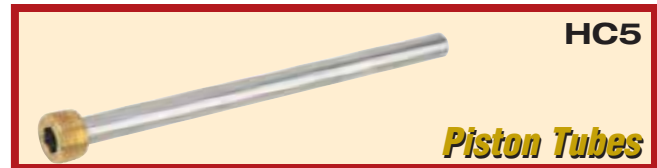




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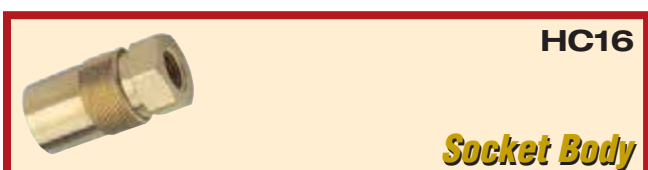
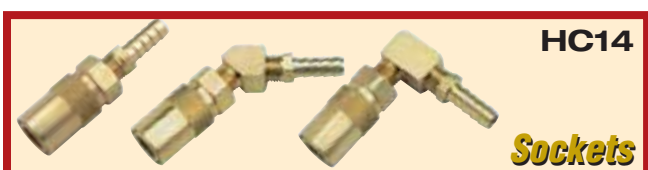
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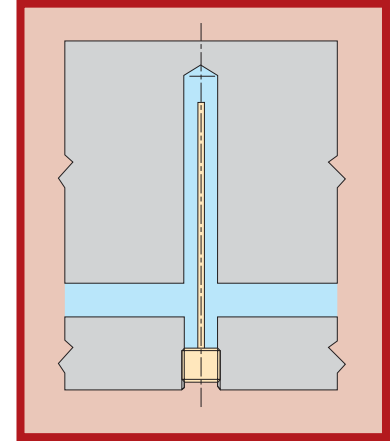
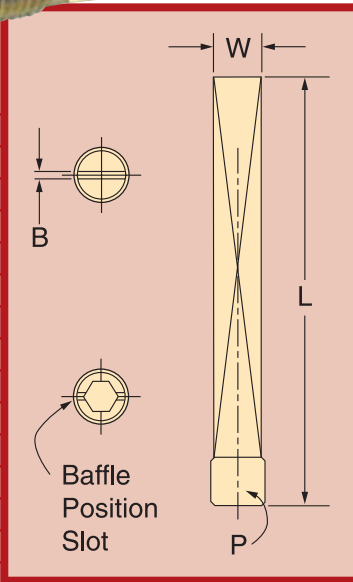


Brass Baffles



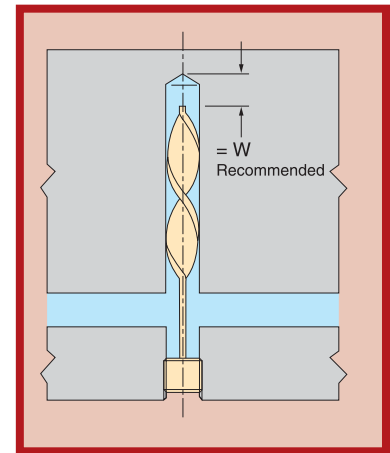
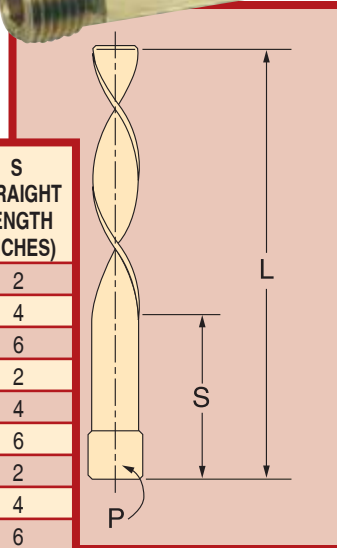
STRAIGHT

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.)

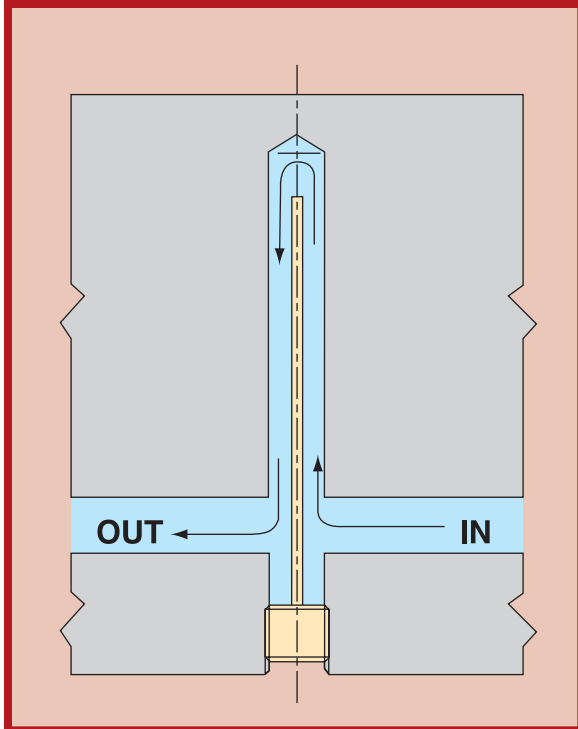
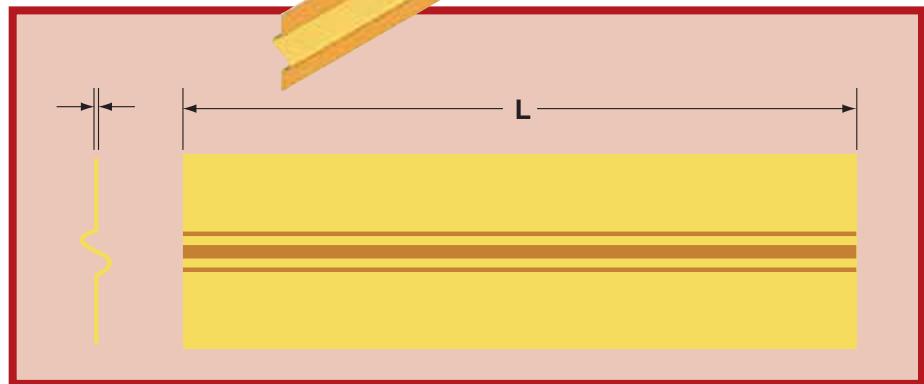
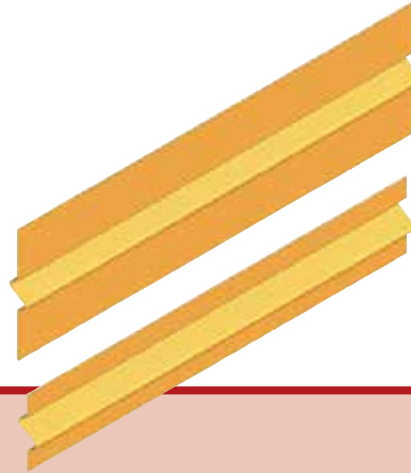


E Series Brass Baffles

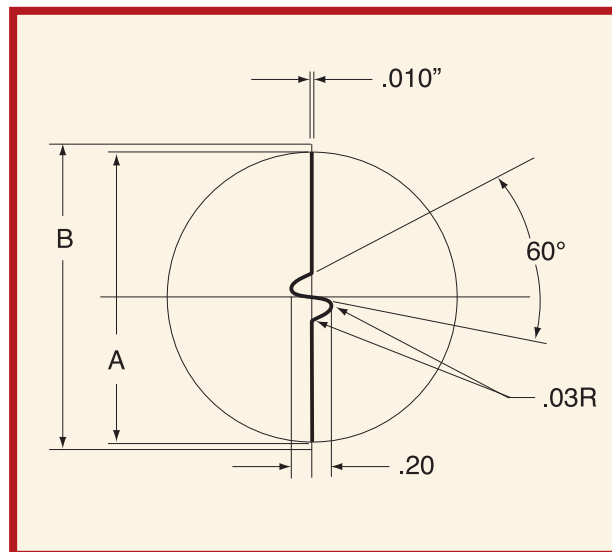
DMS "E-Series" brass baffles are an economical way to baffle longer water lines.

- 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"

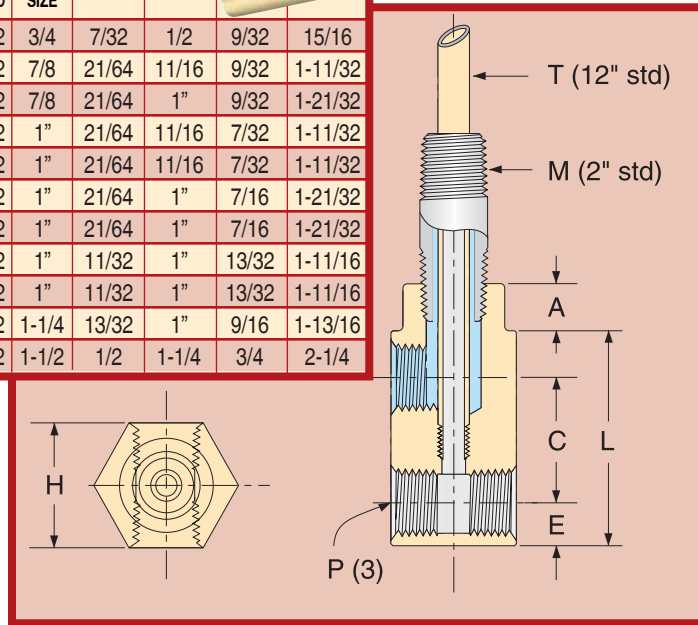




Standard Cascades

ASSEMBLIES

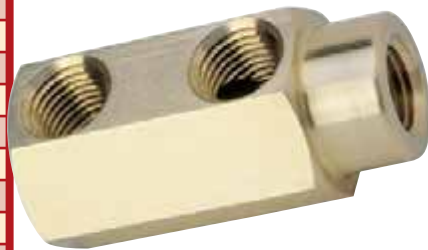
CATALOG NUMBER	M PIPE NIPPLE (NPT)	P PIPE TAP SIZE (NPT)	T BRASS TUBE O.D.	BRASS TUBE INCLUDED	H HEX SIZE	E	C	A	L
16N	1/8	1/16	3/16	187T-12	3/4	7/32	1/2	9/32	15/16
186N	1/8	1/8	3/16	187T-12	7/8	21/64	11/16	9/32	1-11/32
181N	1/8	1/8	3/16	187T-12	7/8	21/64	1"	9/32	1-21/32
146N	1/4	1/8	1/4	250T-12	1"	21/64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

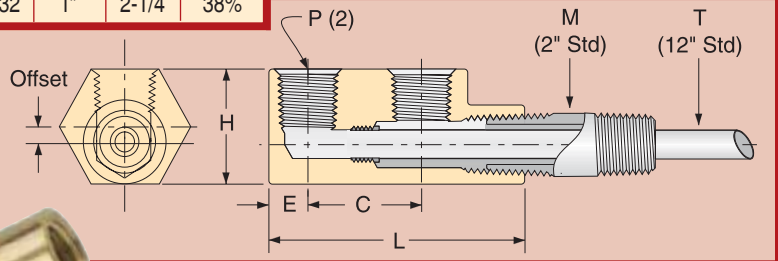


ASSEMBLIES

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%

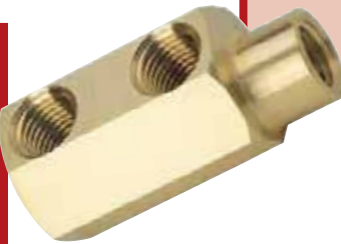
- Up to 64% higher flow rates than standard cascades.
- Offset design provides more sealing threads without pipe interference.
- Assemblies include brass head, 12" high flow stainless tube, and 2" long galvanized pipe nipple.

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

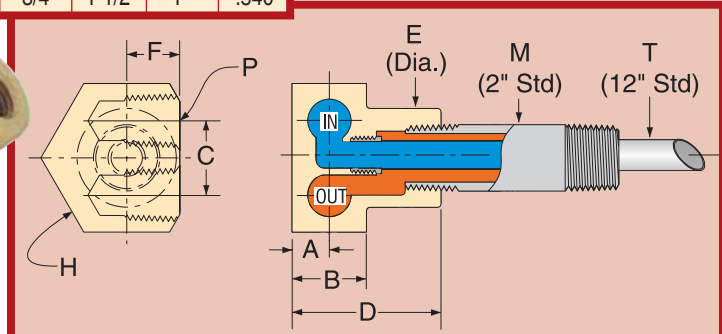
ASSEMBLIES

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.

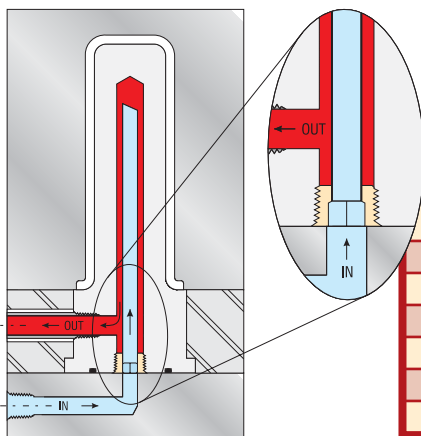
Standard Tubes



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.

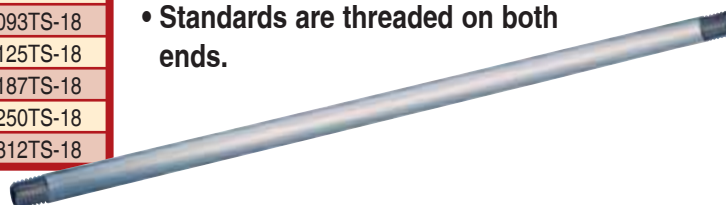
PIPE SIZE (NPT)	TUBE O.D.	TUBE I.D.	CATALOG NUMBER			
			12"	24"	36"	48"
1/16	.125	.109	PT16-12	PT16-24	PT16-36	PT16-48
1/8	.187	.167	PT18-12	PT18-24	PT18-36	PT18-48
1/4	.250	.230	PT14-12	PT14-24	PT14-36	PT14-48
3/8	.365	.345	PT38-12	PT38-24	PT38-36	PT38-48
1/2	.365	.340	PT12-12	PT12-24	PT12-36	PT12-48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

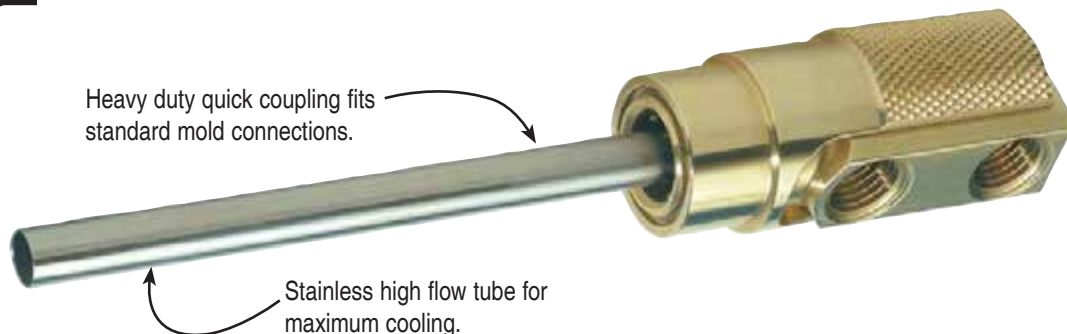
- Stainless tubes are 18" overall.
- Standards are threaded on both ends.

Stainless Tubes





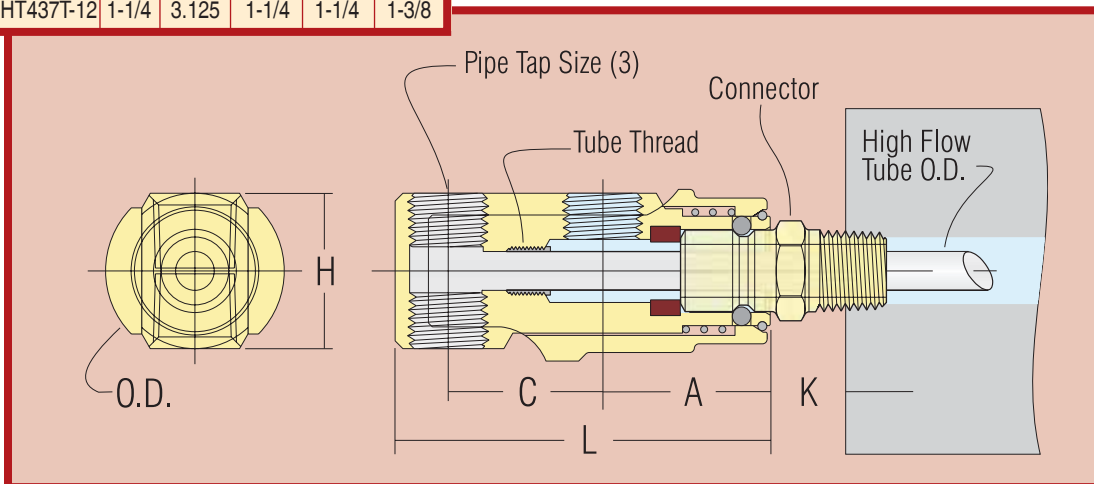
Quick-Coupler Cascades



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

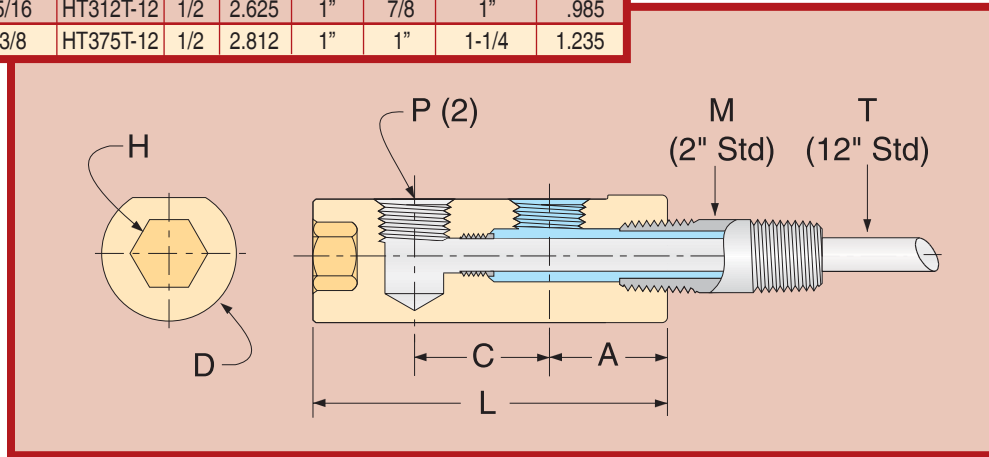
HexKey Cascades are round, and install with an Allen wrench. They may be installed with minimal clearance or very close together where space is limited.



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

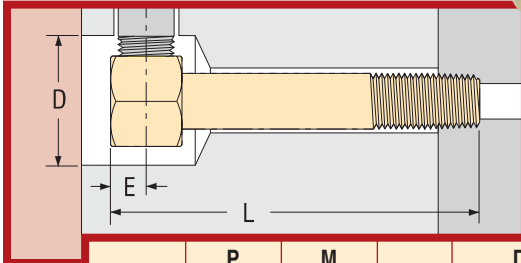
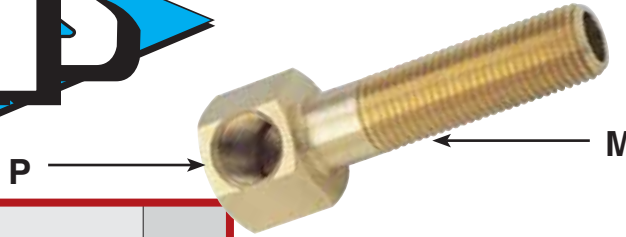
CATALOG NUMBER	HIGH FLOW TUBE THREAD SIZE	USE HIGH FLOW TUBE NUMBER
E16H	10-32	HF125T-
E16H-2	1/4-28	HF187T
E186H	1/4-28	HF187T-
E181H	1/4-28	HF187T-
E146H	5/16-24	HF250T-
E146H-4	5/16-24	HF250T-
E141H	5/16-24	HF250T-
E141H-4	5/16-24	HF250T-
E381H-4	3/8-24	HF312T-
E121H-4	7/16-20	HF375T-



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



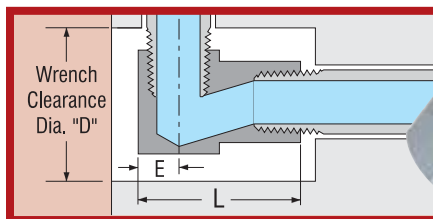
Brass Extension Elbows



- 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

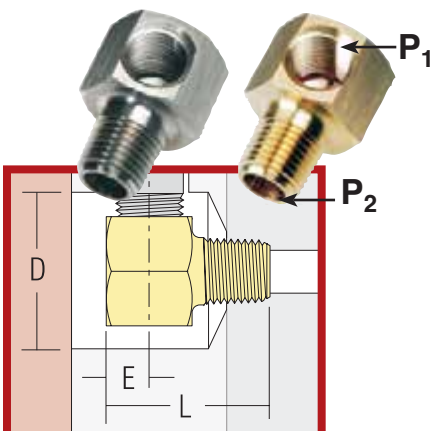
- Available in brass or zinc plated steel.
- Easy socket wrench installation and removal.
- Angular flow path allows connecting fittings to be torqued tight without choking off flow.

• 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



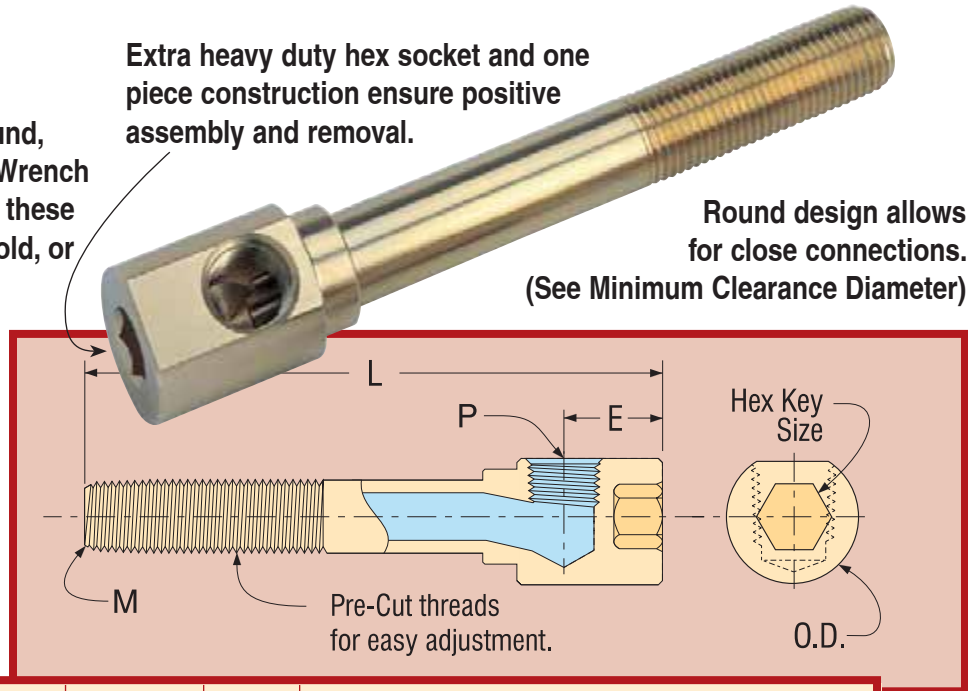
HexKey Extension Elbows

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)

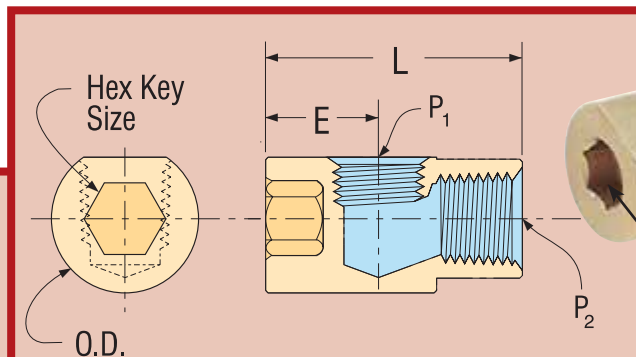
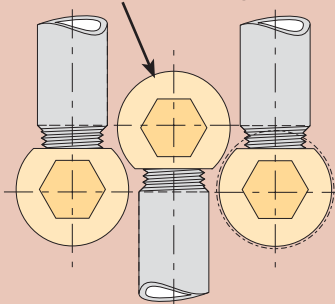


CATALOG NUMBER	P TAP SIZE FEMALE (NPT)	M PIPE SIZE MALE (NPT)	E	O.D.	MINIMUM CLEARANCE DIAMETER	HEX KEY SIZE	OVERALL LENGTH "L"							
							2-1/2	4"	5-1/2	7"	8-1/2	10"	11-1/2	13"
EKL16	1/16	1/16	.531	.552	9/16	1/4	X025	X040	X055	X070	X085	X100	X115	X130
EKL18	1/8	1/8	.580	.615	5/8	5/16	X025	X040	X055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



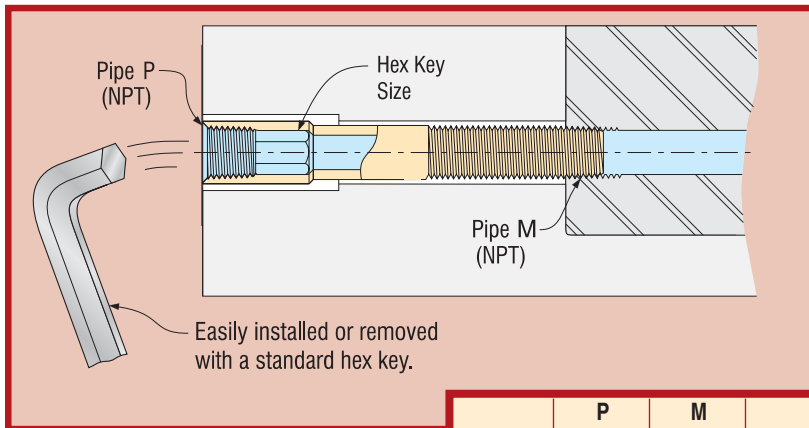
HexKey Elbows

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

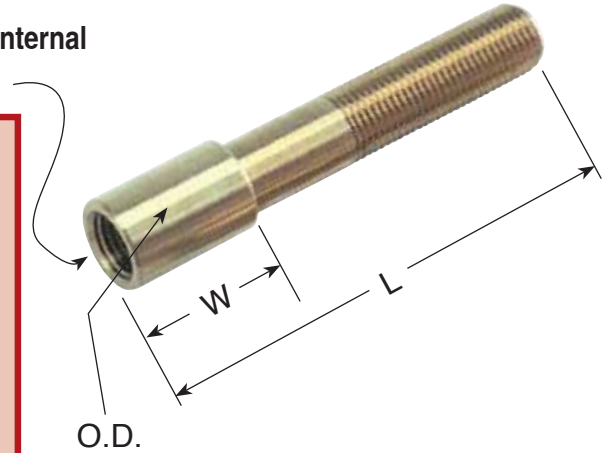
CATALOG NUMBER	P ₁ TAP SIZE FEMALE (NPT)	P ₂ TAP SIZE FEMALE (NPT)	L	E	O.D.	MINIMUM CLEARANCE DIAMETER	HEX KEY SIZE
HKL16	1/16	1/16	1.125	.531	.552	9/16	1/4
HKL18	1/8	1/8	1.250	.580	.615	5/8	5/16
HKL1814	1/8	1/4	1.375	.593	.860	7/8	3/8
HKL14	1/4	1/4	1.500	.660	.860	7/8	3/8
HKL1438	1/4	3/8	1.625	.712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

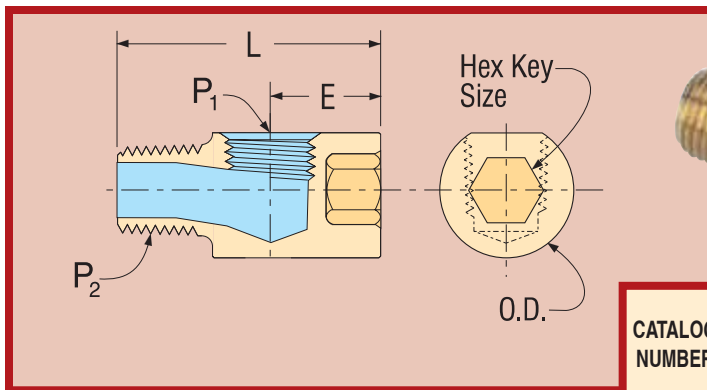


- HexKey Extension Pipes are available in a wide variety of special lengths and threads.
- Accurate length adjustments are easy with the Brass Extension Plug thread system.

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

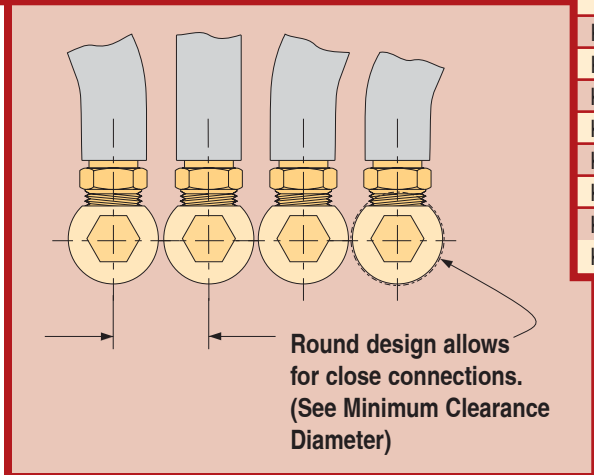
To order, add overall length to catalog number. Example EP18X025

HexKey Street Elbows



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

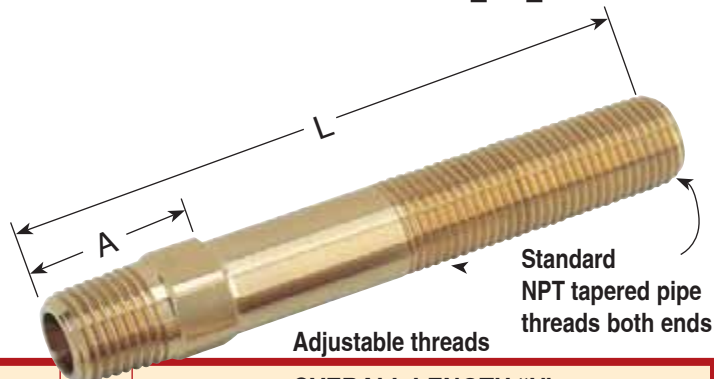
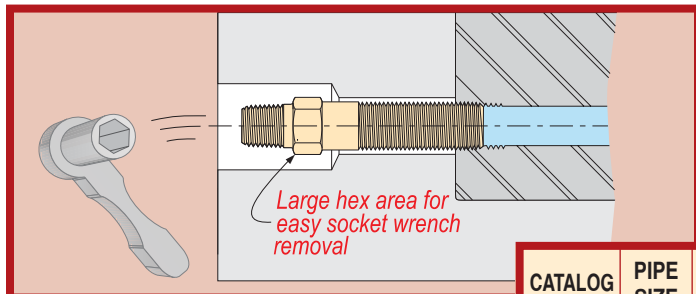
CATALOG NUMBER	P ₁ TAP SIZE FEMALE (NPT)	P ₂ PIPE SIZE MALE (NPT)	L	E	O.D.	MINIMUM CLEARANCE DIAMETER	HEX KEY SIZE
KL16	1/16	1/16	1.156	.531	.552	9/16	1/4
KL1618	1/16	1/8	1.218	.531	.615	5/8	5/16
KL18	1/8	1/8	1.312	.580	.615	5/8	5/16
KL1814	1/8	1/4	1.500	.593	.860	7/8	3/8
KL14	1/4	1/4	1.625	.660	.860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



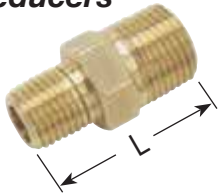
Fittings & Accessories

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



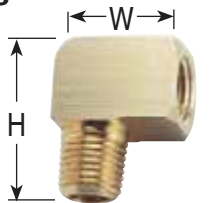
CATALOG NUMBER	PIPE SIZE	L
MR18-1	1/8 X 1/16	1"
MR14-2	1/4 X 1/8	1-3/16
MR38-4	3/8 X 1/4	1-7/16
MR50-6	1/2 X 3/8	1-5/8

45° Street EL's



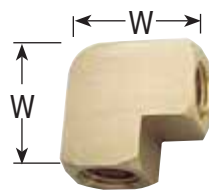
CATALOG NUMBER	PIPE SIZE
AL-18	1/8
AL-14	1/4
AL-38	3/8
AL-50	1/2

90° Street EL's



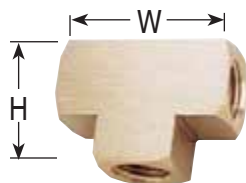
CATALOG NUMBER	PIPE SIZE	W	H
SL-18	1/8	11/16	15/16
SL-14	1/4	1"	1-1/4
SL-38	3/8	1-1/8	1-3/8
SL-50	1/2	1-1/2	1-3/4

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

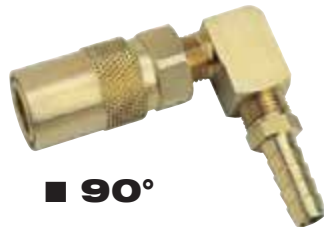
500 Series



■ **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

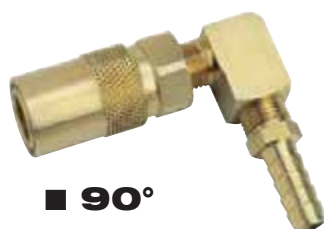
500 Series



■ **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

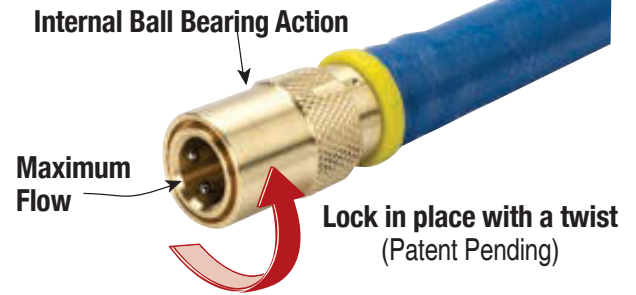
CATALOG NUMBER	HOSE I.D.
N/A	1/4
N/A	5/16
S316V	3/8
S318V	1/2
N/A	3/4

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)

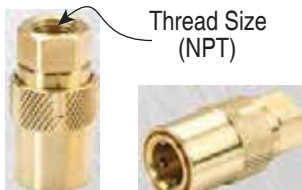
CATALOG NUMBER	HOSE ID	STOCK ITEM
CM-504	1/2	•
CM-506	3/4	•

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)

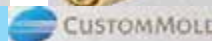
CATALOG NUMBER	THREAD SIZE	STOCK ITEM
CMB-200	1/8	•
CMB-200-1/4	1/4	•

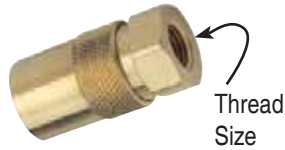
300 Series (3/8" Hole)

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

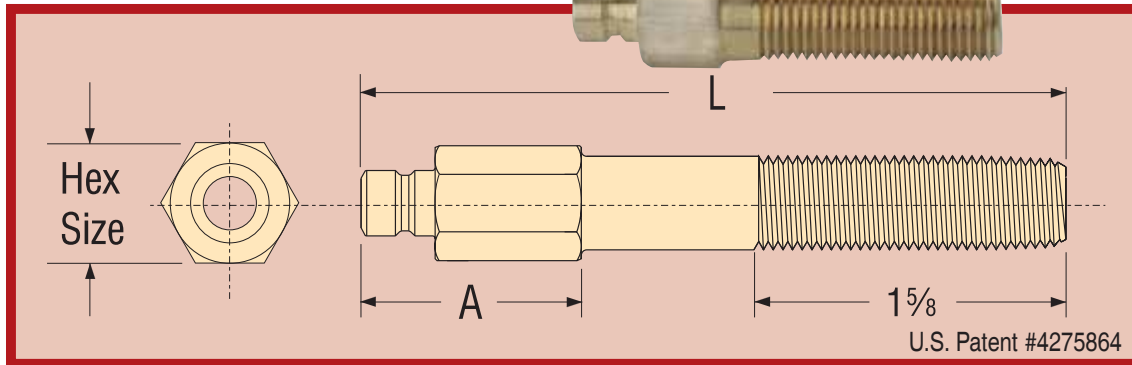
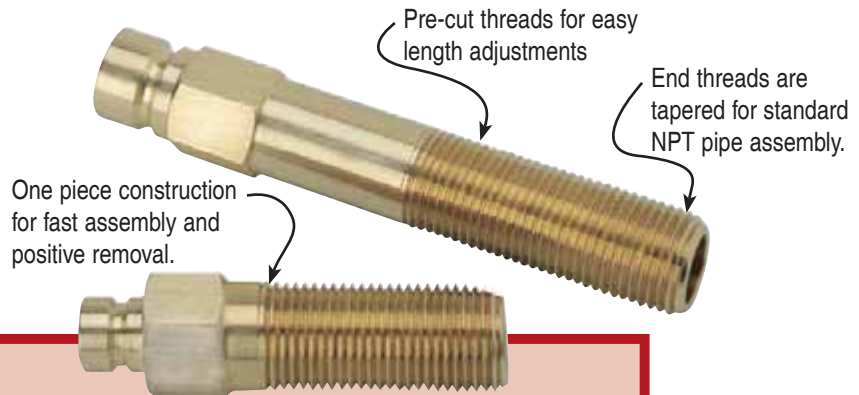
P351FB-BSP	1/8	11/32
P352FB-BSP	1/4	3/8
P353FB-BSP	3/8	3/8

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

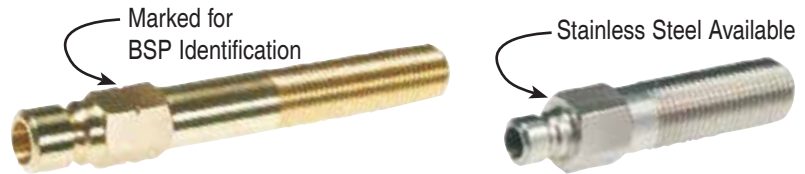


Brass Extension Plugs

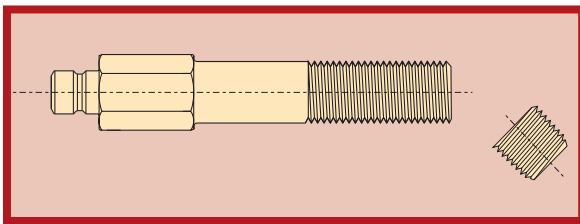
- Extension Plugs are compatible with all major mold connection systems.
- In addition to brass they can be ordered in stainless or plated steel.
- Extension plugs are also available in all metric pipe sizes.



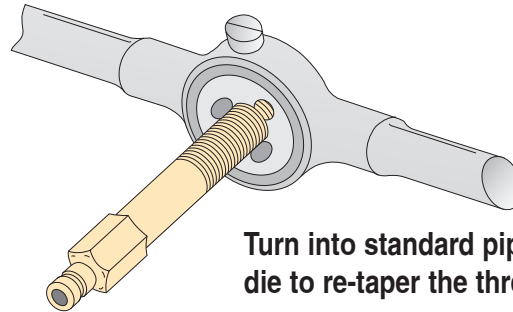
- BSP Brass Extension Plugs now available
- Available with pre-applied sealant.
- Order any quantity.



Length Adjustments



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

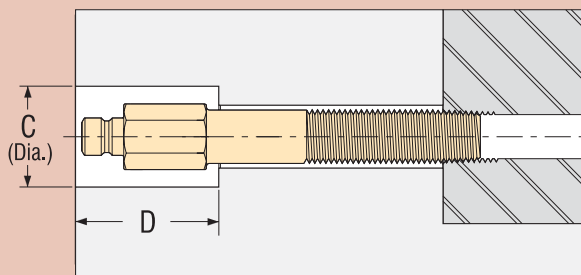


Turn into standard pipe threading die to re-taper the threads.

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
----------------	---------------------------	-----------------	----------	---

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

CUSTOM				
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3/8" Pipe Extensions

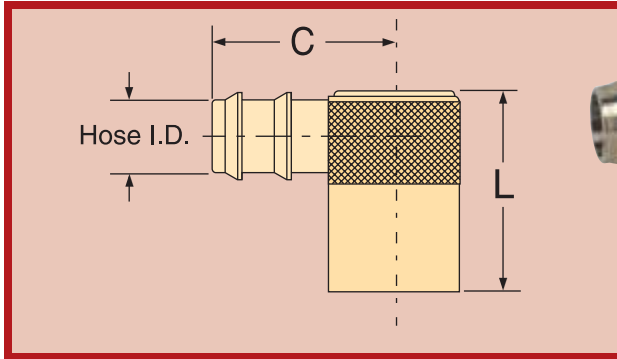
P553X025	2-1/2	3/8	13/16	1-1/8
P553X040	4	3/8	13/16	1-3/8
P553X055	5-1/2	3/8	13/16	1-3/8
P553X070	7	3/8	13/16	1-3/8
P553X085	8-1/2	3/8	13/16	1-3/8
P553X100	10	3/8	13/16	1-3/8
P553X115	11-1/2	3/8	13/16	1-3/8
P553X130	13	3/8	13/16	1-3/8

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



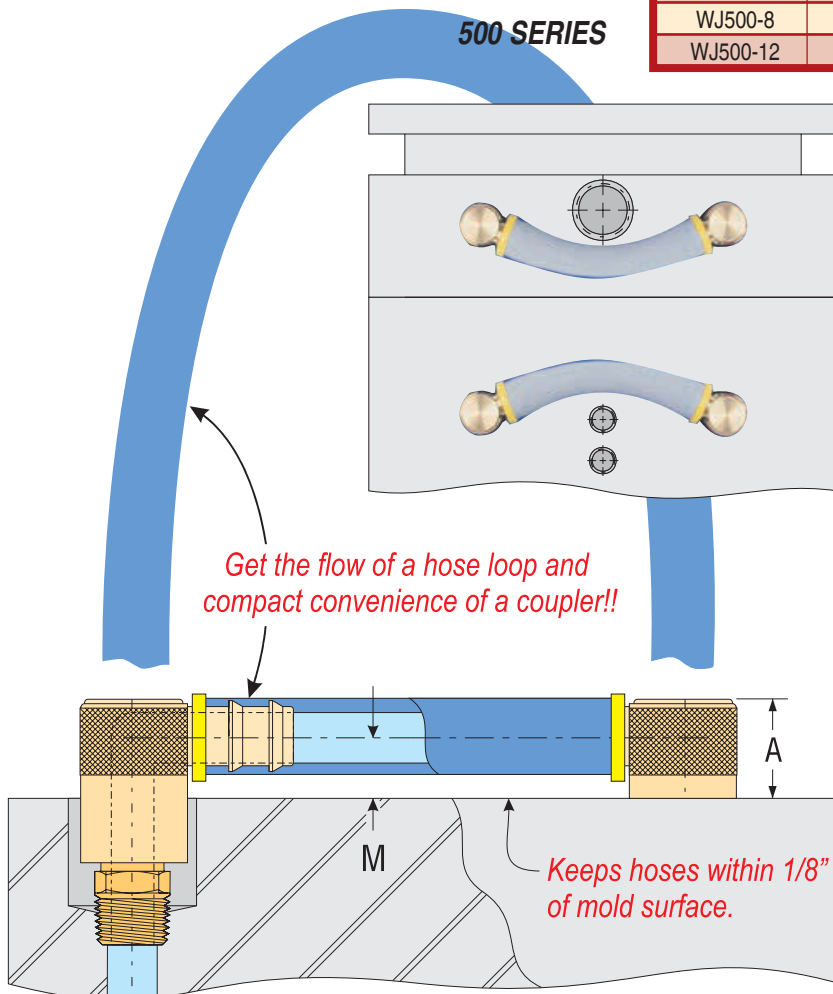
Coupler sleeve twists to lock, preventing accidental disconnect.



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"

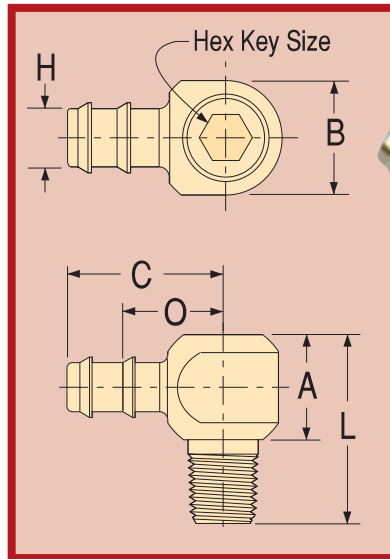


- Eliminates bulky hose loops.
- Compact design neatly and safely holds cooling lines close to the mold surface.
- Stock only one part number for any hose size. No special tubes or length restrictions.
- Compatible with all major mold connection systems.
- Unlimited installation options. Fits around 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.

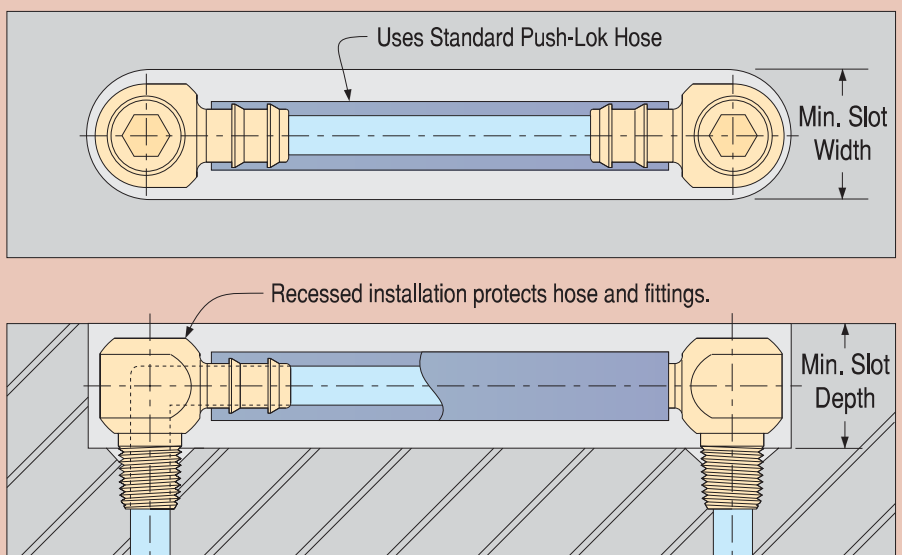
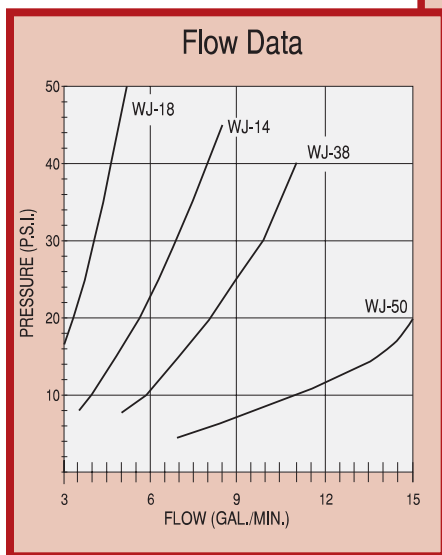


Heavy duty hex key socket allows maximum torque and positive removal.



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

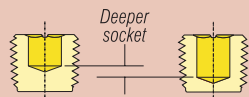
Heavy Duty Plugs

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.

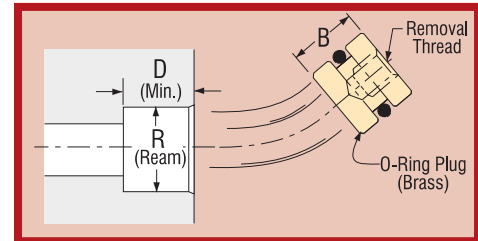
THREAD SIZE (NPT)	TPI	FLUSH HEIGHT	CATALOG NUMBER		
			BRASS	ALLOY STEEL	STAINLESS STEEL
1/16	27	.250	BPP006	APP006	SPP006
1/8	27	.250	BPP012	APP012	SPP012
1/4	18	.406	BPP025	APP025	SPP025
3/8	18	.406	BPP037	APP037	SPP037
1/2	14	.531	BPP050	APP050	SPP050
3/4	14	.531	BPP075	APP075	
1"	11-1/2	.656	BPP100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

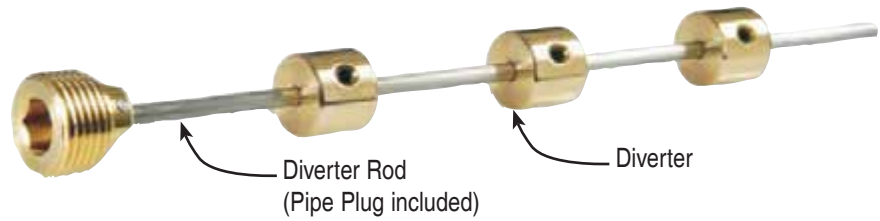


CATALOG NUMBER	FITS SOCKET SERIES NUMBER
CP-200	200
CP-300	300
CP-500	500

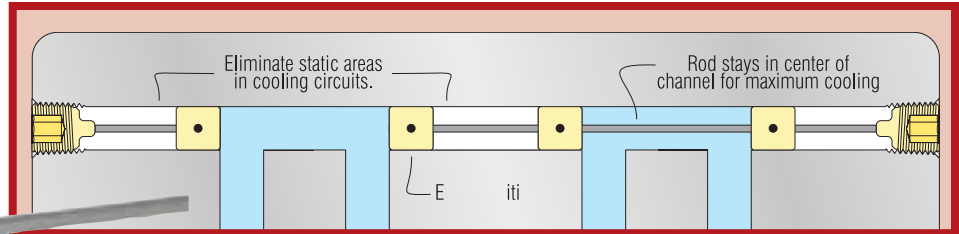
- Stops coolant flow on hoses with flow-thru sockets.
- Prevents accidents by plugging unused hoses and manifold ports.
- Keeps couplers and seals clean when not in use.



Pipe Plug Diverters



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



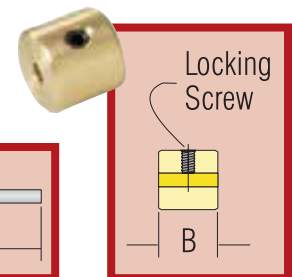
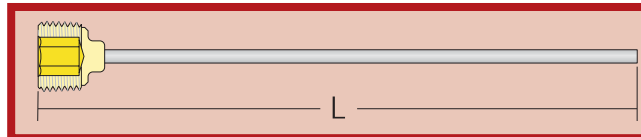
Diverters

- 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

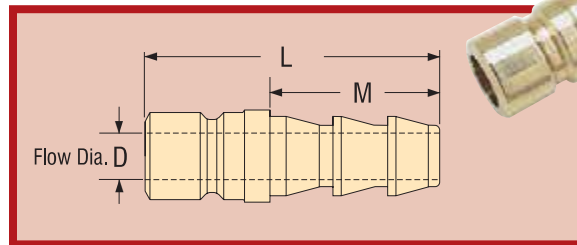
CATALOG NUMBER	PIPE SIZE	L	ROD DIA.	DIVERTER NUMBER
DR-125	1/8	12	3/32	D-125
DR-250	1/4	18	1/8	D-250
DR-375	3/8	18	1/8	D-375
DR-500	1/2	24	3/16	D-500
DR-750	3/4	24	3/16	D-750

- 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

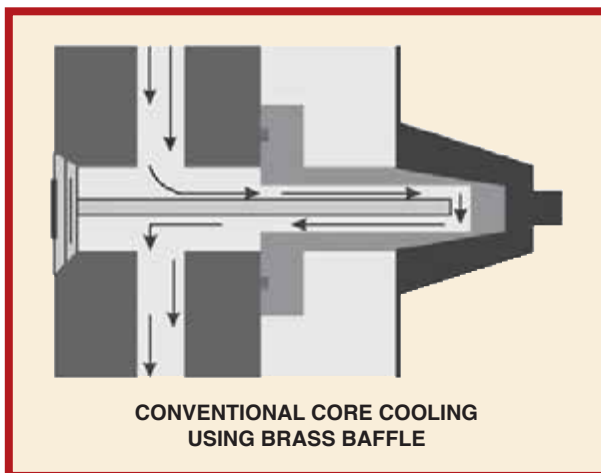
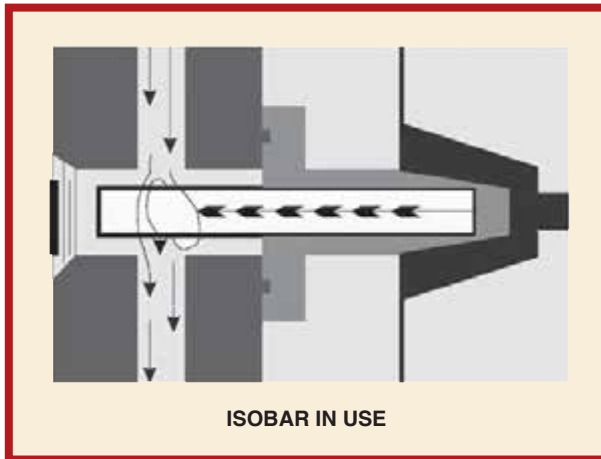
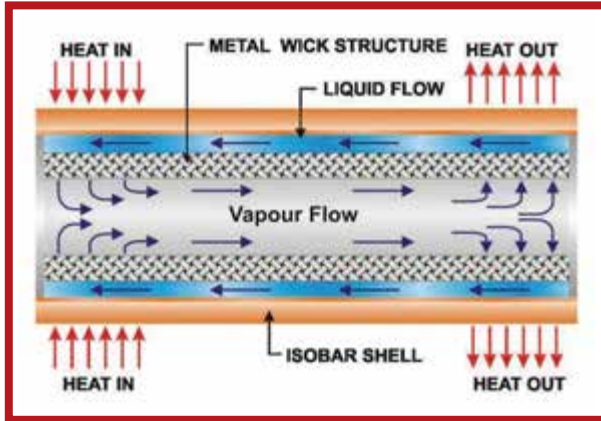
An Isobar[®] Heat Pipe is a super-thermal conductor that has the capacity to transfer large amounts of heat at high speeds in both heating and cooling applications. In fact, Isobar[®] Heat Pipes have, in some applications and orientations, a thermal conductivity in excess of 10,000 times the rate of 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



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.



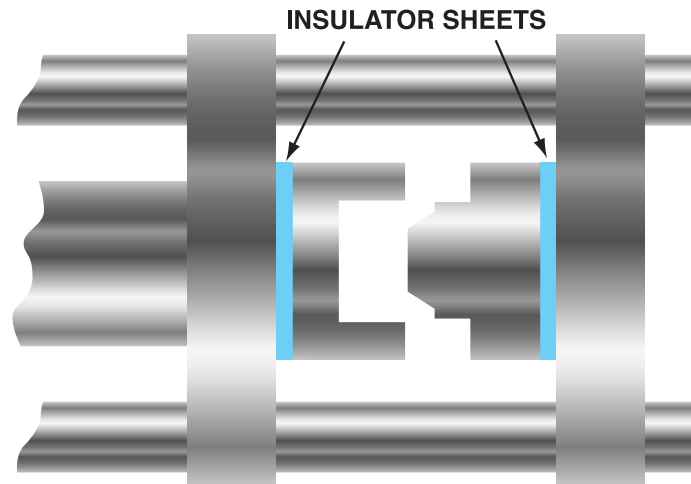
www.acrolab.com



High Temperature Insulator Sheets

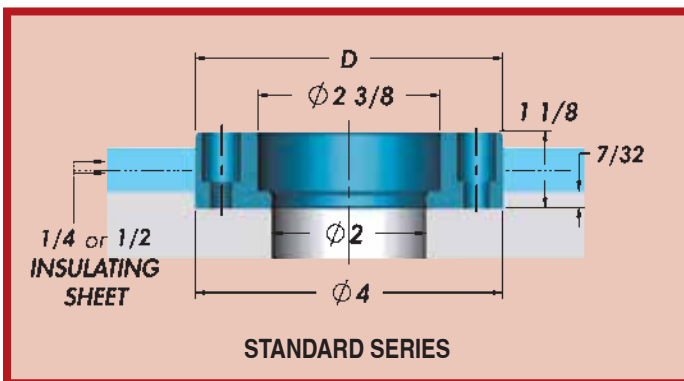
GLATHERM[®] Grade HT

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 $\pm .004$

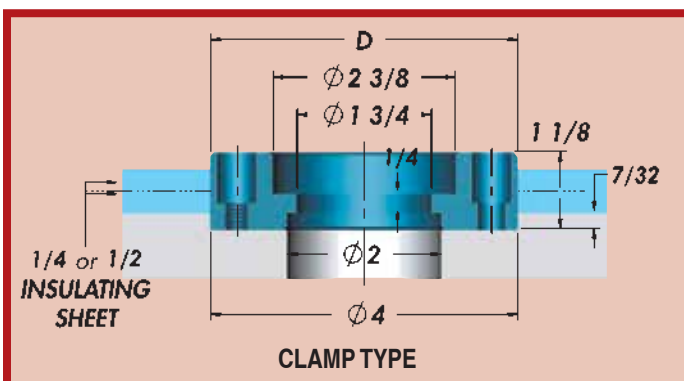


GENERAL INFORMATION		
Compressive Strength	(ASTM D-229)	49,400 psi at 75°F
		27,200 psi at 300°F
		18,000 psi at 400°F
		17,100 psi at 500°F
		15,000 psi at 550°F
Modules of Elasticity in Compression	(ASTM D-229)	1.8 x 10 ⁶ psi at 75°F
		2.9 x 10 ⁶ psi at 75°F
Water Absorption	(ASTM D-229)	0.2%
Thermal 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.

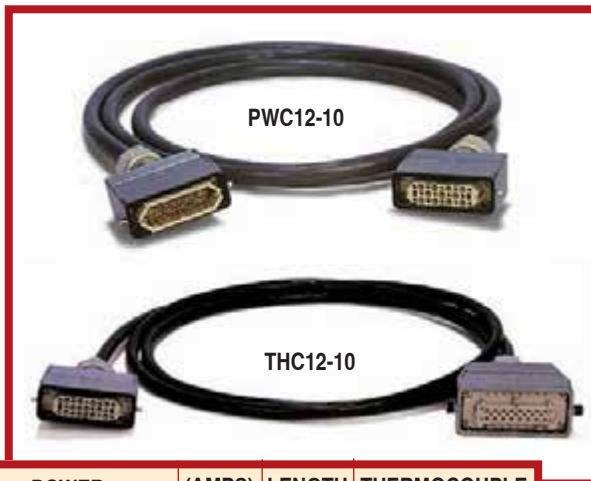


Temperature Control Systems



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)



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.



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

MAIN FRAME HARNESSES

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



Main Frame Blank Panel

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

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



Temperature Control Systems

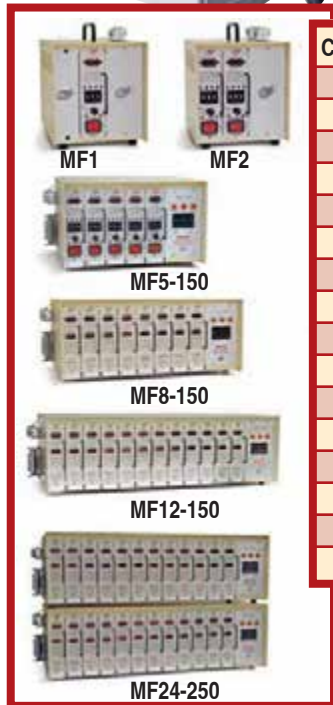
VISIONS 3000 INTELLIGENT TEMPERATURE CONTROL SYSTEM

- 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

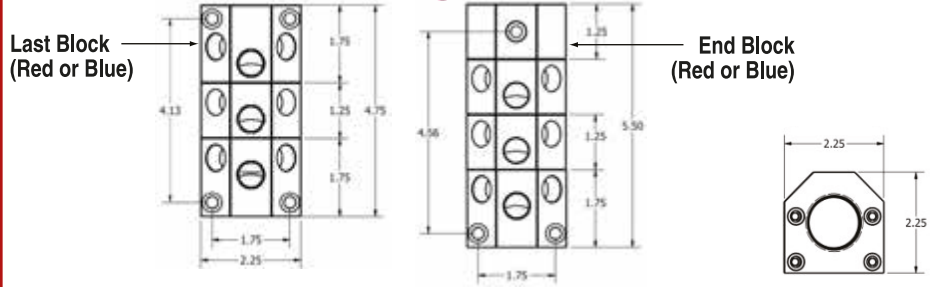
Specifications

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

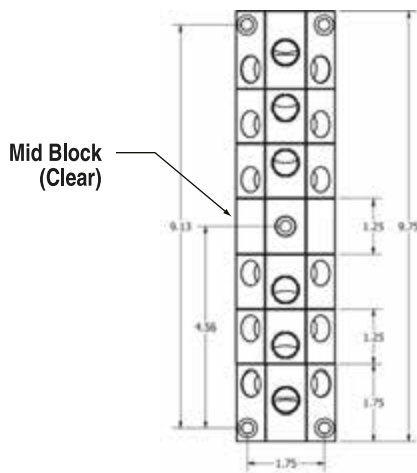


Port-to-Port (PP)

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.

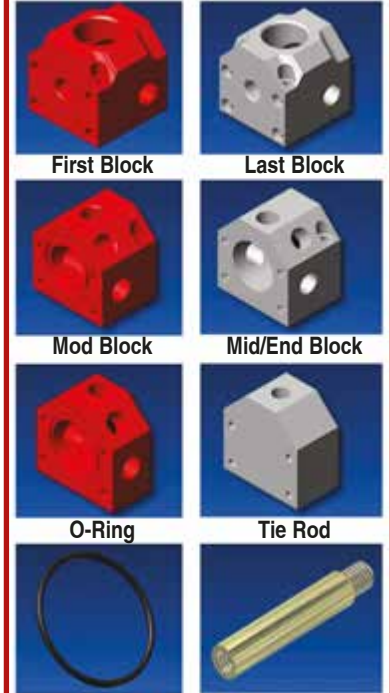
FB2-1-4-B-PB
 FB2-2-4-B-PB
 FB2-3-4-B-PB
 FB2-4-4-B-PB
 FB2-5-4-B-PB

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



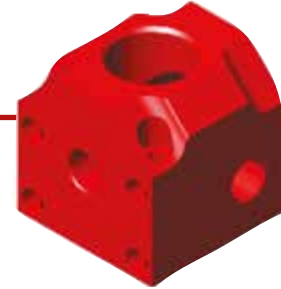
koolfowmanifold.com



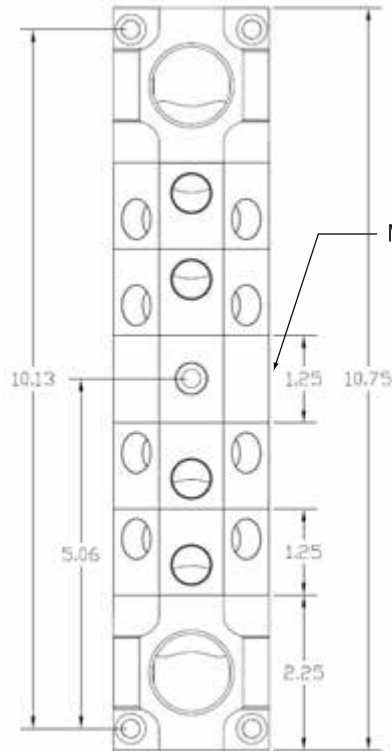
FB2 90° Series

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



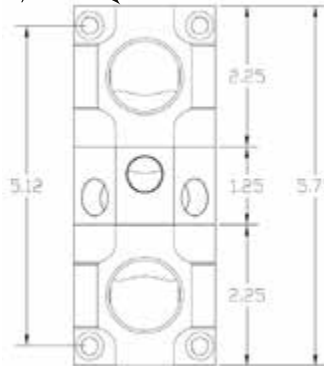
Port-to-Divide (PD)



Mid Block
(Clear)

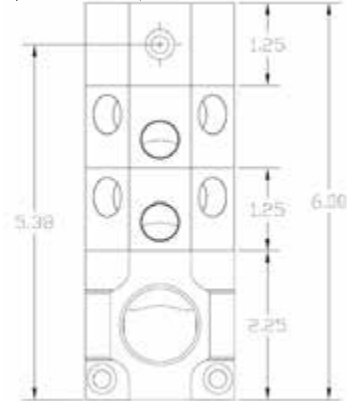
Port-to-Port (PP)

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.
 FB290-1-4-PD
 FB290-2-4-PD
 FB290-3-4-PD
 FB290-4-4-PD
 FB290-5-4-PD

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

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

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

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

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

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

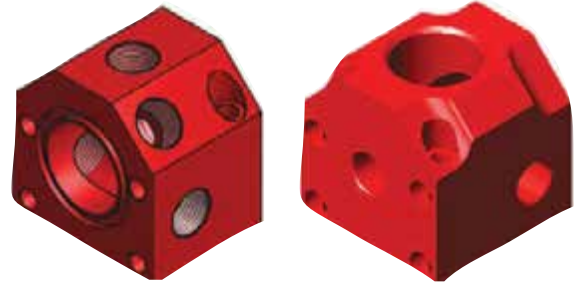
3/8" Outlet, Red Assembly No.
 FB290-1-6-R-PB
 FB290-2-6-R-PB
 FB290-3-6-R-PB
 FB290-4-6-R-PB
 FB290-5-6-R-PB

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

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



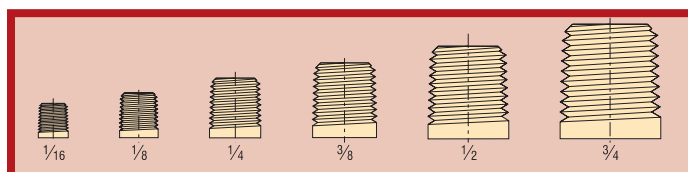
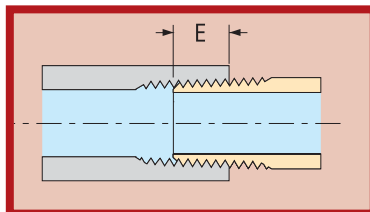
PC-100

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

