FEATURES

- 2-way or 3-way, 2 position valve (NO, NC & Distributor)
- Offer a discrete valve design with up to 260 million life cycle rating
- Available in manifold mounting
- Provide a range of electrical coil options, including PC mountable, spade lugs, or wire leads
- Powerful enough for a range of uses that require high flow
- RoHS compliant

MEDIA COMPATIBILITY

- Air, argon, helium, hydrogen, methane, nitrogen, oxygen & other non-reacting gasses

WETTED MATERIALS

- Body:
  - 36000 HO2 brass;
  - 303 series stainless steel (passivated)
- Stem base:
  - 36000 HO2 brass;
  - 303 series stainless steel (passivated)
- Plunger options:
  - FKM; EPDM
- All others:
  - 430 FR series stainless steel (passivated);
  - 302 series stainless steel

ELECTRICAL

- Power: 0.5, 1.0 or 2.0 W
- Voltage: 5, 12, 24 Vdc ± 10%

PHYSICAL PROPERTIES

- Operating environment: 0 to 70 °C
- Storage temperature: -40 to 70 °C
- Length: 43.9 mm (1.73 in)
- Width: 15.9 mm (0.625 in)
- Height: 17 mm (0.67 in)
- Porting: 10-32 tapped ports, 1/16, 5/64 or 1/8 in stem barbs
- Weight: 60 g (2.1 oz)
- Internal volume: 0.026 in³ (without fittings)
- Filtration (recommended): 40 µm
- Lubrication: None required
PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Pressure</th>
<th>Vacuum</th>
<th>Orifice sizes/ Equivalent C\textsubscript{v}\textsuperscript{1}</th>
<th>Leak rate (air)\textsuperscript{2}</th>
<th>Response</th>
<th>Life cycles (millions)\textsuperscript{4}</th>
</tr>
</thead>
<tbody>
<tr>
<td>1110...</td>
<td>0...100 psig</td>
<td></td>
<td>0.030 in (0.76 mm)/ 0.017 C\textsubscript{v}</td>
<td>&lt;0.16 sccm (bubble tight)</td>
<td>100 (FKM)</td>
<td>20 (EPDM)</td>
</tr>
<tr>
<td>1113...</td>
<td>0...50 psig</td>
<td></td>
<td>0.050 in (1.27 mm)/ 0.025 C\textsubscript{v}</td>
<td>&lt;30 msec cycling</td>
<td>200 (FKM)</td>
<td>40 (EPDM)</td>
</tr>
<tr>
<td>1116...</td>
<td>0...25 psig</td>
<td>0.27 in Hg (0...13 psi)</td>
<td>0.050 in (1.27 mm)/ 0.031 C\textsubscript{v}</td>
<td></td>
<td>260 (FKM)</td>
<td>60 (EPDM)</td>
</tr>
<tr>
<td>1119...</td>
<td>0...70 psig</td>
<td></td>
<td>0.050 in (1.27 mm)/ 0.021 C\textsubscript{v}</td>
<td></td>
<td>20 (FKM)</td>
<td>16 (EPDM)</td>
</tr>
<tr>
<td>1115...</td>
<td>0...25 psig</td>
<td></td>
<td>0.050 in (1.27 mm)/ 0.021 C\textsubscript{v}</td>
<td></td>
<td>200 (FKM)</td>
<td>40 (EPDM)</td>
</tr>
<tr>
<td>1112...</td>
<td>0...50 psig</td>
<td></td>
<td>0.050 in (1.27 mm)/ 0.031 C\textsubscript{v}</td>
<td></td>
<td>100 (FKM)</td>
<td>20 (EPDM)</td>
</tr>
<tr>
<td>1118...</td>
<td>0...10 psig</td>
<td></td>
<td>0.050 in (1.27 mm)/ 0.021 C\textsubscript{v}</td>
<td></td>
<td>260 (FKM)</td>
<td>60 (EPDM)</td>
</tr>
<tr>
<td>1120...</td>
<td>0...25 psig</td>
<td></td>
<td>0.102 in (2.59 mm)/ 0.069 C\textsubscript{v}</td>
<td>&lt;0.1 sccm</td>
<td>25 (FKM)</td>
<td></td>
</tr>
</tbody>
</table>

FLOW CURVE (typical air flow, 24 °C)\textsuperscript{3}

Notes:
1. The C\textsubscript{v} value is the volume flow in US gallons/min under specific flow conditions and describes the relative flow capacity of a valve. The equivalent European measure is the k\textsubscript{v} value expressed in m\textsuperscript{3}/h (k\textsubscript{v} = 0.86 C\textsubscript{v}).
2. sccm denotes Standard Cubic Centimeters per Minute. It is a unit for the flow rate at standard conditions of temperature and pressure. 1000 sccm = 1 slpm.
3. slpm denotes Standard Liters per Minute. It is a unit for the flow rate at standard conditions of temperature and pressure. 1 slpm = 1000 sccm.
4. Life is dependent upon elastomeric material, duty cycle and pressure.
VALVE TYPE

Type 1

Type 2

Type 3

Type 4
OUTLINE DRAWING

2 way valves

3 way valves

Manifold mount diagram
COIL STYLES - ELECTRICAL CONNECTIONS

11...F...
(Wire leads, no terminals)

11...Q...
(Quick connect spade)

11...S...
(PC mount, 2 solder pads)

11...P...*
(PC mount, 4 PC pins)

* 4 PC pin PCB interface

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dimensions in inches (mm)

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dimensions in inches (mm)
BODY STYLES - PNEUMATIC CONNECTIONS

11...6...
(1/16" I.D. tubing)

11...7...
(5/64" I.D. tubing)

11...8...
(1/8" I.D. tubing, 1/4" O.D. max.)

STEM STYLES - PNEUMATIC CONNECTIONS

11...0
(Type 1 top seat, plugged)

11...6
(0.062" top seat, 1/16" I.D. tubing)

11...7
(0.078" top seat, 5/64" I.D. tubing)

11...8
(0.125" top seat, 1/8" I.D. tubing, 1/4" O.D. max.)
### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Series</th>
<th>Model no.</th>
<th>Max. pressure</th>
<th>Orifice size</th>
<th>Coil wattage</th>
<th>Type</th>
<th>Material</th>
<th>Voltage</th>
<th>Coils type</th>
<th>Pneumatic connection body</th>
<th>Pneumatic connection stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>10</td>
<td>0...100 psi</td>
<td>0.030&quot; (0.762 mm)</td>
<td>2 W</td>
<td>2-way NC</td>
<td>BV</td>
<td>Brass</td>
<td>5</td>
<td>12 V coils</td>
<td>4 PC pins</td>
</tr>
<tr>
<td>12</td>
<td>0...50 psi</td>
<td>0.050&quot; (1.27 mm)</td>
<td>2 W</td>
<td>2-way NO</td>
<td>SV</td>
<td>Stainless steel</td>
<td>12</td>
<td>12 V coils</td>
<td>2 solder taps</td>
<td>6**</td>
</tr>
<tr>
<td>13</td>
<td>0...50 psi</td>
<td>0.030&quot; (0.762 mm)</td>
<td>1 W</td>
<td>3-way NC or distributor</td>
<td>BE</td>
<td>Brass</td>
<td>24</td>
<td>24 V coils</td>
<td>Quick connect</td>
<td>7</td>
</tr>
<tr>
<td>15</td>
<td>0...25 psi</td>
<td>0.050&quot; (1.27 mm)</td>
<td>1 W</td>
<td>3-way NO</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>0...25 psi</td>
<td>0.030&quot; (0.762 mm)</td>
<td>0.5 W</td>
<td>2-way NC universal</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>0...10 psi</td>
<td>0.050&quot; (1.27 mm)</td>
<td>0.5 W</td>
<td>2-way NC universal</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>0...70 psi</td>
<td>0.050&quot; (1.27 mm)</td>
<td>2 W</td>
<td>2-way NC universal</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20'</td>
<td>0...25 psi</td>
<td>0.102&quot; (2.59 mm)</td>
<td>1 W</td>
<td>2-way NC universal</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Model 20 only available as 2-way NC universal (Type: 6) in brass/FKM (Material: BV) and manifold mount body

** Type 1 & 6 only

Note: Not all combinations might be available. Please contact First Sensor.

### Accessories (please order separately using the following order numbers)

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>190-007024-002</td>
<td>O-ring, FKM (used as a seal between the manifold and valve body)</td>
</tr>
</tbody>
</table>

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