

SV-600 Series

Anti-Water Hammer Solenoid Valves

INSTRUCTION SHEET

M2194/0695

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.

NOTE

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.

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 10⁴ ft²/sec). 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. *installed*

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 (281): loosen 4 cheesehead screws on valve cap.

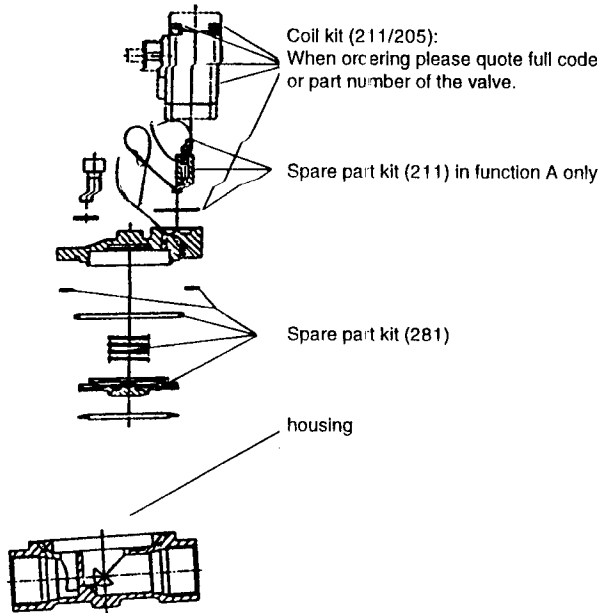
Available Models

NORMALLY CLOSED VALVE						
Part Number	Port Connection (NPT)	C _v	Pressure Range (PSI) ¹⁾		Orifice Diameter (in.)	Weight (lbs)
			AC	DC		
SV-601	1/2	4.7	7-230	7-140	1/2	1.3
SV-602	3/4	5.8	7-230	7-140	3/4	2.4
SV-603	1	12	7-230	7-140	1	3.3
SV-604	1-1/4	23	7-230	7-140	1-1/4	5.0
SV-605	1-1/2	23	7-230	7-140	1-1/2	5.8
SV-606	2	47	7-230	7-140	2	10.9
SV-607	2-1/2	47	7-230	7-140	2-1/2	12.5

¹⁾ Operation with less than a 7 PSI pressure differential will yield unpredictable flow characteristics.

NORMALLY OPEN VALVE					
Part Number	Port Connection (NPT)	C _v	Pressure Range (PSI) ¹⁾	Orifice Diameter (in.)	Weight (lbs)
SV-611	1/2	4.7	7-170	1/2	1.3
SV-612	3/4	5.8	7-170	3/4	2.4
SV-613	1	12	7-170	1	3.3
SV-614	1-1/4	23	7-170	1-1/4	5.0
SV-615	1-1/2	23	7-170	1-1/2	5.8
SV-616	2	47	7-170	2	10.9

Spare Parts



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.
(Times measured at outlet A on energizing/de-energizing until attainment of pressure rise to 90%/pressure drop to 10% at a working pressure of 85 PSI.)
- 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

Spare part kit (211) in function A only

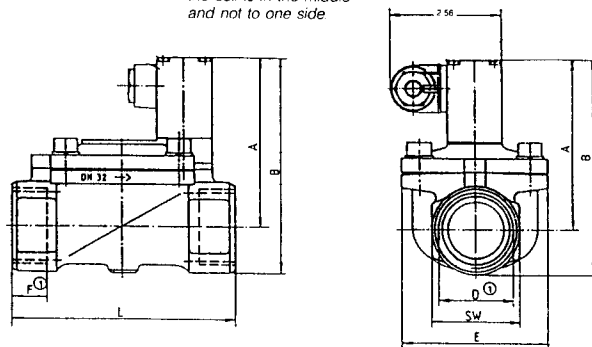
Seal material	2 Watt	5 and 8 Watt
NBR (B)	015117 H	015156 Q
FPM (F)	015118 J	015157 R
EPDM (A)	015241 V	015242 W

Spare part kit (281): The number of parts may vary according to nominal sizes.

Seal material	DN 13 (1/2")	DN 20 (3/4")	DN 25 (1")	DN 32, 40 (1 1/4", 1 1/2")	DN 50, 65 (2", 2 1/2")
NBR (B)	624012 J	624015 M	624018 Y	624021 K	624024 N
FPM (F)	624013 K	624016 N	624019 Z	624022 L	624025 P
EPDM (A)	624014 L	624017 P	624020 W	624023 M	624026 Q

Housing Orifice/pipe connection	Connection type	
	G	NPT
DN 13 (1/2")	610969 L	613096 L
DN 20 (3/4")	621546 T	621547 U
DN 25 (1")	621548 D	621549 E
DN 32 (1 1/4")	613365 D	614195 M
DN 40 (1 1/2")	613364 C	614223 Y
DN 50 (2")	614245 E	614246 F
DN 65 (2 1/2")	614268 M	614269 N

With 1/2 NPT connections the coil is in the middle and not to one side



ORIFICE	A	B	D1 (NPT)	F1	E	L	SW <small>±.001 across flats</small>
1/2	3.29	3.84	1/2	0.54	1.57	2.56	1.06
3/4	3.50	4.13	3/4	0.55	2.36	3.94	1.25
1	3.66	4.47	1	0.66	2.76	4.53	1.61
1-1/4	3.86	4.84	1-1/4	0.68	3.35	4.96	2.00
1-1/2	4.02	5.20	1-1/2	0.68	3.35	4.96	2.36
2	4.71	6.09	2	0.69	4.53	6.46	2.76
2-1/2	4.71	6.39	2-1/2	0.93	4.53	7.09	3.35

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 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 triacs.



Servicing USA and Canada: Call OMEGA Toll Free

USA

One Omega Drive, Box 4047
Stamford, CT 06907-0047
Telephone: (203) 359-1660
FAX: (203) 359-7700

Canada

976 Bercar
Laval (Quebec) H7L 5A1
Telephone: (514) 856-6928
FAX: (514) 856-6886

Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA™
Customer Service: 1-800-622-2378 / 1-800-622-BEST™
Engineering Service: 1-800-872-9436 / 1-800-USA-WHEN™
TELEX: 996404 EASYLINK: 62968934 CABLE: OMEGA

Servicing Europe: United Kingdom Sales and Distribution Center

25 Swannington Road, Broughton Astley, Leicestershire
LE9 6TU, England