Flow Controls & Accessories

Section X (Revised 10-1-07)

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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>
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<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>
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<td>6</td>
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<td>1.023</td>
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<td>0.080</td>
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<td>1/8</td>
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<td>1.083</td>
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<td>0.730</td>
<td>0.100</td>
<td>10.56</td>
<td>5.08</td>
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<td>1/4</td>
<td>8</td>
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<td>1.180</td>
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<td>0.748</td>
<td>0.160</td>
<td>18.79</td>
<td>10.79</td>
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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>
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<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>
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<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>
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</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>1 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</th>
<th>H2 (mm)</th>
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<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>
<td>5</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>
<td>8</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>
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<td>.31</td>
<td>14</td>
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<tr>
<td>FC800-8</td>
<td>1/2</td>
<td>2.24</td>
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<td>3.35</td>
<td>1.37</td>
<td>1.09</td>
<td>.78</td>
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<td>.16</td>
<td>.39</td>
<td>14</td>
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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 (mm)</th>
<th>H Open (mm)</th>
<th>L</th>
<th>L1</th>
<th>K</th>
<th>N</th>
<th>N1</th>
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<tbody>
<tr>
<td>FC806-2</td>
<td>1/8</td>
<td>13</td>
<td>8</td>
<td>1.56</td>
<td>1.75</td>
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<td>.91</td>
<td>.67</td>
<td>.67</td>
<td>.43</td>
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<tr>
<td>FC806-4</td>
<td>1/4</td>
<td>16</td>
<td>11</td>
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<td>.73</td>
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<td>.49</td>
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<td>FC806-6</td>
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<td>FC806-8</td>
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<td>24</td>
<td>14</td>
<td>2.26</td>
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<td>4.76</td>
<td>1.38</td>
<td>1.10</td>
<td>1.08</td>
<td>.79</td>
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Supplied with 2 clips
Flow Control Valves - Features

Flow Controls & Accessories

PWRA & PWRE Series

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>

PWRA

The PWRA series is made of zinc alloy, built for rugged applications and is available in sizes ranging from 1/8" through 1/2" with cylinder port fittings in either NPT or BSP. Tubing connections are offered either as instant fittings (fractional or metric) or threaded fittings (NPT or BSP). To prevent unwanted drift due to shock or vibration, these devices are fitted with adjustment locking nuts.
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>Cylinder Port Thread</th>
<th>Connection for Tube</th>
<th>Catalog Number</th>
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</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></td>
<td>1/4&quot;</td>
<td>6mm</td>
<td>PWRA1488</td>
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<td>1/4&quot;</td>
<td>PWRA3488</td>
</tr>
<tr>
<td>PWRA3493</td>
<td>3/8&quot;</td>
<td>8mm</td>
<td>PWRA1483</td>
<td>3/8&quot;</td>
<td>3/8&quot;</td>
<td>PWRA3493</td>
</tr>
<tr>
<td></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>
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</table>

With Threaded Connection
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>Cylinder Port Thread</th>
<th>Connection for Tube</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWRA3833</td>
<td>1/8&quot;</td>
<td>1/8&quot;</td>
<td>PWRA1898</td>
<td>1/8&quot;</td>
<td>1/8&quot;</td>
<td>PWRA3888</td>
</tr>
<tr>
<td></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></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>
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<tr>
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<td>1/2&quot;</td>
<td>PWRA1822</td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>PWRA3822</td>
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Dimensions: Inches (mm)

For Cylinder Mounting
(With Instant Tube Fittings)

<table>
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<th>Catalog Number</th>
<th>Symbol</th>
<th>ØA</th>
<th>B</th>
<th>K</th>
<th>H</th>
<th>L</th>
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</thead>
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<td>0.71” (18)</td>
<td>0.67” (17)</td>
<td>1.77” (45)</td>
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<td>0.83” (21)</td>
<td>2.17” (55)</td>
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<td>26.5</td>
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<td>0.83” (21)</td>
<td>2.17” (55)</td>
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<td>1.10” (28)</td>
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<td>2.36” (60)</td>
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<td>97.1</td>
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<td>0.71” (18)</td>
<td>0.67” (17)</td>
<td>1.77” (45)</td>
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<td>0.83” (21)</td>
<td>0.83” (21)</td>
<td>2.17” (55)</td>
</tr>
</tbody>
</table>

* Number of turns (4mm Allen key)
** SCFM at 90 PSI with screw closed
Flow Controls & Accessories

PWRE Series – Thermoplastic

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>BSP</th>
<th>NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbol</td>
<td>Cylinder Port Thread</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------</td>
</tr>
<tr>
<td>M5</td>
<td>4mm</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>4mm</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>6mm</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>8mm</td>
</tr>
<tr>
<td>Reverse Flow</td>
<td>M5</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)

<table>
<thead>
<tr>
<th>Adjustment</th>
<th># Turns</th>
<th>Flow*</th>
<th>ØA</th>
<th>C</th>
<th>D Hex.</th>
<th>K</th>
<th>H</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWRE1445/14457</td>
<td>3mm</td>
<td>12</td>
<td>1.8</td>
<td>0.43&quot; (11)</td>
<td>0.16&quot; (4)</td>
<td>5/16&quot; (8)</td>
<td>0.28&quot; (7.2)</td>
<td>0.67&quot; (17)</td>
</tr>
<tr>
<td>PWRE1145/11457</td>
<td>3mm</td>
<td>14</td>
<td>10.2</td>
<td>0.55&quot; (14)</td>
<td>0.31&quot; (8)</td>
<td>9/16&quot; (14)</td>
<td>0.94&quot; (23.8)</td>
<td>1.77&quot; (45)</td>
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<tr>
<td>PWRE1448/14487</td>
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<td>14</td>
<td>23.0</td>
<td>0.55&quot; (14)</td>
<td>0.31&quot; (8)</td>
<td>9/16&quot; (14)</td>
<td>0.94&quot; (23.8)</td>
<td>1.77&quot; (45)</td>
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<tr>
<td>PWRE1468/14687</td>
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<td>14</td>
<td>23.0</td>
<td>0.63&quot; (16)</td>
<td>0.41&quot; (10.5)</td>
<td>11/16&quot; (17)</td>
<td>1.04&quot; (26.5)</td>
<td>1.94&quot; (49.3)</td>
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<tr>
<td>PWRE1469/14697</td>
<td>4mm</td>
<td>18</td>
<td>23.0</td>
<td>0.63&quot; (16)</td>
<td>0.41&quot; (10.5)</td>
<td>11/16&quot; (17)</td>
<td>1.04&quot; (26.5)</td>
<td>1.94&quot; (49.3)</td>
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<td>PWRE1483/14937</td>
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<td>18</td>
<td>47.7</td>
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<td>0.45&quot; (11.5)</td>
<td>7/8&quot; (22)</td>
<td>1.17&quot; (29.8)</td>
<td>2.24&quot; (56.8)</td>
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</tbody>
</table>

* SCFM at 90 PSI with screw closed

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 M5 (10-32) male thread can be used to mount directly to cylinder ports. The inlet ports are available in M5 (10-32) male or 5/32" instant tube fitting. 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)
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.
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>
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<td>Inches</td>
<td>mm</td>
<td>Inches</td>
<td>mm</td>
<td>Inches</td>
<td>mm</td>
<td>oz.</td>
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<td>17</td>
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<td>1.98</td>
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<td>Thread (NPT) Tube Size</td>
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<td>B₁</td>
<td>C</td>
<td>Weight</td>
<td>Cv</td>
<td></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>
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<tr>
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<tr>
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<td>1.99</td>
<td>51</td>
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<td>36</td>
<td>0.91</td>
<td>23</td>
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<td>58</td>
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<td>43</td>
<td>1.06</td>
<td>27</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.
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.

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>
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</thead>
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<tr>
<td></td>
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<td>Free Flow</td>
<td>A</td>
<td>B</td>
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<td>00337</td>
<td>1000</td>
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<td>1/4&quot;</td>
<td>00337</td>
<td>1001</td>
<td>28</td>
<td>75</td>
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<tr>
<td>3/8&quot;</td>
<td>00337</td>
<td>1002</td>
<td>59</td>
<td>139</td>
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<tr>
<td>1/2&quot;</td>
<td>00337</td>
<td>1003</td>
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<td>183</td>
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<td>00337</td>
<td>1004</td>
<td>140</td>
<td>327</td>
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</tbody>
</table>

† At 100 PSIG inlet pressure with full pressure drop.

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

Mounting Bracket Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Mounting Bracket Model No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<tbody>
<tr>
<td>1/8&quot;</td>
<td>00337 8100</td>
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<td>0.66</td>
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<td>1/4&quot;</td>
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<td>2.00</td>
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</tr>
<tr>
<td>3/8&quot;</td>
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<tr>
<td>3/4&quot;</td>
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<td>2.25</td>
<td>2.81</td>
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</tbody>
</table>

Mounting Bracket

G Dia. (2 Holes) 0.0478
Flow Controls & Accessories
“SPF” Series – 1/8" to 1/2" Ports

General
The “SPF” Series Flow Control Valves meter flow of air or oil in one direction and allow free flow in the reverse direction. “SPF” Series valves are manufactured with a two step needle. Fine metering is accomplished over the initial adjustment turns and nominal metering is provided over the remaining turns. 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", and 1/2" sizes.

Valve Specifications
Maximum Operating Pressure ..............2000 PSI Non-Shock
Cracking pressure for return check poppet – .........................5 PSI Nominal
Operating Temperature
Standard ..........................................................0° to 140° F*
-40° to 140° F (Hydraulic service)
Extended Temperature ..............................0° to 400°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
Needle ...................................................... Stainless Steel
Poppet ........................................................ Stainless Steel
Poppet Style ............................................... Soft Seal Standard
Check Retainer ........................................ Stainless Steel
Seals ......................................................... Nitrile (Standard), Fluorocarbon (Optional)
Knob ........................................................ Steel with Zinc Plating
Spring ......................................................... Stainless Steel

Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>A Port Size</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPF200B</td>
<td>1/8-27 NPTF</td>
<td>1.54</td>
<td>2.00</td>
<td>0.63</td>
<td>1.28</td>
<td>0.75</td>
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<tr>
<td>SPF400B</td>
<td>1/4-18 NPTF</td>
<td>1.79</td>
<td>2.63</td>
<td>0.81</td>
<td>1.66</td>
<td>0.81</td>
</tr>
<tr>
<td>SPF600B</td>
<td>3/8-18 NPTF</td>
<td>2.18</td>
<td>2.75</td>
<td>1.00</td>
<td>1.75</td>
<td>1.00</td>
</tr>
<tr>
<td>SPF800B</td>
<td>1/2-14 NPTF</td>
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<td>1.25</td>
<td>2.23</td>
<td>1.19</td>
</tr>
</tbody>
</table>

For units with Fluorocarbon seals, add suffix “V”. Example: SPF200BV

Performance Data - Flow

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Flow - SCFM @ 100 PSI Full DP</th>
<th>CV</th>
<th>Effective Area Sq. Inches</th>
<th>Flow - SCFM @ 100 PSI Full DP</th>
<th>CV</th>
<th>Effective Area Sq. Inches</th>
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<tr>
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<td>0.023</td>
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<td>0.070</td>
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<td>138.0</td>
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</table>
**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

Valve will operate mounted in any position. Look nut on metering screw prevents change in setting during operation.

**Flow Rating (SCFM)**

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<th>Flow Path</th>
<th>Valve Port Size</th>
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<tr>
<td>Maximum Flow in Metered Direction</td>
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<tr>
<td>Maximum Flow in Free Flow Direction</td>
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**Model Selection Information and Dimensions**

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<thead>
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<tr>
<td></td>
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<tr>
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<tr>
<td>03250 0219</td>
<td>B</td>
</tr>
<tr>
<td>03250 0319</td>
<td>C</td>
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<td>03250 0519</td>
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Flow Controls & Accessories
“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>
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<th>Port Size (NPTF)</th>
<th>Max. Flow (Needle Open) SCFM**</th>
<th>CV</th>
<th>Model Number</th>
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<tr>
<td>1″</td>
<td>1000</td>
<td>12.3</td>
<td>03250 1000</td>
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<tr>
<td>1-1/4″</td>
<td>1200</td>
<td>13.8</td>
<td>03250 1250</td>
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<tr>
<td>1-1/2″</td>
<td>1800</td>
<td>17.5</td>
<td>03250 1500</td>
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** At 100 PSIG inlet pressure with full pressure drop.

Model Selection Information and Dimensions

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<th>03250 1250</th>
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<td>Port Size NPTF</td>
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</tr>
<tr>
<td>1″</td>
<td>1-1/4″</td>
<td>1-1/2″</td>
<td></td>
</tr>
<tr>
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<td>H</td>
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<td>2.13</td>
<td>2.38</td>
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</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>00338 1100</td>
<td>1/8&quot;</td>
<td>A: 0.75</td>
<td>H1: 2.03</td>
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</tbody>
</table>
|              |           | B: 0.75    | H2: 1.81  | 00337 8000
| 00338 1101   | 1/4"      | A: 0.75    | H1: 2.28  |
|              |           | B: 0.75    | H2: 2.03  | 00337 8001
| 00338 1102   | 3/8"      | A: 0.88    | H1: 2.31  |
|              |           | B: 0.88    | H2: 2.53  | 00337 8002
| 00338 1103   | 1/2"      | A: 1.06    | H1: 3.25  |
|              |           | B: 1.06    | H2: 3.22  | 00337 8003
| 00338 1104   | 3/4"      | A: 1.06    | H1: 3.25  |
|              |           | B: 1.06    | H2: 3.31  | 00337 8004

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.
Flow Controls & Accessories
“SPN” Series – 1/8” to 1/2” Ports

General Information
The “SPN” Series needle valves provide excellent bi-directional speed control for pneumatic and hydraulic applications.

“SPN” valves are manufactured with a two step needle. Fine metering is accomplished over the initial adjustment turns and nominal metering is provided over the remaining turns. 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” and 1/2” sizes.

Valve Specifications
Maximum Operating Pressure ................. 2000 PSI Non-Shock
Operating Temperature .......................... Standard: 0° to 140°F*
Extended temperature ............................. 0° to 400°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 ................................................. Brass
Needle ............................................. Stainless Steel
Needle Seals............. Nitrile (Standard), Fluorocarbon (Optional)
Knob ................................. Steel with Zinc Plating

Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>A Port Size</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN200B</td>
<td>1/8-27 NPTF</td>
<td>1.54</td>
<td>1.50</td>
<td>0.62</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>SPN400B</td>
<td>1/4-18 NPTF</td>
<td>1.79</td>
<td>2.00</td>
<td>0.81</td>
<td>1.00</td>
<td>0.81</td>
</tr>
<tr>
<td>SPN600B</td>
<td>3/8-18 NPTF</td>
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<td>1.00</td>
<td>1.25</td>
<td>1.00</td>
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<td>1/2-14 NPTF</td>
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<td>2.62</td>
<td>1.25</td>
<td>1.31</td>
<td>1.19</td>
</tr>
</tbody>
</table>

For units with Fluorocarbon seals, add suffix “V”. Example: SPN200BV

Performance Data

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Controlled Flow Needle Full Open</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flow - SCFM @ 100 PSI Full DP</td>
</tr>
<tr>
<td>SPN200B</td>
<td>8.8</td>
</tr>
<tr>
<td>SPN400B</td>
<td>19.3</td>
</tr>
<tr>
<td>SPN600B</td>
<td>33.1</td>
</tr>
<tr>
<td>SPN800B</td>
<td>55.2</td>
</tr>
</tbody>
</table>
Check valves provide free flow of air or oil in one direction and dependable shutoff in the opposite direction. These valves are available with NPTF ports in 1/8", 1/4", 3/8" and 1/2" sizes.

**Valve Specifications**

*Maximum Operating Pressure*: 2000 PSI Non-Shock  
5 PSIG Cracking Pressure

*Operating Temperature*: 0° to 140°F*  
40° to 140°F (Hydraulic service)

* 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**: Brass
- **Poppet**: Stainless Steel
- **Poppet Seal**: Metal
- **Poppet Retainer**: Stainless Steel
- **Spring**: Stainless Steel
- **Poppet Style**: Soft Seal Standard

**Model Selection and Dimensions**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Port Size</th>
<th>Flow†</th>
<th>Dimensions</th>
<th>Service Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC200B</td>
<td>1/8-27 NPTF</td>
<td>35</td>
<td>0.53</td>
<td>00337 8000</td>
</tr>
<tr>
<td>SPC400B</td>
<td>1/4-18 NPTF</td>
<td>75</td>
<td>1.56</td>
<td>00337 8001</td>
</tr>
<tr>
<td>SPC600B</td>
<td>3/8-18 NPTF</td>
<td>143</td>
<td>2.27</td>
<td>00337 8002</td>
</tr>
<tr>
<td>SPC800B</td>
<td>1/2-14 NPTF</td>
<td>323</td>
<td>5.11</td>
<td>00337 8003</td>
</tr>
<tr>
<td></td>
<td>1/2-14 NPTF</td>
<td>332</td>
<td>5.11</td>
<td>00337 8004</td>
</tr>
</tbody>
</table>

*At 100 PSI, Full ΔP*
Check Valves

“3047” – 1/4” Male Pipe

“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&quot;</td>
<td>30</td>
</tr>
</tbody>
</table>

† At 100 PSIG inlet pressure with full pressure drop.

“VC” – Check Valve

General Information

Push-to-Connect check valves that ensures protection against reversal of flow. The valves have an arrow molded into the body to indicate the direction of flow. Valves are designed for connection with either thermoplastic or soft metal tubing and are intended for use with liquids only.

Valve Specifications

Working Pressure:
Up to 150 PSI depending on tubing being used

Temperature Range:
+34°F (1° C) to +150°F (65°C)

Cracking Pressure: 1/3 PSI

Assembly Instructions

1. Cut tubing squarely, be certain the tubing is clean and free of debris.

2. Insert tubing into check valve until it bottoms. A slight twisting motion will ease the insertion. Pull on tubing to verify it is properly retained in the fitting.

3. To disassemble, simply push in the release button against the body and remove the tubing

Component Materials

Body ................................................................. Acetal

O-ring ............................................................. EPDM

Metal Grip Edge ........................................... 300 Stainless

Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Tube Size</th>
<th>L</th>
<th>O.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A4VC4-MG</td>
<td>1/4</td>
<td>2.00</td>
<td>0.66</td>
</tr>
<tr>
<td>A5VC5-MG</td>
<td>5/16</td>
<td>2.10</td>
<td>0.70</td>
</tr>
<tr>
<td>A6VC6-MG</td>
<td>3/8</td>
<td>2.15</td>
<td>0.80</td>
</tr>
</tbody>
</table>

General Information

“3047” Series & “VC” Series

Flow Controls & Accessories
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, 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

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&quot;</td>
<td>1.00</td>
<td>7/16&quot;</td>
</tr>
<tr>
<td>EM25</td>
<td>1/4&quot;</td>
<td>1.32</td>
<td>9/16&quot;</td>
</tr>
<tr>
<td>EM37</td>
<td>3/8&quot;</td>
<td>1.54</td>
<td>11/16&quot;</td>
</tr>
<tr>
<td>EM50</td>
<td>1/2&quot;</td>
<td>1.85</td>
<td>7/8&quot;</td>
</tr>
<tr>
<td>EM75</td>
<td>3/4&quot;</td>
<td>2.29</td>
<td>1-1/6&quot;</td>
</tr>
<tr>
<td>EM100</td>
<td>1&quot;</td>
<td>2.91</td>
<td>1-5/16&quot;</td>
</tr>
<tr>
<td>EM125</td>
<td>1-1/4&quot;</td>
<td>3.25</td>
<td>1-11/16&quot;</td>
</tr>
<tr>
<td>EM150</td>
<td>1-1/2&quot;</td>
<td>3.69</td>
<td>2&quot;</td>
</tr>
</tbody>
</table>

Muffler / Flow Controls

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&quot;</td>
<td>1.15</td>
<td>9/16&quot;</td>
</tr>
<tr>
<td>04504 0004</td>
<td>1/4&quot;</td>
<td>1.42</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>04506 0060</td>
<td>3/8&quot;</td>
<td>1.49</td>
<td>11/16&quot;</td>
</tr>
<tr>
<td>04508 0080</td>
<td>1/2&quot;</td>
<td>1.77</td>
<td>7/8&quot;</td>
</tr>
<tr>
<td>04512 0012</td>
<td>3/4&quot;</td>
<td>1.98</td>
<td>1-1/16&quot;</td>
</tr>
<tr>
<td>04516 0016</td>
<td>1&quot;</td>
<td>2.15</td>
<td>1-5/16&quot;</td>
</tr>
</tbody>
</table>
Breather Vents

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

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.

“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 Number</th>
<th>Pipe Thread</th>
<th>Overall Length</th>
<th>Hex Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>04702 0002</td>
<td>1/8”</td>
<td>0.44</td>
<td>7/16”</td>
</tr>
<tr>
<td>04704 0004</td>
<td>1/4”</td>
<td>0.63</td>
<td>9/16”</td>
</tr>
<tr>
<td>04706 0006</td>
<td>3/8”</td>
<td>0.75</td>
<td>11/16”</td>
</tr>
<tr>
<td>04708 0008</td>
<td>1/2”</td>
<td>0.88</td>
<td>7/8”</td>
</tr>
<tr>
<td>04712 0012</td>
<td>3/4”</td>
<td>1.00</td>
<td>1-1/6”</td>
</tr>
<tr>
<td>04716 0016</td>
<td>1”</td>
<td>1.31</td>
<td>1-5/16”</td>
</tr>
<tr>
<td>04720 0020</td>
<td>1-1/4”</td>
<td>1.41</td>
<td>1-11/16”</td>
</tr>
<tr>
<td>04724 0024</td>
<td>1-1/2”</td>
<td>1.50</td>
<td>2”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model Numbers</th>
<th>Pipe Thread</th>
<th>Flow SCFM @ 100 PSIG Inlet</th>
<th>Dimensions A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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</thead>
<tbody>
<tr>
<td>NPTF</td>
<td>BSPT (R)</td>
<td></td>
<td></td>
<td>2.31</td>
<td>0.62</td>
<td>0.31</td>
<td>0.68</td>
</tr>
<tr>
<td>ES12MB</td>
<td>ESB12MB</td>
<td>1/8”</td>
<td>115</td>
<td>2.41</td>
<td>0.88</td>
<td>0.50</td>
<td>0.97</td>
</tr>
<tr>
<td>ES25MB</td>
<td>ESB25MB</td>
<td>1/4”</td>
<td>129</td>
<td>3.06</td>
<td>1.25</td>
<td>0.50</td>
<td>1.38</td>
</tr>
<tr>
<td>ES37MB</td>
<td>ESB37MB</td>
<td>3/8”</td>
<td>219</td>
<td>3.19</td>
<td>1.25</td>
<td>0.64</td>
<td>1.38</td>
</tr>
<tr>
<td>ES50MB</td>
<td>ESB50MB</td>
<td>1/2”</td>
<td>549</td>
<td>4.69</td>
<td>1.50</td>
<td>0.66</td>
<td>1.62</td>
</tr>
<tr>
<td>ES75MB</td>
<td>ESB75MB</td>
<td>3/4”</td>
<td>893</td>
<td>4.69</td>
<td>1.50</td>
<td>0.81</td>
<td>1.62</td>
</tr>
<tr>
<td>ES100MB</td>
<td>ESB100MB</td>
<td>1”</td>
<td>1,013</td>
<td>5.69</td>
<td>2.88</td>
<td>1.25</td>
<td>—</td>
</tr>
<tr>
<td>ES125MB</td>
<td>ESB125MB</td>
<td>1-1/4”</td>
<td>1,486</td>
<td>5.69</td>
<td>2.88</td>
<td>1.25</td>
<td>—</td>
</tr>
<tr>
<td>ES150MB</td>
<td>ESB150MB</td>
<td>1-1/2”</td>
<td>1,580</td>
<td>5.69</td>
<td>2.88</td>
<td>1.25</td>
<td>—</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

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%

<table>
<thead>
<tr>
<th>Port Thread</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Weight (grams)</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>0.91(23)</td>
<td>0.26 (6,5)</td>
<td>0.16 (4)</td>
<td>0.01</td>
<td>P6M-PAC5</td>
</tr>
<tr>
<td>G1/8</td>
<td>1.14 (29)</td>
<td>0.55 (14)</td>
<td>0.24 (6)</td>
<td>0.02</td>
<td>P6M-PAB1</td>
</tr>
<tr>
<td>G1/4</td>
<td>1.34 (34)</td>
<td>0.67 (17)</td>
<td>0.24 (6)</td>
<td>0.04</td>
<td>P6M-PAB2</td>
</tr>
<tr>
<td>G3/8</td>
<td>2.36 (60)</td>
<td>0.98 (25)</td>
<td>0.35 (9)</td>
<td>0.06</td>
<td>P6M-PAB3</td>
</tr>
<tr>
<td>G1/2</td>
<td>2.52 (64)</td>
<td>0.98 (25)</td>
<td>0.43 (11)</td>
<td>0.10</td>
<td>P6M-PAB4</td>
</tr>
<tr>
<td>G3/4</td>
<td>5.51 (140)</td>
<td>1.50 (38)</td>
<td>0.55 (14)</td>
<td>0.50</td>
<td>P6M-PAB6</td>
</tr>
<tr>
<td>G1</td>
<td>6.30 (160)</td>
<td>1.89 (48)</td>
<td>0.79 (20)</td>
<td>0.62</td>
<td>P6M-PAB8</td>
</tr>
</tbody>
</table>
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.

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. The seamless design insures media uniformity and strength. This proven technology provides high coalescing efficiency with low pressure drop.

The filter media is supported by cylindrical perforated steel retainers both inside and out. These retainers, fully plated for excellent corrosion resistance, give the ECS units high rupture strength in either flow direction. These filters can also be used as high efficiency inlet or bypass filters for vacuum pumps, or breather elements to protect the air above critical process liquids.

ECS3 / ECS5
The ECS solves two problems inherent in compressed air exhaust from valves, cylinders and air motors - oil mist removal and noise abatement. The ECS will improve your industrial plant environment, thereby improving worker productivity.

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>

---

Flow Controls & Accessories
ECS Series – 1/2" & 1"
Features
- Auto drain ported 1/8" to pipe away liquid.
- Drain has manual override.
- Easily serviced without tool.
- 15-250 PSIG range.
- Compact size.

Specifications
Housing & Cap: Aluminum
Port Threads: 1/4" - 1/2" Top
1/8" Drain

Pressure and Temperature Ratings:
Metal Bowl: 0 to 250 PSIG (0 to 17.2 bar)
32°C 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>

Features
- Large relief capacity 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.

Consult factory for pressures below 50 PSIG.

Ordering Information
Seals
- RV01A1N
- XXX
- Blank
- BUNA
- V Flurocarbon

* Ref: 1RV100B Installation & Service Instructions
Flow Controls & Accessories
130 & 134 Series

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></td>
<td>0-15 PSIG</td>
</tr>
<tr>
<td>130</td>
<td>130-02AA</td>
</tr>
<tr>
<td></td>
<td>130-02AP*</td>
</tr>
<tr>
<td>134</td>
<td>134-02AA</td>
</tr>
<tr>
<td></td>
<td>134-02AP*</td>
</tr>
</tbody>
</table>

* Panel mount nut included.

134 Relief Valve

Dimensions

<table>
<thead>
<tr>
<th>Relief Valve</th>
<th>Dimensions</th>
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<tr>
<td></td>
<td>Inlet</td>
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<tr>
<td>130</td>
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<td>134</td>
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</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
Quick Exhaust & Shuttle Valves

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° 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
(Depending on size)
Diaphragm ............................ Standard – Urethane
Optional – Fluorocarbon, PTFE, or Nitrile

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 1 (In)</th>
<th>Port 2 (Cyl)</th>
<th>Port 3 (Exh)</th>
<th>Flow (SCFM†)</th>
<th>Model Number</th>
<th>Service Kit No.</th>
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<tbody>
<tr>
<td>1/8&quot;</td>
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<td>1/8&quot;</td>
<td>70</td>
<td>0R12B</td>
<td>0RB12B 7/8&quot; Sq. 1.75 1.75 3/8&quot; 03640 8000</td>
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<td>3/4&quot;</td>
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<td>NITRILE DIAPHRAGMS (Nitrile static seals)</td>
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</table>

† At 100 PSIG inlet pressure with full pressure drop.

BOLD ITEMS ARE MOST POPULAR.
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

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<thead>
<tr>
<th>Model Number</th>
<th>Port Size</th>
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Performance Data – Flow

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</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 “hysteresis”, 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
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).

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.

Specifications
Electrical ............................5 AMP, 12/24VDC, 125/250VAC
Maximum Inlet Pressure .................300 PSIG (20 bar)
Mechanical Life ..........................2x10⁶ 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

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

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.

Specifications
Electrical ............................5 AMP, 12/24VDC, 125/250VAC
Maximum Inlet Pressure .................300 PSIG (20 bar)
Mechanical Life ..........................2x10⁶ 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

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

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<td>Maximum Inlet Pressure</td>
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<td>&gt;2 x 10⁶ @ 75 PSIG (5 bar)</td>
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</table>

Materials of Construction
- Diaphragm: Kapton
- Housing: Brass

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

Dimensions

- Rubber Boot
- 0.36 (9.07)
- 15/16 (24)
- Across Flats
- 1.30 (33)
- 1.51 (38.29)
- 1.58 (40.14)
- 1/4 NPT Thread (4M)
- 2.33 (59.16)
Automatic Electrical Drain Valve

WDV3-G

The WDV3 Electrical Drain is designed to automatically drain large amounts of collected water, while minimizing air loss from compressed air systems. This drain is ideally suited to draining separators, receivers, refrigerated dryers, filters and drop legs.

The WDV3 Automatic Electrical Drain guards against damage by liquid carryover. The unit discharges up to 20 GPM at 100 PSIG. This normally closed valve is designed with a non-clogging full-port drain orifice to provide reliable draining and minimal routine servicing.

The dual timing features of 30 seconds to 45 minutes cycle time and 1/2 to 10 seconds valve open time permit adjustments over a wide range of applications. Simply adjust the cycle time interval and the valve open time to meet your specific requirements. The Automatic Electrical Drain eliminates manual draining of accumulated water in a compressed air system. The two indicator lights, for indicating power on and valve open status, simplify installation and make visual checks easy.

Protection of the solid state controls is provided by a NEMA 4 enclosure, which isolates the components from moisture and dust. Each model is provided with a heavy-duty, six-foot-long, three-wire grounded power cord for easy installation.

Ordering Information

WDV3 – G 1 2 B L ______

Pipe Size 2 1/4" General

Valve Material L Brass

Pressure 230 PSIG (16 bar)

Options Blank No Bypass Strainer

Materials of Construction

Valve Body ......................... Brass / Stainless Steel
Enclosure (NEMA 4) .................. ABS Plastic
Internal Parts ....................... Brass / Stainless Steel
Sealing Material ..................... NBR, FKM, EPDM

Specifications

Operating Pressure .................. 230 PSIG (15.9 bar)
Ambient Operating Range Temperature:
33° to 130°F (0.1° to 54°C)

Coil Insulation
Class H ................................. 340°F (171.1°C)

Voltages
AC ........................................... 115, 230/50-60
DC ............................................ 24

Timer:
Open Time ......................... 1/2 to 10 sec., Adjustable
Cycle Time ......................... 30 sec. to 45 min., Adjustable

Maximum Current Rating .......................... 4mA Max.

Port Size ................................. 1/4, 1/2 NPT

Weight ........................................ 1.8 lb. (0.8 kg)

Model Selection and Dimensions

<table>
<thead>
<tr>
<th>Model Number</th>
<th>A</th>
<th>D</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WDV3-G**BL</td>
<td>1.61 (41)</td>
<td>4.33 (110)</td>
<td>3.54 (90)</td>
</tr>
</tbody>
</table>
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.

Condensate (water, oil, and dirt) collect in the sump while the diaphragm is held closed by system pressure. As soon as the top sensor detects liquid, the solenoid energizes. The chamber above the diaphragm deflates and the condensate is driven out by system pressure. A timer is activated which allows a specific amount of condensate out and closes before any air is lost. If the unit gets clogged with a slug of condensate and scale, it will pulse to push that slug out of the valve and allow it to continue working properly. If the slug cannot be removed after a set period of time, an alarm light and contact will signal a problem.

**Specifications**

- **Drain Volume**: 0.01 Gallons / Cycle
- **Maximum Fluid Temperature**: 150°F (60°C)
- **Voltage**: 110 to 240V, 50/60 Hz

**Operating Conditions**

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

**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

**Model Selection and Dimensions**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>A</th>
<th>D</th>
<th>C</th>
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</thead>
<tbody>
<tr>
<td>WDV2-425</td>
<td>3.23 (82)</td>
<td>4.61 (117)</td>
<td>4.65 (118)</td>
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</table>
Global Pneumatics, Warning, Offer of Sale

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* Stocking levels vary by country

WARNING

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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, 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 fire resistant fluids 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 for the appropriate practices to service the unit in question. These 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 deformed 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 air flow 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.
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 (“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 stated 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 net 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 that the Buyer is late in making payment. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer’s receipt of the shipment.

3. Delivery: Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller’s plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller’s delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

4. 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 COMPRICES 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.

5. Limitation of Remedy: SELLER’S LIABILITY ARISING FROM OR CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF THE ITEMS SOLD 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, INDIRECT, OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST PROFITS ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR 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.

6. Changes, Reschedules and Cancellations: Buyer may request to modify the designs or specifications for the items sold hereunder as well 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 amendment to this Agreement. Acceptance of any such request for modification or cancellation shall be at Seller’s discretion, and shall be upon such terms and conditions as Seller may require.

7. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitations, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall remain Seller’s property notwithstanding payment of any charges 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.

8. Buyer’s Property: Any designs, tools, patterns, materials, drawings, ideas, information or component 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.

9. 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, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

10. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, 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 because of 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 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 refund purchase price less 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 remedy for infringement of Intellectual Property Rights. If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgements resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

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, fires, floods, delays or failures in 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 shall be the sole and exclusive agreement and understanding between Buyer and Seller with respect thereto. 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.