VENT RELIEF VALVE
1/8" - 1" NPT
.5 - 150 Psig (0.03 – 10.3 bar)

Description
A compact, highly accurate, direct acting pressure relief valve. Factory preset to desired crack pressure and/or flow specifications. Internal adjustment provides tamper proof safety against inadvertent pressure changes. Available vent to atmosphere or inline configurations in brass, aluminum and 316 stainless steel. Valves feature a Quad ring seal which provides for extreme accuracy and repeatability with a narrow reseal band. Optional deflector cap increases flow capacity and provides for deflection of discharge.

Features
- Accurate and Repeatable Cracking Pressure
- 100% Factory Preset and Tested
- Zero Leakage to 95-98% of Set Pressure
- Tamper Proof Adjustment
- Excellent Reseal Performance
- Compact Size

Technical Data
- Set Pressure Range: 0.5 to 150 Psig (0.03 to 10.34 bar)
- Inline Valves (Series VRVI):
  Proof Pressure: 400 Psig (28 bar)
  Burst Pressure: >500 Psig (34 bar)
- Set Pressure Tolerance: Factory preset
  < 2 Psig (0.14 bar): +/-10%  
  2 to 150 Psig (0.14 to 10.3 bar): +/- 5% (on increasing pressure)
- Reseal:
  80% of Set Pressure for valves specified 2-10 Psig (0.14 to 0.7 bar)
  92% of Set Pressure for valves specified 10-150 Psig (0.7 to 10.3 bar)
- Temperature Range: -320º to 400º F (-195º C to 205º C)

(based on sealing selection, see ordering information)
SERIES VRV
VENT RELIEF VALVE

Dimensional Data

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>VRV &amp; VRVD</th>
<th>VRVI</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPT</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>.97</td>
<td>.69</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>1.20</td>
<td>.92</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>1.24</td>
<td>1.17</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>1.75</td>
<td>1.40</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>2.25</td>
<td>1.73</td>
</tr>
<tr>
<td>1&quot;</td>
<td>3.12</td>
<td>1.94</td>
</tr>
</tbody>
</table>

1 Available with male straight thread connections. (SAE J1926, MS33656 with cone point removed) Consult factory.

Materials of Construction

<table>
<thead>
<tr>
<th>Component</th>
<th>Valve Body Material</th>
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<tbody>
<tr>
<td>Valve Body</td>
<td>Brass, ASTM B16 (Nickel Plated, ASTM B689)</td>
</tr>
<tr>
<td>Stem</td>
<td>2024 Aluminum ASTM B211 (Clear Anodized, ASTM B580)</td>
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<tr>
<td>Spring Retainer²</td>
<td>316 SS, ASTM A479</td>
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<tr>
<td>Seal³</td>
<td>As specified, see ordering information</td>
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<tr>
<td>Spring</td>
<td>302 SS/17-7 PH, ASTM A313</td>
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<tr>
<td>Locknut</td>
<td>18-8 SS</td>
</tr>
<tr>
<td>Deflector Cap and Rivet</td>
<td>2024 Aluminum ASTM B211 (Clear Anodized, ASTM B580)</td>
</tr>
</tbody>
</table>

1 Available in 1/8" and 1/4" valves only
2 All 1/8" and 1/4" valves have 316 stainless steel (ASTM A479) retainers
3 Lubricated with Krytox™

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1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888
### Series VRV
VENT RELIEF VALVE

#### Flow Data, Series VRV (Vent to Atmosphere)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>0.5 - 2.5</td>
<td>1/8&quot; NPT (VRV-125)</td>
<td>0.187</td>
<td>7.7</td>
<td>0.03</td>
<td>34</td>
<td>0.06</td>
<td>55</td>
<td>0.07</td>
<td>90</td>
<td>0.08</td>
<td>260</td>
<td>0.12</td>
<td>500</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td>1/4&quot; NPT (VRV-250)</td>
<td>0.275</td>
<td>8</td>
<td>0.01</td>
<td>37</td>
<td>0.03</td>
<td>69</td>
<td>0.04</td>
<td>123</td>
<td>0.05</td>
<td>515</td>
<td>0.11</td>
<td>2011</td>
<td>0.24</td>
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<tr>
<td></td>
<td>3/8&quot; NPT (VRV-375)</td>
<td>0.345</td>
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<td>58</td>
<td>0.03</td>
<td>108</td>
<td>0.04</td>
<td>150</td>
<td>0.04</td>
<td>550</td>
<td>0.07</td>
<td>1300</td>
<td>0.1</td>
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<tr>
<td></td>
<td>1/2&quot; NPT (VRV-500)</td>
<td>0.410</td>
<td>50</td>
<td>0.04</td>
<td>110</td>
<td>0.04</td>
<td>150</td>
<td>0.04</td>
<td>220</td>
<td>0.04</td>
<td>1458</td>
<td>0.14</td>
<td>3725</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>1&quot; NPT (VRV-1000)</td>
<td>0.785</td>
<td>Consult Factory</td>
<td>175</td>
<td>0.02</td>
<td>114</td>
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<td>310</td>
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<td>550</td>
<td>0.01</td>
<td>4600</td>
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<td>5500</td>
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#### Flow Data, Series VRVD (Vent to Atmosphere, with Deflector Cap)

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<tbody>
<tr>
<td>0.5 - 2.5</td>
<td>1/8&quot; NPT (VRVD-125)</td>
<td>0.187</td>
<td>10.3</td>
<td>0.04</td>
<td>39</td>
<td>0.07</td>
<td>95</td>
<td>0.12</td>
<td>100</td>
<td>0.09</td>
<td>280</td>
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<td>580</td>
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<td>1/4&quot; NPT (VRVD-250)</td>
<td>0.275</td>
<td>11</td>
<td>0.02</td>
<td>40</td>
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<td>100</td>
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<td>172</td>
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<tr>
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<td>3/8&quot; NPT (VRVD-375)</td>
<td>0.345</td>
<td>13</td>
<td>0.01</td>
<td>77</td>
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<td>130</td>
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<td>1/2&quot; NPT (VRVD-500)</td>
<td>0.410</td>
<td>60</td>
<td>0.05</td>
<td>246</td>
<td>0.09</td>
<td>420</td>
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<td>658</td>
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<td>0.570</td>
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<td>76</td>
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<td>0.785</td>
<td>Consult Factory</td>
<td>560</td>
<td>0.06</td>
<td>500</td>
<td>0.04</td>
<td>600</td>
<td>0.03</td>
<td>660</td>
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#### Flow Data, Series VRVI (Inline)

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</tr>
</thead>
<tbody>
<tr>
<td>0.5 - 2.5</td>
<td>1/4&quot; NPT (VRVI-250)</td>
<td>0.187</td>
<td>7.7</td>
<td>0.03</td>
<td>34</td>
<td>0.06</td>
<td>55</td>
<td>0.07</td>
<td>90</td>
<td>0.08</td>
<td>260</td>
<td>0.12</td>
<td>500</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td>3/8&quot; NPT (VRVI-375)</td>
<td>0.275</td>
<td>8</td>
<td>0.01</td>
<td>37</td>
<td>0.03</td>
<td>69</td>
<td>0.04</td>
<td>123</td>
<td>0.05</td>
<td>515</td>
<td>0.11</td>
<td>2011</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>1/2&quot; NPT (VRVI-500)</td>
<td>0.345</td>
<td>12</td>
<td>0.01</td>
<td>58</td>
<td>0.03</td>
<td>108</td>
<td>0.04</td>
<td>150</td>
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<td>550</td>
<td>0.07</td>
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<tr>
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<td>3/4&quot; NPT (VRVI-750)</td>
<td>0.410</td>
<td>50</td>
<td>0.04</td>
<td>110</td>
<td>0.04</td>
<td>150</td>
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<td>220</td>
<td>0.04</td>
<td>1458</td>
<td>0.14</td>
<td>3725</td>
<td>0.2</td>
</tr>
</tbody>
</table>

#### Notes to Flow Data
- Flow and Kd (discharge coefficient) are stated at 110% accumulation above set point with Nitrogen and Zero Downstream Pressure
- Interpolate charts for set pressures between points given
- Restrictions in the inlet or outlet piping may reduce flow
- Exceeding 115% accumulation may result in valve failure
- Generant offers complete design assistance. Consult factory for correct relief valve sizing
- Individual flow curves available on request
- Orifice sizes are stated in inches

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SERIES VRV
VENT RELIEF VALVE

Ordering Information

SERIES
VRV - Vent to Atmosphere
VRVD - Vent to Atmosphere with Deflector Cap
VRVI - Inline Relief (Male x Female)

PORT SIZE
125 - 1/8"
250 - 1/4"
375 - 3/8"
500 - 1/2"
750 - 3/4"
1000 - 1" (Note: VRVI Not Available)
NPT threads per ANSI/ASME B1.20.1

Material Code
B - Brass
A - Aluminum
SS - 316 SS
For other materials, consult factory

VRV - 125 B - V - 15

NOMINAL SET PRESSURE
Specify .5 - 150 Psig
(Teflon™ Seals not available below 20 Psig)
Valves that are not actuated for a period of time may exhibit higher
initial crack pressure (first bubble) than subsequent cycles

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 - Fluorsilicone, -80° F to 350° F (-62° C to 176° C)
S - Silicone, -65° F to 400° F (-54° C to 205° C)
T - Teflon™, -320° F to 400° F (-220° C to 205° C)

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

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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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