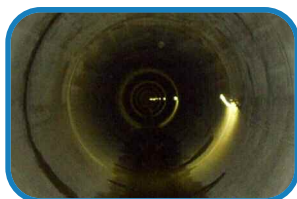


# Flow Monitoring

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 · Geneststr. 5 · 10829 Berlin, Germany · Phone +49 (0) 30 6981 10 - 0 · Fax - 99 · [www.quantum-hydrometrie.com](http://www.quantum-hydrometrie.com)



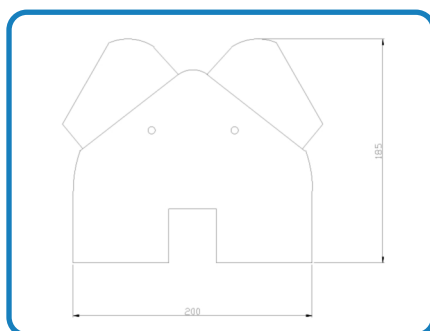
## Operating principle - Doppler technology

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 I<sup>2</sup>C-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 <sub>DC</sub>
Power consumption	11 W at continuous operation < 1 W at standby mode

## Q-VADCP-Doppler