High/Low Pressure Sensor

General Description

The Versa pneumatic/hydraulic pressure sensor is a 3-way block and bleed or a 2-way bleed, 2 position valve that is operated by pressure acting on a piston opposing an adjustable spring force. It functions as either a normally closed or normally open valve, depending on which of the two "IN" ports the instrument pressure is supplied. These ports are marked as HI or LO on the valve body.

The output port, marked 'OUT', is the same for either mode of operation. Pressure changes at the sensor port, outside the set point range, will cause the valve to operate or shift.

The use of two pilot sensors mounted on a common manifold allows for a high/low pressure sensor system. One sensor functions as a low pressure cut off and the other as high pressure limit, protecting your system from pressure extremes in a complete, easy to mount package.

These sensors are also known as Stick Pilots.

Valve

<table>
<thead>
<tr>
<th>Function</th>
<th>Media</th>
<th>Pressure</th>
<th>Cv</th>
<th>Port Size</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-way Universal</td>
<td>Pneumatic and Hydraulic</td>
<td>10 - 150 psi (0.7 - 10.3 bar)</td>
<td>0.12</td>
<td>¼&quot; NPT F</td>
<td>5 to 250°F (-15°C to 121°C)</td>
</tr>
</tbody>
</table>

Pilot Pressure Range*

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Supply Pressure</th>
<th>Piston Size</th>
<th>Max Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>911</td>
<td>20-140 psi</td>
<td>2.25&quot;</td>
<td>13000 psi</td>
</tr>
<tr>
<td>912</td>
<td>50-260 psi</td>
<td>1.68&quot;</td>
<td>6700 psi</td>
</tr>
<tr>
<td>913</td>
<td>200-1500 psi</td>
<td>0.69&quot;</td>
<td>15000 psi</td>
</tr>
<tr>
<td>913A</td>
<td>500-3000 psi</td>
<td>0.50&quot;</td>
<td>15000 psi</td>
</tr>
<tr>
<td>914</td>
<td>1000-5000 psi</td>
<td>0.35&quot;</td>
<td>15000 psi</td>
</tr>
<tr>
<td>915</td>
<td>2500-10000 psi</td>
<td>0.27&quot;</td>
<td>14000 psi</td>
</tr>
</tbody>
</table>

Sensor

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Media</th>
<th>Dead Band</th>
<th>Repeatability</th>
<th>Port Size</th>
<th>Mounting</th>
<th>Adjustment means</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 to 10,000 psi (1.4 to 690 bar) Consult factory for 20,000 psi (1379 bar)</td>
<td>Pneumatic and Hydraulic</td>
<td>&lt; 5% of full range</td>
<td>1% of pressure setting</td>
<td>1/2&quot; NPT M &amp; 1/4&quot; NPT F</td>
<td>Bracket, body mounting holes (3) or panel mount for 1-7/8&quot; diameter hole</td>
<td>Rotating spring cap. Features a wrench flat and hole for “tagout”</td>
</tr>
</tbody>
</table>

Materials**

<table>
<thead>
<tr>
<th>Body</th>
<th>Spring</th>
<th>Seals</th>
<th>Lock Nut</th>
<th>Adjusting Cap</th>
<th>Internal Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>316 Stainless steel</td>
<td>17 - 7 Stainless steel</td>
<td>FKM</td>
<td>316 Stainless steel</td>
<td>316 Stainless steel</td>
<td>316 Stainless steel</td>
</tr>
</tbody>
</table>

Suffix

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-44</td>
</tr>
<tr>
<td>-T40</td>
</tr>
<tr>
<td>-43E</td>
</tr>
<tr>
<td>-AB</td>
</tr>
<tr>
<td>-BAC</td>
</tr>
<tr>
<td>-NA</td>
</tr>
</tbody>
</table>

*Guidance for pressure range

If desired pilot pressure is, for example, 80 psi and there’s an overlap of 2 pressure ranges of 20 – 140 psi and 50 – 260 psi. For better deadband performance: choose 20 – 140 psi. For easier spring cap adjustment: choose 50 – 260 psi.

**All NACE compliant materials except adjusting spring. For full NACE valve add -NA

www.versa-valves.com
Single Unit Pressure Sensor
BAA - 8 3 0 2 - 91 2 - 44

- **Function:**
  - 2 = 2-way (valve plugged at factory)
  - 8 = 3-way NC and NO (universal flow)

- **Size:**
  - 3 = 1/4" Size

- **Body:**
  - 0 = Side ported

- **Plunger:**
  - 1 = NC function (for 2-way only)
  - 2 = 3-way NC or NO, 2-way NO

High/Low Pressure Sensor
2 Valve Assembly

- **BA:** B-316 Series, Hi/low 2 valve assembly

- **Manifold:**
  - 3 = 1/4" NPT Unit

- **Valve 1**
  - Function:
    - 2 = 2-way (valve plugged at factory)
    - 8 = 3-way NC and NO (universal flow)
  - Plunger:
    - 1 = NC function (for 2-way only)
    - 2 = 3-way NC or NO, 2-way NO
  - Suffix:
    - 1 = Stainless Spring, Stainless Adjusting Cap

- **Valve 2**
  - Function:
    - 2 = 2-way (valve plugged at factory)
    - 8 = 3-way NC and NO (universal flow)
  - Plunger:
    - 1 = NC function (for 2-way only)
    - 2 = 3-way NC or NO, 2-way NO
  - Sensor Pressure:
    - 2 = 50 - 260 psi (3.4 - 18.0 bar)
    - 3 = 200 - 1500 psi (13.8 - 103.4 bar)
    - 3A = 500 - 3000 psi (34.5 - 206.8 bar)
    - 4 = 1000 - 5000 psi (69.0 - 344.7 bar)
    - 5 = 2500 - 10000 psi (172.3 - 690 bar)

- **Suffix:**
  - None = No options
  - -44 = Low temperature
  - -T40 = Low temperature
  - -43E = Panel mounting nut
  - -AB = Mounting bracket
  - -BAC = Engineer polymer spring cap
  - -NA = NACE (Inconel Spring)

Dimensions

- **Single Unit**
  - Dimensions:
    - 11.0 INCH (280 MAX)
    - 1.25 (32)
    - 7.0 (178)

- **Dual Assembly**
  - Dimensions:
    - 7.5 (191)

- **Dual Assembly Side View**
  - Dimensions:
    - 12.3 (313 MAX)

- **BAA: B-316 Series**
- **Suffix:** None = No options
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- **Actuator:**
  - 91 = Pilot Action, adjustable spring return

www.versa-valves.com
Applications

Well Head Control
Typical First Out Indicator

Pipeline Control
Over Pressure Protection

High-Low Trip System
Manifold Assembly

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