Description
The HPRV Series High Pressure Relief Valve provides accurate crack pressure with zero leakage up to 98% of set pressure. When properly specified, this factory preset, tamper proof design is ideally suited for most liquid and gas applications. Encapsulating the o-ring seal within the poppet prevents seal extrusion and cold flow. A precise line of contact seal is maintained by guiding the poppet in the body. At high crack pressure settings, the o-ring is protected by a metal-to-metal stop between the poppet and the body. The valve’s high flow design, combined with narrow band interchangeable springs, minimizes system pressure rise as flow demand increases. Series HPRV valves are available in brass or stainless steel and inline or discharge to atmosphere configurations. They can also be supplied with a manual pull ring override and cleaned for oxygen service.

Features
- 100% Factory Preset and Tested
- Zero Leakage to 95-98% of Set Pressure
- Tamper Proof Adjustment
- Excellent Reseat Performance

Technical Data
- Set Pressure Range: 10 to 2400 Psig (0.7 to 166 Bar)
- Set Pressure Tolerance: Factory Preset +/-5% on increasing pressure
- Reseat: Elastomer Seals 90%-95% of Actual Crack Pressure. PTFE may be slightly lower
- Inline Valves (Series HPRV):
  - Proof Pressure: 3700 Psig (225 Bar)
  - Burst Pressure: >5000 Psig (345 Bar)
- Temperature Range: -320º F to 400º F (-220º C to 205º C)
  Based on seal selection, see ordering information

Materials of Construction

<table>
<thead>
<tr>
<th>Component</th>
<th>Valve Body Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inlet Body, Outlet Cap, Spring Chamber, Spring Retainer, O’Ring Spreader</td>
<td>Brass, ASTM B16</td>
</tr>
<tr>
<td>Poppet</td>
<td>303 SS, ASTM A582</td>
</tr>
<tr>
<td>Spring</td>
<td>302 SS / 17-7 PH ASTM A313</td>
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<tr>
<td>Locking Screw</td>
<td>18-8 SS</td>
</tr>
<tr>
<td>Seals*</td>
<td>As Specified, See Ordering Information</td>
</tr>
<tr>
<td>Pull Stud</td>
<td>Brass, ASTM B16</td>
</tr>
<tr>
<td>Pull Ring</td>
<td>Plated Steel</td>
</tr>
</tbody>
</table>

* Lubricated with Krytox™
**HIGH PRESSURE RELIEF VALVE**

### Dimensional Data

- **Inlet (NPT)**
  - 1/8”
  - 1/4”
  - 3/8”
  - 1/2”
  - 3/4”

<table>
<thead>
<tr>
<th>Outlet</th>
<th>HPRV</th>
<th>HPRM</th>
<th>HPRVA</th>
<th>Hex</th>
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<tbody>
<tr>
<td>A</td>
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</tr>
<tr>
<td>B</td>
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<tr>
<td>F</td>
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</tr>
</tbody>
</table>

- **Hex**
  - 1/8”
  - 1/4”
  - 3/8”
  - 1/2”
  - 3/4”

Dimensional data is stated in inches.

### Flow Data

- **Set Pressure Range**
  - HPRV
    - 10-1250
    - 1251-2400
  - HPRV and HPRVM
    - 10-1250
    - 1251-2400

<table>
<thead>
<tr>
<th>Set Pressure Range</th>
<th>HPRV 10-1250</th>
<th>HPRV 1251-2400</th>
<th>HPRV 10-1250</th>
<th>HPRV 1251-2400</th>
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</thead>
<tbody>
<tr>
<td>Inlet (NPT)</td>
<td>Orifice</td>
<td>Kd</td>
<td>Orifice</td>
<td>Kd</td>
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<td>1/8”</td>
<td>.215</td>
<td>.14</td>
<td>.215</td>
<td>.57</td>
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<td>3/8”</td>
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<td>.20</td>
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<td>.35</td>
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<tr>
<td>1/2”</td>
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<td>3/4”</td>
<td>.951</td>
<td>.27</td>
<td>.951</td>
<td>.65</td>
</tr>
</tbody>
</table>

Kd is stated at 110% of Nominal Set Pressure.
Orifice sizes are stated in inches.
Consult factory for proper sizing or flow requirements, flow curves available on request.

### Ordering Information

- **SERIES**
  - HPRV - Male x Female, Inline
  - HPRVA - Male Inlet, Discharge to Atmosphere
  - HPRVM - Male Inlet, Vent to Atmosphere with Manual Override

#### STANDARD PORTING CONNECTION

- 125 - 1/8” NPT
- 250 - 1/4” NPT
- 375 - 3/8” NPT
- 500 - 1/2” NPT
- 750 - 3/4” NPT

**ANSI/ASME B1.20.1**

#### OPTIONAL PORTING CONNECTION

- -6SAE
- -8SAE
- -10SAE
- -12SAE
- -16SAE
- -6JIC
- -8JIC
- -10JIC
- -12JIC
- -16JIC

Inlet - MS33656 with Cone Point Removed (adapts to SAE J1926)
Outlet - SAE J1926
Inlet - SAE J514, 37 Degree Flare
Outlet - Corresponding SAE J1926 Size Female

**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.

**NOMINAL SET PRESSURE**

- Specify 10 - 2400 Psig

**SEAL MATERIAL**

- V - Viton™, -20°F to 400°F (-29°C to 204°C)
- B - Buna-N, -40°F to 250°F (-40°C to 121°C)
- N - Neoprene, -40°F to 300°F (-40°C to 149°C)
- EP - Ethylene Propylene, -65°F to 300°F (-54°C to 149°C)
- S - Silicone, -70°F to 450°F (-56°C to 232°C)
- T - Teflon™, -320°F to 400°F (-220°C to 204°C)

**MATERIAL CODE**

- B - Brass
- S - 303 Stainless Steel
- SS - 316 Stainless Steel

**OPTIONS**

- Oxygen cleaning, tamper proof lock wire, alternative seals and Other thread configurations, consult factory

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