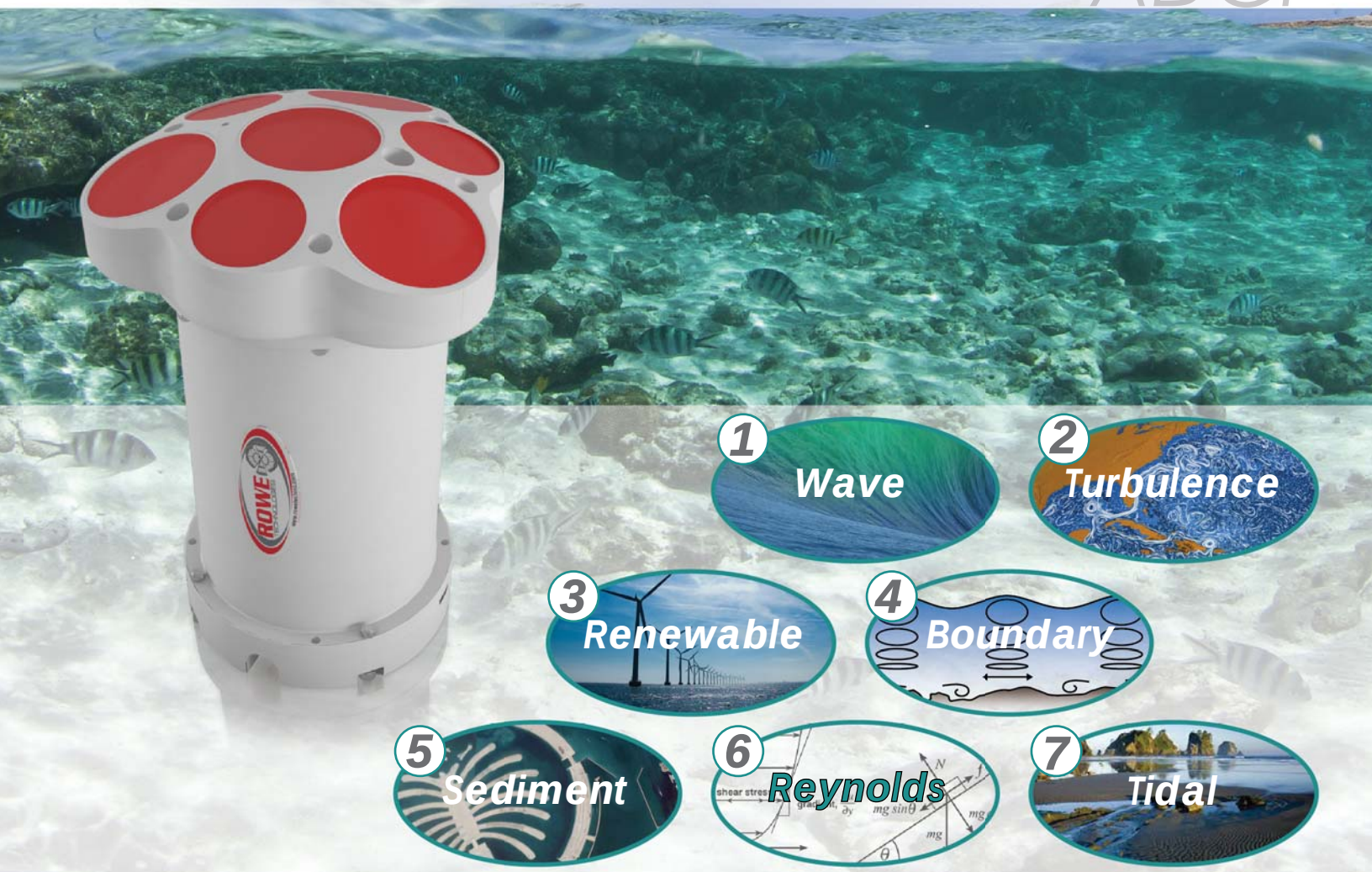
SeaSEVEN

Research Grade ADCP



Developed by the engineers that designed the first Acoustic Doppler Current Profilers, Rowe Technologies presents the ***SeaSEVEN***, Research Grade Doppler Profiler. The first coordinated seven-beam profiler on the market.

- Designed with maximum flexibility for advanced research. With benefits that can't be achieved by three, four or even five beam systems.
- Advanced features: high ping rate, high resolution, and long range with ultimate controllability. Flexibility and simplicity demanded by today's fast paced data rich environment.
- High capacity recorders, multi-mission capability, external sensor integration and ultra fast Ethernet down-load. It offers the research community something they value the most; time and money.
- Low aperture splayed beam array, with modern electronics, it collects, stores and transmits data in a way never before seen in the current profiler market.
- Designed to solve difficult application requirements. It offers high data rate, simple data quality review, ease of use, external sensor integration, and extreme flexibility in deployment.
- No longer is an ADCP "just" a current profiler. With it's 24-bit high-speed A-D convertor, or its available high capacity 64-gigabyte recorder (128 gigabyte coming soon) you no longer have to decide "what not to record".
- As it is never known what may be important to scientists in the future, ***SeaSEVEN*** is unique in its capability to preserve data for hundreds of years after it is collected.

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SeaSeven Specifications

Beam Frequency (nominal):	300 kHz	600 kHz	1200 kHz
Piston Transducer Diameter:	7.62 cm / 3 in	7.62 cm / 3 in or 5.08 cm / 2 in	5.08 cm / 2 in
Beam widths [2 way]:	2.70°	2.70°/2.00°	1.01°
Beam Spacing:	Three beams inclined 20°, 120° azimuth, and vertical beam option		
Current Profiling:			
Velocity Range:	±20 m/sec Max; ±5 m/sec Typical		
Resolution:	0.01 cm/sec		
Number of Cells:	up to 200		
Cell Size: Max/Min:	16m / 2 cm	8 m / 2 cm	8 m / 2 cm
Ping Rate:	up to 10 Hz		
Maximum Range:			
Narrow Band:	150 m	70 m	30 m
Broad Band:	100 m	45 m	20 m
Long-Term Accuracy (High Accuracy Option):	± 0.70%, ±2 mm/s	± 0.50%, ±2 mm/s	± 0.50%, ±2 mm/s
Long-Term Accuracy (Low Accuracy Option):	± 1.0%, ± 2mm/s		
Data Output Rate:	1-2 Hz typical; 10 Hz max		
Bottom Tracking:			
Range:	300m	120m	50m
Long Term Accuracy:	± 0.70%, ± 2 mm/s	± 0.50%, ± 2 mm/s	± 0.25%, ± 2 mm/s
Single-Ping Precision:	± 0.6 cm/sec @ 3 m/sec	± 0.5 cm/sec @ 3 m/sec	± 0.4 cm/sec @ 3 m/sec
Resolution:	0.01cm/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° C - 70° C / ±0.15° C / 0.02° C		
Pressure: Range/Accuracy:	Selectable / ±0.10% Range		
Materials Options:	Acetal / Aluminum / Titanium		
Input Power:			
Voltage Range (Ext DC Input):	12 - 36 VDC		
Average Power (5% duty cycle) / Peak Current:	10 W / 4 Amps		
Output Data:			
Communications:	RS232 (2400-921600 baud), RS485 (2400-230400 baud) 100BaseT (self-contained only)		
Internal Recording:	32 Gbyte		
Environmental:			
Temperature:	-5˚C to 45˚C (Operating), -30˚C to 60˚C (Storage)		
Depth Rating:	300, 3000, or 6000 meter		

Specifications are subject to change without notice

Product Features:

Standard Features:

- Full size vertical beam
- Single Unit 3-Axis Current Profiles, Dual frequency Bottom Track
- Velocity, Echo Intensity Profile Measurements
- Industry Standard Serial Data Interfaces:
  RS232, RS422, RS485 and/or Ethernet
- Small Form Factor
- User-Programmable Operation
- Vertical or Horizontal Electronics Orientation
- Low Power Consumption
- High Accuracy Velocities:
  +/- 0. 4% for 300, 600, 1200 kHz
- Heading: Fluxgate +/- 1º Accuracy

Optional Features:

- Dual Frequency: 300/600, 300/1200, 600/1200 kHz
- Single Frequency: 300/300, 600/600, 1200/1200
- 300, 3000, and 6000 m Depth Ratings
- Plastic, Aluminum, Titanium Housings

Application Areas:

- Waves: ***SeaSEVEN***'s dual frequency's allows users to measure waves where other profilers fail, regions with high tidal ranges. The 60-degree beam spacing provides the lowest available aperture. The narrow beam width vertical beam provides high accuracy surface tracks.

- Turbulence: Higher ping sampling rates allows users to collect high-resolution turbulence data. It can collect more samples, faster and close to the transducer, still collecting current profiles at longer ranges.

- Reynolds stress: research is accommodated with the ability to collect vertical profiles in 10–20 minute bursts of 2-Hz or greater, along-beam velocity's. The large recorder capacity, and ability to do several configurations simultaneously allow collection of many different profiles

- Tidal Research: ***SeaSEVEN***'s ability to resolve down to 1.5 cm resolution allows high quality tidal data time series to be easily collected, transmitted, processed and analyzed.

- Renewable energy: High-resolution current data collected with vessel mounted and fixed mount deployments aid in Tidal and Wave energy research. The data is used to model current structure, turbulence, shears, oscillations, and data collection for extractable energy

- Bottom Boundary layer studies: ***SeaSEVEN***'s high performance Doppler engine and low profile housing allows collecting high accuracy, high resolution, high ping sampling data close to the seabed.

- Sediment Transport: 24 bit A-D conversion provides high-resolution echo intensity profiles, and high speed data download, real-time or self contained, returns it to the host computer. A user can additionally collect particle size and distribution density.