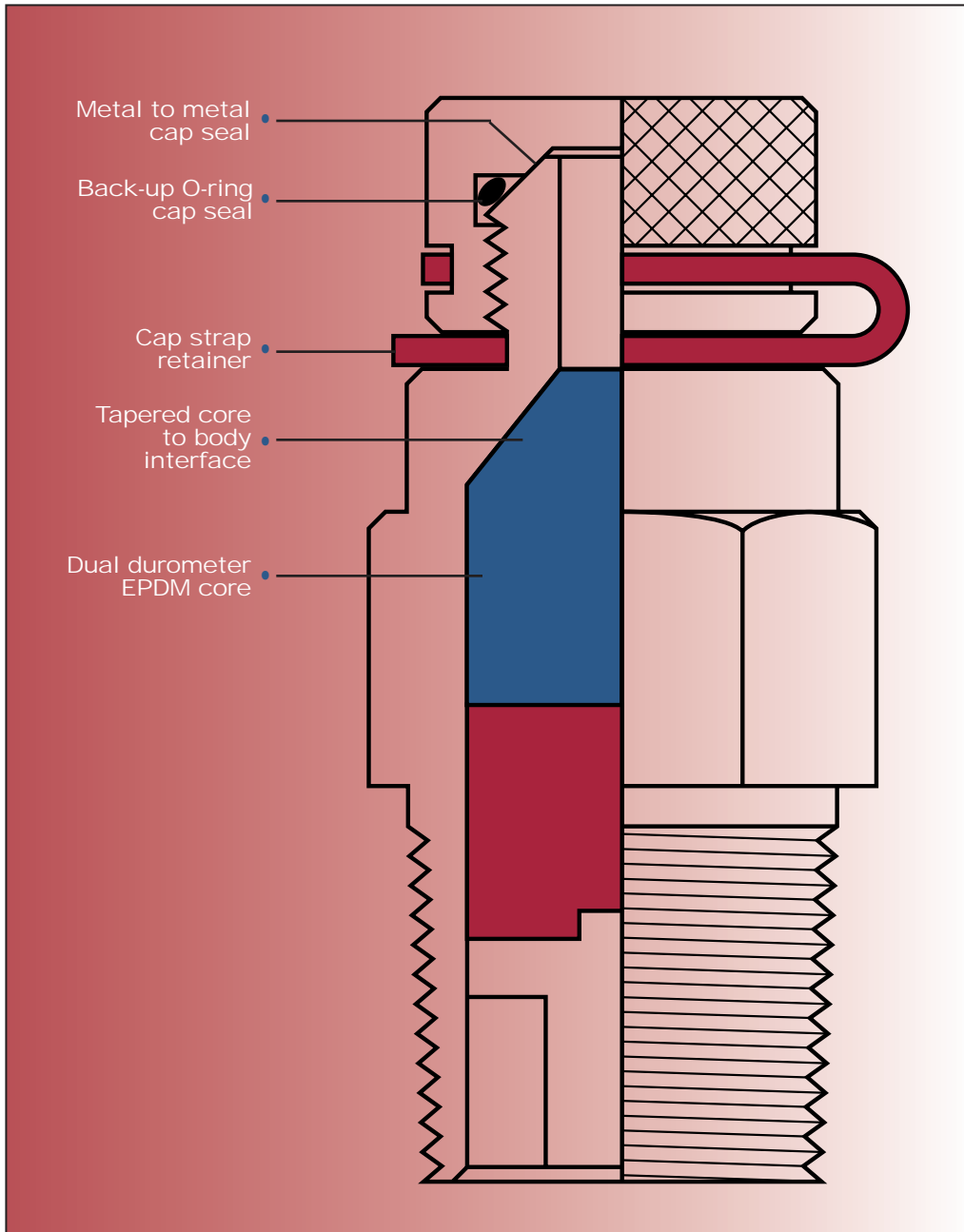


# SUPERSEAL™

*Where accurate P/T measurement is needed*



SuperSeal™, with its patented dual durometer valve core, is the ultimate Pressure/Temperature port for wear resistance and sealing power.

SuperSeal™ utilizes an advanced cap design using a “ground-joint union” style seal backed with an O-ring. The knurled cap permits finger tightening to avoid overtightening with a wrench. The cap strap can also be used to attach tags directly to the test ports to record project data.

## Why SuperSeal™

A SuperSeal™ P/T plug can be used anywhere in a piping system where accurate temperature and pressure measurements are needed. ASHRAE recommends portable instruments and test ports around a coil or anywhere else in the system unless full time monitoring requires that permanent gages be used.

- “Gage cocks or quick-disconnect test ports should be installed at points requiring pressure readings. Gages permanently installed in the system will deteriorate because of vibration and will, therefore, be unreliable.” per ASHRAE “Systems and Equipment” 1992, Chapter 12.15 .

- ASHRAE does not recommend permanent gages or thermometers around a coil because they are not as

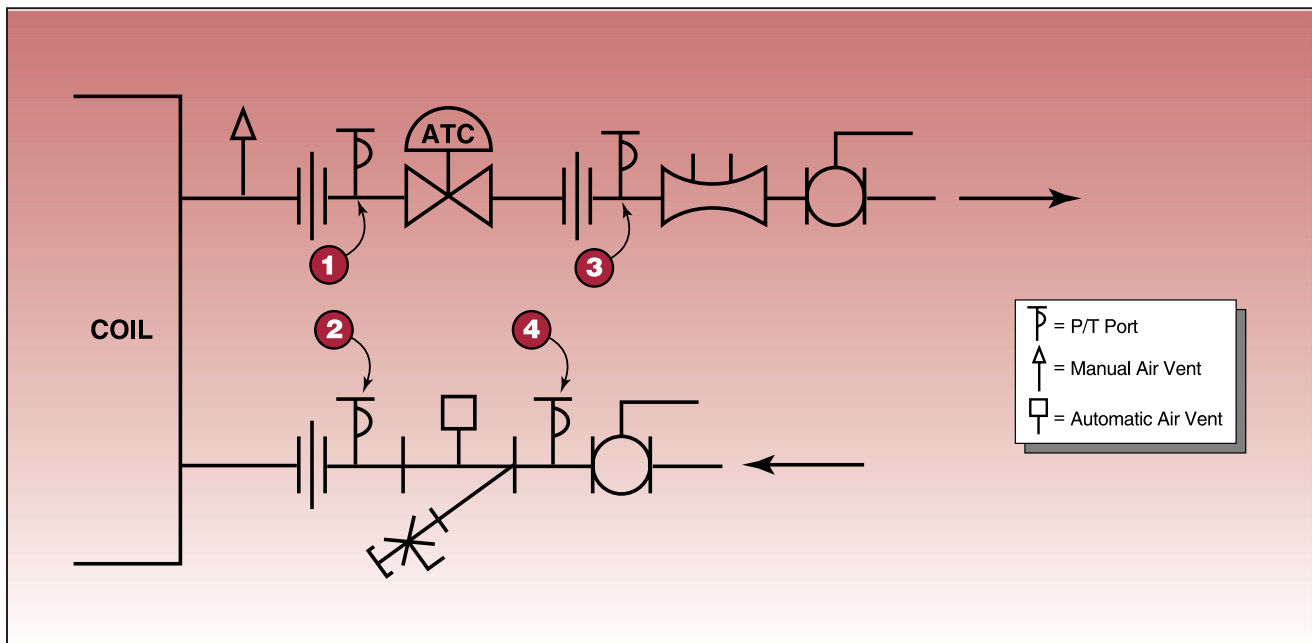
accurate for reading differentials as a single portable instrument. A single portable gauge or thermometer, even with some error, can be used to get accurate differentials around a coil. “Accurate gage readout is diminished when

two gages are used, especially when the gages are permanently mounted and, as such, subject to malfunction. A single high-quality gage should be used for differential readout,” per ASHRAE “HVA C Applications” 1995, Chapter 34.11

**ASHRAE does not recommend permanent gages or thermometers around a coil...**

- Permanent gages and thermometers are expensive and must be recalibrated to be useful. A typical comment from balancing contractors is, “The permanent gages and thermometers are always wrong — we always bring our own instruments and hope the job has P/T plugs installed.”


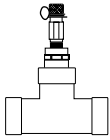

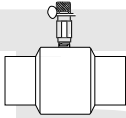
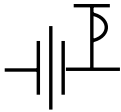
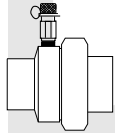

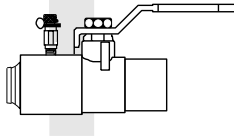
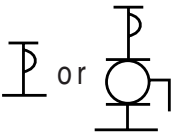
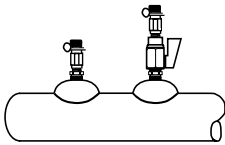
## Preferred Locations for SuperSeals™



Location	Purpose
<p>1 &amp; 2</p> <p>Both sides of the coil</p>	<p>To allow for easy, accurate differential pressure (<math>\Delta P</math>) and temperature readings. Using the Cv of the coil and the <math>\Delta P</math> across the coil an approximate flow rate can be calculated using the formula: <math>GPM = Cv \times \sqrt{\Delta P}</math> (<math>\Delta P</math> is in psi).</p>
<p>1 &amp; 3</p> <p>Before and after the ATC valve</p>	<p>To allow measurement of the <math>\Delta P</math> across the ATC valve. This can verify the Cv of the valve or be used to calculate the flow rate using the formula above.</p>
<p>2 &amp; 4</p> <p>Before and after the Y-strainer</p>	<p>To provide <math>\Delta P</math> measurement across the Y-strainer. This is helpful in determining whether service to the Y-strainer is required.</p>

## SuperSeal™ Mounting

A SuperSeal™ can be mounted in any size pipe or tubing. Typical cost of the Superseal is \$3; labor and material to install the plug can range from \$4 to \$45 depending on the type of mounting.

Mounting	Symbol	Detail	Cost*
Copper Tee			<b>\$18.10</b> Includes: - 4 field joints - 3/4" TFE - 1/2" x 1/4" bushing.
Special Coupling			<b>\$14.65 for 3/4" mounting</b> Includes: - 3 field joints - Special coupling (Model SCO75S)
Union			<b>\$4.00 for mounting P/T only</b> Does not include cost of union. Flow Design Model UP brass union is available 1/2" to 2-1/2".
Valve			<b>\$4.00 for mounting P/T only</b> Does not include cost of valve. Flow Design Models HB and HC brass valves are available 1/2" to 2-1/2".
Steel Pipe with Weld-o-let			<b>\$42.00 for mounting P/T on a 4" pipe</b> Includes: - Weld-o-let - Bushing - Necessary labor

\* Labor costs are based on \$20/hour and MCA time factors discounted by 30%.

## Suggested Specifications

**Design:** Ports shall be suitable to accept a 1/8" diameter thermometer stem or pressure gauge adapter. Ports shall have dual EPDM seals and shall have threaded caps with internal seal and a plastic retainer strap. Standard ports are 1 3/8" long and can be used with insulation up to 1" thick; for thicker insulation, use the 2 3/4" XL port.

**Construction:** Brass body with dual EPDM seals and brass cap with a retainer strap.











**Minimum Ratings:** 1000 psi at 250°F.

**Read-out Kit:** Provide a portable read-out kit by the manufacturer of the P/T ports. The kit shall include two thermometers, pressure gauge and adapters. The kit shall include silicone lubricant and all components supplied in a molded plastic case.

**Installation:**

1. Install pointing vertically up or in an horizontal plane. Do not have the test port pointing down.
2. Install in accordance with manufacturer's instructions.

## SuperSeal™ Products and Accessories

 <p>Models: SS2501, SS2502, SS3161, SS3162</p>	<p><u>SUPERSEAL™</u>, 1/4" connection. Use where insulation is 1" or less. Includes uninstalled cap strap. Pipe connection: 1/4" NPT or BSPT (specify which) Length 1-3/8"</p>	 <p>Models: SS5501, SS5502 SS5161, SS5162</p>	<p><u>SUPERSEAL™</u>, 1/2" connection. Use where insulation is 1" or less. Includes uninstalled cap strap. Pipe connection: 1/2" NPT or BSPT (specify which) Length 1-3/8"</p>
 <p>Models: SS2511, SS2512</p>	<p><u>Extended SUPERSEAL™</u>, 1/4" connection. Use where insulation is 2-1/2" or less. Includes uninstalled cap strap. Pipe connection: 1/4" NPT or BSPT (specify which) Length 2-3/4"</p>	 <p>Models: SS5511, SS5512</p>	<p><u>Extended SUPERSEAL™</u>, 1/2" connection. Use where insulation is 2-1/2" or less. Includes uninstalled cap strap. Pipe connection: 1/2" NPT or BSPT (specify which) Length 2-3/4"</p>
 <p>Models: G100, G160</p>	<p><u>Pressure gauge</u>, 3-1/2" face, 1/4" bottom connection. Accuracy is <math>\pm 3\%</math>. G100 scale is 0-100 psi, 0-700 kPa G160 scale is 0-160psi, 0-1100 kPa</p>	 <p>Models: GA18, GA30</p>	<p><u>Adapter</u>. Used primarily for pressure gauges, but can be used for venting, sampling, etc. 1/4" FPT connection. Length: GA18 = 2.4", GA30 = 3.6"</p>
 <p>Model 300.15</p>	<p><u>Test Kit</u>. Designed for use by consulting engineers and mechanical system operators.</p>	 <p>Models TC2</p>	<p><u>Plastic Tag with Chain</u>. Can be attached to cap strap. Used to record data such as differential pressure and temperature, flow, location, equipment, model, maintenance information, etc.</p>
 <p>Model T125 &amp; TCF220</p>	<p><u>Dial Stem Thermometer</u>. 1-3/4" dial, recalibration nut, 5" stainless steel stem, for use with any SUPERSEAL™. Model T125 has 25° to 125°F range, <math>\pm</math> one division accuracy. Model TCF220 has a dual scale, 0 to 220°F and -10 to 100°C. Accuracy is <math>\pm</math> one division.</p>	 <p>Model PL2</p>	<p><u>Special silicone lubricant</u>. Used on gauge and thermometer probes in accordance with operating instructions.</p>



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Form No: F107 Rev 2  
Date: 12/95  
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