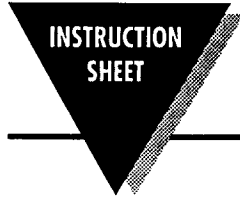
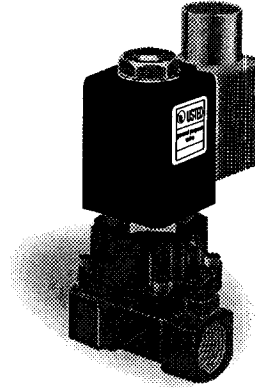




SV-400 Series

Steamed Solenoid Valves



M2189/0695

Unpacking Instructions

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

SV-400 Series Steamed Solenoid Valves (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.

Available Models

Part Number	Port Connection (NPT)	C _v	Pressure Range (PSI) ¹	Orifice Diameter (in)	Weight (lb)	Body Material
SV-401	1/2	4.3	0-140	1/2	2.2	BR
SV-402	3/4	5.8	0-140	3/4	3.1	BR
SV-403	1	11.7	0-140	1	4.2	BR
SV-404	1-1/4	19	0-140	1-1/4	7.0	BR
SV-405	1-1/2	19	0-140	1-1/2	8.0	BR
SV-406	2	42	0-140	2	17.2	BR
SV-407	2-1/2	42	0-140	2-1/2	19.6	BR

¹ Also suitable for vacuum down to 38 Torr.

Description

Seal Materials and Fluids Handled

See Table 1.

Fluid and Ambient Temperature

See Table 1.

Table 1		Seal Materials	
Fluids	Temperatures [°F]	Ethylene (A) Propylene	Teflon (G)
air	Fluid T. Ambient	+32 to +275 +14 to +130	+32 to +356 +14 to +130
water	Fluid T. Ambient	+50 to +212 +32 to +130	+50 to +212 +32 to +130
neutral gas	Fluid T. Ambient	+32 to +275 +14 to +130	+32 to +356 +32 to +130
light oil	Fluid T. Ambient	+50 to +194 +14 to +130	+50 to +194 +14 to +130
LP-gas	Fluid T. Ambient	+32 to +140 +14 to +130	+32 to +140 +14 to +130
Steam	Fluid T. Ambient	+212 to +275 +14 to +130	+212 to +356 +14 to +130

Pressure Range

Maximum inlet pressure: see the label on the valve.

A pressure differential between the inlet port and the outlet port is not required.

Installation

Before installing valve make sure that piping etc. is free of foreign matter (metal filings, seal materials, welding scale etc.). Teflon tape is recommended for sealing ports. The arrow on the valve body gives the flow direction. Installation as required but preferably with the coil at the top. Installing in this position tends to prevent foreign matter remaining in pilot valve (increased life). A strainer upstream of valve, protects against effects of foreign matter. Do not put any load on coil unit.

Pipework should be supported such that valve body is not under strain. Do not allow a pipe end or sealing material block the pilot bore within the valve outlet. Inlet and outlet of valve must be fullbore and pipework unrestricted.

Electrical Connection

Make sure the supply voltage/frequency corresponds with what is on the valve nameplate. Voltage tolerance is ± 10%. Available Electrical Connections and wiring diagrams are on the reverse side.

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

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¹ Also suitable for vacuum down to 38 Torr.

Description

The SV-400 Series 2-way solenoid valves are internally piloted piston valves with piston and forced lifting and epoxy-encapsulated coil. The valve opens fully from 0 PSI pressure differential. These valves feature brass body, stainless steel valve seats, PTFE sealing materials for the main seat, and a temperature range from 0 to 180°C (32 to 356°F). The valves are ideal for neutral media such as steam, hot water, etc. and for use on the vacuum side of autoclaves and in the textile, plastics, and wood-working industries.

	Ambient	+14 to +130	+14 to +130
water	Fluid T.	+50 to +212	+50 to +212
	Ambient	+32 to +130	+32 to +130
neutral gas	Fluid T.	+32 to +275	+32 to +356
	Ambient	+14 to +130	+32 to +130
light oil	Fluid T.	+50 to +194	+50 to +194
	Ambient	+14 to +130	+14 to +130
LP-gas	Fluid T.	+32 to +140	+32 to +140
	Ambient	+14 to +130	+14 to +130
Steam	Fluid T.	+212 to +275	+212 to +356
	Ambient	+14 to +130	+14 to +130

Pressure Range

Maximum inlet pressure: see the label on the valve.

A pressure differential between the inlet port and the outlet port is not required.

Installation

Before installing valve make sure that piping etc. is free of foreign matter (metal filings, seal materials, welding scale etc.). Teflon tape is recommended for sealing ports. The arrow on the valve body gives the flow direction. Installation as required but preferably with the coil at the top. Installing in this position tends to prevent foreign matter remaining in pilot valve (increased life). A strainer upstream of valve, protects against effects of foreign matter. Do not put any load on coil unit.

Pipework should be supported such that valve body is not under strain. Do not allow a pipe end or sealing material block the pilot bore within the valve outlet. Inlet and outlet of valve must be fullbore and pipework unrestricted.

Electrical Connection

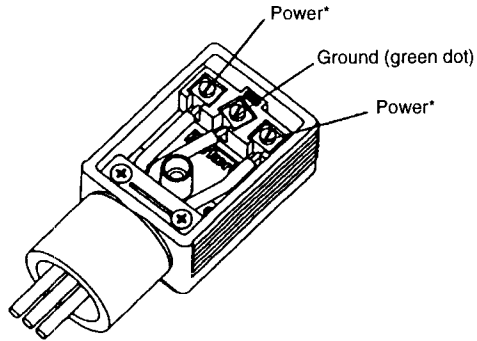
Make sure the supply voltage/frequency corresponds with what is on the valve nameplate. Voltage tolerance is ± 10%. Available Electrical Connections and wiring diagrams are on the reverse side.

Troubleshooting

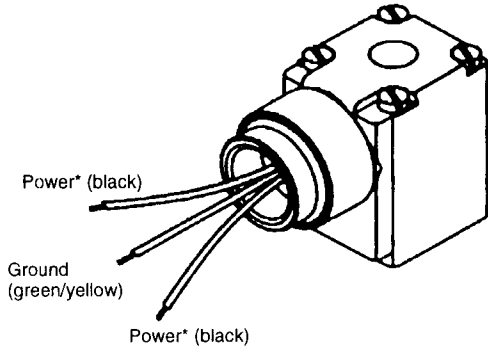
Check port connections, minimum operating pressure differential and supply voltage. Make sure the pilot hole in piston is clear and pilot bore in the valve outlet is not obstructed. If the core does not pull in, check for short circuit, coil burn-out or foreign matter impeding core movement. A jammed or missing core causes the coil to overheat in the case of ac supply.

Wiring Diagram

Electrical Connection Type H



Electrical Connection Type A



* Orientation is not important

Specifications

Mounting Position: Any (preferably with solenoid system upright)

Max. Ambient Temp.: 54°C (130°F)

Voltage Tolerance: ±10%

Power Consumption:

Orifice Size	Inrush	Hold
1/2" to 1-1/2"	120 VA	35 VA/16W
2" to 2-1/2"	28 W	28W

Response Times:

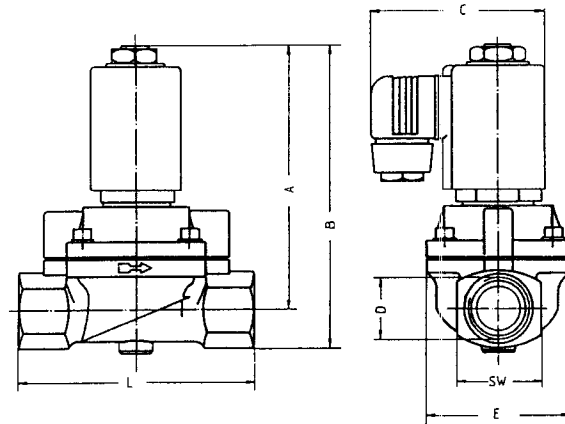
Orifice Size	Opening Time (msec)	Closing Time (msec)
1/2" to 1"	100-200	300-500
1-1/4" to 2-1/2"	200-1200	1000-3000

Response times are measured with water at an operating pressure of 85 PSI. They depend on the nominal size of the valve as well as the pressure and viscosity of the medium.

Cycling Rate: Approx. 60 cpm

Duty Cycle: Continuous (100%)

Dimensions: See below



ORIFICE	D (NPT)	A	B	C	E	L	SW width across flats
1/2	1/2	4.45	5.00	2.87	1.57	2.56	1.06
3/4	3/4	4.45	5.08	2.87	2.36	3.94	1.26
1	1	4.67	5.47	2.87	2.76	4.53	1.61
1-1/4	1-1/4	6.34	7.32	3.17	3.35	4.96	1.97
1-1/2	1-1/2	6.50	7.68	3.17	3.35	4.96	2.36
2	2	8.86	10.24	4.53	4.53	6.46	2.76
2-1/2	2-1/2	8.86	10.24	4.53	4.53	7.09	3.35