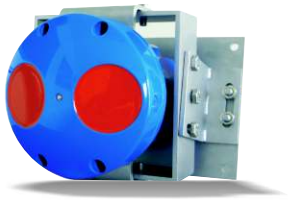
ChannelMaster H-ADCP, Q-Eye H-ADCP

Stationary Discharge Measurement with H-ADCP in Rivers and Open Channels

Key Features

- measurement of flow velocity, stage and discharge data with high accuracy
- fully configurable PC-based data logger for data registration and data processing
- continuous display and control of flow velocity and discharge
- SQL database for recording and management of discharge, stage, pitch and roll, echo intensities and velocities of each cell



ChannelMaster H-ADCP

Q-Eye H-ADCP (ECM)

ChannelMaster built in

installation site

H-ADCP application

We are certified
ISO 9001:2000
Certificate No. 01110505
Quality is our standard

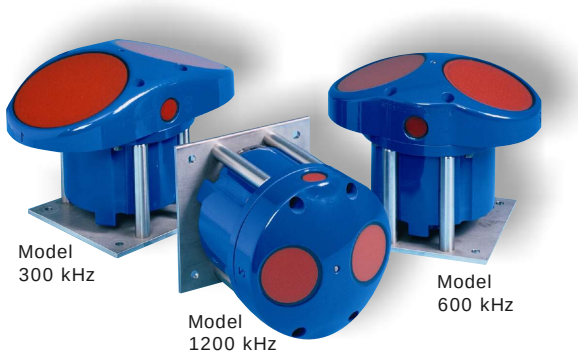
Discharge Measurement with ChannelMaster H-ADCP

In the last several years, H-ADCP's have become common in a variety of applications such as discharge measurements in rivers and streams or open channels.

The compact, flexible, and affordable ChannelMaster is a horizontally-oriented Acoustic Doppler Current Profiler (H-ADCP) designed to collect high-accuracy water velocity, stage, and discharge data for a wide array of applications.

By leveraging a patented BroadBand technology, the ChannelMaster allows you to obtain unmatched data quality, even in low velocities and complex flows, where a single cell cannot provide enough information. The ChannelMaster's innovative design includes everything you need to collect high-quality data, without costly options. The standard unit comes equipped with sensors for temperature, water level and pitch and roll - as well as mounting fixture.

ADCP sensors: 300kHz, 600 kHz or 1200 kHz



ChannelMaster Highlights:

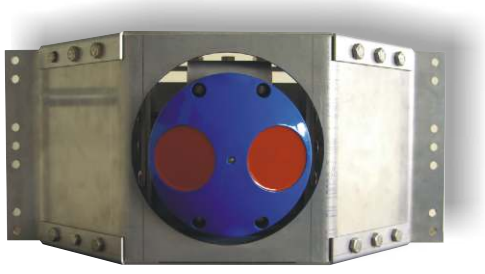
- BroadBand technology, which allows small cells and/or short averaging/sampling intervals, resulting in highly accurate velocity data
- Ability to measure highly accurate velocities even in difficult environments such as slow flow or rapidly changing flow
- A range of 1–128 user-selectable cells, with cell sizes from 25cm to 8m
- Profiling ranges from 1m to 300m (depending on system frequency)
- Standard stainless steel mounting fixture

Applications

Rivers, streams, and waterways:
Obtain high-accuracy data for monitoring velocity, stage, and discharge data.

Estuaries:
Measure complex currents for environmental monitoring or circulation model calibrations.

Ports and Harbors:
Monitor currents to provide accurate information for vessel maneuvering and safety

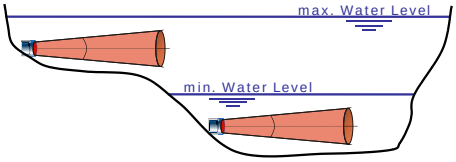


with protection against swimming items (algae, wood etc.)

Data Registration an Data Processing with Q-Eye H-ADCP

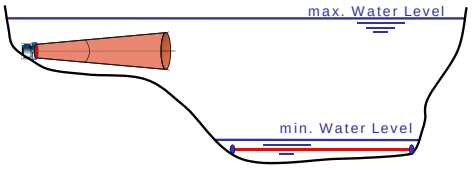
The Q-Eye H-ADCP is a flexible, compact and fully configurable PC-system. It is used to display real time data of ChannelMaster H-ADCP (CM300, CM600, CM1200) and of Workhorse H-ADCP (long range) as well as to calculate flow and to store data. The device includes interfacing for remote data transmission (analogue/ISDN, GSM/GPRS). The Q-Eye H-ADCP is the ideal system for discharge monitoring in rivers and streams or artificial channels using H-ADCP technology.

Sensor Connections (ECM)



- Up to 4 ChannelMasters are connectable (synchronized)
- Communication RS485 / Protocol Pd0
- External Water Level

Hybrid Systems



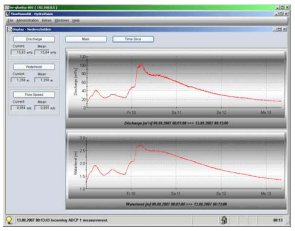
Travel Time and H-ADCP in one unit

- Travel Time for shallow water (down to 20 cm)
- ChannelMaster for High Water Level
- Systems learn from each other

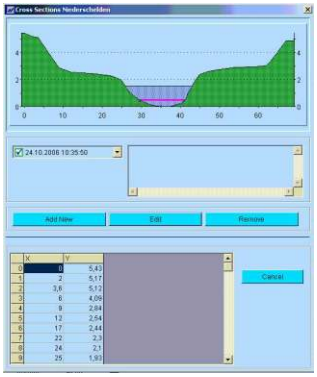
Software FlowVision

FlowVision sets new standards for ultrasonic measurement systems. The user-friendly, windows-based and multi-language software (English, French, Spanish, Italian, German) provides numerous functions. Main tasks are to control and to parameterize the measurement system as well as to process and to store data. The sample rate for data logging can vary from once a minute to once an hour in desired units of measure. All parameters (cross section, cell size, number of cells, blanking etc.) are easily configurable to your specific application. The calibration (numerical calibration, ISO 6416) and integration algorithms give superior flow calculation. The benefits are reduced start-up time configuring of the ChannelMaster, comprehensive instrument health diagnostics and reduced field technician costs with remote communications.

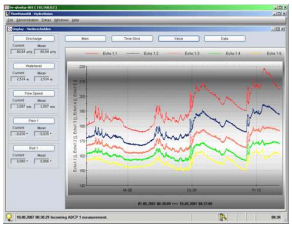
SQL Data Base



Cross Section

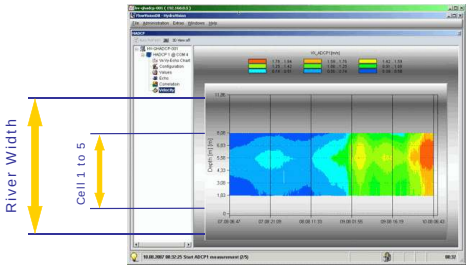


Individual Multi Graphs



Values for:

- Discharge
- Water Level
- Pitch and Roll
- Temperature
- Echo Intensities
- Velocities in each Cell



2D Velocity Distribution

Technical Data Q-Eye H-ADCP (ECM)

Display:	4 lines, 20 characters, backlit
Memory:	Hard Disk 30 GB
Operating System:	Windows XP
Languages:	English, French, Spanish etc.
Number of ChannelMasters:	up to 4 sensors
Analogue inputs:	up to 8 (4 to 20 mA)
Analogue outputs:	up to 4 (4 to 20 mA)
Digital outputs:	RS 232, RS 485, USB, Ethernet
Operating Temperature:	0° to 60°C
Power Supply:	12V DC
Consumption:	< 40 Watt (continuous measuring mode)

Q-Eye H-ADCP (ECM)

Technical Data ChannelMaster H-ADCP

Integrated Sensors
Water level(ultrasonic)
Range: 0.1–10m, Accuracy: ±0.25%, Resolution: 0.01cm
Water level (pressure)
Range: 0.1–10m, Accuracy: ±0.5%, Resolution: 0.1cm
Operation temperature
Range: -4° to 40°C, Accuracy: ±0.2°C, Resolution 0.01°
Tilt (2 axes):
Range: ±10°, Accuracy: ±0.2° at 0°, ±0.5° at 10°, Resolution: 0.01°

Communications
RS-232 with SDI-12, or RS-422
Serial baud rates: 300–115,200 bps

Construction
Cast polyurethane with titanium hardware, mounting plate included.

Power
Voltage: 10-18VDC
Max. current: 1.5A
Note: Energy consumption depends on velocity profiling parameters.

Model	300kHz	600kHz	1200kHz
Velocity Profiling (BroadBand mode)			
# cells	1–128	1–128	1–128
Min. cell size	1m	0.5m	0.25m
Max. cell size	8m	4m	4m
Max. profiling range[1]	300m	90m	20m
1st cell start	2–40m	1–20m	0.5–10m
Accuracy (cell = 1/2 max.)	±0.5% ±0.2cm/s	±0.5% ±0.2cm/s	±0.5% ±0.2cm/s
Resolution	0.1cm/s	0.1cm/s	0.1cm/s
Velocity range	±5m/s	±5m/s	±5m/s
Physical Properties			
Weight in air	6.8kg	4.76kg	3.4kg
Weight in water	3.17kg	2 kg	1.58kg
Height[2]	18.3cm	18.3cm	18.3cm
Width[2]	32.5cm	26.4cm	18.3cm
Depth[2]	19.8cm	19.3cm	18.9cm
Transducer			
Geometry	2 beams, ±20°	2 beams, ±20°	2 beams, ±20°
Beam width	2.2°	1.5°	1.5°

[1] Maximum range depends on a number of factors, including temperature, salinity, suspended materials, etc.
[2] Mounted horizontally.

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