

### Features

- Miniature size (1.08" OAL)
- Direct acting
- Mounting versatility
- Lightweight (.4 oz)
- Manual override
- Fast response time
- LED standard
- 2 & 3-way normally closed, 3-way normally open



## 2 & 3-Way Solenoid Valves 10 mm

Pneumadyne's 10 mm direct acting solenoid valves are a cost effective, space saving solution for the use of single or multiple valves. An overall length of 1.08" and height of .52" make this valve the ideal choice for limited space applications.

Select from three connector options to simplify valve installation. Convenient Line & 90° Connectors (both with LED) provide quick electrical connection when used in conjunction with the plug-in cable (sold separately). The standard Flying Lead Connector features 300 mm wires for direct connection.

### Life Expectancy

50 million cycles @ 2,700 maximum cycles per minute

This versatile valve offering includes 12 & 24 Volt DC and a low watt 24 Volt DC. Fast response times and high flow rates make this miniature valve suitable for numerous applications.

### Pneumatic Performance Data 10 mm

Temperature Range			20°F to 120°F (-5°C to 50°C)*			
Orifice/Function	Operating Pressure	C <sub>v</sub>	50 psi	Flow Rate (scfm) Max. psi	Fill Time sec/ in <sup>3</sup> 0-90 psi	Exhaust Time sec/ in <sup>3</sup> 100-10 psi
0.7 mm NC	105 psi	.013	.54	1.05 @ 105 psi (7 bar)	.28	.32
0.5 mm NC	105 psi	.010	.27	.51 @ 105 psi (7 bar)	.54	.54
0.7 mm NO	105 psi	.010	.38	.79 @ 105 psi (7 bar)	.40	.42

Cv per ANSI / (NFPA) T3.21.3

\*100% Duty Cycled

### Electrical Performance Data 10 mm

Voltage Tolerance	Response Time Energize	Response Time De-energize	Copper Wire Insulation Class
-5 % to 10%	8 ms	10 ms	F 311°F (155°C)

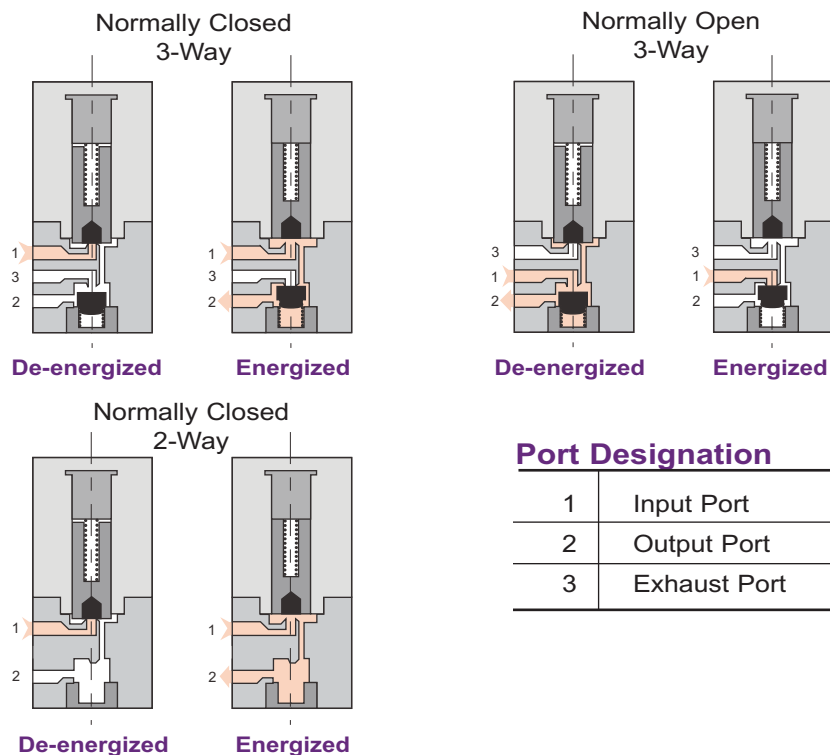
Connector wire gauge: 24 AWG

### Materials

Copper, Nylon-Glass Filled, Stainless Steel, Buna-N

## 10 mm Solenoid Valve Cross Section

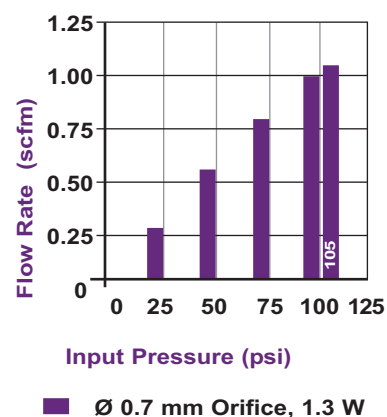
2-Way &amp; 3-Way



## Port Designation

1	Input Port
2	Output Port
3	Exhaust Port

## 10 mm Solenoid Flow Chart



**Position Indicators-** Silver plate indicates Normally Closed valve, **Black** plate indicates Normally Open valve

## Product Number Diagram

10 mm

S 10 M M - 3 0 - 1 2 - 2

## Actuator

Solenoid 10 mm

## Function

2= 2-Way

3= 3-Way

## Position One

0= Normally Closed

1= Normally Open

## Voltage

12= 12V DC

24= 24V DC

24LW= 24V DC

(0.6 Watt)

## Connectors

2= Flying Leads

300 mm

3= Line Connector

w/LED

4= 90° Connector

w/LED

## Example:

10 mm, 3-Way, Normally Closed, 12V DC, Flying Leads



90° Connectors and Line Connectors offer plumbing versatility and feature a "surge voltage suppressor"

Plug-in Cable lengths of 300 mm, 500 mm, and 1000 mm are available for fast connection to Line and 90° Connectors



Cover Plates effectively conceal unused manifold stations and block valve supply port (sold separately)



10 mm four station manifold with Line and 90° Connectors

## Product Information 10 mm

### 2-Way Normally Closed

Part Number	Connection
<b>12 DC/ 1.6 Watt/ Orifice .7mm</b>	
S10MM-20-12-2	Flying Leads
S10MM-20-12-3	Line Connector
S10MM-20-12-4	90° Connector
<b>24 DC/ 1.6 Watt/ Orifice .7mm</b>	
S10MM-20-24-2	Flying Leads
S10MM-20-24-3	Line Connector
S10MM-20-24-4	90° Connector

### 24 LW/ .6 Watt/ Orifice .5mm

S10MM-20-24LW-2	Flying Leads
S10MM-20-24LW-3	Line Connector
S10MM-20-24LW-4	90° Connector

### 3-Way Normally Closed

Part Number	Connection
<b>12 DC/ 1.6 Watt/ Orifice .7mm</b>	
S10MM-30-12-2	Flying Leads
S10MM-30-12-3	Line Connector
S10MM-30-12-4	90° Connector
<b>24 DC/ 1.6 Watt/ Orifice .7mm</b>	
S10MM-30-24-2	Flying Leads
S10MM-30-24-3	Line Connector
S10MM-30-24-4	90° Connector

### 24 LW/ .6 Watt/ Orifice .5mm

S10MM-30-24LW-2	Flying Leads
S10MM-30-24LW-3	Line Connector
S10MM-30-24LW-4	90° Connector

### 3-Way Normally Open

Part Number	Connection
<b>12 DC/ 1.6 Watt/ Orifice .7mm</b>	
S10MM-31-12-2	Flying Leads
S10MM-31-12-3	Line Connector
S10MM-31-12-4	90° Connector
<b>24 DC/ 1.6 Watt/ Orifice .7mm</b>	
S10MM-31-24-2	Flying Leads
S10MM-31-24-3	Line Connector
S10MM-31-24-4	90° Connector

### Accessories

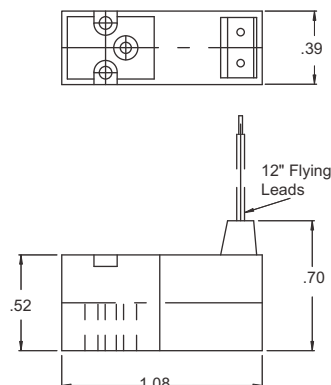
Part Number	Description
SMMC-300	Plug-in cable 300 mm
SMMC-500	Plug-in cable 500 mm
SMMC-1000	Plug-in cable 1000 mm
MSV10-CP	10 mm cover plate

**Variety of voltages, orifices and connectors are available - contact factory with requirements**

## 10 mm Solenoid Valve

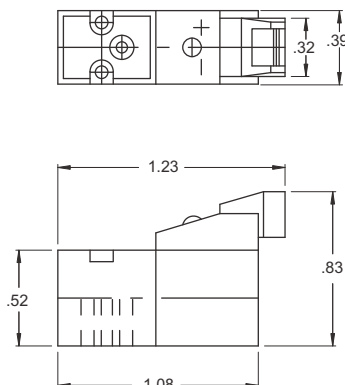
## Flying Leads

## “-2” Connector



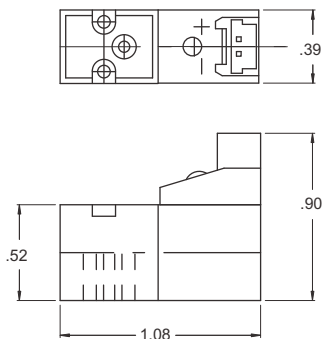
## Line Connector

## “-3” Connector



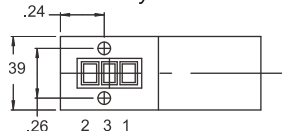
## 90° Connector

## “-4” Connector

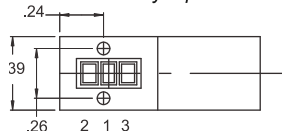


## 10 mm Port Designation

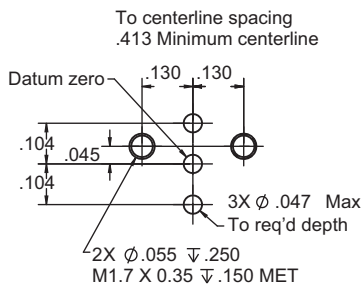
## Normally Closed



## Normally Open



## 10 mm Footprint



● All measurements in inches, unless otherwise specified. When design makes a dimension critical- contact factory for confirmation. All dimensions shown subject to change without notice.

## Ordering Information

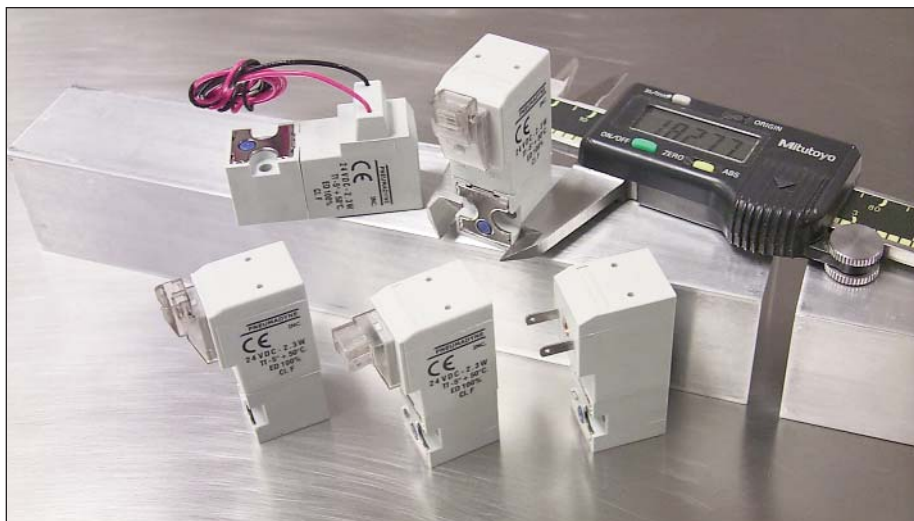
- To order standard product refer to Product Information listing.
- Cover Plates available for use with manifolds.
- Plug-in Cable for use with Line and 90° Connectors available.
- Mounting screws provided.

**Polarity Counts!**  
Some valves require  
“+ to +” and “- to -”  
connection

For use with Pneumadyne's 10 mm manifolds and bases. [Click here](#) for ordering information.

### Features

- Miniature size (1.65" OAL)
- Direct acting
- Mounting versatility
- Lightweight (1.3 oz)
- Manual override
- Fast response time
- LED standard
- 2 & 3-way normally closed, 2 & 3-way normally open



## 2 & 3-Way Solenoid Valves 15 mm

Pneumadyne's 15 mm direct acting solenoid valves are a cost effective, space saving solution for the use of single or multiple valves. A wide variety of connector, electrical and mounting options are available to accommodate numerous applications.

Convenient Line & 90° Connectors (both with LED) provide quick electrical connection when used in conjunction with the plug-in cable (sold separately). The standard Flying Lead features 300 mm wires for direct connection. The 15 mm valves incorporate a fourth option, the Spade Connector, providing installation versatility (DIN Connector available).

### Life Expectancy

50 million cycles @ 2,700 maximum cycles per minute (with standard working conditions)

This versatile valve offering includes 12 Volt DC, 24 Volt DC and 110 Volt AC coils. Three orifice diameters, 0.8 mm, 1.1 mm & 1.6 mm, are also available to fit flow rates to application requirements. Fast response times and high flow rates make this miniature valve ideal for a wide variety of applications.

### Pneumatic Performance Data 15 mm

Temperature Range			20°F to 120°F (-5°C to 50°C)*			
Orifice/ Function	Operating Pressure	Cv 50 psi	Flow Rate (scfm) Max. psi0-90 psi		Fill Time sec/ in3 100-10 psi	Exhaust Time sec/ in3
E, 0.8/1.1 mm NC, LW	150 psi	.017	.67	1.80 @ 150 psi (10 bar)	.21	.19
D, 1.1/1.1 mm NC	150 psi	.028	1.10	3.10 @ 150 psi (10 bar)	.12	.17
D, 1.1/1.1 mm NO	105 psi	.029	.97	1.82 @ 105 psi (7 bar)	.14	.26
B, 1.6/1.6 mm NC	105 psi	.047	1.90	3.60 @ 105 psi (7 bar)	.07	.12
B, 1.6/1.6 mm NO	75 psi	.034	1.40	2.10 @ 75 psi (5 bar)	.10	.16
C, 1.6/1.1 mm NO	105 psi	.026	1.00	1.90 @ 105 psi (7 bar)	.21	.19

Cv per ANSI / (NFPA) T3.21.3, \*100% Duty Cycled

### Electrical Performance Data 15 mm

Voltage Tolerance	Response Time Energize	Response Time De-energize	Copper Wire Insulation Class
-5 % to 10%	10 ms	12 ms	F 311°F (155°C)

Connector wire gauge: 24 AWG

### Materials

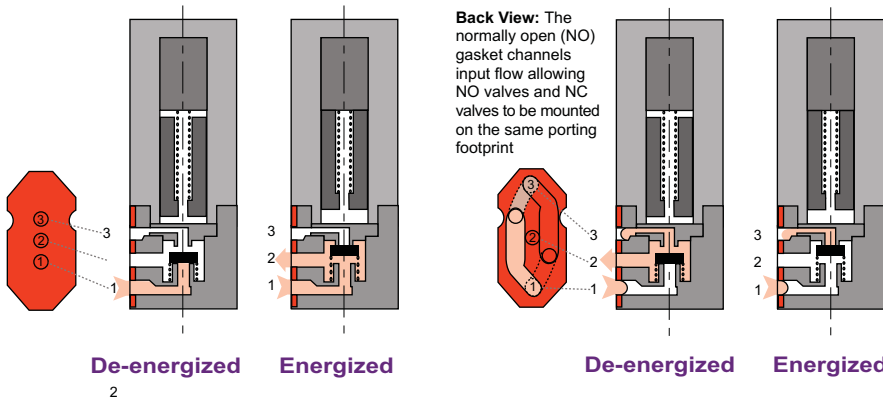
Copper, Nylon-Glass Filled, Stainless Steel, Buna-N

## 15 mm Solenoid Valve Cross Section

3-Way

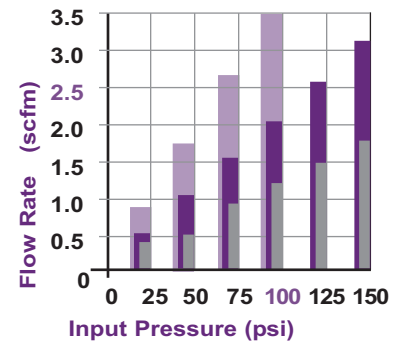
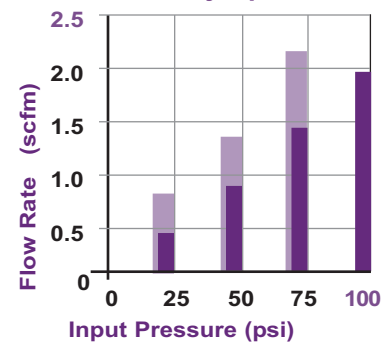
3-Way Normally Closed

3-Way Normally Open



## Port Designation

1	Input Port
2	Output Port
3	Exhaust Port

15 mm Solenoid Flow Chart  
Normally Closed15 mm Solenoid Flow Chart  
Normally Open

## Product Number Diagram

15 mm

S 1 5 M M - 3 0 - 1 2 - 0 B

**Actuator**  
Solenoid 15 mm

**Function**  
2= 2-Way  
3= 3-Way

**Position One**  
0= Normally Closed  
1= Normally Open

**Connectors**  
0= Spade  
2= Flying Leads 300 mm  
3= Line Connector w/LED  
4= 90° Connector w/LED

**Voltage**  
12= 12V DC  
12W = 12V DC 1 Watt  
24= 24V DC  
24W= 24V DC 1 Watt  
110 = 110 AC

**Orifice**  
B= Ø 1.6/1.6 mm  
C= Ø 1.6/1.1 mm (NO only)  
D= Ø 1.1/1.1 mm  
E= Ø 0.8/1.1 mm

## Example:

15 mm, 3-Way, Normally Closed, 12V DC, Spade Connector, 1.6 mm Ø Orifice

**Polarity Counts!**  
Some components require “+ to +” and “- to -” connection



15 mm Cover Plate (sold separately) includes mounting screws



DIN Connectors (sold separately-shown installed) available for 15 mm Spade Connector



Normally closed and normally open 15 mm valves can be mounted on the same manifold

### Coil can be rotated 180°

Cylinder Control Valves are ideal for applications requiring controlled movement of single-acting spring return cylinders. Designed for use with Pneumadyne's 15mm valves.

## Product Information 15 mm

### 2-Way Normally Closed

Part Number	Connection
<b>12V DC/ 2.5 Watt/ Orifice 1.6/1.6 mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
S15MM-20-12-0B	Spade
S15MM-20-12-2B	Flying Leads
S15MM-20-12-3B	Line Connector
S15MM-20-12-4B	90° Connector
<b>12V DC/ 2.5 Watt/ Orifice 1.1/1.1 mm</b>	
<b>150 psi- Max. Operating Pressure</b>	
S15MM-20-12-0D	Spade
S15MM-20-12-2D	Flying Leads
S15MM-20-12-3D	Line Connector
S15MM-20-12-4D	90° Connector
<b>12V DC/ 1.0 Watt/ Orifice 0.8/1.1 mm</b>	
<b>150 psi- Max. Operating Pressure</b>	
S15MM-20-12W-0E	Spade
S15MM-20-12W-2E	Flying Leads
S15MM-20-12W-3E	Line Connector
S15MM-20-12W-4E	90° Connector

<b>24V DC/ 2.5 Watt/ Orifice 1.6/1.6 mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
S15MM-20-24-0B	Spade
S15MM-20-24-2B	Flying Leads
S15MM-20-24-3B	Line Connector
S15MM-20-24-4B	90° Connector

<b>24V DC/ 2.5 Watt/ Orifice 1.1/1.1 mm</b>	
<b>150 psi- Max. Operating Pressure</b>	
S15MM-20-24-0D	Spade
S15MM-20-24-2D	Flying Leads
S15MM-20-24-3D	Line Connector
S15MM-20-24-4D	90° Connector

<b>24V DC/ 1.0 Watt/ Orifice 0.8/1.1 mm</b>	
<b>150 psi- Max. Operating Pressure</b>	
S15MM-20-24W-0E	Spade
S15MM-20-24W-2E	Flying Leads
S15MM-20-24W-3E	Line Connector
S15MM-20-24W-4E	90° Connector

### 2-Way Normally Open

Part Number	Connection
<b>12V DC/ 2.5 Watt/ Orifice 1.6/1.6 mm</b>	
<b>75 psi- Max. Operating Pressure</b>	
S15MM-21-12-0B	Spade
S15MM-21-12-2B	Flying Leads
S15MM-21-12-3B	Line Connector
S15MM-21-12-4B	90° Connector
<b>12V DC/ 2.5 Watt/ Orifice 1.6/1.1 mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
S15MM-21-12-0C	Spade
S15MM-21-12-2C	Flying Leads
S15MM-21-12-3C	Line Connector
S15MM-21-12-4C	90° Connector

<b>24V DC/ 2.5 Watt/ Orifice 1.6/1.6 mm</b>	
<b>75 psi- Max. Operating Pressure</b>	
S15MM-21-24-0B	Spade
S15MM-21-24-2B	Flying Leads
S15MM-21-24-3B	Line Connector
S15MM-21-24-4B	90° Connector
<b>24V DC/ 2.5 Watt/ Orifice 1.6/1.1mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
S15MM-21-24-0C	Spade
S15MM-21-24-2C	Flying Leads
S15MM-21-24-3C	Line Connector
S15MM-21-24-4C	90° Connector

### Accessories

Part Number	Description
SMMC-300	Plug-in cable 300 mm
SMMC-500	Plug-in cable 500 mm
SMMC-1000	Plug-in cable 1000 mm
MSV15-CP	15mm cover plate
SMM-DIN	DIN (15 mm ONLY)
SMM-MDIN	Molded DIN cable 3 M (15 mm ONLY)

## Product Information 15 mm

### 3-Way Normally Closed

Part Number	Connection
<b>12V DC/ 2.5 Watt/ Orifice 1.6/1.6 mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
<b>S15MM-30-12-0B</b>	Spade
<b>S15MM-30-12-2B</b>	Flying Leads
<b>S15MM-30-12-3B</b>	Line Connector
<b>S15MM-30-12-4B</b>	90° Connector
<b>12V DC/ 2.5 Watt/ Orifice 1.1/1.1 mm</b>	
<b>150 psi- Max. Operating Pressure</b>	
<b>S15MM-30-12-0D</b>	Spade
<b>S15MM-30-12-2D</b>	Flying Leads
<b>S15MM-30-12-3D</b>	Line Connector
<b>S15MM-30-12-4D</b>	90° Connector
<b>12V DC/ 1.0 Watt/ Orifice 0.8/1.1 mm</b>	
<b>150 psi- Max. Operating Pressure</b>	
<b>S15MM-30-12W-0E</b>	Spade
<b>S15MM-30-12W-2E</b>	Flying Leads
<b>S15MM-30-12W-3E</b>	Line Connector
<b>S15MM-30-12W-4E</b>	90° Connector

<b>24V DC/ 2.5 Watt/ Orifice 1.6/1.6 mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
<b>S15MM-30-24-0B</b>	Spade
<b>S15MM-30-24-2B</b>	Flying Leads
<b>S15MM-30-24-3B</b>	Line Connector
<b>S15MM-30-24-4B</b>	90° Connector
<b>24V DC/ 2.5 Watt/ Orifice 1.1/1.1 mm</b>	
<b>150 psi- Max. Operating Pressure</b>	
<b>S15MM-30-24-0D</b>	Spade
<b>S15MM-30-24-2D</b>	Flying Leads
<b>S15MM-30-24-3D</b>	Line Connector
<b>S15MM-30-24-4D</b>	90° Connector
<b>24V DC/ 1.0 Watt/ Orifice 0.8/1.1 mm</b>	
<b>150 psi- Max. Operating Pressure</b>	
<b>S15MM-30-24W-0E</b>	Spade
<b>S15MM-30-24W-2E</b>	Flying Leads
<b>S15MM-30-24W-3E</b>	Line Connector
<b>S15MM-30-24W-4E</b>	90° Connector

### 3-Way Normally Closed (Cont'd)

Part Number	Connection
<b>110V AC/ 2.8 VA/ Orifice 1.6/1.6 mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
<b>S15MM-30-110-0B</b>	Spade
<b>S15MM-30-110-2B</b>	Flying Leads
<b>S15MM-30-110-3B</b>	Line Connector
<b>S15MM-30-110-4B</b>	90° Connector
<b>110V AC/ 2.8 VA/ Orifice 1.1/1.1mm</b>	
<b>S15MM-30-110-0D</b>	Spade
<b>S15MM-30-110-2D</b>	Flying Leads
<b>S15MM-30-110-3D</b>	Line Connector
<b>S15MM-30-110-4D</b>	90° Connector

### 3-Way Normally Open

Part Number	Connection
<b>12V DC/ 2.5 Watt/ Orifice 1.6/1.6 mm</b>	
<b>75 psi- Max. Operating Pressure</b>	
<b>S15MM-31-12-0B</b>	Spade
<b>S15MM-31-12-2B</b>	Flying Leads
<b>S15MM-31-12-3B</b>	Line Connector
<b>S15MM-31-12-4B</b>	90° Connector
<b>12V DC/ 2.5 Watt/ Orifice 1.6/1.1 mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
<b>S15MM-31-12-0C</b>	Spade
<b>S15MM-31-12-2C</b>	Flying Leads
<b>S15MM-31-12-3C</b>	Line Connector
<b>S15MM-31-12-4C</b>	90° Connector
<b>12V DC/ 2.5 Watt/ Orifice 1.1/1.1 mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
<b>S15MM-31-12-0D</b>	Spade
<b>S15MM-31-12-2D</b>	Flying Leads
<b>S15MM-31-12-3D</b>	Line Connector
<b>S15MM-31-12-4D</b>	90° Connector



Pneumadyne's Solenoid Valves are recommended for use with our solenoid manifolds & single bases. For mounting convenience, single to 12-station manifolds are available with 10-32 (F) or M5 (F) threads. [See page 126 for product](#) for ordering information.

### 3-Way Normally Open (Cont'd)

Part Number	Connection
<b>24V DC/ 2.5 Watt/ Orifice 1.6/1.6 mm</b>	
<b>75 psi- Max. Operating Pressure</b>	
<b>S15MM-31-24-0B</b>	Spade
<b>S15MM-31-24-2B</b>	Flying Leads
<b>S15MM-31-24-3B</b>	Line Connector
<b>S15MM-31-24-4B</b>	90° Connector
<b>24V DC/ 2.5 Watt/ Orifice 1.6/1.1mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
<b>S15MM-31-24-0C</b>	Spade
<b>S15MM-31-24-2C</b>	Flying Leads
<b>S15MM-31-24-3C</b>	Line Connector
<b>S15MM-31-24-4C</b>	90° Connector
<b>24V DC/ 2.5 Watt/ Orifice 1.1/1.1mm</b>	
<b>105 psi- Max. Operating Pressure</b>	
<b>S15MM-31-24-0D</b>	Spade
<b>S15MM-31-24-2D</b>	Flying Leads
<b>S15MM-31-24-3D</b>	Line Connector
<b>S15MM-31-24-4D</b>	90° Connector

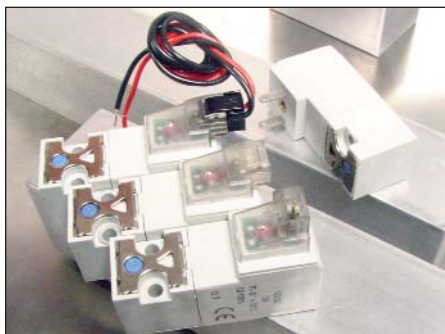


Position indicators- **Silver** plate indicates normally closed valve

**Black** plate indicates normally open valve



Manual override is standard on all 15 mm Solenoid Valves

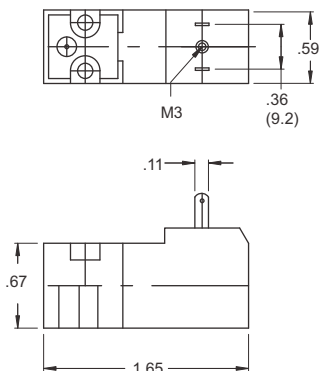


A variety of connector options provides installation versatility

## 15 mm Solenoid Valve

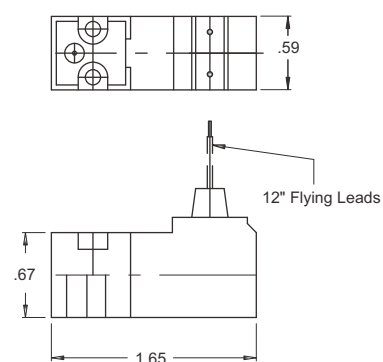
### Spade

#### "-0" Connector



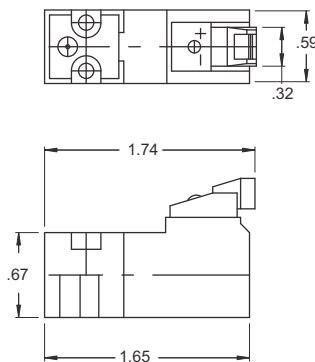
### Flying Leads

#### "-2" Connector



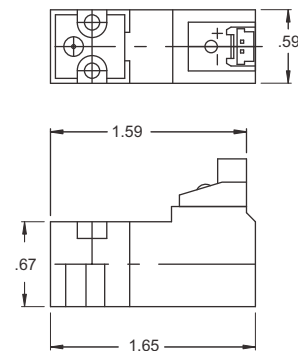
### Line Connector

#### "-3" Connector

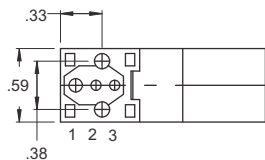


### 90° Connector

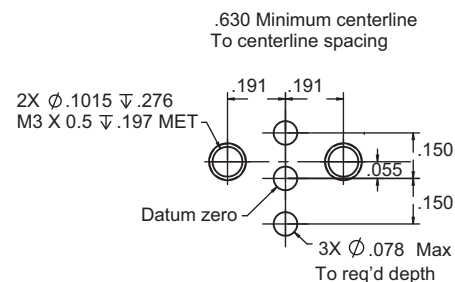
#### "-4" Connector



### 15 mm Port Designation



### 15 mm Footprint



## Ordering Information

- To order standard product refer to Product Information listing.
- Cover Plates available for use with manifolds.
- Plug-in Cable for use with Line and 90° Connectors available.
- Mounting screws provided.

● All measurements in inches, unless otherwise specified. When design makes a dimension critical- contact factory for confirmation. All dimensions shown subject to change without notice.



### Solenoid Operated Custom Products

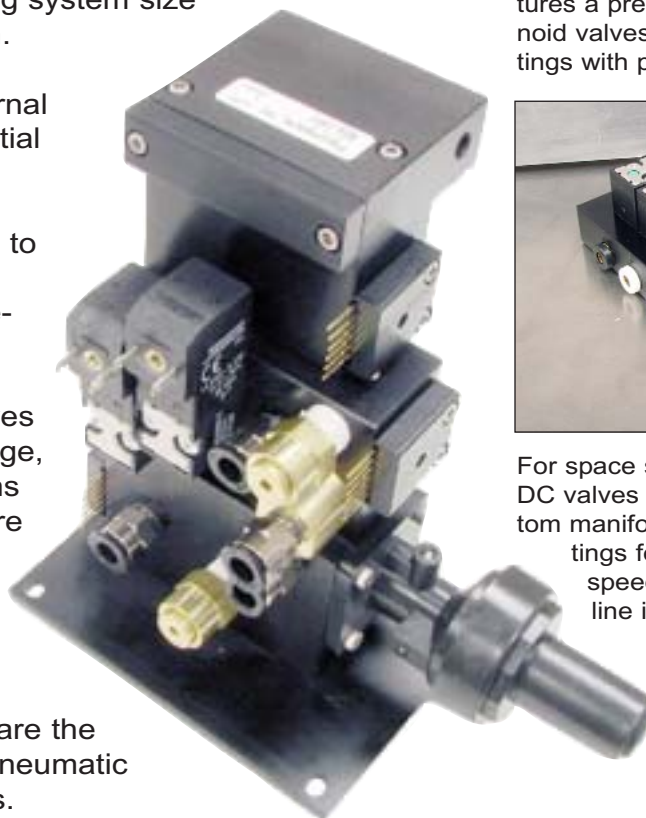
- Reduce system size through component consolidation
- Ease product installation saving time & money
- Eliminate potential leak-points
- Improve efficiency & appearance through good design
- Increase reliability with quality components

## Incorporating Solenoid Valves in Custom Products

For over 30 years, manufacturers have relied on Pneumadyne for innovative solutions to their fluid handling applications. Whether using standard or custom products, we take the time to understand your needs and recommend components and systems that best fit your requirements.

Incorporating solenoid valves in custom products allows Pneumadyne engineers to consolidate components into a common body thereby reducing system size and easing product installation. Component consolidation also decreases the number of external connections, eliminating potential leak-points in your application.

From basic lifting mechanisms to critical medical devices, the breadth of Pneumadyne's solenoid offering lends itself to a wide variety of applications. Four styles of high quality valves provide an assortment of voltage, connection and wattage options to ensure that specifications are met when used in custom products. With flow rates ranging from .99 to 7.5 scfm at 100 psi and response rates as low as 8 milliseconds, Pneumadyne solenoid valves are the ideal interface between your pneumatic systems and electrical controls.



This distinctive valve assembly features a pressure regulator, two solenoid valves, a needle valve and fittings with precision orifices



For space saving purposes, five 12V DC valves are condensed on a custom manifold. Push-to-connect fittings feature colored collets to speed installation and simplify line identification.

### Features

- Multiple mounting options
- Independent coil orientation
- Manual override
- 2 & 3-Way normally closed
- DIN Connector available



## 2 & 3-Way Solenoid Valves System 6

System 6 solenoids offer fast response times. A wide variety of voltages is available to fit application specifications. The low wattage (0.8 watt) version is ideal for use in low power control circuits.

Single to 5-station manifolds are available for mounting convenience. System 6 solenoids can be fixed in either direction on the manifold and coil orientation is independent of valve orientation.

### Life Expectancy

20 million cycles

### Pneumatic Performance Data System 6

Temperature Range			5°F to 122°F (-15°C to 50°C)			
Orifice/ Wattage	Operating Pressure	C <sub>v</sub>	Flow Rate (scfm)		Fill Time sec/ in <sup>3</sup> 0-90 psi	Exhaust Time sec/ in <sup>3</sup> 100-10 psi
			50 psi	125 psi		
Ø 0.6 mm / 0.8 watt	0-125 psi	.02	.47	1.05	.29	.47
Ø 1.0 mm / 2.9 watt, 3.1 VA	0-125 psi	.04	1.27	2.78	.11	.18

Cv per ANSI / (NFPA) T3.21.3

### Electrical Performance Data System 6

Voltage Tolerance	Response Time Energize	Response Time De-energize	Copper Wire Insulation Class
-10% to 10%	15 ms	7 ms	F 311°F (155°C)

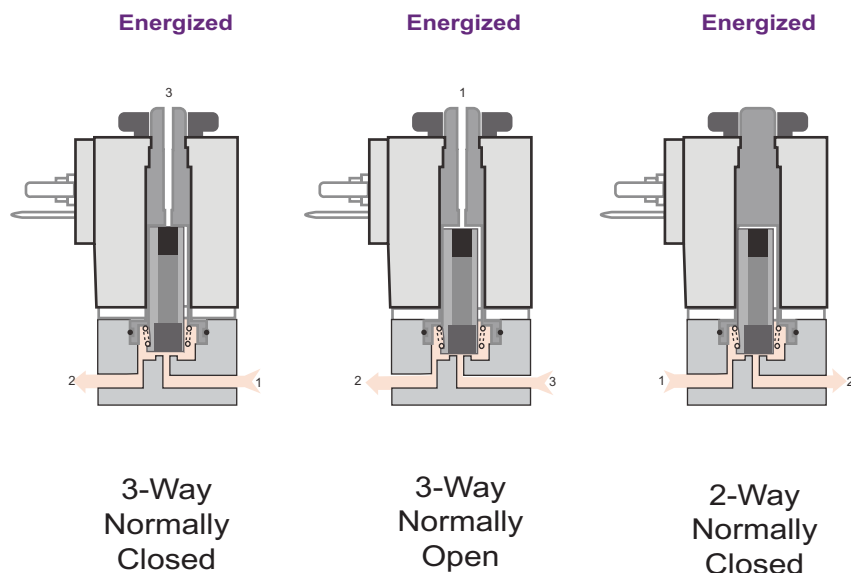
Flying leads wire gauge: 24 AWG

### Materials

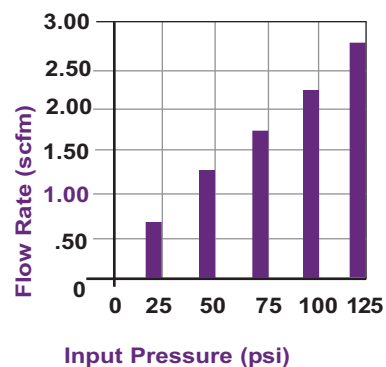
Brass, Enameled Copper, Viton®, Polyimide, Cr-Ni-Steel

## System 6 Solenoid Valve Cross Section

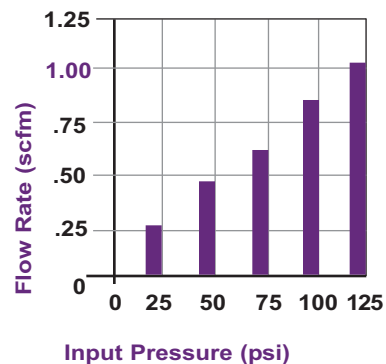
2-Way & 3-Way



System 6 Flow Chart  
1.0 Orifice



System 6 Flow Chart  
0.6 Orifice



### Port designation

1	2	3
Input Port	Output Port	Exhaust Port

*The low wattage (0.8 watt) version solenoid valve is ideal for use in low power control circuits*



18" 20 AWG Flying Leads



DIN Connector (shown installed)  
Provides dust and watertight termination while relieving strain between cable and solenoid



System 6 coil can be fixed at 12 o'clock, 3, 6, and 9 o'clock on the valve body

**Coil orientation is independent of valve orientation**

## Product Information System 6

### 2-Way Normally Closed

<i>Part Number</i>	<i>Description</i>
<b>Orifice 1.0 mm</b>	
<b>S6-20-110-0</b>	110/120 AC, 3.1 VA, Spade
<b>S6-20-110-2</b>	110/120 AC, 3.1 VA, Flying Leads
<b>S6-20-12-0</b>	12 DC, 2.9 Watt, Spade
<b>S6-20-12-2</b>	12 DC, 2.9 Watt, Flying Leads
<b>S6-20-220-0</b>	220/240 AC, 3.1 VA, Spade
<b>S6-20-220-2</b>	220/240 AC, 3.1 VA, Flying Leads
<b>S6-20-24AC-0</b>	24 AC, 3.1 VA, Spade
<b>S6-20-24AC-2</b>	24 AC, 3.1 VA, Flying Leads
<b>S6-20-24-0</b>	24 DC, 2.9 Watt, Spade
<b>S6-20-24-2</b>	24 DC, 2.9 Watt, Flying Leads

<i>Part Number</i>	<i>Description</i>
<b>Orifice 0.6 mm</b>	
<b>S6-20-12LW-0</b>	12 DC, 0.8 Watt, Spade
<b>S6-20-12LW-2</b>	12 DC, 0.8 Watt, Flying Leads
<b>S6-20-24LW-0</b>	24 DC, 0.8 Watt, Spade
<b>S6-20-24LW-2</b>	24 DC, 0.8 Watt, Flying Leads

### 3-Way Normally Closed

<i>Part Number</i>	<i>Description</i>
<b>Orifice 1.0 mm</b>	
<b>S6-30-110-0</b>	110/120 AC, 3.1 VA, Spade
<b>S6-30-110-2</b>	110/120 AC, 3.1 VA, Flying Leads
<b>S6-30-12-0</b>	12 DC, 2.9 Watt, Spade
<b>S6-30-12-2</b>	12 DC, 2.9 Watt, Flying Leads
<b>S6-30-220-0</b>	220/240 AC, 3.1 VA, Spade
<b>S6-30-220-2</b>	220/240 AC, 3.1 VA, Flying Leads
<b>S6-30-24AC-0</b>	24 AC, 3.1 VA, Spade
<b>S6-30-24AC-2</b>	24 AC, 3.1 VA, Flying Leads
<b>S6-30-24-0</b>	24 DC, 2.9 Watt, Spade
<b>S6-30-24-2</b>	24 DC, 2.9 Watt, Flying Leads

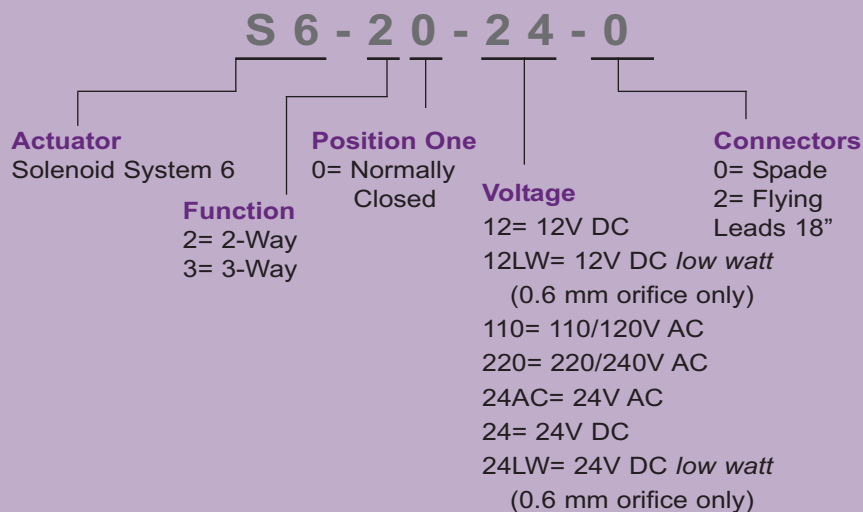
<i>Part Number</i>	<i>Description</i>
<b>Orifice 0.6 mm</b>	
<b>S6-30-12LW-0</b>	12 DC, 0.8 Watt, Spade
<b>S6-30-12LW-2</b>	12 DC, 0.8 Watt, Flying Leads
<b>S6-30-24LW-0</b>	24 DC, 0.8 Watt, Spade
<b>S6-30-24LW-2</b>	24 DC, 0.8 Watt, Flying Leads

### Accessories

<b>S6-DIN</b>	DIN Connector
---------------	---------------

For use with Pneumadyne's System 6 manifolds and bases.  
[See page 129 for product](#) and ordering information

## Product Number Diagram System 6



### Example:

Solenoid System 6, 2-Way, Normally Closed, 24V DC, Spade connectors

## Ordering Information

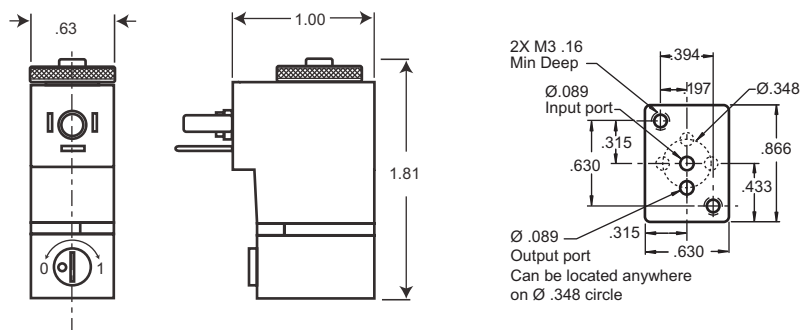
- Solenoid valve and manifold sold separately.
- To order standard product refer to Product Information listing.
- Mounting screws (2) are provided.
- Contact factory for DIN Connector with LED and/or suppression.



A wide variety of voltages is available to fit application specifications

## System 6

### Footprint



- All measurements in inches, unless otherwise specified. When design makes a dimensions critical- contact factory for confirmation. All dimensions shown subject to change without notice.

### Features

- Multiple mounting options
- Independent coil orientation
- Manual override
- 2 & 3-Way normally closed, 3-Way normally open
- DIN connector available
- 6.0 Watt coils



## 2 & 3-Way Solenoid Valves System 8

Pneumadyne's System 8 Solenoid Valves feature a larger orifice for applications requiring higher flow rates. A variety of voltage and mounting options are available to fit system specifications.

Our single base and 2 to 10-station manifolds are convenient solutions for plumbing single or multiple valves. System 8 solenoid valves can be fixed in either direction on the manifold and coil orientation is independent of valve orientation.



System 8 Solenoid Valves feature a larger orifice for applications requiring higher flow rates

### Pneumatic Performance Data System 8

Temperature Range			5°F to 122°F (-15°C to 50°C)			
Orifice/ Function	Operating Pressure	C <sub>v</sub>	Flow Rate (scfm)		Fill Time sec/ in <sup>3</sup> 0-90 psi	Exhaust Time sec/ in <sup>3</sup> 100-10 psi
			50 psi	125 psi		
1.5 mm/ 3WNC / 3WNO	0-150 psi	.074	2.83	6.2	.05	.08
2.5 mm/ 2WNC	0-150 psi	.106	4.10	9.0	.03	N/A

Cv per ANSI / (NFPA) T3.21.3

### Electrical Performance Data System 8

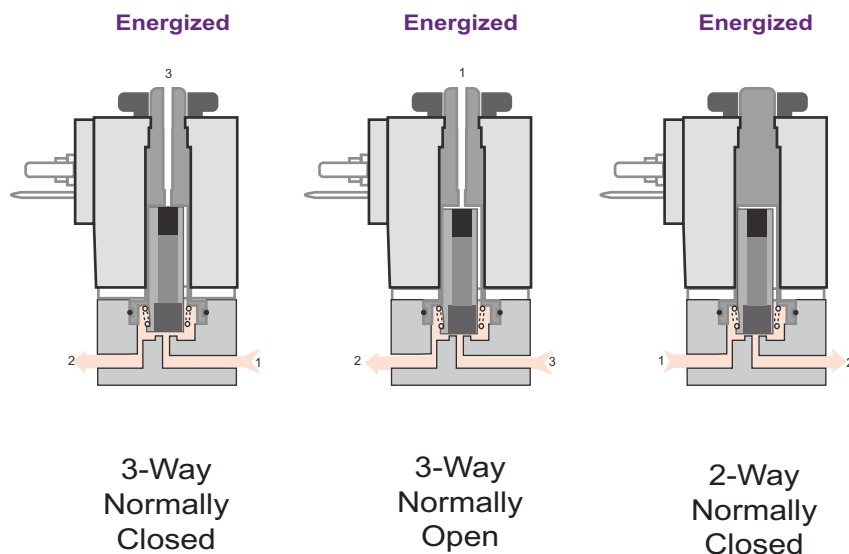
Voltage Tolerance	Response Time Energize	Response Time De-energize	Copper Wire Insulation Class
-10% to 10%	8 ms	9 ms	F 311°F (155°C)

### Materials

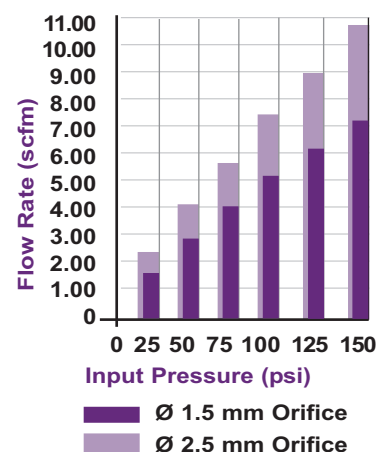
Brass, Enameled Copper, Viton®, Polyimide, Cr-Ni-Steel

## System 8 Solenoid Valve Cross Section

2-Way &amp; 3-Way



System 8 Flow Chart



## Port designation

1	2	3
Input Port	Output Port	Exhaust Port



S8-DIN- Degree of protection according to IEC 529 in attached state: IP 65

Cable outlet can be turned 180°  
Surge suppression available with LED light

Product Number Diagram  
System 8

S 8 - 3 0 - 1 2 - 0

## Actuator

Solenoid System 8

## Function

2= 2-Way  
3= 3-Way

## Position One

0= Normally Closed  
1= Normally Open

## Voltage

12= 12V DC  
110= 110/120V AC  
220= 220/240V AC  
24= 24V DC

## Connectors

0= Spade

## Example:

Solenoid System 8, 3-Way, Normally Closed, 12V DC, Spade connectors

**2 to 10-station manifolds are convenient solutions for plumbing single or multiple valves**



DIN Connector (shown installed)  
Provides dust and watertight termination while relieving strain between cable and solenoid



System 8 coil can be fixed at 12 o'clock, 3, 6, and 9 o'clock on the valve body

## Product Information System 8

## 2-Way Normally Closed

<b>Part Number</b>	<b>Description</b>
<b>Orifice 2.5 mm</b>	
<b>S8-20-12-0</b>	12 DC, 6.0 Watt
<b>S8-20-24-0</b>	24 DC, 6.0 Watt
<b>S8-20-110-0</b>	110/120 AC, 9.3 VA
<b>S8-20-220-0</b>	220/240 AC, 9.3 VA

### 3-Way Normally Open

<b>Part Number</b>	<b>Description</b>
<b>Orifice 1.5 mm</b>	
<b>S8-31-12-0</b>	12 DC, 6.0 Watt
<b>S8-31-24-0</b>	24 DC, 6.0 Watt
<b>S8-31-110-0</b>	110/120 AC, 9.3 VA
<b>S8-31-220-0</b>	220/240 AC, 9.3 VA

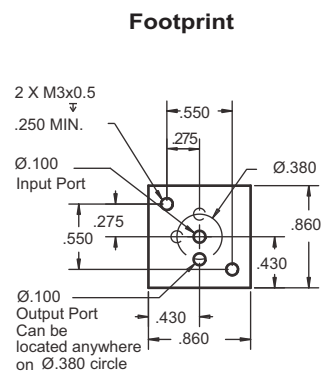
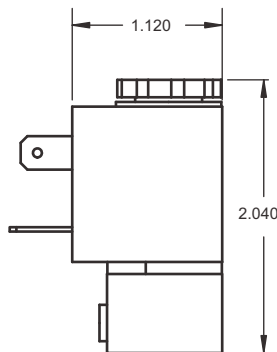
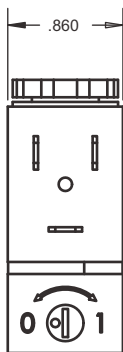
### 3-Way Normally Closed

<b>Part Number</b>	<b>Description</b>
<b>Orifice 1.5 mm</b>	
<b>S8-30-12-0</b>	12 DC, 6.0 Watt
<b>S8-30-24-0</b>	24 DC, 6.0 Watt
<b>S8-30-110-0</b>	110/120 AC, 9.3 VA
<b>S8-30-220-0</b>	220/240 AC, 9.3 VA

## Accessories

**S8-DIN**      DIN Connector

## System 8

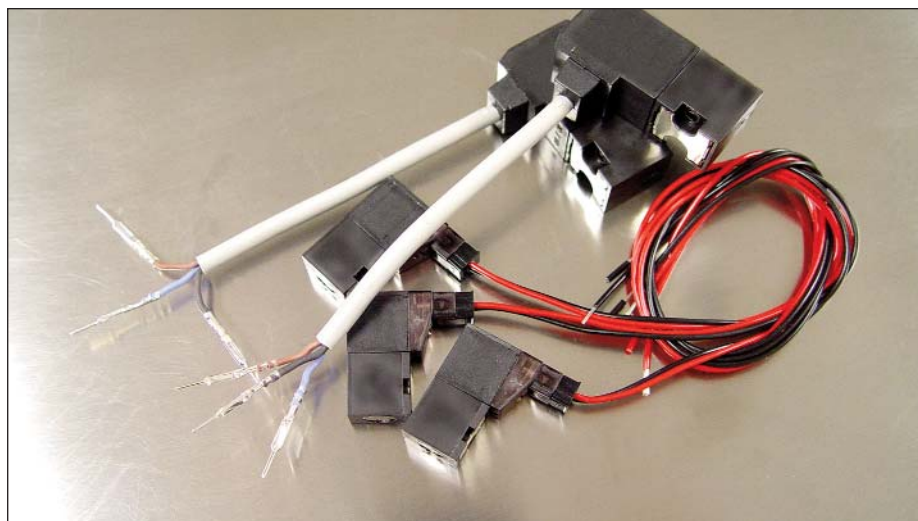


***Coil orientation is independent of valve orientation***

- All measurements in inches, unless otherwise specified. When design makes a dimensions critical- contact factory for confirmation. All dimensions shown subject to change without notice.

## Ordering Information

- Solenoid valve and manifold sold separately.
- To order standard product refer to Product Information listing.
- Mounting screws (2) are provided.
- Contact factory for DIN Connector with LED and/or suppression.
- EPDM seals are optional. Contact factory for ordering information.



### Features

- Momentary pulse required to energize & to de-energize
- 3-Wire system (15 mm)
- Relay not required to reverse polarity (15 mm)
- 2-Way & 3-Way normally closed
- Fast response time
- 12 & 24 V DC
- 10 mm & 15 mm valves
- Miniature size

## Pneumatic Performance Data

Temperature Range		20°F to 120°F (-5°C to 50°C)					
	Orifice/ Function	Operating Pressure	C <sub>v</sub>	Flow Rate (scfm)		Fill Time sec/ in <sup>3</sup> 0-90 psi	Exhaust Time sec/ in <sup>3</sup> 100-10 psi
				50 psi	Max. psi		
10 mm	.75 mm NC	0 to 105 psi	.016	0.62	1.22 @ 105psi (7 Bar)	.23	.30
15 mm	1.1 mm NC	0 to 150 psi	.032	1.28	3.38 @ 150 psi (10 bar)	.11	.17
15 mm	1.6 mm NC	0 to 105 psi	.046	1.98	3.93 @ 105 psi (7 bar)	.073	.12

Cv per ANSI / (NFPA) T3.21.3

\*Will operate at 1.0 psi

## 2 & 3-Way Latching Solenoid Valves 10 & 15 mm

Pneumadyne's 10 mm & 15 mm Latching Solenoid Valves are ideal for applications where power is limited or coil heating is unwanted; continuous power is not required to maintain the energized position. An internal magnet holds the valve in the open position when the power supply is removed, saving power consumption. Fast response times allow for a momentary pulse to energize and de-energize the valves. The 15 mm valves need only 10 milliseconds to energize and 12 milliseconds to de-energize.

## Electrical Performance Data

	Power (Watt)	Voltages	Voltage Tolerance	Response Time Energize	Response Time De-energize	Copper Wire Insulation Class
10 mm	1.6	24 DC	-5 % to 10%	8 ms	10 ms	F 311°F (155°C)
15 mm	4	12 DC, 24 DC	-5 % to 10%	10 ms	12 ms	F 311°F (155°C)

Flying leads wire gauge: 24 AWG

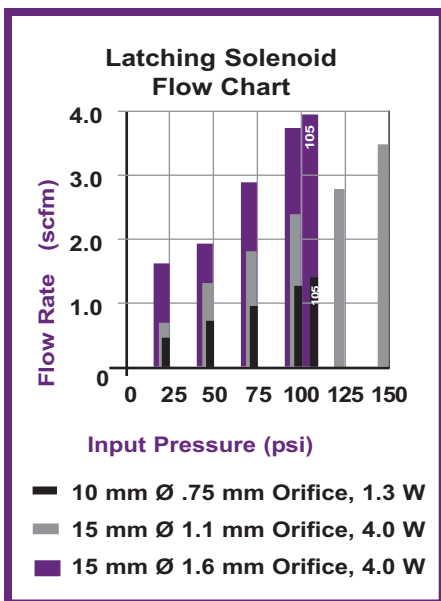
## Life Expectancy

50 million cycles- with standard working conditions-@ 2,700 maximum cycles per minute

## Materials

Copper, Nylon-Glass Filled, Stainless Steel, Buna-N

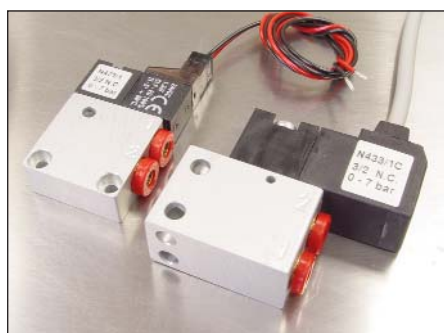
**15 mm valves energize  
in 10 milliseconds and  
de-energize in  
12 milliseconds**



Pneumadyne's Latching Solenoid Valves are recommended for use with our solenoid manifolds & single bases. For mounting convenience, single to 12-station manifolds are available with 10-32 (F) or M5 (F) threads.

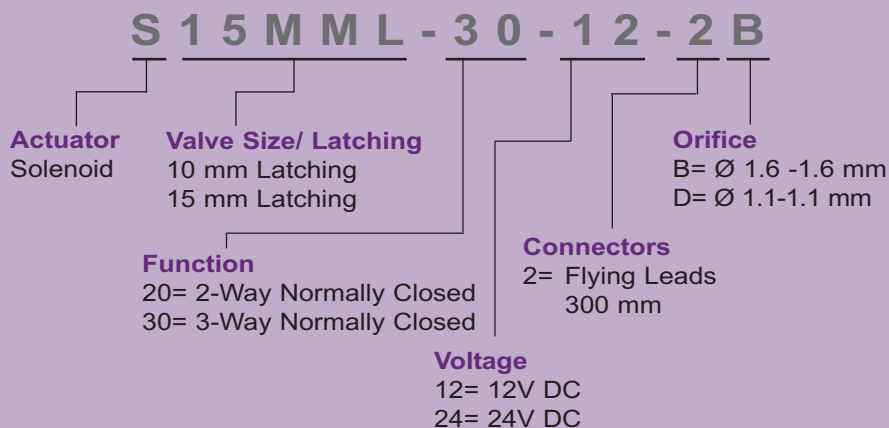


Manifolds are designed for use with specific valves. Be sure to select from the correct product grouping when [ordering manifolds and bases](#) for use with solenoid valves



[Single bases available](#) with a variety of porting options

## Product Number Diagram Latching Solenoid Valve



**Example:** 15 mm, Latching, 3-Way, Normally Closed, 12V DC, Flying Lead Connector, 1.6 mm Ø Orifice

### Function: 10 mm Valve

The 10 mm valve features a 2-wire system to reverse polarity. Applying an electrical signal to the Red wire and ground to the Black wire energizes (latches) the valve. An internal magnet holds the valve in the energized (open) position when the power supply is removed. Reversing the wires, ground to Red and electrical signal to Black, de-energizes (unlatches) the valve.

#### 2-Wire System

Power to Red, Ground to Black – Latch / Energize  
Ground to Red, Power to Black – Unlatch / De-energize

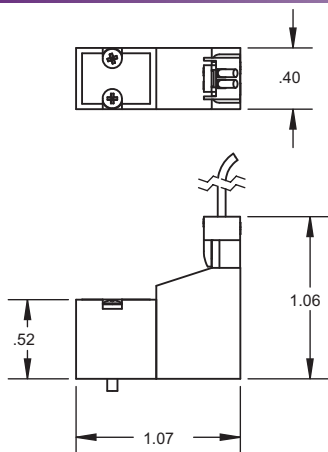
### Function: 15 mm Valve

The 15 mm valves feature a 3-wire system to reverse polarity; Relays are not required. Applying an electrical signal to the Brown wire energizes (latches) the valve. The internal magnet holds the valve in the energized (open) position when the power supply is removed. Applying an electrical signal to the Blue wire de-energizes (unlatches) the valve.

#### 3-Wire System

Brown – Latch / Energize / +  
Black – Common / -  
Blue – Unlatch / De-energize / +

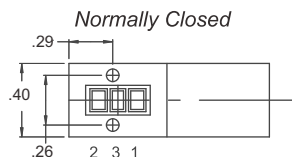
## Latching Solenoid Valve



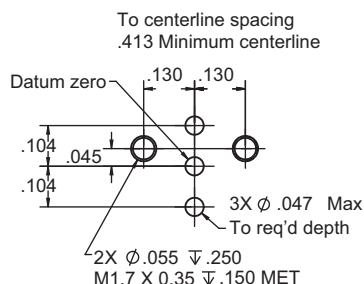
## Port designation

1	Input Port
2	Output Port
3	Exhaust Port

## Port Designation



## Footprint



10 mm

## Product Information

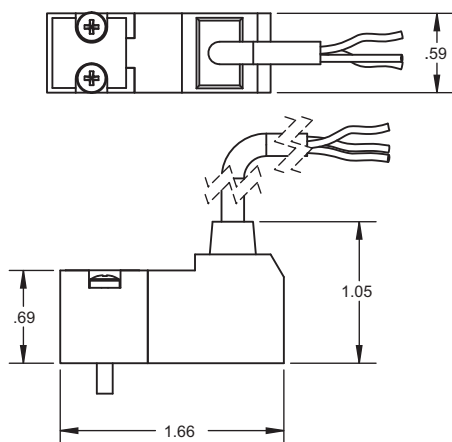
## 2-Way Normally Closed

Part Number	Voltage	Orifice
<b>15 mm (4.0 Watt)</b>		
<b>Flying Leads</b> S15MML-20-12-2B	12 DC	1.6 mm
S15MML-20-12-2D	12 DC	1.1 mm
S15MML-20-24-2B	24 DC	1.6 mm
S15MML-20-24-2D	24 DC	1.1 mm

## 3-Way Normally Closed

Part Number	Voltage	Orifice
<b>10 mm (1.6 Watt) Flying Leads</b>		
S10MML-30-24-2	24 DC	.75 mm
<b>15 mm (4.0 Watt)</b>		
<b>Flying Leads</b> S15MML-30-6-2B	6 DC	1.6 mm
S15MML-30-12-2B	12 DC	1.6 mm
S15MML-30-12-2D	12 DC	1.1 mm
S15MML-30-24-2B	24 DC	1.6 mm
S15MML-30-24-2D	24 DC	1.1 mm

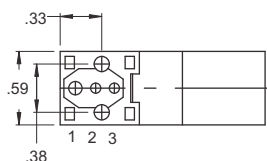
## Latching Solenoid Valve



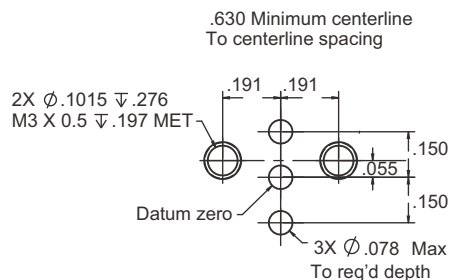
## Port designation

1	Input Port
2	Output Port
3	Exhaust Port

## Port Designations



## Footprint



15 mm

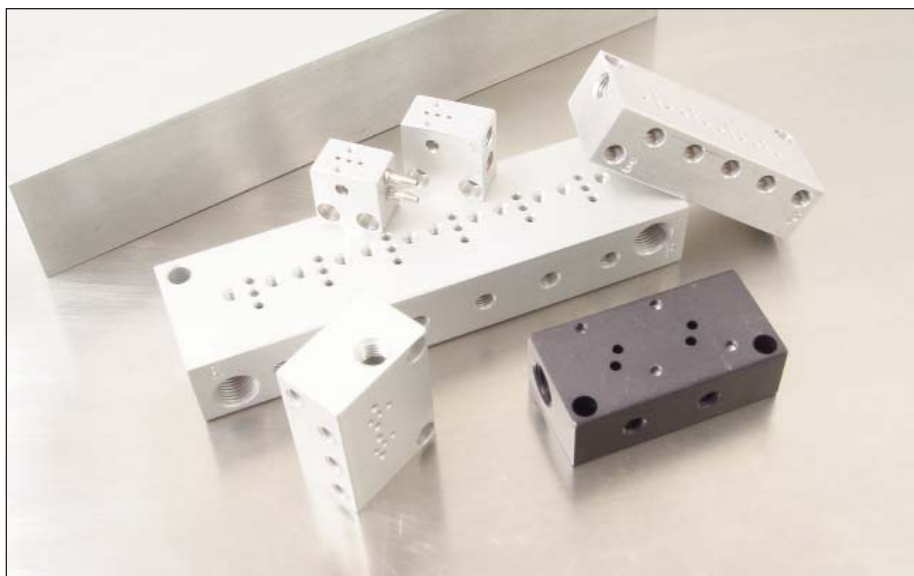
## Ordering Information

- To order standard product refer to Product Information listing.
- Solenoid valve and manifold sold separately.
- Cover Plates available for use with manifolds.
- Mounting screws (2) are provided.

● All measurements in inches, unless otherwise specified. When design makes a dimensions critical- contact factory for confirmation. All dimensions shown subject to change without notice.

### Features

- Single to 12 stations
- Variety of port sizes
- Compact
- Precision machined
- Anodized aluminum for corrosion resistance



## Manifolds & Single Bases

### For use with Pneumadyne Solenoid Valves

Pneumadyne manifolds are a compact, cost effective solution for mounting multiple [solenoid valves](#). Single to 12-station manifolds are available with 10-32 (F), M5 (F), 1/8 NPT (F) or 1/4 NPT (F) threads. For added versatility, the single bases also feature 5/32 push-to-connect.

All manifolds are anodized for corrosion resistance. Cover plates are available to conceal unused stations and block the valve supply port.

- [Push-to-connect fittings available](#) for 1/8" and 5/32" OD tubing. (For use with multiple station manifolds)



Manifolds are designed for use with specific valves. Be sure to select from the correct product grouping when ordering manifolds and bases for use with solenoid valves.

### Performance Data

Temperature Range	Operating Pressure
-10°F to 200°F -23°C to 93°C	Determined by Valve

### Materials

Aluminum/ Anodize

### Port Options

Manifold	Single Station	Multiple Station	
		Pressure	Output
10 mm	● M5 ● 10-32 ● 5/32 PI	● 10-32 ● M5	● 10-32 ● M5
15 mm	● M5 ● 10-32 ● 5/32 PI	1/8 NPT	10-32
System 6	10-32	1/8 NPT	10-32
System 8	1/8 NPT	1/4 NPT	10-32

### Fitting Recommendations

Standard 1/4 hex O-ring fittings are recommended for use with standard threaded manifolds and single bases. Please refer to Pneumadyne's full line catalog for fitting information.

Fittings must be installed prior to mounting valves.



## 15 mm Manifolds

Part Number	Stations	A	B
MSV15-2	2	1.74	2.13
MSV15-4	4	2.99	3.38
MSV15-6	6	4.24	4.63
MSV15-8	8	5.49	5.88
MSV15-10	10	6.74	7.13
MSV15-12	12	7.99	8.38
MSV15-2-M5	2	1.74	2.13
MSV15-4-M5	4	2.99	3.38
MSV15-6-M5	6	4.24	4.63
MSV15-8-M5	8	5.49	5.88
MSV15-10-M5	10	6.74	7.13
MSV15-12-M5	12	7.99	8.38

**Normally closed and normally open 15 mm valves can be mounted on the same manifold**

## 15 mm Bases

Part Number	Stations	Lgth	width	hgt
MSV15-1	1	1.25	.63	.66
MSV15-1-M5	1	1.25	.63	.66
MSV15-1-M5P	1	1.25	.63	.88
MSV15-1P	1	1.25	.63	.88
MSV15-1-156	1	1.25	.63	.88

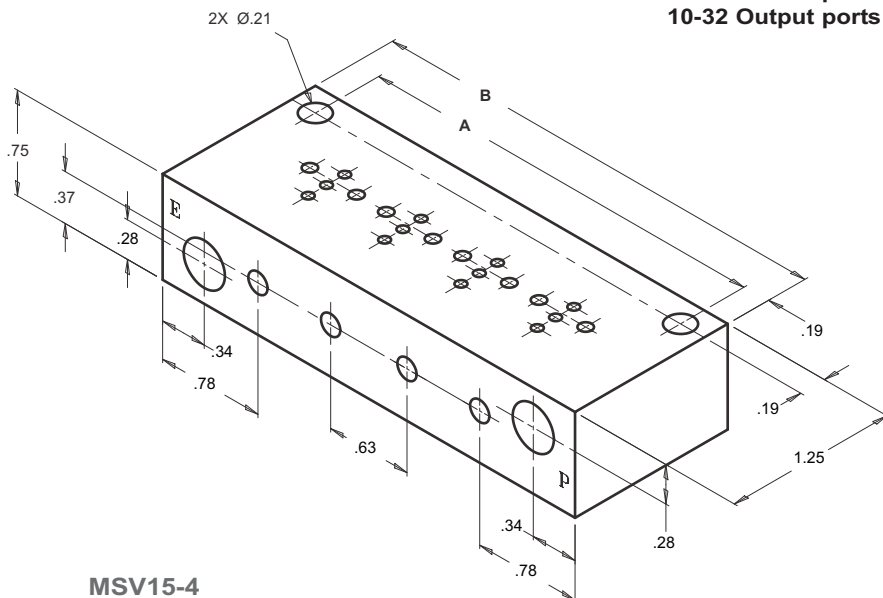


Solenoid single bases and multiple station manifolds feature a clear anodic coating which provides corrosion and wear resistance

**We design custom products to meet your application needs**

## 15 mm Manifold

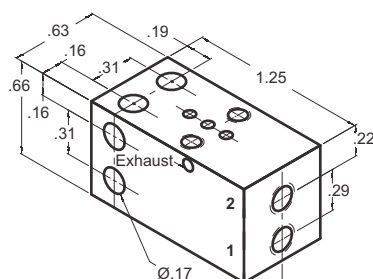
**Multiple Station**  
1/8 NPT Pressure and Exhaust ports  
10-32 Output ports



## 15 mm Single Bases

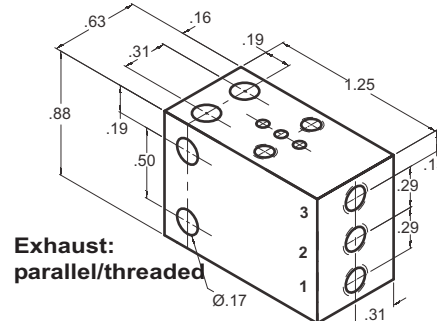
**Single Station**

**MSV15-1 10-32**  
**MSV15-1-M5 M5 ports**



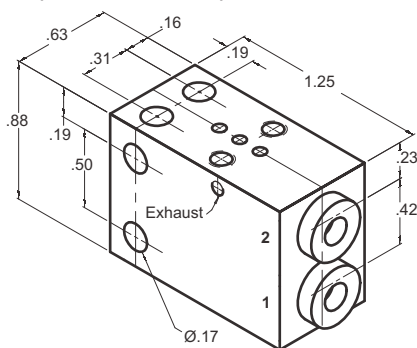
● For use with 1/4 hex fittings

**MSV15-1P 10-32 ports**  
**MSV15-1-M5P M5 ports**



● For use with 1/4 hex fittings

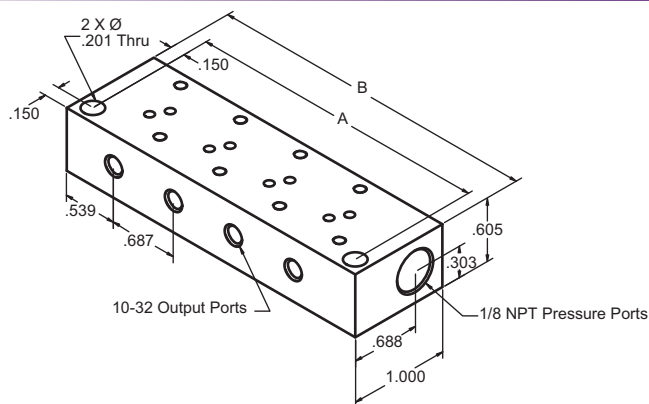
**MSV15-1-156**  
5/32 push-to-connect ports



\* Single base mount: Valve hangs over ports ([pg. 124 lower photo](#))

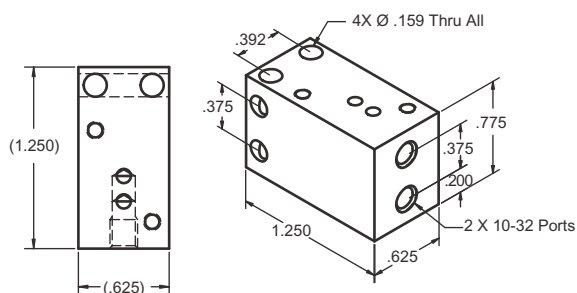
**We design custom products to meet your application needs**

## System 6 Manifold

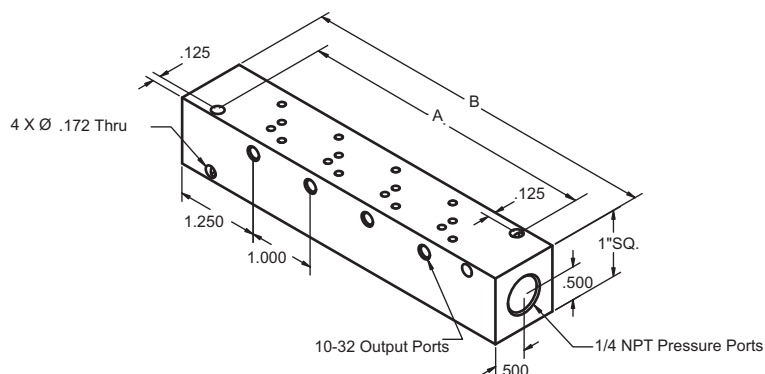


## System 6 Base

## MSV6-1

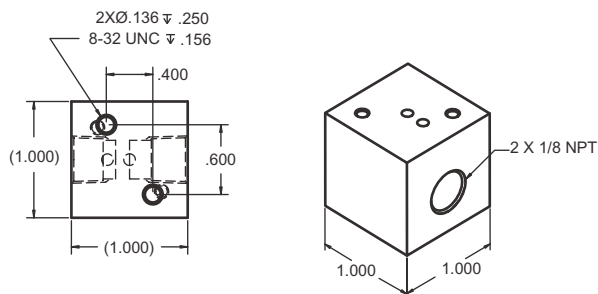


## System 8 Manifold



## System 8 Base

## MSV8-1



## System 6 Manifolds

<i>Part Number</i>	<i>Stations</i>	<i>A</i>	<i>B</i>
<b>MSV6-1</b>	1	<i>See Drawing</i>	
<b>MSV6-2</b>	2	1.64	1.94
<b>MSV6-3</b>	3	2.33	2.63
<b>MSV6-4</b>	4	3.01	3.31
<b>MSV6-5</b>	5	3.70	4.00



System 6 parallel ported single station manifold

## System 8 Manifolds

<b>Part Number</b>	<b>Stations</b>	<b>A</b>	<b>B</b>
<b>MSV8-1</b>	1	<i>See Drawing</i>	
<b>MSV8-2</b>	2	2.50	3.50
<b>MSV8-3</b>	3	3.50	4.50
<b>MSV8-4</b>	4	4.50	5.50
<b>MSV8-5</b>	5	5.50	6.50
<b>MSV8-6</b>	6	6.50	7.50
<b>MSV8-7</b>	7	7.50	8.50
<b>MSV8-8</b>	8	8.50	9.50
<b>MSV8-9</b>	9	9.50	10.50
<b>MSV8-10</b>	10	10.50	11.50

## Ordering Information

- To order standard product refer to Product Information listing.
- Contact factory for custom colors.
- Cover Plates available.
- Solenoid valves sold separately. Refer to Solenoid Valve section for ordering information.

## Features

- Controls cylinder extension and retraction
- Allows rapid cylinder return
- 3-Way Normally Closed
- Quick Exhaust & Needle Valve options
- Male pipe thread for direct mount to single acting spring return cylinders



## Cylinder Control Bases

When used in conjunction with Pneumadyne's 15 mm Solenoid Valves, these precision machined bases are an ideal choice for applications requiring controlled movement of single-acting spring return cylinders. Configurations featuring a quick exhaust and/or needle valve are available to easily control cylinder extension and retraction speeds. These precision machined valves were designed for use with [Pneumadyne's 15 mm Solenoid Valves \(sold separately\)](#).

## Materials

Brass/Electroless Nickel,  
Aluminum/Anodize, Stainless  
Steel, Buna-N, Urethane

## Performance Data

Temperature Range		Operating Pressure		Media	
-20° to 160° F		0 to 125 psi		Air	
Product	Max. Flow (scfm)		C <sub>v</sub>	Fill Time sec/in3 0-90 psi	Exhaust Time sec/ in3 100-10 psi
	50 psi	125 psi			
CCV-F1-1	2.1	4.6	.045	.070	.120
CCV-F1-2	1.8	4.1	.045	.070	.012
CCV-F1-3	2.1	4.6	.045	.070	.012
CCV-F1-4	1.8	4.1	.045	.070	.120
CCV-44-4	1.8	4.1	.045	.070	.120

Cv per ANSI / (NFPA) T3.21.3

Operator: 15 mm 3WNC solenoid valve Ø1.6 mm orifice (sold separately)

**Five configurations** are available to accommodate cylinder extension and retraction requirements:

**CCV-F1-1** features a 10-32 (F) input port and 1/8 NPT output port. Input pressure determines the rate of cylinder extension while the cylinder's spring controls rod retraction.

**CCV-F1-2** offers the combination of a Needle Valve and Quick Exhaust providing controlled cylinder movement in both directions. A built-in Needle Valve in the input port, 10-32 (F), controls cylinder extension while the 1/8 NPT Quick Exhaust in the output port allows rapid cylinder return.

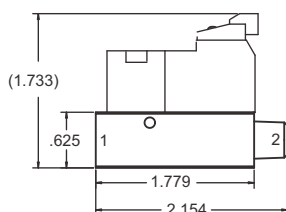
**CCV-F1-3** provides a 10-32 (F) input port and built-in Quick Exhaust with 1/8 NPT output port. Input pressure controls the cylinder extension and the Quick Exhaust allows rapid cylinder return.

**CCV-F1-4** features a built-in Needle Valve in the input port, 10-32 (F), for controlled cylinder extension. The cylinder's spring controls rod retraction.

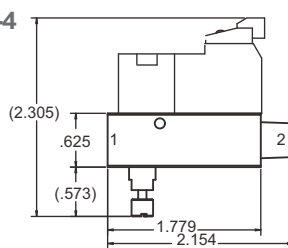
**CCV-44-4** features 1/8 NPT (F) input and output ports. A built-in Needle Valve in the input port provides controlled cylinder extension while the cylinder's spring controls rod retraction.

## Cylinder Control Valve

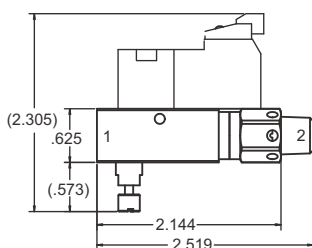
CCV-F1-1



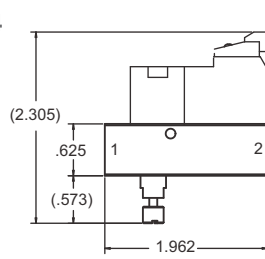
CCV-F1-4



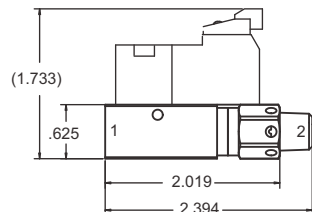
CCV-F1-2



CCV-44-4

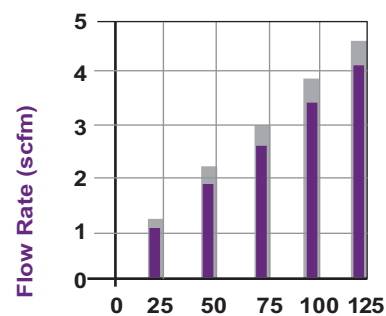


CCV-F1-3



## Cylinder Control Valve

Max. Flow vs. Input Pressure

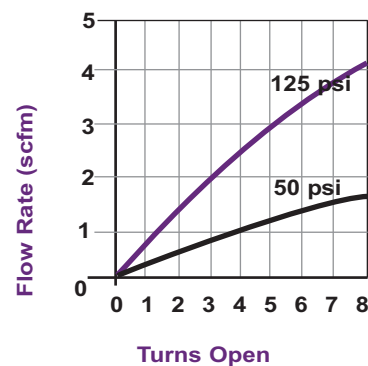


Input Pressure (psi)

CCV-F1-2  
CCV-F1-4, CCV-44-4  
CCV-F1-1 & CCV-F1-3

## Cylinder Control Valve

Turns vs. Pressure for Needle Valves



## Function

Applying an electrical signal to the solenoid results in the controlled rod movement determined by the Cylinder Control Base.

## Product Information

Part Number	Input	Output
CCV-F1-1	10-32 (F)	1/8 NPT
CCV-F1-2	10-32 (F) Needle Valve	1/8 NPT Quick Exhaust
CCV-F1-3	10-32 (F)	1/8 NPT Quick Exhaust
CCV-F1-4	10-32 (F) Needle Valve	1/8 NPT
CCV-44-4	1/8 NPT (F) Needle Valve	1/8 NPT (F)

## Ordering Information

- To order standard product refer to Product Information listing.
- 15 mm Solenoid Valves sold separately.
- Contact factory for custom porting configurations.

*Ideal for controlling the movement of single-acting spring return cylinders*

## Features

- 3-way normally closed, 3-way normally open & 4-way
- Manual override
- Balanced spool
- Mounting versatility
- Lubricated and Non-lubricated air
- Several connector options
- Low power consumption

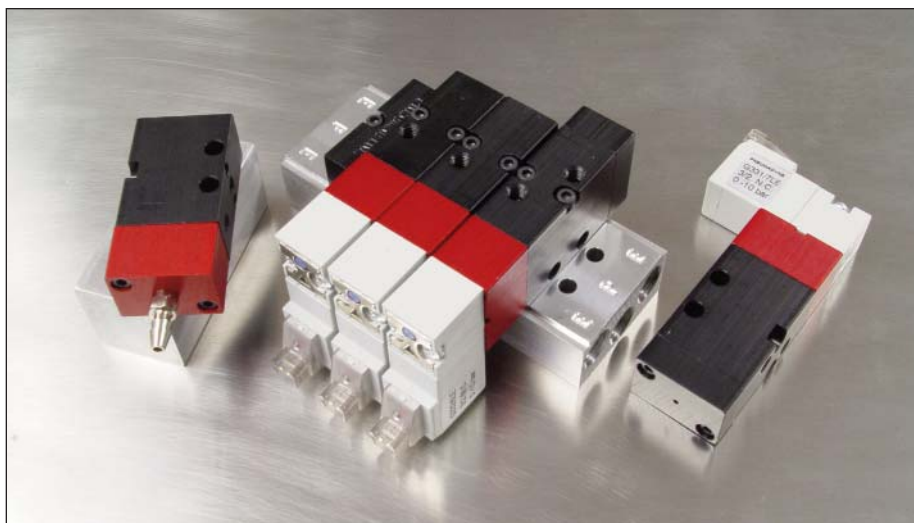
## Solenoid & Air Pilot Operated 3 & 4-Way Valves "20" Series

The modular design of Pneumadyne's "20" Series provides plumbing convenience and mounting versatility. For installation flexibility, these high flow 3-way and 4-way valves are available with a 10-32 (F) air pilot or a variety of 1 watt 15 mm solenoid operators. Precision machining and an exclusive plating process ensure a long product life and enable the valves to be used with lubricated and non-lubricated air.

### Materials

Aluminum/Anodize,  
Brass/Electroless Nickel,  
Buna-N, Stainless Steel,  
Copper, Nylon-Glass Filled

**Tested for millions of trouble free cycles**



### Two Body Styles Provide Versatility

The unique design of the **Universal** valve body allows inline or multiple station manifold mounting. When used with Pneumadyne's Universal Manifolds, the 10-32 (F) cylinder ports are located on the top of the valve body and exhaust flow is directed through 1/8 NPT (F) ports on the manifold. This configuration is ideal for applications requiring the capture and removal of exhaust flow.

The **Manifold** ported valve body must be used with Pneumadyne's "20" Series standard manifolds. This compact valve package features 10-32 (F) output ports located on one side of the manifold contributing to a cleaner, faster installation. Positioning the input and output ports on the manifold permits the valve to be changed without disconnecting system plumbing. Speed control valves can be used in the 10-32 (F) exhaust ports located on top of the valve body, ideal for controlling cylinder speeds from a central location.

### Pneumatic Performance Data "20" Series

Temperature Range		20°F to 120°F (-5°C to 50°C)*				
Operating Pressure	C <sub>v</sub>	Flow Rate (scfm)		Fill Time sec/ in <sup>3</sup> 0-90 psi	Exhaust Time sec/ in <sup>3</sup> 100-10 psi	Actuating Pressure (min. psi)
		50 psi	125 psi			
0-125 psi (0-8.6 bar)	.15	5.8	12.1	.02	.05	15

Cv per ANSI / (NFPA) T3.21.3, \*100% Duty Cycled

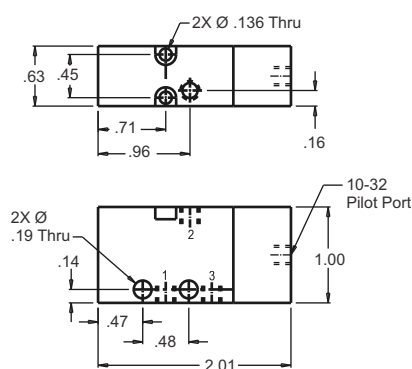
### Electrical Performance Data Solenoid Operator

Power	Voltages	Voltage Tolerance	Response Time Energize	Response Time De-energize	Copper Wire Insulation Class
1 Watt	12 DC, 24 DC	-5% to 10%	10 ms	12 ms	F 311°F (155°C)
2.8 VA 2.5 VA holding	110 50/60Hz				

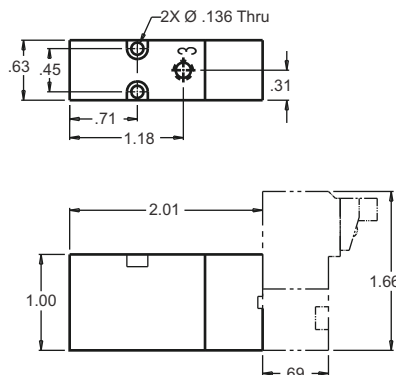
Connector wire gauge: 24 AWG

## "20" Series Valves

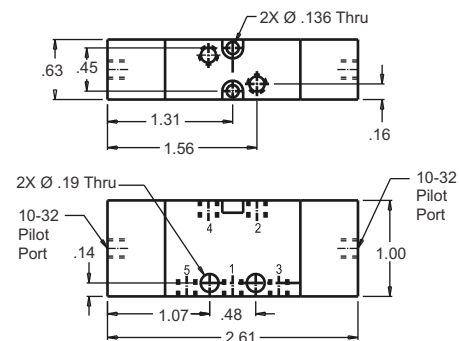
## 3-Way Single Air Pilot



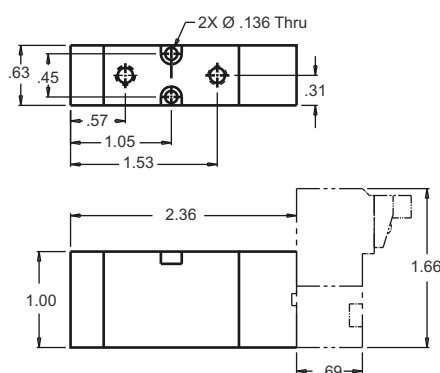
## 3-Way Single Solenoid



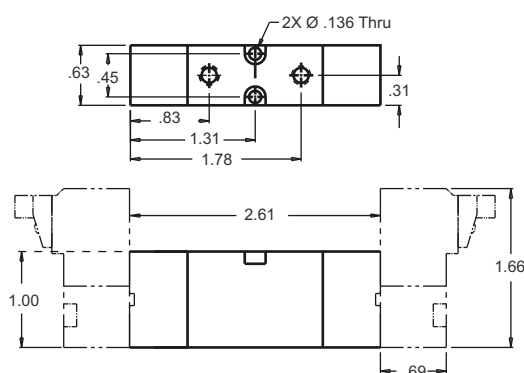
## 4-Way Double Air Pilot



## 4-Way Single Solenoid



## 4-Way Double Solenoid



● Drawings illustrate selected valve body dimensions, additional drawings available. When design makes a dimension critical- contact factory for confirmation. All measurements in inches, unless otherwise specified and are subject to change without notice.

### Product Number Diagram

"20" Series

**S 2 0 U 3 0 - S S - 1 1 - 0**

**Body**

U=Universal  
M=Manifold

**Function**

30= 3WNC  
31= 3WNO  
42= 4-Way 5 Port  
2 Position

**Voltage**

12= 12V DC  
24= 24V DC  
11= 110 AC

**Connectors**

0= Spade  
2= Flying Leads  
300 mm  
3= Line Connector  
w/LED  
4= 90° Connector  
w/LED

**Operator**

SS= Single Solenoid  
DS= Double Solenoid  
AP= Single Air Pilot  
DP= Double Air Pilot

**Example:**

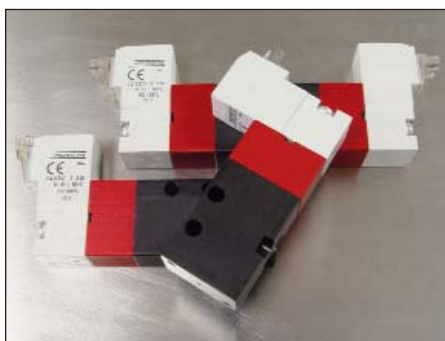
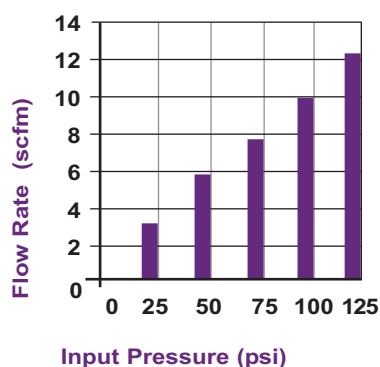
Universal body, 3WNC, Single Solenoid, 110 AC, Spade Connector

**PneuTef™**

Lightweight aluminum spools and thin profile seals enhance valve speed and ensure low breakaway. An exclusive PTFE impregnated surface results in a smooth, slippery finish extending product life.



**For Lubricated and Non-Lubricated Air**

**"20" Series Solenoid Flow Chart**

Universal style valves are designed for single mounting or multiple station manifold mounting

## Product Information "20" Series

### Air Pilot Operated Universal Body

Part Number	Function
S20U30-AP	3WNC
S20U31-AP	3WNO
S20U42-AP	4-Way, Air Pilot
S20U42-DP	4-Way, Double Air Pilot

### Air Pilot Operated Manifold Body

Part Number	Function
S20M30-AP	3WNC
S20M31-AP	3WNO
S20M42-AP	4-Way, Air Pilot
S20M42-DP	4-Way, Double Air Pilot

## Product Information "20" Series

### 3-Way Normally Closed Universal Body/ Single Solenoid

Part Number	Connection
110V AC / 2.8 VA / Orifice 1.1/1.1 mm	
S20U30-SS-11-0	Spade
S20U30-SS-11-2	Flying Leads
S20U30-SS-11-3	Line Connector
S20U30-SS-11-4	90° Connector

12V DC / 1 Watt / Orifice 0.8/1.1 mm	
S20U30-SS-12-0	Spade
S20U30-SS-12-2	Flying Leads
S20U30-SS-12-3	Line Connector
S20U30-SS-12-4	90° Connector

24V DC / 1 Watt / Orifice 0.8/1.1 mm	
S20U30-SS-24-0	Spade
S20U30-SS-24-2	Flying Leads
S20U30-SS-24-3	Line Connector
S20U30-SS-24-4	90° Connector

### 3-Way Normally Closed Manifold Body/ Single Solenoid

Part Number	Connection
110V AC / 2.8 VA / Orifice 1.1/1.1 mm	
S20M30-SS-11-0	Spade
S20M30-SS-11-2	Flying Leads
S20M30-SS-11-3	Line Connector
S20M30-SS-11-4	90° Connector

12V DC / 1 Watt / Orifice 0.8/1.1 mm	
S20M30-SS-12-0	Spade
S20M30-SS-12-2	Flying Leads
S20M30-SS-12-3	Line Connector
S20M30-SS-12-4	90° Connector

24V DC / 1 Watt / Orifice 0.8/1.1 mm	
S20M30-SS-24-0	Spade
S20M30-SS-24-2	Flying Leads
S20M30-SS-24-3	Line Connector
S20M30-SS-24-4	90° Connector

### 3-Way Normally Open Universal Body/ Single Solenoid

Part Number	Connection
110V AC / 2.8 VA / Orifice 1.1/1.1 mm	
S20U31-SS-11-0	Spade
S20U31-SS-11-2	Flying Leads
S20U31-SS-11-3	Line Connector
S20U31-SS-11-4	90° Connector

12V DC / 2.3 Watt / Orifice 1.1/1.1 mm	
S20U31-SS-12-0	Spade
S20U31-SS-12-2	Flying Leads
S20U31-SS-12-3	Line Connector
S20U31-SS-12-4	90° Connector

24V DC / 2.3 Watt / Orifice 1.1/1.1 mm	
S20U31-SS-24-0	Spade
S20U31-SS-24-2	Flying Leads
S20U31-SS-24-3	Line Connector
S20U31-SS-24-4	90° Connector

### 3-Way Normally Open Manifold Body/ Single Solenoid

Part Number	Connection
110V AC / 2.8 VA / Orifice 1.1/1.1 mm	
S20M31-SS-11-0	Spade
S20M31-SS-11-2	Flying Leads
S20M31-SS-11-3	Line Connector
S20M31-SS-11-4	90° Connector

12V DC / 2.3 Watt / Orifice 1.1/1.1 mm	
S20M31-SS-12-0	Spade
S20M31-SS-12-2	Flying Leads
S20M31-SS-12-3	Line Connector
S20M31-SS-12-4	90° Connector

24V DC / 2.3 Watt / Orifice 1.1/1.1 mm	
S20M31-SS-24-0	Spade
S20M31-SS-24-2	Flying Leads
S20M31-SS-24-3	Line Connector
S20M31-SS-24-4	90° Connector

**Choose from 12 & 24 Volt DC & 110 Volt AC to accommodate most applications. Other voltages available on special order- contact factory**

## Product Information “20” Series

### 4-Way 5 Port 2 Position Universal Body/ Single Solenoid

Part Number	Connection
-------------	------------

<b>110V AC / 2.8 VA / Orifice 1.1/1.1 mm</b>	
S20U42-SS-11-0	Spade
S20U42-SS-11-2	Flying Leads
S20U42-SS-11-3	Line Connector
S20U42-SS-11-4	90° Connector

<b>12V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20U42-SS-12-0	Spade
S20U42-SS-12-2	Flying Leads
S20U42-SS-12-3	Line Connector
S20U42-SS-12-4	90° Connector

<b>24V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20U42-SS-24-0	Spade
S20U42-SS-24-2	Flying Leads
S20U42-SS-24-3	Line Connector
S20U42-SS-24-4	90° Connector

### 4-Way 5 Port 2 Position Universal Body/ Double Solenoid

Part Number	Connection
-------------	------------

<b>110V AC / 2.8 VA / Orifice 1.1/1.1 mm</b>	
S20U42-DS-11-0	Spade
S20U42-DS-11-2	Flying Leads
S20U42-DS-11-3	Line Connector
S20U42-DS-11-4	90° Connector

<b>12V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20U42-DS-12-0	Spade
S20U42-DS-12-2	Flying Leads
S20U42-DS-12-3	Line Connector
S20U42-DS-12-4	90° Connector

<b>24V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20U42-DS-24-0	Spade
S20U42-DS-24-2	Flying Leads
S20U42-DS-24-3	Line Connector
S20U42-DS-24-4	90° Connector

### 4-Way 5 Port 2 Position Manifold Body/Single Solenoid

Part Number	Connection
-------------	------------

<b>110V AC / 2.8 VA / Orifice 1.1/1.1 mm</b>	
S20M42-SS-11-0	Spade
S20M42-SS-11-2	Flying Leads
S20M42-SS-11-3	Line Connector
S20M42-SS-11-4	90° Connector

<b>12V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20M42-SS-12-0	Spade
S20M42-SS-12-2	Flying Leads
S20M42-SS-12-3	Line Connector
S20M42-SS-12-4	90° Connector

<b>24V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20M42-SS-24-0	Spade
S20M42-SS-24-2	Flying Leads
S20M42-SS-24-3	Line Connector
S20M42-SS-24-4	90° Connector

### 4-Way 5 Port 2 Position Manifold Body/ Double Solenoid

Part Number	Connection
-------------	------------

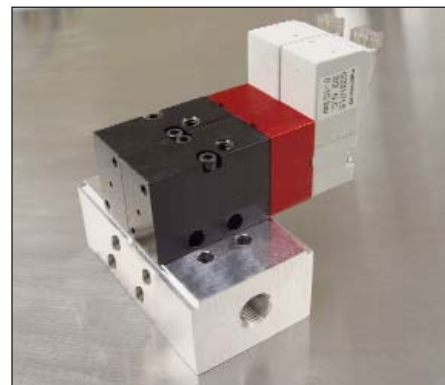
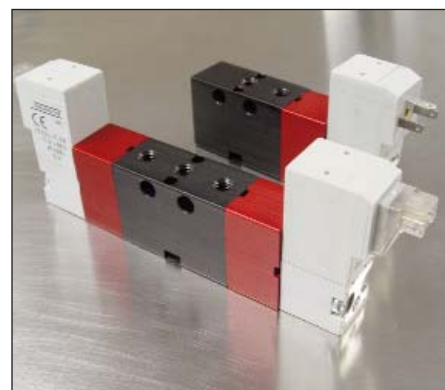
<b>110V AC / 2.8 VA / Orifice 1.1/1.1 mm</b>	
S20M42-DS-11-0	Spade
S20M42-DS-11-2	Flying Leads
S20M42-DS-11-3	Line Connector
S20M42-DS-11-4	90° Connector

<b>12V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20M42-DS-12-0	Spade
S20M42-DS-12-2	Flying Leads
S20M42-DS-12-3	Line Connector
S20M42-DS-12-4	90° Connector

<b>24V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20M42-DS-24-0	Spade
S20M42-DS-24-2	Flying Leads
S20M42-DS-24-3	Line Connector
S20M42-DS-24-4	90° Connector

### Accessories

Part Number	
SMMC-300	Plug-in Cable 300 mm
SMMC-500	Plug-in Cable 500 mm
SMMC-1000	Plug-in Cable 1000 mm
SMM-DIN	DIN Connector
SMM-MDIN	Molded DIN Connector



Output ports are located on one side of the standard manifold for a cleaner, faster installation

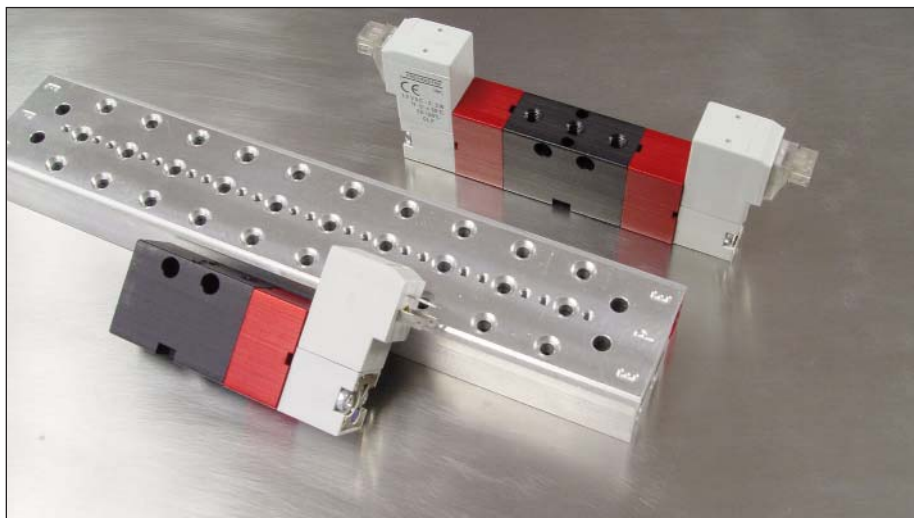
### 300 mm Plug-in Cable included with Line and 90° Connector

### Ordering Information

- To order standard product refer to Product Information listing.
- 300 mm Plug-in cable included with valves featuring the Line or 90° Connector.

### Features

- 2 to 10 station
- Clear anodized aluminum for corrosion resistance
- Convenient junction point
- Precision machined
- Lightweight



## “20” Series Manifolds

Precision machined aluminum manifolds are a compact, cost effective method of mounting multiple "20" Series valves. The versatile design allows 3 & 4-way valves to be combined on the same manifold.

Choose from two to 10-stations to accommodate application requirements.

Two styles of manifolds are available to compliment the "20" Series Universal and Manifold valve bodies. Be sure to select the correct product grouping when ordering valves and manifolds.

All manifolds are anodized for corrosion resistance. Cover plates are available to conceal unused stations and block the valve supply port.

### Performance Data

Temperature Range
-10°F to 200°F / -23°C to 93°C

### Materials

Aluminum, Clear Anodize

### Port Designation

	Universal	Standard
Pressure	1/8 NPT (F)	1/8 NPT (F)
Output	10-32 (F) top of valve body	10-32 (F)
Exhaust	1/8 NPT (F)	10-32 (F) top of valve body

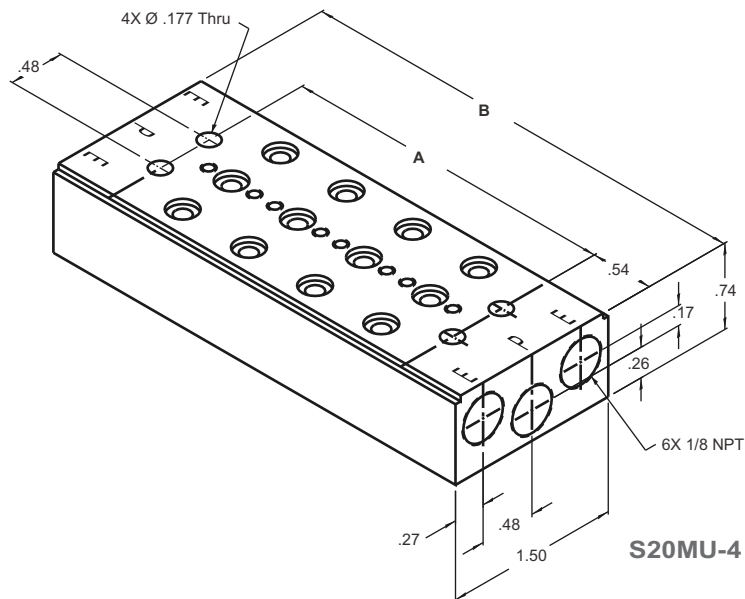
*We design custom products to meet your application needs*

### Ordering Information

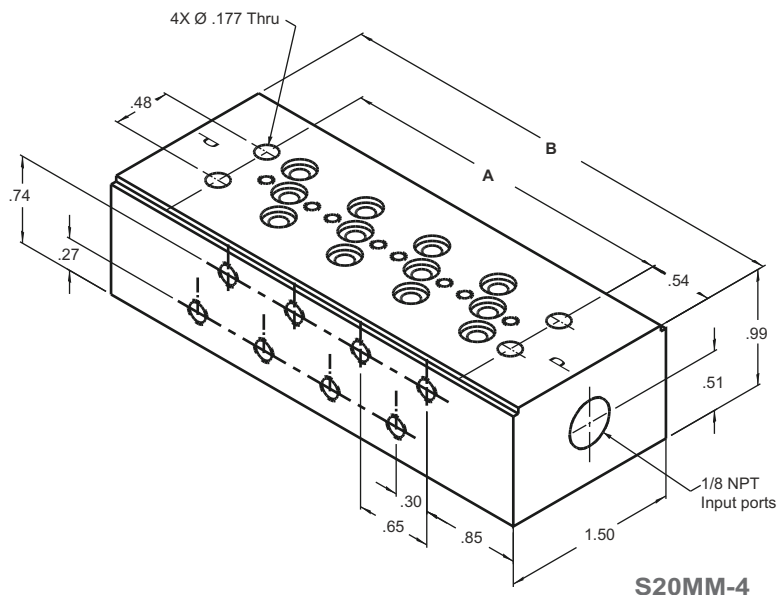
- To order standard product refer to Product Information listing.
- Contact factory for custom colors.
- Cover Plates available to conceal unused stations.
- O-rings and mounting screws included with manifolds.

**"20" Series Manifold**

**Universal**  
1/8 NPT (F)  
Pressure and Exhaust ports



**Standard**  
1/8 NPT (F) Pressure port  
10-32 Output ports



● All measurements in inches, unless otherwise specified. When design makes a dimension critical- contact factory for confirmation. All dimensions shown subject to change without notice.

**Product Information****"20" Series Manifolds****Universal****(for Universal Valve Body)**

Part Number	Stations	A	B
S20MU-2	2	1.57	2.65
S20MU-4	4	2.87	3.95
S20MU-6	6	4.17	5.25
S20MU-8	8	5.47	6.55
S20MU-10	10	6.77	7.85

**Standard****(for Manifold Valve Body)**

Part Number	Stations	A	B
S20MM-2	2	1.57	2.65
S20MM-4	4	2.87	3.95
S20MM-6	6	4.17	5.25
S20MM-8	8	5.47	6.55
S20MM-10	10	6.77	7.85

**Accessory**

Part Number	Description
S20M-CP	Cover plate

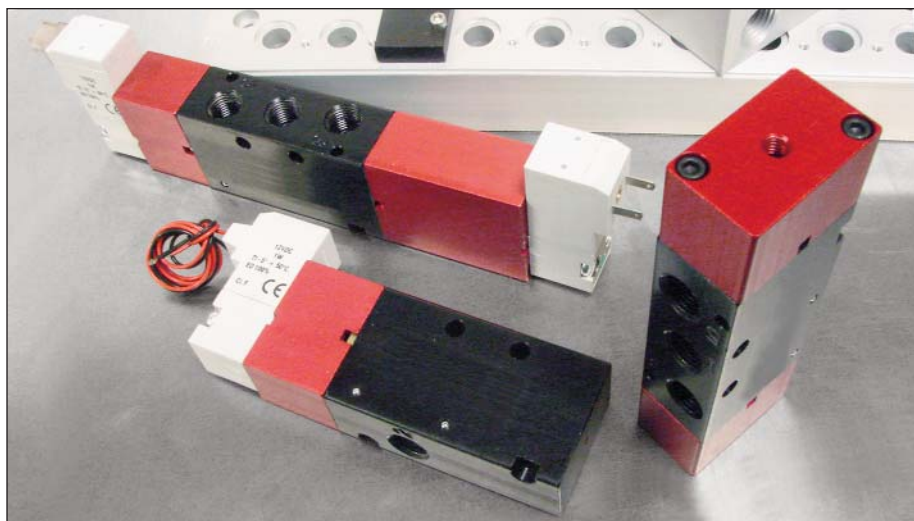


Cylinder speeds are easily controlled by using speed control valves in the exhaust ports on top of the valve body

**"20" Series manifolds are designed for use with specific valves. Be sure to select the correct product grouping when ordering valves & manifolds**

### Features

- 3-Position 4-way valves feature closed and exhaust centers
- High flow rate
- 1/8 NPT (F) ports
- Balanced spool
- Low power consumption
- Lubricated and non-lubricated air



## Solenoid & Air Pilot Operated 3 & 4-Way Valves "22" Series

Pneumadyne's new "22" Series offers high flow 3-way and 4-way configurations with 1/8 NPT (F) ports. In addition to the standard 2-Position 4-way, the "22" Series also features 3-Position 4-way valves with Closed or Exhaust centers to satisfy system requirements.

For installation flexibility, single or double air pilot and solenoid operators are available to shift the valve. Pneumadyne's 1 Watt, 15 mm solenoid valves present a variety of voltage and connector options.

Unique to the "22" Series, our Latching Solenoid can replace two solenoid valves in a 4-way, 2-Position "double solenoid" configuration; an energy and space saving option.

### Materials

Aluminum/Anodize,  
Brass/Electroless Nickel,  
Buna-N, Stainless Steel,  
Copper, Nylon - Glass Filled

The design of the Universal valve body allows inline or multiple station manifold mounting. When used with Pneumadyne's "22" Series Manifolds, the 1/8 NPT (F) cylinder ports are located on the top of the valve body and exhaust flow is directed through 1/8 NPT (F) ports on the manifold. This configuration is ideal for applications requiring the capture and removal of exhaust flow.

Precision machining and our exclusive PneuTef™ plating process ensure a long product life and enable the valves to be used with lubricated and non-lubricated air.

### Pneumatic Performance Data "22 Series"

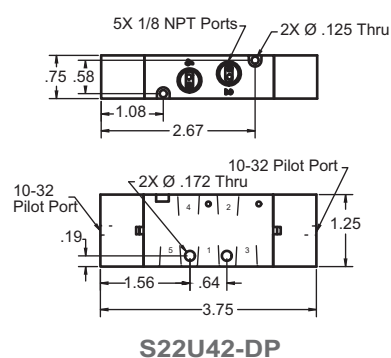
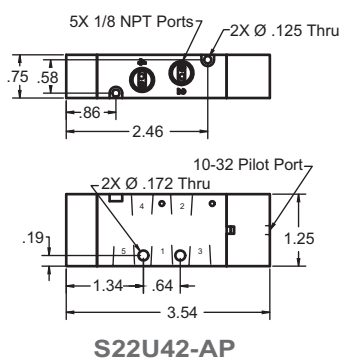
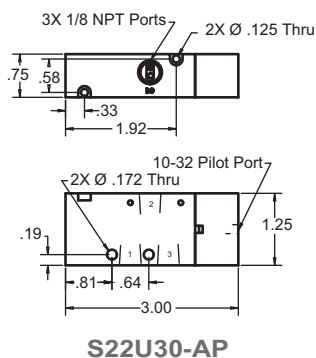
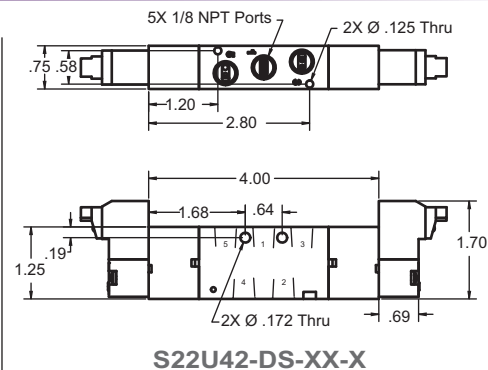
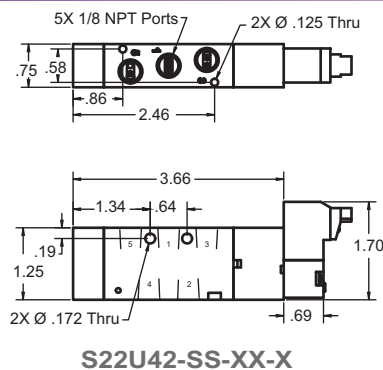
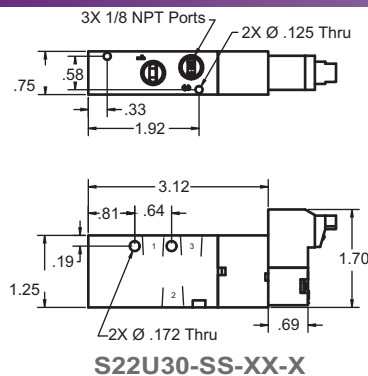
Temperature Range		20°F to 120°F (-5°C to 50°C)*				
Operating Pressure		10 to 125 psi				
Function	C <sub>v</sub>	Flow Rate (scfm)		Fill Time sec/ in <sup>3</sup> 0-90 psi	Exhaust Time sec/ in <sup>3</sup> 100-10 psi	Actuating Pressure (psi)
		50 psi	125 psi			
3-Way Normally Closed	0.43	17	40	0.007	0.018	10
4-Way 5 Port 2 Position	0.43	17	40	0.008	0.018	10
4-Way 5 Port 3 Position	0.42	16	35	0.008	0.015	10

Cv per ANSI / (NFPA) T3.21.3, \*100% Duty Cycled

### Electrical Performance Data Solenoid Operator

Voltage Tolerance	Response Time Energize	Response Time De-energize	Copper Wire Insulation Class
-5% to 10%	10 ms	12 ms	F 311°F (155°C)

Connector wire gauge: 24 AWG

**"22" Series Valves**

### Product Number Diagram "22" Series

**S 2 2 U 4 C - D S - 1 2 - 0**

**Body**  
U=Universal

**Function**  
30= 3-Way Normally Closed  
42= 4-Way 2 Position  
4C= 4-Way Closed Center  
4E= 4-Way Exhaust Center

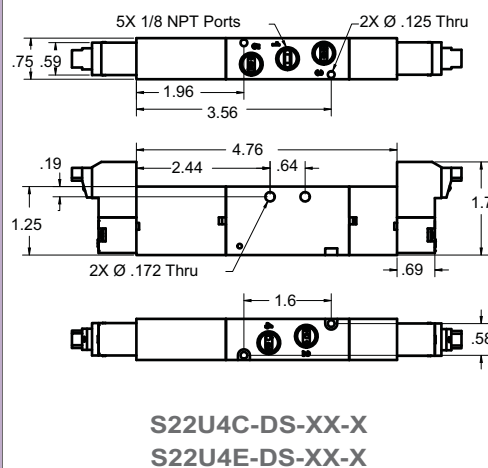
**Voltage**  
12= 12V DC  
24= 24V DC  
11=110 AC

**Operator**  
SS= Single Solenoid  
DS= Double Solenoid  
AP= Single Air Pilot  
DP= Double Air Pilot  
LS= Latching Solenoid

**Connectors**  
0= Spade  
2= Flying Leads  
300 mm  
3= Line Connector  
w/LED  
4= 90° Connector  
w/LED

**Example:**

Universal, 4-Way Closed Center, Double Solenoid, 12V DC, Spade



● **Closed Center  
Valves Caution:**

**Vent working lines before  
disconnecting**

## Product Information “22” Series

### 3-Way Normally Closed Single Solenoid

Part Number	Connection
Air Pilot	
S22U30-AP	Air Pilot
110 AC 2.8 VA/ Orifice 1.1/1.1 mm	
S22U30-SS-11-0	Spade
S22U30-SS-11-2	Flying Leads
S22U30-SS-11-3	Line Connector
S22U30-SS-11-4	90° Connector
12 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U30-SS-12-0	Spade
S22U30-SS-12-2	Flying Leads
S22U30-SS-12-3	Line Connector
S22U30-SS-12-4	90° Connector
24 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U30-SS-24-0	Spade
S22U30-SS-24-2	Flying Leads
S22U30-SS-24-3	Line Connector
S22U30-SS-24-4	90° Connector

### 4-Way 5 Port 2 Position Double Solenoid

Part Number	Connection
Air Pilot	
S22U42-AP	Air Pilot
S22U42-DP	Air Pilot
110 AC 2.8 VA/ Orifice 1.1/1.1 mm	
S22U42-DS-11-0	Spade
S22U42-DS-11-2	Flying Leads
S22U42-DS-11-3	Line Connector
S22U42-DS-11-4	90° Connector
12 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U42-DS-12-0	Spade
S22U42-DS-12-2	Flying Leads
S22U42-DS-12-3	Line Connector
S22U42-DS-12-4	90° Connector
24 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U42-DS-24-0	Spade
S22U42-DS-24-2	Flying Leads
S22U42-DS-24-3	Line Connector
S22U42-DS-24-4	90° Connector

**Our exclusive seal material accommodates low temperature applications. Contact factory for additional information**

### 4-Way 5 Port 2 Position Single Solenoid

Part Number	Connection
110 AC 2.8 VA/ Orifice 1.1/1.1 mm	
S22U42-SS-11-0	Spade
S22U42-SS-11-2	Flying Leads
S22U42-SS-11-3	Line Connector
S22U42-SS-11-4	90° Connector
12 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U42-SS-12-0	Spade
S22U42-SS-12-2	Flying Leads
S22U42-SS-12-3	Line Connector
S22U42-SS-12-4	90° Connector
24 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U42-SS-24-0	Spade
S22U42-SS-24-2	Flying Leads
S22U42-SS-24-3	Line Connector
S22U42-SS-24-4	90° Connector

### 4-Way 5 Port 2 Position Latching Solenoid Single Solenoid

Part Number	Connection
12 DC 3 Watt/ Orifice 1.1/1.1 mm	
S22U42-LS-12-2	Flying Leads
24 DC 3 Watt/ Orifice 1.1/1.1 mm	
S22U42-LS-24-2	Flying Leads

### 4-Way 5 Port 3 Position Double Solenoid - Closed Center

Part Number	Connection
110 AC 2.8 VA/ Orifice 1.1/1.1 mm	
S22U4C-DS-11-0	Spade
S22U4C-DS-11-2	Flying Leads
S22U4C-DS-11-3	Line Connector
S22U4C-DS-11-4	90° Connector
12 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U4C-DS-12-0	Spade
S22U4C-DS-12-2	Flying Leads
S22U4C-DS-12-3	Line Connector
S22U4C-DS-12-4	90° Connector
24 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U4C-DS-24-0	Spade
S22U4C-DS-24-2	Flying Leads
S22U4C-DS-24-3	Line Connector
S22U4C-DS-24-4	90° Connector

### 4-Way 5 Port 3 Position Double Solenoid - Exhaust Center

Part Number	Connection
110 AC 2.8 VA/ Orifice 1.1/1.1 mm	
S22U4E-DS-11-0	Spade
S22U4E-DS-11-2	Flying Leads
S22U4E-DS-11-3	Line Connector
S22U4E-DS-11-4	90° Connector
12 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U4E-DS-12-0	Spade
S22U4E-DS-12-2	Flying Leads
S22U4E-DS-12-3	Line Connector
S22U4E-DS-12-4	90° Connector
24 DC 1 Watt/ Orifice 0.8/1.1 mm	
S22U4E-DS-24-0	Spade
S22U4E-DS-24-2	Flying Leads
S22U4E-DS-24-3	Line Connector
S22U4E-DS-24-4	90° Connector

**Closed Center:** All ports are blocked. Caution: vent working lines before disconnection

**Exhaust Center:** Input ports are blocked, cylinder ports are open to exhaust

### PneuTef™

Lightweight aluminum spools and thin profile seals enhance valve speed and ensure low breakaway. An exclusive PTFE impregnated surface results in a smooth, slippery finish extending product life.



**Can be used with  
Lubricated and  
Non-Lubricated Air**

**"22" Series Manifold****Product Information****"22" Series Manifolds**

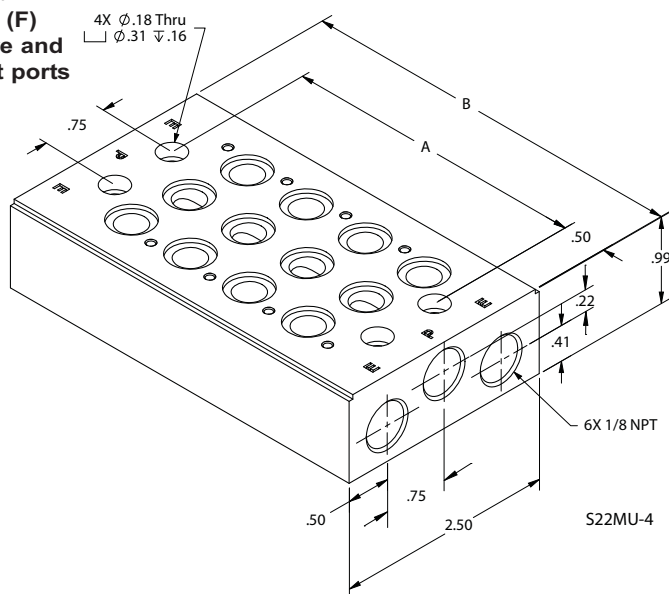
Part Number	Stations	A	B
S22MU-2	2	1.91	2.91
S22MU-4	4	3.46	4.46
S22MU-6	6	5.01	6.01
S22MU-8	8	6.56	7.56
S22MU-10	10	8.11	9.11

measurements in inches

**"22" Series Accessories**

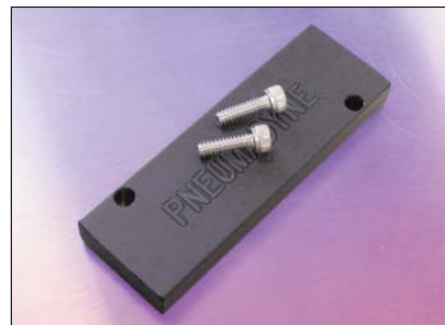
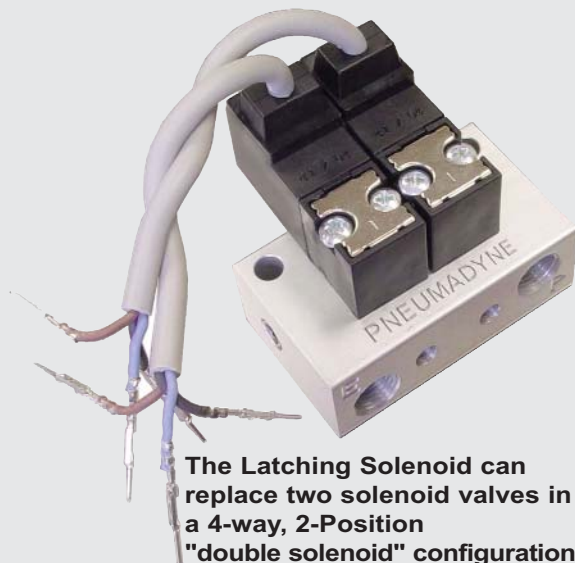
S22M-CP	Cover Plate
SMMC-300	Plug-in Cable 300 mm
SMMC-500	Plug-in Cable 500 mm
SMMC-1000	Plug-in Cable 1000 mm
SMM-DIN	DIN Connector
SMM-MDIN	Molded DIN Cable 3 M

**Universal**  
**1/8 NPT (F)**  
**Pressure and**  
**Exhaust ports**



**Unique to**  
**Pneumadyne's "22"**  
**Series**  
**Latching Solenoid**  
**Operator**

- Single electrical connection
- Space saving
- 3-wire system-relay not required
- Momentary pulse to energize and de-energize
- Power savings- do not need to maintain electrical connection
- Ideal for applications where power is limited or coil heating is unwanted



Cover Plate- (S22M-CP Sold Separately) includes mounting screws.

**Ordering Information**

- To order standard product refer to Product Information listing.
- Cover Plates available for use with manifolds.
- Mounting screws provided.
- 300 mm Plug-in cable included with valves featuring the Line or 90° Connector.