

## High-Resolution Coastal Turbulence Profiler



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

The **VMP-250** is a versatile profiler for coastal and upper ocean environments that can **directly measure micro-scale turbulence** with Rockland's piezoceramic shear probe, and augmented by the included fast thermistor (FP07) and 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 1,000 m depth rating available.

# VMP 250

## Vertical Microstructure Profiler



### APPLICATIONS

Typical deployment methods include loosely tethered discrete profiles from a surface vessel, or through an ice hole. Available configurations can provide for “tow-yo” profiling behind a moving vessel to improve spatial resolution across a transect, or an uprising kit to measure the uppermost 100 m to the surface. Optional integrated biogeochemical sensors for dissolved oxygen, fluorescence, optical backscatter, and micro-conductivity can better inform fisheries researchers interested in frontal zones and phytoplankton bloom dynamics, or physical oceanographers investigating vertical flux of compounds near the bottom boundary layer.

### GENERAL SPECIFICATIONS

<b>Length housing / overall</b>	1.1 m / 1.6 m
<b>Diameter housing / net</b>	88 mm / 356 mm
<b>Weight in air (water)</b>	11 kg (3 kg)
<b>Depth rating</b>	500 m (1000 m as option)
<b>Sampling rate</b>	512 Hz microstructure sensors 64 Hz other sensors
<b>Battery life</b>	Up to 10 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
<b>Optional Sensors</b>	Additional FP07 micro-temperature Fluorometer-turbidity sensor Micro-conductivity sensor Fast optical dissolved oxygen (DO)
<b>Uprising Profiling Kit</b>	Flotation and weight release hardware for uprising measurements (optional).

### 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>Micro-Conductivity</b>		0 - 70 mS/cm	0.005 mS/cm	0.001 mS/cm
<b>CT sensor</b>	Conductivity Temperature	2 - 65 mS/cm -3 - 45 °C	0.01 mS/cm 0.01 °C	0.001 mS/cm 0.001 °C
<b>CLTU sensor</b>	Chlorophyll Turbidity	0 - 400 ppb 0 - 1000 FTU	1% of FS 0.3 FTU or 2% of measured value	0.01 ppb 0.03 FTU
<b>DO sensor</b>	Dissolved oxygen	0-425 µmol L <sup>-1</sup>	± 2% of measured value or ±2.0 µmol L <sup>-1</sup>	0.01 µmol L <sup>-1</sup>
	Temperature	-3 - 45 °C	± 0.01 °C	0.001 °C

