SV-600 Series
Anti-Water Hammer Solenoid Valves

INSTRUCTION SHEET

Unpacking Instructions

Remove the Packing List and verify that you have received all equipment, including the following (quantities in parentheses):

SV-600 Series Hammer Solenoid Valve (1)
Operator’s Manual: (1)

If you have any questions about the shipment, please call the OMEGA Customer Service Department.

When you receive the shipment, inspect the container and equipment for signs of damage. Note any evidence of rough handling in transit. Immediately report any damage to the shipping agent.

The carrier will not honor damage claims unless all shipping material is saved for inspection. After examining and removing contents, save packing material and carton in the event reshipment is necessary.

Available Models

**NORMALLY CLOSED VALVE**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Port Connection (NPT)</th>
<th>CV</th>
<th>Pressure Range (PSI)</th>
<th>Orifice Diameter (in.)</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV-601</td>
<td>1/2</td>
<td>4.7</td>
<td>7-230</td>
<td>7-140</td>
<td>1/2</td>
</tr>
<tr>
<td>SV-602</td>
<td>3/4</td>
<td>5.8</td>
<td>7-230</td>
<td>7-140</td>
<td>3/4</td>
</tr>
<tr>
<td>SV-603</td>
<td>1</td>
<td>12</td>
<td>7-230</td>
<td>7-140</td>
<td>1</td>
</tr>
<tr>
<td>SV-604</td>
<td>1-1/4</td>
<td>23</td>
<td>7-230</td>
<td>7-140</td>
<td>1-1/4</td>
</tr>
<tr>
<td>SV-605</td>
<td>1-1/2</td>
<td>23</td>
<td>7-230</td>
<td>7-140</td>
<td>1-1/2</td>
</tr>
<tr>
<td>SV-606</td>
<td>2</td>
<td>47</td>
<td>7-230</td>
<td>7-140</td>
<td>2</td>
</tr>
<tr>
<td>SV-607</td>
<td>2-1/2</td>
<td>47</td>
<td>7-230</td>
<td>7-140</td>
<td>2-1/2</td>
</tr>
</tbody>
</table>

**NORMALLY OPEN VALVE**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Port Connection (NPT)</th>
<th>CV</th>
<th>Pressure Range (PSI)</th>
<th>Orifice Diameter (in.)</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV-611</td>
<td>1/2</td>
<td>4.7</td>
<td>7-70</td>
<td>1/2</td>
<td>1.3</td>
</tr>
<tr>
<td>SV-612</td>
<td>3/4</td>
<td>5.8</td>
<td>7-70</td>
<td>3/4</td>
<td>2.4</td>
</tr>
<tr>
<td>SV-613</td>
<td>1</td>
<td>12</td>
<td>7-70</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>SV-614</td>
<td>1-1/4</td>
<td>23</td>
<td>7-70</td>
<td>1-1/4</td>
<td>5.0</td>
</tr>
<tr>
<td>SV-615</td>
<td>1-1/2</td>
<td>23</td>
<td>7-70</td>
<td>1-1/2</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Notes:
- Operation with less than a 7 PSI pressure differential will yield unpredictable flow characteristics.
- CV values are based on AC and DC power supplies.

**Description**

The SV-600 Series 2-way solenoid valves are internally piloted, with epoxy-encapsulated coil. The valves have a brass body with high flow rates and Viton seal material. A temperature range of -10 to 90°C (14 to 194°F) makes these valves ideal for neutral media such as compressed air, natural gas, water, hydraulic oil, oils and fats with no additives (max. viscosity approx. 4 x 10^5 cP). Electrical connection is by a cable plug.

**Fluids Handled**

Neutral gases and liquids which do not attack the housing material or seal or diaphragm material. The seal material is marked on the rating plate after the nominal size (B=NBR, A=EPDM, F=FPM). Minimum pressure difference of 0.5 bar required for full valve opening. Observe the permissible pressure range. Continual pressure shocks may impair the service life of the diaphragm.

**Installation**

Before installing, free piping of contamination (solder residues, welding beads, metal chips, seal material). Use PTFE tape for sealing. Note the direction of flow (marked by the arrow). The valve can be mounted in any position, but preferably with the solenoid system at the top to prevent sediment from collecting in the system (increased service life). A dirt trap upstream of the valve will protect against malfunctions. Do not use the valve as a lever when screwing it into position. Align and support piping, and do not stress the valve body. Do not allow a pipe end or sealing material to block the pilot bore within the valve outlet. Ensure that a full cross-section is available at the inlet and outlet of the valve, and avoid restrictions.

**Electrical Connection**

Note the voltage and type of power supply specified on the rating plate, voltage tolerance ±10%. Connection via connector lugs (ISO 4400/DIN 43650) and connector, insert can be turned 4 x 90°, tightening torque of bolt 1 Nm. A flat connector is for the protective conductor. With molded sheathed cable, observe core colors (yellow/green-earth connection). With double pilot coils, 4 power supply lines are necessary. Terminal 3: Common coil connection (negative terminal with DC). Terminal 2: Pick-up coil; Terminal 1: Release coil. Avoid energizing both coils simultaneously.

**Spare Parts**

For spare parts, see exploded view. When ordering quote the part number according to the table. Spare part kit (201): loosen 4 hex-head screws on valve can.
**WARRANTY**

OMEGA warrants this unit to be free of defects in materials and workmanship and to give satisfactory service for a period of 13 months from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal one (1) year product warranty to cover handling and shipping time. This ensures that OMEGA’s customers receive maximum coverage on each product. If the unit should malfunction, it must be returned to the factory for evaluation. OMEGA’s Customer Service Department will issue an Authorized Return (AR) number immediately upon receipt of the unit. OMEGA will repair or replace the unit at no charge. If the unit is found to be defective, it will be repaired or replaced at no charge. However, this WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside OMEGA’s control. Components which wear or which are damaged by misuse are not warranted. These include contact points, fuses, and traces.

**Specifications**

**Mounting Position:** Any (preferably with the solenoid system upright)

**Max. Ambient Temp.:** 54°C (130°F)

**Voltage Tolerance:** ±10%

**Power Consumption in Warm State:**
- ac: 21 VA (inrush)
- 12 VA/8 W (hold)
- dc: 8 W

**Opening Time (msec):** 200-500

**Closing Time (msec):** 100-4000

**Cycling Rate:** Approx. 10-50 cpm.

**Duty Cycle:** Continuous (100%)

**FM Approvals:** Nonincendive for hazardous locations Class I Div. 2 Group A, B, C, D; Class II Div. 2 Group F; G; Class III Div. 1 and 2; Operating Temperature T4A

**Dimensions:** See below

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**Spare Parts**

- **Coil kit (211/205):** When ordering please quote full code or part number of the valve.
- **Spare part kit (211) in function A only**
- **Spare part kit (281):** The number of parts may vary according to nominal sizes.

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**Pre-Ordering Parts**

**AR (Authorized Return) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. However, this WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA’s control. Components which wear or which are damaged by misuse are not warranted. These include contact points, fuses, and traces.**

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**Servicing USA and Canada: Call OMEGA Toll Free**

**USA**

OMEGA
One OMEGA Drive, New Britain, CT 06051-0847
Telephone: (800) 958-1660
FAX: (203) 395-7799

**Canada**

OMEGA
578 Berger
Lacolle (Quebec) J5SP 8A2
Telephone: (514) 956-9298
FAX: (514) 956-9297

Spare Parts: 1-800-426-8435 / LRN-TC-Omega®
Customer Service: 1-800-426-9297 / LRN-TC-Omega®
Engineering Service: 1-800-972-4680 / LRN-USA-OMEGA®
TELEX: 99484 / EASYLINK: 290954 / CABLE OMEGA

**Servicing Europe:**

OMEGA
25 Somersfield Road, Broughton Ashley, Warrington, Cheshire, WA14 5HF, U.K.

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