

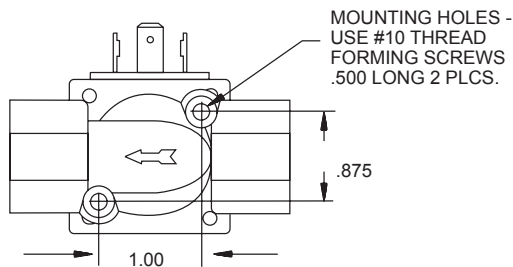
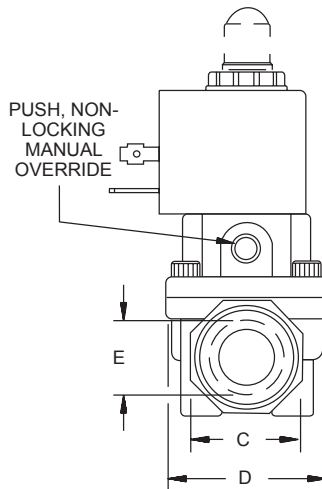
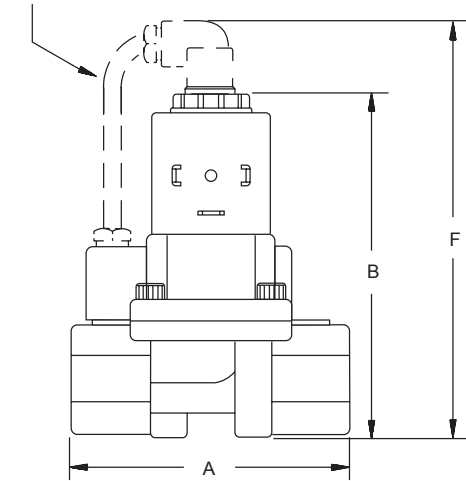


The Spartan Scientific Series 3510 2-way, 2-position solenoid/air operated pilot valve uses the latest technologies for materials and function. This combination provides the user with the highest quality, smallest size per Cv of flow and most competitive pricing of any valve on the market. When coupled with the Spartan 3000 series solenoid operator, and used as a direct acting/pilot operated valve, the 3510 gives full flow throughout the pressure range starting with an MOPD of 0 psi. The polymer body section is available in 1/4", 3/8" and 1/2" NPT sizes and features a stainless steel anti-flex ring for port strength. The molded pilot section features a push, non-locking manual override, high cycle life solenoid parts, and quick connect DIN 43650 "A" or "flying lead" electrical connection options. Typical applications include air control, inert gas control, water, condensate drainage, hot water plumbing and sprinkler systems.

Dimensional Data

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

TUBE AND FITTING INSTALLED
WITH NORMALLY OPEN VERSION ONLY



FLOW DATA	
PORT SIZE	FLOW RATE
1/4"	8.2 gpm
3/8"	9.3 gpm
1/2"	11.2 gpm
120 psi Δ p 25 psi	

DIMENSIONAL TABLE	
PORTS	1/4" - 3/8" - 1/2"
A	2.75"
B	3.50"
C	1.10"
D	1.50"
E	1/4" - 3/8" - 1/2" NPT
F	4.45"

Technical Data

Function: 2-way, 2-position normally closed or normally open internal pilot diaphragm

Port Sizes: 1/4", 3/8", 1/2" NPT

Orifice Sizes: 1/2" (12.5mm)

Pressure Range: 0 - 150 psi 1/4" to 1/2" NPT
(Valve requires 1.5 psi differential to fully open.)

Flow Factors: 1/4" NPT 1.55 Cv
3/8" NPT 1.95 Cv
1/2" NPT 2.45 Cv

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

Response Time: 20 to 80 ms complete cycle

Materials: Operator: AISI 400 and 300 Series Stainless Steel or Brass
Shading Ring: Copper standard
Seals: Viton, Nitrile, EPDM
Valve Body: Du Pont Zytel® 77G33, glass filled nylon, NSF approved

Manual Override: Push non-locking

Media: Air, oil, water, potable water, emulsion, inert gases

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

FUNCTION	VOLTAGE	
	AC	DC
	2/2 NC	150
2/2 NO	150	120

MAX. PRESSURE RANGE
(psi)

SPARTAN SCIENTIFIC

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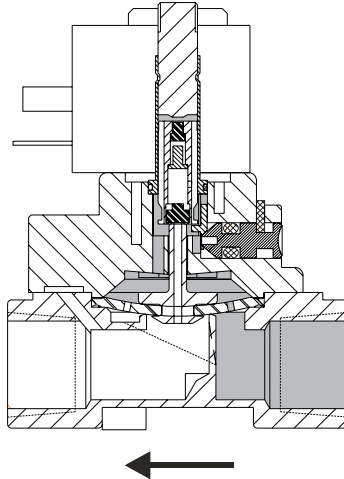
Series 3510

Air-Sol 2-Way
Process Composite Solenoid Valves

Principle of Operation

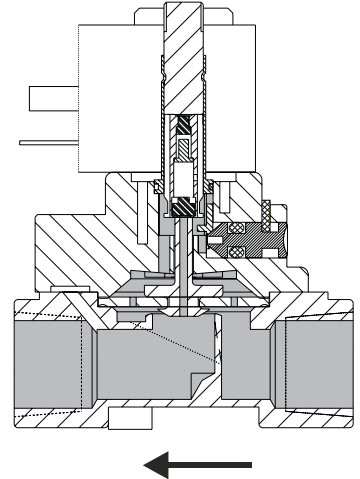
Closed Position

With no supply pressure and the valve de-energized, spring force from the armature holds the valve closed. As the supply pressure is increased, pressure builds up on top of the diaphragm via the bleed hole. This force, acting on the larger effective area, holds the valve closed (in conjunction with the armature spring).



Open Position

When energized with no supply pressure, the armature lifts allowing the pre-loaded diaphragm to lift, opening the valve. When supply pressure is applied, pressure above the diaphragm is relieved via the open pilot gallery. The fluid pressure below assists in holding the diaphragm open.



How To Order

Function

0 - 2-way, Normally Closed
1 - 2-way, Normally Open

Seal Material ♦

1 - Viton
2 - Buna N / Nitrile
3 - EPDM

Materials in Contact with Media ♦♦

8 - Brass / Nylon
9 - Stainless Steel / Nylon

3510 - □ - □ - □ 2 □ □

Coil Options*

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

Port Size / Orifice / Cv

1 - 1/4" NPT / 1/2" (12.5mm) / 1.55
2 - 3/8" NPT / 1/2" (12.5mm) / 1.95
3 - 1/2" NPT / 1/2" (12.5mm) / 2.45

Order Example: 3510-01-8237
Series 3510, 2-way, normally closed, Viton seal,
brass / nylon, 1/2" NPT, 120 VAC 50/60 Hz

- ♦ Seal material comes in contact with media.
- ♦♦ All versions come in contact with a copper shading ring.
Other versions available on request.

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Replacement Diaphragm Kits

Kit includes: Diaphragm and Orifice insert

Specify Part Number

Viton	3500-01-0001	Normally
Nitrile	3500-B1-0001	Closed
EPDM	3500-E1-0001	
Viton	3500-01-0003	Normally
Nitrile	3500-B1-0003	Open
EPDM	3500-E1-0003	

*For more coil options see page 7.

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