Hach FL900 Standard (Non-Wireless)

Flow Logger





When combined with the Flo-Dar<sup>®</sup>, Flo-Tote<sup>®</sup> 3, or Submerged Area Velocity\* Sensor, the Hach FL900 Series Flow Logger takes flow monitoring to a whole new level. With features that reduce site time and increase crew safety, the flow monitoring system allows you to easily manage your flow data, as well as your budget.

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# Features and Benefits

The FL900 Flow Logger provides users with a reliable, budget saving solution for open channel portable flow monitoring applications. The robust logger's time-saving features will drastically decrease site time and increase safety for monitoring crews. The Logger LED provides instant communication verification of correct site set-up and flow meter communication prior to leaving the site.

### **Increase Monitoring Crew Safety**

With the time saving features designed into the FL900 Flow Loggers, crews spend less time in the manhole and less time on site to decrease monitoring costs while increasing the safety of flow monitoring crews.

#### **Plug and Play Sensor Ports**

The FL900 Series Flow Logger is available with 1 sensor port. The logger auto-detects the type of sensor connected to allow customers maximum flexibility for their Hach flow sensor inventories.

#### **Easy Installation/Versatile Mounting Options**

The logger can be quickly attached to a wall, pole or manhole ladder in minutes. Users can choose to hang logger from standard carabiner or optional 4-bolt wall mount for pole, horizontal or vertical wall mount or ladder rung mount.

#### **Applications**

#### Municipal

- Sanitary Sewer Evaluation Studies
- Collection Systems
- · Capacity Studies
- Combined Sewer Overflows
- Inflow and Infiltration (I&I) Studies
- Billing / Custody Transfer
- Plant Influent and Effluent

#### Industrial

- Process Waste
- Plant Influent
- Plant Effluent
- · Non-contact Cooling Water
- Stormwater Monitoring and Compliance

\*Requires AV9000 Analyzer module.

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## Specifications\*

#### Dimensions (W x D x H)

25.4 x 22 x 40 cm (10.0 x 8.7 x 16.0 in.)

#### **Enclosure**

PC/ABS structural foam

#### **Environmental Rating**

NEMA 6P (IP68)

#### Weight (Using Model FL900)

4.5 kg (10 lb)—no batteries; 6.3 kg (14 lb)—2 batteries; 8.2 kg (18 lb)—4 batteries

#### **Operating Temperature**

-18 to 60°C (0 to 140°F) at 95% RH

#### Storage Temperature

-40 to 60°C (-40 to 140°F)

#### Power Requirements

8 to 18 Vdc from batteries

# Battery Life at 15 minute logging intervals (at room temperature)

185 days with 4 lantern batteries and a Flo-Dar sensor 306 days with 4 lantern batteries and a Flo-Tote sensor 296 days with 4 lantern batteries and a Sub AV sensor with AV9000 analyzer module

(4 lantern batteries shall be included with each logger)

#### Sensor Ports

1

#### **Connectors**

Stainless steel connectors

#### **LED Status Indicator**

- Green Flashes every 3 seconds during normal operation.
   Flashes every 15 seconds during sleep mode.
- Red Flashes when an attached sensor does not agree with the logger program, when an expected sensor is not found or the sensor is not working properly.

#### **Datalog Channels**

16 maximum

#### Logging Intervals

1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 or 60 minutes Primary and secondary intervals for dynamic logging.

#### Data Storage

Event Log: 1,000 events maximum in non-volatile flash memory Sample History: 2,000 sample events maximum in non-volatile flash memory

Datalog: 325,000 data points; 1128 days for 3 channels at 15-minute log intervals

#### **Local Communication**

USB

RS232 (Baud rates: 9600, 19200, 38400, 57600, 115200)

#### Timebase Accuracy

±0.002%

#### Supported Sensors

Flo-Dar, Flo-Dar with SVS, Flo-Tote 3, Submerged Area Velocity Sensor $^{\dagger}$ , and Sigma  $950^{\dagger}$ 

#### Certifications

Logger: CE; optional AC power supply: UL/CSA/CE

#### Warranty

1 year

#### Set-up/Data Retrieval

Flo-Ware for Windows software is required for programming the logger, data management, and report generation. It is compatible with desktop/laptop computers utilizing Windows operating system. Minimum resolution needed is 1024x768.



FL900 Flow Logger meets CE requirements.

<sup>†</sup>Requires external module.

\*Specifications subject to change without notice.

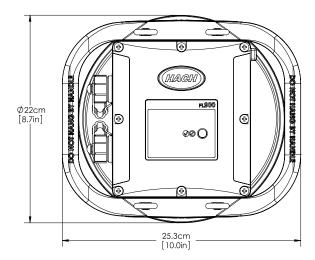
# **Engineering Specifications**

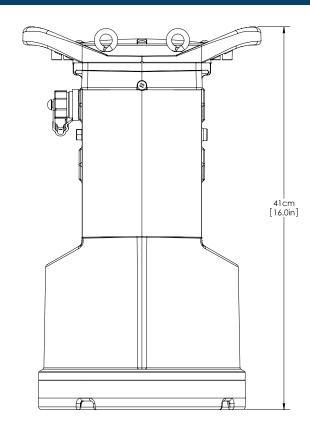
- Exterior dimensions of the Flow Logger shall be: 25.4 W x 22 D x 40 cm H (10.0 W x 8.7 D x 16.0 in. H)
- The Flow Logger enclosure material shall be PC/ABS structural foam with NEMA 6P (IP68) rating.
- The Operating temperature for the Flow Logger shall be -18 to 60°C (0 to 140°F) at 95% relative humidity and storage temperature of -40 to 60°C (-40 to 140°F).
- Power requirements of the Flow Logger shall be 8 to 18 Vdc from batteries.
- The Flow Logger shall have a battery life of 185 days, when using a Flo-Dar sensor, 306 days when using a Flo-Tote sensor, and

- 360 days when using a Sub AV with AV9000 analyzer module, utilizing 4 batteries at a 15 minute logging interval at room temperature)
- The Flow Logger shall have one sensor port and one communications port with stainless steel connector.
- 7. The Flow Logger shall have primary logging intervals of 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 or 60 minutes.
- The Flow Logger shall have secondary logging intervals available to modify the logging rate based on a defined channel alarm condition or trigger for dynamic logging.
- The Flow Logger data storage event log shall be 1,000 events maximum in non-volatile flash memory.

- Timebase Accuracy of the Flow Logger shall be 0.002%.
- The Flow Logger shall support the Flo-Dar, Flo-Dar with SVS, Flo-Tote 3, Submerged Area Velocity Sensor and Sigma 950.
- The Flow Logger shall be able to connect to a lap top or desk top PC using either USB or RS232 serial connection.
- The Flow Logger shall have an LED indicator for operating /programming status visible on the topmost horizontal surface of the logger.
- 14. The Flow Logger shall be a Hach FL900 Flow Logger.

# Dimensions





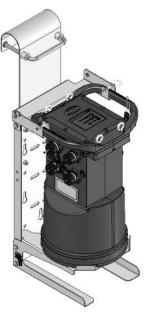
# Installation/Mounting Options



Flow Logger Suspension Cable with Carabiner (Standard)



Flow Logger Wall Mount Prod. No. 8542700 (Optional)



Flow Logger Ladder Rung Mount Prod. No. 854450 (Optional)

# **Ordering Information**

#### Flow Logger

FL900.97 FL900 Flow Logger, 1 sensor port, English

FL900AV.97 FL900 Flow Logger with AV9000 analyzer module, 1 sensor port, English

### **Analyzer Modules**

8531300 AV9000 Digital Analyzer module (required to attach a Sigma Sub AV sensor)

8549800 IM9001 Interface module (required to attach a Sigma 950 flow meter)

#### **Cables**

8528200 Cable, Communication, RS232
8528300 Cable, Communication, USB
8528400 Cable, Aux, 7pin MIL 5015 (Connect to Sigma Sampler), 9 ft.
8528401 Cable, Aux, 7pin MIL 5015 (Connect to Sigma Sampler), 25 ft.

### Software

Model T200-200 Flo-Ware Desktop PC/Laptop Software

### **Mounting Hardware**

9542 Manhole Support Bracket/Spanner; 18-28" 9557 Manhole Support Bracket/Spanner; 28-48" 5713000 Manhole Support Bracket; 18-27" 8544300 Suspension cable, 16 in. 8543800 Wall mount bracket (304 Stainless) 8545600 Wall mount bracket with ladder hanger (304 Stainless) 8542700 Wall mount bracket with AC Power Supply shelf (304 Stainless) 8544500 Wall mount bracket with AC Power Supply Shelf with ladder hanger (304 Stainless)

### **Replacement Parts**

8533400

Lit. No. 2709 Rev 2

8755500 Desiccant refill beads, Bulk 1.5 lb 11013M Battery, 6V lantern 8524400 Battery compartment cover

O-ring for battery cover

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