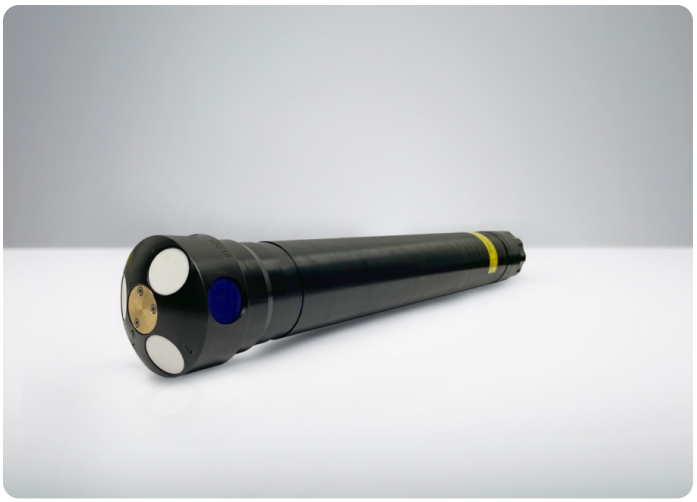
# Aquadopp Profiler Z-Cell 2

1 MHz

**Jusqu'à 25 m de mesure de profil de courant et sans zone blanche. Permet de mesurer proche du fond ou en proche surface**



Need to collect accurate 3D currents very near the seabed or sea surface, in addition to a full water-column profile?

The Z-Cell (Zero Cell) Aquadopp allows current measurement to start right at the instrument's level through an innovative approach: it has side-looking beams fully integrated into the instrument's head, effectively removing the blanking distance normally applicable to ADCPs.

## Highlights

- Up to 25 m current profiling range
- Capable of measuring surface or bottom currents
- PUV-based directional wave measurements

## Applications

- Mounted on bottom frames, with ability to measure also near-bed currents
- Mean flow measurements with high focus on ease of use and simplicity
- Measurements in flow regimes with strong variations in flow speeds
- Projects with needs for both high-resolution and normal-range current measurements
- Studies of tidal currents
- Measurements of combinations of waves and currents
- Mounted on surface buoys, with the ability to measure also surface currents

## Technical specifications

| Water velocity measurements | |
|---|---|
| Nominal profiling range | 25 m |
| Cell size | 0.25-4 m |
| Maximum number of cells | 200 |
| Minimum blanking | 0 m with Z-cell enabled |
| Velocity range (along beam) | ±1 m/s, ±2.5 m/s, ±5 m/s |
| Velocity range (horizontal) | ±2.3 m/s, ±5.75 m/s, ±11.5 m/s |

## Water velocity measurements

| | |
|---|---|
| Accuracy | ±1% of measured value ±0.5 cm/s |
| Horizontal Velocity precision** | Typ. 1cm/s |
| Maximum sampling rate (output) | 1 Hz |
| Wave measurements | PUV (optional) |

- Depending on scattering conditions

** Consult instrument SW

## Echo intensity

| | |
|---|---|
| Sampling | Same as velocity |
| Resolution | 0.5 dB |
| Dynamic range | 90 dB |
| Transducer acoustic frequency | 1 MHz |
| Number of beams | 3 |
| Beam width | 1.7° (3.4° total) |

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## HR option

| | |
|---|---|
| Maximum profiling range | 8 m |
| Cell size | 0.02-0.25 m |
| Minimum blanking | 0.1 m |
| Maximum number of cells | 256 |
| Velocity range | 3 cm/s - 1.3 m/s |
| Range velocity limitations | Product of profiling range and velocity should not exceed 0.25 m2/s |
| Accuracy | ±1% of measured value ±0.5 cm/s |
| Max. Sampling rate | 4 Hz |

## Sensors

| | |
|---|---|
| Temperature: | |
| Temp. range | -4 to +40 °C |
| Temp. accuracy/resolution | 0.1 °C/0.01 °C |
| Temp. time response | <1 min |
| Compass: | Solid State Magnetometer |
| Accuracy/resolution | <2° for tilt <30°/0.01° |
| Tilt: | Solid State Accelerometer |
| Accuracy/resolution | 0.2° for tilt <30°/0.01° |
| Maximum tilt | Full 3D |
| Up or Down | Automatic detect |
| Pressure: | Piezoresistive |

| Sensors | |
|---|---|
| Range | 30 m / 100 m / 500 m |
| Accuracy/precision | 0.5% FS / 0.005% of full scale |

| Data recording | |
|---|---|
| Capacity | 16 GB |

| Real-time clock | |
|---|---|
| Accuracy | ±1 min/year |
| Backup in absence of power | 4 weeks |

| Data communications | |
|---|---|
| I/O | RS-422 (Inquire for RS-232) |
| Communication baud rate | 9600 Baud-1.2 Mbaud (default 115200 Baud) |
| User control | Nortek Deployment Software or direct ACSII commands, with binary or ASCII data output |

| Software | |
|---|---|
| Operating system | Agnostic |
| Functions | Deployment planning, instrument configuration, data retrieval and conversion. Online data display. |

| Power | |
|---|---|
| DC input | 9-24 VDC |
| Absolute maximum DC input | 26 VDC |
| Maximum peak current | 4.5 A |
| Power consumption | Consult Nortek Deployment Software |
| Sleep current | < 40 uA |
| Transmit power | Adjustable |

| Batteries | |
|---|---|
| Internal Battery capacity | 1-3x 50 Wh (Alkaline), 2-3x 165 Wh (Lithium), 1-3x 76Wh (Li-Ion) |
| Battery weight | 430g per 50 Wh (Alkaline), 380g per 165 Wh (Lithium), 300g per 76Wh (Li-Ion) |

| Environmental | |
|---|---|
| Operating temperature | -5 to +40 °C |
| Storage temperature | -20 to +60 °C |
| Shock and vibration | Shock: IEC 60068-2-27, Vibration: IEC 60068-2-64 |
| EMC | EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019 |
| Depth rating | 500 m |

| Connectors | |
|---|---|
| Bulkhead (Impulse) | MCBH-8-FS Brass |
| Cable | PMCIL-8-MP on 5m (default) polyurethane cable |

| Materials | |
|---|---|
| Standard model | POM, Naval Brass, Titanium Gr.5, Epoxy |

## Dimensions (see drawings for details)

| | |
|---|---|
| Maximum housing diameter | 75 mm |
| Maximum length | 602 mm |

## Weight

| | |
|---|---|
| Weight in air (without batteries) | 2280 g |
| Weight in water (without batteries) | -400 g (buoyant) |
| Weight in air, short housing (without batteries) | 1680 g |
| Weight in water, short housing (without batteries) | 50 g |

## Head configurations

| | |
|---|---|
| S1VZ | Shallow water, 1 Mhz, Vertical orientation, Z-Cell Profiler |

## Online cable information

| | |
|---|---|
| Power wire gauge | 20AWG; 20AWG; 18AWG |
| Hardware | Standard; Standard; Long cable kit |
| Cable length | 0-10m; 10-50m; 50-500m |
| Input voltage | 9-24VDC; 24VDC +/-0,5; 48VDC +2/-5 |
| Absolut maximum DC input | 26 VDC; 26 VDC; 51 VDC |
| Communication | RS232/RS422/115200; RS232/RS422/115200; RS422/115200 |