15 mm Solenoid Valve



The Series 11 miniature pneumatic solenoid valve is a robust and proven product with a reputation for reliable and consistent performance. The Series 11 miniature solenoid valve is the preferred choice of major OEM's in the medical and analytical market. With valve bodies made from brass or stainless steel, the Series 11 miniature solenoid valve is an ideal solution for general purpose applications and those applications requiring low out-gassing and a bubble-tight seal.

### **Applications**

- Oxygen Conservers
- Oxygen Concentrators
- Compression Therapy
- Gas Chromatography
- Insufflators
- Medical & Analytical Gas Control

### **Features**

- Proven performance tested to 260 million life cycles
- Wide range of available electrical connections to simplify valve integration and control
- Manifold mount or barbed tube pneumatic configurations available for added system design flexibility
- Available Analytical and Oxygen Service Clean to minimize contamination
- RoHS compliant

## Product Specifications Mechanical

### Valve Type:

Solenoid-actuated poppet style

- 2/3 Port, Normally Closed (NC)
- 2/3 Port, Normally Open (NO)
- 3 Port, Distributor
- 2 Port, Normally Closed (NC) Universal

### Media:

Air, argon, helium, hydrogen, methane, nitrogen, oxygen,

& other non-reacting gasses

### **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 (15.8 mm)
- Height: 0.67 in (17.0 mm)

### Weight:

2.1 oz (60 g)

### **Internal Volume:**

0.026 in<sup>3</sup> (0.426 cm<sup>3</sup>)

### Filtration:

40 micron (recommended)

### **Oxygen Clean:**

Call For Details

### 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.

### **Electrical Connections:**

Wire Leads, PC Pins, Solder Tabs, Quick Disconnect Spade

### Wetted Materials

### Body:

36000 HO2 Brass;

303 Series Stainless Steel

### Stem Base:

36000 HO2 Brass:

303 Series Stainless Steel

### **Poppet Options:**

FKM

### All Others:

430 FR Series Stainless Steel 302 Series Stainless Steel

### **Performance Characteristics**

### Leak Rate:

< 0.016 sccm of air

1.0 sccm of air (Model 20 only)

#### Response:

<30 ms cycling

### Pressure:

0 to 100 psig (6.9 bar)

### Vacuum:

0-27 in Hg (686 mm Hg)

### **Orifice Sizes:**

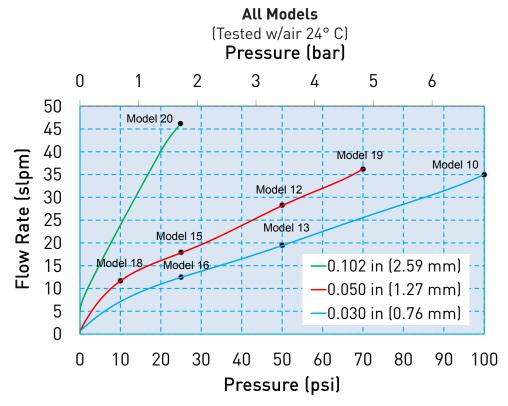
0.030" (0.76 mm)

0.050" (1.27 mm)

0.102" (2.59 mm)



# **Series 11** Miniature Pneumatic Solenoid Valve **Typical Flow Curve**



All models reflect typical flow output capability based on rated pressure

Pressure and Flow Capabilities/Life Requirements

Model No.	Orifice Size	Nominal Cv	Maximum Supply Pressure	Leak Rate (Air)	Power Consumption	Elastomer	Life Requirements (millions of cycles)*
10	0.030 in (0.76 mm)	0.017	100 psi (6.89 bar)	<0.016 sccm	2 Watts	FKM	100
12	0.050 in (1.27 mm)	0.031	50 psi (3.45 bar)	<0.016 sccm	2 Watts	FKM	100
13	0.030 in (0.76 mm)	0.017	50 psi (3.45 bar)	<0.016 sccm	1 Watt	FKM	200
15	0.050 in (1.27 mm)	0.025	25 psi (1.72 bar)	<0.016 sccm	1 Watt	FKM	200
16	0.030 in (0.76 mm)	0.017	25 psi (1.72 bar)	<0.016 sccm	0.5 Watt	FKM	260
18	0.050 in (1.27 mm)	0.021	10 psi (0.69 bar)	<0.016 sccm	0.5 Watt	FKM	260
19	0.050 in (1.27 mm)	0.025	70 psi (4.83 bar)	<0.016 sccm	2 Watts	FKM	20
20	0.102 in (2.59 mm)	0.069	25 psi (1.72 bar)	1.0 sccm	1 Watt	FKM	25

<sup>\*</sup>Life is dependent upon elastomeric material, duty cycle and pressures

For custom requirements please contact Applications Engineering at 603-595-1500 or ppfinfo@parker.com



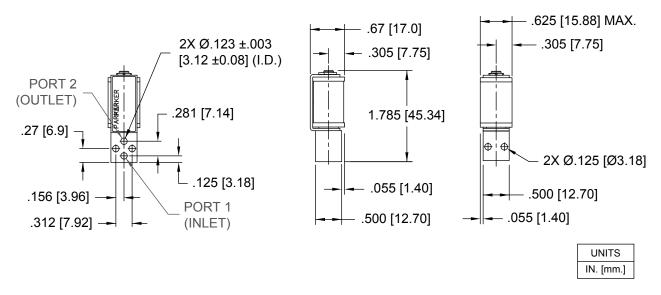
## **Pneumatic Interface**

### **Manifold Mount**

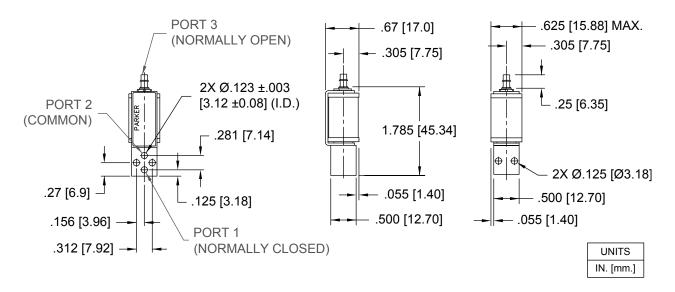


## Mechanical Integration Dimensions

### **Basic Dimensions, 2-Way Valve Configuration**



### Basic Dimensions, 3-Way Valve Configuration

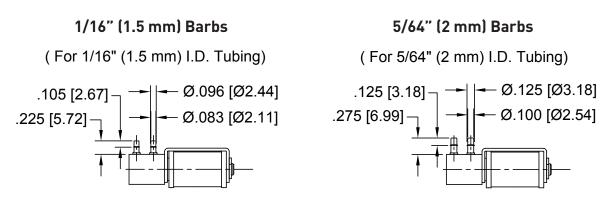




# Series 11 Miniature Pneumatic Solenoid Valve Pneumatic Interface

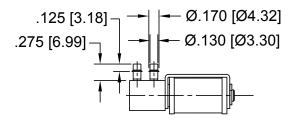


## **Barb Options**

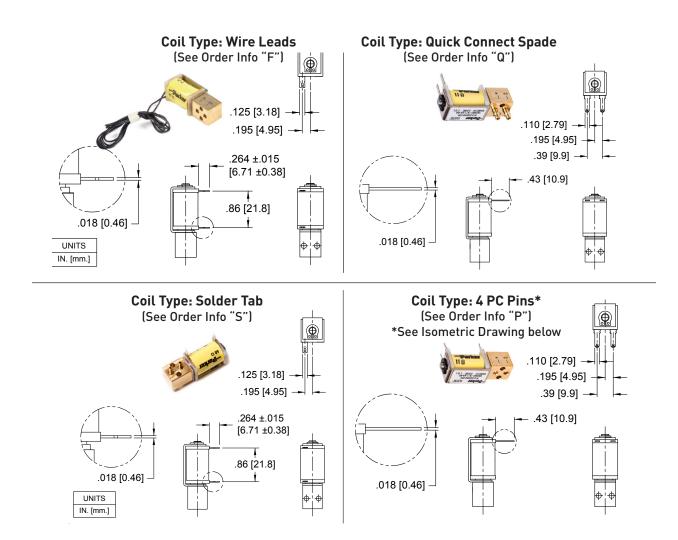


### 1/8" (3 mm) Barbs

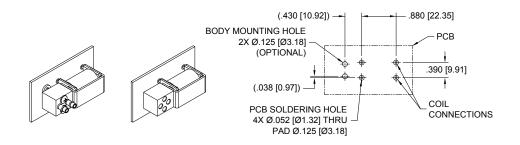
( For 1/8" (3 mm) I.D. Tubing)



## **Electrical Interface**



### \*4 PC PIN PCB Interface

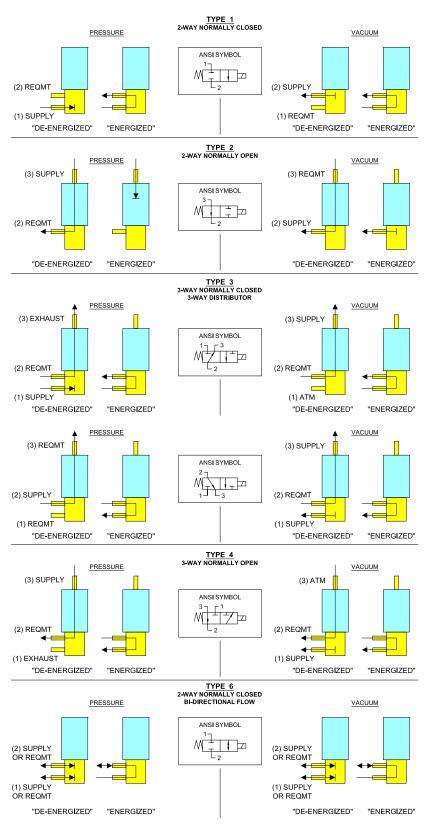




# **Series 11** Miniature Pneumatic Solenoid Valve **ANSI Symbols**

		LEGEND					
	LEGEND:						
		Pneumatic Source or Supply Pressure					
	Exhaust to Atmospheric Pressure						
	REQMT:	Customer Requirement or Application					
	ATM:	Atmospheric Pressure					

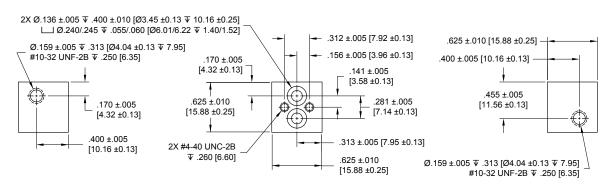
## **Pneumatic Schematics by Valve Types**



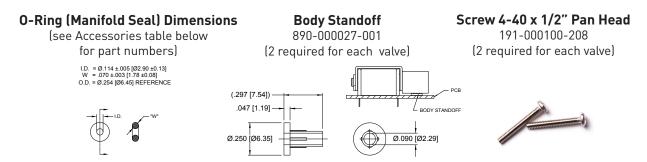


# **Series 11** Miniature Pneumatic Solenoid Valve **Installation and Use**

### Manifold & O-Ring Dimensions & Design



## **Accessories**





## **Ordering Information**

Sample Part ID	11	10	3	BV	12	P	7	7
Description	Series	Model Number Pressure / Orifice / Power	Туре	Material XX: Body / Poppet & Seal	Voltage	Electrical Coil Connection	Pneumatic Connection Body	Pneumatic Connection Stem
Options	11	10: 0-100 psi / 0.030" / 2 Watts	1: 2-Way NC	BV: Brass / FKM (2)	5: 5 VDC	F: Wire Leads, 18", No Termination	0: Manifold Mount (3)	0: Manifold Mount (4)
		12: 0-50 psi / 0.050" / 2 Watts	2: 2-Way NO	SV: Stainless Steel / FKM	12: 12 VDC	P: PC Mount, 4 PC Pins	6: 1/16" (1.5 mm) Barbs	6: 1/16" (1.5 mm) Barbs (5)
		13: 0-50 psi / 0.030" / 1 Watt	3: 3-Way NC or Distributor		24: 24 VDC	S: PC Mount, 2 Solder Tabs	7: 5/64" (2 mm) Barbs	7: 5/64" (2 mm) Barbs
		15: 0-25 psi / 0.050" / 1 Watt	4: 3-Way NO			Q: Quick Connect Spade	8: 1/8" (3 mm) Barbs	8: 1/8" (3 mm) Barbs
		16: 0-25 psi / 0.030" / 0.5 Watt	6: 2-Way NC Universal (1)					
		18: 0-10 psi / 0.050" / 0.5 Watt						
		19: 0-70 psi / 0.050" / 2 Watts						
		20: 0-25 psi / 0.102" / 1 Watt						
								(4) Type 1 and 6 configurations only
			(1) Model 20 (0.102" orifice) only available in 2-Way NC Universal configuration	(2) Model 20 (0.102" orifice) only available in Brass/FKM configuration			Model 20 (0.102" orifice) only available in manifold mount body	(5) Not available on Models 12, 15, 18 and 19 (0.050" orifice)

A	ccessories
190-007024-001: O-ring, Buna-N	* Used as a seal between the manifold and valve body
190-007024-002: O-ring, FKM *	** Used to create a flush mount between the coil and valve body
890-000027-001: Body Standoff **	
191-000115-010: Screw, 4-40 x 5/8" Pan Head, Phillips	



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/s11) to configure your Series 11 Miniature Pneumatic Solenoid Valve. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002075-001 and #790-002407-001 (Model 20 only) and Drawing #890-003016-001.



15 mm Solenoid Valve



### **Applications**

- Oxygen Conservers and Concentrators
- Sieve Bed Switching
- Anesthesia Delivery
- Compression Therapy
- Gas Chromatography
- Insufflators
- Flow Control/Shut-off

The Series 25 miniature pneumatic solenoid valve is a robust and proven product with a reputation for reliable and consistent performance. The Series 25 miniature solenoid valve is the preferred choice of major OEM's in the medical and analytical market. With valve bodies made from nickel-plated brass and multiple pneumatic and electrical interface options, the Series 25 miniature solenoid valve is the ideal solution for general purpose applications and those applications requiring low out-gassing and a bubble-tight seal.

#### **Features**

- Proven performance tested to 260 million life cycles
- Wide range of available electrical connections to simplify valve integration and control
- Manifold mount or barbed tube pneumatic configurations available or added system design flexibility
- Available Analytical and Oxygen Service Clean to minimize contamination
- RoHS complian 🚮

## **Product Specifications**

## Mechanical

## Valve Type:

2/3 Port, Direct-acting poppet style

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

### Media:

Air, argon, helium, hydrogen, methane, nitrogen, oxygen,

& other non-reacting gasses

### **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 (15.8 mm)
- Height: 0.67 in (17.0 mm)

### Weight:

2.1 oz (60 g)

### **Internal Volume:**

0.026 in<sup>3</sup> (0.426 cm<sup>3</sup>)

### Filtration:

40 micron (recommended)

### Oxygen Clean:

Call For Details

### 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.

### **Electrical Connections:**

Wire Leads, PC Pins, Solder Tabs, Quick Disconnect Spade

### **Wetted Materials**

### Body:

36000 HO2 Brass, Nickel Plated

#### Stem Base:

36000 HO2 Brass;

### **Poppet Options:**

FKM

### All Others:

430 FR Series Stainless Steel 302 Series Stainless Steel 36000 HO2 Brass, Nickel Plated

### **Performance Characteristics**

#### Leak Rate:

< 0.016 sccm of air (bubble tight)

### Response:

<30 ms cycling

### Pressure:

0 to 100 psig (6.9 bar)

### Vacuum:

0-27 in Hg (686 mm Hg)

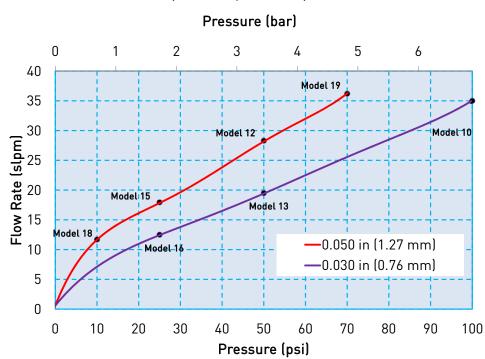
### **Orifice Sizes:**

0.030" (0.76 mm) 0.050" (1.27 mm)



## **Typical Flow Curve**





All models reflect typical flow output capability based on rated pressure

## **Pressure and Flow Capabilities/Life Requirements**

Model No.	Orifice Size	Nominal Cv	Maximum Supply Pressure	Power Consumption	Elastomer	Life Requirements (millions of cycles*)
10	0.030 in (0.76 mm)	0.017	100 psig (6.9 bar)	2 Watts	FKM	100
12	0.050 in (1.27 mm)	0.031	50 psig (3.5 bar)	2 Watts	FKM	100
13	0.030 in (0.76 mm)	0.017	50 psig (3.5 bar)	1 Watt	FKM	200
15	0.050 in (1.27 mm)	0.025	25 psig (1.7 bar)	1 Watt	FKM	200
16	0.030 in (0.76 mm)	0.017	25 psig (1.7 bar)	0.5 Watt	FKM	260
18	0.050 in (1.27 mm)	0.021	10 psig (0.7 bar)	0.5 Watt	FKM	260
19	0.050 in (1.27 mm)	0.025	70 psig (4.8 bar)	2 Watts	FKM	20

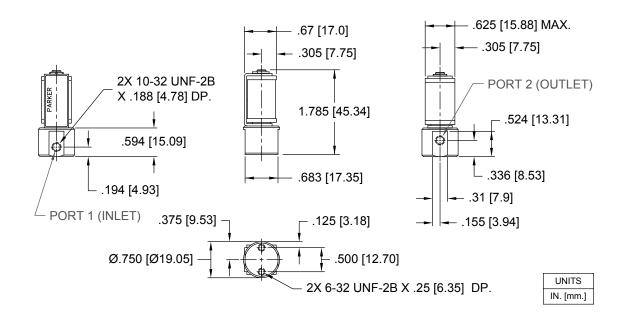
<sup>\*</sup>Life is dependent upon elastomeric material, duty cycle and pressures

For custom requirements please contact Applications Engineering at 1-603-595-1500 or ppfinfo@parker.com

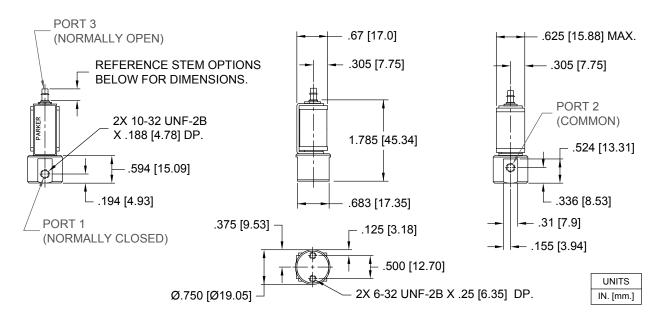


## **Mechanical Integration Dimensions**

### Basic Dimensions, 2-Way Valve Configuration



### Basic Dimensions, 3-Way Valve Configuration

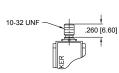




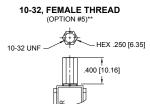
## **Mechanical Integration Dimensions**

### **Stem Options**





\*Torque applied to #10-32 male fitting not to exceed 0.5 in-oz (3.5 mN-m). Use Loctite 290 or compatible liquid-curing fastener to secure mating fitting in place.

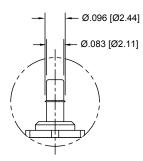


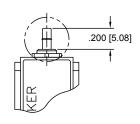
\*\*Torque applied to #10-32 Female fitting not to exceed 0.5 in-oz (3.5 mN-m). Use 1/4 inch hex wrench to support the fitting when installing a mating, #10-32 male fitting.

### **Barb Options**

### 1/16" (1.5 mm) Barb

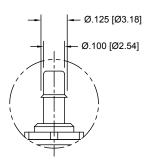
( For 1/16" (1.5 mm) I.D. Tubing) (OPTION #6)

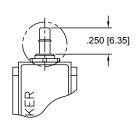




### 5/64" (2 mm) Barb

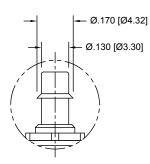
( For 5/64" (2 mm) I.D. Tubing) (OPTION #7)

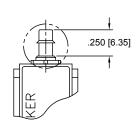




### 1/8" (3 mm) Barb

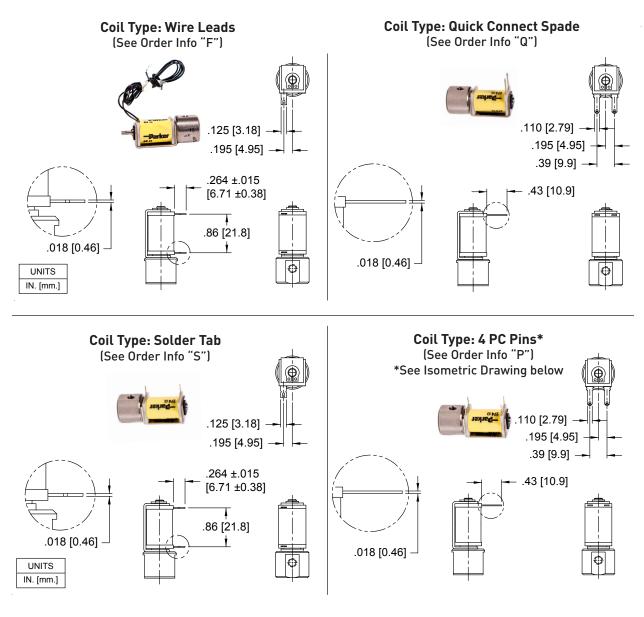
( For 1/8" (3 mm) I.D. Tubing) (OPTION #8)



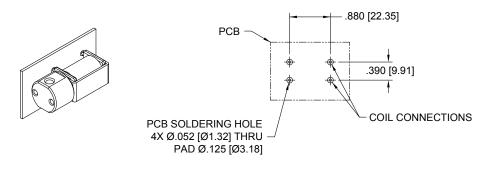




## **Electrical Interface**



### \*4 PC PIN PCB Interface

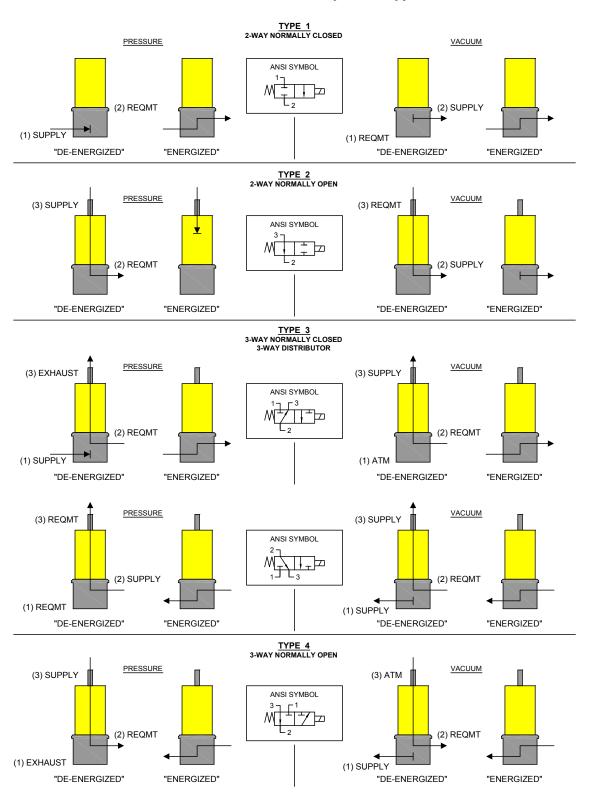




# **Series 25** Miniature Pneumatic Solenoid Valve **ANSI Symbols**

	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**





## **Ordering Information**

Sample Part ID	25	10	3	NV	12	Р	5	7
Description	Series	Model Number: Pressure / Orifice / Power	Туре	Material XX: Body / Poppet & Seal	Voltage	Electrical Coil Selection	Pneumatic Connection Body	Pneumatic Connection Stem
Options	25	10: 0-100 psi / 0.030" orifice / 2 Watts	1: 2-Way NC	NV: Nickel-plated Brass / FKM	5: 5 VDC	F: Wire Leads, 18", No Termination	5: 10-32 Female	0: Manifold Mount (2-Way NC Only)
		12: 0-50 psi / 0.050" orifice / 2 Watts	2: 2-Way NO		12: 12 VDC	P: PC Mount, 4 PC Pins		4: 10-32 Male
			3: 3-Way NC or Distributor		24: 24 VDC	S: PC Mount, 2 Solder Tabs		5: 10-32 Female
		15: 0-25 psi / 0.050" orifice / 1 Watt	4: 3-Way NO			Q: Quick Connect Spade		6: 1/16" (1.5mm) Barbs*
		16: 0-25 psi / 0.030" orifice / 0.5 Watt						7: 5/64" (2 mm) Barbs
		18: 0-10 psi / 0.050" orifice / 0.5 Watt						8: 1/8" (3 mm) Barbs
		19: 0-70 psi / 0.050" orifice / 2 Watts						. ,
								*1/16" Barbs not available for 0.050" orifice valves

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/s11) to configure your Series 25 Miniature Pneumatic Solenoid Valve. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002075-001 and Drawing #890-003016-001.

15 mm Solenoid Valve



### **Applications**

- Oxygen Conservers and Concentrators
- Sieve Bed Switching
- Anesthesia Delivery
- Compression Therapy
- Gas Chromatography
- Insufflators
- Flow Control/Shut-off

The Series 26 miniature pneumatic solenoid valve is a robust and proven product with a reputation for reliable and consistent performance. The Series 26 miniature solenoid valve is the preferred choice of major OEM's in the medical and analytical market. With valve bodies made from nickel-plated brass and multiple pneumatic and electrical interface options, the Series 26 miniature solenoid valve is the ideal solution for general purpose applications and those applications requiring low out-gassing and a bubble-tight seal.

### Features

- Proven performance tested to 260 million life cycles
- Wide range of available electrical connections to simplify valve integration and control
- Manifold mount body interface simplifies the manifold design and eases valve installation
- Available Analytical and Oxygen Service Clean to minimize contamination
- RoHS compliant 🎎

### **Product Specifications** Mechanical

## Valve Type:

2/3 Port, Direct-acting poppet style

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

### Media:

Air, argon, helium, hydrogen, methane, nitrogen, oxygen,

& other non-reacting gasses

### **Operating Environment:**

32 to 158°F (0 to 70°C)

### **Storage Temperature:**

-40 to 158°F (-40 to 70°C)

### **Dimensions:**

Length: 1.53 in (38.8 mm) Diameter: 0.75 in (19.0 mm)

### Weight:

2.1 oz (60 g)

### **Internal Volume:**

0.026 in<sup>3</sup> (0.426 cm<sup>3</sup>)

### Filtration:

40 micron (recommended)

### Oxygen Clean:

Call For Details

### 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.

### **Electrical Connections:**

Wire Leads, PC Pins, Solder Tabs, Quick Disconnect Spade

### Wetted Materials

### Body:

36000 HO2 Brass, Nickel Plated

### Stem Base:

36000 HO2 Brass:

### **Poppet Options:**

FKM

### All Others:

430 FR Series Stainless Steel 302 Series Stainless Steel 36000 HO2 Brass, Nickel Plated

### **Performance Characteristics**

### Leak Rate:

< 0.016 sccm of air (bubble tight)

### Response:

<30 ms cycling

### Pressure:

0 to 100 psig (6.9 bar)

### Vacuum:

0-27 in Hg (686 mm Hg)

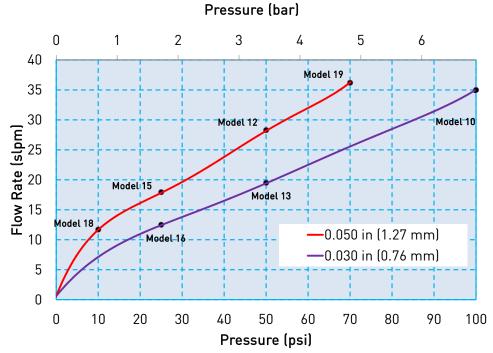
### **Orifice Sizes:**

0.030" (0.76 mm) 0.050" (1.27 mm)



## **Typical Flow Curve**





All models reflect typical flow output capability based on rated pressure

## **Pressure and Flow Capabilities/Life Requirements**

Model No.	Orifice Size	Nominal Cv	Maximum Supply Pressure	Power Consumption	Elastomer	Life Requirements (millions of cycles*)
10	0.030 in (0.76 mm)	0.017	100 psig (6.9 bar)	2 Watts	FKM	100
12	0.050 in (1.27 mm)	0.031	50 psig (3.5 bar)	2 Watts	FKM	100
13	0.030 in (0.76 mm)	0.017	50 psig (3.5 bar)	1 Watt	FKM	200
15	0.050 in (1.27 mm)	0.025	25 psig (1.7 bar)	1 Watt	FKM	200
16	0.030 in (0.76 mm)	0.017	25 psig (1.7 bar)	0.5 Watt	FKM	260
18	0.050 in (1.27 mm)	0.021	10 psig (0.7 bar)	0.5 Watt	FKM	260
19	0.050 in (1.27 mm)	0.025	70 psig (4.8 bar)	2 Watts	FKM	20

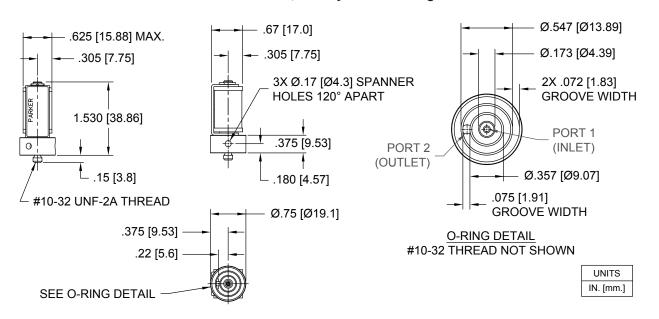
<sup>\*</sup>Life is dependent upon elastomeric material, duty cycle and pressures

For custom requirements please contact Applications Engineering at 1-603-595-1500 or ppfinfo@parker.com

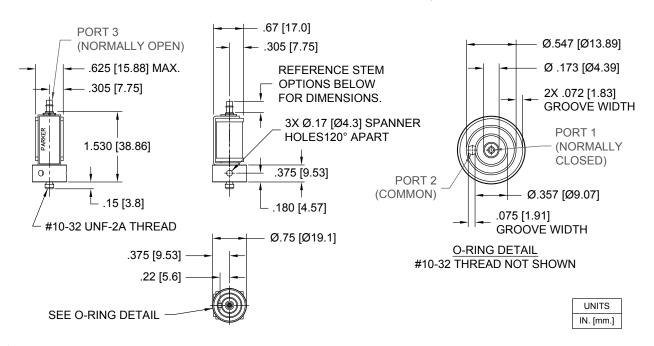


## **Mechanical Integration Dimensions**

### Basic Dimensions, 2-Way Valve Configuration



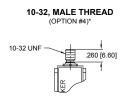
### **Basic Dimensions, 3-Way Valve Configuration**



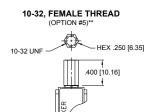


## **Mechanical Integration Dimensions**

## **Stem Options**



\*Torque applied to #10-32 male fitting not to exceed 0.5 in-oz (3.5 mN-m). Use Loctite 290 or compatible liquid-curing fastener to secure mating fitting in place.

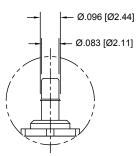


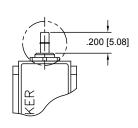
\*\*Torque applied to #10-32 Female fitting not to exceed 0.5 in-oz (3.5 mN-m). Use 1/4 inch hex wrench to support the fitting when installing a mating, #10-32 male fitting.

### **Barb Options**

### 1/16" (1.5 mm) Barb

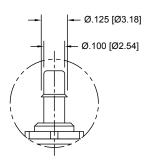
( For 1/16" (1.5 mm) I.D. Tubing) (OPTION #6)

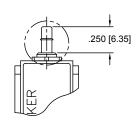




### 5/64" (2 mm) Barb

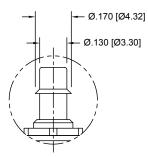
( For 5/64" (2 mm) I.D. Tubing) (OPTION #7)

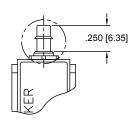




### 1/8" (3 mm) Barb

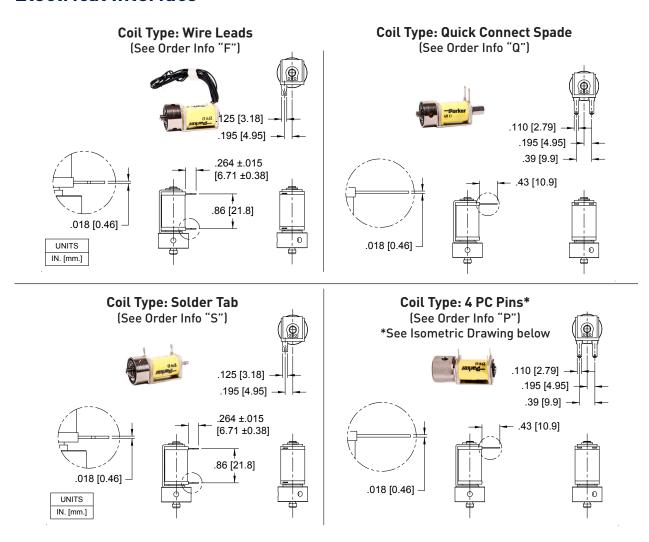
( For 1/8" (3 mm) I.D. Tubing) (OPTION #8)



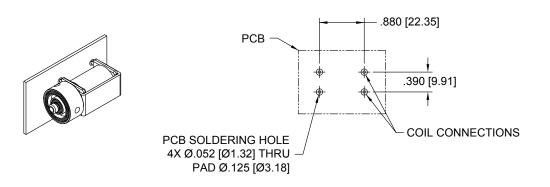




## **Electrical Interface**



### \*4 PC PIN PCB Interface

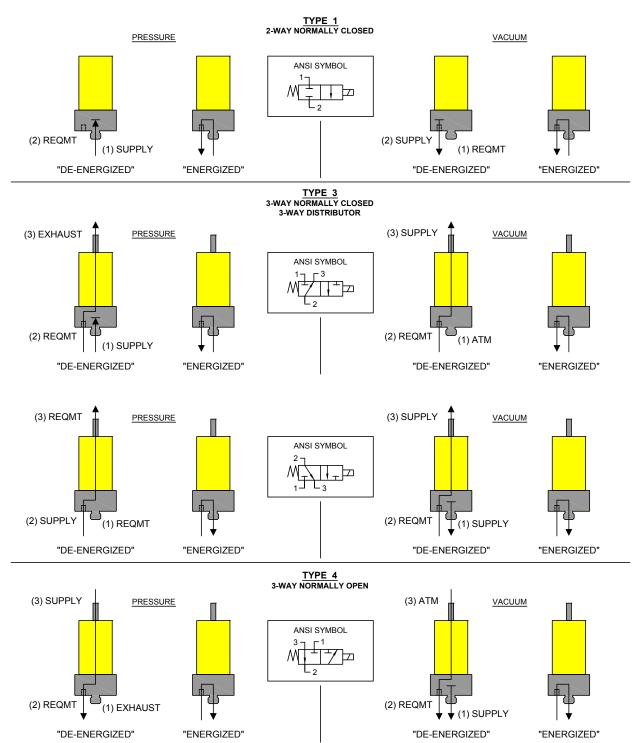




# Series 26 Miniature Pneumatic Solenoid Valve ANSI Symbols

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**





## **Ordering Information**

Sample Part ID	26	10	3	NV	12	Р	4	7
Description	Series	Model Number: Pressure / Orifice / Power	Туре	Material	Voltage	Electrical Coil Selection	Pneumatic Connection Body	Pneumatic Connection Stem
Options	26	10: 0-100 psig / 0.030" orifice / 2 Watts	1: 2-Way NC	NV: Nickel-plated Brass/FKM	5: 5 VDC	F: Wire Leads, 18", No Termination	4: 10-32 Male	0: Manifold Mount
		12: 0-50 psig / 0.050" orifice / 2 Watts	3: 3-Way NC or Distributor		12: 12 VDC	P: PC Mount, 4 PC Pins		(2-Way NC Only)
		13: 0-50 psig / 0.030" orifice / 1 Watt	4: 3-Way NO		24: 24 VDC	S: PC Mount, 2 Solder Tabs		4: 10-32 Male
		15: 0-25 psig / 0.050" orifice / 1 Watt				Q: Quick Connect Spade		5: 10-32 Female
		16: 0-25 psig / 0.030" orifice / 0.5 Watt						6: 1/16" (1.5 mm) Barbs*
		18: 0-10 psig / 0.050" orifice / 0.5 Watt						7: 5/64" (2 mm) Barbs
		19: 0-70 psig / 0.050" orifice / 2 Watts						8: 1/8" (3 mm) Barbs
								*1/16" Barbs not available for 0.050" orifice valves

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/s11) to configure your Series 26 Miniature Pneumatic Solenoid Valve. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002075-001 and Drawing #890-003016-001.

