# Hach FH950 Handheld Flow Meter

### Applications

- Wastewater
- Collection Systems
- Environmental

## The perfect handheld solution for wastewater and environmental flow monitoring.

Knowledge gained through years of in-the-field flow measurement experience has come together in the Hach FH950 Handheld Flow Meter. Designed for use in both environmental and sewer/wastewater flow measurement scenarios—whether you're profiling streams and rivers or providing redundant verification of wastewater flow data—even the smallest hassles have been addressed. And the result for you? Massive time savings. From the field to the office, the Hach FH950 increases your efficiency at every turn.

### Designed for Accuracy and Efficiency

The lightweight, battery-powered Hach FH950 was designed to provide accurate velocity and level measurements while simplifying the entire measurement process in rugged field environments. Multiple user-friendly features designed into the FH950 allow you to quickly and easily determine stream velocities for required discharge measurements, calibrate area velocity flow meters, or verify primary devices such as weirs and flumes.

### Easy Programming and Data Transfer

The FH950's rugged, lightweight and user-friendly design allows for easy set-up, operation and data management. With an easy-to-use, menu-driven user interface that is readable even in bright sunlight, the FH950 has the ability to store both velocity and level information right within the meter, minimizing field time by up to 50%. Once the data is collected, simply download to a PC via the USB connection, eliminating the need for labor intensive manual data transfer.

### Maintenance-Free Electromagnetic Sensor

Available with either Velocity or Velocity and Level capabilities, the FH950's electromagnetic sensor has no moving parts and never requires mechanical maintenance, making it one of the lowest maintenance solutions on the market.

### Smart Sensor Capabilities

With an innovative and compact sensor shape with intelligently-designed flow characteristics, the FH950 delivers reliable measurements at low velocities, in very shallow water, and in turbulent flow conditions. It even takes accurate readings in sediment, weed or organic debris-choked water. Plus, with an optional pressure cell for automatic level measurement and sensor positioning, the Hach FH950 is known for having as much brain as it has brawn.

*Quickly profile streams and rivers. Easily verify other metering tools or use to select optimal monitoring sites.*

HACH®

Be Right™

# Specifications*

## Sensor

VELOCITY MEASUREMENT

| | |
|---|---|
| **Method** | Electromagnetic |
| **Accuracy** | ±2% of reading ±0.05 ft/s (±0.015 m/s) through the range<br>0 to 10 ft/s (0 to 3.04 m/s); ±4% of reading from 10 to 16 ft/s. (3.04 to 4.87 m/s) |
| **Zero Stability** | ±0.05 ft/s (± 0.015 m/s) |
| **Resolution** | 0.01 value <100; 0.1 value <1000; 1.0 value ≥1000 |
| **Range** | 0 to +20 ft/s (0 to +6.09 m/s) |

LEVEL MEASUREMENT

| | |
|---|---|
| **Method** | Diaphragm type: Absolute pressure with single point calibration |
| **Accuracy (static)** | The larger of ±2% of reading or ±0.504 in (0.015 m). Steady state temperature and static non-flowing water. |
| **Range** | 0 to 10 ft (0 to 3.05 m) |
| **Resolution** | 0.01 value <100; 0.1 value <1000; 1.0 value ≥1000 |
| **Minimum Water Level** | 1.25 in (3.18 cm) |

GENERAL ATTRIBUTES

| | |
|---|---|
| **Material** | ABS, glass-filled |
| **Environmental Rating** | IP68 |
| **Dimensions of Sensor** | 4.7" L x 1.7" W x 2.5" H (11.9 cm L x 4.3 cm W x 6.3 H cm) |
| **Cable Material** | Polyurethane jacketed |
| **Cable Lengths** | 6.5, 20, 40, and 100 ft. (2, 6.1,12.2, and 30.5 m) |

## Portable Meter

GENERAL ATTRIBUTES

| | |
|---|---|
| **Material** | Polycarbonate with a thermoplastic elastomer (TPE) overmold |
| **Environmental Rating** | IP67 |
| **Dimensions of Portable Meter** | 8.6" L x 3.7" W x 2.1" H (21.8 L x 9.3 W x 5.3 H cm) |
| **Storage Temperature Range** | -4 to 140°F (-20 to 60°C) |
| **Operating Temperature Range** | -4 to 131°F (-20 to 55°C) |
| **Battery Charge Temperature Range** | 32 to 104°F (0 to 40°C) |
| **Battery Type** | Lithium-Ion, rechargeable |
| **Battery Life Gauge** | 5 segment bar graph |
| **Battery Life** | 18 hours heavy typical day use†; 68°F (20°C) |

*†Defined as 30 minutes of set up, 6 one-hour periods of continuous use with sensor active and display at maximum brightness, 30 minutes of sleep mode between use periods, data download and power off.*

| | |
|---|---|
| **Battery Charger** | AC wall outlet charger |
| **USB Connector** | Type Mini-B, 5-pin, rated to IP67 when capped |

USER INTERFACE AND PROGRAMMING

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|---|---|
| **Graphics Display** | Color, LCD; 3.5" QVGA, transflective (readable in direct sunlight) |
| **Measurement Resolution** | 0.01 value <100; 0.1 value <1000; 1.0 value ≥1000 |
| **Keypad** | Alpha-numeric |
| **Operating Modes** | Real-time, Profiling |
| **Profiling Types** | Stream, Conduit |
| **Conduit Shapes** | Circular, Rectangular, Trapezoidal, 2/3 Egg, Inverted 2/3 Egg |
| **Stream Entries** | Fixed, Non-Fixed Stations |
| **Firmware** | Sensor and portable meter firmware are field upgradeable via USB |
| **Noise Rejection** | User selectable 50Hz, 60Hz |
| **Units of Measure** | Velocity: ft/s, m/s, cm/s, mm/s<br>Flow: $ft^3$/sec, million gal/day, gal/day, gal/min, $m^3$/sec, $m^3$/min, $m^3$/hour, $m^3$/day, liters/s, liters/min<br>Level: in, ft, m, cm, mm |
| **Stream Flow Calculation** | Mean-section, Mid-section |
| **Diagnostics** | Self test, keypad, display, event log |
| **Conduit Profile Methods** | 0.9 x Vmax, 0.2/0.4/0.8, velocity and level integrator, 2D |
| **Stream Profile Methods** | 1, 2, 3, 5 and 6 point (Velocity method - USGS and ISO) |
| **File Types** | Real-time, Profiling, Event Log |
| **Profiles** | Data storage for up to 10 profiles with 32 stations per profile. |
| **Maximum Number of Real-Time Files** | Three each with up to 75 readings captured by the user. |
| **Language Support** | English, Bulgarian, Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Romanian, Russian, Slovenian, Spanish, Swedish, Turkish |

**Subject to change without notice.*

## Dimensions

In inches and [millimeters}.