Metering Valves
High Resolution Control Valves and Standard Cartridge Valves

Customer Value Proposition:
Porter metering valves are designed for extremely precise control in low flow gas and liquid applications. They are available as valve cartridges, integrally mounted in flowmeters and in-line valve assemblies with straight or angle patterned bodies. All in-line valve assemblies have 1/8” female NPT inlet and outlet ports.

High Resolution Control Valves
The HR Series High Resolution Control Valves contain unique design features that make them the ultimate choice for precise low flow control.

• Spring loaded, non rising adjustment stem with 56-pitch thread provides smooth, non-reversing flow characteristics and 15-turn resolution.

• Non-rotating stainless steel valve pin with precision ground flat gives exact control.

• Valve pin o-ring guarantees positive shut-off without stem damage.

• Self-lubricating orifice liner assures long life

• Seven available needle tapers expand valve capacity

Standard Cartridge Valves
Porter’s Standard Cartridge Valves (SCV) are economical, multi-purpose valve assemblies. Available in 3 needle tapers, they are ideal for a wide spectrum of low flow applications.
Specifications

Capacities for High Resolution Control Valves

<table>
<thead>
<tr>
<th>Needle Size (HRVC)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Flow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cc/min.- Helium</td>
<td>95</td>
<td>220</td>
<td>450</td>
<td>1250</td>
<td>3600</td>
<td>12500</td>
<td>50000</td>
</tr>
<tr>
<td>cc/min.- Water</td>
<td>2</td>
<td>6</td>
<td>15</td>
<td>30</td>
<td>100</td>
<td>200</td>
<td>900</td>
</tr>
</tbody>
</table>

Capacities for Standard Cartridge Valve

<table>
<thead>
<tr>
<th>Needle Size (SCV)</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Flow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cc/min.- Helium</td>
<td>25000</td>
<td>35000</td>
<td>55000</td>
</tr>
<tr>
<td>cc/min.- Water</td>
<td>700</td>
<td>1000</td>
<td>1200</td>
</tr>
</tbody>
</table>

Note: Capacities are typically measured with water or helium at 10 psig supply pressure and atmospheric pressure downstream. Capacities vary for different fluids and operating conditions.

Ratings: Maximum Operating

<table>
<thead>
<tr>
<th></th>
<th>Temperature°F</th>
<th>Pressure PSIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brass Model</td>
<td>160</td>
<td>250</td>
</tr>
<tr>
<td>Stainless Steel Model</td>
<td>250</td>
<td>250</td>
</tr>
</tbody>
</table>

Connections: 1/8” Female NPT (integral)

Materials of Construction

<table>
<thead>
<tr>
<th>Model</th>
<th>Body</th>
<th>Valve Pin</th>
<th>Valve Pin Holder</th>
<th>O-Rings</th>
<th>Orifice</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRCV Brass</td>
<td>Nickel Plated Brass</td>
<td>316 SS</td>
<td>Brass</td>
<td>Buna N</td>
<td>Brass w/ Fluorosint® liner</td>
</tr>
<tr>
<td>HRCV Stainless Steel</td>
<td>316 SS</td>
<td>316 SS</td>
<td>316 SS</td>
<td>Viton</td>
<td>316 SS w/ Fluorosint® liner</td>
</tr>
<tr>
<td>SCV Brass</td>
<td>Nickel Plated Brass</td>
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Torque Guard

Porter standard cartridge valves are available with the exclusive torque guard stop mechanism. Torque guard eliminates stem damage caused by over tightening of the valve at shut-off. The torque guard system consists of a specifically designed knob with a stop pin pressed into an aluminum knob insert and a mechanical detail on the packing nut that engages the stop pin and prevents clockwise rotation beyond a predetermined point. During final test, the knob is adjusted so that the stop pin and packing nut engage precisely at shut-off. This combination eliminates the possibility of over tightening and the resultant stem damage.

Ordering Information

Control Valve

Example:

Basic Model
HRCV (High Resolution)
SCV (Standard Cartridge)

Body Material
B - Brass
S - Stainless Steel

Needle Size
0 thru 6 (HRCV only)
1 thru 3 (SCV only)
1 - TG (Torque Guard Taper 1)
1 - TG (Torque Guard Taper 2)

Connection Configuration
A - Angle
S - Straight

Valve Cartridge Only

Example:

Valve Configuration
HR (High Resolution)
SC (Standard Cartridge)

Needle Size
0 thru 6 (HR only)
1 thru 3 (SC only)
1 - TG (Torque Guard Taper 1)
1 - TG (Torque Guard Taper 2)

Material
A - Aluminum
B - Brass
S - Stainless Steel

To order, specify:

• Model Number
• Fluid
• Flow Rate
• Operating Pressure (inlet and outlet)
• Operating Temperature
• Materials of Construction

WARNING

Failure, improper selection, or improper use of the products and/or systems described herein or related items can cause death, personal injury, and property damage.

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Porter

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