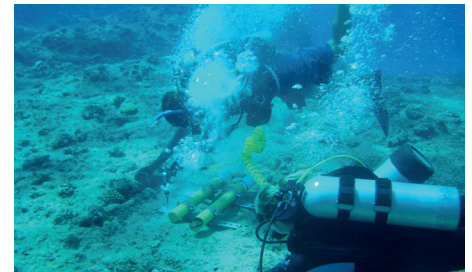
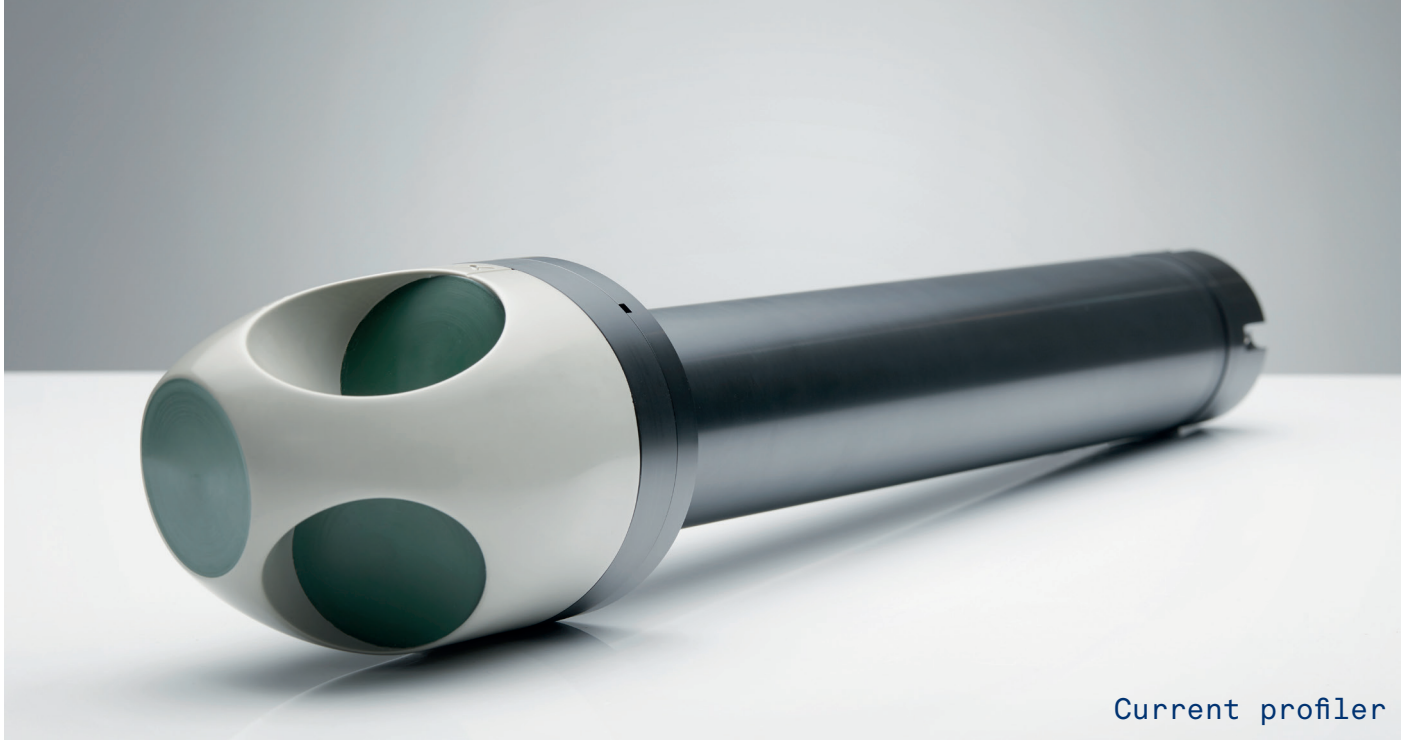


# Aquadopp Profiler, 400 kHz



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



# Aquadopp Profiler, 400 kHz

→ Water velocity measurements	
Maximum profiling range <sup>1)</sup>	60-90 m
Cell size	2-8 m
Minimum blanking	1 m
Maximum number of cells	128
Measurement cell position	N/A
Default position (along beam)	N/A
Velocity range	±10 m/s <sup>2)</sup>
Accuracy	±1% of measured value ±0.5 cm/s
Velocity precision	Consult instrument software
Maximum sampling rate (output)	1 Hz
Internal sampling rate	2 Hz
→ Echo intensity	
Sampling	Same as velocity
Resolution	0.45 dB
Dynamic range	90 dB
Transducer acoustic frequency	400 kHz
Number of beams	3
Beam width	3.7°
→ HR option	
Maximum profiling range	N/A
Cell size	N/A
Minimum blanking	N/A
Maximum number of cells	N/A
Range/Velocity limitations	N/A
Accuracy	N/A
Max. sampling rate	N/A
→ Z-Cell option	
Cell zero acoustic frequency	N/A
Maximum profiling range	N/A
Number of beams	N/A
→ Sensors	
Temperature:	Thermistor embedded in head
Temp. range	-4 to +40 °C
Temp. accuracy/resolution	0.1 °C/0.01 °C
Temp. 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
Range	0-100 m (inquire for options)
Accuracy/precision	0.5% FS / 0.005% of full scale
→ Analog inputs	
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>
Voltage input	0-5 V
Resolution	16-bit A/D

→ Data recording	
Capacity	9 MB, can add 4/16 GB
Data record	9*Ncells + 32 bytes
Diagnostics record	N/A
Wave record	Nsamples * 24 + 60 bytes
Mode	Stop when full (default) or wrap mode
→ Real-time clock	
Accuracy	±1 min/year
Backup in absence of power	4 weeks
→ Data communications	
I/O	RS-232 or RS-422
Communication baud rate	300-115200 Bd
Recorder download baud rate	600/1200 kBd for both RS-232 and RS-422
User control	Handled via "AquaPro" software, ActiveX® function calls, or direct commands with binary or ASCII data output
→ Connectors	
Bulkhead (Impulse)	MCBH-8-FS
Cable	PMCIL-8-MP on 10m polyurethane cable
→ Software	
Functions	Deployment planning, instrument configuration, data retrieval and conversion (for Windows®)
→ Power	
DC input	9-15 V DC
Maximum peak current	3 A
Avg. power consumption <sup>3)</sup>	0.1 W
Sleep current	< 100 µA
Transmit power	0.3-20 W, 3 adjustable levels
→ Batteries	
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>
New battery voltage	13.5 V DC (alkaline)
→ Environmental	
Operating temperature	-5 to +40 °C
Storage temperature	-20 to +60 °C
Shock and vibration	IEC 721-3-4
EMC approval	IEC 61000
Depth rating	300 m
→ Materials	
Standard model	POM and polyurethane plastics with titanium fasteners
→ Dimensions	
Maximum diameter	117 mm
Maximum length	~600 mm (single battery) +110 mm (double battery) depending on head configuration
→ Weight	
Weight in air	3.4 kg
Weight in water	0.2 kg
→ Options	
	<ul style="list-style-type: none"> <li>• Alkaline, lithium or Li-ion external batteries</li> <li>• Inquire for different head configurations</li> </ul>

<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