

Installation & Maintenance Instructions

SERIES

8317

I&M No.V7536



**3-WAY QUICK EXHAUST SOLENOID VALVES
NORMALLY CLOSED AND UNIVERSAL OPERATION
1/4" NPT**

INSTALLATION

IMPORTANT: See separate solenoid installation and maintenance instructions for information on: **Wiring, Solenoid Temperature, Causes of Improper Operation, and Coil or Solenoid Replacement.**

DESCRIPTION

Series 8317 Valves are direct acting, packless, 3-way solenoid valves. Valve bodies are either brass or stainless steel with integral seats. A core, disc, spring assembly and diaphragm are the only moving parts. Valves may be provided with a general purpose/watertight, open-frame or watertight/explosionproof solenoids.

OPERATION

The solenoid pilots the "quick exhaust" diaphragm by using the unbalanced pressure principle. When the pressure orifice is open, the main and pilot exhaust orifices are closed. When the pressure orifice is closed, the main and pilot exhaust orifices are open.

Normally Closed:

Solenoid De-energized: Flow is from Cylinder "1" to Main Exhaust "4". Pilot Exhaust is open. Pressure "2" is closed.

Solenoid Energized: Flow is from Pressure "2" to Cylinder "1", Main Exhaust "4" and Pilot Exhaust "3" are closed.

Universal:

Pressure at "2": Refer to Normally Closed above.

Pressure at "3": Refer to Normally Open above.

Universal construction is interchangeable with Normally Closed in the field by merely changing pipe connections.

IMPORTANT: A minimum operating pressure differential of 5 psi on Air, Gas and Water and 10 psi on Hydraulic oil (300 S.S.U.) is required.

Check nameplate and solenoid marking for correct catalog number, pressure, voltage, frequency, and service. Never apply incompatible fluids or exceed pressure rating of the valve. Installation and valve maintenance to be performed by qualified personnel.

Future Service Considerations.

Provision should be made for performing seat leakage, external leakage, and operational tests on the valve with a nonhazardous, noncombustible fluid after disassembly and reassembly.

Temperature Limitations

Valves with design change letter "K" or "P" within the catalog number (example: 8317K007) have a maximum fluid temperature of 180°F. Refer to separate solenoid Installation and Maintenance Instructions for maximum ambient temperature.

Positioning

This valve is designed to perform properly when mounted in any position. However, for optimum life and performance, the solenoid should be mounted vertically and upright to reduce the possibility of foreign matter accumulating in the solenoid base sub-assembly area.

Piping

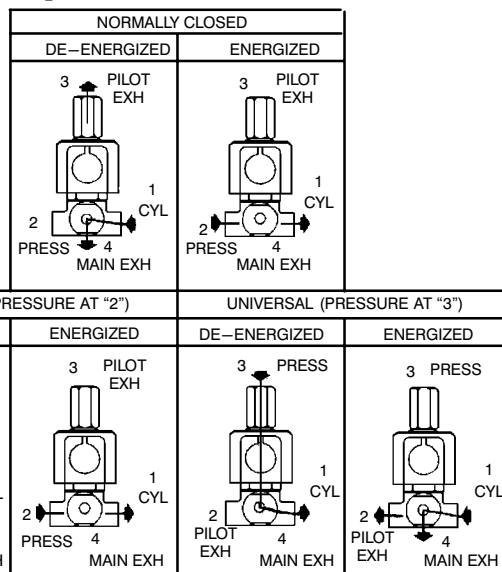
The pressure and exhaust lines must be connected as indicated in the flow diagram for the particular application. Full size piping must be used.

On Normally Closed Valves, the "3" connection is a Pilot Exhaust and may be connected to a Common Exhaust with the "4" connection.

IMPORTANT: Pilot Exhaust "3" on Normally Closed form must be connected at the installation into the piping to the Main Exhaust "4" when controlling fluids such as liquids or flammable gases that are not permissible to exhaust to atmosphere.

Connect piping to valve according to markings on valve body. Apply pipe compound sparingly to male pipe threads only. If applied to valve threads, the compound may enter the valve and cause operational difficulty. Avoid pipe strain by properly supporting and aligning piping. When tightening the pipe, do not use valve or solenoid as a lever, Locate wrenches applied to valve body or piping as close as possible to connection point.

IMPORTANT: To protect the solenoid valve, install a strainer or filter suitable for the service involved, in the inlet side as close to the valve as possible. Clean periodically depending on service conditions. See ASCO Series 8600, 8601 and 8602 for strainers.



NOTE: Port markings 1, 2, 3 and 4 correspond directly to A, B, C and C2.



MAINTENANCE

NOTE: It is not necessary to remove the valve from the pipeline for repairs.

⚠ WARNING: To prevent the possibility of death, serious injury or property damage, turn off electrical power, depressurize solenoid operator and/or valve, and vent fluid to a safe area before servicing.

Cleaning

All solenoid valves should be cleaned periodically. The time between cleanings will vary depending on the medium and service conditions. In general, if the voltage to the coil is correct, sluggish valve operation, excessive noise or leakage will indicate that cleaning is required. In the extreme case, faulty valve operation will occur and the valve may fail to open or close. Clean strainer or filter when cleaning the valve.

Preventive Maintenance

- Keep medium flowing through the valve as free from dirt and foreign material as possible.
- Periodic exercise of the valve should be considered if ambient or fluid conditions are such that corrosion, elastomer degradation, fluid contamination build up, or other conditions that could impede solenoid valve shifting are possible. The actual frequency of exercise necessary will depend on specific operating conditions. A successful operating history is the best indication of a proper interval between exercise cycles.
- Depending on the medium and service conditions, periodic inspection of internal valve parts for damage or excessive wear is recommended. Thoroughly clean all parts. If parts are worn or damaged, install a complete rebuild kit.

Causes of Improper Operation

- **Incorrect Pressure:** Check valve pressure. Pressure to valve must be within range specified on nameplate.
- **Excessive Leakage:** Disassemble valve and clean all parts. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

Valve Disassembly

1. Disassemble valve using exploded views for identification of parts.
2. Disconnect any tubing or piping connected to valve.
3. Remove solenoid, see separate instructions.
4. Unscrew solenoid base sub-assembly. Remove core assembly with core spring attached and body gasket.
5. Remove seat/end plug, end plug gasket and diaphragm.
6. All parts are now accessible for cleaning or replacement. Clean all parts and passageways thoroughly before valve reassembly. Replace worn or damaged parts with a complete ASCO Rebuild Kit for best results.

Valve Reassembly

1. Reassemble parts in reverse order of disassembly. Use exploded views for identification and placement of parts.
2. Lubricate all gaskets with DOW CORNING®111 Compound lubricant or an equivalent high-grade silicone grease.
3. Replace the solenoid base gasket, core assembly with core spring attached.
4. Replace solenoid base sub-assembly and torque to 175 ± 25 in-lbs ($19,8 \pm 2,8$ Nm).
5. Install diaphragm, end plug gasket and seat/end plug into valve body into valve body,
6. Torque seat/end plug to 125 ± 20 in-lbs ($14,1 \pm 2,3$ Nm).
7. Install solenoid, see separate instructions, and make electrical hookup.
8. Restore line pressure and electrical power supply to valve.
9. After maintenance is completed, operate the valve a few times to be sure of proper operation.
10. After maintenance is completed, operate valve a few times to be sure of proper operation. A metallic *click* signifies the solenoid is operating.

ORDERING INFORMATION FOR ASCO REBUILD KITS

Parts marked with an asterisk (*) in the exploded view are supplied in Rebuild Kits. When Ordering Rebuild Kits for ASCO valves, order the Rebuild Kit number stamped on the valve nameplate. If the number of the kit is not visible, order by indicating the number of kits required, and the Catalog Number and Serial Number of the valve(s) for which they are intended.

Torque Chart

Part Name	Torque Value Inch—Pounds	Torque Value Newton—Meters
solenoid base sub—assembly	175 ± 25	19,8 ± 2,8
seat/end plug	125 ± 20	14,1 ± 2,3

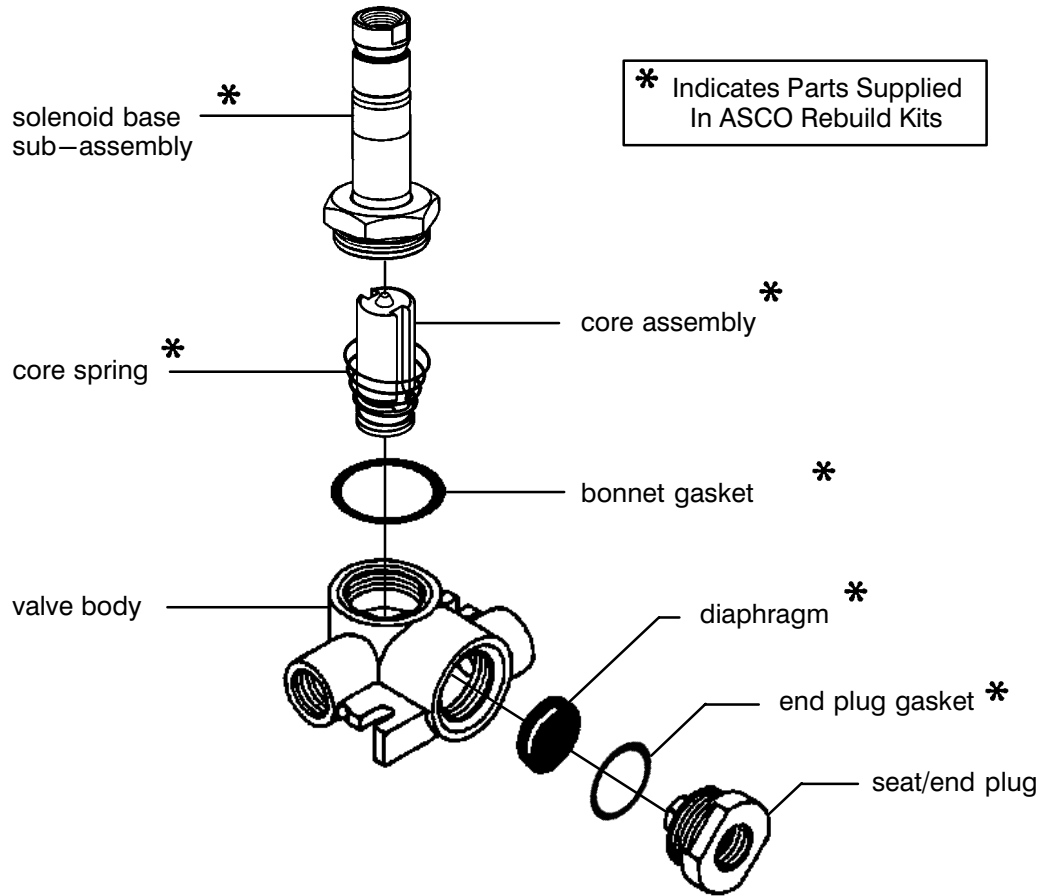


Figure 1. Series 8317