Flow Monitoring

Ultrasonic discharge measurement with vertical Doppler Q-VADCP

It's possible - Quantum Q-VADCP sensors allow for flow monitoring and are very easy to install. This compact system uses the Doppler technology to measure velocity and flow.

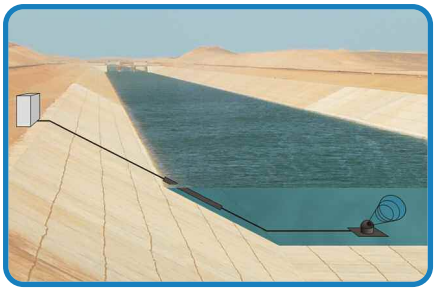
Features

- Operation depths from 0.2 m above transducer to 15 m
- Specially designed sensor housing to prevent alluvium and flotsam for low maintenance
- automatical adjustment to account for changing flow conditions
- beam angle horizontally and vertically adjustable
- external water level meter allows for safeguarded data
- double beam sensor optional
- under water plug optional

Quantum Hydrometrie

Q-VADCP-Doppler

Quantum Hydrometrie · Zossener Straße 55 · 10961 Berlin, Germany · Phone +49 (0) 30 6981 10 - 0 · Fax – 99 · www.quantum-hydrometrie.com

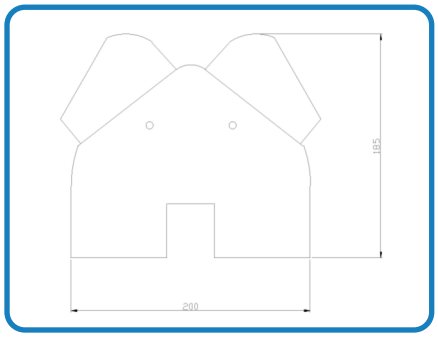


Operating principle - Doppler technology

An ultrasonic transducer sends an acoustic signal diagonally to the flow direction, and receives its reflexion by suspended particles. Because the particles move with the flow, there will be a Doppler frequency shift (sent and received signal). The Doppler frequency shift is proportional to the flow velocity and therefore directly related to the discharge of a known cross section.

Specifications

Control unit Q-Aqua Doppler



Single beam sensor Q-VADCP-S 600 kHz

Velocity Profiling Range

Maximum depth	15 m
Minimum depth	0.2 m above transducer with min. angle between beam and bottom

Water Velocity

Resolution	0.1 cm/s
Accuracy	± 1% of measured velocity, +/- 0.5 cm/s

Standard Features

Single beam sensors
Water level measurement using external pressure transmitter
Real-time flow calculations using user-supplied channel geometry
64 MB CompactFlash recorder capacity
Watchdog timer
Interfaces: PS/2-keyboard, COM1, COM2, VGA. LCD over I²C-Bus
Input: 2 x 0/4 - 20 mA, 2 x 0 - 1/2,5 V
Output: 3 x 0/4 - 20 mA, 2 x RS 232, Impuls TTL
Temperature sensor
Software *View* for instrument setup, data collection, and post processing
Mounting plate

Optional Features

Double beam sensor
Underwater plug
6,4 " LCD colour display

Technical Specifications

Frequency	600kHz
Beam width	3,2° conical
Operatig depth	30m
Survival depth	50m
Operating temperature range	-5°C to +60°C
Storage temperature range	-30°C to +70°C
Housing sensor	PA6 and stainless steel 17,2 cm high, diameter 24 cm
Weigth in air	6,2 kg
Housing control unit	IP 56 330 x 235 x 185 (W x H x D)

Power Requirements

Input Power	12- 24 V_{DC}
Power consuption	11 W at continuous operation < 1 W at standby mode

Quantum Hydrometrie · Zossener Straße 55 · 10961 Berlin, Germany · Phone +49 (0) 30 6981 10 - 0 · Fax – 99 · www.quantum-hydrometrie.com