



OTT MF pro

Electromagnetic Flow Meter

The OTT MF pro is a user-friendly, low maintenance electromagnetic flow meter for cost-efficient in-stream discharge measurement. The OTT MF pro saves time and resources in the field by automatically calculating discharge (based on USGS and ISO methods) and graphing velocity data in real-time, allowing trends to be visualized quickly. The rod-mounted meter with color screen captures all data, allowing measurements to be taken by one person and eliminating the need for handwritten calculations or post-measurement data correction.

A small, detachable electromagnetic sensor is ideal for use in low-flow environments by eliminating the need for minimum velocity requirements, and measurements are taken directly at the sensor head rather than from a sample volume farther away. The electromagnetic sensor has no moving parts, is virtually maintenance-free, and requires no calibration, unlike mechanical meters.

Additionally, electromagnetic sensors are preferred for use in conditions with large amounts of organic matter as their magnetic inductive measurement principle is not affected by organic matter in the sampling area like acoustic or mechanical meters. Electromagnetic sensors are a cost-effective option for budget-conscious monitoring organizations, making the OTT MF pro a practical choice for discharge measurement in a variety of environmental applications.

Quantitative Hydrology



OTT MF pro: cost-efficient discharge measurement



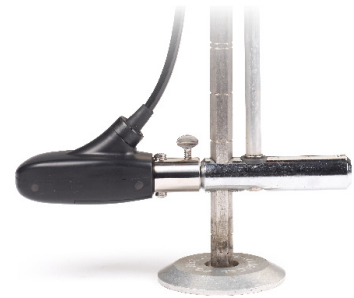
Applications

Water velocity measurement in:

- Open channels, including rivers, streams, and canals
- Low-flow conditions
- Environments heavy in organic matter

Performance Features & Benefits

- Automatically calculates total discharge based on USGS and ISO methods, saving time and eliminating potential for error caused by written transcription
- Rod-mounted meter captures all data, eliminating the need for any hand-written information
- Real-time velocity graphed on the full-color handheld allows trends to be visualized quickly
- Small sensor head and magnetic inductive measuring principle make the sensor ideal for measurement in low-flow and heavy organic matter environments, unlike mechanical and acoustic meters
- Electromagnetic sensor head has no moving parts and never requires calibration, making it virtually maintenance-free



Additional Features

- Easy-to-use, menu-driven, full-color interface display remains readable even in bright sunlight
- Data storage for up to 10 profiles (metering sites) with 32 stations (vertical profiles) per site
- Download data to a PC via a simple USB connection
- Rechargeable lithium-ion battery has approximately 18 hours of battery life
- Light-weight, rugged, and portable meter is only 1.5 pounds and IP67 water resistant



Specifications

Velocity Measurement

- Measurement Method: Electromagnetic
- Measuring Range: 0 ft/s to 20 ft/s
- Accuracy: 0 to 10 ft/s
 $\pm 2\%$ of reading ± 0.05 ft/s;
- Accuracy: 10 to 16 ft/s
 $\pm 4\%$ of reading
- Zero Stability: ± 0.05 ft/s
- Resolution: 0.01 value < 100;
0.1 value < 1000; 1.0 value ≥ 1000

Velocity Methods

- Stream Profile:
1-, 2-, 3-, 5- and 6-point-measurements
(ISO and USGS methods)

- Conduit Profile:
 $0.9 \times V_{max}$; $0.2/0.4/0.8$; 2D;

Velocity Integrator

Depth measurement (optional)

- Measurement Method: diaphragm type: absolute pressure sensor with single point calibration
- Measuring Range: 0 to 10 ft (0 to 3.05m)
- Accuracy: The larger of $\pm 2\%$ of reading or ± 0.576 in. (0.015m). Steady state temperature and static non-flowing water

Conduit Shapes

Circular, Rectangular, Trapezoidal, 2/3-Egg, Inverted 2/3 Egg

Discharge Method

- USGS and EN ISO 748
- Mid-Section Method
- Mean-Section Method

Power Supply

- Lithium-ion rechargeable
- Battery life: typically 18 hours (20 °C)

Data Storage

Up to 10 discharge sites and 32 vertical profiles per site

Operating and Storage Temperature
 -4°F to 140°F (-20°C to 60°C)

Graphical Display

- Color, LCD 3.5" QVGA
- Transflective (readable in direct sunlight)

USB Connector

- USB, Type Mini-B, 5-pin

File Format

.TSV-Data Format (Tab Separated Variable)

File Type

- Real-time
- Profiling
- Event log

Noise Rejection

50 Hz, 60 Hz (user-selectable)

Cable Length

6.5 ft, 20 ft, 40 ft, and 100 ft
(2 m, 6.1 m, 12.2 m and 30.5 m)

Material

- Sensor: ABS glass-filled
- Handheld meter: Polycarbonate with thermoplastic elastomer (TPE) overmold

General Specifications

Sensor dimensions:

- L x W x H: 4.7 in. x 1.7 in. x 2.5 in
- Weight: 1.1 lbs (with 20 ft cable)

Handheld meter:

- L x W x H: 8.6 in. x 3.7 in. x 2.1 in.
- Weight: 1.5 lbs (without sensor)

IP-Rating

- Sensor: IP68
- Handheld meter: IP67



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