

Teledyne Oceanscience

# rapidCAST™

Underway Profiling System

## Accurate SV Profiling from a Moving Vessel

Teledyne Oceanscience's new **rapidCAST™** underway profiling system allows surveyors and scientists to collect precise sound velocity (SV) profiles on the fly. This unique technology eliminates costly survey down time and greatly increases survey efficiency by removing the need to stop the vessel to collect critical SV measurements. The new rapidCAST seamlessly delivers near real-time data, which is critical to ensuring the quality and integrity of bathymetric survey data.

The highly robust and nimble rapidCAST allows for SV casts to over 500 m depth while traveling at speeds of up to 5 kts, without the need for an operator on deck. (Deeper casts or higher speeds are possible—see chart on reverse side.) Using an advanced active line payout system with precise tension control, the effects of vessel speed and heave are eliminated, allowing the freefall SV probe to maintain a  $\pm 5\%$  depth accuracy versus target even with no conducting cable tether. Integrated Bluetooth data transfer capability eliminates the need to fully recover the probe between casts, allowing the surveyor to conduct SV profiles from their survey position, eliminating the need for an added deckhand.

The system's light weight combined with its small footprint allow for fast and easy installation onboard virtually any survey vessel of opportunity, allowing surveyors greater flexibility and decreased installation time.


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### PRODUCT FEATURES

- Rapid underway sound velocity profiles at up to 12 kts
- Repeatable automated profiling to >500 m at 5 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 seven-minute cycle time to 200 m @ 8 kts
- High quality Valeport rapidSV direct reading probe
- Optional temperature sensor
- Future Valeport Rapid CTD/Fluorescence probe option



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## TECHNICAL SPECIFICATIONS

<b>Winch</b>	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.)
	Line Capacity	1500 m standard
	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
<b>Control Module</b>	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)
<b>Davit</b>	Length	160 cm (63")
	Diameter	5 cm (2")
	Weight	1.18 kg (2.6 lbs.)
<b>Valeport rapidSV Probe</b>	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 ±0.01% 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	
<b>Profiling Capability</b>	>500 m at 5 kts or deeper at slower speeds.	

**rapidCAST Depth vs Speed Table—RapidSV Probe**  
(call for details on other probes)

