

# INSTALLATION & MAINTENANCE INSTRUCTIONS

BULLETIN  
8263



Form No. V-5744

## 2-WAY DIRECT ACTING SOLENOID VALVES NORMALLY CLOSED OPERATION - 1/4 AND 3/8 N.P.T.

### DESCRIPTION

Bulletin 8263's are 2-way, direct acting solenoid valves having bodies of brass and stainless steel. Standard valves have a General Purpose, NEMA Type 1 Solenoid Enclosure. Valves may be equipped with a solenoid enclosure which is designed to meet NEMA Type 4 - Watertight, NEMA Type 7 (C or D) Hazardous Locations - Class I, Group C or D and NEMA Type 9 (E, F or G) Hazardous Locations - Class II, Groups E, F or G.

### OPERATION

**Normally Closed:** Valve is closed when solenoid is de-energized and opens when solenoid is energized.

### INSTALLATION

Check nameplate for correct catalog number, pressure, voltage and service.

### TEMPERATURE LIMITATIONS

Maximum valve ambient temperature is 77°F. For maximum valve fluid temperature refer to chart below. The temperature limitations listed are for UL applications. For other valves and non UL applications, higher ambient and fluid temperature limitations are available. Consult factory. To determine maximum fluid temperature limitations check nameplate.

Catalog Numbers	Class of Coil	Maximum Fluid Temperature °F
8263A302, 8263A307, 8263A311 and 8263A316	F	298°F
8263A301, 8263A306 8263A320, 8263A310 8263A315 and 8263A324	H	324°F
8263A300, 8263A305 8263A319, 8263A309 8263A314 and 8263A323	H	344°F
8263A304, 8263A318 8263A313 and 8263A322	H	353°F

### POSITIONING

Valve may be mounted in any position.

### 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, it may enter valve and cause operational difficulty. Pipe strain should be avoided by proper support and alignment of piping. When tightening pipe, do not use valve as a lever. Wrenches applied to valve body or piping are to be located as close as possible to connection point.

**IMPORTANT:** For the protection of the solenoid valve, install a strainer or filter suitable for the service involved in the inlet side as close to the valve as possible. Periodic cleaning is required, depending on the service conditions. See Bulletins 8600, 8601 and 8602 for strainers.

### WIRING

Wiring must comply with Local and National Electrical Codes. For valves equipped with an explosion-proof, watertight solenoid enclosure, the electrical fittings must be approved for use in the appropriate hazardous locations. Housings for all solenoids are made with connections for 1/2 inch conduit. The solenoid enclosure may be rotated to facilitate wiring by removing the retaining clip or loosening the cover. Rotate to desired position. Replace retaining clip or tighten cover before operating. For explosion-proof/watertight solenoid enclosure, torque cover 135 ± 10 inch pounds.

### SOLENOID TEMPERATURE

Standard catalog valves are supplied with coils designed for continuous duty service. When the solenoid is energized for a long period, the solenoid enclosure becomes hot and can be touched with the bare hand for only an instant. This is a safe operating temperature. Any excessive heating will be indicated by the smoke and odor of burning coil insulation.

### MAINTENANCE

**WARNING:** Turn off electrical power and line pressure to valve before making repairs. It is not necessary to remove valve from pipe line for repairs.

### CLEANING

A periodic cleaning of all solenoid valves is desirable. The time between cleanings will vary, depending on the media and service conditions. In general, if the voltage to the coil is correct, sluggish valve operation, excessive leakage or noise will indicate that cleaning is required.

### PREVENTIVE MAINTENANCE

1. Keep the medium flowing through the valve as free from dirt and foreign material as possible.
2. While in service, operate valve at least once a month to insure proper opening and closing.
3. Periodic inspection (depending on media and service conditions) of internal valve parts for damage or excessive wear is recommended. Thoroughly clean all parts. Replace any parts that are worn or damaged.

### IMPROPER OPERATION

1. **Faulty Control Circuit:** Check electrical system by energizing solenoid. A metallic click signifies that solenoid is operating. Absence of the click indicates loss of power supply. Check for loose or blown-out fuses, open-circuited or grounded coil, broken lead wires or splices.
2. **Burned-Out Coil:** Check for open-circuited coil. Replace coil if necessary.
3. **Low Voltage:** Check voltage across coil leads. Voltage must be at least 85% of nameplate rating.
4. **Incorrect Pressure:** Check valve pressure. Pressure to valve must be within range specified on nameplate.
5. **Excessive Leakage:** Disassemble valve and clean all parts. Replace parts that are worn or damaged with a complete Spare Parts Kit for best results.

### COIL REPLACEMENT

Turn off electrical power supply and disconnect coil lead wires. Proceed in the following manner:

### GENERAL PURPOSE (Refer to Figure 1)

1. Remove retaining clip, nameplate and housing. Remove spring washer, insulating washer and coil off solenoid base sub-assembly. Insulating washers are omitted when a molded coil is used.
2. Reassemble in reverse order of disassembly.

### EXPLOSION-PROOF/WATERTIGHT (Refer to Figure 2)

1. Unscrew cover with nameplate and retaining ring attached. Two wrenching flats are provided to hold housing securely in place while cover is being removed or replaced.
2. Remove spring, fluxwasher, insulating washer and coil off solenoid base sub-assembly. Insulating washers are omitted when a molded coil is used.
3. Reassemble in reverse order of disassembly.

**CAUTION:** Solenoid must be fully reassembled as the housing and internal parts are part of and complete the magnetic circuit. Place insulating washers at each end of coil if required.

**NOTE:** Installation and maintenance of explosion-proof equipment requires more than ordinary care to insure safe performance. All finished surfaces of the solenoid are constructed to provide a flameproof seal. Be sure that the surfaces are wiped clean before replacing. If watertight as well as explosion-proof is a requirement, grease the joints of the explosion-proof/watertight solenoid with Exxon Company, U.S.A. Nebula EP2 grease or equivalent. A high grade silicone grease similar to Dow Corning's Valve Seal may also be used.

**VALVE DISASSEMBLY AND REASSEMBLY** (Refer to Figure 1)

Depressurize valve and turn off electrical power supply. Proceed in the following manner:

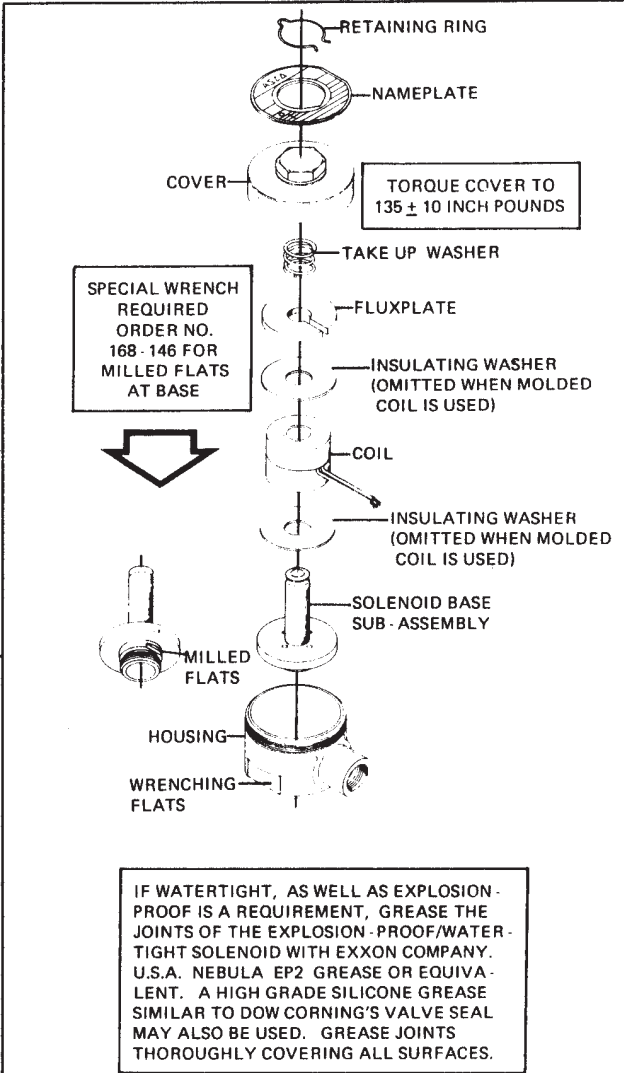
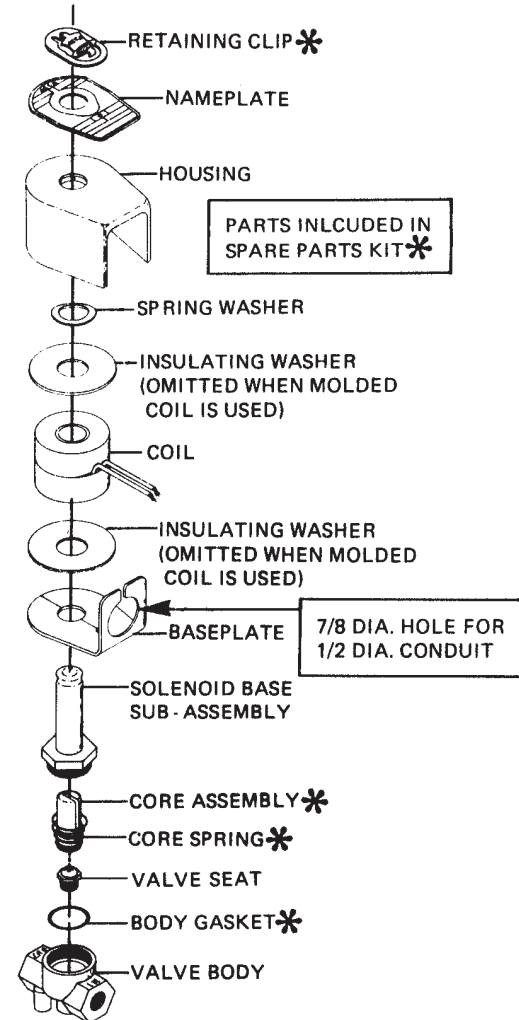
1. Remove retaining clip and slip entire solenoid enclosure off solenoid base sub-assembly. For explosion-proof/watertight construction, disassemble solenoid; see "Coil Replacement".
2. Unscrew solenoid base sub-assembly. For explosion-proof/watertight solenoid enclosure a special wrench (Order No. 168-146) is required to remove solenoid base sub-assembly.
3. Remove core assembly, core spring and body gasket. For normal maintenance, it is not necessary to remove valve seat. CAUTION: Do not damage valve seat.
4. All parts are now accessible for cleaning or replacement. Replace worn or damaged parts with a complete Spare Parts Kit for best results.
5. Reassemble in reverse order of disassembly paying careful attention to exploded views provided for identification and placement of parts.

**SPARE PARTS KITS**

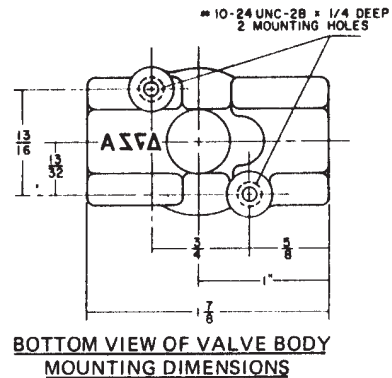
Spare Parts Kits and Coils are available for ASCO valves. Parts marked with an asterisk (\*) are supplied in Spare Parts Kits.

**ORDERING INFORMATION FOR SPARE PARTS KITS**  
When Ordering Spare Parts Kits or Coils Specify Valve Catalog Number, Serial Number and Voltage.

BRASS CONSTRUCTION SHOWN. STAINLESS STEEL BODY CONFIGURATION SLIGHTLY DIFFERENT.



**Figure 2. Explosion-Proof/Watertight Solenoid Enclosure**



**BOTTOM VIEW OF VALVE BODY MOUNTING DIMENSIONS**

**Figure 1.**

**Bulletin 8263**  
**General Purpose Solenoid Enclosure**