

Installation & Maintenance Instructions

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

SERIES

8215

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

DESCRIPTION

Series 8215 valves are 2-way normally closed internal pilot-operated solenoid valves. Valve bodies are made of rugged aluminum with trim and internal parts made of steel and stainless steel. Series 8215 valves may be provided with a general purpose, explosionproof, or watertight/explosionproof solenoid enclosure.

OPERATION

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

NOTE: No minimum operating pressure differential required.

INSTALLATION

CAUTION: Not all valves are approved for fuel gas service. 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, refer to chart below. Check catalog number prefix on nameplate to determine maximum temperatures.

| Construction AC or DC | Coil Insulation Class | Catalog Number Prefix | Max. Ambient Temp °F | Max. Fluid Temp °F |
|--------------------------|-----------------------------|-----------------------------|----------------------------|--------------------------|
| AC | F | None | 125 | 125 |
| | H | H | 140 | 140 |
| DC 11.2 watts | F or H | None or HT | 77 | 77 |
| DC 11.6 watts | F or H | None or HB | 104 | 104 |

Positioning

AC Construction: Valve is designed to perform properly when mounted in any position. However, for optimum life and performance, the solenoid should be mounted vertical and upright so as to reduce the possibility of foreign matter accumulating in the solenoid base sub-assembly area.

DC Construction: Valve must be mounted with solenoid vertical and upright.

Mounting

For mounting bracket (optional feature) dimensions, refer to Figure 1.

Piping

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.

CAUTION: To avoid damage to the valve body, DO NOT OVERTIGHTEN PIPE CONNECTIONS. If Teflon* tape, paste, spray, or similar lubricant is used, use extra care when tightening due to reduced friction.

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.

MAINTENANCE

▲ WARNING: To prevent the possibility of death, serious injury or property damage, turn off electrical power, depressurize valve, extinguish all open flames and avoid any type of sparking or ignition. Vent hazardous or combustible fluid to a safe area before servicing the valve.

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

Service Notice

CAUTION: Series 8215C and 8215G valve parts are not interchangeable with Series 8215B valves. Series 8215B valves have a different valve body and a core/diaphragm sub-assembly with a diaphragm disc. Interchanging parts will cause valve malfunction. See Figure 1 for identification of parts.

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 valve strainer or filter when cleaning the valve.

Preventive Maintenance

1. Keep the medium flowing through the valve as free from dirt and foreign material as possible.
2. While in service, the valve should be operated at least once a month to insure proper opening and closing.
3. 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

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

Valve Disassembly

1. Remove solenoid, see separate instructions.
2. Unscrew solenoid base sub-assembly and body gasket.
3. Remove bonnet screws, valve bonnet, solenoid base gasket, core/diaphragm sub-assembly and body gasket.
4. All parts are now accessible to clean or replace. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

Valve Reassembly

1. Lubricate solenoid base gasket and body gasket with DOW CORNING® 200 Fluid lubricant or an equivalent high-grade silicone fluid.
2. Install body gasket and core/diaphragm sub-assembly in valve body. Locate the bleed hole in the diaphragm assembly approximately 45° from valve outlet. The core/diaphragm sub-assembly is comprised of a rider ring, core spring, core guide, hanger spring, core assembly, and diaphragm assembly.

CAUTION: Do not distort hanger spring between core assembly and diaphragm assembly.

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3. Replace valve bonnet and bonnet screw on valve body. Hand thread screws a few turns into valve body, then torque bonnet screws in a crisscross manner to 70 ± 8 in-lbs [$8,0 \pm 0,9$ Nm].
4. Install solenoid base gasket and solenoid base sub-assembly. Compress rider ring slightly to prevent damage when installing solenoid base sub-assembly. Torque solenoid base sub-assembly to 175 ± 25 in-lbs [$19,8 \pm 2,8$ Nm].
5. Install solenoid, see separate instructions and make electrical hookup.

▲ WARNING: To prevent the possibility of death, serious 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.

6. Restore line pressure and electrical power supply to valve.
7. 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.

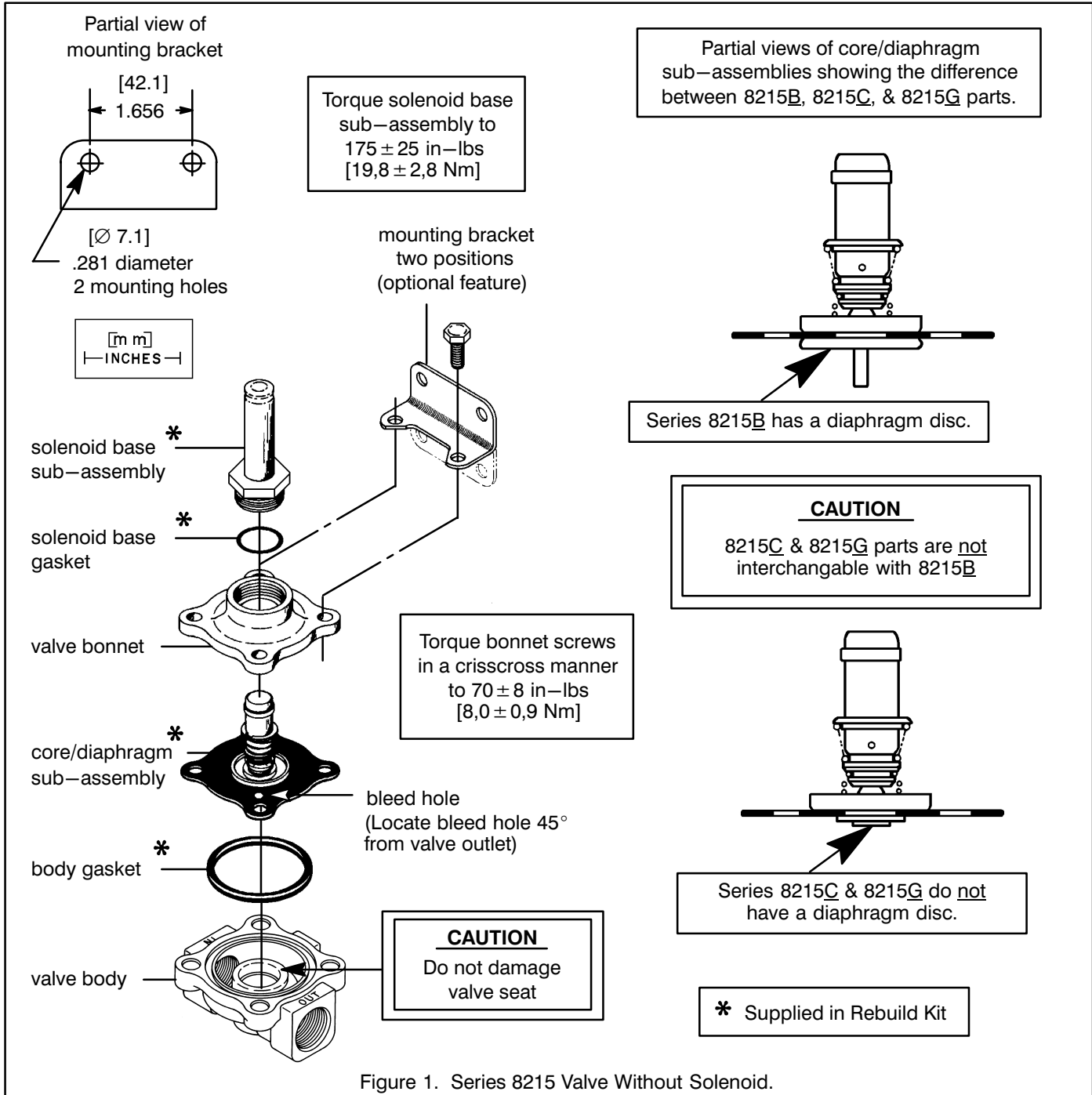


Figure 1. Series 8215 Valve Without Solenoid.