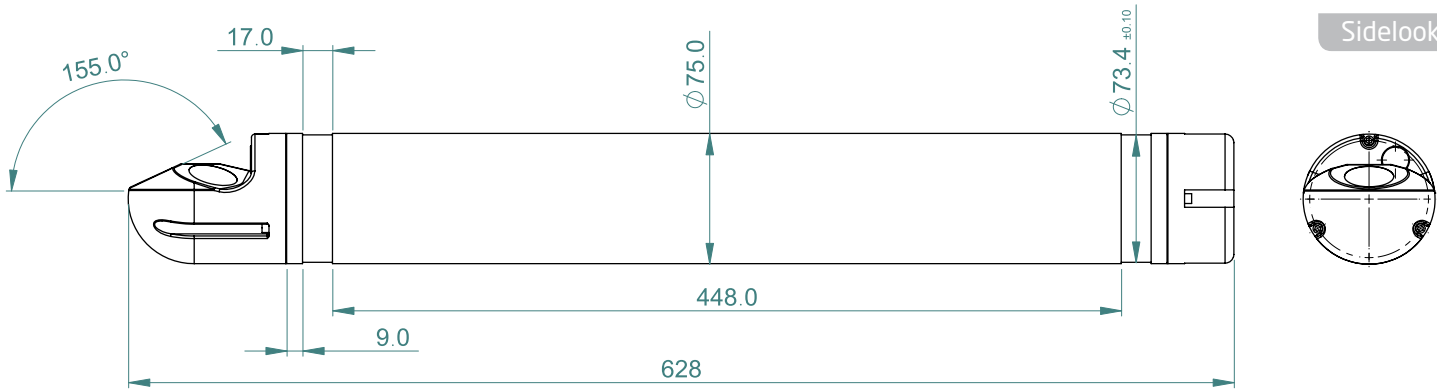
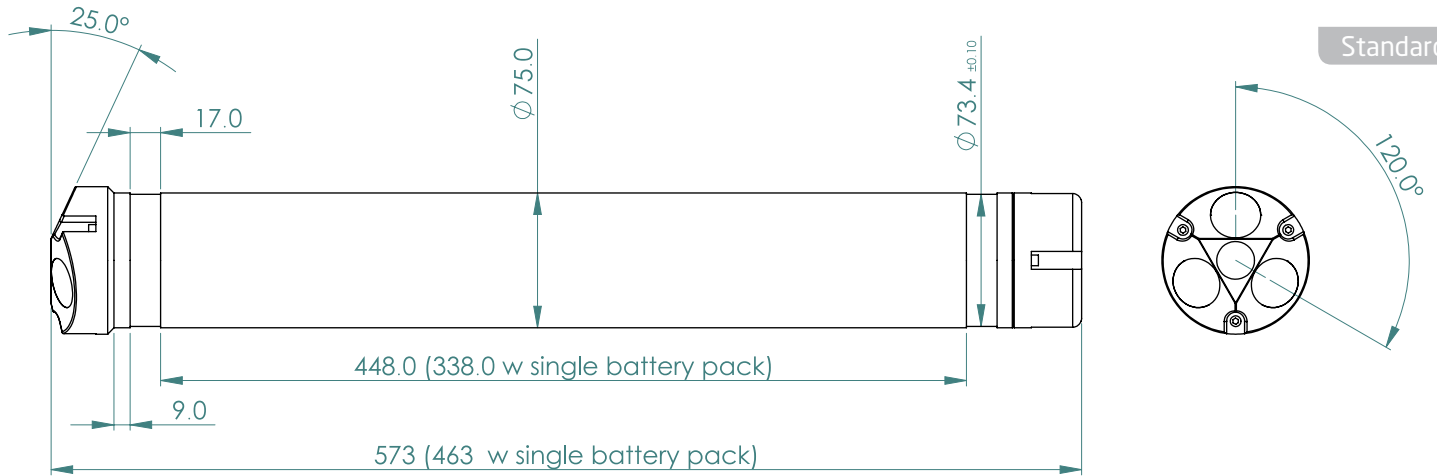


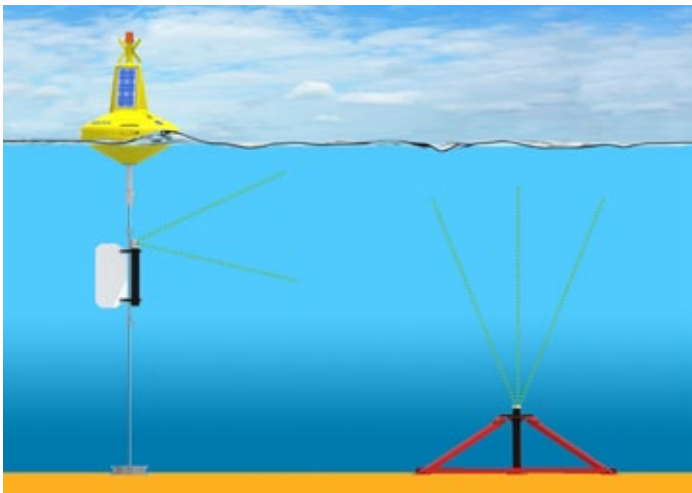
The Aquadopp HR profiler is a high-resolution current profiler, operating at sub-cm scales and collecting data as fast as 8 Hz. The instrument is targeted for use in boundary layer studies of the bottom 1-2 meters and for low energy environments like lakes and estuaries. The HR-profiler excels at providing flow details that are not attainable with any other instrument.

Aquadopp[®] HR Profiler

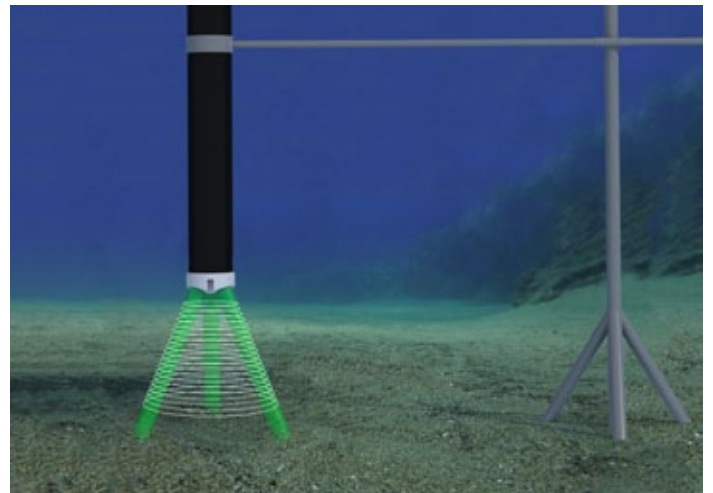
High Resolution current profiler



All dimensions in mm.



The HR-profiler is commonly mounted on fixed platforms in low-energy environments. However, researchers also use the extreme spatial resolution to estimate energy dissipation levels in dynamic environments.



The Aquadopp HR Profiler uses a pulse-coherent processing technique that makes it possible to measure velocity profiles with vertical resolution as fine as 0.7 cm or as fast as 8 Hz. The HR Profiler is the perfect tool for bottom boundary layer studies, internal wave generation studies in lakes, under ice measurements, and in all low-flow conditions.

CURRENT AND WAVE MEASUREMENTS IN THE OCEAN, LAKE AND LABORATORY



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True innovation makes a difference

Water velocity measurement

Acoustic frequency:	1.0MHz	2.0MHz
Maximum profiling range*:	6m	3m
Cell size:	20-300mm	7-150mm
Beam width:	3.4°	1.7°
Minimum blanking:	0.2m	0.03m
Maximum # cells:	128	
Velocity Range:	±10m/s (call for extended range)	
Range/velocity limitations:	Product of profiling range and velocity should not exceed 0.5m ² /s (2MHz system) or 1.0m ² /s for (1MHz system)	
Accuracy:	1% of measured value ±0.5cm/s	
Max. Sampling rate:	1Hz (continuous mode), 8Hz (burst mode)	
Velocity uncertainty:	Consult software program	

Echo intensity

Sampling:	Same as velocity
Resolution:	0.45dB
Dynamic range:	90dB

Standard sensors

Temperature:	Thermistor embedded
Range :	-4°C to 30°C
Accuracy/resolution:	0.1°C/0.01°C
Time response:	10 min
Compass:	Magnetometer
Accuracy/resolution:	2°/0.1° for tilt <20°
Tilt:	Liquid level
Accuracy/resolution:	0.2°/0.1°
Maximum tilt:	30°
Up or down:	Automatic detect
Pressure:	Piezoresistive
Standard range:	0-100m, inquire for options
Accuracy/resolution:	0.5%/0.005% of full scale

Analog inputs

Number of channels:	2
Voltage supply:	Three options selectable through firmware commands: <ul style="list-style-type: none"> • Battery voltage / 500mA • +5V / 250mA • +12V / 100mA
Voltage input:	0-5V
Resolution:	16 bit A/D

Data communication

I/O:	RS232, RS422. Software supports most commercially available USB-RS232 converters
Communication Baud rate:	300-115200(baud)
Recorder download baud rate:	600/1200k.Baud for both RS232 and RS422

Internal recording

Capacity:	9 MB, can add 32/176/352/MB & 4GB Prolog
Data record:	32 bytes + 9xNcells
Mode:	Stop when full (default) or wrap mode

Software "AquaPro"

Operating system:	Windows®XP, Windows® 7
Functions:	Deployment planning, data retrieval, ASCII conversion, online data collection, and graphical display

Power

DC Input:	9-15VDC
Peak current:	3A
Max average consumption at 1Hz:	0.2-1.5W
Sleep consumption:	0.0003mW (RS232), 0.005mW (RS422)
Transmit power:	0.3-20W, 3 adjustable levels

Real time clock

Accuracy:	± 1min/year
Backup in absence of power:	4 weeks

Internal batteries

Type/capacity:	18 AA Alkaline cells/50Wh
New battery voltage:	13.5VDC
Duration (10-minute avg.):	80 days for 2MHz, 0.5m cells
Duration (10-minute avg.):	50 days for 1MHz, 1.0m cells
Exact battery consumption and velocity uncertainty are complex functions of the deployment configuration. Please consult the AquaPro software for more exact predictions.	

Materials

Standard:	Delrin and polyurethane plastics with titanium screws
Intermediate and deepwater models:	Titanium and Delrin plastics

Connectors

Bulkhead (Impulse):	MCBH-8-FS
Cable:	PMCIL-8-MP on 10-m polyurethane cable

Environmental

Operating temperature:	-5°C to 35°C
Storage temperature:	-20°C to 60°C
Shock and vibration:	IEC 721-3-2
Shallow water rating:	300m


Dimensions

Weight in air:	2.2 kg
Weight in water:	0.2 kg
Length:	see dimensional drawings
Diameter:	see dimensional drawings


Options

Batteries types (chemistry):	Lithium, Li-Io rechargeable
External batteries:	(Alkaline, Lithium or Lithium Ion. See battery brochure for details.)
Transducer head:	Right angle head for 1 or 2MHz. Inquire for special configurations
Deep water systems:	Inquire for 3000- & 6000-m versions
Communication:	Request special harness for RS422



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