Miniature Solenoid Valves
Precision Fluidics

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climate control
electromechanical filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding
When you partner with the global leader in motion and control technologies, expect to move your business and the world forward. From miniature solenoid valves to highly integrated automation systems, our innovations are critical to life-saving medical devices and scientific instruments used for drug discovery and pathogen detection. Not to mention, critical to decreasing time to market and lowering your overall cost of ownership. So partner with Parker, and get ready to move, well, anything.

Visit www.parker.com/precisionfluidics  1 800 525-2857
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**X-Valve® Universal Style Solenoid Valve**

8mm Universal Solenoid Valve

X-Valve® is a 2 or 3-way universal solenoid valve measuring just 8mm in width. The X-Valve's unitized body incorporates its functional features in a single glass-reinforced PBT [Polybutylene Terephthalate] molded body.

**Features**
- Provides compact size; only 8mm in width.
- Meets a range of pressure requirements including 6, 30 & 100 psi.
- Offers optional capabilities to meet a 0.016 sccm leakage specification [0.2 sccm for 100 psi] for over 25 million cycles.
  (worst case tested, no performance degradation)
- Ensures high reliability with its single piece body design.
- Allows for direct tubing connection or a radial seal for manifold assemblies through its universal barb design.
- ROHS compliant

**Features**

**Physical Properties**

**Valve Type:**
- 2/3-Way Normally Closed 6, 30, 100 psi
- 2/3-Way Normally Open 6, 30 psi
- 3-Way Distributor 6, 30 psi

**Media:**
Non-Reactive Gases

**Operating Environment:**
- 32 to 122°F (0 to 50°C)
- 59 to 122°F for 100 psi (15 to 50°C)

**Storage Temperature:**
- -40 to 158°F (-40 to 70°C)

**Length:**
0.92 in (24 mm)

**Width:**
0.31 in (7.9 mm)

**Height:**
0.35 in (9 mm)

**Spacing:**
0.135 in (8 mm) centers

**Porting:**
Universal barbs for 1/16" I.D. tubing (1/32" Wall Max.); Manifold mount with X-seal

**Weight:**
0.16 oz (4.5 grams)

**Internal Volume:**
.0045 in³ (0.074 cm³)

**Wetted Materials**

PBT (Polybutylene Terephthalate); 430 Series Stainless Steel; 302 Series Stainless Steel
FKM (Fluoroelastomer) or EPDM (Ethylene Propylene Diene Monomer) or Silicone

Consult factory for details.

**Performance Characteristics**

**Leak Rate:**
- <0.016 sccm (6 psi Silicone)
- <0.016 sccm (30 psi FKM)
- <0.16 sccm (6 psi EPDM & FKM)
- <0.2 sccm (100 psi only)

**Response:**
- <20 msec cycling (Silicone, FKM)
- <50 msec cycling (EPDM)

**Pressure:**
- 0 to 6 psig (0.04 MPa)
- 0 to 30 psig (0.20 MPa)
- 0 to 100 psig (0.69 MPa)

**Minimum Flow:**
- 4 lpm @ 6 psi (0.04 MPa)
- 6 lpm @ 30 psi (0.20 MPa)
- 9 lpm @ 100 psi (0.69 MPa)

**Orifice Sizes/Equivalent Cv:**
- 0.020"/0.005 Cv
- 0.030"/0.010 Cv
- 0.045"/0.018 Cv

**Electrical**

**Power:**
- 0.5 Watt (6 psi model)
- 1.0 Watt (30, 100 psi model)

**Voltage:**
- 3, 5, 12, 24 VDC

Not all voltage options are available in all models.
See Ordering Info.

**Electrical Connections:**
PC Pins, 4 mm centers (all models)
Optional lead wires

**Typical Flow Curve (Tested w/ air 24° C)**

X-Valve is a registered trademark of Parker Hannifin Corporation.
**X-Valve® Universal Style Solenoid Valve**

**Connection Diagram**

- **NORMALLY CLOSED**
  - Supply → REMDT
  - 1 → 2 → 3

- **NORMALLY OPEN**
  - REMDT → Supply
  - 1 → 2 → 3

- **DISTRIBUTOR**
  - REMDT 1 → REMDT 2

**Dimensions**

- **SIDE VIEW**
  - Normal Closed Port
  - Common Port
  - Normal Open Port

- **BOTTOM VIEW**
  - 0.155 [3.94]
  - 0.64 [16.26]
  - 2x [1.11]

**MANIFOLD MOUNT DIAGRAM**

- 0.047 x 0.20±0.02
- #0-80 UNF-2B 0.30 x 0.15±0.02
- 0.315
- 0.624
- 0.5345
- 0.6746
- 0.090 x 0° DEPTH
- 2.112/115 x 2.100

**Ordering Information**

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<td>Gasket</td>
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<td>290-006061-001</td>
<td>12' Lead Wires</td>
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<td>190-006020-001</td>
<td>Retention Pin PCB</td>
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**NOTE:** Not all versions available for online purchase. Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002166-001 (6, 30 psi) and Drawing #790-002241-001 (100 psi) and drawing #890-003090-002.

For more information call 1.800.525.2857 or email ppfinfo@parker.com

Visit www.parker.com/precisionfluidics
NEX-Valve
Non Elastomeric

Universal Style Solenoid Valve

NEX-Valve is a 3 Way 2 position, bidirectional flow, non elastomeric valve that incorporates many of the proven features of the X-valve. NEX is designed to eliminate elastomer swelling commonly encountered in aggressive liquid applications.

Features
- Unique non elastomeric design eliminates compatibility issues typically found with Alcohols, Solvents, Water and Solvent based inks
- Power consumption as low as 0.5 Watts; PWM and pulse hold circuit compatible
- Ensures high reliability with its single piece body design.
- Allows for direct tubing connection or a radial seal for manifold assemblies through its universal barb design.
- ROHS Compliant

Common Applications
- Inkjet printing, print heads
- Reservior fill/drain.
- Liquid cooling systems

Physical Properties

Valve Type:
- 2/3-Way Normally Closed
- 2/3-Way Normally Open
- 3-Way Universal 2 Way NC (30 psig only)

Media:
- Water, Alcohols (Methanol, Ethanol) Solvents (MEK, Toulene)

Operating Environment:
- 32 to 122°F (0 to 50°C)

Storage Temperature:
- -40 to 158°F (-40 to 70°C)

Length:
- 0.92 in (24 mm)

Width:
- 0.31 in (7.9 mm)

Height:
- 0.35 in (9 mm)

Spacing:
- 0.135 in (8 mm) centers

Porting:
- Universal barbs for 1/16” I.D. tubing (1/32” Wall Max.);
  Manifold mount with X-seal

Weight:
- 0.16 oz (4.5 grams)

Internal Volume:
- .0045 in³ (0.074 cm³)

Electrical

Power:
- 0.5 Watt (6 psi model)
- 1.0 Watt (30 psi model)

Voltage:
- 3, 5, 12, 24 VDC
  Not all voltage options are available in all models. See Ordering Info.

Electrical Connections:
- PC Pins, 4 mm centers (all models)
  Optional lead wires

Wetted Materials
- PBT (Polybutylene Terephthalate);
  430 Series Stainless Steel;
  302 Series Stainless Steel

Electrical Performance Characteristics

Leak Rate:
- .02 cc/min, water (water tight)

Response:
- <20 msec cycling

Pressure:
- 0 to 6 psig (0.04 MPa)
- 0 to 30 psig (0.20 MPa)

Minimum Flow: Water
- 160 ml/min @ 6 psi
- 225 ml/min @ 30 psi

Orifice Sizes/Equivalent Cv:
- 0.030”/0.010 Cv
- 0.045”/0.018 Cv

Typical Water Flow - 1 & 1/2 Watt Models

FLOW (ml/min)

PRESSURE [PSI]

- 4 psi/0.045 orifice
- 30 psi/0.030 orifice
NEX-Valve  Universal Style Solenoid Valve

Connection Diagram

Dimensions

SIDE VIEW

MANIFOLD MOUNT DIAGRAM

Ordering Information

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<td>Model</td>
<td>Voltage</td>
<td>Electrical Connection</td>
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<td>12 VDC</td>
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<td>L: Long Pins</td>
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NOTE: Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002240-001 and drawing #890-003090-001 (Standard pin length) # 890-003090-002 (Long pin length).

For more information call 1.800.525.2857 or email ppfinfo@parker.com
Visit www.parker.com/precisionfluidics
Ten-X® Digital Solenoid Valve
10mm Normally Open/Closed Solenoid Valve

Ten-X® is a 10mm solenoid valve with a 2- or 3-way NO/NC and distributor design. Ten-X delivers repeatable “energized” and “de-energized” response times, low power, and flow capability to meet the specific performance requirements of medical devices.

Features
- Small 10mm footprint, with up to 8 lpm of flow
- Highly reliable single piece body design
- Universal barb or manifold connections and PCB mount
- 20 million cycles (worst case tested, no performance degradation)
- ROHS compliant

Common Applications
- Portable medical equipment
- Patient monitors
- Wound therapy
- Non-invasive blood pressure

Physical Properties

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<th>Valve Type:</th>
<th>2/3-Way Normally Closed 2 and 3-Way Normally Open 3-Way Distributor</th>
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<td>32 to 122°F (0 to 50°C) Continuous Duty</td>
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<td>Storage Temperature:</td>
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<td>Length:</td>
<td>1.26 in. (32 mm)</td>
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<tr>
<td>Width:</td>
<td>0.39 in. (10 mm)</td>
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<tr>
<td>Height:</td>
<td>0.63 in. (16 mm)</td>
</tr>
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<td>Porting:</td>
<td>Barbs for 0.078 in. ID tubing; Manifold mount with gasket</td>
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<tr>
<td>Weight:</td>
<td>0.39 oz. (10.7 grams)</td>
</tr>
<tr>
<td>Internal Volume:</td>
<td>0.0080 in.³ (0.131 cm³)</td>
</tr>
</tbody>
</table>

Electrical

| Power:            | 0.5 Watt (Continuous Duty)                                     |
| Voltage:          | 5, 12, 24 VDC                                                  |
| Electrical Connections: | PC Pins, 6 mm centers                                          |

Wetted Materials

Polybutylene Terephthalate (PBT) Glass Filled, 430FR Series Stainless Steel, 302 Series Stainless Steel, Silicone, EPDM or FKM elastomer Consult factory for details.

Performance Characteristics

| Leak Rate:         | 0.016 sccm of air (Silicone) 0.2 sccm of air (Viton & EPDM) |
| Response Time:     | <5 msec cycling (Silicone) <20 msec cycling (Viton & EPDM)   |
| Pressure:          | Up to 6 psi (0.04 MPa)                                         |
| Minimum Flow:      | 8 lpm @ 6 psi (0.04 MPa)                                       |
| Orifice Sizes/Equivalent Cv: | 0.060"/0.042 Cv                                               |

Typical Flow Curve (Tested w/ air 24°C)

Minimum 8 lpm at 6 psi

Ten-X is a registered trademark of Parker Hannifin Corporation.
Ten-X® Digital Solenoid Valve

Connection Diagram

Dimensions

Manifold Mount Diagram

Ordering Information

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</tbody>
</table>

* Order as separate line items

For more information call 1.800.525.2857 or email ppfinfo@parker.com
Visit www.parker.com/precisionfluidics
Ten-X® Le Low Energy Digital Solenoid Valve
10mm Normally Open/Closed Solenoid Valve

The Ten-X® Le is an electro-magnetic poppet valve designed to provide the highest performance available for the package size. The quiet, lightweight 10-mm wide valve can be used stand alone with tube connections, PC or multi-station manifold mount set-ups. Integrated drive electronics featuring efficient pulse width modulation (PWM) circuit technology consume minimal power.

Features
• Low power, small 10mm footprint with up to 22 lpm of flow
• Minimal heat generation provides stable performance for valve and surrounding environment
• 20 million cycles (worst case tested, no performance degradation)
• ROHS compliant

Common Applications
• Portable medical equipment
• Patient monitors
• Wound therapy
• Non-invasive blood pressure

Physical Properties

| Valve Type:            | 2/3-way Normally Closed 30 psi |
| Media:                | Non-Reactive Gases             |
| Operating Environment:| 32 to 122°F (0 to 50°C)         |
| Storage Temperature:  | -40 to 158°F (-40 to 70°C)     |
| Length:               | 1.3 in. (33.1 mm)              |
| Width:                | 0.39 in. (10 mm)               |
| Height:               | 0.61 in. (15.5 mm)             |
| Porting:              | Barbs for 0.078 in. ID tubing; |
|                       | Manifold mount with gasket     |
| Weight:               | 0.42 oz. (12 grams)            |
| Internal Volume:      | 0.0080 in.³ (0.131 cm³)        |

Electrical

| Power:                | 0.5 Watt (with PWM circuit)   |
| Voltage:              | 5, 12, 24 VDC                |
| Electrical Connections:| PC Pins, 2.5 mm centers      |
|                       | (Model 2 only)               |

Wetted Materials

Polybutylene Terephthalate (PBT) glass filled, 430FR Series Stainless Steel, 302 Series Stainless Steel, FKM or EPDM
Consult factory for details.

Performance Characteristics

| Leak Rate:            | 0.2 sccm of air max.         |
| Response Time:        | <20 msec cycling             |
| Pressure:             | Up to 30 psi (0.20 MPa)      |
| Minimum Flow:         | 22 lpm at 30 psi (0.20 MPa)  |
| Orifice Sizes/Equivalent Cv: | 0.060”/0.042 Cv |

Pulse Width Modulation

Typical Flow Curve (Tested w/ air 24°C)

Minimum 22 lpm at 30 psi

Ten-X is a registered trademark of Parker Hannifin Corporation.
## Ten-X® L\textsubscript{e} Low Energy Digital Solenoid Valve

### Connection Diagram

- **NORMALLY CLOSED**
  - SUPPLY
  - REMT
  - ANSI SYMBOL

- **NORMALLY OPEN**
  - REMT
  - SUPPLY
  - ANSI SYMBOL

### Dimensions

- 2X .025[.64mm] SQ. PIN
- 3X .005[.127] ANGULAR:
- 1/16
- 1/8
- 1/4
- .010[.254] FRACTIONAL:
- .005[.127]
- .003[.076]
- .001[.025]

### Ordering Information

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<td>Elastomer</td>
<td>Valve Type</td>
<td>Model</td>
<td>Voltage</td>
<td>Electrical</td>
<td>Accessories</td>
<td></td>
</tr>
<tr>
<td>Options</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>2: Viton (FKM)</td>
<td>3: EPDM</td>
<td>2: 2/3 Way NC 30 PSI</td>
<td>2: Integrated Electronics</td>
<td>95: 5 VDC</td>
<td>3: Pins (2.54mm)</td>
<td>Mounting Screw (191-00012-002) *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3: EPDM</td>
<td>4: 2/3 Way NO 30 PSI</td>
<td>5: 3 Way Distributor 20 PSI</td>
<td></td>
<td>12: 12 VDC</td>
<td></td>
<td>Manifold Gasket (FKM) (195-000211-001) *</td>
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<tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Manifold Gasket (EPDM) (195-000242-001) *</td>
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<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>8&quot; Leads w/Conector (910-000073-001) *</td>
<td></td>
</tr>
</tbody>
</table>

* Order as separate line item

**NOTE:** Not all versions available for online purchase. Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #W90-002213-002 and Drawing #W90-003150-002.

For more information call 1.800.525.2857 or email ppfinfo@parker.com

Visit www.parker.com/precisionfluidics
The 10mm SRS Series plastic solenoid valve converts a digital electrical signal into a digital pneumatic output. The SRS Series is constructed of engineering thermoplastics and non-corrosive metals to exceed the specifications demanded by critical applications in the life sciences.

**Features**
- Design incorporates thermoplastics and non-corrosive metals.
- Offers high-density manifold mounting with convenient manifold to PC board interface.
- Weighs only 0.23 ounces; perfect where low weight is critical to overall system.
- ROHS compliant.

**Physical Properties**
- **Valve Type:**
  - 2/3-way Normally Closed
  - 2/3-way Normally Open
  - 3-Way Distributor
- **Media:**
  - Gases
- **Operating Environment:**
  - 32 to 131°F (0 to 55°C)
- **Storage Temperature:**
  - -40 to 158°F (-40 to 70°C)
- **Length:**
  - 1.5 in (38.1 mm)
- **Width:**
  - 0.394 in (10 mm)
- **Height:**
  - 0.61 in (15.49 mm)
- **Porting:**
  - Manifold mount; Gasket supplied
- **Weight:**
  - .23 oz (6.57 grams)
- **Internal Volume:**
  - 0.0016 in³ (0.0267 cm³)
- **Filtration:**
  - 40 micron (recommended)

**Electrical**
- **Power:**
  - 0.5 or 1.0 Watt
- **Voltage:**
  - 5, 12, 24 VDC + 10%

**Wetted Materials**
- **Crystalline Plastics:**
  - PBT; LNP Thermocomp®
- **Elastomers:**
  - FKM
- **Non-Corrosive Metals:**
  - 302 Series Stainless Steel; 430 FR Series Stainless Steel; CMI-B Core Iron; Electroless Nickel Plating

**Performance Characteristics**
- **Leak Rate:**
  - <0.016 sccm (bubble tight)
- **Response:**
  - <30 msec cycling
- **Pressure:**
  - 0 to 20 psi (0.13 MPa)
  - 0 to 50 psi (0.34 MPa)
  - 0 to 85 psi (0.58 MPa)
- **Vacuum:**
  - 0-27 in Hg (0.09 MPa)
- **Orifice Sizes/Equivalent Cv:**
  - 0.020”/0.0075 Cv
  - 0.030”/0.017 Cv
  - 0.045”/0.027 Cv

**Typical Flow Curve (Tested w/ air 24°C)**

![Flow Curve Graph](image-url)
SRS Valve   Universal Style Solenoid Valve

Dimensions

Ordering Information

NOTE: Not all versions available for online purchase. Please consult Parker for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002090-001 and Drawing #890-003061-001.

For more information call 1.800.525.2857 or email ppfinfo@parker.com
Visit www.parker.com/precisionfluidics
Miniature Solenoid Valves

Series 11, 25, 26  Classic Style Solenoid Valve
15mm Digital Solenoid Valve

Series 11, 25, and 26 PC mountable solenoid valves convert a digital electrical signal into a digital pneumatic output. The patented miniature design is preferred by medical and analytical OEMs worldwide and allows valves to be soldered directly onto a printed circuit board, providing both electrical termination and mechanical attachment. These valves power small cylinders directly or can be used to pilot larger valves that require high flow.

**Features**
- Offers discrete valve design with up to 200 million life cycle rating.
- Available in manifold mounting.
- Provides a range of electrical coil options, including PC mountable, spade lugs, or wire leads to simplify integration.
- Powerful enough for a range of uses that require high flow.
- ROHS compliant.

**Physical Properties**
- **Valve Type:**
  - 2/3-way Normally Closed
  - 2/3-way Normally Open
  - 3-Way Distributor
- **Media:**
  - Gases and select liquids
- **Operating Environment:**
  - -32 to 158°F (0 to 70°C)
- **Storage Temperature:**
  - -40 to 158°F (-40 to 70°C)
- **Length:** 1.73 in (43.94 mm)
- **Width:** 0.625 in (15.88 mm)
- **Height:** 0.67 in (17.02 mm)
- **Porting:** 10-32 tapped ports, 1/16", 5/64", or 1/8" Stem Barbs, Manifold
- **Weight:** 2.1 oz. (60 grams)
- **Internal Volume:** 0.026 in³ (0.426 cm³)
- **Filtration:** 40 micron (recommended)

**Wetted Materials**
- **Body:**
  - 360 HO2 Brass;
  - 303 Series Stainless Steel
- **Stem Base:**
  - 385 HO2 Brass; 303 Series Stainless Steel
- **All Others:**
  - FKM; EPDM; 430 FR Series Stainless Steel
  - 302 Series Stainless Steel

**Electrical**
- **Power:** 0.5, 1.0, or 2.0 Watts
- **Voltage:** 5, 12, 24 VDC + 10%

**Performance Characteristics**
- **Leak Rate:** <0.016 sccm (bubble tight)
- **Response:** <30 msec cycling (2 Watts)
- **Pressure:**
  - 0 to 100 psi (0.69 MPa)
  - 0 to 70 psi (0.48 MPa)
  - 0 to 50 psi (0.34 MPa)
  - 0 to 25 psi (0.17 MPa)
  - 0 to 10 psi (0.07 MPa)
- **Vacuum:**
  - 0-27 in Hg (0.09 MPa)
- **Orifice Sizes/Equivalent Cv:**
  - 0.030*/0.017 Cv
  - 0.050*/0.035 Cv

**Typical Flow Curve** (Tested w/ air 24°C)

**Filtration:**
- 40 micron (recommended)

<table>
<thead>
<tr>
<th>Pressure (PSI)</th>
<th>0.050* Orifice</th>
<th>0.030* Orifice</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>5</td>
<td>5.0</td>
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<td>10</td>
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<td>135.0</td>
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<tr>
<td>100</td>
<td>100.0</td>
<td>150.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FLOW (slpm)</th>
<th>0.050* Orifice</th>
<th>0.030* Orifice</th>
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<td>60</td>
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</table>

**Features**
- Offers discrete valve design with up to 200 million life cycle rating.
- Available in manifold mounting.
- Provides a range of electrical coil options, including PC mountable, spade lugs, or wire leads to simplify integration.
- Powerful enough for a range of uses that require high flow.
- ROHS compliant.
## Dimensions

**TYPE 1**
- 2-WAY N.C.
- PRESSURE
- SUPPLY
- DEENERGIZED
- ANSI SYMBOL
- 2-WAY N.C.
- VACUUM
- SUPPLY
- DEENERGIZED

**TYPE 2**
- 2-WAY N.O.
- PRESSURE
- SUPPLY
- DEENERGIZED
- ANSI SYMBOL
- 2-WAY N.O.
- VACUUM
- SUPPLY
- DEENERGIZED

**TYPE 3**
- 3-WAY N.C.
- PRESSURE
- SUPPLY
- DEENERGIZED
- ANSI SYMBOL
- EXHST
- DEENERGIZED

**TYPE 4**
- 3-WAY N.O.
- PRESSURE
- SUPPLY
- DEENERGIZED
- ANSI SYMBOL
- EXHST
- DEENERGIZED

### BODY STYLES
- 0: NO BARBS (FACE SEAL TO MANIFOLD)
- 6: 062 BARBS (1/16 I.D. TUBING)
- 7: 078 BARBS (5/64 I.D. TUBING)
- 8: 125 BARBS (1/8 I.D. TUBING)
- 9: 1/16" BARBS

### STEM STYLES
- 0: TYPE 1 TOP SEAT (PLUGGED)
- 6: 062 TOP SEAT (1/16 I.D. TUBING)
- 7: 078 TOP SEAT (5/64 I.D. TUBING)
- 8: 125 TOP SEAT (1/8 I.D. TUBING)

### PORT AND MOUNTING HOLE DIAGRAM
- 2X #125 [3.18] MOUNTING HOLES
- .27 [6.86]
- .281 [7.14]
- .156 [3.97]
- .312 [7.92]

## Ordering Information

<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>Voltage</th>
<th>Coil Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-WAY NO 1</td>
<td>Brass/FKM</td>
<td>12 VDC</td>
<td>Wire Leads, 18&quot; No Term</td>
</tr>
<tr>
<td>3-WAY NO 3</td>
<td>Stainless Steel/FKM</td>
<td>24 VDC</td>
<td>PC Mount, 2 Soldier Tabs</td>
</tr>
<tr>
<td>3-WAY NO 4</td>
<td>Brass/EPDM</td>
<td>12 VDC</td>
<td>Quick Connect Spade</td>
</tr>
<tr>
<td>3-WAY NO 15</td>
<td></td>
<td>12 VDC</td>
<td>PC Mount, 4 PC Pins</td>
</tr>
<tr>
<td>3-WAY NO 16</td>
<td></td>
<td>12 VDC</td>
<td>No Barbs</td>
</tr>
<tr>
<td>3-WAY NO 18</td>
<td></td>
<td>12 VDC</td>
<td>1/16&quot; Barbs</td>
</tr>
<tr>
<td>3-WAY NO 19</td>
<td></td>
<td>12 VDC</td>
<td>1/8&quot; Barbs</td>
</tr>
</tbody>
</table>

NOTE: Series 25 and Series 26 valves are no longer standard product. Not all versions available for online purchase. Consult factory for qualified opportunities. Please consult Parker for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002075-001 and Drawing #890-003016-001.

For more information call 1.800.525.2857 or email ppfinfo@parker.com
Visit www.parker.com/precisionfluidics
The V² valve offers a unique plastic body, which provides an economical solution without compromising on quality or reliability. Parker offers the versatile V² in either a manifold mount design or with molded barbed fittings. This PC and manifold mountable solenoid valve converts a digital electrical signal into a digital pneumatic output.

**Features**
- Cost-effective, unique Polybutylene Terephthalate (PBT) body.
- Manifold mount design or molded barbed fittings to fit a range of needs.
- ROHS compliant.

**Performance Characteristics**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td><strong>Electrical</strong></td>
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<tr>
<td>Power</td>
<td>0.5, 1.0, or 2.0 Watts</td>
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<tr>
<td>Voltage</td>
<td>5, 12, 24 VDC + 10%</td>
</tr>
<tr>
<td><strong>Wetted Materials</strong></td>
<td></td>
</tr>
<tr>
<td>Body</td>
<td>PBT</td>
</tr>
<tr>
<td>Stem Base</td>
<td>360 HO2 Brass</td>
</tr>
<tr>
<td>All Others</td>
<td>FKM; 430 FR Series Stainless Steel; 302 Series Stainless Steel; Loctite® 290</td>
</tr>
<tr>
<td><strong>Physical Properties</strong></td>
<td></td>
</tr>
<tr>
<td>Valve Type</td>
<td>2/3-way Normally Closed / Normally Open / 3-Way Distributor</td>
</tr>
<tr>
<td>Media</td>
<td>Non-Corrosive Gases</td>
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<td>Operating Environment</td>
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<td>Storage Temperature</td>
<td>-40 to 158°F (-40 to 70°C)</td>
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<tr>
<td>Length</td>
<td>1.73 in (43.94 mm)</td>
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<tr>
<td>Width</td>
<td>0.625 in (15.88 mm)</td>
</tr>
<tr>
<td>Height</td>
<td>0.67 in (17.02 mm)</td>
</tr>
<tr>
<td>Porting</td>
<td>Barb fittings for 1/8&quot; I.D. tubing or manifold mount</td>
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<tr>
<td>Weight</td>
<td>1.2 oz (34.29 grams)</td>
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<tr>
<td>Internal Volume</td>
<td>0.0009 in³ (0.016 cm³)</td>
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<tr>
<td>Filtration</td>
<td>40 micron (recommended)</td>
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<tr>
<td>Leak Rate</td>
<td>≤0.2 sccm</td>
</tr>
<tr>
<td>Response</td>
<td>&lt;30 msec cycling (2 Watts)</td>
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<tr>
<td>Pressure</td>
<td>0 to 100 psi (0.69 MPa)</td>
</tr>
<tr>
<td>Vacuum</td>
<td>0-27 in Hg (0.09 MPa)</td>
</tr>
<tr>
<td>Orifice Sizes/Equivalent Cv</td>
<td>0.030&quot;/0.017 Cv; 0.050&quot;/0.035 Cv</td>
</tr>
<tr>
<td>Typical Flow Curve (Tested w/ air 24°C)</td>
<td></td>
</tr>
</tbody>
</table>

Loctite® is a registered trademark of Henkel Consumer Adhesives, Inc.
**V² Valve**  
Classic Style Solenoid Valves

### Dimensions

![Diagram of V² Valve components](image)

### Ordering Information

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<th>PV</th>
<th>T2</th>
<th>F</th>
<th>8</th>
<th>8</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>No: Pressure/Orifice</td>
<td>Series</td>
<td>Model Number</td>
<td>Type</td>
<td>Material</td>
<td>Voltage</td>
<td>Coil Type</td>
<td>Body Styles</td>
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<td>0: 0-100 psi/0.030&quot;</td>
<td>10</td>
<td>0-100 psi/0.030&quot;</td>
<td>2-Way NC</td>
<td>PTFE/Plunger &amp; Seal</td>
<td>3 V DC</td>
<td>PC Mount, 4 PC Pins</td>
<td>0-180° Barbs</td>
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<td>13: 0-30 psig/0.030&quot;</td>
<td>13</td>
<td>3-Way NC or Distributor</td>
<td>Plastic/PTFE</td>
<td>4-24 V DC</td>
<td>F</td>
<td>Wire Leads, 18&quot;</td>
<td>1/8&quot; Barbs</td>
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<tr>
<td></td>
<td>14: 0-50 psi/0.030&quot;</td>
<td>14</td>
<td>3-Way NC</td>
<td>Plastic/PTFE</td>
<td>12 V DC</td>
<td>F</td>
<td>Wire Leads, 18&quot;</td>
<td>1/8&quot; Barbs</td>
</tr>
</tbody>
</table>

**NOTE:** Not all versions available for on-line purchase. Please consult Parker for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002156-001 and Drawing #890-003080-001.

For more information call 1.800.525.2857 or email ppfinfo@parker.com

Visit www.parker.com/precisionfluidics
The PND Series is a miniature, low cost, application-specific, 2-way Normally Open exhaust or "dump" valve. Perfect for safety-oriented applications that require pressure relief to atmosphere upon power loss.

**Features**

- Normally Open exhaust valve in a small package size.
- Works well in miniature applications such as in Non-Invasive Blood Pressure (NIBP) devices.
- Provides small size and low cost.
- Offers low holding voltage.
- ROHS compliant.
- 250,000 cycles (worst case tested, no performance degradation)
- .050 Orifice comes standard with 2 M2 mounting holes.

**Physical Properties**

- **Valve Type:** 2-Way Normally Open
- **Media:** Non-corrosive gases
- **Operating Environment:** -32 to 131°F (0 to 55°C)
- **Storage Temperature:** -13 to 158°F (-25 to 70°C)
- **Length:** 1.01 in (25.6 mm)
- **Width:** 0.394 in (10 mm)
- **Height:** 0.472 in (12 mm)
- **Porting:** 1 port, 0.118" (3 mm) O.D.; suitable for 0.078 I.D.; Urethane tubing
- **Weight:** .27 oz (7.71 grams)
- **Internal Volume:** 0.0016 in³ (0.026 cm³)
- **Filtration:** None required
- **Lubrication:** None required

**Wetted Materials**

- **Elastomers:** Silicon; Nickel-Plated Steel
- **Frame:** SPCC (Treatment: MFZn2-c)
- **All Other:** Polybutylene Terephthalate (PBT); 303 Series Stainless Steel

**Electrical**

- **Power:** 0.5 or less
- **Voltage:** 3, 6, 12 VDC

**Performance Characteristics**

- **Leak Rate:** <0.016 sccm (bubble tight)
- **Response:** <100 msec cycling
- **Pressure:** 0 to 6 psi (0.04 MPa) holding
- **Vacuum:** 0-27 in Hg (0.09 MPa)
- **Orifice Sizes/Equivalent Cv:**
  - 0.030"/0.017 Cv
  - 0.050"/0.035 Cv
- Larger sizes available in 15 mm frame
PND Valve  Classic Style Solenoid Valves

Dimensions

**PND Series 05A**

```
+-------------------+-------------------+
| 0.01 [25.4]       | 0.02 [0.5]        |
| 0.118±0.004 [3.00±0.10] |                 |
| 0.157 [4.00]      |                 |
+-------------------+-------------------+
```

**PND Series 05D**

```
+-------------------+-------------------+
| 0.01 [25.4]       | 0.02 [0.5]        |
| 0.118±0.004 [3.00±0.10] |                 |
| 0.157 [4.00]      |                 |
+-------------------+-------------------+
```

**Options**

- With Orifice Size at 0.050", the frame width and height increases 0.118" (3mm)

**Dimensions**

- PND Series 05A
  - WIRE, BLACK 26 AWG
  - 3.54±0.20 [90.0±5.0]
  - 0.472 [12.00]
  - 0.394 [10.00]

- PND Series 05D
  - WIRE, BLACK 26 AWG
  - 6.00±0.20 [152.4±5.0]

**Ordering Information**

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<tr>
<th>Sample Part ID</th>
<th>PND Series</th>
<th>05</th>
<th>A</th>
<th>12</th>
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</thead>
<tbody>
<tr>
<td>Description</td>
<td>05: 0.5 Watt</td>
<td>D 0.030&quot;</td>
<td>03: 3 VDC</td>
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</tr>
<tr>
<td></td>
<td>A: 0.050&quot;</td>
<td></td>
<td>06: 6 VDC</td>
<td></td>
</tr>
</tbody>
</table>

Note: With Orifice Size at 0.050", the frame width and height increases 0.118" (3mm)

NOTE: Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002198-001 and Drawing #s: PND-05A-DWG and PND-05D-DWG.
Value Added Application-Specific Solutions

Gassing Control System
- Mixed gassing logic design includes VSO® proportional valves, X-Valve®, pressure switch, pressure sensors, and PCB interface

Vacuum Gas Control Module
- Tested to $1 \times 10^{-7}$ cc/sec/atm Helium
- Assembly tested on mass spectrometer

5 Position SRS Model Pneumatic Manifold
- Mixed pneumatic logic assembly
- Integrated pressure sensors
- Mass termination of sensors & valves
- Pressed in barbed fittings

7 Position X-Valve® Pneumatic Manifold
- Integrated pressure/vacuum sensors
- Mixed pneumatic logic design
- Ultem® manifold pressure/vacuum sensors

6 Position VSO® Proportional Valve Pneumatic Manifold Assembly
- Quick connect fittings
- Circuit board with mass electrical termination

8 Position SRS Model Pneumatic Manifold
- Integrated circuit board mounting
- Mass electrical termination

10 Position X-Valve® Pneumatic Manifold
- Mixed pneumatic logic design
- Ultra-miniature design with PCB for mass termination

10 Position SRS Model Pneumatic Manifold
- Circuit board with transducers
- Pressed in barbed fittings

For more information call 1.800.525.2857 or email ppfinfo@parker.com
Visit www.parker.com/precisionfluidics
PARKER-HANNIFIN CORP., PRECISION FLUIDICS TERMS AND CONDITIONS OF SALE, ORDER POLICIES & PRODUCT WARRANTY INFORMATION

Payment and Credit Terms

For Terms and Conditions of Sale, Order Policies and Product Warranty Information, please refer to the appropriate section within this document.

PARKER-HANNIFIN CORP., PRECISION FLUIDICS DIVISION

Order Policies

• Standard Product: If all the end of the contract period the full quantity has not been released and shipped, the entire order will be re-priced at the applicable discount for quantity shipped.
• Custom Product: If all the end of the contract period the full quantity has not been released and shipped, a charge will be assessed to cover the cost of any unique material plus an adjustment of discount on the entire order.

Order Cancellations

• Standard Product - A 20% cancellation fee will be incurred unless a formal change order is received at least thirty (30) days prior to scheduled shipment.
• Custom Product - A 20% cancellation fee will be incurred unless a formal change order is received at least sixty (60) days prior to scheduled shipment due to unique component lead time.

Order Expedite

• Customers requesting an expedited delivery of five (5) weeks or less of the quoted standard lead time will be subject to a charge equal to 20% of the amount being expedited.

Product Returns

• Standard Product - All returns of standard product are subject to prior approval from Parker Precision Fluidics and will incur a restocking charge of 20%. Credit will be issued based upon original invoice value. No material will be accepted for return without prior authorization from Parker Precision Fluidics.
• Custom Product - Cancellations of custom product are subject to a 20% cancellation fee plus the cost of all work in process and the cost of any material unique to that order

Warranties

• Parker Precision Fluidics warrants its products against defective materials and workmanship under normal use for a period of one (1) year from the date of shipment to our customer. This warranty does not apply to any product that has been subjected to misuse, accident, improper installation, improper application, improper operation, or does not apply to any product that has been repaired or altered by other than an authorized factory representative. There are no warranties (except as noted beyond those herein specified).
• Miniature Diaphragm Pumps – Seller warrants to buyer that the products will be free, under normal use and maintenance, from defects in material and workmanship for a period of twelve (12) months from the date of shipment.

Return Materials Authorizations

• Standard payment terms will be established upon corporate credit approval.
• Standard payment terms will be 1% 10, 25 net 30 as noted below:
- For invoices dated between the 16th and 31st, payments must be received by the 10th of the following month.
- For invoices dated between the 1st and 15th, payments must be received by the 25th of the following month.

Shipping

• Products that are shipped to the factory for Warranty repair will be shipped at the customer’s expense and will be returned to the customer at no charge via Precision Fluidics’ standard shipping method. Products that are shipped to the factory on a freight collect basis will not be accepted. Customers may specify preferred method of shipment. Product will then be shipped back to the customer on a freight collect basis.

Payee

• Parker Precision Fluidics will contact the customer with date of return shipment.

Reason for Return & Failure Symptoms if Applicable

• Be prepared to provide the following information when calling:
  - Customer Name, Address & Phone Number
  - Contact Name
  - Ship To & Bill To Address
  - Reason for Return & Failure Symptoms if Applicable
  - Part Number, Quantity & Date Code

Advance for non-established foreign customers for orders greater than $1,000.

• For invoices dated between the 16th and 31st, payments must be received by the 10th of the following month.
• For invoices dated between the 1st and 15th, payments must be received by the 25th of the following month.
WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.