

Portable Level-Velocity Logger



Area-Velocity Flow Measurement in Open Channels and Pipes



Tel: +44 (0)191 490 1547
Fax: +44 (0)191 477 5371
Email: northernsales@thorneandderrick.co.uk
Website: www.heattracing.co.uk
www.thorneandderrick.co.uk

Level-Velocity Logger

Stingray

Logs Level and Velocity
for Flow Studies

Includes powerful
Windows software for
Flow analysis and reporting



Measures Level, Velocity + Temperature in Open Pipes and Channels

Portable, Battery-powered

This compact new meter operates on standard alkaline batteries for extended time periods to log level, velocity and water temperature in open channels, partially full sewer pipes and surcharged pipes *without* a flume or weir. It is designed for municipal stormwater, combined effluent, raw sewage, irrigation water and stream flow.

Streamlined Ultrasonic Sensor

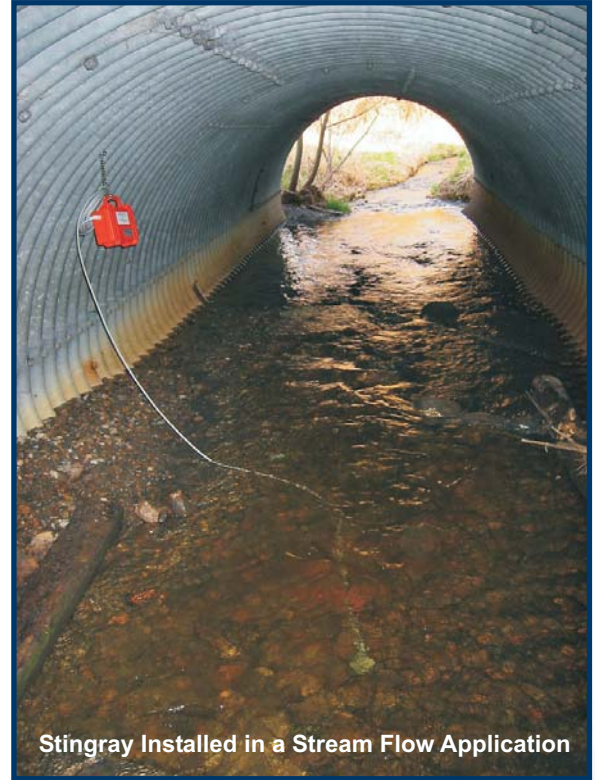
Stingray uses a submerged ultrasonic sensor to continuously measure both Velocity and Level in the channel. The sensor has no moving parts and is resistant to fouling and corrosion.

RELIABLE MEASUREMENT AND CONTROL



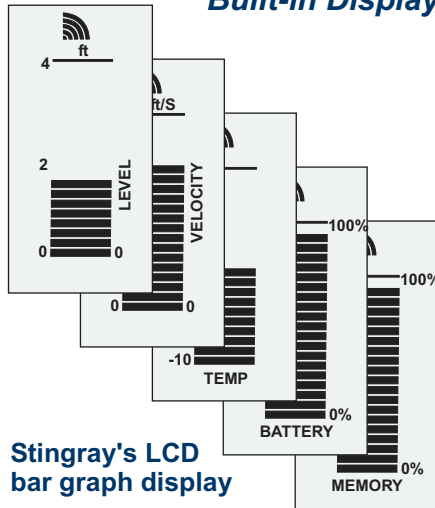
Portable Area-Velocity Meter

Stingray measures Level and Velocity in open channels or pipes. No calibration is required. The sensor is a completely sealed ultrasonic unit with no orifices or ports. It mounts inside the pipe or at the bottom of a channel. The watertight electronics enclosure is hung in the manhole or at a convenient location. Sensor mounting bracket, batteries, software and cables are included with each Stingray.



Stingray Installed in a Stream Flow Application

Built-in Display for Operator Confidence



Stingray's LCD bar graph display

Check Stingray status and performance without connecting to your laptop. Press the display button and the Stingray scrolls through bar graph displays of level, velocity and temperature readings, plus remaining battery and logger storage capacity.

Operators can use the LCD display to check performance at start-up and confirm Stingray readings and signal strength at any time during operation. The display powers off automatically after 60 seconds to conserve battery power.

Greyline Logger Software

Powerful Windows software is included free with each Stingray. Use it to set the logger interval, to download log files and view Level, Velocity and water temperature readings in real-time.

Greyline Logger will display log files and flow rates in graph and table formats. It will generate flow reports including minimum, maximum and average flow, calculate flow totals, and convert between common measurement units.

Reporting is easy with Greyline Logger - you can export charts as image files and export data to use in spreadsheet or database programs.



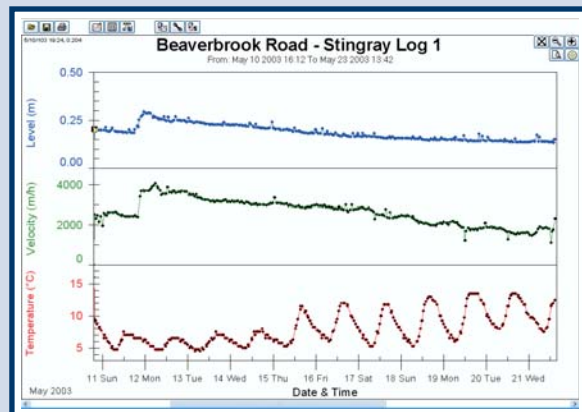
Retrieve a Log file from Stingray

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Click 'Generate Flow Log'

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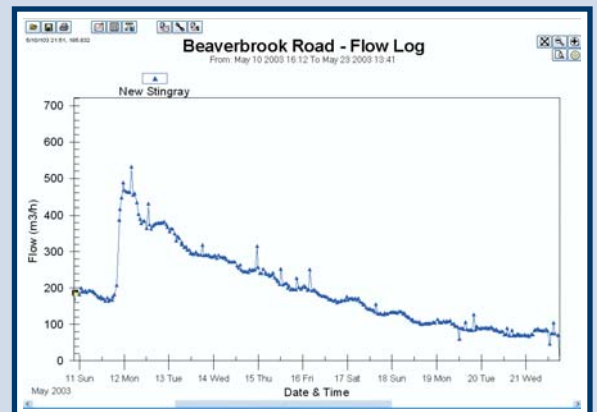
Greyline Logger calculates Flow



Channel Type: OK

Channel ID (ft): Cancel

Calculate flow with Greyline Logger software



Stingray Specifications

General Specifications *Greyline Stingray Level-Velocity Logger*

Electronics Enclosure:	Watertight, airtight, dust proof (IP 67) polycarbonate
Accuracy:	Level: $\pm 0.25\%$ of Range. Velocity: $\pm 2\%$ of Reading
Display:	LCD displays: Level, Velocity, Water Temperature, Battery and Memory capacity
Operating Temp. (electronics):	-4° to 140°F (-20° to 60°C)
Instrument Set-up:	via Greyline Logger software for Windows: Logging Time Interval, Site Name
Logger Interval:	10 sec (15 days), 30 sec (45 days), 1 min (3 months), 2 min (6 months), 5 min (1 year), 10 min (2 years), 20 min (4 years)
Data Logger Capacity:	130,000 data points
Power:	4 Alkaline 'D' cells
Output/Communications:	RS232, 28,800 Baud
RS232 Cable:	20 ft (6 m) shielded with DB9 M/F connectors
Software:	Greyline Logger for Windows. Supports real-time monitoring, log file download and export, graph and data table presentation, level/velocity to flow conversion
Approximate Shipping Weight:	10 lbs. (4.5 kg)

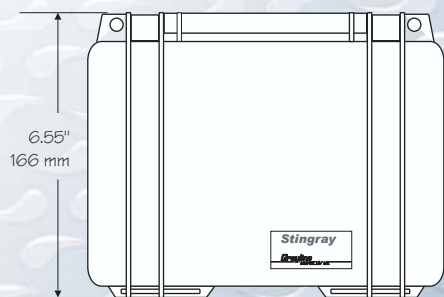
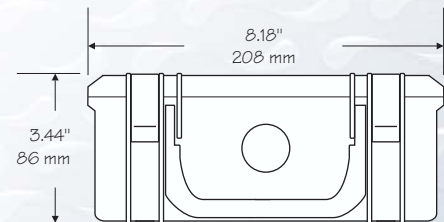
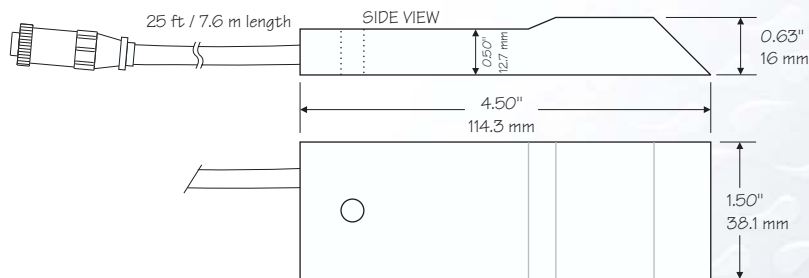
QZ02 Sensor

Velocity Measurement Range:	0.1 to 10 ft/sec (0.03 to 3.05 m/sec)
Level Measurement Range:	Minimum Head: 1 in (25.4 mm). Maximum Head: 15 ft. (4.5 m)
Operating Temperature:	5 to 150°F (-15 to 65°C)
Exposed Materials:	PVC, polyurethane, epoxy
Sensor Cable:	25 ft. (7.6 m) submersible polyurethane jacket, shielded, 3-coaxial
Sensor Mounting:	includes MB-QZ stainless steel mounting bracket
Temperature Compensation:	Automatic, continuous

Options

Sensor Cable Extension:	shielded 50 ft. (15 m) submersible, polyurethane jacket with watertight connectors
Sensor Mounting Bands:	Stainless steel sensor mounting bands for pipes from 6" to 72" (150 to 1800 mm)

Dimensions



QZ02-UT-01-PS VELOCITY/LEVEL SENSOR

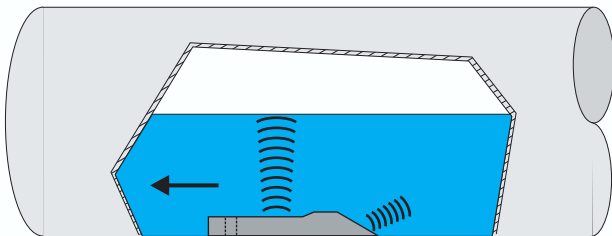
ELECTRONICS ENCLOSURE

New Portable Level-Velocity Logger

for Flow Surveys in Sewers, Streams and Open Channels

Use Stingray for:

- **Flow Surveys**
- **Inflow & Infiltration Studies**
- **CSO Monitoring**
- **Stormwater Runoff**
- **Irrigation Water**
- **Permit Compliance**
- **Wastewater Treatment Plant Flow Studies**



T&D