



CODEVINTEC

Tecnologie per le Scienze della Terra e del Mare

45° 27' 39.384" N
9° 07' 30.145" E

SeaWATCH/SeaPROFILER DF ADCP Dual Frequency ADCP



Self-Contained and Direct-Reading 300 / 600 / 1200 kHz ADCP

The ROWE Technologies SeaWATCH DF (Dual Frequency) and SeaPROFILER DF product family of Acoustic Doppler Current Profilers (ADCPs) lead the industry in state of the art acoustic Doppler technology. ROWE's second generation electronics provide the ability to **use two independent acoustic frequencies in the same instrument.**

Each of the frequencies can be independently controlled allowing for near simultaneous acquisition of high resolution, short range current profiles from the high frequency channels, and long range, lower resolution profiles for the low frequency channels. With the SeaWATCH DF and Sea PROFILER DF **you truly have two ADCPs in one!**

All of the same core signal processing functions available in the single frequency ADCP model are available in the DF model. This includes broadband, narrowband and pulse-to-pulse signal processing as well as the ability to track the bottom and obtain earth-referenced velocity measurements.

- > Coastal and offshore oceanographic applications
- > Meteorological and wave data acquisition
- > Environmental management
- > Coastal engineering site assessment
- > Oil/gas exploration and drilling
- > Easily deployed on buoys, moorings, or sea-floor structures
- > Available in 300 kHz, 600 kHz, or 1200 kHz



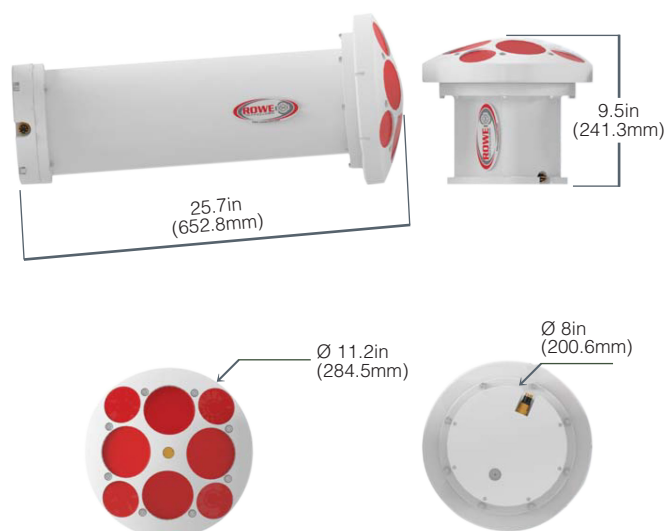


Product Features

- > Available in 300 kHz, 600 kHz and 1200 kHz.
- > Multi-use configuration – 3-axis current profile and bottom track or water track velocity measurements.
- > User programmable acoustic transmission – broadband, narrowband, and pulse-to-pulse coherent technologies.
- > User selectable signal processing options for each frequency.
- > Can optimize acquisition parameters for precise, high accuracy measurements.

Optional Features

- > Configuration to Support Both Direct-Reading and Self-Contained Applications in The Same Package.
- > Self-Contained DF ADCPs Have an External Battery Pressure Housing as an Option.



Technical specifications SeaWATCH DF

| Single Frequency (nominal) | 300KHz | 600kHz | 600kHz | 1200KHz |
|--|--|---------------------------|---------------------------|------------------------|
| Piston Ceramic Size | 3 in | 3 in | 2 in | 2 in |
| Beam widths [2 way] | 2.70° | 2.00° | 2.00° | 1.01° |
| Beam Spacing | 4 beams inclined 20° | | | |
| Velocity Range | +/- 20 m/s Max; +/- 5 m/s Typical | | | |
| Resolution | 0.01 cm/s | | | |
| Number of Cells | up to 200 | | | |
| Cell Size | 2.0 cm minimum | | | |
| Current Profiling | | | | |
| Maximum Range | | | | |
| Narrow Band | 150 m | 75 m | 70 m | 30 m |
| Broad Band | 100 m | 50 m | 45 m | 20 m |
| Long-Term Accuracy (High Accuracy Option): | | | | |
| | ± 0.70%, ± 2mm/s | ± 0.25%, ± 2mm/s | ± 0.50%, ± 2mm/s | ± 0.25%, ± 2mm/s |
| Long-Term Accuracy (Low Accuracy Option) | | | | |
| | +/-1.0%, +/- 2 mm/s | | | |
| BB Single-Ping Precision | 3.5 cm/s @ 4 m cell depth | 3.5 cm/s @ 2 m cell depth | 3.5 cm/s @ 1 m cell depth | |
| NB Single-Ping Precision | 20 cm/s @ 4 m cell depth | 20 cm/s @ 2 m cell depth | 20 cm/s @ 1 m cell depth | |
| Data Output Rate | 1-2 Hz typical; 10 Hz max | | | |
| Bottom Tracking | | | | |
| Maximum Range | 300 m | 130 m | 120 m | 50 m |
| Maximum Bottom Track Speed | 15 m/s | | | |
| Long-Term Accuracy (High Accuracy) | | | | |
| | ± 0.70%, ± 2 mm/s | ± 0.25%, ± 2 mm/s | ± 0.50%, ± 2 mm/s | ± 0.25%, ± 2 mm/s |
| Long-Term Accuracy (Low Accuracy) | | | | |
| | +/-1.0%, +/- 2 mm/s | | | |
| Single-Ping Precision | ± 0.6 cm/sec @ 3 m/sec | ± 0.5 cm/sec @ 3 m/sec | ± 0.5 cm/sec @ 3 m/sec | ± 0.4 cm/sec @ 3 m/sec |
| Sensors | | | | |
| Compass Range/Accuracy/Resolution | 0-360° / 1°RMS / 0.01° | | | |
| Pitch/Roll Range/Accuracy/Resolution | Roll +/- 180° / Pitch +/- 90° / <1°RMS / 0.01° | | | |
| Water Temp Range/Accuracy/Resolution | -5° - 70° C / +/- 0.15°C | | | |
| Pressure Range/Accuracy | Selectable / +/- 10% Range | | | |
| Materials Options | Acetal / Aluminum / Titanium | | | |
| Input Power | | | | |
| Voltage Range (Ext DC Input) | 12 - 36 VDC | | | |
| Average Power (5% duty cycle) / Peak Current | 23 W typical | 30 W typical | 30 W typical | 23 W typical |
| Output Data | | | | |
| Communications | RS-485, RS232, 100Base T /Ethernet (self-contained only) | | | |
| Internal Recording | 32 GByte | | | |
| Environmental | | | | |
| Temperature | -5° to 45° C (Operating), -30°C to 60° C (Storage) | | | |
| Depth Rating | 50m, 300m, 3000m, and 6000m (600 kHz) | | | |

Specifications may be subject to change at any time in the future.

** In Development