

Brass Blade Baffles

NEW

....With Patented  Technology....


for Extra Torque

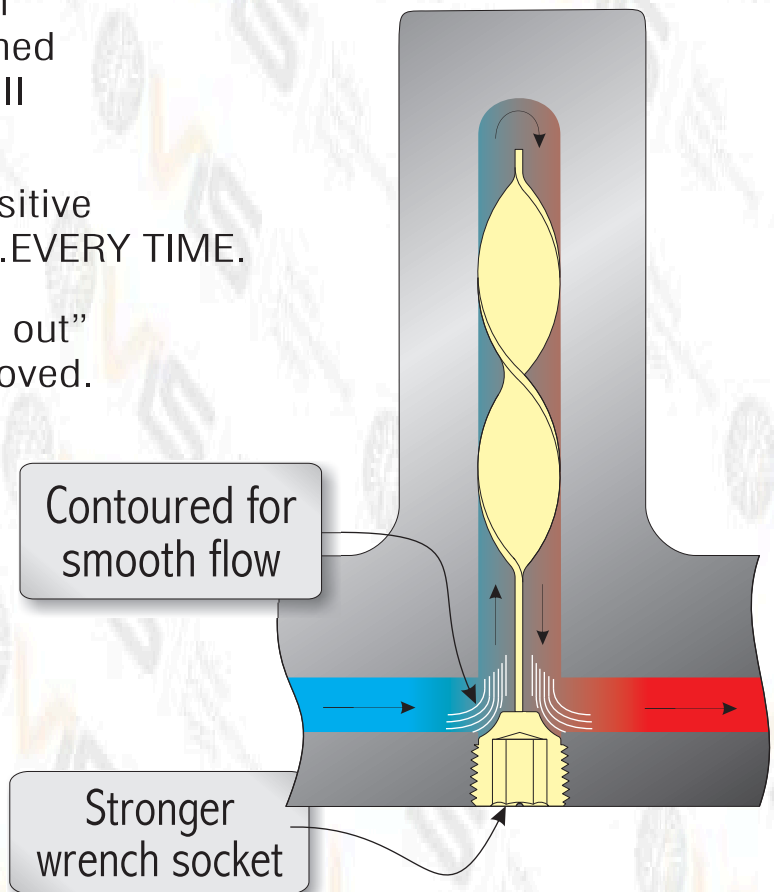


Plug  formed specifically for blade baffles



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

- Standard brass flush plugs with  forming technology designed specifically for blade baffles will withstand 300% more torque.
- Improved design allows for positive installation and easy removal...EVERY TIME.
- Extra deep socket can't "round out" when baffle is installed or removed.
- New  forming eliminates problems caused by "soft plugs".
- The engineered shape allows smooth flow to the cooling channel.
- Custom Baffles made to your print are available



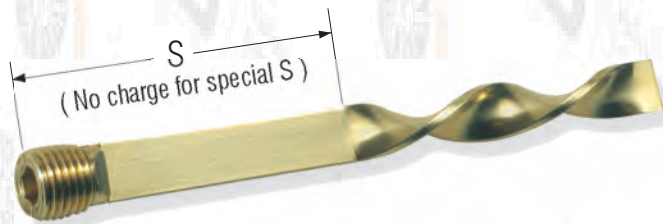
Plug Baffles



- Patented ***T** Technology allows 300% more wrenching torque.
Patent #7,159,837
- Flush-seal type ($\frac{7}{8}$ taper) brass pipe plugs standard. Alloy, stainless, and oversize ($\frac{3}{4}$ taper) plugs available.
- Same day shipment on custom length baffles.
- Custom stepped width blades, and plug size combinations quoted on request.
- $\frac{3}{4}$ " NPT Brass Plug Baffles for use with $\frac{29}{32}$ " tap drill are available from stock.

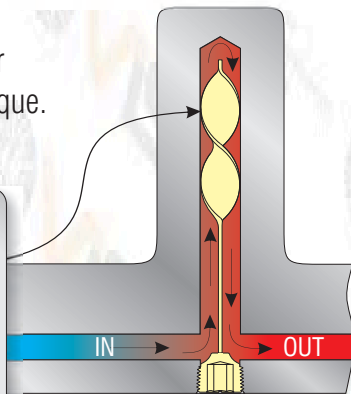
| Catalog Number | Overall Length (In.) | Plug Size (NPT) | Blade Width (-.005) (-.010) | Drill Diameter | Blade Thickness | Price |
|----------------|----------------------|-----------------|-----------------------------|-----------------|-----------------|-------|
| SB16 X 4 | 4 | | | | | |
| SB16 X 8 | 8 | $\frac{1}{16}$ | $\frac{1}{4}$ | $\frac{1}{4}$ | .057 | |
| SB16 X 12 | 12 | | | | | |
| SB18 X 4 | 4 | | | | | |
| SB18 X 8 | 8 | $\frac{1}{8}$ | $\frac{5}{16}$ | $\frac{5}{16}$ | .057 | |
| SB18 X 12 | 12 | | | | | |
| SB14 X 5 | 5 | | | | | |
| SB14 X 10 | 10 | $\frac{1}{4}$ | $\frac{7}{16}$ | $\frac{7}{16}$ | .085 | |
| SB14 X 15 | 15 | | | | | |
| SB38 X 6 | 6 | | | | | |
| SB38 X 12 | 12 | $\frac{3}{8}$ | $\frac{9}{16}$ | $\frac{9}{16}$ | .093 | |
| SB38 X 18 | 18 | | | | | |
| SB12 X 8 | 8 | | | | | |
| SB12 X 16 | 16 | $\frac{1}{2}$ | $1\frac{1}{16}$ | $1\frac{1}{16}$ | .093 | |
| SB34 X 12 | 12 | | | | | |
| SB34 X 20 | 20 | $\frac{3}{4}$ | $1\frac{5}{16}$ | $1\frac{5}{16}$ | .093 | |
| SB1 X 16 | 16 | | | | | |
| SB1 X 24 | 24 | 1 | $1\frac{1}{8}$ | $1\frac{1}{8}$ | .102 | |

Plug Baffles (Turbo)



- Feature ***T** plugs for 300% more wrench torque.
Patent #7,159,837

Spiral lengthens the cooling path and keeps baffle centered, providing up to 11% greater flow rate.



| Catalog Number | Overall Length (In.) | Straight Length S | Plug Size (NPT) | Blade Width (-.005) (-.010) | Drill Diameter | Blade Thickness | Price |
|----------------|----------------------|-------------------|-----------------|-----------------------------|-----------------|-----------------|-------|
| TB16 X 4 | 4 | 2 | | | | | |
| TB16 X 8 | 8 | 4 | $\frac{1}{16}$ | $\frac{1}{4}$ | $\frac{1}{4}$ | .057 | |
| TB16 X 12 | 12 | 6 | | | | | |
| TB18 X 4 | 4 | 2 | | | | | |
| TB18 X 8 | 8 | 4 | $\frac{1}{8}$ | $\frac{5}{16}$ | $\frac{5}{16}$ | .057 | |
| TB18 X 12 | 12 | 6 | | | | | |
| TB14 X 5 | 5 | 2 | | | | | |
| TB14 X 10 | 10 | 4 | $\frac{1}{4}$ | $\frac{7}{16}$ | $\frac{7}{16}$ | .085 | |
| TB14 X 15 | 15 | 6 | | | | | |
| TB38 X 6 | 6 | 2 | | | | | |
| TB38 X 12 | 12 | 4 | $\frac{3}{8}$ | $\frac{9}{16}$ | $\frac{9}{16}$ | .093 | |
| TB38 X 18 | 18 | 6 | | | | | |
| TB12 X 8 | 8 | 3 | | | | | |
| TB12 X 16 | 16 | 5 | $\frac{1}{2}$ | $1\frac{1}{16}$ | $1\frac{1}{16}$ | .093 | |
| TB34 X 12 | 12 | 4 | | | | | |
| TB34 X 20 | 20 | 6 | $\frac{3}{4}$ | $1\frac{5}{16}$ | $1\frac{5}{16}$ | .093 | |
| TB1 X 16 | 16 | 5 | | | | | |
| TB1 X 24 | 24 | 8 | 1 | $1\frac{1}{8}$ | $1\frac{1}{8}$ | .102 | |

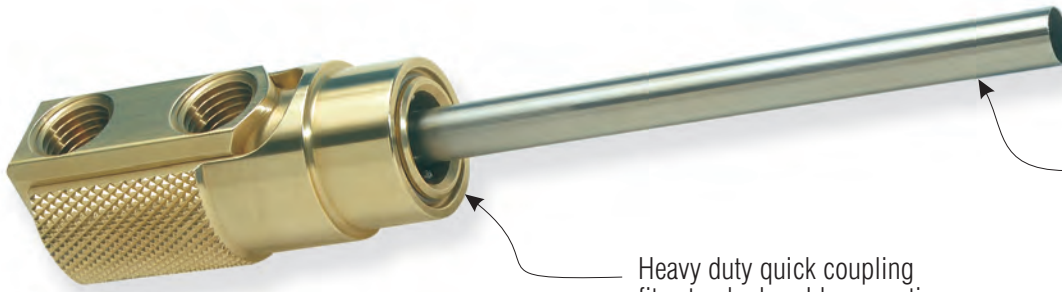
Blade Material Only



- Held to exact tolerances to closely fit cooling channel diameters.
- Longer lengths available.

| Catalog Number | Plug Size | Blade Width (-.005) (-.010) | Blade Thickness | Overall Length (Inches) | Price |
|----------------|----------------|-----------------------------|-----------------|-------------------------|-------|
| BM16 | $\frac{1}{16}$ | $\frac{1}{4}$ | .057 | 36 | |
| BM18 | $\frac{1}{8}$ | $\frac{5}{16}$ | .057 | 36 | |
| BM14 | $\frac{1}{4}$ | $\frac{7}{16}$ | .085 | 36 | |
| BM38 | $\frac{3}{8}$ | $\frac{9}{16}$ | .093 | 36 | |
| BM12 | $\frac{1}{2}$ | $1\frac{1}{16}$ | .093 | 36 | |
| BM34 | $\frac{3}{4}$ | $1\frac{5}{16}$ | .093 | 36 | |
| BM34-9 | $\frac{3}{4}$ | $\frac{29}{32}$ | .093 | 36 | |
| BM1 | 1 | $1\frac{1}{8}$ | .102 | 36 | |

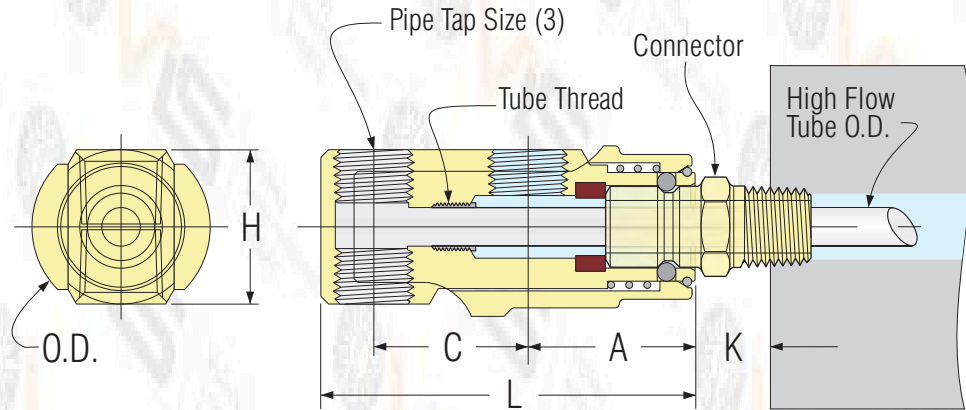
Quick-Coupler Type Cascades



Heavy duty quick coupling fits standard mold connections

Stainless High Flow Tube for maximum cooling.

- Can be installed and removed without disconnecting coolant lines.
- Viton Seals standard.
- High flow design provides maximum cooling rates.
- 12" High Flow Stainless tube, and Brass Pipe Plug included.



| Catalog Number | Pipe Tap Size (NPT) | Connector Series | Tube Thread | High Flow Tube Included | L | C | A | H | O.D. | Price |
|----------------|---------------------|------------------|-------------|-------------------------|-------|--------|--------|--------|-------|-------|
| SC186N | 1/8 | 200 | 1/4-28 | HF187T-12 | 1.937 | 1 1/16 | 3 1/32 | 1 3/16 | 7/8 | |
| SC181N | 1/8 | | | | 2.250 | 1 | 3 1/32 | 1 3/16 | 7/8 | |
| SC146N-4 | 1/4 | 300 | 5/16-24 | HF250T-12 | 2.187 | 1 1/16 | 1 5/32 | 1 | 1 1/8 | |
| SC141N-4 | 1/4 | | | | 2.500 | 1 | 1 5/32 | 1 | 1 1/8 | |
| SC121N-4 | 1/4 | 500 | 1/2-20 | HF437T-12 | 3.125 | 1 1/4 | 1 3/8 | 1 1/4 | 1 3/8 | |
| SC121N-6 | 3/8 | | | | 3.125 | 1 1/4 | 1 3/8 | 1 1/4 | 1 3/8 | |

| Catalog Number | Connector | K Min. |
|----------------|-----------|--------|
| SC186N | 251 | .32 |
| SC181N | 252 | .43 |
| | 253 | .49 |
| | 351* | .34 |
| SC146N-4 | 352 | .42 |
| SC141N-4 | 353 | .45 |
| | 354 | .57 |
| SC121N-4 | 553** | .55 |
| SC121N-6 | 554 | .54 |
| | 556 | .57 |

* Uses High Flow Tube JHF187T
 ** Uses High Flow Tube JHF375T

See tube specifications on page 4.

Quick-Coupler Cascade Heads Only

- Aids in quick and efficient assembly and disassembly of cooling circuit.
- Heavy duty all brass and stainless steel construction.
- Dimensions are same as above for corresponding catalog number.
- Brass Pipe Plug Included.



| Catalog Number | Tube Thread Size | Standard High Flow Tube No. | Price |
|----------------|------------------|-----------------------------|-------|
| SC186H | 1/4-28 | HF187T- | |
| SC181H | | | |
| SC146H-4 | 5/16-24 | HF250T- | |
| SC141H-4 | | | |
| SC121H-4 | 1/2-20 | HF437T- | |
| SC121H-6 | | | |

Order tubes for these heads on page 4.

High Flow Stainless Tubes



*Increase Flow
up to 300% !!*

- 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.

| Catalog Number | Thread Size | Thread Length | Tube O.D. | Tube I.D. | Overall Length "L" | | | | Price |
|---------------------|-------------------|---------------|-----------|-----------|--------------------|-----|-----|-----|-------|
| | | | | | 12" | 18" | 24" | 36" | |
| HF093T- JHF093T- | 5-44 10-32 | 1/8 3/16 | .090 | .076 | • | • | • | • | |
| HF125T- JHF125T- | 10-32 1/4-28 | 3/16 1/4 | .125 | .109 | • | • | • | • | |
| HF187T- JHF187T- | 1/4-28 5/16-24 | 1/4 5/16 | .187 | .167 | • | • | • | • | |
| HF250T- JHF250T- | 5/16-24 3/8-24 | 5/16 3/8 | .250 | .230 | • | • | • | • | |
| HF312T- JHF312T- | 3/8-24 7/16-20 | 3/8 7/16 | .312 | .288 | • | • | • | • | |
| HF375T- JHF375T- | 7/16-20 1/2-20 | 7/16 1/2 | .365 | .340 | • | • | • | • | |
| HF437T- | 1/2-20 | 1/2 | .427 | .397 | • | • | • | • | |

To order, specify Catalog Number and Overall Length. Example: HF250T-18

Standard Brass Tubes



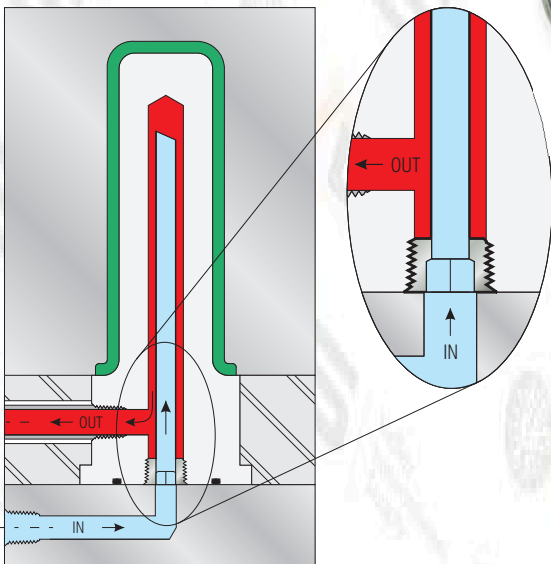
- Tubes 18" and longer have both ends threaded
- Half-hard temper for reliable performance.
- Also available in Stainless Steel.
- Bulk tube available.

| Catalog Number | Tube O.D. | Tube I.D. | Thread Size | Thread Length | Overall Length "L" | | | | Price |
|----------------|-----------|-----------|-------------|---------------|--------------------|-----|-----|-----|-------|
| | | | | | 12" | 18" | 24" | 36" | |
| 125T- | .125 | .061 | 5-44 | 3/16 | • | • | • | • | |
| 187T- | .187 | .123 | 10-32 | 3/16 | • | • | • | • | |
| 250T- | .250 | .170 | 1/4-28 | 1/4 | • | • | • | • | |
| 312T- | .312 | .210 | 5/16-24 | 5/16 | • | • | • | • | |
| 375T- | .375 | .273 | 3/8-24 | 3/8 | • | • | • | • | |
| 437T- | .437 | .307 | 7/16-20 | 7/16 | • | • | • | • | |
| 625T- | .625 | .495 | 5/8-18 | 5/8 | • | • | • | • | |

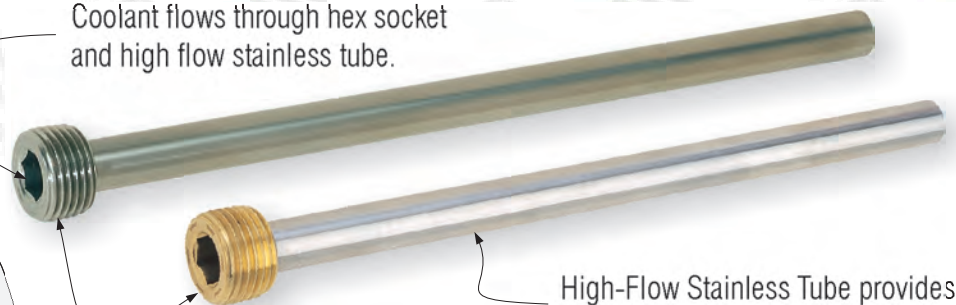
To order, specify Catalog Number and Overall Length. Example: 250T-18

Piston Tubes

- All stainless steel construction provides high strength and reliable performance.
- Flow thru pipe plug available in custom sizes and materials.



Coolant flows through hex socket and high flow stainless tube.



High-Flow Stainless Tube provides maximum cooling rates.

Available all stainless steel, or stainless tube with brass pipe plug.

| Catalog Number (Stain. Plug) | Catalog Number (Brass Plug) | Pipe Size (NPT) | Tube O.D. | Tube I.D. | Overall Length "L" | | | | Price |
|------------------------------|-----------------------------|-----------------|-----------|-----------|--------------------|-----|-----|-----|-------|
| | | | | | 12" | 24" | 36" | 48" | |
| PT16- | PT16B- | 1/16 | .125 | .109 | • | • | • | • | |
| PT18- | PT18B- | 1/8 | .187 | .167 | • | • | • | • | |
| PT14- | PT14B- | 1/4 | .250 | .230 | • | • | • | • | |
| PT38- | PT38B- | 3/8 | .365 | .340 | • | • | • | • | |
| PT12- | PT12B- | 1/2 | .365 | .340 | • | • | • | • | |
| PT34- | PT34B- | 3/4 | .427 | .397 | • | • | • | • | |

To order, specify Catalog Number and Overall Length. Example: PT14-24

Pipe Plugs

- Finest quality - Made In USA.
- Std qty. 100 pcs. on sizes 1/16 - 3/8. No additional charge for partial boxes.
- Standard plugs are flush type (7/8 taper). Oversize (3/4 taper) also available from stock.



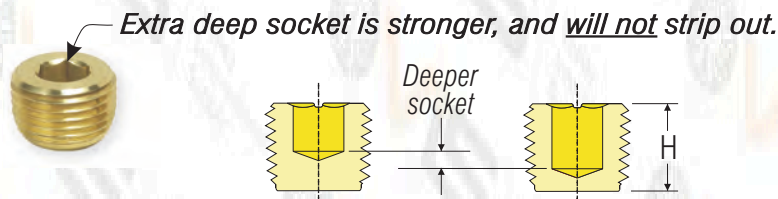
| Catalog Number | Pipe Plug Material | Thread Size (NPT) | | | | | | | | | | Price |
|-----------------|--------------------|-------------------|------|------|------|------|------|------|-------|-------|------|-------|
| | | 1/16 | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | |
| Plug Height H → | | .250 | .250 | .406 | .406 | .531 | .531 | .656 | .656 | .656 | .656 | |
| BF- | Brass | • | • | • | • | • | • | • | • | • | • | |
| SF- | Alloy Steel | • | • | • | • | • | • | • | • | • | • | |
| SSF- | Stainless | • | • | • | • | • | • | • | • | • | • | |

To order, specify Catalog Number and pipe size. Example: BF-1/4

Heavy Duty Pipe Plugs

With Patented  Technology....

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



| Catalog Number | Pipe Plug Material | Thread Size (NPT) | | | | | | |
|----------------|--------------------|-------------------|-----|-----|-----|-----|-----|--|
| | | 1/16 | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | |
| XTBF- | Brass | • | • | • | • | • | • | |

To order, specify Catalog Number and pipe size. Example: XTBF-1/4

| Pipe Size | Plug Ht. H | Price |
|-----------|------------|-------|
| 1/16 | .296 | |
| 1/8 | .312 | |
| 1/4 | .421 | |
| 3/8 | .484 | |
| 1/2 | .625 | |
| 3/4 | .625 | |

BSP Pipe Plugs

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



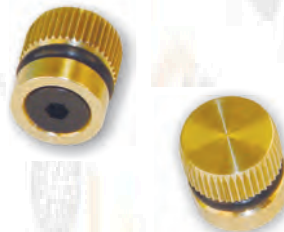
| Catalog Number | Material | Thread Size (BSPT) | | | | | | |
|----------------|----------|--------------------|---------|---------|---------|---------|-------|--|
| | | 1/8 -28 | 1/4 -19 | 3/8 -19 | 1/2 -14 | 3/4 -14 | 1 -11 | |
| MP- | Brass | • | • | • | • | • | • | |

To order, specify Catalog Number and pipe size. Example: MP-1/4

| Pipe Size | H (mm) | Price |
|-----------|--------|-------|
| 1/16 | 8 | |
| 1/8 | 8 | |
| 1/4 | 10 | |
| 3/8 | 10 | |
| 1/2 | 12 | |
| 3/4 | 14 | |
| 1 | 17 | |

Threadless Diverting Plugs

- Withstand pressures to 72 psi.
- Buna O-ring will seal rough or corroded holes.
- Available in sizes to fit standard or oversize cooling channels



| Catalog Number | Drill Size | Nominal Pipe Size | Hex Size | Overall Length | Price |
|----------------|------------|-------------------|----------|----------------|-------|
| BTP-10 | 11/32 | 1/8 | 5/64 | .50 | |
| BTP-10-OS | 23/64 | | | | |
| BTP-20 | 7/16 | 1/4 | 1/8 | .56 | |
| BTP-20-OS | 29/64 | | | | |
| BTP-40 | 9/16 | 3/8 | 1/8 | .62 | |
| BTP-40-OS | 37/64 | | | | |
| BTP-60 | 11/16 | 1/2 | 1/8 | .62 | |
| BTP-60-OS | 45/64 | | | | |

HexKey Cascade Assemblies

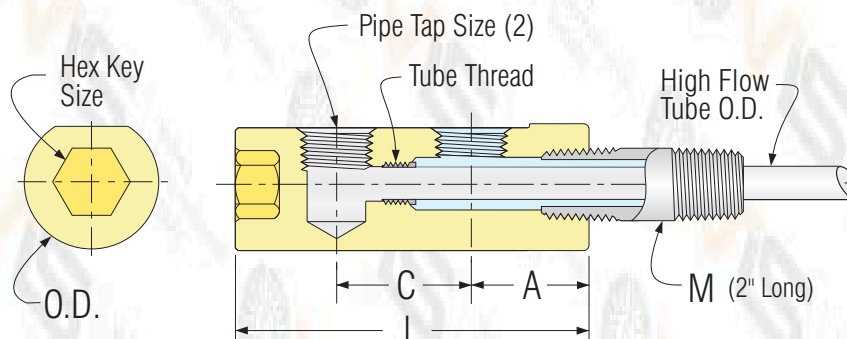
Heavy duty hex socket provides positive, easy installation and removal.



High Flow Tube Provides maximum flow rates

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

- High flow design provides maximum cooling rates.
- Easy to install and remove.
- Assemblies include brass head, 12" High Flow Stainless tube, and 2" long galvanized pipe nipple.



| Catalog Number | Mold Nipple (NPT) M | Pipe Tap Size (NPT) | Tube Thread Size | High Flow Tube Included | L | C | A | Hex Key Size | Nominal Clearance Drill | Actual O.D. | Price |
|----------------|---------------------|---------------------|------------------|-------------------------|-------|--------|--------|--------------|-------------------------|-------------|-------|
| E16N | 1/16 | 1/16 | 10-32 | HF125T-12 | 1.625 | 9/16 | 1/2 | 5/16 | 5/8 | .610 | |
| E16N-2 | 1/8 | 1/16 | | | 1.687 | 9/16 | 9/16 | 3/8 | 3/4 | .735 | |
| E186N | 1/8 | 1/8 | 1/4-28 | HF187T-12 | 1.875 | 1 1/16 | 9/16 | 3/8 | 7/8 | .860 | |
| E181N | 1/8 | 1/8 | | | 2.187 | 1 | 9/16 | 3/8 | 7/8 | .860 | |
| E146N | 1/4 | 1/8 | | | 2.187 | 1 1/16 | 1 3/16 | 1/2 | 1 | .985 | |
| E146N-4 | 1/4 | 1/4 | | | 2.312 | 1 1/16 | 7/8 | 1/2 | 1 | .985 | |
| E141N | 1/4 | 1/8 | 5/16-24 | HF250T-12 | 2.500 | 1 | 1 3/16 | 1/2 | 1 | .985 | |
| E141N-4 | 1/4 | 1/4 | | | 2.625 | 1 | 7/8 | 1/2 | 1 | .985 | |
| E381N-4 | 3/8 | 1/4 | 3/8-24 | HF312T-12 | 2.625 | 1 | 7/8 | 1/2 | 1 | .985 | |
| E121N-4 | 1/2 | 1/4 | 7/16-20 | HF375T-12 | 2.812 | 1 | 1 | 1/2 | 1 1/4 | 1.235 | |

See tube specifications on page 4.

HexKey Cascade Heads Only

- Dimensions for these heads are shown above for corresponding catalog number.
- HexKey** Cascade Heads use High Flow Stainless Tubes shown on page 4.
- Order Adjustable Brass Hex Nipples, or other pipe nipples on page 21.



| Catalog Number | Tube Thread Size | Use High Flow Tube | Price |
|----------------|------------------|--------------------|-------|
| E16H | 10-32 | HF125T- | |
| E16H-2 | | | |
| E186H | 1/4-28 | HF187T- | |
| E181H | | | |
| E146H | | | |
| E146H-4 | 5/16-24 | HF250T- | |
| E141H | | | |
| E141H-4 | | | |
| E381H-4 | 3/8-24 | HF312T- | |
| E121H-4 | 7/16-20 | HF375T- | |

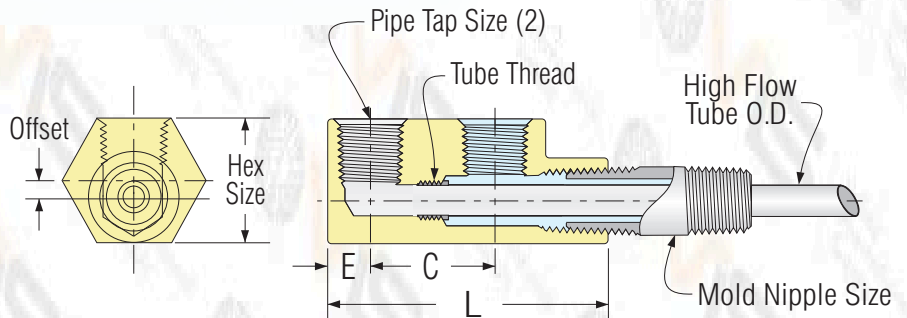
Order tubes for these heads on page 4.

High Flow Cascade Assemblies



Increased inlet areas produce higher flow rates.

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



- 35%-65% higher flow rates than standard Nipple Type 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.

| Catalog Number | Mold Nipple Size (NPT) | Pipe Tap Size (NPT) | Tube Thread Size | High Flow Tube Included | Hex Size | Offset | E | C | L | Price |
|----------------|------------------------|---------------------|------------------|-------------------------|----------|--------|--------|--------|---------|-------|
| HF16N | 1/16 | 1/16 | 10-32 | HF125T-12 | 5/8 | 3/32 | 1/4 | 1/2 | 1 1/4 | |
| HF186N | 1/8 | 1/8 | 1/4-28 | HF187T-12 | 3/4 | 3/32 | 5/16 | 1 1/16 | 1 5/8 | |
| HF181N | | | | | | | | 1 | 1 15/16 | |
| HF146N-4 | 1/4 | 1/4 | 5/16-24 | HF250T-12 | 1 | 5/32 | 1 1/32 | 1 1/16 | 1 7/8 | |
| HF141N-4 | | | | | | | | 1 | 2 3/16 | |
| HF381N-4 | 3/8 | 1/4 | 7/16-20 | HF375T-12 | 1 1/8 | 1/8 | 1 1/32 | 1 | 2 1/4 | |

See tube specifications on page 4.

High Flow Cascade Heads Only

- All dimensions same as above for corresponding catalog number.
- High Flow Cascade Heads are available in special pipe tap and tube combinations.
- Order Adjustable Hex Nipples, or other pipe nipples on page 5.
- Select tubes on page 4.



| Catalog Number | Tube Thread Size | Standard High Flow Tube No. | Price |
|----------------|------------------|-----------------------------|-------|
| HF16H | 10-32 | HF125T- | |
| HF186H | 1/4-28 | HF187T- | |
| HF181H | | | |
| HF146H-4 | 5/16-24 | HF250T- | |
| HF141H-4 | | | |
| HF381H-4 | 7/16-20 | HF375T- | |

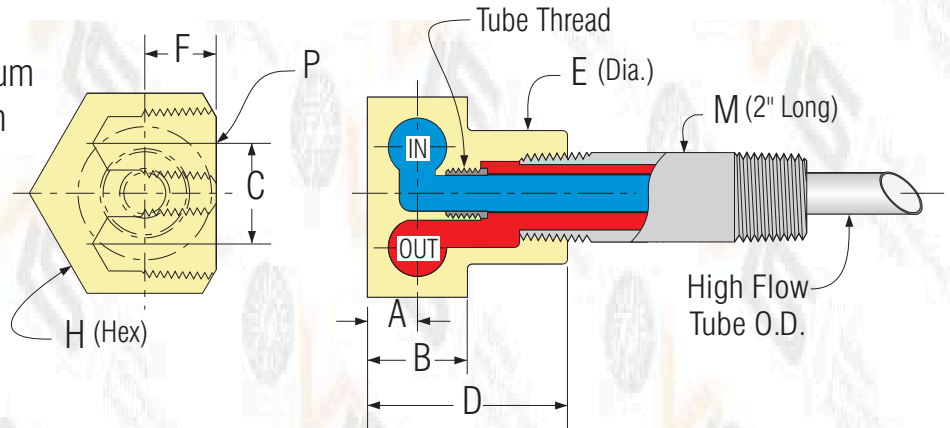
Order tubes for these heads on page 4.

Compact Cascade Assemblies



Stainless High Flow Tube for maximum cooling.

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



- In/Out connections are positioned sideways for mounting in tight spaces or thin mold plates.

- Assemblies include brass head, 12" High Flow Stainless tube, and 2" long galv. pipe nipple.

| Catalog Number | Mold Nipple (NPT) M | In/Out Pipe (NPT) P | High Flow Tube Included | Tube Thread Size | Hex Size H | A | B | C | D | E | F | Price |
|----------------|---------------------|---------------------|-------------------------|------------------|------------|------|------|-------|-------|--------|------|-------|
| ET1816 | 1/8 | 1/16 | HF187T- | 1/4-28 | 15/16 | 7/32 | 7/16 | 1/2 | 1 | 5/8 | .330 | |
| ET1418 | 1/4 | 1/8 | HF250T- | 5/16-24 | 1 1/4 | 5/16 | 5/8 | 11/16 | 1 1/4 | 3/4 | .410 | |
| ET1414 | 1/4 | 1/4 | HF250T- | 5/16-24 | 1 1/2 | 3/8 | 3/4 | 3/4 | 1 1/2 | 7/8 | .540 | |
| ET3814 | 3/8 | 1/4 | HF312T- | 3/8-24 | 1 1/2 | 3/8 | 3/4 | 3/4 | 1 1/2 | 1 | .540 | |
| ET1214 | 1/2 | 1/4 | HF375T- | 7/16-20 | 1 3/4 | 3/8 | 3/4 | 1 | 1 3/4 | 1 3/16 | .540 | |

Compact Cascade Heads Only

- All dimensions same as above for corresponding catalog number.

- Order Adjustable Hex Nipples, or other pipe nipples on page 18.

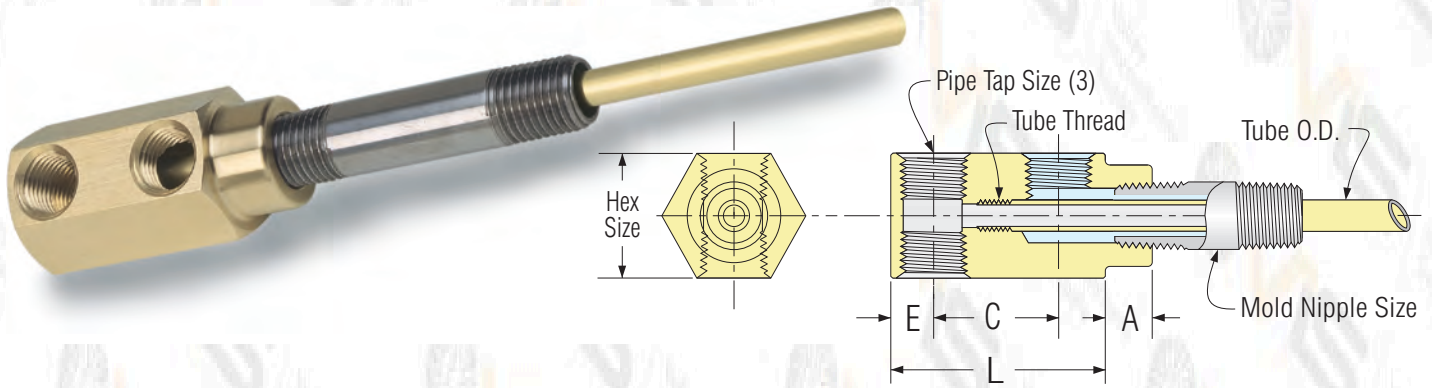
- Order High Flow Tubes on page 4.



| Catalog Number | Mold Nipple (NPT) M | In/Out Pipe (NPT) P | Tube Thread Size | Use Tube Number | Price |
|----------------|---------------------|---------------------|------------------|-----------------|-------|
| 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- | |
| ET1214H | 1/2 | 1/4 | 7/16-20 | HF375T- | |

Order tubes for these heads on page 4.

Nipple Type Cascade Assemblies



- Assemblies include brass head, 12" Brass Tube, 2" long galvanized pipe nipple, and brass pipe plug.
- Solid brass heads are precision machined for accurate assembly.
- Cascade Assemblies are available in special pipe tap and tube combinations.

| Catalog Number | Mold Nipple (NPT) | Pipe Tap Size (NPT) | Tube O.D. | Brass Tube Included | Hex Size | E | C | A | L | Price |
|----------------|-------------------|---------------------|-----------|---------------------|----------|--------|--------|-------|----------|-------|
| 16N | 1/8 | 1/16 | | | 3/4 | 7/32 | 1/2 | 9/32 | 15/16 | |
| 186N | 1/8 | 1/8 | 3/16 | 187T-12 | 7/8 | 2 1/64 | 1 1/16 | 9/32 | 1 1 1/32 | |
| 181N | 1/8 | 1/8 | | | 7/8 | 2 1/64 | 1 | 9/32 | 1 2 1/32 | |
| 146N | 1/4 | 1/8 | | | 1 | 2 1/64 | 1 1/16 | 7/32 | 1 1 1/32 | |
| 146N-4 | 1/4 | 1/4 | | | 1 | 2 1/64 | 1 1/16 | 7/32 | 1 1 1/32 | |
| 141N | 1/4 | 1/8 | 1/4 | 250T-12 | 1 | 2 1/64 | 1 | 7/16 | 1 2 1/32 | |
| 141N-4 | 1/4 | 1/4 | | | 1 | 2 1/64 | 1 | 7/16 | 1 2 1/32 | |
| 381N | 3/8 | 1/8 | | | 1 | 1 1/32 | 1 | 13/32 | 1 1 1/16 | |
| 381N-4 | 3/8 | 1/4 | 5/16 | 312T-12 | 1 | 1 1/32 | 1 | 13/32 | 1 1 1/16 | |
| 121N-4 | 1/2 | 1/4 | 7/16 | 437T-12 | 1 1/4 | 13/32 | 1 | 9/16 | 1 1 3/16 | |
| 341N-4 | 3/4 | 3/8 | 5/8 | 625T-12 | 1 1/2 | 1/2 | 1 1/4 | 3/4 | 2 1/4 | |

Nipple Type Heads (for Brass Tubes)

- For use with Standard Brass Tubes**
- All dimensions same as above for corresponding catalog number.
- Use Brass Tubes on Page 4.



| Catalog Number | Tube Thread Size | Use Tube Number | Price |
|----------------|------------------|-----------------|-------|
| 16H | | | |
| 186H | 10-32 | 187T- | |
| 181H | | | |
| 146H | | | |
| 146H-4 | 1/4-28 | 250T- | |
| 141H | | | |
| 141H-4 | | | |
| 381H | 5/16-24 | 312T- | |
| 381H-4 | | | |
| 121H-4 | 7/16-20 | 437T- | |
| 341H-4 | 5/8-18 | 625T- | |

Order tubes for these heads on page 4.

Nipple Type Heads (for High Flow Tubes)

- Nipple Type Heads for use with HIGH FLOW STAINLESS TUBES**
- All dimensions same as above except for tube thread size.
- Use High Flow Stainless Tubes on Page 4.



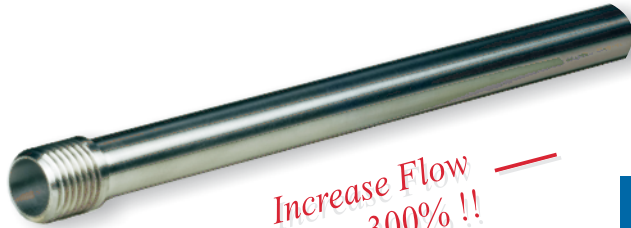
Increase Flow up to 60%



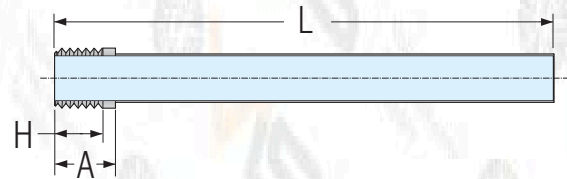
| Catalog Number | Tube Thread Size | Use Tube Number | Price |
|----------------|------------------|-----------------|-------|
| 16H-HFT | | | |
| 186H-HFT | 1/4-28 | HF187T- | |
| 181H-HFT | | | |
| 146H-HFT | | | |
| 146H-4-HFT | 5/16-24 | HF250T- | |
| 141H-HFT | | | |
| 141H-4-HFT | | | |
| 381H-HFT | 3/8-24 | HF312T- | |
| 381H-4-HFT | | | |
| 121H-4-HFT | 1/2-20 | HF437T- | |

Order tubes for these heads on page 4.

High-Flow Stainless Tubes



*Increase Flow
up to 300% !!*



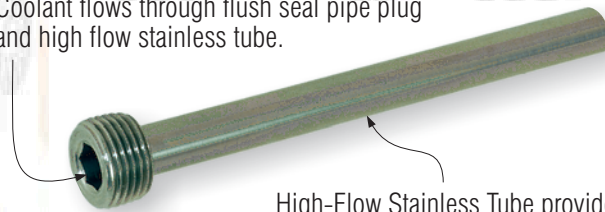
- All stainless construction for high strength and durability.
- Cut to exact lengths at no charge.
- We stock over 150 sizes of thin wall stainless tube. (See adjacent page)
- We build stepped tube assemblies and custom threaded tubes to your print.

| Catalog Number | Thread Size | Tube O.D. | Tube I.D. | Thread Length H | A | Overall Length L | | | | Price |
|---------------------|-------------------|-----------|-----------|-----------------|--------------|------------------|-----|-----|-----|-------|
| | | | | | | 12" | 18" | 24" | 36" | |
| HF072T- JHF072T- | 5-44 10-32 | .072 | .060 | .125 .156 | .140 .203 | • | • | • | • | |
| HF093T- JHF093T- | 5-44 10-32 | .090 | .076 | .125 .156 | .140 .203 | • | • | • | • | |
| HF125T- JHF125T- | 10-32 1/4-28 | .125 | .109 | .156 .203 | .203 .255 | • | • | • | • | |
| HF187T- JHF187T- | 1/4-28 5/16-24 | .187 | .167 | .203 .235 | .255 .290 | • | • | • | • | |
| HF250T- JHF250T- | 5/16-24 3/8-24 | .250 | .230 | .235 .296 | .290 .359 | • | • | • | • | |
| HF312T- JHF312T- | 3/8-24 7/16-20 | .312 | .288 | .296 .359 | .359 .437 | • | • | • | • | |
| HF375T- JHF375T- | 7/16-20 1/2-20 | .365 | .340 | .359 .421 | .437 .500 | • | • | • | • | |
| HF437T- | 1/2-20 | .427 | .397 | .421 | .500 | • | • | • | • | |

To order, specify Catalog Number and Overall Length. Example: HF250T-18

Pipe Plug Style High-Flow Tubes

Coolant flows through flush seal pipe plug and high flow stainless tube.



High-Flow Stainless Tube provides maximum cooling rates.

- All stainless steel construction provides high strength and reliable performance.
- Stainless flush-seal pipe plug standard. Other sizes and materials are available.

| Catalog Number | Pipe Size (NPT) | Tube O.D. | Tube I.D. | Overall Length "L" | | | | Price |
|---|-----------------|------------------------------|------------------------------|--------------------|-----|-----|-----|-------|
| | | | | 12" | 24" | 36" | 48" | |
| PT16-072- PT16-093- PT16- PT16-187 | 1/16 | .072 .090 .125 .187 | .060 .076 .109 .167 | • | • | • | • | |
| PT18- PT18-250 | 1/8 | .187 .250 | .167 .230 | • | • | • | • | |
| PT14- PT14-312 | 1/4 | .250 .312 | .230 .288 | • | • | • | • | |
| PT38- PT38-437 | 3/8 | .365 .427 | .340 .397 | • | • | • | • | |
| PT12- PT12-437- | 1/2 | .365 .427 | .340 .397 | • | • | • | • | |
| PT34- | 3/4 | .427 | .397 | • | • | • | • | |

To order, specify Catalog Number and Overall Length. Example: PT14-24

Standard Brass Tubes



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

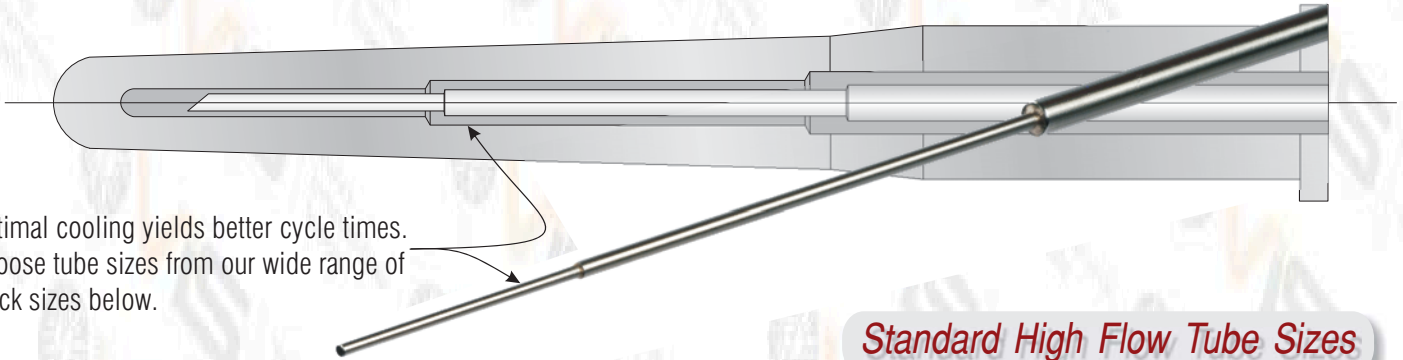
| Catalog Number | Thread Size | Thread Length | Tube O.D. | Tube I.D. | Overall Length "L" | | | | Price |
|---|---|---|--|--|--------------------|-----|-----|-----|-------|
| | | | | | 12" | 18" | 24" | 36" | |
| 125T- 187T- 250T- 312T- 375T- 437T- 625T- | 5-44 10-32 1/4-28 5/16-24 3/8-24 7/16-20 5/8-18 | 3/16 3/16 1/4 5/16 3/8 7/16 5/8 | .125 .187 .250 .312 .375 .437 .625 | .061 .123 .170 .210 .273 .307 .495 | • | • | • | • | |

To order, specify Catalog Number and Overall Length. Example: 250T-18

Custom High-Flow Tubes

Water channels that closely fit part geometry cool more effectively.

We can manufacture cooling tubes that conform to part geometry from our extensive stock of high flow stainless tubing.



Optimal cooling yields better cycle times. Choose tube sizes from our wide range of stock sizes below.

Standard High Flow Tube Sizes

- High Flow Tube sizes to the right, as well as all sizes below are available for any custom tube.
- All stainless steel construction. Installation options include straight threads, tapered threads, o-rings, or any other configuration your design may require.
- Email or fax your requirements to us for a prompt quote. Small quantities and tight deliveries are our speciality.

| Part Number | O.D. | I.D. | Price |
|-------------|------|------|-------|
| HF093T- | .090 | .076 | |
| HF125T- | .125 | .109 | |
| HF187T- | .187 | .167 | |
| HF250T- | .250 | .230 | |
| HF312T- | .312 | .288 | |
| HF375T- | .365 | .340 | |
| HF437T- | .427 | .397 | |

Standard Gage Sizes

| Gage Size | O.D. | I.D. | Gage Size | O.D. | I.D. | Gage Size | O.D. | I.D. | Gage Size | O.D. | I.D. |
|-----------|------|------|-----------|------|------|-----------|-------|-------|-----------|------|-------|
| 3RW | .259 | .219 | 10RW | .134 | .106 | 17RW | .058 | .042 | 24RW | .022 | .012 |
| 3TW | .259 | .229 | 10TW | .134 | .114 | 17TW | .058 | .048 | 24TW | .022 | .014 |
| 3XT | .259 | .239 | 10XT | .134 | .118 | 17XT | .058 | .050 | 24XX | .022 | .016 |
| 4RW | .238 | .198 | 11RW | .120 | .094 | 18RW | .050 | .033 | 25RW | .020 | .010 |
| 4TW | .238 | .208 | 11TW | .120 | .100 | 18TW | .050 | .038 | 25TW | .020 | .012 |
| 4XT | .238 | .218 | 11X | .120 | .106 | 18XT | .050 | .042 | 25XX | .020 | .016 |
| 5RW | .219 | .189 | 12RW | .109 | .085 | 19RW | .042 | .027 | 26RW | .018 | .010 |
| 5TW | .219 | .199 | 12TW | .109 | .091 | 19TW | .042 | .032 | 26TW | .018 | .012 |
| 5XT | .219 | .205 | 12XT | .109 | .095 | 19XT | .042 | .035 | 26XV | .018 | .0135 |
| 6RW | .203 | .173 | 13RW | .095 | .071 | 20RW | .0355 | .0235 | 27RW | .016 | .008 |
| 6TW | .203 | .183 | 13TW | .095 | .077 | 20TW | .0355 | .0255 | 27TW | .016 | .010 |
| 6X | .203 | .189 | 13X | .095 | .085 | 20XT | .0355 | .0275 | 27XV | .016 | .0115 |
| 7RW | .180 | .150 | 14RW | .083 | .063 | 21RW | .032 | .020 | 28RW | .014 | .007 |
| 7TW | .180 | .160 | 14TW | .083 | .067 | 21TW | .032 | .023 | 28TW | .014 | .009 |
| 7X | .180 | .166 | 14XT | .083 | .072 | 21XT | .032 | .025 | 28XV | .014 | .0105 |
| 8RW | .165 | .135 | 15RW | .072 | .054 | 22RW | .028 | .016 | 29RW | .013 | .007 |
| 8TW | .165 | .145 | 15TW | .072 | .060 | 22TW | .028 | .020 | 30RW | .012 | .006 |
| 8XX | .165 | .150 | 15XTS | .072 | .063 | 22XTS | .028 | .021 | 31RW | .010 | .005 |
| 9RW | .148 | .118 | 16RW | .065 | .047 | 23RW | .025 | .013 | 32RW | .009 | .004 |
| 9TW | .148 | .128 | 16TW | .065 | .053 | 23TW | .025 | .017 | 33RW | .008 | .004 |
| 9XX | .148 | .135 | 16XT | .065 | .055 | 23XX | .025 | .020 | 34RW | .007 | .003 |

■ Type 304 Stainless Steel Tubing.

■ Full hard, T.I.G. Welded and drawn.

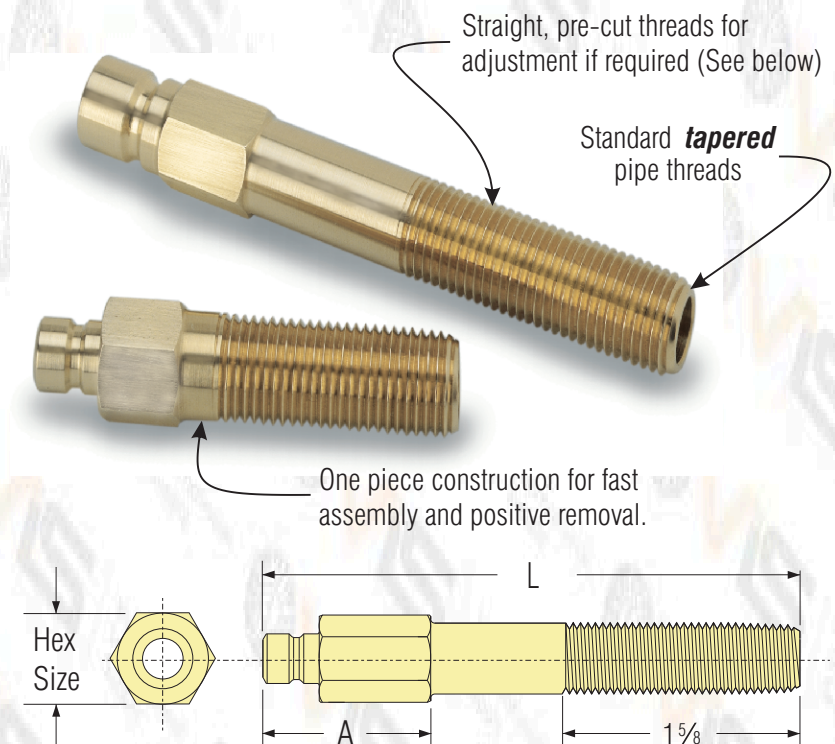
■ Made in USA

Brass Extension Plugs

- All Custom Mold Extension Plugs have tapered pipe threads.

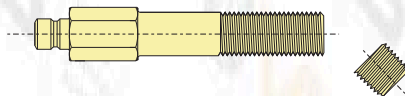
Standard pipe thread systems require tapered external threads to seal in taper threaded holes

- In stock from 1/16" thru 1/2" pipe, including BSPT pipe sizes. When length adjustments are required, simply cut to length. The straight, pre-cut threads on shank make re-tapering easy.
- Available in brass and stainless steel.

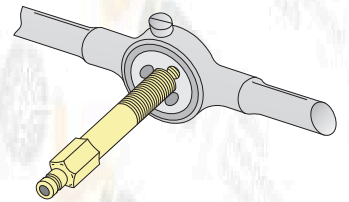


Length Adjustments

1. When special length adjustments are required, simply cut piece to length and chamfer end.



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



Exact Length Extension Plugs

- Same quality extension plugs as above, threaded to any required length.
- Simply specify part number along with length required. eg: 352 x 3.187
- Order any quantity, same day shipment.



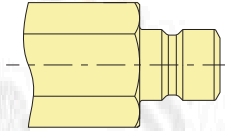
BSP and Stainless Extension Plugs

- BSP brass Extension Plugs IN STOCK.
- Many Stainless Extension Plugs IN STOCK.
- Available with pre-applied sealant.
- Order any quantity.



200 Series

1/4" HOLE
Actual Size



| Catalog Number | L | Pipe Size | Hex Size | A | Price Each |
|----------------|---|-----------|----------|---|------------|
|----------------|---|-----------|----------|---|------------|

1/16" Pipe Extensions

| | | | | | |
|----------|----|------|-----|-------|--|
| 250 x 2½ | 2½ | 1/16 | 3/8 | 11/16 | |
| 250 x 4 | 4 | 1/16 | 3/8 | 13/16 | |
| 250 x 5½ | 5½ | 1/16 | 3/8 | 13/16 | |
| 250 x 7 | 7 | 1/16 | 3/8 | 13/16 | |

1/8" Pipe Extensions

| | | | | | |
|-----------|-----|-----|------|-------|--|
| 251 x 2½ | 2½ | 1/8 | 7/16 | 11/16 | |
| 251 x 4 | 4 | 1/8 | 7/16 | 1 | |
| 251 x 5½ | 5½ | 1/8 | 7/16 | 1 | |
| 251 x 7 | 7 | 1/8 | 7/16 | 1 | |
| 251 x 8½ | 8½ | 1/8 | 7/16 | 1 | |
| 251 x 10 | 10 | 1/8 | 7/16 | 1 | |
| 251 x 11½ | 11½ | 1/8 | 7/16 | 1 | |
| 251 x 13 | 13 | 1/8 | 7/16 | 1 | |

1/4" Pipe Extensions

| | | | | | |
|-----------|-----|-----|------|------|--|
| 252 x 2½ | 2½ | 1/4 | 9/16 | 7/8 | |
| 252 x 4 | 4 | 1/4 | 9/16 | 11/4 | |
| 252 x 5½ | 5½ | 1/4 | 9/16 | 11/4 | |
| 252 x 7 | 7 | 1/4 | 9/16 | 11/4 | |
| 252 x 8½ | 8½ | 1/4 | 9/16 | 11/4 | |
| 252 x 10 | 10 | 1/4 | 9/16 | 11/4 | |
| 252 x 11½ | 11½ | 1/4 | 9/16 | 11/4 | |
| 252 x 13 | 13 | 1/4 | 9/16 | 11/4 | |

3/8" Pipe Extensions

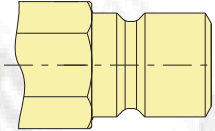
| | | | | | |
|-----------|-----|-----|-------|------|--|
| 253 x 2½ | 2½ | 3/8 | 11/16 | 1 | |
| 253 x 4 | 4 | 3/8 | 11/16 | 11/4 | |
| 253 x 5½ | 5½ | 3/8 | 11/16 | 11/4 | |
| 253 x 7 | 7 | 3/8 | 11/16 | 11/4 | |
| 253 x 8½ | 8½ | 3/8 | 11/16 | 11/4 | |
| 253 x 10 | 10 | 3/8 | 11/16 | 11/4 | |
| 253 x 11½ | 11½ | 3/8 | 11/16 | 11/4 | |
| 253 x 13 | 13 | 3/8 | 11/16 | 11/4 | |

1/2" Pipe Extensions

Available on request

300 Series

3/8" HOLE
Actual Size



| Catalog Number | L | Pipe Size | Hex Size | A | Price Each |
|----------------|---|-----------|----------|---|------------|
|----------------|---|-----------|----------|---|------------|

1/16" Pipe Extensions

| | | | | | |
|----------|----|------|------|-----|--|
| 350 x 2½ | 2½ | 1/16 | 9/16 | 7/8 | |
| 350 x 4 | 4 | 1/16 | 9/16 | 1 | |
| 350 x 5½ | 5½ | 1/16 | 9/16 | 1 | |
| 350 x 7 | 7 | 1/16 | 9/16 | 1 | |

1/8" Pipe Extensions

| | | | | | |
|-----------|-----|-----|------|-----|--|
| 351 x 2½ | 2½ | 1/8 | 9/16 | 7/8 | |
| 351 x 4 | 4 | 1/8 | 9/16 | 1 | |
| 351 x 5½ | 5½ | 1/8 | 9/16 | 1 | |
| 351 x 7 | 7 | 1/8 | 9/16 | 1 | |
| 351 x 8½ | 8½ | 1/8 | 9/16 | 1 | |
| 351 x 10 | 10 | 1/8 | 9/16 | 1 | |
| 351 x 11½ | 11½ | 1/8 | 9/16 | 1 | |
| 351 x 13 | 13 | 1/8 | 9/16 | 1 | |

1/4" Pipe Extensions

| | | | | | |
|-----------|-----|-----|------|------|--|
| 352 x 2½ | 2½ | 1/4 | 9/16 | 7/8 | |
| 352 x 4 | 4 | 1/4 | 9/16 | 11/4 | |
| 352 x 5½ | 5½ | 1/4 | 9/16 | 11/4 | |
| 352 x 7 | 7 | 1/4 | 9/16 | 11/4 | |
| 352 x 8½ | 8½ | 1/4 | 9/16 | 11/4 | |
| 352 x 10 | 10 | 1/4 | 9/16 | 11/4 | |
| 352 x 11½ | 11½ | 1/4 | 9/16 | 11/4 | |
| 352 x 13 | 13 | 1/4 | 9/16 | 11/4 | |

3/8" Pipe Extensions

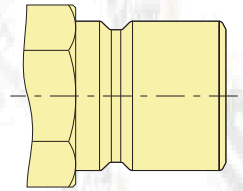
| | | | | | |
|-----------|-----|-----|-------|------|--|
| 353 x 2½ | 2½ | 3/8 | 11/16 | 1 | |
| 353 x 4 | 4 | 3/8 | 11/16 | 11/4 | |
| 353 x 5½ | 5½ | 3/8 | 11/16 | 11/4 | |
| 353 x 7 | 7 | 3/8 | 11/16 | 11/4 | |
| 353 x 8½ | 8½ | 3/8 | 11/16 | 11/4 | |
| 353 x 10 | 10 | 3/8 | 11/16 | 11/4 | |
| 353 x 11½ | 11½ | 3/8 | 11/16 | 11/4 | |
| 353 x 13 | 13 | 3/8 | 11/16 | 11/4 | |

1/2" Pipe Extensions

| | | | | | |
|-----------|-----|-----|-----|------|--|
| 354 x 2½ | 2½ | 1/2 | 7/8 | 11/8 | |
| 354 x 4 | 4 | 1/2 | 7/8 | 11/2 | |
| 354 x 5½ | 5½ | 1/2 | 7/8 | 11/2 | |
| 354 x 7 | 7 | 1/2 | 7/8 | 11/2 | |
| 354 x 8½ | 8½ | 1/2 | 7/8 | 11/2 | |
| 354 x 10 | 10 | 1/2 | 7/8 | 11/2 | |
| 354 x 11½ | 11½ | 1/2 | 7/8 | 11/2 | |
| 354 x 13 | 13 | 1/2 | 7/8 | 11/2 | |

500 Series

1/2" HOLE
Actual Size



| Catalog Number | L | Pipe Size | Hex Size | A | Price Each |
|----------------|---|-----------|----------|---|------------|
|----------------|---|-----------|----------|---|------------|

1/16" Pipe Extensions

Available on request

1/8" Pipe Extensions

Available on request

1/4" Pipe Extensions

Available on request

3/8" Pipe Extensions

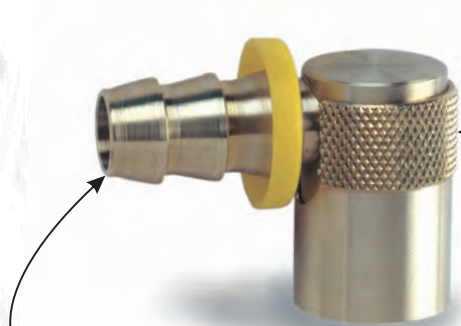
| | | | | | |
|-----------|-----|-----|-------|-------|--|
| 553 x 2½ | 2½ | 3/8 | 13/16 | 1 1/8 | |
| 553 x 4 | 4 | 3/8 | 13/16 | 1 3/8 | |
| 553 x 5½ | 5½ | 3/8 | 13/16 | 1 3/8 | |
| 553 x 7 | 7 | 3/8 | 13/16 | 1 3/8 | |
| 553 x 8½ | 8½ | 3/8 | 13/16 | 1 3/8 | |
| 553 x 10 | 10 | 3/8 | 13/16 | 1 3/8 | |
| 553 x 11½ | 11½ | 3/8 | 13/16 | 1 3/8 | |
| 553 x 13 | 13 | 3/8 | 13/16 | 1 3/8 | |

1/2" Pipe Extensions

| | | | | | |
|-----------|-----|-----|-----|-------|--|
| 554 x 2½ | 2½ | 1/2 | 7/8 | 1 1/8 | |
| 554 x 4 | 4 | 1/2 | 7/8 | 1 1/2 | |
| 554 x 5½ | 5½ | 1/2 | 7/8 | 1 1/2 | |
| 554 x 7 | 7 | 1/2 | 7/8 | 1 1/2 | |
| 554 x 8½ | 8½ | 1/2 | 7/8 | 1 1/2 | |
| 554 x 10 | 10 | 1/2 | 7/8 | 1 1/2 | |
| 554 x 11½ | 11½ | 1/2 | 7/8 | 1 1/2 | |
| 554 x 13 | 13 | 1/2 | 7/8 | 1 1/2 | |

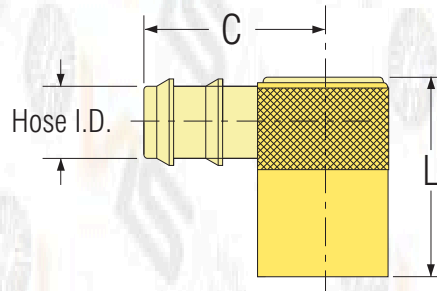
Note: Custom Mold Brass Extension Plugs are available cut and re-threaded to any exact length for an additional charge of \$ ea. Order 100 or more pieces of one length, and exact length adjustment is free.

Quick-Coupler Type Water Jumpers



Coupler sleeve twists to lock, preventing accidental disconnect.

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

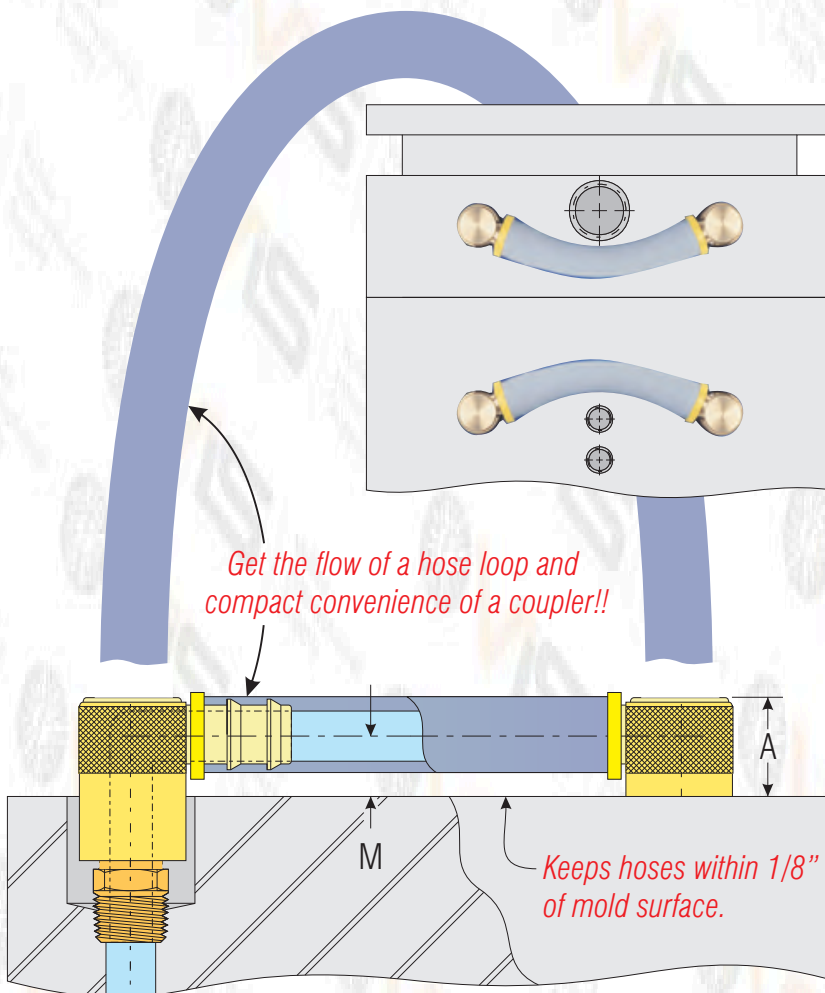


NEW
500 Series

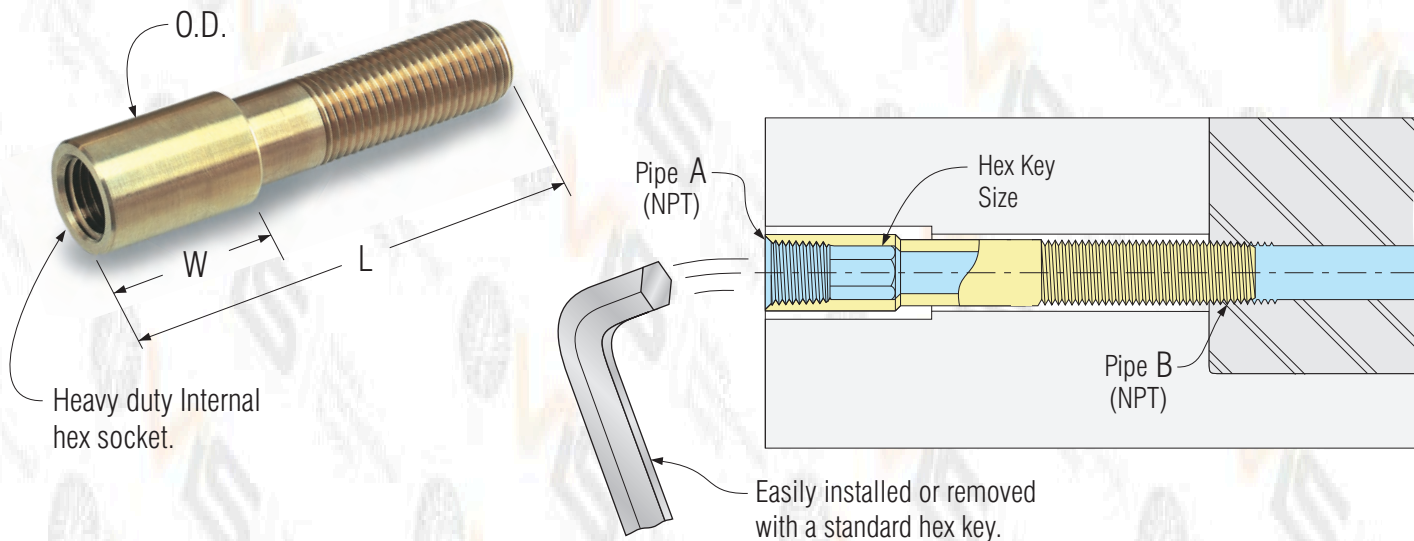
| Catalog Number | Hose I.D. | Fits Plug Series No. | L | C | M | A | Price |
|----------------|-----------|----------------------|--------|--------|-----|--------|-------|
| WJ200-4 | 1/4 | 200 | 1 | 1 1/4 | 3/8 | 5/8 | |
| WJ200-6 | 3/8 | | | | | | |
| WJ300-6 | 3/8 | 300 | | | | | |
| WJ300-8 | 1/2 | | 1 7/16 | 1 9/16 | 1/2 | 7/8 | |
| WJ500-8 | 1/2 | 500 | | | | | |
| WJ500-12 | 3/4 | | 2 1/8 | 2 | 7/8 | 1 5/16 | |

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

- Compact design neatly and safely holds cooling lines close to the mold surface.
- Exclusive Locking Sleeve prevents accidental disconnect and ensures proper installation.
- Unlimited installation options. Fits around obstacles, and installs in compact spaces.
- Viton Seals provide for temps up to 400° F.
- All brass and stainless steel construction.
- Compatible with all major mold connection systems.



HexKey Extension Pipes

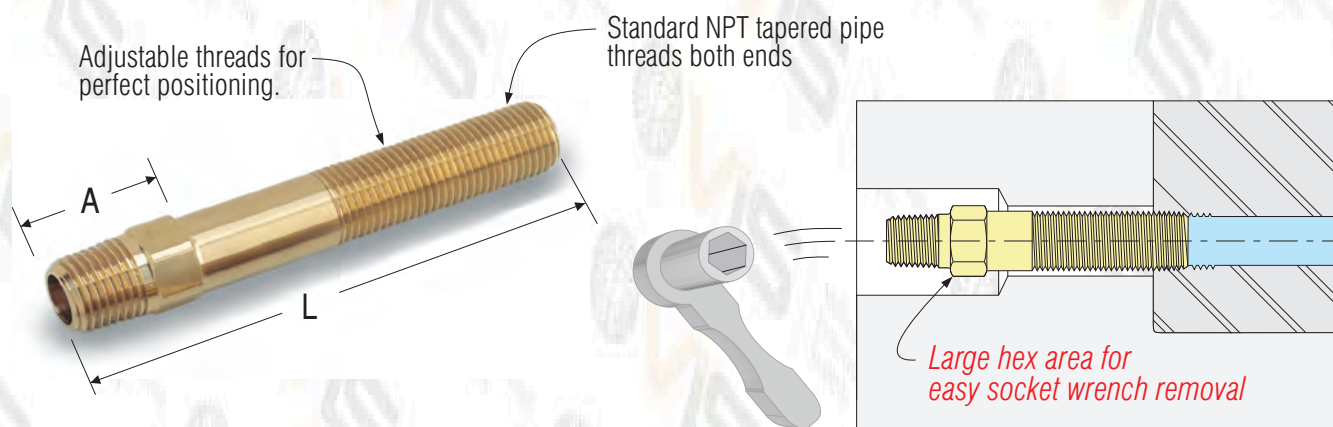


- HexKey Extension Pipes are available in a wide variety of special lengths and threads.
- Accurate length adjustments are easy with the Custom Mold adjustable thread system.

| Catalog Number | Pipe Size A | Pipe Size B | W | O.D. | Hex Key Size | Overall Length "L" | | | | | Price |
|----------------|-------------|-------------|-----|-------|--------------|--------------------|----|-----|----|-----|-------|
| | | | | | | 2½" | 4" | 5½" | 7" | 8½" | |
| EP18- | 1/8 | 1/8 | 3/4 | 1/2 | 1/4 | • | • | • | • | • | |
| EP14- | 1/4 | 1/4 | 1 | 11/16 | 3/8 | • | • | • | • | • | |
| EP38- | 3/8 | 3/8 | 1¼ | 13/16 | 1/2 | • | • | • | • | • | |
| EP50- | 1/2 | 1/2 | 1½ | 1 | 9/16 | • | • | • | • | • | |

To order, specify Catalog Number and Overall Length. Example: EP14-2½

Adjustable Hex Nipples



- Especially useful when installing Cascade Heads, Hex Elbows, etc. Inside molds and slides.
- Longer or special exact lengths available.
- Also available in special thread combinations. (Including BSP)

| Catalog Number | Pipe Size (NPT) | A | Hex Size | Overall Length "L" | | | | | | | Price | |
|----------------|-----------------|-------|----------|--------------------|---|----|---|----|----|-----|-------|----|
| | | | | 2½ | 4 | 5½ | 7 | 8½ | 10 | 11½ | | 13 |
| APN16- | 1/16 | 1/16 | 3/8 | • | • | • | • | • | • | • | • | |
| APN18- | 1/8 | 3/4 | 7/16 | • | • | • | • | • | • | • | • | |
| APN14- | 1/4 | 7/8 | 9/16 | • | • | • | • | • | • | • | • | |
| APN38- | 3/8 | 1 | 11/16 | • | • | • | • | • | • | • | • | |
| APN12- | 1/2 | 1 3/8 | 7/8 | • | • | • | • | • | • | • | • | |

To Order, specify Catalog Number & Overall Length. Example: APN14-2½

Brass Pipe Nipples

- All Brass Pipe Nipples are in stock for immediate delivery.
- Special exact length and extra long brass nipples are also available.



| Catalog Number | Pipe Size (NPT) | CLOSE OAL | Overall Length (In.) | | | | | | | | | | | | | | | | | | Price | | |
|----------------|-----------------|-----------|------------------------|---|----|---|----|---|----|---|----|---|----|---|---|---|---|----|----|----|-------|---|--|
| | | | CLOSE | 1 | 1½ | 2 | 2½ | 3 | 3½ | 4 | 4½ | 5 | 5½ | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | |
| BPN16- | 1/16 | 5/8 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | | |
| BPN18- | 1/8 | 3/4 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| BPN14- | 1/4 | 7/8 | • | X | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| BPN38- | 3/8 | 1 | • | X | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| BPN12- | 1/2 | 1 1/8 | • | X | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |

To Order, specify Catalog Number & Overall Length. Example: BPN14-2½

Galvanized Pipe Nipples

- All Galvanized Pipe Nipples are in stock for immediate delivery.
- Special exact length and extra long galvanized nipples are also available.



| Catalog Number | Pipe Size (NPT) | CLOSE OAL | Overall Length (In.) | | | | | | | | | | | | | | | | | | Price | | |
|----------------|-----------------|-----------|------------------------|---|----|---|----|---|----|---|----|---|----|---|---|---|---|----|----|----|-------|---|--|
| | | | CLOSE | 1 | 1½ | 2 | 2½ | 3 | 3½ | 4 | 4½ | 5 | 5½ | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | |
| * GPN16- | 1/16 | 5/8 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| GPN18- | 1/8 | 3/4 | • | X | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| GPN14- | 1/4 | 7/8 | • | X | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| GPN38- | 3/8 | 1 | • | X | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| GPN12- | 1/2 | 1 1/8 | • | X | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |

* 1/16 Pipe Nipples are stainless steel.

To Order, specify Catalog Number & Overall Length. Example: GPN14-2½

Push-Lok Hose - 801 Series

- Constructed of synthetic rubber tube, one textile braid reinforcement, and synthetic rubber cover.



- Temp range with water to 185° F.

- Use with Push-Lok or standard fittings.

- Red, Blue, and Grey hose in stock, 3 additional colors available.

| Catalog Number | Hose I.D. | Hose O.D. | Minimum Bend Radius (in.) | Inches of Mercury | Working Pressure (PSI) | Burst Pressure (PSI) | Reel Length | Box (50ft.) | Reel | Price |
|----------------|-----------|-----------|---------------------------|-------------------|------------------------|----------------------|-------------|-------------|------|-------|
| 801-4 | 1/4 | .50 | 2½ | 28 | 250 | 1000 | 500' | • | • | |
| 801-6 | 3/8 | .63 | 3 | 28 | | | 370' | • | • | |
| 801-8 | 1/2 | .78 | 5 | 28 | | | 240' | • | • | |
| 801-10 | 5/8 | .91 | 6 | 15 | | | 250' | • | • | |
| 801-12 | 3/4 | 1.03 | 7 | 15 | | | 250' | • | • | |

To order, specify Cat. Number and Color (R for Red, GR for Gray, Y for Yellow, G for Green, B for Black, BI for Blue)
Add -RL for Reel, -BX for Box. Example: 801-6-GR-RL

Flow Thru Couplers

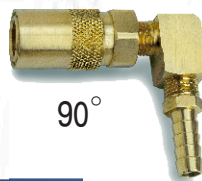
- For Push-Lok hose barbs add suffix -PL to cat. number.
- Straight through design provides max. flow rates.
- All brass and stainless steel construction.
- Pressures to 200 psi, Temperatures to 400°F.
- Compatible with all mold connection systems.



Straight



45°



90°

200 Series (1/4" Hole)

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-204 | 1/4 | |
| CM-205 | 5/16 | |
| CM-206 | 3/8 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-224 | 1/4 | |
| CM-225 | 5/16 | |
| CM-226 | 3/8 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-214 | 1/4 | |
| CM-215 | 5/16 | |
| CM-216 | 3/8 | |

300 Series (3/8" Hole)

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-306 | 3/8 | |
| CM-308 | 1/2 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-326 | 3/8 | |
| CM-328 | 1/2 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-316 | 3/8 | |
| CM-318 | 1/2 | |

500 Series (1/2" Hole)

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-504 | 1/2 | |
| CM-506 | 3/4 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-524 | 1/2 | |
| CM-526 | 3/4 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-514 | 1/2 | |
| CM-516 | 3/4 | |

Valved Couplers

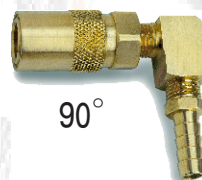
- For Push-Lok hose barbs add suffix -PL to cat. number.
- Viton valve stops flow upon disconnect.
- Valved connectors can be used with either valved or non-valved nipples.
- Pressures to 200 psi, Temperatures to 400°F.



Straight



45°



90°

200 Series (1/4" Hole)

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-204V | 1/4 | |
| CM-205V | 5/16 | |
| CM-206V | 3/8 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-224V | 1/4 | |
| CM-225V | 5/16 | |
| CM-226V | 3/8 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-214V | 1/4 | |
| CM-215V | 5/16 | |
| CM-216V | 3/8 | |

300 Series (3/8" Hole)

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-306V | 3/8 | |
| CM-308V | 1/2 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-326V | 3/8 | |
| CM-328V | 1/2 | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| CM-316V | 3/8 | |
| CM-318V | 1/2 | |

500 Series (1/2" Hole)

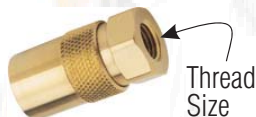
| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| N/A | | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| N/A | | |

| Catalog Number | Hose I.D. | Price |
|----------------|-----------|-------|
| N/A | | |

Coupler Body Only

- Flow-thru type.
- Select pipe thread to suit special applications.



Thread Size

200 Series (1/4" Hole)

| Catalog Number | Thread Size | Price |
|----------------|-------------|-------|
| CMB-200 | 1/8 | |
| CMB-200-1/4 | 1/4 | |

300 Series (3/8" Hole)

| Catalog Number | Thread Size | Price |
|----------------|-------------|-------|
| CMB-300 | 1/4 | |
| CMB-300-3/8 | 3/8 | |

500 Series (1/2" Hole)

| Catalog Number | Thread Size | Price |
|----------------|-------------|-------|
| CMB-500 | 1/2 | |

Replacement Seals

- Available in silicone (red), or viton (black).



200 Series (1/4" Hole)

| Catalog Number | Seal Material | Price |
|----------------|---------------|-------|
| CM-200S | Silicone | |
| CM-200Y | Viton | |

300 Series (3/8" Hole)

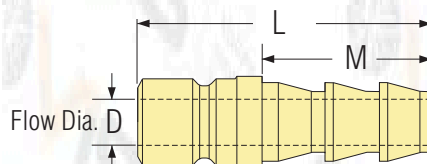
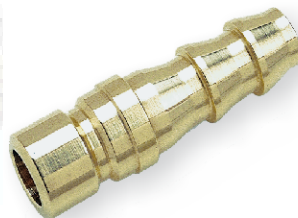
| Catalog Number | Seal Material | Price |
|----------------|---------------|-------|
| CM-300S | Silicone | |
| CM-300Y | Viton | |

500 Series (1/2" Hole)

| Catalog Number | Seal Material | Price |
|----------------|---------------|-------|
| CM-500S | Silicone | |
| CM-500Y | Viton | |

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 maximized to reduce restrictions.
- For use with Push-Lok or standard hose.

| 200 Series (1/4" Hole) | | | | | |
|------------------------|-----------|------|--------|--------|-------|
| Catalog Number | Hose I.D. | D | M | L | Price |
| 200-4 | 1/4 | 3/16 | 7/8 | 1 3/8 | |
| 200-5 | 5/16 | 1/4 | 7/8 | 1 3/8 | |
| 200-6 | 3/8 | 1/4 | 1 1/16 | 1 9/16 | |
| 200-8 | 1/2 | 1/4 | 1 1/16 | 1 9/16 | |

| 300 Series (3/8" Hole) | | | | | |
|------------------------|-----------|--------|--------|---------|-------|
| Catalog Number | Hose I.D. | D | M | L | Price |
| 300-4 | 1/4 | 3/16 | 7/8 | 1 13/16 | |
| 300-5 | 5/16 | 1/4 | 7/8 | 1 13/16 | |
| 300-6 | 3/8 | 9/32 | 1 1/16 | 1 13/16 | |
| 300-8 | 1/2 | 1 1/32 | 1 1/16 | 1 13/16 | |

| 500 Series (1/2" Hole) | | | | | |
|------------------------|-----------|-------|--------|-------|-------|
| Catalog Number | Hose I.D. | D | M | L | Price |
| 500-8 | 1/2 | 13/32 | 1 1/16 | 2 | |
| 500-12 | 3/4 | 9/16 | 1 1/2 | 2 1/2 | |

Stop Plugs

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



| 200 Series (1/4" Hole) | | |
|------------------------|------------------------|-------|
| Catalog Number | Fits Socket Series No. | Price |
| CP-200 | 200 (1/4" Hole) | |

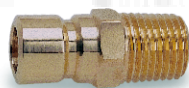
| 300 Series (3/8" Hole) | | |
|------------------------|------------------------|-------|
| Catalog Number | Fits Socket Series No. | Price |
| CP-300 | 300 (3/8" Hole) | |

| 500 Series (1/2" Hole) | | |
|------------------------|------------------------|-------|
| Catalog Number | Fits Socket Series No. | Price |
| CP-500 | 500 (1/2" Hole) | |

Connector Plugs

NPT or BSPT threads in stock

- MALE TYPE (brass)



NPT

BSPT

200 Series (1/4" Hole)

| Catalog Number | Pipe Thread | Flow Dia. | Price |
|----------------|-------------|-----------|-------|
| 250 | 1/16 | 3/16 | |
| 251 | 1/8 | 1/4 | |
| 252 | 1/4 | 1/4 | |
| 253 | 3/8 | 1/4 | |
| 251-BSP | 1/8 | 1/4 | |
| 252-BSP | 1/4 | 1/4 | |

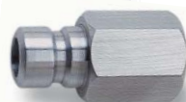
300 Series (3/8" Hole)

| Catalog Number | Pipe Thread | Flow Dia. | Price |
|----------------|-------------|-----------|-------|
| 351 | 1/8 | 1/4 | |
| 352 | 1/4 | 3/8 | |
| 353 | 3/8 | 3/8 | |
| 354 | 1/2 | 3/8 | |
| 351-BSP | 1/8 | 1/4 | |
| 352-BSP | 1/4 | 3/8 | |
| 353-BSP | 3/8 | 3/8 | |

500 Series (1/2" Hole)

| Catalog Number | Pipe Thread | Flow Dia. | Price |
|----------------|-------------|-----------|-------|
| 552 | 1/4 | 3/8 | |
| 553 | 3/8 | 1/2 | |
| 554 | 1/2 | 5/8 | |
| 556 | 3/4 | 5/8 | |
| 553-BSP | 3/8 | 1/2 | |
| 554-BSP | 1/2 | 5/8 | |

- FEMALE TYPE (zinc plated steel)



| Catalog Number | Pipe Thread | Flow Dia. | Price |
|----------------|---------------------------|-----------|-------|
| 250-F | Available in brass below. | | |
| 251-F | 1/8 | 1/4 | |
| 252-F | 1/4 | 1/4 | |
| 253-F | 3/8 | 1/4 | |

| Catalog Number | Pipe Thread | Flow Dia. | Price |
|----------------|---------------------------|-----------|-------|
| 351-F | Available in brass below. | | |
| 352-F | 1/4 | 3/8 | |
| 353-F | 3/8 | 3/8 | |
| 354-F | 1/2 | 3/8 | |

| Catalog Number | Pipe Thread | Flow Dia. | Price |
|---------------------------|-------------|-----------|-------|
| Available in brass below. | | | |

- FEMALE TYPE (brass)



NPT

BSPT

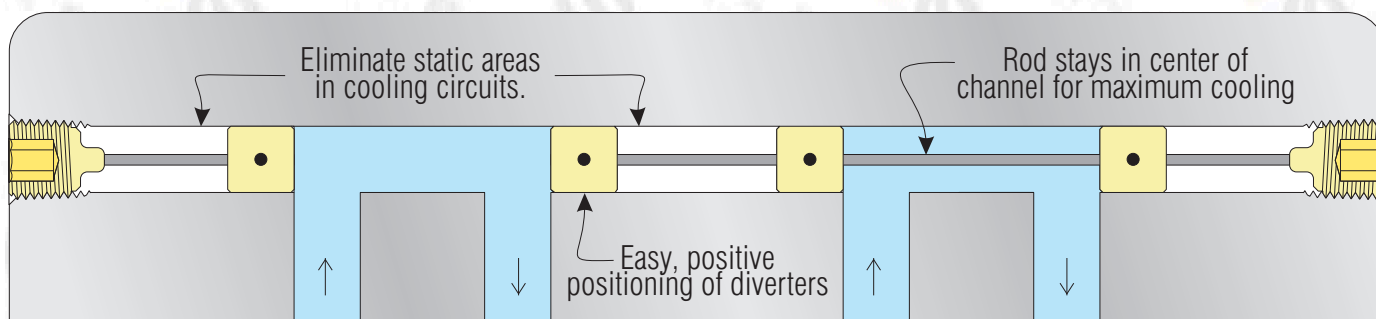
| Catalog Number | Pipe Thread | Flow Dia. | Price |
|----------------|-------------|-----------|-------|
| 250-FB | 1/16 | 1/4 | |
| 251-FB | 1/8 | 1/4 | |
| 252-FB | 1/4 | 1/4 | |
| 253-FB | 3/8 | 1/4 | |
| 251-FB-BSP | 1/8 | 1/4 | |
| 252-FB-BSP | 1/4 | 1/4 | |

| Catalog Number | Pipe Thread | Flow Dia. | Price |
|----------------|-------------|-----------|-------|
| 351-FB | 1/8 | 1 1/32 | |
| 352-FB | 1/4 | 3/8 | |
| 353-FB | 3/8 | 3/8 | |
| 354-FB | 1/2 | 3/8 | |
| 351-FB-BSP | 1/8 | 1 1/32 | |
| 352-FB-BSP | 1/4 | 3/8 | |
| 353-FB-BSP | 3/8 | 3/8 | |

| Catalog Number | Pipe Thread | Flow Dia. | Price |
|----------------|-------------|-----------|-------|
| 551-FB | 1/8 | 1 1/32 | |
| 552-FB | 1/4 | 7/16 | |
| 553-FB | 3/8 | 9/16 | |
| 554-FB | 1/2 | 5/8 | |
| 553-FB-BSP | 3/8 | 9/16 | |
| 554-FB-BSP | 1/2 | 5/8 | |

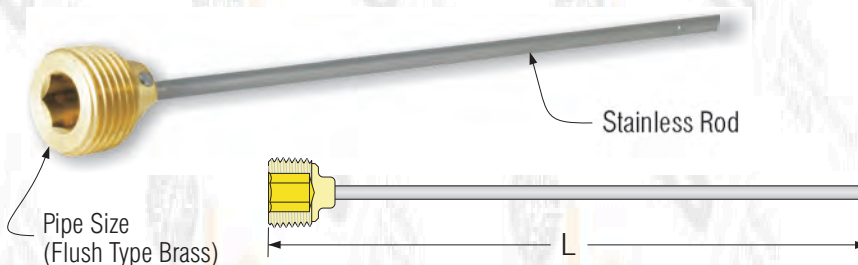
Pipe Plug Diverters

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



Diverter Rods

- No special tools required.
- Simply lock diverters in position on the stainless rod, and install into the cooling channel.
- 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 diverters below. Longer length Diverter Rods are in stock.

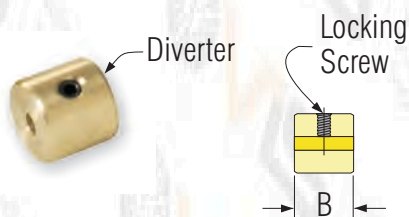


| Catalog Number | Pipe Size (NPT) | Overall Length (L)* | Rod Dia. | Use Diverter Number | Price |
|----------------|-----------------|---------------------|----------|---------------------|-------|
| DR-125 | 1/8 | 12 | 3/32 | D-125 | |
| DR-250 | 1/4 | 18 | 1/8 | D-250 | |
| DR-375 | 3/8 | 18 | 1/8 | D-375 | |
| DR-500 | 1/2 | 24 | 3/16 | D-500 | |
| DR-750 | 3/4 | 24 | 3/16 | D-750 | |
| DR-1000 | 1 | 36 | 3/16 | D-1000 | |
| DR-1250 | 1 1/4 | 36 | 1/4 | D-1250 | |

* Longer lengths in stock

Diverters

- Order in any quantity.
- Locking screw included.
- Special and metric sizes available.



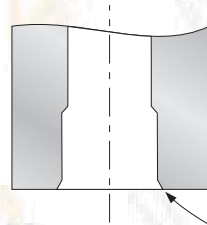
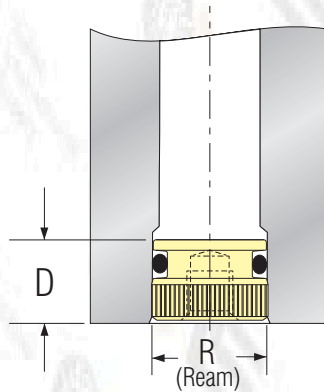
| Catalog Number | For Pipe Size (NPT) | Diverter O.D. (-.005)* | Diverter Length B | Fits Rod Dia. | Price |
|----------------|---------------------|------------------------|-------------------|---------------|-------|
| D-125 | 1/8 | .340 | 3/8 | 3/32 | |
| D-250 | 1/4 | .432 | 7/16 | 1/8 | |
| D-375 | 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 | |
| D-1000 | 1 | 1.115 | 3/4 | 3/16 | |
| D-1250 | 1 1/4 | 1.458 | 3/4 | 1/4 | |

* Custom diameters available

Tap-In O-Ring Plugs

**NO THREADS,
NO LEAKS**

- Eliminate expansion stresses of taper plugs.
- NO BACKUP required.
- Easy machining and installation - just tap in.
- Positive O-Ring seal to 200 PSI
- Viton Seal allows temps up to 400° F.
- Removal thread provided.

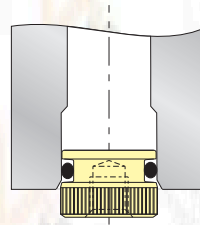


Counterbore and countersink waterline.

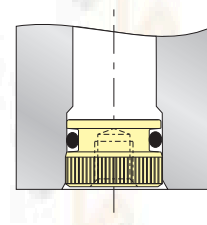


Removal Thread

| Catalog Number | Nominal Pipe Size | C'bore Dia. (± .002) R | C'bore Depth (Min.) D | Removal Thread Size | Price |
|----------------|-------------------|------------------------|-----------------------|---------------------|-------|
| TIP281 | 1/16 | .281 | .312 | 6-32 | |
| TIP375 | 1/8 | .375 | .312 | 10-32 | |
| TIP500 | 1/4 | .500 | .375 | 1/4-20 | |
| TIP625 | 3/8 | .625 | .437 | 5/16-18 | |
| TIP750 | 1/2 | .750 | .500 | 5/16-18 | |
| TIP1000 | 3/4 | 1 | .625 | 3/8-16 | |



Position



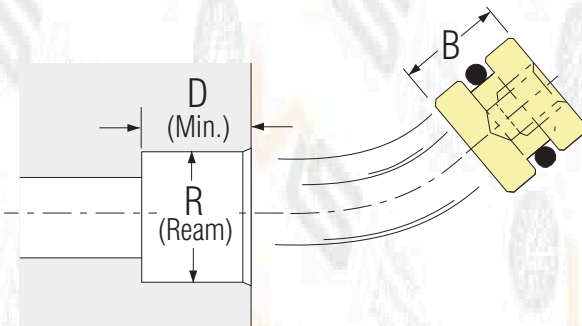
Tap flush.

Push-In O-Ring Plugs

- O-Ring Plugs are used when backed up by other mold inserts, holder block, etc.
- Available in Brass or Stainless Steel.
- Require less space than NPT pipe plugs. Less interference in tight spaces.
- Standard Buna O-ring provides seal to 210° F. Viton O-rings and quad rings available.



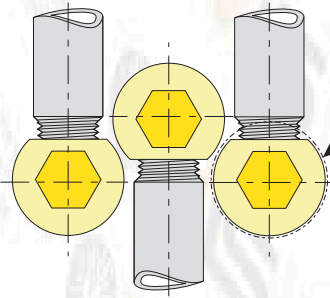
Removal Thread



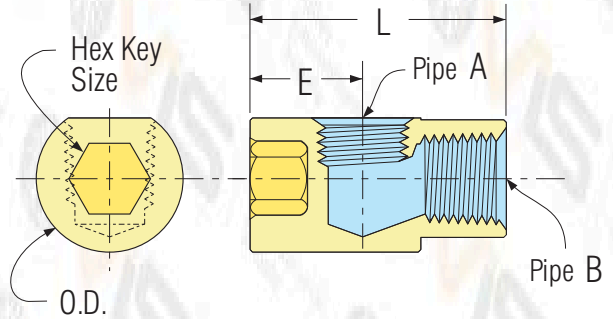
| Brass Catalog Number | Stainless Catalog Number | Ream Size R | B (+.000) (-.005) | Min. Depth D (+.005) (-.000) | Removal Thread Size | Brass | Stainless | Price |
|----------------------|--------------------------|-------------|-------------------|------------------------------|---------------------|-------|-----------|-------|
| OR-281 | OR-281SS | .281 | 1/4 | .250 | 6-32 | • | • | |
| OR-375 | OR-375SS | .375 | 5/16 | .312 | 10-32 | • | • | |
| OR-500 | OR-500SS | .500 | 5/16 | .312 | 10-32 | • | • | |
| OR-625 | OR-625SS | .625 | 7/16 | .437 | 1/4-20 | • | • | |
| OR-750 | OR-750SS | .750 | 1/2 | .500 | 1/4-20 | • | • | |
| OR-100 | OR-100SS | 1.000 | 5/8 | .625 | 3/8-16 | • | • | |

HexKey Elbows

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



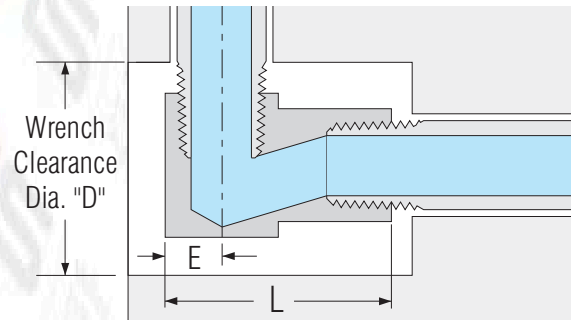
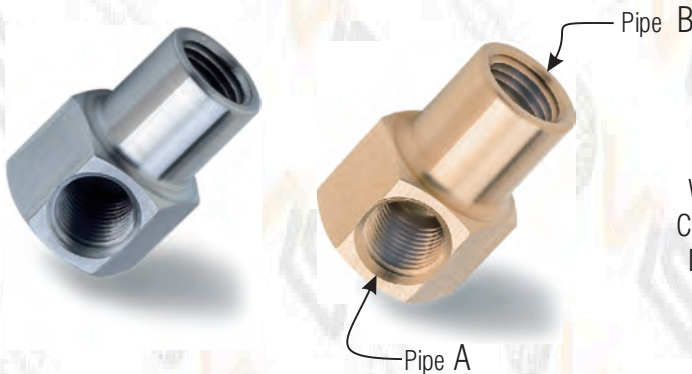
Compact, round design allows for close connections. (See Min. Clearance Diameter)



- Angular coolant path prevents fitting interference at assembly and guarantees full flow. (See Drawing)
- Requires smaller swing clearance than standard pipe elbows.
- Order Adjustable Pipe nipples, or other pipe nipples on page 18.

| Catalog Number | Pipe Size A | Pipe Size B | L | E | O.D. | Min. Clearance Diameter | Hex Key Size | Price |
|----------------|-------------|-------------|-------|------|-------|-------------------------|--------------|-------|
| 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 | |

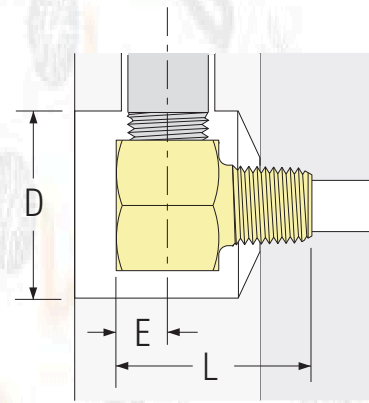
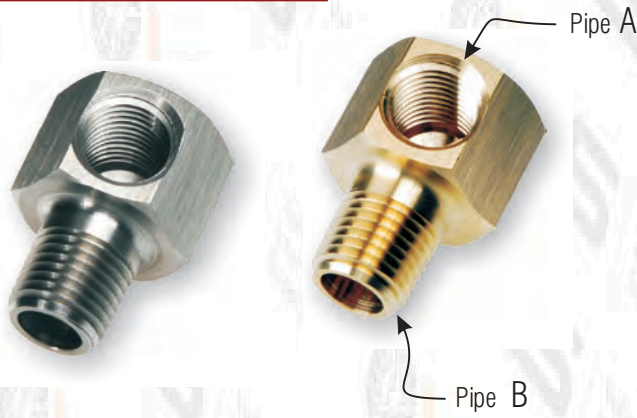
Hex Elbows



- 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.

| Steel Catalog Number | Brass Catalog Number | Pipe Size A | Pipe Size B | L | E | Wrench Clearance Dia. "D" | Hex Size | Steel | Brass | Price |
|----------------------|----------------------|-------------|-------------|-------|-------|---------------------------|----------|-------|-------|-------|
| 16S | 16SB | 1/16 | 1/16 | 13/16 | 7/32 | 1 | 9/16 | • | • | |
| 18S | 18SB | 1/8 | 1/8 | 1 | 9/32 | 1 1/4 | 3/4 | • | • | |
| 1814S | 1814SB | 1/8 | 1/4 | 1 1/4 | 9/32 | 1 1/4 | 3/4 | • | • | |
| 14S | 14SB | 1/4 | 1/4 | 1 3/8 | 11/32 | 1 3/8 | 7/8 | • | • | |
| 1438S | 1438SB | 1/4 | 3/8 | 1 3/8 | 11/32 | 1 3/8 | 7/8 | • | • | |
| 38S | 38SB | 3/8 | 3/8 | 1 5/8 | 1/2 | 1 1/2 | 1 | • | • | |
| 50S | 50SB | 1/2 | 1/2 | 1 7/8 | 9/16 | 1 7/8 | 1 1/4 | • | • | |
| 75S | 75SB | 3/4 | 3/4 | 2 1/4 | 5/8 | 2 1/4 | 1 1/2 | • | • | |

Male Hex Elbows



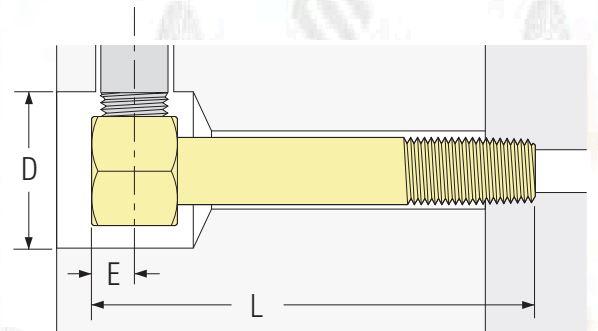
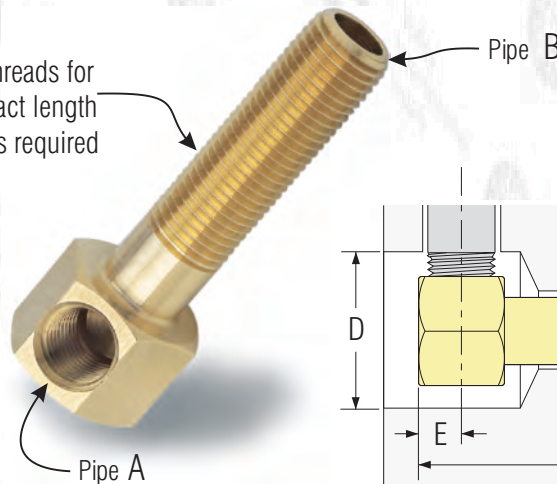
- Available in brass or zinc plated steel.
- Easy socket wrench installation and removal requires minimal clearance.
- Full flow path allows connecting fittings to be torqued tight without choking off flow.

| Steel Catalog Number | Brass Catalog Number | Pipe Size A | Pipe Size B | L | E | Wrench Clearance Dia. "D" | Hex Size | Steel | Brass | Price |
|----------------------|----------------------|-------------|-------------|--------|-------|---------------------------|----------|-------|-------|-------|
| M16S | M16SB | 1/16 | 1/16 | 15/16 | 7/32 | 1 | 9/16 | • | • | |
| M18S | M18SB | 1/8 | 1/8 | 1 1/16 | 9/32 | 1 1/4 | 3/4 | • | • | |
| M1814S | M1814SB | 1/8 | 1/4 | 1 1/16 | 9/32 | 1 1/4 | 3/4 | • | • | |
| M14S | M14SB | 1/4 | 1/4 | 1 5/16 | 11/32 | 1 3/8 | 7/8 | • | • | |
| M1438S | M1438SB | 1/4 | 3/8 | 1 5/16 | 11/32 | 1 3/8 | 7/8 | • | • | |
| M38S | M38SB | 3/8 | 3/8 | 1 5/8 | 7/16 | 1 1/2 | 1 | • | • | |
| M50S | M50SB | 1/2 | 1/2 | 2 | 9/16 | 1 7/8 | 1 1/4 | • | • | |
| M75S | M75SB | 3/4 | 3/4 | 2 1/8 | 5/8 | 2 1/4 | 1 1/2 | • | • | |

Brass Extension Elbows

- Positive socket wrench installation.
- One piece construction ensures positive alignment, and complete removal.
- Easy length adjustment with the pre-cut thread system.
- Custom elbows are available in a wide variety of thread combinations. (Including BSP)

Adjustable threads for use when exact length adjustment is required

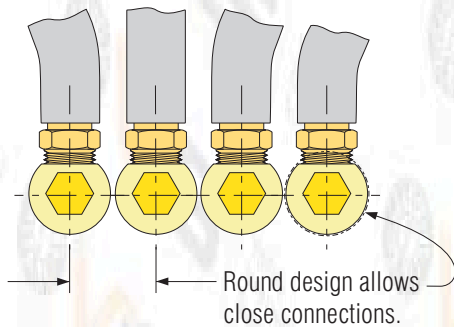
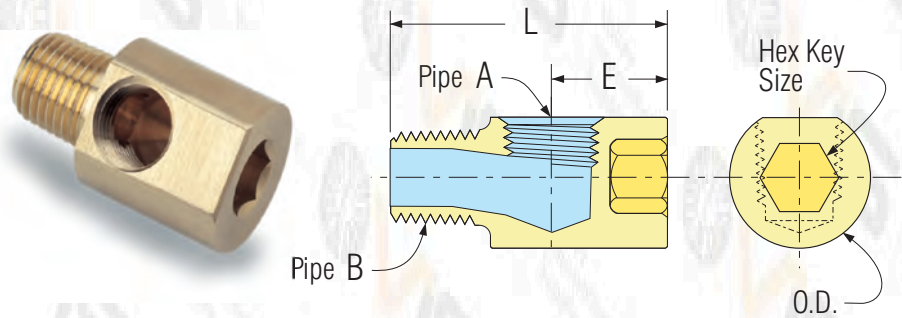


| Catalog Number | Pipe Size A | Pipe Size B | Hex Size | Wrench Clearance Dia "D" | E | Overall Length "L" | | | | | | | | Price |
|----------------|-------------|-------------|----------|--------------------------|-------|--------------------|----|--------|----|--------|-----|---------|-----|-------|
| | | | | | | 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 | • | • | • | • | • | • | • | • | |
| 1814B- | 1/8 | 1/4 | 3/4 | 1 1/4 | 9/32 | • | • | • | • | • | • | • | • | |
| 14B- | 1/4 | 1/4 | 7/8 | 1 3/8 | 11/32 | • | • | • | • | • | • | • | • | |
| 1438B- | 1/4 | 3/8 | 7/8 | 1 3/8 | 11/32 | • | • | • | • | • | • | • | • | |
| 38B- | 3/8 | 3/8 | 1 | 1 1/2 | 1/2 | • | • | • | • | • | • | • | • | |
| 50B- | 1/2 | 1/2 | 1 1/4 | 1 3/4 | 5/8 | • | • | • | • | • | • | • | • | |

To order, specify Catalog Number and Overall Length
Example: 14B-2 1/2

HexKey Street EL's

- HexKey Street Elbows install with an Allen wrench for easy assembly in tight spaces.
- Angular flow path allows connecting fittings to be torqued tight without choking off flow.

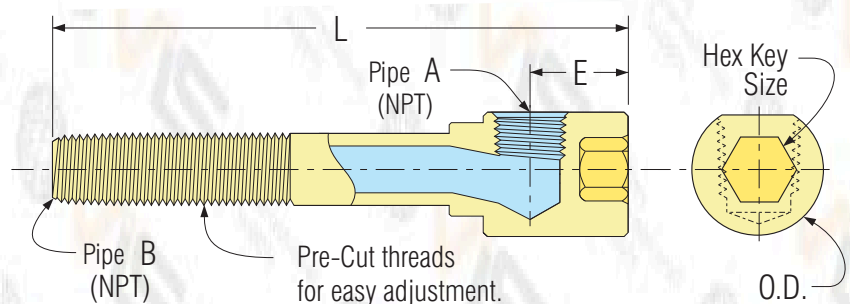
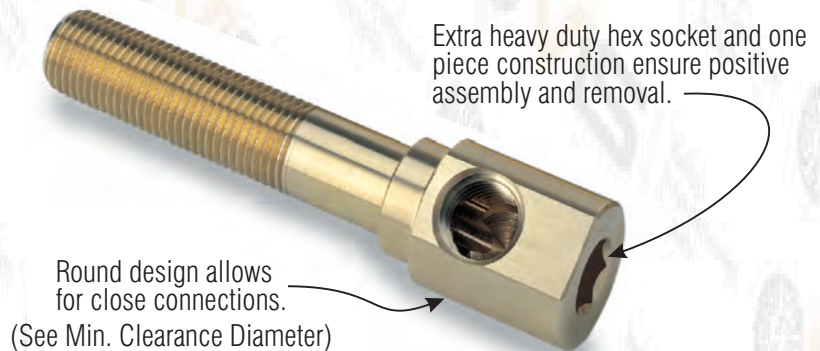


| Catalog Number | Pipe Size A | Pipe Size B | L | E | O.D. | Min. Clearance Diameter | Hex Key Size | Price |
|----------------|-------------|-------------|-------|------|-------|-------------------------|--------------|-------|
| KL16 | 1/16 | 1/16 | 1.156 | .531 | .552 | 9/16 | 1/4 | |
| KL1618 | 1/16 | 1/8 | 1.218 | .531 | .615 | 5/8 | 5/16 | |
| KL18 | 1/8 | 1/8 | 1.312 | .580 | .615 | 3/8 | 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 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 patented Custom Mold thread system.



| Catalog Number | Pipe Size A | Pipe Size B | E | O.D. | Min. Clearance Diameter | Hex Key Size | Overall Length "L" | | | | | | | | Price | |
|----------------|-------------|-------------|------|-------|-------------------------|--------------|--------------------|----|--------|----|--------|-----|---------|-----|-------|--|
| | | | | | | | 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 | • | • | • | • | • | • | • | • | • | |
| EKL18- | 1/8 | 1/8 | .580 | .615 | 5/8 | 5/16 | • | • | • | • | • | • | • | • | • | |
| EKL14- | 1/4 | 1/4 | .660 | .860 | 7/8 | 3/8 | • | • | • | • | • | • | • | • | • | |
| EKL38- | 3/8 | 3/8 | .780 | .985 | 1 | 1/2 | • | • | • | • | • | • | • | • | • | |
| EKL50- | 1/2 | 1/2 | .940 | 1.235 | 1 1/4 | 1/2 | • | • | • | • | • | • | • | • | • | |

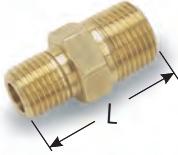
To Order, specify Catalog Number & Overall Length. Example: EKL14-2 1/2

Reducing Bushings



| Catalog Number | Pipe Size | Price |
|----------------|------------|-------|
| 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 | Price |
|----------------|------------|--------|-------|
| 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 | |

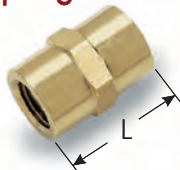
Hex Nipples



| Catalog Number | Pipe Size | Hex Size | L | Price |
|----------------|-----------|----------|---------|-------|
| HN-18 | 1/8 | 7/16 | 3 1/32 | |
| HN-14 | 1/4 | 9/16 | 1 3/8 | |
| HN-38 | 3/8 | 1 1/16 | 1 7/16 | |
| HN-50 | 1/2 | 7/8 | 1 13/16 | |

For longer Hex Nipples, see Pg. 13.

Hex Couplings



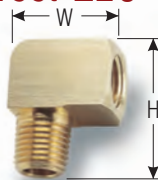
| Catalog Number | Pipe Size | L | Price |
|----------------|-----------|-------|-------|
| C-18 | 1/8 | 3/4 | |
| C-14 | 1/4 | 1 1/8 | |
| C-38 | 3/8 | 1 1/8 | |
| C-50 | 1/2 | 1 1/2 | |

45° Street EL's



| Catalog Number | Pipe Size | Price |
|----------------|-----------|-------|
| 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 | Price |
|----------------|-----------|--------|--------|-------|
| SL-18 | 1/8 | 1 1/16 | 1 5/16 | |
| 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 | |

1/16" Street EL's available on Pg. 20 & 21.

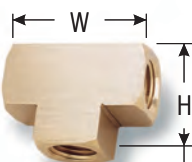
90° Elbows



| Catalog Number | Pipe Size | W | Price |
|----------------|-----------|--------|-------|
| EL-18 | 1/8 | 1 3/16 | |
| EL-14 | 1/4 | 1 1/8 | |
| EL-38 | 3/8 | 1 1/4 | |
| EL-50 | 1/2 | 1 9/16 | |

1/16" Elbows available on Pg. 19.

Tees



| Catalog Number | Pipe Size | W | H | Price |
|----------------|-----------|--------|--------|-------|
| T-18 | 1/8 | 1 1/16 | 1 3/16 | |
| T-14 | 1/4 | 1 1/2 | 1 1/8 | |
| T-38 | 3/8 | 1 1/16 | 1 1/4 | |
| T-50 | 1/2 | 2 1/8 | 1 9/16 | |

Male Hose Barbs

- For use with any hose.
Use Hose Clamps, below.



| Catalog Number | Hose I.D. | Pipe Size | Price |
|----------------|-----------|-----------|-------|
| 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 | |

Push-Lok Barbs

- Push-Lok Hose do not require the use of hose clamps when used with Push-Lok hose.



| Catalog Number | Hose I.D. | Pipe Size | Price |
|----------------|-----------|-----------|-------|
| 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-08-08 | 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 | |

Female Hose Barbs

- For use with any hose.
Hose Clamps, below.



| Catalog Number | Hose I.D. | Pipe Size | Price |
|----------------|-----------|-----------|-------|
| 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. | Price |
|----------------|-----------|-------|
| HS-14 | 1/4 x 1/4 | |
| HS-38 | 3/8 x 3/8 | |
| HS-50 | 1/2 x 1/2 | |

Hose Clamps



| Catalog Number | Max. Hose O.D. | Price |
|----------------|----------------|-------|
| HC-58 | 5/8 | |
| HC-78 | 7/8 | |
| HC-118 | 1 1/8 | |

Teflon Tape



| Catalog Number | Roll Size | Price |
|----------------|------------|-------|
| TL-250 | 1/4 x 520" | |
| TL-500 | 1/2 x 520" | |

Pipe Check

PC-100

PC-100 simply determines the size of pipes from 1/16" to 1/2" NPT. Made entirely of heavy gauge aluminum, this model is perfect for the office, warehouse, or factory floor. Just turn the thread into the hole that fits to determine pipe size.

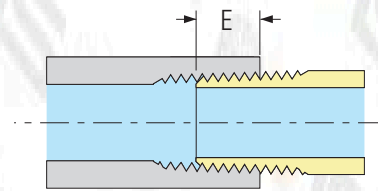


Pipe Thread Data

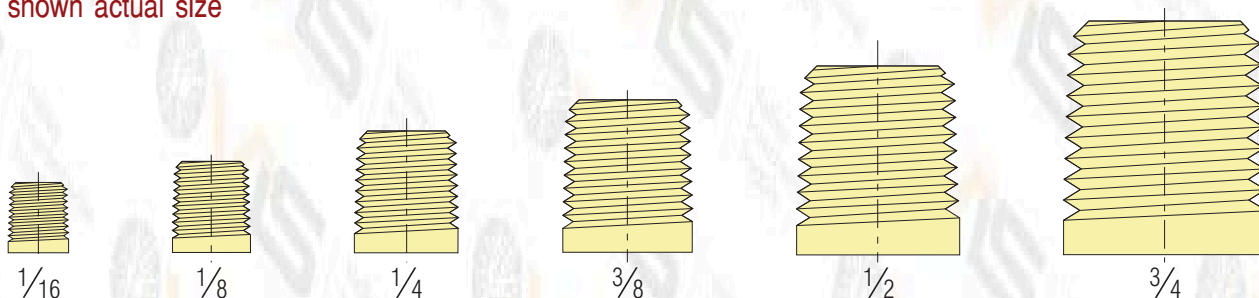
Most ordering mistakes are caused by measuring the pipe size of the fitting or component incorrectly. The nominal size of any pipe does not in fact refer to either the outside diameter (O.D.) or the inside diameter (I.D.) of the pipe. The table lists standard pipe sizes along with the actual O.D. and I.D. for each size. Keep in mind that manufacturers may slightly modify these dimensions to strengthen or enhance the performance of a product.

| Pipe Size | Threads Per Inch | Outside Dia. of Pipe | Inside Diameter of Pipe | Tap Drill Size | | E | Price |
|-----------|------------------|----------------------|-------------------------|----------------|-----------|------|-------|
| | | | | 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 | |

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.



Pipes shown actual size



BSPT Blade Baffles (Straight)



- Patented **XT** Technology allows 300% more wrenching torque.
Patent #7,159,837
- Same day shipment on custom length baffles.
- Custom stepped width blades, and plug size combinations quoted on request.
- BSPT Brass Plug Baffles for use with other tap drill sizes are available from stock.

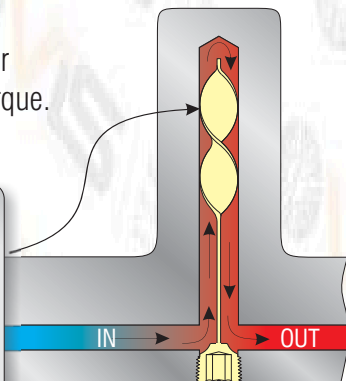
| Catalog Number | Overall Length (In.) | Plug Size (BSPT) | Tap Drill Diameter | Blade Width (-.005) (-.010) | Blade Thickness | Price |
|----------------|----------------------|------------------|--------------------|-----------------------------|-----------------|-------|
| SB18 X 4 BSP | 4 | | | | | |
| SB18 X 8 BSP | 8 | 1/8-28 | 5/16 | .312 | .057 | |
| SB18 X 12 BSP | 12 | | | | | |
| SB14 X 5 BSP | 5 | | | | | |
| SB14 X 10 BSP | 10 | 1/4-19 | 27/64 | .421 | .085 | |
| SB14 X 15 BSP | 15 | | | | | |
| SB38 X 6 BSP | 6 | | | | | |
| SB38 X 12 BSP | 12 | 3/8-19 | 9/16 | .562 | .093 | |
| SB38 X 18 BSP | 18 | | | | | |
| SB12 X 8 BSP | 8 | | | | | |
| SB12 X 16 BSP | 16 | 1/2-14 | 11/16 | .687 | .093 | |
| SB34 X 12 BSP | 12 | | | | | |
| SB34 X 20 BSP | 20 | 3/4-14 | 29/32 | .906 | .093 | |
| SB1 X 16 BSP | 16 | 1-11 | 1 1/8 | 1.125 | .102 | |
| SB1 X 24 BSP | 24 | | | | | |

BSPT Blade Baffles (Turbo)



- Feature **XT** plugs for 300% more wrench torque.
Patent #7,159,837

Spiral lengthens the cooling path and keeps baffle centered, providing up to 11% greater flow rate.



| Catalog Number | Overall Length (In.) | Straight Length S | Plug Size (BSPT) | Tap Drill Diameter | Blade Width (-.005) (-.010) | Blade Thickness | Price |
|----------------|----------------------|-------------------|------------------|--------------------|-----------------------------|-----------------|-------|
| TB18 X 4 BSP | 4 | 2 | | | | | |
| TB18 X 8 BSP | 8 | 4 | 1/8-28 | 5/16 | .312 | .057 | |
| TB18 X 12 BSP | 12 | 6 | | | | | |
| TB14 X 5 BSP | 5 | 2 | | | | | |
| TB14 X 10 BSP | 10 | 4 | 1/4-19 | 27/64 | .421 | .085 | |
| TB14 X 15 BSP | 15 | 6 | | | | | |
| TB38 X 6 BSP | 6 | 2 | | | | | |
| TB38 X 12 BSP | 12 | 4 | 3/8-19 | 9/16 | .562 | .093 | |
| TB38 X 18 BSP | 18 | 6 | | | | | |
| TB12 X 8 BSP | 8 | 3 | | | | | |
| TB12 X 16 BSP | 16 | 5 | 1/2-14 | 11/16 | .687 | .093 | |
| TB34 X 12 BSP | 12 | 4 | | | | | |
| TB34 X 20 BSP | 20 | 6 | 3/4-14 | 29/32 | .906 | .093 | |
| TB1 X 16 BSP | 16 | 5 | 1-11 | 1 1/8 | 1.125 | .102 | |
| TB1 X 24 BSP | 24 | 8 | | | | | |