Series 1, 3 and 4

1/8" and 1/4" Ported Manually Operated Valves

3-way/2-position, 5-way/2-position and 5-way/3-position
Ports 1/8" and 1/4" NPTF

The Series 1 manual valves (1/8" & 1/4", 3-way/2-position and 5-way/2-position) and the Series 3 & 4 manual valves (1/8" & 1/4", 3-way/2-position, 5-way/2-position and 5-way/3-position) are available with actuators designed to satisfy different needs. For series 3 & 4, the 3-way/2-position valves are normally closed when P is the inlet; they can also be normally open when R is the inlet. They can be operated with vacuum down to -.9 bar (28" Hg). Additionally, the series 3 & 4 valves can be supplied with 2 different pressures into ports 3 and 5 if a cylinder requires different extend and retract forces. The series 1 valves offer a more rugged, compact design with steel operator interfaces.

TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Valve group</th>
<th>3-way/2-position, 5-way/2-position, 5-way/3-position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Spool type Series 3 and 4, Poppet type Series 1</td>
</tr>
<tr>
<td>Mounting</td>
<td>Mounting holes in valve body</td>
</tr>
<tr>
<td>Materials</td>
<td>Anodized aluminum body, Stainless steel spool, Buna-N seals, Brass Poppet (Series 1)</td>
</tr>
<tr>
<td>Threaded port sizes</td>
<td>1/8&quot; and 1/4&quot; NPTF</td>
</tr>
<tr>
<td>Installation</td>
<td>Manifold, or single panel mount</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>32°F - 175°F, (dry air necessary down to -4° F)</td>
</tr>
<tr>
<td>Fluid</td>
<td>Filtered air (25 micron or less recommended)</td>
</tr>
<tr>
<td>Lubricant</td>
<td>Not required; otherwise, only oil compatible with Buna-N, (3° - 10° E) (ISOVG32 grade; 32 centistokes)</td>
</tr>
</tbody>
</table>

PNEUMATIC DATA

| Nominal pressure                         | 6 bar (87 psi)                                      |
| Nominal flow                             | "Qn Series 3: 1/8" = 700 NL/min. (24.7 SCFM)        |
|                                          | Series 1: 1/8" = 500 NL/min. (17.65 SCFM), 1/4"=1250 NL/min. (44.14 SCFM) |
|                                          | "Qn Series 4: 1/4"=1250 NL/min. (44.14 SCFM)        |
| Nominal diameter                         | 1/8" = 5 mm, 1/4" = 7.5 mm                         |
| Cv Rating                                | Series 3: 1/8" = 0.73, Series 4: 1/4" = 1.3        |
|                                          | Series 1: 1/8" = 0.52, 1/4" = 1.3                   |

*Qn flowrate (SCFM) determined with a supply pressure of 6 bar (87 psi), and with a pressure drop of 1 bar (14.5 psi).
**Soft-seal repair kits are available on request.
***Dimensions are in millimeters

Dimensions in millimeters (mm)
The company reserves the right to vary models and dimensions without notice. These products are designed for industrial applications and are not suitable for sale to the general public.

**CODING OF MINIVALVES**

<table>
<thead>
<tr>
<th>SERIES</th>
<th>FUNCTION</th>
<th>PORTS</th>
<th>RESETTING</th>
<th>TF</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>8</td>
<td></td>
<td>900</td>
</tr>
<tr>
<td>3</td>
<td>3 = 3/2-way NC</td>
<td>0 = 1/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5 = 2/2-way CC</td>
<td>4 = 1/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 = 5/3-way CC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 = 5/3-way CO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>895</td>
<td>pushbutton, monostable, black</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>896</td>
<td>pushbutton, monostable, green</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>897</td>
<td>pushbutton, monostable, red</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>900</td>
<td>lever, bistable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>905</td>
<td>lever, monostable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>910</td>
<td>knob, bistable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>915</td>
<td>knob, monostable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>935</td>
<td>digital monostable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>975</td>
<td>palm-switch, monostable, black</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>976</td>
<td>palm-switch, monostable, green</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>977</td>
<td>palm-switch, monostable, red</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>990</td>
<td>switch, bistable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TF**

- TF = NPTF ports
- blank = BSP ports

**Manually operated valves**

- Mod. 138-925TF
- Mod. 138-900TF
- Mod. 158-900TF
- Mod. 338-990TF
- Mod. 338-900TF
- Mod. 358-900TF
- Mod. 358-895TF
- Mod. 358-896TF
- Mod. 358-897TF
- Mod. 134-935TF
- Mod. 134-900TF
- Mod. 154-900TF
- Mod. 434-910TF
- Mod. 434-915TF
- Mod. 454-910TF
- Mod. 454-915TF
- Mod. 454-900TF
- Mod. 454-905TF
- Mod. 464-900TF
- Mod. 464-905TF
- Mod. 474-900TF
- Mod. 474-905TF

`Cv = .52 - .73`
Valves Mod. 338-990TF  
Cv = .73

Actuation Force at 87 psi = 4.04 lbf

Valves Mod. 358-990TF  
Cv = .73

Actuation Force at 87 psi = 4.04 lbf

Valves Mod. 338-895TF  
Cv = .73

Actuation Force at 87 psi = 7.9 lbf

Valves Mod. 358-895TF  
Cv = .73

Actuation Force at 87 psi = 7.9 lbf

<table>
<thead>
<tr>
<th>Mod.</th>
<th>Button Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>338-895TF</td>
<td>Black</td>
</tr>
<tr>
<td>338-896TF</td>
<td>Green</td>
</tr>
<tr>
<td>338-897TF</td>
<td>Red</td>
</tr>
</tbody>
</table>

*buttons are anodized aluminum

Dimensions in millimeters (mm)
Valves Mod. 338-975TF  
Cv = .73

Actuation Force at 87 psi = 7.9 lbf

Valves Mod. 358-975TF  
Cv = .73

Actuation Force at 87 psi = 7.9 lbf

Mod. | Button Color
--- | ---
338-975TF | Black
338-976TF | Green
338-977TF | Red

*buttons are anodized aluminum

Valves Mod. 338-910TF and Mod. 338-915TF  
Cv = .73

338-910TF Actuation Force at 87 psi = 1.35 lbf  
338-915TF Actuation Force at 87 psi = 7.9 lbf

Valves Mod. 358-910TF and Mod. 358-915TF  
Cv = .73

358-910TF Actuation Force at 87 psi = 1.35 lbf  
358-915TF Actuation Force at 87 psi = 7.9 lbf

Dimensions in millimeters (mm)
**Valves Mod. 338-900TF and Mod. 338-905TF  \( C_v = .73 \)**

- **338-900TF** Actuation Force at 87 psi = 1.35 lbf
- **338-905TF** Actuation Force at 87 psi = 7.9 lbf
- *Detent force can be adjusted by means of 5 spring-loaded screws on the side of handle interface*

**Valves Mod. 358-900TF and Mod. 358-905TF  \( C_v = .73 \)**

- **358-900TF** Actuation Force at 87 psi = 1.35 lbf
- **358-905TF** Actuation Force at 87 psi = 7.9 lbf
- *Detent force can be adjusted by means of 5 spring-loaded screws on the side of handle interface*

**Valves Mod. 368-900TF  \( C_v = .73 \)**

- Actuation Force at 87 psi = 1.35 lbf
- *Detent force can be adjusted by means of 5 spring-loaded screws on the side of handle interface*

**Valves Mod. 368-905TF  \( C_v = .73 \)**

- Actuation Force at 87 psi = 4.5 lbf
- *Detent force can be adjusted by means of 5 spring-loaded screws on the side of handle interface*
Valves Mod. 378-900TF  \( \text{Cv} = .73 \)

Actuation Force at 87 psi = 1.35 lbf

*Detent force can be adjusted by means of 5 spring-loaded screws on the side of handle interface

Valves Mod. 378-905TF  \( \text{Cv} = .73 \)

Actuation Force at 87 psi = 4.5 lbf
Valve Mod. 138-935TF

Actuating force at 6 bar = 38N (8.5 lbf)
Operating pressure = 0 - 10 bar (0 - 145 psi)
Flow rate = 500 NL/min. (17.6 SCFM)

Valve Mod. 138-900TF

Actuating force at 6 bar = 25N (5.6 lbf)
Operating pressure = 0 - 10 bar (0-145 psi)
Flow rate = 500 NL/min. (17.6 SCFM)

Valve Mod. 158-900TF

Actuating force at 6 bar = 45N (10.1 lbf)
Operating pressure = 0 - 10 bar (0-145 psi)
Flow rate = 500 NL/min. (17.6 SCFM)

Dimensions in millimeters (mm)
Valve Mod. 134-195TF  \( \text{Cv} = 1.3 \)

Actuating force at 6 bar = 40N (9 lbf)
Operating pressure = 0 - 10 bar (0 - 145 psi)
Flow rate = 1250 NL/min. (44.1 SCFM)

Valve Mod. 134-900TF  \( \text{Cv} = 1.3 \)

Actuating force at 6 bar = 30N (6.7 lbf)
Operating pressure = 0 - 10 bar (0 - 145 psi)
Flow rate = 1250 NL/min. (44.1 SCFM)

Valve Mod. 154-900TF  \( \text{Cv} = 1.3 \)

Actuating force at 6 bar = 55N (12.3 lbf)
Operating pressure = 0 - 10 bar (0 - 145 psi)
Flow rate = 1250 NL/min. (44.1 SCFM)
Valves Mod. 434-910TF and 434-915TF  \( Cv = 1.3 \)

- Mod. 434-910TF Actuation Force at 87 psi = 2.25 lbf
- Mod. 434-915TF Actuation Force at 87 psi = 8.3 lbf

Valves Mod. 434-900TF and 434-905TF  \( Cv = 1.3 \)

- Mod. 434-900TF Actuation Force at 87 psi = 1.35 lbf
- Mod. 434-905TF Actuation Force at 87 psi = 8.3 lbf
  *Detent force can be adjusted by means of 5 spring-loaded screws on the side of handle interface

Valves Mod. 454-910TF and 454-915TF  \( Cv = 1.3 \)

- Mod. 454-910TF Actuation Force at 87 psi = 2.25 lbf
- Mod. 454-915TF Actuation Force at 87 psi = 8.3 lbf

Valves Mod. 454-900TF and 454-905TF  \( Cv = 1.3 \)

- Mod. 454-900TF Actuation Force at 87 psi = 1.35 lbf
- Mod. 454-905TF Actuation Force at 87 psi = 8.3 lbf
  *Detent force can be adjusted by means of 5 spring-loaded screws on the side of handle interface

Dimensions in millimeters (mm)

<table>
<thead>
<tr>
<th>Mod.</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>434-910TF</td>
<td>VN03</td>
</tr>
<tr>
<td>434-915TF</td>
<td>VN06</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mod.</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>434-900TF</td>
<td>VN08</td>
</tr>
<tr>
<td>434-905TF</td>
<td>VN11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mod.</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>454-910TF</td>
<td>VN13</td>
</tr>
<tr>
<td>454-915TF</td>
<td>VN14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mod.</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>454-900TF</td>
<td>VN08</td>
</tr>
<tr>
<td>454-905TF</td>
<td>VN11</td>
</tr>
</tbody>
</table>

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Valves Mod. 464-900TF

Actuation Force at 87 psi = 1.35 lbf
*Detent force can be adjusted by means of 5 spring-loaded screws on the side of handle interface

Valves Mod. 464-905TF

Actuation Force at 87 psi = 2.25 lbf

Valves Mod. 474-900TF

Actuation Force at 87 psi = 1.35 lbf
*Detent force can be adjusted by means of 5 spring-loaded screws on the side of handle interface

Valves Mod. 474-905TF

Actuation Force at 87 psi = 2.25 lbf

Dimensions in millimeters (mm)