Imagine an ocean current meter without need for recalibration, without moving parts, with the ability to withstand fouling and with the sampling volume moved away from the mounting structure. These are among the factors making the Aquadopp® family the most versatile ocean current meters available.

The 6000m Aquadopp® is “the big brother” in the line of Aquadopp® models. The all-titanium mechanical housing is built to last at great ocean depths. The overall design is the results of a testing and verification process that has included many of the world’s largest oceanographic institutions. Rugged and resistant, the 6000m model still retains all the capabilities of the standard Aquadopp®. Built from Titanium grade 2, the instrument is heavier than the standard instrument, but at 8kg, it is still possible to handle one or two units without any lifting equipment.

The 2000m model is made of plastic with a metal cylinder inside. As a result, the 2000m model is lighter than the pure-titanium 6000m model and it represents an affordable alternative for the deployment in intermediate waters.

Both types have a transducer sensor head made from machined Delrin® materials with the transducers symmetrically distributed in the horizontal plane while at the same time looking slightly upwards (25°).

In the deep ocean, there are fewer suspended particles than in the zone close to the surface. While there are significant variations across the globe, mid-water deployments represent a real challenge for instruments that depend on acoustic backscatter. Considerable work has been done to understand the factors that affect the acoustic signal strength and to improve the magnitude of the returned echo. This work is reflected in the design of the current electronics and 6000m transducer design. Verified performance in the deep ocean is well documented – see our web site for details.

- No moving parts, no recalibration needed!
- Use Diagnostic mode to measure and get the full picture of mooring motion details.
- Record all relevant parameters including acoustic signal strength, tilt, compass, battery voltage, and status/error code.
- Set the measurement interval, averaging interval and exact pinging rate independently in the deployment planning menu included as part of the standard software.
- Compass solution includes hard iron calibration routines to remove cable and mounting clamps effects.
- Inquire for other transducer configurations.
- Inquire for special communication options such as acoustic or inductive modems.

www.nortek.no
Specifications

Water Velocity Measurement
- Range: ± 3 m/s (inquire for higher ranges)
- Accuracy: 1% of measured value ± 0.5 cm/s
- Maximum sampling rate (output): 1 Hz
- Internal sampling rate: 23 Hz

Measurement Area
- Measurement cell size: 0.75 m
- Measurement cell position: 0.35–5.0 m (user selectable)
- Default position (along beam): 0.35–1.85 m

Doppler Uncertainty (noise)
- Typical uncertainty for default configurations: 0.5–1.0 cm/s
- Uncertainty in U/V at 1 Hz sampling rate: 1.5 cm/s

Echo Intensity
- Acoustic frequency: 2 MHz
- Resolution: 0.45 dB
- Dynamic range: 90 dB

Sensors
- Temperature: Thermistor embedded in head
- Range: –4 °C to 40 °C
- Accuracy/Resolution: ±0.1 °C/0.01 °C
- Time response: 10 min
- Compass: Flux-gate with liquid tilt
- Maximum tilt: 30°
- Accuracy/Resolution: ±0.01 °C for tilt < 20°
- Tilt: Liquid level
- Accuracy/Resolution: ±0.2 ° for tilt < 20°
- Up or down: Automatic detect
- Pressure: Piezoresistive
- Range: 0–2000/6000 m (standard)
- Accuracy/Resolution: ±0.25% / Better than 0.005% of full scale per sample

Data Communication
- I/O: RS232, analog input, RS422 or analog output. Software supports most commercially available USB–RS232 converters.
- Baud rate: 300–115200
- User control: Handled via Win32® software, ActiveX® function calls, or direct commands with binary or ASCII data output

Software ("Aquadopp DW")
- Operating system: Windows® 2000, XP
- Functions: Deployment planning, start with alarm, data retrieval, ASCII conversion. Online data collection and graphical display. Test modes

Data Recording
- Capacity (standard): 9 MB, expandable to 33, 89, or 161 MB
- Data record: 40 bytes
- Diagnostic record: 40 bytes

Power
- DC input: 9–16 VDC
- Peak current: 2 A at 12 VDC (user adjustable)
- Max consumption, 1 Hz: 1.4 W
- Avg. consumption: 0.2 W (0.02 Hz), 0.02 W (0.002 Hz)
- Sleep consumption: 0.0013 W
- Battery capacity: 50 Wh. Extended 6000 m version has two battery packs (i.e., double capacity)

New battery voltage
- Standard model: 3.6 Vdc
- Lithium batteries: 13.5 Vdc
- Alkaline: 5 months at 10-min, ± 1.0 cm/s noise

Data Collection (alkaline)
- 10 months for double battery version at 10-min, ± 1.0 cm/s noise

Data Collection (lithium)
- 5 months at 10-min, ± 1.0 cm/s noise
- 15 months at 10-min, ± 1.0 cm/s noise

Materials
- Standard model: 2000 m: Delrin® and polyurethane plastics with titanium screws
- 6000 m: Delrin® and titanium stainless

Environmental
- Operating temperature: –5 °C to 45 °C
- Storage temperature: –20 °C to 60 °C
- Shock and vibration: IEC 721-3-2
- Pressure rating: 0–2000 m/0–6000 m
- Range: –5°C to 45°C
- Storage temperature: –5°C to 45°C
- Operating temperature: –20°C to 60°C

Water Velocity Measurement
- Standard model: 2000 m: Delrin® and polyurethane plastics with titanium screws
- 6000 m: Delrin® and titanium stainless

Liquid level
- Range: 0–2000/6000 m
- Accuracy/Resolution: ±0.45 dB

Accuracy
- Temperature: ±0.2°/0.1° for tilt < 20°
- Pressure: ±0.2°/0.1° for tilt < 20°
- Tilt: ±0.2°/0.1° for tilt < 20°

Data Collection
- Capacity (standard): 9 MB, expandable to 33, 89, or 161 MB
- Data record: 40 bytes
- Diagnostic record: 40 bytes

Options
- Battery: Lithium batteries
- Head configuration
- Communication solution

Antifouling Paint
- May be applied to all surfaces