HACH®
FH950 Handheld Flow Meter

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 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 FH950 increases your efficiency at every turn.

Designed for Accuracy and Efficiency

The lightweight, battery-powered 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 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's Flow Solutions by **McCROMETER**

Specifications*

Sensor

VELOCITY MEASUREMENT

Method	Electromagnetic
Accuracy	±2% of reading ±0.05 ft/s (±0.015 m/s) through the range
	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

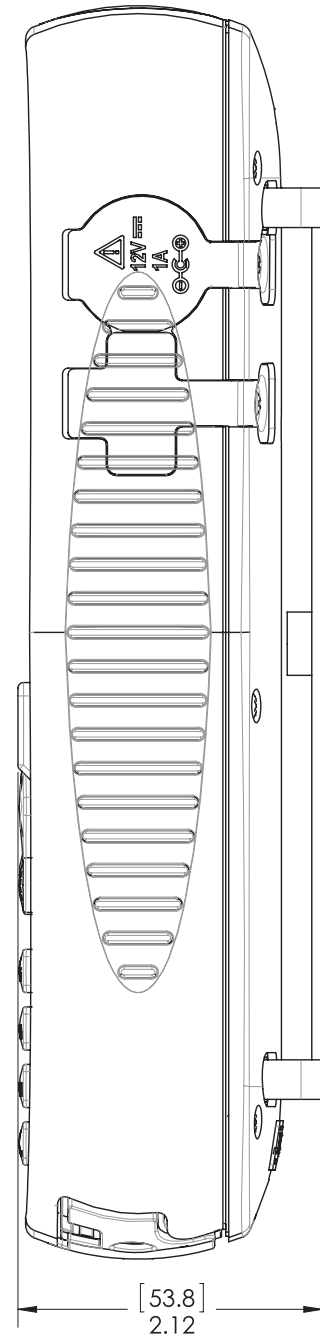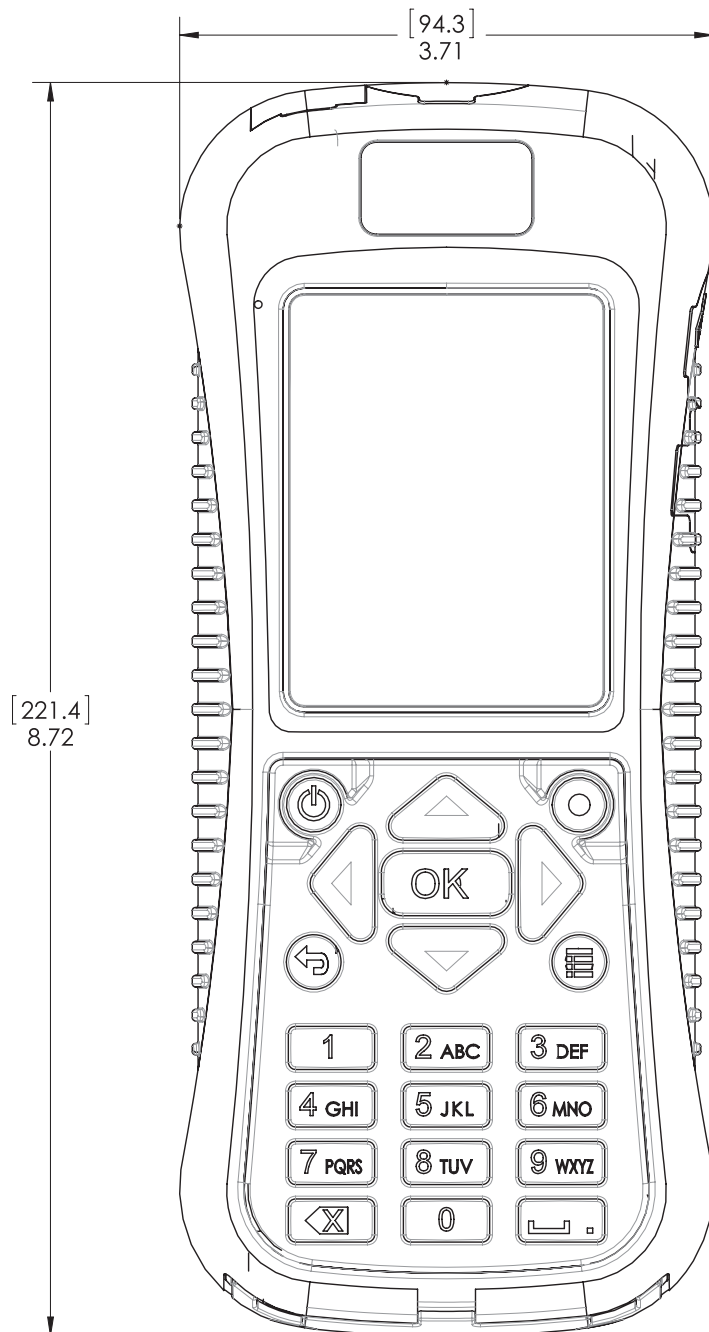|	
Graphics Display	Color, LCD; 3.5" QVGA, transflective (readable in direct sunlight)
Measurement Resolution	0.01 value <100; 0.1 value <1000; 1.0 value ≥1000
Keypad	Alpha-numeric
Operating Modes	Real-time, Profiling
Profiling Types	Stream, Conduit
Conduit Shapes	Circular, Rectangular, Trapezoidal, 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 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 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.

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Dimensions

In inches and [millimeters}.

Ordering Information

FH950 Portable Flow Meter System

System includes portable flow meter, electromagnetic sensor with specified cable length, universal sensor mount, USB cable, wading rod mount, power supply/charger, neck strap, thumb screw kit, soft case, and disposable cloth for cleaning.

FH950 Meter and Sensor System	FH950.	1	X	X	X	X
Portable Meter (Hach FH950, with User Manual)		1				
Electromagnetic Sensor (Velocity)			0			
Electromagnetic Sensor (Velocity and Level)			1			
Cable Length						
6.5 foot (2m)				0	0	5
20 foot (6.1m)				0	2	0
40 foot (12.2m)				0	4	0
100 foot (30.5m)				1	0	0

Replacement Parts & Accessories

FH950 Portable Meter

FH950.1　FH950 Handheld Flow Meter (includes battery, battery charger and meter), English

Electromagnetic Sensors

EM950.0005　Velocity Sensor w/6.5 ft (2 m) cable

EM950.0020　Velocity Sensor w/20 ft (6.1 m) cable

EM950.0040　Velocity Sensor w/40 ft (12.2 m) cable

EM950.0100　Velocity Sensor w/100 ft (30.5 m) cable

EM950.1005　Velocity and Level Sensor w/6.5 ft (2 m) cable

EM950.1020　Velocity and Level Sensor w/20 ft (6.1 m) cable

EM950.1040　Velocity and Level Sensor w/40 ft (12.2 m) cable

EM950.1100　Velocity and Level Sensor w/100 ft (30.5 m) cable

Accessories

9073400　Fabric Carrying Case

9073600　Lithium Ion Battery

8760200　Battery Charger

9070800　USB Cable, 3 ft (1 m)

75015　Universal Sensor Mount

9071700　Adjustable Meter Mount

9073500　Wipe Cloth, used for cleaning

9073200　Sensor Thumb Screw Kit

9072700　Lanyard

Contact factory for information on Standard and Top Setting Wading Rod Kits or Suspension Cable Kits.

NOTE: Additional cable cannot be added after order is entered.

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