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
- 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 in³ (0.027 cm³)

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

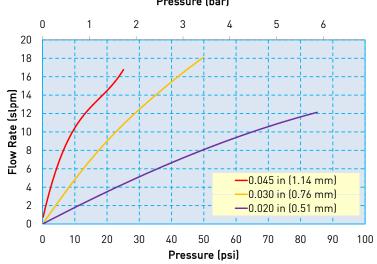
(See Life-cycle information in Performance Parameters section.)



Typical Flow Curve

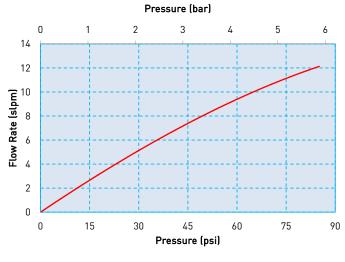


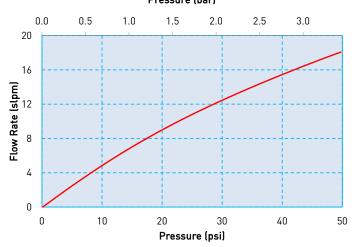
(Tested w/air 24° C)
Pressure (bar)



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

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





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

Pressure (bar)

0 0.5 1 1.5

20
16
16
4
0 0 5 10 15 20 25

Pressure (psi)



Performance Parameters

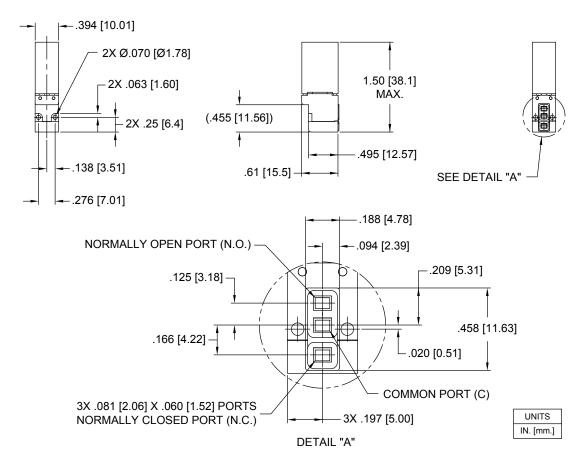
Model No.	Orifice Size	Maximum Supply Pressure	Maximum Supply Vacuum	Power Consumption	Life Requirements (millions of cycles)
10	0.020 in (0.51 mm)	35 psi (2.41 bar)	27 in Hg (686 mm Hg)	0.5 Watt	175
11	0.020 in (0.51 mm)	85 psi (5.86 bar)	27 in Hg (686 mm Hg)	1 Watt	50
13	0.030 in (0.76 mm)	20 psi (1.37 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



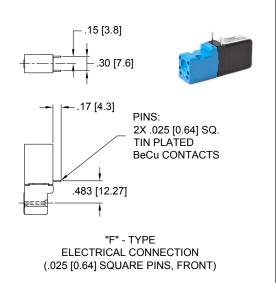
Mechanical Integration Dimensions

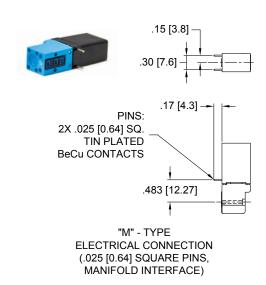
SRS Basic Valve Dimensions

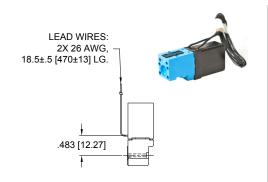




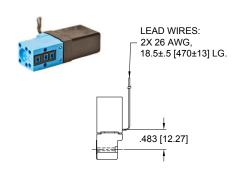
Electrical Interface







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



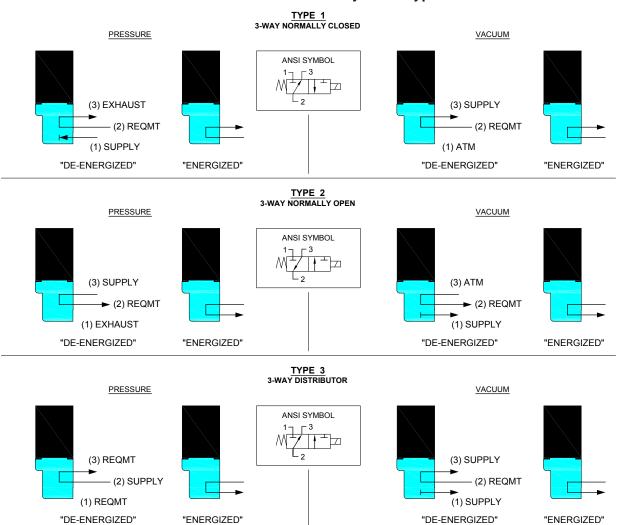
"L" - TYPE ELECTRICAL CONNECTION (INSLATED WIRE LEADS, 18" [457.2] FRONT)

UNITS IN. [mm.]

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

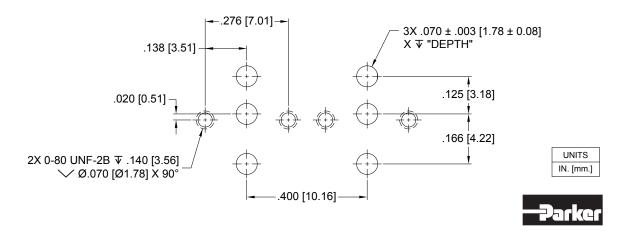
ANSI Symbols

Pneumatic Schematics by Valve Types



Installation and Use

SRS Manifold Mount Diagram



Accessories

Seal, Valve Manifold, SRS



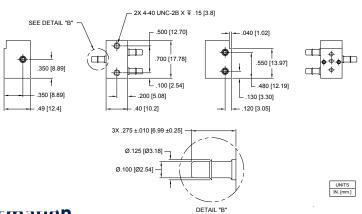
Screw 0-80 x 9/16" Pan Head, Phillips

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	٧	12	M
Description	Series	Model Number: Pressure / Orifice	Туре	Material	Seal Material	Voltage	Electrical Connection
Options		·	1: 3-Way NC 2: 3-Way NO 3: 3-Way NC or Distributor	P: Engineering Plastic		12: 12 VDC 24: 24 VDC	F: 0.025" Square Pins, Front M: 0.025" Square Pins, Manifold Interface L: Insulated Wire Leads, 18", Front R: Insulated Wire Leads, 18", Manifold Interface

Accessories
195-000139-001: Seal, Valve Manifold, SRS *

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

* Used as seal between manifold and valve body

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



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

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

- Media
- Ambient Temperature Range

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.

PPF-MSV-002/US January 2015

