

# HACH REDUNDANT-LEVEL FLOW MONITORING SYSTEM

## Applications

- Wastewater
- Collection Systems
- Industrial Water



## Ensure reliable and accurate level data with Hach's FL900 redundant-level system.

With Hach's FL900 Series plug-and-play flow meters, you can pair a Hach submerged area/velocity sensor with an US9003 In-Pipe ultrasonic level sensor for integrated redundant-level flow monitoring.

### Redundant-Level Monitoring System

Often more than one level measurement is desired due to the application or site conditions. The Hach redundant-level system provides this capability and includes an FL902 flow logger, an AV9000 with a Hach submerged area velocity sensor, and an US9003 in-pipe ultrasonic level sensor. In this configuration, the pressure transducer in the submerged area velocity sensor and the in-pipe ultrasonic sensor measure level and either or both can be used to calculate flow. Redundancy is often desired to insure accurate level measurement in critical situations such as overflow monitoring or billing.

### Plug-and-Play Sensors with FL900 Series Flow Loggers

Get started with the FL902 and create a flexible flow meter network using FL900 series loggers and plug-and-play flow sensors. Three velocity sensor technologies and two level sensor technologies are available along with both non-contact and submerged options. The FL902 used for the redundant-level system has two sensor ports and can be deployed for future projects with different sensor combinations to match the application.

### Easy Installation Decreases Site Time and Increases Crew Efficiency

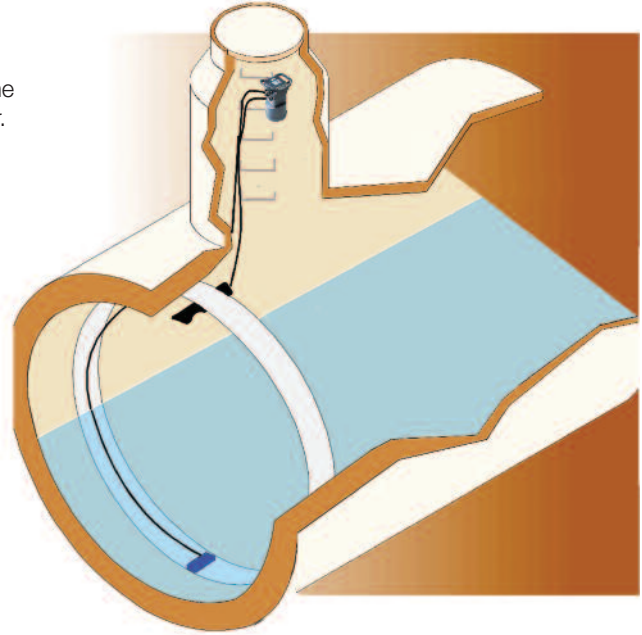
For typical redundant-level monitoring applications, the submerged AV sensor and in-pipe ultrasonic sensor are installed on a single mounting band with the submerged AV sensor at the base of the pipe and the ultrasonic sensor at the crown of the pipe. For confidence in the installation, both sensors provide real time measurements and the in-pipe ultrasonic sensor includes a status LED that indicates proper installation and operation. With the time-saving features designed into the system, crews spend less time on site, increasing the efficiency of flow monitoring crews.

### Wireless Loggers Provide 24/7 Data

Wireless capabilities can be added to the redundant level system to provide real-time data viewing, alarms, and remote programming. Wireless loggers work in concert with Hach's fSDATA® web-based software and deliver secure 24/7 access to your data and wireless meter from the comfort of the internet. With fSDATA, site visits to collect flow data or to adjust meter settings are eliminated, decreasing maintenance costs.

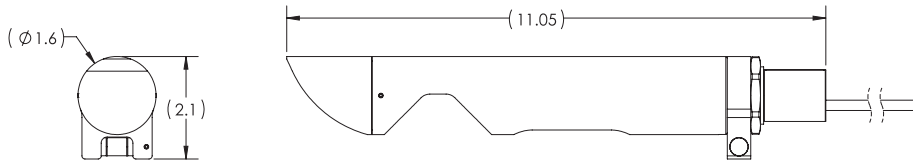
## Typical Installation

The Hach redundant-level flow monitoring system components include the area velocity sensor, in-pipe ultrasonic sensor and the FL902 Flow Logger.

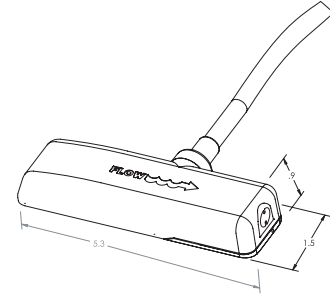


## Dimensions

*In-Pipe Level Sensor*



*Submerged Area Velocity Sensor*



## Ordering Information

<b>FL902AVUS.97</b>	FL902 Logger w/US9003 AV9000 and Sub AV 30 ft (9.14 m) cable
<b>4021</b>	6 in (15.24 cm) spring ring for US9003 (in-pipe) sensor
<b>4022</b>	8 in (20.32 cm) spring ring for US9003 (in-pipe) sensor
<b>4023</b>	10 in (25.4 cm) spring ring for US9003 (in-pipe) sensor
<b>4024</b>	12 in (30.48 cm) spring ring for US9003 (in-pipe) sensor
<b>3766</b>	Scissor band for 15-42 in (38.1-106.68 cm) pipe
<b>3868</b>	Mounting clip for US9003 (in-pipe) sensor
<b>3875</b>	Mounting bracket, permanent, for US9003 (in-pipe) sensor
<b>4939</b>	Mounting plate for AV sensor

**For detailed information, see DOC053.53.35081 for FL900 Series Flow Logger, DOC053.53.35081 for Submerged Area Velocity Flow Meter (AV9000), and LIT2804 for In-Pipe Ultrasonic Sensor.**

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