



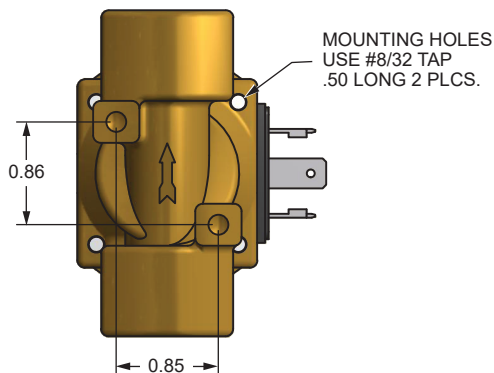
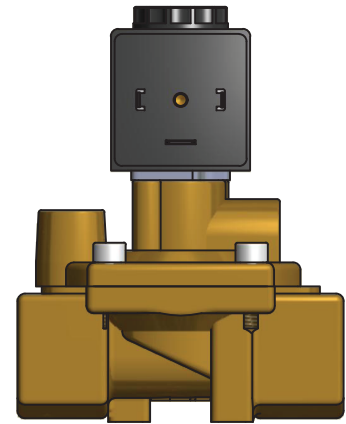
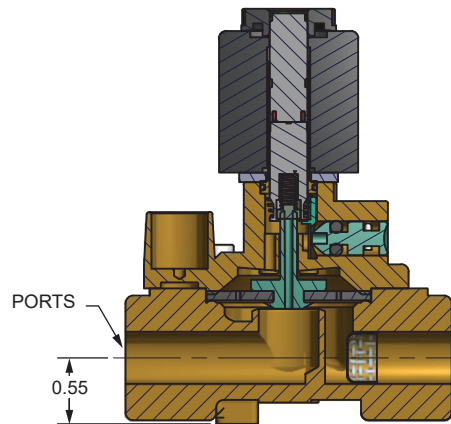
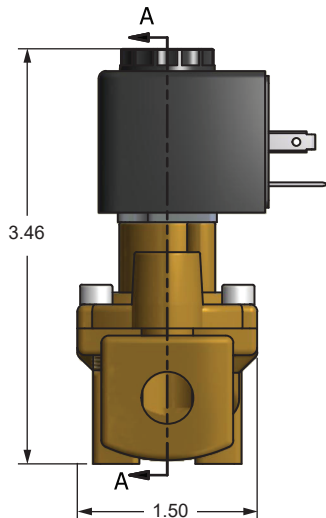
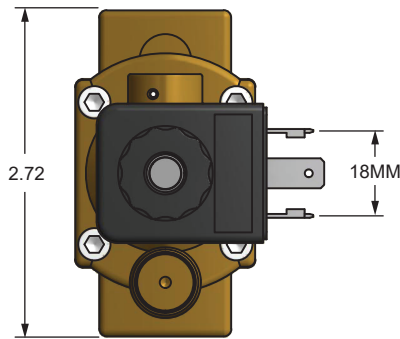
# Series 3505

Diaphragm Process  
Air-Sol 2-Way

The Spartan Scientific Series 3505 is a 2-Way, 2-Position, internally piloted solenoid valve for the control of air, emulsion, inert gases and water. The valve features an all brass body and a full flow 1/2" orifice while maintaining a 1.5 minimum pressure differential. The design allows for a tight seal on the orifice at 0 psi. 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 activation (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



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



# Series 3505

Diaphragm Process  
Air-Sol 2-Way

## Technical Data

**Function:** 2-Way, 2-Position; Inlet Pilot Diaphragm;  
Normally Closed

**Port Size / Flow Factor:** 1/4" NPT / 1.55 Cv  
3/8" NPT / 1.95 Cv  
1/2" NPT / 2.45 Cv

**Orifice Sizes:** 12.7mm / 2.45 Cv

**Pressure Range:** 0 to 230 psi (depending on orifice size and function)  
Note: Valve Requires 1.5 psi differential to fully open

**Temp. Range:** Fluid Max.: +60°C  
Dry Range: Ambient +10° to +50°C

**Response Time:** 20 to 80ms Complete Cycle

**Media:** Air, emulsion, inert gases, water

**Manual Override:** Push non-locking

**Environment Protection:** IP65 (IEC 144), NEMA 4  
Dust-tight and water resistant (with electrical connector)

**Mounting:** Use #8 x 0.50" long self-tapping screws (2)

**Wetted Materials:** Elastomers: EPDM, FKM, NBR  
Operator: 300 and 400 Series Stainless Steel  
Shading Ring: Copper (AC Only)  
Springs: 300 Series Stainless Steel  
Valve Body: Brass

**Coil Data:** Duty Cycle: Continuous (within specifications)  
Encapsulation: Glass-Filled Nylon  
Insulation: Class F  
Power Rating: 6.5 Watt VDC, 8.5 VA VAC  
(others available on request)  
Voltage: 6, 12, 24 VDC  
24, 120, 220, 240 VAC 50/60 Hz  
Voltage Tolerance: +/- 10% Nominal  
Winding: Class H

**Connections:** Spades: Accordance with DIN Style "A" EN175301-803  
Flying Lead: PVC 22 AWG, Multi-Strand Copper Wire,  
300V, 12" minimum length

**Packaged Weight:** 1.20 lbs.

FUNCTION

### VOLTAGE

	AC	DC
2/2 NC	230	180

MAX. PRESSURE RANGE (psi)

DIAPHRAGM  
PROCESS

## How To Order

### Seal Material

- 1 - FKM
- 2 - NBR
- 3 - EPDM

Port Size	Orifice	Cv
1 - 1/4" NPT	12.5mm	1.55
2 - 3/8" NPT	12.5mm	1.95
3 - 1/2" NPT	12.5mm	2.45

### 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

### Replacement Diaphragm Kits

Kit includes: Diaphragm and Orifice Insert

Specify Part Number

FKM	3500-01-0001	Normally
NBR	3500-B1-0001	Closed
EPDM	3500-E1-0001	

Order Example: 3505-01-4237  
2-Way, N.C., FKM, 1/2" NPT,  
120 VAC 50/60 Hz