

Installation & Maintenance Instructions

2-WAY INTERNAL PILOT OPERATED SOLENOID VALVES
 NORMALLY CLOSED OPERATION — STEAM SERVICE
 1/4", 3/8", OR 1/2" NPT — 3/8" ORIFICE

SERIES

8222

Form No.V5433R3

NOTICE: See separate solenoid installation and maintenance instructions for information on: Wiring, Solenoid Temperature, Cause of Improper Operation, Coil and Solenoid Replacement.

DESCRIPTION

Series 8222 valves are 2-way internal pilot-operated solenoid valves designed for steam service. These valves are made of brass with ethylene propylene elastomers.

OPERATION

Normally Closed: Valve is closed when solenoid is de-energized; open when energized.

IMPORTANT: Minimum operating pressure differential is 1 psi.

INSTALLATION

Check nameplate 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

For maximum valve ambient and fluid temperatures, see chart below.

Catalog Numbers	Class of Insulation	Maximum Ambient Temp. °F	Maximum Fluid Temp. °F
8222A64, 8222A66 8222A68	F	85	324
8222A70, 8222A74 8222A76	H	85	353
8222G64, 8222G66 8222G68	F	125	324
8222G70, 8222G74 8222G76	H	140	353

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.

Mounting

For mounting bracket (optional feature) see Figure 1.

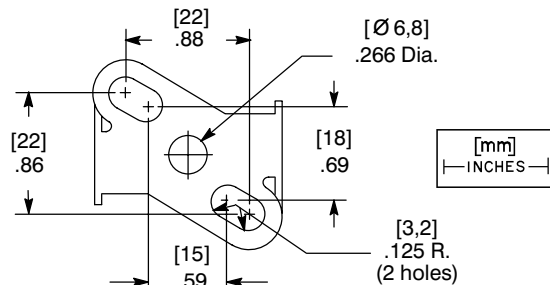


Figure 1. Mounting dimension of optional mounting bracket.

Piping

Connect piping or tubing to valve according to markings on valve body.

CAUTION: This valve is equipped with ethylene propylene elastomers which can be attacked by oils and greases. Wipe the pipe threads clean of cutting oils.

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.

CAUTION: 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.

MAINTENANCE

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

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

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.
- While in service, the valve should be operated at least once a month to ensure proper opening and closing.
- 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 ASCO 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 worn or damaged, install a complete ASCO Rebuilt Kit.

Valve Disassembly

1. Disassemble valve in an orderly fashion. Use exploded views for identification and placement of parts.
2. Remove solenoid, see separate instructions.
3. Unscrew solenoid base sub-assembly from valve body. Then remove core with core spring, bonnet gasket and retainer from valve body.

▲ CAUTION: Do not damage center hole (pilot orifice) in piston assembly. Damage will cause valve malfunction.

4. Insert a wire, bent paper clip or similar tool into the bleed hole on top of the piston assembly. Pull piston assembly, with piston ring attached, from the valve body.
5. All parts are now accessible for cleaning or replacement. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

Valve Reassembly

1. Lubricate bonnet gasket with DOW CORNING® 200 Fluid lubricant or an equivalent high-grade silicone fluid.
2. Replace piston assembly, refer to Figure 1. A flexible plastic sheet (Form No. V5661) is provided in the Rebuild Kit for installation of the piston assembly. Wrap piston assembly with plastic sheet; be sure one edge of the sheet is even with the top of the piston assembly. Then compress piston ring with plastic sheet and slide piston assembly into cavity.

▲ CAUTION: Do not damage piston ring or force piston assembly into valve body cavity. Damage to piston assembly will cause valve malfunction.

When piston assembly is installed, remove and discard plastic sheet, Form No. V5661.

3. Replace retainer with shouldered side up, bonnet gasket seats on retainer shoulder. Install bonnet gasket, core with core spring and solenoid base sub-assembly. Torque solenoid base sub-assembly to 175 ± 25 in-lbs [$19,8 \pm 2,8$ Nm].
4. Install solenoid, see separate instructions. Then make electrical hookup to solenoid.

▲ WARNING: To prevent the possibility of personal injury or property damage, check valve for proper operation before returning to service. Also perform internal seat and external leakage tests with a nonhazardous, noncombustible fluid.

5. Restore line pressure and electrical power supply to valve.
6. After maintenance is completed, operate the 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	$19,8 \pm 2,8$

