The Wafer Insert (WV) valve is designed to fit between two mating ANSI flanges. Two gaskets are required, instead of the one normally used in a flanged joint. The “drop in” valve body fits inside the bolt circle for quick installation and removal in rigid piping applications where the use of the F1, F6, or FP (see our Flange Insert series on page 5) is not practical. Many valves in this series can meet API 594 and/or B16.34 requirements. Consult the factory for more information.

The Wafer Insert valve can also be used as a low pressure relief valve or vacuum breaker by using the desired spring settings.

<table>
<thead>
<tr>
<th>Nom. Pipe Size</th>
<th>Size Code</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Orifice Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>D</td>
<td>1-3/8</td>
<td>0.62</td>
<td>1.38</td>
<td>N/A</td>
<td>0.348</td>
</tr>
<tr>
<td>3/4</td>
<td>F</td>
<td>1-3/4</td>
<td>0.82</td>
<td>1.38</td>
<td>N/A</td>
<td>0.464</td>
</tr>
<tr>
<td>1</td>
<td>H</td>
<td>2</td>
<td>1.05</td>
<td>1.38</td>
<td>0.35</td>
<td>0.593</td>
</tr>
<tr>
<td>1-1/4</td>
<td>I</td>
<td>2-1/2</td>
<td>1.38</td>
<td>1.63</td>
<td>0.27</td>
<td>0.890</td>
</tr>
<tr>
<td>1-1/2</td>
<td>J</td>
<td>2-7/8</td>
<td>1.61</td>
<td>1.63</td>
<td>0.54</td>
<td>1.135</td>
</tr>
<tr>
<td>2</td>
<td>K</td>
<td>3-5/8</td>
<td>2.07</td>
<td>2.38</td>
<td>0.17</td>
<td>1.385</td>
</tr>
<tr>
<td>2-1/2</td>
<td>L</td>
<td>4-1/8</td>
<td>2.47</td>
<td>2.62</td>
<td>0.31</td>
<td>1.555</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>5</td>
<td>3.07</td>
<td>2.89</td>
<td>0.42</td>
<td>2.025</td>
</tr>
<tr>
<td>4</td>
<td>N</td>
<td>6-3/16</td>
<td>4.03</td>
<td>2.89</td>
<td>1.25</td>
<td>2.560</td>
</tr>
</tbody>
</table>

1 Maximum nominal dimension for a fully open valve with no spring.

<table>
<thead>
<tr>
<th>Body Material</th>
<th>Nominal Pipe Size</th>
<th>Non-Shock Pressure-Temp. Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>316 Stainless Steel (SS) Carbon Steel (CS) Alloy 20 (A2) Alloy C-276 (HC) Alloy B (HB) MONEL® 400 or Alloy R405 Titanium (Ti)</td>
<td>1/2&quot; - 1&quot;</td>
<td>ANSI Class 150 - 2500 (1500 PSIG @ 100°F for o-ring seats)</td>
</tr>
<tr>
<td></td>
<td>1-1/4&quot; - 2-1/2&quot;</td>
<td>ANSI Class 150 - 1500 (1500 PSIG @ 100°F for o-ring seats)</td>
</tr>
<tr>
<td></td>
<td>3&quot;</td>
<td>ANSI Class 150 - 900 (1500 PSIG @ 100°F for o-ring seats)</td>
</tr>
<tr>
<td></td>
<td>4&quot;</td>
<td>ANSI Class 150 - 600</td>
</tr>
<tr>
<td>Brass (BR)</td>
<td>1/2&quot; - 4&quot;</td>
<td>ANSI Class 150 - 300</td>
</tr>
</tbody>
</table>

2 See page 56 for material grade information.
Wafer Insert
For Water at 72°F

How to Order
Check-All Style WV

Body Material
Alloy 20 = A2
Brass = BR
Carbon Steel = CS
Alloy B = HB
Alloy C-276 = HC
Monel® 400 or Alloy R405 = MO
316SS = SS
Titanium = Ti
See p. 3 for temperature ratings

Spring cracking pressures (PSI)
Must use decimal as a character unless selecting NO SPRING. Specify Exact Setting

Springs ranges
Example
.000 to .999 = .500
1.00 to 9.99 = 1.50
10.0 to 85.0 = 15.0
No spring = NOSPRG

Standard cracking pressures
1.125 .500 1.50 3.50
(Sizes D-J Only)

Seating material
Aflas® = AS
Buna-N = BN
Epdm = EP
Kalrez® = KZ
"Metal-to-Metal" = MT
Neoprene = NE
PTFE = TF
Viton™ = VT
See p. 3 for temperature ratings

Valve Size

Special options
T = FEP Encapsulated Spring
Contact the factory for more options
See p. 4 for temperature ratings

Spring Material
Alloy C-276 = HC
Inconel® X750 or Alloy X750 = IX
Monel® 400 = MO
17-7Ph SS = PH
316SS = SS
Titanium = Ti
See p. 4 for temperature ratings

Note: Many other cracking pressures are available. All spring tolerances +/- 15%.

Listed above are the most common material selections. Please contact the factory for additional options.

1. 0.500 PSI is the only standard cracking pressure for spring materials other than Stainless Steel. 125 PSI springs are not recommended for installations with flow vertical down.
2. Seat materials other than “metal-to-metal” have a maximum pressure rating of 1500 PSI. “Metal-to-Metal” and PTFE seats are not resilient. See page 52 for allowable leakage rates.
3. EP seats not recommended for use with Carbon Steel valves.

See page 51 for flow formulae. Valve weights are approximate.