Safe Valve Selection

When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and end-user.

Selection Guide

Customize a valve to meet your system requirements. Your choice of Valve Actuation, End Connections and Flow Path are described in this section. The model designation options start with selection of the actuator in Figure 1.

Note: All Multiport items are Special Order.

Contact Information:

Parker Hannifin Corporation
Veriflo Division
250 Canal Blvd
Richmond, California 94804

phone 510 235 9590
fax 510 232 7396
veriflo.sales@parker.com

www.parker.com/veriflo

Diaphragm Valves
Selection Guide for Multi-Port, Angle and Elbow Diaphragm Valves (Special Order)

Valve Actuation - Figure 1

<table>
<thead>
<tr>
<th>Actuator Style</th>
<th>Pressure Range Vacuum to...</th>
<th>Description of Actuator</th>
<th>Actuator Designator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>125 psig (8.6 barg)</td>
<td>Round Handwheel</td>
<td>S</td>
</tr>
<tr>
<td>930, 955, 945,</td>
<td>250 psig (17 barg)</td>
<td>1/4 Turn Lever</td>
<td>L</td>
</tr>
<tr>
<td>830, 855, 845</td>
<td>300 psig (20.7 barg)</td>
<td>Indicating Handwheel</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>3000 psig (207 barg)</td>
<td>Mini 1/4 Turn Lever</td>
<td>G</td>
</tr>
<tr>
<td></td>
<td>3500 psig (240 barg)</td>
<td>Toggle</td>
<td></td>
</tr>
<tr>
<td>Pneumatic (low pressure)</td>
<td>125 psig (8.6 barg)</td>
<td>Normally Closed</td>
<td>AOPLP1NC</td>
</tr>
<tr>
<td>930, 830, 855, 955</td>
<td>250 psig (17 barg)</td>
<td>Normally Open</td>
<td>AOPLPNC</td>
</tr>
<tr>
<td></td>
<td>300 psig (20.7 barg)</td>
<td></td>
<td>AOPLP1NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AOPLPNO</td>
</tr>
<tr>
<td>Pneumatic (medium pressure)</td>
<td>300 psig (20.7 barg)</td>
<td>Normally Closed</td>
<td>AOPMPNC</td>
</tr>
<tr>
<td>930, 830</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumatic (high pressure)</td>
<td>3500 psig (240 barg)</td>
<td>Normally Closed</td>
<td>AOPHPNC</td>
</tr>
<tr>
<td>945, 845</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. For oxygen; 2200 psig (150 bar) 2. Actuation pressure - 75 psig nominal (60-120 psig) 3. “1” Designates Integral Cartridge Fitting for 1/8” O.D. Plastic Tubing.

Note: Use 930 or 945 to replace 944 valves.
Diaphragm Valve Selection Guide

Flow Path

Select a body configuration with the desired internal flow path in Figure 2. The flow path is shown as viewed from the top of the body.

Although high purity valves will operate in either flow direction, the “O” port is generally used as the outlet or downstream port and the “I” port is normally used as the inlet or upstream port. The Flow Path Designator letter will be used in the Valve Ordering Information.

Port numbering / End Connections

Starting with Port 1 and continuing in numerical sequence with Ports 2, 3, 4, and 5 as shown in Figure 3, select a designator for each port that will be used, i.e. two designators for a two port body, three designators for a three port body, and so on, even if the connections are identical. Select the desired End Connection using the End Connection Style Chart (Figure 4) for each port on the body.
Diaphragm Valve Selection Guide

930/945 Dimensions

Overall height and actuator dimensions are shown in Figure 7. Centerline to port dimensions are shown in Figure 8. Port to port dimensions are determined by adding the “A” dimensions together.

Note: All dimensions are in inches. For reference only.

Figure 7 - 930/945 Series

<table>
<thead>
<tr>
<th>Standard Dimensions (inches)</th>
<th>Designator</th>
<th>Dimension Tolerance +/- 0.03</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4” Tube Stub (.250 x .035)</td>
<td>3/8” Tube Stub (.375 x .035)</td>
<td>A</td>
</tr>
<tr>
<td>1/4” Face Seal Male Swivel (.347 O.D. Gland)</td>
<td>1/2” Face Seal Male Swivel</td>
<td>1/2” Face Seal Female Swivel</td>
</tr>
</tbody>
</table>

1. 1/2” connections use 1.25” square body

955 Dimensions

Overall height and actuator dimensions are shown in Figure 9. Centerline to port dimensions are shown in Figure 10. Port to port dimensions are determined by adding the “A” dimensions together.

Note: All dimensions are in inches. For reference only.

Figure 9 - 955 Series

<table>
<thead>
<tr>
<th>Standard Dimensions (inches)</th>
<th>Designator</th>
<th>Dimension Tolerance +/- 0.03</th>
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<tbody>
<tr>
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Diaphragm Valve Selection Guide

Example of Multiport Valve Configuration, Special Order

Build a valve by replacing the numbered symbols with an option from the corresponding tables below.

Sample: 9 55 L S C 323 VESP

Finished Order: 955LSC323VESP

1  Basic Series
   55 = 955

2  Type
   AOPLNC = Air Operated, Low Pressure, Normally Closed
             Air Connection is 1/8” NPT
   AOPLNO = Air Operated, Low Pressure, Normally Open
             Air Connection is 1/8” NPT
   G    = Toggle
   I    = Indicating Handwheel
   L    = Lever
   M    = Mini-Lever

3  Body Material
   S = 316L Stainless Steel

4  *Flow Path
   A, B, C, D, E, F, G, H, I, J, K, L, M
   Refer to Figure 2

5  End Connections
   Port 1
   Port 2
   Port 3
   Port 4
   Port 5
   Refer to Figures 3 and 4

6  Optional Features
   This section can have multiple options
   BL008 = Bleed Valve .008 Orifice
   BL015 = Bleed Valve .015 Orifice
   LK = LockOut-TagOut LK includes LockOut-TagOut
        bracket for G-Type Valve; LOTO Clamp for M type Valve
   PM = Panel Mount Not available with Indicating Handwheel (I)
   PEEK = PEEK™ Seat
   VESP = Vespel® Seat Recommended for Nitrous Oxide (N2O) Service
   2.3 = 2.3” End-To-End 1/4” FS Only
   2.78 = 2.78” End-To-End 1/4” FS Only

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