



SeaWATCH / SeaPROFILER DF ADCP **DualFREQUENCY**



*Self-Contained and Direct-Reading
300 kHz / 600 kHz / 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 *SeaPROFILER DF* you truly have two ADCPs in one!

With this *DF* ADCP you do not need to forfeit performance or flexibility. 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.

Both the *SeaPROFILER DF* and *SeaWATCH DF* ADCPs are well-suited for a variety of coastal and offshore oceanographic applications – including meteorological and wave data acquisition, environmental management, coastal engineering site assessment, and oil/gas exploration and drilling. The systems are easily deployed on buoys, moorings or sea-floor structures.

The *SeaPROFILER DF* and *SeaWATCH DF* ADCPs are available in 300 kHz, 600 kHz, or 1200 kHz – you select which two frequencies you want.



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Product Features:

- Both SeaWATCH and SeaPROFILER DF Models are Available in 300 kHz, 600 kHz and 1200 kHz – You Select Desired Two Frequencies.
- 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.



SeaWATCH DF Specifications

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):	± 0.25%, ± 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	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	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			
Long-Term Accuracy (Low Accuracy):	± 1.0%, +/- 2 mm/s			
Single-Ping Precision:	± 0.6 cm/sec @ 3 m/sec			
Resolution:				
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, 300 m, 3000m, and 6000m (600 kHz)			

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

** In Development