


## 2-Way, 2-Position normally closed/open Process Solenoid Valves

The Series 3500 2-way, 2-position Solenoid valve uses the latest combinations of 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 3500 utilizes the latest injection molding and forging technologies available which combined garner the highest quality yields of components. When coupled with the solenoid operator and used as a direct acting/pilot operated valve, the 3500 gives full flow throughout the pressure range starting

with an MOPD of zero psi. The forged body section gives strength and robustness to the valve and is available in 1/4", 3/8" and 1/2" NPT sizes. 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, water, inert fluids, 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 230 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 +80°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:	Forged brass & glass filled Nylon	
<b>Manual Override:</b>	Push non-locking		
<b>Media:</b>	Air, oil, 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		



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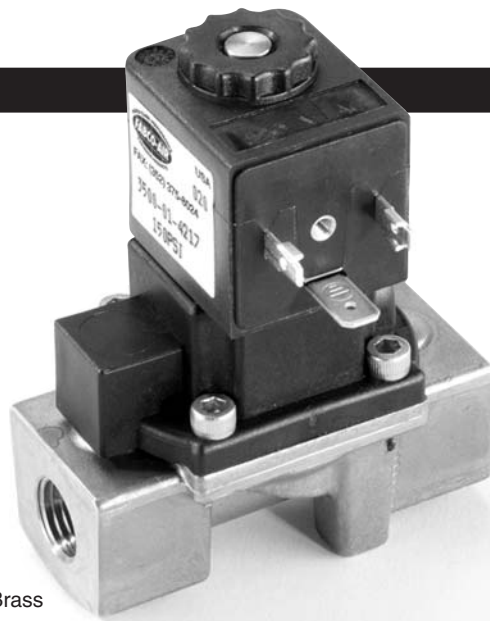
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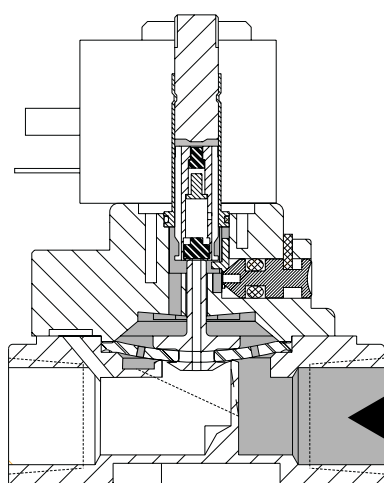


F U N C T I O N	VOLTAGE	
	AC	DC
	2/2 NC	230 150
	2/2 NO	185 150

MAX. PRESSURE RANGE

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### Principle of Operation

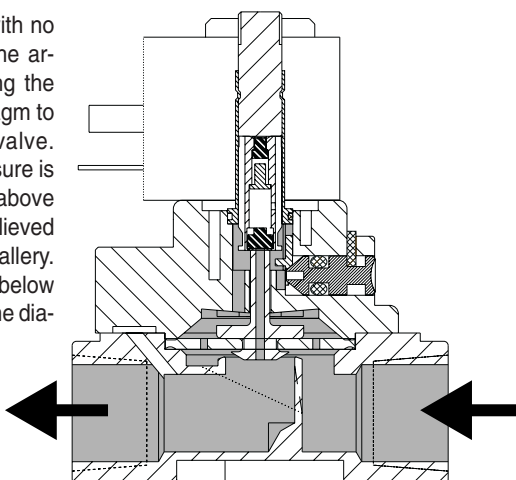


#### Closed Position

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).

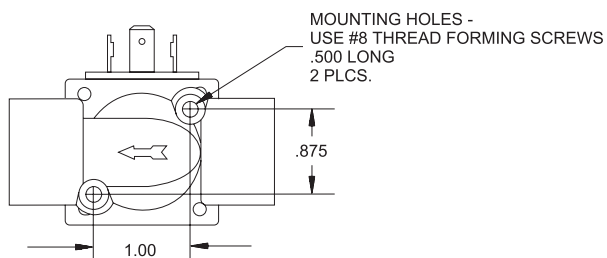
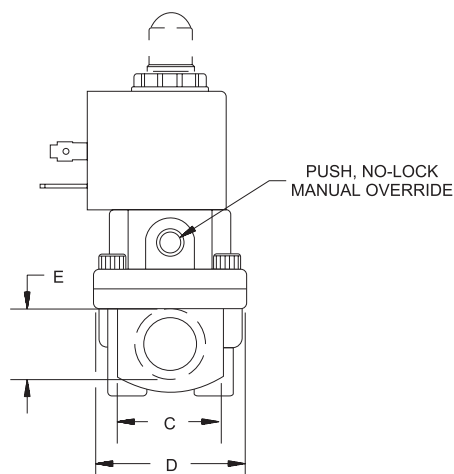
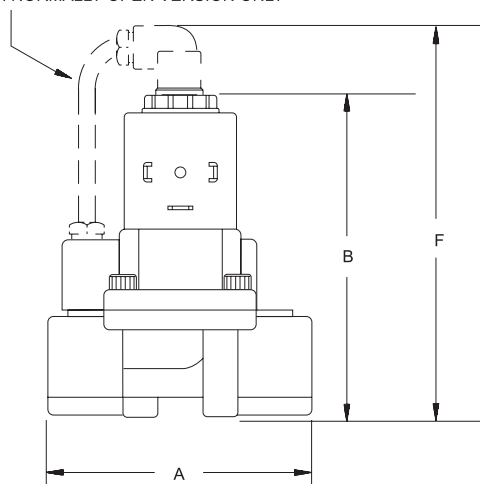
#### Open Position

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

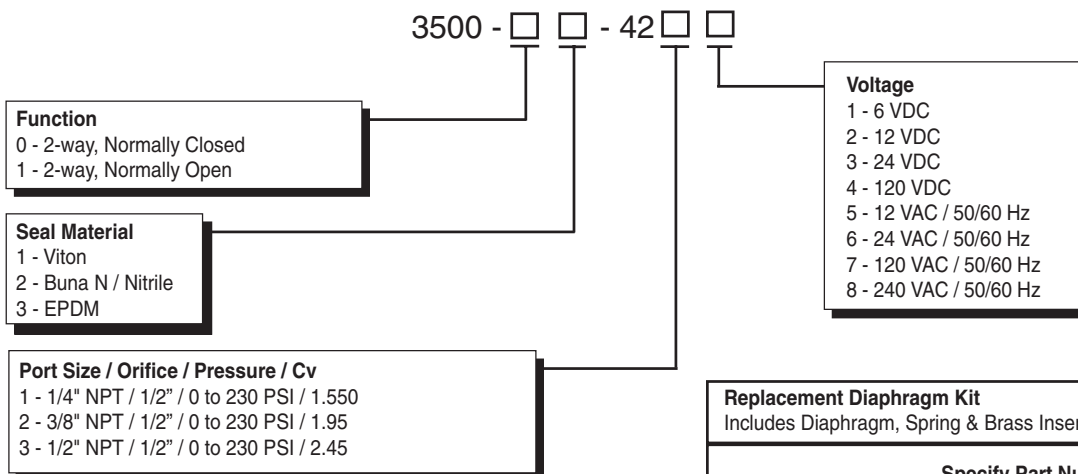
TUBE AND FITTING INSTALLED  
WITH NORMALLY OPEN VERSION ONLY



**DIMENSIONAL TABLE**

Ports	1/4" - 3/8" - 1/2"
<b>A</b>	2.75"
<b>B</b>	3.50"
<b>C</b>	1.10"
<b>D</b>	1.50"
<b>E</b>	1/4" - 3/8" - 1/2" NPT
<b>F</b>	4.45"

## How To Order



**Order Example:** 3500-01-423-7  
2-way, normally closed, 1/2" NPT,  
120 VAC / 50/60 Hz, 0 to 230 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