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Flexi-Hinge® Check Valves

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## Series Selection Guide

### End Connection, Materials, and Pressure Ratings

<table>
<thead>
<tr>
<th>SERIES</th>
<th>BODY STYLE (1)</th>
<th>INTERNALS MATERIAL (1)</th>
<th>FLANGE CLASS (4)</th>
<th>MAXIMUM PRESSURE PSI</th>
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<tr>
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<tr>
<td>581F-12**</td>
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<td>316 SS</td>
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<td>316 SS</td>
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<td>200</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Other materials are available, please consult the factory.
2. Standard seal material is Buna-N; other materials are available, please consult the factory.
3. Standard hardware is 316 SS; other materials are available, please consult the factory.
4. Please consult the factory for flange classes not shown; Metric, British, DIN, JIS, and other international standards are available.

April 2011
% ATTENTION: Sales Department
% Response required by: ________________
% Customer: ____________________________
% Address: _____________________________
% Phone: ______________________________
% Fax: ________________________________
% E-mail: ______________________________

APPLICATION INFORMATION

System: _______________________________________________________________________________________________________________________________________________________
Flow Media: _______________________________________________________________________________________________________________________________________________________
Service: Liquid Gas (circle one)
Nominal Line Size: __________ (if known) Recommended Size ______________
Flow Rate: __________ gpm lpm cfm m^3/min (circle one)
System Pressure: min ______ max ______ psig kg/cm^2 (circle one)
Max. Differential Pressure acceptable: _______ psig kg/cm^2 (circle one)
System Temperature Range: min __ ° Fahrenheit Centigrade (circle one)
Valve Orientation: horizontal vertical-UP vertical-DOWN (circle one)
Pump / Blower Type: centrifugal positive displacement (circle one)
vertical turbine other ____________________________________________
Suction side Discharge side (circle one)

VALVE INFORMATION

Valve Series: ________________ (if known)
Body Style: MTE FTE Grooved Plain Flanged Wafer (circle one)
Special Combination _______________ and ___________________
Materials: Body: ________________________________________________
Internals: _____________________________________________________
Seal: Buna-N EPDM Viton® Silicone (circle one)
Spring Required: yes no (circle one)
Special Coatings: _________________________________________________________________________________________
Testing Required: Hydrostatic Seat Leakage (circle if needed)
Screen Size: ______________ Material: 316 SS other _______ (Foot Valves Only)
Other Special Requirements: ______________________________________________________________________________

APPLICATION DIAGRAM: Attach additional sheets as required Note: Indicate nearest upstream and downstream components and distance.

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VALVE APPLICATION INFORMATION

1. GENERAL CONSIDERATIONS

1.1 ORIENTATION / PLACEMENT IN PIPELINE SYSTEMS

Flexi-Hinge® valves must be installed with the center post vertical in horizontal pipelines. Failure to do so will result in uneven loading of closure plates as well as insufficient operation. Installation in vertical up flow does not require any additional considerations. However, vertical down flow will likely require valves with an optional spring to ensure closure of valve plates. For other orientations, such as angled pipelines, please consult the factory with your specific requirements.

When placing Flexi-Hinge® valves in pipelines, a minimum of five pipe diameters should be maintained upstream and downstream from other piping components, such as fittings and other valves. Locating the check valve near other components may directly affect its performance and life. Flow, which is relatively laminar, is required to maintain stable, open valve plates. In the ‘check’ direction, relatively laminar flow is also required to provide smooth, complete closure of the valve plates.

1.2 TYPES OF SYSTEMS

These check valves are best suited for continuous, positive displacement flow applications. Pulse type, cyclic, or reciprocating operation are not recommended and will likely result in inadequate operation and early failure of the hinge/sealing member.

Flexi-Hinge® valves can be successfully used in low pressure gas and liquid applications due to its large flow area and low opening and closing pressure requirements. The normally closed configuration ensures positive closing in low flow, low pressure systems.

1.3 PAINTING AND PLATING

All steel and aluminum valve bodies are provided standard with a durable paint finish on the exterior. Other special finishes are available, please consult the factory for your specific painting requirements.

Custom plating of body and internal components is available to improve resistance to corrosion and/or wear. Please consult the factory with your specific needs.
2. DESIGN CONSIDERATIONS

2.1 MAXIMUM OPERATING PRESSURE AND TEMPERATURE

Maximum operating pressures are given in the valve series data sheets. Generally they are limited by the internal components. Pressures beyond those stated are considered special and the factory should be contacted with your requirements. ANSI flanged units do not meet full ANSI ratings as to pressure and temperature, therefore the specific series limitations must be observed for safe operation.

Maximum operating temperatures are generally limited by seal selection. The maximum (intermittent) temperatures for various standard seal materials are as follows:

<table>
<thead>
<tr>
<th>SEAL MATERIAL</th>
<th>Material</th>
<th>Temperature Range °F [°C]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buna-N</td>
<td></td>
<td>-60 to 225 [-51 to 107]</td>
</tr>
<tr>
<td>EPDM</td>
<td></td>
<td>-40 to 300 [-40 to 149]</td>
</tr>
<tr>
<td>Viton ®</td>
<td></td>
<td>-20 to 400 [-29 to 204]</td>
</tr>
<tr>
<td>Silicone</td>
<td></td>
<td>-100 to 500 [-73 to 260]</td>
</tr>
</tbody>
</table>

See Appendix A for specific seal properties and resistance comparisons.

2.2 OPENING AND CLOSING PRESSURE REQUIREMENTS

As an operational guide, Flexi-Hinge® valves begin to open at approximately 0.1 psid (0.007 bar) and are fully open at approximately 0.5 psid (0.035 bar). Valves with optional springs function at approximately double these pressure differentials. Other considerations may effect these values, such as your specific pipeline orientation (flow up, down, or angled), variations in internal materials, and specific size of the valve (large valves may require more or less due to the total surface area or the weight of the valve plates).

2.3 DIFFERENTIAL PRESSURE AND VELOCITY CRITERIA

The maximum recommended pressure drop across the valve is 1.0 psi (0.07 bar) for liquids and 0.1 psi (0.007 bar) for gases. The maximum recommended velocity through the valve is 18 fps (5.5 mps) for liquids and 100 fps (30 mps) for gases.

Specific applications should be checked as outlined in section 2.6 and 2.7 for your flow and pressure requirements. Exceeding these guidelines may result in excessive wear on valve components, poor performance, and excessive pressure loss. Pressure loss charts are provided in Appendix B for liquid and gas service.

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## 2.4 RECOMMENDED LIQUID FLOW RATES

Maximum recommended liquid flow rates are listed below. These rates are limited by the design of the valve (flow area) or by the maximum liquid velocity, which the valve should be subjected to.

<table>
<thead>
<tr>
<th>Nominal Size (inches)</th>
<th>Nominal Size (mm)</th>
<th><strong>Flexi-Hinge® Check Valves</strong></th>
<th>Metal Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$C_v$</td>
<td>$C_v$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>English-Gpm (at 1.0 psid)</td>
<td>Metric-Lpm (at 1.0 psid)</td>
</tr>
<tr>
<td>1”</td>
<td>25</td>
<td>37</td>
<td>140</td>
</tr>
<tr>
<td>1-1/4”</td>
<td>32</td>
<td>65</td>
<td>246</td>
</tr>
<tr>
<td>1-1/2”</td>
<td>40</td>
<td>91</td>
<td>345</td>
</tr>
<tr>
<td>2”</td>
<td>50</td>
<td>160</td>
<td>606</td>
</tr>
<tr>
<td>2-1/2”</td>
<td>65</td>
<td>410</td>
<td>1552</td>
</tr>
<tr>
<td>3”</td>
<td>80</td>
<td>620</td>
<td>2347</td>
</tr>
<tr>
<td>4”</td>
<td>100</td>
<td>965</td>
<td>3653</td>
</tr>
<tr>
<td>5”</td>
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<td>5716</td>
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<td>6”</td>
<td>150</td>
<td>3025</td>
<td>11451</td>
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<tr>
<td>8”</td>
<td>200</td>
<td>5195</td>
<td>19665</td>
</tr>
<tr>
<td>10”</td>
<td>250</td>
<td>7345</td>
<td>27803</td>
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<td>12”</td>
<td>300</td>
<td>9450</td>
<td>35772</td>
</tr>
<tr>
<td>14”</td>
<td>355</td>
<td>13420</td>
<td>50728</td>
</tr>
<tr>
<td>16”</td>
<td>400</td>
<td>15910</td>
<td>60226</td>
</tr>
<tr>
<td>18”</td>
<td>455</td>
<td>18750</td>
<td>70976</td>
</tr>
<tr>
<td>20”</td>
<td>505</td>
<td>29680</td>
<td>112190</td>
</tr>
<tr>
<td>24”</td>
<td>610</td>
<td>40950</td>
<td>154791</td>
</tr>
</tbody>
</table>

Shaded columns indicate limiting flow rate.

**NOTE:** The use of the optional spring configuration will approximately double the pressure drop across the check valve. Care should be exercised when selecting a valve. The desired maximum pressure drop, the flow rate, and the velocity should be considered for final selection of the appropriate valve size.
### 2.5 CHECK VALVE PARAMETERS – AREA, EQUIVALENT DIAMETERS, AND RESISTANCE COEFFICIENT

<table>
<thead>
<tr>
<th>Nominal Size (inches)</th>
<th>Nominal Size (mm)</th>
<th>Flexi-Hinge® Check Valves</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flow Area (in.$^2$)</td>
</tr>
<tr>
<td>1”</td>
<td>25</td>
<td>0.58</td>
</tr>
<tr>
<td>1-1/4”</td>
<td>32</td>
<td>1.01</td>
</tr>
<tr>
<td>1-1/2”</td>
<td>40</td>
<td>1.44</td>
</tr>
<tr>
<td>2”</td>
<td>50</td>
<td>2.59</td>
</tr>
<tr>
<td>2-1/2”</td>
<td>65</td>
<td>4.03</td>
</tr>
<tr>
<td>3”</td>
<td>80</td>
<td>5.76</td>
</tr>
<tr>
<td>4”</td>
<td>100</td>
<td>10.66</td>
</tr>
<tr>
<td>5”</td>
<td>125</td>
<td>16.99</td>
</tr>
<tr>
<td>6”</td>
<td>150</td>
<td>23.76</td>
</tr>
<tr>
<td>8”</td>
<td>200</td>
<td>43.92</td>
</tr>
<tr>
<td>10”</td>
<td>250</td>
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<td>300</td>
<td>95.34</td>
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<tr>
<td>14”</td>
<td>355</td>
<td>130.47</td>
</tr>
<tr>
<td>16”</td>
<td>400</td>
<td>170.60</td>
</tr>
<tr>
<td>18”</td>
<td>455</td>
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<td>505</td>
<td>266.07</td>
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<tr>
<td>24”</td>
<td>610</td>
<td>394.29</td>
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</table>

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2.6 VELOCITY CHECK FOR LIQUID OR GAS APPLICATIONS

**LIQUID**

**ENGLISH**

\[
\text{VELOCITY (ft./sec.)} = \frac{\text{Flow Rate (gpm) x 0.3208}}{\text{Flow Area (in.}^2)}
\]

**METRIC**

\[
\text{VELOCITY (mps)} = \frac{\text{Flow Rate (lpm) x 0.166}}{\text{Flow Area (cm}^2)}
\]

**GAS**

**ENGLISH**

\[
\text{VELOCITY (ft./sec.)} = \frac{\text{Flow Rate (cfm) x 2.4}}{\text{Flow Area (in.}^2)}
\]

**METRIC**

\[
\text{VELOCITY (mps)} = \frac{\text{Flow Rate (m}^3/\text{min}) x 166.7}{\text{Flow Area (cm}^2)}
\]

**NOTE:** See valve flow area in square inches or square centimeters on page 7. Compare the applications actual velocity to the recommended maximum shown on page 7.

**EXAMPLE:**

Check the velocity thru a 6” Flexi-Hinge® valve at a liquid flow rate of 900 gpm.

1. The flow area of a 6” valve is 23.76 square inches
2. Performing the calculation for liquid applications:
   
   \[
   900 \text{ gpm x 0.3208 / 23.76 in.}^2 = 12 \text{ ft./sec.}
   \]

A velocity of 12 ft./sec. is less than the maximum recommended velocity. A 6” valve would be acceptable with regard to velocity. A further check with respect to the pressure drop should be performed before finalizing the valve selection. See below for pressure drop calculations or see charts in Appendix B.

2.7 PRESSURE DROP CHECK FOR LIQUID OR GAS APPLICATIONS

**LIQUID - ENGLISH**

Differential Pressure (psid) = \( \left( \frac{Q}{C_v} \right)^2 \frac{P}{62.4} \)

where: 

\( Q \) = Flow Rate in gpm

\( C_v \) = Flow Coefficient in gpm (see page 7)

\( P \) = Weight Density of the fluid in lbs./ft\(^3\)

(water at 60°F \( P = 62.4 \) lbs./ft\(^3\))

**LIQUID - METRIC**

Differential Pressure (bar) = \( \left( \frac{Q}{C_v} \right)^2 \frac{P}{14.7} \)

where: 

\( Q \) = Flow Rate in lpm

\( C_v \) = Flow Coefficient in lpm (see page 7)

\( P \) = Weight Density of the fluid in Kg/m\(^3\)

(water at 16°C \( P = 1000 \) Kg/m\(^3\))

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2.7 PRESSURE DROP CHECK (CONT’D)

GAS - ENGLISH

Differential Pressure (psid) = \( \frac{Q^2 \cdot K \cdot T \cdot Sg}{459684 \cdot d^4 \cdot P} \)

where:
- \( Q \) = Flow Rate in SCFM
- \( K \) = Resistance Coefficient (see section 2.5)
- \( T \) = Temperature, ° Rankine (° F + 460)
- \( Sg \) = Specific Gravity (air = 1.0)
- \( d \) = Equivalent dia., inches (see section 2.5)
- \( P \) = Pressure, psia (14.7 at atmospheric)

GAS - METRIC

Differential Pressure (bar) = \( \frac{Q^2 \cdot K \cdot T \cdot Sg}{1300 \cdot d^4 \cdot P} \)

where:
- \( Q \) = Flow Rate in standard cubic meters/min.
- \( K \) = Resistance Coefficient (see section 2.5)
- \( T \) = Temperature, ° Rankine
- \( Sg \) = Specific Gravity (air = 1.0)
- \( d \) = Equivalent dia., cm (see section 2.5)
- \( P \) = Pressure, bars (1.0 at atmospheric)

2.8 ACTUAL TO STANDARD CFM FOR GAS SERVICE

In most systems, the actual flow rate in cubic feet per minute at flowing conditions is known. To use this value will require the conversion to standard flow rate at standard conditions (60°F and 14.7 psi) for use in the various formulas. The suggested method of conversion is given below:

\[
SCFM = \frac{ACFM}{\left(\frac{14.7}{14.7 + P}\right) \left(\frac{460 + T}{520}\right)}
\]

where:
- \( T \) = Temperature, ° F
- \( P \) = Pressure, psig
- \( ACFM \) = Actual ft.³ / min.
- \( SCFM \) = Standard ft.³ / min.
3. INSTALLATION CONSIDERATIONS

3.1 FUNCTIONAL CHECK

Before installation, the movement of the valve plates should be checked for free operation. Move the plates manually from fully closed to fully open positions, noting any significant binding or interference. Some “drag” is normal due to the nature of the sealing member. Additionally, the valve plates may appear not to seat tightly, this also is normal, and is due to the stiffness of the sealing member conforming to the body bore. This condition will moderate as the valve cycles during service. If any significant interference is noted, the factory should be contacted for additional information on how this can be corrected.

3.2 NAMEPLATE RATING

Prior to installation, check that the rating indicated on the valve nameplate conforms to the system pressure and temperature maximums. **Do not exceed the check valve ratings.**

3.3 LOCATION

A minimum of five pipe diameters between components upstream and downstream of the check valve should be maintained for proper valve operation. Insufficient space between components can result in increased maintenance and early seal failure of the check valve.

Valves installed in horizontal lines must be oriented with the “center post” in the vertical position. This can be determined by observance of the bolts mounting the internal components. Valves installed in vertical flow require no special attention to “center post” orientation. However, in the case where the check valve is positioned less than five pipe diameters downstream of an elbow, the valve must be mounted so that the “center post” is oriented parallel to the centerline of the horizontal pipe (see diagram below). Such positioning will ensure equal loading of the valve plates with respect to the velocity of the gas or liquid through the elbow.

![Diagram showing correct and incorrect valve orientation](image-url)
3.4 INSTALLATION

A flow arrow on the nameplate indicates the proper direction of flow for the valve. There are various end connection styles available:

**Threaded:** A “strap” type pipe wrench should be utilized to install threaded end valves. Standard pipe wrenches may distort body shape and cause valve failure. Normal threaded component installation with Teflon® tape is recommended, however any suitable pipe sealing paste can be used. Thread the components together until hand tight and apply an additional 1 to 1 ½ turns to attain sufficient thread contact.

**Grooved:** Follow pipe clamp supplier’s recommendations. Grooved valves conform to standard dimensional requirements for “Victaulic®” or other similar style pipe clamps.

**Flanged:** Flanges conform to ANSI B16.5 dimensions. Suitable fasteners, nuts, and gaskets are required, which conform to system specifications. Tighten bolts in accordance with standard flange bolting sequences (typical ‘star’ type pattern).

**Plain:** Plain end style valves are intended to be used with compatible style hose and hose clamps rated for the system pressure and temperature.

3.4 MAINTENANCE

No routine maintenance is required. At suitable intervals, in conformance to system requirements, the valve seal should be checked for deterioration or wear. Replacement of seals, as with all valve components, should be scheduled as part of routine maintenance. This procedure does not require any special tools or skills and can be accomplished in the field. Attain required replacement parts and instructions from the factory when necessary. Refer to Appendix C illustration to identify the internal components and descriptions.

3.5 LONG TERM STORAGE

Valves can be stored in their original packaging. Proper care should be taken to keep the packages clean, dry, and protected from damage.
# APPENDIX A
## SEAL PROPERTIES AND RESISTANCE COMPARISON

<table>
<thead>
<tr>
<th>ANSI/ASTM D 1418-77</th>
<th>NBR</th>
<th>EPDM</th>
<th>FKM</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Name</strong></td>
<td>Nitrile/Buna-N</td>
<td>EPDM</td>
<td>Viton®</td>
<td>Silicone</td>
</tr>
<tr>
<td><strong>Chemical Name Definition</strong></td>
<td>Butadiene Acrylonitrile</td>
<td>Ethylene Propylene Polymer</td>
<td>Fluorinated Hydrocarbon</td>
<td>Polysiloxane</td>
</tr>
<tr>
<td><strong>Hardness Range, Duro A</strong></td>
<td>70-75</td>
<td>70-75</td>
<td>70-75</td>
<td>70-75</td>
</tr>
<tr>
<td><strong>Reinforcement Material</strong></td>
<td>Nylon or Dacron</td>
<td>Nylon or Dacron</td>
<td>Nylon or Dacron</td>
<td>Fiberglass</td>
</tr>
</tbody>
</table>

### RESISTANCE COMPARISON

<table>
<thead>
<tr>
<th></th>
<th>NBR</th>
<th>EPDM</th>
<th>FKM</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concentrated Acid</strong></td>
<td>Good</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Fair</td>
</tr>
<tr>
<td><strong>Dilute Acid</strong></td>
<td>Good</td>
<td>Excellent</td>
<td>Excellent</td>
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</tr>
<tr>
<td><strong>Hydrocarbons- Aromatic</strong></td>
<td>Good</td>
<td>Poor</td>
<td>Excellent</td>
<td>Poor</td>
</tr>
<tr>
<td><strong>Hydrocarbons- Oxygenated</strong></td>
<td>Good</td>
<td>Good to Very Good</td>
<td>Poor</td>
<td>Fair</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>Fair to Good</td>
<td>Excellent</td>
<td>Fair to Good</td>
<td>Fair</td>
</tr>
<tr>
<td><strong>Oil, Animal, and Vegetable</strong></td>
<td>Very Good</td>
<td>Good</td>
<td>Excellent</td>
<td>Good to Excellent</td>
</tr>
<tr>
<td><strong>Oil and Gasoline</strong></td>
<td>Excellent</td>
<td>Poor</td>
<td>Excellent</td>
<td>Fair</td>
</tr>
<tr>
<td><strong>Solvents, Lacquer</strong></td>
<td>Fair</td>
<td>Poor to Fair</td>
<td>Poor to Fair</td>
<td>Poor</td>
</tr>
<tr>
<td><strong>Steam</strong></td>
<td>Fair to Good</td>
<td>Excellent</td>
<td>Fair to Good</td>
<td>Fair</td>
</tr>
</tbody>
</table>

### PROPERTIES COMPARISON

<table>
<thead>
<tr>
<th></th>
<th>NBR</th>
<th>EPDM</th>
<th>FKM</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heat</strong></td>
<td>Good</td>
<td>Excellent</td>
<td>Outstanding</td>
<td>Outstanding</td>
</tr>
<tr>
<td><strong>Heat Aging</strong></td>
<td>Good</td>
<td>Excellent</td>
<td>Outstanding</td>
<td>Outstanding</td>
</tr>
<tr>
<td><strong>Impermeability</strong></td>
<td>Low</td>
<td>Fairly Low</td>
<td>Very Low</td>
<td>Fairly Low</td>
</tr>
<tr>
<td><strong>Rebound</strong></td>
<td>Good Cold</td>
<td>Very Good</td>
<td>Fair to Good</td>
<td>Excellent</td>
</tr>
<tr>
<td><strong>Hot</strong></td>
<td>Good</td>
<td>Very Good</td>
<td>Good</td>
<td>Excellent</td>
</tr>
<tr>
<td><strong>Swelling in Oil</strong></td>
<td>Very Good</td>
<td>Poor</td>
<td>Excellent</td>
<td>Fair</td>
</tr>
<tr>
<td><strong>Water Absorption</strong></td>
<td>Good</td>
<td>Very Good to Excellent</td>
<td>Very Good</td>
<td>Excellent</td>
</tr>
<tr>
<td><strong>Tensile Strength</strong></td>
<td>Good to Excellent</td>
<td>Good to Excellent</td>
<td>Good to Excellent</td>
<td>Good</td>
</tr>
</tbody>
</table>

### Generally Resistant To:

- Most Hydrocarbons, Fats, Oils, Greases, Hydraulic fluids, Chemicals, and Solvents
- Vegetable and Animal Fats, Oils, and Ozone.
- Many Strong and Oxidizing Chemicals, Keytones, and Alcohols
- All Aromatic, Aliphatic, and Halogenated Hydrocarbons. Many Acids, Animal, and Vegetable Oils.
- Moderate or Oxidizing Chemicals. Ozone and Concentrated Sodium Hydroxide.

### Generally Affected or Attacked By:

- Not for: Ozone, Ketones, Esters, Aidehydes, Nitro and Chlorinated Hydrocarbons, Polar Solvents, and MEK.
- Not for: Mineral Oils, Solvents, and Aromatic Hydrocarbons
- Not for: Ketones, Esters, and Nitro Containing Compounds.

1 Maximum temperature indicated is for intermittent duty only, not for continuous service.
2 Seals in Red-Hinge\(\textsuperscript{\textregistered}\) valves are constructed with elastomer materials reinforced with fibers for added strength.

April 2011
APPENDIX B

Pressure Loss Charts
(English and Metric)

SERIES 502-M, 503, 513, and 514
  Water ............................................................. Page 14
  Air.................................................................. Page 15
  Gas Flow versus Line Pressure ................. Page 16

SERIES 502-MFT and 503-FT
  Water ............................................................. Page 14

SERIES 517-M and 517
  Water ............................................................. Page 17
  Air.................................................................. Page 18
  Gas Flow versus Line Pressure ................. Page 19

How to use the charts:

Pressure Loss Basis: Enter the chart on left-hand side at the desired pressure loss maximum, follow the pressure line to the right intersecting size lines, and read the rated flow for the given pressure loss at the bottom of chart.

Flow Basis: Enter the chart at the bottom for the desired flow rate, follow the flow line up to the size lines, and read the pressure loss at the given sizes.
Flexi-Hinge® Check Valves
FLOW vs. PRESSURE LOSS
[for other liquids see technical section 2.7]
Flexi-Hinge® Check Valves
AIR FLOW vs. PRESSURE LOSS
[for other gases see technical section 2.7]
Flexi-Hinge® Check Valves

GAS FLOW vs. LINE PRESSURE

[at recommended maximum 0.10 psid]

Valve Sizing:
1. Enter chart on ‘Y’ axis at desired system line pressure [psig].
2. From ‘X’ axis locate desired flow, read up to intersection with system pressure.
3. Choose any valve size that falls to the right of this point.
4. For actual pressure drop at system conditions refer to technical section for calculating or contact factory for assistance.

April 2011
Flexi-Hinge® Series 517M Expansion Check Valves
FLOW vs. PRESSURE LOSS
[for other liquids see technical section 2.7]
Flexi-Hinge® Series 517M Expansion Check Valves

AIR FLOW vs. PRESSURE LOSS

[for other gases and pressure see technical section 2.7]
Valve Sizing:
1. Enter chart on ‘Y’ axis at desired system line pressure [psig].
2. From ‘X’ axis locate desired flow, read up to intersection with system pressure.
3. Choose any valve size that falls to the right of this point.
4. For actual pressure drop at system conditions refer to technical section for calculating or contact factory for assistance.
APPENDIX C

VALVE COMPONENTS, PARTS, AND DESCRIPTIONS

Note: Item 1, the body, will vary with series configuration. All other parts remain the same.