

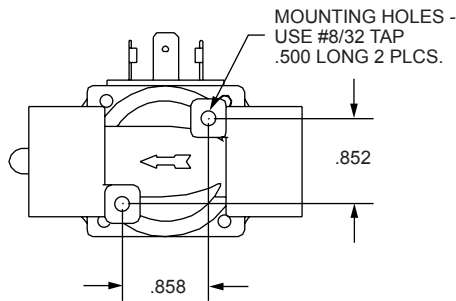
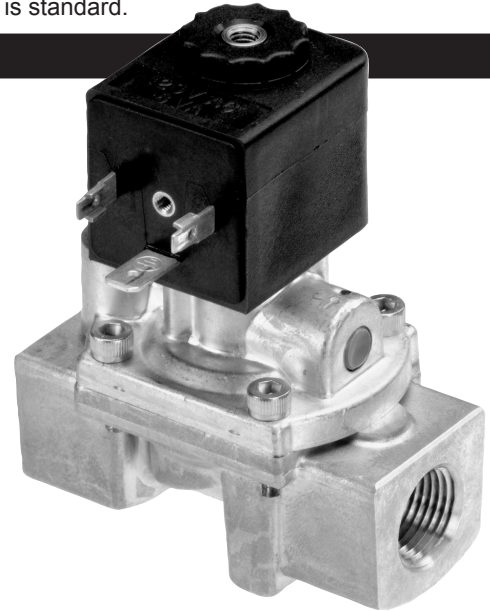
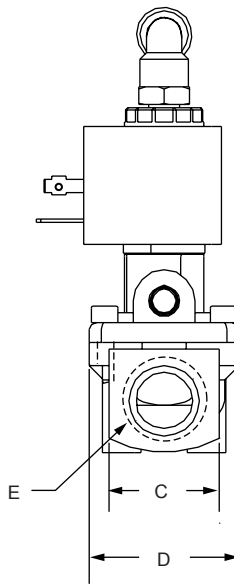
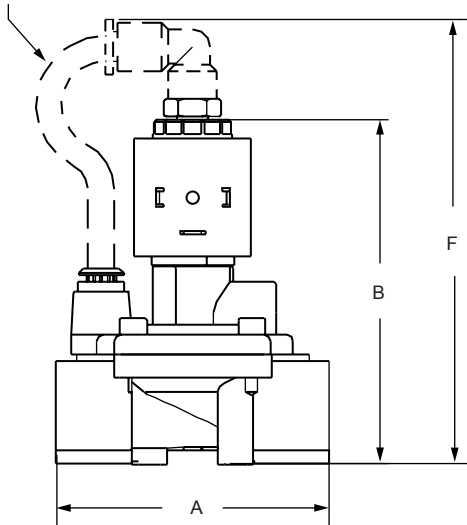


The Spartan Scientific Series 3505 is a 2-way, 2-position, normally closed or normally open valve for the control of air, oil, water, or media that is compatible with valve materials of manufacture. The valve features an all brass body and a 0 minimum pressure differential while still boasting a full flow 1/2" orifice. Available in 1/4", 3/8" and 1/2" NPT, the 3505 can handle pressures to 230 psi. The encapsulated coil construction ensures that the valve functions well under long periods of energization (100% duty), as well as providing a high degree of environmental protection (NEMA 4). The inner valve functions as a direct assist using a flat diaphragm and orifice plate. Pressure differentials shift the valve to full open or full closed. A push, non-locking manual override is standard.

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"

Pressure Range: 0 - 230 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
Valve Body: Forged brass
Seals: Viton, Nitrile, EPDM

Manual Override: Push non-locking

Media: Air, oil, 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%

VOLTAGE		
FUNCTION	AC	DC
	2/2 NC	230
2/2 NO	150	150

MAX. PRESSURE RANGE (psi)



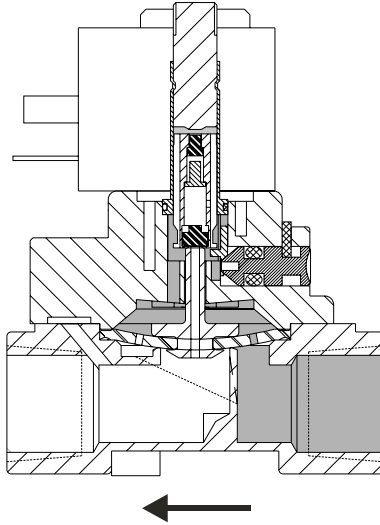
Series 3505

Air-Sol 2-Way
Process Solenoid Valves

Principle of Operation

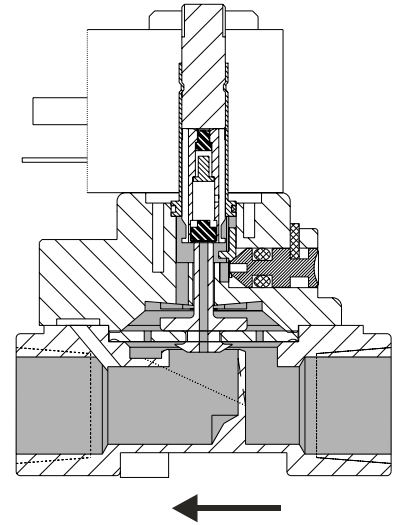
Closed Position

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).

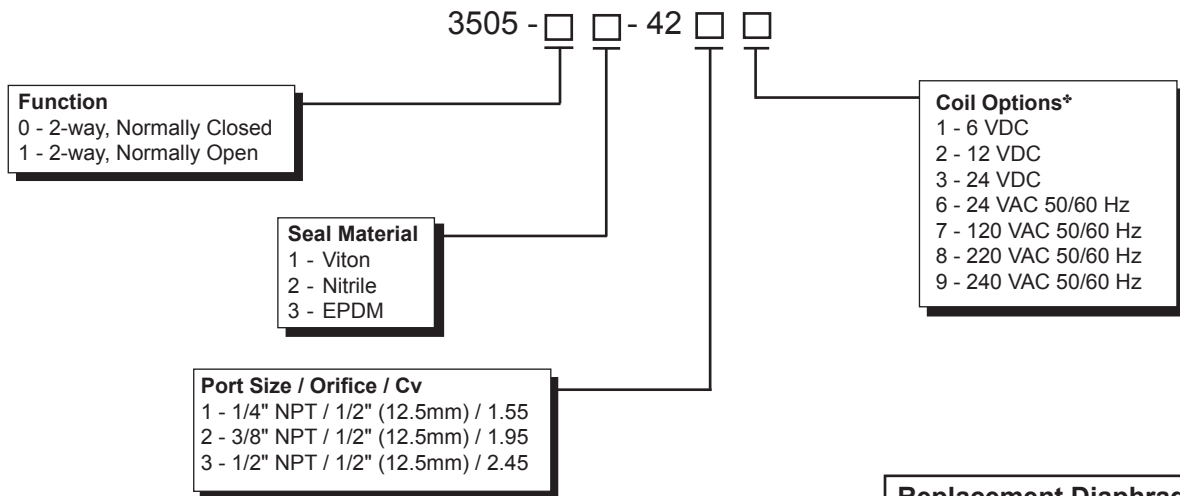


Open Position

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



Order Example: 3505-01-4237
Series 3505, 2-way, normally closed,
1/2" NPT, 120 VAC 50/60 Hz

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.