

## Deep Sea Autonomous Turbulence Profiler



[RocklandScientific.com](http://RocklandScientific.com)



The **VMP-6000** is an untethered, autonomous profiling vehicle for full ocean depth. It captures high resolution **direct measurements of micro-scale turbulence** with Rockland's piezoceramic shear probe, and augmented by the fast thermistor (FP07) and integrated oceanographic CTD sensors. Designed to capture a downward profile, the VMP-6000 releases the ballast at a pre-programmed depth and returns to the surface, empowering our customers to achieve their research goals in **deep-ocean dynamics, mixing processes and their understanding of climate change.**



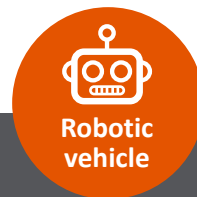
### Measure low epsilon

Proven results in peer-reviewed publications.



### Fast sample rate

Optimized for full ocean column measurements.



### Autonomous robotic vehicle

Pre-programmable untethered vehicle.



### Depth rating

Full ocean depth.

# VMP-6000

Deep Autonomous Profiler



## APPLICATIONS

Proven in peer-reviewed studies, the VMP-6000 is an excellent vehicle for measuring turbulence. It allows users to study deep sea mixing processes throughout the water column, all the way down towards the bottom boundary layer, capturing turbulence generated through topographic interactions, internal waves, and other boundary conditions. Directly measuring turbulence through full ocean depths is valuable in understanding flux between ocean layers, including heat, nutrients, and carbon. The VMP-6000, the only commercially available deep ocean turbulence solution, is an essential tool for studying complex ocean processes in challenging environments.

## GENERAL SPECIFICATIONS

<b>Length (overall)</b>	3.1 m
<b>Diameter housing / drag brushes</b>	17 mm / 836 mm
<b>Weight in air (water)</b>	167 kg (~7 kg) Accounts for ballast
<b>Depth rating</b>	6 000 m
<b>Sampling rate</b>	512 Hz microstructure 64 Hz other sensors
<b>Battery life</b>	Up to 27 hours continuous operation (depending on configuration)

## CONFIGURATIONS

<b>Standard Sensors</b>	2x Shear probes 1x FP07 micro-temperature probe 1x Conductivity-temperature (CT) sensor 1x Pressure sensor 1x Tilt sensor 2x Vibration sensors
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## SENSOR SPECIFICATIONS

*All specifications subject to change without notice*

	Range	Accuracy	Resolution
<b>Velocity Shear Probe</b>	0 - 10 s <sup>-1</sup>	5%	10 <sup>-3</sup> s <sup>-1</sup>
<b>FP07 micro-temperature</b>	-5 - 35 °C	0.005 °C	10 <sup>-5</sup> °C
<b>Pressure</b>	50 / 100 bar	0.1% FS	5 × 10 <sup>-4</sup> bar
<b>CT sensor</b>	0 - 70 mS/cm	0.003 mS/cm	4x10 <sup>-4</sup> mS/cm
<b>Conductivity (SBE4)</b>	-5 - 35 °C	0.001 °C	10 <sup>-4</sup> °C
<b>Temperature (SBE3)</b>			
<b>(Includes SBE5 pump)</b>			

