

1 YEAR
WARRANTY

Ω OMEGA® **User's Guide**



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FTB300 Series Flow Verification Sensor



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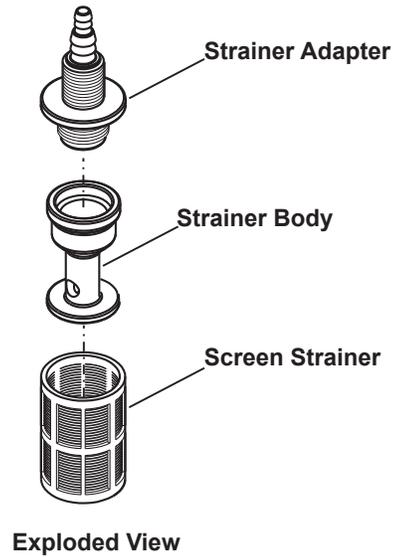
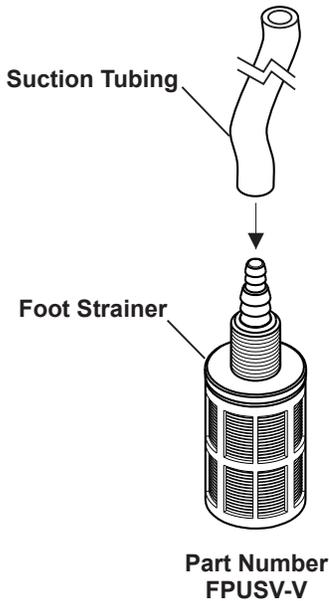
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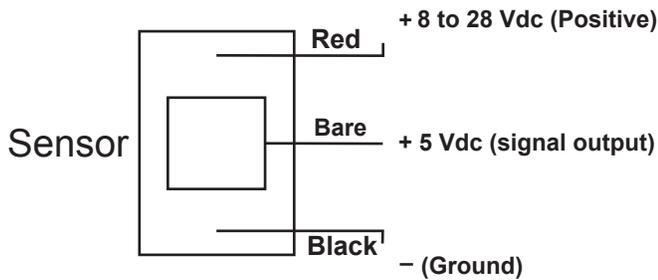
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Your FTB300 flow verification sensor package includes a Foot Strainer (see diagram below). This strainer will prevent any small particles from entering and clogging the Sensor Body. Diaphragm pumps will require a strainer and a check valve. The part number for the strainer that includes a check valve is FPUSV-V.



Wiring Diagram



Sensor connections:
 Input voltage (vdc) 8 to 28 vdc
 Output voltage (v) "high state" 4 80 v dc min (5 vdc normal)
 Output voltage (v) "low state" 0 2v dc max

K-Factors (pulses per fluid volume)

Body Size	Flow Range (ml/min)	Pulses per Gallon	Pulses per Liter
1	30-300	181,336	47,909
2	100-1000	81,509	21,535
3	200-2000	42,051	13,752
4	300-3000	25,153	6,646
5	500-5000	15,737	4,157
6	700-7000	9,375	2,477

Useful formulas

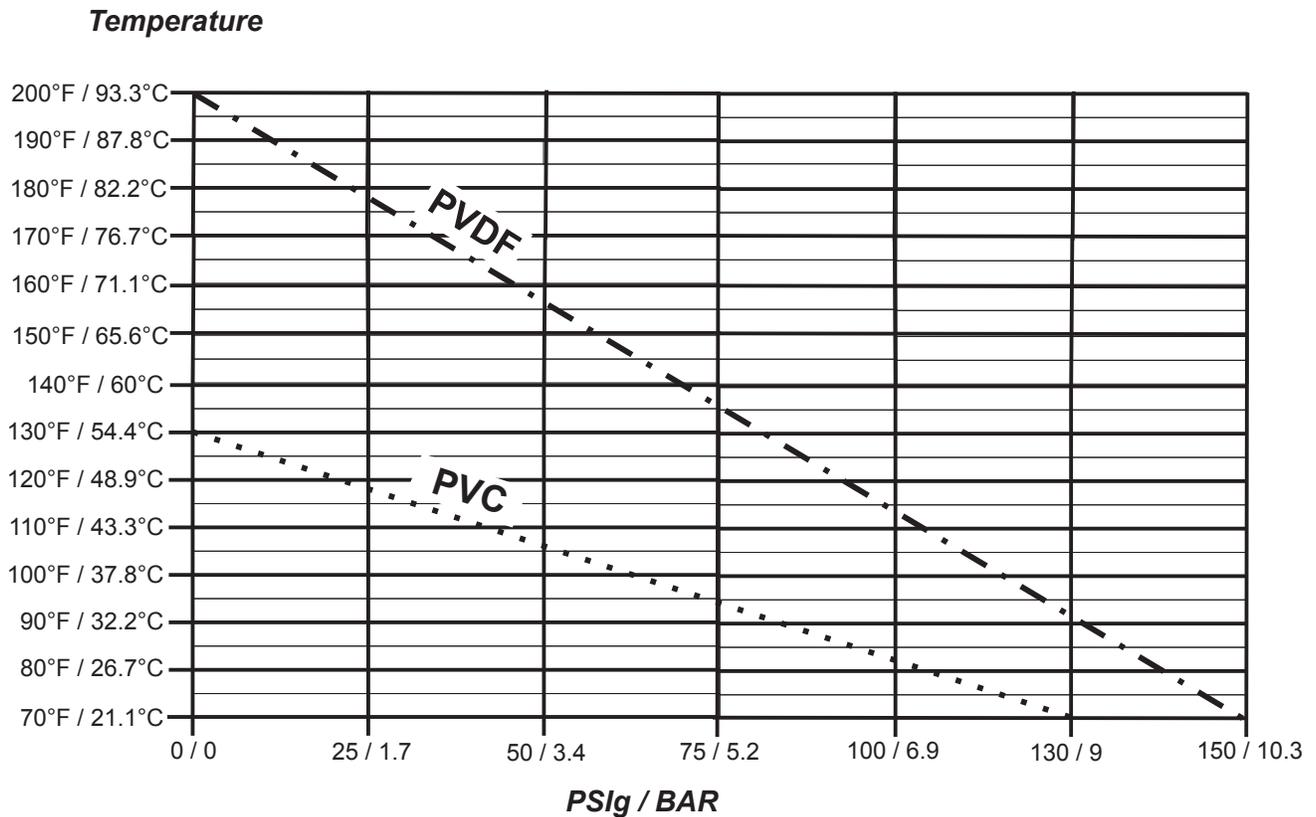
$$60 / K = \text{rate scale factor}$$

$$\text{rate scale factor} \times \text{Hz} = \text{flow rate in volume per minute}$$

$$1 / K = \text{total scale factor}$$

$$\text{total scale factor} \times n \text{ pulses} = \text{total volume}$$

Temperature vs. Pressure



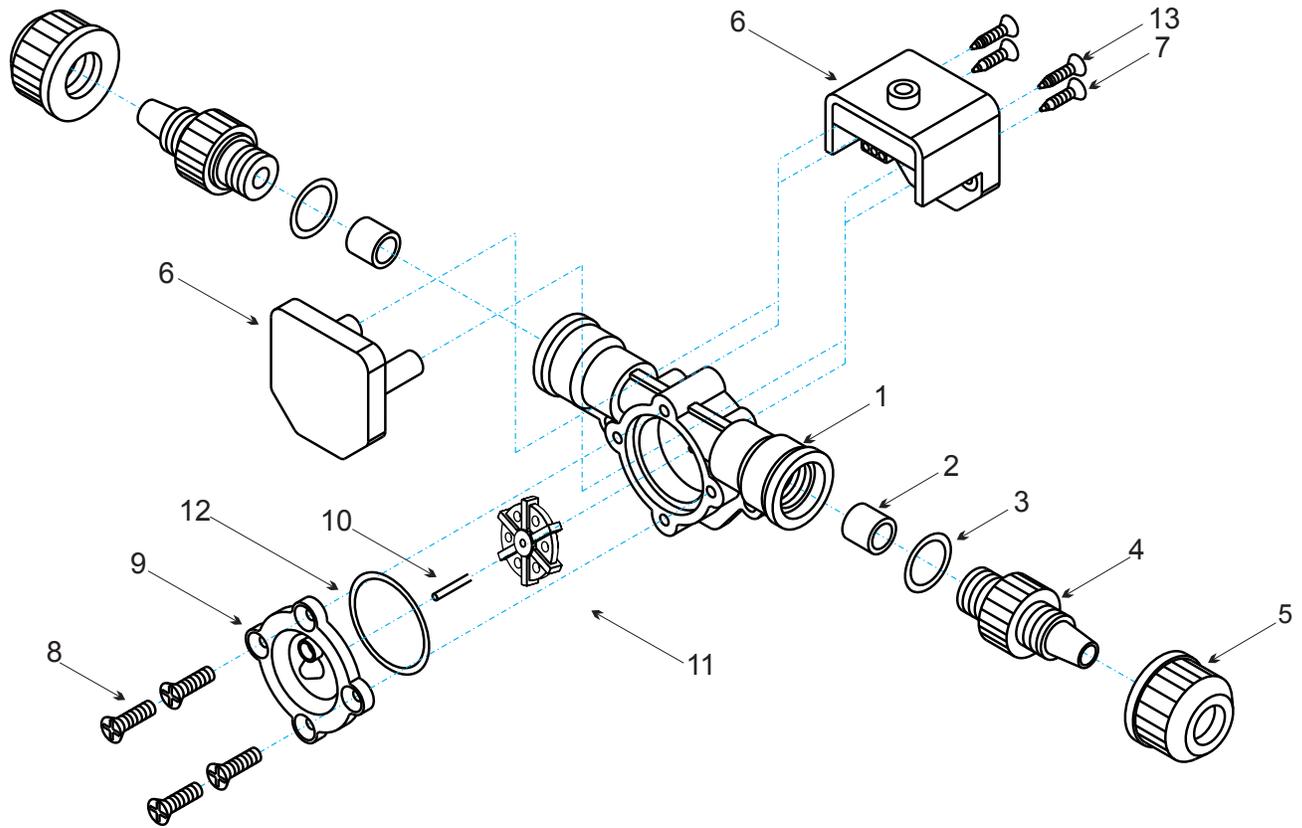
Pressure and Temperature

Pressure and temperature limits are inversely proportional. At the maximum suggested pressure the temperature should approach 70°F / 21.1°C. 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/or deterioration caused by contact with certain chemicals as well as direct sunlight. These situations and others tend to reduce the strength of the materials from which the meters are manufactured.

Application Note

Although meters may be suitable for other chemicals, we cannot guarantee their suitability. It is the responsibility of the user to determine the suitability of the flowmeter in their application.

Exploded View and Parts List



Item	Description	Catalog number	Quantity
1.	FTB300 Body .031 30-300ml/min .062 100-1000ml/min .093 200-2000ml/min .125 300-3000ml/min .156 500-5000ml/min .187 700-7000ml/min	76001-300 76001-301 76001-302 76001-303 76001-304 76001-305	1
2.	Tubing, PVC	76001-299	2
3.	O-Ring, Viton	90003-012	2
4.	Adapter .250" F/NPT, PVC Adapter .125" F/NPT, PVC Adapter .375" Tubing Connection, PVDF Adapter .250" Tubing Connection, PVDF Adapter .500" ID Hose Barb, PVC Adapter .500" F/NPT, PVC Adapter .500" M/NPT, PVC	76000-137 76000-456 90002-038 90002-042 76001-360 76001-359 76001-358	2
5.	Tube Nut	90002-305	2
6.	Sensor Assembly	71010-182	1
7.	Screws, SS	90011-113	2
8.	Screws, SS	90011-190	4
9.	Lens Cap, PVC (Optional PVDF)	90002-227	1
10.	Axel, PVDF	90007-592	1
11.	Paddle, PVDF	90002-229	1
12.	O-Rng, Viton	90003-143	1
13.	Screws, #4x.50 Phil Blk	90011-178	2

NOTE: The "Exploded View" drawing illustrates assembly of the FTB300 Flow Verification Sensor. If your sensor needs to be cleaned refer to this drawing when reassembling the unit.

Notes:

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's 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 malfunctions, 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. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been 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 in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company 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.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA 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.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

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

1. Purchase Order 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, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
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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