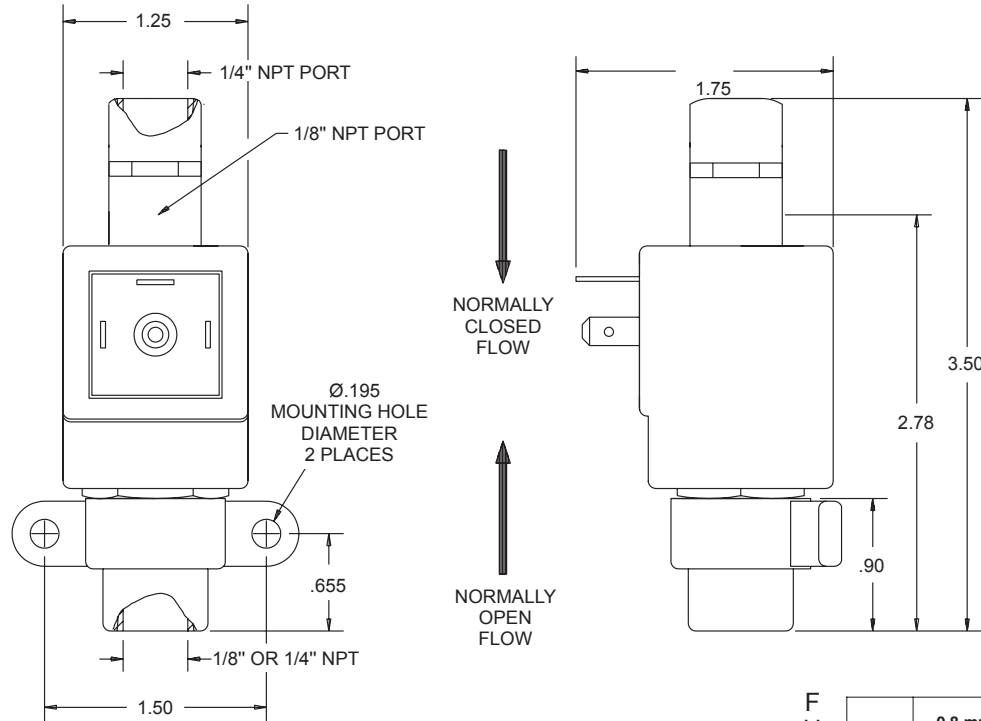




The Spartan Scientific Series 4100 2-way solenoid valves are a compact mechanism using one moving part. Offered in 1/8" and 1/4" NPT, the valves are available with orifices ranging from 0.8 to 4.0mm. Pressure range is vacuum to 600 psi with Nitrile, Viton and EPDM seals. Designed mainly as a safety device on motor vehicles, the 4100 can also be used in water, air and oil systems.

Dimensional Data

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED



ORIFICE SIZE / VOLTAGE

FUNCTION	0.8 mm		1.6 mm		2.4 mm		3.0 mm		4.0 mm	
	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC
	2/2 NC	600	480	450	360	255	200	150	120	75
2/2 NO	480	385	405	325	195	155	135	110	N/A	N/A

MAX. PRESSURE RANGE (psi)

Technical Data

Function: 2-way, 2-position, normally closed or normally open, direct acting

Port Sizes: 1/8" or 1/4" NPT

Orifice Sizes: 0.8 to 4.0mm

Pressure Range: Vacuum to 600 psi, depending on orifice size

Flow Factors: Up to .266

Temperature Range: (Fluid Max. 90°C) Ambient -10° to +50°C

Response Time: 16 to 36 ms complete cycle

Materials: Operator: AISI 400 and 300 Series Stainless Steel
Shading Ring: Copper standard (Silver available on request)
Orifice: Brass
Seal: Viton standard (other materials available on request)
Valve Body: Brass

Media: Air, inert gas, gasoline, oil, water, hydraulic oil, emulsion, etc.

Mounting: In line

Coil Data: Glass filled nylon encapsulation (Class F, continuous duty)
10 watt VDC, 8 watt VAC
Volts: 6, 12, 24 VDC
24/60 Hz, 120/60 Hz, 220/50 Hz, 240/60 Hz VAC
Voltage tolerance: +/- 10%



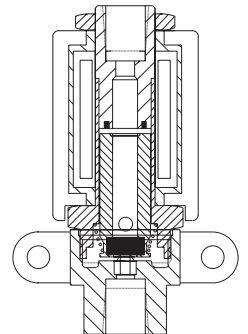
Series 4100

Air-Sol 2-Way Solenoid Valves

Principle of Operation

Closed Position / Normally Closed Function

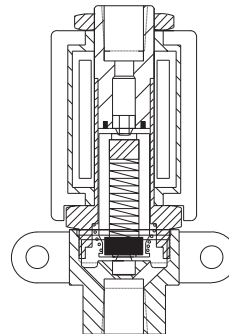
With the valve de-energized, media enters through the stem port of the valve and fills the valve chamber. Media pressure, with the aid of the plunger spring, holds the seat against the orifice.



Normal position (non-passing)

NC
Flow
↓

↑
NO
Flow



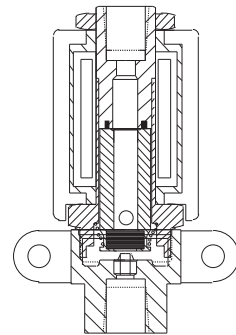
Normal position (passing)

Open Position / Normally Open Function

With the valve de-energized, media enters through the Normally Open port. Media flows through the hollow plunger and cross drill, and exits through the stem port.

Open Position / Normally Closed Function

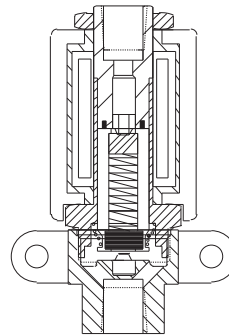
When energized, the solenoid coil pulls the plunger off the orifice. Media flows through the hollow plunger and cross drill, and exits through the lower port.



Energized position (passing)

NC
Flow
↓

↑
NO
Flow



Energized position (non-passing)

Closed Position / Normally Open Function

When energized, the solenoid coil pulls the plunger to the raised position. The upper plunger seat closes the stem port orifice stopping the media flow.

How To Order

4100 - □□ - 4 2 □□

Orifice / Cv / NC/NO
 01 - 0.8mm / .035 / NC
 02 - 1.6mm / .112 / NC
 03 - 2.4mm / .224 / NC
 04 - 3.0mm / .266 / NC
 06 - 4.0mm / .350 / NC
 0A - 0.8mm / .035 / NO
 0B - 1.6mm / .112 / NO
 0C - 2.4mm / .224 / NO
 0D - 3.0mm / .266 / NO

Coil Options*
 1 - 6 VDC
 2 - 12 VDC
 3 - 24 VDC
 6 - 24 VAC 60 Hz
 7 - 120 VAC 60 Hz
 8 - 220 VAC 50 Hz
 9 - 240 VAC 60 Hz

Body Ports
 4 - 1/4" NPT
 8 - 1/8" NPT

Order Example: 4100-03-4287
 Series 4100, 2.4mm orifice, .224 Cv, normally closed, 1/8" NPT ports, 120 VAC 60 Hz

*For more coil options see page 7.