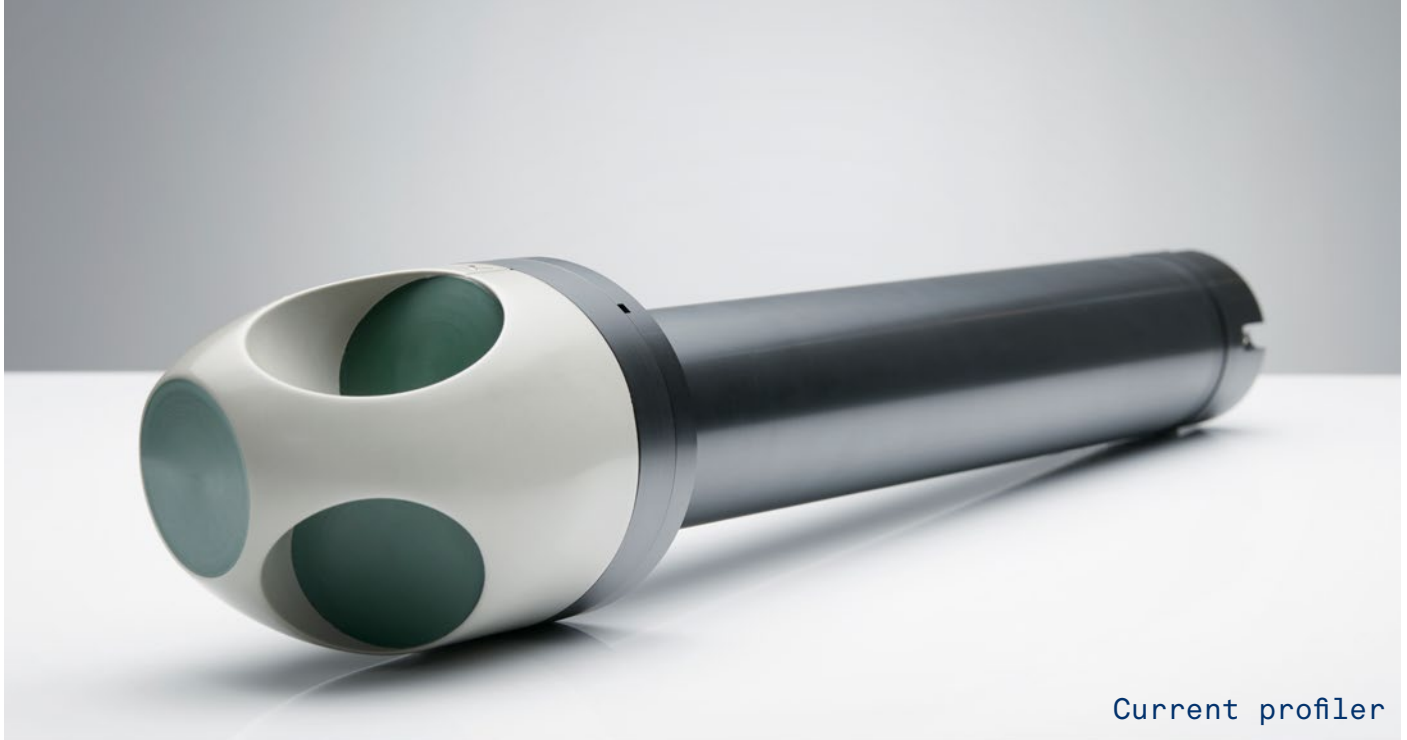


# Aquadopp Profiler, 400 kHz



The Aquadopp Profiler is a highly versatile acoustic Doppler current profiler (ADCP) available in four profiling range options, from < 1 m to > 85 m. Designed for simple yet powerful operation, this current profiler is packed with features used by engineers and researchers to enable accurate and effective hydrodynamic data collection in a variety of environmental conditions.

## Highlights

- Up to 90 m current profiling range
- Ideal for mean current measurements
- Easy to operate and deploy

## Applications

- Mean flow measurements with high focus on ease of use and simplicity
- Measurements in flow regimes with strong variations in flow speeds
- Studies of tidal currents
- Measurements of combinations of waves and currents
- Mounted on surface buoys
- Suitable for wave buoys



## Technical specifications

## Aquadopp Profiler, 400 kHz

<b>→ Water velocity measurements</b>		<b>→ Data recording</b>	
Maximum profiling range <sup>1)</sup>	60-90 m	Capacity	9 MB, can add 4/16 GB
Cell size	1-8 m	Data record	9*Ncells + 32 bytes
Minimum blanking	1 m	Diagnostics record	N/A
Maximum number of cells	128	Wave record	Nsamples * 24 + 60 bytes
Measurement cell position	N/A	Mode	Stop when full (default) or wrap mode
Default position (along beam)	N/A	<b>→ Real-time clock</b>	
Velocity range	± 10 m/s <sup>2)</sup>	Accuracy	± 1 min/year
Accuracy	± 1% of measured value ± 0.5 cm/s	Backup in absence of power	4 weeks
Velocity precision	Consult instrument software	<b>→ Data communications</b>	
Maximum sampling rate (output)	1 Hz	I/O	RS-232 or RS-422
Internal sampling rate	2 Hz	Communication baud rate	300-115,200 Bd
<b>→ Echo intensity (along slanted beams)</b>		Recorder download baud rate	600/1200 kBd for both RS-232 and RS-422
Sampling	Same as velocity	User control	Handled via "AquaPro" software, ActiveX® function calls, or direct commands with binary or ASCII data output
Resolution	0.45 dB	<b>→ Connectors</b>	
Dynamic range	90 dB	Bulkhead (Impulse)	MCBH-8-FS
Transducer acoustic frequency	400 kHz	Cable	PMCIL-8-MP on 10m polyurethane cable
Number of beams	3	<b>→ Software</b>	
Beam width	3.7°	Functions	Deployment planning, instrument configuration, data retrieval and conversion (for Windows®)
<b>→ HR option</b>		<b>→ Power</b>	
Maximum profiling range	N/A	DC input	9-15 V DC
Cell size	N/A	Maximum peak current	3 A
Minimum blanking	N/A	Avg. power consumption <sup>3)</sup>	0.1 W
Maximum number of cells	N/A	Sleep current	< 100 µA
Range/velocity limitations	N/A	Transmit power	0.3-20 W, 3 adjustable levels
Accuracy	N/A	<b>→ Batteries</b>	
Max. sampling rate	N/A	Battery capacity	<ul style="list-style-type: none"> <li>• 50 Wh (alkaline or Li-ion)</li> <li>• 165 Wh (lithium)</li> <li>• Single or dual</li> </ul>
<b>→ Z-Cell option</b>		New battery voltage	13.5 V DC (alkaline)
Cell zero acoustic frequency	N/A	<b>→ Environmental</b>	
Maximum profiling range	N/A	Operating temperature	-5 to +40 °C
Number of beams	N/A	Storage temperature	-20 to +60 °C
<b>→ Sensors</b>		Shock and vibration	IEC 721-3-4
Temperature:	Thermistor embedded in head	EMC approval	IEC 61000
Temp. range	-4 to +40 °C	Depth rating	300 m
Temp. accuracy/resolution	0.1 °C/0.01 °C	<b>→ Materials</b>	
Temp. time response	10 min	Standard model	POM and polyurethane plastics with titanium fasteners
Compass:	Magnetometer	<b>→ Dimensions</b>	
Accuracy/resolution	2°/0.1° for tilt < 20°	Maximum diameter	117 mm
Tilt:	Liquid level	Maximum length	~600 mm (single battery) +110 mm (double battery) depending on head configuration
Accuracy/resolution	0.2°/0.1°	<b>→ Weight</b>	
Maximum tilt	30°	Weight in air	3.4 kg
Up or Down	Automatic detect	Weight in water	0.2 kg
Pressure:	Piezoresistive	<b>→ Options</b>	
Range	0-100 m (inquire for options)		<ul style="list-style-type: none"> <li>• Alkaline, lithium or Li-ion external batteries</li> <li>• Inquire for different head configurations</li> </ul>
Accuracy/precision	0.5% FS / 0.005% of full scale	<b>→ Analog inputs</b>	
<b>→ Analog inputs</b>		No. of channels	2
Supply voltage to analog output devices	Three options selectable through firmware commands: <ul style="list-style-type: none"> <li>• Battery voltage/500 mA</li> <li>• +5 V/250 mA</li> <li>• +12 V/100 mA</li> </ul>	<b>→ Voltage input</b>	
Voltage input	0-5 V	Resolution	
Resolution	16-bit A/D		

<sup>1)</sup> Depends on local scattering conditions, <sup>2)</sup> Inquire for higher ranges, <sup>3)</sup> Default configuration, see instrument SW for details and other setups