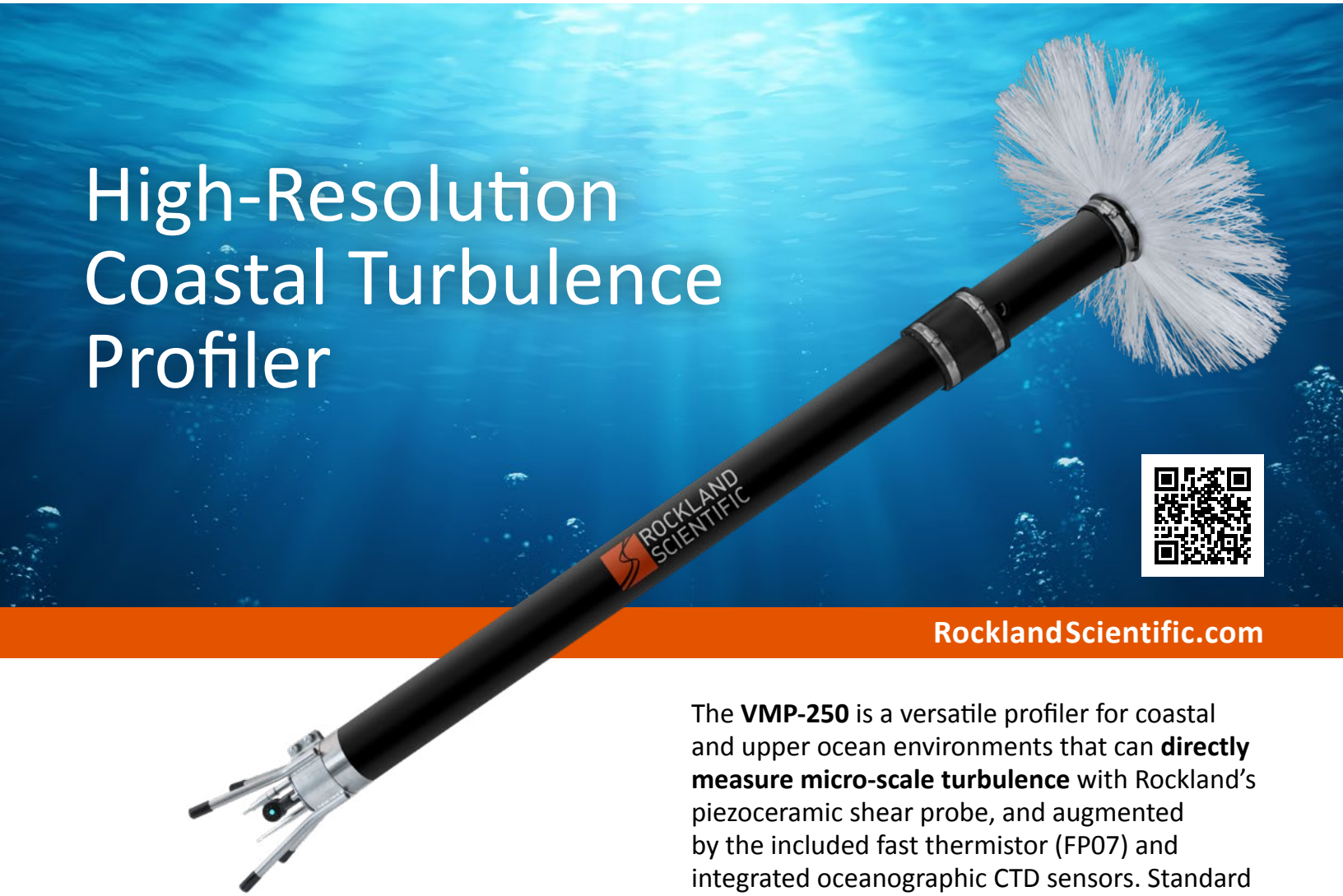
ROCKLAND SCIENTIFIC

VMP-250

Vertical Microstructure Profiler



High-Resolution Coastal Turbulence Profiler

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.

ε to 10^{-11} W/kg

512 Hz

Zissou Essentials

500 m

Measure low epsilon

Proven results in peer-reviewed publications.

Fast sample rate

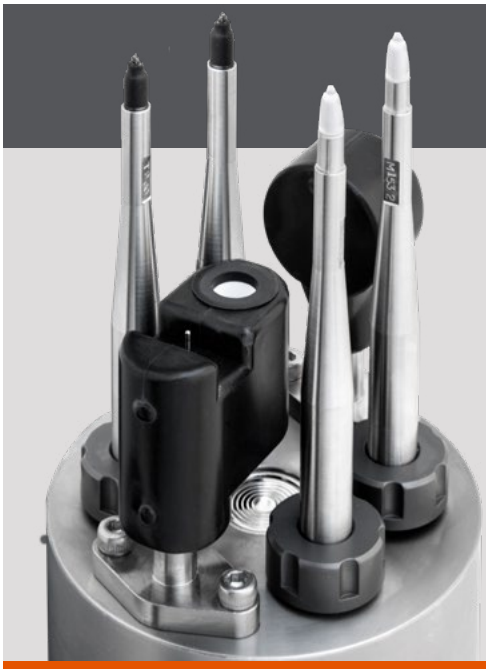
Optional sample rates up to 2048 Hz available.

User-friendly software interface

Optional Zissou Premium software available for advanced processing capabilities.

Depth rating

Optional 1 000 m depth rating available.



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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, and optical backscatter 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

Length (overall) **Diameter housing / net**	1.6 m 88 mm / 356 mm
Weight in air (water)	11 kg (3 kg)
Depth rating	500 m (1 000 m as option)
Sampling rate	512 Hz microstructure sensors 64 Hz other sensors
Battery life	Up to 10 hours continuous operation (depending on configuration)

CONFIGURATIONS

Standard Sensors	2x Shear probes 1x FP07 micro-temperature probe 1x Conductivity-temperature (CT) sensor 1x Pressure sensor 1x Tilt sensor 2x Vibration sensors
Optional Sensors	Additional FP07 micro-temperature Fluorometer-turbidity sensor Fast optical dissolved oxygen (DO)
Uprising Profiling Kit	Flotation and weight release hardware for uprising measurements (optional)

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		50 / 100 bar	0.1% FS	5 × 10^{-4} bar
CT sensor	Conductivity Temperature	2 - 65 mS/cm -3 - 45 °C	0.01 mS/cm 0.01 °C	0.001 mS/cm 0.001 °C
CLTU sensor	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
DO sensor	Dissolved oxygen Temperature	0-425 µmol L^{-1} -3 - 45 °C	± 2% of measured value or ±2.0 µmol L^{-1} ± 0.01 °C	0.01 µmol L^{-1} 0.001 °C

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