DESCRIPTION

The Premier 3100AL Series air loaded, piston sensed, single stage, high pressure, back pressure regulators feature control pressures up to 10000 PSIG (689.48 bar), and Cv 0.06, 0.14, or 0.2. Premier 3100AL Series regulators are used to regulate to a broad range of non-corrosive and corrosive media (based on materials of construction).

FEATURES

- Compatible with electro pneumatic controllers
- Cv 0.06, 0.14, or 0.2
- Control pressures up to 10000 PSIG (689.48 bar)
- Very competitive pricing
- Machined bar stock body, bonnet and piston eliminates porosity found in castings
- Numerous optional features are available
- Hydraulic versions available

The Premier 3100AL Series back pressure regulator’s design is remarkably flexible. Contact Premier Industries for a custom Premier 3100AL Series regulator to meet your exact needs.
3100AL SERIES

AIR LOADED HIGH PRESSURE
Back Pressure Regulators

SPECIFICATIONS

• MAXIMUM INLET PRESSURE:
  • REGULATOR: 10000 PSIG (689.5 bar)
  • AIR ACTUATOR: 100 PSIG (6.89 bar)

• CONTROL PRESSURE RANGES:
  • 10-1500 PSIG (0.69 - 103.42 bar)
    Diameter: 1.000"
    Area: 0.7854 in²
    Ratio: 5/6 **
  • 15-2500 PSIG (1.03 - 172.37 bar)
    Diameter: 0.750"
    Area: 0.4418 in²
    Ratio: 28/8 **
  • 50-6000 PSIG (3.45 - 413.69 bar)
    Diameter: 0.500"
    Area: 0.1964 in²
    Ratio: 64/6 **
  • 100-10000 PSIG (6.89 - 689.5 bar)
    Diameter: 0.375"
    Area: 0.1104 in²
    Ratio: 114/6 **

** 4.0" diameter diaphragm
Diaphragm area: 12.5664 in²

• FLOW (Cv): 0.06, 0.14, or 0.20

PORTING

• INLET/OUTLET
  • 1/4", 3/8", 1/2" FNPT
  • 1/4", 3/8", 1/2" SAE J1926
  • 1/4", 3/8", 1/2" SAE AS5202
  • 1/4", 3/8", 9/16" MEDIUM PRESSURE

OPTIONAL ITEMS

• Panel mounting bracket (P/N: 30-10059)
• Non-venting design
• Private label

MATERIALS OF CONSTRUCTION

• BODY: SAE 360 brass or 316 Stainless Steel
• HOUSING, AIR ACTUATOR:
  • 6061-T6 Aluminum/clear anodized
• DIAPHRAGM, AIR ACTUATOR:
  • Neoprene, nylon fabric-reinforced
• MAIN VALVE STEM: 316 Stainless Steel
• MAIN VALVE SEAT:
  • Vespel®
  • PEEK®
• ELASTOMER SEALS:
  • BUNA-N
  • Viton®
  • EPDM
• WETTED PARTS:
  • 316 Stainless Steel
  • 17-4 Stainless Steel

(Part number: 30-10205G shown above)
**AIR LOADED HIGH PRESSURE**

**Back Pressure Regulators**

**3100AL SERIES**

<table>
<thead>
<tr>
<th>SERIES</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-10205G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1 BODY MATERIALS (MAX INLET PRESSURE)**

<table>
<thead>
<tr>
<th></th>
<th>30-10205G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAE 360 Brass (6,000 psig / 413.7 bar)</td>
</tr>
<tr>
<td>2</td>
<td>316 Stainless Steel (10,000 psig / 689.5 bar)</td>
</tr>
</tbody>
</table>

**2 CONTROL PRESSURE**

<table>
<thead>
<tr>
<th></th>
<th>30-10205G</th>
</tr>
</thead>
</table>
| 3 | 10-1500 psig (0.69–103.4 bar)  
Diameter: 1.000"  
Area: 0.7854 in²  
Ratio: 1⁴/₁ ** |
| 4 | 15-2500 psig (1.0–172.4 bar)  
Diameter: 0.750"  
Area: 0.4418 in²  
Ratio: 2⁴/₁ ** |
| 6 | 50-6000 psig (3.4–413.7 bar)  
Diameter: 0.500"  
Area: 0.1964 in²  
Ratio: 4⁴/₁ ** |
| 7 | 100-10000 psig (6.9–689.5 bar)  
(stainless steel only)  
Diameter: 0.375"  
Area: 0.1104 in²  
Ratio: 1¹⁴/₁ ** |

**FLOW (Cv)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Cv 0.06</td>
</tr>
<tr>
<td>1</td>
<td>Cv 0.14</td>
</tr>
<tr>
<td>2</td>
<td>Cv 0.2</td>
</tr>
</tbody>
</table>

**PORT SIZE**

<table>
<thead>
<tr>
<th></th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>6</td>
<td>3/₈&quot;</td>
</tr>
<tr>
<td>8</td>
<td>1/₂&quot;**</td>
</tr>
<tr>
<td>9</td>
<td>9/₁₆&quot;**</td>
</tr>
</tbody>
</table>

**O-RING MATERIAL**

<table>
<thead>
<tr>
<th></th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>BUNA-N</td>
</tr>
<tr>
<td>02</td>
<td>VITON®</td>
</tr>
<tr>
<td>05</td>
<td>EPDM</td>
</tr>
</tbody>
</table>

**PORT TYPE**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FNPT</td>
</tr>
<tr>
<td>2</td>
<td>SAE J1926</td>
</tr>
<tr>
<td>3</td>
<td>SAE AS5202</td>
</tr>
<tr>
<td>4</td>
<td>MEDIUM PRESSURE</td>
</tr>
</tbody>
</table>

**VALVE SEAT**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Vespel®</td>
</tr>
<tr>
<td>3</td>
<td>PEEK®</td>
</tr>
</tbody>
</table>

**FLOW (Cv)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Cv 0.06</td>
</tr>
<tr>
<td>1</td>
<td>Cv 0.14</td>
</tr>
<tr>
<td>2</td>
<td>Cv 0.2</td>
</tr>
</tbody>
</table>

---

10000 PSIG MAX INLET (Stainless Steel) 6000 PSIG MAX INLET (Brass)

The end user is responsible to ensure adequate fittings are used to connect regulator to plumbing.

Viton® is a registered trademark of E.I. duPont de Nemours and Company

PEEK® is a registered trademark of Victrex PLC

Contact factory for material certifications. Fees may apply.