

Mid Ocean Depth Turbulence Profiler



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 ⁻¹	5%	10 ⁻³ s ⁻¹
FP07 micro-temperature		-5 - 35 °C	0.005 °C	10 ⁻⁵ °C
Pressure		100 bar (200 bar option)	0.1% FS	5 × 10 ⁻⁴ bar
CT sensor	Conductivity (SBE4)	0 - 70 mS/cm	0.003 mS/cm	4 × 10 ⁻⁴ mS/cm
	Temperature (SBE3)	-5 - 35 °C	0.001 °C	10 ⁻⁴ °C

