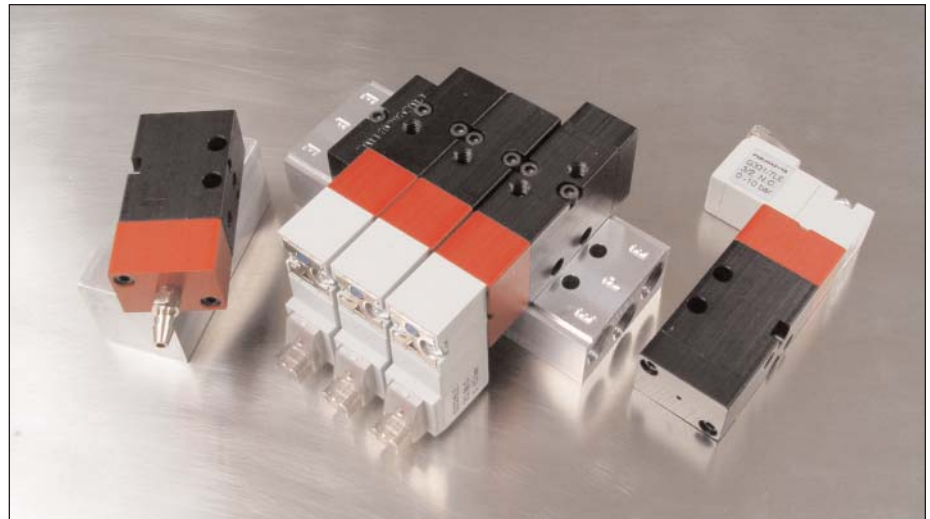


Features

- 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

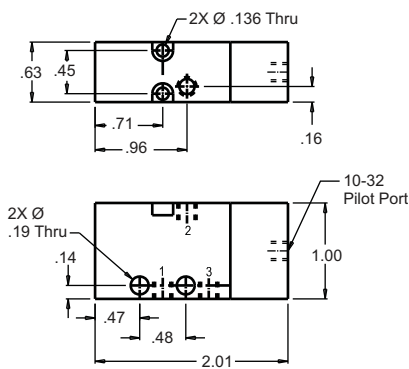
Cv per ANSI / (NFPA) T3.21.3

### Electrical Performance Data Solenoid Operator

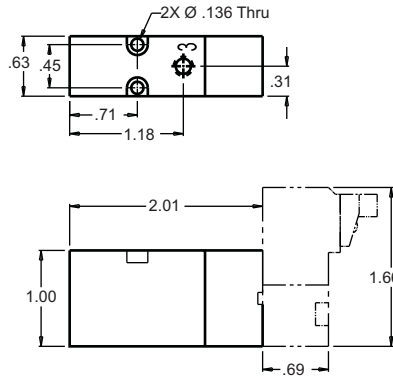
Power	Voltages	Voltage Tolerance	Response Time Energize	Response Time De-energize	Copper Wire Insulation Class
1 Watt	12 DC, 24 DC	-5% to 10%	10 ms	12 ms	F 311°F (155°C)
2.8 VA 2.5 VA holding	110 50/60Hz				

"20" Series Valves

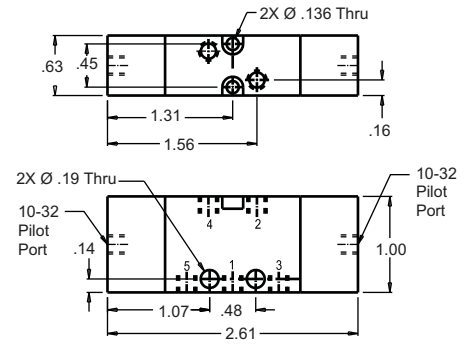
3-Way Single Air Pilot



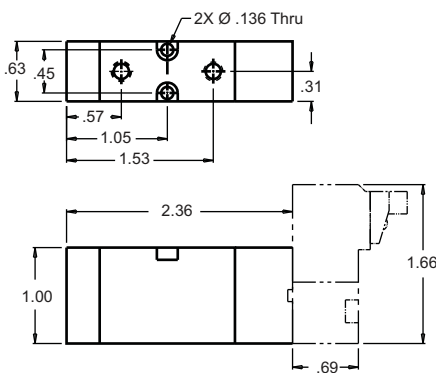
3-Way Single Solenoid



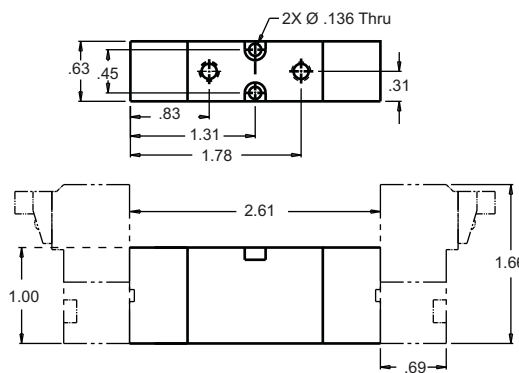
4-Way Double Air Pilot



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  
4= 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:

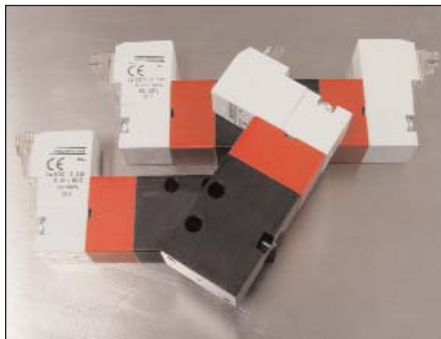
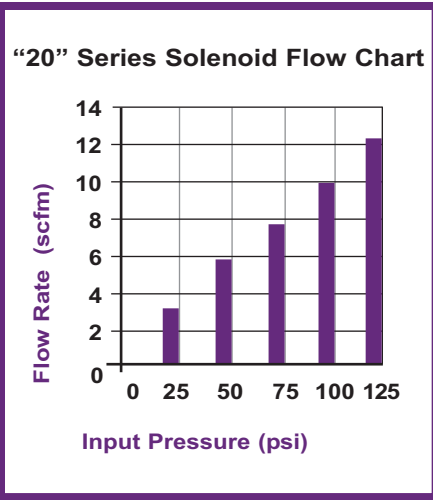
Universal body, 3WNC, Single Solenoid, 110 AC, Spade Connector

Exclusive PTFE  
Impregnated Surface

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



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
<b>110V AC / 2.8 VA / Orifice 1.1/1.1 mm</b>	
S20U30-SS-11-0	Spade
S20U30-SS-11-2	Flying Leads
S20U30-SS-11-3	Line Connector
S20U30-SS-11-4	90° Connector
<b>12V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20U30-SS-12-0	Spade
S20U30-SS-12-2	Flying Leads
S20U30-SS-12-3	Line Connector
S20U30-SS-12-4	90° Connector
<b>24V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
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
<b>110V AC / 2.8 VA / Orifice 1.1/1.1 mm</b>	
S20M30-SS-11-0	Spade
S20M30-SS-11-2	Flying Leads
S20M30-SS-11-3	Line Connector
S20M30-SS-11-4	90° Connector
<b>12V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
S20M30-SS-12-0	Spade
S20M30-SS-12-2	Flying Leads
S20M30-SS-12-3	Line Connector
S20M30-SS-12-4	90° Connector
<b>24V DC / 1 Watt / Orifice 0.8/1.1 mm</b>	
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
<b>110V AC / 2.8 VA / Orifice 1.1/1.1 mm</b>	
S20U31-SS-11-0	Spade
S20U31-SS-11-2	Flying Leads
S20U31-SS-11-3	Line Connector
S20U31-SS-11-4	90° Connector
<b>12V DC / 2.3 Watt / Orifice 1.1/1.1 mm</b>	
S20U31-SS-12-0	Spade
S20U31-SS-12-2	Flying Leads
S20U31-SS-12-3	Line Connector
S20U31-SS-12-4	90° Connector
<b>24V DC / 2.3 Watt / Orifice 1.1/1.1 mm</b>	
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
<b>110V AC / 2.8 VA / Orifice 1.1/1.1 mm</b>	
S20M31-SS-11-0	Spade
S20M31-SS-11-2	Flying Leads
S20M31-SS-11-3	Line Connector
S20M31-SS-11-4	90° Connector
<b>12V DC / 2.3 Watt / Orifice 1.1/1.1 mm</b>	
S20M31-SS-12-0	Spade
S20M31-SS-12-2	Flying Leads
S20M31-SS-12-3	Line Connector
S20M31-SS-12-4	90° Connector
<b>24V DC / 2.3 Watt / Orifice 1.1/1.1 mm</b>	
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**

<i>Part Number</i>	<i>Connection</i>
<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  
Manifold Body/Single Solenoid**

<i>Part Number</i>	<i>Connection</i>
<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

**Accessories**

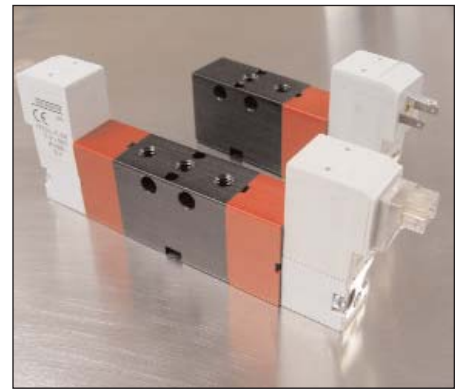
<i>Part Number</i>	
S20M-CP	Cover plate
SMMC-300	Plug-in Cable 300 mm
SMMC-600	Plug-in Cable 600 mm
SMMC-1000	Plug-in Cable 1000 mm
SMM-DIN	DIN Connector
SMM-MDIN	Molded DIN Connector

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

<i>Part Number</i>	<i>Connection</i>
<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/ Double  
Solenoid**

<i>Part Number</i>	<i>Connection</i>
<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



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

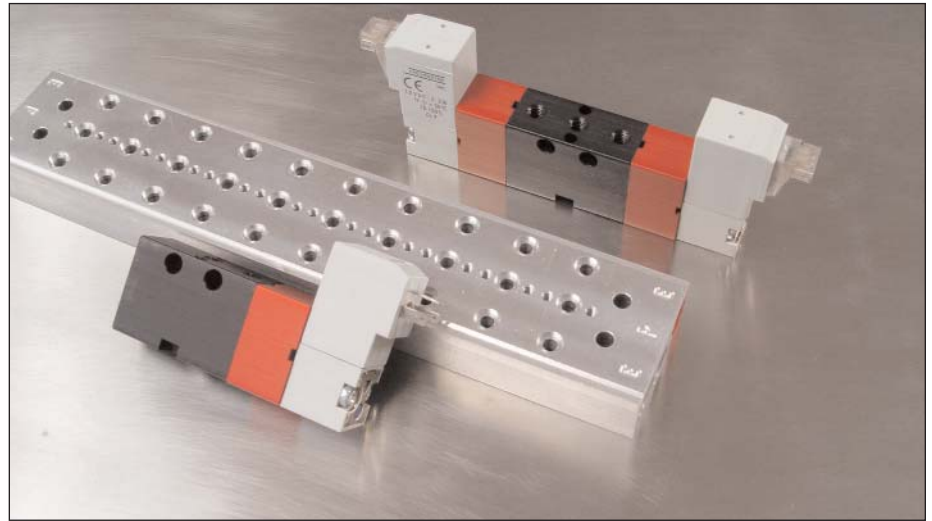
**300 mm Plug-in Cable included with Line and 90° Connector**

**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
<b>Pressure</b>	1/8 NPT (F)	1/8 NPT (F)
<b>Output</b>	10-32 (F) top of valve body	10-32 (F)
<b>Exhaust</b>	1/8 NPT (F)	10-32 (F) top of valve body

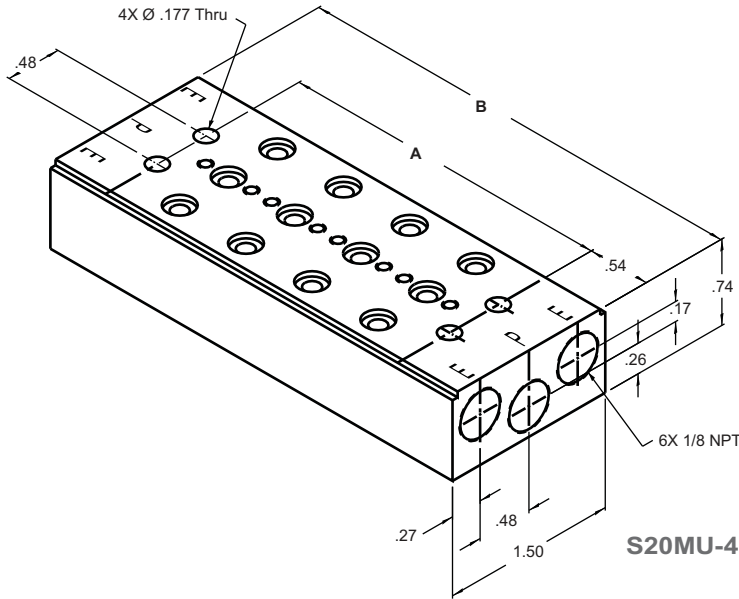
*We design custom products to meet your application needs*

**Ordering Information**

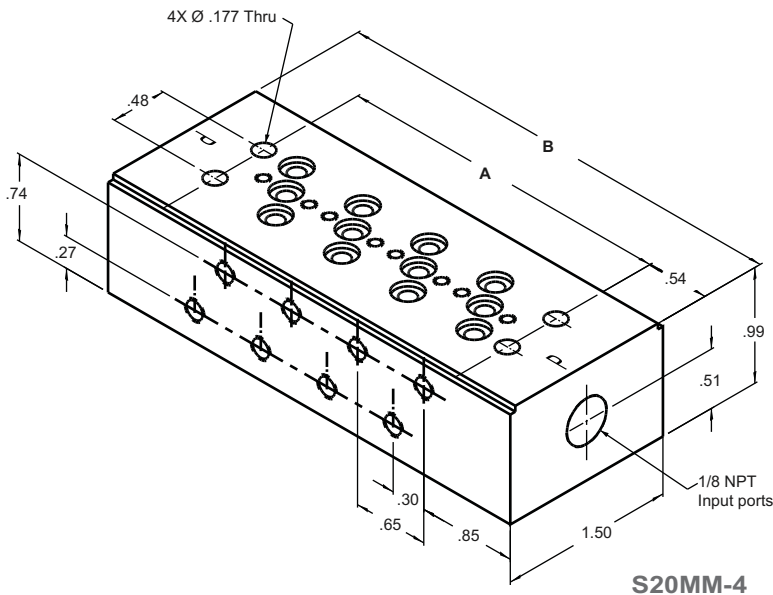
- To order standard product refer to Product Information listing.
- Contact factory for custom colors.
- Cover Plates available to conceal unused stations.
- O-rings and mounting screws included with manifolds.

“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

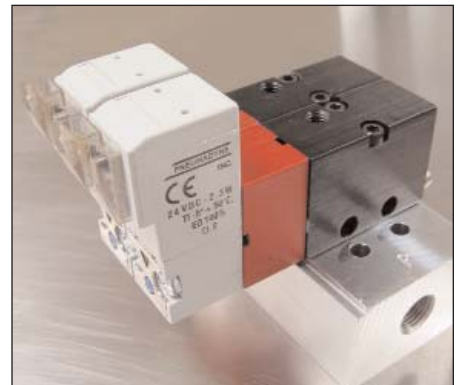
**Standard**

(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

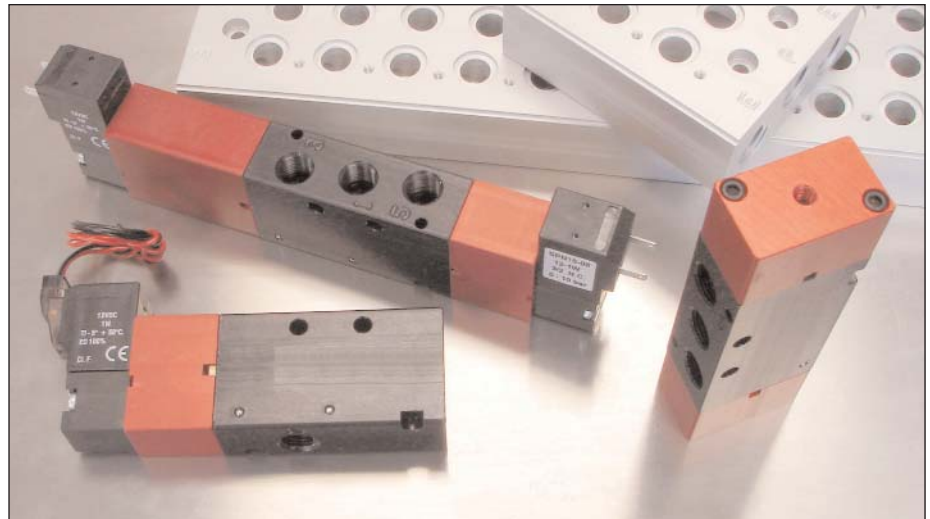


Cylinder speeds are easily controlled by using speed control valves in the exhaust ports on top of the valve body

**“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.

### 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

### Electrical Performance Data Solenoid Operator

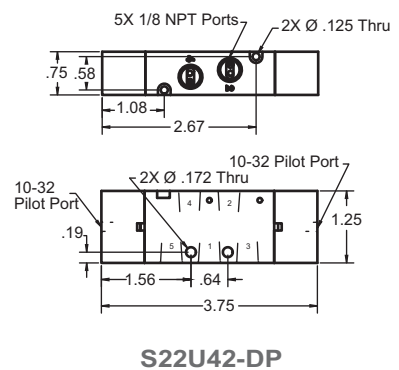
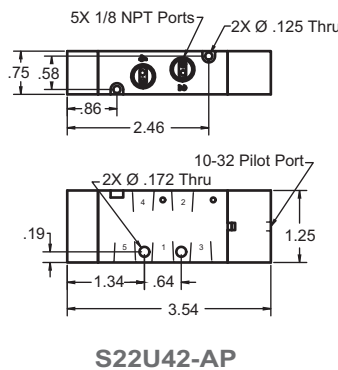
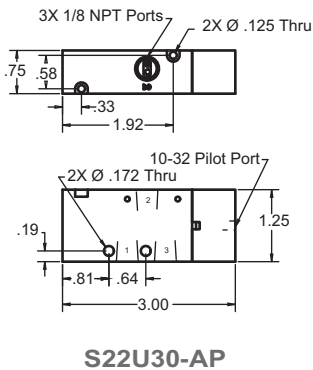
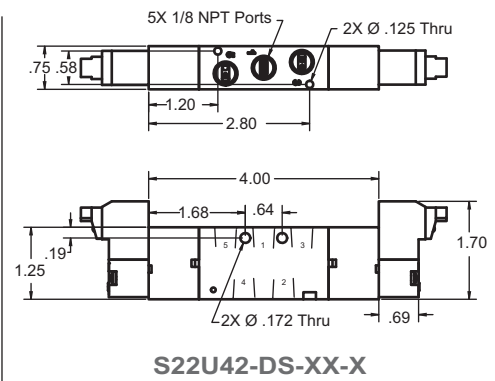
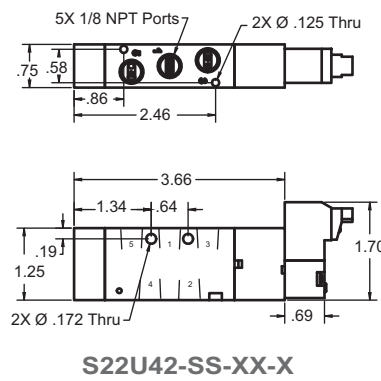
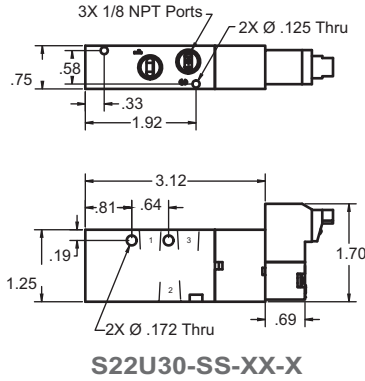
Voltage Tolerance	Response Time Energize	Response Time De-energize	Copper Wire Insulation Class
-5% to 10%	10 ms	12 ms	F 311°F (155°C)

### Materials

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

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

"22" Series Valves



● **Closed Center Valves Caution: Vent working lines before disconnecting**

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™ process ensure a long product life and enable the valves to be used with lubricated and non-lubricated air.

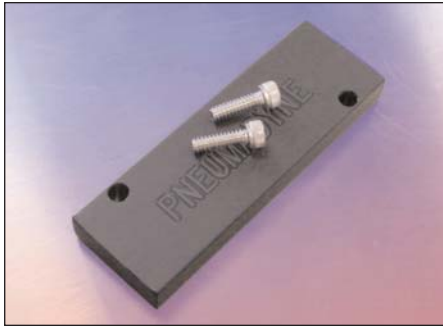
**PneuTef™**

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**



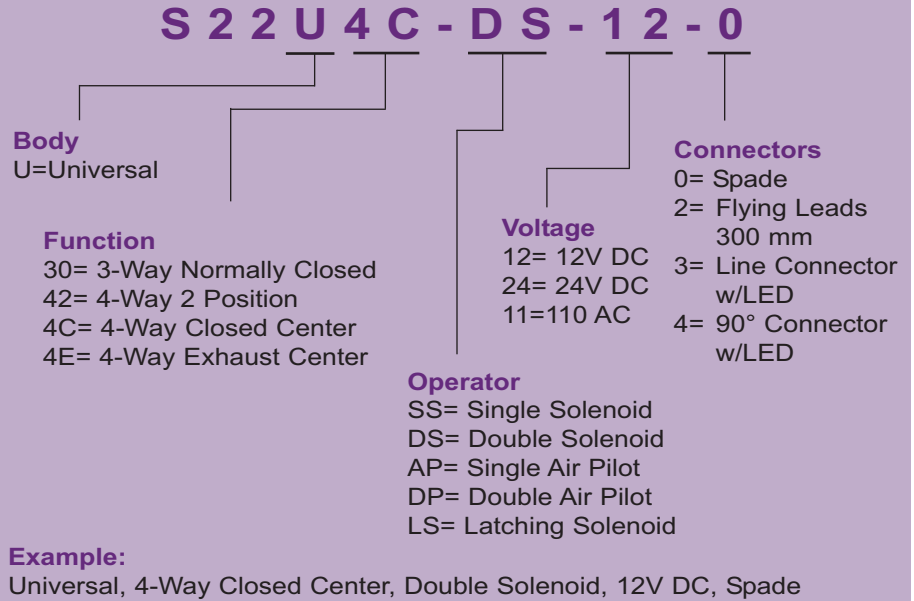


Cover Plate- (S22M-CP Sold Separately) includes mounting screws.

**Ordering Information**

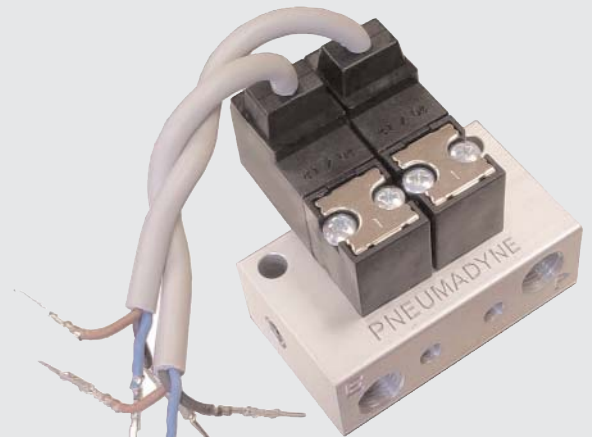
- To order standard product refer to Product Information listing.
- Cover Plates available for use with manifolds.
- Mounting screws provided.
- 300 mm Plug-in cable included with valves featuring the Line or 90° Connector.

**Product Number Diagram**  
"22" Series



*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



The Latching Solenoid can replace two solenoid valves in a 4-way, 2-Position "double solenoid" configuration

**Product Information “22” Series**

**3-Way Normally Closed Single Solenoid**

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

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

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

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

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

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

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

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

**“22” Series Manifolds**

<i>Part Number</i>	<i>Stations</i>	<i>A</i>	<i>B</i>
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-600	Plug-in Cable 600 mm
SMMC-1000	Plug-in Cable 1000 mm
SMM-DIN	DIN 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

## 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 Valves

Pneumadyne's Solenoid Operated Cylinder Control Valves are ideal for applications requiring controlled movement of single-acting spring return cylinders. These precision machined valves were designed for use with [Pneumadyne's 15 mm Solenoid Valves \(sold separately\) see page 104.](#)

## 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/in <sup>3</sup> 0-90 psi	Exhaust Time sec/ in <sup>3</sup> 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.

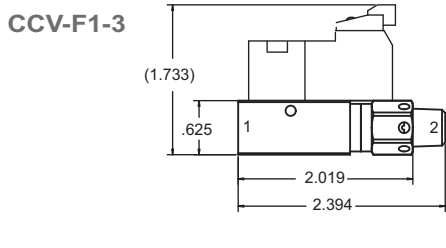
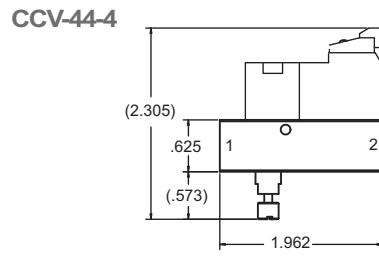
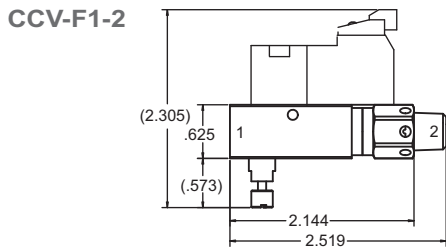
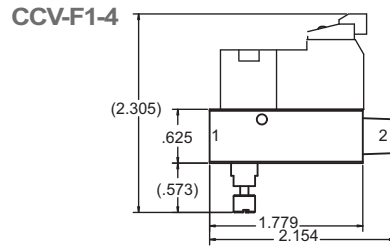
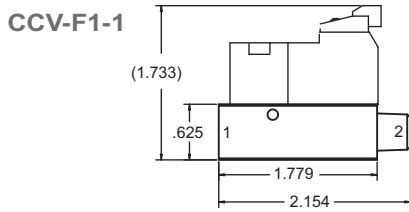
**CCV-F1-2** offers the combination of a Needle Valve and Quick Exhaust providing controlled cylinder movement in both directions. A built-in Needle Valve in the input port, 10-32 (F), controls cylinder extension while the 1/8 NPT Quick Exhaust in the output port allows rapid cylinder return.

**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.

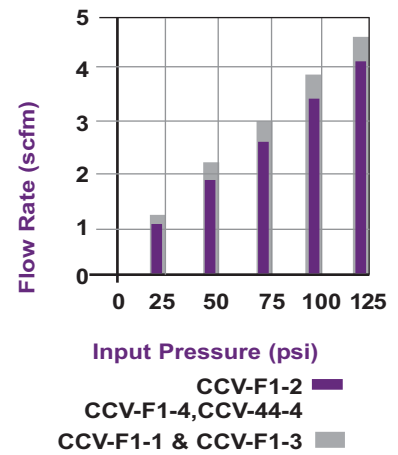
**CCV-44-4** features 1/8 NPT (F) input and output ports. A built-in Needle Valve in the input port provides controlled cylinder extension while the cylinder's spring controls rod retraction.

Cylinder Control Valve



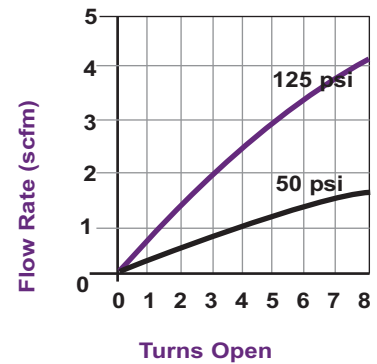
Cylinder Control Valve

Max. Flow vs. Input Pressure



Cylinder Control Valve

Turns vs. Pressure for Needle Valves



Function

Applying an electrical signal to the solenoid actuates the valve resulting in the controlled rod movement determined by the Cylinder Control Valve.

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*