

# Hach FL900 Standard (Non-Wireless) Flow Logger



When combined with the Flo-Dar®, Flo-Tote® 3, AV9000 module and IM9001 module, 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.

WW

## 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, 2 or 4 sensor ports. 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.

IW

C

DW = drinking water WW = wastewater municipal PW = pure water / power  
IW = industrial water E = environmental C = collections FB = food and beverage

## 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, 2 or 4

### 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

### Alarms

Maximum of 16 channel alarms including high/high, high, low, low/low

### Alarm Actions

Change logging interval

### 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)

### Protocols

Local Modbus RTU

### Timebase Accuracy

±0.002%

### Supported Sensors / External Devices

Flo-Dar, Flo-Tote 3, Submerged Area Velocity Sensor<sup>†</sup>, and Sigma 950<sup>†</sup>, Rain Gauge, Sigma SD900 Sampler (with FL901, FL902 and FL904 only)

### Certifications

Logger: 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.

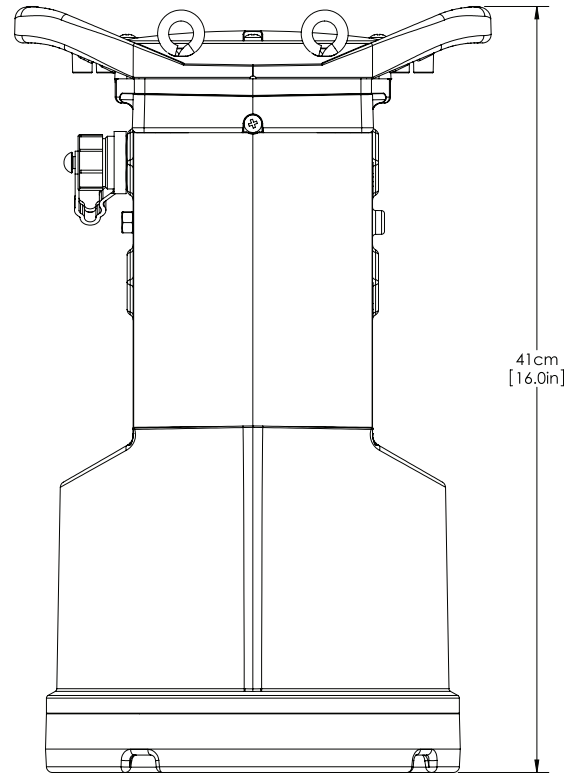
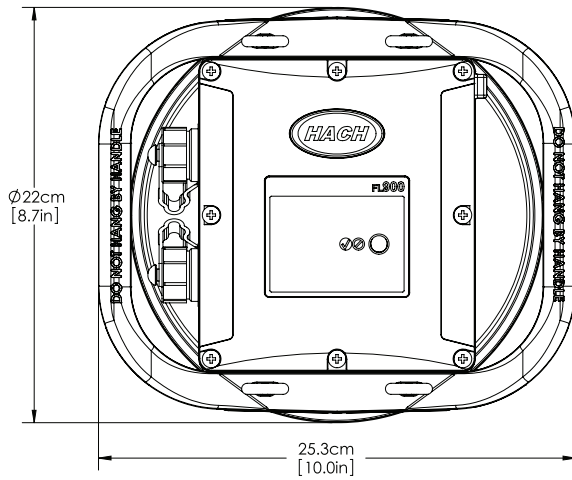
<sup>†</sup>Requires external module.

\*Specifications subject to change without notice.

## Engineering Specifications

1. 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)
2. The Flow Logger enclosure material shall be PC/ABS structural foam with NEMA 6P (IP68) rating.
3. 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).
4. Power requirements of the Flow Logger shall be 8 to 18 Vdc from batteries.
5. 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.
6. The Flow Logger shall have 1, 2 or 4 sensor ports 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.
8. 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.
9. The Flow Logger data storage event log shall be 1,000 events maximum in non-volatile flash memory.
10. Timebase Accuracy of the Flow Logger shall be 0.002%.
11. The Flow Logger shall support the Flo-Dar, Flo-Tote 3, Submerged Area Velocity Sensor and Sigma 950.
12. The Flow Logger shall be able to connect to a lap top or desk top PC using either USB or RS232 serial connection.
13. 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.

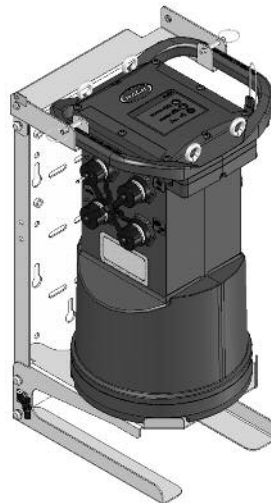
## Dimensions



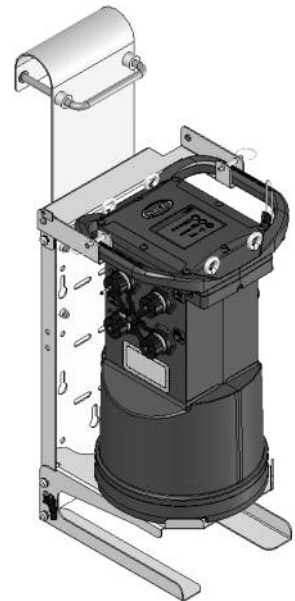
## Installation/Mounting Options



*Flow Logger  
Suspension Cable with Carabiner  
(Standard)*



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



*Flow Logger Ladder Rung Mount  
Prod. No. 8544500  
(Optional)*

## Ordering Information

### Flow Logger

<b>FL900.97</b>	FL900 Flow Logger, 1 sensor port, no aux port
<b>FL901.97.XX</b>	FL901 Flow Logger, 1 sensor port, 1 aux port
<b>FL901.97.XR</b>	FL901 Flow Logger with optional Rain Gauge*
<b>FL902.97.XX</b>	FL902 Flow Logger, 2 sensor ports, 1 aux port
<b>FL902.97.XR</b>	FL902 Flow Logger with optional Rain Gauge*
<b>FL904.97.XX</b>	FL904 Flow Logger, 4 sensor ports, 1 aux port
<b>FL904.97.XR</b>	FL904 Flow Logger with optional Rain Gauge*

\*Order Rain Gauge, Hach Prod. No. 8542800 separately.

### Analyzer Modules

<b>FL900AV.97</b>	FL900 Flow Logger with AV9000 analyzer module
<b>8531300</b>	AV9000 Digital Analyzer module (required to attach a Sigma Sub AV sensor)
<b>8549800</b>	IM9001 Interface module (required to attach a Sigma 950 flow meter)

### Cables

<b>8528200</b>	Cable, Communication, RS232
<b>8528300</b>	Cable, Communication, USB

### Software

<b>Model T200-900</b>	Flo-Ware Desktop PC/Laptop Software
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### Mounting Hardware

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

### Replacement Parts

<b>8755500</b>	Desiccant refill beads, Bulk 1.5 lb
<b>11013M</b>	Battery, 6V lantern
<b>8524400</b>	Battery compartment cover
<b>8533400</b>	O-ring for battery cover

For Models with wireless communication option, see Lit. No. 2711

*At Hach, it's about learning from our customers and providing the right answers. It's more than ensuring the quality of water—it's about ensuring the quality of life. When it comes to the things that touch our lives...*

*Keep it pure.*

*Make it simple.*

*Be right.*