

PVDF TURBINE METER



FTB891



FTB891 shown larger than actual size.

- ✓ Indicates Both Rate and Total
- ✓ Field Replaceable Internal Rotor
- ✓ FM Approved
- ✓ Battery Operated (Included)
- ✓ For Use with Many Aggressive Chemicals
- ✓ GPM and LPM Display

The OMEGA® FTB890 industrial meter turbines are available with either ½ or 1 NPT fittings. Each turbine is designed to work with onboard computer electronics and/or with one of several accessory modules that can interface to a wide variety of reporting and collecting devices.

Liquid flows through the turbine housing causing an internal rotor to spin. As the rotor spins, an electrical signal is generated in the pickup coil. The electrical signal provides the output necessary to operate the on-board computer electronics for local indication. The display can be installed directly on the turbine, or one of several accessory modules that transmit the signal to external equipment.

SPECIFICATIONS

Accuracy:

Linear Range:

- ½" Size: 10:1 @ ±2% of reading;
- 1" Size: 10:1 @ ±1.5% of reading

Extended Range:

- ½" Size: 20:1 @ ±5.0% of reading;
- 1" Size: 20:1 @ ±5.0% of reading

Repeatability: ±0.3%

Pressure Rating: 100 PSIG (6.9 bar)

Wetted Components:

Housing: PVDF

Journal Bearings:

Ceramic (98% Alumina)

Shaft: Ceramic (98% Alumina)

Rotor and Supports: PVDF

O-Rings: FKM

Operating Temperature Range:

With Remote Electronics:

-10 to 60°C (14 to 140°F)

No Electronics: -28 to 82°C

(-20 to 180°F)

Battery Life: 5 years nominal

Power: Two 3V lithium batteries (included)

Viscosity: Calibrated to 1 cSt (water) meters with display can be used for fluids up to 100 cSt with field calibration

FM Approvals: Turbine meters with display and no accessories are FM approved for Class 1 Div. 1 hazardous environments

Note: Outputs and accessories are not designed for hazardous environments

Accessories for Turbine Meters With the Display:

The FLSC790-MA provides a 4 to 20 mA or 0 to 5 Vdc output for rate indication. Requires field calibration. The 4 to 20 mA dc is a two-wire system requiring 8 to 30 Vdc power (24 Vdc recommended).

The FLSC790-P pulse output Module provides an unscaled open collector sinking output operating on an applied voltage of 0 to 60 Vdc. The output is a squarewave pulse with an amplitude that is equal to the supplied voltage.

The FLSC790-P-DC external power module for the FLSC790-P allows for 9 to 30 Vdc external power for the pulse output. Internal batteries in the display can be used as an auxiliary power source.

The FTB790-RK remote kit allows remote mounting of display electronics. This option expands the applications into wider fluid temperature ranges to -40 to 121°C (-40 to 250°F). LCD display can be mounted up to 90 m (300') from the turbine meter.

The FTB790-RK-FM is an FM approved Remote Kit. It allows



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Field replaceable rotor included. Replacements available, order FTB891-RK.

the display electronics to be mounted in a hazardous area up to 30 m (100') from the turbine meter and for fluid temperatures of from -40 to 121°C (-40 to 250°F).

The FLSC790-BATT is the replacement battery for the display electronics. Batteries provide 5 years of actual use.

The FLSC790-90D is a 90° mounting adaptor designed to allow displays to be mounted 90° from the standard position.

| To Order | | | | | | | | | |
|------------------------|-----------------------------|--------------------------|----------------------------|-----------|-------------------------|----------------------|-----------|------------|---------------------------------|
| Model No. with Display | Model No. without Display** | Range GPM (LPM) | Extended Range Low Flow*** | FNPT Size | Max Pressure Drop (psi) | Dimensions cm (inch) | | | Weight kg (lb) includes display |
| | | | | | | Height | Width | Length | |
| FTB891 | FTB891-ND | 1.2 to 12 4.5 to 45.4 | 0.6 (2.27) | ½ | 10 | 8.1 (3.2) | 5.3 (2.1) | 18.5 (7.3) | 0.6 (1.3) |
| FTB893 | FTB893-ND | 5-50 (18.9-190) | 2.5 (9.5) | 1 | 6 | 8.4 (3.3) | 7.1 (2.8) | 20.6 (8.1) | 0.8 (1.9) |

** Requires signal output module model **FLSC790-P-ND**, ordered separately.

*** Extended low flow range and field calibration for viscosity not available on “-ND” (no display) units.

Field Installable Options and Accessories

| Model Number | Description |
|--------------|---|
| FLSC790-MA | 4 to 20 mA/0 to 5 Vdc output module |
| FLSC790-P | ††Pulse output module (open collector output) |
| FLSC790-P-DC | External power module for FLSC790-P (9 to 30 Vdc) |
| FTB790-RK | Remote display kit module |
| FTB790-RK-FM | FM approved remote display kit module |
| FLSC790-P-ND | ††Pulse output for models without displays (“-ND” suffix) open collector output |
| FLSC790-90D | 90° display mounting adaptor |

Except as noted, options and accessories are for display models only. Only one module can be installed per unit.

†† Customer supplied pull-up resistor required 820Ω (min).

Replacement Parts

| Model No. | Description |
|--------------|---|
| FLSC790-BATT | Two 3V replacement batteries |
| FTB891-RK | Rotor assembly replacement kit for FTB891 |
| FTB893-RK | Rotor assembly replacement kit for FTB893 |
| FTB891-ORING | FKM O-ring for FTB891 union fitting |
| FTB893-ORING | FKM O-ring for FTB893 union fitting |
| FTB899-ORING | Computer cover O-ring |

Comes complete with field replaceable rotor, two 3V lithium batteries and operator's manual.

Ordering Examples: FTB893, 1" turbine meter.

FLSC790-MA, field installable 4 to 20 mA/0 to 5 Vdc output.