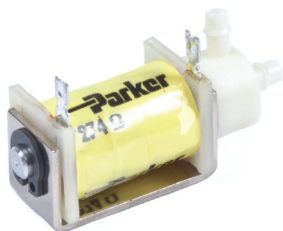


# V<sup>2</sup> Valve Miniature Pneumatic Solenoid Valve

## 15 mm Pneumatic Solenoid Valve



### Typical Applications

- Oxygen Conservers
- Flow control/shut-off valve
- Portable Medical Devices

### Product Specifications

#### Mechanical

##### Valve Type:

2/3 Port, Direct-acting poppet style

- Normally Closed (NC)
- Normally Open (NO)
- Distributor (Dist)

##### Media:

Air, Oxygen, Helium, Nitrogen, Carbon Dioxide/Monoxide, & other non-reactive gases.

##### Operating Environment:

32 to 158°F (0 to 70°C)

##### Storage Temperature:

-40 to 158°F (-40 to 70°C)

##### Dimensions:

- Length: 1.73 in (43.9 mm)
- Width: 0.63 in (15.9 mm)
- Height: 0.67 in (17.0 mm)

##### Weight:

1.2 oz (34.3 g)


##### Internal Volume:

0.0009 in<sup>3</sup> (0.016 cm<sup>3</sup>)

##### Filtration:

40 micron (recommended)

### Features

- Lightweight PBT plastic body to reduce system weight
- Manifold mount or molded barbed fittings for added system design flexibility
- Printed circuit board mount, quick connect spade or wire lead coil termination to ease integration
- Proven performance tested to 25 million life cycles
- RoHS compliant 

#### Electrical

##### Power Options:

0.5, 1.0, or 2.0 Watts

##### Voltage Options:

5, 12 or 24 VDC

Further power reduction may be achieved through the use of spike and hold or PWM electrical control.

#### Wetted Materials

##### Body:

PBT

##### Stem Base:

36000 HO2 Brass

##### All Others:

FKM

430 FR Series Stainless Steel

302 Series Stainless Steel

#### Performance Characteristics

##### Leak Rate (Air):

≤0.2 sccm

##### Response:

<30 ms cycling

##### Pressure:

0 to 100 psig (6.89 bar)

##### Vacuum:

0-27 in Hg (686 mm Hg)

##### Orifice Sizes:

0.030" (0.76 mm)

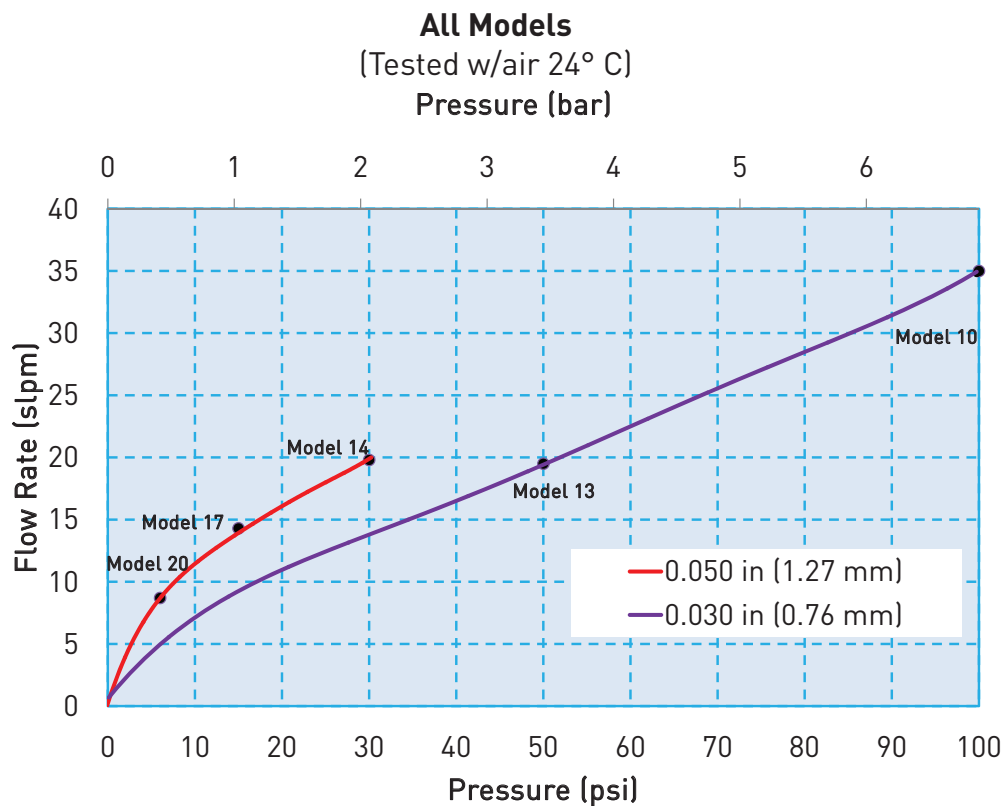
0.050" (1.27 mm)

##### Reliability:

Life cycle rating of 25 million (worst case tested, no performance degradation)

## V<sup>2</sup> Valve Miniature Pneumatic Solenoid Valve

### Typical Flow Curve



All models reflect typical flow output capability based on rated pressure

### Pressure and Flow Capabilities

Model No.	Orifice Size	Nominal Cv	Maximum Supply Pressure	Power Consumption
10	0.030 in (0.76 mm)	0.017	100 psig (6.89 bar)	2 Watts
13	0.030 in (0.76 mm)	0.017	50 psig (3.45 bar)	1 Watt
14	0.050 in (1.27 mm)	0.034	30 psig (2.07 bar)	2 Watts
16	0.030 in (0.76 mm)	0.017	25 psig (1.72 bar)	0.5 Watt
17	0.050 in (1.27 mm)	0.032	15 psig (1.03 bar)	1 Watt
20	0.050 in (1.27 mm)	0.030	6 psig (0.41 bar)	0.5 Watt

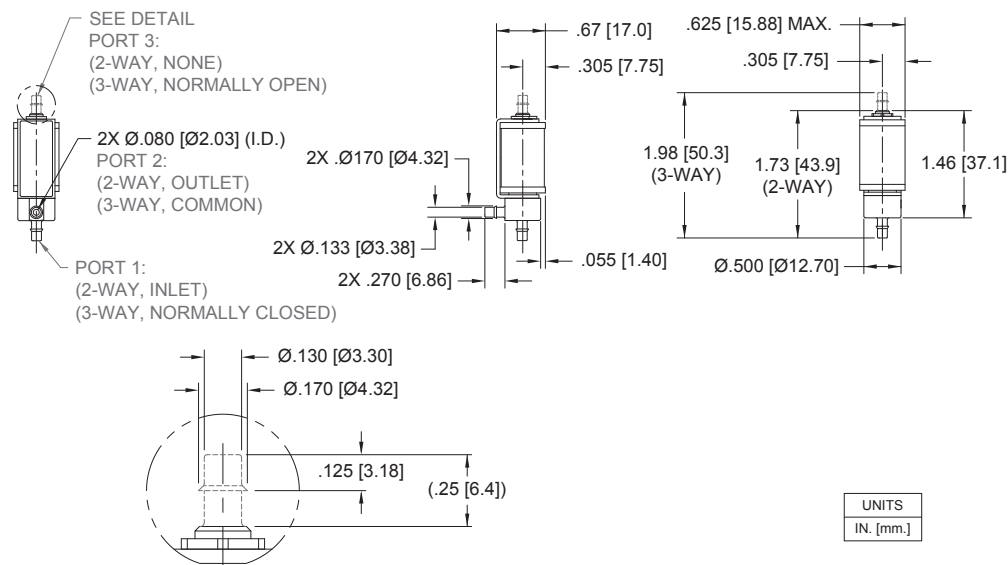
# V<sup>2</sup> Valve Miniature Pneumatic Solenoid Valve

## Mechanical Integration

### Dimensions

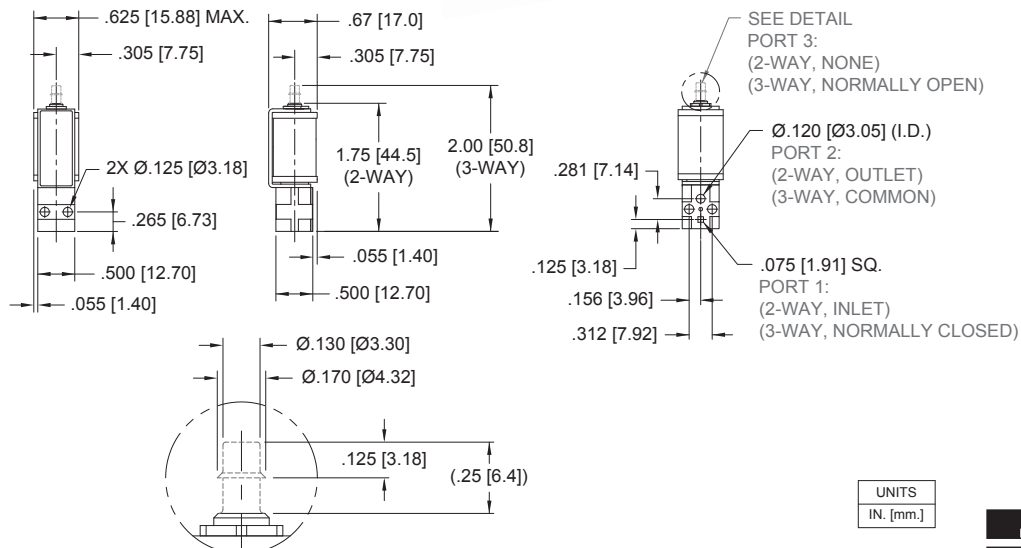
#### V<sup>2</sup> Basic Dimensions, Barbed Configuration

##### Barbed



#### V<sup>2</sup> Basic Dimensions, Manifold Mount Configuration

##### Manifold Mount

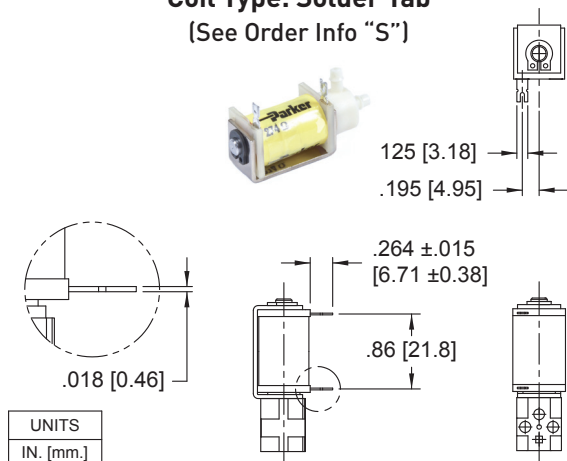


# V<sup>2</sup> Valve Miniature Pneumatic Solenoid Valve

## Electrical Interface

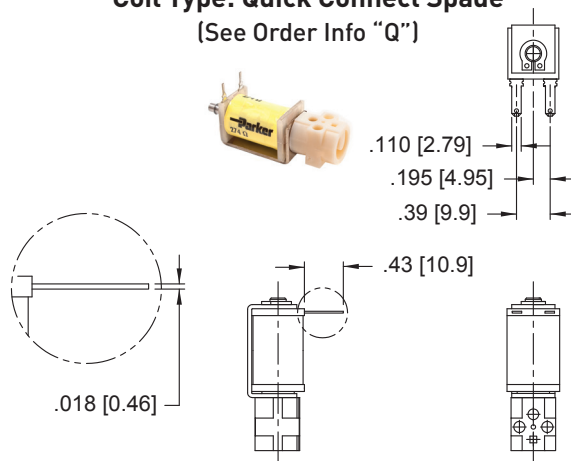
### Coil Type: Solder Tab

(See Order Info "S")



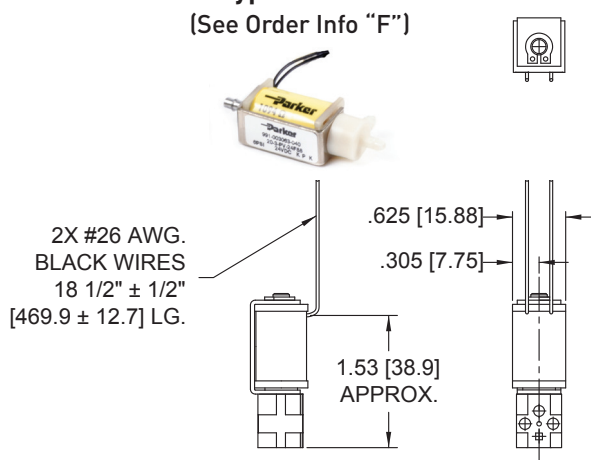
### Coil Type: Quick Connect Spade

(See Order Info "Q")



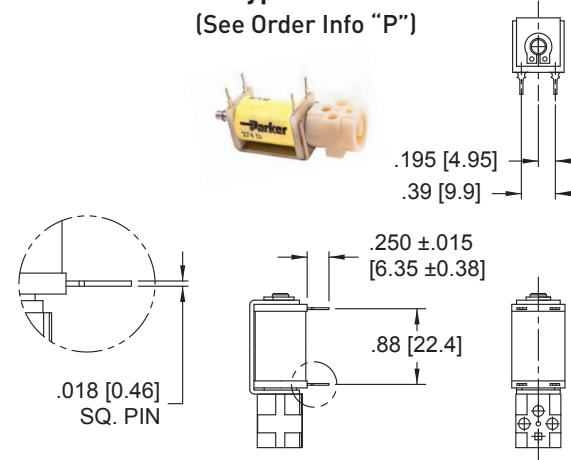
### Coil Type: Wire Leads

(See Order Info "F")

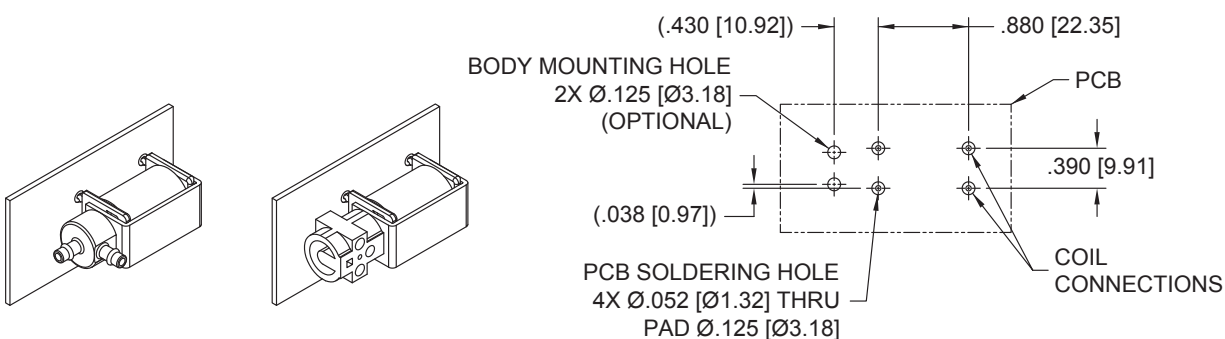


### Coil Type: 4 PC Pins\*

(See Order Info "P")



### \*PCB Pin Layout (Coil Type 4 PC Pin)



# V<sup>2</sup> Valve 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

### Pneumatic Schematics by Valve Types

#### PORT LOCATIONS

##### MANIFOLD BODY OPTION



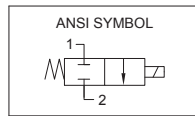
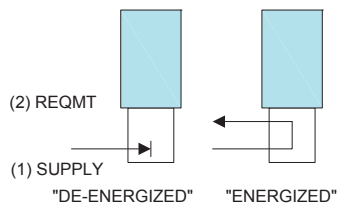
##### BARB BODY OPTION



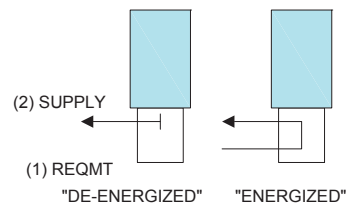
#### TYPE 1

##### 2-WAY NORMALLY CLOSED

##### PRESSURE



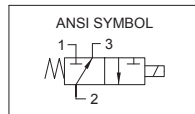
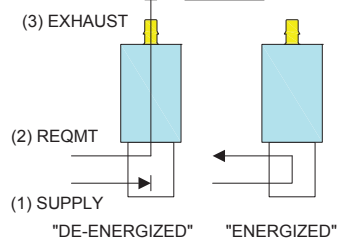
##### VACUUM



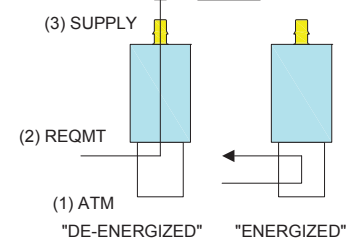
#### TYPE 3

##### 3-WAY NORMALLY CLOSED

##### PRESSURE



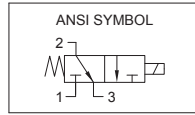
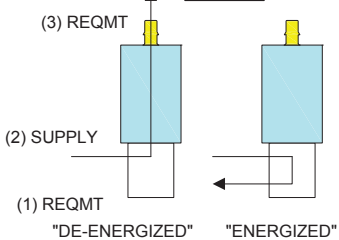
##### VACUUM



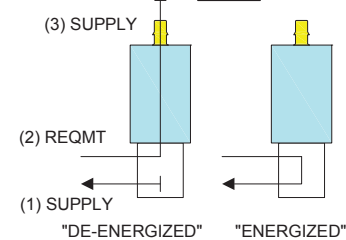
#### TYPE 3

##### 3-WAY DISTRIBUTOR

##### PRESSURE



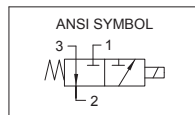
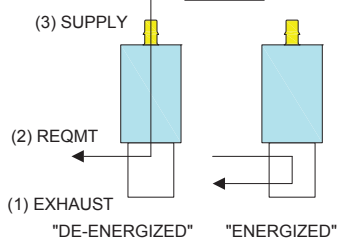
##### VACUUM



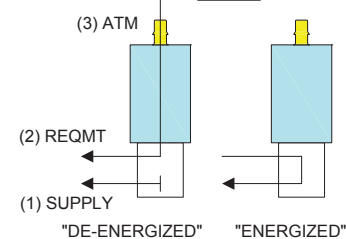
#### TYPE 4

##### 3-WAY NORMALLY OPEN

##### PRESSURE



##### VACUUM



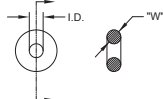
# V<sup>2</sup> Valve Miniature Pneumatic Solenoid Valve

## Accessories

### O-Ring (Manifold Seal) Dimensions

190-007024-002

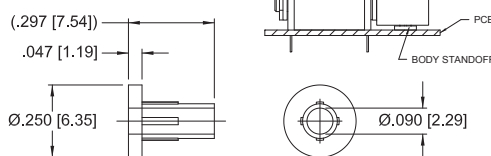
I.D. =  $\varnothing .114 \pm .005$  [ $\varnothing 2.90 \pm 0.13$ ]  
W =  $.070 \pm .003$  [ $1.78 \pm 0.08$ ]  
O.D. =  $\varnothing .254$  [ $\varnothing 6.45$ ] REFERENCE



### Body Standoff

890-000027-001

(2 required for each valve)



### Screw 4-40 x 5/8" Pan Head

191-000115-010

(2 required for each valve)



## Ordering Information

Sample Part ID	V2	14	3	PV	12	P	8	8
Description	Series	Model Number: Pressure / Orifice / Power	Type	Material XX: Body / Poppet Seal	Voltage	Coil Type	Body Styles	Topseat Barbs
Options	V2	10: 0-100 psi / 0.030" orifice / 2 Watts 13: 0-50 psi / 0.030" orifice / 1 Watt 14: 0-30 psi / 0.050" orifice / 2 Watts 16: 0-25 psi / 0.030" orifice / 0.5 Watt 17: 0-15 psi / 0.050" orifice / 1 Watt 20: 0-6 psi / 0.050" orifice / 0.5 Watt	1: 2-Way NC 3: 3-Way NC or Distributor 4: 3-Way NO	PV: Plastic / FKM	5: 5 VDC 12: 12 VDC 24: 24 VDC	F: Wire Leads, 18", No Termination P: PC Mount, 4 PC Pins S: PC Mount, 2 Solder Tabs Q: Quick Connect Spade	0: Manifold Mount 8: 1/8" (3 mm) Barbs	0: None (2-Way NC Only) 8: 1/8" (3 mm) Barbs
<b>Accessories</b>								
191-000115-010: Screw 4-40 x 5/8" Pan Head, Phillips 890-000027-001: Body Standoff 190-007024-002: O-ring, FKM								
				Used to create a flush mount between coil and valve body Used as seal between manifold and valve body				



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/v2](http://www.parker.com/precisionfluidics/v2)) to configure your V<sup>2</sup> Miniature Pneumatic Solenoid Valve. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002156-001 and Drawing #890-003080-001.

PPF-MSV-002/US August 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)

