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UnderwayCTD
CTD Profiling From A Moving Vessel

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The Oceanscience UnderwayCTD provides research-quality CTD profiles while underway at up to 20kts. The unique freefall CTD probe, manufactured by Sea-Bird Electronics affords vertical profiles to a maximum depth of 1250m while underway, with stationary casts possible down to 1500m. The probe is tethered to the ship by up to 2km of high strength line, with a unique deployment winch and re-spooling mechanism that allows the probe to be recovered and relaunched time after time without ever needing to stop or slow down. At a constant 10kts, CTD profiles down to 600m are possible. Bluetooth communications make data handling easy, and provide a fast turnaround between casts.

Maximize Productivity

Save hours of valuable ship time by reducing the necessity to stop the ship for a conventional CTD station, or avoid the use of labor intensive or depth-limited towed CTD profilers. Benefit from greatly improved data quality compared to expendable probes.

Versatile And Simple To Use

The UnderwayCTD can be installed on practically any vessel. The small footprint winch can be mounted on a post or rail, and can be set up and operated by one person. The UnderwayCTD components can be transported from ship to ship with ease, making the system ideal for gathering high quality data from vessels of opportunity.

Open Ocean or Shallow Water Options

The UnderwayCTD is available in deep water "free cast" or shallow "tow-yo" configurations. Shallow water "tow-yo" operation offers CTD profiles to 200m every 10 mins at 6kts.

No Expendable Components

UnderwayCTD users leave no sea floor waste behind them, and benefit from temperature and salinity data quality impossible to achieve with single-use profilers.

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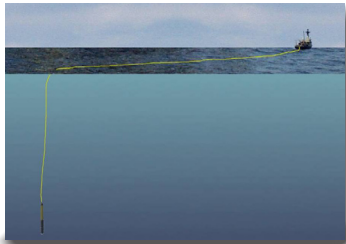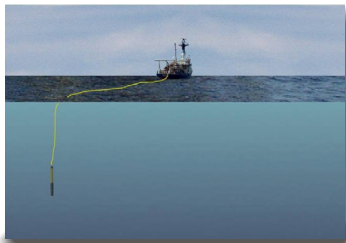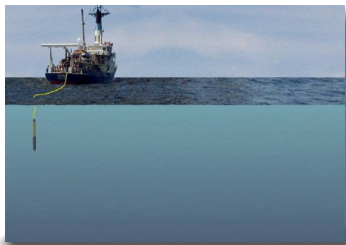
UnderwayCTD Components

Main Winch

The UnderwayCTD winch features a large capacity reel with a high-torque DC drive unit and motorized levelwind, for fast and safe probe deployment and retrieval. The reel holds up to 2000m of high strength line for maximum profiling flexibility. The main winch not only pays out line during deployment as the probe drops through the water column, but is rotated to provide line for re-spooling onto the probe tail using the rewinder. A compact 1500 W power supply (110/220 VAC, 50/60 Hz input) supplies power to all system components.

Rewinder

The microprocessor controlled UnderwayCTD tail spool rewinder precisely loads the CTD probe tail spool with high strength line, typically 300m to 700m of line is added from the main winch, usually equivalent to the desired cast depth. The unit may be programmed for different profile depths and is automated for quick turnaround.

Probe System

The UnderwayCTD probe consists of a ruggedized and streamlined Sea-Bird CTD with Bluetooth wireless communication. The probe and its attached tail spool loaded with high-strength line is simply dropped from the vessel, reaching its target depth rapidly at a 4m/s drop speed. Profiles are stored on the probe and periodically downloaded as desired during operation. A "gravity pumped" conductivity cell and extremely accurate pressure and temperature sensors offer research quality data during freefall, sampled at 16Hz.

Configuration Options

Select up to 2km of high strength line for maximum depth operation (A), or use thicker line for maximum probe retrievability at higher vessel speeds (B). Use the basic "tow-yo" system for shallow water profiling with target depths of 50m to 300m (C).

	Vessel Speed					
	0kts	2kts	4kts	6kts	8kts	10kts
A. Maximum Depth	1300m	1000m	800m	700m	700m	600m
B. Multi Purpose	1000m	800m	650m	600m	550m	500m
C. Shallow "Tow-yo" (Max)	1000m	700m	550m	450m	400m	350m

Order Codes

UC-WIN - Main Winch

UC-REW - Rewinder

UC-PS - Power Supply

UC-DV - Universal Davit

LINE - Spare line

Contact Information

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