Large Orifice Solenoid Valves

for Chemical, Petrochemical,
Pharmaceutical, Food, Beverage
and Other Wet Process Industries

Excellence by Control
**Series 80**  
**High Flow Valves for Your Processes**

Peter Paul offers a line of large orifice solenoid valves to address process industry requirements for high flow rate or quick dump and fill capacity. These AC or DC powered valves are also suited for low pressure gas and liquid applications. Port sizes range from 3/8” to 3” NPT, with pressure ratings from 0 to 200 PSI. Direct-Lift or Internal Pilot models are available in Normally Closed, Normally Open and Explosion Proof versions.

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**Model 827** is a solenoid operated diaphragm valve that can operate at low pressures without any differential pressure across the diaphragm (Direct Lift).
Options
(see page 4)
• Explosion-Proof
• Multiple housing options
• Multiple coil options
• Solid state timer

Main Characteristics
• Forged brass or 316 stainless steel body
• NPT threaded connections
• Normally Closed and Normally Open
• Buna, EPDM, FKM, Teflon, Neoprene Seals

Water Flow in GPM

<table>
<thead>
<tr>
<th>Valve Type</th>
<th>Valve Number</th>
<th>Figure</th>
<th>Orifice Size</th>
<th>Pipe Size</th>
<th>Max. Oper. Pressure</th>
<th>Min. Oper. Pressure</th>
<th>CV Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO - Internal Pilot</td>
<td>818E14DCV</td>
<td>B</td>
<td>1.5</td>
<td>1-1/2 NPT</td>
<td>200</td>
<td>200</td>
<td>3 PSI 29</td>
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<tr>
<td>NO - Internal Pilot</td>
<td>828E14DCV</td>
<td>B</td>
<td>1.5</td>
<td>1-1/2 NPT</td>
<td>200</td>
<td>200</td>
<td>3 PSI 29</td>
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<td>2 NPT</td>
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<td>200</td>
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<td>3</td>
<td>2-1/2 NPT</td>
<td>200</td>
<td>200</td>
<td>3 PSI 76</td>
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<tr>
<td>NO - Internal Pilot</td>
<td>828W17DCV</td>
<td>B</td>
<td>3</td>
<td>2-1/2 NPT</td>
<td>200</td>
<td>200</td>
<td>3 PSI 76</td>
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<tr>
<td>NO - Internal Pilot</td>
<td>818W18DCV</td>
<td>B</td>
<td>3</td>
<td>3 NPT</td>
<td>200</td>
<td>200</td>
<td>3 PSI 98</td>
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<td>B</td>
<td>3</td>
<td>3 NPT</td>
<td>200</td>
<td>200</td>
<td>3 PSI 98</td>
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<td>1 NPT</td>
<td>200</td>
<td>200</td>
<td>3 PSI 13</td>
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<td>NC - Internal Pilot - Explosion Proof</td>
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<td>B</td>
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<td>1-1/2 NPT</td>
<td>200</td>
<td>200</td>
<td>3 PSI 29</td>
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<td>NC - Internal Pilot - Explosion Proof</td>
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<td>2 NPT</td>
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<td>200</td>
<td>3 PSI 46</td>
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<td>3 PSI 76</td>
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<td>E828W18DCCM</td>
<td>B</td>
<td>3</td>
<td>3 NPT</td>
<td>200</td>
<td>200</td>
<td>3 PSI 98</td>
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</tbody>
</table>

Models 818 and 828 are solenoid operated diaphragm and piston valves that use a differential pressure principal (Internal Pilot).
**Series 80 Specifications**

**Operating Conditions**
- **Media**: Air, water, and other fluids compatible with standard Buna seals. Hot water, steam, gasoline, and many oils require special seal materials. Consult representative or factory.
- **Valve Temp. Range**: Standard Valves: 0°F (-18°C) to 104°F (40°C) ambient; 0°F (-18°C) to 150°F (65°C) media. Optional Valves: can tolerate much higher or much lower ambient and media temperatures. Consult factory for specifics.
- **Burst Pressure**: 5000 PSI
- **Leakage**: Bubble tight for standard valves

**Electrical Characteristics**
- **Coil Voltage**: 5 to 825 VAC 50-60 Hz, - 1.8 to 265V DC
- **Nominal Power**: 9.5 DC, 7.7 watts AC
- **Coil Construction**: Class A, Class F, Class H
- **Typical Response Time on Air**: 8-50 Milliseconds

**Mechanical Characteristics**
- **Housing**: Grommet & 1/2" NPT conduit - many options available
- **Hazardous Locations**: Class I; Group C and D - Class II; Group E, F, & G

**WARRANTY**
Peter Paul Electronics Co., Inc. (seller) warrants its products to be free from defects in workmanship and material. Under normal use and service, Peter Paul products will perform very satisfactorily. The seller’s obligation under this warranty shall be limited to the repairing, free of charge, any part or valve which, after his examination, shows it to be defective. Of course, normal wear and tear must be considered and exempted. No representative or person is authorized to assume for the seller any other obligation or liability in connection with the sale of its products.

All engineering and technical advice are offered free of charge, in a spirit of helpfulness to the buyer. This assistance is based on data which Peter Paul considers reliable and is intended to be used by knowledgeable and skillful personnel at their own risk.

The seller shall not be liable for consequential damages in case of failure to meet conditions of any guarantee or shipping schedule, nor claims for labor, loss of profits, repairs or other expenses incidental to replacement.

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**Options**
- **Housing**: Strain Relief Connector • “AN” Connector • Splice Box Housing • Yoke
- **Coil**: Molded Coil • Third Wire Ground • Spade Terminal - • High Temperature Molded Coil

**Solid State Timer** (see photo below)

**Specifications**
- **Voltage**: 120 AC to 240 AC
- **Nominal Power Consumption**: 9.5 watts
- **Line Cord**: 6 ft. w/ three prong plug
- **Timer**: Adjustment Off Time - 1 to 45 min. On Time - 25 sec. to 25 sec.
- **Push Button Manual Override**
- **Status Lights** to show power and operation. Timer and coil may be rotated 360°

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**Valve Order Numbering System**

<table>
<thead>
<tr>
<th>1st Digit</th>
<th>2nd Digit</th>
<th>3rd Digit</th>
<th>4th Digit</th>
<th>5th Digit</th>
<th>6th Digit</th>
<th>7th Digit</th>
<th>8th Digit</th>
<th>9th Digit</th>
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</thead>
<tbody>
<tr>
<td>Series</td>
<td>Type</td>
<td>Orifice</td>
<td>Port Size &amp; Body Mat.</td>
<td>Body Port &amp; Function Options</td>
<td>Housing Options</td>
<td>Coil Options</td>
<td>Voltage</td>
<td>Frequency</td>
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<tr>
<td>8 Series 80</td>
<td>18</td>
<td>Internal Pilot</td>
<td>3/8&quot; NPT</td>
<td>20</td>
<td>Y Manual Override</td>
<td>Conduit</td>
<td>Non-Molded</td>
<td>Full Description Required</td>
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<tr>
<td>27</td>
<td>Direct Lift</td>
<td>1/2&quot; NPT</td>
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<td></td>
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<td></td>
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<td>3/4&quot; NPT</td>
<td>19</td>
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</table>

**EXAMPLE**

<table>
<thead>
<tr>
<th>8</th>
<th>28</th>
<th>13</th>
<th>D</th>
<th>C</th>
<th>M</th>
<th>120</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series 80 Valve</td>
<td>Internal Pilot</td>
<td>1&quot; Orifice</td>
<td>1&quot; NPT Brass</td>
<td>No option</td>
<td>Conduit Housing</td>
<td>Molded Coil</td>
<td>120 Volt</td>
</tr>
</tbody>
</table>

**NOTE**: “E” Marked prior to the valve number denotes Explosion Proof.