



SOUND VELOCITY PROFILES FROM A MOVING VESSEL

The Oceanscience UnderwaySV offers vertical sound velocity (SV) profiles in minutes, without ever having to stop the survey vessel. The latest Valeport digital sound velocity measurement technology is combined with the innovative Oceanscience underway sensor deployment system to generate a revolutionary new tool for hydrographic surveying. Easy to use, portable, compact and affordable, the UnderwaySV saves survey time and promotes a better understanding of sound speed variability for optimum survey results.

VALEPORT FREEFALL SOUND VELOCITY PROFILER

The Valeport-designed sound velocity profiler is tethered to the UnderwaySV winch mounted on the survey vessel by up to 2km of high strength line. The profiler is simply released from the winch and falls through the water column at up to 5m/s until the target depth is reached. The winch is then engaged to recover the probe without any change in vessel speed throughout the deployment procedure. Upon recovery, profiles are downloaded using a Bluetooth link and the profiler is ready for re-deployment.

DEEP WATER PROFILING OPTION

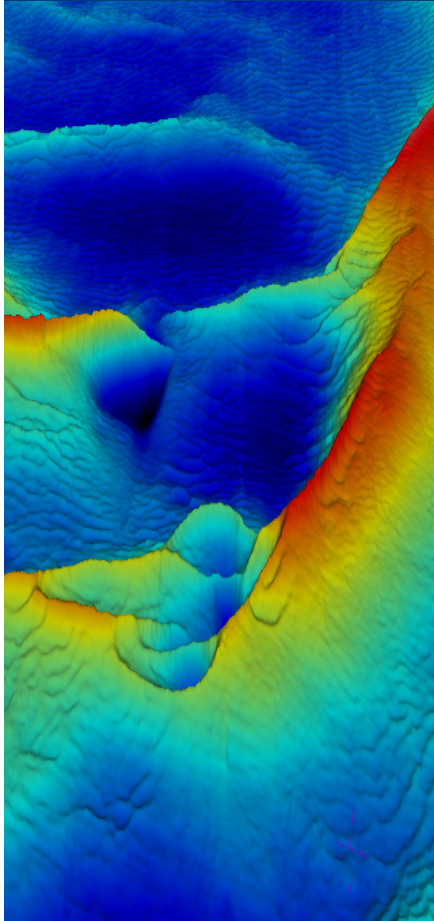
For sound speed profiles deeper than 350-450m, the UnderwaySV system can be expanded to include the tail spool rewinder. The rewinder pre-loads line from the main winch onto a special tail spool attached to the profiler. Upon deployment, line spools off the tail as the profiler drops, with casts down to 700m possible at a survey speed of 8kts.

MAXIMIZE BATHYMETRIC SURVEY DATA QUALITY

The UnderwaySV is ideal for surveys where fluctuations in temperature or freshwater intrusion may create highly complex sound speed patterns. The rapid profiling afforded by the UnderwaySV minimizes downtime and costs to quantify these sound velocity features.

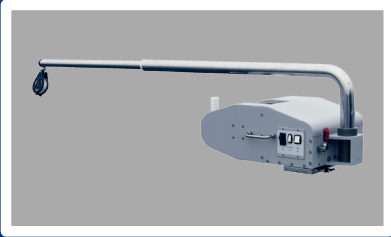
USE NO EXPENDABLE COMPONENTS

Operating costs for the UnderwaySV are minimal. The system requires little maintenance and the profiler returns to the ship after every cast, leaving no trace in the environment.



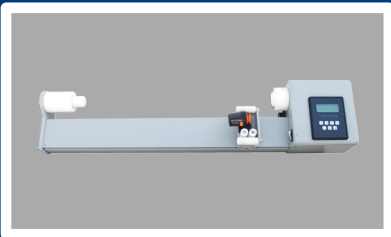
UNDERWAYSV COMPONENTS

MAIN WINCH



The UnderwaySV 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 for deep profiling. A compact 1500 W power supply (110/220 VAC, 50/60 Hz input) provides power to all system components.

REWINDER (FOR DEEP WATER PROFILING)



The microprocessor controlled UnderwaySV tail spool rewinder precisely loads the profiler tail spool with high strength line, typically 350 to 550m of line is added from the main winch for each deployment. The unit may be programmed for different profile depths and is automated for quick turnaround.

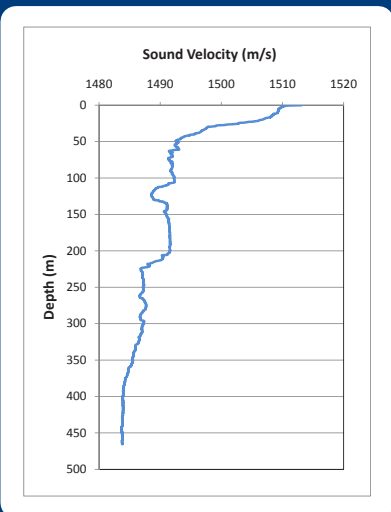
VALEPORT “RAPIDSV” PROBE SYSTEM



The Valeport RapidSV free fall sound velocity profiler is robust enough to handle underway deployment and highly accurate, to offer the best possible SV data for sound speed corrections. The profiler falls at up to 5m/s, but a sampling rate of 32Hz assures a fine vertical resolution in sound speed data. The transducer is mounted in a hydrodynamic nose section to ensure excellent water flow, and electronics are housed in a 2000m rated titanium casing. A Bluetooth module allows fast and easy data recovery as soon as the probe is out of the water.

CONFIGURATION OPTIONS

For shallow water profiling, the UnderwaySV main winch and RapidSV probe system (A) will be a cost-effective solution for underway deployments. For deep water surveys, with profiling depths of over 1000m while underway, opt for the full specification UnderwaySV including the main winch, tail spool rewinder and RapidSV profiler (B).



EXAMPLE PROFILE:
470M CAST CONDUCTED AT 10KTS

	Vessel Speed			
	0kts	4kts	8kts	10kts
A. Shallow Survey	650m	350m	250m	200m
B. Deep Survey	1100m	700m	600m	550m

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