Installation & Maintenance Instructions

SERIES 8215

2–WAY INTERNAL PILOT–OPERATED SOLENOID VALVES

NORMALLY OPEN OPERATION – 3/8", 1/2", OR 3/4" NPT

Form No.V5984R1

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 open internal pilot–operated diaphragm–type 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.

OPERATION

Normally Open: Valve is open when solenoid is de–energized; closed 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	HT	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

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.

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 severe personal 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.

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 (Refer to Figure 1)

1. Remove solenoid, see separate instructions.
2. Unscrew solenoid base sub–assembly from valve bonnet
3. Remove solenoid base sub–assembly, core, plugnut gasket, plugnut assembly and solenoid base gasket from valve bonnet.
4. Remove bonnet screws, valve bonnet, disc holder sub–assembly, disc holder spring, diaphragm/spring sub–assembly and body gasket.
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 plugnut gasket, solenoid base gasket, and body gasket with a light coat of DOW CORNING® 200 Fluid lubricant or an equivalent high–grade silicone fluid.
2. Position body gasket and diaphragm/spring sub–assembly in valve body. Locate the bleed hole in diaphragm/spring sub–assembly approximately 45° from valve outlet.
   NOTE: Should diaphragm/spring sub–assembly become dis–assembled, be sure to replace the diaphragm/spring support with lip facing upward toward the valve bonnet.
3. Position disc holder spring and disc holder sub–assembly on diaphragm/spring sub–assembly.
4. Replace valve bonnet and bonnet screws on valve body. Hand thread screws a few turns into valve body; then torque bonnet screws in a criss-cross manner 70 ± 8 in–lbs [8,0 ± 0,9 Nm].

*DuPont's Registered Trademark

5. Install solenoid base gasket, plugnut assembly, plugnut gasket core (small end up), and solenoid base sub−assembly. For DC Construction, be sure plugnut assembly and core are installed with mated ends together.
6. Torque solenoid base sub−assembly to 175 ± 25 in−lbs [19,8 ± 2,8 Nm].
7. Replace solenoid (see separate instructions) and make electrical hookup.

⚠ **WARNING: To prevent the possibility of severe 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.**

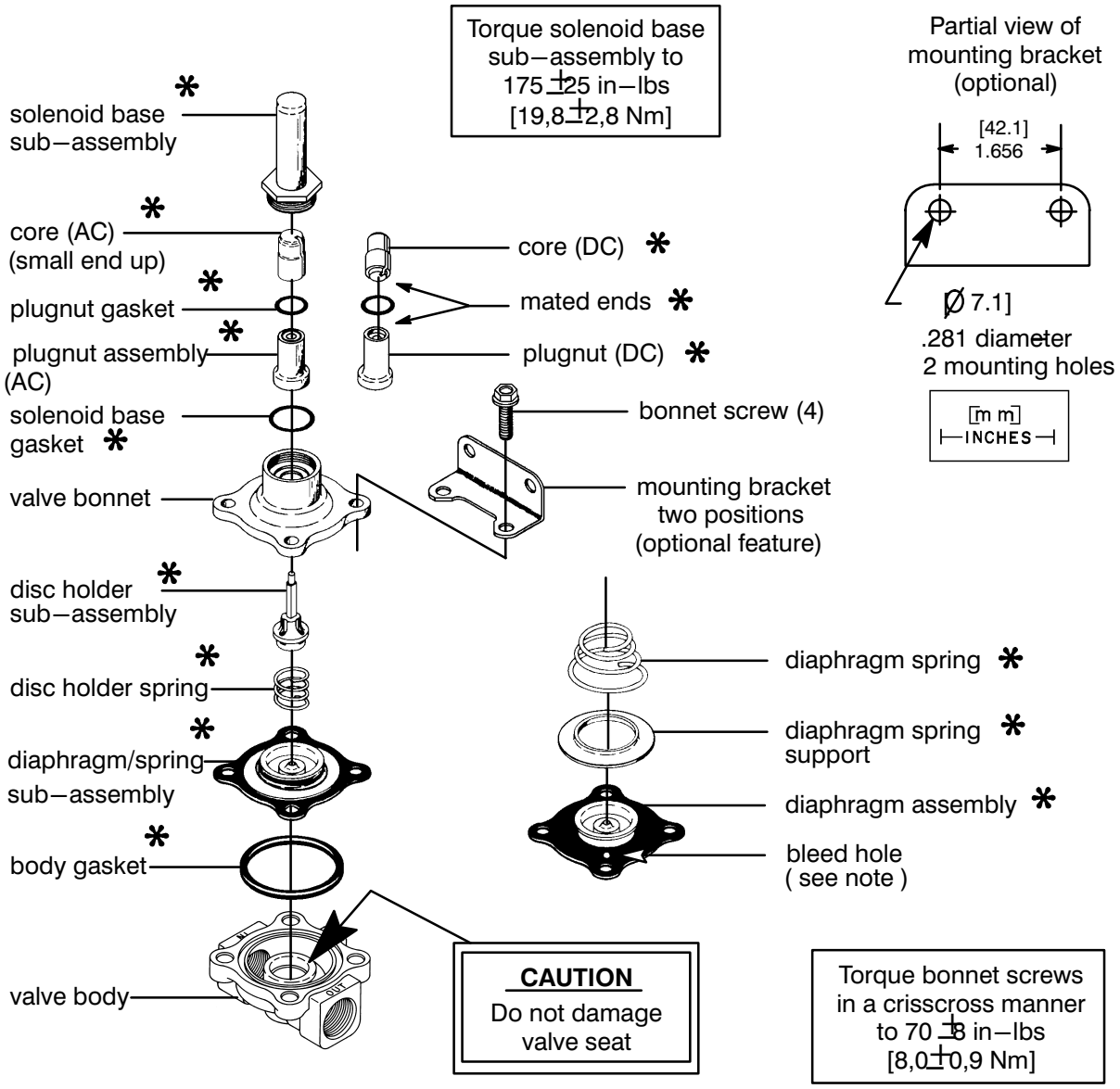
8. Restore line pressure and electrical power supply to valve.
9. After maintenance is completed, operate the valve a few times to be sure of proper operation. A metallic "click" signifies the solenoid is operating.

ORDERING INFORMATION FOR ASCO REBUILD KITS

Parts marked with a asterisk (*) in the exploded views 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.



* Supplied in ASCO Rebuild Kit

NOTE: Locate bleed hole 45° from valve outlet.

Figure 1. Series 8215 Valve Without Solenoid.