Hand Valve - Shut-Off Valve (On-Off 2 way, 3 way)

Characteristics

- The Hand valve (shut-off valve) turns on and off air pressure to a pneumatic device or a circuit.
- The three way, pressure relief type isolates the supplied air pressure and exhausts the downstream pressure for maintenance purpose while the two way type holds the downstream pressure.
- 4 types are available to fit the application requirement.

Construction

![Graphical representation of 2-way valve and 3-way valve](image)

Speciation

<table>
<thead>
<tr>
<th>Fluid admitted</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service pressure range</td>
<td>0~131psi</td>
</tr>
<tr>
<td>Working vacuum</td>
<td>-29.5in. Hg</td>
</tr>
<tr>
<td>Service temperature range</td>
<td>32~140°F</td>
</tr>
</tbody>
</table>

Model Designation (example)

<table>
<thead>
<tr>
<th>Model</th>
<th>HV</th>
<th>1/4</th>
<th>N1</th>
<th>-2</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designation</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

- (1) Model
- (2) Input port size
- (3) Output port size
- (4) Number of valve ports
- (5) Ivory Specification
- (6) Hexagon flat-to-flat specification

<table>
<thead>
<tr>
<th>Connection size</th>
<th>Tube dia</th>
<th>Inch size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Size</td>
<td>Code</td>
</tr>
<tr>
<td>4</td>
<td>Ø4</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connection size</th>
<th>Taper pipe thread size</th>
<th>American standard taper pipe thread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Size</td>
<td>Code</td>
</tr>
<tr>
<td>01</td>
<td>R1/8</td>
<td>02</td>
</tr>
</tbody>
</table>

R thread is same as BSPT

About 3-way and 2-way Valves

- The three way valve releases the residual pressure from the downstream (connected devices) when turning off. It is necessary to protect the systems against malfunction or decrease the pressure so the systems may be maintained. The two way valve holds the pressure so it is ideal for the application where the residual pressure maintained such as an air tank or some vacuum system.
### HV Straight A

![Image of HV Straight A]

#### HV01-03-R3/8

- **Model**: HV01-03-R3/8
- **Tube O.D.**
  - Tube end
  - C2
- **Thread**: R3/8
- **Unit**: mm
- **Eff. A.**: 1.61
- **Weight**: 0.43
- **Dia.**: 1.16
- **OD**: 1.61
- **File name**: HV01-03-R3/8

```
<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>A</th>
<th>B1</th>
<th>B2</th>
<th>L</th>
<th>φP1</th>
<th>φD1</th>
<th>φE1</th>
<th>E1</th>
<th>E2</th>
<th>H</th>
<th>F1</th>
<th>F2</th>
<th>Eff. A.</th>
<th>Dia.</th>
<th>OD</th>
</tr>
</thead>
<tbody>
<tr>
<td>HV01-03-</td>
<td>6</td>
<td>18</td>
<td>24</td>
<td>22</td>
<td>17</td>
<td>40.5</td>
<td>5/16</td>
<td>12.5</td>
<td>6.0</td>
<td>17</td>
<td>24</td>
<td>35</td>
<td>14</td>
<td>8.0</td>
<td>3.8</td>
<td>5.3</td>
</tr>
</tbody>
</table>
```

### HV Straight B

![Image of HV Straight B]

#### HV01-03-R3/8

- **Model**: HV01-03-R3/8
- **Tube O.D.**
  - Tube end
  - C2
- **Thread**: R3/8
- **Unit**: mm
- **Eff. A.**: 1.61
- **Weight**: 0.43
- **Dia.**: 1.16
- **OD**: 1.61
- **File name**: HV01-03-R3/8

```
<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>A</th>
<th>B1</th>
<th>B2</th>
<th>L</th>
<th>φP1</th>
<th>φD1</th>
<th>φE1</th>
<th>E1</th>
<th>E2</th>
<th>H</th>
<th>F1</th>
<th>F2</th>
<th>Eff. A.</th>
<th>Dia.</th>
<th>OD</th>
</tr>
</thead>
<tbody>
<tr>
<td>HV01-03-</td>
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<td>24</td>
<td>22</td>
<td>17</td>
<td>40.5</td>
<td>5/16</td>
<td>12.5</td>
<td>6.0</td>
<td>17</td>
<td>24</td>
<td>35</td>
<td>14</td>
<td>8.0</td>
<td>3.8</td>
<td>5.3</td>
</tr>
</tbody>
</table>
```

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### HV Union Straight

![Image of HV Union Straight]

#### HV01-03-R3/8

- **Model**: HV01-03-R3/8
- **Tube O.D.**
  - Tube end
  - C2
- **Thread**: R3/8
- **Unit**: mm
- **Eff. A.**: 1.61
- **Weight**: 0.43
- **Dia.**: 1.16
- **OD**: 1.61
- **File name**: HV01-03-R3/8

```
<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>A</th>
<th>B1</th>
<th>B2</th>
<th>L</th>
<th>φP1</th>
<th>φD1</th>
<th>φE1</th>
<th>E1</th>
<th>E2</th>
<th>H</th>
<th>F1</th>
<th>F2</th>
<th>Eff. A.</th>
<th>Dia.</th>
<th>OD</th>
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<tr>
<td>HV01-03-</td>
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</tr>
</tbody>
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```
Before using the PISCO device, be sure to read the "Safety Instructions", "Common Safety Instructions for Products Listed in This Manual" and "Common Safety Instructions for Change Series Valves".

**Detailed Safety Instructions**

1. When operating the cap lever, turn it 90 degrees completely until it stops. Inadequate turning may result in poor conduction or low flow rate due to faulty switching.
2. Distinguish between the two-directional and the three-directional control valve by checking the marking 2 or 3 on the top surface of the cap lever.
3. For use with negative pressures, provide a vacuum filter on the suction side. Otherwise dust sucked in may cause malfunction.

### Identification between Three-directional control valve and Two-directional control valve

Check the marking on the lever cap

- **3**: Three-directional control valve - 3-way
- **2**: Two-directional control valve - 2-way

### Cap lever operation

1. **Open the valve**
   
   To open the valve, turn the cap lever 90 degrees until it stops.

2. **Close the valve**
   
   To close the valve, turn the cap lever 90 degrees counterclockwise until it stops.

   As for three-way valve, the residual pressure in outlet side is released from the gap between the lever cap and the body when turning it off.