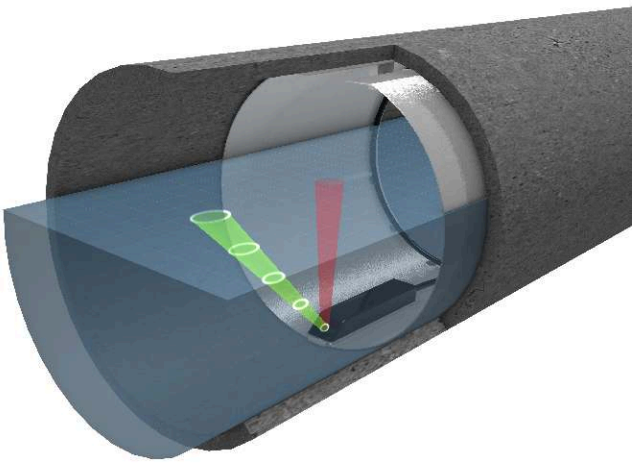
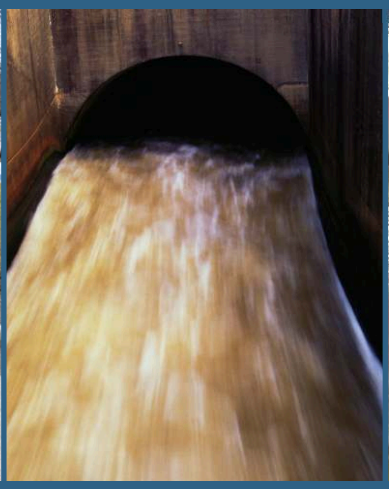
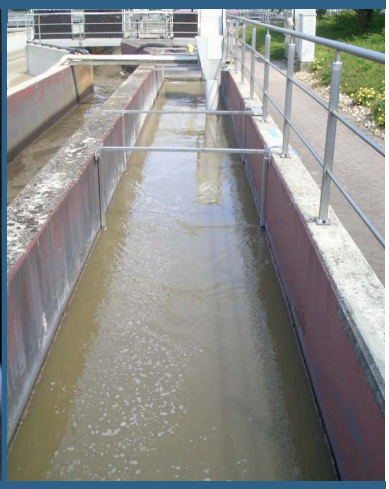
WE **KNOW** FLOW



ISO 9001
CERTIFIED

HydroVision applies a quality management system according to DIN EN ISO 9001:2000





SYSTEM **Q-Eye M II**

Pulse Spectral Correlation Technology

Complete Q-Eye Capabilities

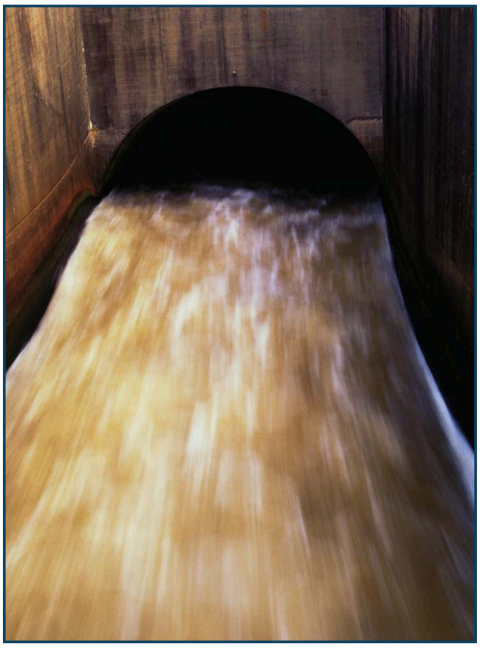
Flow Depth and Velocity Measurement
Sampler Triggering by Flow
Computer Data Analysis and Reporting
Modem Telemetry

HydroVision
Acoustic Flow Meter

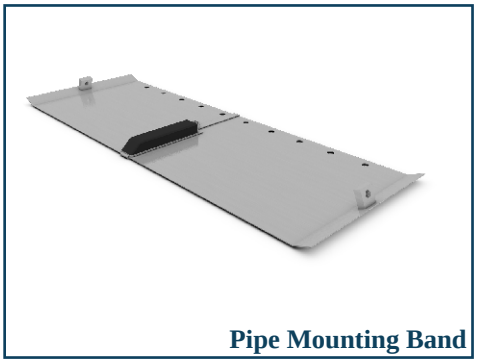
Acoustic Pulse Spectral Correlation

Q-Eye Applications

- Sewer system evaluation surveys
- Infiltartion and inflow studies
- Master plan studies
- Industrial surveillance programs
- CSO and stormwater monitoring
- User discharge billing
- System capacity planning and control
- Industrial discharge and process control



Front View



Pipe Mounting Band

Q-Eye Features

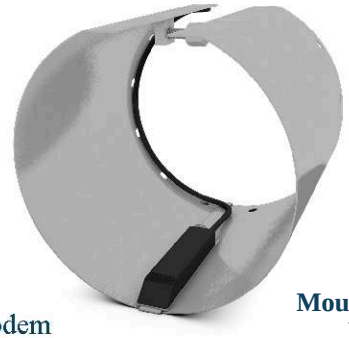
- State-of-the-art Pulse Doppler sensor
- Reads mean velocity directly from the flow profile using up to 10 scan cells.
- High accuracy water depth sensors, pressure and ultrasonic
- 2 MB solid-state memory, slate or wrap-around
- LCD Display, 8 characters
- All electronics sealed in waterproof compartment
- Battery power with standard
- Flexible pipe sizes from 200 mm (8 in), easy installation
- Optional flow proportional sampler triggering
- Optional ATEX -Approvals

Q-Eye Rugged Reliable Performance

Q-Eye the complete, state of the art system to portable flow monitoring. The system has been designed for reliable operation in harsh filed conditions present in sanitary sewers. Field serviceable, solide-state electronics are isolated in a separate, waterproof compartment inside Q-Eye´s POM-housing (Polyoxyinethylen). Q-Eye uses standard alkaline batteries which are easily replaced without exposing the electronics. A solid-state, direct immersion pressure transducer senses flow depth over the full range pipe capacity, from surcharged conditions to completely dry. A redundant submerged ultrasonic level sensor is combined in the velocity sensor.

Accessories:

- Portable and office computer systems
- Pipe mounting bands
- Alkaline or rechargeable batteries
- Optional telephone modem



Pipe Mounting Band

Q Vision Software

Features

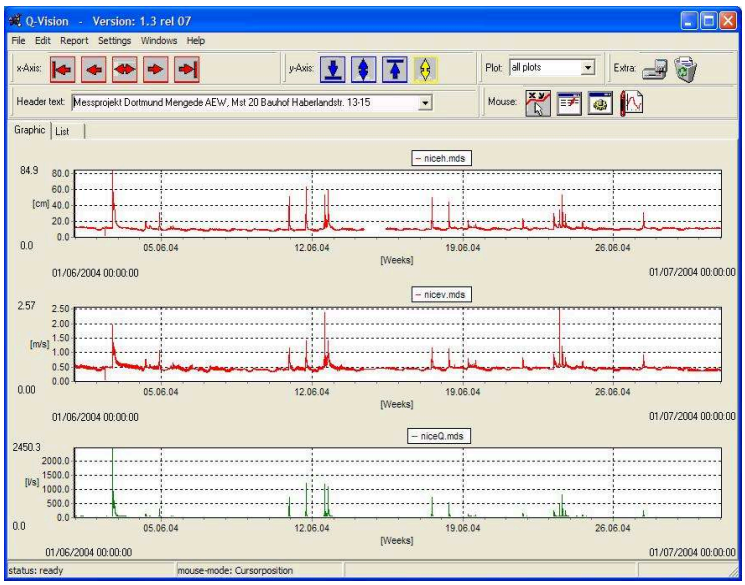
Q-Vision is a software system that integrates setting up and automated collection, reporting, viewing and analysis of data from sanitary sewers, combined sewer overflows, storm sewers, rainfall gauges, water quality samplers, and pump stations.

Q-Vision is an easy-to-use program designed to operate under a variety of hardware and software configurations. The software package operates as a complete data acquisition and analysis system in the stand alone mode, or as a work station in a network environment. The software operates on an IBM-PC or compatible and also on a hand-held Personal Digital Assistant (PDA).

- Set-up module for configuration, operation and data collection from individual sites and system monitors.
- Analysis module for graphical and numerical representation and evaluation/analysis.
- Representation of up to 3 individual plots with additional graphical super-positioning.
- Representation in different dimensions and time series with distinctive y-axis.
- Span set-up and scatter plot analysis for data QA/QC and editing possibilities.
- Zoom and cursor positioning functions.
- Multiple equation flow calculations with different channel shape and sizes.
- Complete statistical calculations (min., max. ,average and total flows std. dev.), including mass balancing (inflows, outflows, etc.)
- Export of data as ASCII and csv-files for other 3rd Party software (e.g. hydraulic models, etc).
- Import of rainfall data from any rain logger.

Reporting

Flow and sensor data can be reported in graphic and tabular form, either on-screen or hard copy, with a wide selection of printer capabilities. Reports can be prepared as standard tabular and graphic reports and outputs include daily, weekly, monthly or yearly reports and statistical functions for min., max., mean and totals including standard deviations and regression analysis. Data can also be output in ASCII and cvs format.



Flow Calculations

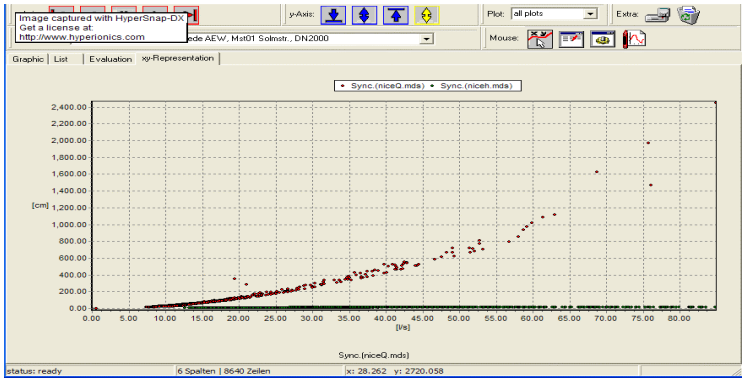
The software incorporates several flow equations including Prandtl Colebrook, Continuity, and custom cross-sections (for non-standard pipe sizes, irregular channel sizes), and silt levels.

Scatter graphs

On-screen graphics allows the user to determine the accuracy of the depth and velocity data and perform complete QA/QC n the flow data and determine anomalous conditions.

Sewer Flow Analysis

Composite and comparative graphs and tables allow the user to determine trends, analyze net flows for I/I analysis, billing networks, pipe capacities and mass balancing.



Technical Data

	Q-EYE M II
TYPE:	Datalogger, portable, battery-powered, waterproof
CHANNELS:	Velocity, ultrasonic depth, pressure depth (option) battery life, status
LCD DISPLAY:	8 characters
MEMORY CAPACITY:	2 MBytes, RAM, “SLATE” or “WRAP-AROUND”
LOGGING INTERVALS:	> 30 sec., programmable
MEMORY LIFE:	>2 years, typical (@5min. intervals, depth and velocity)
POWER:	8 x D-cells (Alkaline)
BATTERY LIFE:	90-125 days, typical (@5 min. intervals, alkaline batteries, recording depth and velocity.)
COMMUNICATIONS:	RS-232
TEMPERATURE RANGE:	Q-Eye: -20°C to +70°C (-4°F to + 160°F)
Q-EYE SIZE:	D =16 cm (6.3"), H=32 cm (12.6")
WEIGHT:	6 kg (13.2 lb) including velocity sensor and 8 D-Cells
MATERIALS:	Housing: POM (Polyoxyinethylen) Pulse-Doppler: Polyurethane, stainless steel, Teflon™
SENSOR TYPES:	Pulse-Doppler (ultrasonic depth and mean velocity) Hydrostatic (depth only)
PROTECTION:	IP68 (NEMA 6X), submersible
APPROVALS:	ATEX (optional)

PERFORMANCE:	
	DEPTH
Range:	0 to 3.5 m, (0 to 11.50 ft) for hydrostatic type (other ranges optional) 0.04 to 1.3 m, (0.131 to 4.27 ft) for submerged ultrasonic type
Accuracy:	Standard +/- 0.1%, option +/- 0.06%
Long Term Stability:	+/- 0.1% typically per annum
Over Pressure:	4 x for range up to 3.5 m (11.5 ft)
	VELOCITY
Type:	Ultrasonic Pulse-Doppler with up to 10 scan cells
Sensor type:	Double -1.04 MHz piezo-crystal
Range:	-5.3 to +5.3 m/s (-17 to +17 fps), bi-directional
Minimum depth:	4 cm (1.57”)
Stability:	0.005m/s (0.015fps)
Accuracy:	< +/-1% of mean velocity reading
Cable Length:	10 m (30 ft) standard, other lengths optional - max. 60 m (180 ft)

	SAMPLER TRIGGER OUTPUT (optional)
Contact closure:	400mSec, minimum
Contact rating:	10VA, maximum combined rating
Flow intervals:	Selectable from 1 to 100 million flow units
	MODEM TELEMETRY (optional)
Type:	GSM and CCITT V.22, full duplex
Data Rate:	9,600bps, asynchronous

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Represented by:

 08/2009