ONYX VALVE CO
Instructions for Solenoid Valve

(04-2011)

Onyx direct air operated pinch valves(GSF, GSD & GSS) are available with a solenoid valve as a standard accessory. The solenoid valve mounts direct to the pinch valve; this eliminates tubing and fittings between the solenoid valve and pinch valve.

If the solenoid valve should fail for any reason, simply remove the 3 socket head cap screws that attach it to the sub-plate, unplug the old solenoid valve, and plug in a new solenoid valve.

A pressure regulator is also available. If the pressure regulator is supplied, this will be nested between the manifold block and the solenoid valve.

Operating Tip:

For best sleeve life, set the pressure regulator to 40 psi over the shut off pressure inside the pinch valve.

For example: If the line pressure inside the pinch valve is 30 psi maximum, set the pressure regulator to 70 psi.

Wiring:

The solenoid valve is weatherproof per NEMA-4, suitable for indoor or outdoor service.

Standard voltage: 110 VAC 50/60~
Power consumption: Inrush: 5.0 VA
Holding: 2.3 VA
Other voltages including DC power are available.

Electrical connection is via a DIN plug.
The plug is designed to work with an 8 to 10 mm (0.31 to 0.37") diameter, 3-conductor flexible cord. The DIN plug can be rotated in 90° increments to face any direction.

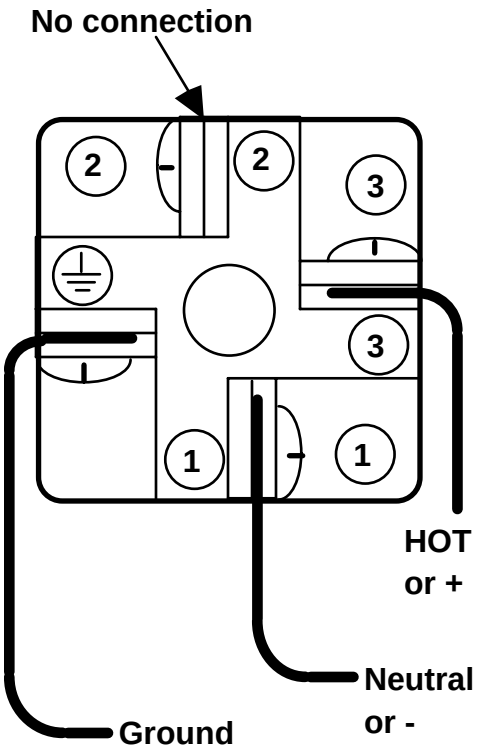


Figure 1. Wiring connections inside the DIN plug.

To connect the wires to the solenoid valve, loosen the screw on top of the DIN plug on the top surface of the solenoid assembly. Separate the plug from the solenoid valve. Using a small screwdriver, gently pry the plug base loose from the cover.

Feed the flexible connecting wire through the grommet in the DIN plug cover. Peel back the cable cover and strip the individual wires. Connect the three wires to the plug as shown in figure 1.

Connect the white neutral wire to terminal #1, the black hot wire to terminal #3, and the green ground wire to the ground terminal. There is no wire connection to terminal #2

Slide the cover over the plug front and snap in place.

Reattach the DIN plug to the solenoid valve and tighten the retaining screw.

Pneumatic Connections

Connect a source or compressed air to port **P** on the manifold block of the solenoid valve.

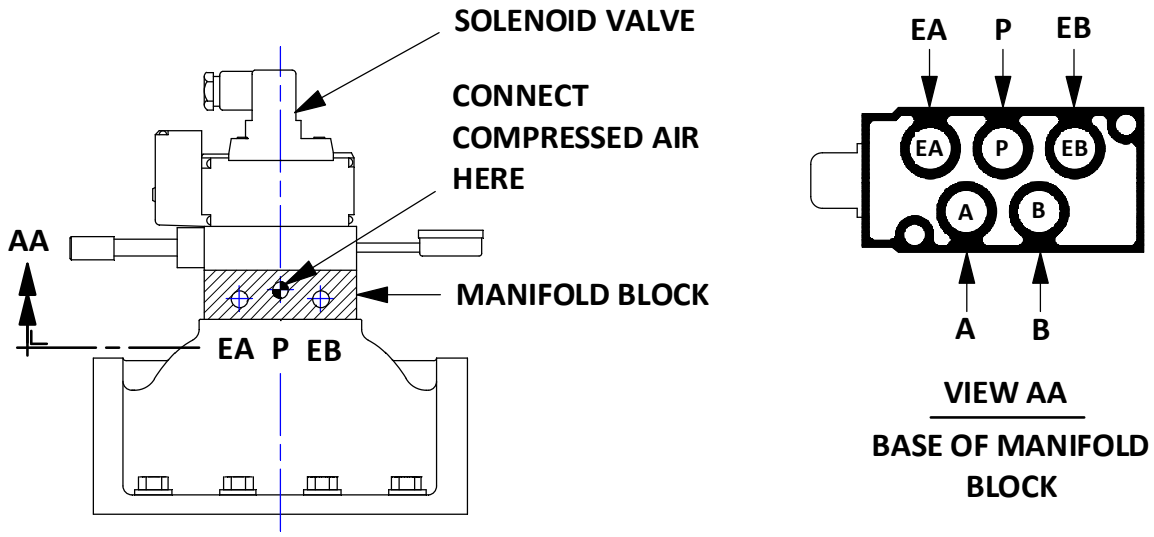


Figure 2

The pinch valve does not require filtered instrument grade air, but your compressed air should be free from condensation and other contaminants. The air line feeding the valve should have enough capacity to stroke the valve in less than 3 seconds.

Suggested minimum air line size:

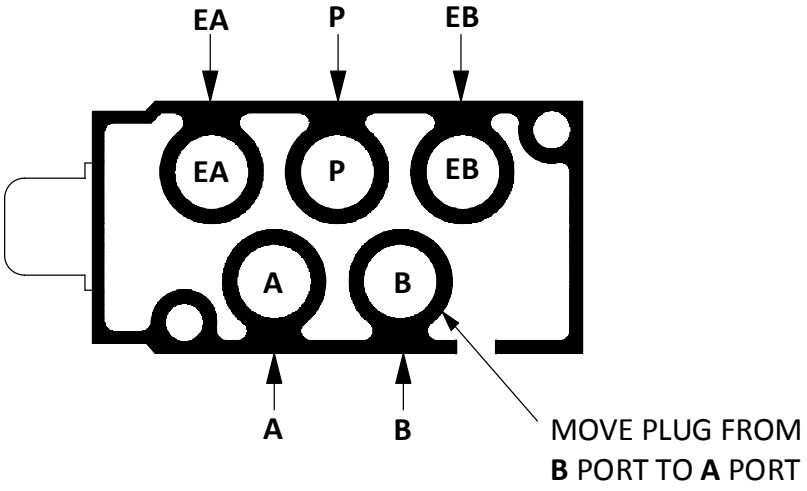
Valve Size	Air Line Size
1” to 2”	0.250”
2.5” to 6”	0.375”
8”and Larger	0.500”

Configuration

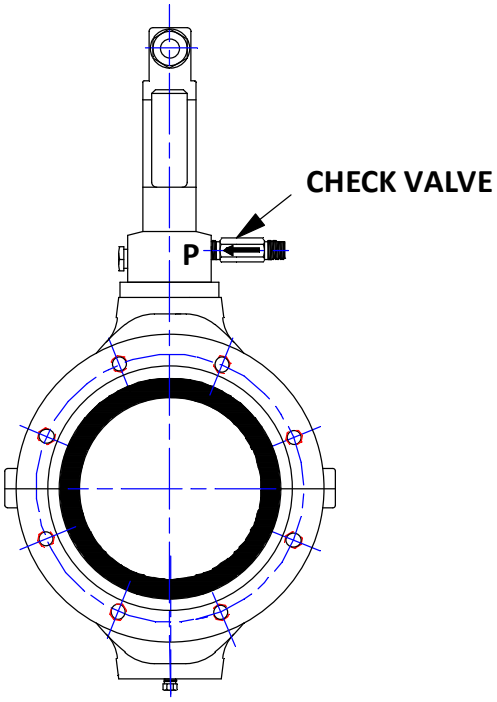
When supplied with our standard solenoid valve, the GSF, GSD, and GSS pinch valves can be configured either energize **Coil to Open** or energize **Coil to Close**.

The standard configuration as shipped from the factory is energize **Coil to Close** the pinch valve.

To change to energize **Coil to Open** operation, remove the solenoid valve assembly (including the manifold block) from the pinch valve. In the base of the manifold is a 1/4" plug in the **B** port(as shown in the diagram below).



Using a standard Allen key, remove this plug and transfer it to the **A** port. Reconnect the solenoid valve assembly to the pinch valve



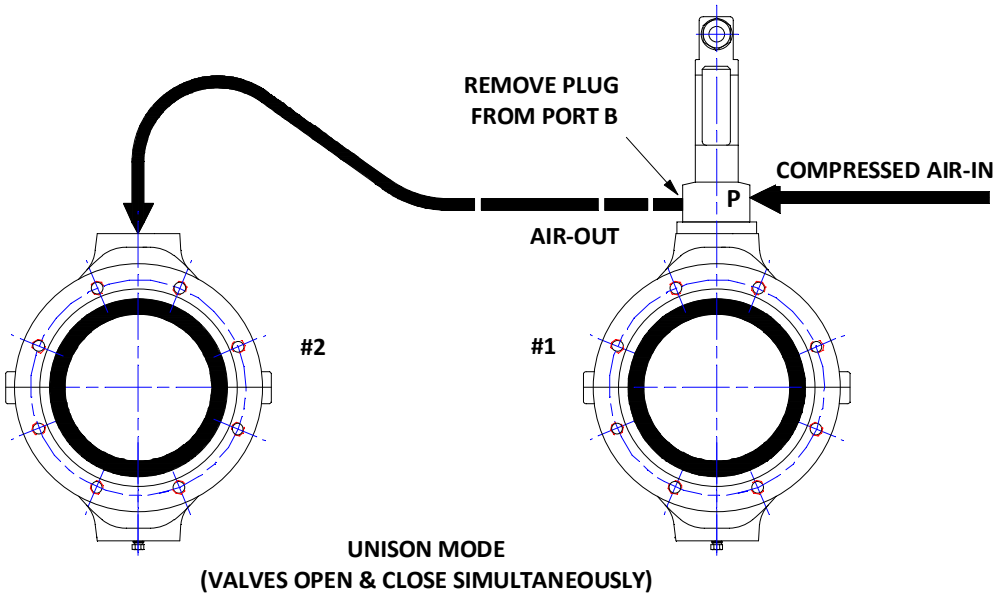
Lock on Loss of Air

You can configure the valve to stay in place during a compressed air failure. For this mode of operation, install a ¼" NPT check valve into port **P** on the manifold block.

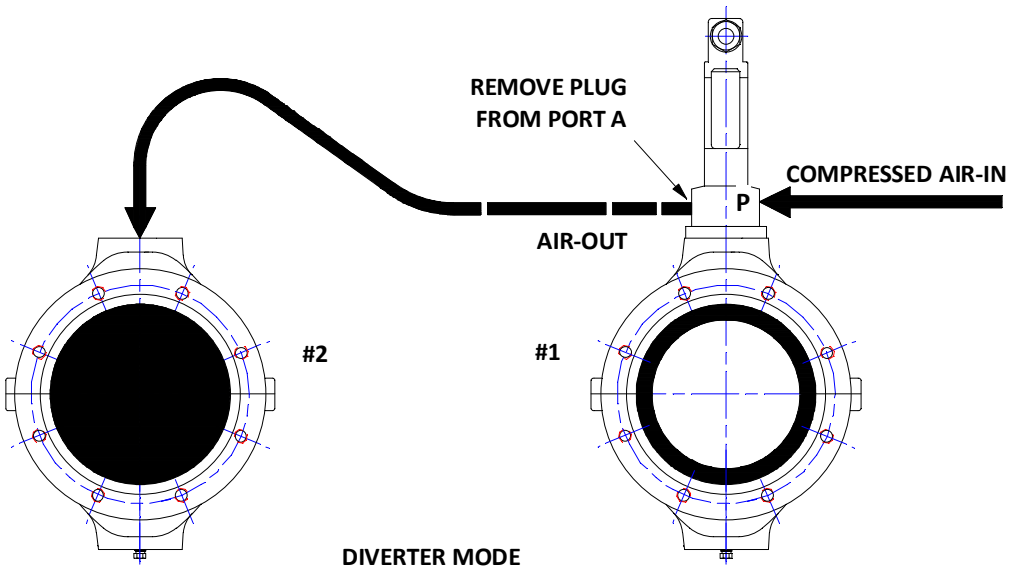
Orient the check valve so that the direction of flow is into the manifold block.
On loss of air, pinch valve will remain in last position as long as the solenoid status is unchanged.

Multi Valve Operation

You can operate more than one pinch valve with one solenoid valve. There are two ways to combine pinch valves:



They can operate in unison mode, where the pinch valves open and close at same time. To operate valves in unison mode, remove the plug from port **B** on the solenoid valve manifold block, and connect air line to valve #2.



The other method is to set up a diverter mode, where the valve #1 opens as the other valve #2 closes. In this arrangement, there always is one valve that is open.
To operate the valves in diverter mode, remove the plug from port **A** on the solenoid valve manifold, and connect an air line to valve #2.

Questions ?

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