

# Series LX-Valve

Miniature Latching Pneumatic Solenoid Valve

## 8 mm Latching Solenoid Valve



The Series LX-Valve is a miniature latching pneumatic solenoid valve measuring only 8 mm in width. The compact size, light weight, and power saving latching feature of the Series LX-Valve is the ideal solution for portable/battery powered applications. The body construction of the Series LX-Valve is suited for manifold or barbed-tube pneumatic connections and is available in a 2 way configuration.

### Typical Markets

- Portable Medical Equipment
- Environmental Monitoring

### Typical Applications

- Air & Oxygen Delivery

### Features

- Internal latching mechanism enables continuous, power free, operation with minimal/momentary actuation power to change states
- High flow output capability, (11 slpm minimum @ 15 psid)
- Direct PC mounting and 11.2 mm valve mounting centers enables compact and lightweight system design
- RoHS and Reach compliant



## Product Specifications

### Mechanical

#### Valve Type:

- 2-Way, 2-Position, Directional Flow, Latching

#### Media: Non-Reactive gases

#### Operating Environment:

32 to 122°F (0 to 50°C)

#### Storage Temperature:

-40 to 158°F (-40 to 70°C)

#### Dimensions:

- Length: 0.92 in (23.4 mm)
- Width: 0.31 in (7.9 mm)
- Height: 0.48 in (12.2 mm) to Barb End / 0.35 in (8.9 mm) to Manifold Face

#### Spacing: 0.440 in (11.2 mm) center

(Minimum required to ensure proper latching operation)

#### Porting:

- Barbs for 1/16 in (1.5 mm) I. D. Tubing, (1/32 in Wall Max.)
- Manifold Mount (Gasket accessory required, see ordering info)

#### Weight: 0.16 oz (4.6 g)

#### Internal Volume:

0.0036 in<sup>3</sup> (0.060 cm<sup>3</sup>)

### Electrical

#### Power Options (Momentary):

0.52 Watt (6 psid model)  
0.82 Watt (15 psid model)

#### Voltage Options:

3, 5, 12 or 24 VDC\*

\*minimum 20 millisecond pulse

#### Electrical Connections:

PC Pins, 4 mm centers (all models)  
Lead Wire/Connector Assembly (Accessory, see ordering info)

### Wetted Materials

#### Bobbin/Body:

PBT (Polybutylene terephthalate)

#### Pole & Plunger:

430 FR Series Stainless Steel

#### Seal:

FKM

#### Other:

302 Series Stainless Steel

### Performance Characteristics

#### Leak Rate: Tested with Air

< 0.20 sccm Internal  
< 0.016 sccm External

#### Response:

< 20 ms

#### Pressure/Vacuum:

0 to 6 psid (0.4 bar differential)  
0 to 15 psid (1.03 bar differential)

#### Proof Pressure:

200 psig (13.79 bar)

#### Minimum Flow:

6.0 slpm @ 6 psid (0.4 bar differential)  
11.0 slpm @ 15 psid (1.03 bar differential)

#### Orifice Size/Nominal Cv:

0.045" (1.14 mm) / 0.028

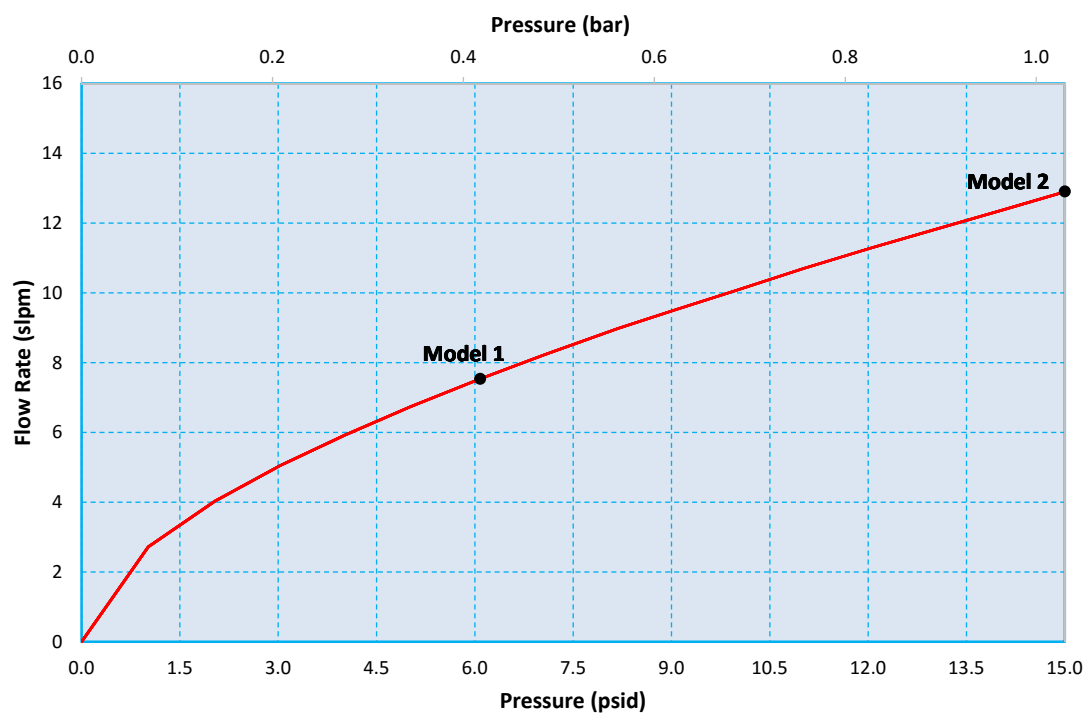
#### Reliability:

Life Cycle rating of 10 million  
Reliability 0.95 at 95% CI

# Series LX-Valve Miniature Latching Pneumatic Solenoid Valve

## Typical Flow Curve

**All Models**  
(Tested w/air 24° C)




# Series LX-Valve Miniature Latching Pneumatic Solenoid Valve Pressure and Flow Capabilities

Model No.	Orifice Size	Nominal Cv	Maximum Operating Pressure Differential	Momentary Power (50 milliseconds)
1	0.045 in (1.14 mm)	0.028	6 psid (0.4 bar differential)	0.52 Watt
2	0.045 in (1.14 mm)	0.028	15 psid (1.03 bar differential)	0.82 Watt

\* Proof pressure is 200 psig (13.79 bar)

**Safety:** Proof Pressure: 200 PSIG (13.79 bar). Tests conducted at this pressure demonstrate that no loss of function or permanent damage occurs when returned within the specified operating pressure range.

 **Caution:** Shock Resistance: This valve may change states when subjected to high shock conditions. (Contact application for more details). Validation testing should be conducted to ensure proper operation in the application.

## Electrical Interface

### Short Pin

(For Pin/Wire Lead or PCB Terminal Housing Connection)  
[Reference Accessories section]

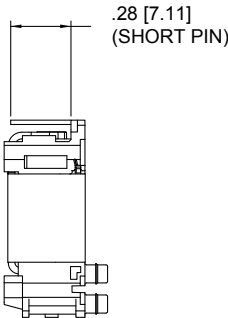


### Long Pin

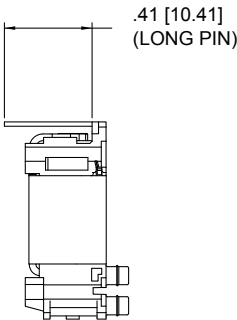
(For Pin/PCB solder mount connection)



## Latching X-Valve Coil Connection

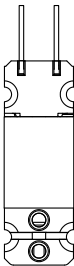


**Electrical Connection Options:**  
Electrical terminals compatible with Molex 51065 series connector or equivalent.



## Latching X-Valve Polarity View

OPEN + -  
CLOSE - +



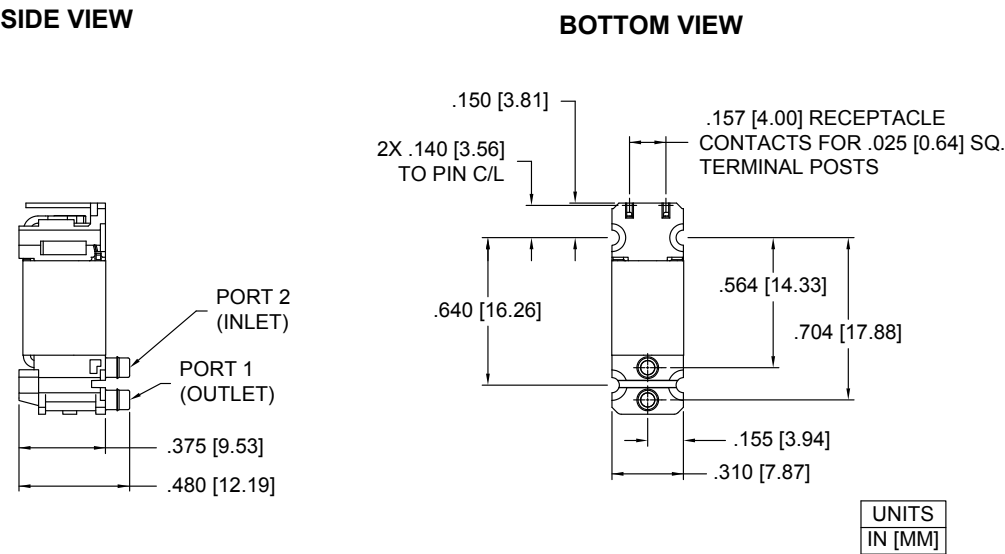
UNITS  
IN [MM]



# Series LX-Valve Miniature Latching Pneumatic Solenoid Valve

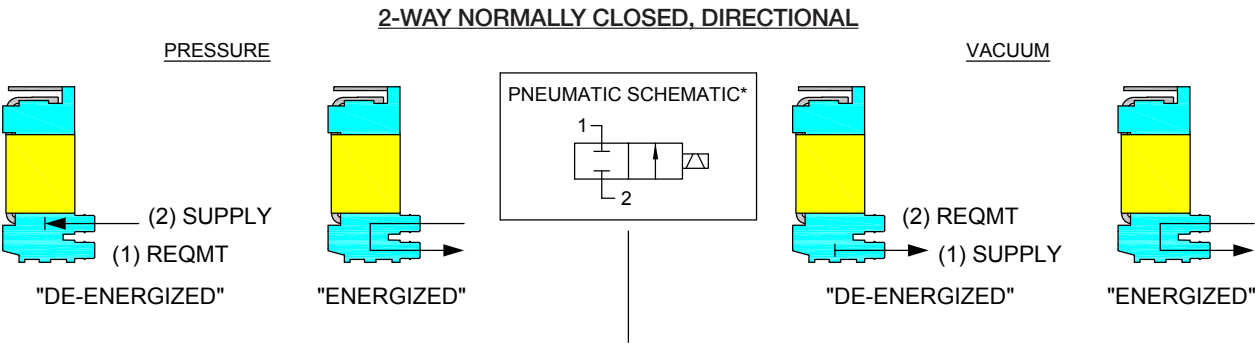
## Pneumatic Interface/Mechanical Integration


### Dimensions



## ANSI Symbols

### Pneumatic Schematics by Valve Types



\* THE COIL SYMBOL, , REPRESENTS A SINGLE VALVE COIL WITH (2) POLARITY OPTIONS. REFERENCE THE "LATCHING X-VALVE POLARITY VIEW" SECTION, OF THIS DOCUMENT, FOR INFORMATION ON POLARITY ORIENTATION RELATIVE TO VALVE STATE.

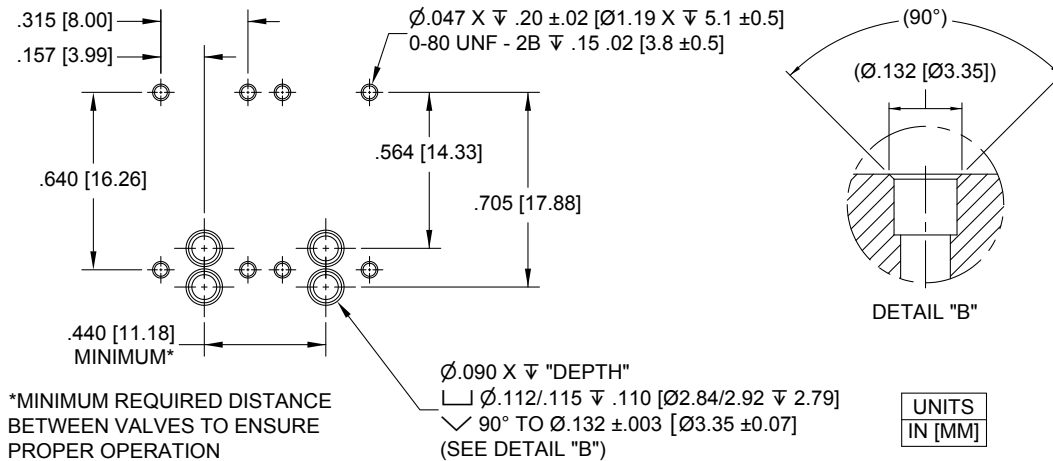
LEGEND:	
SUPPLY:	Pneumatic Source or Supply Pressure
REQMT:	Customer Requirement or Application

# Series LX-Valve Miniature Latching Pneumatic Solenoid Valve

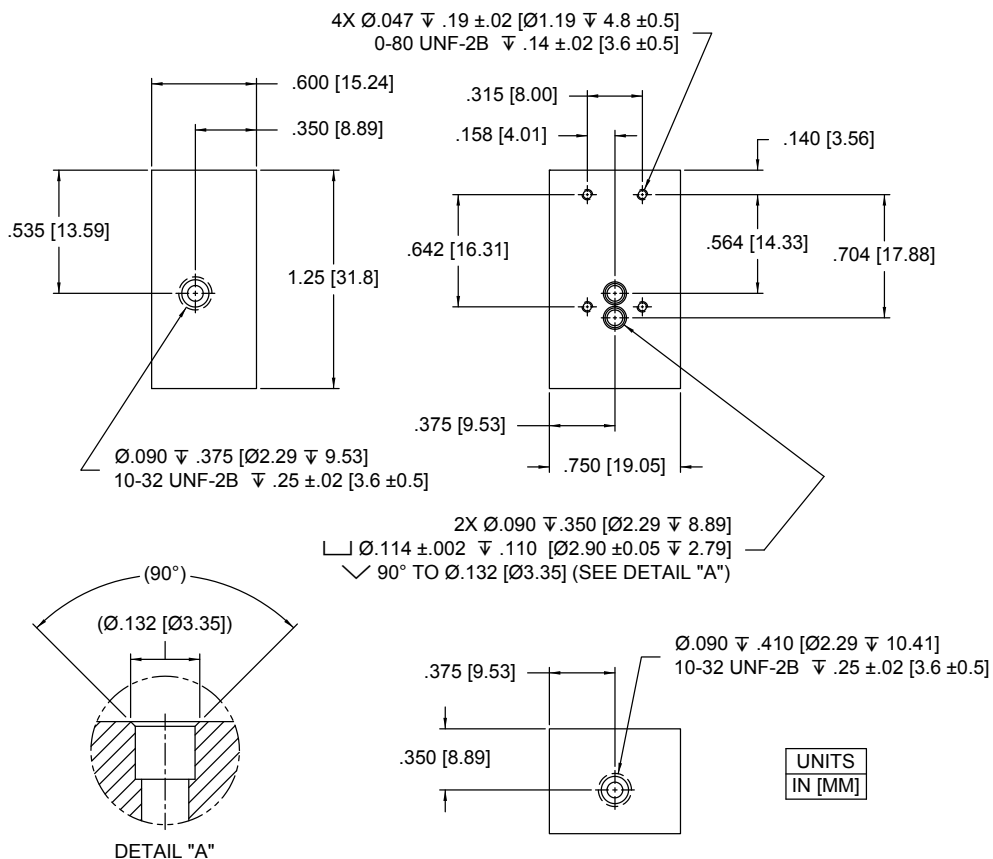
## Installation and Use

### LX-Valve Manifold Mount Diagram

Parker Precision Fluidics recommends 3-5 in-oz of torque for the screws



### Recommended LX-Valve Manifold Dimensions



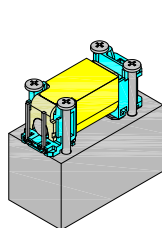
# Series LX-Valve Miniature Latching Pneumatic Solenoid Valve

## Installation and Use

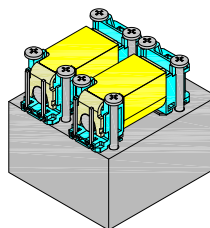
### Recommended LX-Valve Mounting

(4) MOUNTING SCREWS  
REQUIRED FOR VALVE  
INSTALLATION

.440 [11.18] MINIMUM  
VALVE SPACING  
REQUIREMENT.



**Single Station  
Manifold Mounting**



**Multiple Station  
Manifold Mounting**

## Accessories

### Mounting Options

**Gasket, Manifold Mount (FKM)**

195-000277-001

(required for manifold mounting)



**12" Wire Leads**

290-006061-001

(for use with Short Pin valve configuration)



**Screw 0-80 x 1/2"**  
**Binding Head, Phillips**

191-000100-208



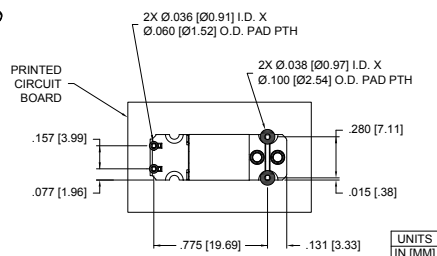
**Retention Pin PCB**

190-006020-001



PIN SECURED VIA SOLDER  
CONNECTION TO PCB

RETENTION PIN PCB



# Series LX-Valve Miniature Latching Pneumatic Solenoid Valve

## Ordering Information

Sample Product ID	LX	1	05	L	F
Description	Series	Model Number: Pressure / Orifice / Type	Voltage <sup>(1)</sup>	Electrical Coil Connection	Elastomer
Options	LX	1: 6 psid / 0.045" / 2-Way Directional 2: 15 psid / 0.045" / 2-Way Directional	03: 3 VDC 05: 5 VDC 12: 12 VDC 24: 24 VDC  <sup>(1)</sup> Warning: The valve may change states when subjected to high shock conditions. Validation testing should be conducted to ensure proper operation in the application. Contact applications for more details.	S: Short Pins <sup>(2)</sup> L: Long Pins <sup>(3)</sup>  <sup>(2)</sup> For Pin/Wire Lead or PCB Terminal Housing Connection  <sup>(3)</sup> For Pin/PCB solder mount connection	F: FKM

Product ID Reference	Order Part Number	Product ID Reference	Order Part Number	Product ID Reference	Order Part Number
LX-1-03-L-F	915-000001-001	LX-1-12-S-F	915-000001-007	LX-2-03-S-F	915-000001-013
LX-1-05-L-F	915-000001-002	LX-1-24-S-F	915-000001-008	LX-2-05-S-F	915-000001-014
LX-1-12-L-F	915-000001-003	LX-2-03-L-F	915-000001-009	LX-2-12-S-F	915-000001-015
LX-1-24-L-F	915-000001-004	LX-2-05-L-F	915-000001-010	LX-2-24-S-F	915-000001-016
LX-1-03-S-F	915-000001-005	LX-2-12-L-F	915-000001-011		
LX-1-05-S-F	915-000001-006	LX-2-24-L-F	915-000001-012		

Accessories	
195-000277-001: Gasket, Manifold Mount (FKM) <sup>(1)</sup>	<sup>(1)</sup> Not supplied with the valve. Used as a seal between the valve ports and manifold.
290-006061-001: 12" (30.5 cm) Wire Leads <sup>(2)</sup>	<sup>(2)</sup> Not supplied with the valve. Used to electrically interface with the valve.
190-006020-001: Retention Pin, PCB <sup>(3)</sup>	<sup>(3)</sup> Not supplied with the valve. Used to secure the valve for printed circuit board solder mounting.
191-000100-208: Screw, 0-80 x 1/2", Binding Head, Phillips <sup>(4)</sup>	<sup>(4)</sup> Not supplied with the valve. Four (4) screws are required for single station manifold valve mounting. See Recommended LX-Valve Mounting for multiple station mounting screw requirements.

NOTE: In order to provide the best possible solution for your application, please provide the following requirements when contacting Applications Engineering:

- Media, Inlet & Outlet Pressures
- Minimum Required Flow Rate
- System Supply Voltage
- Media
- Ambient Temperature Range



Please click on the Order On-line button (or go to [www.parker.com/precisionfluidics/lxvalve](http://www.parker.com/precisionfluidics/lxvalve)) to configure your LX-Valve Miniature Latching Pneumatic Solenoid Valve. For more detailed information, visit us on the Web, or call and refer to Performance Specification #790-002454-001, Outline Drawing #890-003377-001 (Short Pin), Outline Drawing #890-003377-002 (Long Pin).

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For more information call +1 603 595 1500 or email [ppfinfo@parker.com](mailto:ppfinfo@parker.com)  
Visit [www.parker.com/precisionfluidics](http://www.parker.com/precisionfluidics)



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