

TURBINE FLOW METER

Stand Alone or Complete Systems with Signal Conditioning

FTB-100 Series

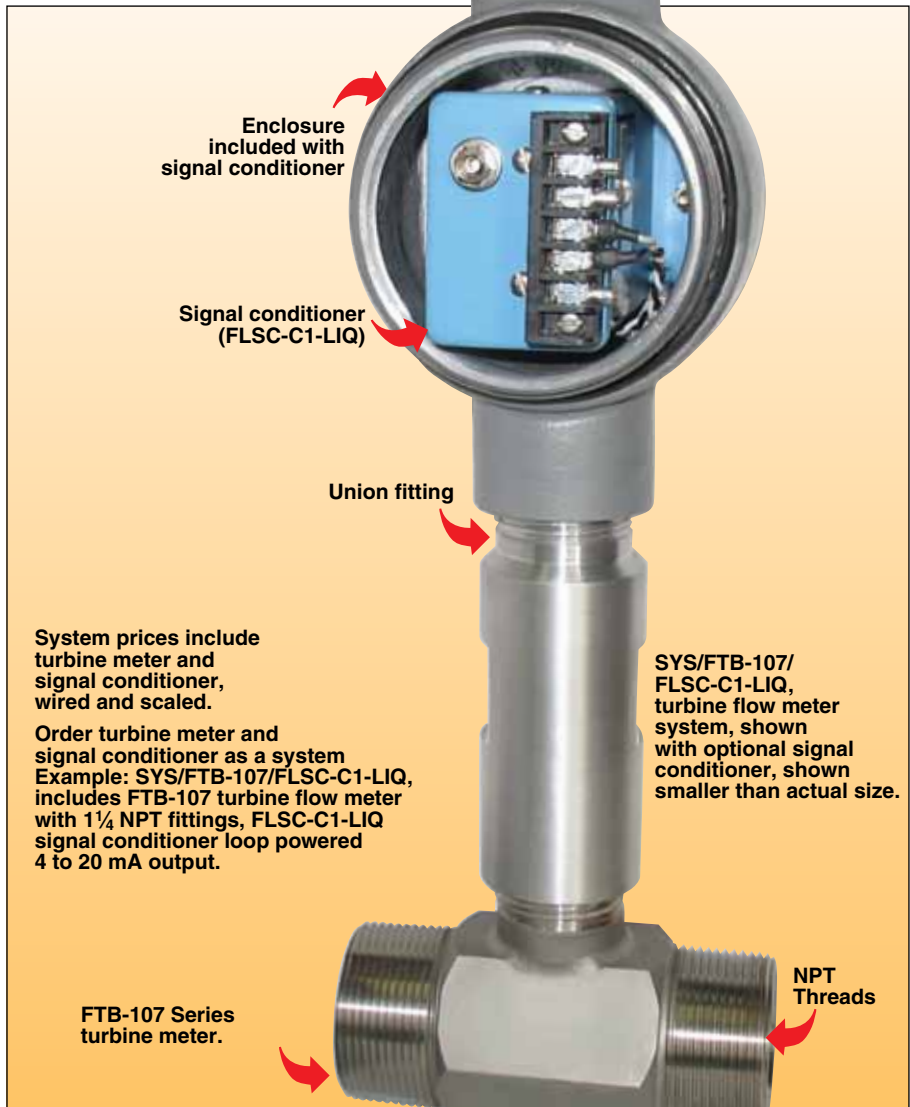


Standard

- ✓ **±0.5% of Reading Accuracy**
- ✓ **Ball Bearing Design for Economy**
- ✓ **Non-Metallic Bearing Retainers for Long Life**
- ✓ **Replacement Bearings Field Installable Without Loss of Calibration**
- ✓ **Disassembles Quickly for Easy Maintenance**
- ✓ **Deflector Cones Stabilize Low Mass Rotor for Increased Bearing Life**
- ✓ **4 to 20 mA, 0 to 5V, and Scaled Frequency Outputs Available**

The FTB-100 Series of turbine meters have a shielded ball bearing design for high-accuracy performance ($\pm 0.5\%$ of reading, not full scale) at an economical cost. The non-metallic bearing retainers minimize friction, thereby allowing these meters to be used with clean fluids that have poor lubricating properties (*i.e.*, water). Ball bearings also give the widest linear flow range, particularly in larger turbines. Bearing replacement and clean-up are fast and easy, since all internal parts are easily accessible by removing a single nut.

These turbine flow meters have a low mass rotor design which allows rapid dynamic response, so they can be used in pulsating flow applications.



Deflector cones eliminate downstream thrust on the rotor and allow hydrodynamic positioning of the rotor between the cones. This provides wider rangeability and longer bearing life than conventional turbine flow meters. Integral flow-straightening tubes minimize the effects of upstream turbulence.

FTB-100 Turbine Meters are available with integral signal conditioners which provide scaled and unscaled frequencies, 4 to 20 mA, or 0 to 5 volt outputs. Units without integral signal conditioners are supplied with mating connector for two-wire hook-up.

SPECIFICATIONS

Accuracy: $\pm 0.5\%$ of reading

Repeatability: $\pm 0.1\%$ of reading

Maximum Temperature Range:
-268 to 232°C (-450 to 450°F)

Maximum Intermittent Overrange:
150% of maximum range

Minimum Output Amplitude: 30 mV
Peak-to-Peak unscaled pulse

Materials of Construction:

Body: 304 stainless steel

Rotor: 17-4 PH steel

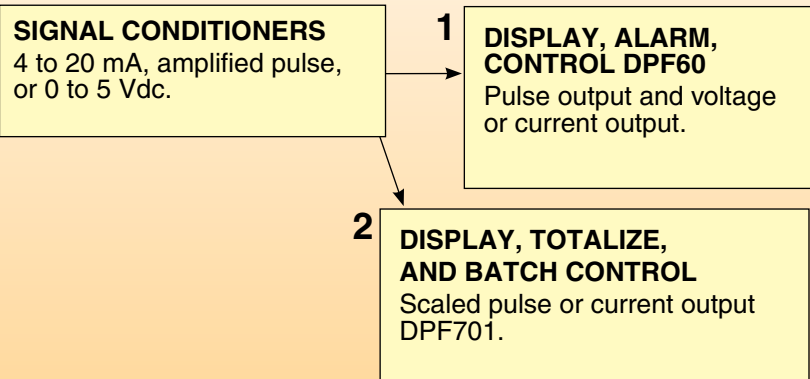
Bearings: Ceramic

Minimum straight pipe requirements:
10 pipe diameters upstream, 5 downstream

Economical Ball Bearing Design with NPT End Fittings



Complete The System



NIST Calibration for Other Viscosity Liquids*

Meter Size	Viscosity Range	
	0.6 to 99 cSt	100 to 299 cSt
FTB-101 thru 106 ½ thru 1"	Additional cost	
FTB-107 thru 109 1¼ thru 2"		
FTB-110 thru 111 2½ thru 3"		

* Standard NIST calibration is for water (viscosity = 1 cSt)

To Order

Turbine Meter Only Model No.†	Linear Flow Range for Water LPM (GPM)	MNPT End Fittings	Maximum Operating Pressure (psig)	Maximum Pressure Drop (psid)	Length mm (inch)	Nominal K-Factor (Pulses/Gallon)	Weight kg (lb)
FTB-101	1.32 to 13.2 (0.35 to 3.5)	½	5000	3.0	62 (2.45)	13,000	0.4 (1)
FTB-102	2.84 to 28.4 (0.75 to 7.5)	½	5000	5.0	62 (2.45)	10,000	0.4 (1)
FTB-103	4.73 to 36.0 (1.25 to 9.5)	½	5000	5.2	62 (2.45)	6000	0.4 (1)
FTB-104	6.62 to 61 (1.75 to 16)	¾	5000	3.0	70 (2.75)	4100	0.4 (1)
FTB-105	9.5 to 110 (2.5 to 29)	¾	4250	5.0	83 (3.25)	2200	0.4 (1)
FTB-106	15 to 227 (4 to 60)	1	3850	5.1	89 (3.50)	640	0.9 (2)
FTB-107	23 to 352 (6 to 93)	1¼	3850	4.3	99 (3.88)	410	0.9 (2)
FTB-108	30 to 492 (8 to 130)	1½	3000	3.0	111 (4.38)	230	1.4 (3)
FTB-109	57 to 852 (15 to 225)	2	2500	3.3	121 (4.75)	120	1.8 (4)
FTB-110	95 to 1514 (25 to 400)	2½	2250	4.0	154 (6.06)	62	2.3 (5)
FTB-111	151 to 2460 (40 to 650)	3	2000	4.0	191 (7.50)	55	3.2 (7)

Comes complete with operator's manual and 10-point NIST calibration certificate for water.

Ordering Examples: FTB-101, ½ NPT turbine meter with standard NIST calibration for 1 cSt viscosity.

FTB-106, 1 NPT turbine meter with NIST calibration for 5 cSt viscosity liquid.

† Complete systems with signal conditioner available, consult sales.