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U.S.A. 60007**

July, 2022



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DMS has consistently been a market leader in new product development and prides itself on being first with innovations that have benefited moldmaking worldwide, with a commitment to producing and delivering quality products on time at competitive prices. With more than 2000 customers and numerous distributors in Canada and USA, DMS has a product range of over 12,000 items, including mold bases, ejector pins, core pins, leader pins, sleeve ejectors, blade ejectors, bushings, tapered interlocks, sprue bushings, locating rings, unique mechanisms, date stamps, gating inserts, modular water manifolds, full colour mold plaques, REDE vault, unscrewing devices, heating and cooling, and mold polishing items.



DMS (Windsor, ON) • DMS (Elk Grove Village, IL)

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About Us

Diemould Service Ltd.© is a global provider of high quality custom and standard mold components and tooling supplies that meet your exact requirements. History tells us, many customers are unable to get the experienced service that our team can offer to assist with their sourcing needs. With the network of manufacturers we have aligned with, our team can supply, or assist in finding, virtually any product you require in your shop. Give us a call today at **519-737-6743** and let our decades of experience work for you.

Our Products

Pins, Sleeves, Leader Pins and Bushings

- Special and standard ejector pins and core pins
- Special and standard ejector sleeves and extenders
- Special and standard bushings
- Special and standard leader pins
- Solid aluminum bronze bushings



Mold Components

- Special mold components of any kind (per your drawings)
- Special Unilifter® core blades
- Mold Counters
- Accelerated ejectors/plate accelerators
- Air poppets/ejectors
- Lifters (Sanyko style), slide core units & gibs
- Plate control items (side locks-ALL types)
- Runner shutoffs
- Slide retainers (3 types)
- Special mold bases & die sets



Heating and Cooling

- Cooling items (brass, aluminum & stainless)
- Mold power connectors
- Water manifolds
- Mold sockets & water fittings



Polishing Supplies

- Polishing shop supplies (Diamond compound, felt, brushes, abrasives)
- Hand tools (Pencil grinders, hand grinders, Turbolaps, Diprofil)
- Motors, flexible shafts, foot pedals
- Carbide burs
- Precision files
- Polishing & Ceramic stones



Distributors and Agents for:

- **Adamas** Diamond Compounds
- **Boride** Engineered Abrasives, **Falcon Tool**
- **Cumsa**
- **Exaflow** & **I-Mold** Tunnel gates
- **ITC** Temperature Controls
- **Foredom**, **NSK**, **ULAP**
- **Custom Mold**
- **Jergens®**
- **Rud Chain** & **Hoist Rings**
- **Strack®/Hotset®**

**Specials
templates
available on
our website**


Your Innovative Edge
Complete sourcing for your
tool shop needs

ADAMAS

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Specials

Pins, Sleeves & Bushings (Per Your Drawing)



Your Innovative Edge
Complete sourcing for your
tool shop needs

Lifters and Slide Action



Alignment



Miscellaneous Components



Heating and Cooling



Polishing Supplies



Air and Electric Tools



Clamping and Hoisting



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Conversion Tables

Inches to Millimeters

INCHES	MM	INCHES	MM
1	25.4	34	863.6
2	50.8	35	889.0
3	76.2	36	914.4
4	101.6	37	939.8
5	127.0	38	965.2
6	152.4	39	990.6
7	177.8	40	1016.0
8	203.2	41	1041.4
9	228.6	42	1066.8
10	254.0	43	1092.2
11	279.4	44	1117.6
12	304.8	45	1143.0
13	330.2	46	1168.4
14	355.6	47	1193.8
15	381.0	48	1219.2
16	406.4	49	1244.6
17	431.8	50	1270.0
18	457.2	51	1295.4
19	482.6	52	1320.8
20	508.0	53	1346.2
21	533.4	54	1371.6
22	558.8	55	1397.0
23	584.2	56	1422.4
24	609.6	57	1447.8
25	635.0	58	1473.2
26	660.4	59	1498.6
27	685.8	60	1524.0
28	711.2	61	1549.4
29	736.6	62	1574.8
30	762.0	63	1600.2
31	787.4	64	1625.6
32	812.8	65	1651.0
33	838.2	66	1676.4

INCHES	MM
1/64	0.015625
1/32	0.031250
3/64	0.046875
1/16	0.062500
5/64	0.078125
3/32	0.093750
7/64	0.109375
1/8	0.125000
9/64	0.140625
5/32	0.156250
11/64	0.171875
3/16	0.187500
13/64	0.203125
7/32	0.218750
15/64	0.234375
1/4	0.250000
17/64	0.265625
9/32	0.281250
19/64	0.296875
5/16	0.312500
21/64	0.328125
11/32	0.343750
23/64	0.359375
3/8	0.375000
25/64	0.390625
13/32	0.406250
27/64	0.421875
7/16	0.437500
29/64	0.453125
15/32	0.468750
31/64	0.484375
1/2	0.500000

INCHES	MM
33/64	0.515625
17/32	0.531250
35/64	0.546875
9/16	0.562500
37/64	0.578125
19/32	0.593750
39/64	0.609375
5/8	0.625000
41/64	0.640625
21/32	0.656250
43/64	0.671875
11/16	0.687500
45/64	0.703125
23/32	0.718750
47/64	0.734375
3/4	0.750000
49/64	0.765625
25/32	0.781250
51/64	0.796875
13/16	0.812500
53/64	0.828125
27/32	0.843750
55/64	0.859375
7/8	0.875000
57/64	0.890625
29/32	0.906250
59/64	0.921875
15/16	0.937500
61/64	0.953125
31/32	0.968750
63/64	0.984375
1	1.000000

INCHES	MM	INCHES	MM	INCHES	MM
0.001	0.0254	0.01	0.254	0.1	2.54
0.002	0.0508	0.02	0.508	0.2	5.08
0.003	0.0762	0.03	0.762	0.3	7.62
0.004	0.1016	0.04	1.016	0.4	10.16
0.005	0.1270	0.05	1.270	0.5	12.70
0.006	0.1524	0.06	1.524	0.6	15.24
0.007	0.1778	0.07	1.778	0.7	17.78
0.008	0.2032	0.08	2.032	0.8	20.32
0.009	0.2286	0.09	2.286	0.9	22.86

MULTIPLY BY	FROM → TO		MULTIPLY BY
	← TO	← FROM	
0.0394	inch	millimeter	25.4
0.0016	inch ²	millimeter ²	645.16
0.061	inch ³	centimeter ³	16.3871
0.2642	gallon (U.S.)	liter	3.7854
0.03527	oz. (avdp.)	gram	28.3495
2.2044	pound	kilogram	0.4536
62.43	lbs/ft ³	g / cm ³	0.0160
0.145	psi	kPa	6.8948
14.2247	psi	kg / cm ²	0.0703
1.8°C + 32	°F	°C	(°F-32)/1.8



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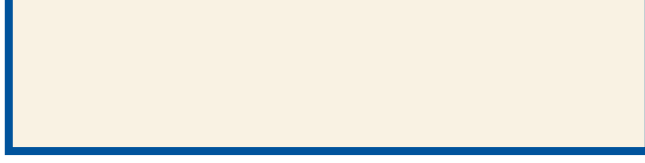
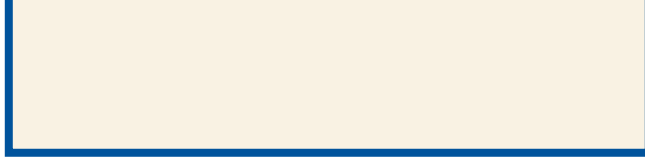
D-Head Ejector Pins

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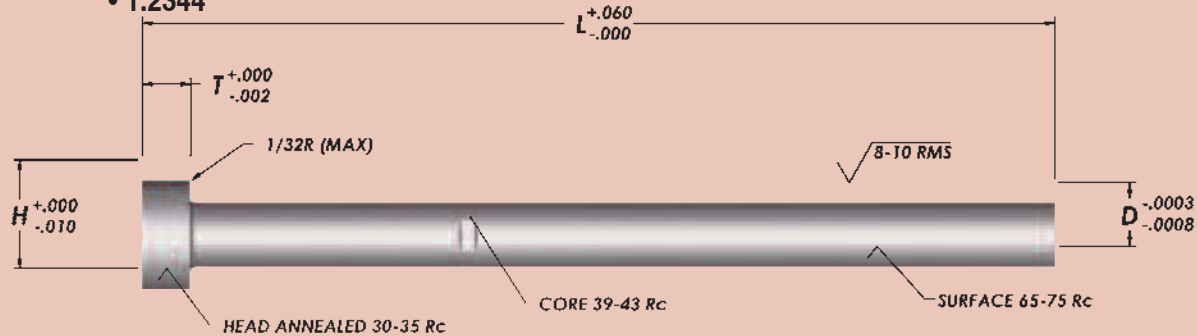




Ejector Pins

Nitrided - Parallel Inch

Material • AISI: H13
• 1.2344



D	Cat. No.	L														H	T	
		6"		10"		14"		18"		25"		36"	39"	42"	45"			50"
		STD.	+005	STD.	+005	STD.	+005	STD.	+005	STD.	+005	STD.	STD.					
1/32	EP03	L06P	L065														1/4	1/8
3/64	EP04	L06P	L065														1/4	1/8
1/16	EP06	L06P		L10P	L10P5												1/4	1/8
5/64	EP07	L06P		L10P	L10P5												1/4	1/8
3/32	EP09	L06P		L10P	L10P5												1/4	1/8
7/64	EP10	L06P		L10P	L10P5												1/4	1/8
1/8	EP12	L06		L10	L105	L14	L145	L18		L25							1/4	1/8
9/64	EP14			L10		L14	L145										1/4	1/8
5/32	EP15	L06		L10	L105	L14	L145	L18		L25		L36					9/32	5/32
11/64	EP17			L10		L14	L145	L18									11/32	3/16
3/16	EP18	L06		L10	L105	L14	L145	L18		L25			L39		L45	L50	3/8	3/16
13/64	EP20			L10		L14	L145	L18		L25							3/8	3/16
7/32	EP21	L06		L10	L105	L14	L145	L18		L25							13/32	3/16
15/64	EP23			L10		L14	L145	L18		L25							13/32	3/16
1/4	EP25	L06		L10	L105	L14	L145	L18	L185	L25	L255	L36	L39				7/16	3/16
17/64	EP26			L10		L14	L145	L18		L25						L50	7/16	1/4
9/32	EP28	L06		L10	L105	L14	L145	L18		L25							7/16	1/4
19/64	EP29			L10		L14	L145	L18		L25							1/2	1/4
5/16	EP31	L06		L10	L105	L14	L145	L18	L185	L25	L255	L36	L39		L50		1/2	1/4
21/64	EP32			L10		L14	L145	L18		L25							9/16	1/4
11/32	EP34	L06		L10	L105	L14	L145	L18		L25							9/16	1/4
23/64	EP35			L10		L14	L145	L18		L25							5/8	1/4
3/8	EP37	L06		L10	L105	L14	L145	L18	L185	L25	L255	L36	L39		L50		5/8	1/4
25/64	EP39			L10		L14	L145										5/8	1/4
13/32	EP40	L06		L10	L105	L14	L145	L18		L25							11/16	1/4
27/64	EP42			L10		L14	L145										11/16	1/4
7/16	EP43	L06		L10	L105	L14	L145	L18		L25		L36	L39				11/16	1/4
29/64	EP45			L10		L14	L145										11/16	1/4
15/32	EP46	L06		L10	L105	L14	L145	L18		L25							3/4	1/4
31/64	EP48			L10		L14	L145										3/4	1/4
1/2	EP50	L06		L10	L105	L14	L145	L18	L185	L25	L255	L36	L39	L42	L50		3/4	1/4
17/32	EP53	L06		L10		L14	L145										3/4	1/4
9/16	EP56	L06		L10		L14		L18		L25			L39		L50		13/16	1/4
5/8	EP62	L06		L10		L14		L18		L25		L36	L39		L50		7/8	1/4
11/16	EP68	L06		L10		L14		L18		L25							15/16	1/4
3/4	EP75	L06		L10		L14		L18		L25		L36	L39		L45	L50		
7/8	EP87	L06		L10		L14		L18		L25			L39		L50		1-1/8	1/4
1	EP100	L06		L10		L14		L18		L25		L36	L39	L42	L45	L50		

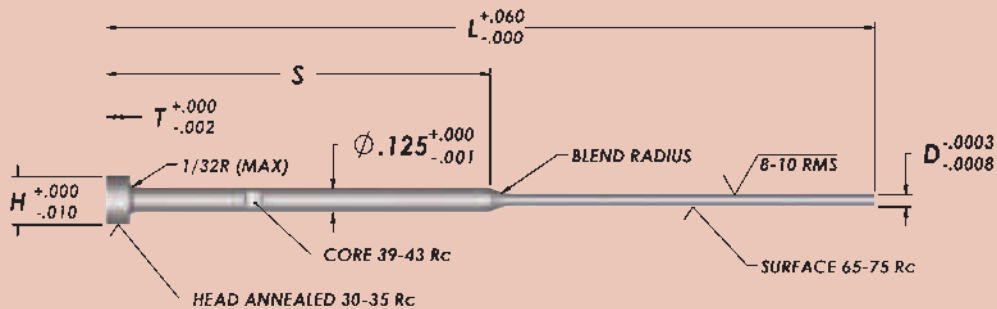
- To order, add overall length "L" to Catalog Number. Example: EP04L06P
- Sizes marked in blue print are available but generally not stocked. Call for price and delivery. Example: EP06L10P
- New Items shown in bold print. Example: EP14L145



Ejector Pins

Nitrided - Shoulder Inch

Material • AISI: H13
• 1.2344



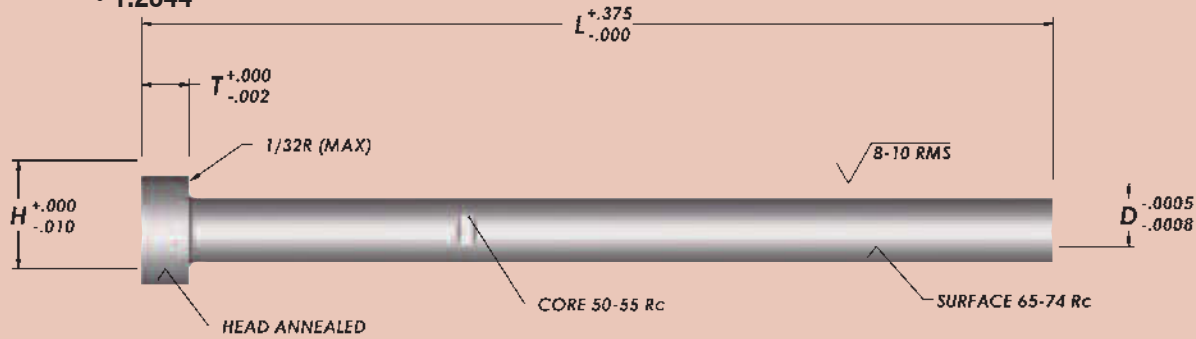
D	S	Cat. No.	L						H	T
			6"		10"		14"			
			STD.	+0.005	STD.	+0.005	STD.	+0.005		
1/32	1/2	EP03	L06-1/2	L065-1/2					1/4	1/8
	2	EP03	L06-2		L10-2	L105-2				
3/64	1/2	EP04	L06-1/2		L10-1/2	L105-1/2	L14-1/2		1/4	1/8
	2	EP04	L06-2		L10-2	L105-2	L14-2			
	3	EP04			L10-3					
	4	EP04			L10-4	L105-4	L14-4	L145-4		
1/16	1/2	EP06	L06-1/2		L10-1/2	L105-1/2	L14-1/2		1/4	1/8
	2	EP06	L06-2		L10-2	L105-2	L14-2			
	3	EP06			L10-3					
	4	EP06			L10-4	L105-4	L14-4	L145-4		
5/64	1/2	EP07	L06-1/2		L10-1/2	L105-1/2	L14-1/2		1/4	1/8
	2	EP07	L06-2		L10-2	L105-2	L14-2			
	3	EP07			L10-3					
	4	EP07			L10-4	L105-4	L14-4	L145-4		
3/32	1/2	EP09	L06-1/2		L10-1/2	L105-1/2	L14-1/2		1/4	1/8
	2	EP09	L06-2		L10-2	L105-2	L14-2			
	3	EP09			L10-3					
	4	EP09			L10-4	L105-4	L14-4	L145-4		
7/64	1/2	EP10	L06-1/2		L10-1/2	L105-1/2	L14-1/2		1/4	1/8
	2	EP10	L06-2		L10-2	L105-2	L14-2			
	3	EP10			L10-3					
	4	EP10			L10-4	L105-4	L14-4	L145-4		

- To order, add overall length "L" to Catalog Number. Example: EP03L06-1/2
- Sizes marked in blue print are available but generally not stocked. Call for price and delivery. Example: EP04L10-3
- New Items shown in bold print. Example: EP03**L065-1/2**



Ejector Pins Through Hard - Parallel Inch

Material • AISI: H13
• 1.2344



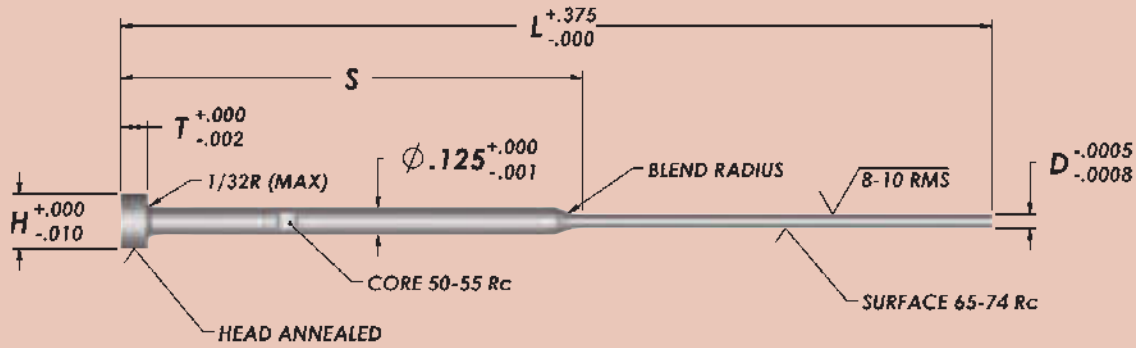
D	Cat. No.	L						H	T	
		6"		10"		14"				18"
		STD.	+0.005	STD.	+0.005	STD.	+0.005			
1/32	RHX-02	L06	L065					1/4	1/8	
3/64	RHX-03	L06	L065					1/4	1/8	
1/16	RHX-05	L06		L10	L105			1/4	1/8	
5/64	RHX-06	L06		L10	L105			1/4	1/8	
3/32	RHX-07	L06		L10	L105			1/4	1/8	
7/64	RHX-08	L06		L10	L105			1/4	1/8	
1/8	RHX-09	L06		L10	L105	L14	L145	1/4	1/8	
9/64	RHX-10	L06		L10	L105	L14	L145	1/4	1/8	
5/32	RHX-11	L06		L10	L105	L14	L145	9/32	5/32	
11/64	RHX-12	L06		L10	L105	L14	L145	11/32	3/16	
3/16	RHX-13	L06		L10	L105	L14	L145	3/8	3/16	
13/64	RHX-14	L06		L10		L14	L145	3/8	3/16	
7/32	RHX-15	L06		L10	L105	L14	L145	13/32	3/16	
15/64	RHX-16	L06		L10		L14	L145	13/32	3/16	
1/4	RHX-17	L06		L10	L105	L14	L145	L18	7/16	3/16
17/64	RHX-18	L06		L10		L14	L145	7/16	1/4	
9/32	RHX-19	L06		L10	L105	L14	L145	7/16	1/4	
19/64	RHX-20	L06		L10		L14	L145	1/2	1/4	
5/16	RHX-21	L06		L10	L105	L14	L145	L18	1/2	1/4
21/64	RHX-22	L06		L10		L14	L145	9/16	1/4	
11/32	RHX-23	L06		L10	L105	L14	L145	9/16	1/4	
23/64	RHX-24	L06		L10		L14	L145	5/8	1/4	
3/8	RHX-25	L06		L10	L105	L14	L145	L18	5/8	1/4
25/64	RHX-26	L06		L10		L14	L145	37/64	1/4	
13/32	RHX-27	L06		L10	L105	L14	L145	11/16	1/4	
27/64	RHX-28	L06		L10		L14	L145	11/16	1/4	
7/16	RHX-29	L06		L10	L105	L14	L145	11/16	1/4	
29/64	RHX-30	L06		L10		L14	L145	45/64	1/4	
15/32	RHX-31	L06		L10	L105	L14	L145	3/4	1/4	
31/64	RHX-32	L06		L10		L14	L145	3/4	1/4	
1/2	RHX-33	L06		L10	L105	L14	L145	L18	3/4	1/4
17/32	RHX-34	L06		L10		L14		3/4	1/4	
9/16	RHX-35	L06		L10		L14		13/16	1/4	
5/8	RHX-37	L06		L10		L14		L18	7/8	1/4
11/16	RHX-39	L06		L10		L14		15/16	1/4	
3/4	RHX-41	L06		L10		L14		L18	1	1/4
7/8	RHX-45	L06		L10		L14		1-1/8	1/4	
1	RHX-47	L06		L10		L14		1-1/4	1/4	

• To order, add overall length "L" to Catalog Number. Example: RHX-03L06



Ejector Pins Through Hard - Shoulder Inch

Material • AISI: H13
• 1.2344



D	S	Cat. No.	L					H	T
			STD.	STD.	+0.005	STD.	+0.005		
1/32	1/2	RHX-02-1/2	L06					1/4	1/8
	2	RHX-02-2	L06						
	3	RHX-02-3		L10	L105				
	4	RHX-02-4		L10	L105				
3/64	1/2	RHX-03-1/2	L06					1/4	1/8
	2	RHX-03-2	L06	L10	L105				
	3	RHX-03-3		L10	L105				
	4	RHX-03-4		L10	L105				
1/16	1/2	RHX-05-1/2	L06	L10	L105			1/4	1/8
	2	RHX-05-2	L06	L10	L105	L14	L145		
	3	RHX-05-3		L10	L105				
	4	RHX-05-4		L10	L105				
5/64	1/2	RHX-06-1/2	L06	L10	L105			1/4	1/8
	2	RHX-06-2	L06	L10	L105	L14	L145		
	3	RHX-06-3		L10	L105				
	4	RHX-06-4		L10	L105				
3/32	1/2	RHX-07-1/2	L06	L10	L105			1/4	1/8
	2	RHX-07-2	L06	L10	L105	L14	L145		
	3	RHX-07-3		L10	L105				
	4	RHX-07-4		L10	L105				
7/64	1/2	RHX-08-1/2	L06	L10	L105			1/4	1/8
	2	RHX-08-2	L06	L10	L105	L14	L145		
	3	RHX-08-3		L10	L105				
	4	RHX-08-4		L10	L105				

• To order, add overall length "L" to Catalog Number. Example: RHX-02-1/2L06

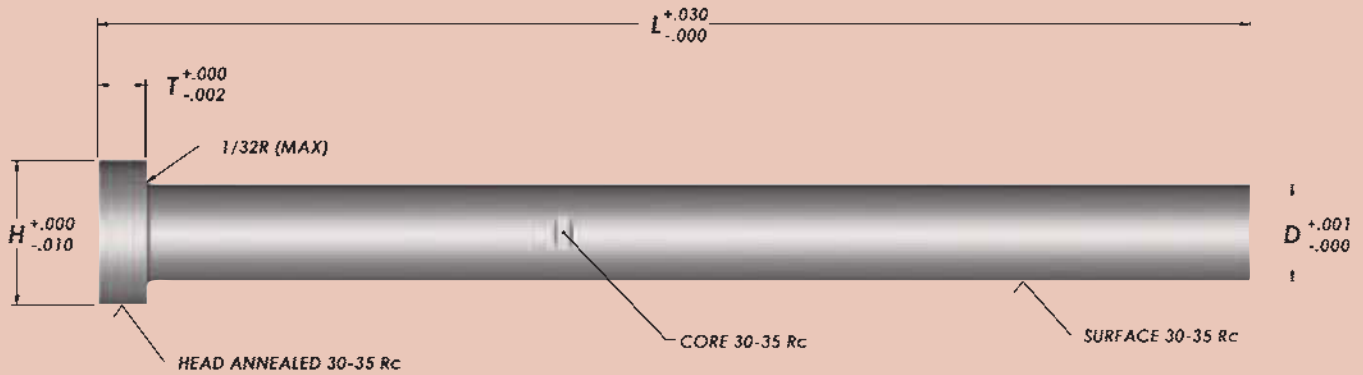


Core Pins

Standard Hardness (Soft)

Inch

Material • AISI: H13
• 1.2344



D	Cat. No.	L				H	T
		3"	6"	10"	14"		
3/32	CPS09	L03	L06	L10		1/4	1/8
7/64	CPS10	L03	L06	L10		1/4	1/8
1/8	CPS12	L03	L06	L10	L14	1/4	1/8
9/64	CPS14	L03	L06	L10	L14	1/4	1/8
5/32	CPS15	L03	L06	L10	L14	9/32	5/32
11/64	CPS17	L03	L06	L10	L14	11/32	3/16
3/16	CPS18	L03	L06	L10	L14	3/8	3/16
13/64	CPS20	L03	L06	L10	L14	3/8	3/16
7/32	CPS21	L03	L06	L10	L14	13/32	3/16
1/4	CPS25	L03	L06	L10	L14	7/16	3/16
9/32	CPS28	L03	L06	L10	L14	7/16	1/4
5/16	CPS31	L03	L06	L10	L14	1/2	1/4
11/32	CPS34	L03	L06	L10	L14	9/16	1/4
3/8	CPS37	L03	L06	L10	L14	5/8	1/4
13/32	CPS40	L03	L06	L10	L14	11/16	1/4
7/16	CPS43	L03	L06	L10	L14	11/16	1/4
15/32	CPS46	L03	L06	L10	L14	3/4	1/4
1/2	CPS50	L03	L06	L10	L14	3/4	1/4
9/16	CPS56		L06	L10	L14	13/16	1/4
5/8	CPS62		L06	L10	L14	7/8	1/4
3/4	CPS75		L06	L10	L14	1	1/4
7/8	CPS87		L06	L10	L14	1-1/8	1/4
1"	CPS100		L06	L10	L14	1-1/4	1/4

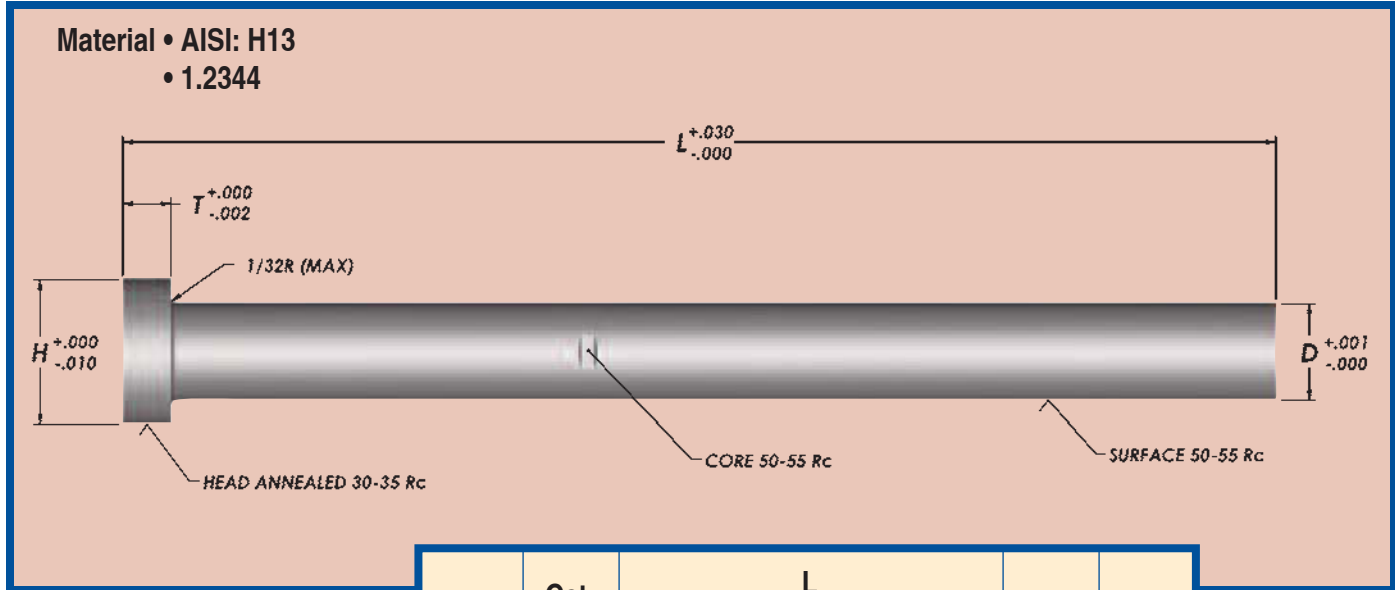
To order, add overall length L to Catalog Number. Example: CPH09L03



Core Pins

High Hardness (Hard)

Inch

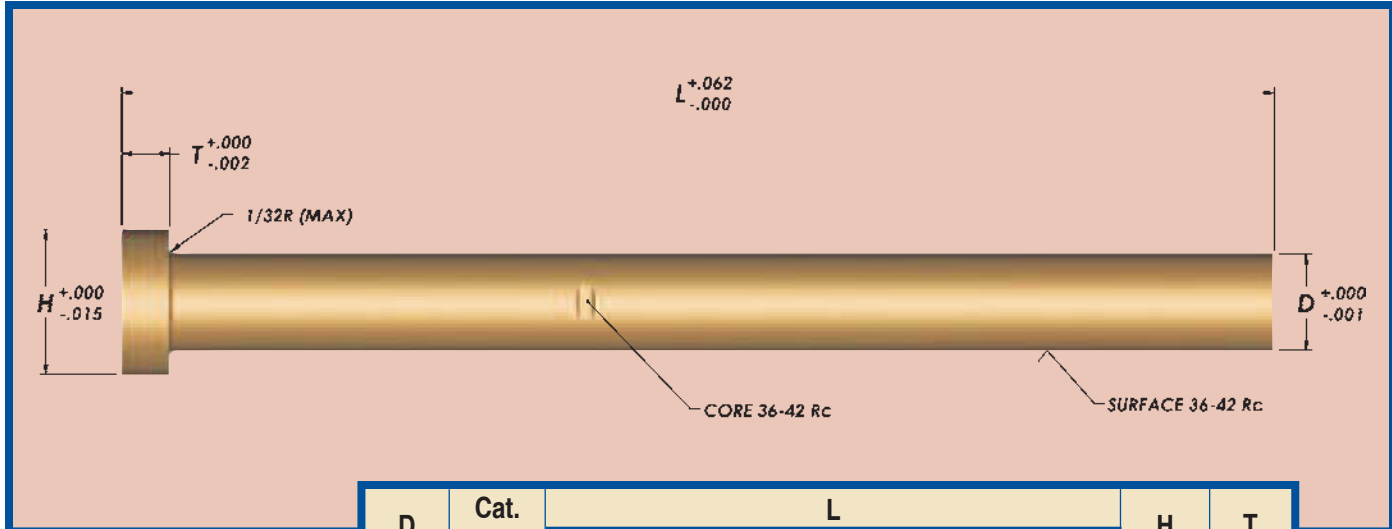


D	Cat. No.	L				H	T
		3"	6"	10"	14"		
3/32	CPH09	L03	L06	L10		1/4	1/8
7/64	CPH10	L03	L06	L10		1/4	1/8
1/8	CPH12	L03	L06	L10	L14	1/4	1/8
9/64	CPH14	L03	L06	L10	L14	1/4	1/8
5/32	CPH15	L03	L06	L10	L14	9/32	5/32
11/64	CPH17	L03	L06	L10	L14	11/32	3/16
3/16	CPH18	L03	L06	L10	L14	3/8	3/16
13/64	CPH20	L03	L06	L10	L14	3/8	3/16
7/32	CPH21	L03	L06	L10	L14	13/32	3/16
1/4	CPH25	L03	L06	L10	L14	7/16	3/16
9/32	CPH28	L03	L06	L10	L14	7/16	1/4
5/16	CPH31	L03	L06	L10	L14	1/2	1/4
11/32	CPH34	L03	L06	L10	L14	9/16	1/4
3/8	CPH37	L03	L06	L10	L14	5/8	1/4
13/32	CPH40	L03	L06	L10	L14	11/16	1/4
7/16	CPH43	L03	L06	L10	L14	11/16	1/4
15/32	CPH46	L03	L06	L10	L14	3/4	1/4
1/2	CPH50	L03	L06	L10	L14	3/4	1/4
9/16	CPH56		L06	L10	L14	13/16	1/4
5/8	CPH62		L06	L10	L14	7/8	1/4
3/4	CPH75		L06	L10	L14	1	1/4
7/8	CPH87		L06	L10	L14	1-1/8	1/4
1"	CPH100		L06	L10	L14	1-1/4	1/4

To order, add overall length L to Catalog Number. Example: CPH09L03



Core Pins Copper Alloy Inch



D	Cat. No.	L				H	T
		4"	8"	12"	18"		
1/8	MM12	L04	L08	L12		1/4	1/8
5/32	MM15	L04	L08	L12	L18	9/32	5/32
3/16	MM18	L04	L08	L12	L18	3/8	3/16
7/32	MM21	L04	L08	L12	L18	13/32	3/16
1/4	MM25	L04	L08	L12	L18	7/16	3/16
9/32	MM28	L04	L08	L12	L18	7/16	1/4
5/16	MM31	L04	L08	L12	L18	1/2	1/4
3/8	MM37	L04	L08	L12	L18	5/8	1/4
7/16	MM43	L04	L08	L12	L18	11/16	1/4
1/2	MM50	L04	L08	L12	L18	3/4	1/4
9/16	MM56	L04	L08	L12	L18	13/16	1/4
5/8	MM62	L04	L08	L12	L18	7/8	1/4
3/4	MM75	L04	L08	L12	L18	1	1/4

Copper Alloy Pins from DMS offer the highest combination of thermal conductivity and strength available. Made from prehardened copper alloy, our pins are 3 times stronger than competing copper alloy pins, and have thermal conductivity 3-5 times greater than steel pins.

The high strength provides longer life, resistance to abrasion and ease of machining.

The high thermal conductivity provides faster heat removal from critical areas, reducing molded part cost and post-mold shrinkage. The high-copper alloy provides excellent corrosion resistance and inherent lubricity and galling resistance.

Custom sizes are available.

- To order, add overall length "L" to Catalog Number. Example: MM12L04
- Material: Copper Alloy AB-4
- Specials available upon request.

SAFE HANDLING

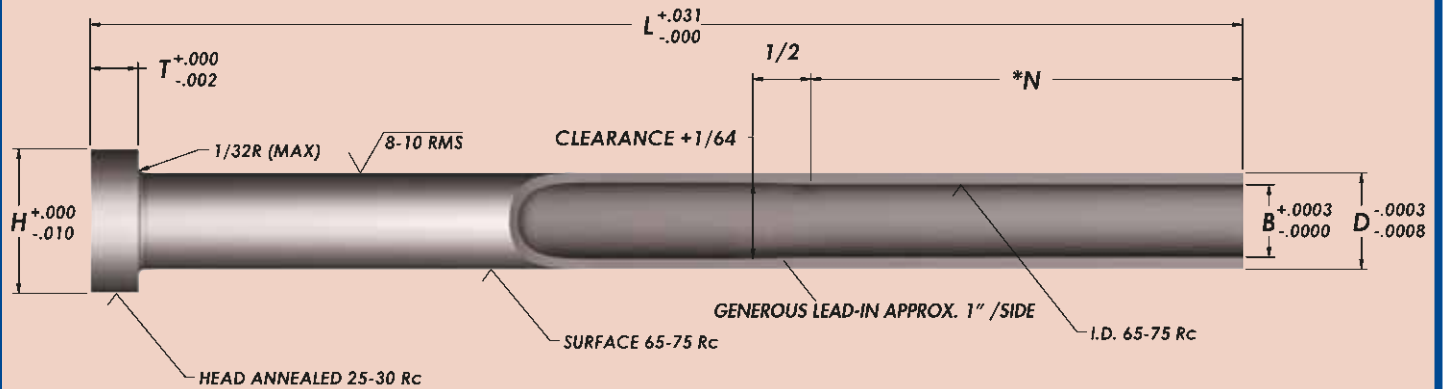
Copper Alloy in solid form poses no special health risk. Like many industrial materials, beryllium-containing materials may pose a health risk if recommended safe handling practices are not followed. Inhalation of airborne beryllium may cause a serious lung disorder in susceptible individuals. The Occupational Safety and Health Administration (OSHA) has set mandatory limits on occupational respiratory exposures.



Ejector Sleeves

Nitrided - Parallel Inch

Material • AISI: H13
 • 1.2344
 Nitrided • I.D. & O.D.



B I.D.	D O.D.	Cat. No.	L												H	T
			3"	4"	5"	6"	7"	8"	9"	10"	11"	12"	13"	14"		
3/32	3/16	SE02	L03	L04	L05	L06	L07	L08							3/8	3/16
1/8	7/32	SE03	L03	L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	13/32	3/16
5/32	1/4	SE04		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	7/16	3/16
3/16	5/16	SE05		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	1/2	1/4
7/32	11/32	SE55		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	9/16	1/4
1/4	3/8	SE06		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	5/8	1/4
5/16	7/16	SE07		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	11/16	1/4
3/8	1/2	SE08		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	3/4	1/4
7/16	5/8	SE09		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	7/8	1/4
1/2	11/16	SE10		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	15/16	1/4
9/16	3/4	SE11		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	1	1/4
5/8	7/8	SE12		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	1-1/8	1/4
3/4	1	SE13		L04	L05	L06	L07	L08	L09	L10	L11	L12	L13	L14	1-1/4	1/4

- To order, add overall length "L" to Catalog Number. Example: SE02L03
- Sizes marked in BLUE print are available, but generally not stocked. Call for price and delivery.
 Example: SE02L08 *(N) = 1-3/4 for SE02 and SE03 *(N) = 2-1/4 for SE04 and larger.

* Extra Long Ejector Sleeves Inch Standard



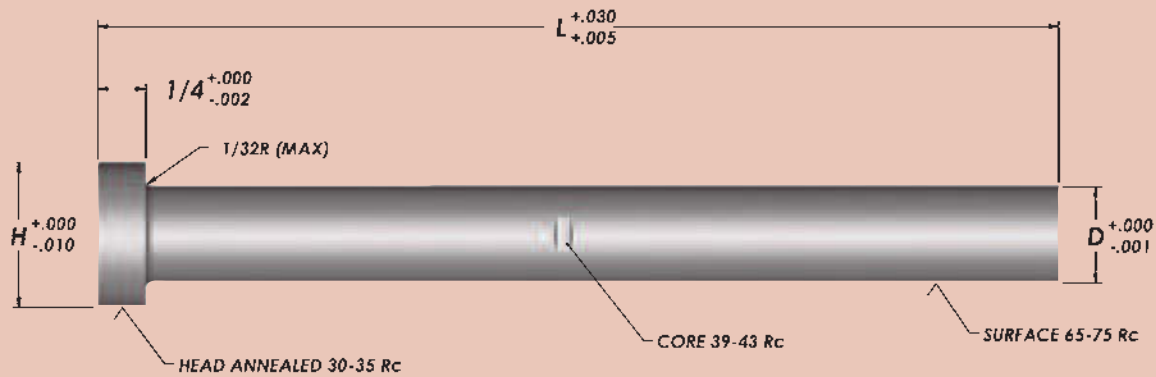
N=2-3/8" for SE04
 N=2-3/4" for SE05, SE055
 N=3-1/4" for SE06 thru SE13

B I.D.	D O.D.	Cat. No.	L				H	T
			15"	16"	17"	18"		
5/32	1/4	SE04	L15	L16	L17	L18	7/16	3/16
3/16	5/16	SE05	L15	L16	L17	L18	1/2	1/4
7/32	11/32	SE55	L15	L16	L17	L18	9/16	1/4
1/4	3/8	SE06	L15	L16	L17	L18	5/8	1/4
5/16	7/16	SE07	L15	L16	L17	L18	11/16	1/4
3/8	1/2	SE08	L15	L16	L17	L18	3/4	1/4
7/16	5/8	SE09	L15	L16	L17	L18	7/8	1/4
1/2	11/16	SE10	L15	L16	L17	L18	15/16	1/4
9/16	3/4	SE11	L15	L16	L17	L18	1	1/4
5/8	7/8	SE12	L15	L16	L17	L18	1-1/8	1/4
3/4	1	SE13	L15	L16	L17	L18	1-1/4	1/4



Return Pins Nitrided Inch

Material • AISI: H13
• 1.2344



D = 1/2"

L	3-9/16	4-1/16	4-9/16	5-1/16	5-9/16	6-1/16	6-9/16
H	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Catalog Number	RP5356	RP5406	RP5456	RP5506	RP5556	RP5606	RP5656

D = 5/8"

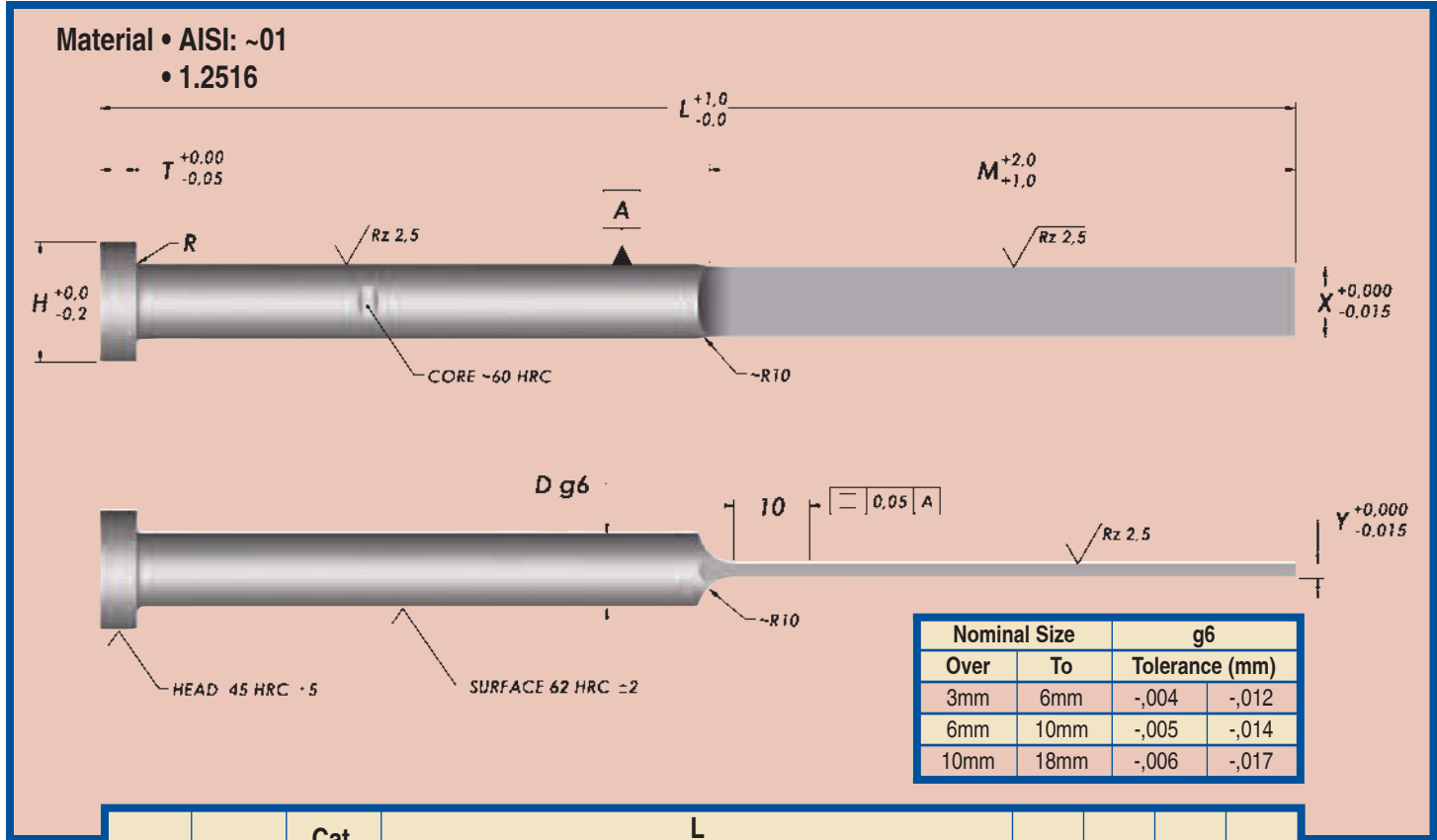
L	4-1/16	4-9/16	5-1/16	5-9/16	6-1/16	6-9/16	7-1/16	7-9/16	8-1/16
H	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8
Catalog Number	RP6406	RP6456	RP6506	RP6556	RP6606	RP6656	RP6706	RP6756	RP6806

D = 3/4"

L	4-15/16	5-7/16	5-15/16	6-7/16	6-15/16	7-7/16	7-15/16	8-7/16	8-15/16	9-7/16
H	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Catalog Number	RP7493	RP7543	RP7593	RP7643	RP7693	RP7743	RP7793	RP7843	RP7893	RP7943



Ejector Blades Through Hard Metric



X	Y	Cat. No.	L											D	H	T	R
			63 M=32	80 M=40	100 M=50	125 M=63	160 M=80	200 M=100	250 M=125	315 M=160	400 M=200						
3,5	0,8	B03508	063	080	100	125	160							4,0	8,0	3,0	0,3
	1,0	B03510	063	080	100	125	160	200	250								
	1,2	B03512		080	100	125	160	200									
3,8	0,8	B03808	063	080	100	125	160							4,2	8,0	3,0	0,3
	1,0	B03810	063	080	100	125	160										
	1,2	B03812		080	100	125	160	200									
4,5	1,0	B04510	063	080	100	125	160	200						5,0	10,0	3,0	0,3
	1,2	B04512		080	100	125	160	200									
	1,5	B04515		080	100	125	160	200									
5,5	1,0	B05510		080	100	125	160	200						6,0	12,0	5,0	0,5
	1,2	B05512		080	100	125	160	200	250								
	1,5	B05515		080	100	125	160	200	250								
	2,0	B05520		080	100	125	160	200	250								
7,5	1,0	B07510				125	160							8,0	14,0	5,0	0,5
	1,2	B07512			100	125	160	200	250								
	1,5	B07515			100	125	160	200	250	315							
	2,0	B07520			100	125	160	200	250	315							
9,5	1,2	B05512					160	200						10,0	16,0	5,0	0,5
	1,5	B09515					160	200	250	315	400						
	2,0	B09520					160	200	250	315	400						
11,5	2,0	B11520						200	250	315	400			12,0	18,0	7,0	0,8
	2,5	B11525						200	250	315	400						
15,5	2,0	B15520						200	250	315	400			16,0	22,0	7,0	0,8
	2,5	B15525						200	250	315	400						



Ejector Pins

Nitrided - Parallel

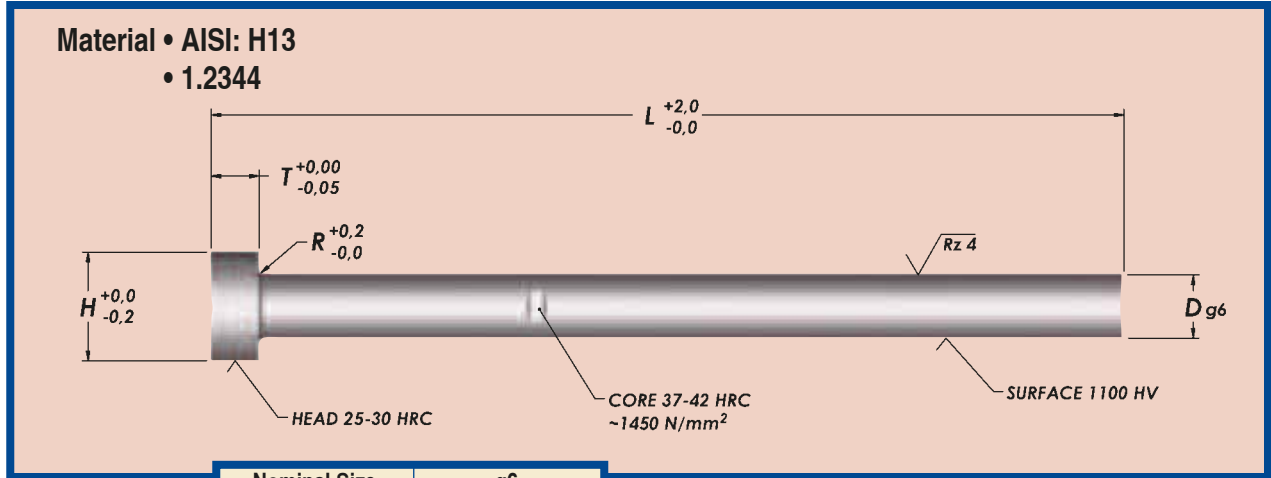
Metric

D	Cat. No.	L											H	T	R
		100	125	160	200	250	315	400	500	630	800	1000			
1.5	AN-01.5			160		250	315						3	1.5	0.2
1.6	AN-01.6			160	200								3	1.5	0.2
2.0	AN-02.0	100	125	160	200	250		400					4	2.0	0.2
2.2	AN-02.2			160		250		400					4	2.0	0.2
2.4	AN-02.4			160		250							5	2.0	0.3
2.5	AN-02.5	100	125	160	200	250	315						5	2.0	0.3
2.7	AN-02.7		125		200		315	400					5	2.0	0.3
2.9	AN-02.9			160		250							5	2.0	0.3
3.0	AN-03.0	100	125	160	200	250	315	400	500	630	800		6	3.0	0.3
3.1	AN-03.1			160		250							6	3.0	0.3
3.2	AN-03.2		125	160		250		400	500	630	800		6	3.0	0.3
3.4	AN-03.4			160		250							6	3.0	0.3
3.5	AN-03.5			160		250		400			800		7	3.0	0.3
3.7	AN-03.7			160		250		400	500	630			7	3.0	0.3
3.9	AN-03.9			160		250							7	3.0	0.3
4.0	AN-04.0	100	125	160	200	250	315	400	500	630	800		8	3.0	0.3
4.1	AN-04.1					250							8	3.0	0.3
4.2	AN-04.2			160	200	250	315	400	500	630	800		8	3.0	0.3
4.4	AN-04.4			160		250							8	3.0	0.3
4.5	AN-04.5			160		250		400	500	630	800	1000	8	3.0	0.3
4.9	AN-04.9			160		250							8	3.0	0.3
5.0	AN-05.0	100	125	160	200	250	315	400	500	630	800		10	3.0	0.3
5.1	AN-05.1					250							10	3.0	0.3
5.2	AN-05.2			160	200	250		400	500	630	800		10	3.0	0.3
5.4	AN-05.4			160		250							10	3.0	0.3
5.5	AN-05.5			160		250		400	500		800		10	3.0	0.3
5.7	AN-05.7			160		250							10	3.0	0.3
5.9	AN-05.9			160		250							10	3.0	0.3
6.0	AN-06.0	100	125	160	200	250	315	400	500	630	800	1000	12	5.0	0.5
6.1	AN-06.1					250							12	5.0	0.5
6.2	AN-06.2			160		250		400	500	630	800		12	5.0	0.5
6.5	AN-06.5			160		250		400	500				12	5.0	0.5
6.9	AN-06.9					250							12	5.0	0.5
7.0	AN-07.0			160		250	315	400	500	630	800	1000	12	5.0	0.5
7.2	AN-07.2			160		250							12	5.0	0.5
7.5	AN-07.5								500	630			12	5.0	0.5
7.8	AN-07.8					250							12	5.0	0.5
8.0	AN-08.0	100	125	160	200	250	315	400	500	630	800	1000	14	5.0	0.5
8.1	AN-08.1			160		250							14	5.0	0.5
8.2	AN-08.2			160		250		400	500	630	800	1000	14	5.0	0.5
8.4	AN-08.4			160		250							14	5.0	0.5
8.5	AN-08.5			160		250		400	500	630			14	5.0	0.5
9.0	AN-09.0			160		250		400	500	630			14	5.0	0.5
9.5	AN-09.5								500	630			14	5.0	0.5
9.7	AN-09.7			160		250							14	5.0	0.5
10.0	AN-10.0	100	125	160	200	250	315	400	500	630	800	1000	16	5.0	0.5
10.1	AN-10.1					250							16	5.0	0.5
10.2	AN-10.2			160		250		400	500	630	800		16	5.0	0.5
10.5	AN-10.5			160		250		400	500	630			16	5.0	0.5
11.0	AN-11.0			160		250		400	500	630			18	5.0	0.5
12.0	AN-12.0	100	125	160	200	250	315	400	500	630	800	1000	18	7.0	0.8
12.2	AN-12.2					250		400	500	630	800	1000	18	7.0	0.8
12.5	AN-12.5	100		160		250		400	500	630	800		18	7.0	0.8
14.0	AN-14.0			160	200	250	315	400	500		800	1000	22	7.0	0.8
14.2	AN-14.2					250							22	7.0	0.8
16.0	AN-16.0	100		160	200	250	315	400	500	630	800	1000	22	7.0	0.8
16.2	AN-16.2					250							22	7.0	0.8
18.0	AN-18.0			160	200	250	315	400	500	630	800	1000	24	8.0	1.0
20.0	AN-20.0		125	160	200	250	315	400	500	630	800	1000	26	7.0	0.8
25.0	AN-25.0			160	200	250	315	400	500	630	800	1000	32	10.0	1.0
32.0	AN-32.0				200	250	315	400	500	630	800	1000	40	10.0	1.0

• To order, add overall length "L" to Catalog Number. Example: AN-01,5L160

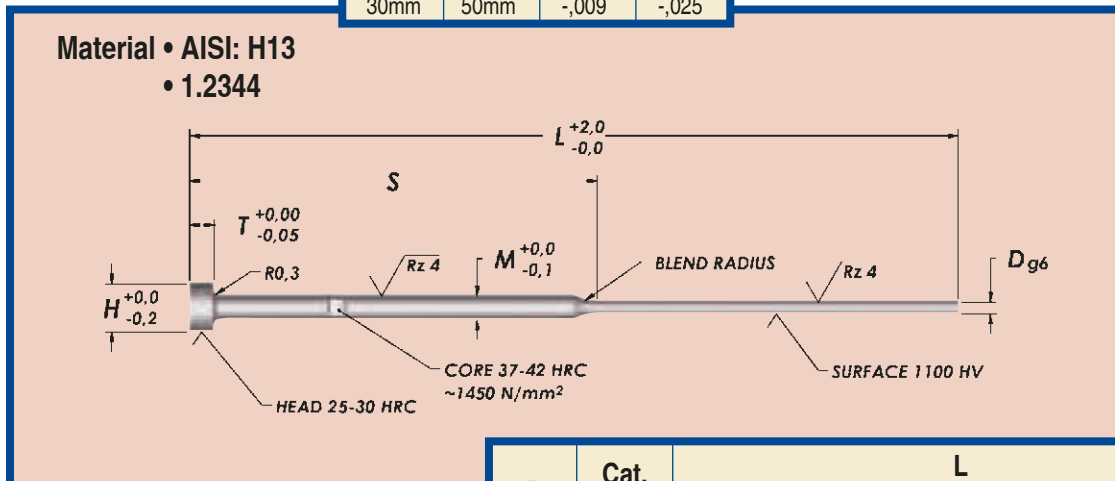


Ejector Pins Nitrided - Parallel Metric



Nominal Size		g6	
Over	To	Tolerance (mm)	
0mm	3mm	-.002	-.008
3mm	6mm	-.004	-.012
6mm	10mm	-.005	-.014
10mm	18mm	-.006	-.017
18mm	30mm	-.007	-.020
30mm	50mm	-.009	-.025

Ejector Pins Nitrided - Shoulder Metric

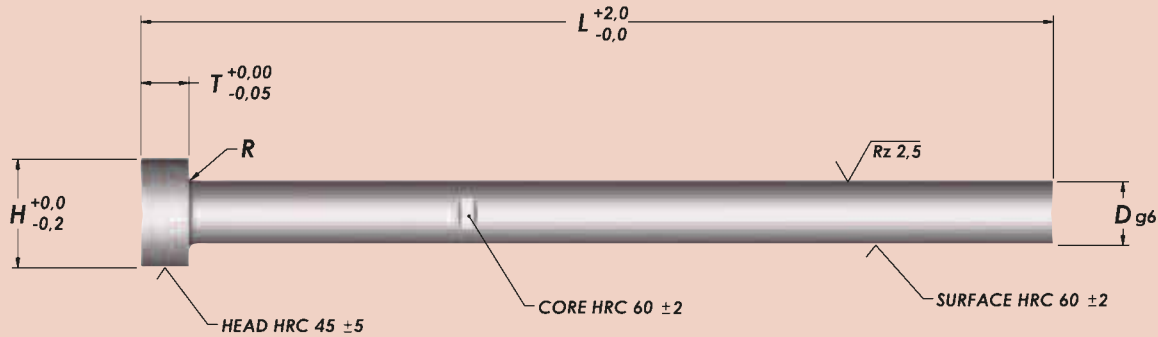


D	Cat. No.	L						M	H	T
		80 S=35	100 S=50	125 S=50	160 S=63	200 S=80	250 S=100			
0,8	CN-0,8			125				2	4	2
1,0	CN-1,0	080	100	125	160	200		2	4	2
1,1	CN-1,1			125				2	4	2
1,2	CN-1,2			125				2	4	2
1,3	CN-1,3			125				2	4	2
1,4	CN-1,4			125				2	4	2
1,5	CN-1,5	080	100	125	160	200	250	3	6	3
1,6	CN-1,6			125				3	6	3
1,7	CN-1,7	080			160			3	6	3
1,8	CN-1,8			125				3	6	3
2,0	CN-2,0	080	100	125	160	200	250	3	6	3
2,2	CN-2,2	080			160			3	6	3
2,5	CN-2,5		100	125	160	200	250	3	6	3
2,7	CN-2,7				160			3	6	3



Ejector Pins Through Hard - Parallel Metric

Material • $\le 3\text{Ø}$: AISI L2 (1.2344)
 • >3Ø : AISI ~01 (1.2516)

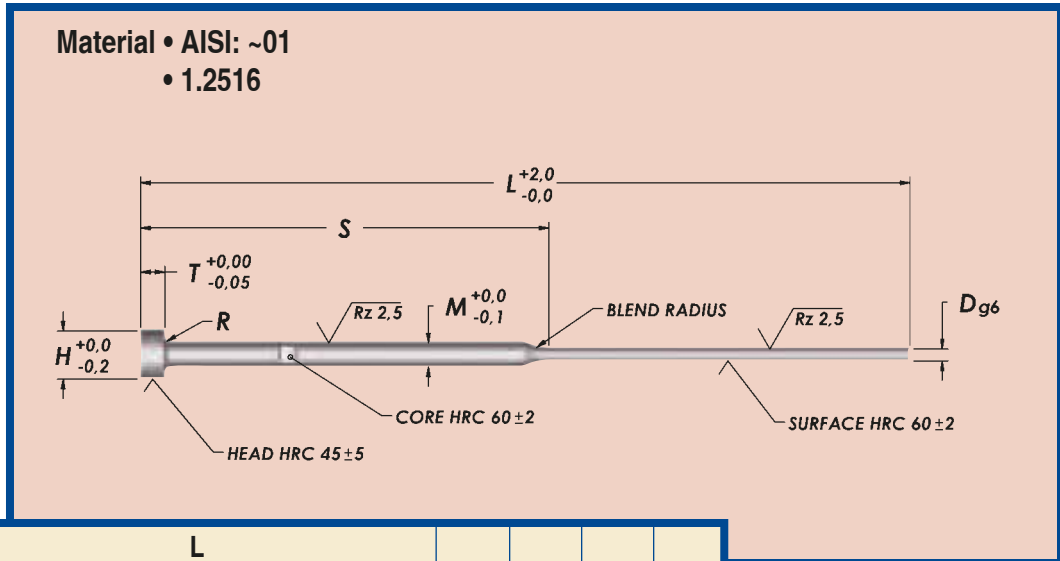


D	Cat. No.	L										H	T	R
		40	63	80	100	125	160	200	250	315	400			
1,5	AH-01,5				100	125	160	200	250			3	1,5	0,2
1,6	AH-01,6				100	125	160	200				3	1,5	0,2
2,0	AH-02,0	040	063	080	100	125	160	200	250			4	2,0	0,2
2,2	AH-02,2				100	125	160	200				4	2,0	0,2
2,5	AH-02,5				100	125	160	200	250			5	2,0	0,3
2,7	AH-02,7				100	125	160	200	250			5	2,0	0,3
3,0	AH-03,0	040	063	080	100	125	160	200	250	315	400	6	3,0	0,3
3,2	AH-03,2				100	125	160	200	250			6	3,0	0,3
3,5	AH-03,5				100	125	160	200	250	315	400	7	3,0	0,3
3,7	AH-03,7				100	125	160	200	250			7	3,0	0,3
4,0	AH-04,0	040	063	080	100	125	160	200	250	315	400	8	3,0	0,3
4,2	AH-04,2				100	125	160	200	250	315	400	8	3,0	0,3
4,5	AH-04,5				100	125	160	200	250			8	3,0	0,3
4,7	AH-04,7				100			200	250			8	3,0	0,3
5,0	AH-05,0	040	063	080	100	125	160	200	250	315	400	10	3,0	0,3
5,2	AH-05,2				100	125	160	200	250	315	400	10	3,0	0,3
5,5	AH-05,5				100	125	160	200	250	315		10	3,0	0,3
6,0	AH-06,0	040	063	080	100	125	160	200	250	315	400	12	5,0	0,5
6,2	AH-06,2				100	125	160	200	250	315	400	12	5,0	0,5
6,5	AH-06,5				100	125	160	200	250	315		12	5,0	0,5
7,0	AH-07,0				100	125	160	200	250	315	400	12	5,0	0,5
8,0	AH-06,0		063	080	100	125	160	200	250	315	400	14	5,0	0,5
8,2	AH-08,2			080	100	125	160	200	250	315	400	14	5,0	0,5
8,5	AH-08,5				100	125	160	200	250	315		14	5,0	0,5
9,0	AH-09,0				100	125	160	200	250	315		14	5,0	0,5
10,0	AH-10,0			080	100	125	160	200	250	315	400	16	5,0	0,5
10,2	AH-10,2					125	160	200	250	315	400	16	5,0	0,5
10,5	AH-10,5				100	125		200		315	400	16	5,0	0,5
11,0	AH-11,0						160	200	250	315		16	5,0	0,5
12,0	AH-12,0			080	100	125	160	200	250	315	400	18	7,0	0,8
12,2	AH-12,2						160	200	250	315		18	7,0	0,8
12,5	AH-12,5						160	200	250			18	7,0	0,8
14,0	AH-14,0				100	125	160	200	250	315	400	22	7,0	0,8
16,0	AH-16,0				100	125	160	200	250	315	400	22	7,0	0,8
18,0	AH-18,0						160	200	250	315	400	24	7,0	0,8
20,0	AH-20,0						160	200	250	315	400	26	8,0	1,0

• To order, add overall length "L" to Catalog Number. Example: AH-01,5L100



Ejector Pins Through Hard - Shoulder Metric



D	Cat. No.	L					M	H	T	R
		80 S=35	100 S=50	125 S=50	160 S=63	200 S=80				
0,8	CH-0,8	080	100	125	160	200	2	4	2	0,2
0,9	CH-0,9		100	125	160	200	2	4	2	0,2
1,0	CH-1,0	080	100	125	160	200	2	4	2	0,2
1,1	CH-1,1		100	125	160	200	2	4	2	0,2
1,2	CH-1,2	080	100	125	160	200	2	4	2	0,2
1,3	CH-1,3	080	100	125	160	200	2	4	2	0,2
1,4	CH-1,4		100	125	160	200	2	4	2	0,2
1,5	CH-1,5	080	100	125	160	200	3	6	3	0,3
1,6	CH-1,6		100	125	160	200	3	6	3	0,3
1,7	CH-1,7		100	125	160	200	3	6	3	0,3
1,8	CH-1,8		100	125	160	200	3	6	3	0,3
1,9	CH-1,9		100	125	160	200	3	6	3	0,3
2,0	CH-2,0		100	125	160	200	3	6	3	0,3
2,1	CH-2,1		100	125	160	200	3	6	3	0,3
2,2	CH-2,2		100	125	160	200	3	6	3	0,3
2,3	CH-2,3		100	125	160	200	3	6	3	0,3
2,4	CH-2,4		100	125	160	200	3	6	3	0,3
2,5	CH-2,5		100	125	160	200	3	6	3	0,3

• To order, add overall length "L" to Catalog Number. Example: CH-0,8L080

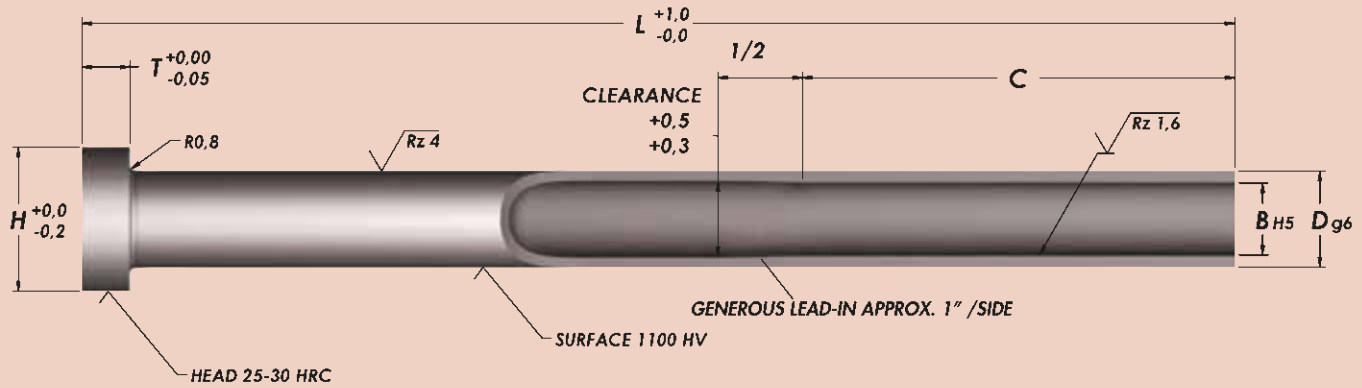
Nominal Size		g6	
Over	To	Tolerance (mm)	
0mm	3mm	-,002	-,008
3mm	6mm	-,004	-,012
6mm	10mm	-,005	-,014
10mm	18mm	-,006	-,017
18mm	30mm	-,007	-,020



Ejector Sleeves

Nitrided - Parallel Metric

Material • AISI: H13
 • 1.2344
 Nitrided • I.D. & O.D.



D O.D.	B I.D.	Catalog Number	L													C	H	T
			75	100	125	150	175	200	225	250	275	300	325	350	400			
4,0	2,0	SN-04,0x02,0	075	100	125	150	175	200								35	8,0	3,0
	2,2	SN-04,0x02,2	075	100	125	150												
5,0	2,5	SN-05,0x02,5	075	100	125	150										35	10,0	3,0
	2,7	SN-05,0x02,7	075	100	125	150												
	3,0	SN-05,0x03,0	075	100	125	150	175			250						45	10,0	3,0
6,0	3,2	SN-05,0x03,2	075	100	125	150	175	200										
	3,0	SN-06,0x03,0	075	100	125											45	12,0	5,0
	3,5	SN-06,0x03,5	075	100	125	150	175											
	3,7	SN-06,0x03,7	075	100	125	150												
8,0	4,0	SN-06,0x04,0	075	100	125	150	175	200	225	250	275	300		400		50	12,0	5,0
	4,2	SN-06,0x04,2	075	100	125	150	175			250								
	4,0	SN-08,0x04,0	075	100	125	150										50	14,0	5,0
10,0	4,2	SN-08,0x04,2	075	100	125	150	175	200										
	5,0	SN-08,0x05,0	075	100	125	150	175	200	225	250			325					
	5,2	SN-08,0x05,2	075	100	125	150	175	200	225	250								
12,0	6,0	SN-10,0x06,0	075	100	125	150	175	200	225	250	275					50	16,0	5,0
	6,2	SN-10,0x06,2	075	100	125	150	175	200	225									
14,0	8,0	SN-12,0x08,0	075	100	125	150	175	200	225	250			350			50	20,0	7,0
	8,2	SN-12,0x08,2	075	100	125	150	175	200	225	250								
16,0	10,0	SN-14,0x10,0		100	125	150	175	200	225	250						50	22,0	7,0
	10,2	SN-14,0x10,2		100	125	150	175	200		250								
16,0	12,0	SN-16,0x12,0		100	125	150	175	200	225	250						50	22,0	7,0

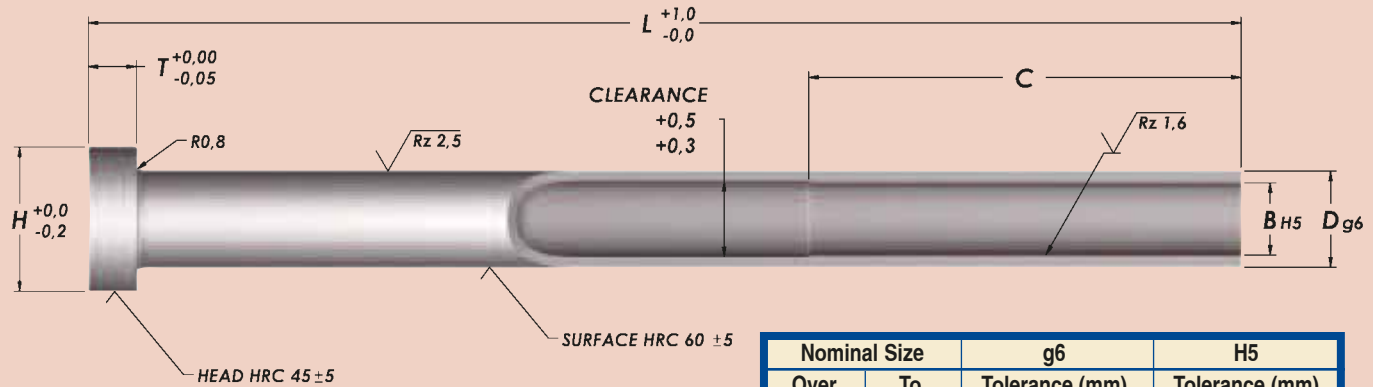
• To order, add overall length "L" to Catalog Number. Example: SN-04,0x02,0L075

Nominal Size		g6		H5	
Over	To	Tolerance (mm)		Tolerance (mm)	
0mm	3mm	-0,02	-0,08	+0,04	0
3mm	6mm	-0,04	-0,12	+0,05	0
6mm	10mm	-0,05	-0,14	+0,06	0
10mm	18mm	-0,06	-0,17	+0,08	0



Ejector Sleeves Through Hard - Parallel Metric

Material • AISI 01
• 1.2516



Nominal Size		g6		H5	
Over	To	Tolerance (mm)		Tolerance (mm)	
0mm	3mm	-.002	-.008	+.004	0
3mm	6mm	-.004	-.012	+.005	0
6mm	10mm	-.005	-.014	+.006	0
10mm	18mm	-.006	-.017	+.008	0
18mm	30mm	-.007	-.020	+.009	0

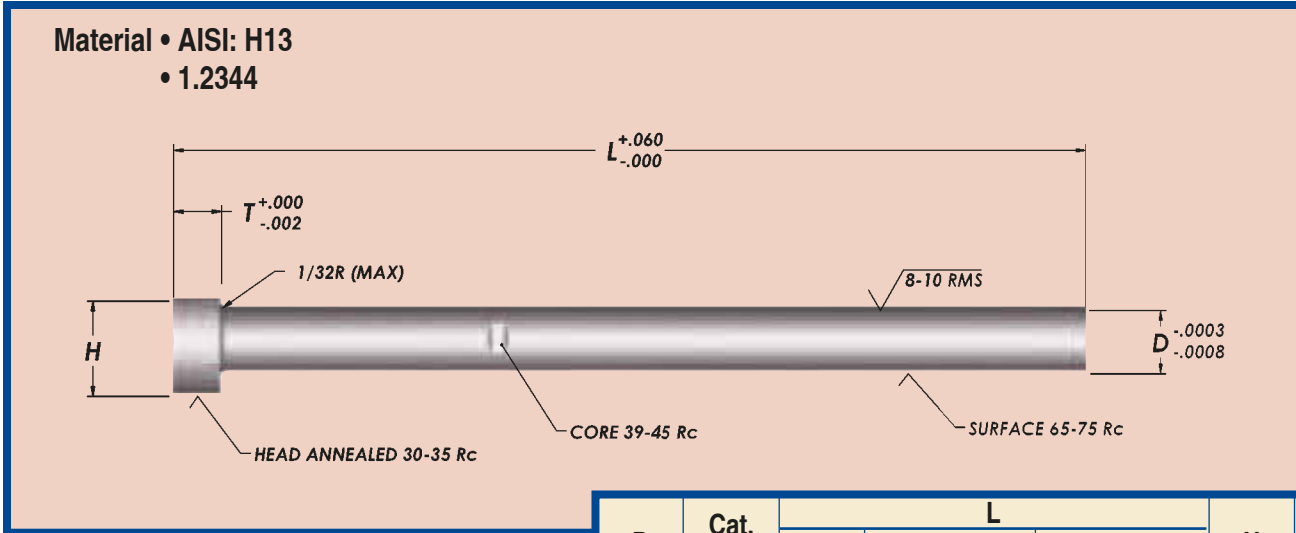
D O.D.	B I.D.	Catalog Number	L								H	T	C		
			75	100	125	150	175	200	225	250				275	
3,0	1,5	SH-03,0x01,5	075	100	125	150	175					35	6,0	3,0	
	1,6	SH-03,0x01,6	075	100	125	150	175								
4,0	2,0	SH-04,0x02,0	075	100	125	150	175	200	225			35	8,0	3,0	
	2,2	SH-04,0x02,2	075	100	125	150	175	200	225						
	2,5	SH-04,0x02,5	075	100	125	150	175	200	225						
5,0	2,5	SH-05,0x02,5	075	100	125	150	175	200	225	250		35	10,0	3,0	
	2,7	SH-05,0x02,7	075	100	125	150	175	200	225	250					
	3,0	SH-05,0x03,0	075	100	125	150	175	200	225	250	275				45
	3,2	SH-05,0x03,2	075	100	125	150	175	200	225	250	275				
6,0	3,0	SH-06,0x03,0	075	100	125	150	175	200	225	250	275	45	12,0	5,0	
	3,5	SH-06,0x03,5	075	100	125	150	175	200	225	250	275				
	4,0	SH-06,0x04,0	075	100	125	150	175	200	225	250	275				
	4,5	SH-06,0x04,5	075	100	125	150	175	200	225	250	275				
8,0	4,2	SH-08,0x04,2	075	100	125	150	175	200	225	250	275	45	14,0	5,0	
	5,0	SH-08,0x05,0	075	100	125	150	175	200	225	250	275				
	5,2	SH-08,0x05,2	075	100	125	150	175	200	225	250	275				
10,0	6,0	SH-10,0x06,0	075	100	125	150	175	200	225	250	275	45	16,0	5,0	
	6,2	SH-10,0x06,2	075	100	125	150	175	200	225	250	275				
12,0	8,0	SH-12,0x08,0	075	100	125	150	175	200	225	250	275	45	20,0	7,0	
	8,2	SH-12,0x08,2	075	100	125	150	175	200	225	250	275				
14,0	10,0	SH-14,0x10,0	075	100	125	150	175	200	225	250	275	45	22,0	7,0	
16,0	12,0	SH-16,0x12,0	075	100	125	150	175	200	225	250	275	45	22,0	7,0	
20,0	14,0	SH-20,0x14,0		100		150		200		250		45	26,0	8,0	

- To order, add overall length "L" to Catalog Number. Example: SH-03,0x02,0L075
- Sizes marked in blue print are available but generally not stocked.
- Call for price and delivery. Example: SH-03,0x01,5L075



D-Head Ejector Pins

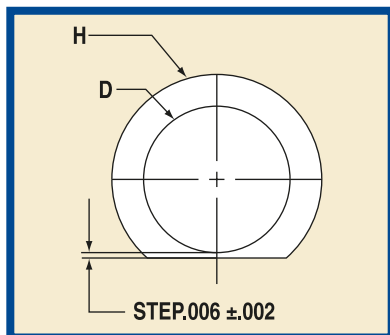
Nitrided - Parallel



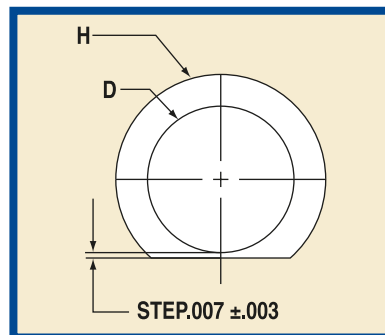
- No machining required.
- Save time – let us key your pins.

D	Cat. No.	L					H	T
		6"	10"	14"	18"	25"		
		STD.	STD.	STD.	STD.	STD.		
1/8	DPIN12	L06	L10	L14			1/4	1/8
9/64	DPIN14		L10	L14			1/4	1/8
5/32	DPIN15	L06	L10	L14	L18	L25	9/32	5/32
3/16	DPIN18	L06	L10	L14	L18	L25	3/8	3/16
7/32	DPIN21			L14			13/32	3/16
1/4	DPIN25	L06	L10	L14	L18	L25	7/16	3/16
5/16	DPIN31	L06	L10	L14	L18	L25	1/2	1/4
3/8	DPIN37	L06	L10	L14	L18	L25	5/8	1/4
1/2	DPIN50	L06	L10	L14	L18	L25	3/4	1/4
5/8	DPIN62	L06	L10	L14	L18	L25	7/8	1/4
3/4	DPIN75	L06	L10	L14	L18	L25	1	1/4
1	DPIN100	L06	L10	L14	L18	L25	1-1/4	1/4

- To order, add overall length "L" to Catalog Number. Example: DPIN12L06
- Other key headed pins not shown are available upon request. Check with our order desk.



1/8 - 5/16 dia.

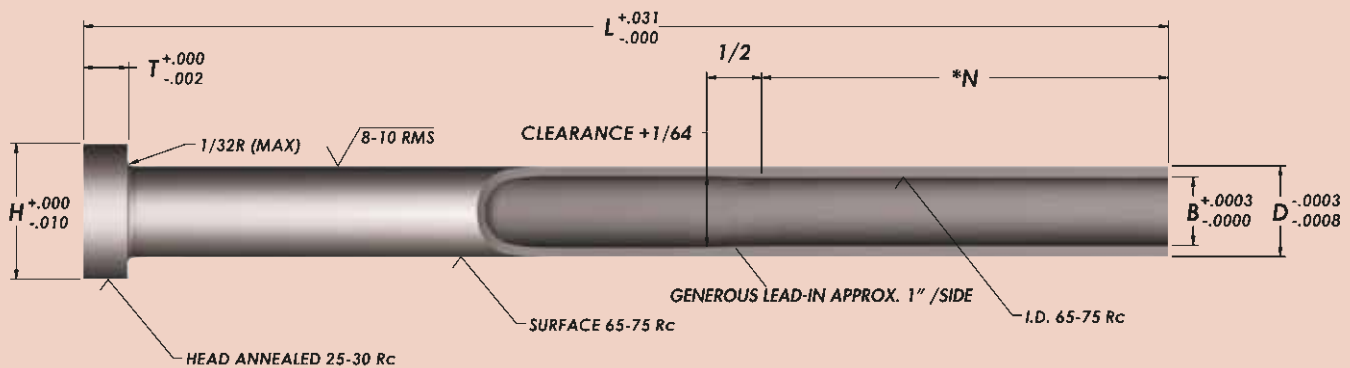


3/8 - 1" dia.



Ejector Sleeves +.005 Oversize Nitrided - Parallel Inch

Material • AISI: H13
• 1.2344
Nitrided • I.D. & O.D.



B I.D.	D O.D.	Cat. No.	L									H	T
			4"	5"	6"	7"	8"	9"	10"	11"	12"		
3/32	.1925	OSE02	L04	L05	L06	L07	L08	L09	L10	L11	L12	3/8	3/16
1/8	.2238	OSE03	L04	L05	L06	L07	L08	L09	L10	L11	L12	13/32	3/16
5/32	.2550	OSE04	L04	L05	L06	L07	L08	L09	L10	L11	L12	7/16	3/16
3/16	.3175	OSE05	L04	L05	L06	L07	L08	L09	L10	L11	L12	1/2	1/4
1/4	.3800	OSE06	L04	L05	L06	L07	L08	L09	L10	L11	L12	5/8	1/4
5/16	.4425	OSE07	L04	L05	L06	L07	L08	L09	L10	L11	L12	11/16	1/4
3/8	.5050	OSE08	L04	L05	L06	L07	L08	L09	L10	L11	L12	3/4	1/4

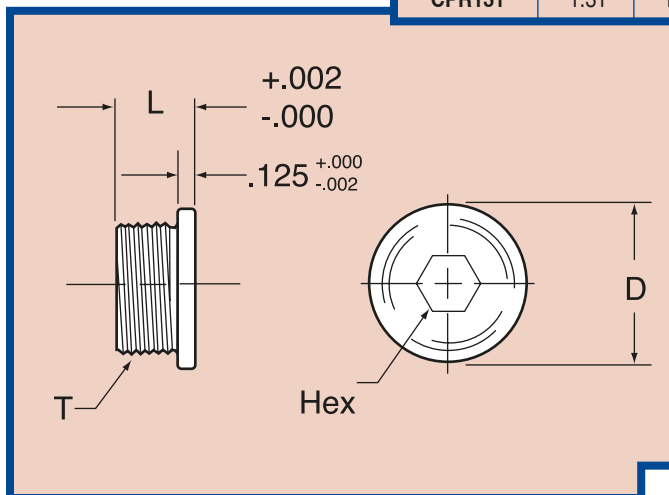
- To order, add overall length "L" to Catalog Number. Example: OSE02L04
 - Sizes marked in light print are available but generally not stocked. Call for price and delivery. Example: OSE02L11
 - * (N) = 1-3/4 for OSE02 and OSE03
 - * (N) = 2-1/4 for OSE04 and larger
- Any of DMS standard sleeves (from page B9) can be ordered oversize. Call our order desk for details.



Core Pin Retainers

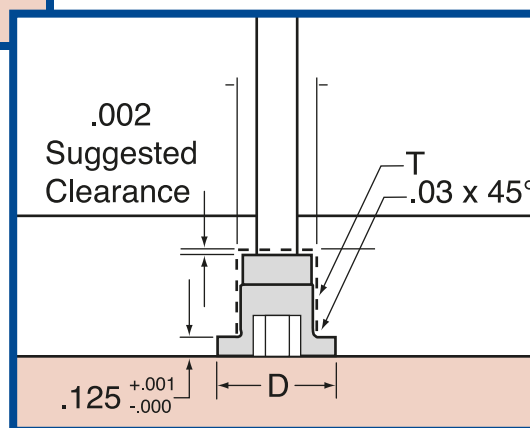


Catalog Number	D O.D. -.000 -.010	T Thread	Head Thickness -.002	L Length +.002 -.000	Hex Size	Recommended Pin Sizes
CPR56	.56	3/8 - 24	.125	.437	3/16	3/32 thru 5/32 diameters
CPR68	.68	1/2 - 20	.125	.437	1/4	11/64 thru 9/32 diameters
CPR93	.93	3/4 - 16	.125	.437	3/8	5/16 thru 7/16 diameters
CPR106	1.06	7/8 - 14	.125	.437	3/8	15/32 thru 9/16 diameters
CPR131	1.31	1-1/8 - 12	.125	.437	3/8	5/8 thru 3/4 diameters



Material : 12L14: Black oxidized

- Allows for improved and more consistent installation and removal of core pins by toolmaker
- Does not force the head of the core pin head against the bottom of the counterbore



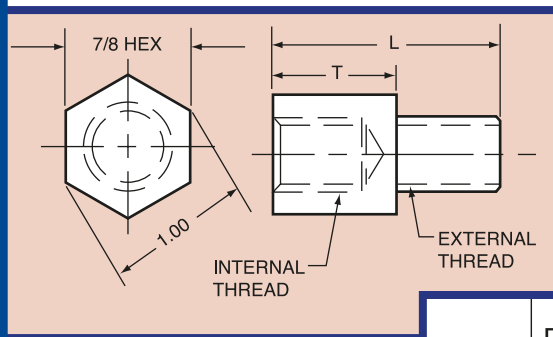


Knockout Rod Extensions

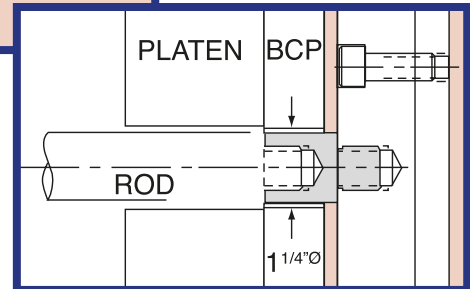


Hex Style

Catalog Number	T	L Length	Thread internal & external
KRE37-10	1.052	1.672	3/8 - 16
KRE37-15	1.552	2.172	3/8 - 16
KRE50-10	1.052	1.672	1/2 - 13
KRE50-15	1.552	2.175	1/2 - 13
KRE62-10	1.052	1.922	5/8 - 11
KRE62-15	1.552	2.422	5/8 - 11
KRE75-10	1.052	1.672	3/4 - 10
KRE75-15	1.552	2.422	3/4 - 10
KRE75-10NT*	1.052	1.922	3/4 - 10
KRE75-15NT*	1.552	2.422	3/4 - 10



*Note: External thread only. Tool maker to machine internal thread on "NT" style.



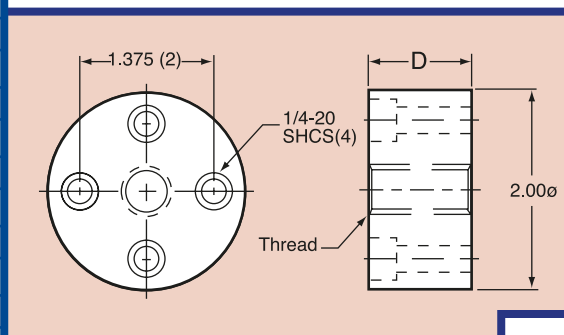
"L" DIMENSIONS:

1.052 = .875 (BCP) + .187 (Stop Pins) - .010
 1.552 = 1.375 (BCP) + .187 (Stop Pins) - .010

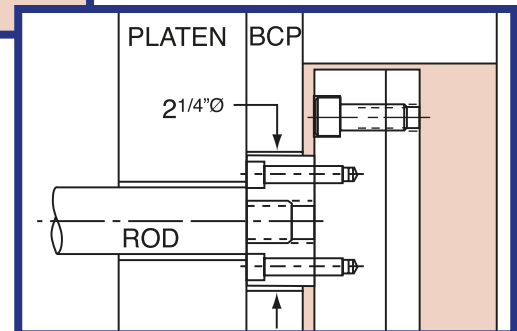
Round Style



Catalog Number	D	Thread
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 thread
KR75-15NT*	1.552	no thread

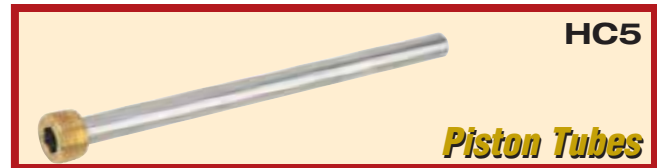


*Note: No female thread. Tool maker to machine internal thread on "NT" style.





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HC11
Adjustable Hex Nipples



HC13
90° Street El's



HC11
Brass Pipe Nipples



HC13
90° Elbows



HC11
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HC13
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Push-Lok Hose Barbs



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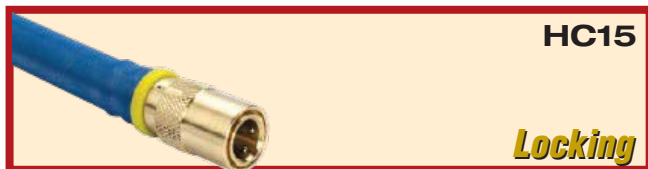
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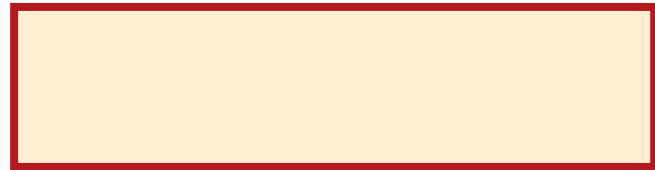
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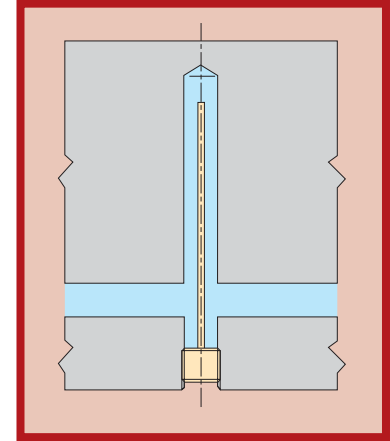
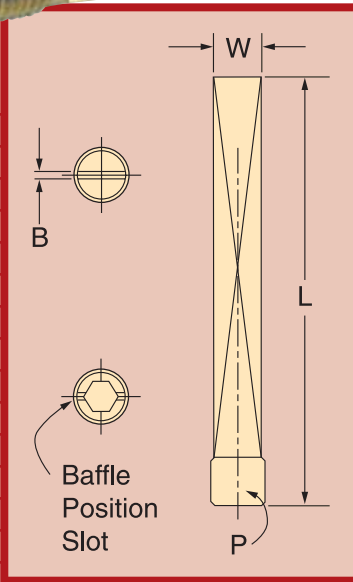


Brass Baffles



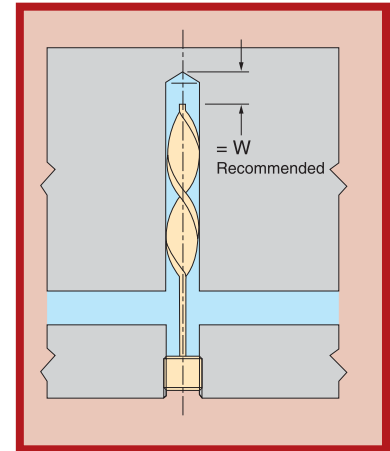
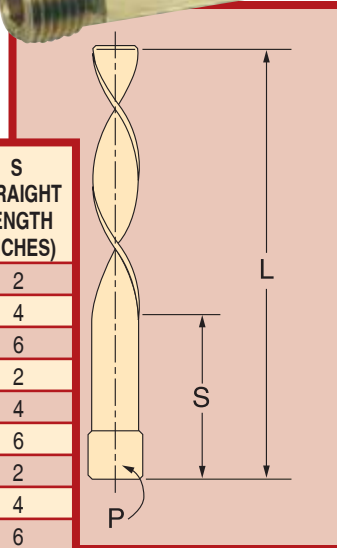
STRAIGHT

CATALOG NUMBER	P PLUG SIZE (NPT)	L OVERALL LENGTH (INCHES)	W BLADE WIDTH (-.005) (-.015)	DRILL SIZE	B BLADE THICKNESS
BA0604	1/16	4	1/4	1/4	.057
BA0608	1/16	8	1/4	1/4	.057
BA0612	1/16	12	1/4	1/4	.057
BA1204	1/8	4	5/16	5/16	.057
BA1208	1/8	8	5/16	5/16	.057
BA1212	1/8	12	5/16	5/16	.057
BA2505	1/4	5	7/16	7/16	.085
BA2510	1/4	10	7/16	7/16	.085
BA2515	1/4	15	7/16	7/16	.085
BA3706	3/8	6	9/16	9/16	.093
BA3712	3/8	12	9/16	9/16	.093
BA3718	3/8	18	9/16	9/16	.093
BA5008	1/2	8	11/16	11/16	.093
BA5016	1/2	16	11/16	11/16	.093
BA7512	3/4	12	15/16	15/16	.093
BA7520	3/4	20	15/16	15/16	.093
BA7536	3/4	36	15/16	15/16	.093
BA9016	1"	16	1-1/8	1-1/8	.102
BA9024	1"	24	1-1/8	1-1/8	.102
BA9036	1"	36	1-1/8	1-1/8	.102



TURBO

CATALOG NUMBER	P PLUG SIZE (NPT)	L OVERALL LENGTH (INCHES)	W BLADE WIDTH (-.005) (-.015)	DRILL SIZE	B BLADE THICKNESS	S STRAIGHT LENGTH (INCHES)
TB0604	1/16	4	1/4	1/4	.050	2
TB0608	1/16	8	1/4	1/4	.050	4
TB0612	1/16	12	1/4	1/4	.050	6
TB1204	1/8	4	5/16	5/16	.050	2
TB1208	1/8	8	5/16	5/16	.050	4
TB1212	1/8	12	5/16	5/16	.050	6
TB2505	1/4	5	7/16	7/16	.080	2
TB2510	1/4	10	7/16	7/16	.080	4
TB2515	1/4	15	7/16	7/16	.080	6
TB3706	3/8	6	9/16	9/16	.090	2
TB3712	3/8	12	9/16	9/16	.090	4
TB3718	3/8	18	9/16	9/16	.090	6
TB5008	1/2	8	11/16	11/16	.090	3
TB5016	1/2	16	11/16	11/16	.090	5
TB7512	3/4	12	15/16	15/16	.090	4
TB7520	3/4	20	15/16	15/16	.090	6
TB9016	1"	16	1-1/8	1-1/8	.105	5
TB9024	1"	24	1-1/8	1-1/8	.105	8



MATERIAL

CATALOG NUMBER	(REF.) PLUG SIZE (NPT)	OVERALL LENGTH (INCHES)	BLADE WIDTH (-.005) (-.015)	BLADE THICKNESS
BM06-025-36	1/16	36	1/4	.050
BM12-031-36	1/8	36	5/16	.050
BM25-043-36	1/4	36	7/16	.080
BM37-056-36	3/8	36	9/16	.090
BM50-068-36	1/2	36	11/16	.090
BM75-090-36	3/4	36	29/32	.090
BM75-093-36	3/4	36	15/16	.090
BM90-112-36	1"	36	1-1/8	.105

- Flush-seal (7/8 taper) brass pipe plugs are standard.
- Steel, stainless, and 3/4 taper are available.
- Turbo baffles create turbulent cooling action and keeps blade centered in the cooling channel.
- Patented technology allows 300% more wrenching torque. (Not on 1" baffles.)

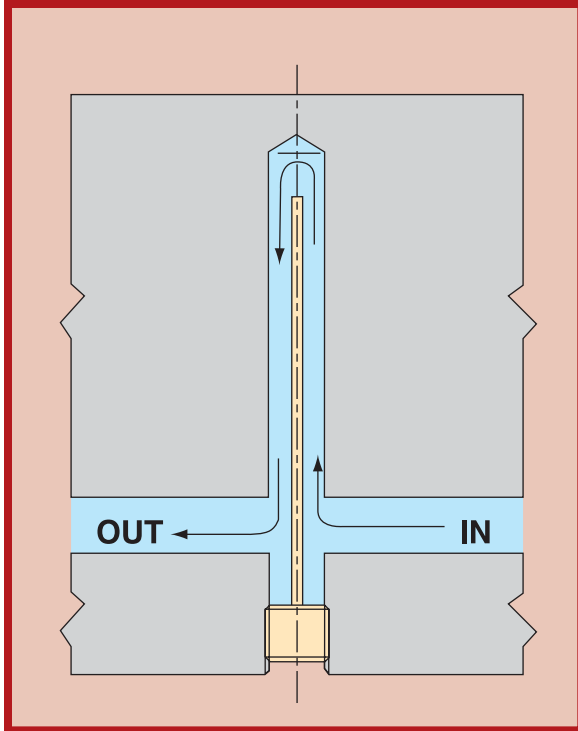
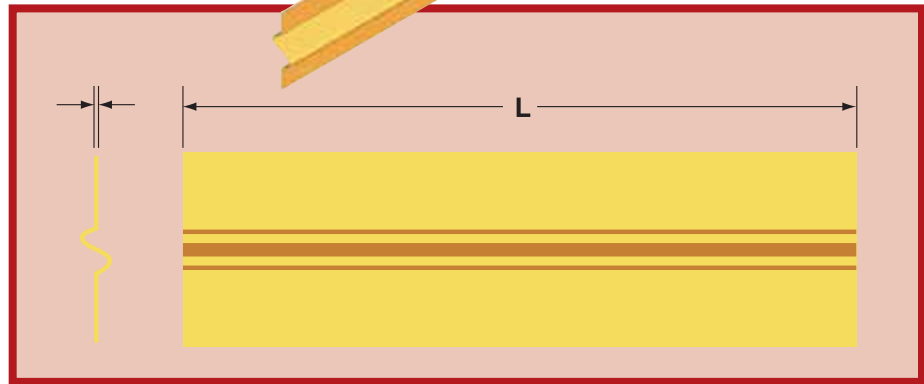
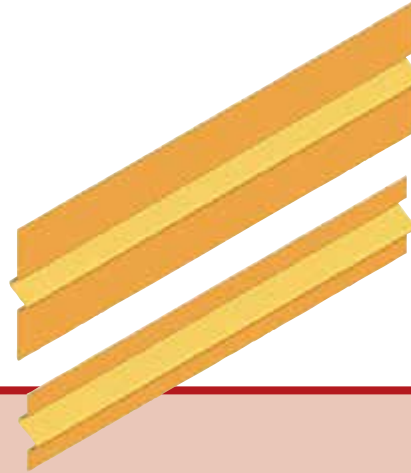


E Series Brass Baffles

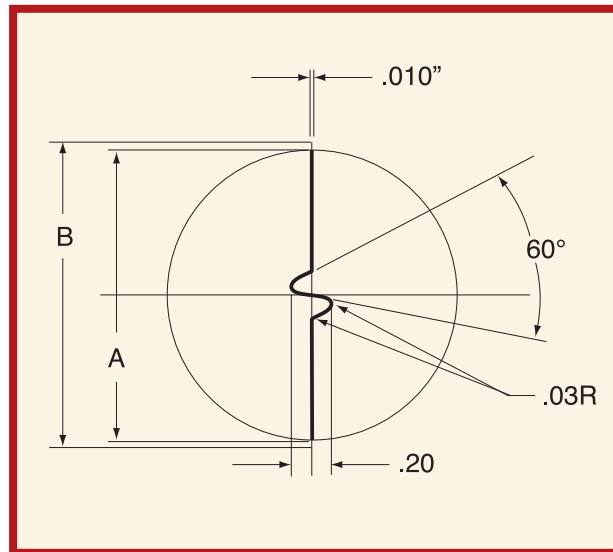
DMS "E-Series" brass baffles are an economical way to baffle longer water lines.

- Will not twist in hole due to its configuration.
- Will not rotate out of its located position.
- Recommended for use in Die Cast Dies where high temperatures are used.

Simply cut to the required length and insert slightly short of final depth. These baffles will then be forced home by a pipe plug or block.



CATALOG NUMBER	A	B	PIPE THREAD	DRILL SIZE	LENGTH ± .004
EB25-48	0.437	0.446	1/4NPT	7/16	48"
EB37-48	0.562	0.576	3/8NPT	9/16	48"
EB50-48	0.688	0.703	1/2NPT	11/16	48"
EB75-48	0.906	0.926	3/4NPT	15/16	48"
EB100-48	1.125	1.150	1"NPT	1-1/8	48"

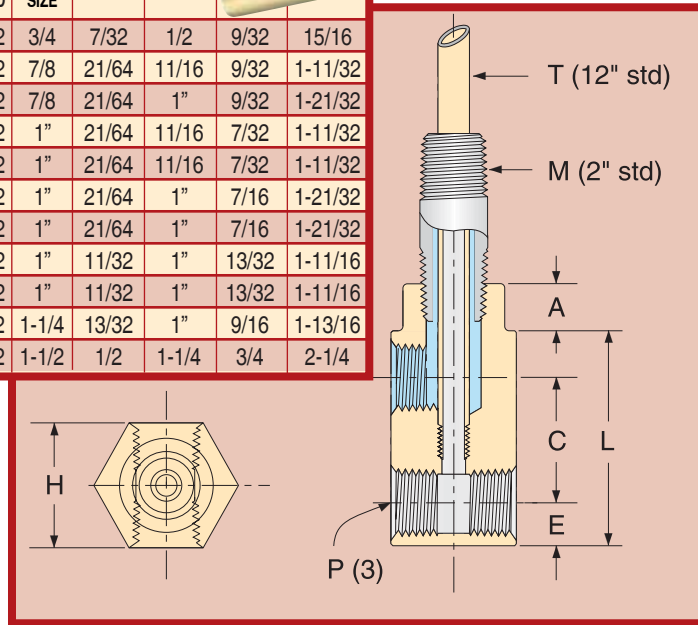




Standard Cascades

ASSEMBLIES

CATALOG NUMBER	M PIPE NIPPLE (NPT)	P PIPE TAP SIZE (NPT)	T BRASS TUBE O.D.	BRASS TUBE INCLUDED	HEX SIZE	E	C	A	L
16N	1/8	1/16	3/16	187T-12	3/4	7/32	1/2	9/32	15/16
186N	1/8	1/8	3/16	187T-12	7/8	21/64	11/16	9/32	1-11/32
181N	1/8	1/8	3/16	187T-12	7/8	21/64	1"	9/32	1-21/32
146N	1/4	1/8	1/4	250T-12	1"	21/64	11/16	7/32	1-11/32
146N-4	1/4	1/4	1/4	250T-12	1"	21/64	11/16	7/32	1-11/32
141N	1/4	1/8	1/4	250T-12	1"	21/64	1"	7/16	1-21/32
141N-4	1/4	1/4	1/4	250T-12	1"	21/64	1"	7/16	1-21/32
381N	3/8	1/8	5/16	312T-12	1"	11/32	1"	13/32	1-11/16
381N-4	3/8	1/4	5/16	312T-12	1"	11/32	1"	13/32	1-11/16
121N-4	1/2	1/4	7/16	437T-12	1-1/4	13/32	1"	9/16	1-13/16
341N-4	3/4	3/8	5/8	625T-12	1-1/2	1/2	1-1/4	3/4	2-1/4



- Assemblies include brass head, 12" brass tube, 2" long galvanized pipe nipple, and brass pipe plug.
- Order extra length brass tubes below.
- Cascade assemblies are available in special pipe tap and tube combinations.

HEADS

CATALOG NUMBER	TUBE THREAD SIZE	BRASS TUBE NUMBER
16H	10-32	187T-
186H	10-32	187T-
181H	10-32	187T-
146H	1/4-28	250T-
146H-4	1/4-28	250T-
141H	1/4-28	250T-
141H-4	1/4-28	250T-
381H	5/16-24	312T-
381H-4	5/16-24	312T-
121H-4	7/16-20	437T-
341H-4	5/8-18	625T-



- For use with standard brass tubes.
- All dimensions are same as above assembly chart for corresponding catalog number.
- Supplied with brass pipe plug.
- Special pipe tap sizes, tube thread sizes and hole locations are available.
- Use brass tubes on page HC5.

HIGH FLOW HEADS

CATALOG NUMBER	TUBE THREAD SIZE	HIGH FLOW TUBE NUMBER
16H-HFT	1/4-28	HF187T-
186H-HFT	1/4-28	HF187T-
181H-HFT	1/4-28	HF187T-
146H-HFT	5/16-24	HF250T-
146H-4-HFT	5/16-24	HF250T-
141H-HFT	5/16-24	HF250T-
141H-4-HFT	5/16-24	HF250T-
381H-HFT	3/8-24	HF312T-
381H-4-HFT	3/8-24	HF312T-
121H-4-HFT	1/2-20	HF437T-



- For use with high flow stainless tubes.
- All dimensions are same as above assembly chart except for tube thread size.
- Supplied with brass pipe plug.
- Special pipe tap sizes, tube thread sizes and hole locations are available.
- Use high flow stainless tubes on page HC5.



High Flow Cascades

Increased inlet areas produce higher flow rates.

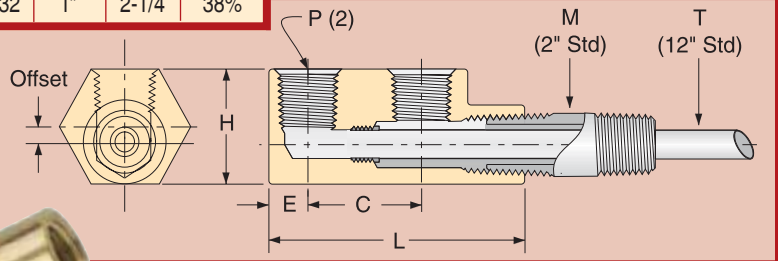


ASSEMBLIES

CATALOG NUMBER	M PIPE NIPPLE (NPT)	P PIPE TAP SIZE (NPT)	T HIGH FLOW TUBE O.D.	T HIGH FLOW TUBE INCLUDED	H HEX SIZE	OFFSET	E	C	L	% ACTUAL FLOW INCREASE
HF16N	1/16	1/16	1/8	HF125T-12	5/8	3/32	1/4	1/2	1-1/4	-
HF186N	1/8	1/8	3/16	HF187T-12	3/4	3/32	5/16	11/16	1-5/8	64%
HF181N	1/8	1/8	3/16	HF187T-12	3/4	3/32	5/16	1"	1-15/16	64%
HF146N-4	1/4	1/4	1/4	HF250T-12	1"	5/32	11/32	11/16	1-7/8	48%
HF141N-4	1/4	1/4	1/4	HF250T-12	1"	5/32	11/32	1"	2-3/16	48%
HF381N-4	3/8	1/4	3/8	HF375T-12	1-1/8	1/8	11/32	1"	2-1/4	38%

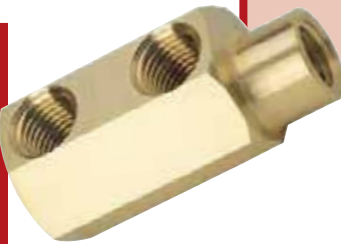
- Up to 64% higher flow rates than standard cascades.
- Offset design provides more sealing threads without pipe interference.
- Assemblies include brass head, 12" high flow stainless tube, and 2" long galvanized pipe nipple.

If cooling rates are limiting cycle times, or connection leakage is a problem, the High Flow Cascade should solve the problem.



HEADS

CATALOG NUMBER	HIGH FLOW TUBE THREAD SIZE	USE HIGH FLOW TUBE NUMBER
HF16H	10-32	HF125T-
HF186H	1/4-28	HF187T-
HF181H	1/4-28	HF187T-
HF146H-4	5/16-24	HF250T-
HF141H-4	5/16-24	HF250T-
HF381H-4	7/16-20	HF375T-



- All dimensions are same as above assembly chart.
- Special pipe tap sizes and tube combinations are available.
- Use high flow stainless tubes on page HC5.

Compact Cascades

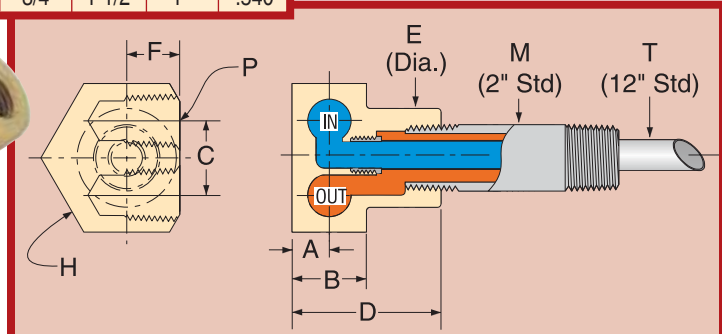
ASSEMBLIES

CATALOG NUMBER	M PIPE NIPPLE (NPT)	P IN/OUT PIPE (NPT)	T HIGH FLOW TUBE O.D.	HIGH FLOW TUBE INCLUDED	H HEX SIZE	A	B	C	D	E	F
ET1816	1/8	1/16	3/16	HF187T-12	15/16	7/32	7/16	1/2	1"	5/8	.330
ET1418	1/4	1/8	1/4	HF250T-12	1-1/4	5/16	5/8	11/16	1-1/4	3/4	.410
ET1414	1/4	1/4	1/4	HF250T-12	1-1/2	3/8	3/4	3/4	1-1/2	7/8	.540
ET3814	3/8	1/4	5/16	HF312T-12	1-1/2	3/8	3/4	3/4	1-1/2	1"	.540

- Assemblies include brass head, 12" high flow stainless tube, and 2" long galvanized pipe nipple.
- In/Out connections are positioned sideways for mounting in tight spaces or thin mold plates.

HEADS

CATALOG NUMBER	M PIPE NIPPLE (NPT)	P IN/OUT PIPE (NPT)	HIGH FLOW TUBE THREAD SIZE	USE HIGH FLOW TUBE NUMBER
ET1816H	1/8	1/16	1/4-28	HF187T-
ET1418H	1/4	1/8	5/16-24	HF250T-
ET1414H	1/4	1/4	5/16-24	HF250T-
ET3814H	3/8	1/4	3/8-24	HF312T-



- All dimensions are same as above assembly chart.
- Use high flow stainless tubes on page HC5.

Compact Cascades provide maximum cooling rates with improved design and High Flow Tubes.



High Flow Tubes

INCREASE FLOW UP TO 300%



TUBE O.D.	TUBE I.D.	THREAD SIZE	THREAD LENGTH	CATALOG NUMBER			
				12"	18"	24"	36"
.090	.076	5-44	1/8	HF093T-12	HF093T-18	HF093T-24	HF093T-36
.090	.076	10-32	3/16	JHF093T-12	JHF093T-18	JHF093T-24	JHF093T-36
.125	.109	10-32	3/16	HF125T-12	HF125T-18	HF125T-24	HF125T-36
.125	.109	1/4-28	1/4	JHF125T-12	JHF125T-18	JHF125T-24	JHF125T-36
.187	.167	1/4-28	1/4	HF187T-12	HF187T-18	HF187T-24	HF187T-36
.187	.167	5/16-24	5/16	JHF187T-12	JHF187T-18	JHF187T-24	JHF187T-36
.250	.230	5/16-24	5/16	HF250T-12	HF250T-18	HF250T-24	HF250T-36
.250	.230	3/8-24	3/8	JHF250T-12	JHF250T-18	JHF250T-24	JHF250T-36
.312	.288	3/8-24	3/8	HF312T-12	HF312T-18	HF312T-24	HF312T-36
.312	.288	7/16-20	7/16	JHF312T-12	JHF312T-18	JHF312T-24	JHF312T-36
.365	.340	7/16-20	7/16	HF375T-12	HF375T-18	HF375T-24	HF375T-36
.365	.340	1/2-20	1/2	JHF375T-12	JHF375T-18	JHF375T-24	JHF375T-36
.427	.397	1/2-20	1/2	HF437T-12	HF437T-18	HF437T-24	HF437T-36

- All stainless construction for high strength and durability.
- Cut to exact lengths at no charge.
- We stock over 150 sizes of thin wall stainless tube.
- We build stepped tube assemblies and custom threaded tubes to your print.

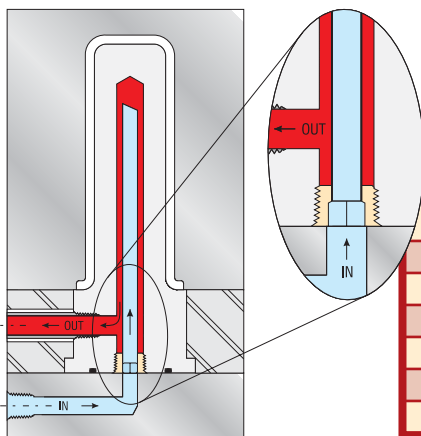
Standard Tubes



TUBE O.D.	TUBE I.D.	THREAD SIZE	THREAD LENGTH	CATALOG NUMBER			
				12"	18"	24"	36"
.125	.062	5-44	3/16	125T-12	125T-18	125T-24	125T-36
.187	.123	10-32	3/16	187T-12	187T-18	187T-24	187T-36
.250	.170	1/4-28	1/4	250T-12	250T-18	250T-24	250T-36
.312	.210	5/16-24	5/16	312T-12	312T-18	312T-24	312T-36
.375	.273	3/8-24	3/8	375T-12	375T-18	375T-24	375T-36
.437	.307	7/16-20	7/16	437T-12	437T-18	437T-24	437T-36
.625	.495	5/8-18	5/8	625T-12	625T-18	625T-24	625T-36

- Tubes 18" and longer have both ends threaded.
- Half-hard temper for reliable performance.
- Also available in stainless steel.
- Bulk tube available.

Piston Tubes



Coolant flows through hex socket and high flow stainless tube.

High-Flow Stainless Tube gives maximum cooling rates.

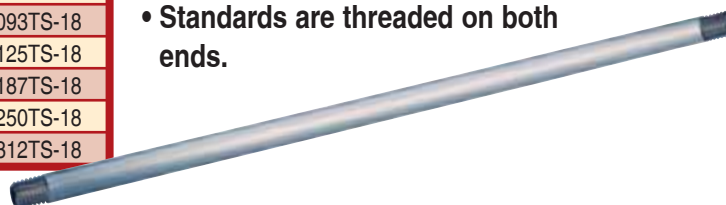
PIPE SIZE (NPT)	TUBE O.D.	TUBE I.D.	CATALOG NUMBER			
			12"	24"	36"	48"
1/16	.125	.109	PT16-12	PT16-24	PT16-36	PT16-48
1/8	.187	.167	PT18-12	PT18-24	PT18-36	PT18-48
1/4	.250	.230	PT14-12	PT14-24	PT14-36	PT14-48
3/8	.365	.345	PT38-12	PT38-24	PT38-36	PT38-48
1/2	.365	.340	PT12-12	PT12-24	PT12-36	PT12-48
3/4	.427	.397	PT34-12	PT34-24	PT34-36	PT34-48

- Precision brazed assembly provides high strength and reliable performance.
- Flow thru pipe plug is available in custom sizes and materials.

TUBE O.D.	TUBE I.D.	THREAD SIZE	CATALOG NUMBER
.093	.077	NO THREADS	093TS-18
.125	.062	5-44	125TS-18
.187	.123	10-32	187TS-18
.250	.170	1/4-28	250TS-18
.312	.210	5/16-24	312TS-18

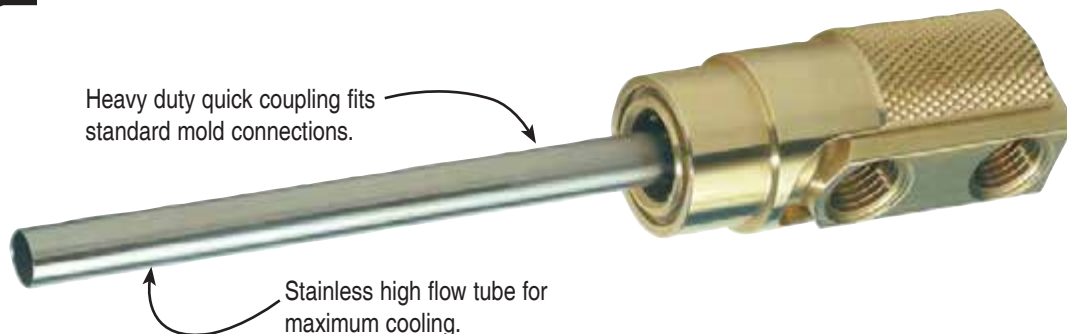
- Stainless tubes are 18" overall.
- Standards are threaded on both ends.

Stainless Tubes





Quick-Coupler Cascades



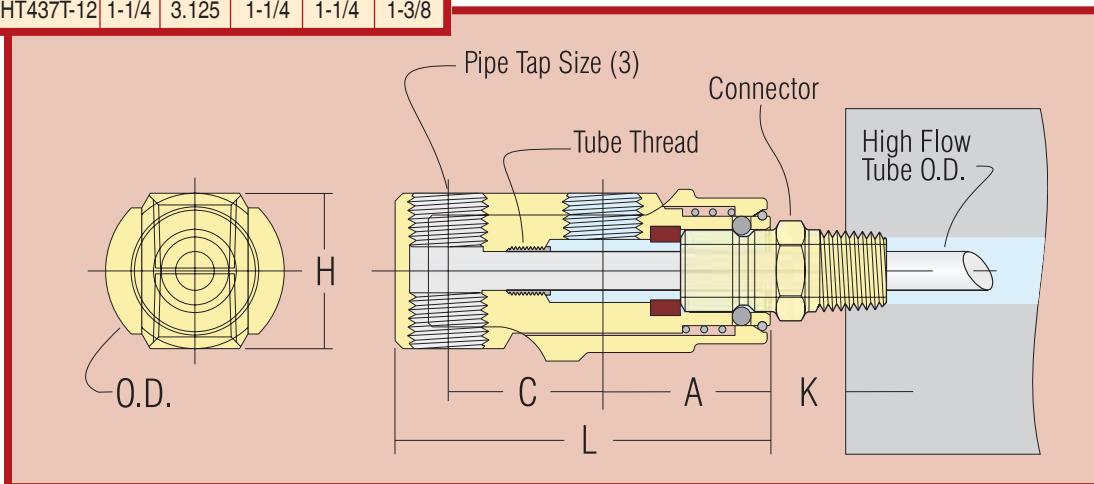
Heavy duty quick coupling fits standard mold connections.

Stainless high flow tube for maximum cooling.

ASSEMBLIES

CATALOG NUMBER	P PIPE TAP SIZE (NPT)	T HIGH FLOW TUBE THREAD	HIGH FLOW TUBE INCLUDED	H HEX KEY SIZE	L	C	A	D ACTUAL O.D.
SC186N	1/8	1/4-28	HF187T-12	13/16	1.937	11/16	31/32	7/8
SC181N	1/8	1/4-28	HT187T-12	13/16	2.250	1"	31/32	7/8
SC146N-4	1/4	5/16-24	HT250T-12	1"	2.187	11/16	1-5/32	1-1/8
SC141N-4	1/4	5/16-24	HT250T-12	1"	2.500	1"	1-5/32	1-1/8
SC121N-4	1/4	1/2-20	HT437T-12	1-1/4	3.125	1-1/4	1-1/4	1-3/8
SC121N-6	3/8	1/2-20	HT437T-12	1-1/4	3.125	1-1/4	1-1/4	1-3/8

- Can be installed and removed without disconnecting coolant lines.
- Viton Seals standard.
- High flow design provides maximum cooling rates.
- 12" high flow stainless tube included.



HEADS

CATALOG NUMBER	HIGH FLOW TUBE THREAD SIZE	USE HIGH FLOW TUBE NUMBER
SC186H	1/4-28	HF187T-
SC181H	1/4-28	HF187T-
SC146H-4	5/16-24	HF250T-
SC141H-4	5/16-24	HF250T-
SC121H-4	1/2-20	HF437T-
SC121H-6	1/2-20	HF437T-



- Aids in quick and efficient assembly and disassembly of cooling circuit.
- Heavy duty all brass and stainless steel construction.
- Dimensions are same as above assembly chart for corresponding catalog number.
- Use high flow tubes on page HC5.



HexKey Cascades

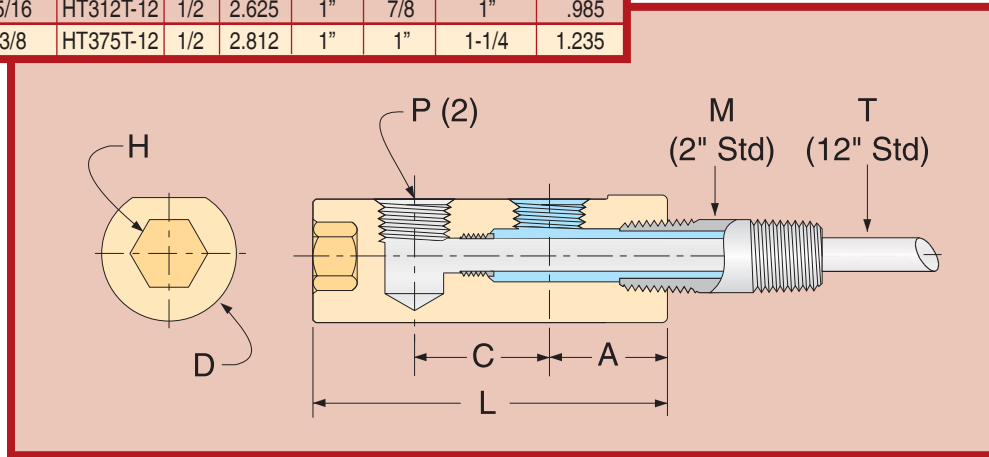
HexKey Cascades are round, and install with an Allen wrench. They may be installed with minimal clearance or very close together where space is limited.



ASSEMBLIES

CATALOG NUMBER	M PIPE NIPPLE (NPT)	P PIPE TAP SIZE (NPT)	T HIGH FLOW TUBE O.D.	HIGH FLOW TUBE INCLUDED	H HEX KEY SIZE	L	C	A	NOMINAL CLEARANCE DRILL	D ACTUAL O.D.
E16N	1/16	1/16	1/8	HF125T-12	5/16	1.625	9/16	1/2	5/8	.610
E16N-2	1/8	1/16	3/16	HT187T-12	3/8	1.687	9/16	9/16	3/4	.735
E186N	1/8	1/8	3/16	HT187T-12	3/8	1.875	11/16	9/16	7/8	.860
E181N	1/8	1/8	3/16	HT187T-12	3/8	2.187	1"	9/16	7/8	.860
E146N	1/4	1/8	1/4	HT250T-12	1/2	2.187	11/16	13/16	1"	.985
E146N-4	1/4	1/4	1/4	HT250T-12	1/2	2.312	11/16	7/8	1"	.985
E141N	1/4	1/8	1/4	HT250T-12	1/2	2.500	1"	13/16	1"	.985
E141N-4	1/4	1/4	1/4	HT250T-12	1/2	2.625	1"	7/8	1"	.985
E381N-4	3/8	1/4	5/16	HT312T-12	1/2	2.625	1"	7/8	1"	.985
E121N-4	1/2	1/4	3/8	HT375T-12	1/2	2.812	1"	1"	1-1/4	1.235

- Assemblies include brass head, 12" high flow stainless tube, and 2" long galvanized pipe nipple.
- Easy to install and remove.



HEADS

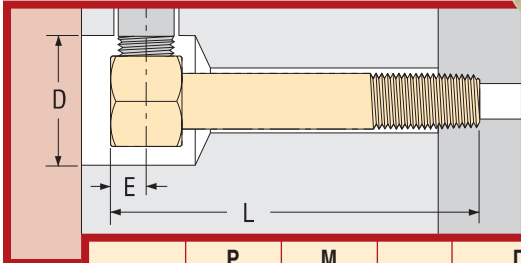
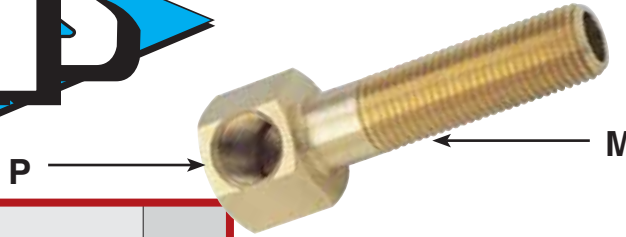
CATALOG NUMBER	HIGH FLOW TUBE THREAD SIZE	USE HIGH FLOW TUBE NUMBER
E16H	10-32	HF125T-
E16H-2	1/4-28	HF187T
E186H	1/4-28	HF187T-
E181H	1/4-28	HF187T-
E146H	5/16-24	HF250T-
E146H-4	5/16-24	HF250T-
E141H	5/16-24	HF250T-
E141H-4	5/16-24	HF250T-
E381H-4	3/8-24	HF312T-
E121H-4	7/16-20	HF375T-



- All dimensions are same as above assembly chart.
- HexKey Cascade heads use High Flow stainless tubes on page HC5.



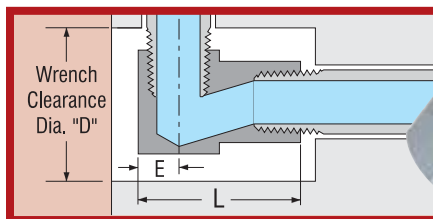
Brass Extension Elbows



- Positive socket wrench installation.
- One piece construction ensures positive alignment, and complete removal.
- Easy length adjustment (see Brass Extension Plugs).
- Custom elbows are available in exact lengths and a wide variety of thread combinations. (Including BSP)

ELBOW NUMBER	P TAP SIZE FEMALE (NPT)	M PIPE SIZE MALE (NPT)	HEX SIZE	D WRENCH CLEARANCE DIAMETER	E	OVERALL LENGTH "L"							
						2-1/2"	4"	5-1/2"	7"	8-1/2"	10"	11-1/2"	13"
18B	1/8	1/8	3/4	1-1/4	9/32	X025	X040	X055	X070	X085	X100	X115	X130
1814B	1/8	1/4	3/4	1-1/4	9/32	X025	X040	X055	X070	X085	X100	X115	X130
14B	1/4	1/4	7/8	1-3/8	11/32	X025	X040	X055	X070	X085	X100	X115	X130
1438B	1/4	3/8	7/8	1-3/8	11/32	X025	X040	X055	X070	X085	X100	X115	X130
38B	3/8	3/8	1"	1-1/2	1/2	X025	X040	X055	X070	X085	X100	X115	X130
50B	1/2	1/2	1-1/4	1-3/4	5/8	X025	X040	X055	X070	X085	X100	X115	X130

To order, add overall length to catalog number. Example: 18BX025



Hex Elbows

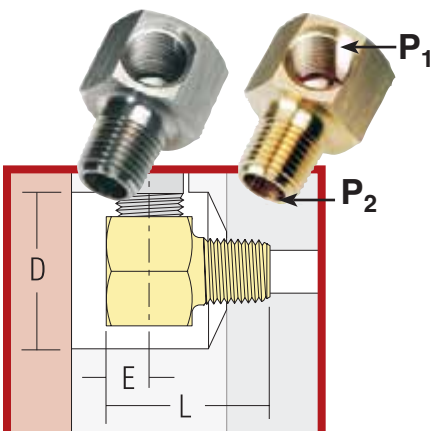
- Available in brass or zinc plated steel.
- Easy socket wrench installation and removal.
- Angular flow path allows connecting fittings to be torqued tight without choking off flow.

• Requires much smaller clearance diameter than standard pipe elbows.

ELBOW NUMBER	P ₁ TAP SIZE FEMALE (NPT)	P ₂ TAP SIZE FEMALE (NPT)	L	E	D WRENCH CLEARANCE DIAMETER	HEX SIZE	CATALOG NUMBER	
							STEEL	BRASS
16S	1/16	1/16	13/16	7/32	1"	9/16	16S-S	16S-B
18S	1/8	1/8	1"	9/32	1-1/4	3/4	18S-S	18S-B
1814S	1/8	1/4	1-1/4	9/32	1-1/4	3/4	1814S-S	1814S-B
14S	1/4	1/4	1-3/8	11/32	1-3/8	7/8	14S-S	14S-B
1438S	1/4	3/8	1-3/8	11/32	1-3/8	7/8	1438S-S	1438S-B
38S	3/8	3/8	1-5/8	1/2	1-1/2	1"	38S-S	38S-B
50S	1/2	1/2	1-7/8	9/16	1-7/8	1-1/4	50S-S	50S-B
75S	3/4	3/4	2-1/4	5/8	2-1/4	1-1/2	75S-S	75S-B

Male Hex Elbows

- Available in brass or plated steel.
- Easy socket wrench installation and removal.
- Full flow path allows connecting fittings to be torqued tight without choking off flow.
- Requires minimum clearance diameter.



ELBOW NUMBER	P ₁ TAP SIZE FEMALE (NPT)	P ₂ TAP SIZE MALE (NPT)	L	E	D WRENCH CLEARANCE DIAMETER	HEX SIZE	CATALOG NUMBER	
							STEEL	BRASS
16MS	1/16	1/16	13/16	7/32	1"	9/16	16MS-S	16MS-B
18MS	1/8	1/8	1"	9/32	1-1/4	3/4	18MS-S	18MS-B
1814MS	1/8	1/4	1-1/4	9/32	1-1/4	3/4	1814MS-S	1814MS-B
14MS	1/4	1/4	1-3/8	11/32	1-3/8	7/8	14MS-S	14MS-B
1438MS	1/4	3/8	1-3/8	11/32	1-3/8	7/8	1438MS-S	1438MS-B
38MS	3/8	3/8	1-5/8	1/2	1-1/2	1"	38MS-S	38MS-B
50MS	1/2	1/2	1-7/8	9/16	1-7/8	1-1/4	50MS-S	50MS-B
75MS	3/4	3/4	2-1/4	5/8	2-1/4	1-1/2	75MS-S	75MS-B



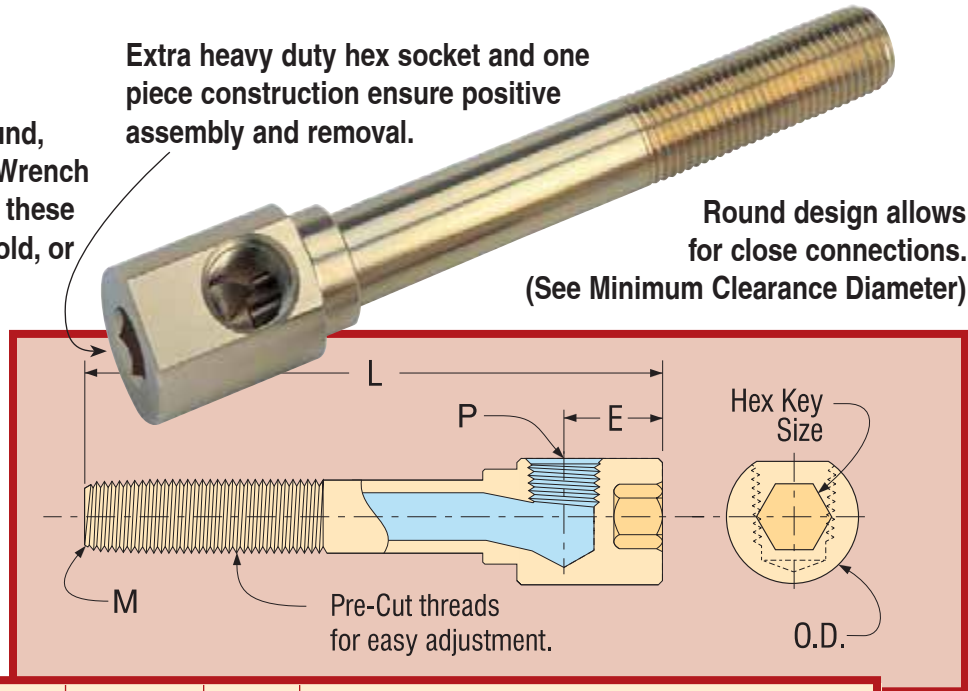
HexKey Extension Elbows

HexKey Extension Elbows are round, and install with an Allen wrench. Wrench clearance is not required, making these elbows ideal for use inside the mold, or anywhere space is limited.

- Angular flow path allows connecting pipe fittings to be torqued tight without choking off flow.
- Accurate length adjustments are easy with the Brass Extension Plug thread system.

Extra heavy duty hex socket and one piece construction ensure positive assembly and removal.

Round design allows for close connections. (See Minimum Clearance Diameter)

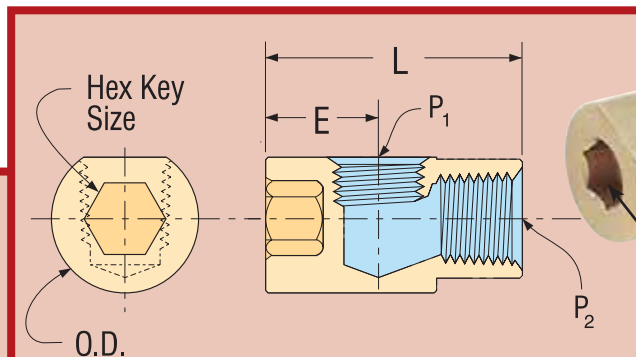
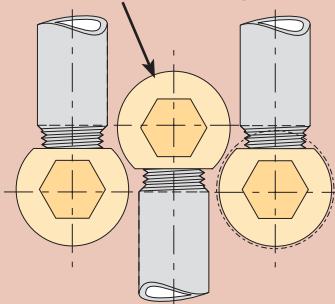


CATALOG NUMBER	P TAP SIZE FEMALE (NPT)	M PIPE SIZE MALE (NPT)	E	O.D.	MINIMUM CLEARANCE DIAMETER	HEX KEY SIZE	OVERALL LENGTH "L"							
							2-1/2	4"	5-1/2	7"	8-1/2	10"	11-1/2	13"
EKL16	1/16	1/16	.531	.552	9/16	1/4	X025	X040	X055	X070	X085	X100	X115	X130
EKL18	1/8	1/8	.580	.615	5/8	5/16	X025	X040	X055	X070	X085	X100	X115	X130
EKL14	1/4	1/4	.660	.860	7/8	3/8	X025	X040	X055	X070	X085	X100	X115	X130
EKL38	3/8	3/8	.780	.985	1"	1/2	X025	X040	X055	X070	X085	X100	X115	X130
EKL50	1/2	1/2	.940	1.235	1-1/4	1/2	X025	X040	X055	X070	X085	X100	X115	X130

To order, add overall length to catalog number. Example: EKL16X025

- Angular coolant path prevents fitting interference at assembly and guarantees full flow. (See Drawing)

Compact, round design allows for close connections. (See Minimum Clearance Diameter)



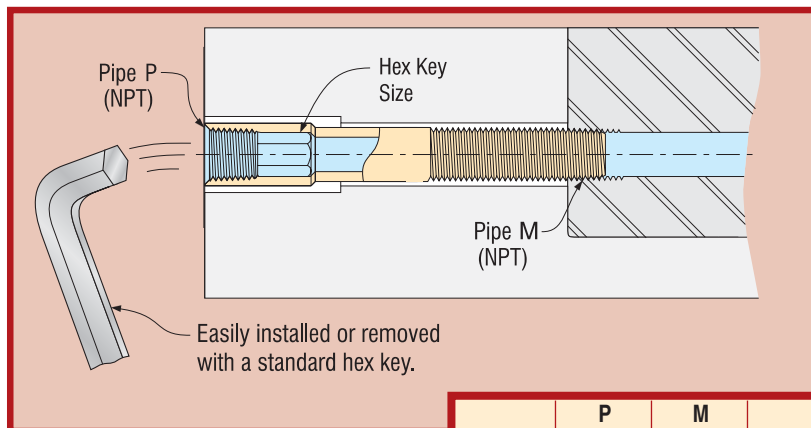
HexKey Elbows

HexKey Elbows install with an Allen wrench for positive assembly and removal.

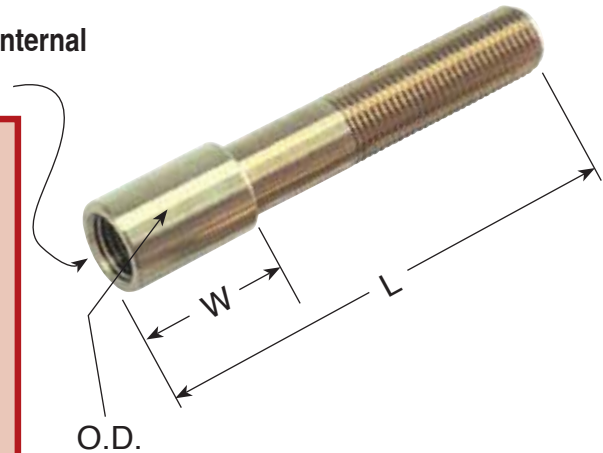
CATALOG NUMBER	P ₁ TAP SIZE FEMALE (NPT)	P ₂ TAP SIZE FEMALE (NPT)	L	E	O.D.	MINIMUM CLEARANCE DIAMETER	HEX KEY SIZE
HKL16	1/16	1/16	1.125	.531	.552	9/16	1/4
HKL18	1/8	1/8	1.250	.580	.615	5/8	5/16
HKL1814	1/8	1/4	1.375	.593	.860	7/8	3/8
HKL14	1/4	1/4	1.500	.660	.860	7/8	3/8
HKL1438	1/4	3/8	1.625	.712	.985	1"	1/2
HKL38	3/8	3/8	1.750	.780	.985	1"	1/2
HKL50	1/2	1/2	2.125	.940	1.235	1-1/4	1/2



HexKey Extension Pipes



Heavy duty internal hex socket

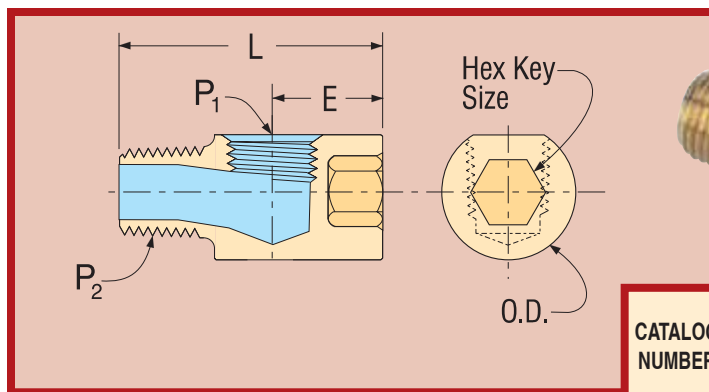


- HexKey Extension Pipes are available in a wide variety of special lengths and threads.
- Accurate length adjustments are easy with the Brass Extension Plug thread system.

CATALOG NUMBER	P TAP SIZE FEMALE (NPT)	M PIPE SIZE MALE (NPT)	W	O.D.	HEX KEY SIZE	OVERALL LENGTH "L"				
						2-1/2	4"	5-1/2	7"	8-1/2
EP18	1/8	1/8	3/4	1/2	1/4	X025	X040	X055	X070	X085
EP14	1/4	1/4	1"	11/16	3/8	X025	X040	X055	X070	X085
EP38	3/8	3/8	1-1/4	13/16	1/2	X025	X040	X055	X070	X085
EP50	1/2	1/2	1-1/2	1"	9/16	X025	X040	X055	X070	X085

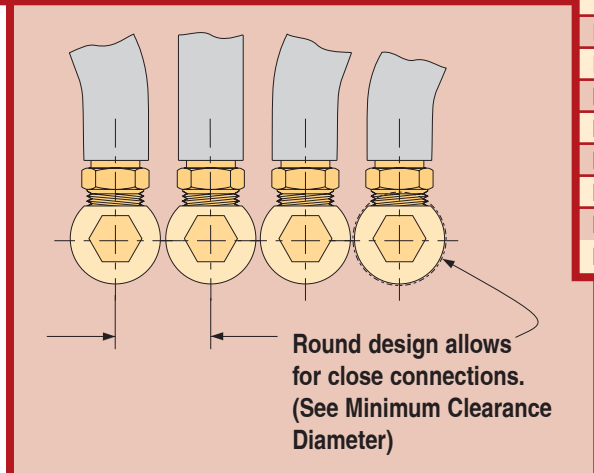
To order, add overall length to catalog number. Example EP18X025

HexKey Street Elbows



Extra heavy duty hex socket allows maximum assembly torque and positive removal.

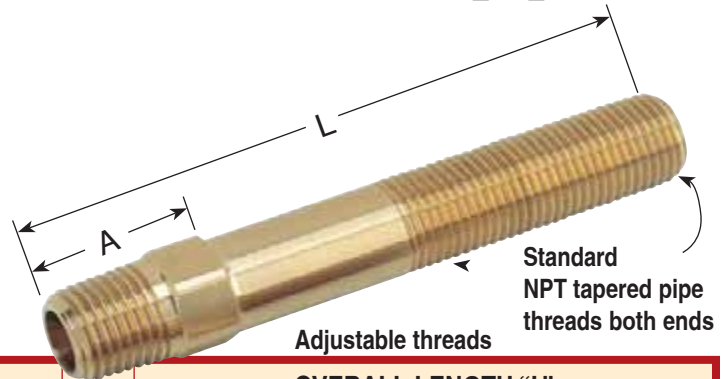
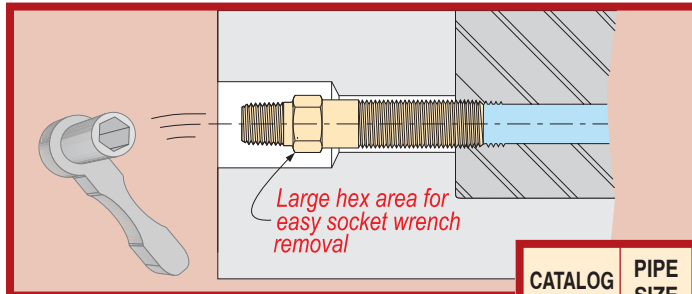
CATALOG NUMBER	P ₁ TAP SIZE FEMALE (NPT)	P ₂ PIPE SIZE MALE (NPT)	L	E	O.D.	MINIMUM CLEARANCE DIAMETER	HEX KEY SIZE
KL16	1/16	1/16	1.156	.531	.552	9/16	1/4
KL1618	1/16	1/8	1.218	.531	.615	5/8	5/16
KL18	1/8	1/8	1.312	.580	.615	5/8	5/16
KL1814	1/8	1/4	1.500	.593	.860	7/8	3/8
KL14	1/4	1/4	1.625	.660	.860	7/8	3/8
KL1438	1/4	3/8	1.625	.712	.985	1"	1/2
KL38	3/8	3/8	1.750	.780	.985	1"	1/2
KL50	1/2	1/2	2.250	.940	1.235	1-1/4	1/2



- HexKey Street Elbows install with an Allen wrench for positive assembly and removal.
- Angular coolant path allows connecting fittings to be torqued tight without choking off flow.



Adjustable Hex Nipples



- Especially useful when installing Cascade Heads, Hex Elbows, etc.
- Longer or special lengths are available.
- Available in special thread combinations.

CATALOG NUMBER	PIPE SIZE (NPT)	A	HEX SIZE	OVERALL LENGTH "L"							
				2-1/2"	4"	5-1/2"	7"	8-1/2"	10"	11-1/2"	13"
APN16	1/16	11/16	3/8	X025	X040	X055	X070	X085	X100	X115	X130
APN18	1/8	3/4	7/16	X025	X040	X055	X070	X085	X100	X115	X130
APN14	1/4	7/8	9/16	X025	X040	X055	X070	X085	X100	X115	X130
APN38	3/8	1"	11/16	X025	X040	X055	X070	X085	X100	X115	X130
APN12	1/2	1-3/8	7/8	X025	X040	X055	X070	X085	X100	X115	X130

To order, add overall length to catalog number. Example: APN16X025



Brass Pipe Nipples

CATALOG NUMBER	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	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120
BPN18	1/8	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120
BPN14	1/4	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120
BPN38	3/8	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120
BPN12	1/2	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120

To order, add overall length to catalog number. Example: BPN16X025



Galvanized Pipe Nipples

CATALOG NUMBER	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"
GPN16*	1/16	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120
GPN18	1/8	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120
GPN14	1/4	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120
GPN38	3/8	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120
GPN12	1/2	X000	X015	X020	X025	X030	X035	X040	X045	X050	X055	X060	X070	X080	X090	X100	X110	X120

To order, add overall length to catalog number. Example: GPN16X025

* 1/16 pipe nipples are stainless steel.



Push-Lok Hose Barbs

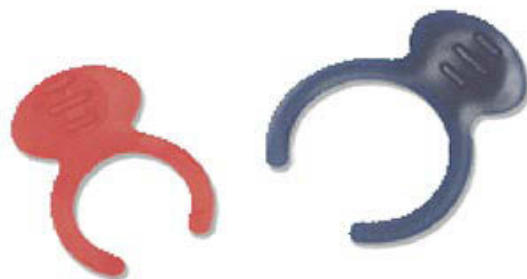
CATALOG NUMBER	HOSE I.D.	PIPE SIZE (NPT)
PLM-04-02	1/4	1/8
PLM-04-04	1/4	1/4
PLM-06-02	3/8	1/8
PLM-06-04	3/8	1/4
PLM-08-04	1/2	1/4
PLM-08-06	1/2	3/8
PLM-08-08	1/2	1/2
PLM-08-12	1/2	3/4
PLM-12-08	3/4	1/2
PLM-12-12	3/4	3/4



- All Push-Lok Hose fittings are constructed of brass and do not require hose clamps when used with Push-Lok hose.
- Flow diameters are maximized for improved flow rates.

Safety Clips

- Safety Clips reduce the possibility of the accidental release of waterline sockets.
- These clips are colour coded red or blue to designate hot and cold waterlines.
- Fits Parker, DME, Foster, and comparable waterline sockets



CATALOG NUMBER	FITS SOCKET SERIES
C200	JS204 thru JS226
C300	JS306 thru JS328
C500	JS504 thru JS526

To order, specify Catalog number and colour: Example C200-B



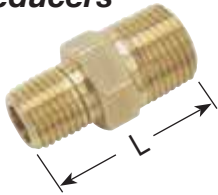
Fittings & Accessories

Reducing Bushings



CATALOG NUMBER	PIPE SIZE
RB18-1	1/8 X 1/16
RB14-2	1/4 X 1/8
RB38-4	3/8 X 1/4
RB50-6	1/2 X 3/8
RB75-8	3/4 X 1/2

Male Reducers



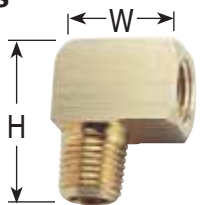
CATALOG NUMBER	PIPE SIZE	L
MR18-1	1/8 X 1/16	1"
MR14-2	1/4 X 1/8	1-3/16
MR38-4	3/8 X 1/4	1-7/16
MR50-6	1/2 X 3/8	1-5/8

45° Street EL's



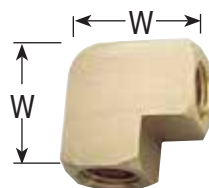
CATALOG NUMBER	PIPE SIZE
AL-18	1/8
AL-14	1/4
AL-38	3/8
AL-50	1/2

90° Street EL's



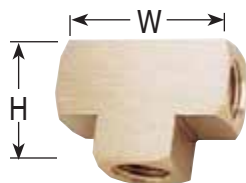
CATALOG NUMBER	PIPE SIZE	W	H
SL-18	1/8	11/16	15/16
SL-14	1/4	1"	1-1/4
SL-38	3/8	1-1/8	1-3/8
SL-50	1/2	1-1/2	1-3/4

90° Elbows



CATALOG NUMBER	PIPE SIZE	W
EL-18	1/8	13/16
EL-14	1/4	1-1/8
EL-38	3/8	1-1/4
EL-50	1/2	1-9/16

Tees



CATALOG NUMBER	PIPE SIZE	W	H
T-18	1/8	1-1/16	13/16
T-14	1/4	1-1/2	1-1/8
T-38	3/8	1-11/16	1-1/4
T-50	1/2	2-1/8	1-9/16

Hex Nipples



CATALOG NUMBER	PIPE SIZE	HEX SIZE	L
HN-18	1/8	7/16	31/32
HN-14	1/4	9/16	1-3/8
HN-38	3/8	11/16	1-7/16
HN-50	1/2	7/8	1-13/16

Male Hose Barbs



CATALOG NUMBER	HOSE I.D.	PIPE SIZE
MB14-2	1/4	1/8
MB14-4	1/4	1/4
MB15-2	5/16	1/8
MB15-4	5/16	1/4
MB38-2	3/8	1/8
MB38-4	3/8	1/4
MB50-4	1/2	1/4
MB50-6	1/2	3/8
MB50-8	1/2	1/2
MB75-8	3/4	1/2
MB75-12	3/4	3/4

Female Hose Barbs



CATALOG NUMBER	HOSE I.D.	PIPE SIZE
FB14-2	1/4	1/8
FB14-4	1/4	1/4
FB15-4	5/16	1/4
FB38-2	3/8	1/8
FB38-4	3/8	1/4
FB50-6	1/2	3/8
FB50-8	1/2	1/2

Hose Splicers



CATALOG NUMBER	HOSE I.D.
HS-14	1/4 X 1/4
HS-38	3/8 X 3/8
HS-50	1/2 X 1/2

Hex Couplings



CATALOG NUMBER	PIPE SIZE
C-18	1/8
C-14	1/4
C-38	3/8
C-50	1/2

Hose Clamps



CATALOG NUMBER	MAX. HOSE O.D.
HC-58	5/8
HC-78	7/8
HC-118	1-1/8

Teflon Tape



CATALOG NUMBER	ROLL SIZE
TL-250	1/4 X 520"
TL-500	1/2 X 520"



Flow Thru Sockets

200 Series

300 Series

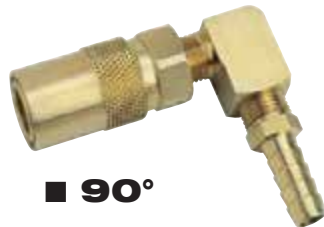
500 Series



■ **STRAIGHT**



■ **45°**



■ **90°**

CATALOG NUMBER	HOSE I.D.
S204	1/4
S205	5/16
S206	3/8
N/A	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
S306	3/8
S308	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
N/A	3/8
S504	1/2
S506	3/4

CATALOG NUMBER	HOSE I.D.
S224	1/4
S225	5/16
S226	3/8
N/A	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
S326	3/8
S328	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
N/A	3/8
S524	1/2
S526	3/4

CATALOG NUMBER	HOSE I.D.
S214	1/4
S215	5/16
S216	3/8
N/A	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
S316	3/8
S318	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
N/A	3/8
S514	1/2
S516	3/4

Note: For "Push-Lok" hose bars add PL to catalog number. Example S204PL

Valved Sockets

200 Series

300 Series

500 Series



■ **STRAIGHT**



■ **45°**



■ **90°**

CATALOG NUMBER	HOSE I.D.
S204V	1/4
S205V	5/16
S206V	3/8
N/A	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
S306V	3/8
S308V	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
N/A	3/8
N/A	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
S224V	1/4
S225V	5/16
S226V	3/8
N/A	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
S326V	3/8
S328V	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
N/A	3/8
N/A	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
S214V	1/4
S215V	5/16
S216V	3/8
N/A	1/2
N/A	3/4

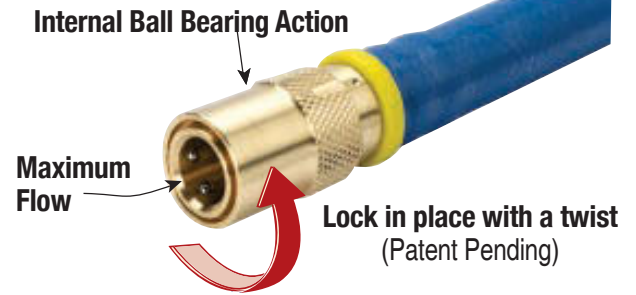
CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
S316V	3/8
S318V	1/2
N/A	3/4

CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
N/A	3/8
N/A	1/2
N/A	3/4

Note: For "Push-Lok" hose bars add PL to catalog number. Example S204VPL



Locking Couplers



FOR PUSH-LOK HOSE

- No hose clamp required when used with Push-Lok hose.
- Straight thru design for maximum flow rates.
- Sleeve lock provides safety.
- All brass and stainless steel construction.
- Compatible with all mold connection systems.



STRAIGHT



45°



90°

200 Series (1/4" Hole)

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-204-PL	1/4	•
CM-205-PL	5/16	•
CM-206-PL	3/8	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-224-PL	1/4	•
CM-225-PL	5/16	•
CM-226-PL	3/8	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-214-PL	1/4	•
CM-215-PL	5/16	•
CM-216-PL	3/8	•

300 Series (3/8" Hole)

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-306-PL	3/8	•
CM-308-PL	1/2	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-326-PL	3/8	•
CM-328-PL	1/2	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-316-PL	3/8	•
CM-318-PL	1/2	•

500 Series (1/2" Hole)

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-504-PL	1/2	•
CM-506-PL	3/4	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-524-PL	1/2	•
CM-526-PL	3/4	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-514-PL	1/2	•
CM-516-PL	3/4	•

WITH STANDARD BARBS

- Use hose clamps with these couplers.
- Straight thru design for maximum flow rates.
- Sleeve lock provides safety.
- All brass and stainless steel construction.
- Compatible with all mold connection systems.



STRAIGHT



45°



90°

200 Series (1/4" Hole)

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-204	1/4	•
CM-205	5/16	•
CM-206	3/8	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-224	1/4	•
CM-225	5/16	•
CM-226	3/8	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-214	1/4	•
CM-215	5/16	•
CM-216	3/8	•

300 Series (3/8" Hole)

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-306	3/8	•
CM-308	1/2	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-326	3/8	•
CM-328	1/2	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-316	3/8	•
CM-318	1/2	•

500 Series (1/2" Hole)

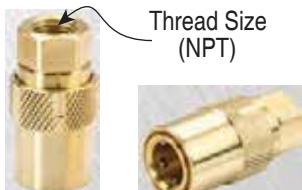
CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-504	1/2	•
CM-506	3/4	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-524	1/2	•
CM-526	3/4	•

CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-514	1/2	•
CM-516	3/4	•

BODIES ONLY

- Flow-thru type.
- Select pipe thread to suit your application.



200 Series (1/4" Hole)

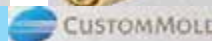
CATALOG NUMBER	THREAD SIZE	STOCK ITEM
CMB-200	1/8	•
CMB-200-1/4	1/4	•

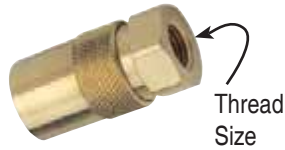
300 Series (3/8" Hole)

CATALOG NUMBER	THREAD SIZE	STOCK ITEM
CMB-300	1/4	•
CMB-300-3/8	3/8	•

500 Series (1/2" Hole)

CATALOG NUMBER	THREAD SIZE	STOCK ITEM
CMB-500	1/2	•





Socket Body

200 Series

CATALOG NUMBER	THREAD SIZE (NPT)
CMB-200-18	1/8
CMB-200-14	1/4

300 Series

CATALOG NUMBER	THREAD SIZE (NPT)
CMB-300-14	1/4
CMB-300-38	3/8

500 Series

CATALOG NUMBER	THREAD SIZE (NPT)
CMB-500-12	1/2

Socket bodies are flow-thru only.

Seals



200 Series

CATALOG NUMBER	SEAL MATERIAL
S-200-6	SILICONE
V-200-6	VITON

300 Series

CATALOG NUMBER	SEAL MATERIAL
S-300-6	SILICONE
V-300-6	VITON

500 Series

CATALOG NUMBER	SEAL MATERIAL
S-500-6	SILICONE
V-500-6	VITON

Connector Plugs

MALE (brass)



BSP AVAILABLE

200 Series

CATALOG NUMBER	PIPE THREAD	FLOW DIA.
P250	1/16	3/16
P251	1/8	1/4
P252	1/4	1/4
P253	3/8	1/4

300 Series

CATALOG NUMBER	PIPE THREAD	FLOW DIA.
P351	1/8	1/4
P352	1/4	3/8
P353	3/8	3/8
P354	1/2	3/8

500 Series

CATALOG NUMBER	PIPE THREAD	FLOW DIA.
P552	1/4	3/8
P553	3/8	1/2
P554	1/2	5/8
P556	3/4	5/8

P251-BSP	1/8	1/4
P252-BSP	1/4	1/4

P351-BSP	1/8	1/4
P352-BSP	1/4	3/8
P353-BSP	3/8	3/8

P553-BSP	3/8	1/2
P554-BSP	1/2	5/8

FEMALE (plated steel)



CATALOG NUMBER	PIPE THREAD	FLOW DIA.
P251F	1/8	1/4
P252F	1/4	1/4
P253F	3/8	1/4

CATALOG NUMBER	PIPE THREAD	FLOW DIA.
P352F	1/4	3/8
P353F	3/8	3/8
P354F	1/2	3/8

CATALOG NUMBER	PIPE THREAD	FLOW DIA.
P554F	1/2	5/8
P556F	3/4	5/8

FEMALE (brass)



BSP AVAILABLE

CATALOG NUMBER	PIPE THREAD	FLOW DIA.
P250FB	1/16	1/4
P251FB	1/8	1/4
P252FB	1/4	1/4
P253FB	3/8	1/4

CATALOG NUMBER	PIPE THREAD	FLOW DIA.
P351FB	1/8	11/32
P352FB	1/4	3/8
P353FB	3/8	3/8
P354FB	1/2	3/8

CATALOG NUMBER	PIPE THREAD	FLOW DIA.
P551FB	1/8	11/32
P552FB	1/4	7/16
P553FB	3/8	9/16
P554FB	1/2	5/8

P251FB-BSP	1/8	1/4
P252FB-BSP	1/4	1/4

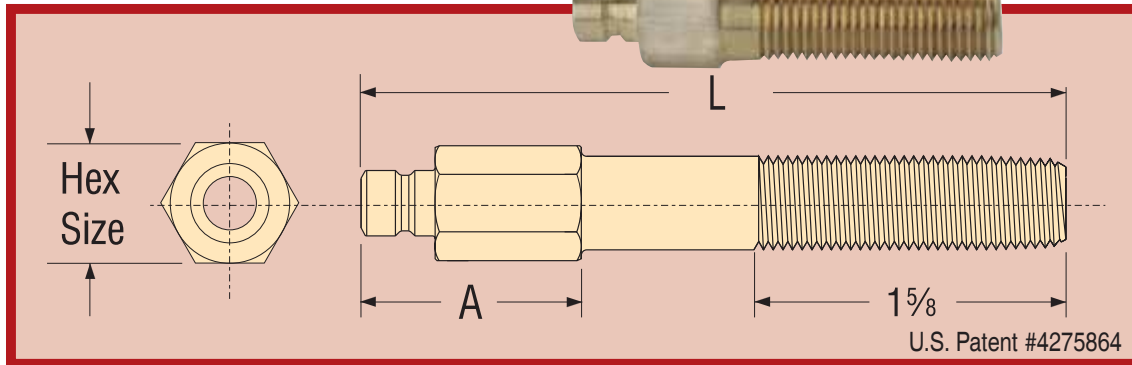
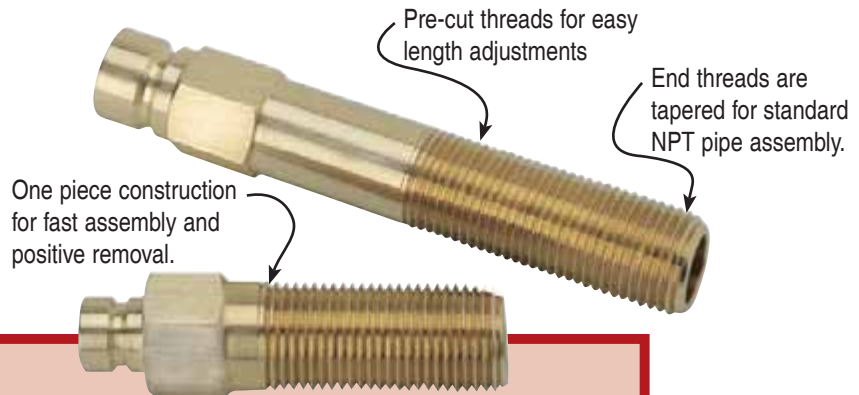
P351FB-BSP	1/8	11/32
P352FB-BSP	1/4	3/8
P353FB-BSP	3/8	3/8

P553FB-BSP	3/8	9/16
P554FB-BSP	1/2	5/8



Brass Extension Plugs

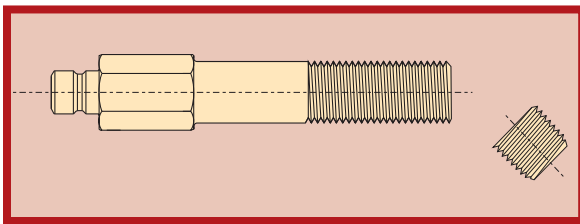
- Extension Plugs are compatible with all major mold connection systems.
- In addition to brass they can be ordered in stainless or plated steel.
- Extension plugs are also available in all metric pipe sizes.



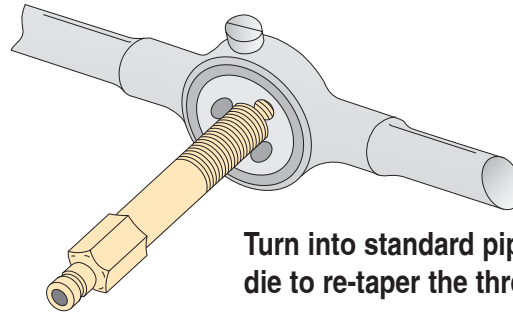
- BSP Brass Extension Plugs now available
- Available with pre-applied sealant.
- Order any quantity.



Length Adjustments



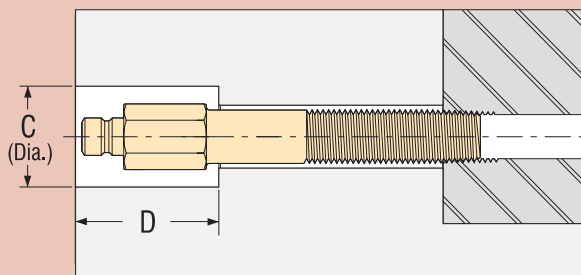
If special length adjustments are required, simply cut to length and chamfer the end.



Installation

CATALOG SERIES	C (DIA.)	D
250	3/4	1"
251	7/8	1-1/4
252	1"	1-1/2
253	1-1/8	1-1/2
350	1"	1-1/4
351	1"	1-1/4
352	1"	1-1/2
353	1-1/8	1-1/2
354	1-1/2	1-3/4
553	1-3/8	1-5/8
554	1-1/2	1-3/4

At assembly, the tapered brass threads provide a dependable, leak proof seal. With one-piece construction, removing the plug is guaranteed.





Brass Extension Plugs

200 Series

CATALOG NUMBER	L OVERALL LENGTH (INCHES)	PIPE SIZE (NPT)	HEX SIZE	A
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1/16" Pipe Extensions

P250X025	2-1/2	1/16	3/8	11/16
P250X040	4	1/16	3/8	13/16
P250X055	5-1/2	1/16	3/8	13/16
P250X070	7	1/16	3/8	13/16

1/8" Pipe Extensions

P251X025	2-1/2	1/8	7/16	11/16
P251X040	4	1/8	7/16	1"
P251X055	5-1/2	1/8	7/16	1"
P251X070	7	1/8	7/16	1"
P251X085	8-1/2	1/8	7/16	1"
P251X100	10	1/8	7/16	1"
P251X115	11-1/2	1/8	7/16	1"
P251X130	13	1/8	7/16	1"

1/4" Pipe Extensions

P252X025	2-1/2	1/4	9/16	7/8
P252X040	4	1/4	9/16	1-1/4
P252X055	5-1/2	1/4	9/16	1-1/4
P252X070	7	1/4	9/16	1-1/4
P252X085	8-1/2	1/4	9/16	1-1/4
P252X100	10	1/4	9/16	1-1/4
P252X115	11-1/2	1/4	9/16	1-1/4
P252X130	13	1/4	9/16	1-1/4

3/8" Pipe Extensions

P253X025	2-1/2	3/8	11/16	1"
P253X040	4	3/8	11/16	1-1/4
P253X055	5-1/2	3/8	11/16	1-1/4
P253X070	7	3/8	11/16	1-1/4
P253X085	8-1/2	3/8	11/16	1-1/4
P253X100	10	3/8	11/16	1-1/4
P253X115	11-1/2	3/8	11/16	1-1/4
P253X130	13	3/8	11/16	1-1/4

1/2" Pipe Extensions

CUSTOM				
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300 Series

CATALOG NUMBER	L OVERALL LENGTH (INCHES)	PIPE SIZE (NPT)	HEX SIZE	A
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1/16" Pipe Extensions

P350X025	2-1/2	1/16	9/16	7/8
P350X040	4	1/16	9/16	1"
P350X055	5-1/2	1/16	9/16	1"
P350X070	7	1/16	9/16	1"

1/8" Pipe Extensions

P351X025	2-1/2	1/8	9/16	7/8
P351X040	4	1/8	9/16	1"
P351X055	5-1/2	1/8	9/16	1"
P351X070	7	1/8	9/16	1"
P351X085	8-1/2	1/8	9/16	1"
P351X100	10	1/8	9/16	1"
P351X115	11-1/2	1/8	9/16	1"
P351X130	13	1/8	9/16	1"

1/4" Pipe Extensions

P352X025	2-1/2	1/4	9/16	7/8
P352X040	4	1/4	9/16	1-1/4
P352X055	5-1/2	1/4	9/16	1-1/4
P352X070	7	1/4	9/16	1-1/4
P352X085	8-1/2	1/4	9/16	1-1/4
P352X100	10	1/4	9/16	1-1/4
P352X115	11-1/2	1/4	9/16	1-1/4
P352X130	13	1/4	9/16	1-1/4

3/8" Pipe Extensions

P353X025	2-1/2	3/8	11/16	1"
P353X040	4	3/8	11/16	1-1/4
P353X055	5-1/2	3/8	11/16	1-1/4
P353X070	7	3/8	11/16	1-1/4
P353X085	8-1/2	3/8	11/16	1-1/4
P353X100	10	3/8	11/16	1-1/4
P353X115	11-1/2	3/8	11/16	1-1/4
P353X130	13	3/8	11/16	1-1/4

1/2" Pipe Extensions

P354X025	2-1/2	1/2	7/8	1-1/8
P354X040	4	1/2	7/8	1-1/2
P354X055	5-1/2	1/2	7/8	1-1/2
P354X070	7	1/2	7/8	1-1/2
P354X085	8-1/2	1/2	7/8	1-1/2
P354X100	10	1/2	7/8	1-1/2
P354X115	11-1/2	1/2	7/8	1-1/2
P354X130	13	1/2	7/8	1-1/2

500 Series

CATALOG NUMBER	L OVERALL LENGTH (INCHES)	PIPE SIZE (NPT)	HEX SIZE	A
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1/16" Pipe Extensions

CUSTOM				
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1/8" Pipe Extensions

CUSTOM				
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1/4" Pipe Extensions

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3/8" Pipe Extensions

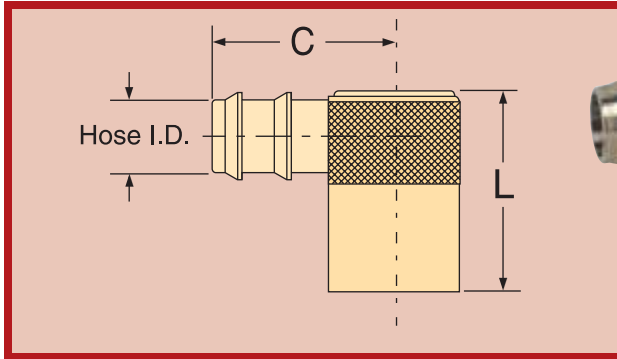
P553X025	2-1/2	3/8	13/16	1-1/8
P553X040	4	3/8	13/16	1-3/8
P553X055	5-1/2	3/8	13/16	1-3/8
P553X070	7	3/8	13/16	1-3/8
P553X085	8-1/2	3/8	13/16	1-3/8
P553X100	10	3/8	13/16	1-3/8
P553X115	11-1/2	3/8	13/16	1-3/8
P553X130	13	3/8	13/16	1-3/8

1/2" Pipe Extensions

P554X025	2-1/2	1/2	7/8	1-1/8
P554X040	4	1/2	7/8	1-1/2
P554X055	5-1/2	1/2	7/8	1-1/2
P554X070	7	1/2	7/8	1-1/2
P554X085	8-1/2	1/2	7/8	1-1/2
P554X100	10	1/2	7/8	1-1/2
P554X115	11-1/2	1/2	7/8	1-1/2
P554X130	13	1/2	7/8	1-1/2



Quick-Coupler Water Jumpers



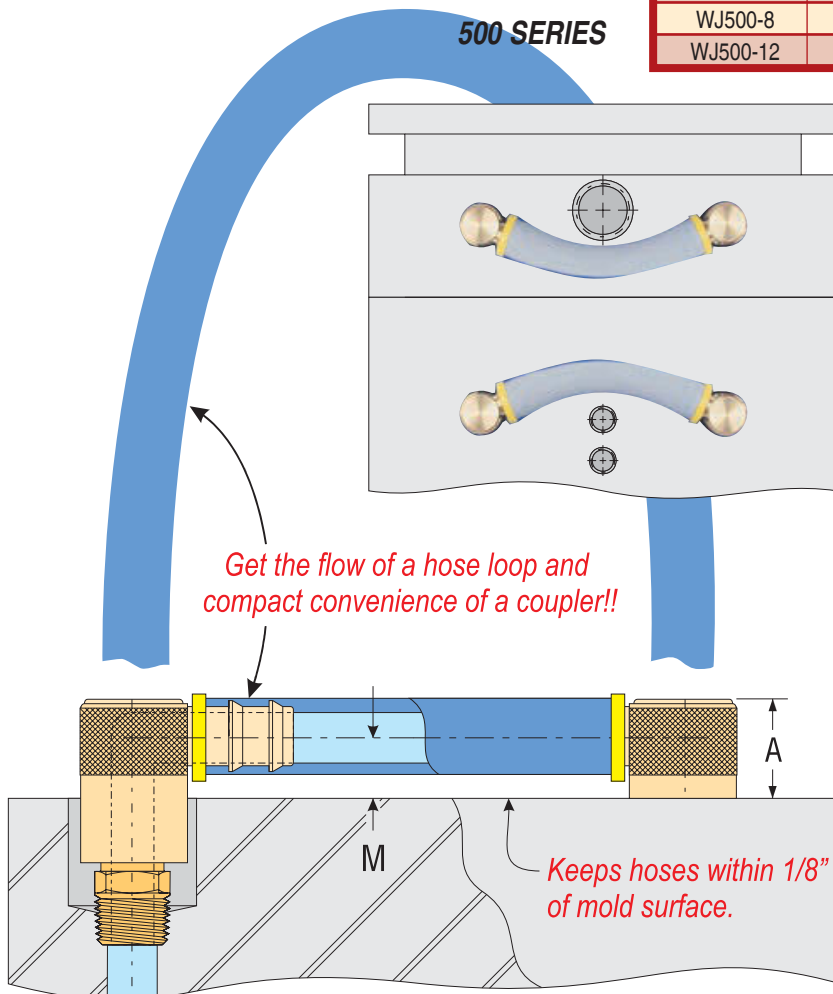
Coupler sleeve twists to lock, preventing accidental disconnect.



For use with Push-Lok hose, no hose clamps are required

Oversized and unrestricted flow path maintains full flow rate of hose used.

CATALOG NUMBER	FITS PLUG SERIES	HOSE I.D.	L	C	M	A
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"
WJ500-8	500	1/2"	2-1/8"	2"	7/8"	1-1/8"
WJ500-12	500	3/4"	2-1/8"	2"	7/8"	1-1/8"

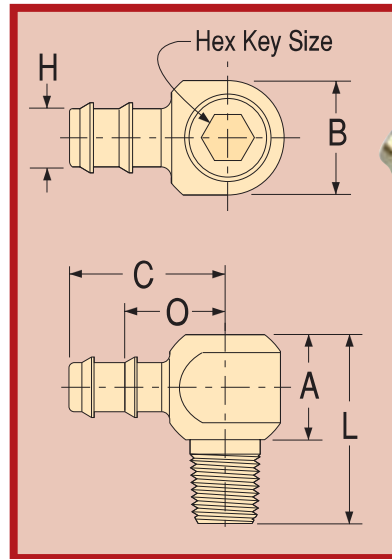


- Eliminates bulky hose loops.
- Compact design neatly and safely holds cooling lines close to the mold surface.
- Stock only one part number for any hose size. No special tubes or length restrictions.
- Compatible with all major mold connection systems.
- Unlimited installation options. Fits around obstacles, and installs in compact spaces.
- Viton seals for temperatures up to 400 F.
- All brass and stainless steel construction.



Swivel Water Jumpers

- Can be fully recessed to prevent accidental disconnect or damage.
- Swivel body allows installation in tight spaces.
- Eliminate crimped hoses and setup errors.
- Supplied with Viton O-Ring seals.
- All brass construction.
- Hex key installation.
- Custom length Jumpers can be quoted.

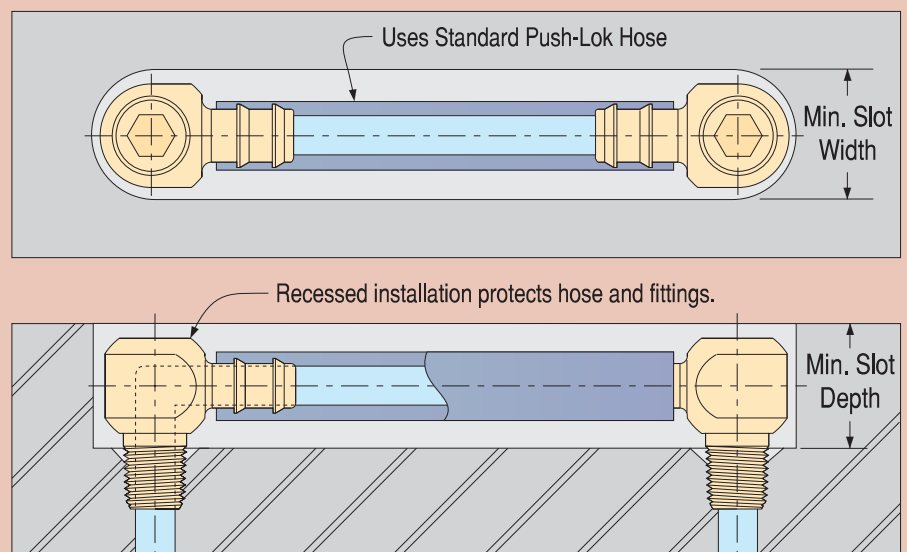
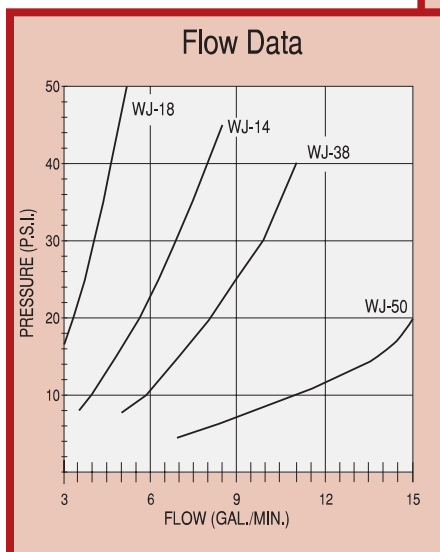


Heavy duty hex key socket allows maximum torque and positive removal.



Threads can be adjusted to specific lengths.

CATALOG NUMBER	PIPE SIZE (NPT)	H HOSE I.D.	HEX KEY SIZE	L	A	C	O	B	MIN. SLOT WIDTH	MIN. SLOT DEPTH
WJ18-S	1/8	5/16	3/16	1-3/16	11/16	1"	5/8	.660	11/16	1"
WJ18-M	1/8	5/16	3/16	2"	11/16	1"	5/8	.660	11/16	1"
WJ18-L	1/8	5/16	3/16	3-1/2	11/16	1"	5/8	.660	11/16	1"
WJ14-S	1/4	3/8	1/4	1-7/16	13/16	1-3/16	25/32	.840	7/8	1-3/16
WJ14-M	1/4	3/8	1/4	2-3/8	13/16	1-3/16	25/32	.840	7/8	1-3/16
WJ14-L	1/4	3/8	1/4	3-7/8	13/16	1-3/16	25/32	.840	7/8	1-3/16
WJ38-S	3/8	1/2	5/16	1-5/8	1"	1-3/8	15/16	.980	1"	1-3/8
WJ38-M	3/8	1/2	5/16	2-5/8	1"	1-3/8	15/16	.980	1"	1-3/8
WJ38-L	3/8	1/2	5/16	4-1/8	1"	1-3/8	15/16	.980	1"	1-3/8
WJ50-S	1/2	3/4	3/8	2"	1-1/8	1-1/2	1-1/8	1.235	1-1/4	1-9/16
WJ50-M	1/2	3/4	3/8	3"	1-1/8	1-1/2	1-1/8	1.235	1-1/4	1-9/16
WJ50-L	1/2	3/4	3/8	4-1/2	1-1/8	1-1/2	1-1/8	1.235	1-1/4	1-9/16





Threadless Plugs



- Threadless plugs utilize an expandable O-ring to create a positive seal.
- Seals rough or corroded holes.
- Withstands pressures up to 72 psi.
- No tapping is required.

CATALOG NUMBER	NOMINAL SIZE	HEIGHT	HEX SIZE	DRILL SIZE	O-RING CATALOG NUMBER
TBPP012	1/8	.50	5/64	11/32	OR-012
TBPP025	1/4	.56	1/8	7/16	OR-025
TBPP037	3/8	.62	1/8	9/16	OR-037
TBPP050	1/2	.62	1/8	11/16	OR-050
TBPP012-OS	1/8	.50	5/64	23/64	OR-012
TBPP025-OS	1/4	.56	1/8	29/64	OR-025
TBPP037-OS	3/8	.62	1/8	37/64	OR-037
TBPP050-OS	1/2	.62	1/8	45/64	OR-050

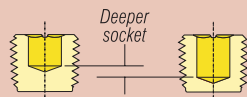
Heavy Duty Plugs

CATALOG NUMBER	THREAD SIZE (NPT)
XTBF-006	1/16
XTBF-012	1/8
XTBF-025	1/4
XTBF-037	3/8
XTBF-050	1/2
XTBF-075	3/4

- Standard brass flush seal plugs with **X_T** forming technology for maximum wrenching torque.
- Extra deep socket can't "round out" when plugs are installed or removed.
- Order in any quantity.



With Patented **X_T** Technology....



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

BSP Plugs

CATALOG NUMBER	THREAD SIZE (NPT)
MP-012BSP	1/8-28
MP-025BSP	1/4-19
MP-037BSP	3/8-19
MP-050BSP	1/2-14
MP-075BSP	3/4-14
MP-100BSP	1-11



- Fits BSPT and BSPP threaded holes.
- Features extra deep socket for strength.
- Order in any quantity.

Pressure Plugs



- Standard plugs are flush type (7/8" taper per foot).
- Oversize plugs are (3/4" taper per foot). To order add -O/S to catalog number.

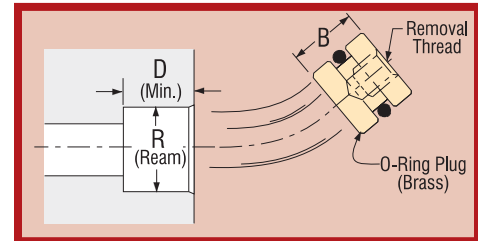
THREAD SIZE (NPT)	TPI	FLUSH HEIGHT	CATALOG NUMBER		
			BRASS	ALLOY STEEL	STAINLESS STEEL
1/16	27	.250	BPP006	APP006	SPP006
1/8	27	.250	BPP012	APP012	SPP012
1/4	18	.406	BPP025	APP025	SPP025
3/8	18	.406	BPP037	APP037	SPP037
1/2	14	.531	BPP050	APP050	SPP050
3/4	14	.531	BPP075	APP075	
1"	11-1/2	.656	BPP100	APP100	
1-1/4	11-1/2	.656	BPP125		
1-1/2	11-1/2	.656	BPP150		

O-Ring Plugs



CATALOG NUMBER	R REAM SIZE	B (+.000) (-.005)	D (+.005) (-.000)	REMOVAL THREAD SIZE
OR-06	.281	1/4	.250	6-32
OR-12	.375	5/16	.312	10-32
OR-25	.500	5/16	.312	10-32
OR-38	.625	7/16	.437	1/4-20
OR-50	.750	1/2	.500	1/4-20
OR-75	1.000	5/8	.625	3/8-16

- O-Ring plugs are used when backed up by other mold inserts, holder block, etc.
- They require less space than NPT pressure plugs. Less interference in tight spaces.
- Standard Buna O-Ring provides seal to 210 .
- Viton O-rings and quad rings are available.



Stop Plugs

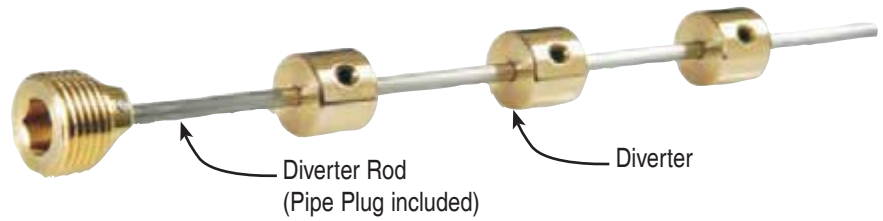


CATALOG NUMBER	FITS SOCKET SERIES NUMBER
CP-200	200
CP-300	300
CP-500	500

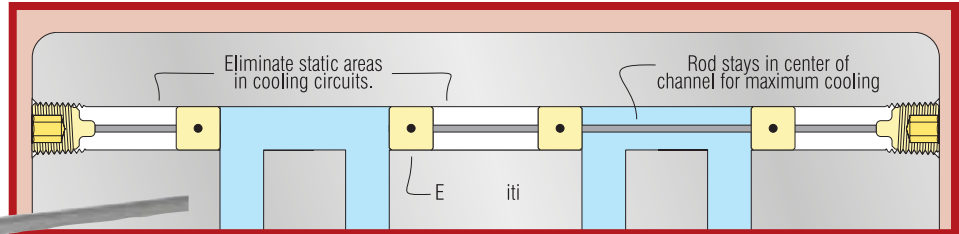
- Stops coolant flow on hoses with flow-thru sockets.
- Prevents accidents by plugging unused hoses and manifold ports.
- Keeps couplers and seals clean when not in use.



Pipe Plug Diverters



Pipe plug is pre-assembled to locating rod and swivels for positive installation and removal.



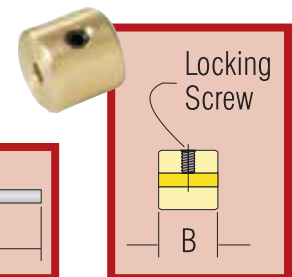
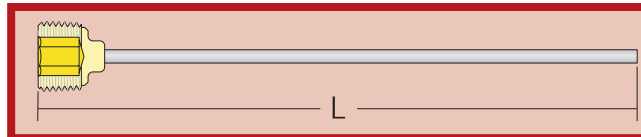
Diverters

- No special tools needed.
- Simply lock diverters in position on the stainless rod, and install into the cooling chamber.
- Rod stays in the center of the cooling channel, allowing maximum heat transfer to coolant.
- Choose the pipe size and length from the chart. Then choose diverter. Longer length diverter rods are available.

CATALOG NUMBER	PIPE SIZE	O.D. (-.005)	B	FITS ROD DIA.
D-125	1/8	.340	3/8	3/32
D-250	1/4	.432	7/16	1/8
D-375	3/8	.557	1/2	1/8
D-500	1/2	.682	3/4	3/16
D-750	3/4	.932	3/4	3/16

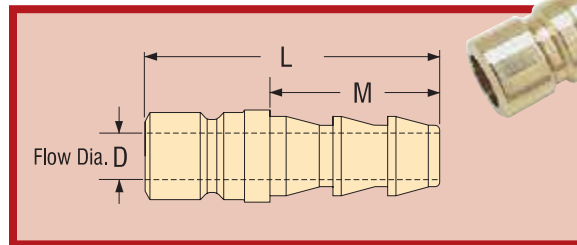
CATALOG NUMBER	PIPE SIZE	L	ROD DIA.	DIVERTER NUMBER
DR-125	1/8	12	3/32	D-125
DR-250	1/4	18	1/8	D-250
DR-375	3/8	18	1/8	D-375
DR-500	1/2	24	3/16	D-500
DR-750	3/4	24	3/16	D-750

- Locking screw included.
- Custom sizes available.
- Order in any quantity.



Combination Hose Inserts

Eliminates multiple fittings and assembly. Put a Combination Hose Insert on one end of a hose, and a coupler on the other. Hoses may then be snapped together in series.



- All flow diameters are maximized to reduce restrictions.
- For use with Push-Lok or standard hose.

200 Series

CATALOG NUMBER	HOSE I.D.	D	M	L
CH200-4	1/4	3/16	7/8	1-3/8
CH200-5	5/16	1/4	7/8	1-3/8
CH200-6	3/8	1/4	1-1/16	1-9/16
CH200-8	1/2	1/4	1-1/16	1-9/16

300 Series

CATALOG NUMBER	HOSE I.D.	D	M	L
CH300-4	1/4	3/16	7/8	1-13/16
CH300-5	5/16	1/4	7/8	1-13/16
CH300-6	3/8	9/32	1-1/16	1-13/16
CH300-8	1/2	11/32	1-1/16	1-13/16

500 Series

CATALOG NUMBER	HOSE I.D.	D	M	L
CH500-8	1/2	13/32	1-1/16	2"
CH500-12	3/4	9/16	1-1/2	2-1/2



Isobar[®] Heat Pipes

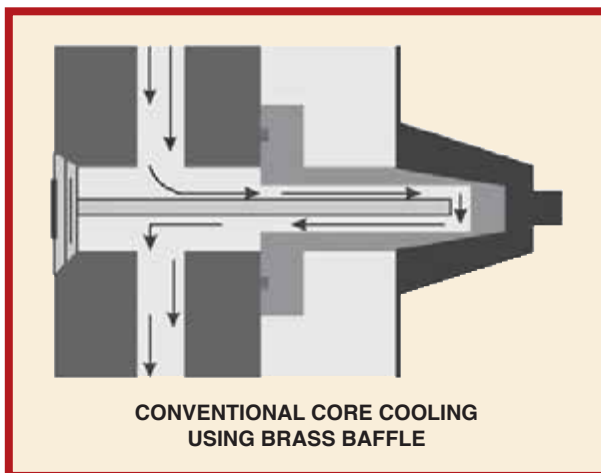
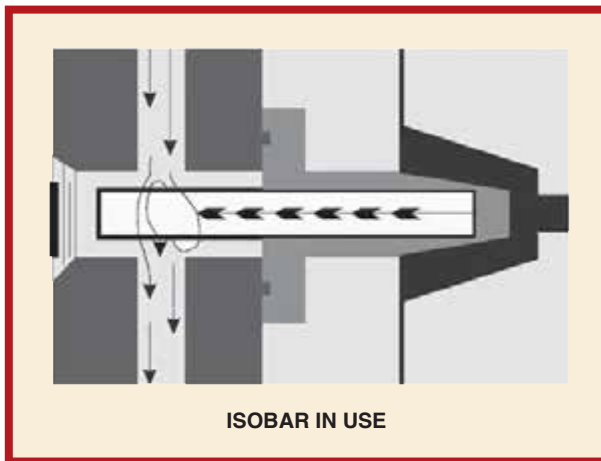
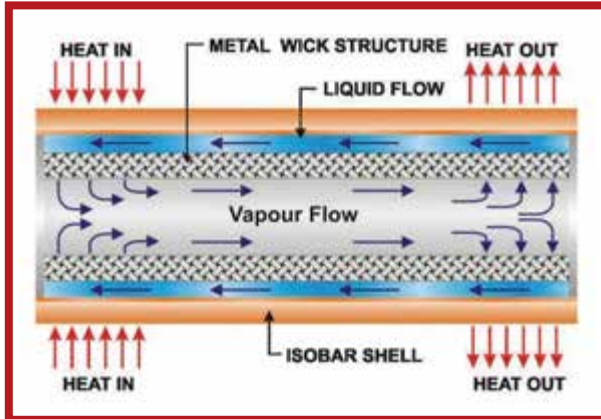
An Isobar[®] Heat Pipe is a super-thermal conductor that has the capacity to transfer large amounts of heat at high speeds in both heating and cooling applications. In fact, Isobar[®] Heat Pipes have, in some applications and orientations, a thermal conductivity in excess of 10,000 times the rate of a solid copper bar of the same geometry. The working fluid constantly changes phase due to the low vapor pressure inside the unit.

The resulting pressure difference moves the vapor from the heated end to colder area where it condenses and releases the heat energy uniformly. Isobars[®] are most successfully used horizontally. Special designs for vertical use are available to order.

Isobars[®] are used instead of conventional water-cooling methods. They can simplify tool design and are easy to fit. They are designed to operate over the range of mold operating temperatures between 35 F and 500 F. For relevant hole dimensions, please see chart below.

Isobar[®] Heat Pipes can be designed or retrofitted into many molding applications to improve efficiency related to cycle times, cure rates, mold temperature uniformity, set-up times and recovery rate. The cooled length should be a minimum of 50% of heated length for maximum efficiency.

DMS can manufacture your core pin and have Isobars[®] charged directly to the core pin.



DIAMETER	DRILL (IN.)	TOLERANCE (HIGH)	TOLERANCE (LOW)
3/32	0.096	+0.001	-0.001
1/8	0.127	+0.001	-0.001
5/32	0.157	+0.001	-0.001
3/16	0.189	+0.001	-0.001
7/32	0.219	+0.001	-0.001
1/4	0.252	+0.001	-0.001
5/16	0.314	+0.001	-0.001
3/8	0.377	+0.001	-0.001
1/2	0.502	+0.001	-0.001

DIAMETER	DRILL (mm)	TOLERANCE (HIGH)	TOLERANCE (LOW)
3mm	3.07	+0.03	-0.03
4mm	4.04	+0.03	-0.03
5mm	5.08	+0.03	-0.03
6mm	6.05	+0.03	-0.03
8mm	8.05	+0.03	-0.03
10mm	10.01	+0.03	-0.03
12mm	11.96	+0.03	-0.03
15mm	14.96	+0.03	-0.03
16mm	16.08	+0.03	-0.03
18mm	17.98	+0.03	-0.03
20mm	19.94	+0.03	-0.03
25mm	24.94	+0.03	-0.03
30mm	29.95	+0.03	-0.03

ACROLAB
www.acrolab.com

ISOBAR[®] is a registered trademark of Acrolab Ltd.



Isobar[®] Heat Pipes



DIAMETER	ISOBAR LENGTH (Isobars can also be manufactured to any length and other diameters)																	
	INCHES	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
3/32																		
1/8																		
5/32																		
3/16																		
7/32																		
1/4																		
5/16																		
3/8																		
1/2																		
MILLIMETERS	50	60	80	100	120	140	160	180	200	220	240	260	280	300	320			
3																		
4																		
5																		
6																		
8																		
10																		
12																		
15																		
16																		
18																		
20																		
25																		
30																		

Length Tolerances: +0.000/-0.060 inches
+0.00/-1.50 millimeters

Standard sizes come with extractable end caps
Ordering Information: HP-D X L

Custom sizes also available
ISOBAR[®] MUST NEVER BE CUT.

ISOBAR[®] INSTALLATION PROCEDURE

1. Inspect holes into which Isobars will be inserted to make sure that holes are free of oil or solvent contamination, as well as steel chips or other foreign debris.
2. Ensure that hole ends are deburred so as to cause no interference or galling of the Isobar[®] surface.
3. Apply a liberal amount of thermal paste over the Isobar's[®] entire length.
4. Apply a small amount of paste into the hole opening and begin to insert the Isobar[®] by alternately rotating and pushing the Isobar into the hole and withdrawing it slightly to ensure the entire surface of the Isobar[®] and the hole opening are coated with paste.
5. Insert the Isobars[®] (threaded end last) with hand pressure only. Never install an Isobar[®] by tapping, hammering, or using an excessive amount of force, as this will most often result in damage to the Isobars[®].
6. Wipe off excess thermal paste from the tool with a soft cloth; do not use solvents.
7. In the event that the holes drilled for the Isobars[®] are exposed to the outer surface of the mold, these areas must be covered with a 1/8 inch or 3mm steel plate of suitable rigid insulation in order to completely encapsulate the Isobar[®] within the tooling confines. This should be done as a safety concern to prevent damage resulting from the possible overheating of the tool in excess of 550 F or 280 C.

CAUTION: EXPOSURE OF ISOBAR[®] TO EXCESSIVE TEMPERATURES OR IMPROPER USE MAY CAUSE DAMAGE OR PERSONAL INJURY.

ISOBAR[®] is a registered trademark of Acrolab Ltd.

Thermally Conductive Paste

CATALOG NUMBER	VOLUME
TCP-1	5 GR.
TCP-4	4 OZ.
TCP-8	8 OZ.
TCP-16	16 OZ.

NOTE: Although thermal paste is inert, rubber gloves are recommended to keep hands clean.



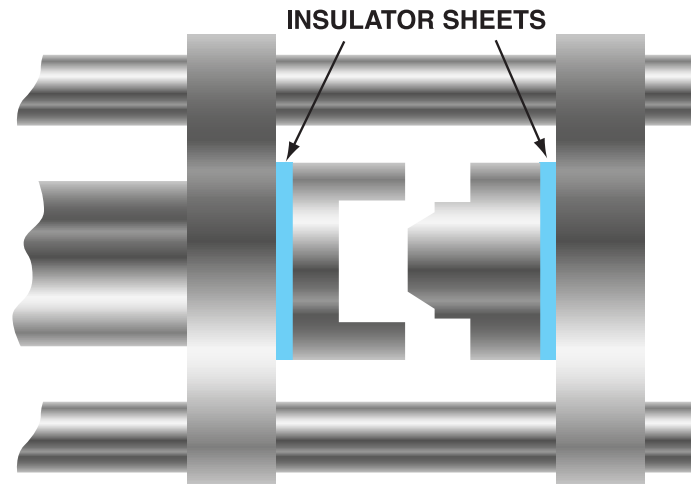
www.acrolab.com



High Temperature Insulator Sheets

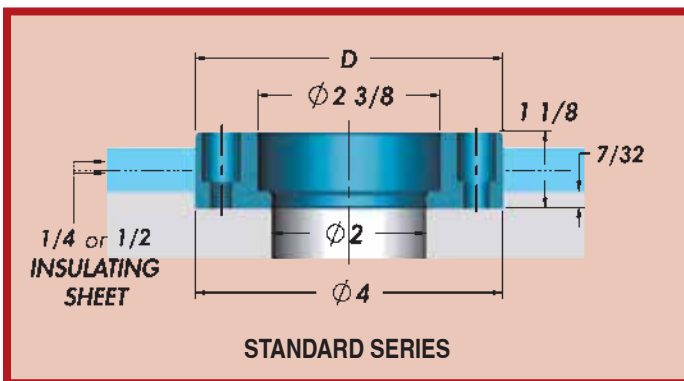
GLATHERM[®] Grade HT

Glastherm Grade HT is a high compressive strength, heat-resistant composite material. Finished to a close thickness tolerance, it is ideal for installation between the mold and the press or within the mold itself. It is completely asbestos-free and rugged to withstand rough handling during installation. It is easily cut and machined with standard metal working equipment. Diamond cutting tools are recommended for long life. Compression molded for high impact strength, supplied micro-finished top and bottom, parallel within $\pm .002$.

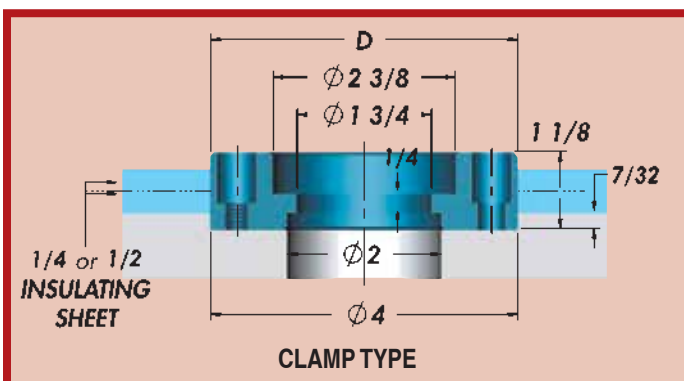


GENERAL INFORMATION		
Compressive Strength	(ASTM D-229)	49,400 psi at 75°F
		27,200 psi at 300°F
		18,000 psi at 400°F
		17,100 psi at 500°F
		15,000 psi at 550°F
Modules of Elasticity in Compression	(ASTM D-229)	1.8 x 10 ⁶ psi at 75°F
		2.9 x 10 ⁶ psi at 75°F
Water Absorption	(ASTM D-229)	0.2%
Thermal Conductivity (K Factor) (Btu/hr/ft ² /in/°F)	(ASTM C-177)	1.9 at 75°F
		2.1 at 425°F
Flame Resistance	(UL Subject 94)	94V-0
Expansion Across Thickness		6.43 x 10 ⁻⁵ in/in/°F
Expansion Across Surface		6.43 x 10 ⁻⁵ in/in/°F
Maximum Recommended Service Temperature		550°F

THICKNESS	LENGTH	WIDTH	CATALOG NUMBER
1/4	36"	18"	GTIS1836-25
1/4	36"	24"	GTIS2436-25
1/4	36"	36"	GTIS3636-25
1/2	36"	18"	GTIS1836-50
1/2	36"	24"	GTIS2436-50
1/2	36"	36"	GTIS3636-50
1/4	48"	48"	GTIS4848-25
1/4	48"	96"	GTIS4896-25
1/2	48"	48"	GTIS4848-50
1/2	48"	96"	GTIS4896-50



- High hot compressive strength.
- Low thermal conductivity.
- Oil and moisture resistant.
- Reduces heat loss.
- Helps control temperature.
- Faster mold startup.
- Special machining to print available.
- Special sizes also available



Locating Rings For Use with Insulator Sheets

CATALOG NUMBER	D	DESCRIPTION
LR541	3.990	Standard Series
LR544	3.990	Clamp Type

GLATHERM[®] is a registered trademark of Glastic Corp.

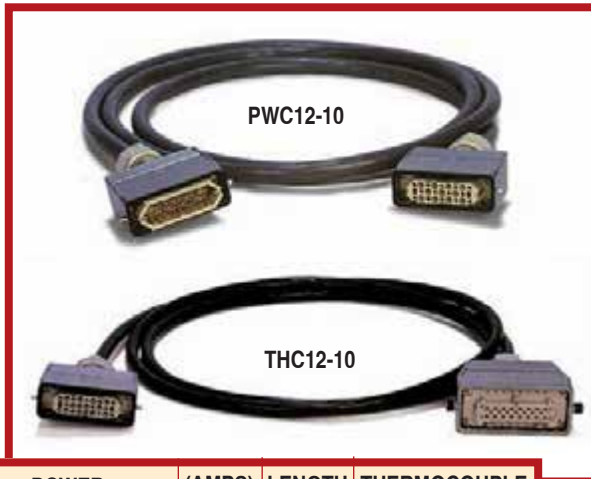


Temperature Control Systems



All ITC's temperature control systems, associated components and accessories are ruggedly reliable, easy to use and maintain. Their simple, down-to-earth design makes them highly adaptable in ever changing manufacturing environments. Affordability, adaptability, superior features and a 2-year limited warranty equates to a quick payback, improved molding cycles, less down time, reduced operating costs and an improved bottom line.

MOLD CABLES



POWER	(AMPS)	LENGTH	THERMOCOUPLE
PWC5-10	(15)	10 ft.	THC5-10
PWC5-20	(15)	20 ft.	THC5-20
PWC8-10	(15)	10 ft.	THC8-10
PWC8-20	(15)	20 ft.	THC8-20
PWC12-10	(15)	10 ft.	THC12-10
PWC12-20	(15)	20 ft.	THC12-20
PWCHP3-10	(30)	10 ft.	
PWCHP3-20	(30)	20 ft.	
PWCHP6-10	(30)	10 ft.	
PWCHP6-20	(30)	20 ft.	

- Custom lengths and connector configurations are available upon request.

PORTABLE FLOOR STANDS



CATALOG NUMBER	USE WITH
PFS-1	MF1, MF2 & MFHP-1
PFS-5	MF5 & MFHP-3
PFS-812	MF8, MF12 & MFHP-6

- Manufactured of heavy gage steel tubing.
- Provided with swivel and lockable casters.
- Shipped unassembled.



TRANSFORMER PACKAGES

- Pre-wired and assembled.
- Includes Transformer, Welded stand with casters, Fused disconnect and 10 ft. AC input power cable (no connector on end).

CATALOG NUMBER	STEP DOWN 480v TO 240v 3-PHASE
TP-6-5	6 kva with 5 zone stand
TP-9-8	9 kva with 8 zone stand
TP15-8	15 kva with 8 zone stand
TP15-12	15 kva with 12 zone stand
TP-30-8	30 kva with 8 zone stand
TP-30-12	30 kva with 12 zone stand
TP-45-12	45 kva with 12 zone stand

MOLD CONNECTORS

POWER	(AMPS)	THERMOCOUPLE
MPC-5	(15)	MTC-5
MPC-8	(15)	MTC-8
MPC-12	(15)	MTC-12
MPCHP-3	(30)	
MPCHP-6	(30)	

- Mold Power Connectors have 6' leads with ground wire.





Temperature Control Systems

CAT. NUMBER	(AMPS)	DESCRIPTION
MEK-5TC	(15)	Cable, Mold End Kit, 5 Zone, Thermocouple (Female)
MEK-8TC	(15)	Cable, Mold End Kit, 8 Zone, Thermocouple (Female)
MEK-12TC	(15)	Cable, Mold End Kit, 12 Zone, Thermocouple (Female)
MEK-PR	(15)	Cable, Mold End Kit, 5, 8 & 12 Zone, Power (Female)
FEK-PR	(15)	Cable, Frame End Kit, 5, 8 & 12 Zone, Power (Male)
FEK-TC	(15)	Cable, Frame End Kit, 5, 8 & 12 Zone, Thermocouple (Female)
FCK-PR	(15)	Main Frame, Connector, 5, 8 & 12 Zone, Power (Female)
FCK-TC	(15)	Main Frame, Connector, 5, 8 & 12 Zone, Thermocouple (Male)
MF-EC	All	Card Edge Connector Kit w/Contacts - All Main Frames
MF-ECC	All	Card Edge Connector, Contacts - All Main Frames
MF-CG	All	Card Guide, 6" - All Main Frames
ABC-15	All	Module Fuse - Special Fast Blow
MEKHP-3PR	(30)	Cable, Mold End Kit, 3 Zone, Power (Female) (High Power)
MEKHP-6PR	(30)	Cable, Mold End Kit, 6 Zone, Power (Female) (High Power)
FEKHP-3PR	(30)	Cable, Frame End Kit, 3 Zone, Power (Male) (High Power)
FEKHP-6PR	(30)	Cable, Frame End Kit, 6 Zone, Power (Male) (High Power)
FCKHP-3PR	(30)	Main Frame, Connector, 3 Zone, Power (Female) (High Power)
FCKHP-6PR	(30)	Main Frame, Connector, 6 Zone, Power (Female) (High Power)

CONNECTOR KITS



1 & 2 ZONE CONNECTOR KITS

(Combination Power & T/C)

CAT. NUMBER	(AMPS)	DESCRIPTION
1Z-ME	(15)	Cable End, Male Connector, 1 & 2 Zone
1Z-FE	(15)	Cable End, Female Connector, 1 & 2 Zone
1Z-MC	(15)	Mold Connector, Male, 1 & 2 Zone
1Z-FC	(15)	Frame Connector, Female, 1 & 2 Zone
1Z-MEL	(15)	Cable Coupler Hood, w/Latch, Male, 1 & 2 Zone
1Z-ME90	(15)	Cable End, Male Connector, 90°
1Z-IPP	(15)	Input Power Cord Plug (Female)
MPTCHP-1	(30)	Mold Connector, 1 & 2 Zone (Male) (High Power)



MAIN FRAME HARNESSSES



- Main Frames, Temperature Control Modules, Cables and other components are all sold separately.
- Please specify Voltage and Current requirements when ordering.

POWER	ZONES	THERMOCOUPLE
MF-PH5	5	MF-TH5
MF-PH8	8	MF-TH8
MF-PH12	12	MF-TH12

MOLD WIRING JUNCTION BOXES



Empty

- Connectors must be ordered separately

CAT. NO.	ZONES
MJB-5	5
MJB-8	8
MJB-12	12



Pre-Wired

- Pre-wired with terminal strip and connectors

CAT. NO.	ZONES
MJBW-8	8
MJBW-12	12

1 & 2 ZONE CABLES

(Combination Power & T/C)

CAT. NUMBER	(AMPS)	LENGTH
PTC1-10	(15)	10 ft long
PTC1-20	(15)	20 ft. long
PTCHP1-10	(30)	10 ft. long (High Power)
PTCHP1-20	(30)	20 ft. long (High Power)



- Custom lengths and connector configurations are available upon request.

- Standard Main Frames, Cables, etc. can be modified to accommodate your application.
- All modular components are "G" Series compatible.



Main Frame Blank Panel

CAT. NO.	FITS
MFBP	ALL 15 & 30 AMP MAIN FRAMES



Temperature Control Systems

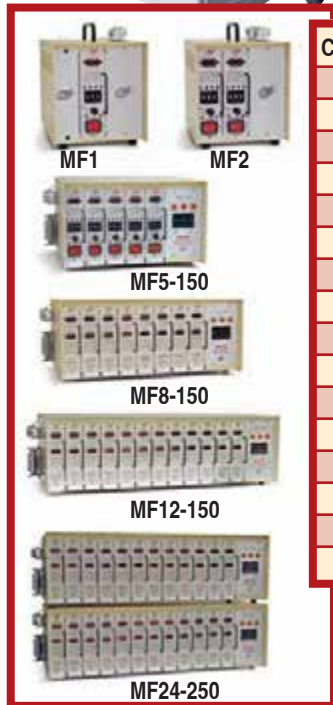
VISIONS 3000 INTELLIGENT TEMPERATURE CONTROL SYSTEM

- Unless otherwise specified, all VISIONS 3000 systems are 240v, 3-phase.
- Systems are available for both 15 and 30 amp zones.
- VISIONS 3000 offered with standard key-pad interface or optional touch screen interface.
- Valve gate sequencing option.
- Special or larger control systems, as well as dual or low voltage systems are available upon request.



STANDARD 15 AMP MAIN FRAME

CATALOG NUMBER	DESCRIPTION
VCS-16-16-70	16 - Zone w / 70 amp breaker
VCS-32-18-100	18 - Zone w / 100 amp breaker
VCS-32-20-100	20 - Zone w / 100 amp breaker
VCS-32-22-100	22 - Zone w / 100 amp breaker
VCS-32-24-100	24 - Zone w / 100 amp breaker
VCS-32-26-100	26 - Zone w / 100 amp breaker
VCS-32-28-100	28 - Zone w / 100 amp breaker
VCS-32-30-100	30 - Zone w / 100 amp breaker
VCS-32-32-100	32 - Zone w / 100 amp breaker
VCS-48-34-125	34 - Zone w / 125 amp breaker
VCS-48-36-125	36 - Zone w / 125 amp breaker
VCS-48-38-125	38 - Zone w / 125 amp breaker
VCS-48-40-125	40 - Zone w / 125 amp breaker
VCS-48-42-125	42 - Zone w / 125 amp breaker
VCS-48-44-125	44 - Zone w / 125 amp breaker
VCS-48-46-125	46 - Zone w / 125 amp breaker
VCS-48-48-125	48 - Zone w / 125 amp breaker
VCS-64-50-125	50 - Zone w / 125 amp breaker
VCS-64-52-125	52 - Zone w / 125 amp breaker
VCS-64-54-125	54 - Zone w / 125 amp breaker
VCS-64-56-125	56 - Zone w / 125 amp breaker
VCS-64-58-125	58 - Zone w / 125 amp breaker
VCS-64-60-125	60 - Zone w / 125 amp breaker
VCS-64-62-125	62 - Zone w / 125 amp breaker
VCS-64-64-125	64 - Zone w / 125 amp breaker
VCS-80-66-150	66 - Zone w / 150 amp breaker
VCS-80-68-150	68 - Zone w / 150 amp breaker
VCS-80-70-150	70 - Zone w / 150 amp breaker
VCS-80-72-150	72 - Zone w / 150 amp breaker
VCS-80-74-150	74 - Zone w / 150 amp breaker
VCS-80-76-150	76 - Zone w / 150 amp breaker
VCS-80-78-150	78 - Zone w / 150 amp breaker
VCS-80-80-150	80 - Zone w / 150 amp breaker
VCS-96-82-150	82 - Zone w / 150 amp breaker
VCS-96-84-150	84 - Zone w / 150 amp breaker
VCS-96-86-150	86 - Zone w / 150 amp breaker
VCS-96-88-150	88 - Zone w / 150 amp breaker
VCS-96-90-150	90 - Zone w / 150 amp breaker
VCS-96-92-150	92 - Zone w / 150 amp breaker
VCS-96-94-150	94 - Zone w / 150 amp breaker
VCS-96-96-150	96 - Zone w / 150 amp breaker
VCS-112-98-175	98 - Zone w / 175 amp breaker
VCS-112-100-175	100 - Zone w / 175 amp breaker
VCS-112-102-175	102 - Zone w / 175 amp breaker
VCS-112-104-175	104 - Zone w / 175 amp breaker
VCS-112-106-175	106 - Zone w / 175 amp breaker
VCS-112-108-175	108 - Zone w / 175 amp breaker
VCS-112-110-175	110 - Zone w / 175 amp breaker
VCS-112-112-175	112 - Zone w / 175 amp breaker
VCS-128-114-200	114 - Zone w / 200 amp breaker
VCS-128-116-200	116 - Zone w / 200 amp breaker
VCS-128-118-200	118 - Zone w / 200 amp breaker
VCS-128-120-200	120 - Zone w / 200 amp breaker
VCS-128-122-200	122 - Zone w / 200 amp breaker
VCS-128-124-200	124 - Zone w / 200 amp breaker
VCS-128-126-200	126 - Zone w / 200 amp breaker
VCS-128-128-200	128 - Zone w / 200 amp breaker



CATALOG NUMBER	DESCRIPTION
MF1	1 - Zone
MF2	2 - Zone
MF5-150	5 - Zone w / 50 amp breaker
MF8-150	8 - Zone w / 50 amp breaker
MF12-150	12 - Zone w / 50 amp breaker
MF16-250	16 - Zone w / (2) 50 amp breakers
MF16-170	16 - Zone w / 70 amp breaker
MF20-250	20 - Zone w / (2) 50 amp breakers
MF20-170	20 - Zone w / 70 amp breaker
MF24-250	24 - Zone w / (2) 50 amp breakers
MF24-170	24 - Zone w / 70 amp breaker
MF28-350	28 - Zone w / (3) 50 amp breakers
MF32-350	32 - Zone w / (3) 50 amp breakers
MF40-450	40 - Zone w / (4) 50 amp breakers
MF44-450	44 - Zone w / (4) 50 amp breakers
MF48-450	48 - Zone w / (4) 50 amp breakers

- 15 & 30 amp main frames use S20-D3C & UATC-20 control modules.
- 240v, 3-phase, except MF1 & MF2 which are 240v single phase.
- Components contained within the main frame.
- Special or larger control systems available.
- Stacks of 2 or more main frames are rigidly fastened together into a single prewired unit.



STANDARD 30 AMP MAIN FRAME



(High Power)

CATALOG NUMBER	DESCRIPTION
MFHP-1-130	1 - Zone w / 30 amp breaker
MFHP-3-150	3 - Zone w / 50 amp breaker
MFHP-6-1100	6 - Zone w / 100 amp breaker



Introducing 360° Manifolds

The Kool Flow 360° Inlet design offers more flexibility to have supply and return lines in any direction.

This design also offers the convenience of less plumbing and hardware.

360° Port-to-Port (PP)

Limited for space?

With a port-to-port configuration you can separate Hot & Cold and mount in different locations.



COLOUR	# OF INLETS	# OF OUTLETS	# OF BLOCKS
Red/Silver	One each End	48 Max	10 Max
Blue/Silver	One each End	48 Max	10 Max

360° Port-to-Blank (PB)

No costly end-plug.

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



COLOUR	# OF INLETS	# OF OUTLETS	# OF BLOCKS
Red/Silver	One	49 Max	11 Max
Blue/Silver	One	49 Max	11 Max

360° Port-to-Divide (PD)

Combine your cooling needs into one manifold.

Separate Hot & Cold with a Mid-Block and mount in one easy location.



COLOUR	# OF INLETS	# OF OUTLETS	# OF BLOCKS
Red/Silver/Blue	One each End	98 Max	21 Max





FB2 Series Manifold

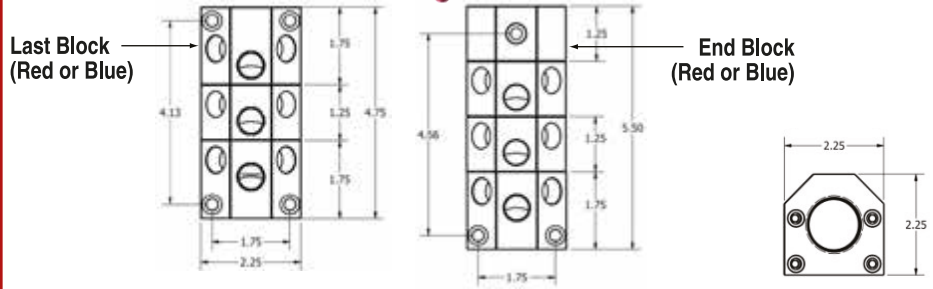


Specifications

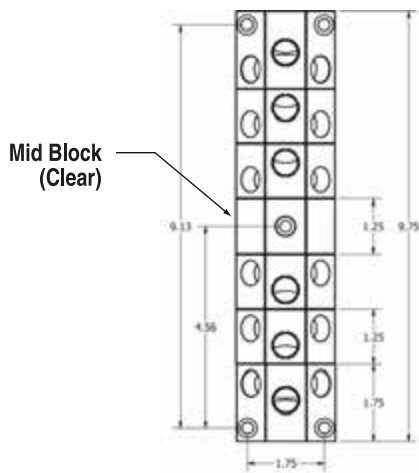
Block Size: 2.25" W x 2.25" H
 Material: 6061-T6, Anodized
 Mounting Hole Size: 1/4" SHCS
 Inlet Hole: 1" NPT
 Outlet Hole: 1/4" or 3/8"
 (5) Outlet Holes per Standard Block
 (3) Outlet Holes per 90 Degree Block

Port-to-Port (PP)

Port-to-Blank (PB)



Port-to-Divide (PD)



Port-to-Divide



1/4" Outlet

Assembly No.

FB2-1-4-PD
 FB2-2-4-PD
 FB2-3-4-PD
 FB2-4-4-PD
 FB2-5-4-PD

3/8" Outlet

Assembly No.

FB2-1-6-PD
 FB2-2-6-PD
 FB2-3-6-PD
 FB2-4-6-PD
 FB2-5-6-PD

Port-to-Port



1/4" Outlet, Red

Assembly No.

FB2-2-4-R-PP
 FB2-3-4-R-PP
 FB2-4-4-R-PP
 FB2-5-4-R-PP

3/8" Outlet, Red

Assembly No.

FB2-2-6-R-PP
 FB2-3-6-R-PP
 FB2-4-6-R-PP
 FB2-5-6-R-PP

1/4" Outlet, Blue

Assembly No.

FB2-2-4-B-PP
 FB2-3-4-B-PP
 FB2-4-4-B-PP
 FB2-5-4-B-PP

3/8" Outlet, Blue

Assembly No.

FB2-2-6-B-PP
 FB2-3-6-B-PP
 FB2-4-6-B-PP
 FB2-5-6-B-PP

Port-to-Blank



1/4" Outlet, Red

Assembly No.

FB2-1-4-R-PB
 FB2-2-4-R-PB
 FB2-3-4-R-PB
 FB2-4-4-R-PB
 FB2-5-4-R-PB

3/8" Outlet, Red

Assembly No.

FB2-1-6-R-PB
 FB2-2-6-R-PB
 FB2-3-6-R-PB
 FB2-4-6-R-PB
 FB2-5-6-R-PB

1/4" Outlet, Blue

Assembly No.

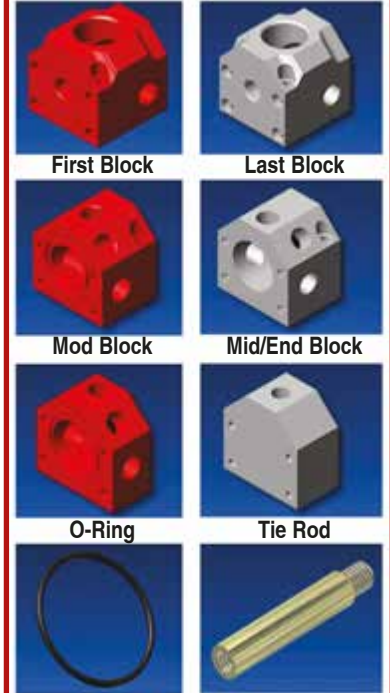
FB2-1-4-B-PB
 FB2-2-4-B-PB
 FB2-3-4-B-PB
 FB2-4-4-B-PB
 FB2-5-4-B-PB

3/8" Outlet, Blue

Assembly No.

FB2-1-6-B-PB
 FB2-2-6-B-PB
 FB2-3-6-B-PB
 FB2-4-6-B-PB
 FB2-5-6-B-PB

90 Deg First Block 90 Deg Last Block



Assembly includes o-rings and hardware required for each block.

90 Deg First Block

Part Number	Outlet Size	Color
FB2-FB90-1-4-R	1/4"	Red
FB2-FB90-1-4-B	1/4"	Blue
FB2-FB90-1-6-R	3/8"	Red
FB2-FB90-1-6-B	3/8"	Blue

90 Deg Last Block

Part Number	Outlet Size	Color
FB2-FB90-1-4-CL	1/4"	Clear
FB2-FB90-1-6-CL	3/8"	Clear

First Block

Part Number	Outlet Size	Color
FB2-FB-1-4-R	1/4"	Red
FB2-FB-1-4-B	1/4"	Blue
FB2-FB-1-6-R	3/8"	Red
FB2-FB-1-6-B	3/8"	Blue

Mod Block

Part Number	Outlet Size	Color
FB2-MOD-4-R	1/4"	Red
FB2-MOD-4-B	1/4"	Blue
FB2-MOD-6-R	3/8"	Red
FB2-MOD-6-B	3/8"	Blue

Last Block (Port-to-Port only)

Part Number	Outlet Size	Color
FB2-LB-1-4-CL	1/4"	Clear
FB2-LB-1-6-CL	3/8"	Clear

Mid/End Block

Part Number	Outlet Size	Color
FB2-EB-1-CL	n/a	Clear



koolfowmanifold.com



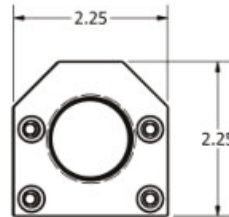
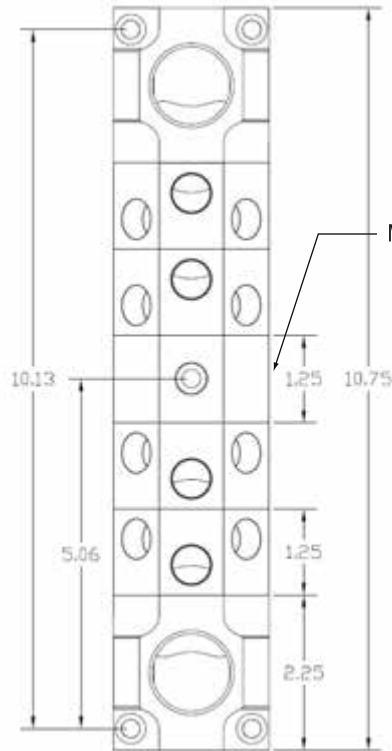
FB2 90° Series

Specifications

- Block Size: 2.25" W x 2.25" H
- Material: 6061-T6, Anodized
- Mounting Hole Size: 1/4" SHCS
- Inlet Hole: 1" NPT
- Outlet Hole: 1/4" or 3/8"
- (5) Outlet Holes per Standard Block
- (3) Outlet Holes per 90 Degree Block



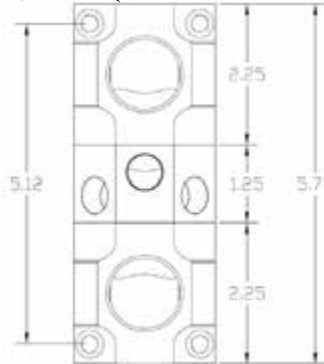
Port-to-Divide (PD)



Port-to-Port (PP)

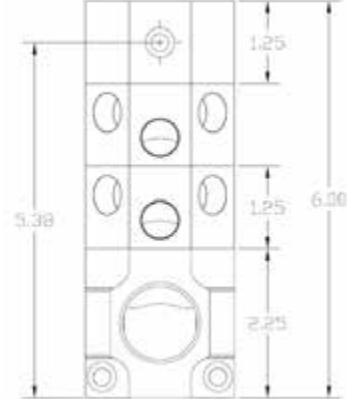
Mid Block
(Clear)

End Block
(Red or Blue)



Port-to-Blank (PB)

Last Block
(Red or Blue)



Port-to-Divide



Port-to-Port



Port-to-Blank



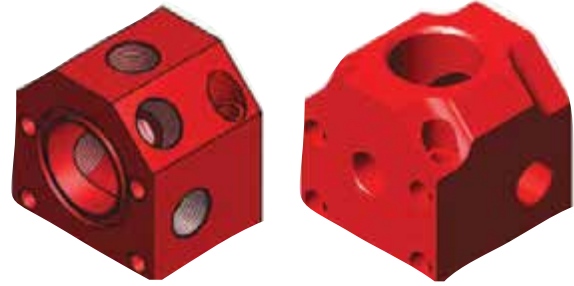
1/4" Outlet Assembly No.	3/8" Outlet Assembly No.
FB290-1-4-PD	FB290-1-6-PD
FB290-2-4-PD	FB290-2-6-PD
FB290-3-4-PD	FB290-3-6-PD
FB290-4-4-PD	FB290-4-6-PD
FB290-5-4-PD	FB290-5-6-PD

1/4" Outlet, Red Assembly No.	3/8" Outlet, Red Assembly No.	1/4" Outlet, Blue Assembly No.	3/8" Outlet, Blue Assembly No.
FB290-2-4-R-PP	FB290-2-6-R-PP	FB290-2-4-B-PP	FB290-2-6-B-PP
FB290-3-4-R-PP	FB290-3-6-R-PP	FB290-3-4-B-PP	FB290-3-6-B-PP
FB290-4-4-R-PP	FB290-4-6-R-PP	FB290-4-4-B-PP	FB290-4-6-B-PP
FB290-5-4-R-PP	FB290-5-6-R-PP	FB290-5-4-B-PP	FB290-5-6-B-PP

1/4" Outlet, Red Assembly No.	3/8" Outlet, Red Assembly No.	1/4" Outlet, Blue Assembly No.	3/8" Outlet, Blue Assembly No.
FB290-1-4-R-PB	FB290-1-6-R-PB	FB290-1-4-B-PB	FB290-1-6-B-PB
FB290-2-4-R-PB	FB290-2-6-R-PB	FB290-2-4-B-PB	FB290-2-6-B-PB
FB290-3-4-R-PB	FB290-3-6-R-PB	FB290-3-4-B-PB	FB290-3-6-B-PB
FB290-4-4-R-PB	FB290-4-6-R-PB	FB290-4-4-B-PB	FB290-4-6-B-PB
FB290-5-4-R-PB	FB290-5-6-R-PB	FB290-5-4-B-PB	FB290-5-6-B-PB



FB3 90° Series



Specifications

Block Size: 3.00" W x 3.00" H
 Material: 6061-T6, Anodized
 Mounting Hole Size: 5/16" SHCS
 Inlet Hole: 1-1/2" NPT
 Outlet Hole: 3/8" or 1/2"
 (5) Outlet Holes per Standard Block
 (3) Outlet Holes per 90 Degree Block

Port-to-Divide



3/8" Outlet Assembly No.	1/2" Outlet Assembly No.
FB390-1-6-PD	FB390-1-8-PD
FB390-2-6-PD	FB390-2-8-PD
FB390-3-6-PD	FB390-3-8-PD
FB390-4-6-PD	FB390-4-8-PD
FB390-5-6-PD	FB390-5-8-PD

Port-to-Port



3/8" Outlet, Red Assembly No.	1/2" Outlet, Red Assembly No.
FB390-2-6-R-PP	FB390-2-8-R-PP
FB390-3-6-R-PP	FB390-3-8-R-PP
FB390-4-6-R-PP	FB390-4-8-R-PP
FB390-5-6-R-PP	FB390-5-8-R-PP
3/8" Outlet, Blue Assembly No.	1/2" Outlet, Blue Assembly No.
FB390-2-6-B-PP	FB390-2-8-B-PP
FB390-3-6-B-PP	FB390-3-8-B-PP
FB390-4-6-B-PP	FB390-4-8-B-PP
FB390-5-6-B-PP	FB390-5-8-B-PP

Port-to-Blank



3/8" Outlet, Red Assembly No.	1/2" Outlet, Red Assembly No.
FB390-1-6-R-PB	FB390-1-8-R-PB
FB390-2-6-R-PB	FB390-2-8-R-PB
FB390-3-6-R-PB	FB390-3-8-R-PB
FB390-4-6-R-PB	FB390-4-8-R-PB
FB390-5-6-R-PB	FB390-5-8-R-PB
3/8" Outlet, Blue Assembly No.	1/2" Outlet, Blue Assembly No.
FB390-1-6-B-PB	FB390-1-8-B-PB
FB390-2-6-B-PB	FB390-2-8-B-PB
FB390-3-6-B-PB	FB390-3-8-B-PB
FB390-4-6-B-PB	FB390-4-8-B-PB
FB390-5-6-B-PB	FB390-5-8-B-PB



Specials

- DMS can offer a wide range of heating and cooling products that may not be shown in this catalog.
- As a full service manufacturer and supplier, we can provide design assistance and prototype or production quantities of special heating and cooling products.
- The items on this page represent just a few of the many specials that have been manufactured for unique applications.



Special and Large Pipe Fittings



Special Baffles



Metric and Special Adapters



Stainless Tube Assemblies

Pipe Check

DMS Pipe Check is an easy way to check a pipe thread. This handy tool can check pipe sizes from 1/16" through 1/2" for a number of applications. Use the PC-100 to quickly find the size of a pipe.



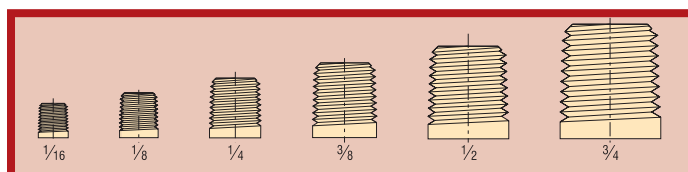
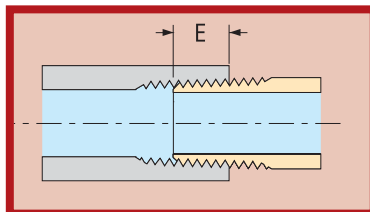
PC-100

PC-100 simply determines the size of pipes from 1/16" to 1/2" NPT. Made entirely of heavy gauge aluminum. Just turn the thread into the hole that fits to determine pipe sizes.

Pipe Thread Data

The nominal size of any pipe does not in fact refer to either the outside diameter (O.D.) or the inside diameter (I.D.) of the pipe. The table lists standard pipe sizes along with the actual O.D. and I.D. for each size.

Once the correct pipe size has been determined, the "E" dimension may be used to determine the length of the component required to assemble properly when fully tightened.



PIPE SIZE	THREADS PER INCH	OUTSIDE DIA. OF PIPE	INSIDE DIA. OF PIPE	TAP DRILL SIZE		E
				WITHOUT REAM	WITH REAM	
1/16	27	.312	.209	1/4	15/64	.261
1/8	27	.405	.269	11/32	21/64	.263
1/4	18	.540	.364	7/16	27/64	.395
3/8	18	.675	.493	9/16	9/16	.407
1/2	14	.840	.622	45/64	11/16	.534
3/4	14	1.050	.824	29/32	57/64	.545
1"	11-1/2	1.315	1.049	1-9/64	1-1/8	.661
1-1/4	11-1/2	1.660	1.380	1-31/64	1-15/32	.681
1-1/2	11-1/2	1.900	1.610	1-23/32	1-45/64	.681
2"	11-1/2	2.375	2.067	2-3/16	2-11/64	.697



Polishing Supplies

EDM Polishing Stones P1

AM-8 Excellent ultrasonic stone, strong; holds shape
AS-9 Great with porfiler & hand stoning



Specialty Stones P7

"AO" Aggressive stone for general mill removal of EDM
"TH" Aluminum oxide; performs well on all types tool steel
900-F Very soft stone for super-fine finishing



Industrial Abrasives P13

Sharpening Stones
For deburring, sharpening, honing
Dressing Sticks
Aluminum Oxide to clean & dress wheels
Boron Carbide Dressing Stick
Extremely wear resistant



EDM Polishing Stones P2

Orange EDM - Fast cutting action consistent breakdown
GOLD - Perfect all around aluminum oxide stone



Roughing Stones P8

Roughout - Softer stone, aggressive cutting
Ruby - Extremely fast cutting stone
Boat Stone - for large dies and sharp edges
Roughing - Medium stone for large cavity or parting lines



Diamond Compounds P14

DMS Diamond Compound
Oil soluble, high quality
Mold Makers Diamond
Oil soluble, consistent particles
"Super US" - Very high concentration of diamond particles



General Purpose Stones P3

Aluminum Oxide

AM-2 General purpose stone; soft; fast breakdown
Die Stone - similar to AM2, but slightly harder



Detail Stones P9

Ceramic Super stones
Very strong, used for EDM removal in ribs & slots
Air Operated Lapping Machine
Pneumatic short-stroke profiler



Diamond Compounds P15,16

Oil-Based
Water-Based



General Purpose Stones P4

Aluminum Oxide

AM-K White aluminum oxide good for machined surfaces
AS-H White aluminum oxide softer than AM-K



Detail Stones P10

Ceramic Diamond
Diamond impregnated stone for harder steels 45-65Hrc
CNB80 & CNB120 - Extremely aggressive composite fiber



Lapping Items P17

Diamond Compound
For finishing & touch up work
High Speed Motor



General Purpose Stones P5

Silicon Carbide

CS Fast cutting black silicon carbide
CS-M premium green silicon carbide, fast cutting med. hard
CS-HD Harder than CS-M excellent for hard steels 47-63Hrc



Accessories P11

Stone holders
Specially designed for hand use and profilers



Mounted Stones P18,19

MX Wheels
For polishing and deburring of runners
Polishing Points
3/32 shanks for all mold & die work
Mounted Stones
"W" shapes for general purpose grinding

Specialty Stones P6

"PC" Premium stone for final finish work
"T2" Excellent stone for stainless steel
"T4" Engineered for finishing aluminum & soft metals



Accessories P12

Bori-Lube - To clean, lubricate, prevent stone loading
Mold Polish - Removes haze, rust, oxidation, stains & haze-out
Turbo-Lap - Pneumatic Short Stroke Profiler
Rib-Light - High intensity pen lights



Polishing Felts P20

Felt Bobs & Wheels
To produce high finishes on all dies & molds



Polishing Supplies

Polishing Brushes P21

Mounted Polishing Brushes

Bristle & wire fill for various applications



Specialty Abrasives P27

Flap Wheels

Cleaning, deburring & blending

Non-Woven Hand Pads

Non woven synthetic fiber with abrasive grain for surface conditioning without damage.



Carbide Burs P33

Carbide burs - 1/4 shanks

Cut-Off Wheels & Mandrels P22

High Speed Cutoff Wheel

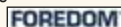
For quick cutting & blending

Reinforced Cutoff Wheels

Smoother cuts on ferrous metals

Mandrels

Various mandrels for mounting felts & wheels



Diamond Products P28

Standard, long & needle diamond files

For use on carbide, stainless, hardened steel, glass, ceramics, and other hard materials.

Diamond Foil

Diamond grain electroplated on to foil

Carbide Burs P34

Carbide Burs - 1/4 shanks

Carbide Burs - 1/4 shanks for non-ferrous metals

Carbide Blanks - Round blanks & split ends for etching.

Coated Abrasives P23

PSA Discs - Resin bond cloth discs with adhesive

PSA Disc Holder - Plastic backing pads with shanks

Shop Rolls - Cloth aluminum oxide bench rolls

PSA Strips - Resin & glue bond abrasive strips with adhesive



Diamond Products P29

Tapered Diamond Needle Files

Flat or round handles. Permit filing slots or ribs as narrow as .020". Round handles designed for profilers & lappers.



Steel Files P35

Needle Files - 6-1/4" long reach for profilers & hand



Coated Abrasives P24

Aluminum oxide laminated discs

Available in 2 styles of screw on technology and two grades of resin.



Diamond Products P30

Diamond Needle Files

& Extra Thin Diamond Files

Economical range of files for use in profilers.

Diamond Points & Diamond Discs

Miniature mounted points & discs for fine detail jobs.

Steel Files P36

Diemakers' & Silversmiths' Files

Diesiners' Regular Riffle - 7" Overall

Coated Abrasives P25

Zirconium Laminated Discs

Available in 2 styles of screw on technology & two grades

Laminated Disc Holders

For mounting of all laminated discs



Carbide Burs P31

Carbide burs - 1/8 shanks



Stone Selection Guide P37

Stone Selection Suggestions

Popular Stone Shapes - Inches, Millimeters

Specialty Coated Abrasives P26

Cartridge Rolls - For high speed deburring

Spiral Bands - Great in curved or hard to reach areas



Carbide Burs P32

Carbide burs - 1/8 shanks x 1/4 head

Carbide burs - SS White 3/32 Shank dental burs

Carbide Burs - 3/32" diameter



EDM Polishing Stones

AM-8



AM-8 is designed for removing EDM scale on all types of mold & die steel. Additionally, it is an excellent tool for polishing sharp corners and small details either by hand or with the use of polishing machines.



AM-8	100	120	150	180	220	280	320	400	600
1/16 x 1/4 x 6		020120	020230	020340	020450	020560	020670	020780	021000
1/16 x 1/2 x 6	020020	020130	020240	020350	020460	020570	020680	020790	021010
1/8 x 1/8 x 6	020030			020360	020470		020690	020800	021020
1/8 x 1/4 x 6	020040	020150	020260	020370	020480	020590	020700	020810	021030
1/8 x 1/2 x 6	020050	020160	020270	020380	020490	020600	020710	020820	021040
1/8 x 1 x 6	020060	020170	020280	020390	020500	020610	020720	020830	021050
5/32 x 5/32 x 6	020070	020180		020400	020510		020730	020840	021060
1/4 x 1/4 x 6	020090	020200	020310	020420	020530	020640	020750	020860	021080
1/4 x 1/2 x 6	020100	020210	020320	020430	020540	020650	020760	020870	021090
1/4 x 1 x 6	020110	020220	020330	020440	020550	020660	020770	020880	021100
3/8 x 3/8 x 6	020112	020222	020332	020442	020552		020772		
1/4 TRI x 6		020224		020444	020554		020774		021104
3/8 TRI x 6		020225		020445	020555		020775		021105
1/4 RND x 5.5		020227		020447	020557		020777	020887	021107
3/8 RND x 5.5		020228		020448	020558		020778		021108

AS-9



AS-9 is engineered for hand stoning EDM scales surfaces. It can be used with polishing machines, but the special formulation provides a fast, smooth cutting action during hand stoning. Use either with a lubricant or dry.



AS-9	100	120	150	180	220	280	320	400	600
1/16 x 1/4 x 6		021260	021370	021480	021590	021700	021810	021920	022140
1/16 x 1/2 x 6	021160	021270	021380	021490	021600	021710	021820	021930	022150
1/8 x 1/8 x 6				021500	021610	021720	021830	021940	022160
1/8 x 1/4 x 6	021180	021290	021400	021510	021620	021730	021840	021950	022170
1/8 x 1/2 x 6	021190	021300	021410	021520	021630	021740	021850	021960	022180
1/8 x 1 x 6	021200	021310	021420	021530	021640	021750	021860	021970	
5/32 x 5/32 x 6		021320		021540	021650		021870	021980	022200
1/4 x 1/4 x 6	021230	021340	021450	021560	021670	021780	021890	022000	022220
1/4 x 1/2 x 6	021240	021350	021460	021570	021680	021790	021900	022010	022230
1/4 x 1 x 6	021250	021360	021470	021580	021690	021800	021910	022020	022240



EDM Polishing Stones

Orange EDM

Orange EDM can be used by hand, with a profiler or ultrasonic units. Designed as an excellent tool for fast EDM scale removal. Orange EDM holds its shape and provides consistent cutting.



Orange EDM	120	180	220	320	400	600
1/16 x 1/4 x 6	082005		082203	082307	082405	082604
1/16 x 1/2 x 6	082011		082215	082311	082412	082606
1/8 x 1/8 x 6	082015	082101	082219	082319	082417	082615
1/8 x 1/4 x 6	082019	082115	082225	082322	082419	082619
1/8 x 1/2 x 6	082021	082120	082230	082325	082421	082623
1/8 x 1 x 6	082023	082126	082232	082330	082425	082627
5/32 x 5/32 x 6	082029	082129	082236	082335	082430	082633
1/4 x 1/4 x 6	082035	082137	082239	082340	082439	082637
1/4 x 1/2 x 6	082042	082142	082242	082342	082442	082642
1/4 x 1 x 6	082045	082149	082252	082346	082455	082659
3/8 x 3/8 x 6	082055		082254	082355	082457	082661
1/4 TRI x 6	082066		082270	082362	082465	
3/8 TRI x 6	082070		082275	082365	082467	
1/4 RND x 5.5	082083		082283	082367	082471	082695

Gold

The new GOLD stone is the perfect all around aluminum oxide stone. It has excellent breakdown characteristics and retains its shape well. The GOLD is filled with a special lubricant, however, it is recommended to use polishing lubricants with all grits; pre-soaking is not required. This stone works well on EDM machined surfaces and on all tool steels. The GOLD stone can be used by hand or in a reciprocating profiler. Also available in metric sizes.



GOLD	150	220	320	400	600	800
1/8 x 1/4 x 6	057240	057440	057540	057640	057740	057840
1/8 x 1/2 x 6	057250	057450	057550	057650	057750	057850
5/32 x 5/32 x 6	057230	057430	057530	057630	057728	057830
1/4 x 1/4 x 6	057260	057460	057560	057660	057760	057860
1/4 x 1/2 x 6	057270	057470	057570	057670	057770	057870
1/4 x 1 x 6	057271	057472	057572	057671	057772	057872



General Purpose Stones Aluminum Oxide

AM-2



An excellent all around finishing stone. AM-2 is engineered for hand polishing of all types of mold & die steels, including SAE1030 pre heat treated P20, H13, S-7 and T-420. Soft action combined with the perfect breakdown permits pre-finishing on non-ferrous metals.



AM-2	100	150	180	220	280	320	400	600	900
1/16 x 1/4 x 6	023210	023340		023600	023730	023860	023990	024250	024510
1/16 x 1/2 x 6	023220	023350		023610		023870	024000	024260	024250
1/8 x 1/8 x 6	023220	023360	023490	023620		023880	024010	024270	024530
1/8 x 1/4 x 6	023240	023370	023500	023630	023760	023890	024020	024280	024540
1/8 x 1/2 x 6	023250	023380	023510	023640	023770	023900	024030	024290	024550
1/8 x 1 x 6	023260	023390	023520	023560	023780	023910	024040	024300	
5/32 x 5/32 x 6	023720	023400	023530	023660		023920	024050	024310	024570
1/4 x 1/4 x 6	023290	023420	023550	023680	023810	023940	024070	024330	024590
1/4 x 1/2 x 6	023300	023430	023560	023690	023820	023950	024080	024340	024600
1/4 x 1 x 6	023310	023440	023570	023700	023830	023960	024090	024350	024610
3/8 x 3/8 x 6	023315	023445		023705	023835	023965	024095	024355	
1/2 x 1/2 x 6	023320	023450	023580	023710	023840	023970	024100	024360	024620
1/2 x 1 x 6	023330	023460	023590	023720	023850	023980	024110	024370	024630
1 x 1 x 6	023331	023461	023591	023721		023981	024111	024371	
1/4 TRI x 6		023463		023723		023983	024113		
3/8 TRI x 6		023464		023724		023984	024114		
1/4 RND x 5.5		023466		023726		023986	024116	024376	
3/8 RND x 5.5		023467		023727		023987	024117	024377	
1/2 RND x 5.5		023468		023728		023988	024118		

Die Stone



The Die Stone is engineered for use on all tool steels. It provides consistent breakdown and fast cutting action. Slightly harder than the AM-2.

Die Stone	150	180	220	320	400	600
1/16 x 1/4 x 6	081017		081203	081323	081405	081611
1/16 x 1/2 x 6	081012		081210	081324	081409	081620
1/8 x 1/8 x 6	081015	081112	081215	081329	081412	081625
1/8 x 1/4 x 6	081019	081117	081223	081333	081419	081629
1/8 x 1/2 x 6	081022	081123	081225	081335	081421	081631
1/8 x 1 x 6	081025	081128	081231	081336	081422	081633
5/32 x 5/32 x 6	081030	081135	081235	081339	081425	081639
1/4 x 1/4 x 6	081037	081139	081236	081340	081436	081640
1/4 x 1/2 x 6	081042	081142	081242	081342	081442	081642
1/4 x 1 x 6	081045	081149	081273	081349	081449	081646
3/8 x 3/8 x 6	081048		081278	081353	081452	081655
1/2 x 1/2 x 6	081053	081154	081283	081354	081455	081662
1/2 x 1 x 6	081057	081157	081286	081355	081460	081664
1 x 1 x 6	081062	081163	081289	081359	081465	081669
1/4 TRI x 6	081065		081290	081361	081469	
3/8 TRI x 6	081069		081291	081364	081470	
1/4 RND x 5.5	081073		081295	081367	081488	081670
3/8 RND x 5.5	081078		081297	081371	081489	081675
1/2 RND x 5.5	081099		081299	081374	081495	





General Purpose Stones Aluminum Oxide

AM-K



AM-K is a white aluminum oxide stone of medium hardness. It performs well on all types of mold steels. Generally, AM-K is used dry for rough forming and removal of machine marks. Lubricants should be used for finer grits.



AM-K	100	150	180	220	320	400	600
1/16 x 1/4 x 6	025980	026120	026260	026400	026680	026820	
1/16 x 1/2 x 6	025990	026130	026270	026410	026690	026830	027110
1/8 x 1/8 x 6		026140	026280	026420	026700	026840	027120
1/8 x 1/4 x 6	026010	026150	026290	026430	026710	026850	027130
1/8 x 1/2 x 6	026020	026160	026300	026440	026720	026860	027140
1/8 x 1 x 6	026030	026170	026310	026450	026730	026870	
5/32 x 5/32 x 6		026180	026320	026460	026740	026880	027160
1/4 x 1/4 x 6	026060	026200	026340	026480	026760	026900	027180
1/4 x 1/2 x 6	026070	026210	026350	026490	026770	026910	027190
1/4 x 1 x 6	026080	026220	026360	026500	026780	026920	027200
1/2 X 1/2 X 6	026090	026230	026370	026510	026790	026930	027210
1/2 X 1 X 6	026100	026240	026380	026520	026800	026940	027220
1 X 1 X 6	026110	026250		026530	026810		027230

AS-H



AS-H is similar to AM-K but slightly softer. It conforms quickly to pre-shaped surfaces. AS-H are more suitable for hand stoning and should always be used with lubricant.



AS-H	100	150	180	220	320	400	600
1/8 x 1/4 x 6			027590	027730	028010	028150	
1/8 x 1/2 x 6	027320	027460	027600	027740	028020		028440
1/4 x 1/4 x 6	027360		027640	027780	028060	028200	028480
1/4 x 1/2 x 6	027370	027510	027650	027790	028070	028210	028490

Polishing Tips

- Start your polishing with a finer grit stone rather than a coarse stone. You will save time in the long run.
- Hold the stone firmly for directional control, but press only hard enough to make the stone cut. Let the abrasive do the work.
- After each grit change, clean the work area thoroughly to remove all larger abrasive grain particles.
- When using a machine (such as a profiler or ultrasonic unit, or lapping tool) use moderate speed and pressure only. Excessive speed and pressure can cause minute stresses of metal resulting in "orange peel" or "dimpling."



General Purpose Stones Aluminum Oxide

CS



This fast cutting black silicon carbide is a soft stone designed to conform rapidly to a variety of details and is mostly used for hand polishing. It breaks down rapidly. CS stones are used on all tool steels as well as for roughing on some non-ferrous materials.

CS	150	180	220	320	400	600
1/8 x 1/4 x 6	024850			025410	025550	025830
1/8 x 1/2 x 6	024860	025000	025130	025420	025560	025840
1/4 x 1/4 x 6	024900		025140	025460	025600	025880
1/4 x 1/2 x 6	024910	025050	025180	025470	025610	025890
1/4 x 1 x 6	024920		025190	025480	025620	025900
1/2 X 1/2 X 6	024930		025200	025490	025630	025910
1/2 X 1 X 6	024940		025210	025500	025640	025920



CS-M



This premium green silicon carbide stone has superb cutting ability. CS-M has a special bond which makes it non-loading with a medium soft hardness. The sharp silicon carbide allows use of the CS-M for finishing low tensile strength materials such as aluminum, bronze, cast iron. Lubricant should be used.

CS-M	120	150	220	320	400	600
1/16 x 1/2 x 6		035205	035305	035505	035605	035805
1/8 x 1/4 x 6	035113	035213	035313	035513	035613	035813
1/8 x 1/2 x 6	035117	035217	035317	035517	035617	035817
5/32 x 5/32 x 6				035525	035625	035825
1/4 x 1/4 x 6	035129	035229	035329	035529	035629	035829
1/4 x 1/2 x 6	035133	035233	035333	035533	035633	035833
1/4 x 1 x 6		035237	035337	035537	035637	035837
3/8 x 3/8 x 6		035241	035341	035541	035641	
1/2 x 1/2 x 6		035245	035345	035545	035645	035845
1/2 x 1 x 6		035249	035349	035549	035649	035849
1 x 1 x 6		035253	035353	035553	035653	035853
"1/4 rnd x 5-1/2"			035373	035573	035673	



CS-HD

Hard premium green silicon carbide stone has superb cutting ability. Excellent for hardened steels 47-63Hrc. Harder acting and slower to break down than CS or CS-M. This polishing stone can be used to polish even the hardest die & mold steels.

CS-HD	120	150	220	320	400	600
1/16 x 1/2 x 6		036205	036305	036505	036605	036805
1/8 x 1/4 x 6	036113	036213	036313	036513	036613	036813
1/8 x 1/2 x 6	036117	036217	036317	036517	036617	036817
5/32 x 5/32 x 6			036325	036525	036625	036825
1/4 x 1/4 x 6	036129	036229	036329	036529	036629	036829
1/4 x 1/2 x 6	036133	036233	036333	036533	036633	036833
1/4 x 1 x 6		036237	036337	036537	036637	
3/8 x 3/8 x 6			036341	036541	036641	
1/2 x 1/2 x 6		036245	036345	036545	036645	036845
1/2 x 1 x 6		036249	036349	036549	036649	
1 x 1 x 6		036253	036353	036553	036653	036853





Specialty Stones Aluminum Oxide

PC



“Polisher’s Choice” is made from premium select grain & bond and a proprietary process. The “PC” is a quick contouring finishing stone designed for rapid stock removal and is an outstanding choice for metal finishes requiring a final diamond finish. This stone requires lubricant and is suited for use by hand or profiler.



PC	150	220	320	400	600
1/8 x 1/4 x 6	059230	059330	059530	059630	059730
1/8 x 1/2 x 6	059240	059340	059540	059640	059740
5/32 x 5/32 x 6	059215	059315	059515	059615	059715
1/4 x 1/4 x 6	059250	059350	059550	059650	059750
1/4 x 1/2 x 6	059260	059360	059560	059660	059760
1/4 x 1 x 6	059265	059365	059565	059665	059765

T2



Specially treated medium-hard stone cuts very fast and yet provides a silky, smooth finish. Use T-2 for high quality mold steels such as P20, H13 and 420 stainless. EXCELLENT stone for stainless steels.



T-2	150	220	320	400	600
1/16 x 1/4 x 6	036900	037096	037292	037492	037688
1/8 x 1/4 x 6	036912	037108	037304	037504	037700
1/8 x 1/2 x 6	036916	037112	037316	037508	037704
1/8 x 1 x 6	036918	037114	037318	037510	037706
5/32 x 5/32 x 6	036924	037120	037320	037516	037712
1/4 x 1/4 x 6	036928	037124	037324	037520	037716
1/4 x 1/2 x 6	036932	037128	037328	037524	037736
1/4 x 1 x 6	036936	037132	037332	037528	
1/2 x 1 x 6	036952	037148	037348	037544	037740
1 x 1 x 6	036956	037152	037352	037548	037744

T4



Specially treated medium aluminum oxide that cuts fast and leaves an excellent finish. Similar to the T-2 but breaks down faster. Engineered for use on aluminum and soft metals without scratching or tearing the surface. Use of a lubricant is recommended.



T-4	150	220	320	400	600
1/8 x 1/4 x 6	038192	038352	038432	038512	038592
1/8 x 1/2 x 6	038196	038356	038436	038516	038596
1/4 x 1/4 x 6	038208	038368	038448	038528	038608
1/4 x 1/2 x 6	038212	038372	038452	038532	038612
1/4 x 1 x 6	038216	038376	038456	038536	038616



Specialty Stones Aluminum Oxide

TH



Made from premium aluminum oxide, then specially treated to provide a load resistant, smooth cutting action. The special formulation of the "TH" allows it to hold its shape and makes it an excellent choice for EDM surfaces. Performs well on all types of tool steels.



TH	150	220	320	400	600
1/8 x 1/4 x 6	034912	034108	034304	034504	034700
1/8 x 1/2 x 6	034916	034112	034316	034508	034704
1/4 x 1/4 x 6	034928	034124	034324	034520	034716
1/4 x 1/2 x 6	034932	034128	034328	034524	034736
1/4 x 1 x 6	034936	034132	034332	034528	034738
1/2 x 1 x 6	034933	034125	034333	034536	034737
1 x 1 x 6	034937	034126	034334	034537	034740



AO



AO is a perfect all around aluminum oxide stone with excellent breakdown characteristics yet, it retains its shape well, especially when polishing mold cavity details. The AO is filled with a lubricant during the manufacturing process so it does not require pre-lubrication although the use of a lubricant is recommended.

AO	120	150	220	320	400	600
1/16 x 1/4 x 6	033101	033201	033401	033601	033701	033901
1/16 x 1/2 x 6	033105	033205	033405	033605	033705	033905
1/8 x 1/8 x 6	033109	033209	033409	033609	033709	033909
1/8 x 1/4 x 6	033113	033213	033413	033613	033713	033913
1/8 x 1/2 x 6	033117	033217	033417	033617	033717	033917
1/8 x 1 x 6	033121	033221	033421	033621	033721	
5/32 x 5/32 x 6	033125	033225	033425	033625	033725	033925
1/4 x 1/4 x 6	033129	033229	033429	033629	033729	033929
1/4 x 1/2 x 6	033133	033233	033433	033633	033733	033933
1/4 x 1 x 6	033137	033237	033437	033637	033737	033937
3/8 x 3/8 x 6	033141	033241	033441	033641	033741	
1/2 x 1/2 x 6	033145	033245	033445	033645	033745	033945
1/2 x 1 x 6	033149	033249	033449	033649	033749	033949
1 x 1 x 6	033153	033253	033453	033653	033753	033953
1/4 Tri x 6				033669	033769	
3/8 Tri x 6	033173		033473		033773	
1/2 Tri x 6	033177					
1" Tri x 6	033181					
1/4 Rnd x 5.5	033189	033289	033489	033689	033789	033989
3/8 Rnd x 5.5		033293	033493	033693	033793	033993
1/2 Rnd x 5.5			033497	033697	033797	033997



900-F	900
1/8 x 1/4 x 6	028600
1/8 x 1/2 x 6	028610
1/4 x 1/4 x 6	028630
1/4 x 1/2 x 6	028640
1/4 x 1 x 6	028650
1/2 x 1/2 x 6	028660

900-F



This stone has a super-fine structure and excellent breakdown properties for final finishing prior to diamond polish finishing. 900-F works especially well on P-20 mold steel ranging in hardness from 29-32Hrc. Primarily used for hand finishing operations and lubricant should be used.



Roughing Stones

DMS-I

Made from sharp grains of aluminum oxide held in a medium bond. Designed for large cavity and parting line work. Can also be used as a general purpose stone in smaller sizes. Use dry for best results.



DMS-I	80	120	150	180
1/4 x 1 x 8	K18080	K18120	K18150	K18180
1/2 x 1 x 8	K19080	K19120	K19150	K19180

RO-MED

RO-MED is an excellent roughout for mold contours because of its fast Breakdown.



RO-HARD

For detailing sharp corners and steps.



RO-MED	80	100	150	220
1/4 x 1 x 8	029200	029230	029260	029290
1/2 x 1 x 8	029210	029240	029270	029300
1 x 2 x 8	029220	029250	029280	029310

RO-HARD	150	220
1/4 x 1 x 8	029460	029490
1/2 x 1 x 8	029470	029500
1 x 2 x 8	029480	029510

ROUGHOUTS



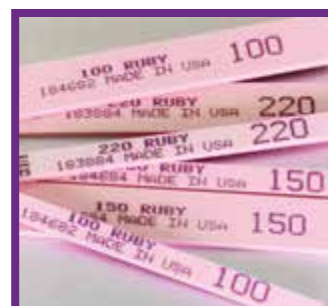
Ideal for removing cutter marks after the duplicating process. From soft to hard, the Roughout stones enable rapid, aggressive stock removal.



ROUGHOUT	80 Blue	100 White	120 Green	180 White
1/4 X 1 X 8	029516	029530	029545	029575
1/2 x 1 x 8	029519	029533	029548	029578
1 X 1 X 8	029521	029536	029551	029581
1 x 2 x 8	029524	029539	029554	029584

RUBY

Ruby stones are extremely fast cutting and perform well on all tool steels. They provide sharp cutting action for fast stock removal. The consistent breakdown allows the stone to be used dry without loading. Try the "RB" for fast stock removal on mold contours.



RUBY	80	100	150	220
1/4 X 1/4 X 6	074329	074529	074629	074829
1/4 X 1/2 X 6	074333	074533	074633	074833
1/4 x 1 x 6	074343	074543	074643	074843
1/2 x 1/2 x 6	074341	074541	074641	074841
1/2 x 1 x 6	074345	074545	074645	074845

BOAT STONES

Available in aluminum oxide and black or green silicon carbide. Made to be easily held and primarily used on large dies and sharp edges on machined parts.



Type	Available Colors	Size
Aluminum Oxide	White, Brown, Pink, Ruby, Red, Orange	9" x 2-1/2" x 1-1/2"
Silicon Carbide	Black, Green	9" x 2-1/2" x 1"



To order, specify type and color (i.e. Aluminum Oxide-White)



Detail Stones

CERAMIC SUPER STONES

The original Ceramic Stone/Super Stone is used for fine detail polishing. Made from strands of fiber disbursed in a thermoset resin. This unique stone is extremely strong and thin. Its flexibility makes this stone excellent for tight ribs, slots and EDM removal. Can be used by hand, yet works extremely well in filing, lapping & ultrasonic machines.



Size (mm)	Violet	Green (coarser)	Gold <	Light Brown	Orange	Brown (Black)	Blue	White >	Red finer)
1 x 4 x 50	669886	-	-	-	-	670587	670787	-	-
0.5 x 2 x 100	669800	669900	670100	670200	670300	670500	670700	670800	670900
0.5 x 4 x 100	669810	669910	670110	670210	670310	670510	670710	670810	670910
0.5 x 6 x 100	669830	669930	670130	670230	670330	670530	670730	670830	670930
0.8 x 4 x 100	669812	669912	670112	670212	-	670512	670712	670812	-
0.8 x 6 x 100	669832	669932	670132	670232	-	670532	670732	-	-
0.8 x 10 x 100	669852	-	670152	670252	-	670552	670252	670852	-
1 x 2 x 100	669804	669904	670104	670204	670304	670504	670704	670804	670904
1 x 4 x 100	669814	669914	670114	670214	670314	670514	670714	670814	670914
1 x 6 x 100	669834	669934	670134	670234	670334	670534	670734	670834	670934
1 x 10 x 100	669854	669954	670154	670254	670354	670554	670754	670854	670954
1.5 x 4 x 100	669816	669916	670116	670216	670316	670516	670716	-	-
1.5 x 6 x 100	669836	669936	670136	670236	670336	670536	670736	-	-
1 x 4 x 150	-	669924	670124	670224	-	-	-	-	-
2.35 x 50	-	-	-	-	670371	670571	670771	-	-
2.35 x 100	669870	-	-	-	-	670545	670745	-	-
3 x 50	669881	-	-	-	670381	670581	670781	670881	670981
3.16 x 50	669891	669991	670091	670191	670391	670591	670791	-	-
3 x 100	669851	669951	670151	670251	670351	670551	670751	670851	670951

AIR OPERATED LAPPING MACHINE

Turbine-driven "in-line" reciprocating UltraLap for very small to medium sized detail/finishing work. All three systems generate minimal noise/vibration and require little maintenance.



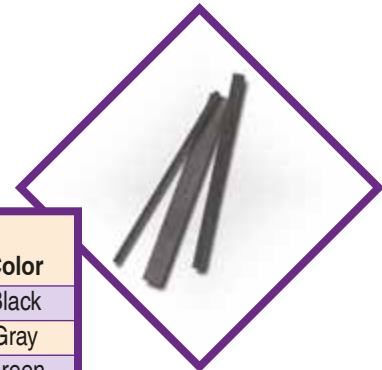
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Catalog No.	UTR-70	UTR-30	UTR-20
Stroke length	0.7mm	0.3mm	0.2mm
Max. Speed at no load	35,000 spm	40,000 spm	50,000 spm
Air Consumption	0.05 m ₃ /min	0.05 m ₃ /min	0.05 m ₃ /min
Air Pressure Max.	90 psi	90 psi	90 psi
Dimension (mm)	24 x 180	24 x 180	24 x 180
Weight (grams)	175	175	165
Lubrication	1 to 2 drops/min each unit		



Detail Stones

CERAMIC DIAMOND STONES (Flat)



Diamond impregnated ceramic stones. Perfect for removing EDM scale when polishing steels of 45-65Hrc. The high performance is attained by the uniform impregnation of diamond particles across the length of the entire stone. May be used with profiler, ultrasonic systems or by hand.

Dimension (mm)	Part Number	Grit	Color
1 x 4 x 100	673110	#200	Black
1 x 4 x 100	673210	#400	Gray
1 x 4 x 100	673310	#600	Green
1 x 6 x 100	673120	#200	Black
1 x 6 x 100	673220	#400	Gray
1 x 6 x 100	673320	#600	Green
1 x 10 x 100	673130	#200	Black
1 x 10 x 100	673230	#400	Gray
1 x 10 x 100	673330	#600	Green

FIBER STONES Strength and Speed

The "CNB" family of stones is made from an advanced coated composite fiber. The CNB's are extremely aggressive and are fabricated to provide incredible strength and cutting action. Great for EDM removal, welds and rapid stock removal. Cuts the hardest tool steels with its very coarse and fast cutting properties. The CNB-80 has cutting action similar to an 80grit and the CNB120 has cutting action similar to a 120grit.



CNB-80

Dimension (mm)	Item No.
1.2 x 4 x 75	046903
1.2 x 6 x 75	046917
1.2 x 10 x 75	046921
1.2 x 10 x 150	046944

CNB-120

Dimension (mm)	Item No.
0.8 x 4 x 75	046959
0.8 x 6 x 75	046962
0.8 x 10 x 75	046973
0.8 x 10 x 150	046978





STONEHOLDERS



Specially designed holders for hand use and profilers. Conventional and detail polishing holder designs are available. All holders are made of material that will not damage mold & die surfaces.



Polishing Stone Holders – Handheld

Item Number	Accommodates Stone Sizes
029910	1/8 x 1/4, 1/8 x 1/2, 1/4 x 1/4
029912	1/4 x 1/4, 1/4 x 1/2
029913	3/8" round, 1/4" round
029914	1/16 x 1/4, 1/16 x 1/2
029915	Set of above four



Ceramic Stone Holders – Handheld

Item Number	Length	Accommodates Sizes
029930	5-3/4	2-4mm stick
029935	5-3/4	6mm stick
029940	5-3/4	8-10mm stick
029945	set of above three	
029925	5-1/2	3mm round



Polishing Stone Holders – Profiler

Item Number	Shank	Accommodates Sizes
029960	3/16"	1/4 stone long
029963	3/16"	1/4 stone short
029967	3/16"	1/8 stone short
029958	Large brass ring replacement	
029923	3/16"	Vice clamp
029924	1/8"	Vice clamp
029916	3/16"	1/8 x 1/4
029917	3/16"	1/8 x 1/2, 1/4 x 1/4
029918	1/8"	1/8 x 1/4
029919	1/8"	1/8 x 1/2, 1/4 x 1/4



Ceramic Stone Holders – Profiler

Item Number	Shank	
029950	1/8"	for profiler
029953	3mm	for profiler
029954	3/16"	for profiler
029955	Brass ring replacement	



Accessories



Item Number	Size
BL10-G	1 gallon

POLISHING LUBRICANT

Borilube 10 is formulated for mold polishing to clean, lubricate and prevent stone loading. Environmentally friendly and non-hazardous.



Item Number	Size
332000	20gram syringe

MOLD POLISH

Mold polish is odor and residue free, and non-corrosive. It will remove rust, oxidation, diamond polish haze, plate out and stains on fine tooling surfaces. BORIDE mold polish restores surface finishes while providing excellent high luster sheen. Mold Polish comes in a 20 gram controlled syringe allowing precise application without fear of contamination.

PNEUMATIC SHORT STROKE PROFILER

The Turbo Lap Linear offers 22,000 strokes per minute with a stroke size of .7mm or .027. The Turbo Lap Swing offers an orbital stroke of 12,000 strokes per minute with a stroke size of 3mm left to right and 1.2mm linear. Ideal for use with ceramic, ribstones or composite stones.

Kits include:
 Turbo-Lap profiler (Linear or Swing)
 Air line w/pipe thread connector
 Exhaust overhose, hex wrench
 Stoneholder, (1) blue ceramic stone



Item Number	Description
TLL-07	linear profiler
TLS-12	swing profiler



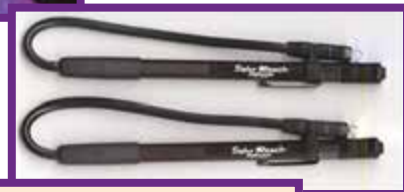
Each Turbo Lap should be used at 80 psi or at a maximum of 85 psi with clean, dry air. Lubrication is not needed.



RIBLIGHT RIB LIGHT REACH High Intensity Pen Light

Rib Light is excellent for illuminating hard to see spots like ribs and slots. Available with a Blue or white LED light.

Reach Rib Light is the same great light with a long flexible neck for illuminating those hard to reach spots. Supplied with 3 AAAA batteries.



Item Number	Description
380100	Rib Light Blue LED Light
380110	Rib Light White LED Light
380120	Reach Rib Light Blue LED Light
380130	Reach Rib Light White LED Light



Industrial Sharpening Stones



Aluminum Oxide – Square Files

All 6 pcs per box except items marked * are 2/box

Item	Part	Description
076251	SFA-C42	1/4 X 1/4 X 4
076253	SFA-C43	3/8 X 3/8 X 4
076255	SFA-C44	1/2 X 1/2 X 4
076265	SFA-C65	5/8 X 5/8 X 6
076275*	SFA-C67	1 X 1 X 6
076280	SFA-M42	1/4 X 1/4 X 4
076285	SFA-M43	3/8 X 3/8 X 4
076290	SFA-M44	1/2 X 1/2 X 4
076300	SFA-M65	5/8 X 5/8 X 6
076310*	SFA-M67	1 X 1 X 6
076315	SFA-F42	1/4 X 1/4 X 4
076320	SFA-F43	3/8 X 3/8 X 4
076325	SFA-F44	1/2 X 1/2 X 4
076335	SFA-F65	5/8 X 5/8 X 6
076345*	SFA-F67	1 X 1 X 6

Used for deburring, sharpening and honing. Stones are oil pre-filled to save time and eliminate the necessity of pre-soaking prior to first use. Available in aluminum oxide or silicon carbide.

Coarse Grit (C):120 ; (M): 220; Fine(F) 320

Aluminum Oxide – Combination Bench

“All 1 pc/box; Coarse 1 side , Fine 1 side

Item	Part	Description
076210	CBA-FC45	5/8 X 5/8 X 4-1/2
076220	CBA-FC67	1 X 2 X 6
076225	CBA-FC87	1 X 2 X 8

Aluminum Oxide – Knife Blade

All 6 pc/box

Item	Part	Description
076770	KBA-C41	1/8 X 1 X 4
076775	KBA-M41	1/8 X 1 X 4
076250	KBA-F41	1/8 X 1 X 4

Aluminum Oxide – Single Grit Bench

All 6 pcs per box except items marked * are 1/box

Item	Part	Description
076000	SBA-C42	1/4 x 1 x 4
076005	SBA-C44	1/2 x 1 x 4
076015*	SBA-C67	1 x 2 x 6
076025	SBA-M42	1/4 x 1 x 4
076030	SMA-M44	1/2 x 1 x 4
076040*	SBA-M67	1 x 2 x 6
076050	SBA-F42	1/4 x 1 x 4
076055	SBA-F44	1/2 x 1 x 4
076065*	SBA-F67	1 x 2 x 6

Aluminum Oxide – Half Round

All 6 pc/box

Item	Part	Description
076747	HFA-C43	3/8 X 4
076754	HFA-M43	3/8 X 4
076761	HFA-F43	3/8 X 4

Aluminum Oxide – Round File

All 6 pcs per box

Item	Part	Description
076665	RFA-C42	1/4 X 4
076667	RFA-C43	3/8 X 4
076669	RFA-C44	1/2 X 4
076679	RFA-M42	1/4 X 4
076681	RFA-M43	3/8 X 4
076683	RFA-M44	1/2 X 4
076693	RFA-F42	1/4 X 4
076695	RFA-F43	3/8 X 4
076697	RFA-F44	1/2 X 4

Aluminum Oxide – Triangle File

All 6 pcs per box

Item	Part	Description
076455	TFA-C42	1/4 X 4
076460	TFA-C43	3/8 X 4
076465	TFA-C44	1/2 X 4
076490	TFA-M42	1/4 X 4
076495	TFA-M43	3/8 X 4
076500	TFA-M44	1/2 X 4
076525	TFA-F42	1/4 X 4
076530	TFA-F43	3/8 X 4
076535	TFA-F44	1/2 X 4

Silicon Carbide – Combination Bench

All 1/box

Item	Part	Description
076235	CBS-FC45	5/8 x 1-5/8 x 4-1/2
076245	CBS-FC67	1 x 2 x 6
076250	CBS-FC87	1 x 2 x 8

Silicon Carbide – Combination Round Knife

All 1/box

Item	Description
076230	4 x 1-1/2 120/320

Assortment Kit

Item	Description
076999	Contains: SBAF42;CBAF45;SFAM42 TFAC42; RFAF42; KBAF41



Diamond Compounds

MOLD MAKERS DIAMOND

Used for precision finishing on all types of molds. Oil soluble with a wide thermal range. Packaged in 5 & 18 gram syringes.



Application	Grade	Micron size	Mesh	Colour	Concentration	Part No. 5 Gram	Part No. 18 Gram
Final Polish	1	0-2	14,000	White	Standard	331020	331030
Final Polish	3	2-4	8,000	Yellow	Standard	331050	331060
Final & Pre-polish	6	4-8	3,000	Orange	Standard	331080	331090
Final & Pre-polish	9	6-10	1,800	Green	Standard	331110	331120
Pre-Polish Lapping	15	9-19	1,200	Blue	Standard	331140	331150
Stock Removal	30	20-30	800	Red	Standard	331170	331180



“SUPER US” DIAMOND COMPOUND

Very high diamond concentration contains grains precisely graded and evenly distributed in a specific viscosity medium. Provides a uniform finish & luster while allowing rapid stock removal. Oil or alcohol soluble.



M · D · T

Recommendations for use	Grade	Micron size	Approx. Mesh	Color	Concentration	Part No. 5 Gram	Part No. 10 Gram
Finest finishes, optical lenses, semiconductors.	1	1/2 to 1-1/2	15,000	Ivory	Very High	DC-1VH-5	DC-1VH-10
	3	2 to 4	8,500	Yellow	Very High	DC-3VH-5	DC-3VH-10
Final finish for most molds, dies, extrusion dies.	6	4 to 7	4,000	Orange	Very High	DC-6VH-5	DC-6VH-10
	9	8 to 11	2,000	Green	Very High	DC-9VH-5	DC-9VH-10
Preliminary finish after abrasive stone finishing.	15	12 to 18	1,200	Dark Blue	Very High	DC-15VH-5	DC-15VH-10
	30	25 to 33	675	Red	Very High	DC-30VH-5	DC-30VH-10
Fast stock removal and roughing on hard materials/carbide	45	36 to 51	325	Brown	Very High	DC-45VH-5	DC-45VH-10
	60	54 to 70	235	Purple	Very High	DC-60VH-5	DC-60VH-10



Diamond Compounds Oil-Based

First Number = BORIDE Item Number Second Number = ADAMAS Item Number

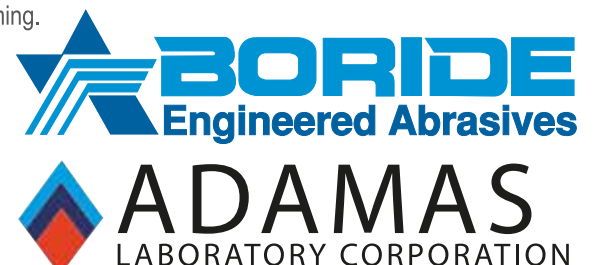
Grade	Micron	Color	5 GRAM SYRINGE				18 GRAM SYRINGE			
			Medium	Heavy	Extra Heavy	Super	Medium	Heavy	Extra Heavy	Super
100	100-150	Black	330001 100MM5	330002 100MH5	330003 100MX5	330004 100MS5	330021 100MM18	330022 100MH18	330023 100MX18	330024 100MS18
170	80-100	Dark Gray	330041 170MM5	330042 170MH5	330043 170MX5	330044 170MS5	330061 170MM18	330062 170MH18	330063 170MX18	330064 170MS18
230	54-80	Purple	330081 230MM5	330082 230MH5	330083 230MX5	330084 230MS5	330101 230MM18	330102 230MH18	330103 230MX18	330104 230MS18
45	36-54	Brown	330161 45MM5	330162 45MH5	330163 45MX5	330164 45MS5	330181 45MM18	330182 45MH18	330183 45MX18	330184 45MS18
30	22-36	Dark Red	330241 30MM5	330242 30MH5	330243 30MX5	330244 30MS5	330221 30MM18	330222 30MH18	330223 30MX18	330224 30MS18
25	20-30	Black Cherry	---	---	---	---	---	330262 25MH18	---	---
20	15-25	Light Blue	330281 20MM5	330282 20MH5	330283 20MX5	330284 20MS5	330301 20MM18	330302 20MH18	330303 20MX18	330304 20MS18
15	12-22	Dark Blue	330321 15MM5	330322 15MH5	330323 15MX5	330324 15MS5	330341 15MM18	330342 15MH18	330343 15MX18	330344 15MS18
9	8-12	Green	330401 9MM5	330402 9MH5	330403 9MX5	330404 9MS5	330421 9MM18	330422 9MH18	330423 9MX18	330424 9MS18
6	4-8	Orange	330481 6MM5	330482 6MH5	330483 6MX5	330484 6MS5	330501 6MM18	330502 6MH18	330503 6MX18	330504 6MS18
4	2-6	Pink	330521 4MM5	330522 4MH5	330523 4MX5	330524 4MS5	330541 4MM18	330542 4MH18	330543 4MX18	330544 4MS18
3	2-4	Yellow	330561 3MM5	330562 3MH5	330563 3MX5	330564 3MS5	330581 3MM18	330582 3MH18	330583 3MX18	330584 3MS18
2	1-3	Lavender	330601 2MM5	330602 2MH5	330603 2MX5	330604 2MS5	330621 2MM18	330622 2MH18	330623 2MX18	330624 2MS18
1	0-2	Ivory	330641 1MM5	330642 1MH5	330643 1MX5	330644 1MS5	330661 1MM18	330662 1MH18	330663 1MX18	330664 1MS18
1/2	0-1	Light Gray	330681 1/2MM5	330682 1/2MH5	330683 1/2MX5	330684 1/2MS5	330701 1/2MM18	330702 1/2MH18	330703 1/2MX18	330704 1/2MS18
1/4	0-1/2	Gray	330721 1/4MM5	330722 1/4MH5	330723 1/4MX5	330724 1/4MS5	330741 1/4MM18	330742 1/4MH18	330743 1/4MX18	330744 1/4MS18
1/10	0-1/4	White	330761 1/10MM5	330762 1/10MH5	330763 1/10MX5	330764 1/10MS5	330781 1/10MM18	330782 1/10MH18	330783 1/10MX18	330784 1/10MS18

Other syringe sizes or jars available upon request.

DIAMAX Thinner - Used to thin the slurry, extend the diamond compound and reduce gumming.



Description	4 oz Bottle of DIAMAX Thinner	16 oz Bottle of DIAMAX Thinner	2 oz Finger Spray Bottle (empty) - Fill with DIAMAX Thinner and use fine mist spray for perfect application
Item	336005	336010	336211





Diamond Compounds Water-Based

First Number = BORIDE Item Number Second Number = ADAMAS Item Number

Grade	Micron	Color	5 GRAM SYRINGE				18 GRAM SYRINGE			
			Medium	Heavy	Extra Heavy	Super	Medium	Heavy	Extra Heavy	Super
100	100-150	Black	330011 100WM5	330012 100WH5	330013 100WX5	330014 100WS5	330031 100WM18	330032 100WH18	330033 100WX18	330034 100WS18
170	80-100	Dark Gray	330051 170WM5	330052 170WH5	330053 170WX5	330054 170WS5	330071 170WM18	330072 170WH18	330073 170WX18	330074 170WS18
230	54-80	Purple	330091 230WM5	330092 230WH5	330093 230WX5	330094 230WS5	330111 230WM18	330112 230WH18	330113 230WX18	330114 230WS18
45	36-54	Brown	330171 45WM5	330172 45WH5	330173 45WX5	330174 45WS5	330191 45WM18	330192 45WH18	330193 45WX18	330194 45WS18
30	22-36	Dark Red	330251 30WM5	330252 30WH5	330253 30WX5	330254 30WS5	330231 30WM18	330232 30WH18	330233 30WX18	330234 30WS18
20	15-25	Light Blue	330291 20WM5	330292 20WH5	330293 20WX5	330294 20WS5	330311 20WM18	330312 20WH18	330313 20WX18	330314 20WS18
15	12-22	Dark Blue	330331 15WM5	330332 15WH5	330333 15WX5	330334 15WS5	330351 15WM18	330352 15WH18	330353 15WX18	330354 15WS18
9	8-12	Green	330411 9WM5	330412 9WH5	330413 9WX5	330414 9WS5	330431 9WM18	330432 9WH18	330433 9WX18	330434 9WS18
6	4-8	Orange	330491 6WM5	330492 6WH5	330493 6WX5	330494 6WS5	330511 6WM18	330512 6WH18	330513 6WX18	330514 6WS18
4	2-6	Pink	330531 4WM5	330532 4WH5	330533 4WX5	330534 4WS5	330551 4WM18	330552 4WH18	330553 4WX18	330554 4WS18
3	2-4	Yellow	330571 3WM5	330572 3WH5	330573 3WX5	330574 3WS5	330591 3WM18	330592 3WH18	330593 3WX18	330594 3WS18
2	1-3	Lavender	330611 2WM5	330612 2WH5	330613 2WX5	330614 2WS5	330631 2WM18	330632 2WH18	330633 2WX18	330634 2WS18
1	0-2	Ivory	330651 1WM5	330652 1WH5	330653 1WX5	330654 1WS5	330671 1WM18	330672 1WH18	330673 1WX18	330674 1WS18
1/2	0-1	Light Gray	330691 1/2WM5	330692 1/2WH5	330693 1/2WX5	330694 1/2WS5	330711 1/2WM18	330712 1/2WH18	330713 1/2WX18	330714 1/2WS18
1/4	0-1/2	Gray	330731 1/4WM5	330732 1/4WH5	330733 1/4WX5	330734 1/4WS5	330751 1/4WM18	330752 1/4WH18	330753 1/4WX18	330754 1/4WS18
1/10	0-1/4	White	330771 1/10WM5	330772 1/10WH5	330773 1/10WX5	330774 1/10WS5	330791 1/10WM18	330792 1/10WH18	330793 1/10WX18	330794 1/10WS18

Other syringe sizes or jars available upon request.

DIAMAX Thinner - Used to thin the slurry, extend the diamond compound and reduce gumming.




Description	4 oz Bottle of DIAMAX Thinner	16 oz Bottle of DIAMAX Thinner	2 oz Finger Spray Bottle (empty) - Fill with DIAMAX Thinner and use fine mist spray for perfect application
Item	336005	336010	336211





Lapping & Finishing Accessories

LUBRICATOR & THINNER FOR DIAMOND COMPOUNDS

<p>When polishing with diamond compound, microscopic sized metal cuttings may cause the compound to thicken. Thinner/lubricator is formulated to prevent thickening and assures proper lubrication during polishing. Supplied in a 4 oz plastic bottle with a cap that permits dispensing in small droplets.</p>	<p>Catalog No. DCLT-4</p> 
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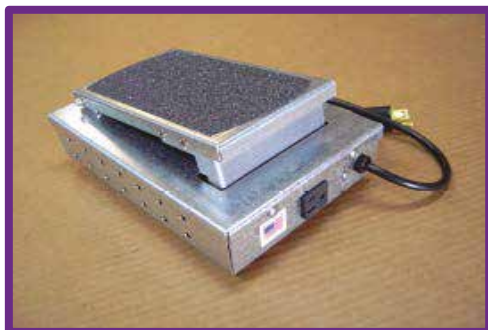
HIGH SPEED MOTOR FOR FLEXIBLE SHAFT TOOLS



DUMORE **Series 6 Super Flex**

- FEATURES:
- 0-60 Hz 1/4 HP
 - 115V 3.8 AMPS
 - No Load Speed 22,000 RPM
 - Heavy duty hanging plate with swivel base.

PART # 6-021



SPEED CONTROL

PART # 12675



FLEXIBLE SHAFTS & SHEATHS

PART # 12675 – INNER
PART # 12626 – SHEATH



Mounted Stones

MX COTTON FIBER FINISHING WHEELS

Excellent for polishing and deburring mold runners, and can be used in aerospace, gear manufacturing, casting applications as well. Material is muslin with aluminum oxide grit and resin bonded. Lamination runs parallel to shank to prevent chipping of wheel. Available in 80, 120, 180 and 320 grits. Stocked in medium hard bond. Mounted on 1/8 shanks. To order specify Cat No. & grit (ie MX145080 for Mx145 80grit)



Cat. No.	Size
MX145	1/8 x 3/8
MX146	1/8 x 1/2
MX154	3/16 x 1/2
MX163	1/4 x 1/2
MX176	3/8 x 1/2
MX185	1/2 x 1/2

POLISHING POINTS

						White Polishing Points
WPP3P	WPP14P	WPP18P	WPP19P	WPP22P	WPP26P	Excellent for very fine finishing. 400grit aluminum oxide ceramically bonded points on 3/32 shanks.

							Red Polishing Points
WRP1A	WRP23A	WRP22A	WRP12A	WRP17A	WRP28A	WRP46A	General purpose -3/32 shanks. Aluminum oxide coarse grits on left to fine on right. For blending and shaping details.
Coarse		Medium		Fine			

						Blue Polishing Points
Size	1/8 x 1/4	.131x13/32	1/8 x 9/32	3/32x17/64	1/4 x 1/2	Vitrified aluminum oxide, medium hardness on 3/32 shanks
Cat no.	HP12	HP23	HP26	HP28	HP59	

GROUP "B" SHAPES - 1/8 SHANKS

Color Blue

Designed to hold their shape. Medium hardness premium aluminum oxide. Excellent utility point.

Color Red

Medium soft aluminum oxide recommended for non-hardened low alloy steels.

Color White

General purpose medium soft aluminum oxide recommended for non-hardened low alloy steels. Will break down to avoid loading and allows sharp cutting edges to be exposed to the workpiece.

Shape No.	B44	B45	B52	B53	B55	B96
Diameter	7/32	3/16	3/8	1/4	1/8	1/8
Thickness	3/8	5/16	3/4	5/8	1/4	1/4
Max. RPM	68,000	100,000	45,000	60,000	100,000	100,000
Available in colors	Blue, Red, White	Blue, White	Blue, Red, White	Blue, Red, White	Blue, Red, White	Blue, Red, White

Shape No.	B97	B98	B105	B123	B124	B125	B135
Diameter	3/32	3/32	1/4	3/16	1/8	1/4	1/4
Thickness	3/8	1/4	1/4	3/16	1/8	1/4	1/2
Max. RPM	100,000	100,000	100,000	100,000	100,000	60,000	60,000
Available in colors	Blue, Red, White	Blue, White	Blue, Red, White	Blue, Red, White	Blue, Red, White	Blue, Red	Blue, Red



Mounted Stones

GROUP "W" SHAPES - 1/8 SHANKS

Color Blue

Designed to hold their shape. Medium hardness premium aluminum oxide. Excellent utility point.

Color Red

Medium soft aluminum oxide recommended for non-hardened low alloy steels.

Color White

General purpose medium soft aluminum oxide recommended for non-hardened low alloy steels. Will break down to avoid loading and allows sharp cutting edges to be exposed to the workpiece.

NOTE

The right stone the first time.

Abrasive type, grade (strength of bond), grain size, grain spacing, bond type are all factors to consider when ordering mounted stones. To get the best results one must arrive at the right combination. DMS mounted stones have been designed to our specifications after many years of field testing.

Shape No.	W142	W144	W145	W146	W152	W153	W154
Diameter	3/32	1/8	1/8	1/8	3/16	3/16	3/16
Thickness	1/4	1/4	3/8	1/2	1/4	3/8	1/2
Max. RPM	90,000					80,000	70,000
Available in colors	Blue, Red, White	Blue, White	Blue, Red, White	Blue, Red, White	Blue, Red, White	Blue, Red, White	Blue, Red, White

Shape No.	W160	W161	W162	W163	W170	W175	W176
Diameter	1/4	1/4	1/4	1/4	5/16	3/8	3/8
Thickness	1/4	5/16	3/8	1/2	1/2	3/8	1/2
Max. RPM	70,000	60,000			40,000		35,000
Available in colors	Blue, White	Blue, White	Blue, Red, White	Blue, Red, White	Blue, Red, White	Blue, White	Blue, Red, White

Shape No.	W181	W182	W185	W200	W215	W216	W220**
Diameter	1/2	1/2	1/2	3/4	1"	1"	1"
Thickness	1/16	1/8	1/2	1/8	1/8	1/4	1"
Max. RPM	70,000		60,000	50,000	38,000		25,000
Available in colors	Blue, White	Blue, White	Blue, White	Blue, Red, White	Blue, White	Blue, White	Blue, White

**W220 IN 1/4" SHANK ONLY

Sold as 25 to a pack, except W200 – W220

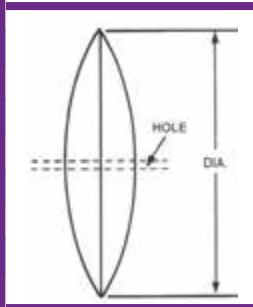
WARNING - WEAR FACE PROTECTION
GRINDING WHEELS IMPROPERLY USED ARE DANGEROUS.
Speed, safety guards, mounting procedures, operating rules, handling, storage and inspection are important.



Felt Bobs & Wheels

Knife Edge Felt Wheels

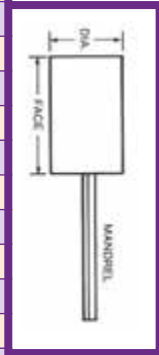
Cat. No.	Diameter	Thickness
KE1	1/2	3/16
KE2	5/8	3/16
KE3	3/4	3/16
KE4	1"	3/16
KE5	1-1/2	3/16
KE6	2"	3/16
KE7	2-1/2	3/16
KE8	3"	1/4
KE9	4"	1/4



Available in flint hard only

Mounted Felt Bobs (Cylindrical)

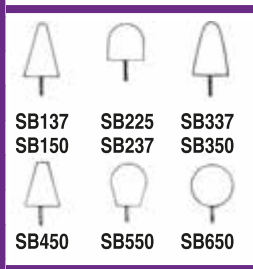
Cat. No.	Diameter	Face	Mandrel
MFB01	1/4	1/4	1/8
MFB02	1/4	3/8	1/8
MFB03	3/8	3/8	1/8
MFB04	3/8	1/2	1/8
MFB05	1/2	1/2	1/8
MFB06	1/2	3/4	1/8
MFB07	1/2	1"	1/8
MFB08	3/4	3/4	1/8
MFB09	3/4	1"	1/8
MFB11	1"	1"	1/4
MFB13	1"	1-1/2	1/4
MFB16	1-1/4	1-1/4	1/4
MFB18	1-1/2	1-1/2	1/4
MFB21	2"	2"	1/4



Available in hard only.

Shaped Felt Bobs

Cat. No.	Diameter	Face
SB137	3/8	1/2
SB150	1/2	1"
SB225	1/4	1/4
SB237	3/8	1/2
SB337	3/8	1/2
SB350	1/2	1"
SB450	1/2	3/4
SB550	1/2	3/4
SB650	1/2	1/2

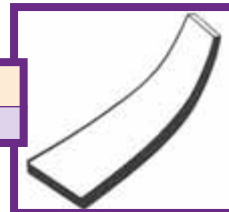


Available in hard, 1/8" shanks

Felt Pads

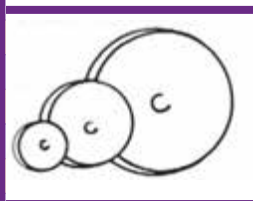
Cat. No.	Size
FP12	1/8 x 1" x 3" Long.

Ideal for touch-up work. Available in soft only



Felt Wheels

Cat. No.	Diameter	Thickness
FW05012	1/2	1/8
FW07512	3/4	1/8
FW10012	1"	1/8
FW10025	1"	1/4
FW15012	1-1/2	1/8
FW15025	1-1/2	1/4
FW20025	2"	1/4
FW20037	2"	3/8
FW20050	2"	1/2
FW30025	3"	1/4
FW30050	3"	1/2

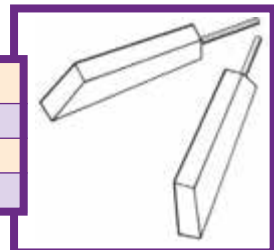


Available in hard only. With pin hole center.

Mounted Felt Laps

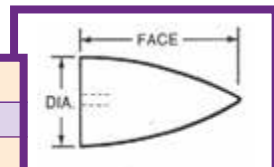
Cat. No.	Size
FL25	1/4 x 1/4 x 1-1/2
FL37	3/8 x 3/8 x 1-3/4
FL50	1/2 x 1/2 x 1-3/4

Designed for use with profilers. 45 angle cut on 1/8" shank.



Felt Cones

Cat. No.	Diameter	Face
C1	1/4	1/2
C2	3/8	3/4
C3	1/2	1"



Available in flinthard only

Felt Sheets

Handy when special shapes and sizes are required. Cut your own size & shape.

Also available in 1" thick

Catalog No.	Width x Length x Thickness	Density
FST-12-187S	12" x 12" x 3/16	Soft
FST-12-187M	12" x 12" x 3/16	Medium
FST-12-375S	12" x 12" x 3/8	Soft
FST-12-375M	12" x 12" x 3/8	Medium
FST-12-500S	12" x 12" x 1/2	Soft
FST-12-500M	12" x 12" x 1/2	Medium
FST-12-250S	12" x 12" x 1/4	Soft
FST-12-250M	12" x 12" x 1/4	Medium
FST-12-250H	12" x 12" x 1/4	Hard



Mounted Polishing Brushes



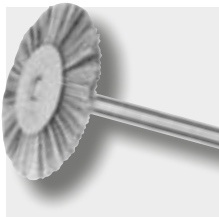
Wheel Brushes – Bristle Fill

Catalog No.	Diameter	Fill Material	Shank
26041	3/4	Stiff Hair	3/32
26059	3/4	Stiff Hair	1/8



Cup & Wheel Brushes

All cup & wheel brushes are made with a solid ring construction (except nylon) where each individual filament is wrapped around a steel ring and permanently anchored in the brush.

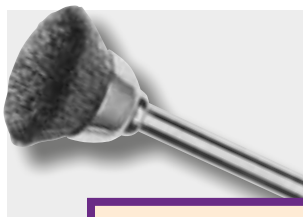


Wheel Brushes – Wire Fill

Catalog No.		Diameter	Wire Size	Shank
Steel	Brass			
26000	—	3/4	.003	1/8
26003	—	3/4	.005	1/8
26012	—	1"	.003	1/8
26015	26016	1"	.005	1/8

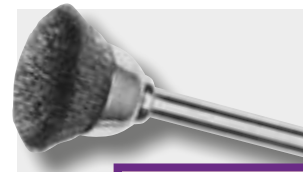
End Brushes

All end brushes (except nylon) are of one piece ferrule construction that ensures the shank and ferrule will not become separated in use. The plastic ferrule prevents scratching. Bristles are solidly looped around a metal retainer to prevent them from coming out of the ferrule during use.



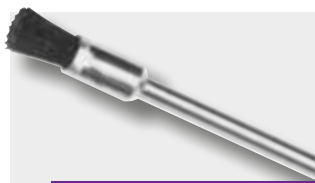
Cup Brushes – Bristle Fill

Catalog No.	Diameter	Fill Material	Shank
26091	9/16	Stiff Hair	3/32
26093	9/16	Stiff Hair	1/8
26094	9/16	Soft Hair	1/8
26095	1"	Stiff Hair	1/8
26096	1"	Soft Hair	1/8



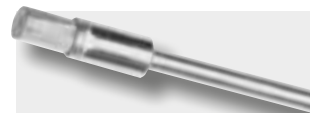
Cup Brushes – Wire Fill

Catalog No.		Diameter	Wire Size	Shank
Steel	Brass			
26071	—	9/16	.003	1/8
26074	26075	9/16	.005	1/8



End Brushes – Bristle Fill

Catalog No.	Diameter	Trim Length	Fill Material	Shank
26115	3/16	1/4	Stiff Hair	1/8
26116	3/16	1/4	Stiff Hair	3/32
26118	1/4	3/8	Soft Hair	3/32
26119	1/4	3/8	Stiff Hair	1/8
26121	5/16	9/16	Stiff Hair	1/8



End Brushes – Wire Fill

Catalog No.		Diameter	Wire Size	Trim Length	Shank
Steel	Brass				
26098	26097	3/16	.003	1/4	1/8
26107	26106	1/4	.005	7/16	1/8



End Brushes – Bristle Fill (Plastic Ferrule)

Catalog No.	Diameter	Trim Length	Fill Material	Shank
26128	3/16	1/4	Stiff Hair	1/8
26131	1/4	3/8	Stiff Hair	1/8
26133	5/16	9/16	Stiff Hair	1/8



Cut-Off Wheels & Mandrels

HIGH SPEED CUT-OFF WHEELS

Vitrified bonded for quick, efficient cutting and blending. Excellent for cutting slots, ribs and all types of tool steel. Structured to be cool cutting to minimize damage to parts being cut.

Always use approved machine guards/eye protection when cutting or grinding with cut-off wheels.

Catalog No.	Diameter	Thickness	Hole
CW10606	1"	1/16	1/16
CW20306	1-1/4	1/32	1/16
CW20606	1-1/4	1/16	1/16
CW30106	1-1/2	1/64	1/16
CW31212	1-1/2	1/8	1/8
CW40106	2"	1/64	1/16
CW40312	2"	1/32	1/8
CW40612	2"	1/16	1/8
CW40912	2"	3/32	1/8
CW41212	2"	1/8	1/8



REINFORCED T-1 CUT-OFF WHEELS

Double reinforced for maximum safety on die grinders and other high speed tools. Grade A60-TBF for smoother cut on ferrous metals.

Always use approved machine guards/eye protection when cutting or grinding with cut-off wheels.

Catalog No.	Diameter	Thickness	Hole	Max RPM
CWR2031	2"	1/32	1/4	30,550
CWR2062	2"	1/16	1/4	30,550
CWR3031	3"	1/32	1/4	25,000
CWR3062	3"	1/16	1/4	25,000

Other sizes also available upon request.



MANDRELS WITH SCREWS FOREDOM

	Cat. No.	Shank	Arbor Hole/ Capacity	Max RPM
	M1	3/32	1/16	40,000
	M10	3/32	1/16	40,000
	M12	1/8	1/8	40,000
	M13	3/32	1/16	30,000
	M14	1/8	1/8	30,000
	M8	1/8	1/4	20,000
	M15	1/8	1/16	40,000
	M19	1/8	1/16	30,000
	M2	3/32	1/8	20,000

	Cat. No.	Shank	Arbor Hole/ Capacity	Max RPM
	M6	1/8	1/16	40,000
	M20	1/8	1/8	20,000
	M3	3/32	3/32	40,000
	M9	1/8	3/32	40,000
	M7	1/8	1/8	40,000
	M83	1/8	1/8	20,000
	M84	1/4	1/8	20,000
	M85	1/4	1/4	20,000



Coated Abrasives

PSA DISCS & HOLDERS

Strong resin over resin bond construction is resistant to heat & moisture. Premium zirconium grain Egyptian cotton cloth backing. Closed coat structure. Hot melt adhesive back allows for quick change and less downtime.



PSA DISCS



Grit	Catalog Number				
	1"	2"	3"	4"	5"
40	34989	35022	35042	35062	35082
50	34990	35023	35043	35063	35083
80	34992	35025	35045	35065	35085
100	34993	35026	35046	35066	35086
120	34994	35027	35047	35067	35087
150	34995	35028	35048	35068	35088
180	34996	35029	35049	35069	35089
240	34998	35031	35051	35071	35091
320	34999	35033	35053	35073	35093

Note: other sizes available upon request.

PSA DISC HOLDERS

Size	Cat. No.
1" x 1/8 shank	11705
1" x 1/4 shank	95059
2" x 1/4 shank	95061
3" x 1/4 shank	95062
4" x 1/4 shank	95063
5" x 1/4 shank	95064



CLOTH BENCH ROLLS - DA-F HANDY ROLLS

Aluminum oxide grain on high quality DA-F material for high flexibility. Medium tensile strength. Open coat structure prevents loading. Handy dispenser roll allows for lengths to be cut as required. Egyptian cotton backing for durability.



Grit	Catalog Number		
	1"	1-1/2"	2"
50	80505	80506	80520
80	80805	80806	80820
100	81005	81006	81020
120	81205	81206	81220
150	81505	81506	81520
180	81805	81806	81820
240	82405	82406	82420
320	83205	83206	83220
400	83405	83406	83420

PSA STRIPS

Same material as PSA discs, but supplied in 1" x 11" strips. 50/pkg Aluminum oxide resin bonded cloth with PSA back. "Grits 240 thru 400 available in "Glue Bond" which allows strip to be extremely flexible.



Grit	Part No. A/O R/B	Part No. A/O G/B
50	16162	—
80	12227	—
100	12228	—
120	12229	—
150	12230	—
180	12231	—
240	12232	22208
320	12233	22209
400	16686	22210



Coated Abrasives

ALUMINUM OXIDE LAMINATED DISCS

Type 2A



- Aluminum oxide grain
- General purpose, long life
- Easy disc changes by twisting off of backing pad
- For ferrous and/or non-ferrous metals

Type 3A

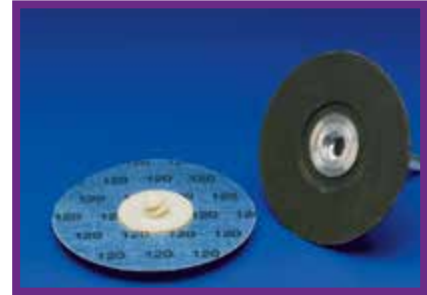


- Premium aluminum oxide grain with grinding aid
- Cooling agents for cool cutting & longer life
- Fast stock removal
- Easy disc changes by twisting off of backing pad
- For ferrous & non-ferrous metals. Stainless steel, high tensile steel or titanium.



Sait-lok™

All metal attachment on disc ensures a secure fit to the backing pad.



Sait-lok-R™

Nylon screw threaded hub for easy mounting to the backing pad.

Size	Grit	Sait-Lok™ Part no.		Sait-Lok-R™ Part no.		QTY PER BOX
		2A	3A	2A	3A	
1"	36	52208	50208	—	—	100
	40	52209	50209	—	—	100
	50	52210	50210	—	—	100
	60	52211	50211	—	—	100
	80	52212	50212	—	—	100
	100	52213	50213	—	—	100
1-1/2"	120	52214	50214	—	—	100
	36	52215	50215	52264	50264	100
	40	52216	50216	52265	50265	100
	50	52217	50217	52266	50266	100
	60	52218	50218	52267	50267	100
	80	52219	50219	52268	50268	100
2"	100	52220	50220	52269	50269	100
	120	52221	50221	52270	50270	100
	36	52222	50222	52271	50271	100
	40	52223	50223	52272	50272	100
	50	52224	50224	52273	50273	100
	60	52225	50225	52274	50274	100
3"	80	52226	50226	52275	50275	100
	100	52227	50227	52276	50276	100
	120	52228	50228	52277	50277	100
	36	52229	50229	52278	50278	50
	40	52230	50230	52279	50279	50
	50	52231	50231	52280	50280	50
3"	60	52232	50232	52281	50281	50
	80	52233	50233	52282	50282	50
	100	52234	50234	52283	50283	50
	120	52235	50235	52284	50284	50



Note: See page 25 for Backing pads

Tech Info

2-ply construction is rugged enough for contoured or flat surfaces.



Coated Abrasives

ZIRCONIUM LAMINATED DISCS

Type "Z"



- Premium zirconium grain.
- Very fast stock removal.
- Easy disc changes by twisting to unlock backing pad.
- For use on stainless steel, high tensile alloys, ferrous or non-ferrous metals (such as iron, steel, welds, etc).

Type 3Z



- Premium zirconium grain with grinding aid.
- Cooling agents for cool cutting & long life.
- Very fast stock removal, no discoloration.
- Easy disc changes by twisting to unlock backing pad.
- For use on stainless steel, high tensile alloys, ferrous or non-ferrous metals.



Size	Grit	Sait-Lok™ Part no.		Sait-Lok-R™ Part no.		QTY PER BOX
		Z	3Z	Z	3Z	
1-1/2"	36	55215	56215	55264	56264	100
	40	55216	56216	55265	56265	100
	50	55217	56217	55266	56266	100
	60	55218	56218	55267	56267	100
	80	55219	56219	55268	56268	100
2"	24	55221	-	55270	-	100
	36	55222	56222	55271	56271	100
	40	55223	56223	55272	56272	100
	50	55224	56224	55273	56276	100
	60	55225	56225	55274	56274	100
	80	55226	56226	55275	56275	100
3"		55228	-	55277	-	50
	36	55229	56229	55278	56278	50
	40	55230	56230	55279	56279	50
	50	55231	56231	55280	56280	50
	60	55232	56232	55281	56281	50
	80	55233	56233	55282	56282	50

Tech Info

2-ply construction is rugged enough for contoured or flat surfaces. Quick change backings make for fast, easy disc changes and lessdown time. Universal backings fit most major backing pad brands.

BACKING PADS FOR LAMINATED DISCS

Sait-lok™

For use with Sait-Lok™ laminated discs for use with discs on page 24/25. Disc twists into metal hub in backing pad for fast/easy changes. 1/4 shanks

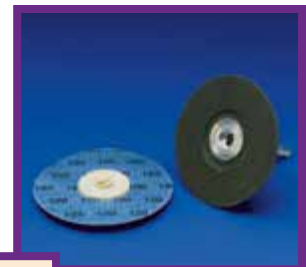


Size	Part #
1" medium	95165
1-1/2" hard	95266
1-1/2" medium	95166
2" hard	95267
2" medium	95167
3" hard	95268
3" medium	95168



Sait-lok-R™

For use with Sait-Lok-R™ laminated discs for use with discs on page 24/25. Nylon threaded hub of disc twists into backing pad for secure fit. 1/4 shanks



Size	Part #
1-1/2" medium	95171
1-1/2" hard	95271
2" medium	95172
2" hard	95272
3" medium	95173
3" hard	95273





Specialty Coated Abrasives

CARTRIDGE ROLLS – TA-X FULL TAPER

Size			Grit	Max RPM	Part No.	Use Mandrel #
Base Dia.	Length	Arbor Hole				
3/8	1"	1/8	60	26,000	38300	95105
3/8	1"	1/8	80	26,000	38301	95105
3/8	1"	1/8	120	26,000	38302	95105
3/8	1-1/2	1/8	60	26,000	38306	95104
3/8	1-1/2	1/8	80	26,000	38307	95104
3/8	1-1/2	1/8	120	26,000	38308	95104
1/2	1"	1/8	60	26,000	38312	95105
1/2	1"	1/8	80	26,000	38313	95105
1/2	1"	1/8	120	26,000	38314	95105
1/2	1-1/2	1/8	50	26,000	38318	95104
1/2	1-1/2	1/8	60	26,000	38319	95104
1/2	1-1/2	1/8	80	26,000	38320	95104
1/2	1-1/2	1/8	120	26,000	38322	95104
1/2	2"	1/8	60	26,000	38326	95103
1/2	2"	1/8	80	26,000	38327	95103
1/2	2"	1/8	120	26,000	38328	95103
5/8	2"	1/8	60	18,000	38332	95103
5/8	2"	1/8	80	18,000	38333	95103
5/8	2"	1/8	120	18,000	38334	95103
3/4	1-1/2	1/8	60	18,000	38338	95104
3/4	1-1/2	1/8	80	18,000	38339	95104
3/4	1-1/2	1/8	120	18,000	38340	95104
3/4	1-1/2	1/4	60	18,000	38344	95106
3/4	2"	3/16	80	18,000	38345	95106
3/4	2"	3/16	120	18,000	38346	95106

- Premium Aluminum Oxide Grain
- Excellent for sanding and polishing channels, fillets, recesses, side walls and bottoms of dead end holes.
- Great for high speed deburring and flash removal.
- For ferrous and non-ferrous metals, stainless and high-tensile steels.
- Packaging 100/box

Cartridge Roll Mandrels



Part #	Size
95103	1/8 x 1-1/2 x 1/4
95104	1/8 x 1 x 1/4
95105	1/8 x 3/4 x 1/4
95106	3/16 x 1-1/2 x 1/4

Tech Info

Multi-layer, self dressing construction exposes sharp, new cutting abrasive as each layer wears away.



SPIRAL BANDS – TA-X

Spiral Band Drums

Size/Shank	Max RPM	Part No.
1/2 x 1/2 x 1/4	30,000	95121
1/2 x 1 x 1/4	15,000	95122
1/2 x 1-1/2 x 1/4	12,000	95123
3/4 x 1 x 1/4	19,000	95126
3/4 x 1-1/2 x 1/4	10,000	95127
3/4 x 1-1/2 x 1/4	10,000	95127
1 x 1 x 1/4	18,000	95130
1-1/2 x 1 x 1/4	14,000	95133
1-1/2 x 1-1/2 x 1/4	10,000	95134
2 x 2 x 1/4	6,000	95137
3 x 3 x 3/8	3,000	95140

Tech Info

Single ply of coated abrasive, spirally wound and bonded to an inner liner. Quick removal & installation. Smooth running for easy control.

Size	Grit	Max RPM	Part No.	Qty/box
1/2 x 1/2	60	30,000	42001	100
	80	30,000	42002	100
	120	30,000	42003	100
1/2 x 1	60	15,000	42006	100
	80	15,000	42007	100
	120	15,000	42008	100
1/2 x 1-1/2	60	12,000	42011	100
	80	12,000	42012	100
	120	12,000	42013	100
3/4 x 1	36	19,000	42016	100
	60	19,000	42017	100
	80	19,000	42018	100
	120	19,000	42019	100
3/4 x 1-1/2	60	10,000	42022	100
	80	10,000	42023	100
	120	10,000	42024	100
1 x 1	36	18,000	42027	100
	60	18,000	42028	100
	80	18,000	42029	100
	120	18,000	42030	100

Size	Grit	Max RPM	Part No.	Qty/box
1-1/2 x 1	36	14,000	42033	100
	60	14,000	42034	100
	80	14,000	42035	100
	120	14,000	42036	100
1-1/2 x 1-1/2	36	10,000	42039	100
	60	10,000	42040	100
	80	10,000	42041	100
2 x 2	120	10,000	42042	100
	36	6,000	42045	50
	60	6,000	42046	50
3 x 3	80	6,000	42047	50
	120	6,000	42048	50
	36	3,000	42051	50
3 x 3	60	3,000	42052	50
	80	3,000	42053	50
	120	3,000	42054	50

- Premium Aluminum Oxide Grain
- Excellent for removing parting lines, imperfections, burrs
- Great in curved, corner, contoured and hard to reach areas
- For ferrous and non-ferrous metals, stainless and high tensile steel.




Specialty Coated Abrasives

FLAP WHEELS

- Premium Aluminum Oxide Grain 2A
- Excellent for cleaning, deburring, polishing, blending.
- For ferrous and non-ferrous metals wood, plastics or fiberglass. Packaged 5/box

Size			Part Number	
Dia.	Width	Grit	1/4" shank	1-4/-20 threaded
1"	3/4	60	70001	71000
1"	3/4	80	70002	71001
1"	3/4	120	70003	71002
1"	3/4	180	70004	71003
1"	3/4	240	70005	71004
1"	1"	60	70010	71010
1"	1"	80	70011	71011
1"	1"	120	70012	71012
1"	1"	180	70013	71013
1"	1"	240	70014	71014
1-1/2	1/2	40	70024	—
1-1/2	1/2	60	70025	71020
1-1/2	1/2	80	70026	71021
1-1/2	1/2	120	70027	71022
1-1/2	1/2	180	70028	71023
1-1/2	1/2	240	70029	71024
1-1/2	1"	60	70040	71030
1-1/2	1"	80	70041	71031
1-1/2	1"	120	70042	71032
1-1/2	1"	180	70043	71033
1-1/2	1"	240	70044	71034
2"	1"	40	70049	—
2"	1"	60	70050	71040
2"	1"	80	70051	71041
2"	1"	120	70052	71042
2"	1"	180	70053	71043
2"	1"	240	70054	71044



Size			Part Number	
Dia.	Width	Grit	1/4" shank	1-4/-20 threaded
2-1/2	1/2	60	70060	71050
2-1/2	1/2	80	70061	71051
2-1/2	1/2	120	70062	71052
2-1/2	1/2	180	70063	71053
2-1/2	1/2	240	70064	71054
2-1/2	1"	40	70069	—
2-1/2	1"	60	70070	71055
2-1/2	1"	80	70071	71056
2-1/2	1"	120	70072	71057
2-1/2	1"	180	70073	71058
2-1/2	1"	240	70074	71059
3"	1/2	60	70080	71060
3"	1/2	80	70081	71061
3"	1/2	120	70082	71062
3"	1/2	180	70083	71063
3"	1/2	240	70084	71064
3"	3/4	60	70090	71070
3"	3/4	80	70091	71071
3"	3/4	120	70092	71072
3"	3/4	180	70093	71073
3"	3/4	240	70094	71074
3"	1"	40	70099	—
3"	1"	60	70100	71080
3"	1"	80	70101	71081
3"	1"	120	70102	71082
3"	1"	180	70103	71083
3"	1"	240	70104	71084
3"	2"	40	70110	—
3"	2"	60	70111	—
3"	2"	80	70112	—
3"	2"	120	70113	—



Tech Info
Resin over resin construction for a strong bond resistant to heat and moisture. Closed coat structure for better material removal.



Sand-Light Handle - Part# 95080


NON-WOVEN ABRASIVES

Hand Pads

- Non-Woven synthetic fiber impregnated with abrasive grain for surface conditioning without damage to or removal of base material.
- Wet/dry construction for use in a wide range of applications.
- Reusable and long lasting design for economical use.
- 6" x 9" sheets. 20 per box.

Brown/Heavy Duty: Excellent for removing heavy rust and cleaning welds. For use on both ferrous & non-ferrous metals.
Maroon/General Purpose: For removal of light rust. Excellent for cleaning & brightening. Use on stainless, ferrous & non-ferrous metals.
Black/Stainless: For blending & finishing. Excellent for paint removal. Use on stainless, ferrous & non-ferrous metals.

Green/Stripper: General cleaning. Excellent for stripping paint and varnish. Use on ferrous & non-ferrous metals.
Gray/Ultra Fine: For light finishing. Excellent for sanding before or between finish coats. Use with non-ferrous metals.
White/Light Duty For light cleaning & polishing of fiberglass, plastics & ceramics.

Color	Grade	Part No.
Brown	Heavy Duty	77440
Maroon	General Purpose	77447
Black	Stainless	77446
Green	Stripper	77496
Gray	Ultra Fine	77448
White	Light Duty	77486



Diamond Products

STANDARD DIAMOND FILES

- All standard and long type diamond files are in medium grit size 120-150 mesh. All shanks are 1/8".
- For use on carbide, stainless steel, hardened steel, glass, ceramics and other hard materials.

Diamond Foil

Virgin diamond abrasive grains electroplated to a very thin flexible metal foil. PSA adhesive backing provides great flexibility. Simply cut foil to size and remove backing paper to affix to your holder. Using the variety of grits available, this is an inexpensive way to make fast cutting tools. No lubricant is required. Size 2" x 4" sheets

Part No.	Grit	Part No.	Grit
95000	120	95040	600
95010	150	95050	800
95020	200	95060	1200
95030	400		

Standard Diamond Files	Style	Size	Cat. No. Coated 1 Side	Cat. No. Coated Both Sides
		.078 wide x .039 thick	DLA2x1	DF-11
		.118 wide x .039 thick	DLA3x1	DF-12
		.157 wide x .039 thick	DLA4x1	DF-13
		.196 wide x .078 thick	DLA5x2	DF-14
		.157 wide x .019 thick	DLA0.5x4	—
		.157 wide x .029 thick	DLA0.75x4	—
		.157 wide x .039 thick	DLA 1 x 4	—
		0.039	DLA1	—
		0.078	DLA2	—
		0.118	DLA3	—
		0.157	DLA4	—
		.078x.078x.078	DLA-T2	—
		.118x.118x.118	DLA-T3	—
		.157x.157x.157	DLA-T4	—
		.039 Radius	DLA-R1	—
		.059 Radius	DLA-R1.5	—
		.078 Radius	DLA-R2	—
		.161 wide x .072 thick	DLAR2.5xR5	—

LONG DIAMOND FILES

Long Diamond Files	Style	Size	Cat. No. Coated 1 Side	Cat. No. Coated Both Sides
		.196 wide x .059 thick	DLE-1	DLE-11
		0.118	DLE-2	—
		.196 x .078	—	DLE-3
		.201 x .085	—	DLE-4
		.118 x .118 x .118	DLE-5	—
		.098 x .098	DLE-6	—

DIAMOND NEEDLE FILES

- Ideal for applications that require a longer reach. 5-1/2" long with 3" of diamond coating.
- Available in 3 grits. Shanks are color coded for easy identification.
Blue Shank coarse 80/120Grit
Yellow Shank medium 120/170Grit
Black Shank fine 200/240Grit

Style	CATALOG NUMBER		
	80/120G	120/170G	200/240G
	121397	121398*	121399
	121400	121401	121402
	121403	121404	121405
	121406	121407	121408
	121412	121413	121414

*Also available coated 1 side only. Part #DLH-1.



TAPERED DIAMOND FILES with "Flat" or "Round" Handles

Handy, very useful and top quality Diamond needle files that taper from .080" and .050" to .020". Available with "flat" or "round" handles, these special files permit filing slots or ribs as narrow as .020". Available in sets of 10 files, or individually in various sizes. The long 3mm round handled files have a removable plastic sleeve for use by hand or with profilers. The shorter, tapered files are designed for use with "Turbolappers" or Profilers.

M · D · T

Flat Handles



Catalog Number	Overall Length	Length of Diamond Coating	Thickness Max. x Min.	Grit Size
DFCC125-80	6-1/2"	2"	.080 x .020	80
DFC125-80	6-1/2"	2"	.080 x .020	120
DFC125-80H	6-1/2"	coated 1 side only	.080 x .020	120
DFM125-80	6-1/2"	2"	.080 x .020	240
DFF125-80	6-1/2"	2"	.080 x .020	320
DFCC165-125	6-1/2"	2"	.080 x .020	80
DFC165-125	6-1/2"	2"	.080 x .020	120
DFC165-125H	6-1/2"	coated 1 side only	.080 x .020	120
DFM165-125	6-1/2"	2"	.080 x .020	240
DFF165-125	6-1/2"	2"	.080 x .020	320
DFCC250-250	6-1/2"	2"	.080 x .020	80
DFCC250-250H	6-1/2"	coated 1 side only	.080 x .020	80
DFC250-250	6-1/2"	2"	.080 x .020	120
DFC250-250H	6-1/2"	coated 1 side only	.080 x .020	120
DFM250-250	6-1/2"	2"	.080 x .020	240
DFF250-250	6-1/2"	2"	.080 x .020	320
DFCC318-318	6-1/2"	2"	.080 x .020	80
DFCC318-318H	6-1/2"	coated 1 side only	.080 x .020	80
DFC318-318	6-1/2"	2"	.080 x .020	120
DFC318-318H	6-1/2"	coated 1 side only	.080 x .020	120
DFM318-318	6-1/2"	2"	.080 x .020	240
DFC400-400	6-1/2"	2"	.080 x .020	120
DFM400-400	6-1/2"	2"	.080 x .020	200
DFSET 10/10	Set consists of 10 files in handy plastic pouch. 2 each of DFC165-125, DFM165-125, DFM250-250. One each of DFM125-80, DFF165-125, DFM318-318, DFF318-318			

Round Handles – 5-3/16" overall length



M · D · T

Catalog Number	Handle Color	Length of Diamond Coating	Thickness Max. x Min.	Grit Size
DFC095	Green	1-3/16	.050 x .020	150
DFM095	Red	1-3/16	.050 x .020	280
DFF095	Yellow	1-3/16	.050 x .020	400
DFCC160	Black	1-3/16	.050 x .020	80
DFC160	Green	1-3/16	.050 x .020	150
DFM160	Red	1-3/16	.050 x .020	280
DFF160	Yellow	1-3/16	.050 x .020	400
DFCC240	Black	1-3/16	.050 x .020	80
DFC240	Green	1-3/16	.050 x .020	150
DFM240	Red	1-3/16	.050 x .020	280
DFF240	Yellow	1-3/16	.050 x .020	400
DFF125R	Yellow	1-3/16	.050 x .020	400
DFSET 10/10R	Set consists of: One each of DFC095, DFM095, DFF095, DFC160, DFF160, DFC240, DFM240, DFF240, DFF124R, DFM160			

Round Handles (Short) – for use with Turbolappers & Profilers (3mm shanks)

Catalog Number	Width	Overall Length	Length of Diamond Coating	Thickness Max. x Min.	Grit Size
TPDF005662	1/4" (6mm)	2-1/4	5/8	.040 x .018	200
TPDF230902	1/16" (2mm)	3-5/8	1-1/4	.040 x .018	200
TPDF430902	5/32" (4mm)	3-5/8	1-1/4	.040 x .018	200
TPDF630902	1/4" (6mm)	3-5/8	1-1/4	.040 x .018	200
TPDF0056612	1/4" (6mm)	2-1/4	5/8	.040 x .018	120
TPDF2309012	1/16" (2mm)	3-5/8	1-1/4	.040 x .018	120
TPDF4309012	5/32" (4mm)	3-5/8	1-1/4	.040 x .018	120
TPDF6309012	1/4" (6mm)	3-5/8	1-1/4	.040 x .018	120
TPDFSET 5	Set includes: 1 of TPDF2309012, 2 of TPDF4309012, 2 of TPDF6309012				

M · D · T





Diamond Products

REGULAR SHAPED DIAMOND NEEDLE FILES IN 3 GRADES

Handy, very useful and top quality Diamond needle files made of high quality "virgin" man made diamond grains. All tools are precision made and are suited for work on hardened and nitrided steel molds, dies and punches as well as carbide, glass, carbon fiber, graphite and semi precious stones.

Catalog Number			Shape & Style Number	M · D · T
120 Grit	150 Grit	Black 120 Grit		
DF1-5515	DFF1-5515	DFB1-5515	(1) Flat	
DF2-5020	DFF2-5020	DFB2-5020	(2) Halfround	
DF3-5020	-----	-----	(3) Knife	
DF4-3030	DFF4-3030	DFB4-3030	(4) Round	
DF5-4040	DFF5-4040	DFB5-4040	(5) Triangle	
DF6-3030	DFF6-3030	DFB6-3030	(6) Square	
DF7-5020	-----	-----	(7) Barrette	
DFSET12456	Set consists of 5 files in handy plastic pouch. All 120grit part nos. DF1-5515, DF2-5020, DF4-3030, DF5-4040, DF6-3030			
DFBSET12456	Set consists of 5 files in handy plastic pouch. All 120grit "black" part nos. DFB1-5515, DFB2-5020, DFB4-3030, DFB5-4040, DFB6-3030			
DFFSET12456	Set consists of 5 files in handy plastic pouch. All 150grit part nos. DFF1-5515, DFF2-5020, DFF4-3030, DFF5-4040, DFF6-3030			
DFSET1-6	Set consists of 6 files & handy stand. All 120grit part nos. DF1-5515, DF2-5020, DF3-5020, DF4-3030, DF5-4040, DF6-3030			

"EXTRA THIN" DIAMOND FILES FOR PROFILERS

These "ExtraThin" (.032") flat diamond coated files provide easy access when filing narrow slots. Used with Profilers & Lapping Machines.

Catalog No.	Grit	Overall Length	Length of Coating	Dimensions
DF85150-1	150 Grit	2-1/4	3/4 - 1 side	1/32 x 13/64
DF83150-2S	150 Grit	2"	5/8 - 2 sides	1/32 x 1/8
DF85150-2	150 Grit	2-1/4	3/4 - 2 sides	1/32 x 13/64
DF83150-2	150 Grit	2-1/4	3/4 - 2 sides	1/32 x 1/8
DF86150-2	150 Grit	2-1/4	3/4 - 2 sides	1/32 x 1/4
DF86200-2	200 Grit	2-1/4	3/4 - 2 sides	1/32 x 1/4
DF85200-2	200 Grit	2-1/4	3/4 - 2 sides	1/32 x 13/64
DF83200-2	200 Grit	2-1/4	3/4 - 2 sides	1/32 x 1/8
DF85300-2	200 Grit	2-1/4	3/4 - 2 sides	1/32 x 13/64
DF83300-2	200 Grit	2-1/4	3/4 - 2 sides	1/32 x 1/8
DF-THIN-10	Complete set of all 10 files in a plastic pouch.			

TAPERED DIAMOND FILES FOR LAPPING MACHINES



M · D · T

120 Grit	150 Grit	200 Grit	Width	Coated Length	Overall Length
DFTFL10120	DFTFL10150	DFTFL10200	3/8	2-3/8	3-1/2
DFTFL8120	DFTFL8150	DFTFL8200	5/16	2-3/8	3-1/2
DFTFL6120	DFTFL6150	DFTFL6200	1/4	1-5/8	2-3/4
DFTFL4120	DFTFL4150	DFTFL4200	5/32	1"	2-3/4

DIAMOND POINTS M · D · T



M · D · T

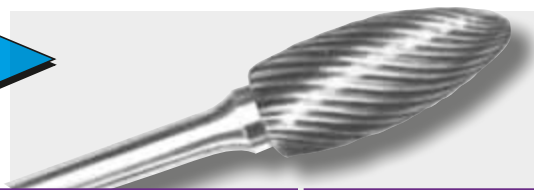
Diamond Points 1/8 Shank - 150Grit				Diamond Points 3/32 Shank-120Grit			
DP20T-18		DP10B-18		DP-13060		DP-01014	
DP30T-18		DP15B-18		DP-40020		DP-01018	
DP30V-18		DP30J-18		DP-40030		DP-01023	
DP13R-18		DP40J-18		DP-66023		DP-01029	
DP14R-18		DP50J-18		DP-68030		DP-01042	
DP15R-18		DP34S-18		DP-61040		DP-10035	
DP20P-18		DP36S-18		DP-74030		DP-10012	
DP30P-18		DP20B-18		DP-66045		DP-11016	
DP40P-18		DP30B-18		DP-52030		DP-11021	
DP50P-18		DP40F-18		DP-04050		DP-10930	
DP20SET-18	Set of all 20 diamond points in plastic case			DPW20-332	Set of 20 all 20 diamond points in wallet		



Carbide Burs

CUT SELECTION






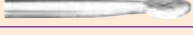


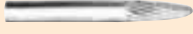


The cut or flute pattern is an important decision when using carbide burs. This is determined by the hardness of the material being removed and the finish required. Below are illustrations of the basic patterns that are available and the advantages of each.



 <p>#1 Standard Cut A general purpose pattern to be used on cast iron, steel and other ferrous metals.</p>	 <p>#4 Double Cut For use on heat treated and tough alloy steel. Produces a smaller chip and minimizes slivers in stringy material. Enables excellent control.</p>	 <p>#8 Chipbreaker Cut This pattern reduces chip size allowing an improvement in control.</p>
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Miniature Burs

1/8" Shank 1-1/2" OAL Solid Carbide "EC" denotes end cutting bur

Shape	Cat. No. Cut #1	Cat. No. Cut #4	Bur Diameter	Length of Cut	Included Angle
  END CUT	SA-41-1	SA-41-4	1/16	1/14	—
	SA-42-1	SA-42-4	3/32	7/16	—
	SA-43-1	SA-43-4	1/8	9/16	—
	SB-41-1	SB-41-4	1/16	1/4	—
	SB-42-1	SB-42-4	3/32	7/16	—
	SB-43-1	SB-43-4	1/8	9/16	—
	SB-ECO	—	1/8	—	—
	SC-41-1	SC-41-4	3/32	7/16	—
	SC-42-1	SC-42-4	1/8	9/16	—
	SD-41-1	SD-41-4	3/32	3/32	—
	SD-42-1	SD-42-4	1/8	1/8	—
	SE-41-1	SE-41-4	1/8	1/4	—
	SF-41-1	SF-41-4	1/8	1/4	—
	SF-42-1	SF-42-4	1/8	1/2	—
	SG-41-1	SG-41-4	1/8	1/4	—
	SG-42-1	SG-42-4	1/8	5/16	—
	SG-43-1	SG-43-4	1/8	3/8	—
	SG-44-1	SG-44-4	1/8	1/2	—
	SH-41-1	SH-41-4	1/8	1/4	—
	SL-41-1	SL-41-4	1/8	3/8	8°
	SL-42-1	SL-42-4	1/8	1/2	8°
	SM-41-1	SM-41-4	1/8	11/32	12°
	SM-42-1	SM-42-4	1/8	7/16	14°
	SM-43-1	SM-43-4	1/8	5/8	7°
	SN-41-1	SN-41-4	3/32	1/8	10°
	SN-42-1	SN-42-4	1/8	3/16	10°
	SN-41-1EC	SN-41-4EC	3/32	1/8	10°
	SN-42-1EC	SN-42-4EC	1/8	3/16	10°

Miniature Burs

— 1/8" x 3" OAL solid carbide

Shape	Cat. No. Cut #1	Cat. No. Cut #4	Bur Diameter	Length of Cut
	SA-43-1L3	SA-43-4L3	1/8	9/16
	SB-ECO-L3	—	1/8	—
	SC-42-1L3	SC-42-4L3	1/8	9/16
	SD-42-1L3	SD-42-4L3	1/8	1/8
	SF-42-1L3	SF-42-4L3	1/8	1/2

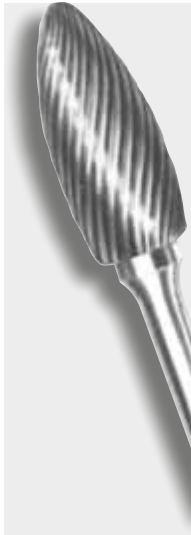


Carbide Burs

1/4" Burs

1/8" X 1-1/2" Long Steel Shank

"EC" denotes end cutting bur



Shape	Cat. No. Cut #1	Cat. No. Cut #4	Cat. No. Cut #8	Head Diameter	Length of Cut	Included Taper
	SA51-1	SA51-4	SA51-8	1/4	1/2	—
	SA51-1EC	SA51-4EC	SA51-8EC	1/4	1/2	—
	SB51-1	SB51-4	SB51-8	1/4	3/16	—
	SB51-1EC	SB51-4EC	SB51-8EC	1/4	3/16	—
	SC51-1	SC51-4	SC51-8	1/4	1/2	—
	SD51-1	SD51-4	SD51-8	1/4	1/4	—
	SE51-1	SE51-4	SE51-8	1/4	3/8	—
	SF51-1	SF51-4	SF51-8	1/4	1/2	—
	SG51-1	SG51-4	SG51-8	1/4	1/2	—
	SM51-1	SM51-4	SM51-8	1/4	1/2	22°
	SN51-1	SN51-4	SN51-8	1/4	1/4	10°
	SN51-1EC	SN51-4EC	SN51-8EC			

S.S. White Mini Carbide Dental Burs (HP)

— 3/32 Shanks (10 per pkg)

ROUND								WHEEL	INVERTED CONE				FLAT END FISSURE				ROUND END FISSURE	TAPER FISSURE			END CUTTING						
.020	.024	.032	.034	.047	.055	.063	.072	.081	.091	DISCONTINUED				DISCONTINUED				.039	.055	.063	.039	.047	.047	.063	.081	.039	957



Carbide Burs

— 3/32" Miniatures

Shape	Cat. No. Cut #1	Cat. No. Cut #4	Cut Diameter	Length of Cut
	SA-61-1	SA-61-4	1/16	1/4
	SA-63-1	SA-63-4	3/32	3/8
	SC-61-1	SC-61-4	3/32	3/8
	SD61-1	SD61-4	3/32	3/32
	SE-61-1	SE-61-4	3/32	1/8
	SF-61-1	SF-61-4	3/32	1/4
	SG-61-1	SG-61-4	3/32	1/4
	SM-61-1	SM-61-4	3/32	1/4
	SN-61-1	SN-61-4	3/32	1/8






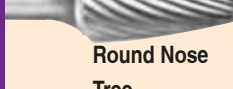
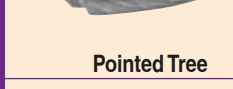
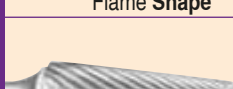



Carbide Burs

1/4" Shank Burs

- All 1/4" cutting diameter burs are solid & 2" overall.
- All others have solid carbide heads brazed to 2" long steel shanks.

Sizes marked with (*) are available on a 6" long steel shank as well. To order add "L6" to part number (example: SA-3-4L6).

Shape	Cat. No. Cut #1	Cat. No. Cut #4	Cat. No. Cut #8	Head Diameter	Length of Cut	
 Cylindrical	*SA-1-1	*SA-1-4	SA-1-8	1/4	5/8	
	*SA-3-1	*SA-3-4	SA-3-8	3/8	3/4	
	*SA-5-1	*SA-5-4	SA-5-8	1/2	1"	
	SA-6-1	SA-6-4	SA-6-8	5/8	1"	
	SA-7-1	SA-7-4	SA-7-8	3/4	1"	
	SA-9-1	SA-9-4	SA-9-8	1"	1"	
 End Cutting Cylindrical	SB-1-1	SB-1-4	SB-1-8	1/4	5/8	
	SB-3-1	SB-3-4	SB-3-8	3/8	3/4	
	SB-5-1	SB-5-4	SB-5-8	1/2	1"	
	SB-6-1	SB-6-4	SB-6-8	5/8	1"	
	SB-7-1	SB-7-4	SB-7-8	3/4	1"	
	SB-9-1	SB-9-4	SB-9-8	1"	1"	
 Cylindrical Ball Nose	*SC-1-1	*SC-1-4	SC-1-8	1/4	5/8	
	*SC-3-1	*SC-3-4	SC-3-8	3/8	3/4	
	*SC-5-1	*SC-5-4	SC-5-8	1/2	1"	
	SC-6-1	SC-6-4	SC-6-8	5/8	1"	
	SC-7-1	SC-7-4	SC-7-8	3/4	1"	
	 Ball Shape	*SD-1-1	*SD-1-4	SD-1-8	1/4	1/4
*SD-3-1		*SD-3-4	SD-3-8	3/8	3/8	
*SD-5-1		*SD-5-4	SD-5-8	1/2	1/2	
SD-6-1		SD-6-4	SD-6-8	5/8	5/8	
SD-7-1		SD-7-4	SD-7-8	3/4	3/4	
SD-9-1		SD-9-4	SD-9-8	1"	1"	
 Egg Shape	*SE-1-1	*SE-1-4	SE-1-8	1/4	3/8	
	*SE-3-1	*SE-3-4	SE-3-8	3/8	5/8	
	*SE-5-1	*SE-5-4	SE-5-8	1/2	7/8	
	SE-6-1	SE-6-4	SE-6-8	5/8	1"	
	SE-7-1	SE-7-4	SE-7-8	3/4	1"	
	 Round Nose Tree	*SF-1-1	*SF-1-4	SF-1-8	1/4	5/8
*SF-3-1		*SF-3-4	SF-3-8	3/8	3/4	
*SF-5-1		*SF-5-4	SF-5-8	1/2	1"	
SF-6-1		SF-6-4	SF-6-8	5/8	1"	
SF-7-1		SF-7-4	SF-7-8	3/4	1"	
 Pointed Tree		*SG-1-1	*SG-1-4	SG-1-8	1/4	5/8
	*SG-3-1	*SG-3-4	SG-3-8	3/8	3/4	
	*SG-5-1	*SG-5-4	SG-5-8	1/2	1"	
	SG-6-1	SG-6-4	SG-6-8	5/8	1"	
	SG-7-1	SG-7-4	SG-7-8	3/4	1"	
	 Flame Shape	*SH-2-1	*SH-2-4	SH-2-8	5/16	3/4
*SH-5-1		*SH-5-4	SH-5-8	1/2	1-1/4	
SH-6-1		SH-6-4	SH-6-8	5/8	1-7/16	
SH-7-1		SH-7-4	SH-7-8	3/4	1-5/8	
 Corner Radius		*SL-1-1	*SL-1-4	SL-1-8	1/4	5/8
		*SL-3-1	*SL-3-4	SL-3-8	3/8	1-1/16
	*SL-4-1	*SL-4-4	SL-4-8	1/2	1-1/8	
	SL-6-1	SL-6-4	SL-6-8	5/8	1-5/16	
	SL-7-1	SL-7-4	SL-7-8	3/4	1-1/2	



Carbide Burs

- All 1/4" cutting diameter burs are solid & 2" overall.
- All others have solid carbide heads brazed to 2" long steel shanks.

Aluminum Cut Carbide Burs

For cutting softer non-ferrous metals and non-metallic materials such as: aluminum, magnesium alloys, plastics, hard rubber & zinc alloy.

1/4" Shank Burs - "EC" denotes end cutting

Shape	Cat. No. Cut #1	Cat. No. Cut #4	Cat. No. Cut #8	Head Diameter	Length of Cut	Included Taper
Pointed Cone	SM-1-1	SM-1-4	SM-1-8	1/4	1/2	22
	SM-3-1	SM-3-4	SM-3-8	1/4	1"	10
	SM-4-1	SM-4-4	SM-4-8	3/8	5/8	28
	SM-5-1	SM-5-4	SM-5-8	1/2	7/8	28
	SN-1-1	SN-1-4	SN-1-8	1/4	5/16	10
Inverted Taper	SN-1-1-EC	SN-1-4-EC	SN-1-8-EC	1/4	5/16	10
	SN-4-1	SN-4-4	SN-4-8	1/2	1/2	28
	SN-4-1-EC	SN-4-4-EC	SN-4-8-EC	1/2	1/2	28

Cat. No.	Size	Shank
SA1-NF	1/4 X 3/4	1/4
SA3-NF	3/8 x 3/4	1/4
SA5-NF	1/2 x 1"	1/4
SA6-NF	5/8 x 1"	1/4
SA7-NF	3/4 x 1"	1/4
SA7-NF38	3/4 x 1"	3/8



Cat. No.	Size	Shank
SE3-NF	3/8 x 3/4	1/4
SE5-NF	1/2 x 7/8	1/4
SE6-NF	5/8 x 1"	1/4
SE7-NF	3/4 x 1"	1/4
SE7-NF38	3/4 x 1"	3/8



Cat. No.	Size	Shank
SC1-NF	1/4 X 3/4	1/4
SC3-NF	3/8 x 3/4	1/4
SC5-NF	1/2 x 1"	1/4
SC7-NF	3/4 x 1"	1/4
SC7-NF38	3/4 x 1"	3/8



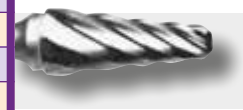
Cat. No.	Size	Shank
SF1-NF	1/4 X 3/4	1/4
SF3-NF	3/8 x 3/4	1/4
SF5-NF	1/2 x 1"	1/4
SF6-NF	5/8 x 1"	1/4
SF7-NF	3/4 x 1-1/4	1/4
SF7-NF38	3/4 x 1-1/4	3/8



Cat. No.	Size	Shank
SD1-NF	1/4	1/4
SD3-NF	3/8	1/4
SD5-NF	1/2	1/4
SD6-NF	5/8	1/4
SD7-NF	3/4	1/4
SD7-NF38	3/4	3/8



Cat. No.	Size	Shank
SL3-NF	3/8 x 1-1/16	1/4
SL4-NF	1/2 x 1-1/8	1/4
SL6-NF	5/8 x 1-5/16	1/4
SL7-NF	3/4 x 1-1/2	1/4
SL7-NF38	3/4 x 1-1/2	3/8



CARBIDE BLANKS Fractional Blanks

- Ground from solid carbide

Cat. No.	Diameter	Length
DB12150	1/8	1-1/2
DB12225	1/8	2-1/4
DB18200	3/16	2"
DB18275	3/16	2-3/4
DB18400	3/16	4"
DB25200	1/4	2"
DB25325	1/4	3-1/4
DB31200	5/16	2"
DB37250	3/8	2-1/2
DB50300	1/2	3"

Tolerance: +.0000 -.0005

CARBIDE BLANKS Etching, Engraving Blanks

- Ground from solid carbide

Catalog Number		Dimensions		
Single End	Double End	Diameter	OAL	Length of Flat
EB06SE	EB06DE	1/16	1-1/2	1/4
EB09SE	EB09DE	3/32	1-1/2	1/4
EB12SE	EB12DE	1/8	1-1/2	1/4
EB18SE	EB18DE	3/16	2"	3/8
EB25SE	EB25DE	1/4	2"	3/8
EB31SE	EB31DE	5/16	2"	1/2
EB37SE	EB37DE	3/8	2-1/2	1/2
EB50SE	EB50DE	1/2	2-1/2	1/2


Tolerance on flat: +.001 -.000



Steel Files

STEEL FILES DIPROFIL



















For use with profiling machines. Available in cuts #00(coarse) & #1 (medium) with 1/8" Shanks

	Style	Cat. No. Cut #00	Cat. No. Cut #1
		STL-1-00	STL-1-01
		STL-2-00	STL-2-01
		STL-3-00	STL-3-01
		STL-4-00	STL-4-01
		STL-5-00	STL-5-01
		STL-6-00	STL-6-01
		STL-101-00	STL-101-01

NEEDLE FILES

With round handles. 6-1/4" available in cuts 0 & 2.



Style		Cat. No. Cut #0	Cat. No. Cut #2	
Equalling		24010	24012	
Half-round		24020	24022	
Crossing		24030	24032	
Knife		24050	24052	
Warding		24060	24062	
Three-Square		24070	24072	
Square		24080	24082	
Round		24100	24102	
Crochet		24150	24152	



Steel Files

DIEMAKERS' & SILVERSMITHS' FILES

7" overall, available in cuts 0 & 2.



					Cat. No. Cut #0	Cat. No. Cut #2
		701			7010	7012
		711			7110	7112
		712			7120	7122
		713			7130	7132
		731			7310	7312
		732			7320	7322
		741			7410	7412
		750			7500	7502
		781			7810	7812

DIESINKERS' REGULAR RIFFLE FILES

Cat. No.
Cut #0

Cat. No.
Cut #2

7" overall, available in cuts 0 & 2.



Cat. No.
Cut #0

Cat. No.
Cut #2

		900			9000	9002
		901			9010	9012
		905			9050	9052
		911			9110	9112
		912			9120	9122
		913			9130	9132
		914			9140	9140
		915			9150	9152
		918			9180	9182
		930			9300	9302
		931			9310	9312
		941			9410	9412
		942			9420	9422
		950			9500	9502
		951			9510	9512
		952			9520	9522
		956			9560	9562
		958			9580	9582
		965			9650	9652
		981			9810	9812
		983			9830	9832
		984			9840	9842
		985			9850	9852
		986			9860	9862
		987			9870	9872
		988			9880	9882

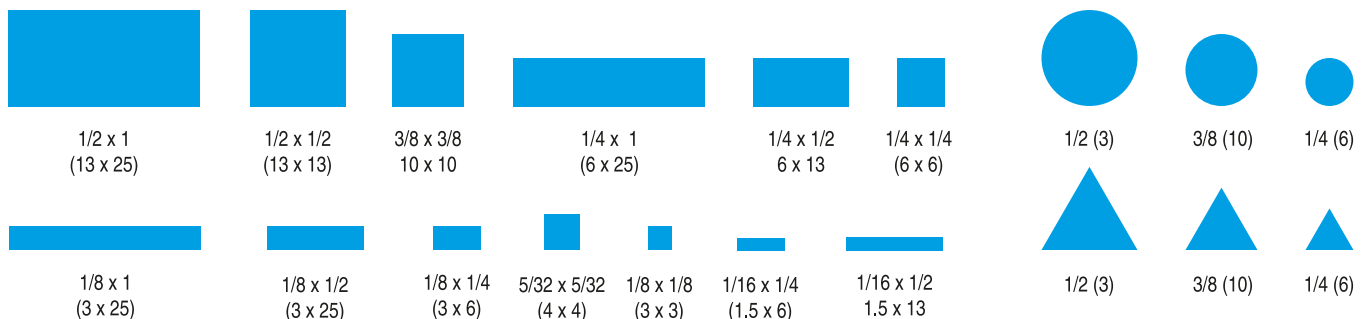


Stone Selection Suggestions

TYPE OF STONE		SURFACE	SURFACE					METHOD	METHOD			USE	USE		BREAKDOWN	HARDNESS	
			Tool Steel	Aluminum	Non-Ferrous	Stainless	EDM		Hand	Profiler	Ultrasonic		Wet	Dry		0=slow/5=fast	0=soft/5=hard
EDM Polishing Stones	AM-8		●			●	●		●	●	●		●		2		4
	AS-9		●			●	●		●	●			●	●	3		3
	Orange EDM		●			●	●		●	●			●	●	3		3
	GOLD		●			●	●		●	●			●		3		3
General Purpose Stones	AM-2		●	●	●	●			●	●			●	●	4		2
	Die Stone		●			●			●	●			●	●	3		3
	AM-K		●	●					●	●			●	●	3		3
	AS-H		●	●	●	●			●	●			●	●	4		2
	CS		●		●				●				●	●	5		2
	CS-M		●	●	●				●	●			●	●	4		2
	CS-HD		●			●	●		●	●			●	●	3		3
Specialty Stones	RASP		●	●	●	●			●	●			●	●	4		2
	PC		●	●	●	●			●	●			●		4		3
	T2		●			●	●		●	●			●		2		4
	T4		●	●	●	●			●	●			●		4		3
	TH		●				●		●	●			●		3		3
	AO		●				●		●	●			●		3		3
	900-F		●						●				●		5		0
Detail Stones	Ceramics		Detail Areas, Ribs & Slots										●				
	CNB- 80 & 120		Agressive - Fast Cutting / Welds-Blending EDM										●	●			
	CRISTONE®		Extremely Strong and Thin - Fine Detail Polishing										●	●			

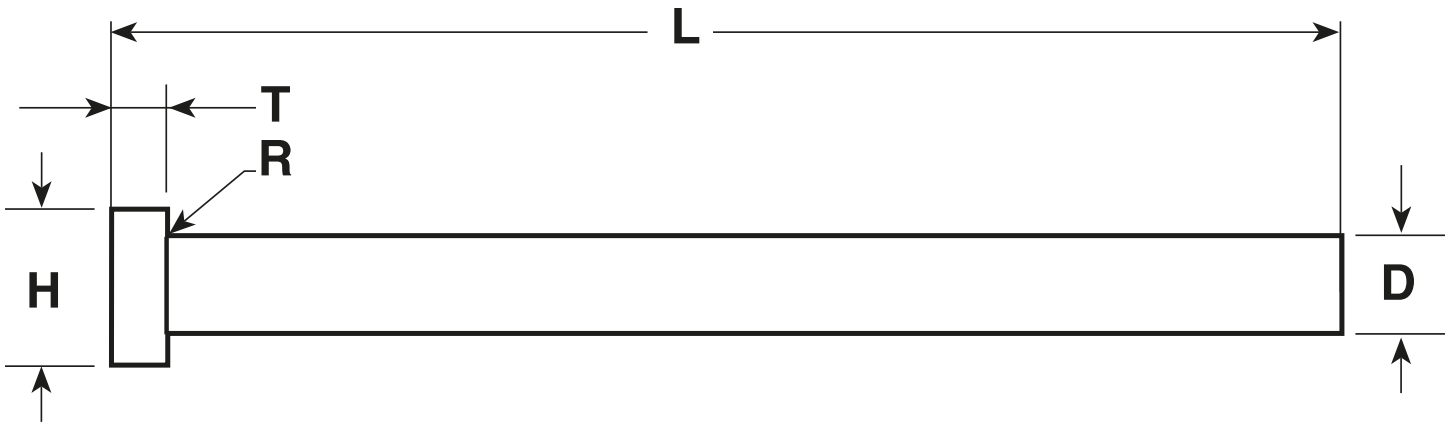
Popular Stone Shapes

inches (mm)





FAXABLE QUOTE FORM PARALLEL EJECTOR PINS



	Size	Tolerance	4	or	Special Tolerance	Quantity
D =	<input type="text"/>	-.0003 -.0008	<input type="text"/>	or	<input type="text"/>	<input type="text"/>
H =	<input type="text"/>	+.000 -.010	<input type="text"/>	or	<input type="text"/>	Material
T =	<input type="text"/>	+.000 -.002	<input type="text"/>	or	<input type="text"/>	<input type="text"/>
L =	<input type="text"/>	+.062 -.000	<input type="text"/>	or	<input type="text"/>	Hardness/Heat Treatment
R =	<input type="text"/>	1/32 MAX	<input type="text"/>	or	<input type="text"/>	<input type="text"/>
						Required by
						<input type="text"/>

Company: _____

Address: _____

City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

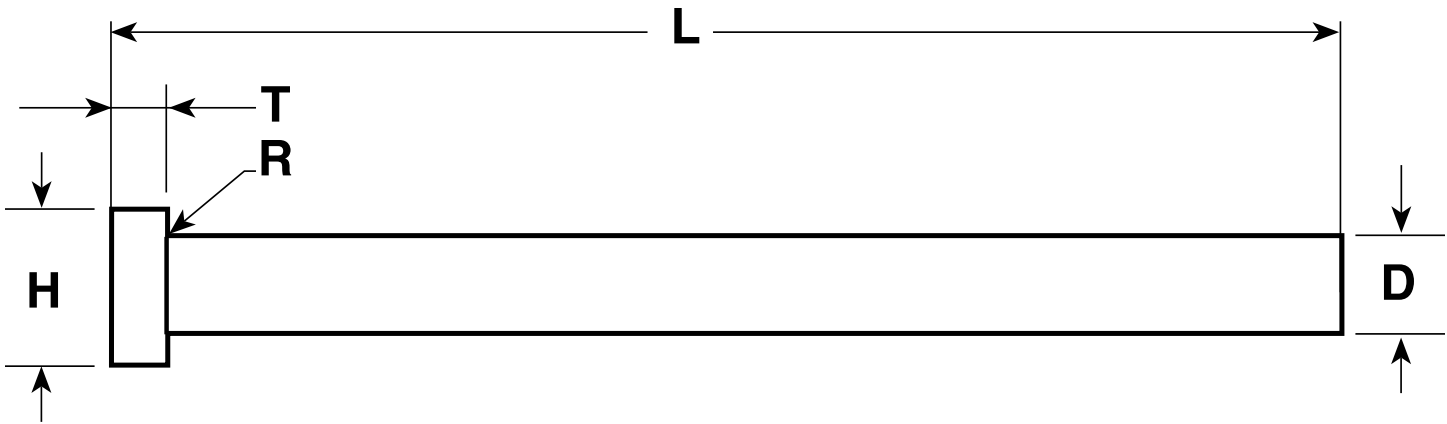
Contact Name: _____ Reference #: _____

DMS (Windsor) Fax: 800-845-3807

DMS (Elk Grove Village, IL) Fax: 800-367-4199



FAXABLE QUOTE FORM PARALLEL EJECTOR PINS METRIC



Size	Tolerance	✓	Special Tolerance
D =	g6		or _____
H =	+0,0 -0,2		or _____
T =	+0,0 -0,5		or _____
L =	+2,0 -0,0		or _____
R =	+0,2 -0,0		or _____

Nominal Size		g6	
Over	To	Tolerance (mm)	
0mm	3mm	-.002	-.008
3mm	6mm	-.004	-.012
6mm	10mm	-.005	-.014
10mm	18mm	-.006	-.017
18mm	30mm	-.007	-.020
30mm	50mm	-.009	-.025

Quantity _____

Material _____

Hardness/Heat Treatment _____

Required by _____

Company: _____

Address: _____

City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

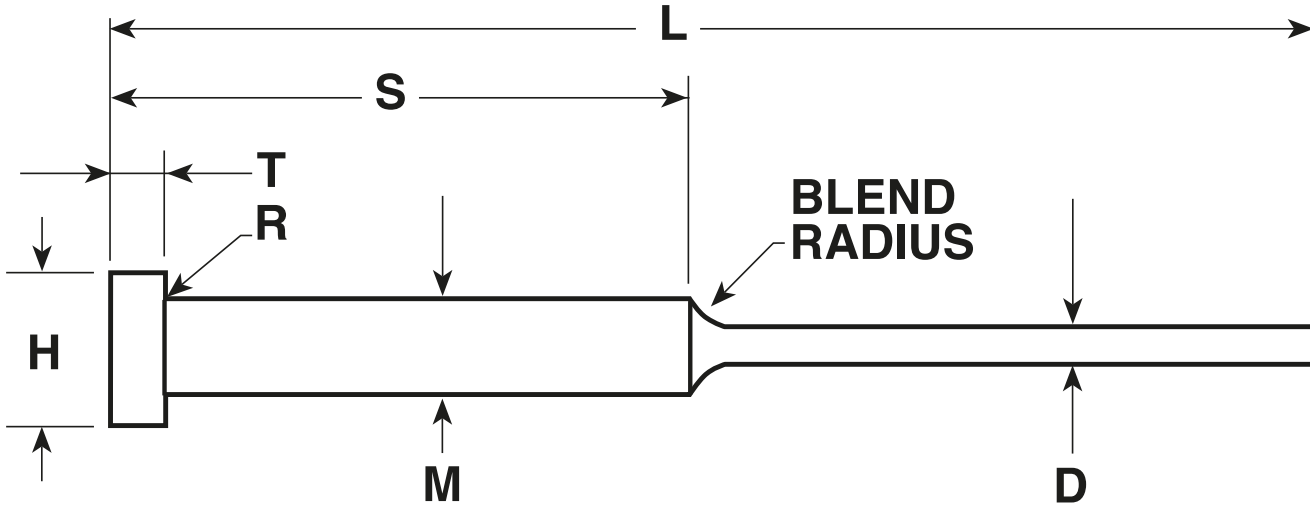
Contact Name: _____ Reference #: _____

DMS (Windsor) Fax: 800-845-3807

DMS (Elk Grove Village, IL) Fax: 800-367-4199



FAXABLE QUOTE FORM SHOULDER EJECTOR PINS METRIC



	Size	Tolerance	✓	Special Tolerance
D =		g6		or _____
M =		+0,0 -0,1		or _____
L =		+2,0 -0,0		or _____
S =				or _____
T =		+0,0 -0,5		or _____
H =		+0,0 -0,2		or _____
R =		0,3		or _____

Nominal Size		g6	
Over	To	Tolerance (mm)	
0mm	3mm	-0,02	-0,08
3mm	6mm	-0,04	-0,12
6mm	10mm	-0,05	-0,14
10mm	18mm	-0,06	-0,17
18mm	30mm	-0,07	-0,20
30mm	50mm	-0,09	-0,25

Quantity _____

Material _____

Hardness/Heat Treatment _____

Required by _____

Company: _____

Address: _____

City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

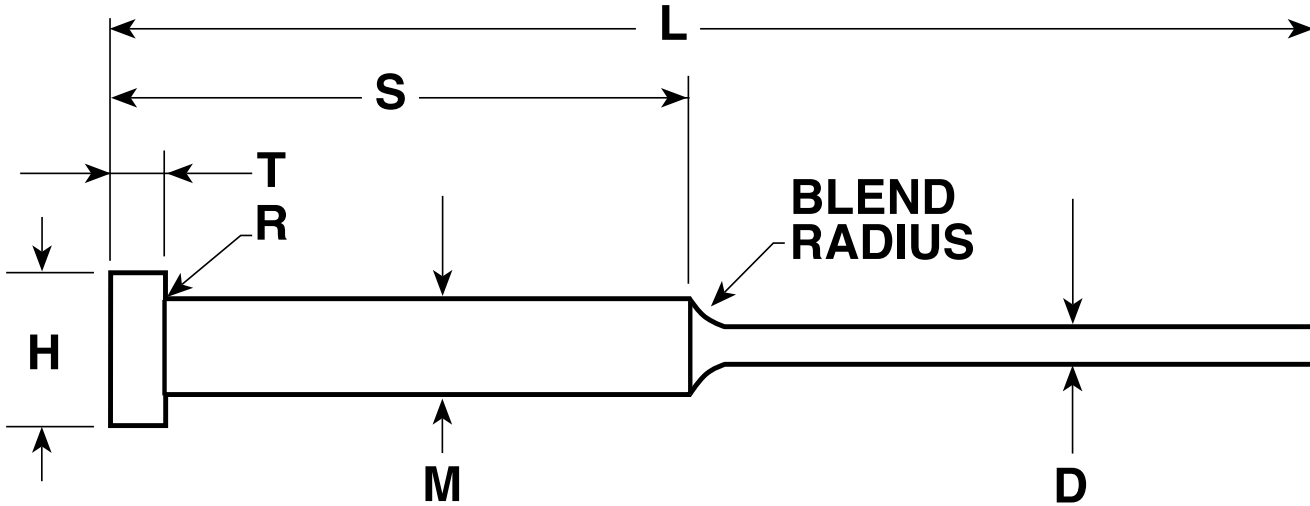
Contact Name: _____ Reference #: _____

DMS (Windsor) Fax: 800-845-3807

DMS (Elk Grove Village, IL) Fax: 800-367-4199



FAXABLE QUOTE FORM SHOULDER EJECTOR PINS METRIC



	Size	Tolerance	✓	Special Tolerance
D =		g6		or _____
M =		+0,0 -0,1		or _____
L =		+2,0 -0,0		or _____
S =				or _____
T =		+0,0 -0,5		or _____
H =		+0,0 -0,2		or _____
R =		0,3		or _____

Nominal Size		g6	
Over	To	Tolerance (mm)	
0mm	3mm	-0,02	-0,08
3mm	6mm	-0,04	-0,12
6mm	10mm	-0,05	-0,14
10mm	18mm	-0,06	-0,17
18mm	30mm	-0,07	-0,20
30mm	50mm	-0,09	-0,25

Quantity _____

Material _____

Hardness/Heat Treatment _____

Required by _____

Company: _____

Address: _____

City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

Contact Name: _____ Reference #: _____

DMS (Windsor) Fax: 800-845-3807

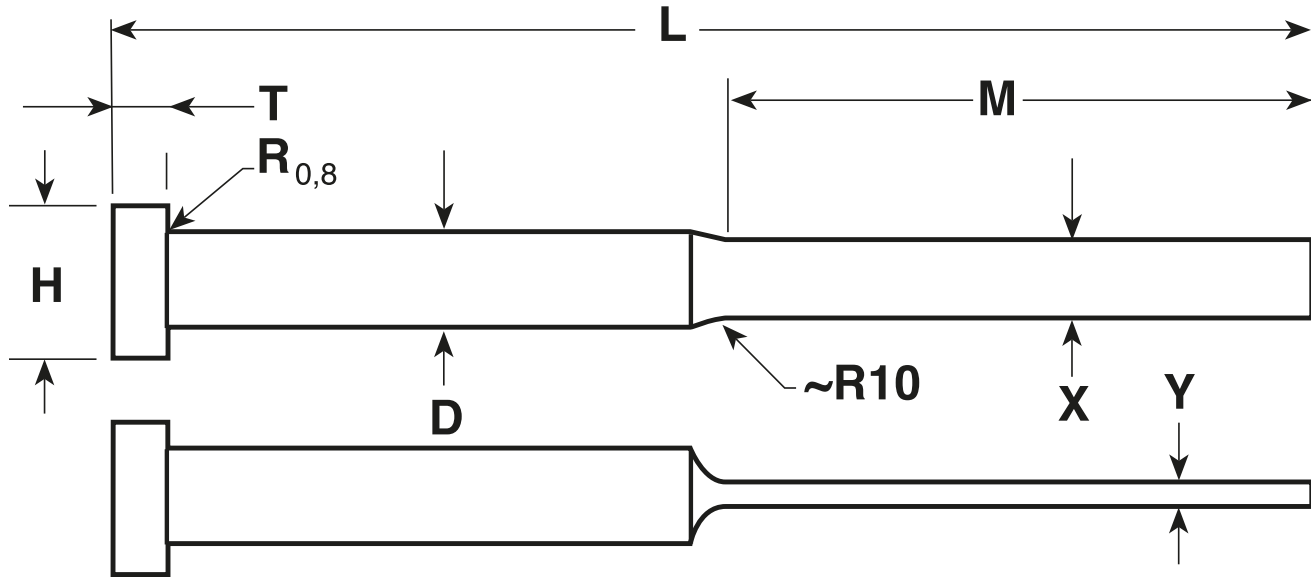
DMS (Elk Grove Village, IL) Fax: 800-367-4199



FAXABLE QUOTE FORM

BLADE EJECTORS

METRIC



Size	Tolerance	✓	Special Tolerance	Quantity
D =	-,006 -,017	<input type="checkbox"/>	or <input type="text"/>	_____
L =	+1,0 -0,0	<input type="checkbox"/>	or <input type="text"/>	Material _____
T =	+0,00 -0,05	<input type="checkbox"/>	or <input type="text"/>	Hardness/Heat Treatment _____
H =	+0,0 -0,2	<input type="checkbox"/>	or <input type="text"/>	Required by _____
M =	+2,0 +1,0	<input type="checkbox"/>	or <input type="text"/>	_____
X =	+0,000 -0,015	<input type="checkbox"/>	or <input type="text"/>	_____
Y =	+0,000 -0,015	<input type="checkbox"/>	or <input type="text"/>	_____

Company: _____

Address: _____

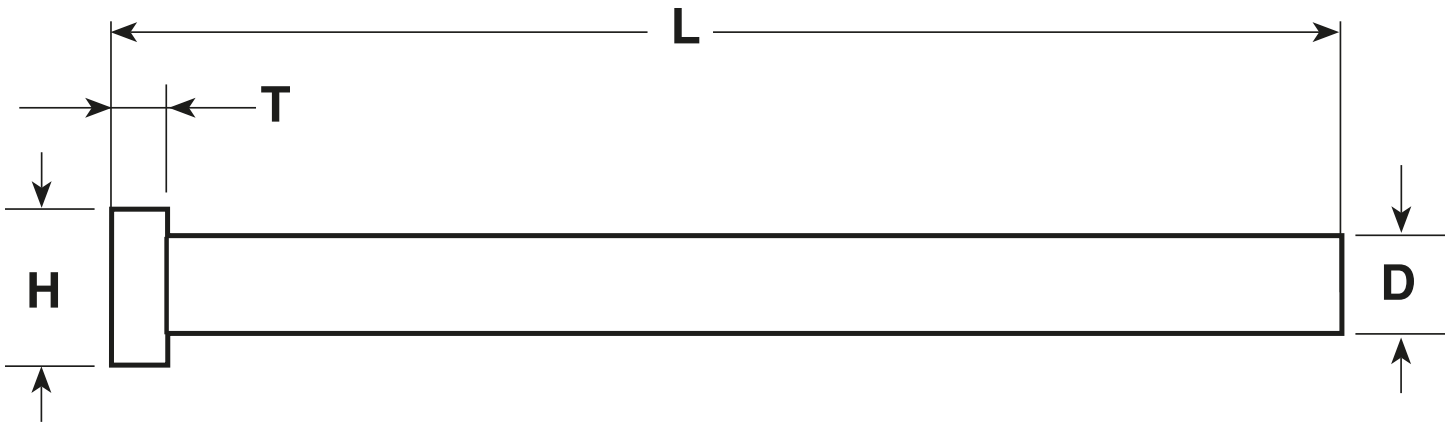
City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

Contact Name: _____ Reference #: _____



FAXABLE QUOTE FORM CORE PINS



	Size	Tolerance	✓	Special Tolerance	Quantity
D =	<input type="text"/>	+ .001 - .000	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
H =	<input type="text"/>	+ .000 - .010	<input type="checkbox"/>	<input type="text"/>	Material <input type="text"/>
T =	<input type="text"/>	+ .000 - .002	<input type="checkbox"/>	<input type="text"/>	Hardness/Heat Treatment <input type="text"/>
L =	<input type="text"/>	+ .030 - .000	<input type="checkbox"/>	<input type="text"/>	Required by <input type="text"/>

Company: _____

Address: _____

City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

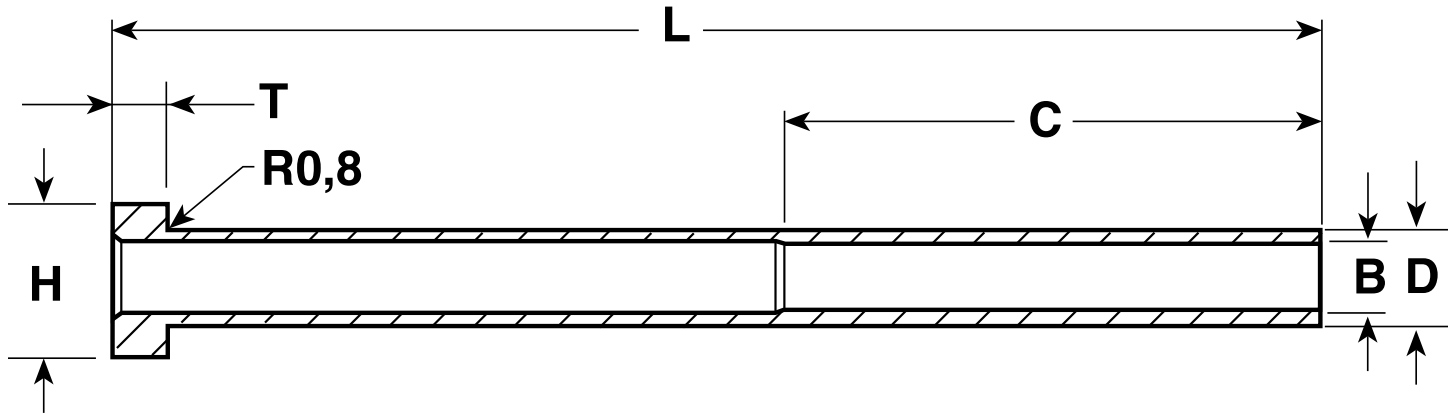
Contact Name: _____ Reference #: _____

DMS (Windsor) Fax: 800-845-3807

DMS (Elk Grove Village, IL) Fax: 800-367-4199



FAXABLE QUOTE FORM PARALLEL EJECTOR SLEEVES – METRIC



Size	Tolerance	✓	Special Tolerance	Quantity
D =	-0,006 -0,017	<input type="checkbox"/>	or <input type="text"/>	_____
B =	+0,008 -0,000	<input type="checkbox"/>	or <input type="text"/>	Material _____
H =	+0,0 -0,2	<input type="checkbox"/>	or <input type="text"/>	_____
T =	+0,00 -0,05	<input type="checkbox"/>	or <input type="text"/>	Hardness/Heat Treatment _____
L =	+1,0 -0,0	<input type="checkbox"/>	or <input type="text"/>	_____
C =	+ -	<input type="checkbox"/>	or <input type="text"/>	Required by _____

Company: _____

Address: _____

City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

Contact Name: _____ Reference #: _____

DMS (Windsor)
Fax: 800-845-3807

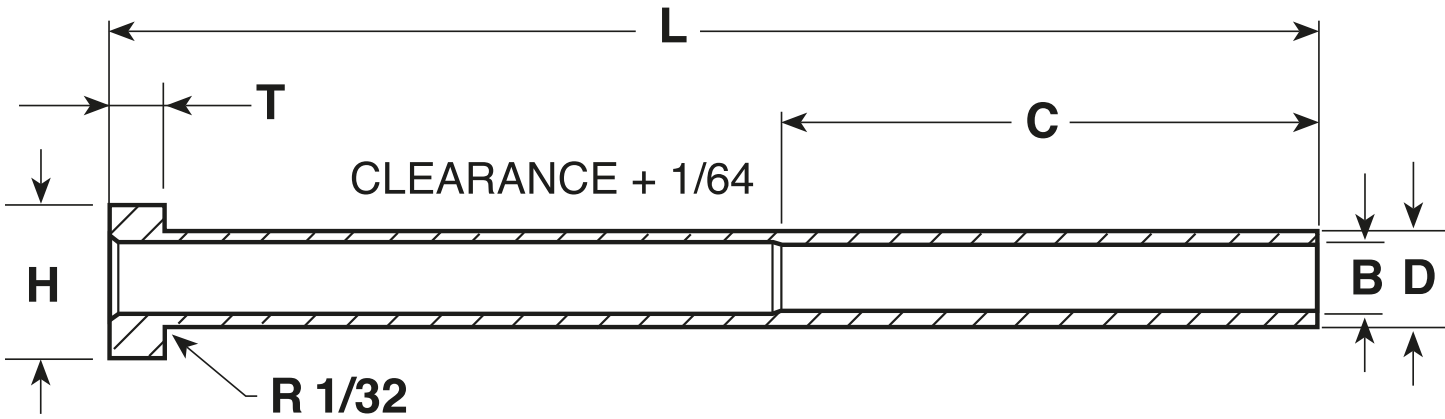
DMS (Schaumburg)
Fax: 847-466-0108
800-367-4199

DMS (Fountain Valley)
Fax: 714-751-3861
800-953-9561

DMS (Taunton)
Fax: 508-822-6547
888-469-1999



FAXABLE QUOTE FORM PARALLEL EJECTOR SLEEVES - INCH



Size	Tolerance	✓	Special Tolerance	Quantity
D =	-.0003 -.0008	<input type="checkbox"/>	or	_____
B =	+.0003 --.0000	<input type="checkbox"/>	or	_____
H =	+.000 -.010	<input type="checkbox"/>	or	_____
T =	+.000 -.002	<input type="checkbox"/>	or	_____
L =	+.031 -.000	<input type="checkbox"/>	or	_____
C =	+ -	<input type="checkbox"/>	or	_____

Material: _____

Hardness/Heat Treatment: _____

Required by: _____

Company: _____

Address: _____

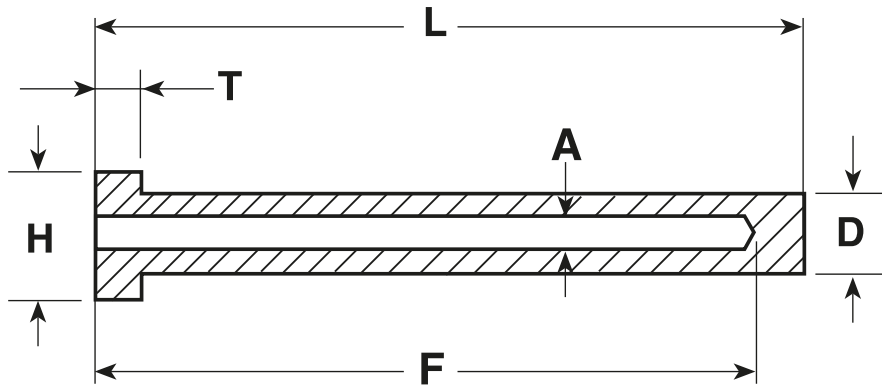
City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

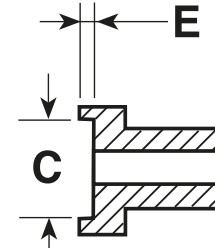
Contact Name: _____ Reference #: _____



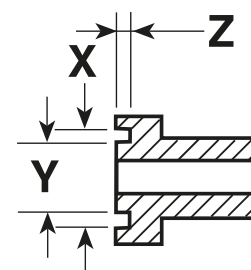
FAXABLE QUOTE FORM WATER COOLED CORES



C-BORE



O-RING



Size	Tolerance
D =	+ _____ - _____
H =	+ _____ - _____
T =	+ _____ - _____
L =	+ _____ - _____
F =	+ _____ - _____
A =	+ _____ - _____
C =	+ _____ - _____
E =	+ _____ - _____
X =	+ _____ - _____
Y =	+ _____ - _____
Z =	+ _____ - _____

Quantity

Material

Hardness/Heat Treatment

Required by

Company: _____

Address: _____

City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

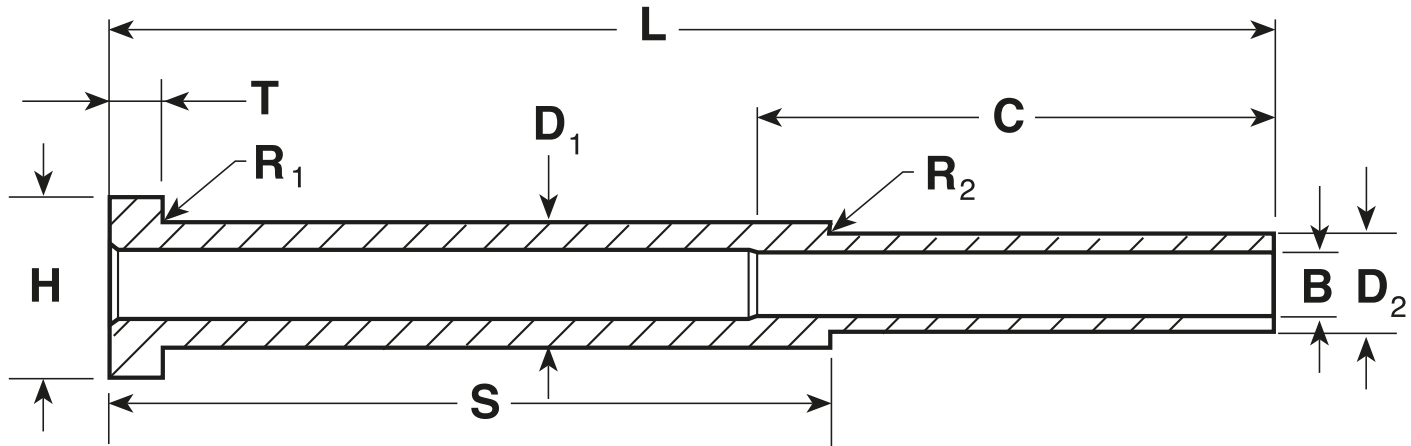
Contact Name: _____ Reference #: _____

DMS (Windsor) Fax: 800-845-3807

DMS (Elk Grove Village, IL) Fax: 800-367-4199



FAXABLE QUOTE FORM SHOULDER EJECTOR SLEEVES



	Size	Tolerance	✓	or	Special Tolerance
$D_1 =$		+ .000 - .001		or	
$D_2 =$		- .0003 - .0006		or	
$B =$		+ .0003 - .0000		or	
$H =$		+ .000 - .010		or	
$T =$		+ .000 - .002		or	
$L =$		+ .031 - .000		or	
$C =$		+ -		or	
$R_1 =$		1/32		or	
$R_2 =$		1/32		or	
$S =$		+ -		or	

Quantity _____

Material _____

Hardness/Heat Treatment _____

Required by _____

Company: _____

Address: _____

City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

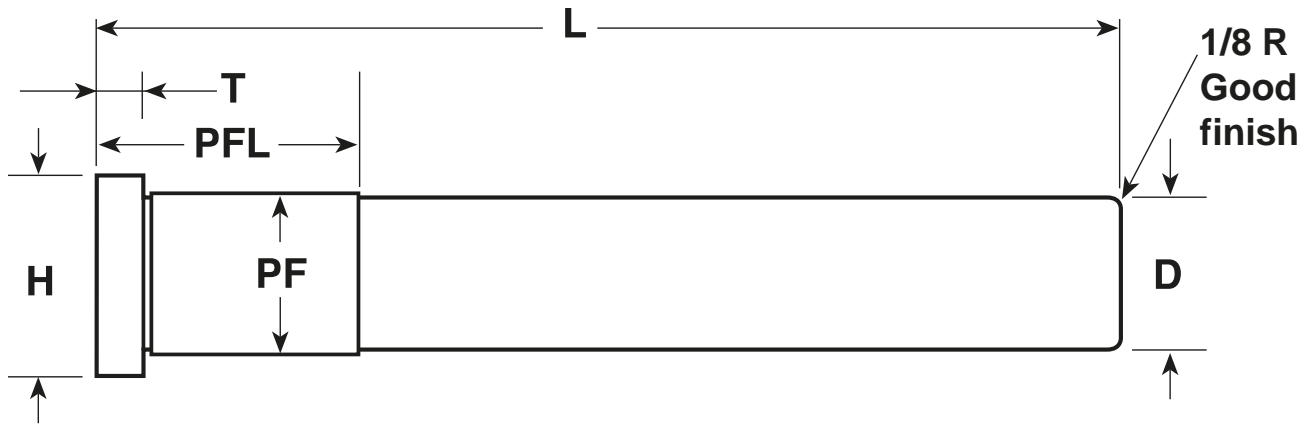
Contact Name: _____ Reference #: _____

DMS (Windsor) Fax: 800-845-3807

DMS (Elk Grove Village, IL) Fax: 800-367-4199



FAXABLE QUOTE FORM STRAIGHT LEADER PINS



Size	Tolerance	✓	Special Tolerance	Quantity
D =	-0.000 -0.0005	<input type="checkbox"/>	or <input type="text"/>	_____
H =	+0.000 -0.010	<input type="checkbox"/>	or <input type="text"/>	Material _____
T =	+0.000 -0.005	<input type="checkbox"/>	or <input type="text"/>	_____
PF =	+0.0005 -0.0000	<input type="checkbox"/>	or <input type="text"/>	Hardness/Heat Treatment _____
PFL =				_____
L =	+0.010 -0.000	<input type="checkbox"/>		Required by _____

Company: _____

Address: _____

City: _____ State/Prov.: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____ Email: _____

Contact Name: _____ Reference #: _____

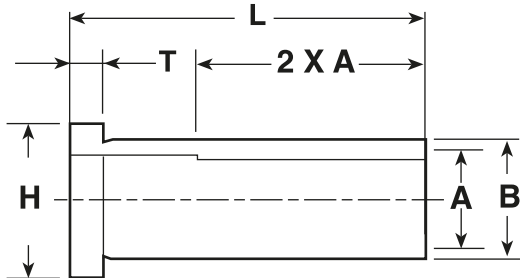
DMS (Windsor) Fax: 800-845-3807

DMS (Elk Grove Village, IL) Fax: 800-367-4199

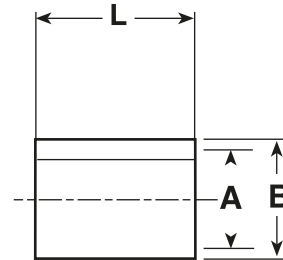


FAXABLE QUOTE FORM BUSHINGS

Shoulder Bushings



Straight Bushings



	Size	Tolerance	✓	Quantity
A =		+0.0005 -0.0000		Material
H =		+0.000 -0.010		
T =		+0.000 -0.005		
B =		+0.0005 -0.0000		Hardness/Heat Treatment
L =		+0.015 -0.030		

	Size	Tolerance	✓
A =		+0.0005 -0.0000	
B =		+0.0005 -0.0000	
L =		+0.015 -0.030	

Required by _____

Company: _____			
Address: _____			
City: _____	State/Prov.: _____	Zip/Postal Code: _____	
Phone: _____	Fax: _____	Email: _____	
Contact Name: _____	Reference #: _____		

DMS (Windsor) Fax: 800-845-3807

DMS (Elk Grove Village, IL) Fax: 800-367-4199