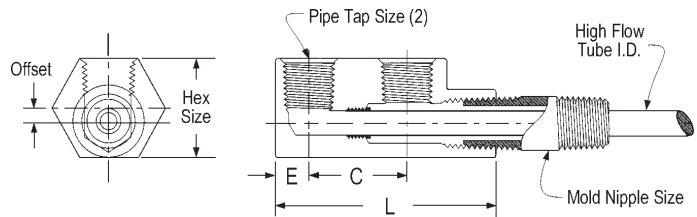
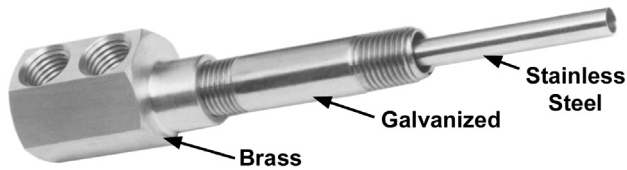


High Flow Cascades

High Flow Cascade Assemblies



FEATURES:

- 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

| PART NO. | MOLD NIPPLE SIZE (NPT) | PIPE TAP SIZE (NPT) | HIGH FLOW TUBE O.D. (12" Long) | HEX SIZE | OFF SET | "E" | "C" | "L" | PRICE EACH |
|----------|------------------------|---------------------|--------------------------------|----------|---------|--------|--------|----------|------------|
| HF16N | 1/16" | 1/16" | 1/8" | 5/8" | 3/32" | 1/4" | 1/2" | 1 1/4" | \$13.10 |
| HF186N | 1/8" | 1/8" | 3/16" | 3/4" | 3/32" | 5/16" | 11/16" | 1 5/8" | \$12.60 |
| HF181N | 1/8" | 1/8" | 3/16" | 3/4" | 3/32" | 5/16" | 1" | 1 15/16" | \$12.85 |
| HF146N-4 | 1/4" | 1/4" | 1/4" | 1" | 5/32" | 11/32" | 11/16" | 1 7/8" | \$13.40 |
| HF141N-4 | 1/4" | 1/4" | 1/4" | 1" | 5/32" | 11/32" | 1" | 2 3/16" | \$13.60 |
| HF381N-4 | 3/8" | 1/4" | 3/8" | 1 1/8" | 1/8" | 11/32" | 1" | 2 1/4" | \$14.60 |

High Flow Brass Cascade Heads Only

FEATURES:

- High Flow Cascade Heads are Available in Special Pipe Tap & Tube Combinations
- All Dimensions Same as Above for Corresponding Part Number



| PART NO. | USE WITH HIGH FLOW TUBE NO. | PRICE EACH |
|----------|-----------------------------|------------|
| HF16H | HF125T- | \$6.20 |
| HF186H | HF187T- | \$6.60 |
| HF181H | HF187T- | \$6.85 |
| HF146H-4 | HF250T- | \$7.15 |
| HF141H-4 | HF250T- | \$7.35 |
| HF381H-4 | HF375T- | \$7.55 |

High Flow Stainless Steel Tubes

Increase flow up to 300%



FEATURES:

- All *Stainless Steel* Construction for Optimal Performance, Durability and Strength
- Special Thin Wall Stainless Tube for Maximum Flow and Quicker Cycles
- Cut to Exact Lengths at No Extra Charge

| PART NO. | TUBE O.D. | TUBE I.D. | THREAD SIZE | THREAD LENGTH | OVERALL LENGTH | | | |
|-----------|-----------|-----------|-------------|---------------|----------------|--------|--------|--------|
| | | | | | 12" | 18" | 24" | 36" |
| HF093T- * | .093" | .077" | 5-44 | 1/8" | \$5.50 | \$6.25 | \$7.00 | \$7.70 |
| HF125T- * | .125" | .109" | 10-32 | 3/16" | \$4.80 | \$5.55 | \$6.30 | \$7.05 |
| HF187T- * | .187" | .167" | 1/4-28 | 1/4" | \$5.05 | \$5.75 | \$6.50 | \$7.25 |
| HF250T- * | .250" | .230" | 5/16-24 | 5/16" | \$5.30 | \$6.05 | \$6.75 | \$7.50 |
| HF312T- * | .312" | .285" | 3/8-24 | 3/8" | \$5.70 | \$6.45 | \$7.20 | \$7.90 |
| HF375T- * | .375" | .345" | 7/16-20 | 7/16" | \$6.00 | \$6.75 | \$7.45 | \$8.25 |
| HF437T- * | .437" | .407" | 1/2-20 | 1/2" | \$7.35 | \$8.10 | \$8.80 | \$9.55 |

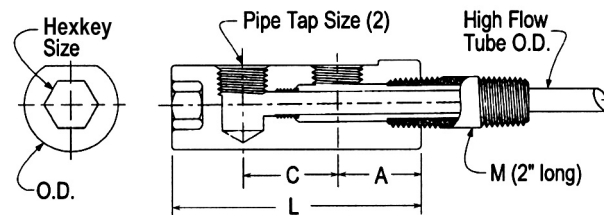
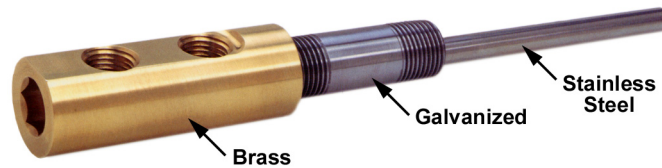
*Insert 2-digit length desired: 12, 18, 24 or 36. Custom tubes are available in any thread or length required. For NPT, see Piston Tubes on page 256.

Hexkey Cascades

Hexkey Cascade Assemblies

FEATURES:

- Hexkey Cascades are Round and Install With an Allen Wrench
- May Be Installed with Minimal Clearance or Very Close Together 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

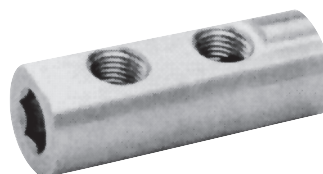


| PART NO. | MOLD NIPPLE SIZE "M" (NPT) | PIPE TAP SIZE (NPT) | HIGH FLOW TUBE O.D. (12" Long) | "L" | "C" | "A" | HEX KEY SIZE | NOMINAL CLEARANCE DRILL | ACTUAL O.D. | PRICE EACH |
|----------|----------------------------|---------------------|--------------------------------|--------|--------|--------|--------------|-------------------------|-------------|------------|
| E16N | 1/16 | 1/16 | 1/8" | 1.625" | 9/16" | 1/2" | 5/16" | 5/8" | .610" | \$15.55 |
| E16N-2 | 1/8 | 1/16 | 3/16" | 1.687" | 9/16" | 9/16" | 3/8" | 3/4" | .735" | \$14.95 |
| E186N | 1/8 | 1/8 | 3/16" | 1.875" | 11/16" | 9/16" | 3/8" | 7/8" | .860" | \$13.95 |
| E181N | 1/8 | 1/8 | 3/16" | 2.187" | 1" | 9/16" | 3/8" | 7/8" | .860" | \$14.20 |
| E146N | 1/4 | 1/8 | 1/4" | 2.187" | 11/16" | 13/16" | 1/2" | 1" | .985" | \$15.20 |
| E146N-4 | 1/4 | 1/4 | 1/4" | 2.312" | 11/16" | 7/8" | 1/2" | 1" | .985" | \$15.20 |
| E141N | 1/4 | 1/8 | 1/4" | 2.500" | 1" | 13/16" | 1/2" | 1" | .985" | \$15.45 |
| E141N-4 | 1/4 | 1/4 | 1/4" | 2.625" | 1" | 7/8" | 1/2" | 1" | .985" | \$15.45 |
| E381N-4 | 3/8 | 1/4 | 5/16" | 2.625" | 1" | 7/8" | 1/2" | 1" | .985" | \$16.15 |
| E121N-4 | 1/2 | 1/4 | 3/8" | 2.812" | 1" | 1" | 1/2" | 1 1/4" | 1.235" | \$21.05 |

Hexkey Brass Cascade Heads Only

FEATURES:

- Hexkey Cascade Heads use High Flow Stainless Tubes Shown on Previous Page
- Dimensions for These Heads are Shown Above for Corresponding Part Number



| PART NO. | USE WITH HIGH FLOW TUBE NO. | PRICE EACH |
|----------|-----------------------------|------------|
| E16H | HF125T- | \$9.30 |
| E16H-2 | HF187T- | \$9.30 |
| E186H | HF187T- | \$8.35 |
| E181H | HF187T- | \$8.60 |
| E146H | HF250T- | \$9.30 |
| E146H-4 | HF250T- | \$9.30 |
| E141H | HF250T- | \$9.55 |
| E141H-4 | HF250T- | \$9.55 |
| E381H-4 | HF312T- | \$10.05 |
| E121H-4 | HF375T- | \$14.45 |

Nipple Type Cascades

Nipple Type Cascade Assemblies



FEATURES:

- Solid Brass Heads are Precision Machined for Accurate Assembly
- Cascade Assemblies are Available in Special Pipe Tap and Tube Combinations
- Assemblies Include Brass Head, 12" Brass Tube, 2" Long Galvanized Pipe Nipple, and Brass Pipe Plug

| PART NO. | MOLD NIPPLE SIZE (NPT) | PIPE TAP SIZE (NPT) | BRASS TUBE O.D. | HEX SIZE | "E" | "C" | "A" | "L" | PRICE EACH |
|----------|------------------------|---------------------|-----------------|---------------------------------|--------|---------------------------------|--------|-----------------------------------|------------|
| 16N | 1/8 | 1/16 | 3/16" | 3/4" | 7/32" | 1/2" | 9/32" | 15/16" | \$10.60 |
| 186N | 1/8 | 1/8 | 3/16" | 7/8" | 21/64" | 11/16" | 9/32" | 1 ¹¹ / ₃₂ " | \$10.05 |
| 181N | 1/8 | 1/8 | 3/16" | 7/8" | 21/64" | 1" | 9/32" | 1 ²¹ / ₃₂ " | \$10.20 |
| 146N | 1/4 | 1/8 | 1/4" | 1" | 21/64" | 11/16" | 7/32" | 1 ¹¹ / ₃₂ " | \$10.80 |
| 146N-4 | 1/4 | 1/4 | 1/4" | 1" | 21/64" | 11/16" | 7/32" | 1 ¹¹ / ₃₂ " | \$10.75 |
| 141N | 1/4 | 1/8 | 1/4" | 1" | 21/64" | 1" | 7/16" | 1 ²¹ / ₃₂ " | \$11.00 |
| 141N-4 | 1/4 | 1/4 | 1/4" | 1" | 21/64" | 1" | 7/16" | 1 ²¹ / ₃₂ " | \$10.95 |
| 381N | 3/8 | 1/8 | 5/16" | 1" | 11/32" | 1" | 13/32" | 1 ¹¹ / ₁₆ " | \$11.80 |
| 381N-4 | 3/8 | 1/4 | 5/16" | 1" | 11/32" | 1" | 13/32" | 1 ¹¹ / ₁₆ " | \$11.75 |
| 121N-4 | 1/2 | 1/4 | 7/16" | 1 ¹ / ₄ " | 13/32" | 1" | 9/16" | 1 ¹³ / ₁₆ " | \$18.85 |
| 341N-4 | 3/4 | 3/8 | 5/8" | 1 ¹ / ₂ " | 1/2" | 1 ¹ / ₄ " | 3/4" | 2 ¹ / ₄ " | \$26.95 |

Cascade Heads Only

Solid Brass

FEATURES:

- All Holes are Threaded
- Complete with Brass Pipe Plug
- Available with Special Pipe Tap Sizes, Tube Thread Sizes and Hole Locations
- All Dimensions Same as Above for Corresponding Part Number



| PART NO. | USE TUBE NO. | PRICE EACH |
|----------|--------------|------------|
| 16H | 187T- | \$6.30 |
| 186H | 187T- | \$5.75 |
| 181H | 187T- | \$5.90 |
| 146H | 250T- | \$6.15 |
| 146H-4 | 250T- | \$6.10 |
| 141H | 250T- | \$6.35 |
| 141H-4 | 250T- | \$6.30 |
| 381H | 312T- | \$6.65 |
| 381H-4 | 312T- | \$6.65 |
| 121H-4 | 437T- | \$12.65 |
| 341H-4 | 625T- | \$16.85 |

Brass Tubes



Durable Half Hard Brass

FEATURES:

- Custom Tubes are Available Threaded on One or Both Ends
- Half-hard Temper for Reliable Performance
- Bulk Tube Available

| PART NO. | TUBE O.D. | TUBE I.D. | STANDARD THREAD | THREAD LENGTH | OVERALL LENGTH | | | |
|----------|-----------|-----------|-----------------|---------------|----------------|---------|---------|---------|
| | | | | | 12" | 18" | 24" | 36" |
| 125T- | .125" | .062" | 5-44 | 3/16" | \$3.25 | \$3.80 | \$4.40 | \$5.15 |
| 187T- | .187" | .123" | 10-32 | 3/16" | \$3.35 | \$4.00 | \$4.60 | \$5.40 |
| 250T- | .250" | .170" | 1/4-28 | 1/4" | \$3.75 | \$4.55 | \$5.30 | \$6.35 |
| 312T- | .312" | .210" | 5/16-24 | 5/16" | \$4.15 | \$5.25 | \$5.90 | \$7.05 |
| 375T- | .375" | .273" | 3/8-24 | 3/8" | \$5.00 | \$5.95 | \$6.70 | \$8.30 |
| 437T- | .437" | .307" | 7/16-20 | 7/16" | \$5.85 | \$7.55 | \$9.25 | \$11.80 |
| 625T- | .625" | .495" | 5/8-18 | 5/8" | \$9.90 | \$11.80 | \$13.75 | \$17.20 |

To order, specify Part No. and Overall Length; Example: 250T-18

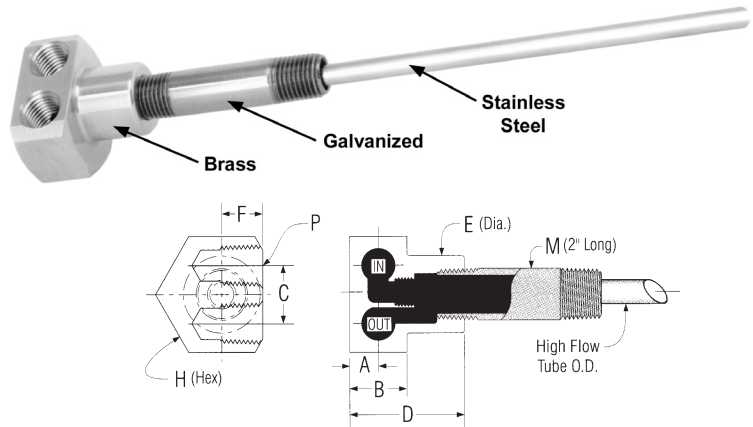
Compact Cascade Assemblies

Compact Cascade Assemblies

Stainless Steel Tube with Solid Brass Head

FEATURES:

- 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 Galvanized Pipe Nipple



| PART NO. | MOLD NIPPLE "M" (NPT) | PIPE TAP "P" (NPT) | TUBE O.D. (12" Long) | HEX SIZE "H" | "A" | "B" | "C" | "D" | "E" | "F" | PRICE EACH |
|----------|-----------------------|--------------------|----------------------|--------------|-------|-------|--------|--------|------|-------|------------|
| ET1816 | 1/8 | 1/16 | 3/16" | 15/16" | 7/32" | 7/16" | 1/2" | 1" | 5/8" | .330" | \$17.20 |
| ET1418 | 1/4 | 1/8 | 1/4" | 1 1/4" | 5/16" | 5/8" | 11/16" | 1 1/4" | 3/4" | .410" | \$17.40 |
| ET1414 | 1/4 | 1/4 | 1/4" | 1 1/2" | 3/8" | 3/4" | 3/4" | 1 1/2" | 7/8" | .540" | \$19.70 |
| ET3814 | 3/8 | 1/4 | 5/16" | 1 1/2" | 3/8" | 3/4" | 3/4" | 1 1/2" | 1" | .540" | \$20.10 |

Compact Cascade Heads Only

Solid Brass

FEATURES:

- All Dimensions Same as Above for Corresponding Part Number



| PART NO. | MOLD NIPPLE (NPT) | IN/OUT PIPE (NPT) | USE HIGH FLOW TUBE NO. | PRICE EACH |
|----------|-------------------|-------------------|------------------------|------------|
| ET1816H | 1/8 | 1/16 | HF187T- | \$11.20 |
| ET1418H | 1/4 | 1/8 | HF250T- | \$11.20 |
| ET1414H | 1/4 | 1/4 | HF250T- | \$12.25 |
| ET3814H | 3/8 | 1/4 | HF312T- | \$13.30 |

High Flow Stainless Steel Tubes

Increase flow up to 300%



FEATURES:

- All Stainless Steel Construction for Optimal Performance, Durability, and Strength
- Special Thin Wall Stainless Tube for Maximum Flow and Quicker Cycles
- Cut to Exact Lengths at No Extra Charge

| PART NO. | TUBE O.D. | TUBE I.D. | THREAD SIZE | THREAD LENGTH | OVERALL LENGTH | | | |
|-----------|-----------|-----------|-------------|---------------|----------------|--------|--------|--------|
| | | | | | 12" | 18" | 24" | 36" |
| HF093T- * | .093" | .077" | 5-44 | 1/8" | \$5.50 | \$6.25 | \$7.00 | \$7.70 |
| HF125T- * | .125" | .109" | 10-32 | 3/16" | \$4.80 | \$5.55 | \$6.30 | \$7.05 |
| HF187T- * | .187" | .167" | 1/4-28 | 1/4" | \$5.05 | \$5.75 | \$6.50 | \$7.25 |
| HF250T- * | .250" | .230" | 5/16-24 | 5/16" | \$5.30 | \$6.05 | \$6.75 | \$7.50 |
| HF312T- * | .312" | .285" | 3/8-24 | 3/8" | \$5.70 | \$6.45 | \$7.20 | \$7.90 |
| HF375T- * | .375" | .345" | 7/16-20 | 7/16" | \$6.00 | \$6.75 | \$7.45 | \$8.25 |
| HF437T- * | .437" | .407" | 1/2-20 | 1/2" | \$7.35 | \$8.10 | \$8.80 | \$9.55 |

*Insert 2-digit length desired: 12, 18, 24 or 36. Custom tubes are available in any thread or length required. For NPT, see Piston Tubes on page 256.