

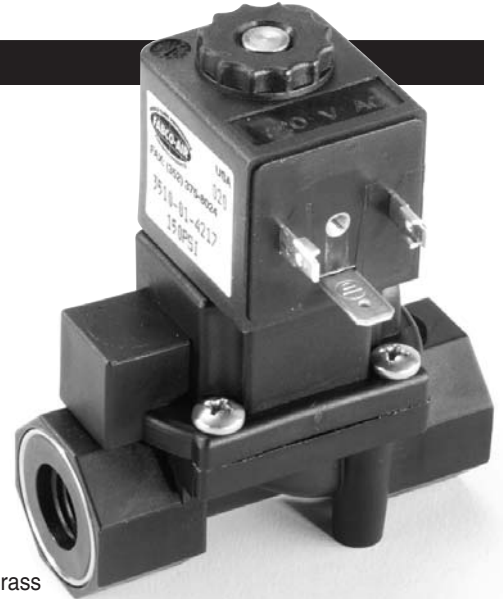
## 2-Way, 2-Position Process Composite Solenoid Valves

The Series 3510 2-way, 2-position Solenoid valve uses the latest technologies for materials and function which provide the user with the highest quality, smallest size per Cv of flow and most competitive pricing of any valve on the market. The 3510 utilizes the latest injection molding technologies available which make the 3510 compatible with many fluids and other media. When coupled with the 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 zero

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 orifice for all sizes is 12.5mm or 1/2". The molded pilot section features a push non-locking manual override, high cycle life solenoid parts and quick connect DIN 43650 "A" electrical connection. Typical applications include air control, inert gas control, potable water (NSF versions), condensate drainage, hot water plumbing and sprinkler systems.

### Technical Data

<b>Function:</b>	2-way, 2 position normally closed internal pilot diaphragm	
<b>Port Sizes:</b>	1/4", 3/8", 1/2" NPT	
<b>Orifice Sizes:</b>	1/2"	
<b>Pressure Range:</b>	0 to 150 PSI 1/4" to 1/2" NPT (Valve requires 1.5 PSI differential to fully open.)	
<b>Flow Factors:</b>	1/4" NPT 1.55 Cv 3/8" NPT 1.95 Cv 1/2" NPT 2.45 Cv	
<b>Temperature Range:</b>	(Fluid max. 90°C) Ambient -10° to +50°C	
<b>Response Time:</b>	20 to 80 ms complete cycle	
<b>Materials:</b>	Operator:	AISI 400 and 300 Series Stainless Steel or Brass
	Shading Ring:	Copper (Silver on request)
	Seal:	Viton standard (Nitrile, EPDM optional)
	Diaphragm:	Viton standard (Nitrile, EPDM optional)
	Valve Body:	DuPont Zytel® 77G33, glass filled nylon, NSF approved
<b>Manual Override:</b>	Push non-locking	
<b>Media:</b>	Air, oil, water, potable water, emulsion, inert gases	
<b>Coil Data:</b>	Glass filled nylon encapsulation (Class F, continuous duty) 10 watt VDC, 8 watt VAC. All standard industrial voltages. Voltage tolerance: +/- 10% Connectors available for ISO "C-Tab" Spades – see next page for part numbers.	

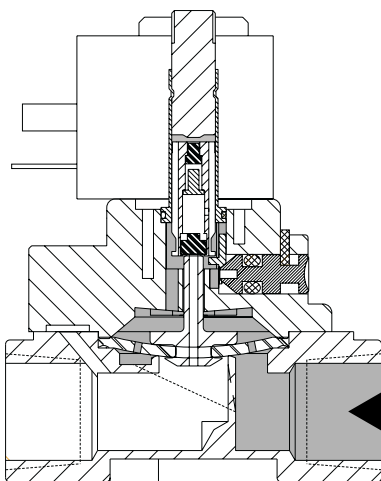


FUNCTION	VOLTAGE	
	AC	DC
	2/2 NC	150
2/2 NO	150	120

MAX. PRESSURE RANGE

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### Principle of Operation

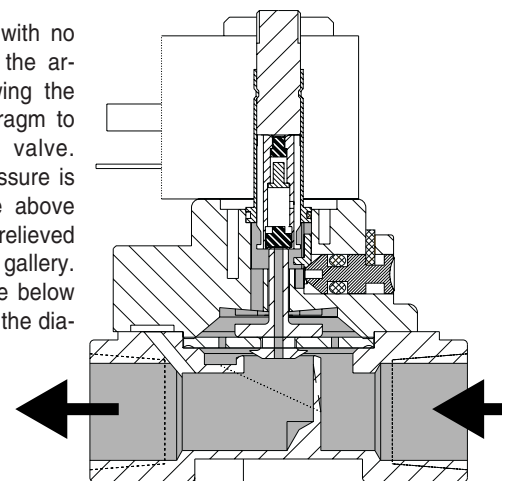


#### Closed Position

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).

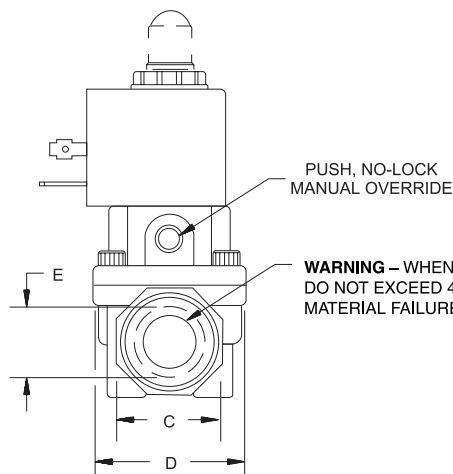
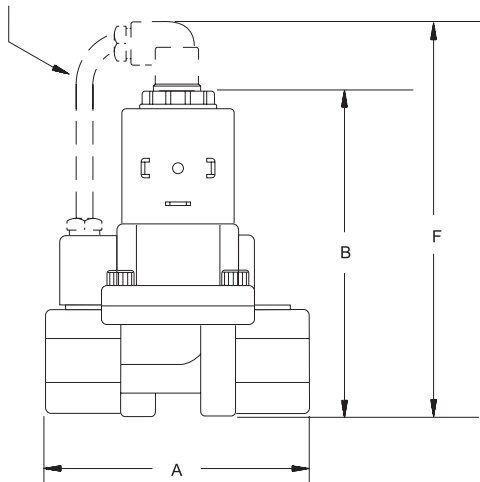
#### Open Position

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.

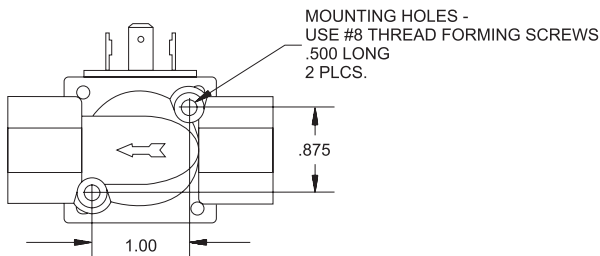


## Dimensional Data

TUBE AND FITTING INSTALLED  
WITH NORMALLY OPEN VERSION ONLY



**WARNING** – WHEN USING METAL FITTINGS  
DO NOT EXCEED 40 IN LBS TORQUE OR  
MATERIAL FAILURE CAN OCCUR.



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"

## How To Order

3510 -   -  2

### 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

A - Brass / Nylon  
B - Stainless Steel / Nylon

### Voltage

1 - 6 VDC  
2 - 12 VDC  
3 - 24 VDC  
4 - 120 VDC  
5 - 12 VAC / 50/60 Hz  
6 - 24 VAC / 50/60 Hz  
7 - 120 VAC / 50/60 Hz  
8 - 240 VAC / 50/60 Hz

### Port Size / Orifice / Pressure / Cv

1 - 1/4" NPT / 1/2" / 0 to 150 PSI / 1.55  
2 - 3/8" NPT / 1/2" / 0 to 150 PSI / 1.95  
3 - 1/2" NPT / 1/2" / 0 to 150 PSI / 2.45

**Order Example:** 3510-01-A23-7  
Zytel®, 2-way, normally closed, 1/2" NPT,  
120 VAC / 50/60 Hz, 0 to 150 psi

**Connector for ISO "C-Tab" Spades:**  
P/N 5100-1080000 . . . . . Black housing - No LED

### Replacement Diaphragm Kit

Includes Diaphragm, Spring & Brass Insert

Specify Part Number		
	Norm. Closed	Norm. Open
Viton	3500-01-0001	3500-01-0003
Buna N / Nitrile	3500-B1-0001	3500-B1-0003
EPDM	3500-E1-0001	3500-E1-0003