Series 8222 valves are 2-way normally closed, internal pilot-operated solenoid valves designed for steam service. Valves are made of rugged brass or stainless steel with internal parts of stainless steel and elastomers which can be attacked by oils and greases. Wipe the pipe threads clean of cutting oils. Also perform internal seat and external leakage cleanings will vary depending on the medium and service conditions. All solenoid valves should be cleaned periodically. The time between cleanings will vary depending on the medium and service conditions.

**Positioning**

- For mounting bracket (optional feature) dimensions, refer to Figure 1.
- Piping
  - Connect piping or tubing to valve according to markings on valve body.
  - For pipe sizes 1/8 to 1/2, use 1/8 to 1/4 turn from seated position. Use 1/16 turn of core first; closed end protrudes from top of core.

**CAUTION:** This valve is equipped with ethylene propylene or Aflas®. Series 8222 valves may be provided with brass or stainless steel with internal parts of stainless steel and elastomers which can be attacked by oils and greases. Wipe the pipe threads clean of cutting oils.

**ATTENTION:** Cette vanne est équipée d’estomacents en éthylène-propylène qui peuvent être attaqués par les huiles et les graisses. Essuyez les filetages des canalisations pour éliminer les huiles de coupe.

**NOTE:** No minimum operating pressure differential required.

**INSTALLATION**

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 seat sealing, external leakproofing, and reassembling the valve. This will be necessary when the valve will be used with a nozzle and unconfined combustible fluid after disassembly and reassembly.

- Maximum operating pressure differentials are based on temperature-related material limitations. Therefore, do not exceed the valves with a steam source of higher pressure than the nameplate maximum operating pressure differential. Also do not use a reducing valve to reduce steam source to rated pressure because this would result in a superheated steam of excessive temperature entering the valve.

- Temperature Limitations And Pressure Ratings
  
<table>
<thead>
<tr>
<th>Maximum Pressure Rating psi &amp; service</th>
<th>Coil Class</th>
<th>Max Ambient Temp. °F</th>
<th>Max. Fluid Temp. °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 steam</td>
<td>F or H</td>
<td>77</td>
<td>300</td>
</tr>
</tbody>
</table>

**MAXIMUM DESIGN PRESSURE**

- 650 psig at 100°F [445 ± 10°C] and body gasket.
- 860 psig at 100°F [445 ± 10°C] and body gasket.
- 1450 psig at 70°F [266 ± 5°C] and body gasket.

- The temperature entering the valve.
- The valve must always be operated from the same source whenever possible.
- Thoroughly clean all parts. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

- Causes Of Improper Operation
  - Incorrect Pressure: Check valve pressure. Pressure to valve must be within range specified on nameplate.
  - Excessive leakage: Inspect valve and clean all parts. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

- Valve Disassembly
  1. Disassemble valve in an orderly fashion. Use exploded views for parts placement and identification.
  2. Remove solenoid, see separate instructions.
  3. Unscrew solenoid base-subassembly and remove core spring from top of core assembly.
  4. For valves made of stainless steel (Figure 2) with a manual operator, unscrew manual operator body. Then remove bonnet gasket, stem retainer, stem assembly and stem gasket.
  5. For valves made of brass (Figure 3) with a manual operator, it is not necessary to disassemble manual operator for normal maintenance (cleaning). However, if a rebuild kit is installed, remove stem body and stem assembly.
  6. Remove bonnet screws, valve bonnet, core/diaphragm sub-assembly and body gasket.
  7. All parts are now accessible for cleaning or replacement. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

- Valve Reassembly
  1. Reassemble valve using exploded views for identification and placement of parts.
  2. Lubricate parts with Molykote®111 Compound or equivalent high-grade silicone grease.
  3. Position body gasket and core/diaphragm sub-assembly in valve body. Locate blted holes in core/diaphragm sub-assembly approximately 45° from valve outlet.
  4. For valves made of brass, then place core in valve body. Torque bonnet screws in a crisscross manner to 50 ± 5 in-lbs [5.7 ± 0.6 Nm].
  5. For valves of stainless steel construction (Figure 2) with a manual operator proceed as follows:
    - Install stem gasket on stem assembly and into manual operator stem as shown.
    - Position stem retainer on manual operator body. Be sure captive spring on stem assembly is on the Outside of the stem retainer.
    - Install bonnet gasket body. Then torque manual operator body to 175 ± 25 in-lbs [19.8 ± 2.8 Nm].
  6. After assembly is completed, operator should be sure there is no misalignment or binding. If binding occurs, loosen manual operator body and move operator slightly clockwise. Re-torque and check for proper operation. Then rotate manual operator stem counterclockwise as far as possible.
  7. For valves of brass construction (Figure 3) with a manual operator proceed, as follows:
    - Install outer stem gasket and inner stem gasket on manual operator stem as shown.
    - Install stem spring, and stem assembly with gaskets into valve bonnet.
    - Push stem assembly into valve bonnet, align pin hole and push stem.
    - Operate manual operator to be sure there is no misalignment or binding. Then rotate manual operator stem counterclockwise as far as possible.
  8. Replace bonnet gasket and solenoid base sub-assembly. Torque the base sub-assembly to 175 ± 25 in-lbs [19.8 ± 2.8 Nm].
  9. Install solenoid, see separate instructions and make electrical connections.

**WARNING:** To prevent the possibility of death, personal injury or property damage, check valve for proper operation before returning to service. Also perform internal seat and external leakage tests with a non-hazardous, noncombustible fluid.

**AVERTISSEMENT:** Afin de éviter le risque de mort, de blessure ou de dommage matériel, vérifier le bon fonctionnement de l’électrovanne avant de la remettre en service. Contrôler aussi les fuites externe et interne avec un fluide non dangereux.

10. Restore line pressure and electrical power supply to valve.

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, indicate by listing the number of parts required, and give the Make and Serial Number of the valve(s) for which they are intended.
**Brass Construction**

- Torque solenoid base sub-assembly to 175 ± 25 in-lbs (19.8 ± 2.8 Nm)
- Bonnet gasket
- Valve bonnet
- Core spring (closed end of spring protrudes from top of core)
- Bleed hole
- Body gasket

**Stainless Steel Construction**

- Torque solenoid base sub-assembly to 175 ± 25 in-lbs (19.8 ± 2.8 Nm)
- Bonnet gasket
- Stem gasket
- Manual operator stem assembly
- Captive spacer
- Valve bonnet
- Core spring (closed end of spring protrudes from top of core)
- Core/diaphragm sub-assembly
- Body gasket
- Valve body

Indicates that these parts are included in onboard rebuild kit.

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**Figure 1. Series 8222 Solenoid Valves**

**Figure 2. Series 8222 stainless steel construction with manual operator.**

**Figure 3. Series 8222 brass construction with manual operator.**

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**Note:** Constructions with “LF” suffix will be identified with “LF” mark on body and bonnet.

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