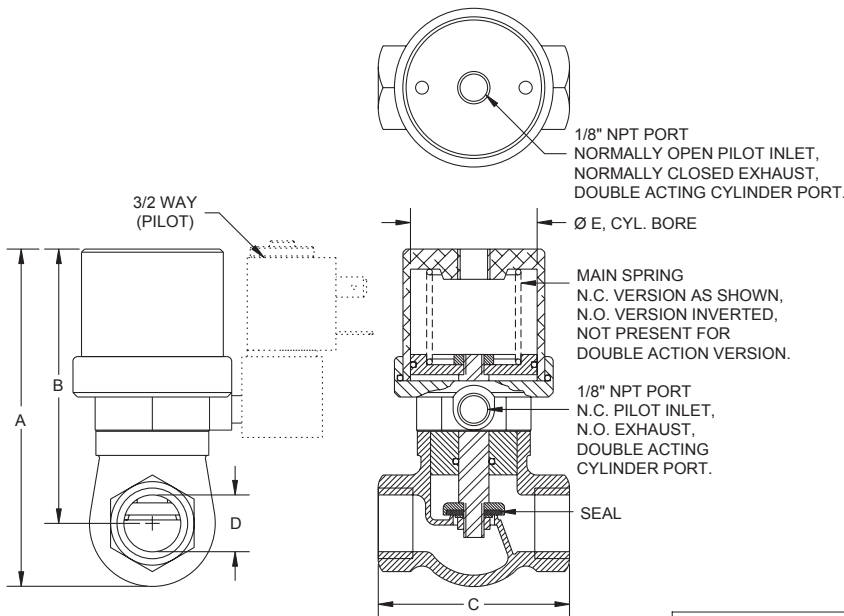




The Spartan Scientific Series APV-10 is a versatile 2-way, 2-position air piloted valve that can be controlled by a three-way, four-way solenoid valve or hand pilot valve. The APV-10 features a reciprocating piston operator which is media separated and controls air, fluids, fluid emulsions, water, or any media compatible with the valve body materials. Standard sealing materials include Buna, Viton or PTFE. The bronze valve body is available in 1/2" to 2" NPT port sizes in various versions. The valve is offered with single acting normally open, normally closed, remote air pilot, or double acting pilot operation. Operating pressure ranges from 0 to 235 psi with pilot pressures of 30 to 80 psi dependent upon function. Soft shifting can be obtained by the use of flow controls on the pilot ports. Typical applications for the APV-10 are media control of solvents, water, water with suspended particles, and coolants. Also available is a three way solenoid pilot valve (Spartan Series 3823), which may be added to operate the APV-10.

Dimensional Data

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED



DIMENSIONAL TABLE				
Port Size (D) NPT	A	B	C	Weight (lbs)
1/2"	3.78"	3.07"	2.32"	1.00"
3/4"	4.21"	3.27"	2.91"	1.25"
1.0"	4.80"	3.70"	3.23"	2.75"
1.25"	5.35"	4.00"	3.74"	3.25"
1.5"	6.38"	4.88"	4.25"	5.00"
2.0"	7.00"	5.25"	4.27"	6.50"

DIFFERENTIAL PRESSURE CHART							
Port Size (D) NPT	Cv / GPM @ Δ P = 10 psi	Normally Closed Normally Open Version		Double Acting Version			
		Δ p (psi)	Pilot Pressure (psi)	Cylinder Bore (E)	Δ p (psi)	Pilot Pressure (psi)	Cylinder Bore (E)
1/2"	4.7 / 15	75	80	1.50"	225	80	1.50"
3/4"	10.9 / 35	105	80	1.50"	135	80	1.50"
1.0"	15.1 / 48.5	105	80	2.50"	240	80	2.50"
1.25"	24.7 / 79.3	65	80	2.50"	180	80	2.50"
1.5"	38.5 / 123.3	125	80	3.00"	180	80	3.00"
2.0"	60.5 / 193.7	60	80	3.00"	135	80	3.00"

Technical Data

Function: 2/2-way, normally closed, normally open, remote air pilot, double acting

Port Size: 1/2", 3/4", 1.0", 1.25", 1.5", 2.0" NPT

Orifice Size: 15mm - 50mm

Pressure: Normally closed, normally open version (depending on orifice size): 0-125 psi
Double acting version: 0-240 psi
Pilot pressure max. 80 psi

Flow Range: 4.7 - 60.5 Cv

Temp. Range: -20°C - +80°C

Materials: *Actuator:* Cylinder: Anodized Aluminum
Spring: Music wire
Rod: Stainless Steel
Seals: Viton
Seat: Nitrile, Viton, P.T.F.E.
Lock nut: Stainless Steel

Valve body: Bronze

Media: All fluids and gases compatible with wetted materials

Mounting: On pipe

Coil Data: Glass filled nylon encapsulation (Class F, continuous duty)
Voltage: 6, 12, 24 VDC
24, 120, 220, 240 VAC 50/60 Hz
Voltage tolerance: +/- 10%



Series APV-10

Remote Air Pilot
2-Way Valves

Principles of Operation

Normally Closed Version:

Closed (normal) position - Pilot supply pressure is connected to port #1 and is normally blocked. Media supply is connected to port #3. Outlet port #4 is blocked due to the force the main spring exerts on the valve seat.

Open position - Pilot valve energized. Pilot pressure is supplied through port #1 creating the force to raise the cylinder piston. The valve seal is directly attached to the piston rod and is pulled from the orifice as the cylinder reacts, allowing the media to flow from port #3 to port #4.

Note: In the event that pilot pressure is interrupted, valve will switch to the closed position.

Normally Open Version:

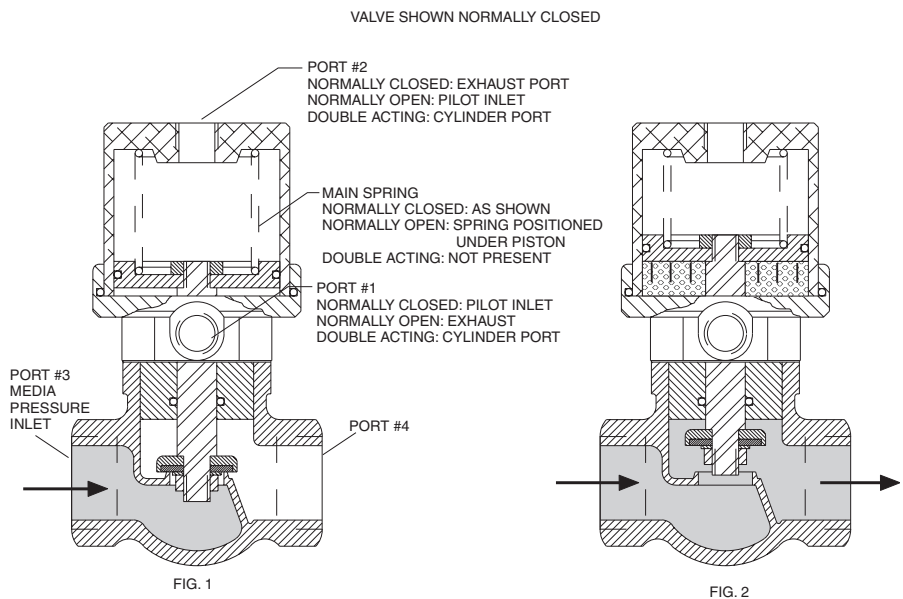
Open (normal) position - Pilot supply pressure is connected to port #2 and is normally blocked. The piston/valve seal assembly is raised to the open position due to the force of the main spring. Media flows from port #3 to port #4.

Closed position - Pilot valve energized. Pilot pressure is supplied through port #2 creating the force to push the piston/valve seal assembly downward, closing the flow orifice. Media flow is interrupted as port #4 is closed.

Note: In the event that pilot pressure is interrupted, valve will switch to the open position.

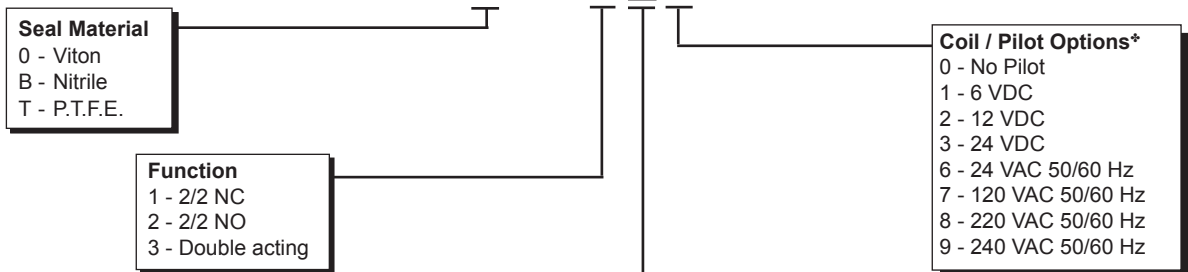
Double Acting Version:

The double acting version can be made normally open or normally closed depending on how the 4-way pilot is connected to ports #1 and #2.



How To Order

APV10 - 0 - 4



Order Example: APV10-00-4127
Series APV10, Viton seal, 2/2 NC, 3/4" NPT port size, 20mm orifice, 10.9 Cv, 120 VAC 50/60 Hz

*Port Size / Orifice / Cv	
1	1/2" NPT / 15mm / 4.7
2	3/4" NPT / 20mm / 10.9
3	1.0" NPT / 25mm / 15.1
4	1.25" NPT / 32mm / 24.7
5	1.5" NPT / 40mm / 38.5
6	2.0" NPT / 50mm / 60.5

*For more coil options see page 7.

* All thread sizes available in BSP. Contact factory for details.