INSTALLATION

Check nameplate for correct catalog number, voltage, frequency, wattage and service.

IMPORTANT: When the solenoid is de-energized, the initial return force for the core, whether developed by spring, pressure or weight, must exert a minimum force to overcome residual magnetism created by the solenoid. Minimum return force for AC Construction is 11 ounces, and 5 ounces for DC construction.

Positioning

This solenoid 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.

Wiring

Wiring must comply with local codes and the National Electrical Code. On some solenoids, a green grounding wire is provided. Use rigid metallic conduit to ground all enclosures not provided with a green grounding wire. The general purpose solenoid housing has rigid metallic conduit to ground all enclosures not provided with a green grounding wire. The general purpose solenoid base sub-assembly.

CAUTION: Care must be taken not to mar the upper core surface, when installing core or positioning solenoid.

Solenoide Enclosure Assembly

Catalog numbers 80161, 80162, 80163 and 80164 may be assembled as a complete unit. Tightening is accomplished by means of a hex flange at the base of the solenoid enclosure.

CAUTION: Care must be taken not to mar the upper core surface, when installing core or positioning solenoid.

Solenoide Temperature

Standards Solenoids 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 only for 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 supply and depressurize solenoid operator and/or valve before making 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 valve is used for the purpose intended, it will operate properly. However, if the valve does not operate as expected, cleaning may be required. In the extreme case, faulty valve operation will occur and the valve may fail to shift. Clean strainer or filter when cleaning the valve.

Preventive Maintenance

1. Keep the medium flowing through the solenoid operator or valve as free from dirt and foreign material as possible.
2. While in service, the solenoid operator or valve should be operated at least once a month to ensure 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. Replace any parts that are worn or damaged.

Causes of Improper Operation

- 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 fuses, open-circuited or grounded coil, broken lead wires or splice connections.
- Burned-Out Coil: Check for open-circuited solenoid. Replace if necessary. Check supply voltage; it must be the same as specified on nameplate and marked on the solenoid.
- Low Voltage: Check voltage across the coil leads. Voltage must be at least 85% of rated voltage.

ASCO Valves

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Coil Replacement

⚠️ WARNING: Turn off electrical power supply.

Catalog Numbers 80161 and 80162 General Purpose Solenoid Enclosure. (Refer to Figures 1 and 2)

1. Disconnect coil lead wires and grounding wire, if present.
2. Remove retaining cap or clip from top of solenoid.
   ⚠️ WARNING: When metal retaining clip disengages, it will spring upward.
3. Remove the following parts:

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Figure 1.

<table>
<thead>
<tr>
<th>Catalog Numbers</th>
<th>Catalog Numbers</th>
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<tbody>
<tr>
<td>80161 and 80162</td>
<td>80161 and 80162</td>
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<tr>
<td>(Alternate Construction)</td>
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<tr>
<td>· Cover</td>
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<tr>
<td>· Spring washer</td>
<td>· Yoke</td>
</tr>
<tr>
<td>· Yoke</td>
<td>· Sleeves (2)</td>
</tr>
<tr>
<td>· Sleeves (2)</td>
<td>· Insulating washers*</td>
</tr>
<tr>
<td>· Coil</td>
<td>· Coil</td>
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*Insulating washers are omitted when a molded coil is used.
4. Coil is now accessible for replacement. Reassemble in reverse order of disassembly. Use exploded views for identification and placement of parts.

⚠️ CAUTION: Solenoid must be fully reassembled because the housing and internal parts complete the magnetic circuit. Be sure to replace insulating washer at each end of non-molded coil.

Catalog Numbers 80163 and 80164 Watertight and Explosion-proof Solenoid Enclosure (Refer to Figure 3).

1. Unscrew housing with retaining ring and nameplate attached.
2. Remove spacer from top of yoke.
3. Slip yoke containing coil, sleeves, and insulating washers off solenoid base sub-assembly. Insulating washers are omitted when a molded coil is used.
4. Remove insulating tubing from coil lead wires and install on the new coil.
5. Coil is now accessible for replacement. Reassemble in reverse order of disassembly. Use exploded view for identification and placement of parts.
6. Torque housing cover to 110 ± 10 inch pounds, (12,4 ± 1,1 newton-meters).

⚠️ CAUTION: Solenoid must be fully reassembled because the housing and internal parts complete the magnetic circuit. Be sure to replace insulating washer at each end of non-molded coil.

NOTE: Catalog Numbers 80163 and 80164 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 flame-proof seal. Be sure that the surface are wiped clean before reassembly.

**ORDERING INFORMATION FOR COILS**

When Ordering Coils, specify Catalog Number, Serial Number, Voltage and Frequency. Specify number stamped on coil (if visible).
NOTE: FOR THE ALTERNATE CONSTRUCTION WITH NAMEPLATE ON HOUSING, A NEW NAMEPLATE IS SUPPLIED IN THE ENCLOSURE KIT FOR TRANSFERRING NAMEPLATE INFORMATION.

Figure 1. Catalog Numbers 80161 and 80162 General Purpose Solenoid Enclosure (Alternate Construction with Nameplate on Housing)
Figure 2. Catalog Number 80161 and 80162 General Purpose Solenoid Enclosure

Figure 3. Catalog Numbers 80163 and 80164 Watertight and Explosion-Proof Solenoid Enclosure.