

BENEFITS

Cost-Effective

Cost per profile decreases with increasing use of the probe

Superior Data Quality

Uses high-resolution Sea-Bird sensors and internal recording

High Resolution

Depth measured directly with submeter accuracy via a pressure sensor

Minimal Post-Processing

No need for salinity offset corrections or adjustments to the drop-rate equation using CTD profile data

Quick Set-Up

Ready in a few hours. No permanent wiring or desktop installation required

Portable

Minimal demands for deck space and no need for probe storage

Continuous Profiling

No need to alter ship speed

Free-Cast

Probe fully decoupled from ship

Environment Friendly

No pollution with waste materials and is used in ecologically sensitive areas

24/7

Designed for continuous operation

Bluetooth Capability

Wireless data download via Bluetooth

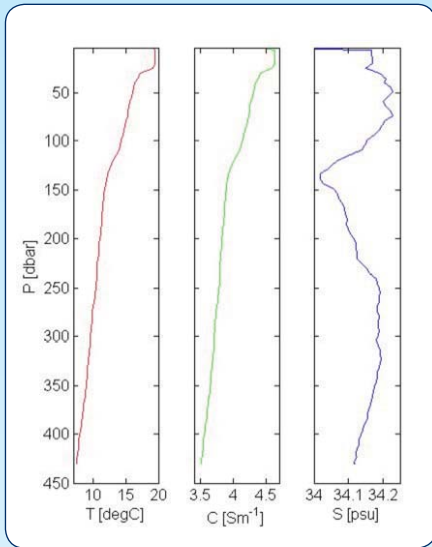


The Oceanscience Underway CTD provides research-quality CTD profiles from moving vessels. The system is extremely portable, cost-effective, and environment-friendly.

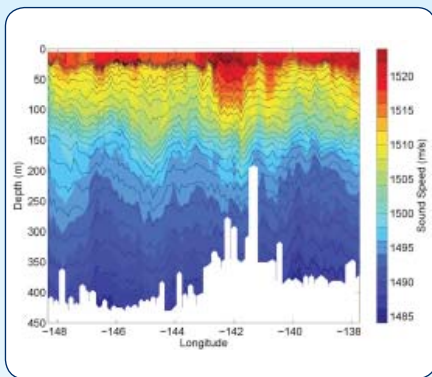
The UCTD consists of a custom low-drag, high-accuracy, retrievable Sea-Bird CTD, high-speed winch with levelwind, line rewiner unit and davit. The instrument yields high-quality CTD measurements to over 400 meters depth. It can be operated at ship speeds up to 20 knots.

The UCTD is ideal for both research applications and hydrographic surveys. The complete system weighs less than 50 kg and requires minimal deck space. Deployments are easy to perform and do not interfere with other ship activities. Data download uses state-of-the-art wireless technology for quick turnaround. The UCTD system combines the convenience of expendables without the recurring cost and negative environmental impact.

CTD Data Samples*



Sample Profile



1,000 km Transect

*Rudnick, D. L., and Klinke, J., "The Underway Conductivity-Temperature-Depth Instrument," Journal of Atmospheric and Oceanic Technology, 2007.



Underway CTD Components

Probe System

The probe consists of a high-accuracy Sea-Bird CTD instrument with embedded data acquisition system and Bluetooth wireless communication interface. The sensor is contained within a streamlined pressure case with an integrated line spool.

Winch

The winch features a large-capacity reel with a custom high-torque DC drive unit and motorized levelwind. Adjustable clutch and motor control allow for fast and safe probe retrieval. The 10-400 UCTD reel holds 1400 meters of Spectra line for profiles to over 400 meters depth at 10 knots.

Rewinder

The microprocessor controlled, dual motor tail rewriter precisely loads the tail spool with Spectra line. The unit may be programmed for different profile depths and is fully automated for quick turnaround.

Power Supply

A 1500 W power supply with 110/220 VAC, 50/60 Hz input supplies power to all system components.

Davit

A universal Davit is available to mount on a rail or tigger stand via a 4" x 4" hole pattern with an adjustable boom.

CTD Sensor Specifications

	Conductivity (S/m)	Temperature (°C)	Depth (dbar)	Salinity (psu)
Resolution	0.0005	0.002	0.5	0.005
Data Accuracy				
Raw	0.03	0.01 to 0.02	4	0.3
Processed	0.002 to 0.005	0.004	1	0.02 to 0.05
Range	0 to 9	-5 to 43	0 to 2000	0 to 42

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