



HVFlo™ Series 2 Portable Waterproof Logger Flow Meter

Features & Benefits

- Operates under a wide range of hydraulic conditions
- Lightweight for easy handling
- Rechargeable battery offers long-life
- Intrinsically safe and Non-Intrinsically safe models available
- IP68 to ± 10 ft

HVFlo Description

HVFlo is a high performance battery operated open channel flow monitoring solution for wastewater, storm water and industrial discharge applications. This device features field proven Doppler velocity and level measurement sensors. Advanced spectrum signal processing allows HVFlo to produce superior results under a very wide range of hydraulic operating conditions. Even under full pipe, surcharge, or reverse flow conditions, HVFlo will produce accurate, repeatable results every time. HVFlo offers optional telemetry interface for long-term monitoring applications. Typical applications include:

- Industrial Discharge Monitoring
- Combined Sewer Overflow Studies
- Quantifying Rehabilitation Effectiveness
- Long & Short Term Sewer Flow Monitoring
- Sewer System Capacity Analysis
- Storm Water Monitoring
- Inflows & Infiltration Studies
- Pump Station Monitoring
- Billing Networks
- Compliance Metering

Application Photo



Specifications

General	
Weight	13.2 lbs
Dimensions	6.7" (OD) x 18.125" (H)
Sensor	5" (L) x 2" (W) x 0.62" (H) Combined Depth/Velocity Sensor
Enclosure Rating	IP68 to 9.8 ft
Enclosure Material	Medium density polyethylene (MDPE)
Operating Temperature	F: 23° to 122° C: -5° to 50°
Storage Memory	Battery backed NVRAM
Power Source	Rechargeable Battery Field replaceable, intrinsically safe, 6 VDC 10Ah sealed lead acid battery pack
Battery Discharge Cycle	Using combined depth & velocity sensor 150 days typical at 15 minute logging
Data Storage	Over 120 days data logging (or 14,000 readings) -3 parameters @ 15 minute intervals
Logging Interval	User configurable - 15 seconds to 6 hours
Units Of Measure	User definable (US/metric)
Classification	Intrinsically/non-intrinsically safe
Approvals	SSA: Ex ia II T6 IP68, Class 1, Zone 0
Application Software	PC software for system configuration and velocity profile testing is included in the package
Factory Backup	HVFlo is backed by a 12 month parts and labor guarantee
Depth Measurement	
Method	Ceramic pressure transducer with large flat sensing diaphragm which allows straight, undeflected flow over the sensing area to reduce drawdown effects at high stream velocities and provides for self cleaning with an impervious Alumina ceramic surface. Optional upward looking ultrasonic sensor can be provided.

Specifications continued on page 2



Specifications

Full Scale Range	± 7 ft to ± 13 ft above the transducer face
Accuracy	0.2% full scale at constant temperature in a static stream 1% full scale over a stream 41° to 130°F
Resolution	0.04 in/sec
Over-Range	200 ft without damage
Velocity Measurement	
Method	Submerged Ultrasonic Doppler
Range	±0.08 ft/sec to ±13 ft/sec (±26 ft/sec optional)
Accuracy	±1% up to 10ft/sec ±1.5% at velocities greater than 10 ft/sec
Resolution	0.04 in/sec

Ports	
PC Communication Port	A cable from the communications barrier plugs into this port of the HVFlo. The communications barrier is sold as a separate item and forms the interface between the HVFlo (in the 'hazardous' area) and the PC (in the 'safe' area)
Primary Sensor Port	The combined depth & velocity sensor plugs into this port
Secondary Sensor Port	This port can be used to input a frequency between zero and 16383 Hz (eg. from a Flo-Corp surcharge sensor or third party depth sensor) Note: Adding a third party sensor will void the 'Intrinsic Safety' status.
Auxiliary Interface Port	This port can be used to do the following: <ol style="list-style-type: none"> 1. Output a 4-20mA signal or a pulse every time the total flow exceeds a user-configurable limit. (Note: A Flo-Corp 'Barrier' must be purchased as a separate item to form the interface between the HVFlo (in the 'hazardous area') and the sampler (in the 'safe' area). 2. Serve as a second serial port.



Sensor Options

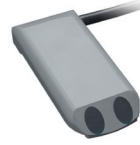
Contacting Sensors

Strap Mount Velocity / Depth Sensor

This type of sensor is used in open channels or pipes that run partially full. This sensor is used to measure depth (using a capacitive pressure diaphragm) and velocity. Access to the monitoring point is required for installation and maintenance. The sensor is first mounted on a polypropylene mounting plate and then installed within the pipe or channel.



Strap Mount (Velocity Only) Sensor



This sensor is used to measure velocity in full pipes when access to the pipe is available and the pipe can be emptied when installation or maintenance is required. It can also be used in situations where the user is measuring depth by a third party or ultrasonic sensor.

The sensor is first mounted on a polypropylene mounting strap and then installed within the pipe.

METAL TYPE: PVC
PIPE SIZES: 6" TO 79"
DIMENSIONS: 5" (L) x 2" (W) x 0.62" (H)

Strap Mount Depth Sensor

This type of sensor is a depth only strap mount sensor that is typically used to measure the depth of a surcharge event in a sewer system manhole or depth over a weir or flume.



MATERIAL TYPE: P.V.C
DIMENSIONS: 5" (L) x 2" (W) x 0.62" (H)
PIPE SIZES: 6" to 79"
DEPTH RANGE: 158", 394"

Non-Contacting Sensors

ULTRASONIC LEVEL TRANSMITTERS

EchoPod™

This ultrasonic sensor provides non-contact level detection up to 49.2" (1.25m). The sensor is well suited for a wide range of corrosive, sticky or dirty type media. EchoPod is broadly selected for small atmospheric day tank, skid or process vessel, lift station, IBC, drum and sump applications.

ENCLOSURE RATING: Type 6P
CONTACT TYPE: Depends on EchoPod Model
(Refer to DSDL10, DSDL14, DSDL24 specifications)
RANGE: 2" to 98.4" (2.5m)
PROCESS MOUNT: 1" NPT (1" G)



DL10 Shown



DL14 Shown



DL24 Shown

EchoSonic II™

This ultrasonic sensor provides non-contact level measurement up to 32.8' (10m), and is well suited for challenging ultrapure, corrosive, slurry or waste liquids. The transmitter is broadly selected for atmospheric bulk storage, day tank, waste sump, process vessel, IBC tote, 55-gallon drum and waste sump applications. Media examples include acetic acid and resin.



ENCLOSURE RATING: Type 6P
CONTACT TYPE: 4-cond, shielded
RANGE: 4" to 32.8' (10cm to 10m)
PROCESS MOUNT: 1" / 2" NPT (1" 2" G)

Ordering Information

For questions or to place an order, call Flow Line Options at **330.468.0180**

Specifications are subject to change without notice.



Flow Line Options