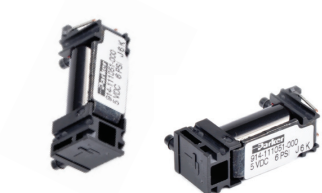


# Ten-X<sup>®</sup> Miniature Pneumatic Solenoid Valve

## 10 mm Normally Open/Closed Solenoid Valve



The Ten-X<sup>®</sup> miniature pneumatic solenoid valve measures only 10 mm in width and consumes as little as 0.5 watts of power making it an ideal solution for applications with limited space and available power. The Ten-X<sup>®</sup> miniature pneumatic solenoid valve features repeatable “on and off” response times, stable performance and a universal body design that is suited for manifold or barbed-tube mounting. The Ten-X<sup>®</sup> miniature pneumatic solenoid valve is available in 2-way or 3-way normally open/normally closed configurations.

### Typical Applications

- Portable medical equipment
- Patient monitors
- Wound therapy
- Blood Pressure Monitoring
- Dialysis

### Features

- Quiet, lightweight design with small footprint providing up to 8 lpm of flow
- Compact, efficient side-to-side mounting to minimize system size
- Universal barb or manifold connections and PCB mount for added system design flexibility
- 20 million cycles (*worst case tested, no performance degradation*)
- RoHS compliant

## Product Specifications

### Mechanical

<b>Valve Type:</b>
3 Port, Direct acting poppet style
- Normally Open (NO)
- Normally Closed (NC)
- Distributor
*Reference ordering information for available configurations.
<b>Media:</b>
Non-Reactive Gases
<b>Operating Environment:</b>
32 to 122°F (0 to 50°C)
<b>Storage Temperature:</b>
-40 to 158°F (-40 to 70°C)
<b>Dimensions:</b>
- Length: 1.25 in (31.8 mm)
- Width: 0.39 in (9.9 mm)
- Height: 0.48 in (12.1 mm) to Manifold Face / 0.65 in (16.4 mm) to Barb End
<b>Porting:</b>
- Barbs for 5/64 in (2 mm) I. D. Tubing
- Manifold Mount (Gasket accessory required, see ordering info)
<b>Weight:</b>
0.39 oz (10.7 g)
<b>Internal Volume:</b>
0.0080 in <sup>3</sup> (0.131 cm <sup>3</sup> )

### Electrical

<b>Power:</b>
0.5 Watt & 1.0 Watt
Not all power options are available in all models, see ordering info.
<b>Voltage:</b>
5, 12 or 24 VDC
Further power reduction may be achieved through the use of spike and hold or PWM electrical control.
<b>Electrical Connections:</b>
- PC Pins, 6 mm centers (all models)
- Lead Wire/Connector Assembly, (Accessory, see ordering info)

### Wetted Materials

<b>Bobbin/Body:</b>
PBT (Polybutylene terephthalate)
Glass Filled
<b>Pole &amp; Plunger:</b>
430 FR Series Stainless Steel
<b>Seal (Options):</b>
Silicone, EPDM, or FKM
<b>Other:</b>
302 Stainless Steel, Nickel Plated

### Performance Characteristics

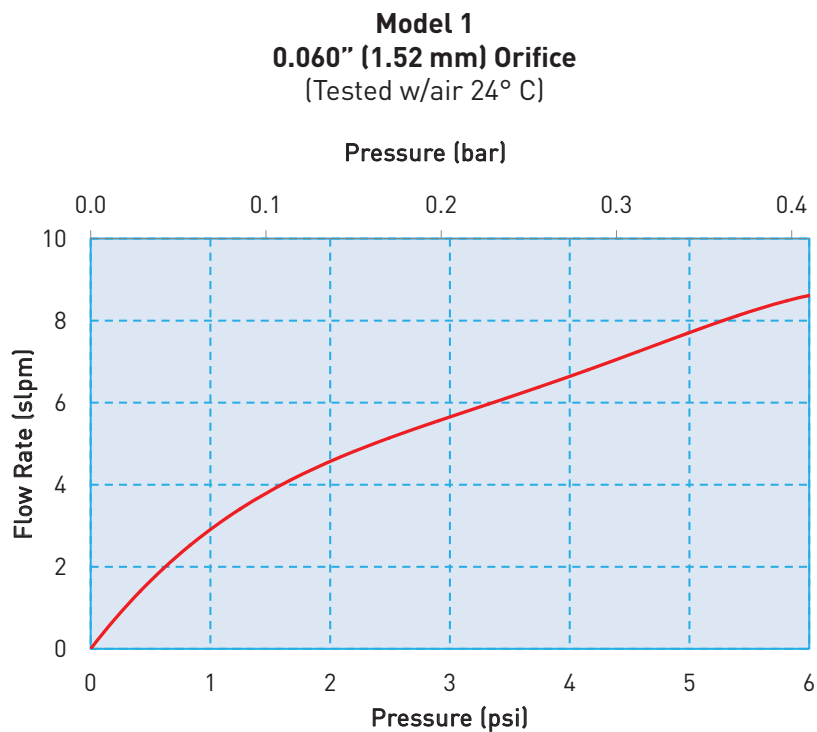
<b>Leak Rate:</b>
0.016 sccm - (Air)
- Valve Type #1 (Normally Open - Silicone/EPDM)
- Valve Type #7 (Normally Open - Silicone)
0.2 sccm - (Air)
- Valve Type #2 (Normally Closed - FKM)
- Valve Type #6 (Distributor - FKM/EPDM)
<b>Response Time:</b>
< 5 ms maximum cycling (Silicone)
< 20 ms maximum cycling (FKM, EPDM)
< 20 ms cycling (Viton & EPDM)
<b>Pressure/Vacuum:</b>
6 psid (0.4 bar differential)
<b>Proof Pressure:</b>
200 psig (13.7 bar)
<b>Minimum Flow:</b>
8 slpm @ 6 psid (0.4 bar differential)
<b>Orifice Sizes/Equivalent Cv:</b>
0.060" (1.52 mm) / 0.042

Ten-X is a registered trademark of Parker Hannifin Corporation.



## Ten-X® Miniature Pneumatic Solenoid Valve

### Typical Flow Curve



### Pneumatic Interface / Electrical Interface

#### Short Pin

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



#### Long Pin

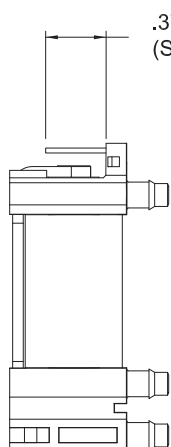
(For Pin/PCB solder mount connection)



# Ten-X® Miniature Pneumatic Solenoid Valve

## Pneumatic Interface / Electrical Interface

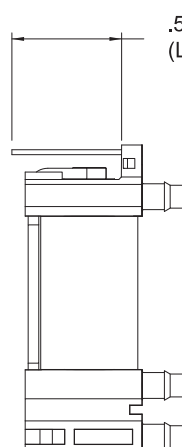
### Coil Connections



.375 [9.53]  
(SHORT PIN)

#### Electrical Connection Options:

Electrical terminals compatible with Molex 51065 series connector or equivalent.



.575 [14.61]  
(LONG PIN)

UNITS  
IN [MM]

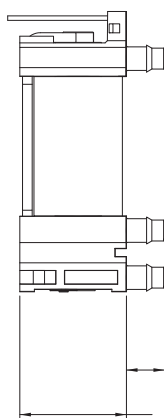
Miniature Solenoid Valves

## Mechanical Integration

### Dimensions

#### SIDE VIEW

NORMALLY OPEN PORT  
(3X) BARB FITTING FOR .078 [1.98] I.D.  
POLYURETHANE TUBING



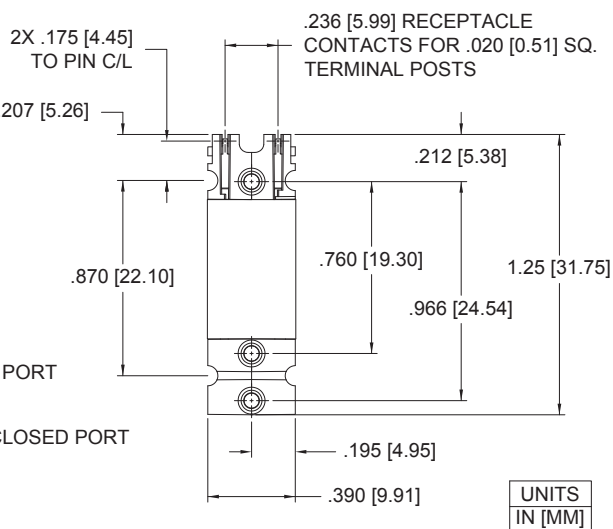
COMMON PORT

NORMALLY CLOSED PORT

.170 [4.32]

.475 [12.07]

#### BOTTOM VIEW



.236 [5.99] RECEPTACLE  
CONTACTS FOR .020 [0.51] SQ.  
TERMINAL POSTS

2X .175 [4.45]  
TO PIN C/L

.207 [5.26]

.212 [5.38]

.870 [22.10]

.760 [19.30]

1.25 [31.75]

.966 [24.54]

.195 [4.95]

.390 [9.91]

UNITS  
IN [MM]

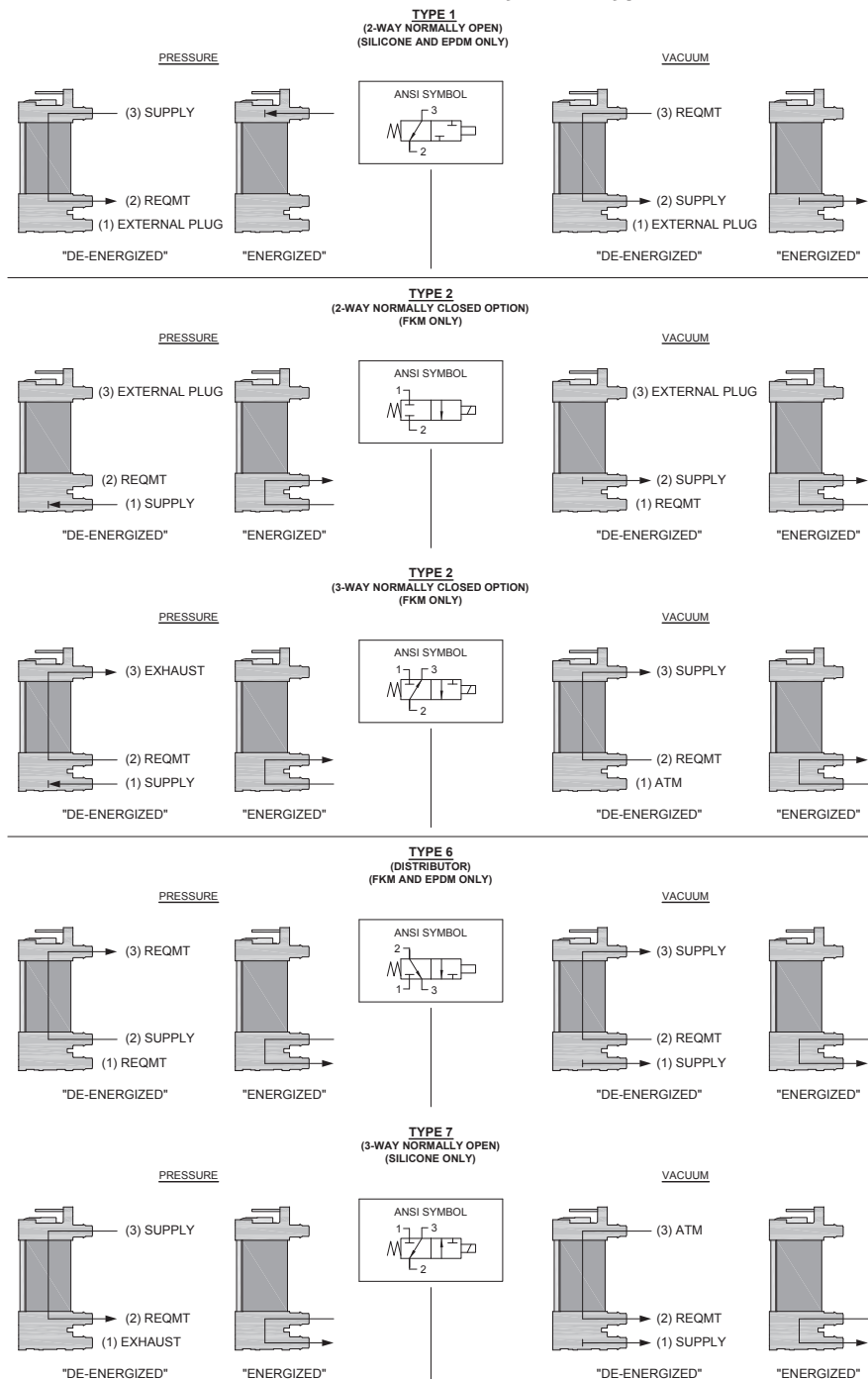


# Ten-X® Miniature Pneumatic Solenoid Valve

## ANSI Symbols

LEGEND:	
SUPPLY:	Pneumatic Source or Supply Pressure
EXHAUST:	Exhaust to Atmospheric Pressure
REQMT:	Customer Requirement or Application
ATM:	Atmospheric Pressure
EXTERNAL PLUG:	External Port Plug (Customer Supplied)

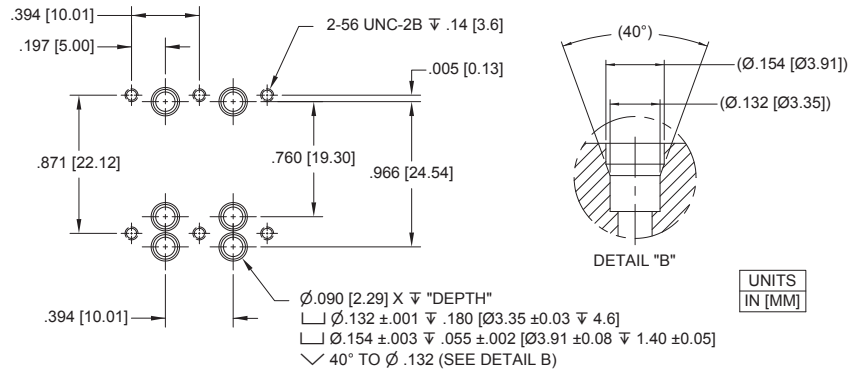
### Pneumatic Schematics by Valve Types



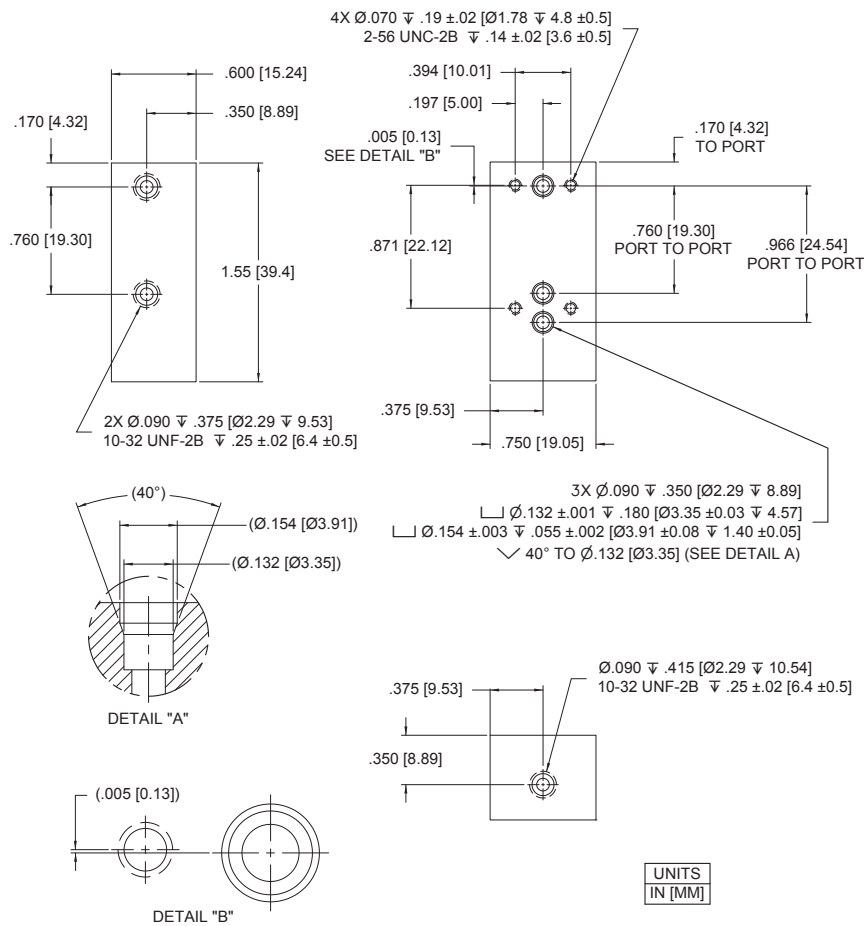
# Ten-X® Miniature Pneumatic Solenoid Valve

## Installation and Use

### Ten-X® Manifold Mount Diagram



### Recommended Ten-X® Manifold Dimensions



## Ten-X® Miniature Pneumatic Solenoid Valve Accessories

### Mounting Options

**Manifold Rubber Gasket (FKM)**  
195-000211-001



**Manifold Rubber Gasket (EPDM)**  
195-000242-001



**18" Wire Lead with connector**  
590-000106-001  
(For use with Short Pin valve configuration)



**Screw #2-56 x 5/8" Pan Head**  
191-000112-010  
(2 required for each valve)



## Ordering Information

Sample Part ID	914	1	1	1	05	1
Description	Series	Elastomer	Valve Type / Elastomer / Power	Model	Voltage	Electrical Coil Connection
Options	914	1: Silicone 2: FKM (viton) 3: EPDM	1: 2-Way Normally Open* 6 PSIG Silicone / EPDM Elastomer / 0.5 Watt 2: 2/3 Way Normally Closed 6 PSIG FKM Elastomer Only / 1 Watt 6: Distributor 6 PSIG 7: 3-Way Normally Open 6 PSIG Silicone Elastomer / 1 Watt  * Port 1 requires an external plug	1: Standard	05: 5 VDC 12: 12 VDC 24: 24 VDC	1: Pins (6 mm) 2: PC Mount

Accessories
195-000211-001: Manifold Rubber Gasket (FKM) 195-000242-001: Manifold Rubber Gasket (EPDM) 590-000106-001: 18" Wire Leads with connector 191-000112-010: Screw 2-56 x 5/8" Pan Head (2 required for each valve)



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/tenx](http://www.parker.com/precisionfluidics/tenx)) to configure your Ten-X Miniature Pneumatic Solenoid Valve. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002213-001 and Drawing #890-003150-003.

PPF-MSV-002/US June 2013

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)

