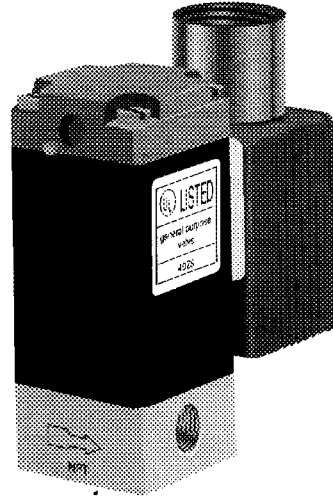
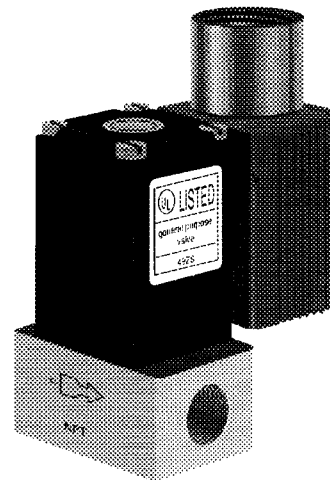


®  **SV-300/SV-310/SV-320**

®  **General Purpose Solenoid Valve**



SV-320



SV-300/310



Operator's Manual



OMEGAnetSM On-Line Service http://www.omega.com	Internet e-mail info@omega.com
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It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

Unpacking Instructions



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

SV-30C /310/320 General Purpose 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.



From the Technical Library of _____



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Normally Closed Valve

Part Number	Port Connection (NPT)	C _v	Pressure Range (PSI)		Maximum Allowable Back Pressure (PSI)	Orifice Diameter (in.)	Body Material
			AC	DC			
SV-301	1/8	0.14	0-355	0-230	70	5/64	BR
SV-302	1/8	0.14	0-355	0-230	70	5/64	SS
SV-303	1/4	0.14	0-355	0-230	70	5/64	BR
SV-304	1/4	0.14	0-355	0-230	70	5/64	SS
SV-305	1/8	0.19	0-230	0-140	50	7/64	BR
SV-306	1/8	0.19	0-230	0-140	50	7/64	SS
SV-307	1/8	0.27	0-140	0-85	35	1/8	BR
SV-308	1/8	0.27	0-140	0-85	35	1/8	SS
SV-309	1/4	0.37	0-55	0-20	9	5/32	BR
SV-310	1/4	0.37	0-55	0-20	9	5/32	SS
SV-311	1/4	0.82	0-20	0-7	4	1/4	BR
SV-312	1/4	0.82	0-20	0-7	4	1/4	SS

Also suitable for vacuum down to 38 torr.

Normally Open Valve

Part Number	Port Connection (NPT)	C _v	Pressure Range (PSI) ¹ AC + DC	Max. Allow. Back Pressure (PSI)	Orifice Diameter (in.)	Body Material
SV-321	1/8	0.14	0-170	70	5/64	BR
SV-322	1/4	0.14	0-170	70	5/64	BR
SV-323	1/8	0.19	0-115	50	7/64	BR
SV-324	1/4	0.19	0-115	50	7/64	BR
SV-325	1/8	0.27	0-85	35	1/8	BR
SV-326	1/4	0.27	0-85	35	1/8	BR

¹ *Also suitable for vacuum down to 38 torr.*

Options

Ordering Suff x	Description
-24VDC	24 Vdc operation
-12VDC	12 Vdc operation
-240VAC	240 Vac operation
-BUNA	Buna-N seal
-EPDM	EPDM seal



Description

The SV-300 Series 2-way solenoid valve is available in brass or stainless steel body and seat, stainless steel valve internals, and Viton seal material.

Temperature range is from -10 to 90°C (14 to 194°F). The valve is ideal for neutral media such as compressed air, natural gas, water, and hydraulic oil (viscosity approx. 2.3×10^{-4} ft²/sec).

Seal Materials and Fluids Handled

See Table 1.

Fluid and Ambient Temperature

See Table 1.

Table 1		Seal Materials					
Fluids	Temperatures [°F]	Seat/O-ring					
		Buna "N"	Ethylene Propylene	Viton	Teflon/Ethylene	Teflon/Viton	Neoprene
air	Fluid T. Ambient	+14 to +194 +14 to +130	-40 to +194 +14 to +130	+14 to +194 +14 to +130	+14 to +194 +14 to +130	+14 to +194 +14 to +130	N/A
water	Fluid T. Ambient	+32 to +194 +32 to +130	+32 to +194 +32 to +130	+32 to +194 +32 to +130	+32 to +194 +32 to +130	+32 to +194 +32 to +130	N/A
neutral gas	Fluid T. Ambient	+14 to +194 +14 to +130	-40 to +194 +14 to +130	+14 to +194 +14 to +130	+14 to +194 +14 to +130	+14 to +194 +14 to +130	N/A
light oil	Fluid T. Ambient	+14 to +194 +14 to +130	N/A	+14 to +194 +14 to +130	N/A	+14 to +194 +14 to +130	N/A
LP-gas	Fluid T. Ambient	+14 to +140 +14 to +130	N/A	+14 to +140 +14 to +130	N/A	+14 to +140 +14 to +130	N/A
refrigerants	Fluid T. Ambient	N/A	N/A	N/A	N/A	N/A	+14 to +194 +14 to +130

Pressure Range

Maximum inlet pressure: see the label on the valve.



Installation

Before installing valve make sure that piping etc. is free of foreign matter (metal filings, seal materials, welding scale etc.). Installation as required but preferably with coil in vertical position. Installation in this position tends to prevent foreign matter remaining in core tube (increased life). Do not put any loads on coil unit.

SV-300 Series: Teflon tape is recommended for sealing ports. The arrow on valve body indicates flow direction. Mounting is accomplished by means of four M4 x 8 mm tapped holes located on the valve underside.

Electrical Connection

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

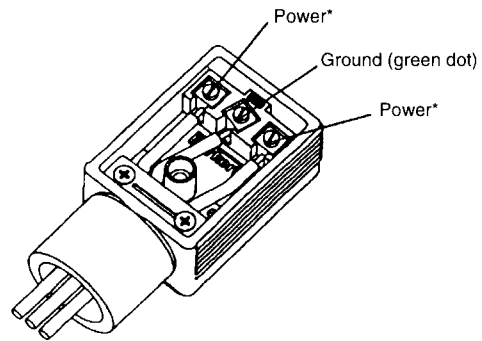
Troubleshooting

Check port connections, operating pressure and supply voltage. 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.

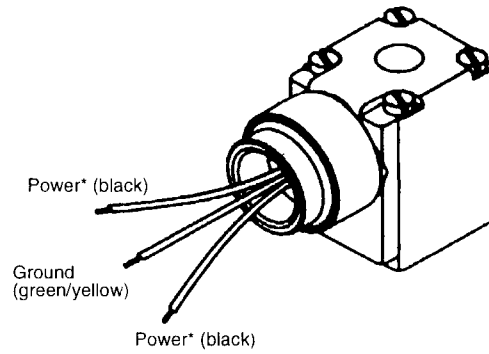


Wiring Diagram

Electrical Connection for UL Listed & FM Class I, Div. 2 Valves



Electrical Connection for FM Class I, Div. 1 Valves



* Orientation is not important



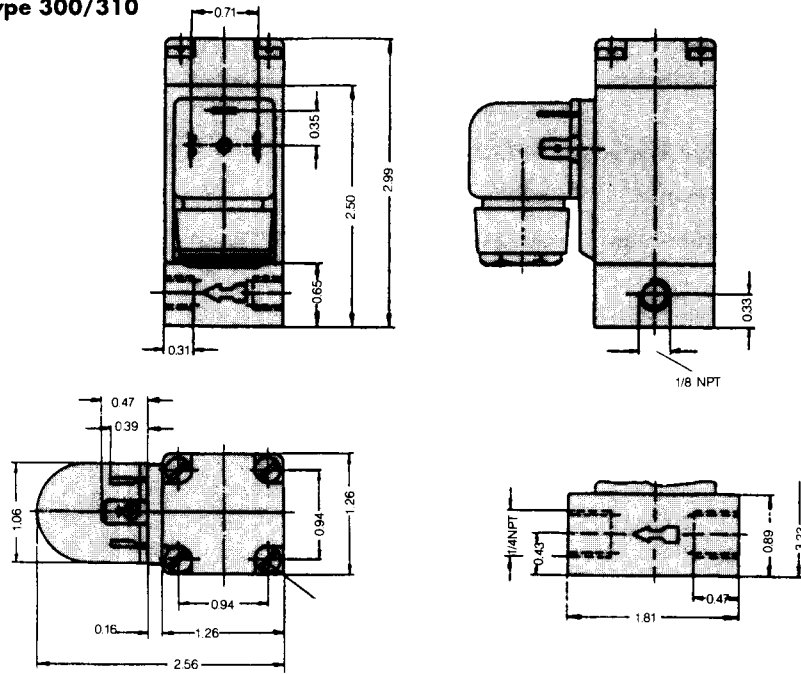
Specifications

Mounting Position:	Any (preferably with the solenoid system upright)
Max. Ambient Temp.:	54°C (130°F)
Voltage Tolerance:	±10%
Power Consumption:	ac: 21 (inrush); 12 VA/8 W (hold) dc: 8 W
Opening Time (msec):	Approx. 20, depending on pressure
Closing Time (msec):	Approx. 30
Cycling Rate:	Approx. 1000 cpm <i>(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.)</i>
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 next page

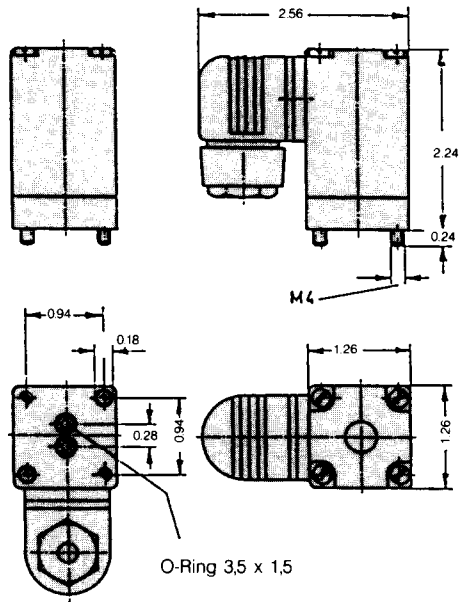


Dimensions

Type 300/310



Type 320



WARRANTY/DISCLAIMER

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.

OMEGA is pleased to offer suggestions on the use of its various products. Nevertheless, OMEGA only warrants that the parts manufactured by it will be as specified and free of defects.

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RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA ENGINEERING Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. P.O. number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS OR **CALL-BRATION**, consult OMEGA for current repair/calibration charges. Have the following information available BEFORE contacting OMEGA:

1. P.O. number to cover the COST of the repair/calibration,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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