

Teledyne Oceanscience

rapidCAST™

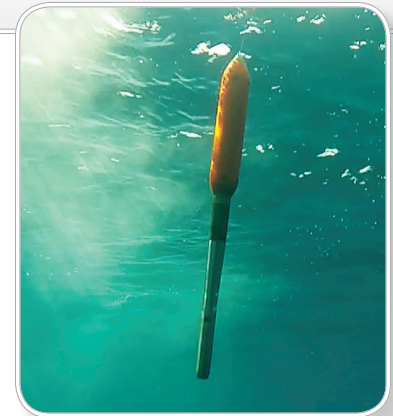
Underway Profiling System

Accurate SV Profiling from a Moving Vessel

The rapidCAST™ system gives surveyors the ability to eliminate survey downtime and minimize bathymetry data uncertainty associated with challenging sound velocity (SV) conditions. The automated profiler offers SV casts to 500 m at 8 kts speed through water without the requirement of an operator on deck. Deeper casts are possible at slower speeds through water (see the chart on reverse side). rapidCAST automatically deploys and recovers the probe safely. With a minimal deck footprint, ability to be quickly mobilized on practically any survey vessel, and high quality direct-reading SV probe, the portable rapidCAST provides near real time SV data for the survey system, a capability previously only possible with large and costly towfish and winch systems.

Using an advanced active line payout system with precise tension control, effects of vessel speed and heave are eliminated to allow the freefall SV probe to maintain a $\pm 5\%$ depth accuracy versus target even with no conducting cable tether.

Using innovative Bluetooth data transfer, the probe is not recovered on board, allowing the surveyor to conduct SV profiles exactly on command, without having to leave the survey PC.



PRODUCT FEATURES

- Rapid underway sound velocity profiles at up to 12 kts
- Repeatable automated profiling to 500 m at 8 kts or deeper at slower speeds
- $\pm 5\%$ depth accuracy versus target
- Automatic Bluetooth data download after every profile
- Lightweight portable system
- Fast single-person mobilization
- Small footprint allows installation on practically any vessel
- Only five-minute cycle time for 200 m profiles
- High quality Valeport rapidSV direct reading probe
- Optional temperature sensor
- Future Valeport Rapid CTD/Fluorescence probe option



rapidCAST™



Accurate SV Profiling from a Moving Vessel

TECHNICAL SPECIFICATIONS

Winch

Length	48 cm (18.89")
Length with Davit	200 cm (78.74")
Width	71 cm (27.95")
Height	46 cm (18.11")
Weight	36 kg (79.36 lbs.)
Input Voltage	48 VDC/ 2.0 kW
Line Capacity	3000 m
Construction	Aluminum/Delrin/Titanium/Stainless Steel
Probe Recovery Speed	0.5-2 m/s (1.5-6.6 fps)
Mount	Swivel base (12 cm diameter)
Hardware	Stainless Steel

Control Module

Weight	14 kg (30.86 lbs.)
Length	52 cm (20.47")
Width	34 cm (13.34")
Height	29 cm (11.42")
Input Power	90-264 VAC (47-63 Hz)
Output Power	48 VDC

Davit

Length	160 cm (63")
Diameter	5 cm (2")
Weight	1.18 kg (2.6 lbs.)

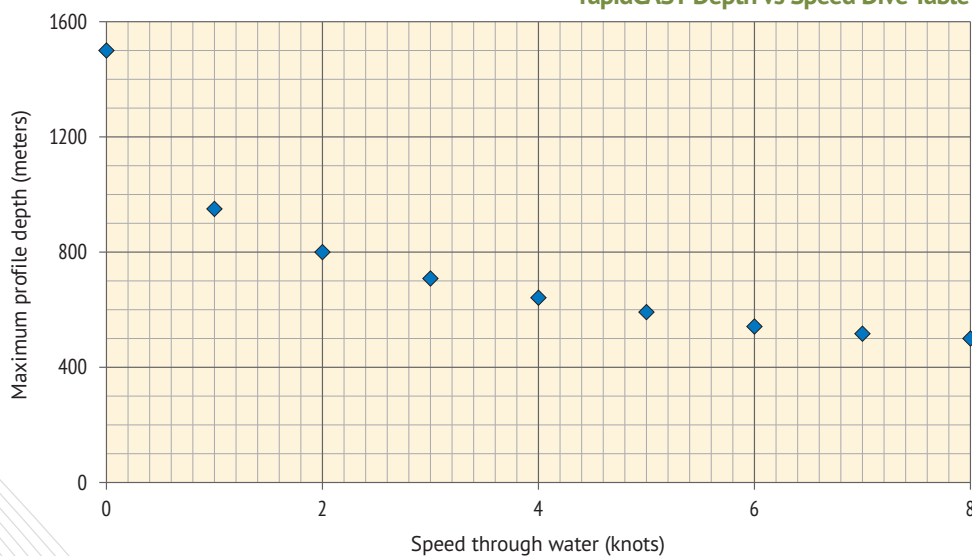
Valeport rapidSV Probe

Length (with tail spool)	111 cm (43.70")
Diameter	5 cm (1.96")
Weight (in air) (without tail spool)	4.48 kg (9.87 lbs.)
Internal Memory	1000 casts
Depth Rating	2000 m
Pressure	Resolution ±0.001% range / Accuracy ±0.05% range / Range 0-200 dBar
Temperature (if fitted)	Resolution 0.001C / Accuracy ±0.01C / Range -5 to 35C
Sound Velocity	Resolution 0.001 m/s / Accuracy ±0.02 m/s / Range 1375 - 1900 m/s

Profiling Capability

500 m at 8 kts or deeper at slower speeds. See the graph below.

rapidCAST Depth vs Speed Dive Table



Notes:
 1. At slower speeds this assumes zero current drift.
 2. Highlighted values are calculated and have not been verified in the field.

Specifications subject to change without notice.
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