

## FLOWSHARK®

The FlowShark® from ADS® is an open channel flow monitor for use in sanitary, combined, and storm sewers. It is designed for ultimate performance and versatility, including single pipe or dual pipe flow measurement, small and large pipe application and industry-leading data collection, analysis, alarming, and collection system management.

### FlowShark Features

- Two complete sensor arrays for a total of six sensors, measuring flow in two pipes - ideal for CSO monitoring.
- Integrated wireless or telephone communication for field versatility.
- Two 4-20 mA inputs for logging and reporting data from industry standard water quality primary sensing instruments.
- Two 4-20 mA outputs for SCADA integration providing variables such as flow rate, depth, and velocity.
- Industry leading 18 month battery life at 15 minute intervals when connected to a telephone modem. With a GSM/GPRS wireless connection at the standard 15 minute sample rate the battery life is 9 months.
- Monitor-Level Intelligence (MLI®) improves accuracy and allows the FlowShark to operate in a wide range of hydraulic conditions.
- Superior noise reduction design for maximizing acoustic signal detection from depth and velocity sensors.
- Seven communication and reporting modes for accessing flow information including Profile® collection and reporting software; IntelliServe® web-based alarming, Sliicer.com® for I/I analysis, and FlowView Portal® for online access to flow data.
- Intrinsically-Safe (IS) Certification to Class 1, Div. 1 (C & D) and ATEX Zone 0.
- Armored marine-grade aluminum canister ensuring maximum protection and reliability in harsh sewer environments.
- Supports MODBUS ASCII communications protocol over a serial connection.
- Compatible with Telog's Telogers™ Communications Module.



### About ADS

A leading technology and service provider, ADS Environmental Services® has established the industry standard for open channel flow monitoring and has the only ETV-verified flow monitoring technology for wastewater collection systems. These battery-powered monitors are specially designed to operate with reliability, durability, and accuracy in sewer environments.

### Applications

The FlowShark is designed for a multitude of project applications, including:

- Billing
- Trending
- Capacity Analysis
- CSOs
- SCADA networks
- Annexation and planning studies
- SSO monitoring
- CMOM/Operations and Maintenance programs
- Storm sewer/water quality characterization
- I/I studies
- Monitoring of selected pumping/treatment process variables
- Driving process instruments with flow information



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## Available Sensors

The following ADS sensors work interchangeably with the FlowShark and all ADS flow monitors. Together they provide a complete flow monitoring system with the highest accuracy and reliability. Detailed specifications for each sensor are also available from ADS.

### Quad-redundant Ultrasonic Level Sensor

This non-intrusive, zero-drift sensing method results in a stable, accurate and reliable flow depth calculation. Four independent ultrasonic transceivers allow for independent crosscheck, which provides built-in confidence and reliability. Advanced software filtering helps compensate for adverse monitoring conditions such as waves, foam, debris, etc.

**Function:** Measures elapsed time for an ultrasonic signal to travel to the flow surface and back and records the distance to the flow surface. The sensor is composed of 4 independent piezoelectric crystals. Resident software evaluates sensor readings and discards aberrant data.

**Range:** Up to 12.5 ft (3.8 m) in typical installations.

### Pressure Depth Sensor

This sensor is used to measure surcharge levels, or to provide a redundant depth reading when used in conjunction with the ultrasonic level sensor.

**Function:** Measures depth of flow by recording the difference in atmospheric and water pressure.

**Range:** 0.0 - 5.0 psi: up to 11.5 ft (3.5 m)

0.0 - 15.0 psi: up to 34.5 ft (10.5 m)

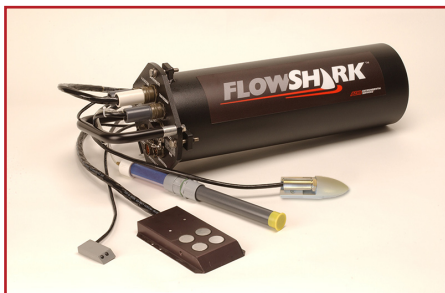
0.0 - 30.5 psi: up to 69.0 ft (21.0 m)

### Peak Velocity Sensor

Readings from this sensor are used to calculate average flow velocity. Its miniature size and streamlined design minimize fouling and prevent flow disruption.

**Function:** An ultrasonic signal is transmitted out into the flow. The reflected signal is digitally analyzed for Doppler shift to measure the peak flow velocity.

**Range:** -20.0 to +20.0 feet/second (-6.1 to +6.1 meters/second)



## Monitor Interfaces

### Water Quality Sampler Interface

- Flow proportional or time-based

### Rain Fall Measurement

- Tipping bucket

### Analog Input

- PH, salinity, conductivity, other flow device

### Analog Output

- Flow, ultrasonic level, pressure level, velocity

## Product Specifications

### Housing

0.13 in. (0.30 cm) thick seamless marine-grade aluminum with stainless steel hardware

### Dimensions

Cylinder is 20.0 in. long x 6.38 in. diameter (50.80 cm x 16.21 cm)

### Weight

35 lbs.

### Connectors

U.S. Military spec. MIL-C 26482 series 1, for environmental sealing, with gold plated contacts

### Electronics

Ultra-low power Digital Signal Processor architecture

### Power

Battery pack can power unit for 18 months at the 15 minute sample rate when flow monitor is equipped with a land line telephone modem. With a GSM/GPRS wireless connection at the standard 15 minute sample rate the battery life is 9 months. Can also be powered with an external DC power source (10 - 12 vdc).

### Measurement Intervals

A crystal oscillator timer activates depth intervals and velocity measurements at preset intervals such as 1, 2, 5, 10, and 15 minutes. Time is synchronized to a central station computer.

### Available Memory

1 Megabyte nonvolatile data storage and 512 kilobytes static RAM, furnishing up to 12 months of data storage capacity with full sensor configuration at 15 minute sample rate

### Intrinsic Safety Certification

U.S.: Class 1, Division 1, Groups C & D  
International: ATEX Zone 0

### Operating Temperature

32 degrees to 140 degrees F  
(0 degrees to 60 degrees C)

### Warranty

One-Year Limited Warranty

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