

# INSTALLATION AND MAINTENANCE INSTRUCTIONS 2-WAY DIRECT LIFT SOLENOID VALVES NORMALLY CLOSED OPERATION — 3/8 & 1/2 N.P.T.

BULLETINS  
**8030**  
**8031**  
**ASCO**®

Form No. V5527-T84

## DESCRIPTION

Bulletin 8030's are 2-way, direct lift, solenoid valves. Valves are constructed with forged brass or stainless steel bodies and soft seating for tight seating on low pressure service. Standard valves have a General Purpose, NEMA Type 1 Solenoid Enclosure.

Bulletin 8031's are the same as Bulletin 8030's except the solenoids are equipped with an 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, Group E, F or G and are shown on separate sheets of Installation and Maintenance Instructions, Form No. V-5391.

## OPERATION

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

### MANUAL OPERATOR (Optional)

Valves with suffix "MO" in catalog number are provided with a manual operator which allows manual operation when desired or during an interruption of electrical power.

**IMPORTANT:** No minimum operating pressure required.

## INSTALLATION

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

### 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.

**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 approved hazardous locations. Housings for all solenoids are provided with connections for 1/2 inch conduit or 7/8 diameter hole to accommodate 1/2 inch conduit. The general purpose enclosure may be rotated to facilitate wiring by removing the retaining cap or clip. Rotate to desired position. Replace retaining cap before operating.

## SOLENOID TEMPERATURE

Standard 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 by 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.

**NOTE:** Alternating Current (A-C) and Direct Current (D-C) Solenoids are built differently. To convert from one to the other, it is necessary to change the complete solenoid.

## MAINTENANCE

**WARNING:** Turn off electrical power and line pressure to valve before making repairs. It is not necessary to remove the valve from the 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 or excessive leakage 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. Operate the valve periodically 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 the electrical system by energizing the solenoid. A metallic click signifies that the 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 the coil leads. Voltage must be at least 85% of nameplate rating.
4. **Incorrect Pressure:** Check the valve pressure. Pressure to the valve must be within the range specified on the 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 (Refer to Figure 1)

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

1. Remove retaining cap, nameplate and cover.
2. Slip yoke containing coil, sleeves and insulating washers off the solenoid base sub-assembly. Insulating washers are omitted when molded coil is used.
3. Slip coil, sleeves and insulating washers from yoke.
4. 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.

## VALVE DISASSEMBLY AND REASSEMBLY

(Refer to Figure 1)

Depressurize valve and turn off electrical power supply.

1. Remove retaining cap and slip the entire solenoid enclosure off the solenoid base sub-assembly.
2. Unscrew solenoid base sub-assembly.
3. Remove body gasket, core spring and core assembly.
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.

### TEMPERATURE LIMITATIONS

For maximum valve ambient and fluid temperatures, refer to chart below. For higher ambient and fluid temperatures, consult factory. Check catalog number and watt rating on nameplate to determine the maximum temperatures.

WATTAGE	CATALOG NUMBER COIL PREFIX	COIL CLASS	MAXIMUM AMBIENT TEMP. °F	MAXIMUM FLUID TEMP. °F
6*	none, DA or S	A	77	180
6	DF, FT or SF	F	122	200
6	HT	H	140	200
9.7	none, FT, HT	A, F or H	77	120

\* Catalog Number US8030B10E - Maximum fluid temperature 200°F.

### SPARE PARTS KITS

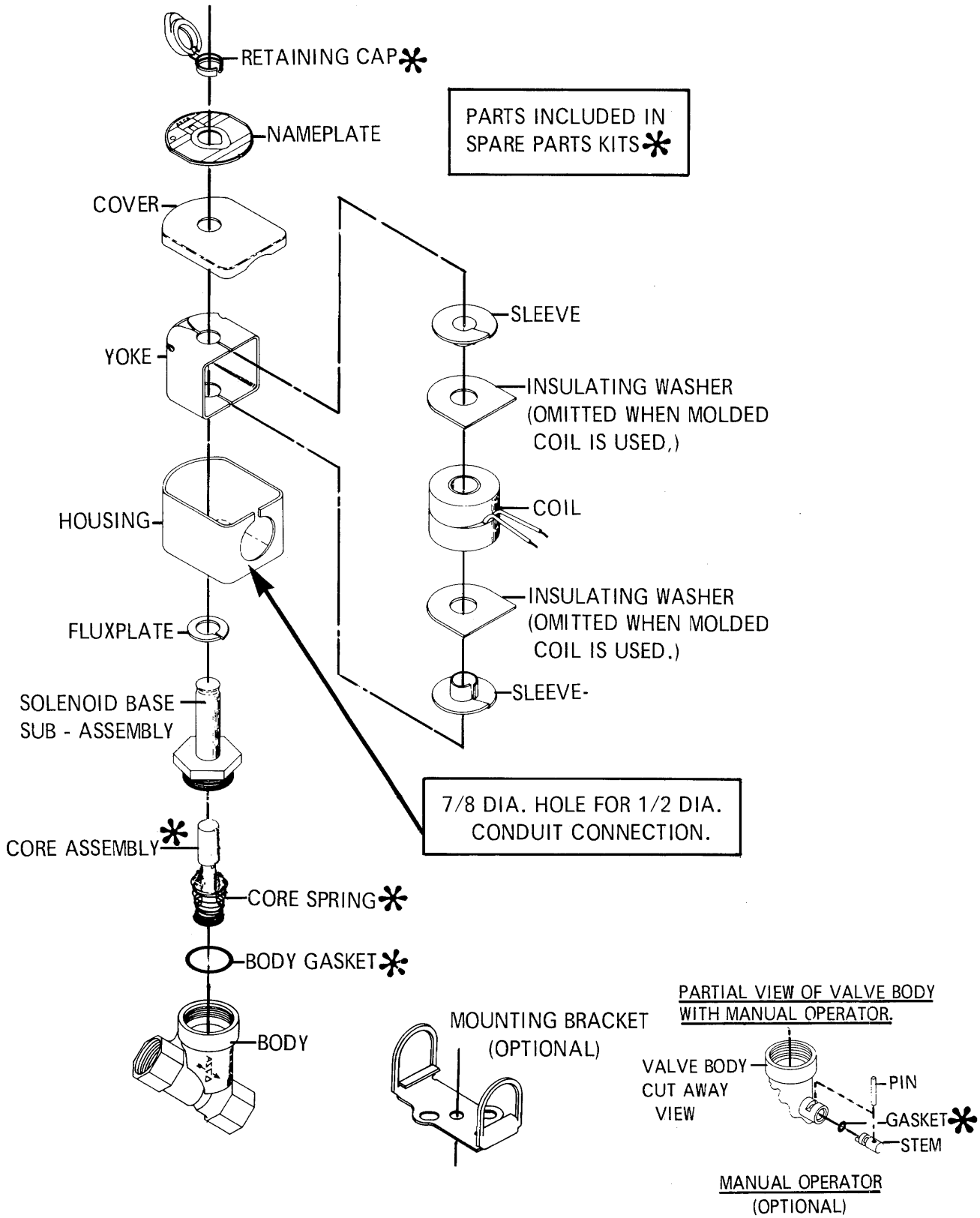
Spare Parts Kits and Coils are available for ASCO valves. Parts marked with an asterisk (\*) are included in Spare Parts Kits.

### ORDERING INFORMATION FOR SPARE PARTS KITS

When Ordering Spare Parts Kits or Coils  
Specify Valve Catalog Number,  
Serial Number and Voltage.

**ASCO Valves**

**ASCO**®



Bulletins 8030 & 8031 - Normally Closed - 3/8 & 1/2 N.P.T.

General Purpose Solenoid Enclosure Shown.  
For Explosion-Proof, Watertight Solenoid Enclosure see Form No. V-5391.

Figure 1.



**ASCO Valves**  
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