

# Mid Ocean Depth Turbulence Profiler

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

The **VMP-500** is a versatile profiler for mid ocean depth environments that can **directly measure micro-scale** turbulence with Rockland's piezoceramic shear probe, and augmented by the included fast thermistor (FP07) and WOCE-quality integrated oceanographic CTD sensors. Standard internal battery and memory – or **optional dual-functionality internal logging & real-time output** – empower our customers to achieve their research goals in ocean mixing dynamics and climate change.

**Measure low epsilon**

Proven results in peer-reviewed publications.

**Fast sample rate**

Optional sample rates up to 2048 Hz available.

**User-friendly software interface**

Optional Zissou Premium software available for advanced processing capabilities.

**Depth rating**

Optional 2 000 m depth rating available.



# VMP-500

Vertical Microstructure Profiler



## APPLICATIONS

The VMP-500 is a purpose-designed mid-ocean depth microstructure profiler. The VMP-500 supports deeper coastal and shelf studies (1000 m standard, 2000 m option) for comprehensive microstructure and CTD sampling. The VMP-500 is commonly deployed from ships using a winch system; internal recording (IR) mode with a loose line tether or optional real-time (RT) mode with a cable. Optional integrated biogeochemical sensors (dissolved oxygen, fluorescence, and optical backscatter) can help researchers better understand vertical flux of these parameters in mid ocean depths.

## GENERAL SPECIFICATIONS

Length (overall)	1.67 m
Diameter (with brushes)	914.4 mm
Weight in air (water)	26 kg (~7.5 kg)
Depth rating	1000 m (2000 m as option)
Sampling rate	512 Hz microstructure 64 Hz other sensors
Battery life	Up to 24 hours continuous operation (depending on configuration)

## CONFIGURATIONS

Sensor specifications	2x Shear probes 2x FP07 micro-temperature probes 1x Conductivity-temperature (CT) sensor 1x Pressure sensor 1x Tilt sensor 2x Vibration sensors
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*Biogeochemical integrations available, contact Rockland directly.*

## SENSOR SPECIFICATIONS

*All specifications subject to change without notice*

		Range	Accuracy	Resolution
Velocity Shear Probe		0 - 10 s <sup>-1</sup>	5%	10 <sup>-3</sup> s <sup>-1</sup>
FP07 micro-temperature		-5 - 35 °C	0.005 °C	10 <sup>-5</sup> °C
Pressure		100 bar (200 bar option)	0.1% FS	5 × 10 <sup>-4</sup> bar
CT sensor	Conductivity (SBE4)	0 - 70 mS/cm	0.003 mS/cm	4 × 10 <sup>-4</sup> mS/cm
	Temperature (SBE3)	-5 - 35 °C	0.001 °C	10 <sup>-4</sup> °C

