SRS Miniature Pneumatic Solenoid Valve

10 mm Manifold Mount Solenoid Valve

The SRS miniature solenoid valve is a compact and lightweight 10 mm manifold mount solenoid valve designed for portable instruments and medical devices requiring minimal power consumption and quiet operation. Utilizing an integrated manifold seal design in combination with a variety of electrical termination options, the SRS miniature solenoid valve simplifies pneumatic and electronic integration. With flow rates of up to 18 slpm and inlet pressures of up to 85 psig, the SRS miniature solenoid valve is an ideal solution for demanding portable instruments and medical devices.

Typical Applications

- Medical & Analytical Gas Control
- Blood Pressure Monitoring
- Sensor Zeroing
- Patient Monitors
- Portable Medical Devices

Features

- Lightweight and compact to reduce system size and weight
- Integrated manifold seal and PC mount capability to simplify integration
- Hermetically-sealed coil protects the valve from accidental exposure to liquids
- Constucted of PBT and non-corrosive metal for use with non-reactive gases
- RoHS compliant

Product Specifications

Mechanical

Valve Type:
3 Port, Direct-acting poppet style - Normally Closed - Normally Open - Distributor
Media:
Non-Reactive gases
Operating Environment:
32 to 131°F (0 to 55°C)
Storage Temperature:
-40 to 158°F (-40 to 70°C)
Dimensions:
- Length: 1.5 in (38.1 mm) - Width: 0.39 in (10.0 mm) - Height: 0.61 in (15.5 mm)
Porting:
Manifold mount; Gasket supplied
Weight:
0.23 oz (6.5 g)
Internal Volume:
0.0016 in^3 (0.027 cm^3)
Filtration:
40 micron (recommended)

Electrical

Power Options:
0.5 or 1.0 Watt
Voltage Options: (±10%)
5, 12 or 24 VDC Further power reduction may be achieved through the use of spike and hold or PWM electrical control.

Wetted Materials

Bobbin/Body:
Glass Reinforced PBT (Polybutylene terephthalate)
Pole & Plunger:
430 FR Stainless Steel
Seal:
FKM
Other:
300 Series Stainless Steel

Performance Characteristics

Leak Rate:
<0.016 sccm of air
Response:
<30 ms cycling
Pressure:
0 to 85 psid (5.86 bar)
Vacuum:
0-27 in Hg (686 mm Hg)
Burst Pressure:
200 psig (13.7 bar)
Orifice Sizes / Equivalent Cv:
0.045” (1.14 mm) / 0.027 0.030” (0.76 mm) / 0.017 0.020” (0.51 mm) / 0.0075

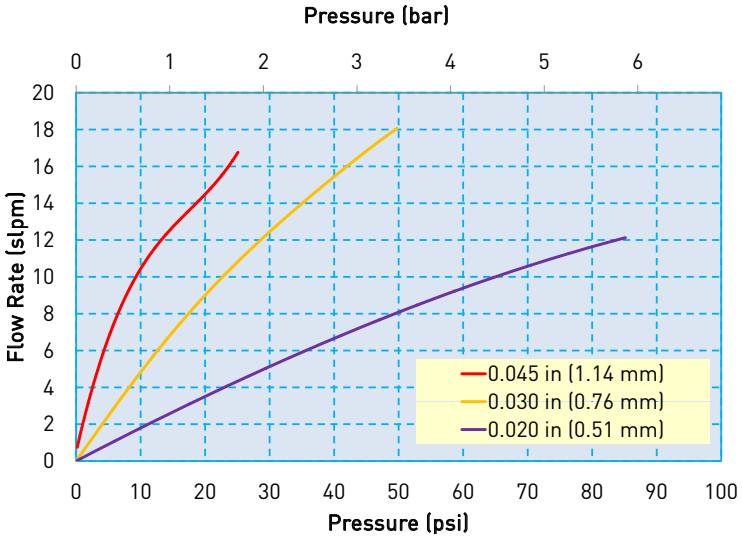
(See Life-cycle information in Performance Parameters section.)

SRS Miniature Pneumatic Solenoid Valve

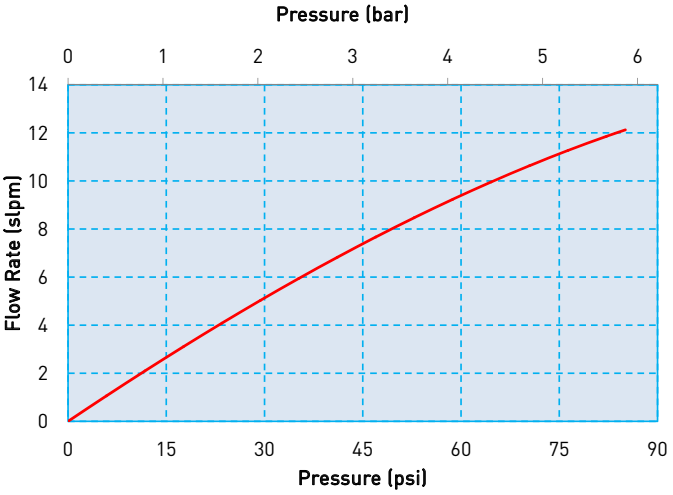
Typical Flow Curve

All Models

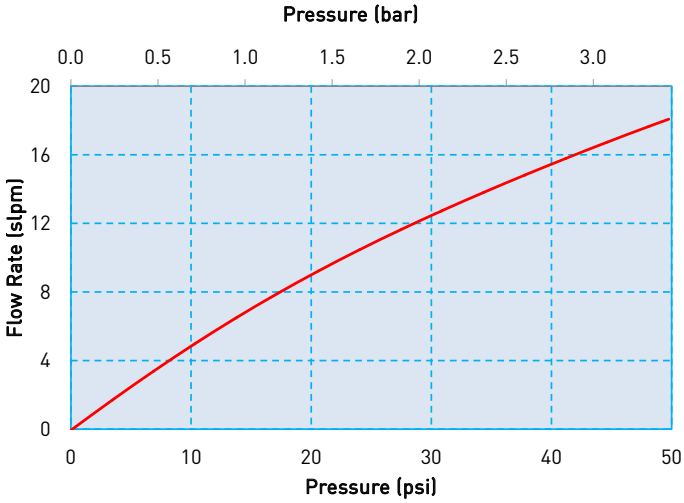
(Tested w/air 24° C)



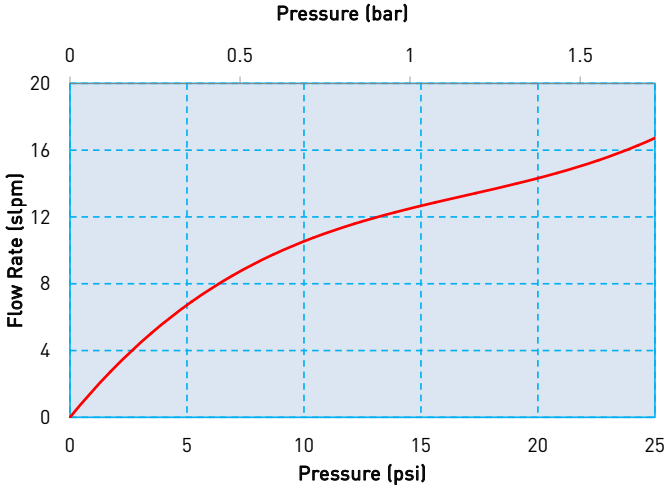
Models 10 and 11 – 0.020" (0.51 mm) Orifice



Models 13 and 14 – 0.030" (0.76 mm) Orifice



Models 16 and 17 – 0.045" (1.14 mm) Orifice



SRS Miniature Pneumatic Solenoid Valve

Performance Parameters

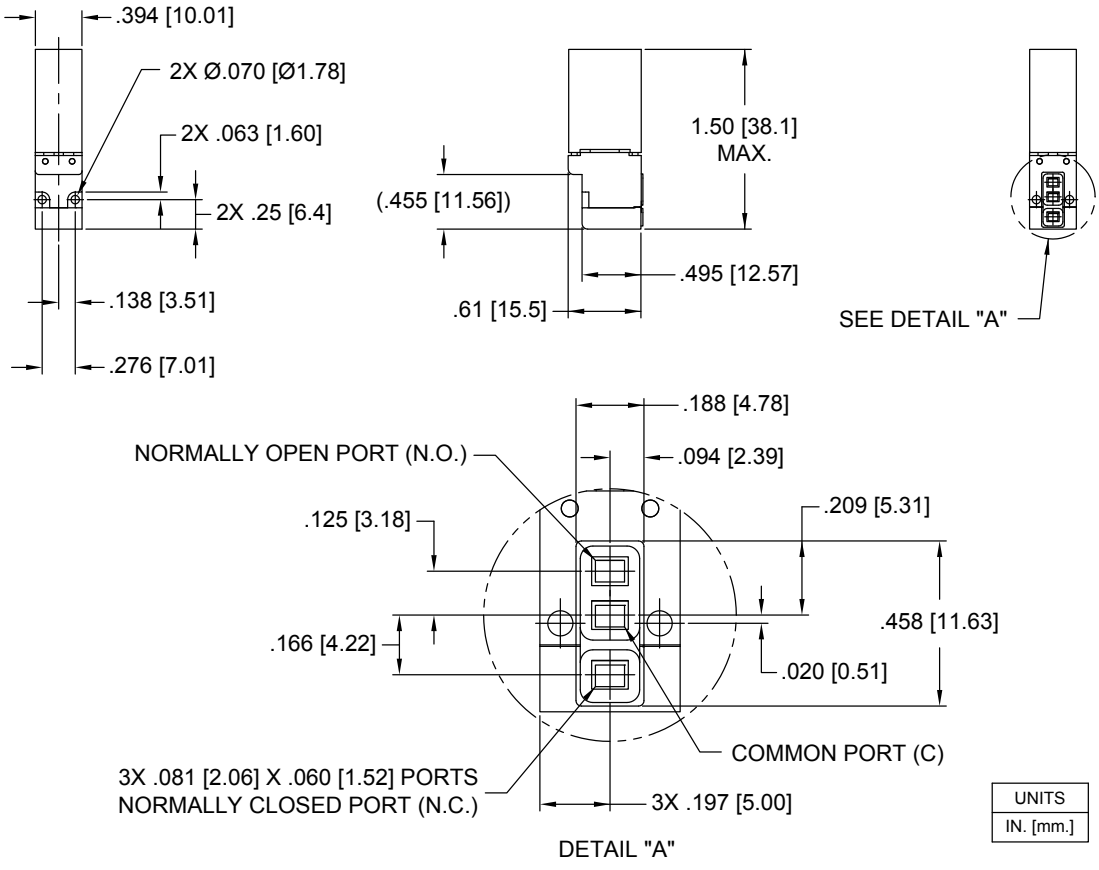
Model No.	Orifice Size	Maximum Supply Pressure	Maximum Supply Vacuum	Power Consumption	Life Requirements (millions of cycles)
10	0.020 in (0.51 mm)	35 psi (2.41 bar)	27 in Hg (686 mm Hg)	0.5 Watt	175
11	0.020 in (0.51 mm)	85 psi (5.86 bar)	27 in Hg (686 mm Hg)	1 Watt	50
13	0.030 in (0.76 mm)	20 psi (1.37 bar)	27 in Hg (686 mm Hg)	0.5 Watt	200
14	0.030 in (0.76 mm)	50 psi (3.44 bar)	27 in Hg (686 mm Hg)	1 Watt	25
16	0.045 in (1.14 mm)	10 psi (0.68 bar)	20 in Hg (508 mm Hg)	0.5 Watt	100
17	0.045 in (1.14 mm)	20 psi (1.37 bar)	27 in Hg (686 mm Hg)	1 Watt	25

Pneumatic Interface

Mechanical Integration

Dimensions

SRS Basic Valve Dimensions



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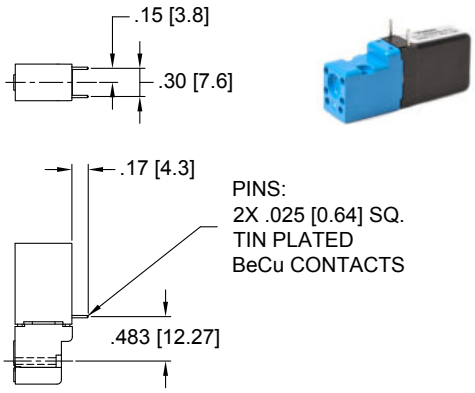
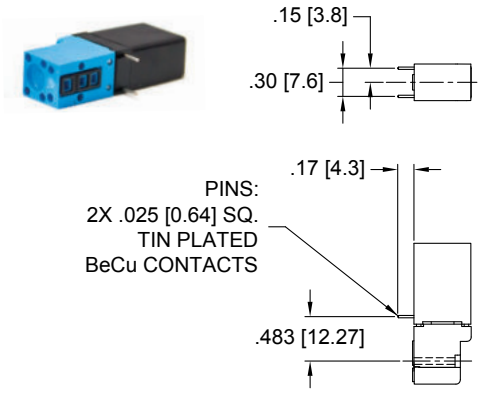
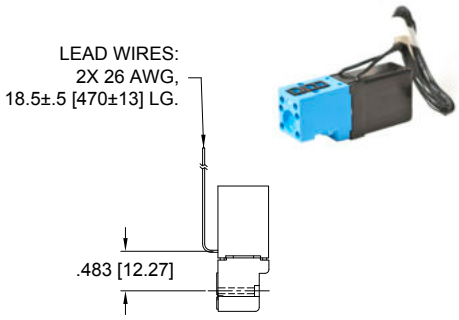
Electrical Interface



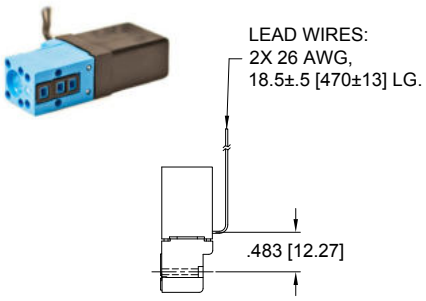
"F" - TYPE
ELECTRICAL CONNECTION
(.025 [0.64] SQUARE PINS, FRONT)



"M" - TYPE
ELECTRICAL CONNECTION
(.025 [0.64] SQUARE PINS,
MANIFOLD INTERFACE)



"R" - TYPE
ELECTRICAL CONNECTION
(INSLATED WIRE LEADS, 18" [457.2]
MANIFOLD INTERFACE)



"L" - TYPE
ELECTRICAL CONNECTION
(INSLATED WIRE LEADS,
18" [457.2] FRONT)

UNITS
IN. [mm.]

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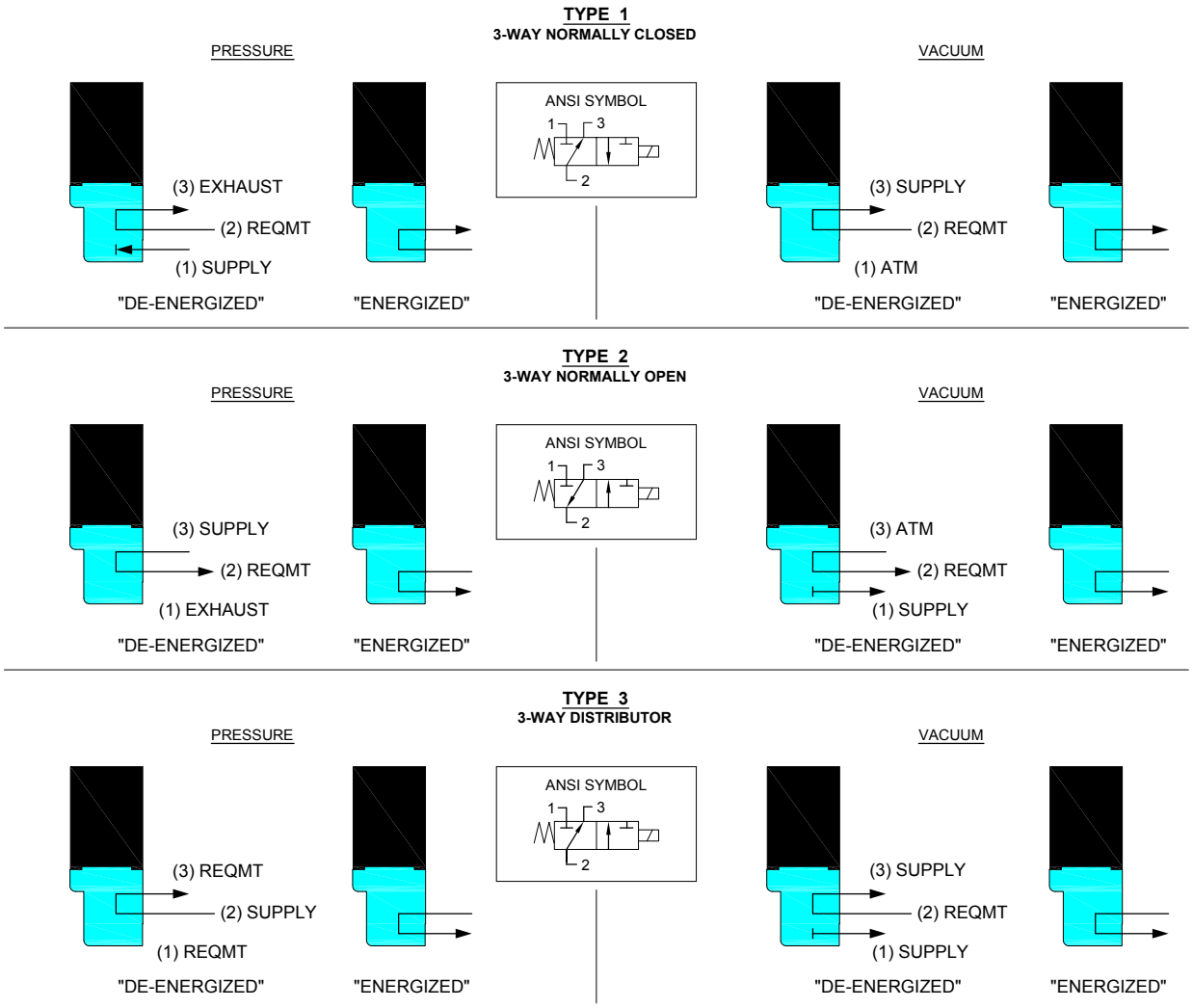
LEGEND:	
SUPPLY:	Pneumatic Source or Supply Pressure
EXHAUST:	Exhaust to Atmospheric Pressure
REQMT:	Customer Requirement or Application
ATM:	Atmospheric Pressure

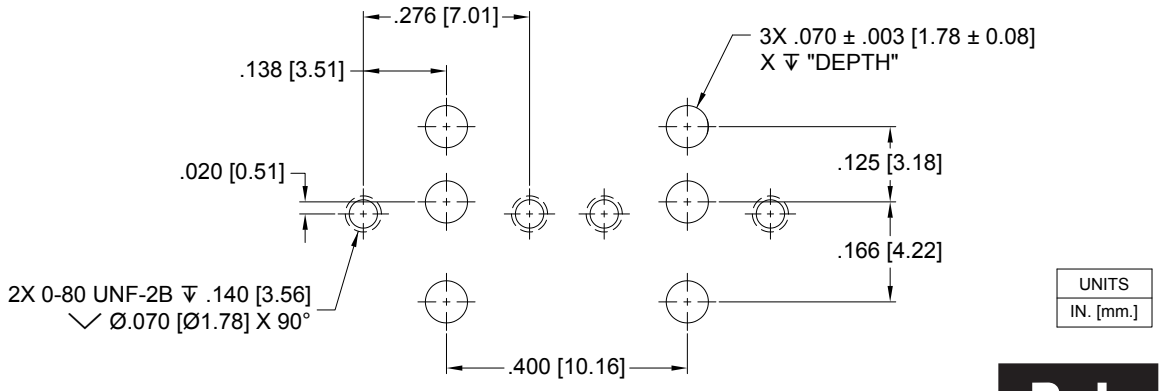
ANSI Symbols

Pneumatic Schematics by Valve Types



Installation and Use

SRS Manifold Mount Diagram



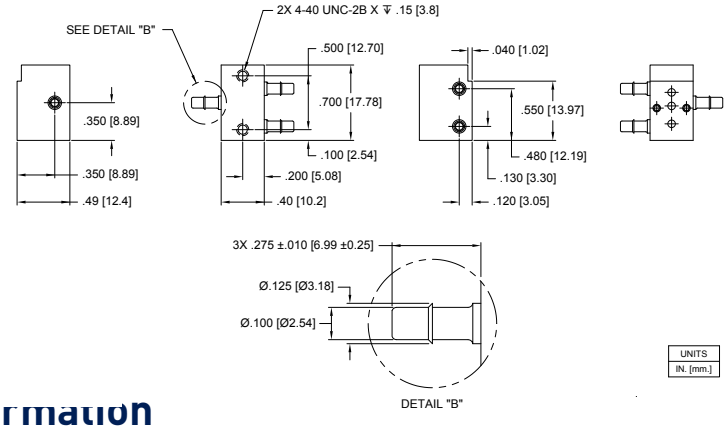
SRS Miniature Pneumatic Solenoid Valve

Accessories

Seal, Valve Manifold, SRS
195-000139-001

Screw 0-80 x 9/16" Pan Head, Phillips
191-000100-009
(2 required for each valve)

Test Manifold, Single Station, SRS
990-001362-001



Ordering Information

Sample Part ID	SRS	10	2	P	V	12	M
Description	**Series**	**Model Number: Pressure / Orifice**	**Type**	**Material**	**Seal Material**	**Voltage**	**Electrical Connection**
Options	SRS	10: 0-35 psi / 0.020"	1: 3-Way NC	P: Engineering Plastic	V: FKM	5: 5 VDC	F: 0.025" Square Pins, Front
		11: 0-85 psi / 0.020"	2: 3-Way NO			12: 12 VDC	M: 0.025" Square Pins, Manifold Interface
		13: 0-20 psi / 0.030"	3: 3-Way NC or Distributor			24: 24 VDC	L: Insulated Wire Leads, 18", Front
		14: 0-50 psi / 0.030"					R: Insulated Wire Leads, 18", Manifold Interface
		16: 0-10 psi / 0.045"					
		17: 0-20 psi / 0.045"					

Accessories	
195-000139-001: Seal, Valve Manifold, SRS *	* Used as seal between manifold and valve body
191-000100-009: Screw 0-80 x 9/16", Pan Head, Phillips (2 required for each valve)	
990-001362-001: Test Manifold, Single Station, SRS	

NOTE: In order to provide the best possible solution for your application, please provide the following requirements when contacting Applications Engineering:

- Media, Inlet & Outlet Pressures
- Minimum Required Flow Rate
- System Supply Voltage
- Media
- Ambient Temperature Range

ORDER ON-LINE

Please click on the Order On-line button (or go to www.parker.com/precisionfluidics/srs) to configure your SRS Miniature Pneumatic Solenoid Valve. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002090-001 and Drawing #890-003061-001.

For more information call +1 603 595 1500 or email ppfinfo@parker.com
Visit www.parker.com/precisionfluidics