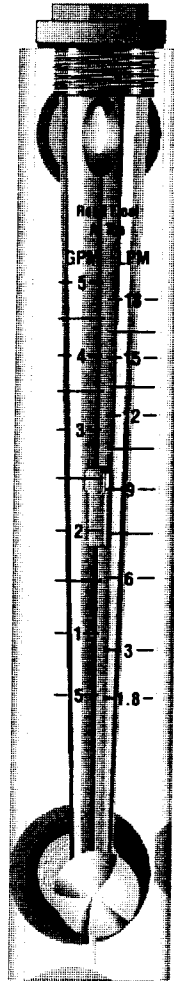


® FL50000 Series

® Panel Mount Flowmeter



FL50004 shown



Operator's Manual



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CJS0595MAJ2B

Unpacking Information

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

FL50000 Series Flowmeter (1)
Operators 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

FL50000 Series Flowmeters feature a rugged, one-piece machined acrylic body. Stainless steel internal parts, rear inlet and outlet ports for panel mounting, and excellent accuracy. The stainless steel float guide helps reduce oscillation and improve overall meter performance. Permanent screen-printed scales are positioned directly in front of the float for easy reading. For greater versatility and control, FL50000 Series Flowmeters may be ordered with an integral flow adjustment valve.

Features

- Direct Reading Scales
- 316SS Floats
- Solid One-Piece Acrylic Body
- Scales with GPM and LPM
- Panel Mount

Available Models

Part No.	GPM / LPM Ranges			SCFM Ranges		
	GPM	LPM	Δ PSI	Part No.	SCFM	MPT
FL50001*	0.025-0.250	0.1-1.0	0.12	FL50251*	0.15-1.0	1/4"
FL50002*	0.1-1.0	0.4-4	0.30	FL50252*	0.5-4.0	3/8"
FL50003*	0.2-2.0	0.75-7.5	0.30	FL50253*	1.0-7.0	3/8"
FL50004*	0.5-5.0	1.8-18.0	1.50	FL50254*	2.0-20	1/2"
FL50005	1.0-10.0	8.0-38.0	1.50	-	-	3/4"
FL50006	1.0-17.0	4.0-64.0	1.50	-	-	1"
FL50007	6.0-21.0	24.0-80.0	1.50	-	-	1"

*Available with adjustable valve. Add suffix "-V" to part number.

OPERATION NOTES

Chemical Compatibility

Make sure the fluid you are metering is compatible with the instruments's construction.

Meter Body:	Acrylic clear plastic
Plastic fittings:	CPVC and PVC
Float:	316SS
Guide:	316SS
O-Ring Seals:	Viton

(no other parts come in contact with the fluid being metered)

Be wary of hydrocarbon products since they will attack these materials. Other materials such as some calcium products will tend to form scale (deposits). This will lead to erroneous readings, due to the narrowing of the flow area. Remove the scale deposits to increase the accuracy of the flowmeter. To verify the compatibility of your chemicals, check with the chemical manufacturer or contact the Engineering Department at OMEGA. Be aware that many plastics cannot handle high temperatures or sunlight (ultra-violet rays).

Pressure And Temperature

Pressure and temperature limits are inversely proportional. At the maximum suggested pressure the temperature should approach 70°F. At the maximum suggested temperature the pressure should approach zero PSI. We cannot guarantee our flowmeters will not be damaged either at or below the suggested limits simply because of many factors which influence meter integrity; stress resulting from meter misalignment, damage due to excessive vibration and deterioration caused by contact with certain chemicals. These situations and others tend to reduce the strength of the materials from which the meters were machined.

General

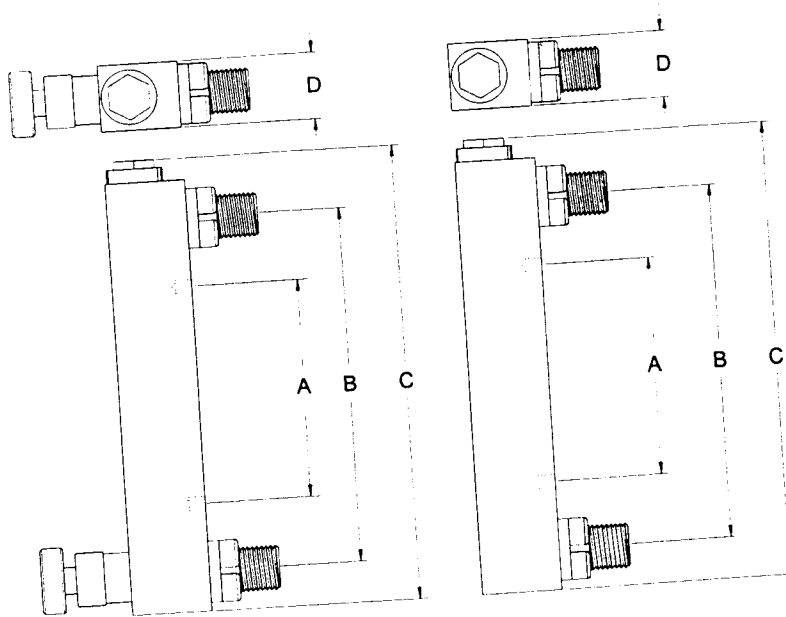
- Always use Teflon tape or a similar sealing material on pipe threads when making connections. Never use oil base dopes or solvents.
- When installing your instrument, fittings should be tightened only enough to prevent leaking. Overtightening may result in damage to the meter.
- Never hold the meter with pliers or similar tools during installation.
- Install the meter in an exactly vertical plane to obtain the best possible reading.
- Meters should never be allowed to support the weight of related pipe or tubing.
- These meters are designed for panel mounting. Two #8-32 threaded mounting holes are provided on the rear of the meter body for this purpose.

CAUTION FOLLOW INSTRUCTIONS TO AVOID FAILURE

Finish piping to be plumb and true. Polysulfone and other exotic plastics cannot tolerate PVC glue and pipe dope. Fumes can cause crazing. Use teflon tape for threaded joints. Make up the assembly and fit pipes, then remove the flowmeter to glue the joints. Replace the flowmeter after glue fumes are vented out. The meter cannot support attached pipes. Excessive vibration may cause the float to give poor readings or cause possible fracture. Protect the meter from ultra-violet (UV) rays.

VALVES- avoid a system that will impose a sudden burst of flow to the meter. Such a burst will cause the float to impact the guide assembly with destructive force. Magnetic, solenoid, or other quick opening valves cannot be used unless the meter is protected against a sudden burst of flow. Failure to comply VOIDS THE WARRANTY!

Installation



GENERAL	A	B	C	D
FL50001	3-1/16"	5-5/8"	7-1/8"	1"
FL50002	4"	6-1/2"	8-5/16"	1-1/4"
FL50003	4"	6-1/2"	8-5/16"	1-1/4"
FL50004	4"	6-1/2"	8-5/16"	1-1/4"
FL50005	4"	6-1/2"	9"	1-1/2"
FL50006	4"	8"	10-7/8"	1-3/4"
FL50007	4"	8"	10-7/8"	1-3/4"

Maintenance

If your flowmeter is taken apart be sure the float is replaced right side up. See "Float Facsimile" drawing when reassembling the unit. The tapered tube may be cleaned with a soft bottle brush. Use a MILD soap and water solution for cleaning purposes.

Specifications

Accuracy:	±5%
Meter Body Construction:	Machined Acrylic
O-Ring Material:	Viton
Float:	316SS
Temperature Limit:	48°C (120°F)
Pressure Limit:	120 PSI
Pressure Drop:	2.0 PSI maximum
Capacity:	0.025 to 21 GPM
Adapter Size:	1/4" to 1" MPT
Dimensions:	All models except FL50006 and FL50007: center-center 165 mm (6-1/2"), height 227 mm (8-15/16"); Models FL50006 and FL50007: center-center 203 mm (8"), height 254 mm (10")
Shipping Weight:	0.9 kg (2 lb)

VALVE

CPVC



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.

OMEGA is glad 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.

OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED.

LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

Every precaution for accuracy has been taken in the preparation of this manual; however, OMEGA ENGINEERING, INC. neither assumes responsibility for any omissions or errors that may appear nor assumes liability for any damages that result from the use of the products in accordance with the information contained in the manual.

SPECIAL CONDITION: Should this equipment be used in or with any nuclear installation or activity, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the equipment in such a manner.

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 **CALIBRATION**, 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 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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