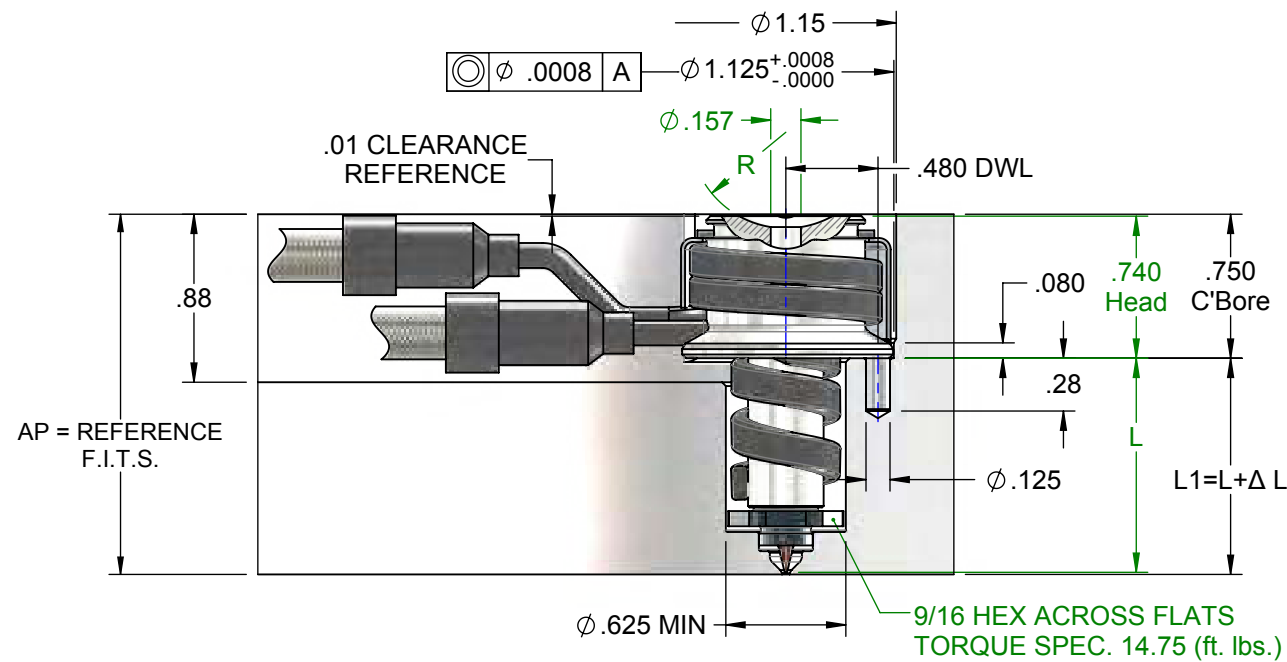
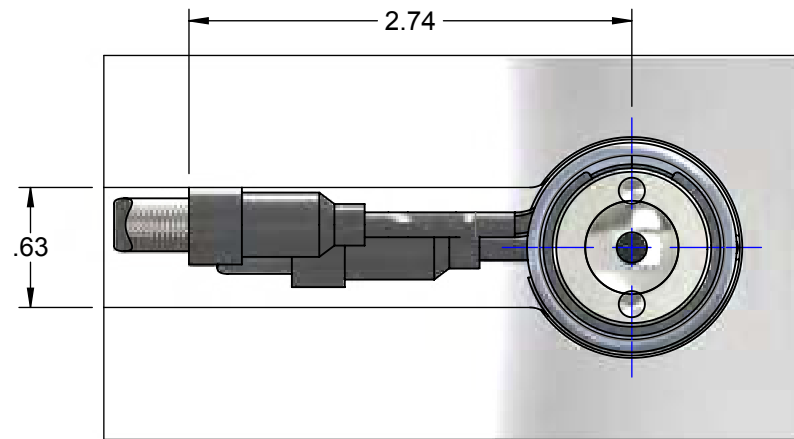
Δ L = L x 0.0000064 x (Set Point °F - 68°F)

ITEM NUMBER CONFIGURATOR



L DIMENSION	RADIUS	TIP STYLE	ORIFICE	NEEDLE TYPE
FSB17 = 1.438"	1 = .500"	ON = Open Nut	4 = .04"	S = Standard
FSB23 = 1.938"	2 = .750"	1SN = 1/2" Sprue Nut	6 = .06"	W = Wear Resistant
FSB27 = 2.438"		3SN = 3/8" Sprue Nut	4XS = .04"	Blank = Sprue Nut
FSB33 = 2.938"		1BN = 1/2" Bush Nut	6XS = .06"	
		3BN = 3/8" Bush Nut	Blank = Open Nut	

FSBH MINI HOT SPRUE BUSHINGS (High Performance)

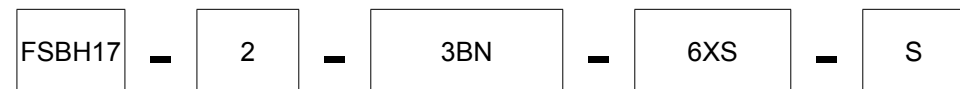


L1 = DIMENSION TO BE MAINTAINED IN MOLD

L = NOZZLE COLD LENGTH

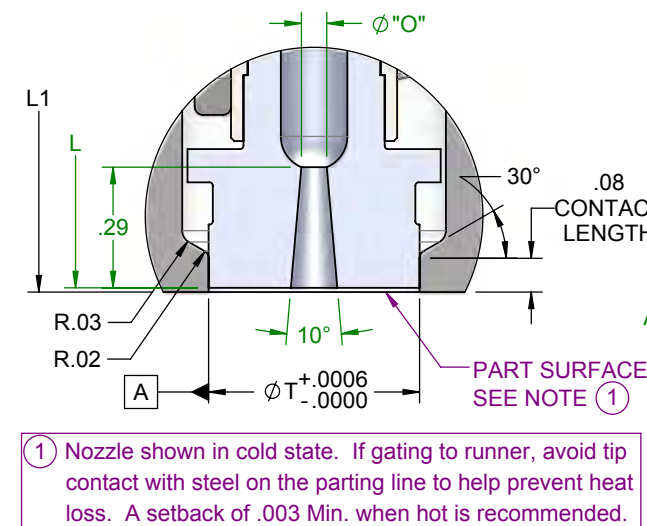
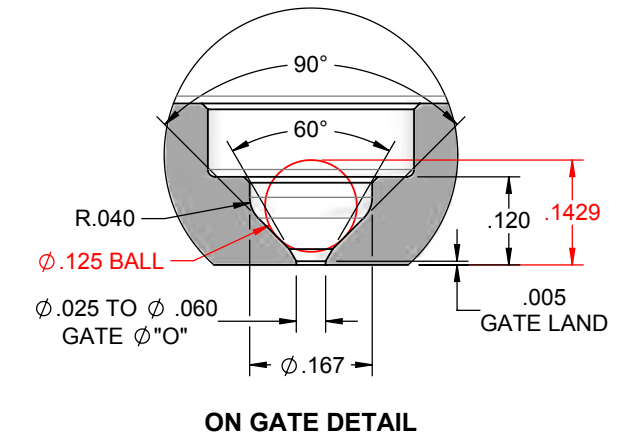
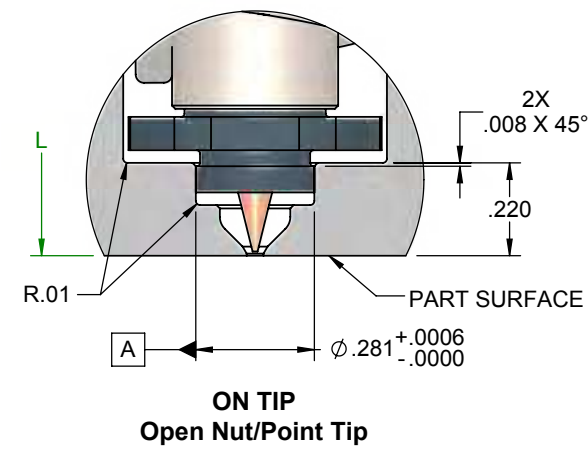
$\Delta L = L \times 0.000064 \times (\text{Set Point } ^\circ\text{F} - 68^\circ\text{F})$

ITEM NUMBER CONFIGURATOR

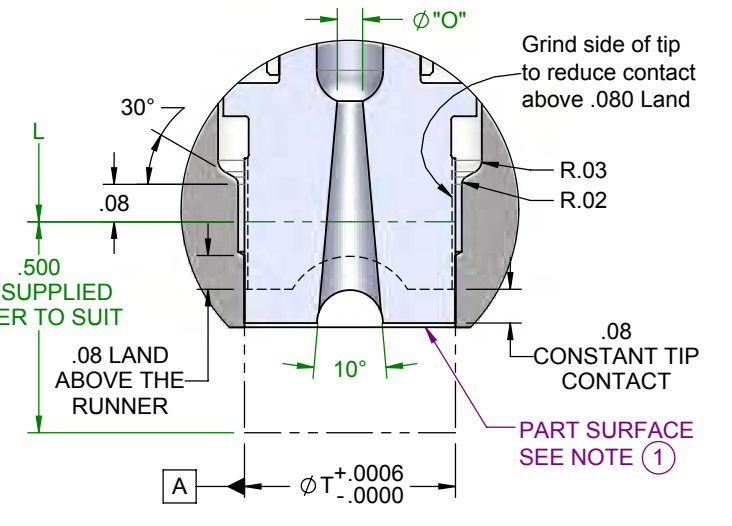


L DIMENSION	RADIUS	TIP STYLE	ORIFICE	NEEDLE TYPE
FSBH17 = 1.438"	1 = .500"	ON = Open Nut	4 = .04"	S = Standard
FSBH23 = 1.938"	2 = .750"	1SN = 1/2" Sprue Nut	6 = .06"	W = Wear Resistant
FSBH27 = 2.438"		3SN = 3/8" Sprue Nut	4XS = .04"	Blank = Sprue Nut
FSBH33 = 2.938"		1BN = 1/2" Bush Nut	6XS = .06"	
		3BN = 3/8" Bush Nut	Blank = Open Nut	

FSB & FSBH MINI TIP DETAIL



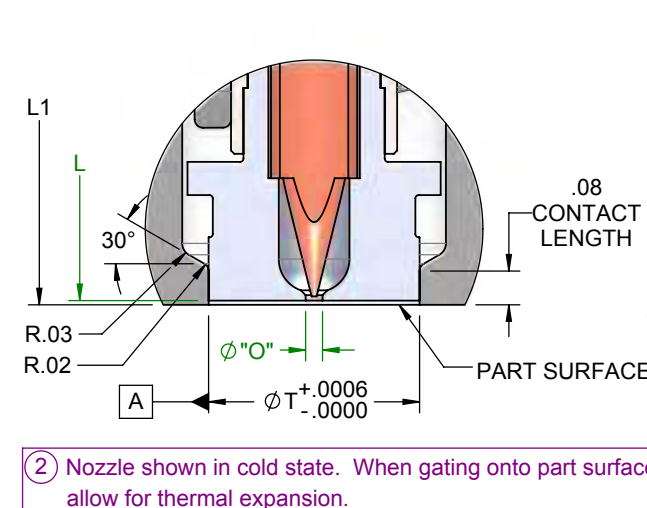
1 Nozzle shown in cold state. If gating to runner, avoid tip contact with steel on the parting line to help prevent heat loss. A setback of .003 Min. when hot is recommended.



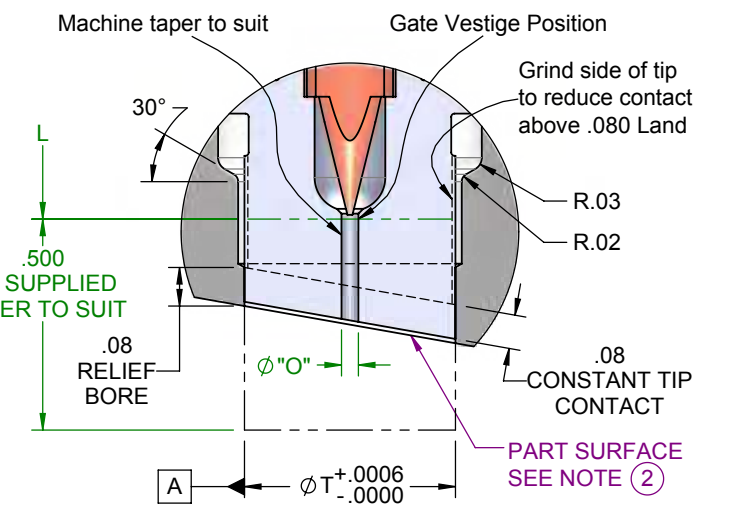
Grind side of tip to reduce contact above .080 Land

SN TIP Sprue Nut

SN XS TIP Sprue Nut With Extra Stock



2 Nozzle shown in cold state. When gating onto part surface, allow for thermal expansion.

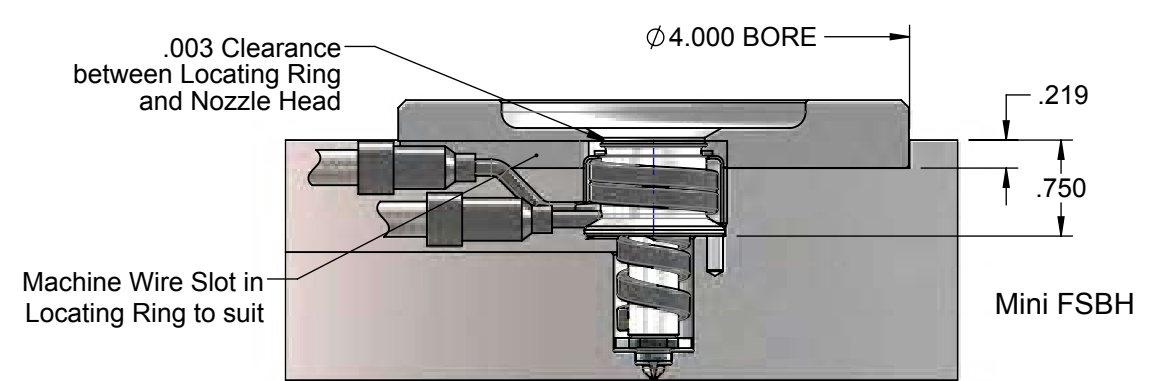
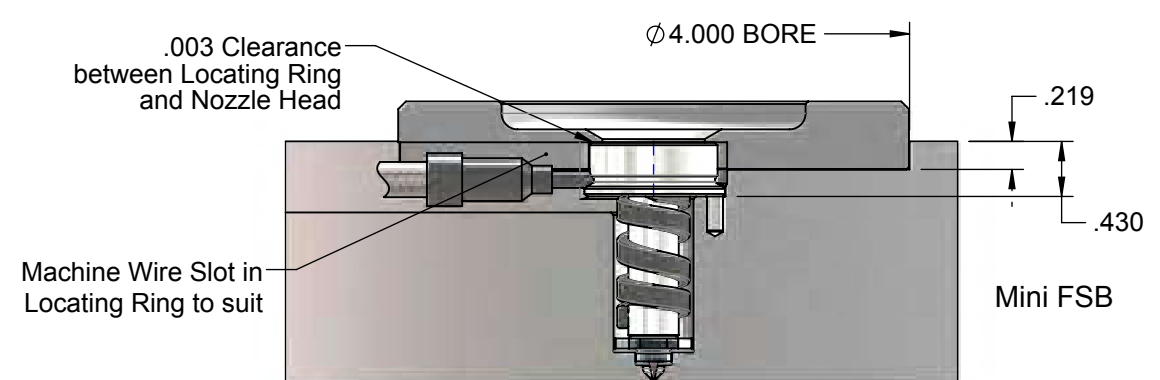
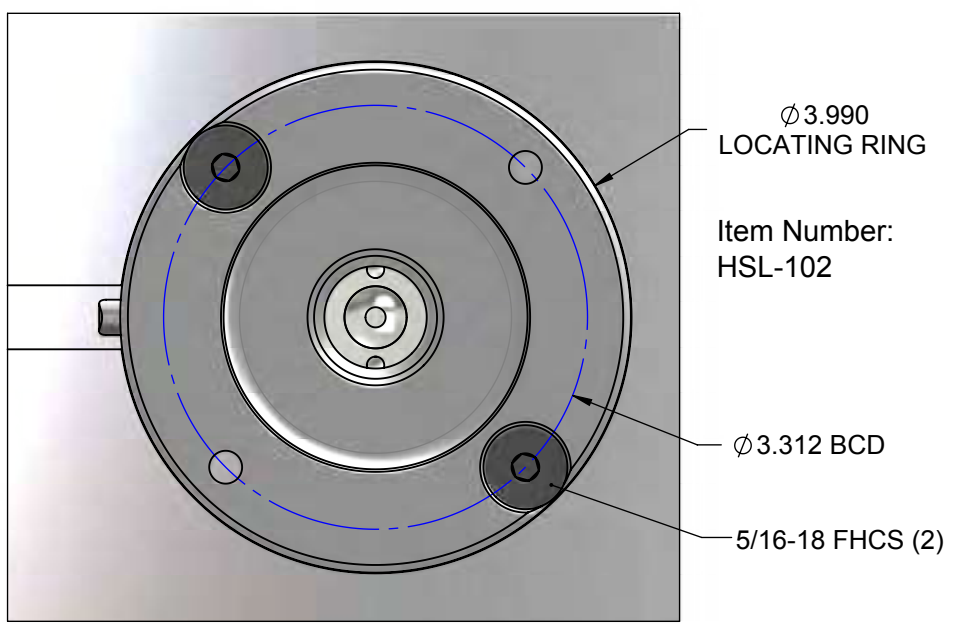


Grind side of tip to reduce contact above .080 Land

BN TIP Bush Nut/Ring Gate

BN XS TIP Bush Nut/Ring Gate With Extra Stock

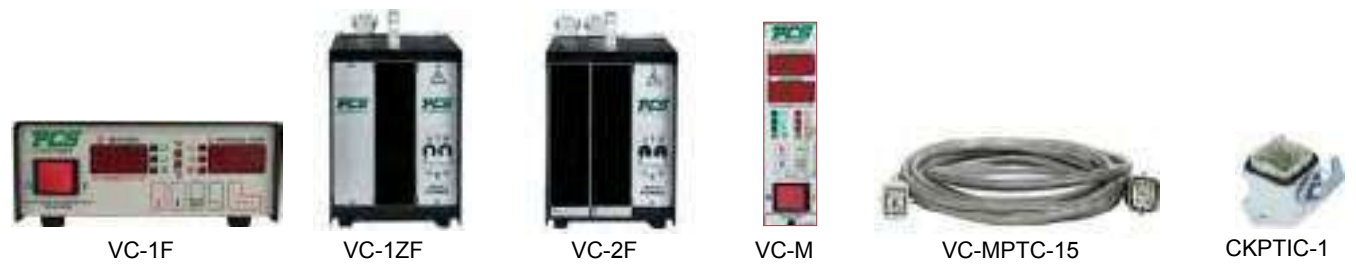
Mini FSB & FSBH Locating Ring for Dedicated Mold Bases



Mini Hot Sprue Companion Temperature Controllers & F.I.T.S.



(Photos: Installation example only)



PCS Mini Hot Sprue Bushing and F.I.T.S Sizing Chart						
	FSB-17 / FSBH-17		FSB-23 / FSBH-23		FSB-27 / FSBH-27	FSB-33/FSBH-33
	L = 1 7/8"		L = 2 3/8"		L = 2 7/8"	L=3 3/8"
F.I.T.S Part Numbers	Solid	Laminated	Solid	Laminated	Laminated	To be used with thicker plates and standard mold bases
	FTS-0809-223-X	FTL-0809-284-X	FTS-0809-226	FTL-0809-286	FTL-0809-289	
	FTS-0809-224-X	FTL-0809-284	FTS-0809-227	FTL-0809-287	FTL-0809-290	
	FTS-0809-223	FTL-0809-285	FTS-0810-226	FTL-0809-288	FTL-0810-289	
	FTS-0809-224	FTT-0809-203	FTS-0810-227	FTT-0809-206	FTL-0810-290	
	FTS-0809-225	FTL-0810-284	FTS-8490-226	FTL-0810-286	FTL-8490-286	
	FTS-0810-223	FTL-0810-285	FTS-8490-227	FTL-0810-287	FTL-8490-287	
	FTS-0810-224	FTL-0810-285	FTS-1012-226	FTL-0810-288	FTL-1012-288	
	FTS-0810-225	FTT-0810-203	FTS-1012-227	FTT-0810-206	FTL-1012-289	
	FTS-8490-223	FTL-8490-281		FTL-8490-283		
	FTS-8490-224	FTL-8490-282		FTL-8490-284		
	FTS-8490-225	FTT-8490-204		FTL-8490-285		
	FTS-1012-224			FTT-8490-207		
	FTS-1012-225			FTL-1012-285		
			FTL-1012-286			

PCS Standard HSB



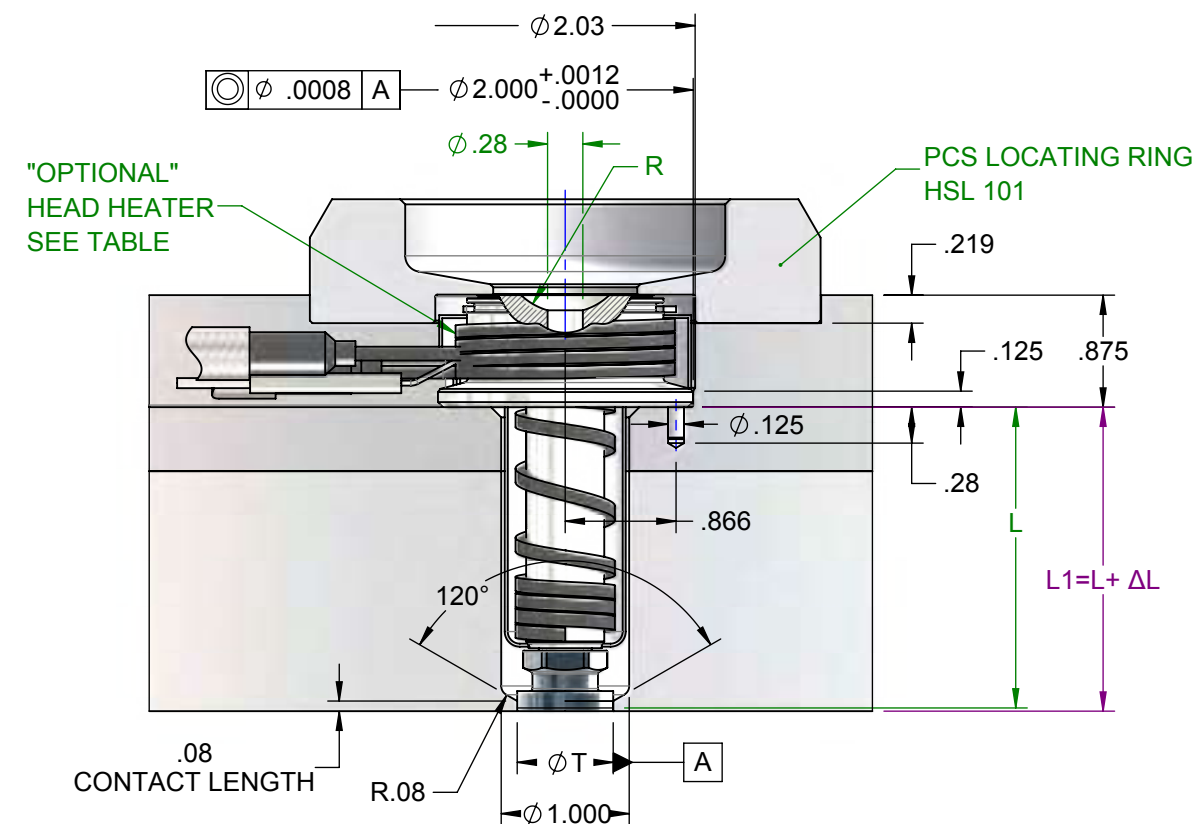
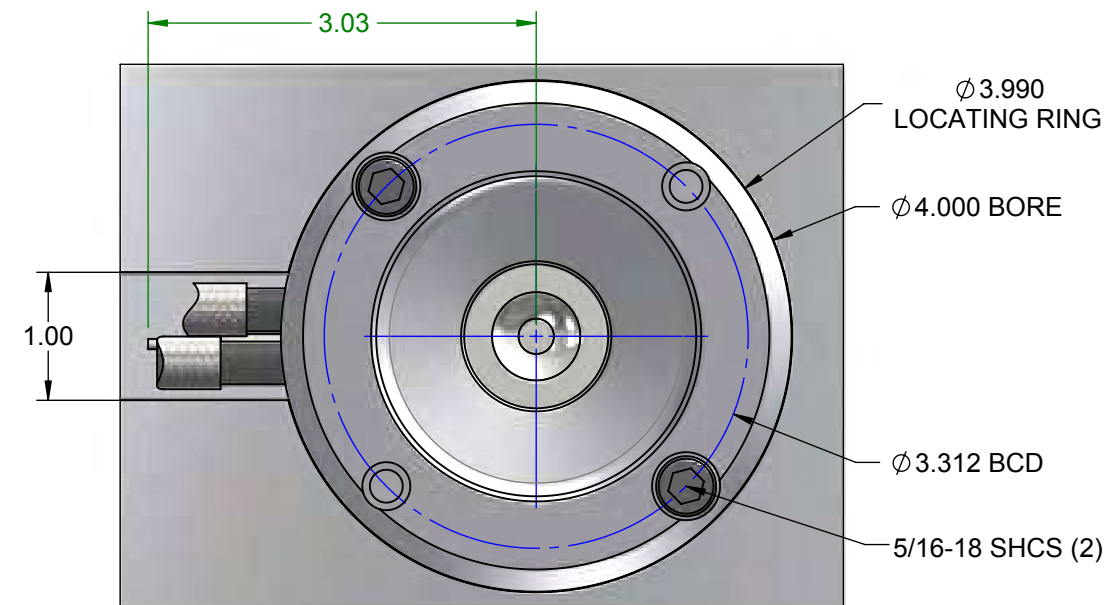
- Replaces the standard cold sprue bushing
- Reduces material waste
- Helps minimize cycle time
- Available in standard inch and metric dimensions
- Standard and High Performance hot sprue bushing assemblies available
- Capability to process commodity and engineered resins filled or unfilled
- Heaters rated at 240 VAC
- J type thermocouple
- Spare thermocouple for the nozzle body
- Various tip configurations
- Locating rings for the 800 and 1000 series hot sprue bushings designed per application
- Designed for total shot weights up to 3000 grams
- 2D & 3D CAD data online at www.pcs-company.com

CATALOG NUMBER CONFIGURATOR

- - -

L DIMENSION	RADIUS	TIP STYLE	T DIMENSION AND DESCRIPTION	HEAD HEATER
HSB-13 = 1.375"	1 = .500"	ON	= Open Nut	1 = EXCLUDE
HSB-18 = 1.875"	2 = .750"	ON-W	= Open Nut w/ Wear Resistant Needle	2 = INCLUDED
HSB-23 = 2.375"		SN-075	= 0.075" Bush Nut	
HSB-28 = 2.875"		SN-075W	= 0.075" Bush Nut w/ Wear Resistant Needle	
HSB-33 = 3.375"		SN-075XS	= 0.075" Bush Nut Extra Stock	
HSB-38 = 3.875"		SN-075XSW	= 0.075" Bush Nut Extra Stock w/ Wear Resistant Needle	
HSB-43 = 4.375"		SN-100	= 1.000" Bush Nut	
		SN-100W	= 1.000" Bush Nut w/ Wear Resistant Needle	
		SN-100XS	= 1.000" Bush Nut Extra Stock	
		SN-100XSW	= 1.000" Bush Nut Extra Stock w/ Wear Resistant Needle	
		EF-075	= 0.075" Sprue Nut	
		EF-075XS	= 0.075" Sprue Nut Extra Stock	
		EF-075XS078	= 0.075" Sprue Nut Extra Stock .078" gate	
		EF-100	= 1.000" Sprue Nut	
		EF-100XS	= 1.000" Sprue Nut Extra Stock	
		SE-075	= 0.075" Anti-Drool Sprue Nut	
		SE-075W	= 0.075" Anti-Drool Sprue Nut w/ Wear Resistant Needle	
		SE-100	= 1.000" Anti-Drool Sprue Nut	
		SE-100W	= 1.000" Anti-Drool Sprue Nut w/ Wear Resistant Needle	

PCS Standard HSB

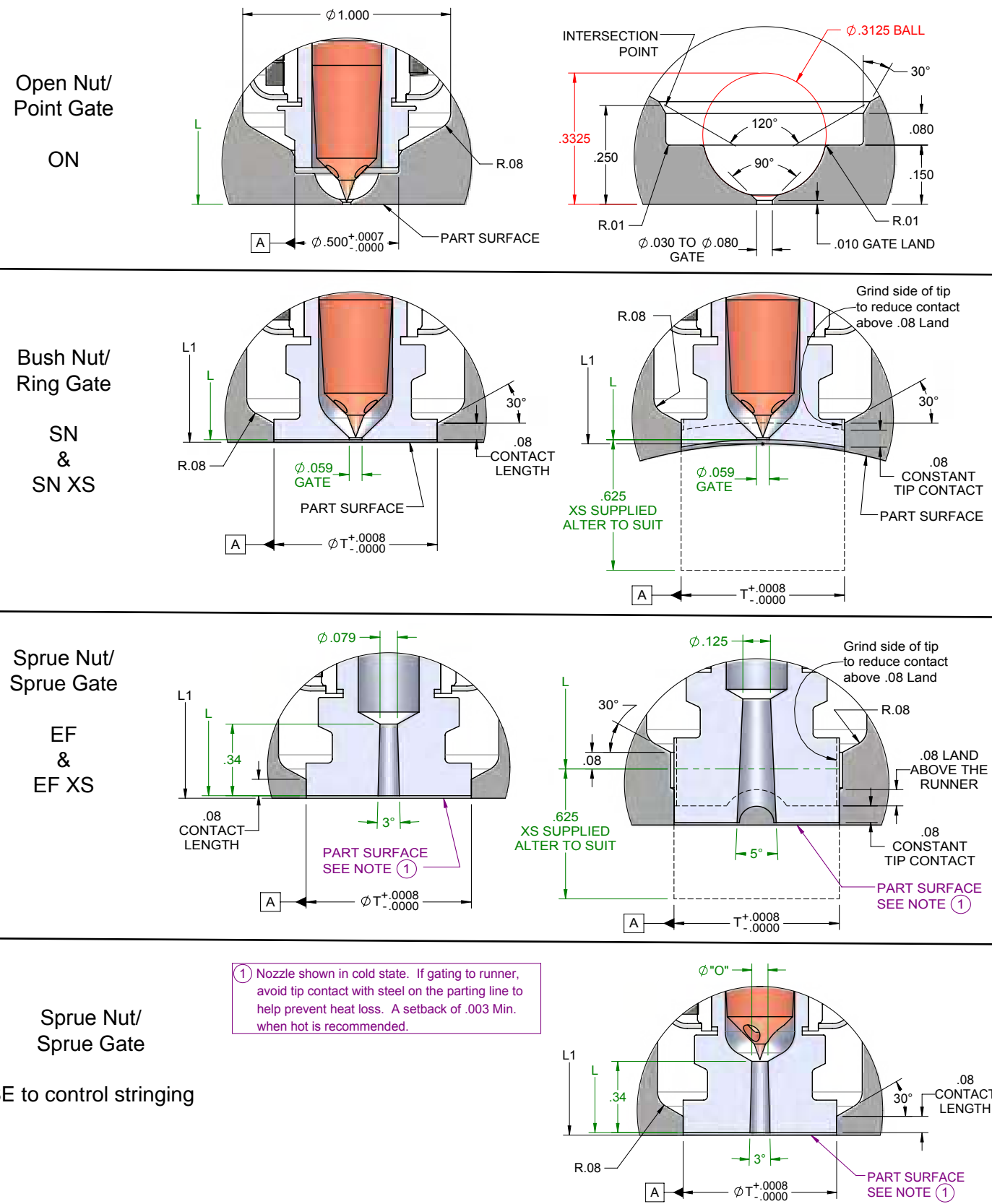


L1 = DIMENSION TO BE MAINTAINED IN MOLD

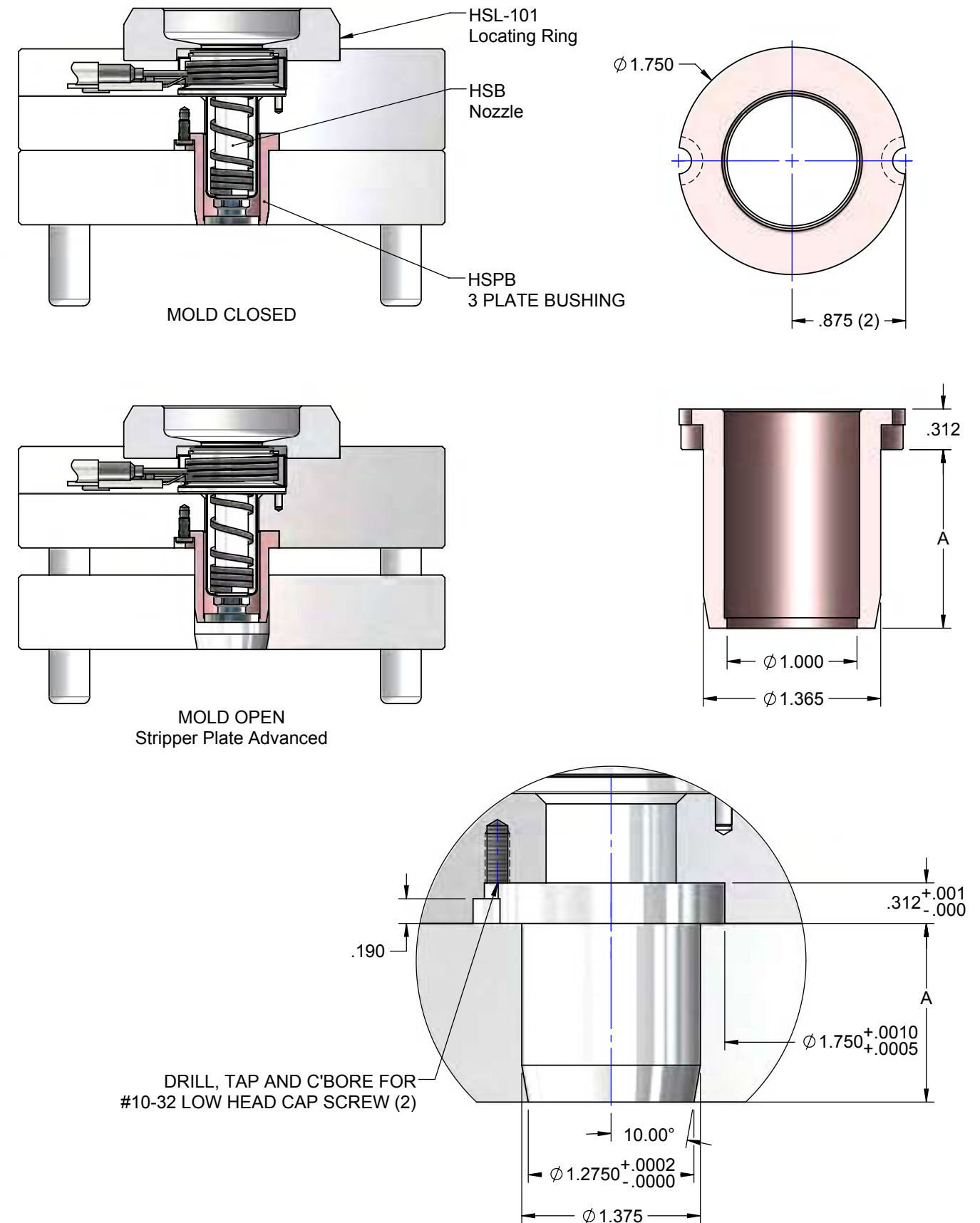
L = NOZZLE COLD LENGTH

$\Delta L = L \times 0.000064 \times (\text{Set Point } ^\circ\text{F} - 68^\circ\text{F})$

PCS HSB TIP DETAIL



PCS STRIPPER PLATE BUSHING



FSB & FSBH Mini Hot Sprue Bushing Spare Parts

FSB Parts

Item Number	Item Description
FSB17-1-BD	L=1.875" R=.500"
FSB17-2-BD	L=1.875" R=.750"
FSB23-1-BD	L=2.375" R=.500"
FSB23-2-BD	L=2.375" R=.750"
FSB27-1-BD	L=2.875" R=.500"
FSB27-2-BD	L=2.875" R=.750"
FSB33-1-BD	L=3.375" R=.500"
FSB33-2-BD	L=3.375" R=.750"

Item Number	Wattage	Item Description
FSH-17	150W	Body heater with built in Thermocouple
FSH-23	200W	
FSH-27	225W	
FSH-33	250W	

Item Number	Item Description
FSN-S	Standard Needle
FSN-W	Wear-Resistant Needle

Item Number	Item Description
FSB-3BN-4	Bush Nut, .040" Orifice, T=3/8"
FSB-3BN-6	Bush Nut, .060" Orifice, T=3/8"
FSB-1BN-4	Bush Nut, .040" Orifice, T=1/2"
FSB-1BN-6	Bush Nut, .060" Orifice, T=1/2"
FSB-ON	Open Nut Tip
FSB-1SN-4	Sprue Nut, .040" Orifice, T=1/2"
FSB-1SN-6	Sprue Nut, .060" Orifice, T=1/2"
FSB-3SN-4	Sprue Nut, .040" Orifice, T=3/8"
FSB-3SN-6	Sprue Nut, .060" Orifice, T=3/8"
FSB-3BN-4XS	Bush Nut, XS .040" Orifice, T=3/8"
FSB-3BN-6XS	Bush Nut, XS .060" Orifice, T=3/8"
FSB-1BN-4XS	Bush Nut, XS .040" Orifice, T=1/2"
FSB-1BN-6XS	Bush Nut, XS .060" Orifice, T=1/2"
FSB-3SN-4XS	Sprue Nut, XS .040" Orifice, T=3/8"
FSB-3SN-6XS	Sprue Nut, XS .060" Orifice, T=3/8"
FSB-1SN-4XS	Sprue Nut, XS .040" Orifice, T=1/2"
FSB-1SN-6XS	Sprue Nut, XS .060" Orifice, T=1/2"

Accessories

Item Number	Item Description
HSL-102	Locating Ring for FSB/FSBH Dedicated Mold Bases

FSBH Parts

Item Number	Item Description
HS-200	Snap Ring

Item Number	Item Description
HHR-200	Head Heater Cover

Item Number	Wattage	Item Description
HH-200	125W	Head Heater with built in Thermocouple

Item Number	Item Description
FSBH-17-1-BD	L=1.875" R=.500"
FSBH-17-2-BD	L=1.875" R=.750"
FSBH-23-1-BD	L=2.375" R=.500"
FSBH-23-2-BD	L=2.375" R=.750"
FSBH-27-1-BD	L=2.875" R=.500"
FSBH-27-2-BD	L=2.875" R=.750"
FSBH-33-1-BD	L=3.375" R=.500"
FSBH-33-2-BD	L=3.375" R=.750"

Item Number	Wattage	Item Description
FSHH-17	125W	Body heater with built in Thermocouple
FSHH-23	200W	
FSHH-27	200W	
FSHH-33	225W	

Item Number	Item Description
FSN-S	Standard Needle
FSN-W	Wear-Resistant Needle

Item Number	Item Description
FSB-3BN-4	Bush Nut, .040" Orifice, T=3/8"
FSB-3BN-6	Bush Nut, .060" Orifice, T=3/8"
FSB-1BN-4	Bush Nut, .040" Orifice, T=1/2"
FSB-1BN-6	Bush Nut, .060" Orifice, T=1/2"
FSB-ON	Open Nut Tip
FSB-1SN-4	Sprue Nut, .040" Orifice, T=1/2"
FSB-1SN-6	Sprue Nut, .060" Orifice, T=1/2"
FSB-3SN-4	Sprue Nut, .040" Orifice, T=3/8"
FSB-3SN-6	Sprue Nut, .060" Orifice, T=3/8"
FSB-3BN-4XS	Bush Nut, XS .040" Orifice, T=3/8"
FSB-3BN-6XS	Bush Nut, XS .060" Orifice, T=3/8"
FSB-1BN-4XS	Bush Nut, XS .040" Orifice, T=1/2"
FSB-1BN-6XS	Bush Nut, XS .060" Orifice, T=1/2"
FSB-3SN-4XS	Sprue Nut, XS .040" Orifice, T=3/8"
FSB-3SN-6XS	Sprue Nut, XS .060" Orifice, T=3/8"
FSB-1SN-4XS	Sprue Nut, XS .040" Orifice, T=1/2"
FSB-1SN-6XS	Sprue Nut, XS .060" Orifice, T=1/2"

Standard HSB Hot Sprue Bushing Spare Parts

Item Number	Item Description
HS-100	Snap Ring

Item Number	Item Description
HR-100	Head Heater Cover

Item Number	Wattage	Item Description
HH-100	250W	Head Heater with built in Thermocouple

Item Number	Item Description
HSB-13-1-BD	L=1.375" R=.500"
HSB-13-2-BD	L=1.375" R=.750"
HSB-18-1-BD	L=1.875" R=.500"
HSB-18-2-BD	L=1.875" R=.750"
HSB-23-1-BD	L=2.375" R=.500"
HSB-23-2-BD	L=2.375" R=.750"
HSB-28-1-BD	L=2.875" R=.500"
HSB-28-2-BD	L=2.875" R=.750"
HSB-33-1-BD	L=3.375" R=.500"
HSB-33-2-BD	L=3.375" R=.750"
HSB-38-1-BD	L=3.875" R=.500"
HSB-38-1-BD	L=3.875" R=.750"
HSB-43-1-BD	L=4.375" R=.500"
HSB-43-2-BD	L=4.375" R=.750"

Item Number	Item Description
HST-13	Spare Nozzle
HST-18-23	
HST-28-33	
HST-38	
HST-43	Body Thermocouple

Item Number	Wattage	Item Description
HSH-13	225W	Body Heater with built in Thermocouple
HSH-18	250W	
HSH-23	300W	
HSH-28	350W	
HSH-33	400W	
HSH-38	450W	
HSH-43	450W	

Item Number	Item Description
HSR-13	Body Heater Cover
HSR-18	
HSR-23	
HSR-28	
HSR-33	
HSR-38	
HSR-43	

Item Number	Item Description
TE-10	Standard Needle-SE Tip
WTE-10	Wear Resistant Needle-SE Tip
TN-10	Standard Needle-SN, ON Tip
WTN-10	Wear Resistant Needle-SN, ON Tip

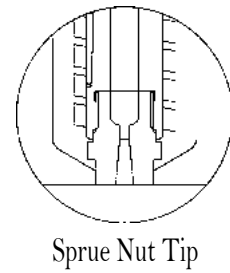
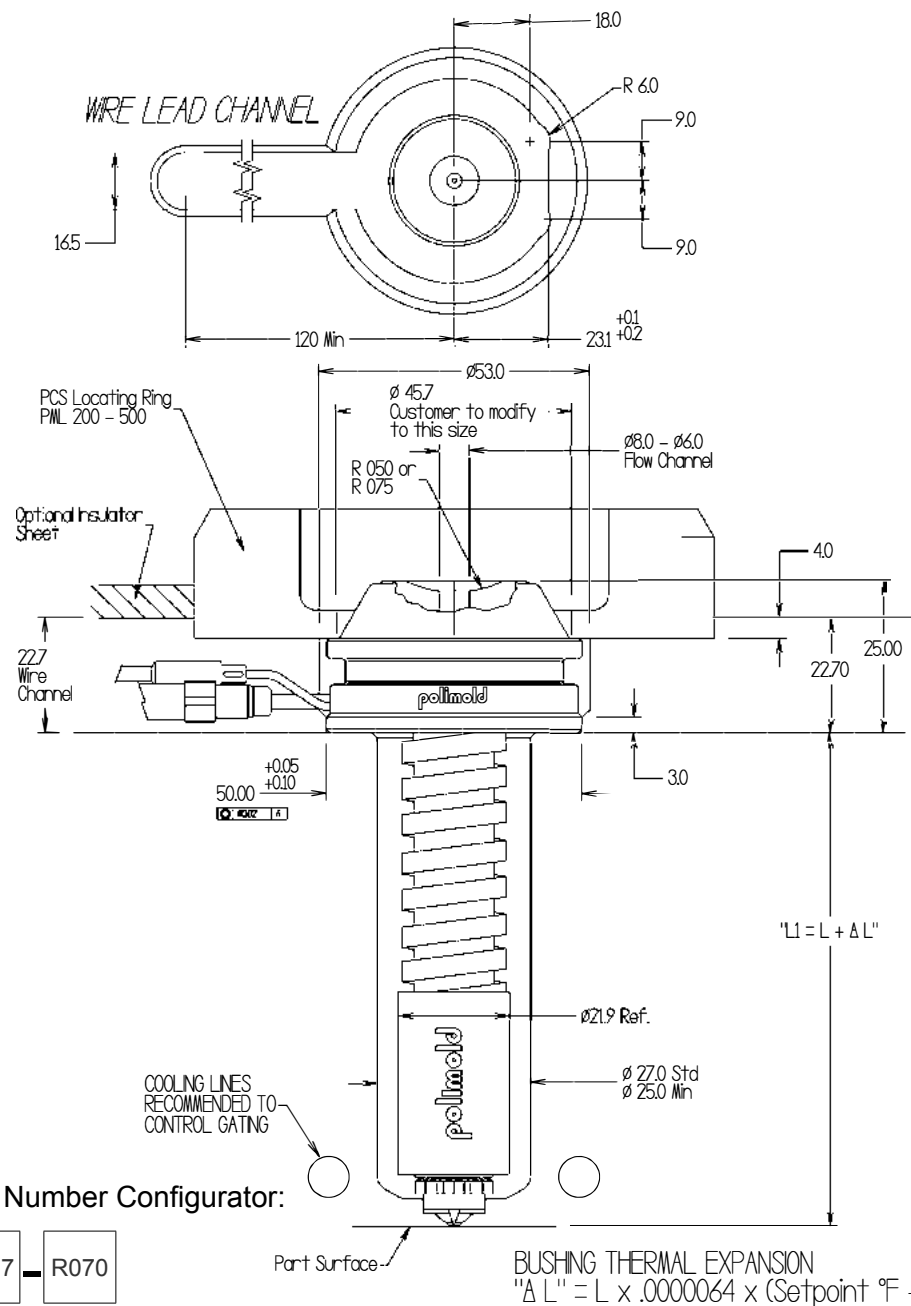
Item Number	Item Description
EF-075	EF Style, Tip Dia.=.075"
EF-075XS	EF Style, XS, O=.125" Tip Dia.=.075"
EF-075XS-078	EF Style, XS, O=.078" Tip Dia.=.075"
SN-075	SN Style, Tip Dia.=.075"
SN-075XS	SN Style, XS, Tip Dia.=.075"
SE-075	SE Style, Tip Dia.T=.075"
EF-100	EF Style, Tip Dia.=1.000"
EF-100XS	EF Style, XS, Tip Dia.=1.000"
SN-100	SN Style, Tip Dia.=1.000"
SN-100XS	SN Style, XS, Tip Dia.=1.000"
SE-100	SE Style, Tip Dia.=1.000"
HSB-ON	Open Nut Tip

Accessories

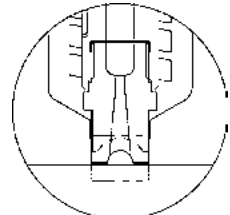
Item Number	Item Description
HSL-101	Locating Ring for HSB

Item Number	A Dimension	Item Description
HSPB-13	1.375	HSB Stripper Plate Bushing
HSPB-18	1.875	

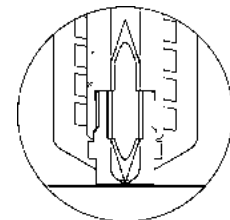
200 Series Standard Hot Sprue Bushings



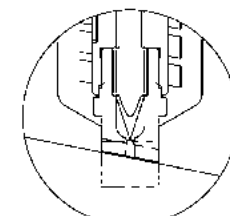
Sprue Nut Tip



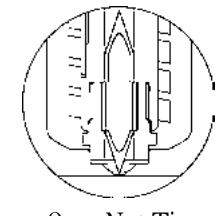
Sprue Nut Tip XS



Ring Gate Tip



Ring Gate Tip XS



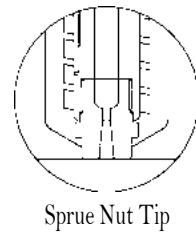
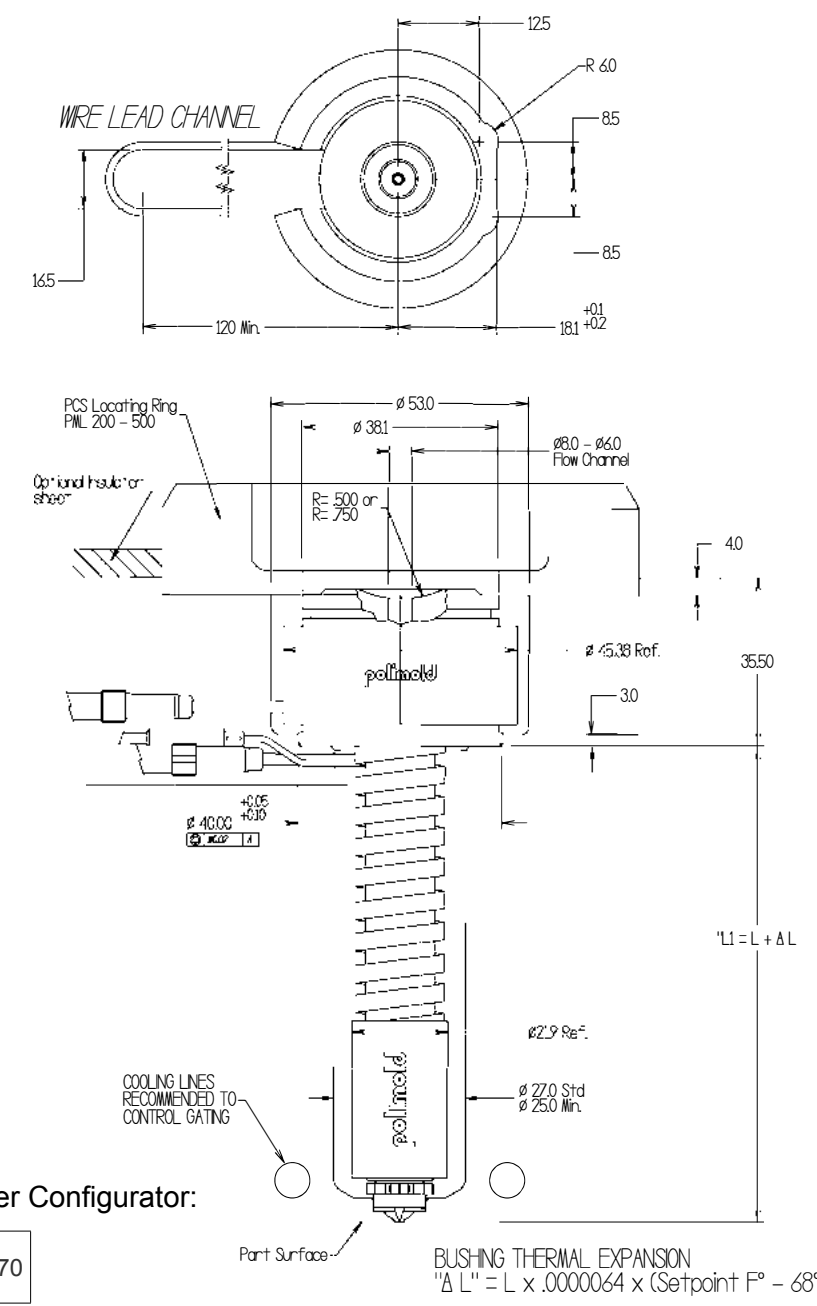
Open Nut Tip

Catalog Number Configurator:

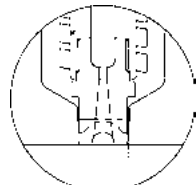
HDP06067 - R070

NOZZLE CATALOG NUMBER	RADIUS CODE	R DIM.	L DIM.	COMPONENTS				
				NOZZLE BODY	HEATER	JACKET	WATTAGE	THERMOCOUPLE
HDP06034	R050	1/2"	35.00	CDP06034-A	RHP06031	JCT06033	260W	TMP01080
HDP06055	R070	3/4"	55.00	CDP06055-A	RHP06051	JCT06050	350W	TMP01080
HDP06067			67.50	CDP06067-A	RHP06063	JCT06050	350W	TMP01100
HDP06080			80.00	CDP06080-A	RHP06076	JCT06050	400W	TMP01120
HDP06092			92.50	CDP06092-A	RHP06089	JCT06050	400W	TMP01140
HDP06105			105.00	CDP06105-A	RHP06102	JCT06100	500W	TMP01160
HDP06130			130.00	CDP06130-A	RHP06127	JCT06100	500W	TMP01180
HDP06155			155.00	CDP06155-A	RHP06153	JCT06100	610W	TMP01200
HDP06180			180.00	CDP06180-A	RHP06178	JCT06100	760W	TMP01220
HDP06205			205.00	CDP06205-A	RHP06203	JCT06100	760W	TMP01240
HDP06230			230.00	CDP06230-A	RHP06228	JCT06100	760W	TMP01260
HDP06255			255.00	CDP06255-A	RHP06253	JCT06100	760W	TMP01280

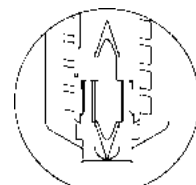
200 Series High Performance Hot Sprue Bushings



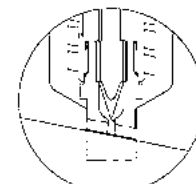
Sprue Nut Tip



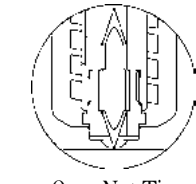
Sprue Nut Tip XS



Ring Gate Tip



Ring Gate Tip XS



Open Nut Tip

Catalog Number Configurator:

EDP06130 - R070

NOZZLE CATALOG NUMBER	RADIUS CODE	R DIM.	L DIM.	COMPONENTS					
				NOZZLE BODY	BODY HEATER	WATTAGE	BODY THERMOCOUPLE	HEAD HEATER	WATTAGE
EDP06034	R050	1/2"	35.00	CEP06034-A	RBP06033	295W	TMP01080		
EDP06055	R070	3/4"	55.00	CEP06055-A	RBP06053	460W	TMP01080		
EDP06067			67.50	CEP06067-A	RBP06065	460W	TMP01100		
EDP06080			80.00	CEP06080-A	RBP06078	690W	TMP01120		
EDP06092			92.50	CEP06092-A	RBP06092	690W	TMP01140		
EDP06105			105.00	CEP06105-A	RBP06104	760W	TMP01160		
EDP06130			130.00	CEP06130-A	RBP06129	850W	TMP01180	RCP38020	295W
EDP06155			155.00	CEP06155-A	RBP06155	1100W	TMP01200		
EDP06180			180.00	CEP06180-A	RBP06180	1100W	TMP01220		
EDP06205			205.00	CEP06205-A	RBP06205	1100W	TMP01240		
EDP06230			230.00	CEP06230-A	RBP06230	1100W	TMP01260		
EDP06255			255.00	CEP06255-A	RBP06255	1100W	TMP01280		

200 Series Tips

Standard Sprue Tip

SPRUE GATE TIP
(x NOTES EXTENDED TIP LENGTH)

PART NUMBER	TIP DIMENSIONS		
	"T"	"H"	"C"
PDO6001	12.00	5.50	9.00
PDO6002	18.00	5.50	9.00
PDO6002-1	1.000"	5.50	9.00
PDO6003 x	12.00	23.50	27.00
PDO6004 x	18.00	23.50	27.00
PDO6004-1 x	1.000"	23.50	27.00

Extended Sprue Tip

Grind side of tip to reduce tip contact above the 3.0 land

30°

30 Contact Land above the runner

18.0 XS SUPPLIED CUT TO SUIT

3.0 constant tip contact

1 NOTE: Nozzle shown in cold state. If gating into a runner, avoid tip contact with steel on the parting line to prevent heat loss. A setback of .003 Min. when hot is recommended.

Max. Torque
40 [Nxm] / 29.5 Ft-Lbs
12 Point Deep Socket Reqd
14mm or 20mm

Standard Ring Gate Tip

RING GATE TIP
(x NOTES EXTENDED TIP LENGTH)

TIP ASM #	TIP COMPONENTS		MATERIAL	DIMENSION "T"	DIMENSION "O"	DIMENSION "H"
	NEEDLE	NUT				
PMA06101-A	PDF06602	PPM06601	ABRASION RESISTANT NEEDLE	12.00	1.50	5.50
PMA06102-A		PPM06602		12.00	2.00	
PMA06103-A x		PPM06603		18.00	1.50	
PMA06104-A x		PPM06604		18.00	2.00	
PMA06105-A		PPM06605		12.00	1.50	23.50
PMA06106-A		PPM06606		12.00	2.00	
PMA06107-A x		PPM06607		18.00	1.50	
PMA06108-A x		PPM06608		18.00	2.00	
PMA06109-A	PDF06802	PPM06601	Standard NEEDLE (Coated in 'Ni')	12.00	1.50	5.50
PMA06110-A		PPM06602		12.00	2.00	
PMA06111-A x		PPM06603		18.00	1.50	
PMA06112-A x		PPM06604		18.00	2.00	
PMA06113-A		PPM06605		12.00	1.50	23.50
PMA06114-A		PPM06606		12.00	2.00	
PMA06115-A x		PPM06607		18.00	1.50	
PMA06116-A x		PPM06608		18.00	2.00	

Extended Ring Gate Tip

Grind Side of tip to reduce contact above 3.0 land

30°

3.0 contact

3.0 Constant Tip Contact

18.0 XS Supplied Cut To Suit

Max. Torque
40 [Nxm] / 29.5 Ft-Lbs
12 Point Deep Socket Reqd
14mm or 20mm

Open Nut Point Gate Tip

Open Nut Point Gate Tip

TIP ASM #	Tip Components			MATERIAL
	NEEDLE	NUT		
PVM06008	PDF06602	PPM06609		Abrasion Resistant
PVM06009	PDF06802	PPM06609		Standard (Coated in 'Ni')

DIAMETER GATE	DIMENSION "B"	DIMENSION "C"
Ø1.0		2.06
Ø1.2	Ø2.00	1.96
Ø1.4		1.86
Ø1.6		2.97
Ø1.8	Ø3.00	2.87
Ø2.0		2.77
Ø2.2		3.88
Ø2.4	Ø4.00	3.78
Ø2.6		3.68

Max. Torque
30 [Nxm] / 22 Ft - Lbs
12 Point Deep Socket Reqd
14mm

GATE DIA. BALL DIMENSIONS

500 Series Standard Hot Sprue Bushings

Standard Hot Sprue Bushing

WIRE LEAD CHANNEL

165

120 Min

271 +0.1 / -0.2

R 60

120

120

401

220

22.7 Wire Channel

Optional Insulator Sleeve

PCS Locating Ring PML 200 - 500

Ø 55.5 Customer to Modify to this Size

R Ø 50 or R Ø 7.5

Ø 10.0 FLOW CHANNEL

4.0

25.00

22.70

3.5

Ø 63.00 +0.05 / -0.10

Ø 28.6 Ref.

Ø 34.0 Std. Ø 32.0 Min.

"L" = L + Δ L"

COOLING LINES RECOMMENDED TO CONTROL GATING

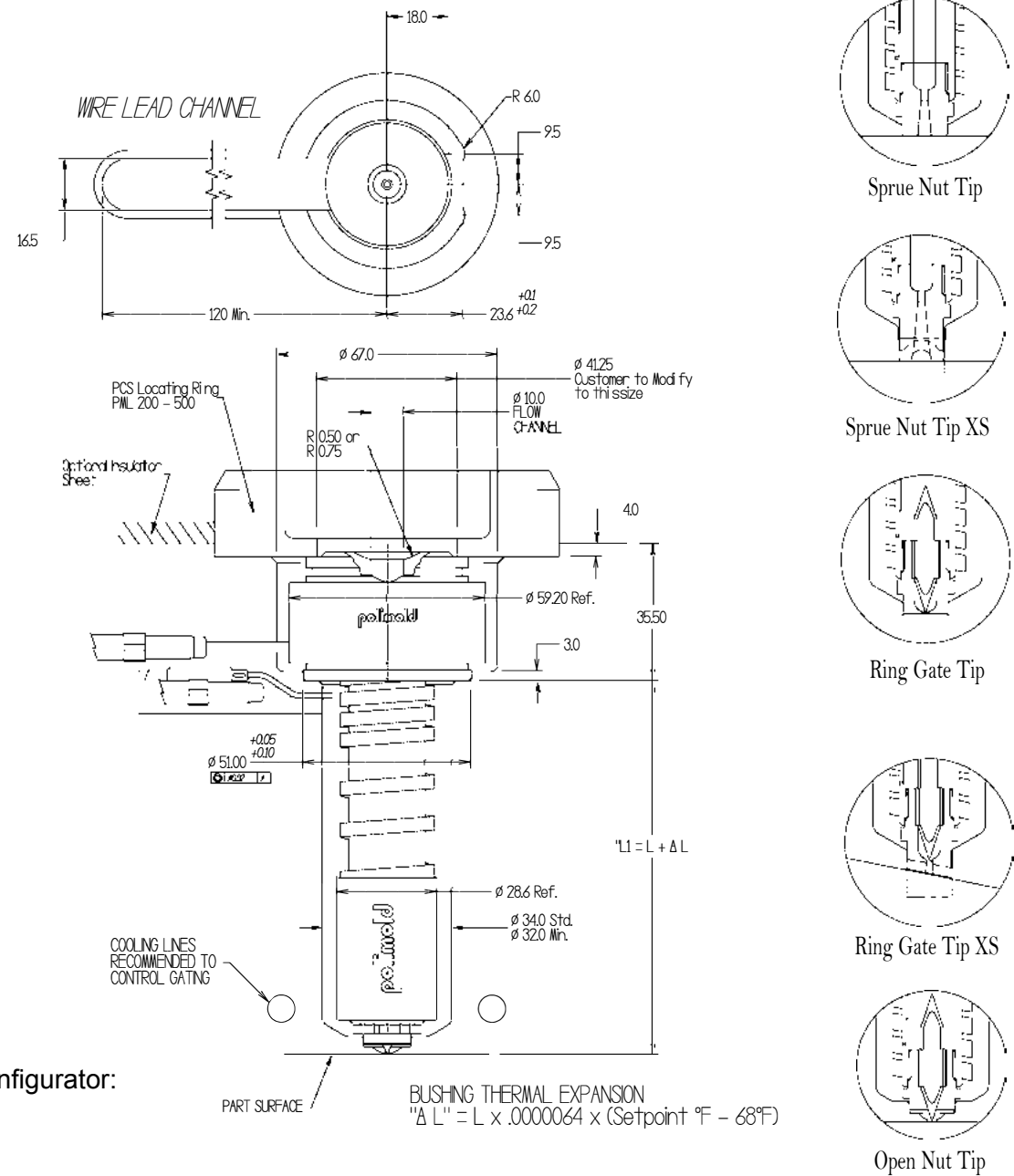
PART SURFACE

BUSHING THERMAL EXPANSION
"Δ L" = L x .0000064 x (Setpoint °F - 68°F)

Catalog Number Configurator:
HDP10105 - R050

NOZZLE CATALOG NUMBER	RADIUS CODE	R DIM.	L DIM.	COMPONENTS				
				NOZZLE BODY	HEATER	JACKET	WATTAGE	THERMOCOUPLE
HDP10035	R050	1/2"	35.00	CDP10035-A	RHP10030	JCT10030	260W	TMP01080
HDP10055	R070	3/4"	55.00	CDP10055-A	RHP10054	JCT10050	400W	TMP01080
HDP10067			67.50	CDP10067-A	RHP10067	JCT10050	400W	TMP01100
HDP10080			80.00	CDP10080-A	RHP10080	JCT10050	500W	TMP01120
HDP10092			92.50	CDP10092-A	RHP10092	JCT10050	690W	TMP01140
HDP10105			105.00	CDP10105-A	RHP10105	JCT10100	690W	TMP01160
HDP10130			130.00	CDP10130-A	RHP10130	JCT10100	760W	TMP01180
HDP10155			155.00	CDP10155-A	RHP10156	JCT10100	760W	TMP01200
HDP10180			180.00	CDP10180-A	RHP10181	JCT10100	850W	TMP01220
HDP10205			205.00	CDP10205-A	RHP10206	JCT10100	1100W	TMP01240
HDP10230			230.00	CDP10230-A	RHP10231	JCT10100	1100W	TMP01260
HDP10255			255.00	CDP10255-A	RHP10256	JCT10100	1100W	TMP01280
HDP10280			280.00	CDP10280-A	RHP10281	JCT10100	1100W	TMP01300

500 Series High Performance Hot Sprue Bushings

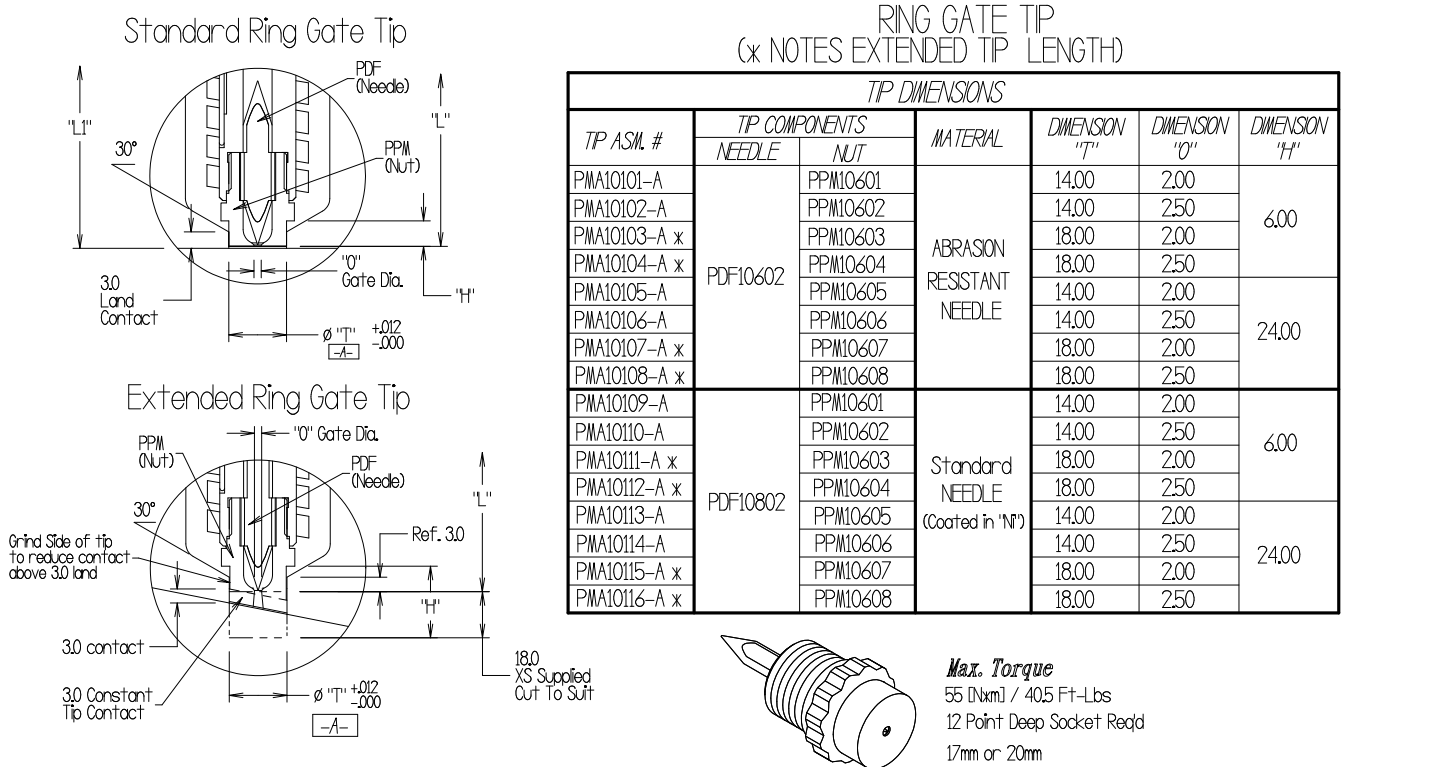
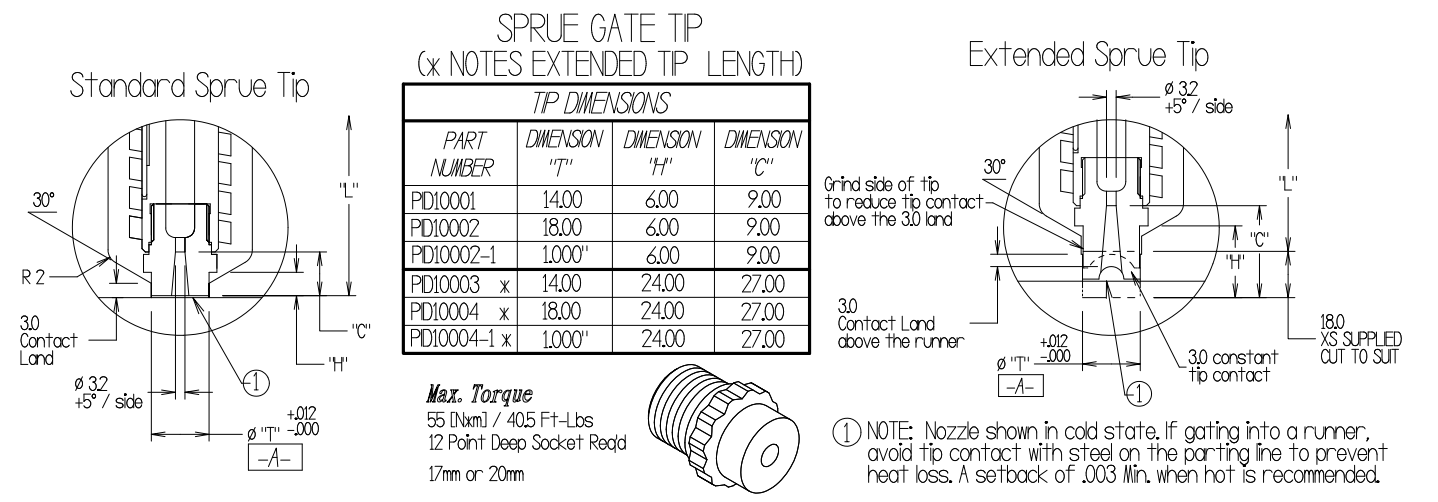


Catalog Number Configurator:

EDP10185 - R050

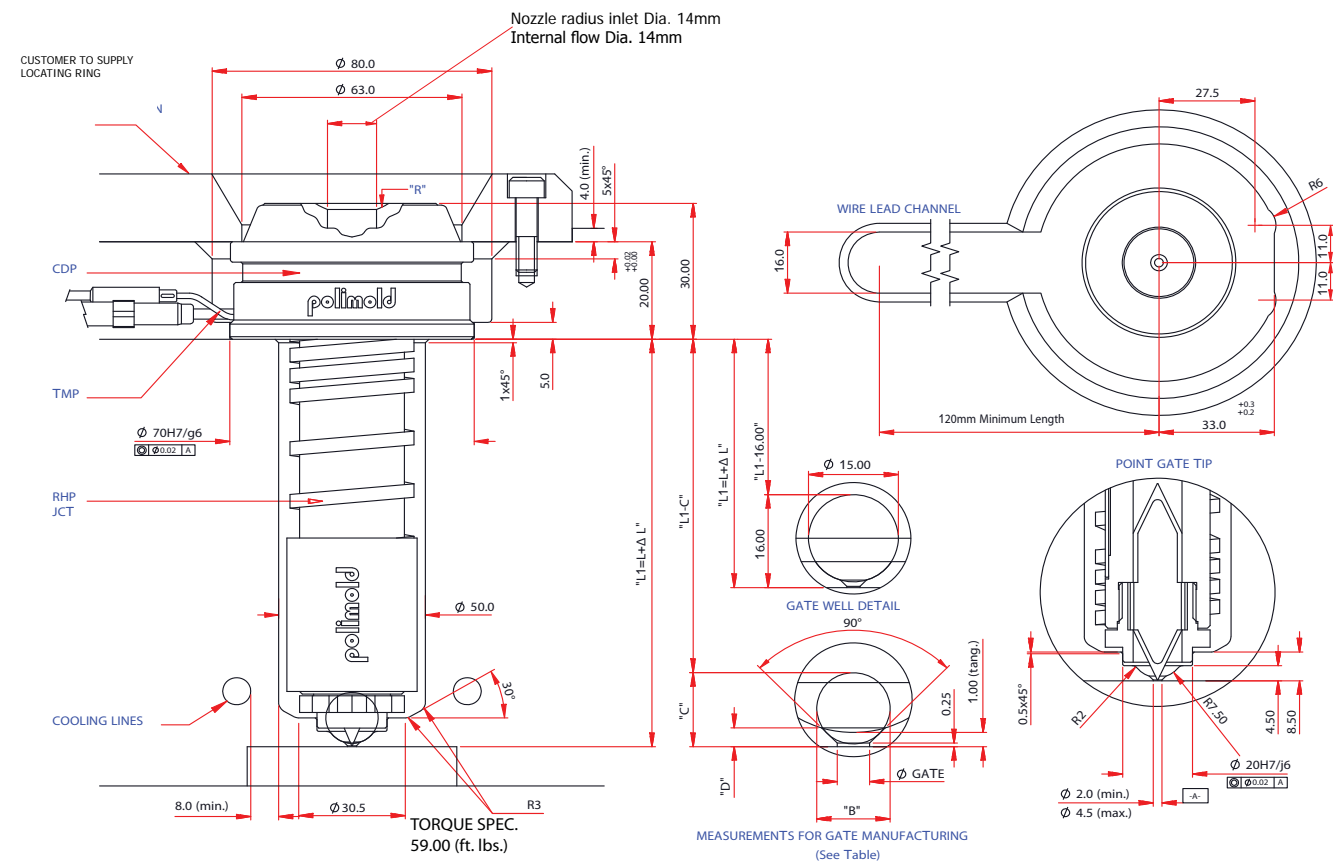
NOZZLE CATALOG NUMBER	RADIUS CODE	R DIM.	L DIM.	COMPONENTS					HEAD HEATER	WATTAGE
				NOZZLE BODY	BODY HEATER	WATTAGE	BODY THERMOCOUPLE	HEAD HEATER		
EDP10035	R050	1/2"	35.00	CEP10035-A	RBP10036	350W	TMP01080	RCP50020	400W	
EDP10060	R070	3/4"	60.00	CEP10060-A	RBP10056	500W	TMP01080			
EDP10072			72.50	CEP10072-A	RBP10069	690W	TMP01100			
EDP10085			85.00	CEP10085-A	RBP10081	760W	TMP01120			
EDP10097			97.50	CEP10097-A	RBP10094	760W	TMP01140			
EDP10110			110.00	CEP10110-A	RBP10107	760W	TMP01160			
EDP10135			135.00	CEP10135-A	RBP10131	850W	TMP01180			
EDP10160			160.00	CEP10160-A	RBP10158	1100W	TMP01200			
EDP10185			185.00	CEP10185-A	RBP10183	1300W	TMP01220			
EDP10210			210.00	CEP10210-A	RBP10208	1100W	TMP01240			
EDP10235			235.00	CEP10235-A	RBP10233	1300W	TMP01260			
EDP10260			260.00	CEP10260-A	RBP10258	1300W	TMP01280			
EDP10285			285.00	CEP10285-A	RBP10283	1300W	TMP01300			

500 Series Tips



800 Series Standard Hot Sprue Bushing

Recommended for processing resins under 500°F



NOZZLE ASSEMBLY AND COMPONENT SPECIFICATIONS								
ASSEMBLY PART NUMBER	DIMENSION "L"	COMPONENTS						
		NOZZLE BODY	NOZZLE BODY HEATER	JACKETS	HEATER REFLECTOR	NOZZLE BODY SPACER RING	WATTS	THERMOCOUPLE
HDP14075-R...	75.00	CDP14075	RHP14070	JCT14050	---	---	610W	TMP01100
HDP14100-R...	100.00	CDP14100	RHP14095	JCT14050	---	---	690W	TMP01140
HDP14125-R...	125.00	CDP14125	RHP14120	JCT14100	---	---	760W	TMP01160
HDP14150-R...	150.00	CDP14150	RHP14145	JCT14100	---	---	850W	TMP01180
HDP14175-R...	175.00	CDP14175	RHP14170	JCT14100	---	---	1100W	TMP01200
HDP14200-R...	200.00	CDP14200	RHP14195	JCT14051	TUBO14145	AEP14604	900W	TMP01220
HDP14225-R...	225.00	CDP14225	RHP14220	JCT14051	TUBO14170	AEP14604	900W	TMP01260
HDP14275-R...	275.00	CDP14275	RHP14270	JCT14051	TUBO14220	AEP14604	1100W	TMP01300

TABLE FOR GATE MANUFACTURING

GATE DIAMETER	DIMENSION		
	"b"	"c"	"d"
Ø 2.0	5.29	1.28	
Ø 2.2	5.19	1.32	
Ø 2.4	5.09	1.36	
Ø 2.6	4.99	1.42	
Ø 2.8	6.10	1.47	
Ø 3.0	6.00	1.53	
Ø 3.2	5.90	1.60	
Ø 3.4	5.80	1.68	
Ø 3.6	8.11	1.78	
Ø 3.8	8.01	1.88	
Ø 4.0	7.91	2.01	
Ø 4.5	7.66	2.49	

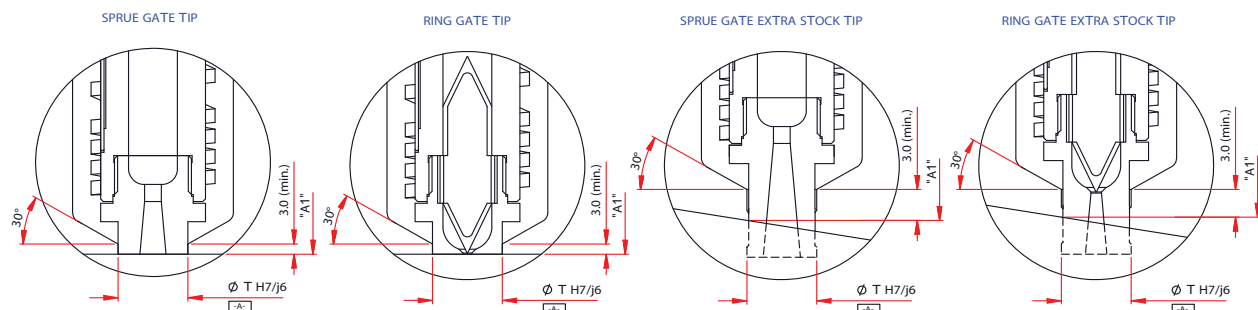
Ex: HDP14075-R075

(SPHERICAL RADIUS 3/4")

BUSHING THERMAL EXPANSION "Δ L" = L x 0.0000064 x (Setpoint °F - 68°F)

RADIUS CODE	DIMENSION "R"
...R050	1/2"
...R075	3/4"

TIP OPTIONS

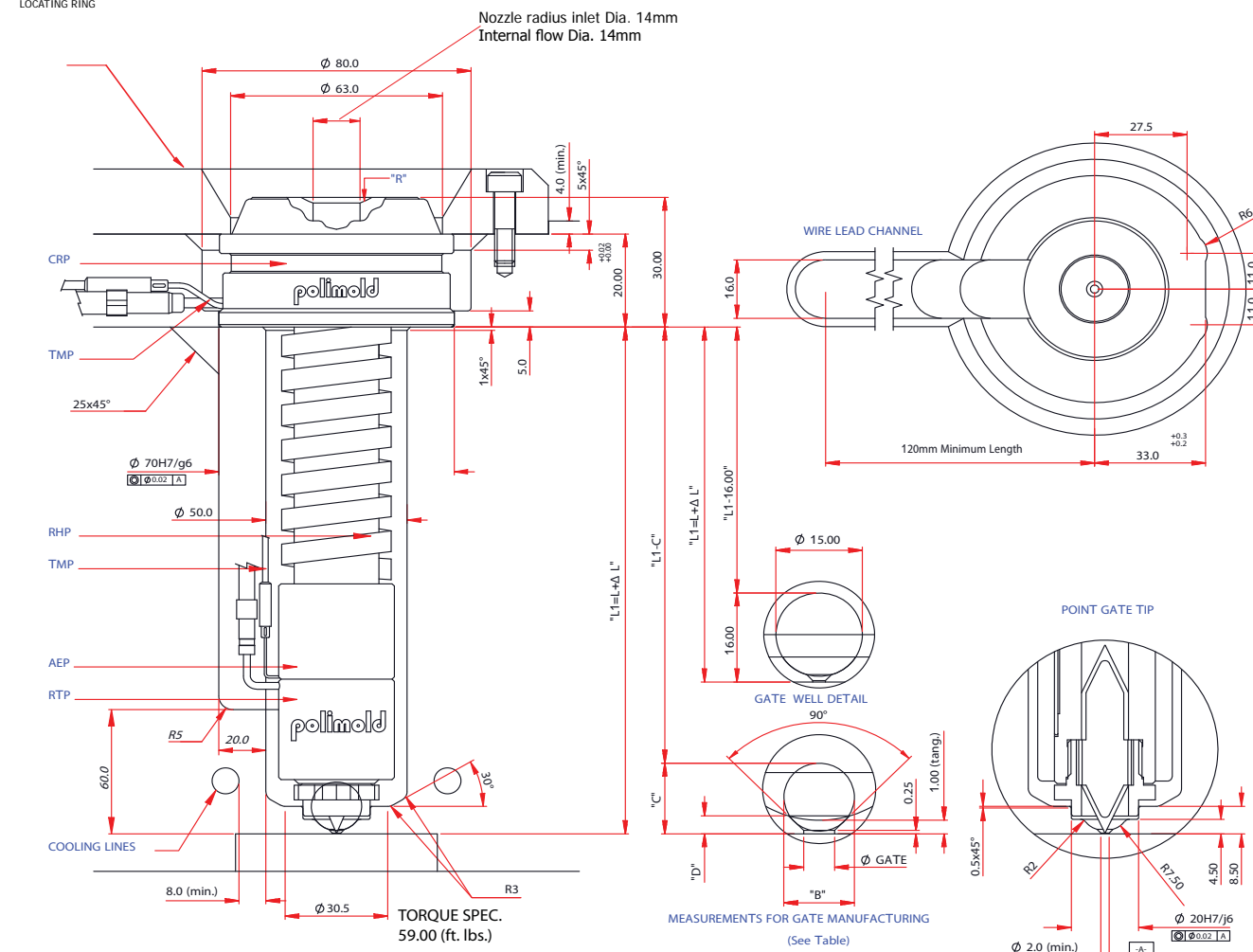


800 Series Standard Hot Sprue Bushing

Recommended for processing resins under 500°F

NOTE: THIS HOT SPRUE BUSHING REQUIRES 2 ZONES OF CONTROL

CUSTOMER TO SUPPLY LOCATING RING



NOZZLE ASSEMBLY AND COMPONENT SPECIFICATIONS										
ASSEMBLY PART NUMBER	DIMENSION "L"	COMPONENTS								
		NOZZLE BODY	NOZZLE BODY HEATER	HEATER REFLECTOR	WATTS	THERMOCOUPLE	LOWER NOZZLE BODY HEATER	WATTS	NOZZLE BODY SPACER RING	THERMOCOUPLE (Optional)
HDP14325-A-R...	325.00	CDP14325	RHP14220	TUBO14220	900W	TMP01220	---	---	---	---
HDP14375-A-R...	375.00	CDP14375	RHP14270	TUBO14270	1100W	TMP01360	---	---	---	---
HDP14425-A-R...	425.00	CDP14425	RHP14320	TUBO14320	1100W	TMP01400	RTP14045	610W	AEP14603	TMP01080
HDP14475-A-R...	475.00	CDP14475	RHP14370	TUBO14370	1100W	TMP01460	---	---	---	---

Ex: HDP14075-R075

BUSHING THERMAL EXPANSION "Δ L" = L x 0.0000064 x (Setpoint °F - 68°F)

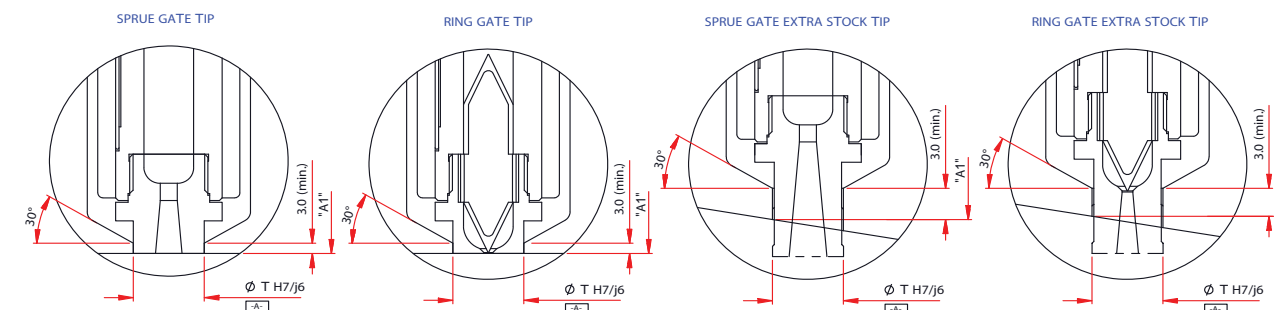
(SPHERICAL RADIUS 3/4")

RADIUS CODE	DIMENSION "R"
...R050	1/2"
...R075	3/4"

TABLE FOR GATE MANUFACTURING

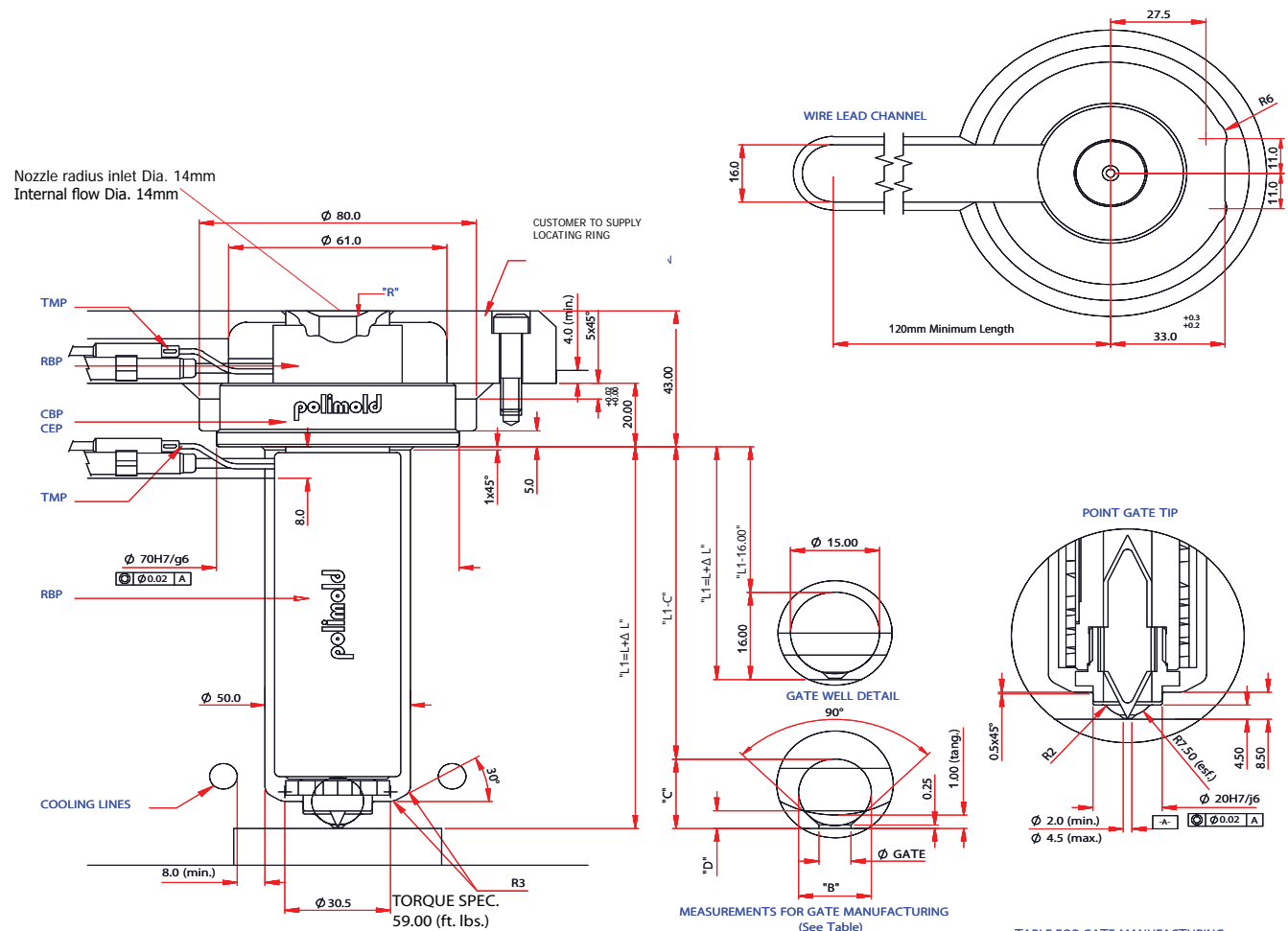
GATE DIAMETER	DIMENSION		
	"b"	"c"	"d"
Ø 2.0	5.29	1.28	
Ø 2.2	5.19	1.32	
Ø 2.4	5.09	1.36	
Ø 2.6	4.99	1.42	
Ø 2.8	6.10	1.47	
Ø 3.0	6.00	1.53	
Ø 3.2	5.90	1.60	
Ø 3.4	5.80	1.68	
Ø 3.6	8.11	1.78	
Ø 3.8	8.01	1.88	
Ø 4.0	7.91	2.01	
Ø 4.5	7.66	2.49	

TIP OPTIONS



800 Series High Performance Hot Sprue Bushing

Recommended for processing resins over 500°F
NOTE: THIS HOT SPRUE BUSHING REQUIRES 2 ZONES OF CONTROL

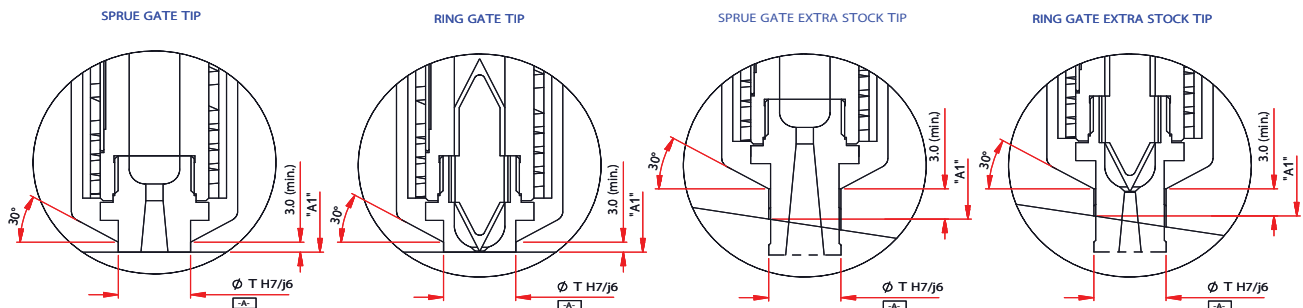


NOZZLE ASSEMBLY AND COMPONENT SPECIFICATIONS								
ASSEMBLY PART NUMBER	DIMENSION "L"	COMPONENTS						
		NOZZLE BODY	HEAD BUSHING	NOZZLE BODY HEATER	WATTS	THERMOCOUPLE	HEAD HEATER	WATTS
EDP14090-R...	90.00	CEP14090	CBP14001	RBP14070	850W	TMP01100	RBP14020	260W
EDP14115-R...	115.00	CEP14115		RBP14095	1100W	TMP01140		
EDP14140-R...	140.00	CEP14140		RBP14120	1100W	TMP01160		
EDP14165-R...	165.00	CEP14165		RBP14145	1300W	TMP01180		
EDP14190-R...	190.00	CEP14190		RBP14170	1300W	TMP01200		

Ex: EDP14090-R075
(SPHERICAL RADIUS 3/4")
BUSHING THERMAL EXPANSION "Δ L" = L x 0.0000064 x (Setpoint °F - 68°F)

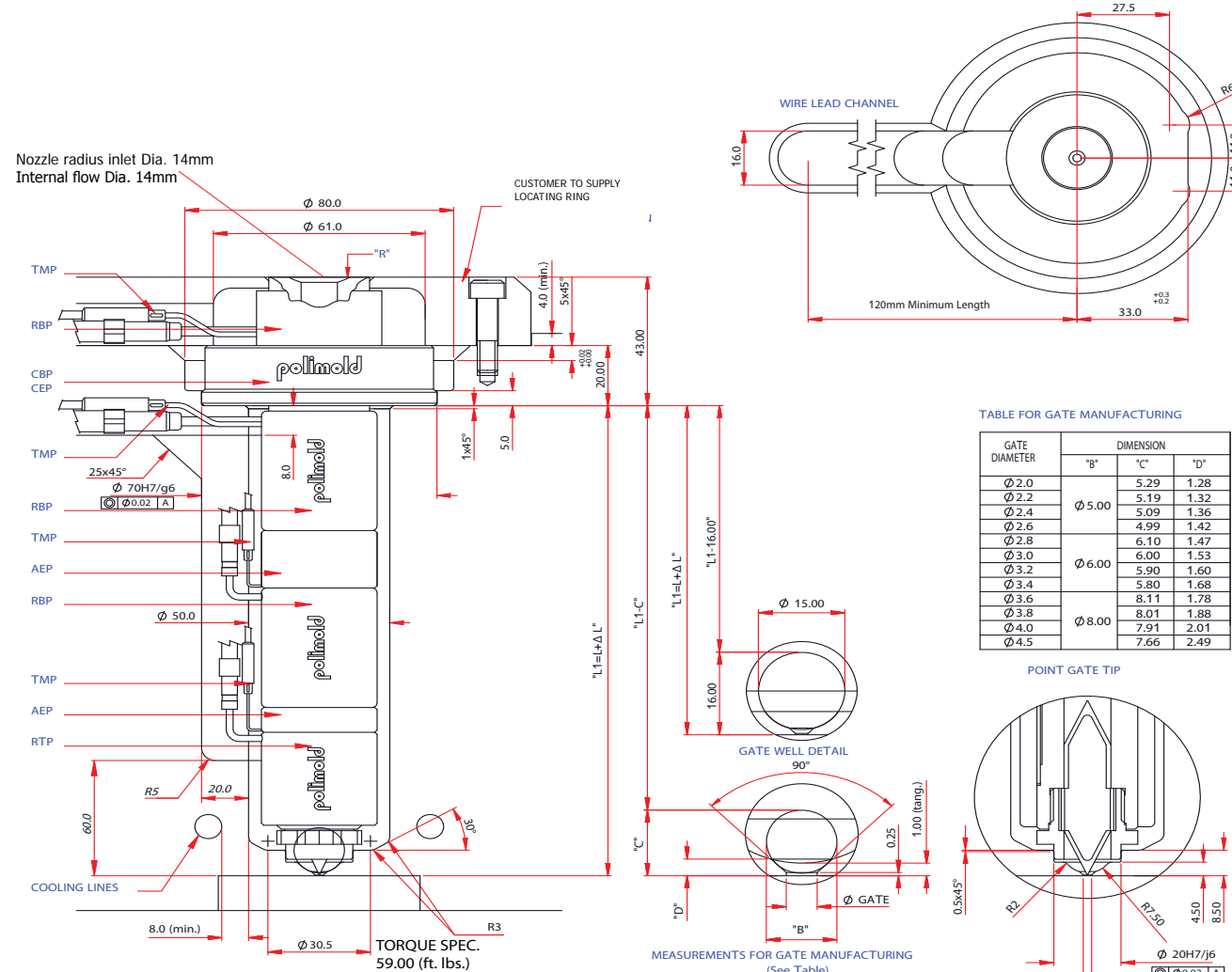
RADIUS CODE	DIMENSION "R"
...R050	1/2"
...R075	3/4"

TIP OPTIONS



800 Series High Performance Hot Sprue Bushing

Recommended for processing resins over 500°F
NOTE: THIS HOT SPRUE BUSHING REQUIRES 4 ZONES OF CONTROL



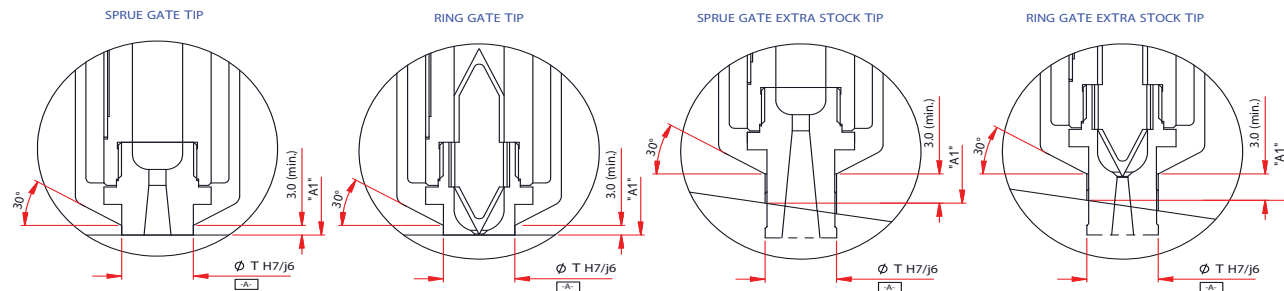
GATE DIAMETER	DIMENSION		
	"B"	"C"	"D"
φ 2.0	φ 5.00	5.29	1.28
φ 2.2		5.19	1.32
φ 2.4		5.09	1.36
φ 2.6		4.99	1.42
φ 2.8		6.10	1.47
φ 3.0	φ 6.00	6.00	1.53
φ 3.2		5.90	1.60
φ 3.4		5.80	1.68
φ 3.6		8.11	1.78
φ 3.8		8.01	1.88
φ 4.0	φ 8.00	7.91	2.01
φ 4.5		7.66	2.49

NOZZLE ASSEMBLY AND COMPONENT SPECIFICATIONS														
ASSEMBLY PART NUMBER	DIMENSION "L"	NOZZLE BODY	HEAD BUSHING	NOZZLE BODY HEATER				QUANTITY	COMPONENTS					
				HEATER WATTS	THERMOCOUPLE	HEATER WATTS	THERMOCOUPLE		HEAD RING SPACER	HEAD HEATER	WATTS	HEATER REFLECTOR	WATTS	RING SPACER
EDP14350-R...	350.00	CEP14350	CBP14001	RBP14120	1100W	TMP01160	02	AEP14602	RBP14020	260W	RTP14045	610W	AEP14601	TMP01080
EDP14400-R...	400.00	CEP14400	RBP14145	1300W	TMP01180									
EDP14450-R...	450.00	CEP14450	RBP14170	1300W	TMP01200									

Ex: EDP14350-R075
(SPHERICAL RADIUS 3/4")
BUSHING THERMAL EXPANSION "Δ L" = L x 0.0000064 x (Setpoint °F - 68°F)

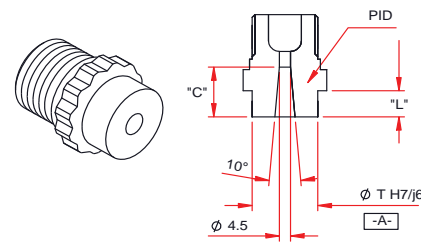
RADIUS CODE	DIMENSION "R"
...R050	1/2"
...R075	3/4"

TIP OPTIONS



800 Series Tips

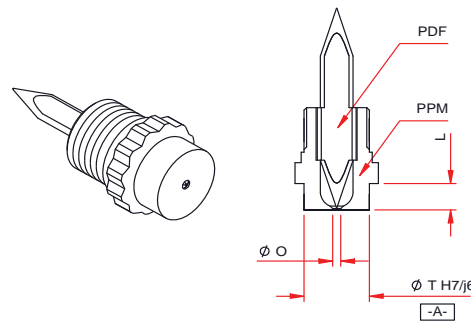
SPRUE GATE TIP (*Extended Tip Length)



TIP DIMENSIONS			
PART NUMBER	DIMENSION "T"	DIMENSION "L"	DIMENSION "C"
PID14001	20.00	9.00	13.00
PID14002	30.00	9.00	13.00
PID14003	20.00	27.50	31.00*
PID14004	30.00	27.50	31.00*

1" T Dimension available upon request

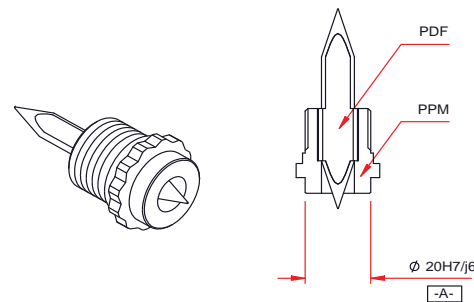
RING GATE TIP (*Extend Tip Length)



ASSEMBLY	ASSEMBLY COMPONENTS		MATERIAL	DIMENSION		
	NEEDLE	RETAINER TIP		"T"	"O"	"L"
PMA14009-A	PDF14502	PPM14601	HIGH PERFORMANCE	20.00	2.50	9.00
PMA14010-A		PPM14602		20.00	3.00	
PMA14011-A		PPM14603		30.00	2.50	
PMA14012-A		PPM14604		30.00	3.00	
PMA14013-A		PPM14605		20.00	2.50	27.50*
PMA14014-A		PPM14606		20.00	3.00	
PMA14015-A		PPM14607		30.00	2.50	
PMA14016-A		PPM14608		30.00	3.00	
PMA14109-A	PDF14802	PPM14601	STANDARD NEEDLE (COATED IN "Ni")	20.00	2.50	9.00
PMA14110-A		PPM14602		20.00	3.00	
PMA14111-A		PPM14603		30.00	2.50	
PMA14112-A		PPM14604		30.00	3.00	
PMA14113-A		PPM14605		20.00	2.50	27.50*
PMA14114-A		PPM14606		20.00	3.00	
PMA14115-A		PPM14607		30.00	2.50	
PMA14116-A		PPM14608		30.00	3.00	

TORQUE SPECIFICATION

80 Nm
(59 Ft/Lbs)



POINT GATE TIP

ASSEMBLY	POINT GATE COMPONENTS		
	NEEDLE	RETAINER	MATERIAL
PVM14002-A	PDF14502	PPM14609	HIGH PERFORMANCE NEEDLE
PVM14009-A	PDF14802	PPM14609	STANDARD NEEDLE (COATED IN "Ni")

Injection Molding Troubleshooting Guide

Recommended Solutions	PROBLEMS																			
	Nozzle Drool	Short Shot	Screw Does Not Return	Sink Marks	Burning	Blemishes	Flashing	Dull Surface	Part Lamination	Sticking Parts	Runner Breaks	Distortion	Discoloration of Sprue	Flow Lines	Brittle Parts	Wavy Surfaces	Melt Temp. Too High	Streaks On Part	Voids in Part	
Increase injection pressure		•										•		•						
Decrease injection pressure							•					•								
Increase resin temperature		•				•		•	•			•		•	•	•		•		
Decrease resin temperature					•		•			•			•			•	•			•
Increase holding pressure and time				•									•			•				
Increase nozzle temperature		•		•		•			•											•
Increase screw r.p.m.			•	•		•			•											•
Decrease screw r.p.m.																				•
Tighten nozzle tip													•							•
Inject with rotating screw		•		•		•			•				•	•						
Increase clamping pressure								•												
Start injection speed	•																			
Decrease injection speed				•	•	•	•	•	•	•		•	•							•
Increase injection speed		•										•		•						
Increase back pressure		•		•		•			•				•	•						•
Decrease back pressure			•	•																•
Increase nozzle orifice		•	•	•			•	•				•	•			•				
Increase mold temperature		•			•		•	•	•	•		•	•	•	•					•
Decrease mold temperature				•	•	•	•		•	•					•	•	•			•
Polish sprue, runners and gates											•									
Increase size of gates		•		•	•	•		•	•				•	•	•					•
Check for proper venting		•			•									•						
Enlarge cold slug well											•		•							
Ensure dry material when required			•	•		•			•					•	•					•
Check for resin contamination								•	•											
Increase shot size		•		•										•		•				•
Use mold release NanoMoldCoating™																				•
Adjust nozzle pressure	•																			
Check radius of nozzle & of sprue bushing	•									•	•									
Reduce temperature-rear zone			•																	
Balance mold filling, rework runners				•																
Provide air for ejection																				•
Lengthen cooling and mold-open time																				•
Shorten cooling and mold-open time																				•

Resin Material Processing Guide

MATERIAL	SYMBOL	PROCESS TEMPERATURE		MOLD TEMPERATURE		HOT RUNNER TEMPERATURE		MELTING DENSITY		SOLID DENSITY	
		°C	°F	°C	°F	°C	°F	g/cm3	lbs./in3	g/cm3	lbs./in3
Polybutylene Terephthalate	PBT	265	509	60	140	290	554	1.44	0.052	1.570	0.057
Polycarbonate	PC	300	572	80	176	330	626	1.08	0.039	1.200	0.043
Polyether-etherketone	PEEK	330	626	165	329	370	698	1.13	0.041	1.370	0.050
Polymethyl Methacrylate	PMMA	235	455	70	158	250	482	1.09	0.039	1.180	0.043
Styrene Butadiene	SB	210	410	70	158	230	446	0.93	0.037	1.020	0.037
Acrylonitrile Butadiene Styrene	ABS	225	437	70	158	250	482	0.95	0.034	1.080	0.039
Polyvinyl chloride	FPVC	175	347	35	95	200	392	1.02	0.041	1.380	0.050
Polyoxymethylene (Ployacetal)	POM	180	356	100	212	200	392	1.16	0.042	1.420	0.051
Polypropylene	PP	225	437	40	104	245	473	0.73	0.027	0.910	0.033
Polyphenylene Oxide-Styrene	PPO	260	500	80	176	300	572	0.99	0.036	1.130	0.041
Polyphenylene Sulfide	PPS	300	572	110	230	330	626	1.53	0.055	1.700	0.061
Polystyrene	PS	210	410	45	113	230	446	0.95	0.034	1.050	0.038
Styrene-acrylonite	SAN	230	446	80	176	255	491	0.99	0.036	1.080	0.039
Polyamide 6	PA 6	220	428	90	194	250	482	0.98	0.035	1.140	0.041
Polyamide 66	PA66	255	491	90	194	280	536	1.09	0.039	1.260	0.046
Polyethylene	PE	200	392	25	77	225	437	0.74	0.027	0.960	0.035
Polyurethane	PUR	220	428	45	113	240	464	0.93	0.037	1.110	0.040
Thermal Plastic Elastomers	TPE	240	464	35	95	265	509	0.78	0.028	0.900	0.033

PLASTIC MATERIAL FLOW INDEX			
LOW MFI	MEDIUM MFI		HIGH MFI
PBT	ABS	PPS	PA 6
PC	FPVC	PS	PA66
PEEK	POM	SAN	PE
PMMA	PP		PUR
SB	PPO		TPE

NOTE:
The above temperatures and densities are general guidelines and may not apply to your current application. Refer to the resin manufacturers processing data guide for your current application

Decimal Equivalents & TAP Drill Sizes

DRILL SIZE	DECIMAL	TAP SIZE	DRILL SIZE	DECIMAL	TAP SIZE	DRILL SIZE	DECIMAL	TAP SIZE	DRILL SIZE	DECIMAL	TAP SIZE
80	0.014		39	0.100		A	0.234		37/64	0.578	
79	0.015		38	0.102	5-40	15/64	0.234		19/32	0.594	
1/64	0.016		37	0.104	5-44	B	0.238		39/64	0.609	
78	0.016		36	0.107	6-32	C	0.242		5/8	0.625	
77	0.018		7/64	0.109		D	0.246		41/64	0.641	
76	0.020		35	0.110		1/4	0.250		21/32	0.656	3/4-10
75	0.021		34	0.111		E	0.250		43/64	0.672	
74	0.023		33	0.113	6-40	F	0.257	5/16-18	11/16	0.688	3/4-16
73	0.024		32	0.116		G	0.261		45/64	0.703	
72	0.025		31	0.120		17/64	0.266		23/32	0.719	
71	0.026		1/8	0.125		H	0.266		47/64	0.734	
70	0.028		30	0.129		I	0.272	5/16-24	3/4	0.750	
69	0.029		29	0.136	8-32,36	J	0.277		49/64	0.766	7/8-9
68	0.031		28	0.141		K	0.281		25/32	0.781	
1/32	0.031		9/64	0.141		9/32	0.281		51/64	0.797	
67	0.032		27	0.144		L	0.290		13/16	0.813	7/8-14
66	0.033		26	0.147		M	0.295		53/64	0.828	
65	0.035		25	0.150	10-24	19/64	0.297		27/32	0.844	
64	0.036		24	0.152		N	0.302		55/64	0.859	
63	0.037		23	0.154		5/16	0.313	3/8-16	7/8	0.875	1-8
62	0.038		5/32	0.156		O	0.316		57/64	0.891	
61	0.039		22	0.157		P	0.323		29/32	0.906	
60	0.040		21	0.159	10-32	21/64	0.328		59/64	0.922	1-12
59	0.041		20	0.161		Q	0.332	3/8-24	15/16	0.938	
58	0.042		19	0.166		R	0.339		11/32	0.953	
57	0.043		18	0.170		11/32	0.344		61/64	0.969	
56	0.047		17/64	0.172		S	0.348		31/32	0.969	
3/64	0.047	0-80	17	0.173		T	0.358		63/64	0.984	1 1/8-7
55	0.052		16	0.177	12-24	23/64	0.359		1"	1.000	
54	0.055		15	0.180		U	0.368	7/16-14	1 3/64	1.047	1 1/8-12
53	0.060	1-64,72	14	0.182	12-28	3/8	0.375		1 7/64	1.109	1 1/4-7
1/16	0.063		13	0.185		V	0.377		1 1/8	1.125	
52	0.064		3/16	0.188		W	0.386		1 11/64	1.172	1 1/4-12
51	0.067		12	0.189		25/64	0.391	7/16-20	1 7/32	1.219	1 3/8-6
50	0.070	2-56,64	11	0.191		X	0.397		1 1/4	1.250	
49	0.073		10	0.194		Y	0.404		1 19/64	1.297	1 3/8-12
48	0.076		9	0.196		13/32	0.406		1 11/32	1.344	1 1/2-6
5/64	0.078		8	0.199		Z	0.413		1 3/8	1.375	
47	0.079	3-48	7	0.201	1/4-20	27/64	0.422	1/2-13	1 27/64	1.422	1 1/2-12
46	0.081		13/64	0.203		7/16	0.438		1 1/2	1.500	
45	0.082	3-56	6	0.204		29/64	0.453	1/2-20			
44	0.086		5	0.206		15/32	0.469				
43	0.089	4-40	4	0.209		31/64	0.484	9/16-12			
42	0.094	4-48	3	0.213	1/4-28	1/2	0.500				
3/32	0.094		7/32	0.219		33/64	0.516	9/16-18			
41	0.096		2	0.221		17/32	0.531	5/8-11			
40	0.098		1	0.228		35/64	0.547				
						9/16	0.563				

PIPE THREAD SIZES			
DRILL	THREAD	DRILL	THREAD
R	1/8-27	1 5/32	1"-11 1/2
7/16	1/4-18	1 1/2	1 1/4-11 1/2
37/64	3/8-18	1 47/64	1 1/2-11 1/2
23/32	1/2-14	2 7/32	2"-11 1/2
59/64	3/4-14		

CONVERSION CHART		
1 INCH = 25.4mm	1 PSI = .0689 BAR	1 Metric Ton = 2204.6lbs=1000Kg
1 LBS = 453.59 g	1 mile = 1.609Klm	1 long Ton = 2240lbs=1016Kg
1 Oz = 28.349g	1 Ft = .3048M	1 short Ton = 2000lbs=907.18Kg
Temp (T° f-32°÷1.8 =T° c)	1 Ft/LBS = 1.356Nm	1 US Gal=.833 Imp Gal=3.785L
1 BTU = .0002929 Kw	Area of circle = n R ²	SAE Bolt rating =#(0-1-2) weakest to
1 Horse Power = 746 Watts	Circumference = 2 n r	#8 strongest

Wattage/Amperage/Resistance Chart

WATTS	AMPS	OHMS	WATTS	AMPS	OHMS	WATTS	AMPS	OHMS
50	0.21	1152.00	1850	7.71	31.14	4800	20.00	12.00
100	0.42	576.00	1900	7.92	30.32	4900	20.42	11.76
150	0.63	384.00	1950	8.13	29.54	5000	20.83	11.52
200	0.83	288.00	2000	8.33	28.80	5100	21.25	11.29
250	1.04	230.40	2050	8.54	28.10	5200	21.67	11.08
300	1.25	192.00	2100	8.75	27.43	5300	22.08	10.87
350	1.46	164.57	2150	8.96	26.79	5400	22.50	10.67
400	1.67	144.00	2200	9.17	26.18	5500	22.92	10.47
450	1.88	128.00	2250	9.38	25.60	5600	23.33	10.29
500	2.08	115.20	2300	9.58	25.04	5700	23.75	10.11
550	2.29	104.73	2350	9.79	24.51	5800	24.17	9.93
600	2.50	96.00	2400	10.00	24.00	5900	24.58	9.76
650	2.71	88.62	2450	10.21	23.51	6000	25.00	9.60
700	2.92	82.29	2500	10.42	23.04	6100	25.42	9.44
750	3.13	76.80	2600	10.83	22.15	6200	25.83	9.29
800	3.33	72.00	2700	11.25	21.33	6300	26.25	9.14
850	3.54	67.76	2800	11.67	20.57	6400	26.67	9.00
900	3.75	64.00	2900	12.08	19.86	6500	27.08	8.86
950	3.96	60.63	3000	12.50	19.20	6600	27.50	8.73
1000	4.17	57.60	3100	12.92	18.58	6700	27.92	8.60
1050	4.38	54.86	3200	13.33	18.00	6800	28.33	8.47
1100	4.58	52.36	3300	13.75	17.45	6900	28.75	8.35
1150	4.79	50.09	3400	14.17	16.94	7000	29.17	8.23
1200	5.00	48.00	3500	14.58	16.46	7100	29.58	8.11
1250	5.21	46.08	3600	15.00	16.00	7200	30.00	8.00
1300	5.42	44.31	3700	15.42	15.57	7300	30.42	7.89
1350	5.63	42.37	3800	15.83	15.16	7400	30.83	7.78
1400	5.83	41.14	3900	16.25	14.77	7500	31.25	7.68
1450	6.04	39.72	4000	16.67	14.40	7600	31.67	7.58
1500	6.25	38.40	4100	17.08	14.05	7700	32.09	7.48
1550	6.46	37.16	4200	17.50	13.71	7800	32.50	7.38
1600	6.67	36.00	4300	17.92	13.40	7900	32.92	7.29
1650	6.88	34.91	4400	18.33	13.09	8000	33.33	7.20
1700	7.08	33.88	4500	18.75	12.80	8100	33.75	7.11
1750	7.29	32.91	4600	19.17	12.52	8200	34.17	7.02
1800	7.50	32.00	4700	19.58	12.26	8300	34.58	6.94

Note: This chart is based on a Voltage of 240 VAC

HEATER PRODUCTS

Cartridge Heater Features.....	M8
Cartridge Heaters Options.....	M9
Flexible Tubular Heater Features & Installation Tools.....	M5
Flexible Tubular Manifold Heaters.....	M6
Flexible Tubular Manifold Heater Installation.....	M7
Hotlock & Axial Clamp Heater Specifications.....	M10
Hotlock & Axial Clamp Heaters.....	M11
OEM Heaters.....	M12
OEM Thermocouples.....	M12
Wind from stock Coil Heaters.....	M3
Wind from stock Coil Heaters Options.....	M4

HEATERS & THERMOCOUPLES

PCS Company offers OEM replacement heaters. Standard options include made to order Coil Heaters, Hotlock Heaters, Axial Clamp Heaters and Flexible Tubular Heaters. The heaters are made in the U.S.A. and provide an excellent option for replacing old and worn out heaters.



Wind From Stock Coil Heaters

Coil Heater Features

- OEM Replacements
- One day quote turnaround
- Internal type J thermocouple available
- Standard leads: 39" length, Teflon™ insulated (rated to 500°F)
- Wide variety of exit variations available
- Bendable cold section
- Coil from stock standard profile:
 - Width 2.5 mm, Length 3.5 mm
- Made in the U.S.A.
- Options:
 - Sheaths
 - OD Pressed on sheath available
 - With tab
 - Without tab
 - Lead protection
 - Fiberglass sleeve (Green)
 - Braided metal sleeve
 - Armor cable
 - Lead options
 - Teflon® (standard)
- Ground Wire available



Wind From Stock Coil Heaters Options

See Catalog Section O for for appropriate quote form

Leads

Fiberglass
(Standard)



Fiberglass
(High Temp)



Teflon®



Teflon®
(High Amperage)



Leads Protection

Fiberglass Sleeve



Braided Metal Sleeve



Armor Cable



Gas Proof



Exit Styles



Exit 1



Exit 2



Exit 3



Exit 4



Exit 5



Exit 6



Exit 7



Exit 8

Flexible Tubular Heater Features



- 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.

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

- Connection Options:
 - Standard M4 threaded connection with two nuts
 - Ceramic insulated connector for quick disconnect
 - Other connection options available



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
SRT1000	Pliers

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		

Flexible Tubular Manifold Heater Installation



Step 1.

Determine and mark the midpoint of the manifold groove length on the manifold. Determine and mark the center point of the flexible heater. Start at the midpoint of the groove in the manifold and use the forming tool to bend the heater, starting at the center point of the heater, consistent with the manifold groove shape.



Step 2.

Hold the heater directly above the manifold groove, aligning both the heater center point and the manifold groove midpoint. Strike the heater hard to seat it in the groove.



Step 3.

Form and install 1"-2" (25 -50mm) short sections of the heater at a time to prevent the need to re-bend the heater. It is important to make sure the heater is directly above the manifold groove before striking. For best results pre-form the heater as precisely as possible before installing in the manifold groove.



Step 4.

Keep the heater flat with one hand while using the forming tool with your free hand to shape and bend the heater. All bends should be positioned directly above the manifold groove before striking the heater.



Step 5.

Using a single strong strike is better than multiple soft strikes when inserting the heater in the groove. If your groove dimensions are correct you will not damage the internal heater.



Step 6.

After the entire heater is firmly positioned in the manifold groove, use the staking tool to seat the heater in the groove by staking the heater every 1/4" (20mm). Using the staking tool to seat the heater will improve heat transfer and improve heater life.

Cartridge Heater Features

- Standard stainless steel sheath for improved corrosion resistance
- OEM replacements (*Made to Order*)
- Swaged (highly compacted) to size
- Up to 33% extended heater life
- Up to 100" lengths
- Type J and K thermocouples available
- Variety of exit styles available
- Moisture resistant options available
- Incoloy sheath available
- Removal aids available
- Stainless NPT available
- Made in the U.S.A.



Technical support available at (800) 521-0546 or by e-mail at hotrunners@pcs-company.com

Cartridge Heaters Options

See Catalog Section O for appropriate quote form

Leads

Fiberglass (Standard)



Fiberglass (High Temp)



Silicone



Silicone Cable



Teflon®



Teflon® (High Amperage)



Leads Protection

Fiberglass Sleeve



Braided Metal Sleeve



Armor Cable



Gas Proof



Exit & Removal

Right Angle Exit



Right Angle Block



Flange



Knock Out Tab



NPT



Anti-Seize Coating



Potting Options

Ceramic
Temperature Rating
1000°F / 538°C



Epoxy
Temperature Rating
600°F / 315°C



Teflon Plug
Temperature Rating
450°F / 232°C



Silicone
Temperature Rating
500°F / 260°C



Silicone (High Temp)
Temperature Rating
650°F / 343°C



		TEMPERATURE RATING		MOVEMENT	MOISTURE
		F°	C°		
Potting Options	Ceramic	1000	538	Good	Not Recommended
	Silicone - Standard	500	260	Excellent	Excellent
	Silicone - High Temp.	650	343	Excellent	Excellent
	Epoxy	600	315	Very Good	Very Good
	Teflon® Plug	450	232	Very Good	Not Recommended
Lead Options	Fiberglass (Standard)	482	250	Good	Not Recommended
	Teflon®	500	260	Excellent	Excellent
	Silicone	356	180	Excellent	Excellent
	Silicone Cable	356	180	Excellent	Excellent
	High Temp. Fiber-glass	932	500	Not Recommended	Not Recommended

Teflon® is a registered trademark of the E.I. du Pont de Nemours & Company

Hotlock & Axial Clamp Heater Specifications

Hotlock Heater Features

- 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.
- Diameter: 3/4" (19.05 mm)
- Available widths: 30 mm - 210 mm
- Watts: 220W - 450W
- Volts: 240v



Axial Heater Features

- 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.
- Diameter: 3/4" (19.05 mm), 7/8" (22.22 mm)
- Width: 1.2" (30 mm)
- Watts: 149W - 268W
- Volts: 240v



Hotlock & Axial Clamp Heater Specifications

Hotlock Heaters

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
KSH220100	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
KSH450210	3/4" - 19.05 mm	210 mm	450W	240v

Axial Heaters

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

OEM Heaters

OEM replacement coil heaters for use with hot sprue bushings and single nozzles.



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

CATALOG NO.	I.D.	WIDTH	WATTS	VOLTS	T/C	LEAD LENGTH
SSTC-31	0.500"	4.63"	300W	120V	J-Type	48"
SSTC-32	0.500"	4.63"	300W	240V	J-Type	48"
SSTC-42	0.500"	2.50"	460W	240V	J-Type	48"
SSTC-3190	0.500"	4.63"	300W	120V	J-Type	48"
SSTC-3290	0.500"	4.63"	300W	240V	J-Type	48"
SSTC-4290	0.500"	2.50"	460W	240V	J-Type	48"
HPS-2001	0.700"	3.50"	700W	240V	J-Type	66"
SCH-0004	0.750"	3.50"	250W	240V	J-Type	39"
SCH-3142	0.750"	1.70"	460W	240V	J-Type	42"
SCH-3242	0.750"	2.70"	460W	240V	J-Type	42"

OEM Thermocouples

OEM replacement thermocouples for use with hot sprue bushings and hot runner systems.

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



CATALOG NO.	PROBE DIAMETER	PROBE LENGTH	LEAD LENGTH
HPS-3001	1.5 mm	4.25"	48"
TCG-0100	1.5 mm	1.80"	39"
TC-9600	1.5 mm	2.68"	39"
TC-9700	1.5 mm	3.68"	39"
TC-10-110	1.0 mm	110 mm	60"
TC-10-150	1.0 mm	150 mm	60"
TC-10-200	1.0 mm	200 mm	60"
TC-10-250	1.0 mm	250 mm	60"
TC-10-300	1.0 mm	300 mm	60"
TC-15-110	1.5 mm	110 mm	60"
TC-15-150	1.5 mm	150 mm	60"
TC-15-200	1.5 mm	200 mm	60"
TC-15-250	1.5 mm	250 mm	60"
TC-15-300	1.5 mm	300 mm	60"

AFTERMARKET PARTS & SERVICES

Aftermarket Hot Runner Parts Offering.....N3

Aftermarket Parts & Services Request for Quote.....N7

Manifold Cleaning and System Refurbishment.....N4

Nozzle Heater and Hot Runner Component Repair.....N5

AFTERMARKET PARTS & SERVICES

One of the largest costs associated with maintaining hot runners is replacement of components such as nozzles assemblies, valve bushings and spacers. In addition to the cost, order lead times can be excessive, especially for older systems. Be sure to purchase hot runner components from PCS Company for the best service, delivery and competitive pricing



Aftermarket Hot Runner Replacement Parts

PCS is able to offer a wide array of top quality aftermarket hot runner replacement parts at significant savings over OEM costs.

Replacement product offering includes:

- Nozzle Tips
- Nozzle Housing/Bodies
- Nozzle & Manifold Heaters
- Nozzle & Manifold Thermocouples
- Gate Shell Insulators
- Gate Inserts
- Valve Gate Pins



Manifold Cleaning & System Refurbishment

Manifold Cleaning

PCS unique cleaning process removes all plastic, carbon, and degraded material from the melt channels of any hot runner manifold without opening the end plugs.

Advantages:

- Works on all resins, including engineered & glass filled grades
- Removes metal chips
- No tool damage
- Component rewiring available

Before



After



System Refurbishment

The trained technicians at PCS can quickly disassemble and evaluate the flooded hot half. During the refurbishment process, PCS will clean and repair, or replace, damaged components as instructed by the customer. Then reassemble and test the hot runner system to ensure functionality.

Before



After



Hot Half Preventative Maintenance Program (PM)

To help prevent future system failures PCS offers a low cost, fast turnaround PM program. The PM program includes cleaning of the manifold and components and replacement of worn parts, thus ensuring top performance of the hot runner system.

Nozzle Heater & Hot Runner Component Repair

One of the largest costs associated with maintaining hot runners is replacement of components such as nozzle assemblies, valve bushings, and spacers. In addition to the cost, order lead times can be excessive, especially for older systems. PCS now offers a component repair service that significantly reduces cost, while restoring component to original working condition.

Occasionally, the best repair is a redesign to prevent future problems. Component redesigns can help to improve performance and reliability. The photo below shows a redesigned retainer seal-off area that has been significantly reinforced. This change greatly enhances the strength of the retainer, virtually eliminating the possibility of shearing the retainer seal when plastic remains between the seal and the cavity gate.

500 Series Retainer

Revised Design Original Design



Nozzle Heater Repair

A majority of nozzle heater repairs involve heater leads or terminations that have been damaged, either through plastic leakage or mechanical breakage. PCS has developed a technique to repair even the most damaged terminations. This technique restores nozzle heaters to “good-as-new” condition at considerable savings over replacement.

Nozzle tips can be damaged during removal or replacement of tip assembly. PCS can quickly remove the tip (even carbide tips) with no damage to the thread or seal-off areas. Integrally heated nozzle repair is also available.

Before



After



Nozzle Heater & Hot Runner Component Repair

Nozzle Seal-Off Repair

A common problem with older systems is wear at the nozzle seal-off diameter, which allows plastic leakage down the nozzle and around heaters. The PCS solution involves micro welding and grinding the seal-off diameter to original factory tolerance(s). The cost is a fraction of a new housing.



Valve Bushing Repair

PCS offers an alternative to very expensive bushing replacements. By precision honing the valve pin passages and manufacturing slightly larger valve pins, repair costs can often be reduced by up to 50%.



How To Request A Price Quotation?

1. Complete the appropriate request for quote form(s).

Forms can be found online at www.pcs-company.com/contact-us/request-a-quote
 Available request for quote form(s):

- Aftermarket Hot Runner Replacement Parts
- Manifold Cleaning & System Refurbishment
- Nozzle Heater & Hot Runner Component Repair

2. Submit the completed request for quote form(s) by email or fax to:

- Email: hotrunners@pcs-company.com
- Fax: 800-505-3299



If you have any questions, please contact the
 PCS Company Hot Runner Department at 800-521-0546 ext. 1425.
 Email: hotrunners@pcs-company.com



Turn To The Industry Experts

Request For Quote Form Aftermarket Replacement Parts

Please supply the following information:	OEM Manufacturer	OEM Part Number	* Is CAD/Drawing Available Yes or No	QTY.
Nozzle Tips				
Nozzle Housing/Bodies				
Nozzle Heaters				
Nozzle Thermocouples				
Manifold Heaters				
Manifold Thermocouples				
Gate Shell Insulators				
Gate Inserts				
Valve Gate Pins				

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____



Phone: 800-521-0546
 Fax: 800-505-3299
 E-mail: customcomponents@pcs-company.com

Note: Email or Fax CAD/Drawing and product image next to ruler with this document.

Request For Quote Form Manifold Cleaning

Manifold Cleaning & System Refurbishment quoting is a two-step process

Step 1. PCS will provide a price quotation for cleaning and inspection only.

Step 2. After a purchase order is received and the cleaning and inspection is completed, PCS will provide a price quotation for system refurbishment (component repair, replacement parts, etc.).

Please supply the following information	
OEM Manufacturer Name (i.e. Husky, Synventive, Mold-Masters)	
Hot Runner System Job/Tool I.D. Number	
Manifold Dimensions (<i>In Inches</i>) Length x Width x Height	
Number of Drops	
Resin Type(s) Used in System	
System Type: Thermal Tip or Valve Tip	
Approximate Age of System	
Will you be shipping the system assembled or disassembled?	

COMPANY	_____
CONTACT	_____
E-MAIL	_____
ADDRESS	_____
CITY, ST. ZIP	_____
PHONE	_____
FAX	_____
DATE	_____



Phone: 800-521-0546

Fax: 800-505-3299

E-mail: customcomponents@pcs-company.com



Turn To The Industry Experts

Request For Quote Form Nozzle Heater & Hot Runner Components Repair

Please check all that apply:	OEM Manufacturer	OEM Part Number	* Is CAD/Drawing Available Yes or No	QTY.
Nozzle Heater Repair				
Nozzle Seal-Off Repair				
Valve Bushing Repair				
Other				

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____



Phone: 800-521-0546
 Fax: 800-505-3299
 E-mail: customcomponents@pcs-company.com

Note: Email or Fax CAD/Drawing and product image next to ruler with this document.

MOLDING SUPPLIES

Air Guns.....	038
Cleaners	
Power Clean.....	010
Mold Brite.....	010
Coatings	
NanoMoldCoating™ HC & HCF.....	06
NanoMoldCoating™ QC.....	07
Custom Mold Plaques	
Thermal Set Graphic Plaques.....	022
Traditional Laser Etched Aluminum Plaque.....	023
Laser Etched Plastic Plaque.....	024
Custom Mold Plaque Request for Quote Form.....	025
FasTie Quick Ejector Tie-in System	
Installation Examples.....	014
Specifications & References.....	016
FasTie 1" Components, Couplers & Pull Studs.....	017
FasTie Accessories.....	018
FasTie 1" Accessories.....	019
FasTie 1-3/8" & 2" Components Accessories.....	020
Retrofit existing ejection systems with FasTie.....	021
Hoist Rings.....	035
Hose Caddy.....	036
Hose.....	036
Hose Clamps.....	037
Machined Mold Clamps	
Heavy Duty Open Toe Mold Clamp Assemblies.....	028
Extra Heavy Duty Open Toe Mold Clamp Assemblies.....	029
Heavy Duty Open Toe Mold Clamp Assemblies.....	030
Extra Heavy Duty Closed Toe Mold Clamp Assemblies.....	031
Mold Clamp Replacement Parts.....	033

MOLDING SUPPLIES

Mold Grease
 NanoCeramicMoldGrease.....O4
 Cera Lube Spray Grease.....O5

Mold Safety Straps.....O38

Polishing Stones.....O39

Rust Preventatives
 Mold Guard & Mold Guard Green.....O12
 The Defender.....O12

Specialty Cleaners
 Zap-Ox.....O11
 NanoMoldCleaner.....O11

Spray Mold Releases
 Dri-Kote.....O9
 Tuff Kote.....O9

Thread Sealant Tape.....O37

High Performance Mold Maintenance Products

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

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

How do our products make your molding process more efficient?

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

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

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

Integrated Family of Products

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

Mold Grease



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

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

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

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

Cera Lube Spray Grease



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

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

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

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

*PTFE is not FDA Approved

NanoMoldCoating Heat Cured (HC)



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

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

Each HC kit includes:

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

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

SPECIFICATIONS	
Operating Temperature	Up to 1000°F

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

To prevent removal of NanoMoldCoating™, use NanoMoldCleaner only

NanoMoldCoating Quick Cure (QC)

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

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



SPECIFICATIONS	
Shelf Life	18 Months

Each kit includes:

Bottle of NanoMoldCoating
 Bottle of NanoMoldCoatingRemover
 Microfiber application cloth
 Swabs
 Application instructions
 NanoMoldCleaner

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

To prevent removal of NanoMoldCoating™, use NanoMoldCleaner only

Which NanoMoldCoating™ is right for your application?

HC/HCF

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



QC15, QC15S & QC15R

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

Dri-Kote Medium Duty Mold Release

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

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



SPECIFICATIONS

Shelf Life	2 years
------------	---------

CATALOG NO.

PACKAGE SIZE

QTY. PER PACK

DK-300-1	10.75 oz. Can	1
DK-300	Case of 12, 10.75 oz. Cans	12

Tuff Kote Heavy Duty Mold Release

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

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



SPECIFICATIONS

Shelf Life	2 years
------------	---------

CATALOG NO.

PACKAGE SIZE

QTY. PER PACK

TK-150-1	10.75 oz. Can	1
TK-150	Case of 12, 10.75 oz. Cans	12

Power Clean



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

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

SPECIFICATIONS	
Shelf Life	30 Months

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

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

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

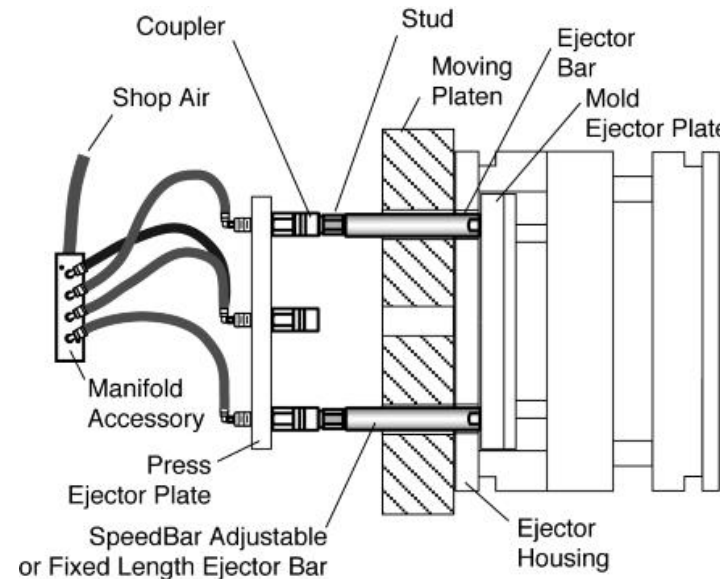
Typical Application for 2 or 4 Ejector Positions

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.



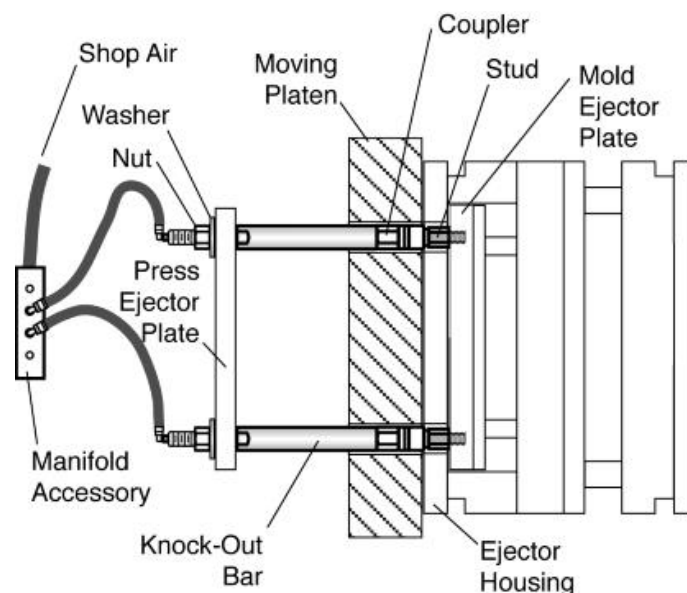
PARTS LIST	
Qty	Part
2 or 4	FasTie® Pull Stud
2 or 4	FasTie® Coupler
2 or 4	Fixed Length Ejector Bars or SpeedBar® Adjustable Length Bars
1	Air Manifold with tubing

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

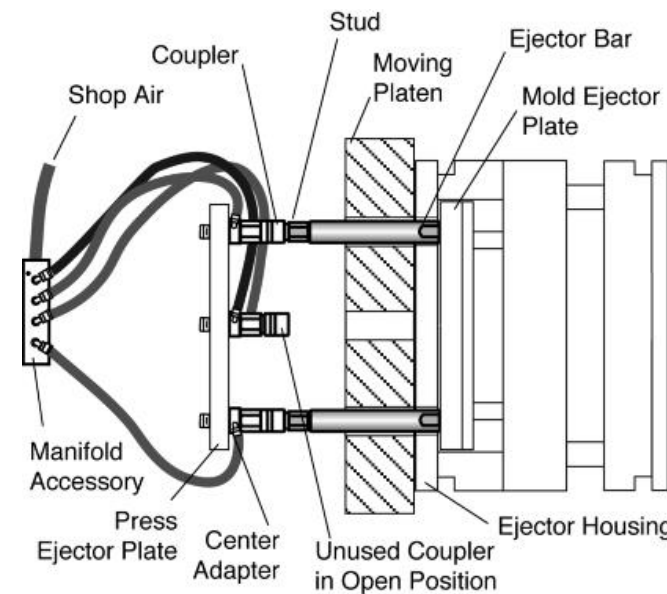
Alternate Application for 2 or 4 Ejector Positions

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.



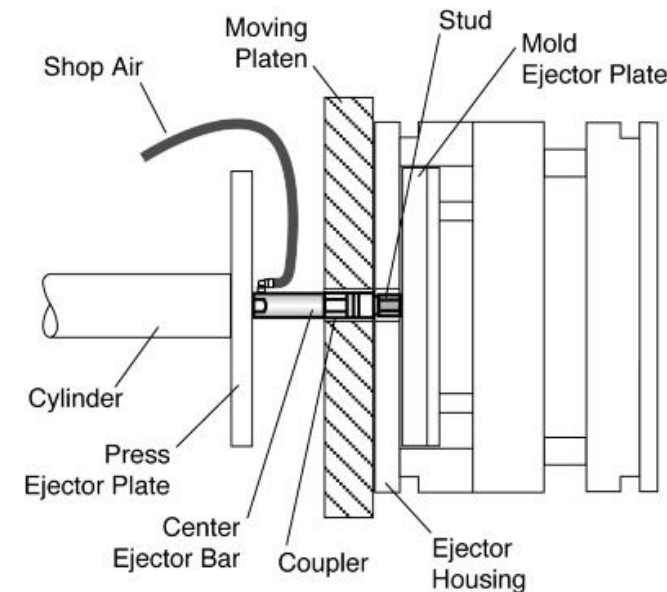
PARTS LIST	
Qty	Part
2 or 4	FasTie® Pull Stud
2 or 4	FasTie® Coupler
2 or 4	Fixed Length Ejector Bars or SpeedBar® Adjustable Length Bars
1	Air Manifold with tubing

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

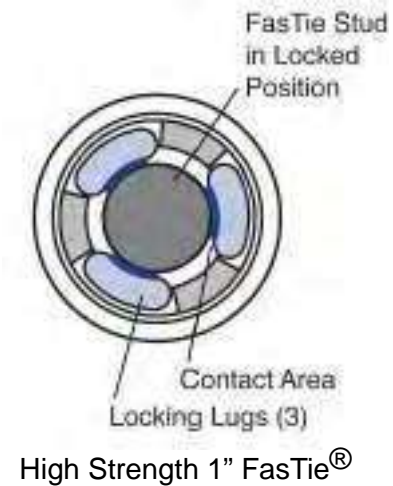
Recommended FasTie® Size per Press Size & Knockout Qty.

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

FasTie® 1" Components

FasTie® Coupler Bearing Surface Cross-Section

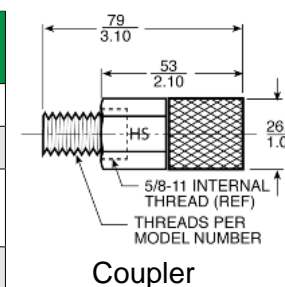
High Strength Coupler Design employs three locking lugs, dramatically increasing the load-bearing surface area of the components



High Strength FasTie® Couplers & Pull Studs

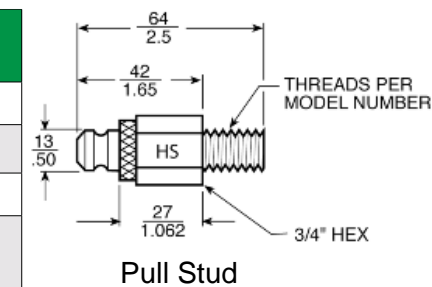
FasTie® 1" Coupler

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



FasTie® 1" Pull Stud

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



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

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

FasTie® Accessories

Additional parts to aid installation and use:

Speed Bar®



Speed Bar®
U.S. Patent No. 6,315,514

- The SpeedBar® Adjustable Length Ejector Bar changes length without tools ±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

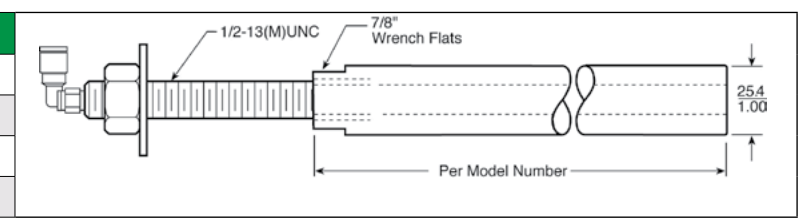
- The Air Manifold splits single air supply into four circuits to aid air connection. Comes with 1/8" diameter tubing and pneumatic connectors.

Ask about special thread sizes for ejector bars and center adapters

FasTie® 1" Accessories

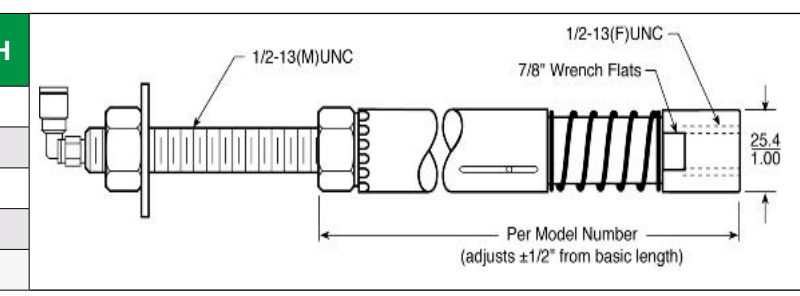
Fixed Length Ejector Bar®

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



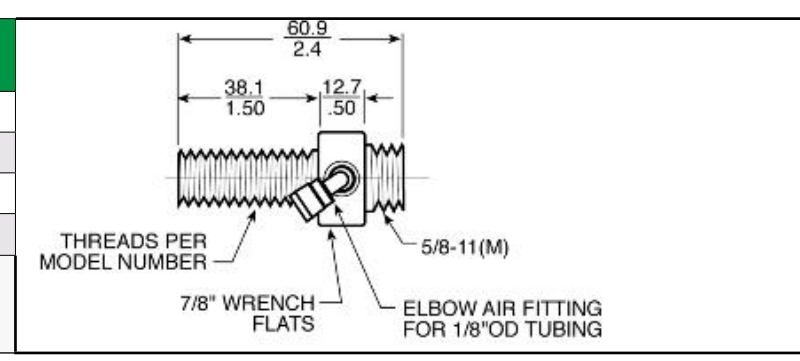
Speed Bar® Adjustable Ejector Bar

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"		



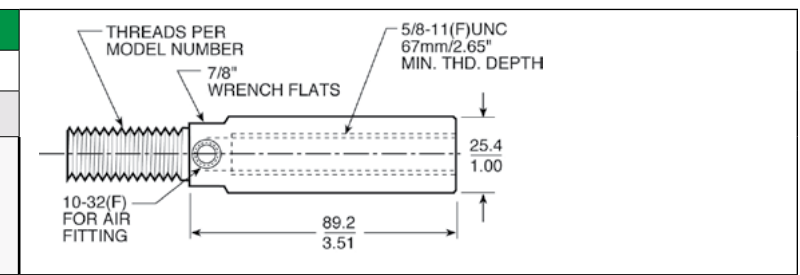
Center Adapter

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

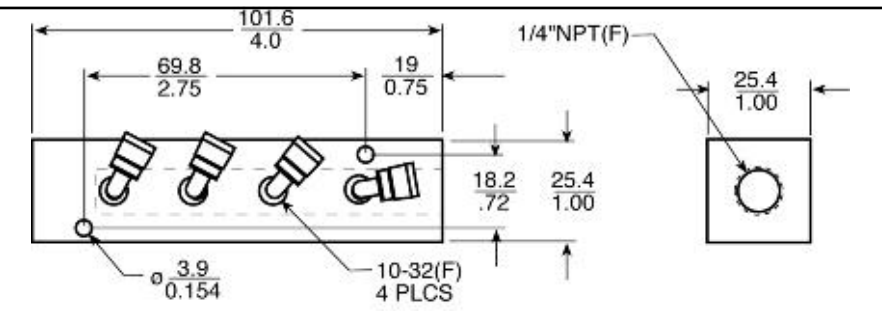
CATALOG NO.	THREAD SIZE
FTCA-63-63*	5/8-11
FTCA-M16-63*	M16 x 2



*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
FTF1.4-63	5/8-11
FTF1.4-75	3/4-10
FTF1.4-M16	M16 x 2
FTF1.4-M20	M20 x 2.5

FasTie® 1-3/8" Pull Stud

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

FasTie® 1-3/8" Center Adapter

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

FasTie® 2" Coupler

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

FasTie® 2" Pull Stud

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

FasTie® 2" Center Adapter

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

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

Retrofit existing ejection systems with FasTie®

Determine New Ejector Bar Length

To determine new ejector bar length:

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

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

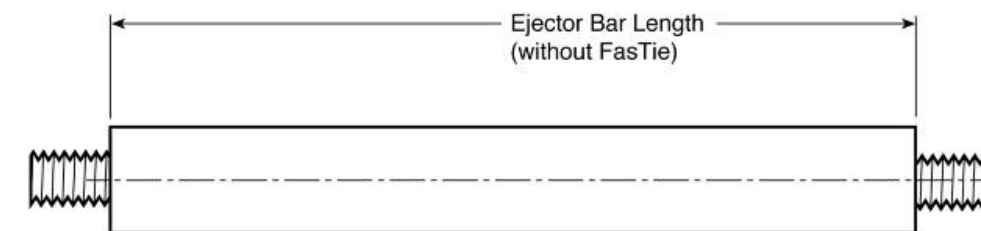


Figure 1

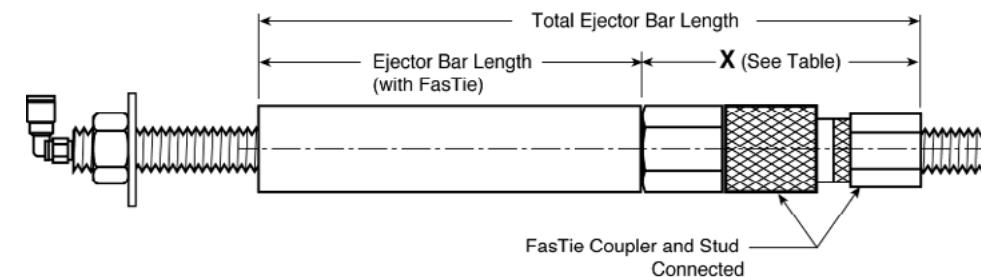
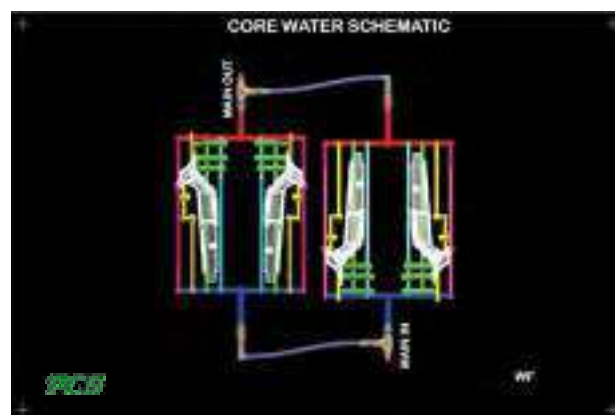
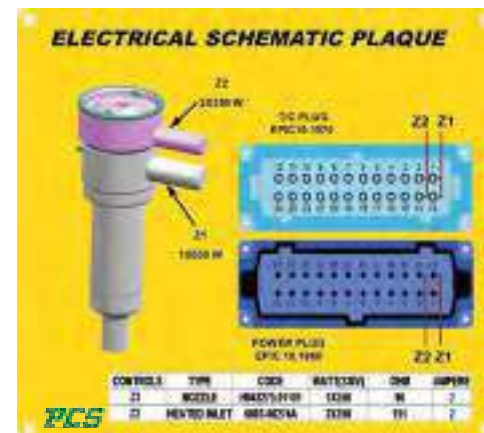
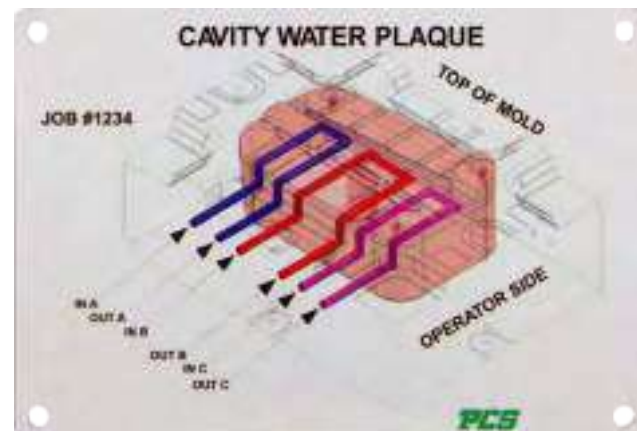


Figure 2

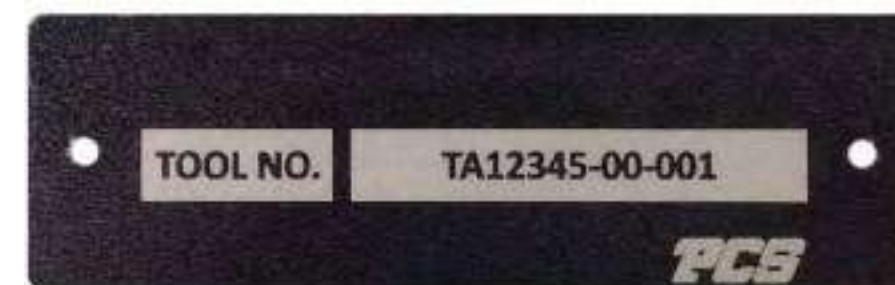
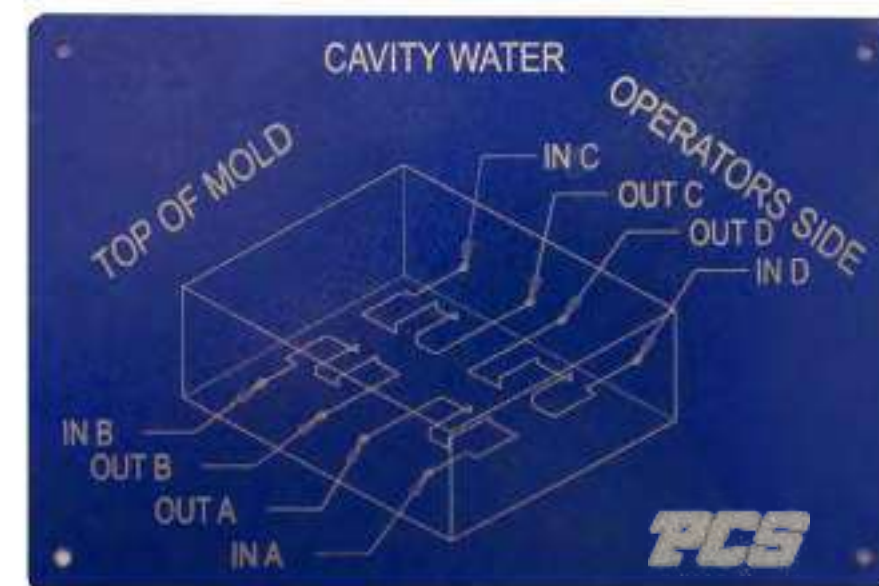
Full Color Thermal Set Graphic Plaques



Full Color Thermal Set Graphic Plaques

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

Traditional Laser Etched Aluminum Plaque

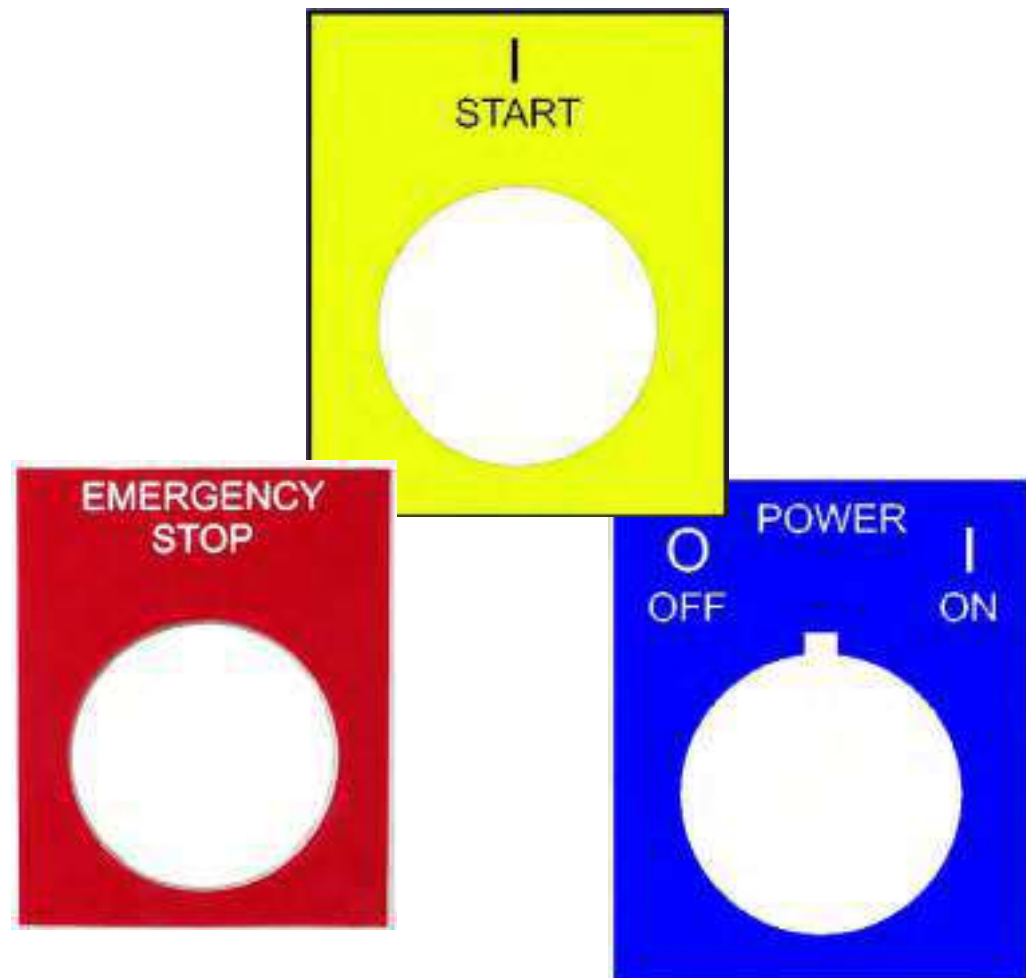


Traditional Laser Etched Aluminum Plaque

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

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

Laser Etched Lamacoid Plastic Plaque



Laser Etched Lamacoid Plastic Plaque

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

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

Custom Mold Plaque Request For Quote Form

Full Color Thermal Set Graphic Plaque

Choose plaque type:

- Rigid Aluminum
- Flexible Magnetic

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

- 4" x 6"
- 5" x 8"

For Rigid Aluminum Plaque Specify:

Length: _____

Width: _____

Corner option: *(Choose one)* Square Radius
 Corner Radius: *(Choose one)* .125" .250"
 Mounting Hole Size: *(Choose one)* .125" .1875" .250" .280"

Include mounting hole location on drawing

Adhesive Backing: Yes No

Drawing Name: _____ Quantity: _____

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

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

Traditional Laser Etched Aluminum Plaque

Specify:

Length: _____

Width: _____

Corner option: *(Choose one)* Square Radius
 Corner Radius: *(Choose one)* .125" .250"
 Mounting Hole Size: *(Choose one)* .125" .1875" .250" .280"

Include mounting hole location on drawing

Choose Plaque color:

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

Adhesive Backing: Yes No

Drawing Name: _____ Quantity: _____

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

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

Custom Mold Plaque Request For Quote Form

Laser Etched Lamacoid Plastic Plaque

All Lamacoid Plaques come standard with adhesive backing.

Specify:

Length: _____

Width: _____

Choose Plaque color:

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

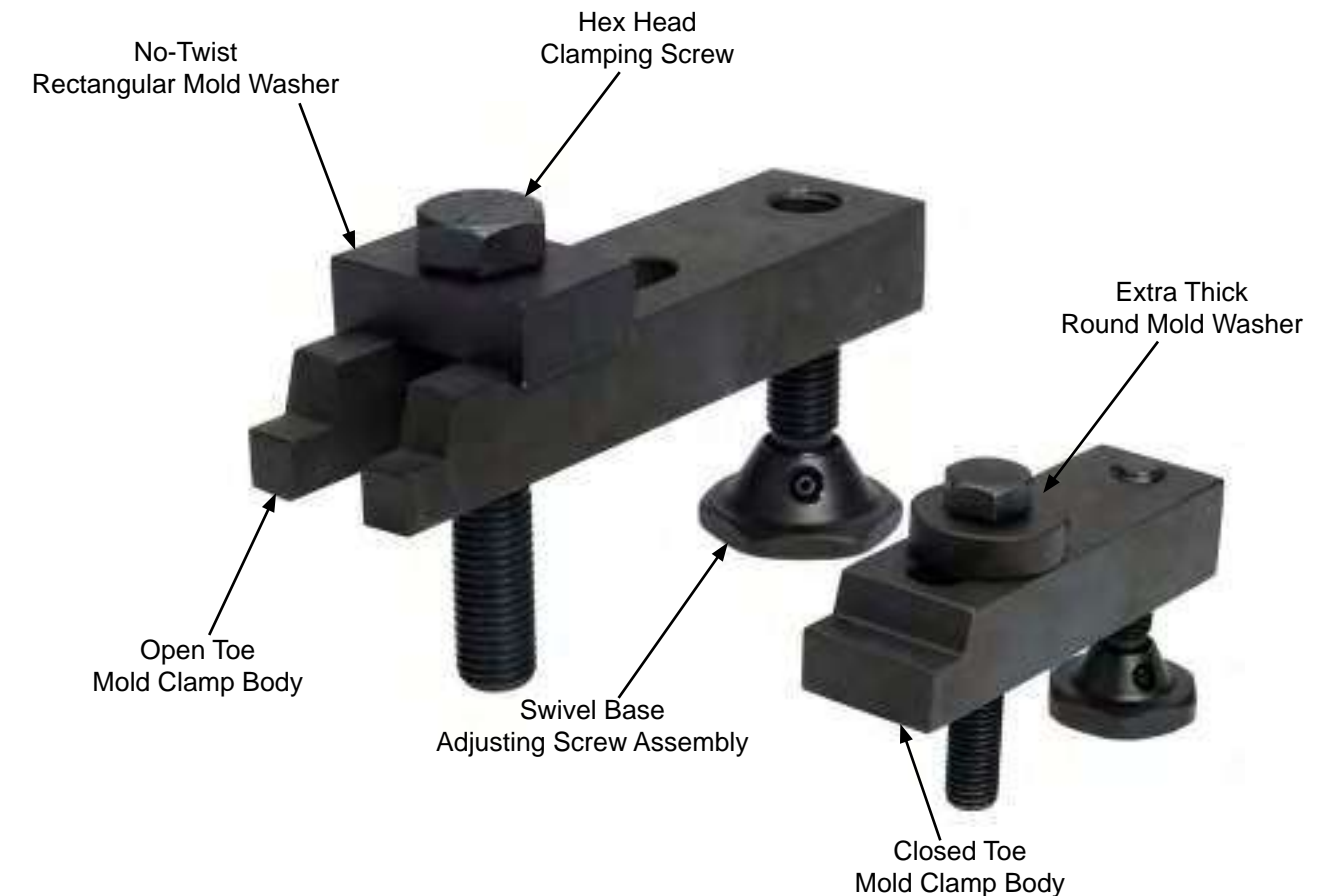
Drawing Name: _____

Quantity: _____

Note: Request For Quote Form & File required for each unique plaque.
 Submit request for quote form and file to: customcomponents@pcs-company.com

Why PCS Machined Mold Clamps

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

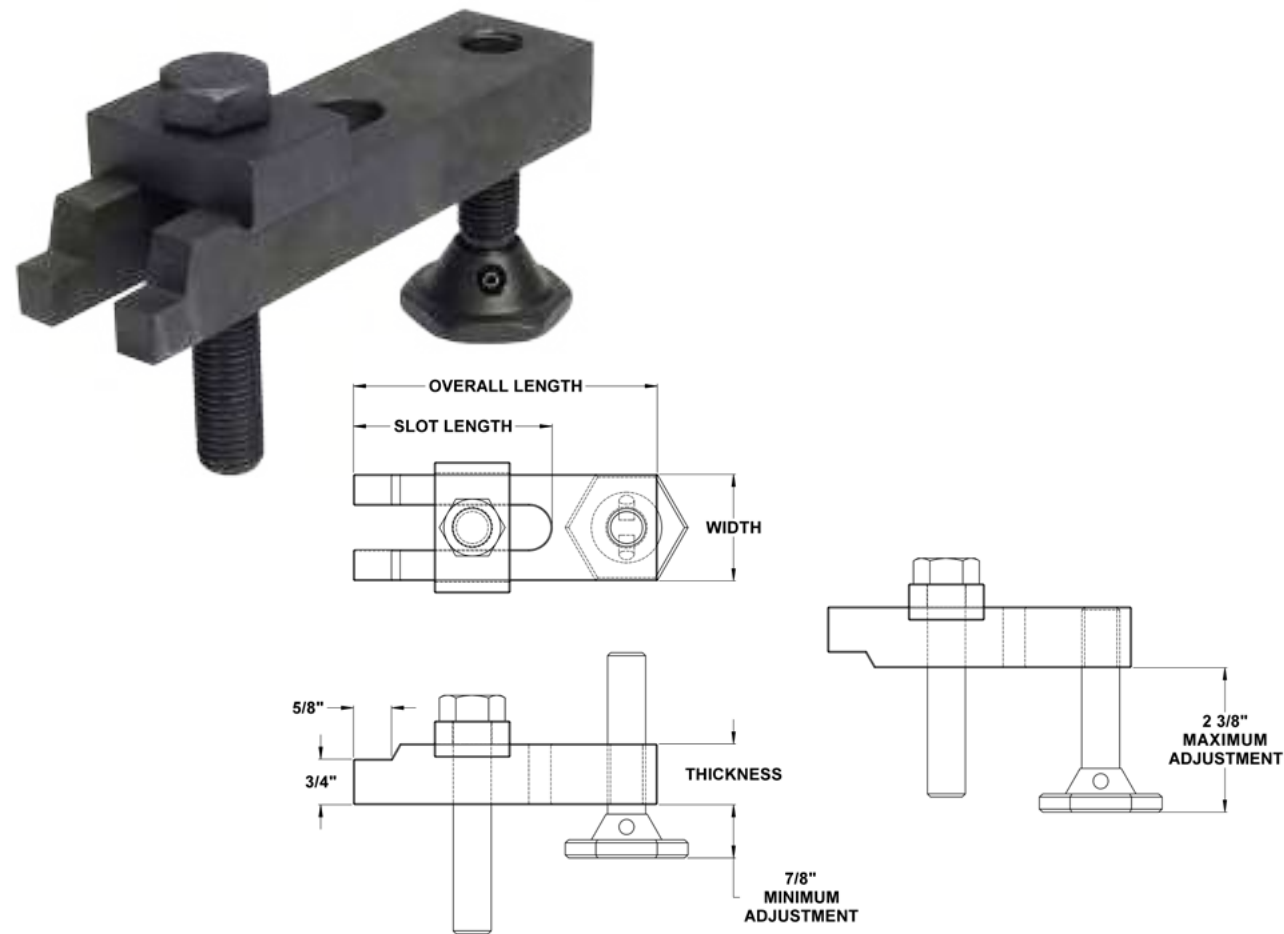


Features & Benefits

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

Heavy Duty Open Toe Mold Clamp Assemblies

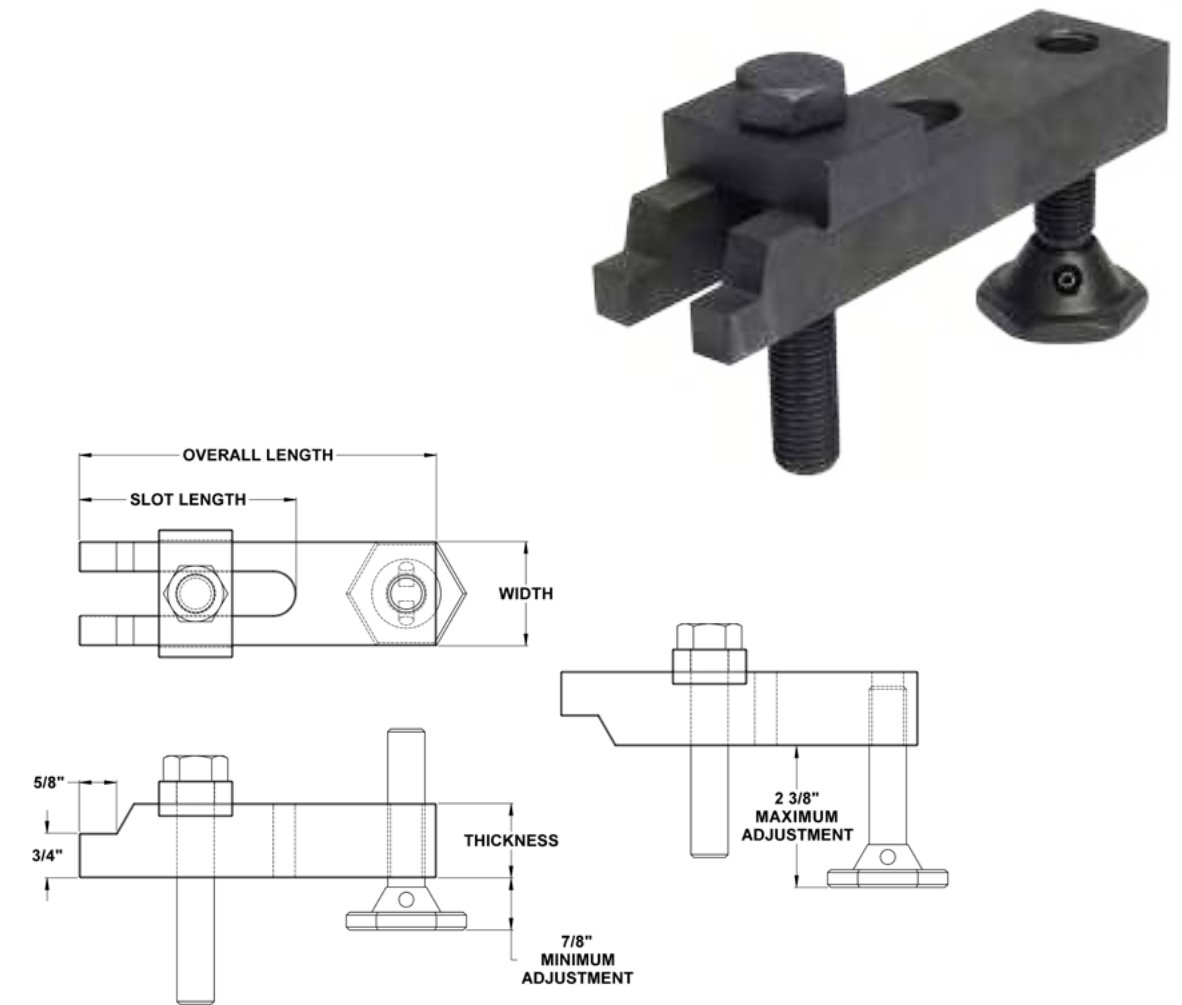
With swivel base adjusting screw



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

Extra Heavy Duty Open Toe Mold Clamp Assemblies

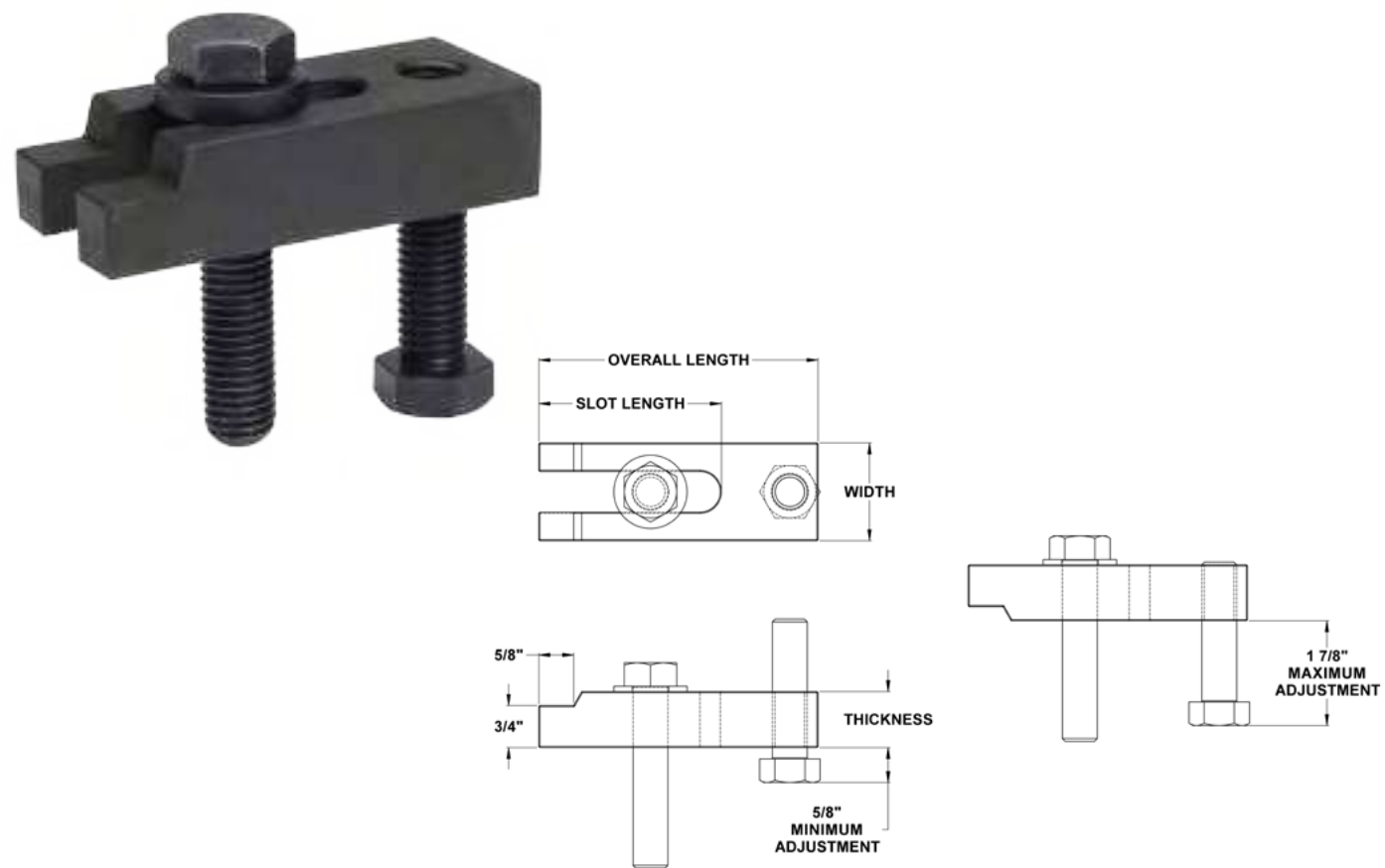
With swivel base adjusting screw



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

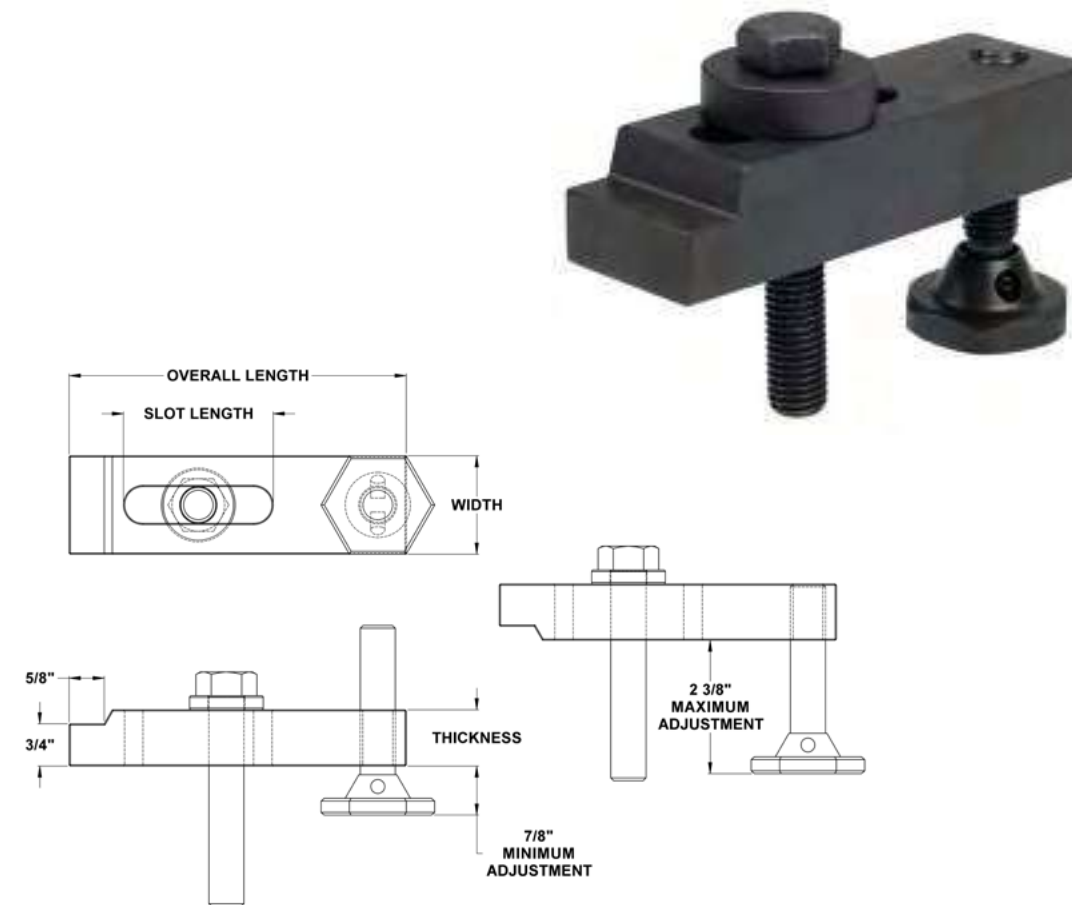
With non-swivel base adjusting screw



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

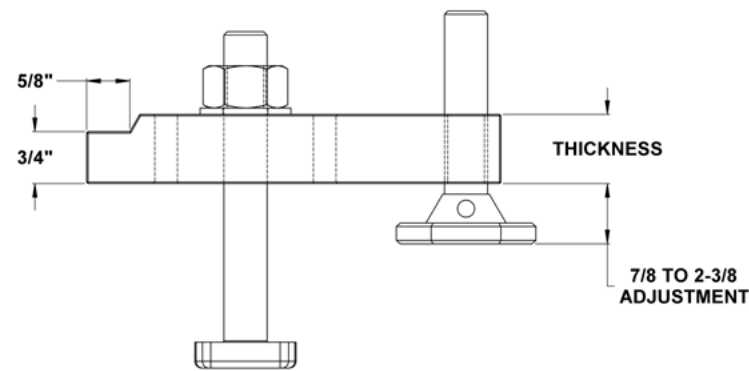
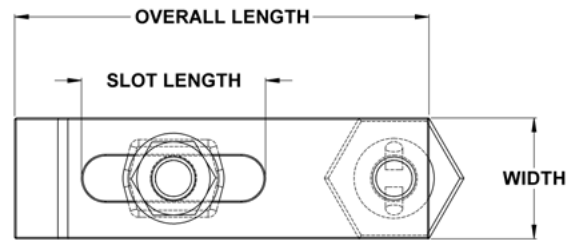
With swivel base adjusting screw



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					2-3/4"	6-1/2"
TAC7581A	XHD7581	3/4"	3/4-10 x 4-1/2"	1-1/2"	2"	3-3/4"	8"
TAC7596A	XHD7596					4-3/4"	9-1/2"
TAC1009A	XHD1009	1"	1"-8 x 5-1/2"	1-3/4"	2-1/2"	3"	8"
TAC1012A	XHD1012					5"	11"
TAC1250A	XHD1250	1-1/4"	1-1/4"-7 x 6"	1-3/4"	3"	5-1/2"	13"
TAC1500A	XHD1500	1-1/2"	1-1/2-6 x 6"	1-3/4"	3-1/2"	5-3/4"	13-1/2"

Extra Heavy Duty Closed Toe Mold Clamp Assemblies

With T-bolt & swivel base adjusting screw



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

Mold Clamp Replacement Parts

Individual Mold Clamp Bodies Available for all Mold Clamp Assemblies.



Hex Head Adjusting Screw

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



High Strength Grade 5, Hex Head Clamping Screw

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



Extra Large Swivel Base Adjusting Screw Assemblies

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



Mold Clamp Replacement Parts

Extra Large No-Twist Rectangular Mold Washers



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

Extra Thick Round Mold Washers



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

Round Mold Washers



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

Heavy Duty Hex Nuts for T-Slot Bolts



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

High Strength T-Slot Bolts



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

Hoist Rings

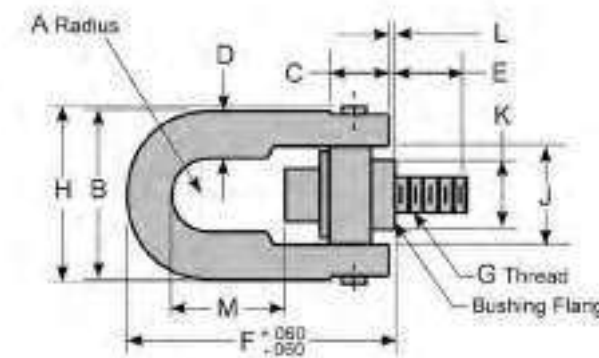
- 5:1 minimum safety factor
- Meets military specification number MIL-STD 1365(11) or MIL-STD 209C
- 100% magnetic particle inspected
- Meets OSHA requirements

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

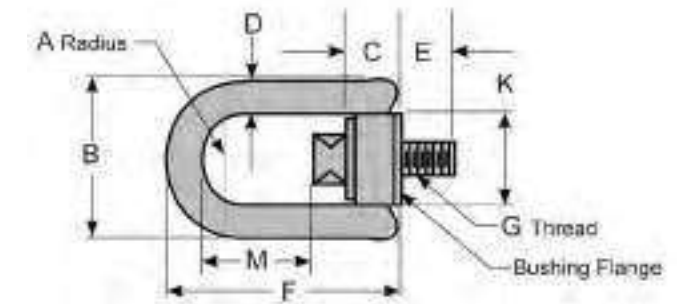


SPECIFICATIONS

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



Safety engineered hoist rings



Safety hoist rings

CATALOG NO.	A	B	C	D	E	F	G	K	M	RATED LOAD	TL FT/ LB	WT LBS
Product Name: Safety Engineered Hoist Rings												
23200	2.25	8	2.81	1-3/4	2.96	12.47	2-4 1/2	4.2	5.41	30,000	800	36 lbs
23503	3	10.5	4.09	2-1/4	4	16.87	2 1/2-4	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

Hose Caddy



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

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

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

Hose



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

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

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

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

Hose Clamps

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

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



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

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

Thread Sealant Tape

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

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



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

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

Mold 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

Polishing Stones

- Flexible ceramic fiber polishing stone
- Excellent for polishing small details and narrow slots

Super Stones are a flexible, fast cutting ceramic fiber polishing stone. These stones work extremely well on steel surfaces and EDM surfaces. Super Stones are especially useful when polishing small details in the mold where other stones would break.



SPECIFICATIONS	
Unit of Measure	Metric
Product Name	Super Stones

CATALOG NO.	DIMENSIONS	GRIT SIZE	COLOR CODE
8-4-100-22	0.8 mm x 4 mm x 100 mm	600	BROWN
8-4-100-4	0.8 mm x 4 mm x 100 mm	800	BLUE
8-4-100-8	0.8 mm x 4 mm x 100 mm	1000	WHITE
1-4-100-10	1 mm x 4 mm x 100 mm	1200	RED
1-4-100-22	1 mm x 4 mm x 100 mm	600	BROWN
1-4-100-4	1 mm x 4 mm x 100 mm	800	BLUE
1-4-100-8	1 mm x 4 mm x 100 mm	1000	WHITE
1-6-100-10	1 mm x 6 mm x 100 mm	1200	RED
1-6-100-22	1 mm x 6 mm x 100 mm	600	BROWN
1-6-100-4	1 mm x 6 mm x 100 mm	800	BLUE
1-6-100-8	1 mm x 6 mm x 100 mm	1000	WHITE
1-10-100-22	1 mm x 10 mm x 100 mm	600	BROWN
1-10-100-4	1 mm x 10 mm x 100 mm	800	BLUE
3R-50-22	3 mm dia. x 50 mm	600	BROWN
3R-50-4	3 mm dia. x 50 mm	800	BLUE
3R-50-8	3 mm dia. x 50 mm	1000	WHITE



Turn To The Industry Experts

Convenient ways to buy your favorite PCS products.

Visit us online at www.pcs-company.com and order your products day and night. Use our friendly and convenient quick order pad to buy your products easily and efficiently.

Place orders using phone, fax, or e-mail by contacting our
Customer Service Department:

Phone: 800-521-0546

Fax: 800-505-3299

Email: sales@pcs-company.com

Hours: 7:30 a.m. – 6:00 p.m. EST

CUTTING TOOLS

Carbide Reamers.....	P18
Ejector Pin Counter Bores.....	P17
Extended Reach 2 Flute Solid Carbide End Mills (For Machining Aluminum)	
Ball Nose.....	P15
Square End.....	P16
Extended Reach 4 Flute Coated Solid Carbide End Mills	
Ball Nose.....	P11
Square End.....	P12
Sprue Bushing Reamers.....	P19
Variable 3 Flute Coated Solid Carbide End Mills (For Machining Aluminum)	
Corner Radius.....	P13
Variable 4 Flute Coated Solid Carbide End Mills	
Square End.....	P7
Corner Radius.....	P8
Corner Radius Extended Reach.....	P10
80% Core 2 Flute Coated Solid Carbide End Mills	
Ball Nose.....	P3
Ball Nose Metric.....	P4
Ball Nose Profile.....	P5
Corner Radius.....	P6

We have all your Cutting Tools in stock and ready for shipment

We have the right cutting tools such as solid carbide end mills, hand reamers, carbide reamers and ejector pin counterbores to assist in the final machining of your mold. To properly machine a mold, you need the right tools for the job.

- 80% core Ball nose
- 4 Flute Square end
- 3 Flute Corner Radius
- 2 Flute Square End
- Counterbores
- Reamers



80% Core 2 Flute Coated Solid Carbide End Mills - Ball Nose

- AlTiN Coated for longer tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Eliminates rough finish commonly left by typical 4 flute tools

80% core geometry offers added strength and excellent rigidity for profile milling and contouring applications. The result is less push, reduced chatter, and improved chip extraction which produces excellent finishes in valleys and pockets. Designed for hard metal milling up to 58 HRc.



SPECIFICATIONS	
End Style	Ball Nose
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	AlTiN
Unit of Measure	Inch
No. of Flutes	2

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER
Overall Length: 4			
80-2125P	1/8	1/2	1/8
80-2187P	3/16	3/4	3/16
80-2250P	1/4	3/4	1/4
80-2312P	5/16	3/4	5/16
80-2375P	3/8	7/8	3/8
80-2500P	1/2	1	1/2
Overall Length: 6			
80-2126P	1/8	1/2	1/8
80-2188P	3/16	3/4	3/16
80-2251P	1/4	3/4	1/4
80-2313P	5/16	3/4	5/16
80-2376P	3/8	7/8	3/8
80-2501P	1/2	1	1/2
Overall Length: 8			
80-2377P	3/8	7/8	3/8
80-2502P	1/2	1	1/2
Overall Length: 12			
80-2503P	1/2	1	1/2

80% Core Metric 2 Flute Coated Solid Carbide End Mills - Ball Nose



- Metric Sizes from 6mm - 12mm
- AlTiN Coated for longer tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.000 - .038 mm
- Eliminates rough finish commonly left by typical 4 flute tools

80% core geometry offers added strength and excellent rigidity for profile milling and contouring applications. The result is less push, reduced chatter, and improved chip extraction which produces excellent finishes in valleys and pockets. Designed for hard metal milling up to 58 HRc.

SPECIFICATIONS	
End Style	Ball Nose
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	AlTiN
Unit of Measure	Metric
No. of Flutes	2

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER
Overall Length: 100 mm			
80-2236P	6 mm	18 mm	6 mm
80-2315P	8 mm	20 mm	8 mm
80-2393P	10 mm	22 mm	10 mm
80-2472P	12 mm	25 mm	12 mm
Overall Length: 150 mm			
80-2237P	6 mm	18 mm	6 mm
80-2316P	8 mm	20 mm	8 mm
80-2394P	10 mm	22 mm	10 mm
80-2473P	12 mm	25 mm	12 mm

80% Core 2 Flute Coated Solid Carbide End Mills - Ball Nose Profile



- AlTiN Coated for longer tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Eliminates rough finish commonly left by typical 4 flute tools
- Larger shank with 3° draft angles, gives extra reach with added strength

80% core geometry offers added strength and excellent rigidity for profile milling and contouring applications. The result is less push, reduced chatter, and improved chip extraction which produces excellent finishes in valleys and pockets. Designed for hard metal milling up to 58 HRc.

SPECIFICATIONS	
End Style	Ball Nose
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	AlTiN
Unit of Measure	Inch
No. of Flutes	2
Overall Length	4

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER
82-2032P	1/32	1/16	1/4
82-2062P	1/16	1/8	1/4
82-2093P	3/32	3/16	1/4
82-2125P	1/8	1/4	1/4
82-2126P	1/8	1/4	3/8
82-2187P	3/16	3/8	3/8
82-2250P	1/4	1/2	3/8
82-2312P	5/16	5/8	3/8
82-2375P	3/8	3/4	1/2
82-2437P	7/16	7/8	1/2

80% Core 2 Flute Coated Solid Carbide End Mills - Corner Radius



- AlTiN Coated for longer tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Eliminates rough finish commonly left by typical 4 flute tools

80% core geometry offers added strength and excellent rigidity for profile milling and contouring applications. The result is less push, reduced chatter, and improved chip extraction which produces excellent finishes in valleys and pockets. Designed for hard metal milling up to 58 HRc.

SPECIFICATIONS	
End Style	Corner Radius
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	AlTiN
Unit of Measure	Inch
No. of Flutes	2

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER	CORNER RADIUS
Overall Length: 4				
81-2187P	3/16	3/4	3/16	0.020
81-2250P	1/4	3/4	1/4	0.030
81-2375P	3/8	7/8	3/8	0.030
81-2500P	1/2	1	1/2	0.030
Overall Length: 6				
81-2188P	3/16	3/4	3/16	0.020
81-2251P	1/4	3/4	1/4	0.030
81-2376P	3/8	7/8	3/8	0.030
81-2501P	1/2	1	1/2	0.030
Overall Length: 8				
81-2502P	1/2	1	1/2	0.030
Overall Length: 12				
81-2503P	1/2	1	1/2	0.030

Variable 4 Flute Coated Solid Carbide End Mills - Square End

- AlTiN Coated for longer tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Designed for rough cut and finish milling
- Ideal for hard to machine materials such as P-20, Stainless Steel and pre-heat treated metals up to 45 HRc

The unique high performance variable helix flute geometry reduces harmonics and diminishes chatter so higher feed rates can be obtained. The versatility of this tool helps you to save time by reducing tool changes. Use this tool to replace the typical old fashioned 4 flute end mills.



SPECIFICATIONS	
End Style	Square End
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	AlTiN
Unit of Measure	Inch
No. of Flutes	4

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER
Overall Length: 1-1/2			
90-4125SCP	1/8	1/2	1/8
Overall Length: 2			
90-4093SCP	3/32	1/2	3/32
90-4156SCP	5/32	5/8	5/32
90-4187SCP	3/16	5/8	3/16
Overall Length: 2-1/2			
90-4250SCP	1/4	3/4	1/4

Variable 4 Flute Coated Solid Carbide End Mills - Corner Radius



- AITiN Coated for longer tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Designed for rough cut and finish milling
- Ideal for hard to machine materials such as P-20, Stainless Steel and pre-heat treated metals up to 45 HRc

The unique high performance variable helix flute geometry reduces harmonics and diminishes chatter so higher feed rates can be obtained. The versatility of this tool helps you to save time by reducing tool changes. Use this tool to replace the typical old fashioned 4 flute end mills.

SPECIFICATIONS	
End Style	Corner Radius
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	AITiN
Unit of Measure	Inch
No. of Flutes	4

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER	CORNER RADIUS
Overall Length: 1-1/2				
90-4125P	1/8	1/2	1/8	0.015
Overall Length: 2				
90-4126P	1/8	3/4	1/8	0.015
90-4187P	3/16	5/8	3/16	0.020
Overall Length: 2-1/2				
90-4188P	3/16	3/4	3/16	0.020
90-4250P	1/4	3/4	1/4	0.020
90-4312P	5/16	7/8	5/16	0.020
90-4375P	3/8	7/8	3/8	0.030
Overall Length: 2-3/4				
90-4437P	7/16	1	7/16	0.030
Overall Length: 3				
90-4251P	1/4	1 1/8	1/4	0.020
90-4313P	5/16	1 1/8	5/16	0.020
90-4376P	3/8	1 1/8	3/8	0.030
90-4500P	1/2	1	1/2	0.030

Continued on next page

Variable 4 Flute Coated Solid Carbide End Mills - Corner Radius



- AITiN Coated for longer tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Designed for rough cut and finish milling
- Ideal for hard to machine materials such as P-20, Stainless Steel and pre-heat treated metals up to 45 HRc

The unique high performance variable helix flute geometry reduces harmonics and diminishes chatter so higher feed rates can be obtained. The versatility of this tool helps you to save time by reducing tool changes. Use this tool to replace the typical old fashioned 4 flute end mills.

SPECIFICATIONS	
End Style	Corner Radius
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	AITiN
Unit of Measure	Inch
No. of Flutes	4

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER	CORNER RADIUS
Overall Length: 3-1/2				
90-4625P	5/8	1-1/4	5/8	0.030
Overall Length: 4				
90-4438P	7/16	2	7/16	0.030
90-4501P	1/2	2	1/2	0.030
90-4750P	3/4	1-1/2	3/4	0.030
90-4100P	1	1-1/2	1	0.030
Overall Length: 5				
90-4626P	5/8	2-1/4	5/8	0.030
90-4751P	3/4	2-1/4	3/4	0.030
90-4101P	1	2-1/4	1	0.030
Overall Length: 6				
90-4752P	3/4	3	3/4	0.030
90-4102P	1	3	1	0.030
Overall Length: 7				
90-4103P	1	4	1	0.030

Variable 4 Flute Coated Solid Carbide End Mills - Corner Radius Extended Reach



- Extra long shanks for hard to reach machining
- AlTiN Coated for longer tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Designed for rough cut and finish milling
- Ideal for hard to machine materials such as P-20, Stainless Steel and pre-heat treated metals up to 45 HRc

The unique high performance variable helix flute geometry reduces harmonics and diminishes chatter so higher feed rates can be obtained. The versatility of this tool helps you to save time by reducing tool changes. Use this tool to replace the typical old fashioned 4 flute end mills.

SPECIFICATIONS	
End Style	Corner Radius
Fractional Size	1/8 OS
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	AlTiN
Unit of Measure	Inch
No. of Flutes	4

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER	CORNER RADIUS
Overall Length: 4				
90-4125-4P	1/8	1/2	1/8	0.020
90-4187-4P	3/16	5/8	3/16	0.020
90-4250-4P	1/4	3/4	1/4	0.020
90-4312-4P	5/16	7/8	5/16	0.020
90-4375-4P	3/8	7/8	3/8	0.020
Overall Length: 5				
90-4500-4P	5/32	1-1/2	1/4	0.007
Overall Length: 6				
90-4507-060P	1/2	1	1/2	0.060

Extended Reach 4 Flute Coated Solid Carbide End Mills - Ball Nose



- Extra long shanks for hard to reach machining
- TiAlN Coated for extended tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Shorter flute length for maximum strength
- 30° helix general purpose ball nose

These extended reach tools add extra length to normal diameters for deeper cuts.

SPECIFICATIONS	
End Style	Ball Nose
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	TiAlN
Unit of Measure	Inch
No. of Flutes	4

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER
Overall Length: 4			
51-4125P	1/8	1/2	1/8
51-4187P	3/16	5/8	3/16
51-4250P	1/4	3/4	1/4
51-4312P	5/16	7/8	5/16
51-4375P	3/8	7/8	3/8
51-4500P	1/2	1	1/2
Overall Length: 6			
51-4126P	1/8	1/2	1/8
51-4188P	3/16	5/8	3/16
51-4251P	1/4	3/4	1/4
51-4313P	5/16	7/8	5/16
51-4376P	3/8	7/8	3/8
51-4501P	1/2	1	1/2
51-4626P	5/8	1-1/4	5/8
51-4751P	3/4	1-1/2	3/4

Extended Reach 4 Flute Coated Solid Carbide End Mills - Square End



- Extra long shanks for hard to reach machining
- TiAlN Coated for extended tool life
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Shorter flute length for maximum strength
- 30° helix general purpose Square End

These extended reach tools add extra length to normal diameters for deeper cuts.

SPECIFICATIONS	
End Style	Square End
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	TiAlN
Unit of Measure	Inch
No. of Flutes	4

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER
Overall Length: 4			
41-4125P	1/8	1/2	1/8
41-4187P	3/16	5/8	3/16
41-4250P	1/4	3/4	1/4
41-4312P	5/16	7/8	5/16
41-4375P	3/8	7/8	3/8
41-4500P	1/2	1	1/2
Overall Length: 6			
41-4126P	1/8	1/2	1/8
41-4188P	3/16	5/8	3/16
41-4251P	1/4	3/4	1/4
41-4313P	5/16	7/8	5/16
41-4376P	3/8	7/8	3/8
41-4501P	1/2	1	1/2
41-4626P	5/8	1-1/4	5/8
41-4751P	3/4	1-1/2	3/4

Variable 3 Flute Coated Solid Carbide End Mills - Corner Radius (For Machining Aluminum)



- Hard Carbon Coating out performs TiN, TiCN and ZrN in aluminum and nonferrous applications
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Designed for rough cut and finish milling
- Small corner radius for added strength
- Ideal for spindle speeds above 5000 rpm

Have the need for Speed? Take this Variable 3 flute tool and run through aluminum like a hot knife through butter. These high performance tools have a new hydrogen free coating that out performs TiN, TiCN and ZrN in aluminum and nonferrous applications. This tool will not adhere to aluminum.

SPECIFICATIONS	
End Style	Corner Radius
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	Hard Carbon
Unit of Measure	Inch
No. of Flutes	3

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER	CORNER RADIUS
Overall Length: 1-1/2				
42-3125P	1/8	1/2	1/8	0.007
Overall Length: 2				
42-3126P	1/8	3/4	1/8	0.007
42-3187P	3/16	5/8	3/16	0.010
Overall Length: 2-1/2				
42-3188P	3/16	3/4	3/16	0.010
42-3250P	1/4	3/4	1/4	0.010
42-3312P	5/16	7/8	5/16	0.010
42-3375P	3/8	7/8	3/8	0.010
Overall Length: 3				
42-3127P	1/8	1	1/8	0.007
42-3189P	3/16	1-1/8	3/16	0.010
42-3251P	1/4	1-1/8	1/4	0.010
42-3313P	5/16	1-1/8	5/16	0.010
42-3376P	3/8	1-1/8	3/8	0.010
42-3500P	1/2	1-1/4	1/2	0.010

Continued on next page

Variable 3 Flute Coated Solid Carbide End Mills - Corner Radius (For Machining Aluminum)



- Hard Carbon Coating out performs TIN, TICN and ZRN in aluminum and nonferrous applications
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Designed for rough cut and finish milling
- Small corner radius for added strength
- Ideal for spindle speeds above 5000 rpm

Have the need for Speed? Take this Variable 3 flute tool and run through aluminum like a hot knife through butter. These high performance tools have a new hydrogen free coating that out performs TIN, TICN and ZRN in aluminum and nonferrous applications. This tool will not adhere to aluminum.

SPECIFICATIONS	
End Style	Corner Radius
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Coating	Hard Carbon
Unit of Measure	Inch
No. of Flutes	3

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER	CORNER RADIUS
Overall Length: 3-1/2				
42-3625P	5/8	1-1/4	5/8	0.010
Overall Length: 4				
42-3252P	1/4	1 1/2	1/4	0.010
42-3314P	5/16	1 3/4	5/16	0.010
42-3377P	3/8	1 3/4	3/8	0.010
42-3501P	1/2	2	1/2	0.010
42-3750P	3/4	1 1/2	3/4	0.010
42-3100P	1	1 1/2	1	0.010
Overall Length: 5				
42-3626P	5/8	2 1/4	5/8	0.010
42-3751P	3/4	2 1/4	3/4	0.010
42-3101P	1	2 1/4	1	0.010
Overall Length: 6				
42-3502P	1/2	3	1/2	0.010
42-3627P	5/8	3	5/8	0.010
42-3752P	3/4	3	3/4	0.010
42-3102P	1	3	1	0.010

Extended Reach 2 Flute Solid Carbide End Mills - Ball Nose (For Machining Aluminum)



- Extra long shanks for hard to reach machining
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance +.0000 - .0015
- Shorter flute length for maximum strength
- 30° helix general purpose ball nose

Great for cutting Aluminum, these extended reach tools add extra length to normal diameters for deeper cuts.

SPECIFICATIONS	
End Style	Ball Nose
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Unit of Measure	Inch
No. of Flutes	2

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER
Overall Length: 4			
50-2125P	1/8	1/2	1/8
50-2187P	3/16	5/8	3/16
50-2250P	1/4	3/4	1/4
50-2312P	5/16	7/8	5/16
50-2375P	3/8	7/8	3/8
50-2500P	1/2	1	1/2
Overall Length: 6			
50-2126P	1/8	1/2	1/8
50-2188P	3/16	5/8	3/16
50-2251P	1/4	3/4	1/4
50-2313P	5/16	7/8	5/16
50-2376P	3/8	7/8	3/8
50-2501P	1/2	1	1/2
50-2626P	5/8	1 1/4	5/8
50-2751P	3/4	1 1/2	3/4
Overall Length: 8			
50-2377P	3/8	7/8	3/8
50-2502P	1/2	1	1/2
Overall Length: 10			
50-2503P	1/2	1	1/2
Overall Length: 12			
50-2504P	1/2	1	1/2

Extended Reach 2 Flute Solid Carbide End Mills - Square End (For Machining Aluminum)



- Extra long shanks for hard to reach machining
- Premium micro grain carbide
- H6 Shank tolerance for heat shrink applications
- Cutting diameter tolerance $\pm .0000 - .0015$
- Shorter flute length for maximum strength
- 30° helix general purpose square end

Great for cutting Aluminum, these extended reach tools add extra length to normal diameters for deeper cuts.

SPECIFICATIONS	
End Style	Square End
Material Type	Solid Carbide
Shank Diameter Tolerance	H6
Unit of Measure	Inch
No. of Flutes	2

CATALOG NO.	FLUTE DIAMETER	FLUTE LENGTH	SHANK DIAMETER
Overall Length: 4			
40-2125P	1/8	1/2	1/8
40-2187P	3/16	5/8	3/16
40-2250P	1/4	3/4	1/4
40-2312P	5/16	7/8	5/16
40-2375P	3/8	7/8	3/8
40-2500P	1/2	1	1/2
Overall Length: 6			
40-2126P	1/8	1/2	1/8
40-2188P	3/16	5/8	3/16
40-2251P	1/4	3/4	1/4
40-2313P	5/16	7/8	5/16
40-2376P	3/8	7/8	3/8
40-2501P	1/2	1	1/2
40-2626P	5/8	1 1/4	5/8
40-2751P	3/4	1 1/2	3/4
Overall Length: 8			
40-2377P	3/8	7/8	3/8
40-2502P	1/2	1	1/2
Overall Length: 10			
40-2503P	1/2	1	1/2
Overall Length: 12			
40-2504P	1/2	1	1/2

Ejector Pin Counterbores

- Angled Pilot for easy pickup of holes
- Built in 45° Chamfer provides clearance for radius under Ejector Pin head
- Manufactured from high speed steel with precision ground cutting edges for even chip load and fast smooth chip clearance
- Pilot diameter on counterbore tool is .002" - .004" under the corresponding ejector pin body diameter.

Ejector Pin Counterbores are manufactured from high speed steel and allow for the drilling of ejector pin holes in the ejector retainer plate. The built in chamfer provides clearance for the radius under the ejector pin head. Holes are easily picked up due to the angled pilot design of each counterbore.



SPECIFICATIONS	
Material Type	High Speed Steel
Unit of Measure	Inch

CATALOG NO.	EJECTOR PIN BODY DIAMETER	OVERALL LENGTH	COUNTERBORE BODY DIAMETER	SHANK DIAMETER	PILOT LENGTH
ECB-9	1/8	2-5/8	9/32	1/4	3/16
ECB-11	5/32	2-3/4	5/16	1/4	3/16
ECB-13	3/16	3-1/4	13/32	3/8	3/16
ECB-15	7/32	3-3/8	7/16	3/8	1/4
ECB-17	1/4	3-9/16	15/32	7/16	1/4
ECB-19	9/32	3-9/16	15/32	7/16	1/4
ECB-21	5/16	3-7/8	17/32	1/2	5/16
ECB-23	11/32	4-1/4	19/32	1/2	5/16
ECB-25	3/8	4-1/2	21/32	5/8	5/16
ECB-29	7/16	4-3/4	23/32	5/8	5/16
ECB-33	1/2	5-1/8	25/32	5/8	5/16
ECB-37	5/8	5-5/8	29/32	5/8	5/16
ECB-41	3/4	6-1/4	1-1/32	5/8	5/16
ECB-47	1	6-1/4	1-9/32	3/4	5/16

Carbide Reamers



- Designed to work with PCS Oversized Ejector Pins
- Straight flute
- Extra long shank for easy access to holes within a deep cavity
- Four or six flutes to check size precisely
- Extra long flute lengths for greater hole straightness
- Shank diameters smaller than reamer diameter to avoid seizing

PCS Carbide Reamers are manufactured from micro-grain carbide. These reamers are available on-size or .005 oversize. Extra long shanks and flute lengths come standard, providing a more precise hole.

SPECIFICATIONS	
Material Type	Micro-Grain Carbide
Corner Radius	0.007
Unit of Measure	Inch

CATALOG NO.	FRACTIONAL SIZE	DECIMAL SIZE +.0002 -.0000	NO. OF FLUTES	FLUTE LENGTH	OVERALL LENGTH	SHANK DIAMETER +.0000 -.0005
Standard Oversize .005: 0						
RC-5	1/16	0.0625	4	1/2	4	0.0570
RC-7	3/32	0.0938	4	3/4	4	0.0880
RC-9	1/8	0.1250	4	7/8	4	0.1200
RC-11	5/32	0.1562	6	1	4	0.1510
RC-13	3/16	0.1875	6	1	4-1/2	0.1820
RC-15	7/32	0.2188	6	1-1/8	5	0.2130
RC-17	1/4	0.2500	6	1-1/8	5	0.2450
RC-21	5/16	0.3125	6	1-3/8	5	0.3070
RC-25	3/8	0.3750	4	1-1/2	5	0.1250
RC-33	1/2	0.5000	3	1 3/4	10	0.1560
Standard Oversize .005: 1						
ROS-4	3/64 OS	0.0517	4	1/2	4	0.0460
ROS-5	1/16 OS	0.0673	4	1/2	4	0.0620
ROS-6	5-64 OS	0.0829	4	1/2	4	0.0770
ROS-7	3/32 OS	0.0986	4	3/4	4	0.0930
ROS-9	1/8 OS	0.1298	4	7/8	4	0.1250
ROS-10	9/64 OS	0.1454	6	1	4	0.1400
ROS-11	5/32 OS	0.1610	6	1	4	0.1550
ROS-13	3/16 OS	0.1923	6	1	4-1/2	0.1870
ROS-15	7/32 OS	0.2236	6	1-1/8	5	0.2180
ROS-16	15/64 OS	0.2394	4	1-1/2	5	0.1250
ROS-17	1/4 OS	0.2548	6	1-1/8	5	0.2490
ROS-21	5/16 OS	0.3173	6	1-3/8	5	0.3120
ROS-25	3/8 OS	0.3798	6	1-1/2	5	0.3740
ROS-33	1/2 OS	0.5050	4	1-1/2	5	0.1250

Sprue Bushing Reamers (Hand & Machine)

- High speed steel
- Left hand spiral, right hand cut
- 2° 23' 13" included angle
- 1/2" taper per foot
- Hand reamer for finishing (HR-1 & HR-2)
- Machine reamer for roughing (MR-1 & MR-2)

PCS Sprue Bushing Reamers are manufactured from high-speed steel. Both Machine and Hand Reamers are available with a left hand spiral, right hand cut. Machine reamers should be used for rough work while finish work should be done using a hand reamer.

SPECIFICATIONS	
Material Type	High Speed Steel
Taper per Ft.	1/2
Unit of Measure	Inch



CATALOG NO.	NO. OF FLUTES	SMALL END DIAMETER	LARGE END DIAMETER	SHANK DIAMETER	FLUTE LENGTH	OVERALL LENGTH
Description: Hand Reamer						
HR-1	4	7/64	3/8	5/16	6	8
HR-2	6	13/64	5/8	1/2	10-1/2	12-5/8
Description: Machine Reamer						
MR-1	3	7/64	3/8	5/16	6	8
MR-2	3	13/64	5/8	1/2	10-1/2	12-5/8

Conversion Chart

FRACTION	DECIMAL	MM
1/64	0.0156	0.3968
1/32	0.0312	0.7937
3/64	0.0468	1.1906
1/16	0.0625	1.5875
5/64	0.0781	1.9843
3/32	0.0937	2.3812
7/64	0.1093	2.7781
1/8	0.1250	3.1750
9/64	0.1406	3.5718
5/32	0.1562	3.9687
11/64	0.1718	4.3656
3/16	0.1875	4.7625
13/64	0.2031	5.1593
7/32	0.2187	5.5562
15/64	0.2343	5.9531
1/4	0.2500	6.3500
17/64	0.2656	6.7468
9/32	0.2812	7.1437
19/64	0.2968	7.5406
5/16	0.3125	7.9375
21/64	0.3281	8.3343
11/32	0.3437	8.7312
23/64	0.3593	9.1281
3/8	0.3750	9.5250
25/64	0.3906	9.9218
13/32	0.4062	10.3187
27/64	0.4218	10.7156
7/16	0.4375	11.1250
29/64	0.4531	11.5093
15/32	0.4687	11.9062
31/64	0.4843	12.3031
1/2	0.5000	12.7000
33/64	0.5156	13.0968
17/32	0.5312	13.4937
35/64	0.5468	13.8906
9/16	0.5625	14.2875
37/64	0.5781	14.6843
19/32	0.5937	15.0812
39/64	0.6093	15.4781
5/8	0.6250	15.8750
41/64	0.6406	16.2718
21/32	0.6562	16.6687
43/64	0.6718	17.0656
11/16	0.6875	17.4625
45/64	0.7031	17.8593
23/32	0.7187	18.2562
47/64	0.7343	18.6531
3/4	0.7500	19.0500
49/64	0.7656	19.4468
25/32	0.7812	19.8437
51/64	0.7968	20.2406
13/16	0.8125	20.6375
53/64	0.8281	21.0343
27/32	0.8437	21.4312
55/64	0.8593	21.8281
7/8	0.8750	22.2250
57/64	0.8906	22.6218
29/32	0.9062	23.0187
59/64	0.9218	23.4156
15/16	0.9375	23.8125
61/64	0.9531	24.2093
31/32	0.9687	24.6062
63/64	0.9843	25.0031
1	1.0000	25.4000

Custom Components

High Quality, Quick Reliable Delivery & Competitive Pricing

Products offered:

- Blades
- Extension Plugs
- Sleeves
- Shoulder Bushings
- Pins
 - Angle & Return Pins
 - Ejector & Core Pins (*Cut to Length*)
 - Leader Pins
- Insulator Sheets
- Sprue Bushings
- Water Cooled Cores
- Cooling Components
- Support Pillars
- Locks



Wear Resistant Coating Available

- Armorclad™
- Titanium Nitride
- Flash Chrome
- Electroless Nickel

MATERIALS OFFERED		
S-7	moldMAX™	Stainless Steel
A-2	H-13	316
A-10	CPM-9V	420
M-2	CPM-10V	440
D-2		



Request For Quote Form

Aftermarket Replacement Parts

Please supply the following information:	OEM Manufacturer	OEM Part Number	*Is CAD/Drawing Available Yes or No	QTY.
Nozzle Tips				
Nozzle Housing/Bodies				
Nozzle Heaters				
Nozzle Thermocouples				
Manifold Heaters				
Manifold Thermocouples				
Gate Shell Insulators				
Gate Inserts				
Valve Gate Pins				

COMPANY _____

CONTACT _____

E-MAIL _____

ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____



www.pcs-company.com

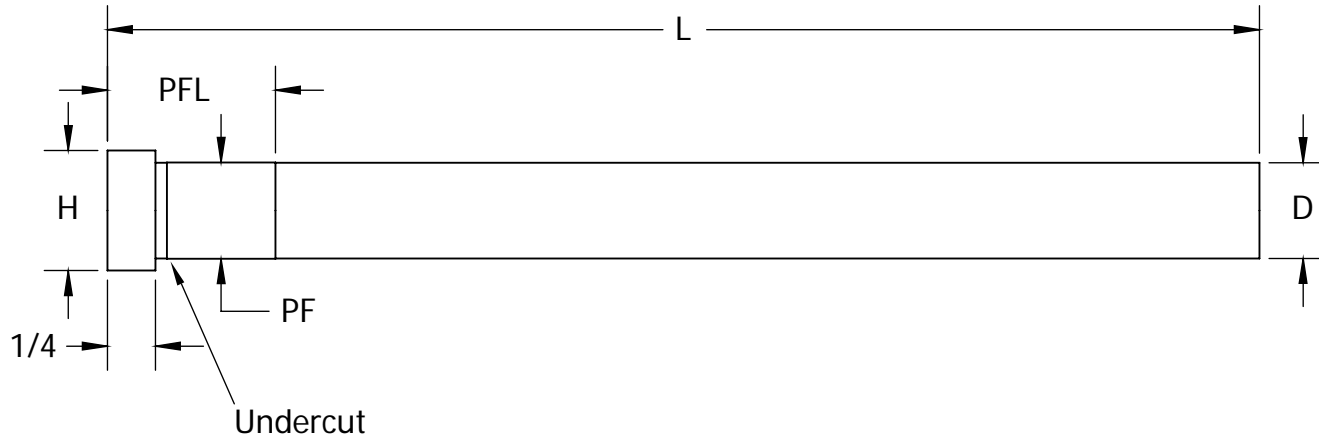
Phone: 800-521-0546

Fax: 800-505-3299

E-mail: customcomponents@pcs-company.com

Note: Email or Fax CAD/Drawing and product image next to ruler with this document.

Angle Pin



Angle Pin Design Table: Enter custom dimensions below		Requested Tolerances
Overall Length (L)		
Pin Diameter (D)		
Head Diameter (H)		
Press Fit Diameter (PF)		
Press Fit Length (PFL)		
Quantity		
Material		
Hardness		

Standard Tolerances	
Overall Length (L)	+ .125 + .000
Pin Diameter (D)	+ .0000 - .0005
Head Diameter (H)	+ .000 - .010
Press Fit Diameter (PF)	+ .0005 - .0000
Head Thickness (T)	+ .000 - .005
Press Fit Length (PFL)	- .010 - .040

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

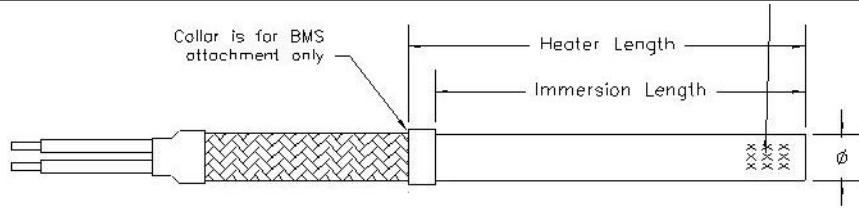
DATE _____



Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
 Fax: 800-505-3299
 E-mail: customcomponents@pcs-company.com

Made to order - Cartridge Heater RFQ Form



Outside Diameter: _____

Bore Size: _____

Overall Heater Length: _____

Immersed Length: _____

Rated Wattage: _____

Rated Voltage: _____

Heater Operating Temperature (°F): _____

Washdown or Moisture Environment: Yes No

Lead Length: _____

Ground Wire: Yes No

Quantity: _____

COMPANY _____

CONTACT _____

E-MAIL _____

ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____





Lead Type - Choose one

-  Fiberglass (*Standard*)
-  Fiberglass (*High Temp*)
-  Silicone
-  Silicone Cable
-  Teflon
-  Teflon High Amp

Potting Options - Choose one

-  Ceramic
-  Epoxy
-  Teflon Plug
-  Silicone
-  Silicone (*High Temp*)

Lead Protection

-  Fiberglass Sleeve
-  Braided Metal Sleeve
-  Armored Cable
-  Gas Proof Cable

Exit and Removal - Optional


-  Right Angle Exit
-  Right Angle Block
-  Flange
-  Knockout Tab
-  Anti-Seize Coating
-  NPT Fitting

Thermocouple - Optional

J K None

Thermocouple Location-Optional

Tip Middle



Note: Quote turnaround time is approximately 24 hours with completed template

Phone: 800-521-0546
Fax: 800-505-3299
E-mail: customcomponents@pcs-company.com

Custom Mold Plaque Request For Quote Form



Full Color Thermal Set Graphic Plaque

Choose plaque type:

- Rigid Aluminum
 Flexible Magnetic

If Flexible Magnetic: (Choose from sizes below)

- 4" x 6"
 5" x 8"

For Rigid Aluminum Plaque Specify:

Length: _____

Width: _____

Corner option: (Choose one) Square Radius

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

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

Include mounting hole location on drawing

Adhesive Backing: Yes No

Drawing Name: _____

Quantity: _____

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

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

Traditional Laser Etched Aluminum Plaque

Specify:

Length: _____

Width: _____

Corner option: (Choose one) Square Radius

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

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

Include mounting hole location on drawing

Choose Plaque color:

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

Adhesive Backing: Yes No

Drawing Name: _____

Quantity: _____

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

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

Custom Mold Plaque Request For Quote Form



Laser Etched Lamacoid Plastic Plaque

All Lamacoid Plaques come standard with adhesive backing.

Specify:

Length: _____

Width: _____

Choose Plaque color:

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

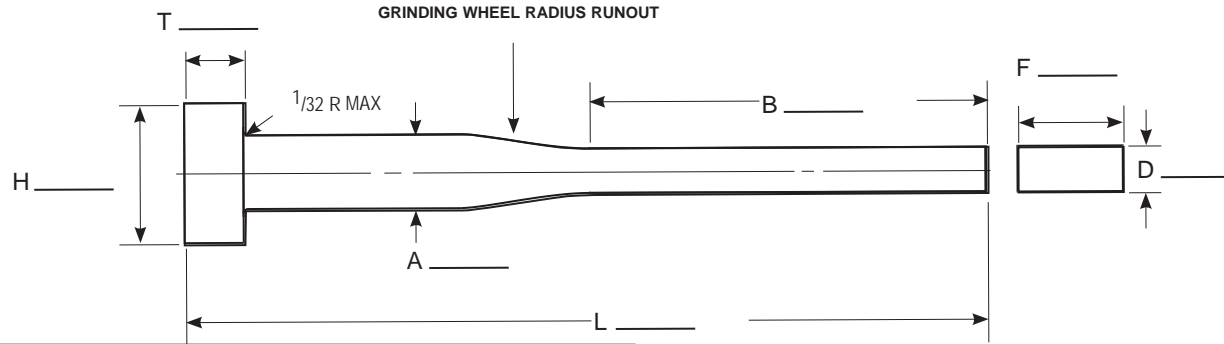
Drawing Name: _____

Quantity: _____

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

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

Custom Components Quote Request Template **Ejector Blades**



Ejector Pin Design Table: Enter custom dimensions below		Requested Tolerances
Blade Thickness (D)		
Blade Width (F)		
Pin Diameter (A)		
Head Diameter (H)		
Head Thickness (T)		
Blade Length (B)		
Overall Length (L)		
Material (PCS standard= H13)		
Hardness		
Quantity		
Coating available: Armorclad™		

Corner Specifications	
Standard	90° Sharp
Corner Radius Available	
Please specify radius:	

Standard Tolerances	
Blade Thickness (D)	+ .0000 - .0003
Blade Width (F)	+ .0000 - .0003
Pin Diameter (A)	+ .000 - .001
Head Diameter (H)	+ .000 - .010
Head Thickness (T)	+ .000 - .002
Blade Length (B)	+ .062 - .000
Overall Length (L)	+ .062 - .000

COMPANY _____

CONTACT _____

E-MAIL _____

ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____

PCS COMPANY
www.pcs-company.com

Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
Fax: 800-505-3299
E-mail: customcomponents@pcs-company.com

Ejector Pin



Ejector Pin Design Table: Enter custom dimensions below		Requested Tolerances
Length (L)		
Pin Diameter (D)		
Head Diameter (H)		
Head Thickness (T)		
Quantity		
Material		
Hardness		
Coating available: Armorclad™		

Standard Tolerances	
Length (L)	+ .062 - .000
Pin Diameter (D) ≤ 1/2"	+ .0000 - .0003
Pin Diameter (D) > 1/2"	+ .0000 - .0005
Head Diameter (H)	+ .000 - .010
Head Thickness (T)	+ .000 - .002

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____

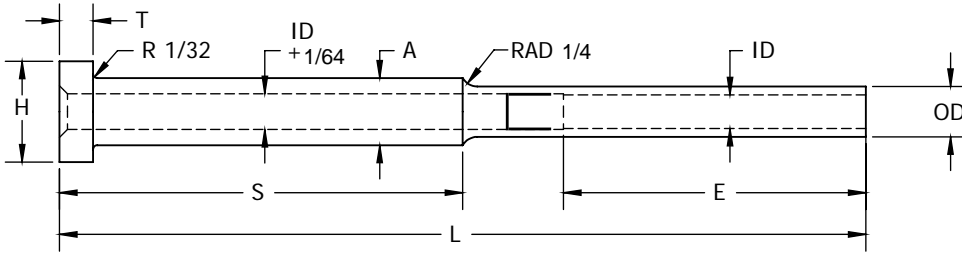


Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
 Fax: 800-505-3299
 E-mail: customcomponents@pcs-company.com

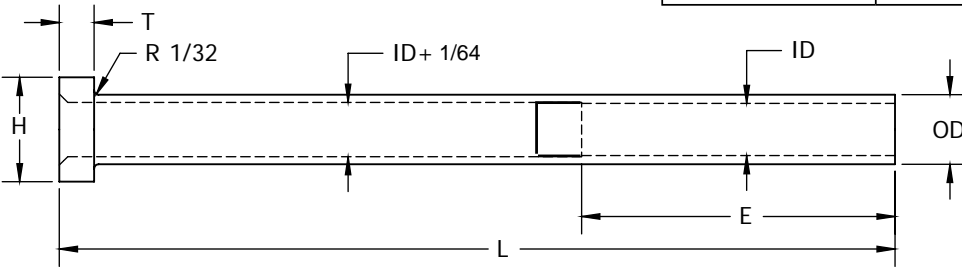
Ejector Sleeves: Step/Straight

Step Sleeve



Standard Tolerances	
Sleeve O.D. (OD)	+ .000 - .001
Head Diameter (H)	+ .000 - .010
Head Thickness (T)	+ .000 - .002
Overall Length (L)	+ .032 - .000
Sleeve I.D. (ID)	+ .0005 - .0000

Straight Sleeve



COMPANY _____

CONTACT _____

E-MAIL _____

ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____

Step Ejector Sleeve Design Table: Enter custom dimensions below		Requested Tolerances
Sleeve Diameter (OD)		
Shoulder Diameter (A)		
Head Diameter (H)		
Head Thickness (T)		
Overall Length (L)		
Inside Diameter (ID)		
Bearing Length (E)		
Shoulder Length (S)		
Material		
Hardness		
Quantity		
Coating available: Armorclad™ <input type="checkbox"/> Yes <input type="checkbox"/> No		

Straight Ejector Sleeve Design Table: Enter custom dimensions below		Requested Tolerances
Sleeve Diameter (OD)		
Head Diameter (H)		
Head Thickness (T)		
Overall Length (L)		
Inside Diameter (ID)		
Bearing Length (E)		
Material		
Hardness		
Quantity		
Coating available: Armorclad™ <input type="checkbox"/> Yes <input type="checkbox"/> No		

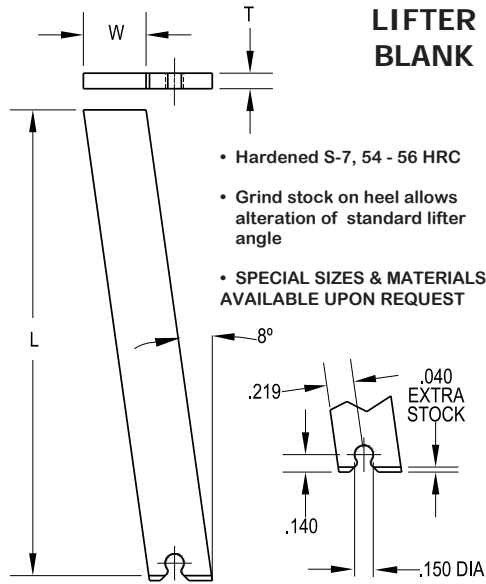


Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
 Fax: 800-505-3299
 E-mail: hotrunners@pcs-company.com

Custom Components Quote Request Template **E-Z Lifter™ Mini & Standard Series Lifter Blanks**

Mini

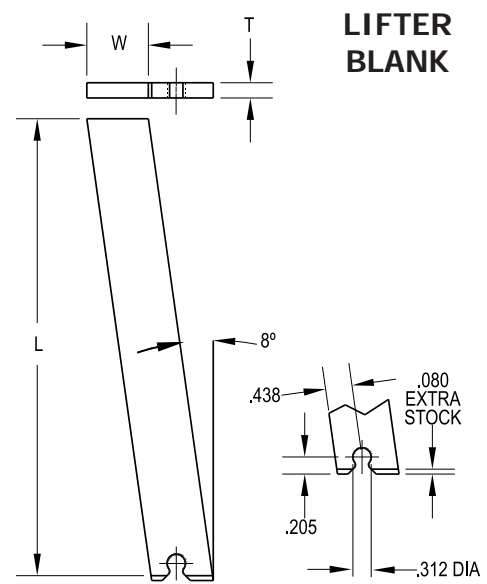


Standard Tolerances	
Length (L)	+ .060 - .000
Width (W)	- .0005 - .0010
Thickness (T)	- .0005 - .0010

E-Z Lifter™ Mini Lifter Blank Table:
Enter custom dimensions below

	Mini
T Dimension	
L Dimension	
W Dimension	
Quantity	

Standard



E-Z Lifter™ Standard Lifter Blank Table:
Enter custom dimensions below

	Standard
T Dimension	
L Dimension	
W Dimension	
Quantity	

COMPANY _____

CONTACT _____

E-MAIL _____

ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

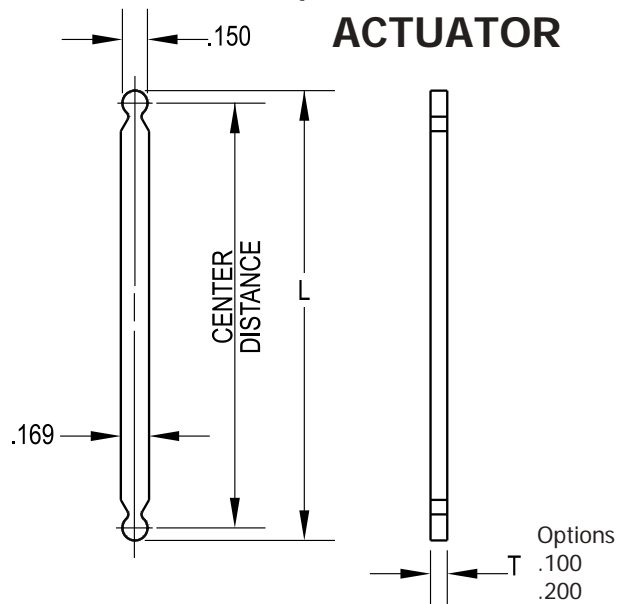
DATE _____



Note: Quote turnaround time is approximately 24 hours.

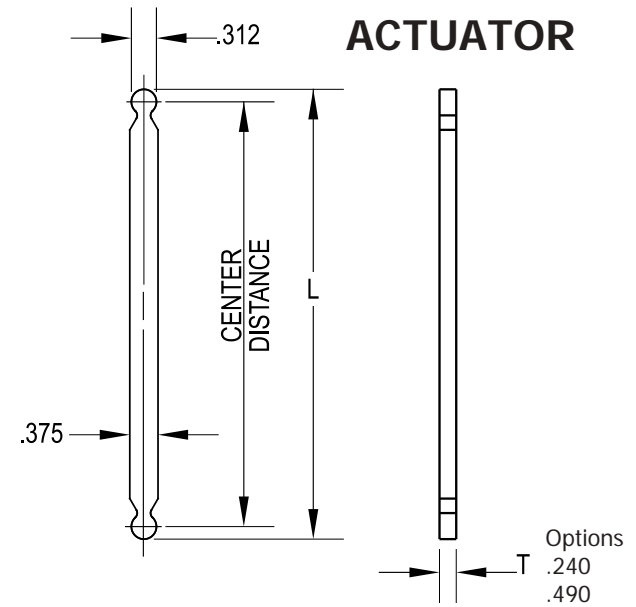
Phone: 800-521-0546
 Fax: 800-505-3299
 E-mail: customcomponents@pcs-company.com

Mini or Compact Series



E-Z Lifter™ Mini Series Table: Enter custom dimensions below	
Mini	
T Dimension	
L Dimension	
Quantity	

Standard



E-Z Lifter™ Standard Series Table: Enter custom dimensions below	
Standard	
T Dimension	
L Dimension	
Quantity	

COMPANY _____

CONTACT _____

E-MAIL _____

ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____



Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546

Fax: 800-505-3299

E-mail: customcomponents@pcs-company.com

Finished Cut To Length Pins

PCS can cut standard straight ejector pins, step ejector pins, and core pins to custom lengths. Provide the PCS item part#, quantity to be quoted, length requested, and tolerance requirements. Customers will receive a price quotation for this fee based service within 1 working day.

PCS Part#	Qty.	Length Requested	Tolerance Requested

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____



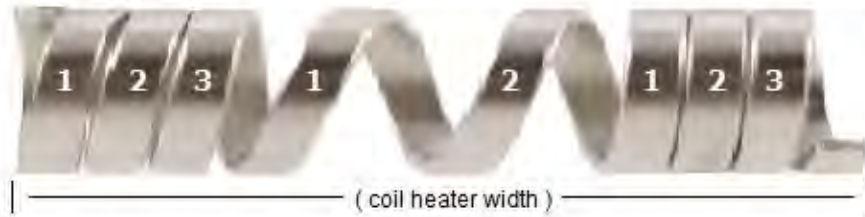
Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
Fax: 800-505-3299
E-mail: customcomponents@pcs-company.com

Wind From Stock Coil Heater RFQ Form

Winding Pattern (number of winds each) Example Shown = 3 - 2 - 3

Tip: _____ Center: _____ Lead: _____



Width of coil heater: _____

I.D. (Inside Diameter): _____

O.D. sheath (check one): Yes No
(O.D. sheath suggested for 1.25" or larger I.D.)

Standard leads 48" Teflon Insulated (Rated to 500° F)

Rated Wattage: _____

Rated Voltage: _____

Internal Type J T/C (check one):
Yes No

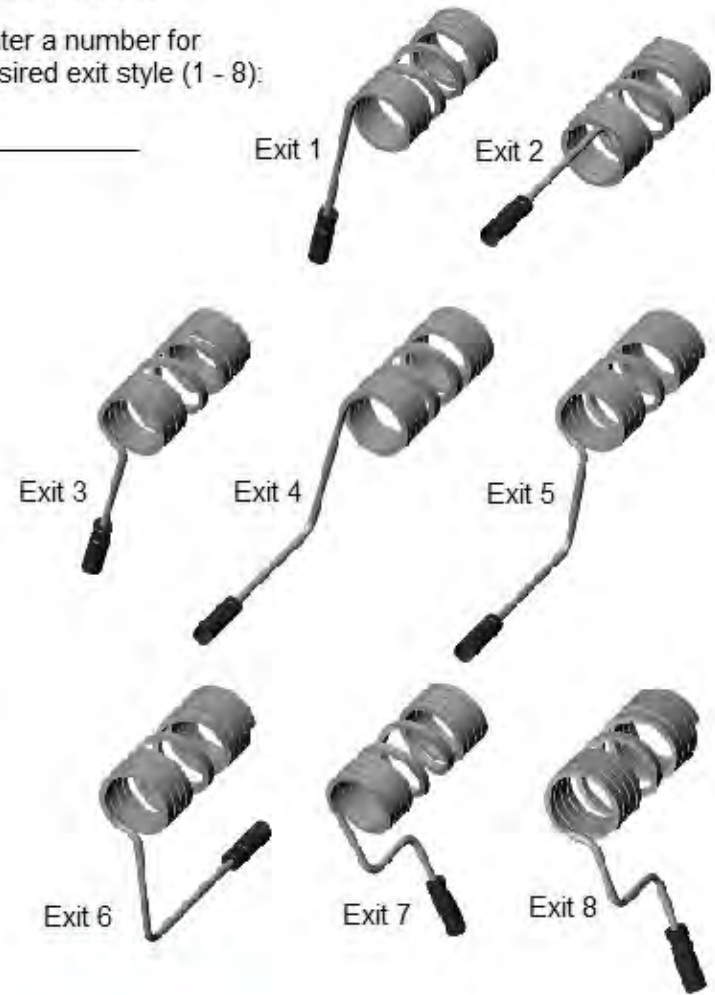
Lead Protection Options (check one):

-  Fiberglass sleeve
-  Nema rated sleeve
-  Braided metal sleeve
-  Armor cable
-  Gas proof armor cable

Quantity: _____

Exit Style Options

Enter a number for desired exit style (1 - 8):



COMPANY _____

PHONE _____ FAX _____

CONTACT _____

DATE _____

E-MAIL _____



Quote turn around:
24 hours with completed template

Phone: 800-521-0546

Fax: 800-505-3299

E-mail: hotrunners@pcs-company.com

Request For Quote Form Manifold Cleaning

Manifold Cleaning & System Refurbishment quoting is a two-step process

Step 1. PCS will provide a price quotation for cleaning and inspection only.

Step 2. After a purchase order is received and the cleaning and inspection is completed, PCS will provide a price quotation for system refurbishment (component repair, replacement parts, etc.).

Please supply the following information

OEM Manufacturer Name (i.e. Husky, Synventive, Mold-Masters)	
Hot Runner System Job/Tool I.D. Number	
Manifold Dimensions (<i>In Inches</i>) Length x Width x Height	
Number of Drops	
Resin Type(s) Used in System	
System Type: Thermal Tip or Valve Tip	
Approximate Age of System	
Will you be shipping the system assembled or disassembled?	

COMPANY	_____
CONTACT	_____
E-MAIL	_____
ADDRESS	_____
CITY, ST. ZIP	_____
PHONE	_____
FAX	_____
DATE	_____



Phone: 800-521-0546

Fax: 800-505-3299

E-mail: customcomponents@pcs-company.com

Request For Quote Form Nozzle Heater & Hot Runner Components Repair

Please check all that apply:	OEM Manufacturer	OEM Part Number	*Is CAD/Drawing Available Yes or No	QTY.
Nozzle Heater Repair				
Nozzle Seal-Off Repair				
Valve Bushing Repair				
Other				

COMPANY _____

CONTACT _____

E-MAIL _____

ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____

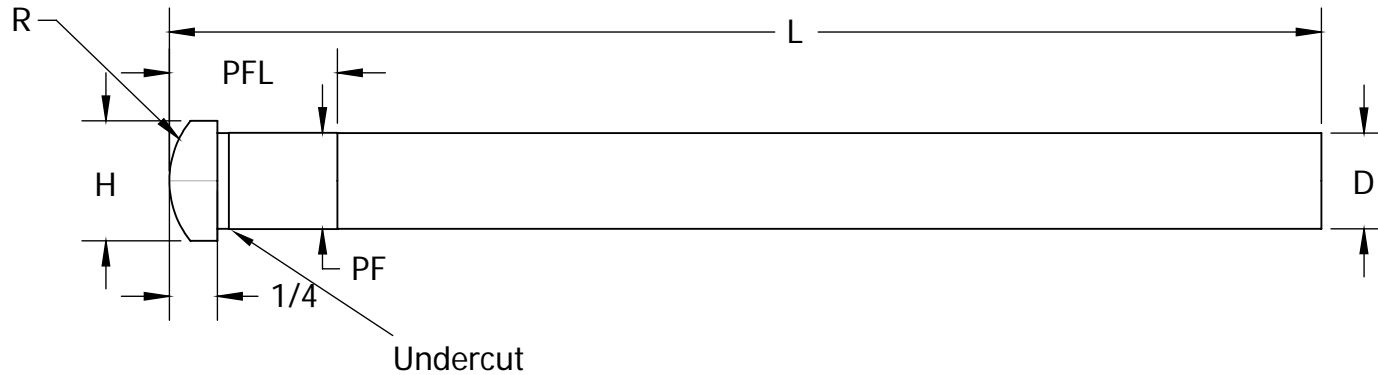


www.pcs-company.com

Phone: 800-521-0546
Fax: 800-505-3299
E-mail: customcomponents@pcs-company.com

Note: Email or Fax CAD/Drawing and product image next to ruler with this document.

Custom Components Quote Request Template **Radius Angle Pin**



Radius Angle Pin Design Table: Enter custom dimensions below		Requested Tolerances
Overall Length (L)		
Pin Diameter (D)		
Head Diameter (H)		
Press Fit Diameter (PF)		
Press Fit Length (PFL)		
Head Radius (R)		
Quantity		
Material		
Hardness		

Standard Tolerances	
Overall Length (L)	+ .125 + .000
Pin Diameter (D)	+ .0000 - .0005
Head Diameter (H)	+ .000 - .010
Press Fit Diameter (PF)	+ .0005 - .0000
Head Thickness	+ .000 - .005
Press Fit Length (PFL)	- .010 - .040

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

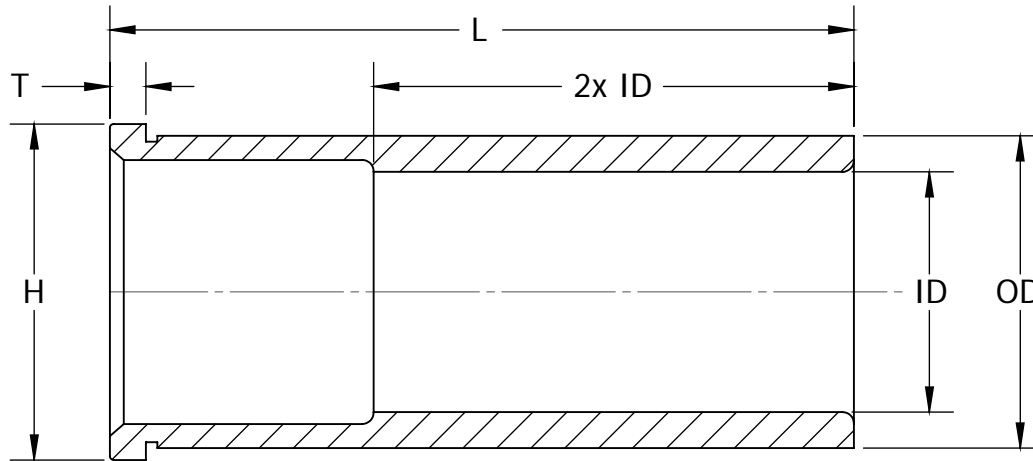
DATE _____



Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
Fax: 800-505-3299
E-mail: customcomponents@pcs-company.com

Custom Components Quote Request Template **Shoulder Bushing**



Shoulder Bushing Design Table: Enter custom dimensions below		Requested Tolerances
Bushing Inside Diameter (ID)		
Bushing Outside Diameter (OD)		
Overall Length (L)		
Head Thickness (T)		
Head Diameter (H)		
Quantity		
Material		

Standard Tolerances	
I.D.	+ .0000 + .0005
O.D.	+ .0005 - .0000
Overall Length (L)	- .030 - .060
Head Diameter (H)	+ .000 + .010
Head Thickness	+ .000 + .005

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

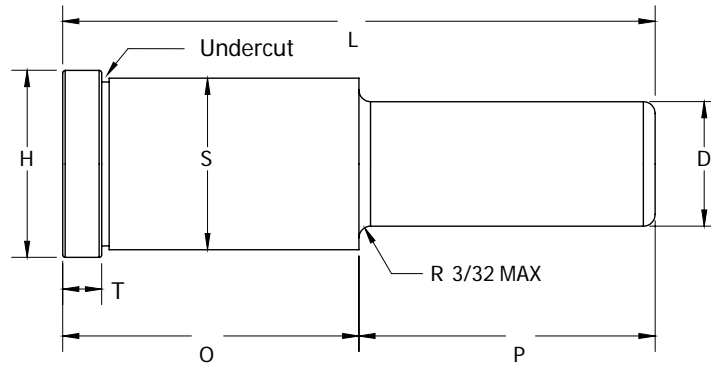
DATE _____



Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
 Fax: 800-505-3299
 E-mail: customcomponents@pcs-company.com

Shoulder Leader Pin



$$(O + P = L)$$

Shoulder Leader Pin Design Table: Enter custom dimensions below		Requested Tolerances
Pin Diameter (D)		
Shoulder Diameter (S)		
Head Diameter (H)		
Head Thickness (T)		
Overall Length (L)		
Pin Length (P)		
Shoulder Length (O)		
Quantity		
Material		
Hardness		

Standard Tolerances	
Pin Diameter (D)	+ .0000 - .0005
Shoulder Diameter (S)	+ .0005 - .0000
Overall Length (L)	- .03 - .06
Shoulder Length (O)	- .01 - .04
Head Diameter (H)	+ .000 - .010
Head Thickness (T)	+ .000 - .0005

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

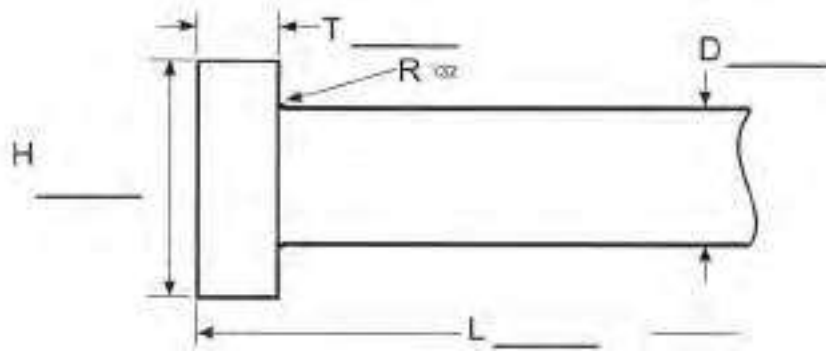
DATE _____



Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
Fax: 800-505-3299
E-mail: customcomponents@pcs-company.com

Custom Components Quote Request Template **Special Core Pin**



Special Core Pin Design Table: Enter custom dimensions below		Requested Tolerances
Length (L)		
Pin Diameter (D)		
Head Diameter (H)		
Head Thickness (T)		
Quantity		
Material		
Hardness Soft 30-35 <input type="checkbox"/>	Hard 50-55 <input type="checkbox"/>	
Coating available: Armorclad™ <input type="checkbox"/> Yes <input type="checkbox"/> No		

Standard Tolerances	
Length (L)	+ .062 - .000
Pin Diameter (D)	+ .0010 + .0005
Head Diameter (H)	+ .000 - .010
Head Thickness (T)	+ .000 - .002

COMPANY _____

CONTACT _____

E-MAIL _____

ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

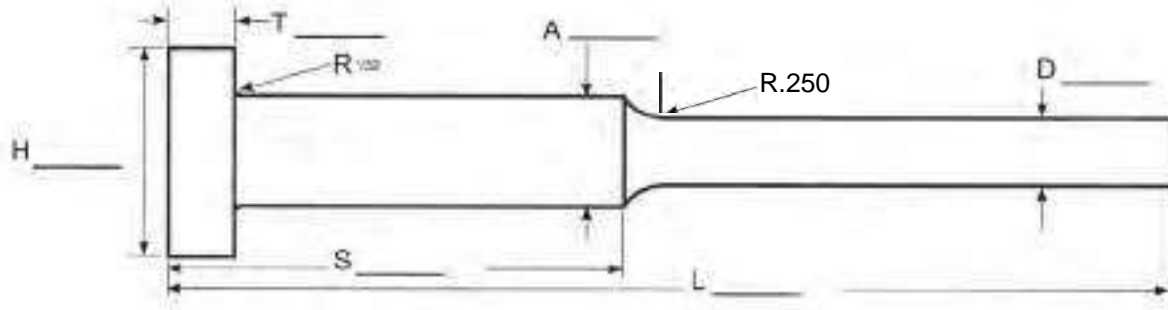
DATE _____

PCS COMPANY
www.pcs-company.com

Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
Fax: 800-505-3299
E-mail: customcomponents@pcs-company.com

Step Pin



Step Pin Design Table: Enter custom dimensions below		Requested Tolerances
Length (L)		
Pin Diameter (D)		
Head Diameter (H)		
Head Thickness (T)		
Shoulder Diameter (A)		
Shoulder Length (S)		
Quantity		
Material		
Hardness		
Coating available: Armorclad™ <input type="checkbox"/> Yes <input type="checkbox"/> No		

Standard Tolerances	
Length (L)	+ .062 - .000
Pin Diameter (D)	+ .0000 - .0003
Head Diameter (H)	+ .000 - .010
Head Thickness (T)	+ .000 - .002
Shoulder Diameter (A)	+ .000 - .001
Shoulder Length (S)	+ .010 - .010

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

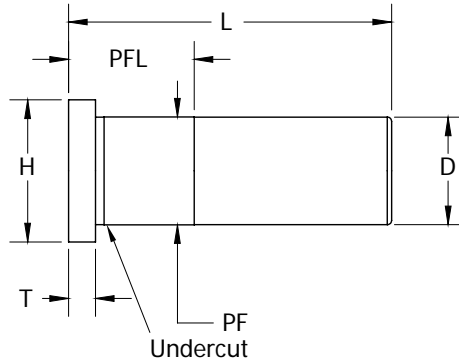
DATE _____



Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
Fax: 800-505-3299
E-mail: customcomponents@pcs-company.com

Straight Leader Pin



Straight Leader Pin Design Table: Enter custom dimensions below		Requested Tolerances
Overall Length (L)		
Pin Diameter (D)		
Head Diameter (H)		
Press Fit Diameter (PF)		
Press Fit Length (PFL)		
Head Thickness (T)		
Quantity		
Material		
Hardness		

Standard Tolerances	
Overall Length (L)	-.030 -.060
Pin Diameter (D)	+.0000 -.0005
Press Fit Diameter (P.F.)	+.0005 -.0000
Head Diameter (H)	+.000 -.010
Head Thickness (T)	+.000 -.005

COMPANY _____

CONTACT _____

E-MAIL _____


ADDRESS _____

CITY, ST. ZIP _____

PHONE _____

FAX _____

DATE _____

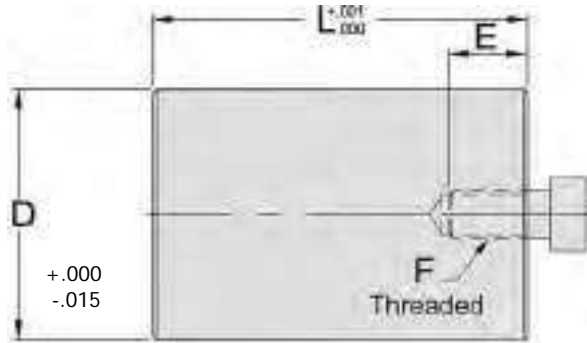


Note: Quote turnaround time is approximately 24 hours.

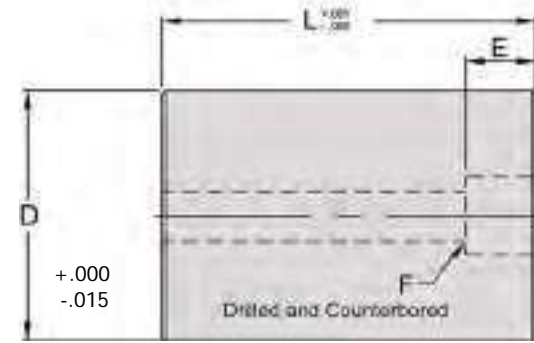
Phone: 800-521-0546
 Fax: 800-505-3299
 E-mail: customcomponents@pcs-company.com

Support Pillar

TAPPED



DRILLED & COUNTERBORED



Threaded (Tapped Hole) Support Pillar
Enter custom dimensions below

Outside Diameter (D)	
Overall Length (L)	
Thread Size (F)	
Thread Depth (E)	
Quantity	
Material Required	

Drilled & Counterbored Support Pillar
Enter custom dimensions below

Outside Diameter (D)	
Overall Length (L)	
Mounting Screw Thread Size (F)	
Counterbore Depth (E)	
Quantity	
Material Required	

Note: SAE1040 Steel unless otherwise specified.

COMPANY _____

PHONE _____ FAX _____

CONTACT _____

DATE _____

E-MAIL _____



Note: Quote turnaround time is approximately 24 hours.

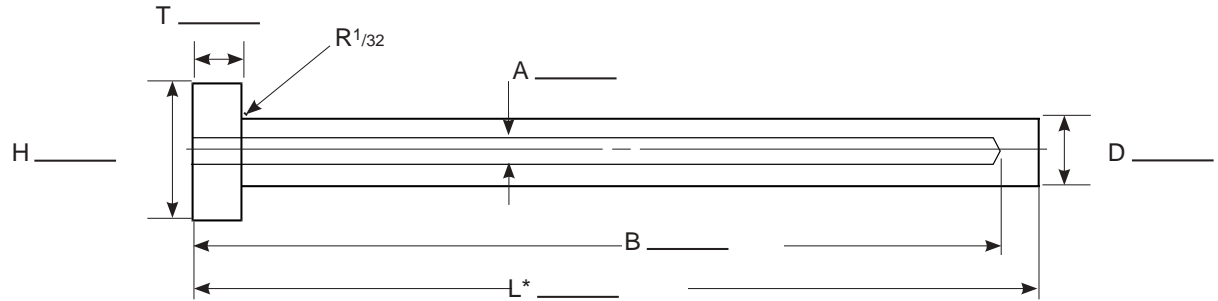
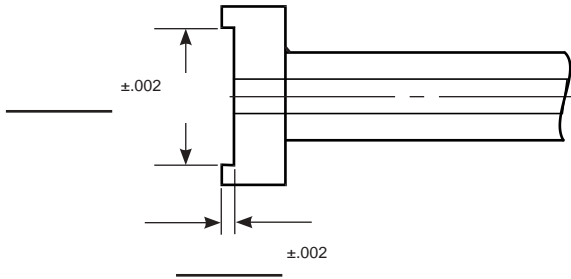
Phone: 800-521-0546

Fax: 800-505-3299

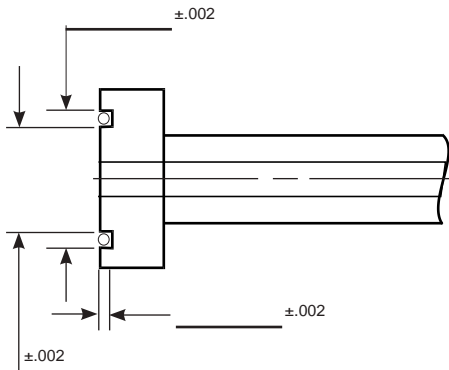
E-mail: customcomponents@pcs-company.com

Water Cooled Core

Counterbore



O-Ring Groove




Water Cooled Core Design Table: Enter custom dimensions below		Requested Tolerances
Pin Diameter (D)		
Head Diameter (H)		
Head Thickness (T)		
Length (L)		
Waterline Diameter (A)		
Waterline Depth (B)		
Material		
Hardness		
Quantity		
Coating available: Armorclad™		

Standard Tolerances	
Length (L)	+ .062 - .000
Pin Diameter (D) ≤ 1/2"	+ .0000 - .0003
Pin Diameter (D) > 1/2"	+ .0000 - .0005
Head Diameter (H)	+ .000 - .010
Head Thickness (T)	+ .000 - .002

***EXTRA LENGTH PROVIDED FOR FINAL ASSEMBLY**

COMPANY	_____
CONTACT	_____
E-MAIL	_____
ADDRESS	_____
CITY, ST. ZIP	_____
PHONE	_____
FAX	_____
DATE	_____



Note: Quote turnaround time is approximately 24 hours.

Phone: 800-521-0546
 Fax: 800-505-3299
 E-mail: customcomponents@pcs-company.com