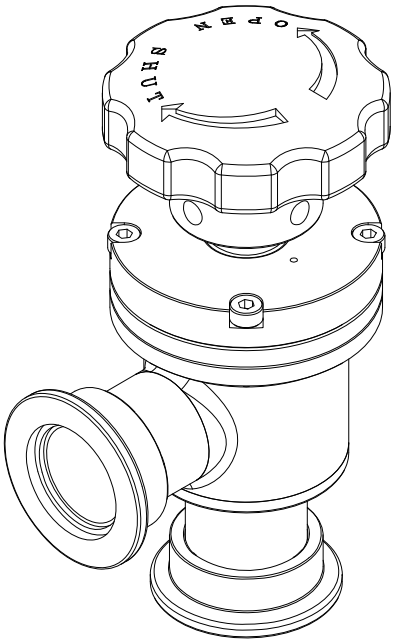
Instruction Manual

Angle/In-line Valve



Installation information

Dimensions

The outline dimensions for all stainless steel vacuum valves are given in the catalog.

Cleanness and flange protect

The valves should be kept away from dust、fiber、oil and any contamination. When installing the valve, adequate clearance should be allowed between adjacent components so there is no sliding of seal surface against each other. Every valve are shipped with a plastic cap on the flange, the caps should be left on until installation and replaced when the valve is removed from the piping line. A small scratch on the flange seal face of an elastomer sealed valve is enough to prevent a leak tight seal. On valves with CF flanges, if the knife edge is scratched or dented, the flange may not seal.

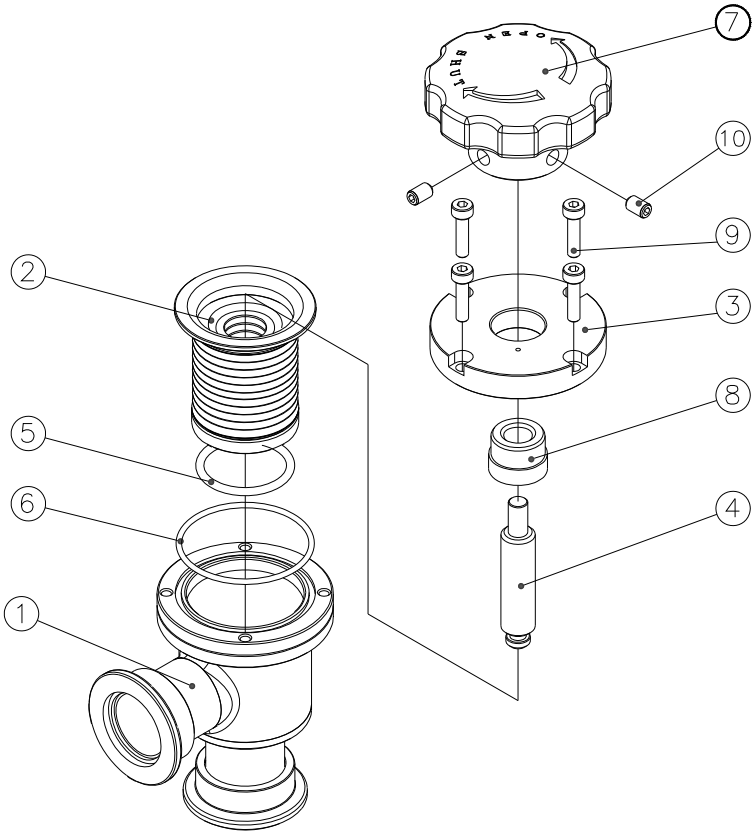
Air Supply

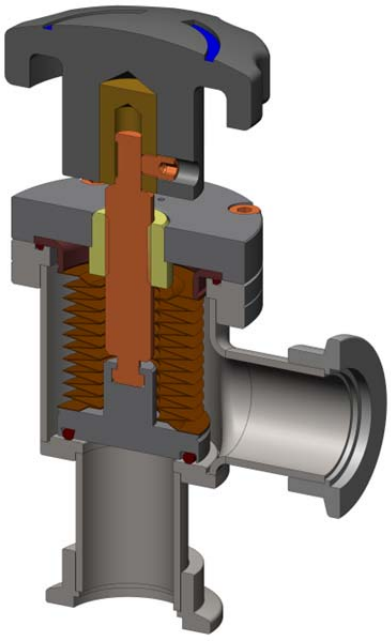
Building air supplies often contain foreign material including rust、metal particles、oil and water. An in-line filter may remove the particulate contamination.
The valve actuating cylinder is lubricated, so dry air may be used without harm to the valve. The operating air pressure is 4~6.5 kg/cm^2 (g). (About 56.8~92.3 psig)

Manual Valve

Manual bellows sealed angle valves are delivered in the closed position.
Rotating the knob counter clockwise moves the valve opened into the open position.
Travel in the upward direction is limited when the upper surface of seal plate reaches the lower surface of nut. As the valve is opened, the bellows Assembly (02) serves as a hermetic seal while permitting the travel of the seal plate.
To close the valve, rotate the knob clockwise. The seal is made when the poppet O-ring reaches the bottom plate and the O-ring is compressed.

Manual Angle Valve





01 Valve Body
02 Welded Bellows Assembly
03 Bottom Plate
04 Shaft
05 Poppet Seal
06 Bonnet Seal
07 Knob
08 Nut
09 Socket Head Cap Bolt
10 Socket Set Screw

Pneumatic Valve

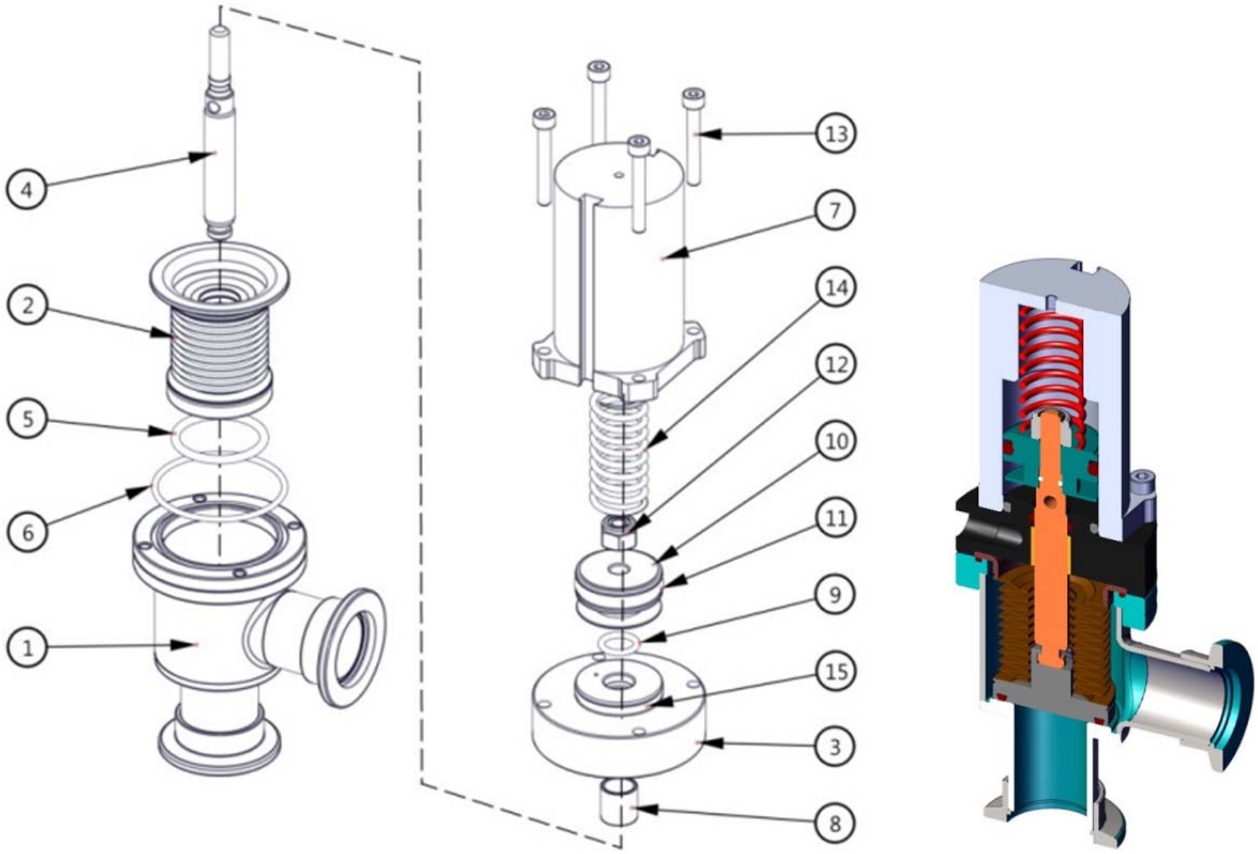
Pneumatic inline and angle valves with port diameters up to and including 2" are air-to-open, spring-to-close. This allows for immediate valve closure.
Valves with port diameters larger than 2" incorporate air-to-open, air-to-close actuation.
A normally closed solenoid valve will ensure that the valve will close in the event of electrical or air failure.

Single-acting pneumatic angle valve shows the components of the KF25 pneumatic valve. The components of other sized poppet valves may be a little different, but the operating principles are the same. This operation starts from the initially closed position, with the admission of compressed air to the cylinder by the 1/8" BSP port in the upper cover of the valve body. The path from the air inlet to the cylinder interior is through a small hole and when the air pressure acting on piston reaches a value sufficient to overcome the force of spring, the piston will start to rise. The shaft is attached to the piston with a nut. At the Bellows end of the shaft and it carries the O-ring seal.
As the shaft travels upward the closing spring is compressed.

To close the valve, the cylinder is vented via the 1/8" BSP port. As the air pressure falls below the value for full opening, the poppet begins to descend. As venting continues, the poppet reaches its seat and the valve is closed. Full seal force is reached when the pressure in the cylinder is equal to the atmospheric pressure.

Single-acting pneumatic angle valve

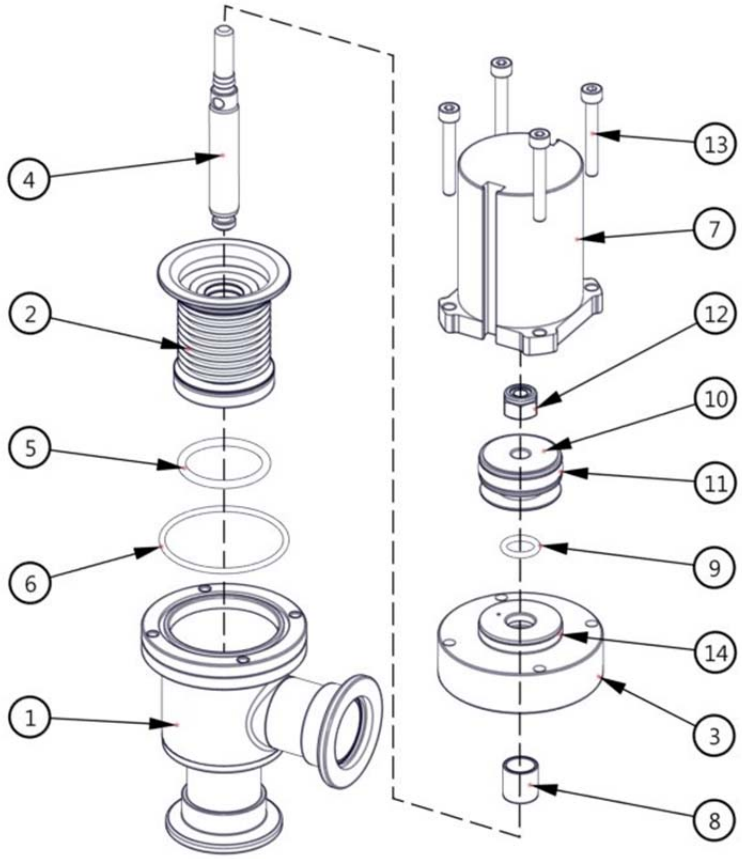
Air to open, spring to Close

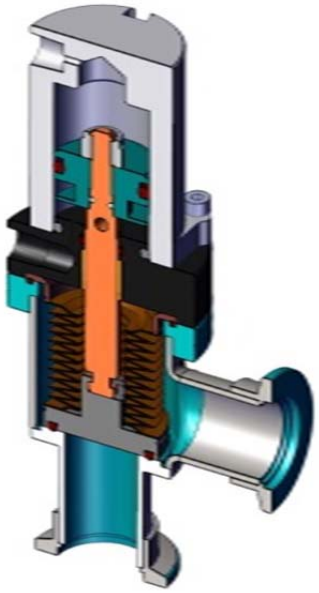


01 Valve Body
02 Welded Bellows Assembly
03 Bonnet Plate
04 Shaft
05 Poppet Seal
06 Bonnet Seal
07 Cylinder
08 Dry Bearing
09 Shaft Seal
10 Piston
11 Piston O-ring
12 Nut
13 Socket Head Cap Bolt
14 Spring
15 Bonnet Plate seal

Double-acting pneumatic angle valve

Air to open, air to Close





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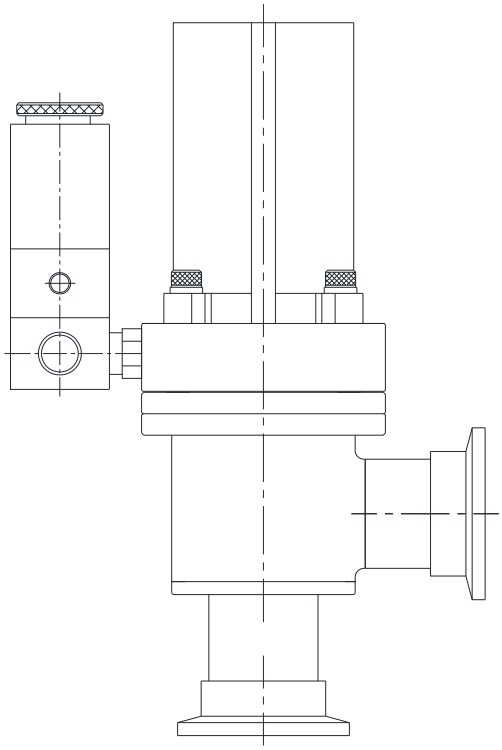
14 Bonnet Plate seal

Pneumatic angle valve

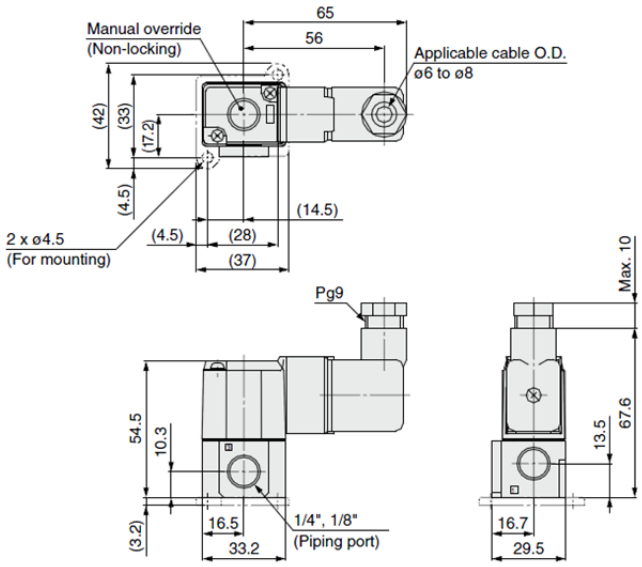
3/2 Solenoid Valve



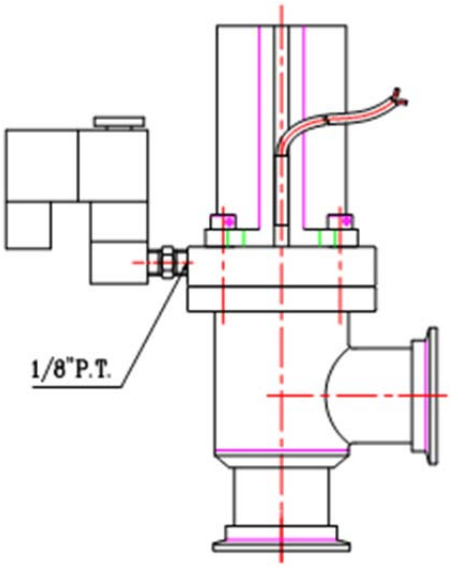
Solenoid valve

For air to open, spring to close

Dimensions of solenoid



Specification



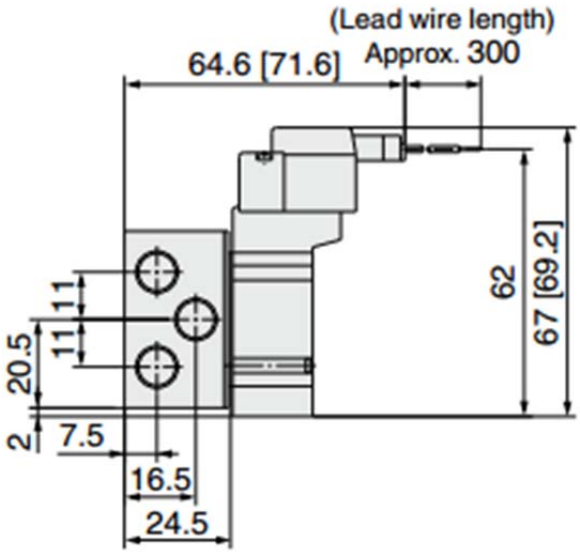
3/2 Normal close

Connector	orifice		CV	Pressure		Power	
	P → A	A → R		Min.	Max.	AC	DC
1/8”	mm	mm		bar	bar	Watts	Watts
	0.35	0.27	0.18	0.5	7	5.4	4

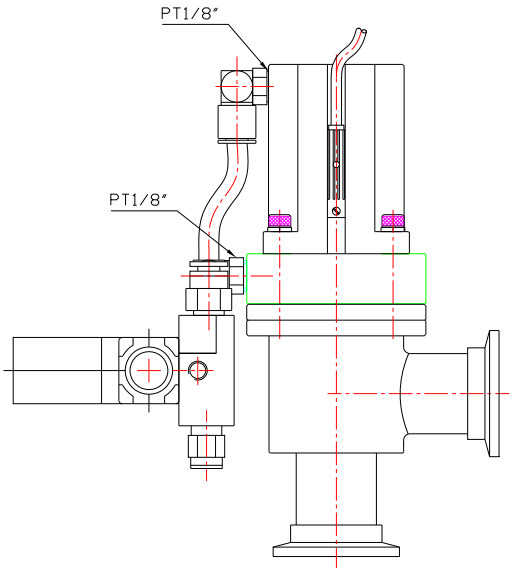
Solenoid valve

For air to open, air to close

Dimensions of solenoid



Specification

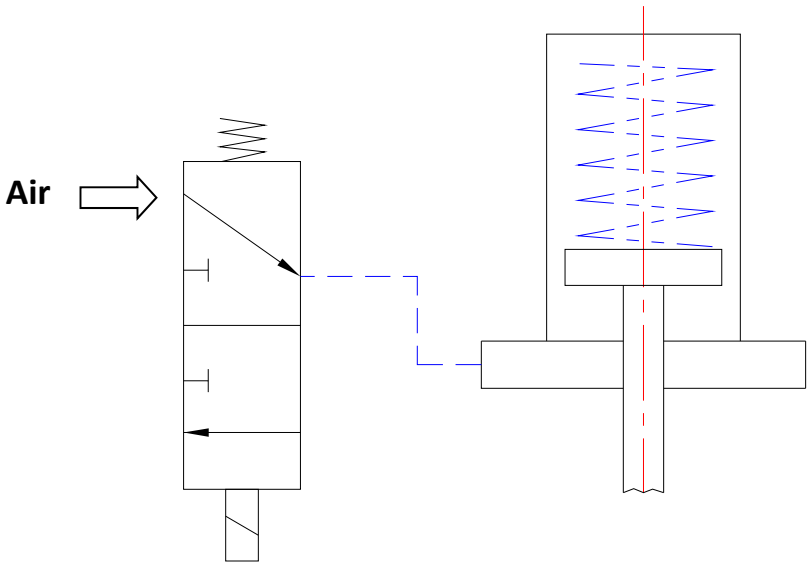


5/2 Normal close

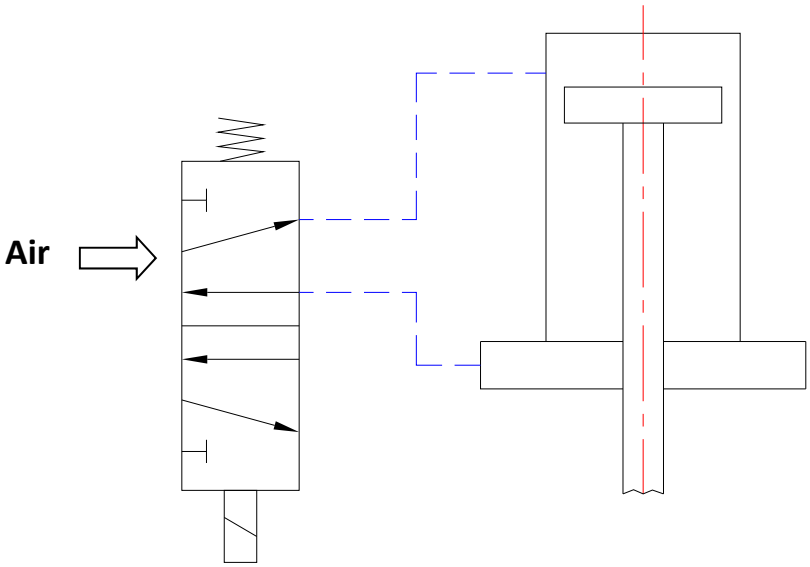
Connector	orifice		CV	Pressure		Power	
	P → A	A → R		Min.	Max.	AC	DC
1/8”	mm	mm		bar	bar	Watts	Watts
	0.3	0.3	0.24	0.5	7	5.4	4

Cylinder and Solenoid valve connection diagram

3/2 normal close



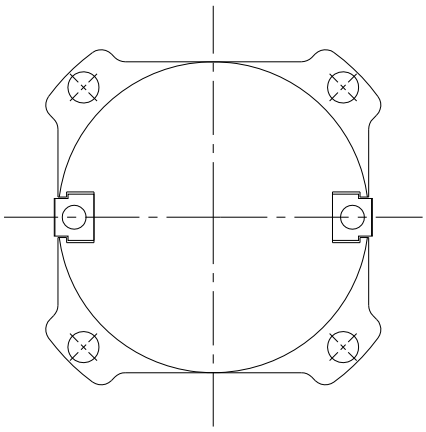
5/2 normal close

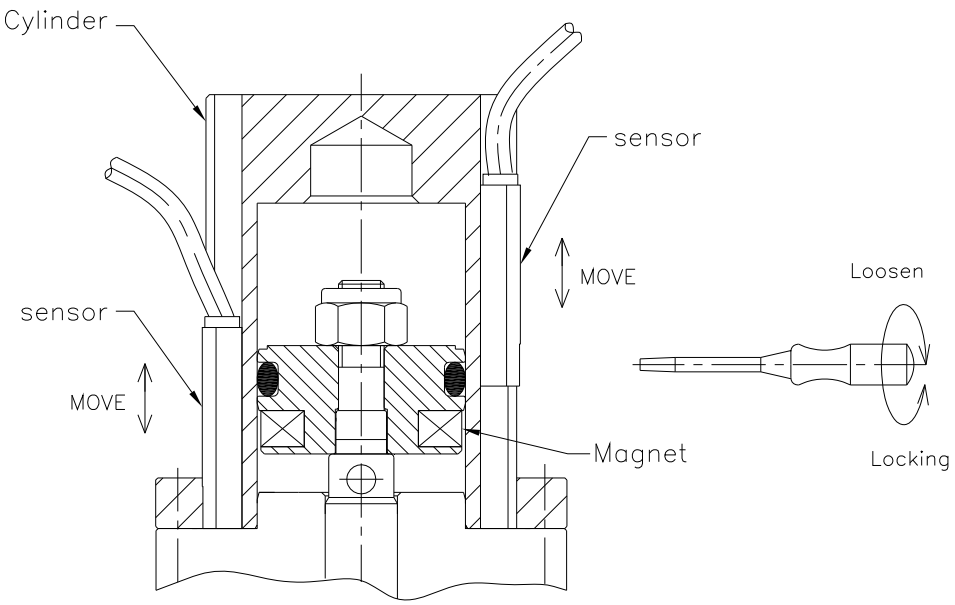


How to install reed sensors

1. Put the reed sensor into the cylinder.
2. Connect the reed sensor power.
3. Set the valve to “close” or “open” position
4. Loosen the sensor screw and move the sensor up / down until the sensor light on.
5. Locking the sensor screw.

Note: No magnet will be placed in the type of valve without sensor, so it is unable to install sensor by customers.

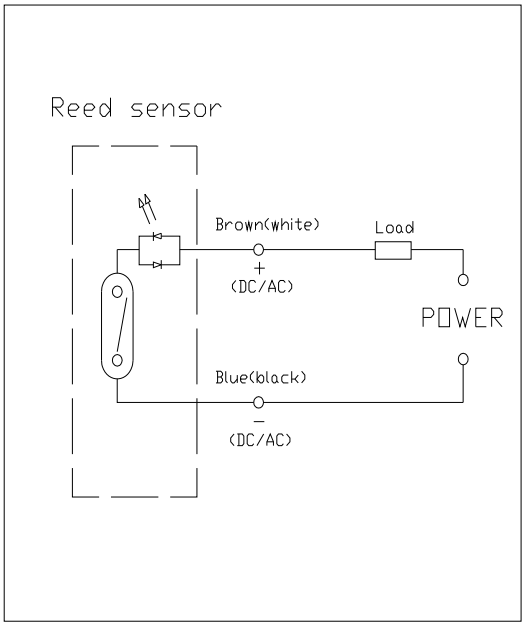


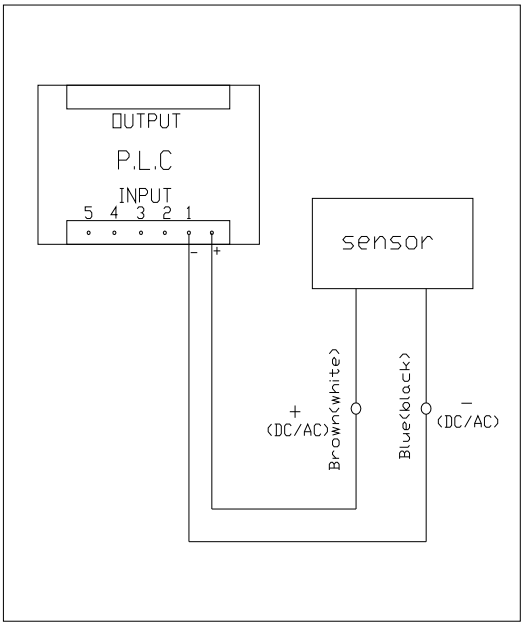


Reed Sensor circuit diagrams

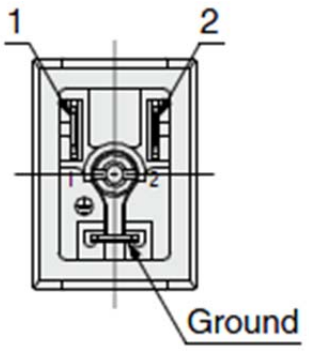
Voltage 4 ~ 24 VDC、AC 4 ~ 240 VAC

Current 5 ~ 40 mA





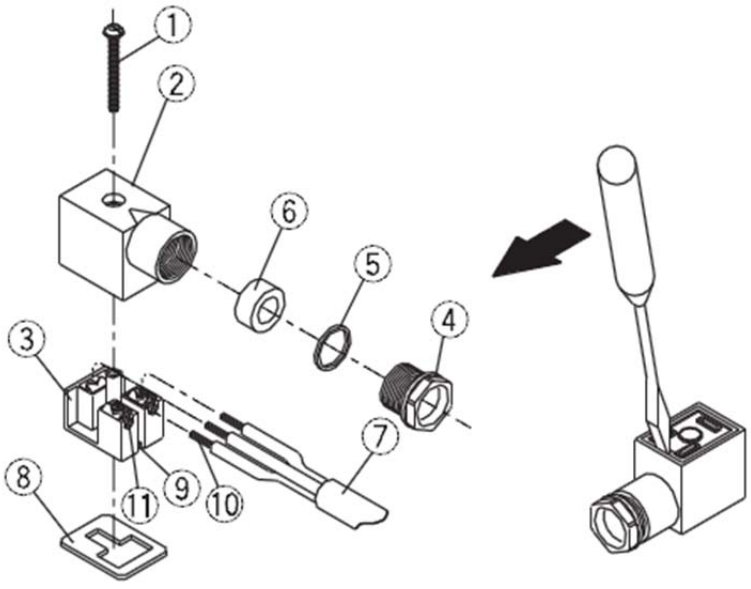
Plug-in Connector Assemblies for DIN Plug-in Valve



Terminal no.	1	2
DIN terminal	+	–

DIN terminal is connected inside as in the figure below.
Connect to the corresponding power supply.

Lead Wire Color	
Voltage	Color
100 VAC	Blue
200 VAC	Red
DC	Red (+), Black (–)
Others	Gray



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