# Air Preparation Products

## Product Selection Chart

<table>
<thead>
<tr>
<th>Index</th>
<th>Air Preparation Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filters, Regulators, Lubricators</td>
<td><a href="http://www.parker.com/pneu/frl">www.parker.com/pneu/frl</a></td>
</tr>
<tr>
<td>Stainless Steel FRLs</td>
<td><a href="http://www.parker.com/pneu/ssfrls">www.parker.com/pneu/ssfrls</a></td>
</tr>
<tr>
<td>Precision Regulators</td>
<td><a href="http://www.parker.com/pneu/precreg">www.parker.com/pneu/precreg</a></td>
</tr>
<tr>
<td>Sensing (Pneumatic Control Components)</td>
<td><a href="http://www.parker.com/pneu/limsen">www.parker.com/pneu/limsen</a></td>
</tr>
<tr>
<td>“LV” / “EZ” Lockout Valves (Lockout Valves)</td>
<td><a href="http://www.parker.com/pneu/lockout">www.parker.com/pneu/lockout</a></td>
</tr>
<tr>
<td>Ball Valves / Plug Valves / Drain Cocks</td>
<td><a href="http://www.parker.com/pneu/ball">www.parker.com/pneu/ball</a></td>
</tr>
<tr>
<td>Safety Blow Guns</td>
<td></td>
</tr>
<tr>
<td>Quick Couplings</td>
<td></td>
</tr>
<tr>
<td>Fittings &amp; Hose</td>
<td></td>
</tr>
<tr>
<td>Fittings &amp; Tubing</td>
<td></td>
</tr>
<tr>
<td>Safety Guide Offer of Sale</td>
<td></td>
</tr>
</tbody>
</table>
Flow Controls & Accessories

Section E

Flow Control Valves
- “FCM701 & FCM703” Series ........................................E2
- “FC800 & FC806” Series ........................................E3-E4
- PWRA & PWRE ........................................................E5-E7
- “3251” Series ..........................................................E8
- “337” Series .............................................................E9
- “3250” Series ............................................................E10-E11
- “338” Series .............................................................E12

Check Valves
- “339” & “3047” Series Check Valve .........................E13
- Tank Valves & Air Chucks .........................................E14
- “EM” Series Exhaust Mufflers ....................................E15

Muffler / Flow Controls ................................................E15
Breather Vents ..........................................................E16
“ES” Series Silencer ....................................................E16
ASN Air Line Silencer ..................................................E17
P6M Air Line Silencer ..................................................E18
Muffler-Reclassifier ECS .............................................E19
Automatic Drip Leg Drain & Relief Valve .....................E20
Relief Valves - Diaphragm Type ....................................E21
Shuttle Valves & Quick Exhaust .....................................E22-E24
Pressure Switches .......................................................E25-E27
Drain Valves ...............................................................E28-E29
General Information

Miniature right angle flow controls provide meter out control of exhaust air from an air cylinder while providing full flow in the reverse direction. The 10-32 male thread can be used to mount directly to cylinder ports. The inlet ports are available in 5-32 or 1/4” instant tube fittings. The adjustment screw is captive and discourages tampering.

This compact flow control saves space and reduces the number of fittings involved in making the connection. Plumbing can be oriented 360° about the cylinder port.

Valve Specifications

Maximum Operating Pressure..............145 PSIG (10 bar, 1000 kPa) max.

Temperature Range*......................0°F to 140°F (-18°C to 60°C)

* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

Component Materials

Body ................................................................. Polyamide
Mounting Thread ............................................ Brass

Dimensions

Miniature Exhaust Flow Control FCM701
Composite Body

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Tube Size</th>
<th>Thread Size</th>
<th>C Hex (mm)</th>
<th>H Closed</th>
<th>H Open</th>
<th>L</th>
<th>M</th>
<th>Flow Dia. D</th>
<th>Adjusted Flow (SCFM)</th>
<th>Free Flow (SCFM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCM701-5/32-0</td>
<td>5/32</td>
<td>10-32</td>
<td>6</td>
<td>0.925</td>
<td>1.023</td>
<td>0.846</td>
<td>0.669</td>
<td>0.080</td>
<td>5.23</td>
<td>2.90</td>
</tr>
<tr>
<td>FCM701-5/32-2</td>
<td>5/32</td>
<td>1/8</td>
<td>7</td>
<td>1.000</td>
<td>1.083</td>
<td>0.935</td>
<td>0.708</td>
<td>0.100</td>
<td>8.41</td>
<td>6.32</td>
</tr>
<tr>
<td>FCM701-4-0</td>
<td>1/4</td>
<td>10-32</td>
<td>6</td>
<td>0.925</td>
<td>1.023</td>
<td>0.885</td>
<td>0.708</td>
<td>0.080</td>
<td>9.94</td>
<td>3.86</td>
</tr>
<tr>
<td>FCM701-4-2</td>
<td>1/4</td>
<td>1/8</td>
<td>7</td>
<td>1.000</td>
<td>1.083</td>
<td>0.957</td>
<td>0.730</td>
<td>0.100</td>
<td>10.56</td>
<td>5.08</td>
</tr>
<tr>
<td>FCM701-4-4</td>
<td>1/4</td>
<td>1/4</td>
<td>8</td>
<td>1.083</td>
<td>1.180</td>
<td>1.013</td>
<td>0.748</td>
<td>0.160</td>
<td>18.79</td>
<td>10.79</td>
</tr>
</tbody>
</table>

Knobless Miniature Exhaust Flow Control FCM703
Composite Body

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Tube Size</th>
<th>Thread Size</th>
<th>C Hex (mm)</th>
<th>H Closed</th>
<th>H Open</th>
<th>L</th>
<th>M</th>
<th>Flow Dia. D</th>
<th>Adjusted Flow (SCFM)</th>
<th>Free Flow (SCFM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCM703-5/32-0</td>
<td>5/32</td>
<td>10-32</td>
<td>6</td>
<td>0.650</td>
<td>0.787</td>
<td>0.846</td>
<td>0.669</td>
<td>0.080</td>
<td>7.43</td>
<td>4.76</td>
</tr>
<tr>
<td>FCM703-4-2</td>
<td>1/4</td>
<td>1/8</td>
<td>7</td>
<td>0.708</td>
<td>0.860</td>
<td>0.956</td>
<td>0.730</td>
<td>0.100</td>
<td>12.08</td>
<td>5.86</td>
</tr>
<tr>
<td>FCM703-4-4</td>
<td>1/4</td>
<td>1/4</td>
<td>8</td>
<td>0.826</td>
<td>0.964</td>
<td>1.013</td>
<td>0.748</td>
<td>0.160</td>
<td>19.55</td>
<td>10.89</td>
</tr>
</tbody>
</table>
General Information

It is sometimes impossible to mount a flow control directly on the port of the cylinder, either due to lack of space or because of the need for remote adjustment of the flow control. To resolve this problem in-line flow controls are designed to mount on the piping between the directional valve and the cylinder or can be mounted on the control panel next to other control units.

Designed to be Versatile

Parker In-Line Flow Controls are unidirectional flow control valves. Intake air flows freely through the flow control; exhaust air is metered out through a specially designed adjustment screw. An arrow on the body of the valve indicates the direction of controlled flow. Since it is a tube to tube connection, our in-line flow controls may be installed as a meter in or a meter out device. Parker in-line flow controls can be easily added to existing circuitry. Simply splice it into the cylinder port line. In-line flow controls may be used individually or, they may be stacked together using two joining clips, supplied standard with each valve. Panel mounting is accomplished by using the through holes in the molded body.

Adjustment Characteristics

Control is achieved through a finely threaded special adjustment screw. The special shaped adjustment screw produces a more linear flow control than ordinary tapered screws. With the use of a locking nut, the in-line flow control may be secured in its final setting. Settings are maintained even under adverse conditions such as vibration. A captive adjustment screw prevents loss or dangerous blow out.

Full Flow in Both Directions

Intake capacity is always slightly greater than the full open exhaust capacity, enabling maximum variation of speeds between outward and return strokes.
Advantages
- Assembly in Banks
- Panel Mounting
- Allows other Function Fittings to be Mounted on a Cylinder
- Space Saving
- Weight Saving
- Flexibility

Valve Specifications
Maximum Working Pressure............................................. 145 PSI
Operating Temperature .............................................. 5° to 150°F
Body Material..................................................High Resistance Polyamide
Adjustment Screw Material.................................Brass

Dimensions
FC800 In-Line Flow Control with Push-in Connection

<table>
<thead>
<tr>
<th>Part No.</th>
<th>ØD</th>
<th>H Min. (mm)</th>
<th>H Max. (mm)</th>
<th>L</th>
<th>L1</th>
<th>K</th>
<th>N1</th>
<th>N2</th>
<th>T</th>
<th>Orifice H2 (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC800-5/32</td>
<td>5/32</td>
<td>1.15</td>
<td>1.31</td>
<td>1.52</td>
<td>.59</td>
<td>.47</td>
<td>.31</td>
<td>.43</td>
<td>.09</td>
<td>.12</td>
</tr>
<tr>
<td>FC800-4</td>
<td>1/4</td>
<td>1.54</td>
<td>1.74</td>
<td>2.11</td>
<td>.90</td>
<td>.66</td>
<td>.43</td>
<td>.66</td>
<td>.12</td>
<td>.16</td>
</tr>
<tr>
<td>FC800-6</td>
<td>3/8</td>
<td>2.03</td>
<td>2.38</td>
<td>2.96</td>
<td>1.29</td>
<td>.94</td>
<td>.62</td>
<td>1.01</td>
<td>.16</td>
<td>.31</td>
</tr>
<tr>
<td>FC800-8</td>
<td>1/2</td>
<td>2.24</td>
<td>2.63</td>
<td>3.35</td>
<td>1.37</td>
<td>1.09</td>
<td>.78</td>
<td>1.07</td>
<td>.16</td>
<td>.39</td>
</tr>
</tbody>
</table>

FC806 Threaded In-Line Flow Control

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Thread Size</th>
<th>B Hex (mm)</th>
<th>C Hex (mm)</th>
<th>H Closed</th>
<th>H Open</th>
<th>L</th>
<th>L1</th>
<th>K</th>
<th>N</th>
<th>N1</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC806-2</td>
<td>1/8</td>
<td>13</td>
<td>8</td>
<td>1.56</td>
<td>1.75</td>
<td>2.70</td>
<td>.91</td>
<td>.67</td>
<td>.67</td>
<td>.43</td>
</tr>
<tr>
<td>FC806-4</td>
<td>1/4</td>
<td>16</td>
<td>11</td>
<td>1.73</td>
<td>1.97</td>
<td>3.27</td>
<td>1.02</td>
<td>.73</td>
<td>.79</td>
<td>.49</td>
</tr>
<tr>
<td>FC806-6</td>
<td>3/8</td>
<td>22</td>
<td>14</td>
<td>2.05</td>
<td>2.40</td>
<td>3.82</td>
<td>1.30</td>
<td>.94</td>
<td>1.02</td>
<td>.63</td>
</tr>
<tr>
<td>FC806-8</td>
<td>1/2</td>
<td>24</td>
<td>14</td>
<td>2.26</td>
<td>2.66</td>
<td>4.76</td>
<td>1.38</td>
<td>1.10</td>
<td>1.08</td>
<td>.79</td>
</tr>
</tbody>
</table>

Supplied with 2 clips
General Description
Flow Control – PWRE (Thermoplastic)
These rugged flow controllers enhance the performance of pneumatic cylinders by precise control of piston motion in both directions. They allow full inlet flow to the cylinder while providing fine adjustment of the exhaust flow.
Right angle construction provides for convenient mounting where the cylinder is best controlled...at the cylinder port.

PWRE
The PWRE series has a thermoplastic body with brass fittings giving lighter weight and lower profile than its metal counterpart to the left. These flow controls are supplied with instant tube fittings (fractional or metric) and NPT or BSP cylinder port fittings.

Valve Specifications
Maximum Operating Pressure................. 145 PSIG (10 bar)
Operating Temperature .......... 0° to 140°F* (-18°C to 60°F)
* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

Flow

<table>
<thead>
<tr>
<th>No of Turns</th>
<th>Exhaust (Screw Open)</th>
<th>Inlet (Screw Closed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1.8 SCFM</td>
<td>1.8 SCFM</td>
</tr>
</tbody>
</table>
For Cylinder Mounting
(Can also be mounted in Threshold Sensor Banjo)

With Instant Tube Fittings
with Allen key adjustment and locknut

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Cylinder Port Thread</th>
<th>Connection for Tube</th>
<th>Catalog Number</th>
<th>NPT Cylinder Port Thread</th>
<th>Connection for Tube</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWRA3469</td>
<td>1/8&quot;</td>
<td>6mm</td>
<td>PWRA1468</td>
<td>1/8&quot;</td>
<td>1/4&quot;</td>
<td>PWRA3468</td>
</tr>
<tr>
<td>PWRA1468</td>
<td>1/4&quot;</td>
<td>6mm</td>
<td>PWRA1469</td>
<td>1/4&quot;</td>
<td>1/4&quot;</td>
<td>PWRA3469</td>
</tr>
<tr>
<td>PWRA1483</td>
<td>3/8&quot;</td>
<td>8mm</td>
<td>PWRA1483</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>PWRA1412</td>
<td>1/2&quot;</td>
<td>12mm</td>
<td>PWRA1412</td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>PWRA3412</td>
</tr>
</tbody>
</table>

With Threaded Connection
with Allen key adjustment and locknut

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Cylinder Port Thread</th>
<th>Tapped Thread</th>
<th>Catalog Number</th>
<th>NPT Cylinder Port Thread</th>
<th>Tapped Thread</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWRA1888</td>
<td>1/8&quot;</td>
<td>1/8&quot;</td>
<td>PWRA1888</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>PWRA1899</td>
<td>1/4&quot;</td>
<td>1/4&quot;</td>
<td>PWRA1899</td>
<td>1/4&quot;</td>
<td>1/4&quot;</td>
<td>PWRA3899</td>
</tr>
<tr>
<td>PWRA1833</td>
<td>3/8&quot;</td>
<td>3/8&quot;</td>
<td>PWRA1833</td>
<td>3/8&quot;</td>
<td>3/8&quot;</td>
<td>PWRA3833</td>
</tr>
<tr>
<td>PWRA1822</td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>PWRA1822</td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>PWRA3822</td>
</tr>
</tbody>
</table>

Dimensions: Inches (mm)

PWRA14**/34**

<table>
<thead>
<tr>
<th>Adjustment*</th>
<th>Flow**</th>
<th>ØA</th>
<th>B</th>
<th>K</th>
<th>H</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWRA1468/3468</td>
<td>10</td>
<td>15.9</td>
<td>0.67&quot; (17)</td>
<td>0.71&quot; (18)</td>
<td>0.67&quot; (17)</td>
<td>1.77&quot; (45)</td>
</tr>
<tr>
<td>PWRA1488</td>
<td>14</td>
<td>23.0</td>
<td>0.87&quot; (22)</td>
<td>0.83&quot; (21)</td>
<td>0.83&quot; (21)</td>
<td>2.17&quot; (55)</td>
</tr>
<tr>
<td>PWRA1469/3469</td>
<td>14</td>
<td>26.5</td>
<td>0.87&quot; (22)</td>
<td>0.83&quot; (21)</td>
<td>0.83&quot; (21)</td>
<td>2.17&quot; (55)</td>
</tr>
<tr>
<td>PWRA1483</td>
<td>14</td>
<td>61.8</td>
<td>1.06&quot; (27)</td>
<td>1.10&quot; (28)</td>
<td>1.02&quot; (26)</td>
<td>2.36&quot; (60)</td>
</tr>
<tr>
<td>PWRA1412/3412</td>
<td>20</td>
<td>97.1</td>
<td>1.22&quot; (31)</td>
<td>1.30&quot; (33)</td>
<td>1.38&quot; (35)</td>
<td>3.03&quot; (77)</td>
</tr>
<tr>
<td>PWRA1888</td>
<td>10</td>
<td>15.9</td>
<td>0.67&quot; (17)</td>
<td>0.71&quot; (18)</td>
<td>0.67&quot; (17)</td>
<td>1.77&quot; (45)</td>
</tr>
<tr>
<td>PWRA1899/3899</td>
<td>14</td>
<td>31.8</td>
<td>0.87&quot; (22)</td>
<td>0.83&quot; (21)</td>
<td>0.83&quot; (21)</td>
<td>2.17&quot; (55)</td>
</tr>
<tr>
<td>PWRA1833/3833</td>
<td>14</td>
<td>68.9</td>
<td>1.06&quot; (27)</td>
<td>1.10&quot; (28)</td>
<td>1.02&quot; (26)</td>
<td>2.36&quot; (60)</td>
</tr>
<tr>
<td>PWRA1822/3822</td>
<td>20</td>
<td>97.1</td>
<td>1.22&quot; (31)</td>
<td>1.30&quot; (33)</td>
<td>1.38&quot; (35)</td>
<td>3.03&quot; (77)</td>
</tr>
</tbody>
</table>

* Number of turns (4mm Allen key)
** SCFM at 90 PSI with screw closed
For Cylinder Mounting
(Can also be mounted in Threshold Sensor Banjo)

With Instant Tube Fittings
with Allen key adjustment and fine thread friction locking

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Cylinder Port Thread</th>
<th>Connection for Tube</th>
<th>Catalog Number</th>
<th>Cylinder Port Thread</th>
<th>Connection for Tube</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>4mm</td>
<td>PWRE1445</td>
<td>10-32 UNF</td>
<td>PWRE11457</td>
<td>5/32&quot;</td>
<td></td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>4mm</td>
<td>PWRE1448</td>
<td>1/4&quot;</td>
<td>PWRE14687</td>
<td>5/32&quot;</td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>6mm</td>
<td>PWRE1469</td>
<td>1/4&quot;</td>
<td>PWRE14697</td>
<td>5/32&quot;</td>
<td></td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8mm</td>
<td>PWRE1483</td>
<td>3/8&quot;</td>
<td>PWRE14937</td>
<td>5/32&quot;</td>
<td></td>
</tr>
<tr>
<td>Reverse Flow</td>
<td>M5</td>
<td>4mm</td>
<td>10-32UNF</td>
<td>PWRE11457</td>
<td>5/32&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Component Materials
Body .................................................. Polyamide
Mounting Thread .................................. Brass

Flow

<table>
<thead>
<tr>
<th>No of Turns</th>
<th>Exhaust (Screw Open)</th>
<th>Inlet (Screw Closed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1.8 SCFM</td>
<td>1.8 SCFM</td>
</tr>
</tbody>
</table>

Dimensions: Inches (mm)

Valve Specifications

Maximum Operating Pressure ......... 145 PSIG (10 bar)
Operating Temperature .......... 0° to 140°F* (-18°C to 60°F)

* Ambient temperatures below freezing require moisture-free air. Ambient
temperatures below freezing and above 180° require lubricants especiallyselected for suitability at these temperatures. Pneumatic valves should be usedwith filtered and lubricated air.

<table>
<thead>
<tr>
<th>PWRE1445/14457</th>
<th>PWRE1145/11457 PWRE14557</th>
<th>PWRE1448/14487</th>
<th>PWRE1468/14687</th>
<th>PWRE1469/14697</th>
<th>PWRE1483/14937</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment</td>
<td># Turns</td>
<td>Flow*</td>
<td>ØA (mm)</td>
<td>C (mm)</td>
<td>D Hex. (mm)</td>
</tr>
<tr>
<td>3mm Allen key</td>
<td>12</td>
<td>1.8</td>
<td>0.43 (11)</td>
<td>0.16 (4)</td>
<td>5/16&quot; (8)</td>
</tr>
<tr>
<td>3mm Allen key</td>
<td>14</td>
<td>10.2</td>
<td>0.55 (14)</td>
<td>0.31 (8)</td>
<td>9/16&quot; (14)</td>
</tr>
<tr>
<td>3mm Allen key</td>
<td>14</td>
<td>23.0</td>
<td>0.55 (14)</td>
<td>0.31 (8)</td>
<td>9/16&quot; (14)</td>
</tr>
<tr>
<td>4mm Allen key</td>
<td>18</td>
<td>23.0</td>
<td>0.63 (16)</td>
<td>0.41 (10.5)</td>
<td>11/16&quot; (17)</td>
</tr>
<tr>
<td>4mm Allen key</td>
<td>18</td>
<td>47.7</td>
<td>0.79 (20)</td>
<td>0.45 (11.5)</td>
<td>7/8&quot; (22)</td>
</tr>
</tbody>
</table>

* SCFM at 90 PSI with screw closed
Flow Controls & Accessories

“3251” Series

Application

The Right Angle Flow Control is an ideal solution to cylinder speed control where space is at a premium. Costly fittings, connections and piping expenses can be eliminated because the valve can rotate 360°, the piping alignment can be in any direction. The 1/8" model can be rotated after final assembly.

Operation

Install by threading male end directly into cylinder port. The free-flow and metered-flow direction is automatically predetermined. Free-flow direction is into cylinder and metered-flow is out of the cylinder. Flow is adjusted with an Allen wrench and locked with nut.

Right Angle Flow Control also available with Prestolok fittings on inlet port to accommodate 5/32 - 3/8 tube sizes. This allows for quick connection and eliminates need for separate tube fitting.

Valve Specifications

Body .......................................................... Brass
Plunger ..................................................... Brass and Acetal
Seals ........................................................... Buna N
Temperature Range .................... 0°F to 140°F (-18°C to 60°C)
Pressure Rating ......................... 125 PSIG (863 kPa) max.

Model Selection Information and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Thread (NPT) Male</th>
<th>Thread (NPT) Female</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Weight</th>
<th>Cv</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
<td>mm</td>
<td>oz.</td>
</tr>
<tr>
<td>03251 0125</td>
<td>1/8</td>
<td>1/8</td>
<td>1.74</td>
<td>44</td>
<td>1.18</td>
<td>30</td>
<td>0.67</td>
</tr>
<tr>
<td>03251 0250</td>
<td>1/4</td>
<td>1/4</td>
<td>1.99</td>
<td>51</td>
<td>1.40</td>
<td>36</td>
<td>0.91</td>
</tr>
<tr>
<td>03251 0375</td>
<td>3/8</td>
<td>3/8</td>
<td>2.28</td>
<td>58</td>
<td>1.71</td>
<td>43</td>
<td>1.06</td>
</tr>
<tr>
<td>03251 0500</td>
<td>1/2</td>
<td>1/2</td>
<td>2.69</td>
<td>68</td>
<td>1.98</td>
<td>53</td>
<td>1.26</td>
</tr>
<tr>
<td>With Prestolok Fittings</td>
<td>Thread (NPT)</td>
<td>Tube Size</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>Weight</td>
<td>Cv</td>
</tr>
<tr>
<td></td>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
<td>mm</td>
<td>oz.</td>
</tr>
<tr>
<td>03251 1215</td>
<td>1/8</td>
<td>5/32</td>
<td>1.74</td>
<td>44</td>
<td>1.18</td>
<td>30</td>
<td>0.67</td>
</tr>
<tr>
<td>03251 1225</td>
<td>1/4</td>
<td>1/4</td>
<td>1.74</td>
<td>44</td>
<td>1.18</td>
<td>30</td>
<td>0.67</td>
</tr>
<tr>
<td>03251 2525</td>
<td>1/4</td>
<td>1/4</td>
<td>1.99</td>
<td>51</td>
<td>1.40</td>
<td>36</td>
<td>0.91</td>
</tr>
<tr>
<td>03251 2538</td>
<td>1/4</td>
<td>3/8</td>
<td>1.99</td>
<td>51</td>
<td>1.40</td>
<td>36</td>
<td>0.91</td>
</tr>
<tr>
<td>03251 3838</td>
<td>3/8</td>
<td>3/8</td>
<td>2.28</td>
<td>58</td>
<td>1.71</td>
<td>43</td>
<td>1.06</td>
</tr>
</tbody>
</table>

Caution: If it is possible that the ambient temperature may fall below freezing, the medium must be moisture-free to prevent internal damage or unpredictable behavior.
Micrometer Flow Control Valves

“337” Series – 1/8” to 3/4” Ports

General Information
The “337” Series Flow Control Valves meter flow of air in one direction and allow free flow in the reverse direction.

The “337” Series valves are manufactured with a fine tapered needle providing precise flow control, even at low flow rates. The perimeter of the adjustment knob features numerical micrometer position markings providing a visual indication of the setting. Once the desired flow is selected, a set screw can be tightened to maintain the setting.

These valves are available with NPTF ports in 1/8”, 1/4”, 3/8”, 1/2”, and 3/4” sizes. This series is recommended for pneumatic service.

Valve Specifications

Maximum Operating Pressure.......................... 250 PSI
Cracking pressure for return check poppet –..................... 1 to 2 PSIG

Operating Temperature .................. Standard: 0° to 180°F*
Extended Temperature .......... 0° to 300°F* (consult factory)

* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

Component Materials

Body Material......................................................... Brass
Needle ............................................................... Stainless Steel
Check Seal.............................................................. Urethane
Needle Seals .......................................................... Buna N (Fluorocarbon optional – consult factory)
Knob ................................................................. Aluminum
Spring ................................................................. Stainless Steel
Retainer ............................................................. Zinc-Plated Steel
Set Screw ............................................................ Steel

Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Model</th>
<th>Flow (SCFM†)</th>
<th>Dimensions</th>
<th>Service Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Adj. Free Flow</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>1/8”</td>
<td>00337 1000</td>
<td>15</td>
<td>32</td>
<td>9/16”</td>
</tr>
<tr>
<td>1/4”</td>
<td>00337 1001</td>
<td>28</td>
<td>75</td>
<td>11/16”</td>
</tr>
<tr>
<td>3/8”</td>
<td>00337 1002</td>
<td>59</td>
<td>139</td>
<td>7/8”</td>
</tr>
<tr>
<td>1/2”</td>
<td>00337 1003</td>
<td>126</td>
<td>183</td>
<td>1-3/16”</td>
</tr>
<tr>
<td>3/4”</td>
<td>00337 1004</td>
<td>140</td>
<td>327</td>
<td>1-3/8”</td>
</tr>
</tbody>
</table>

† At 100 PSIG inlet pressure with full pressure drop.

Mounting Bracket Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Mounting Bracket Model No.</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>1/8”</td>
<td>00337 8100</td>
<td>0.66</td>
</tr>
<tr>
<td>1/4”</td>
<td>00337 8101</td>
<td>0.75</td>
</tr>
<tr>
<td>3/8”</td>
<td>00337 8102</td>
<td>0.94</td>
</tr>
<tr>
<td>1/2”</td>
<td>00337 8103</td>
<td>1.25</td>
</tr>
<tr>
<td>3/4”</td>
<td>00337 8104</td>
<td>1.44</td>
</tr>
</tbody>
</table>

* 3/32” maximum panel thickness
Flow Controls & Accessories
“3250” Series – 1/8” to 3/4” Ports

Application
The “3250” Series Flow Control Valves are specifically designed to accurately meter the flow of air in one direction and allow free flow in the opposite direction. The “3250” Series Flow Control Valves are also suitable for low pressure hydraulic service.

Operation
When air is moving in the free flow direction through the valve, it forces the poppet off its seat and unrestricted air flow is permitted.

When air is moving in the metered direction through the valve, air pressure and the force of the poppet spring causes the poppet to close. Flow must then be through the orifice that is controlled by the metering screw. Opening this screw allows more flow; closing it, less flow.

Technical Specifications
- Body: Brass
- Port Size: 1/8”, 1/4”, 3/8”, 1/2”, 3/4”
- Internal Components: Brass, Stainless Steel
- Seals: Buna N
- Operating Temperature: Standard: 0°F to 180°F, Extended Options: 0°F to 300°F
- Operating Pressures: Air: 250 PSIG, Hydraulic: 250 PSIG

Flow Rating (SCFM)

<table>
<thead>
<tr>
<th>Flow Path</th>
<th>Valve Port Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/8”</td>
</tr>
<tr>
<td>Maximum Flow in Metered Direction</td>
<td>70</td>
</tr>
<tr>
<td>Maximum Flow in Free Flow Direction</td>
<td>60</td>
</tr>
</tbody>
</table>

Model Selection Information and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>03250 0119</th>
<th>03250 0219</th>
<th>03250 0319</th>
<th>03250 0419</th>
<th>03250 0519</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Size NPTF</td>
<td>1/8”</td>
<td>1/4”</td>
<td>3/8”</td>
<td>1/2”</td>
<td>3/4”</td>
</tr>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
<td>mm</td>
</tr>
<tr>
<td>A</td>
<td>1.75</td>
<td>45</td>
<td>2.33</td>
<td>59</td>
<td>2.66</td>
</tr>
<tr>
<td>B</td>
<td>1.56</td>
<td>40</td>
<td>1.97</td>
<td>50</td>
<td>2.44</td>
</tr>
<tr>
<td>C</td>
<td>0.37</td>
<td>9</td>
<td>0.44</td>
<td>11</td>
<td>0.56</td>
</tr>
<tr>
<td>D</td>
<td>0.62</td>
<td>16</td>
<td>0.75</td>
<td>19</td>
<td>1.00</td>
</tr>
<tr>
<td>E</td>
<td>0.81</td>
<td>21</td>
<td>1.09</td>
<td>28</td>
<td>1.38</td>
</tr>
<tr>
<td>F</td>
<td>0.68</td>
<td>17</td>
<td>0.94</td>
<td>24</td>
<td>1.19</td>
</tr>
</tbody>
</table>
Flow Control Valves

“3250” Series – 1”, 1-1/4” & 1-1/2” Ports

Application
These extra large flow control valves have been developed to provide effective flow settings for large diameter cylinders and for other similar air applications. Each valve has a fine screw adjustment allowing precise settings which are secured by a sturdy lock nut.

Operation
Large internal port passages coupled with unique soft seal poppet and inline design provide maximum full flow capacity and minimum pressure drop in the free flow direction. Their cone shaped brass metering valve will provide consistent cylinder speed by regulating cylinder exhaust.

Technical Specifications
Body: Cast Aluminum
Port Size: 1”, 1-1/4”, 1-1/2”
Internal Components: Brass, Aluminum
Seals: Buna N, Urethane
Spring: Stainless Steel

Operating Temperature:
Standard: -40°F to 180°F
Extended Options: -40°F to 350°F

Operating Pressures:
Maximum Air: 250 PSIG

Flow Capacity In Full Flow Direction

<table>
<thead>
<tr>
<th>Port Size (NPTF)</th>
<th>Max. Flow (Needle Open)</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1”</td>
<td>1000</td>
<td>03250 1000</td>
</tr>
<tr>
<td>1-1/4”</td>
<td>1200</td>
<td>03250 1250</td>
</tr>
<tr>
<td>1-1/2”</td>
<td>1800</td>
<td>03250 1500</td>
</tr>
</tbody>
</table>

** At 100 PSIG inlet pressure with full pressure drop.

Model Selection Information and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>03250 1000</th>
<th>03250 1250</th>
<th>03250 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Size NPTF</td>
<td>1”</td>
<td>1-1/4”</td>
<td>1-1/2”</td>
</tr>
<tr>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
<td>mm</td>
</tr>
<tr>
<td>A</td>
<td>5.00</td>
<td>127</td>
<td>5.00</td>
</tr>
<tr>
<td>B</td>
<td>6.50</td>
<td>165</td>
<td>6.50</td>
</tr>
<tr>
<td>C</td>
<td>3.00</td>
<td>76</td>
<td>3.00</td>
</tr>
<tr>
<td>D</td>
<td>3.25</td>
<td>83</td>
<td>3.25</td>
</tr>
<tr>
<td>E</td>
<td>2.25</td>
<td>57</td>
<td>2.25</td>
</tr>
<tr>
<td>F</td>
<td>.39</td>
<td>10</td>
<td>.39</td>
</tr>
<tr>
<td>G</td>
<td>1.31</td>
<td>33</td>
<td>1.31</td>
</tr>
<tr>
<td>H</td>
<td>2.13</td>
<td>54</td>
<td>2.13</td>
</tr>
</tbody>
</table>
Flow Controls & Accessories

“338” Series – 1/8” to 3/4” Ports

General Information

“338” Series needle valves bi-directionally meter the flow of air through the valve. This series features a fine tapered needle providing precise flow of air in both directions. Numerical micrometer position markings are stamped on the perimeter of the adjustment knob which provide a visual indication of the setting. Once the desired flow is selected, a set screw can be tightened to maintain the setting.

These valves are available with NPTF ports in 1/8", 1/4", 3/8" 1/2" and 3/4" sizes. This series is recommended for pneumatic service.

Valve Specifications

Maximum Operating Pressure..............250 PSIG (Air)
Operating Temperature .................Standard: 0° to 180°F*
Extended Temperature...... 0°F to 300°F* (Consult factory)

* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

Component Materials

Body Material...............................Brass
Internal Components......................Stainless Steel / Brass
Seals............. Nitrile (Fluorocarbon optional – consult factory)

Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Port Size</th>
<th>Dimensions</th>
<th>Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>00338 1100</td>
<td>1/8&quot;</td>
<td>0.75</td>
<td>1.47</td>
</tr>
<tr>
<td>00338 1101</td>
<td>1/4&quot;</td>
<td>0.75</td>
<td>1.47</td>
</tr>
<tr>
<td>00338 1102</td>
<td>3/8&quot;</td>
<td>0.88</td>
<td>2.31</td>
</tr>
<tr>
<td>00338 1103</td>
<td>1/2&quot;</td>
<td>1.06</td>
<td>3.25</td>
</tr>
<tr>
<td>00338 1104</td>
<td>3/4&quot;</td>
<td>1.06</td>
<td>3.25</td>
</tr>
</tbody>
</table>

Performance Data – Flow

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Port Size</th>
<th>Flow (SCFM†)</th>
</tr>
</thead>
<tbody>
<tr>
<td>00338 1100</td>
<td>1/8&quot;</td>
<td>15</td>
</tr>
<tr>
<td>00338 1101</td>
<td>1/4&quot;</td>
<td>28</td>
</tr>
<tr>
<td>00338 1102</td>
<td>3/8&quot;</td>
<td>59</td>
</tr>
<tr>
<td>00338 1103</td>
<td>1/2&quot;</td>
<td>126</td>
</tr>
<tr>
<td>00338 1104</td>
<td>3/4&quot;</td>
<td>140</td>
</tr>
</tbody>
</table>

† At 100 PSIG inlet pressure with full pressure drop.
**General Information**

“339” Series check valves allow free flow in one direction and provide positive checked (zero flow) in the reverse direction. These valves are available with NPTF ports in 1/8”, 1/4”, 3/8”, 1/2” & 3/4” sizes. This series is recommended for pneumatic service.

**Valve Specifications**

Maximum Operating Pressure:
- 250 PSIG

Cracking Pressure: 1 to 2 PSIG

Operating Temperature:
- Standard: 0° to 180° F
- Extended Temperature Option: 0°F to 300°F

* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

**Component Materials**

Body Material: Brass

Internal Components: Brass / Stainless Steel / Zinc-Plated Steel

Seals: Urethane (standard), Fluorocarbon (optional – consult factory)

**Model Selection and Dimensions**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Port Size</th>
<th>Flow† (SCFM)</th>
<th>Dimensions A</th>
<th>Dimensions B</th>
<th>Service Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>00339 3000</td>
<td>1/8”</td>
<td>35</td>
<td>1.22</td>
<td>0.56</td>
<td>00337 8000</td>
</tr>
<tr>
<td>00339 3001</td>
<td>1/4”</td>
<td>75</td>
<td>1.34</td>
<td>0.69</td>
<td>00337 8001</td>
</tr>
<tr>
<td>00339 3002</td>
<td>3/8”</td>
<td>143</td>
<td>2.00</td>
<td>0.88</td>
<td>00337 8002</td>
</tr>
<tr>
<td>00339 3003</td>
<td>1/2”</td>
<td>162</td>
<td>2.56</td>
<td>1.19</td>
<td>00337 8003</td>
</tr>
<tr>
<td>00339 3004</td>
<td>3/4”</td>
<td>323</td>
<td>2.66</td>
<td>1.38</td>
<td>00337 8004</td>
</tr>
</tbody>
</table>

† At 100 PSIG inlet pressure with full pressure drop.

---

**General Information**

“3047” Series check valves allow free flow in one direction and provide positive checked (zero flow) in the reverse direction. This valve is available with a male 1/4” NPTF connection and is recommended for pneumatic service.

**Valve Specifications**

Maximum Operating Pressure:
- 250 PSIG

Cracking Pressure: 1 to 2 PSIG

Operating Temperature:
- Standard: 0° to 180° F

* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

**Component Materials**

Body Material: Brass

Internal Components: Brass / Stainless Steel

Seals: Nitrile

**Model Selection**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Pipe Thread</th>
<th>Flow† (SCFM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>03047 0099</td>
<td>1/4”</td>
<td>30</td>
</tr>
</tbody>
</table>

† At 100 PSIG inlet pressure with full pressure drop.
Tank Valves
For tanks, steel barrels, compressors and other pneumatic containers where a dependable automatic air valve is needed. Equipped with standard valve core and sealing cap. Maximum operating pressure is 185 PSIG. Temperature range is -40°F to 220°F.

Model No. 09166 0060
Has a 1/8" pipe thread at bottom for minimum protrusion. N/P finish, dome shaped cap. Packed 25 to a box.

Model No. 00645 0060
A 1/8" pipe thread at bottom permits maximum protrusion. N/P finish, screwdriver type cap. Packed 25 to a box.

Model No. 01468 0006
Has a 1/8" pipe thread part way up the stem which allows for minimum protrusion. N/P finish, has screwdriver type cap. Packed 25 to a box.

Air Chucks
For regular airlines.

Model No. 05499 0000
Ball-foot air chuck, 1/4" female port. Packed 25 to a box.

Model No. 06739 0000
Ball-foot air chuck with clip. Fits standard valve mouth. Saves holding on by hand. Has 1/4" port for connecting to hose. Packed 10 to a box.
“EM” Series – Sintered Bronze Muffler / Filters

General Description
Muffler/filters effectively reduce air exhaust noises to an industry accepted level with minimum flow restriction. They protect valves, impact wrenches, screw drivers and other air tools by preventing dirt and other foreign matter from entering the system. Non-corrosive. Can be cleaned with many common solvents.

Specifications
Maximum Operating Pressure..........................250 PSIG (Air)
Operating Temperature................................. 0° to 300°F*

* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Pipe Thread</th>
<th>Overall Length</th>
<th>Hex Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM12</td>
<td>1/8”</td>
<td>1.00</td>
<td>7/16”</td>
</tr>
<tr>
<td>EM25</td>
<td>1/4”</td>
<td>1.32</td>
<td>9/16”</td>
</tr>
<tr>
<td>EM37</td>
<td>3/8”</td>
<td>1.54</td>
<td>11/16”</td>
</tr>
<tr>
<td>EM50</td>
<td>1/2”</td>
<td>1.85</td>
<td>7/8”</td>
</tr>
<tr>
<td>EM75</td>
<td>3/4”</td>
<td>2.29</td>
<td>1-1/6”</td>
</tr>
<tr>
<td>EM100</td>
<td>1”</td>
<td>2.91</td>
<td>1-5/16”</td>
</tr>
<tr>
<td>EM125</td>
<td>1-1/4”</td>
<td>3.25</td>
<td>1-11/16”</td>
</tr>
<tr>
<td>EM150</td>
<td>1-1/2”</td>
<td>3.69</td>
<td>2”</td>
</tr>
</tbody>
</table>

“EM” Series – Sintered Bronze Muffler / Filters

General Description
Muffler/flow controls provide an acceptable exhaust noise level and effectively meter exhaust. Installed in valve exhaust ports, they control cylinder piston speeds throughout a wide range. The adjusting screw cannot be accidently blown out, can be locked to maintain setting. Brass and bronze construction. Clean with commonly used solvents.

Specifications
Maximum Operating Pressure..........................250 PSIG (Air)
Operating Temperature................................. 0° to 300°F*

* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Pipe Thread</th>
<th>Overall Length</th>
<th>Hex Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>04502 0002</td>
<td>1/8”</td>
<td>1.15</td>
<td>9/16”</td>
</tr>
<tr>
<td>04504 0004</td>
<td>1/4”</td>
<td>1.42</td>
<td>1/2”</td>
</tr>
<tr>
<td>04506 0060</td>
<td>3/8”</td>
<td>1.49</td>
<td>11/16”</td>
</tr>
<tr>
<td>04508 0080</td>
<td>1/2”</td>
<td>1.77</td>
<td>7/8”</td>
</tr>
<tr>
<td>04512 0012</td>
<td>3/4”</td>
<td>1.98</td>
<td>1-1/16”</td>
</tr>
<tr>
<td>04516 0016</td>
<td>1”</td>
<td>2.15</td>
<td>1-5/16”</td>
</tr>
</tbody>
</table>
Breather Vents

**General Description**

These low silhouette versions of the muffler / filter are useful where space is a problem and / or to prevent contamination. Use for vacuum relief or pressure equalization in gear boxes, oil tanks, reservoirs, etc. Non-corrosive.

*NOTE:* Breather vents should not be used as exhaust mufflers.

**Specifications**

- **Maximum Operating Pressure:** 150 PSIG (Air)
- **Operating Temperature:** 0° to 300°F*

* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

---

**“ES” Series – Silencer**

**General Description**

These low silhouette versions of the muffler / filter are useful where space is a problem and / or to prevent contamination. Use for vacuum relief or pressure equalization in gear boxes, oil tanks, reservoirs, etc. Non-corrosive.

The silencer is designed to give superior performance in noise control with a minimum effect on air efficiency. “Trimline” design allows location in the tightest places without extra plumbing and fittings. Fits directly into the exhaust port of more than 90% of present commercial valves. Slotted body permits rapid discharge of air without undesirable back pressure. Unique nylon screen element resists dirt buildup or clogging.

**Specifications**

- **Maximum Operating Pressure:** 250 PSIG (Air)
- **Operating Temperature:** 0° to 300°F*

* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

---

<table>
<thead>
<tr>
<th>Model Numbers</th>
<th>Pipe Thread</th>
<th>Flow SCFM @ 100 PSIG Inlet</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>NPTF BSPT (R)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES12MC</td>
<td>1/8&quot;</td>
<td>115</td>
<td>1.85</td>
</tr>
<tr>
<td>ES25MC</td>
<td>1/4&quot;</td>
<td>129</td>
<td>1.85</td>
</tr>
<tr>
<td>ES37MC</td>
<td>3/8&quot;</td>
<td>219</td>
<td>3.31</td>
</tr>
<tr>
<td>ES50MC</td>
<td>1/2&quot;</td>
<td>549</td>
<td>3.31</td>
</tr>
<tr>
<td>ES75MC</td>
<td>3/4&quot;</td>
<td>893</td>
<td>4.56</td>
</tr>
<tr>
<td>ES100MC</td>
<td>1&quot;</td>
<td>1,013</td>
<td>4.56</td>
</tr>
<tr>
<td>ES125MC</td>
<td>1-1/4&quot;</td>
<td>1,486</td>
<td>5.69</td>
</tr>
<tr>
<td>ES150MC</td>
<td>1-1/2&quot;</td>
<td>1,580</td>
<td>5.69</td>
</tr>
</tbody>
</table>
Features

- Compact
- Lightweight
- Easy to Install
- Excellent Noise Reduction
- Protects Components from Contamination
- NPT and BSPT Threads Available

Application

The plastic silencer is designed to give excellent noise reduction with a minimum effect on air efficiency. The “Trimline” design allows for locating the silencer in the tightest places without extra plumbing or fittings. Fits directly into the exhaust port of most commercial valves. Open surface area of element allows for rapid discharge of air without undesirable back pressure.

Specifications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Thread Size</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>Maximum Flow (SCFM)</th>
<th>Sound Pressure Level (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NPT</td>
<td>BSPT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS-5</td>
<td>M5</td>
<td></td>
<td></td>
<td>0.43 (11)</td>
<td>0.32 (8)</td>
</tr>
<tr>
<td>ASN-6</td>
<td>AS-6</td>
<td>1/8”</td>
<td></td>
<td>1.57 (40)</td>
<td>0.63 (16)</td>
</tr>
<tr>
<td>ASN-8</td>
<td>AS-8</td>
<td>1/4”</td>
<td></td>
<td>2.56 (65)</td>
<td>0.83 (21)</td>
</tr>
<tr>
<td>ASN-10</td>
<td>AS-10</td>
<td>3/8”</td>
<td></td>
<td>3.35 (85)</td>
<td>0.98 (25)</td>
</tr>
<tr>
<td>ASN-15</td>
<td>AS-15</td>
<td>1/2”</td>
<td></td>
<td>3.74 (95)</td>
<td>1.18 (30)</td>
</tr>
</tbody>
</table>

Pressure Rating: 0 to 150 PSIG
(0 to 10 bar, 0 to 1034 kPa)

Temperature Rating: 14°F to 140°F (-10°C to 60°C)

Body: Acetal (Plastic)
Element: Polyethylene
Features
• All Plastic Ultra Light Weight Versions
• High Noise Level Reduction
• Low Back Pressure Generation

Application
The plastic silencer is designed to give excellent noise reduction with a minimum effect on air efficiency. The “Trimline” design allows for locating the silencer in the tightest places without extra plumbing or fittings. Fits directly into the exhaust port of most commercial valves. Open surface area of element allows for rapid discharge of air without undesirable back pressure.

Specifications
Pressure Rating

0 to 246 PSIG
(0 to 17 bar, 0 to 1700 kPa)

Temperature Rating

Plastic ........................................... 14°F to 176 °F (-10°C to 80°C)
Metal ........................................... 14°F to 165 °F (-10°C to 74°C)

Efficiency ......................................................... 92%
Flow Controls & Accessories
ECS Series – 1/2" & 1"

Operation
Compressor oils and lubricating oils are exhausted from valves, cylinders and air motors into the ECS. Oil aerosols are “coalesced” into larger droplets and gravity pulls them into the attached drain sump. The sump can then be drained manually or by using a 1/4” ID plastic tube drain. The air flowing into the ECS is also muffled or silenced as it enters the inside of the ECS and passes through the filter media into the atmosphere.

Proven Technology
The ECS units are constructed from the same materials that go into our oil removal coalescing filter elements.

Features
The ECS (Muffler-Reclassifier) eliminates unwanted oil mist and reduces exhaust noise from pneumatic valves, cylinders and air motors.

- 99.97% Oil Removal Efficiencies
- 25 dBA Noise Attenuation
- 1/2” NPT and 1” NPT
- Disposable Units
- Continuous or Plugged Drain Option
- Metal Retained Construction
- Fast Exhaust Time

Improve Overall Plant Environment
Exhaust oil mist and noise pollution have a direct impact on worker productivity.

Oil aerosol mist from lubricators and compressors is pervasive and enters the industrial plant environment through the exhaust ports of valves, cylinders and air motors. This rapidly expanding exhaust also produces sudden and excessive noise.

The ECS (Muffler-Reclassifier) is 99.97% efficient at removing the oil aerosols. The ECS also acts as a silencer to lower the dBA levels below O.S.H.A. requirements.

The result is a cleaner, quieter environment which equates to greater work productivity and safety.

Specifications
Maximum Operating Temperature .................125°F (52°C)
Maximum Line Pressure .........................100 PSIG (6.8 bar)

Ordering Information

<table>
<thead>
<tr>
<th>Size</th>
<th>Engineering Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 1/2 inch</td>
<td>* Will be entered at factory.</td>
</tr>
<tr>
<td>5 1 inch</td>
<td></td>
</tr>
</tbody>
</table>

ECS 3

Catalog 0700P-6
Air Line Muffler – Reclassifier

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics
Automatic Drip Leg Drain

Features
- Auto Drain Ported 1/8" to Pipe Away Liquid
- Drain has Manual Override
- Easily Serviced without Tool
- 20-250 PSIG Range
- Compact Size

Specifications
Housing & Cap ...................................................... Aluminum
Port Threads ..................................................... 1/4" - 1/2" Top
1/8" Drain
Pressure and Temperature Ratings:
Metal Bowl ....................................................... 20 to 250 PSIG (0 to 17.2 bar)
32°F to 175°F (0°C to 80°C)
Seals ................................................................. Buna N

Ordering Information
Consists of Drip Leg Drain Housing WITH Auto Drain.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>06D1NA</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td>06D3NA</td>
<td>1/2&quot;</td>
</tr>
</tbody>
</table>

Relief Valve

Features
- Large Relief Capacity (70.39 Cv @ 150 PSI when fully opened) in a Compact Size
- Lightweight Aluminum Construction with Resilient Seat

Application
The RV01A1N Pop Off Relief Valve is designed to protect against excessive pressure buildup in a pneumatic circuit or system.

Operation*
With the relief valve mounted in a reservoir or system, the force of system pressure at (A) is offset by the force of spring (C) acting on poppet seat (B). At pressures lower than the setting, the poppet seat (B) is held against the body at (A) effecting a seal. As pressure approaches set point, the poppet begins to vent until set point is reached, at which time the poppet seat (B) lifts off the body at (A) allowing the excess pressure to vent to atmosphere at (F). When the excess pressure has been vented, the spring (C) acts on the poppet seat (B) forcing it to seat on the body at (A), sealing off the flow of air.

Specification
Body & Adjusting Screw ....................................... Aluminum
Locking Nut .......................................................... Steel
Seat ................................................................. Nitrile
Spring ............................................................. Steel
Poppet ............................................................ Plastic
Operating Temperature ................................. 32°F to 200°F (0°C to 93°C)
Port Threads .................................................... 1/4 Inch Male
Relief Range .................................................. 10 to 200 PSIG (.7 to 14 bar) with standard spring.

* Ref: 1RV100B Installation & Service Instructions

Ordering Information

<table>
<thead>
<tr>
<th>RV01A1N</th>
<th>XXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 200 PSI</td>
<td>Blank</td>
</tr>
<tr>
<td>BUNA</td>
<td>Flurocarbon</td>
</tr>
</tbody>
</table>
Relief Valves - Diaphragm Type

130 Relief Valve

**Features**
- Compact, Sensitive Diaphragm-type Relief Valve
- Push-pull, Locking Knob
- Knob and Top Work the Same as a Miniature Regulator
- 130 has Lightweight Aluminum Construction
- 134 has a brass body, captured exhaust and is an Inline Type with 3 Inlet Ports and 1 Outlet Port

**Applications**
- Designed to Protect Against Excessive Pressure Buildup in a Pneumatic Circuit or System
- For Use where Gradual Proportional Relief is Required

**Operation**
- Turn relief valve knob clockwise for maximum pressure.
- Set pressure going into relief valve at desired pressure.
- Turn relief valve knob counter-clockwise until exhaust starts to bleed.
- Turn relief valve knob clockwise until exhaust stops bleeding. Push to lock knob.

**Ordering Information**

<table>
<thead>
<tr>
<th>Relief Valve</th>
<th>Spring Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>0-15 PSIG</td>
</tr>
<tr>
<td></td>
<td>0-25 PSIG</td>
</tr>
<tr>
<td></td>
<td>0-50 PSIG</td>
</tr>
<tr>
<td></td>
<td>0-100 PSIG</td>
</tr>
<tr>
<td>130-02AA</td>
<td>130-02A</td>
</tr>
<tr>
<td>130-02AAP*</td>
<td>130-02BP*</td>
</tr>
<tr>
<td>134</td>
<td>134-02A</td>
</tr>
<tr>
<td>134-02AAP*</td>
<td>134-02BP*</td>
</tr>
</tbody>
</table>

* Panel mount nut included.

134 Relief Valve

**Dimensions**

<table>
<thead>
<tr>
<th>Component</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot; Pipe INLET</td>
<td>1.44</td>
</tr>
<tr>
<td>1/8&quot; Pipe INLET</td>
<td>1.08</td>
</tr>
<tr>
<td>1/4&quot; Pipe OUTLET</td>
<td>2.60</td>
</tr>
<tr>
<td>1/8&quot; Pipe INLET</td>
<td>3.52</td>
</tr>
<tr>
<td>1/4&quot; Pipe OUTLET</td>
<td>3.00</td>
</tr>
</tbody>
</table>

**Relief Valve Kits**
- Bonnet Assembly Kit: PCKR364Y
- Panel Mount Nut: PR05X51

**Specifications**
- Relief Range: 0 to 100 PSIG (0 to 6.9 bar)
- Maximum Inlet Pressure: 300 PSIG (20.7 bar)
- Operating Temperature: 40°F to 120°F (4°C to 49°C)

**Port Threads:**
- 130: 1/4" Pipe Male Only
- 134: Inlet Port – Two 1/8" & One 1/4" Pipe Outlet Port – 1/4" Pipe

**Materials of Construction**
- Adjusting Knob: Polypropylene
- Adjusting Screw: Zinc-plated Steel
- Body: Aluminum (130); Brass (134)
- Diaphragm / Disc: Buna-N
- Nut: Chromated Steel
- Spring Cage: Acetal
- Spring: Zinc-plated Steel
General Information
Quick exhaust valves provide rapid exhaust of control air when placed between control valve and actuator. They can also be used as shuttle valves. Diaphragm materials are available in urethane, Nitrile, Fluorocarbon, and PTFE to meet a wide variety of operating conditions.

Valve Specifications
Operating Pressure (Air)
Maximum: 150 PSIG
200 PSIG for Model No. 0R37TB (PTFE diaphragm)
Minimum: 3 PSIG
50 PSIG for Model No. 0R37TB (PTFE diaphragm)
Operating Temperature:
Urethane: 0°F to 180°F (-18°C to 80°C)
Nitrile: 0°F to 180°F (-18°C to 80°C)
Fluorocarbon: 0°F to 400°F (-18°C to 205°C)
PTFE: 0°F to 500°F (-18°C to 260°C)
* Ambient temperatures below freezing require moisture-free air.
Ambient temperatures below freezing and above 180°F require lubricants especially selected for suitability at these temperatures.
Pneumatic valves should be used with filtered and lubricated air.

Component Materials
Body Material.......................... Die cast aluminum
Static Seals.............................. Nitrile standard with urethane
(Diaphragm)
Diaphragm................................. Standard – Urethane
Optional – Fluorocarbon, PTFE, or Nitrile
(Depending on size)

Mounting Bracket Kit –
No. 03640 8100
(Including body screws)
For “0R12” and “0R25” sizes
with 7/8" “A” Dimension.

Model Selection, Performance Data and Dimensions

<table>
<thead>
<tr>
<th>Port Flow</th>
<th>Model Number</th>
<th>Service Kit No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port 1 (In)</td>
<td>Port 2 (Cyl)</td>
<td>Port 3 (Exh)</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>STANDARD URETHANE DIAPHRAGMS (Nitrile static seals)</td>
<td>1/4&quot;</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td></td>
<td>3/8&quot;</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td></td>
<td>3/8&quot;</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td></td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td></td>
<td>3/4&quot;</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>NITRIJE DIAPHRAGMS (Nitrile static seals)</td>
<td>1/8&quot;</td>
<td>1/8&quot;</td>
</tr>
<tr>
<td></td>
<td>1/8&quot;</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td></td>
<td>1/4&quot;</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td></td>
<td>1/4&quot;</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td></td>
<td>3/8&quot;</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td></td>
<td>3/4&quot;</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>FLUOROCARBON DIAPHRAGMS for extended temperature operation (Fluorocarbon static seals)</td>
<td>1/8&quot;</td>
<td>1/8&quot;</td>
</tr>
<tr>
<td></td>
<td>1/8&quot;</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td></td>
<td>1/4&quot;</td>
<td>1/4&quot;</td>
</tr>
<tr>
<td></td>
<td>3/8&quot;</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td></td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td></td>
<td>3/4&quot;</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>PTFE DIAPHRAGMS for higher pressure and temperature (Fibre static seals)</td>
<td>3/8&quot;</td>
<td>3/8&quot;</td>
</tr>
</tbody>
</table>

† At 100 PSIG inlet pressure with full pressure drop.

BOLD ITEMS ARE MOST POPULAR.
Flow Controls & Accessories
1/8” to 3/8” Ports

General Information
Shuttle valves determine a single pneumatic output from two separate inputs. If pressure is applied to both ports simultaneously, the valve will select the port with the higher pressure.

Valve Specifications
Maximum Operating Pressure ...............200 PSIG Maximum
3 PSIG Minimum: Differential Pressure
Operating Temperature ..................................0° to 160°F*
* Ambient temperatures below freezing require moisture-free air. Ambient temperatures below freezing and above 180° require lubricants especially selected for suitability at these temperatures. Pneumatic valves should be used with filtered and lubricated air.

Component Materials
Body Material ........................................... Aluminum
Internal Components ................................. Aluminum
Seals ......................................................... Nitrile

Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Port Size</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>N164 1001</td>
<td>1/8”</td>
<td>N/A</td>
</tr>
<tr>
<td>N164 2003</td>
<td>1/4”</td>
<td>2.50</td>
</tr>
<tr>
<td>N164 3003</td>
<td>3/8”</td>
<td>2.50</td>
</tr>
</tbody>
</table>

Performance Data – Flow

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Port Size</th>
<th>Flow (Cv)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N164 1001</td>
<td>1/8”</td>
<td>0.32</td>
</tr>
<tr>
<td>N164 2003</td>
<td>1/4”</td>
<td>1.65</td>
</tr>
<tr>
<td>N164 3003</td>
<td>3/8”</td>
<td>2.02</td>
</tr>
</tbody>
</table>
Typical “Quick Exhaust Valve” Applications

Rapid Retraction – Double Acting Cylinder
In this circuit, air is exhausted through a Quick Exhaust Valve that is close coupled to the cap end of the cylinder. Because the Quick Exhaust Valve has a greater exhaust capacity than the four-way Control Valve, increased cylinder speed can be accomplished with a smaller and less expensive control valve.

Dual Pressure Actuation of Double Acting Cylinder
This circuit utilizes a Quick Exhaust Valve and a three-way Control Valve to permit rapid extension of the cylinder at a high pressure. NOTE: Line pressure must be 3 or 4 times greater than rod end pressure. Effective working pressure is the differential between the cap and rod end.

Bi-Directional Control of Two Double Acting Cylinders
This circuit provides maximum control with a minimum of valving. A large four-way Control Valve is not needed to permit the rapid retraction of Cylinder A, as the Quick Exhaust Valve performs this function. The extension of Cylinders A and B and retraction of Cylinder B are controlled by Speed Control Valves.

Typical “Shuttle Valve” Applications

“OR” Circuit
The most common application of the Shuttle Valve is the “OR” Circuit. Here a cylinder or other work device can be actuated by either control valve. The valves can be manually or electrically actuated and located in any position.

Memory Circuit
This circuit enables continuous operation once initiated. Pressure is delivered to the circuit when Valve A is actuated. This allows pressure to pass through the shuttle valve actuating Valve B. Pressure then flows through Valve B and also the other side of the shuttle valve which holds Valve B open for continuous operation. To unlock the circuit, Valve C must be opened to exhaust the circuit and allow Valve B to return to its normally closed position.

Interlock
This circuit prevents the occurrence of a specific operation while one or another operation takes place. When either Valve A or B is actuated to perform operation 1 or 2, Valve D is shifted to the closed position and prevents operation 3 from occurring.
Pressure Switch – P01909

Features:
- Inline Mounting
- Dial Indicator for Easy Pressure Setting
- 5 amp Rated Snap Action Micro Switch
- Heavy Duty Aluminum Components
- Compact Size
- DIN 43650HCM Connector
- IP65 Rated
- Field Adjustable 30-150 PSIG
- +/- 2% Repeatability
- Single Pole/Double Throw Switch

Operation
The pressure switch monitors the air pressure in your pneumatic system. When the pressure in your system either drops below or exceeds the set point pressure, an electrical output is given.

Using a 0.125" (3mm) hex wrench, turn the adjusting screw (A) clockwise to increase the pressure set point and counterclockwise to decrease the pressure setting. One complete revolution of the adjusting screw covers the complete adjustment range of 30 to 150 PSIG (2 to 10 bar).

Definitions and Terminology
Repeatability — Accuracy is the maximum allowable set point deviation of a single pressure or temperature switch under one given set of environmental and operational conditions.

Single Pole Double Throw (SPDT) Switching element — A SPDT switching element has one normally open, one normally closed and one common terminal. Three terminals mean that the switch can be wired with the circuit either normally open (NO), or normally closed (NC), or both.

Dead Band — The dead band, sometimes referred to as “differential” or “hysterisis”, is the change in pressure between actuation and deactuation set points.

Kits and Accessories
Bushing 1/4" to 3/8" ............................................. 209P-6-4
Bushing 1/4" to 1/2" ............................................. 209P-8-4

Specifications
- Electrical ................................. 5 AMP, 12/24VDC, 125/250VAC
- Maximum Inlet Pressure ....................... 300 PSIG (20 bar)
- Mechanical Life ............................ 10⁶ at standard operating conditions
- Electrical Connection ......................... DIN 43650HCM
- Electrical Protection .......................... IP65
- Repeatability ............................... ±2% at 70°F (20°C) Ambient
- Temperature Range ................. -40°F to 180°F (-40°C to 80°C)
- Weight ........................................... 0.13 lb. (0.06 Kg)

Materials of Construction
- Diaphragm ..................................... Nitrile
- Housing ........................................ Anodized Aluminum
Flow Controls & Accessories
Air Line Accessories

Pressure Switch – P01908

Features:
- Inline Mounting
- 5 amp Rated Snap Action Micro Switch
- Brass Body
- Compact Size
- Flying Leads Electrical Connection
- IP65 Rated
- Field Adjustable 25-100 PSIG
- +/- 2% Repeatability
- Single Pole / Double Throw Switch

Operation
The pressure switch monitors the air pressure in your pneumatic system. When the pressure in your system either drops below or exceeds the set point pressure, an electrical output is given.

Remove screw (A) from the top of the switch. Using a 0.125" (3mm) hex wrench, turn the adjusting screw (B) clockwise to increase the pressure set point and counterclockwise to decrease the pressure setting, replace screw (A). Adjustment range of 25 to 100 PSIG (1.7 to 7.5 bar).

Standard electrical circuit
Black............ Common
Green............. Normally Closed
Red.............. Normally Open

Definitions and Terminology
Repeatability — Accuracy is the maximum allowable set point deviation of a single pressure or temperature switch under one given set of environmental and operational conditions.

Single Pole Double Throw (SPDT) Switching element — A SPDT switching element has one normally open, one normally closed and one common terminal. Three terminals mean that the switch can be wired with the circuit either normally open (NO), or normally closed (NC), or both.

Dead Band — The dead band, sometimes referred to as “differential” or “hysterisis”, is the change in pressure between actuation and deactuation set points.

Kits and Accessories
Bushing 1/4” to 3/8” ..............................................209P-6-4
Bushing 1/4” to 1/2” ..............................................209P-8-4

Specifications
Electrical ........................................5 AMP, 12/24VDC, 125/250VAC
Maximum Inlet Pressure .......................300 PSIG (20 bar)
Mechanical Life .....................................2x10^6 at 75 PSIG (5 bar)
Electrical Connection ............................18” Flying Leads
Electrical Protection ..............................IP65
Repeatability .......................................±2% at 70°F (20°C) Ambient
Temperature Range ......................... -40°F to 180°F (-40°C to 80°C)
Weight ..................................................0.23 lb. (0.11 Kg)

Materials of Construction
Diaphragm .................................................Nitrile
Housing ..................................................Brass
Mobile Pressure Switch
P04159 – Normally Closed
P04160 – Normally Open

Features:
- Inline Mounting
- 4 Amp Rated Snap Action Micro Switch
- Brass Body
- Compact Size
- Spade Electrical Connection
- Field Adjustable 15 to 150 PSIG
- Rubber Boot Protection
- ±5% Repeatability @ 70°F (20°C) Ambient Temperature
- Temperature Range -40°F to 220°F (-40°C to 105°C)

Applications
These Pressure Switches are intended for use in mobile, general-purpose, compressed air systems. Product is suitable for all trailer air-ride systems, truck suspension systems, associated bus door systems, and electro-pneumatic operations. The performance requirements and reliability are suitable for the extreme cold weather environment of North American winters.

Operation
The pressure switch monitors air pressure and provides an electrical output when the pressure drops below or exceeds an adjustable preset pressure.

Adjust the pressure switch using a flat head screwdriver; turn adjustment screw clockwise to increase set point or counterclockwise to decrease set point.

Specifications
Switch Position
P04159 ...................................................... Normally Closed
P04160 .........................................................Normally Open
Electrical Rating .........................................................100VA
Electrical Life .................. 4 Amp in Rush @ 12VDC
>2,000,000 Cycles
Maximum Inlet Pressure ................. 300 PSIG (20 bar)
Mechanical Life .................. >2 x 10⁶ @ 75 PSIG (5 bar)
Electrical Connection .................. 1/4 x 1/32 Spade
Electrical Protection .................. Rubber Boot
Repeatability .................. ±5% @ 70°F (20°C)
Ambient & Medium Temperature Range .............. -40°F to 220°F
(-40°C to 105°C)
Weight ............................................. 0.14 lb. (0.06 Kg)

Materials of Construction
Diaphragm .................. Kapton
Housing .................. Brass

Kits and Accessories
Rubber Boot ............................................. P04161

Dimensions
Rubber Boot

1/4 NPT Thread (4M)

Adjustment Screw
0.36 (9.07)

1.51 (38.29)

1.58 (40.14)

Rubber Boot Protection

300 PSIG (20 bar)

>2 x 10⁶ @ 75 PSIG (5 bar)

1/4 x 1/32 Spade

±5% @ 70°F (20°C)

-40°F to 220°F (-40°C to 105°C)

0.14 lb. (0.06 Kg)
Automatic Electrical Drain Valve
WDV3-G

The WDV3 Electrical Drain is designed to remove condensate from compressors, compressed air dryers and receivers up to any size, type or manufacturer. The WDV3 offers true installation simplicity and it is recognized as the most reliable and best performing condensate drain worldwide. The large orifice in the direct acting valve, combined with its sophisticated timer module ensure many years of trouble-free draining of condensate.

Benefits
• Does Not Air-Lock During Operation
• Compressed Air Systems Up to Any Size
• Also Available In Stainless Steel
• The Direct Acting Valve Is Serviceable
• Suitable for All Types of Compressors
• TEST (Micro-Switch) Feature
• High Time Cycle Accuracy
• Large (4.5mm) Valve Orifice

Ordering Information

Flow Controls & Accessories
WDV3 Series

Specifications
Operating Pressure............................... 230 PSIG (15.9 bar)
Ambient Operating Range Temperature: 34° to 130°F (1.1° to 54°C)
Coil Insulation
Class H .......................................................340°F (171.1°C)
Voltages
AC ..............................................................115, 230/50-60
Timer:
Open Time .................................... .5 to 10 sec., Adjustable
Cycle Time ............................ .5 sec. to 45 min., Adjustable
Maximum Current Rating .....................4mA Max.
Port Size ..................................................... 1/4, 3/8, 1/2 NPT
Weight ......................................................... 1.8 lb. (0.8 kg)

Materials of Construction
Valve Body .........................................Brass / Stainless Steel
Enclosure (NEMA 4) ............................. ABS Plastic
Internal Parts .................................Brass / Stainless Steel
Sealing Material ................................. FPM (Fluorocarbon)

Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WDV3-G**BL</td>
<td>1.73</td>
<td>4.53</td>
<td>3.46</td>
</tr>
</tbody>
</table>
Zero Loss Drain – WDV2

Features
- Zero Air Loss
- Automatically Self-Adjusting for Voltages from 110 to 230V
- Sensor Device with No Moving Parts
- Sophisticated Electronic Controls
- Alarm with Remote Contacts
- Large Inlet Port to Eliminate Clogging
- Manual Push-to-Test Button
- Automatically Clears Slugs

Benefits
- Energy Efficient
- World-Wide Applications
- Long Life
- High Reliability
- Versatility, Early Warning
- Low Maintenance
- On Demand Operation
- Maintenance Free

Flow Controls & Accessories
WDV2 Series

Specifications
- Drain Volume: 0.01 Gallons / Cycle
- Maximum Fluid Temperature: 150°F (60°C)
- Voltage: 110 to 240V, 50/60 Hz
- Inlet Ports (2): 1/2" NPT
- Outlet Ports (1): 5/16" (8mm) I.D. Hose

Operating Conditions
- Ambient Temperature: 33° to 140°F (0° to 60°C)
- Maximum Operating Pressure: 232 PSIG (16 bar)

The WDV2 Electronic Demand Drain Valves, with zero air loss, are suitable for all compressed air system applications from aftercoolers to filters to receivers to refrigerated dryers. These drain valves activate automatically and are both reliable and economical.

Alarm Mode
Should the drain fail to discharge due to an excessive volume of condensate or blocked outlet piping, an alarm condition is activated. During the alarm condition, the drain cycles continuously in an attempt to remove the excess condensate. At the same time, the volt free alarm contacts change state and the normally green power LED flashes to indicate a problem. When the excess condensate or blockage has been cleared, the drain will resume normal operation.

Operation
1. Upon power up, the outlet valve is closed and sensor is constantly monitoring for presence of liquid.
2. When condensate is detected by the sensor, the outlet valve is opened for a pre-set time.
3. The condensate is discharged from the outlet port, due to the system pressure acting on the top of the liquid.
4. The outlet valve is closed after a pre-set time has expired. The opening time has been calculated to always ensure a small amount of liquid remains in bowl. This liquid acts as a seal, preventing air loss.

Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WDV2-425</td>
<td>3.23</td>
<td>4.61</td>
<td>4.65</td>
</tr>
</tbody>
</table>

Level monitoring and discharge operation are continuous.
Safety Guide For Selecting And Using Pneumatic Division Products And Related Accessories

⚠️ WARNING:

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF PNEUMATIC DIVISION PRODUCTS, ASSEMBLIES OR RELATED ITEMS ("PRODUCTS") CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE. POSSIBLE CONSEQUENCES OF FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THESE PRODUCTS INCLUDE BUT ARE NOT LIMITED TO:

- Unintended or mistimed cycling or motion of machine members or failure to cycle
- Work pieces or component parts being thrown off at high speeds.
- Failure of a device to function properly for example, failure to clamp or unclamp an associated item or device.
- Explosion
- Suddenly moving or falling objects.
- Release of toxic or otherwise injurious liquids or gasses.

Before selecting or using any of these Products, it is important that you read and follow the instructions below.

1. GENERAL INSTRUCTIONS

1.1. Scope: This safety guide is designed to cover general guidelines on the installation, use, and maintenance of Pneumatic Division Valves, FRLs (Filters, Pressure Regulators, and Lubricators), Vacuum products and related accessory components.

1.2. Fail-Safe: Valves, FRLs, Vacuum products and their related components can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of associated valves, FRLs or Vacuum products will not endanger persons or property.


1.4. Distribution: Provide a copy of this safety guide to each person that is responsible for selection, installation, or use of Valves, FRLs or Vacuum products. Do not select, or use Parker valves, FRLs or vacuum products without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.

1.5. User Responsibility: Due to the wide variety of operating conditions and applications for valves, FRLs, and vacuum products Parker and its distributors do not represent or warrant that any particular valve, FRL or vacuum product is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:
   - Making the final selection of the appropriate valve, FRL, Vacuum component, or accessory.
   - Assuring that all user’s performance, endurance, maintenance, safety, and warning requirements are met and that the application presents no health or safety hazards.
   - Complying with all existing warning labels and/or providing all appropriate health and safety warnings on the equipment on which the valves, FRLs or Vacuum products are used; and,
   - Assuring compliance with all applicable government and industry standards.

1.6. Safety Devices: Safety devices should not be removed, or defeated.

1.7. Warning Labels: Warning labels should not be removed, painted over or otherwise obscured.

1.8. Additional Questions: Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to www.parker.com, or for telephone numbers of the appropriate technical service department.

2. PRODUCT SELECTION INSTRUCTIONS

2.1. Flow Rate: The flow rate requirements of a system are frequently the primary consideration when designing any pneumatic system. System components need to be able to provide adequate flow and pressure for the desired application.

2.2. Pressure Rating: Never exceed the rated pressure of a product. Consult product labeling, Pneumatic Division catalogs or the instruction sheets supplied for maximum pressure ratings.

2.3. Temperature Rating: Never exceed the temperature rating of a product. Excessive heat can shorten the life expectancy of a product and result in complete product failure.

2.4. Environment: Many environmental conditions can affect the integrity and suitability of a product for a given application. Pneumatic Division products are designed for use in general purpose industrial applications. If these products are to be used in unusual circumstances such as direct sunlight and/or corrosive or caustic environments, such use can shorten the useful life and lead to premature failure of a product.

2.5. Lubrication and Compressor Carryover: Some modern synthetic oils can and will attack nitrile seals. If there is any possibility of synthetic oils or greases migrating into the pneumatic components check for compatibility with the seal materials used. Consult the factory or product literature for materials of construction.

2.6. Polycarbonate Bowls and Sight Glasses: To avoid potential polycarbonate bowl failures:
   - Do not locate polycarbonate bowls or sight glasses in areas where they could be subject to direct sunlight, impact blow, or temperatures outside of the rated range.
   - Do not expose or clean polycarbonate bowls with detergents, chlorinated hydro-carbons, keytones, esters or certain alcohols.
   - Do not use polycarbonate bowls or sight glasses in air systems where compressors are lubricated with non resistant uids such as phosphate ester and di-ester lubricants.
2.7. Chemical Compatibility: For more information on plastic component chemical compatibility see Pneumatic Division technical bulletins Tec-3, Tec-4, and Tec-5

2.8. Product Rupture: Product rupture can cause death, serious personal injury, and property damage.

- Do not connect pressure regulators or other Pneumatic Division products to bottled gas cylinders.
- Do not exceed the maximum primary pressure rating of any pressure regulator or any system component.
- Consult product labeling or product literature for pressure rating limitations.

3. PRODUCT ASSEMBLY AND INSTALLATION INSTRUCTIONS

3.1. Component Inspection: Prior to assembly or installation a careful examination of the valves, FRLs or vacuum products must be performed. All components must be checked for correct style, size, and catalog number. DO NOT use any component that displays any signs of nonconformance.

3.2. Installation Instructions: Parker published Installation Instructions must be followed for installation of Parker valves, FRLs and vacuum components. These instructions are provided with every Parker valve or FRL sold, or by calling 1-800-CPARKER, or at www.parker.com.

3.3. Air Supply: The air supply or control medium supplied to Valves, FRLs and Vacuum components must be moisture-free if ambient temperature can drop below freezing

4. VALVE AND FRL MAINTENANCE AND REPLACEMENT INSTRUCTIONS

4.1. Maintenance: Even with proper selection and installation, valve, FRL and vacuum products service life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a component failure, and experience with any known failures in the application or in similar applications should determine the frequency of inspections and the servicing or replacement of Pneumatic Division products so that products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.10.

4.2. Installation and Service Instructions: Before attempting to service or replace any worn or damaged parts consult the appropriate Service Bulletin for the valve or FRL in question. Service and Installation Instructions are provided with every Parker valve and FRL sold, or are available by calling 1-800-CPARKER, or by accessing the Parker web site at www.parker.com.


4.4. Visual Inspection: Any of the following conditions requires immediate system shut down and replacement of worn or damaged components:

- Air leakage: Look and listen to see if there are any signs of visual damage to any of the components in the system. Leakage is an indication of worn or damaged components.
- Damaged or degraded components: Look to see if there are any visible signs of wear or component degradation.
- Kinked, crushed, or damaged hoses. Kinked hoses can result in restricted airflow and lead to unpredictable system behavior.
- Any observed improper system or component function: Immediately shut down the system and correct malfunction.
- Excessive dirt build-up: Dirt and clutter can mask potentially hazardous situations.

Caution: Leak detection solutions should be rinsed off after use.

4.5. Routine Maintenance Issues:

- Remove excessive dirt, grime and clutter from work areas.
- Make sure all required guards and shields are in place.

4.6. Functional Test: Before initiating automatic operation, operate the system manually to make sure all required functions operate properly and safely.

4.7. Service or Replacement Intervals: It is the user’s responsibility to establish appropriate service intervals. Valves, FRLs and vacuum products contain components that age, harden, wear, and otherwise deteriorate over time. Environmental conditions can significantly accelerate this process. Valves, FRLs and vacuum components need to be serviced or replaced on routine intervals. Service intervals need to be established based on:

- Previous performance experiences.
- Government and / or industrial standards.
- When failures could result in unacceptable down time, equipment damage or personal injury risk.

4.8. Servicing or Replacing of any Worn or Damaged Parts: To avoid unpredictable system behavior that can cause death, personal injury and property damage:

- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to system and Pneumatic Division products before installation, service, or conversion.
- Installation, servicing, and / or conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversions air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or if the product does not operate properly, do not put product or system into use.
- Warnings and specifications on the product should not be covered or painted over. If masking is not possible, contact your local representative for replacement labels.

4.9. Putting Serviced System Back into Operation: Follow the guidelines above and all relevant Installation and Maintenance Instructions supplied with the valve FRL or vacuum component to insure proper function of the system.
Offer of Sale

The items described in this document and other documents or descriptions provided by Parker Hannifin Corporation, its subsidiaries and its authorized distributors, are hereby offered for sale at prices to be established by Parker Hannifin Corporation, its subsidiaries and its authorized distributors. This offer and its acceptance by any customer (the “Buyer”) shall be governed by all of the following Terms and Conditions. Buyer's order for any such item, when communicated to Parker Hannifin Corporation, its subsidiaries or an authorized distributor (“Seller”) verbally or in writing, shall constitute acceptance of this offer.

1. Terms and Conditions of Sale: All descriptions, quotations, proposals, offers, acknowledgments, acceptances and sales of Seller’s products are subject to and shall be governed exclusively by the terms and conditions stated herein. Buyer’s acceptance of any offer to sell is limited to these terms and conditions. Any terms or conditions in addition to, or inconsistent with those represented herein, proposed by Buyer in any acceptance of an offer by Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the contract between Buyer and Seller unless expressly accepted in writing by Seller. Seller’s acceptance of any offer to purchase by Buyer is expressly conditional upon Buyer’s assent to all the terms and conditions stated herein, including any terms in addition to, or inconsistent with those contained in Buyer’s offer. Acceptance of Seller’s products shall in all events constitute such assent.

2. Payment: Payment shall be made by Buyer not 30 days from the date of delivery of the items purchased hereunder. Amounts not timely paid shall bear interest at the maximum rate permitted by law for each month or portion thereof until paid in full, at which rate interest shall be computed. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

3. Warranty: Seller warrants that the items sold hereunder shall be free from defects in material or workmanship for a period of 18 months from date of shipment from Parker Hannifin Corporation. THIS WARRANTY COMPRESSES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED.

4. Limitation of Remedy: SELLER’S LIABILITY ARISING FROM OR IN ANY WAY CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF THE ITEMS OR REFUND OF THE PURCHASE PRICE PAID BY BUYER, AT SELLER’S SOLE OPTION. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO, LOSSES ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OF ITEMS SOLD HEREUNDER, WHETHER ALLEGED TO ARISE FROM BREACH OF CONTRACT, EXPRESS OR IMPLIED WARRANTY, OR IN TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, FAILURE TO WARN OR STRICT LIABILITY.

5. Changes, Rescissions and Cancellations: Buyer may request to modify the design or specifications of the items purchased hereunder only as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modiﬁcation or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written agreement to this Agreement. Acceptance of any such requested modiﬁcation or cancellation shall be at Seller’s discretion, and shall be upon such terms and conditions as Seller may require.

6. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitations, dies, xtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller’s property notwithstanding payment of any portion thereof by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

7. Buyer’s Property: Any designs, tools, patterns, materials, drawings, con dential information or equipment furnished by Buyer, or any other items which become Buyer’s property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller’s possession or control.

8. Taxes: Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, and Buyer shall indemnify Seller against any liability therefor, which may be assessed if the items are held to be taxable.

9. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter “Intellectual Property Rights”), Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller’s obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are speciﬁed in whole or part by Buyer, or infringements resulting from the modiﬁcation, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller’s sole and exclusive liability and Buyer’s sole and exclusive remedy for infringement of Intellectual Property Rights.

11. Force Majeure: Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller’s obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter “Events of Force Majeure”). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, res, occurring delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller’s control.

12. Entire Agreement/Governing Law: The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements or obligations whatever. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.