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” and 1/4” 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) (ISO VG 32 grade, 32 centistokes)</td>
</tr>
</tbody>
</table>

**PNEUMATIC DATA**

| Operating pressure | 0 - 10 bar, (0 - 145 psi) (down to -.9 bar vacuum; 28” Hg with series 3) |
| 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
## Coding of Minivalves

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th>-</th>
<th>900</th>
<th>TF</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>8</td>
<td></td>
<td>900</td>
<td>TF</td>
</tr>
</tbody>
</table>

**3**
- **Series:**
  - 1
  - 3
  - 4

**5**
- **Function:**
  - 3 = 3/2-way NC
  - 5 = 5/2-way
  - 6 = 5/3-way CC
  - 7 = 5/3-way CO

**8**
- **Ports:**
  - 8 = 1/8
  - 4 = 1/4

**900**
- **Resetting:**
  - 895 = pushbutton, monostable, black
  - 896 = pushbutton, monostable, green
  - 897 = pushbutton, monostable, red
  - 900 = lever, bistable
  - 905 = lever, monostable
  - 910 = knob, bistable
  - 915 = knob, monostable
  - 935 = digital monostable
  - 975 = palm-switch, monostable, black
  - 976 = palm-switch, monostable, green
  - 977 = palm-switch, monostable, red
  - 980 = switch, bistable

**TF**
- TF = NPT/TF ports
- blank = BSP ports

### Manually operated valves

- Mod. 138-935TF
- Mod. 138-900TF
- Mod. 138-905TF
- Mod. 338-900TF
- Mod. 338-905TF
- Mod. 338-910TF
- Mod. 338-915TF
- Mod. 358-900TF
- Mod. 358-905TF
- Mod. 358-910TF
- Mod. 358-915TF
- Mod. 158-900TF
- Mod. 158-905TF
- Mod. 134-900TF
- Mod. 134-905TF
- Mod. 434-900TF
- Mod. 434-905TF
- Mod. 434-910TF
- Mod. 434-915TF
- Mod. 454-900TF
- Mod. 454-905TF
- Mod. 454-910TF
- Mod. 454-915TF
- Mod. 464-900TF
- Mod. 464-905TF
- Mod. 464-910TF
- Mod. 464-915TF
- Mod. 474-900TF
- Mod. 474-905TF
- Mod. 474-910TF
- Mod. 474-915TF

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Valves Mod. 338-975TF

Actuation Force at 87 psi = 7.9 lbf

Valves Mod. 338-976TF

Actuation Force at 87 psi = 7.9 lbf

Valves Mod. 338-977TF

Actuation Force at 87 psi = 7.9 lbf

*buttons are anodized aluminum

Valves Mod. 358-975TF

Actuation Force at 87 psi = 7.9 lbf

Valves Mod. 358-976TF

Actuation Force at 87 psi = 7.9 lbf

Valves Mod. 358-977TF

Actuation Force at 87 psi = 7.9 lbf

*buttons are anodized aluminum

Dimensions in millimeters (mm)
**Valves Mod. 338-900TF and Mod. 338-905TF  \( \text{Cv} = .73 \)**

- **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  \( \text{Cv} = .73 \)**

- **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  \( \text{Cv} = .73 \)**

- **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. 368-905TF  \( \text{Cv} = .73 \)**

- **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*
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Valves Mod. 378-900TF  \(C_v = .73\)

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. 378-905TF  \(C_v = .73\)

Actuation Force at 87 psi = 4.5 lbf

\[C_v = .73\]
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)
Valve Mod. 134-195TF

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

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

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)
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.

**Valves Mod. 434-910TF and 434-915TF  \( \text{Cv} = 1.3 \)**

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

*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  \( \text{Cv} = 1.3 \)**

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

**Valves Mod. 434-900TF and 434-905TF  \( \text{Cv} = 1.3 \)**

- 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. 454-900TF and 454-905TF  \( \text{Cv} = 1.3 \)**

- Mod. 454-900TF Actuation Force at 87 psi = 1.35 lbf
- Mod. 454-905TF Actuation Force at 87 psi = 8.3 lbf

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>
<tr>
<td>434-900TF</td>
<td>VN08</td>
</tr>
<tr>
<td>434-905TF</td>
<td>VN11</td>
</tr>
<tr>
<td>454-910TF</td>
<td>VN13</td>
</tr>
<tr>
<td>454-915TF</td>
<td>VN14</td>
</tr>
<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  \( \text{Cv} = 1.3 \)

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  \( \text{Cv} = 1.3 \)

Actuation Force at 87 psi = 2.25 lbf

Valves Mod. 474-900TF  \( \text{Cv} = 1.3 \)

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  \( \text{Cv} = 1.3 \)

Actuation Force at 87 psi = 2.25 lbf