**Description**

A compact, inline, direct acting poppet check valve suitable for pressure and vacuum applications. Bubble tight sealing is achieved by a line of contact between a precision machined seat and a standard elastomer O-ring with minimum differential pressure, regardless of mounting attitude. Floating poppet and fluted retainer design provides laminar flow. Metal to metal positive stop ensures long service life.

**Technical Data**

- Nominal Crack Pressures: .15, 1 & 3 Psig (0.01, 0.07 & 0.21 bar)
- Proof Pressure: 1200 Psig (83 bar)
- Operating Pressure Range: Vacuum - 800 Psig (55 bar)
- Leakage: Zero @ > 0.5 Psig Back Pressure (0.03 bar)
- Temperature Rating: -80°F to 375°F (-62°C to 190°C) based on seal material

**Materials of Construction**

<table>
<thead>
<tr>
<th>Component</th>
<th>Valve Body Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body, Poppet</td>
<td>Brass, ASTM B16</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel²</td>
</tr>
<tr>
<td>Spring Retainer</td>
<td>Brass, ASTM B16²</td>
</tr>
<tr>
<td></td>
<td>316 SS, ASTM A479</td>
</tr>
<tr>
<td>Spring</td>
<td>302 SS, ASTM A313</td>
</tr>
<tr>
<td>O’Ring³</td>
<td>Buna-N</td>
</tr>
<tr>
<td></td>
<td>Viton™</td>
</tr>
<tr>
<td>Retaining Ring</td>
<td>Zinc Plated Carbon</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
</tr>
</tbody>
</table>

1 Stainless Steel available in 1/8", 1/4", 3/8" & 1/2" Male x Male only
2 1/8" & 1/4" Brass valves have 316SS retainer
3 Lubricated with Krytox™
### Dimensional/Flow Data

<table>
<thead>
<tr>
<th>Pipe Size (NPT)</th>
<th>Port Configuration</th>
<th>A (inches)</th>
<th>HEX</th>
<th>Orifice (inches)</th>
<th>Cv</th>
<th>Flow at Max Psid (SCFM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot;</td>
<td>Male Male</td>
<td>1.312</td>
<td>1/2&quot;</td>
<td>.140</td>
<td>0.4</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>Female Male</td>
<td>1.687</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female Male</td>
<td>1.437</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>Male Male</td>
<td>1.592</td>
<td>5/8&quot;</td>
<td>.193</td>
<td>0.8</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>Female Female</td>
<td>1.937</td>
<td>3/4&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female Male</td>
<td>1.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Male Male</td>
<td>1.610</td>
<td>3/4&quot;</td>
<td>.270</td>
<td>1.2</td>
<td>21.5</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Male Male</td>
<td>2.140</td>
<td>7/8&quot;</td>
<td>.327</td>
<td>2.0</td>
<td>35.5</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>Male Male</td>
<td>2.160</td>
<td>1 – 1/8&quot;</td>
<td>.467</td>
<td>5.0</td>
<td>90.0</td>
</tr>
</tbody>
</table>

1. Maximum allowable pressure drop 15 Psid.

Flow tested in accordance with ISA S75.02 with air. Restrictions in the inlet or outlet piping may reduce flow.

### Ordering Information

**SERIES**
ICV - Inline Check Valve

**PORT CONFIGURATION**
- MM - Male x Male (Standard/Omit)
- FF - Female x Female (1/8" & 1/4" brass only)
- FM - Female x Male (1/8" & 1/4" brass only)

**PIPE SIZE (NPT)**
- 125 - 1/8"
- 250 - 1/4"
- 375 - 3/8"
- 500 - 1/2"
- 750 - 3/4" (brass only)

NPT threads per ANSI/ASME B1.20.1

**ICV - FF - 250 B - V - 1**

**CRACK PRESSURE**
- .15 - (.1 - .4 Psig) (0.01 bar)
- 1 - (.5 - 1 Psig) (0.07 bar)
- 3 - (2-4 Psig) (0.21 bar)

**SEAL MATERIAL**
- V - Viton™, -10°F to 375°F (-23°C to 190°C)
- B - Buna-N, -40°F to 250°F (-40°C to 121°C)
- N - Neoprene, -40°F to 250°F (-40°C to 121°C)
- EP - Ethylene Propylene, -65°F to 300°F (-54°C to 148°C)
- FS - Fluorosilicone, -80°F to 350°F (-62°C to 176°C)
- S - Silicone, -65°F to 400°F (-54°C to 205°C)

**MATERIAL CODE**
- B - Brass
- SS - 316 SS

**OPTIONS**
- Oxygen cleaning, alternative seals and other thread configurations, consult factory

**Note:** Viton™ and Krytox™ are trademarks of DuPont.

**PROPER COMPONENT SELECTION**
- When specifying a component, the total system design must be considered to ensure safe and trouble-free performance.
- Intended component function, materials compatibility, pressure ratings, installation, environment and maintenance are the responsibility of the system designer.

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