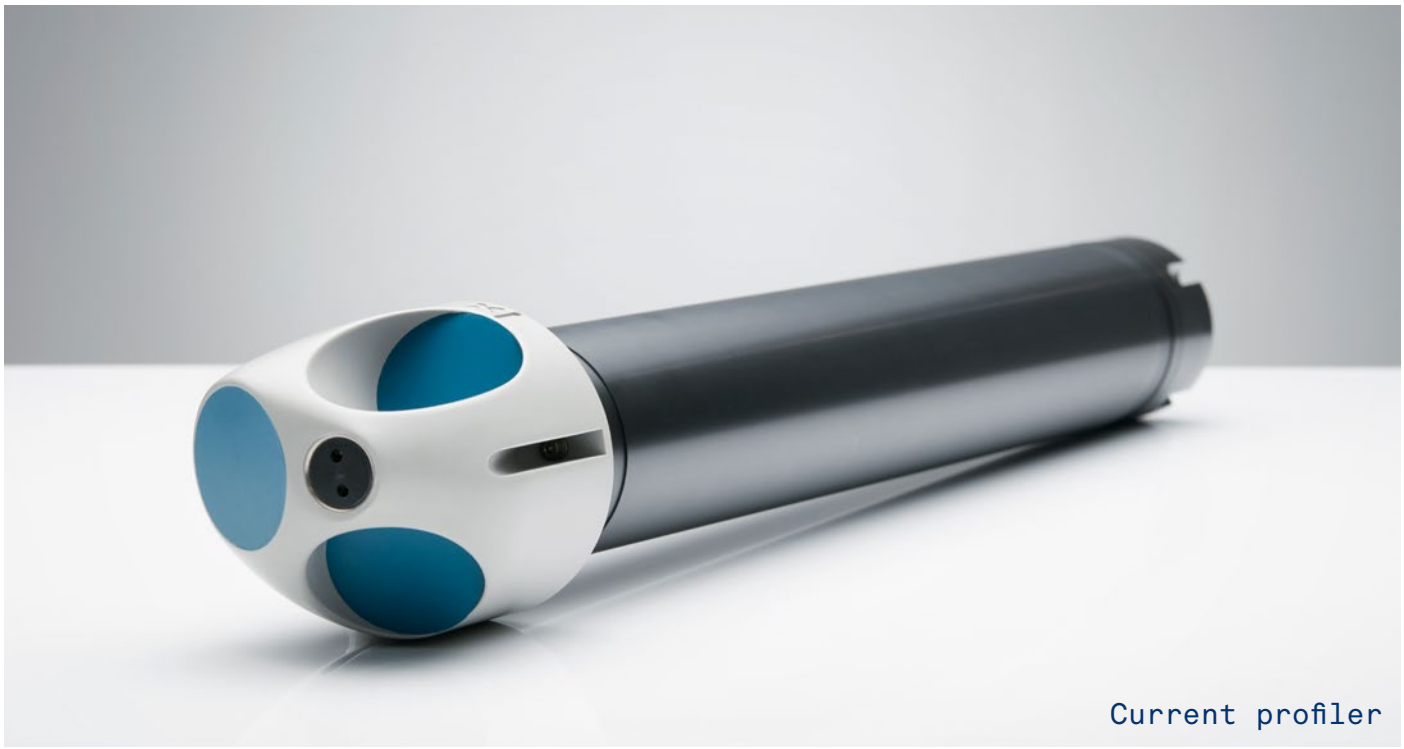
OCEAN CURRENTS
OCEAN WAVES
TURBULENT FLOW
SUBSEA NAVIGATION

Valid for instruments delivered **before 2024!**

# Aquadopp Profiler, 600 kHz



Current profiler

**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 40 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
- Suitable for wave buoys

Valid for instruments delivered **before 2024!**

Technical specifications

# Aquadopp Profiler, 600 kHz

| → Water velocity measurements | |
|---|---|
| Maximum profiling range [1] | 30-40 m |
| Cell size | 1-4 m |
| Minimum blanking | 0.50 m |
| Maximum number of cells | 128 |
| Measurement cell position | N/A |
| Default position (along beam) | N/A |
| Velocity range | ± 10 m/s [2] |
| Accuracy | ± 1% of measured value ± 0.5 cm/s |
| Velocity precision | Consult instrument software |
| Maximum sampling rate (output) | 1 Hz |
| Internal sampling rate | 4 Hz |
| → Echo intensity (along slanted beams) | |
| Sampling | Same as velocity |
| Resolution | 0.45 dB |
| Dynamic range | 90 dB |
| Transducer acoustic frequency | 600 kHz |
| Number of beams | 3 |
| Beam width | 3.0° |
| → 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:<br>• Battery voltage/500 mA<br>• +5 V/250 mA<br>• +12 V/100 mA |
| 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 | 300-115,200 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[3] | 0.06 W |
| Sleep current | < 100 µA |
| Transmit power | 0.3-20 W, 3 adjustable levels |
| → Batteries | |
| Battery capacity | • 50 Wh (alkaline or Li-ion)<br>• 165 Wh (lithium)<br>• Single or dual |
| 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 721-3-6 |
| EMC approval | IEC 61000 |
| Depth rating | 300 m |
| → Materials | |
| Standard model | POM and polyurethane plastics with titanium fasteners |
| → Dimensions | |
| Maximum diameter | 100 mm |
| Maximum length | ~550 mm (single battery)<br>+110 mm (double battery)<br>depending on head configuration |
| → Weight | |
| Weight in air | 2.9 kg |
| Weight in water | 0.4 kg |
| → Options | |
| | • Alkaline, lithium or Li-ion external batteries<br>• Inquire for different head configurations |

[1]) Depends on local scattering conditions, [2]) Inquire for higher ranges, [3]) Default configuration, see instrument SW for details and other setups