



Stingray

Technical Specifications

The Stingray is designed to be easily configured for numerous tasks. In addition to a large selection of tool and device options, it is capable of easily interfacing with other user-provided devices. The Stingray has two built-in slide rails designed for the easy installation of additional buoyancy, tools, cameras, lights, sensors, frames, and any other device the job requires. With an in-air weight of 70 lbs, it can easily be deployed and recovered by one person from any stable platform.



ROV COMPONENTS

PERFORMANCE

Maneuverability	3-axis translation and yaw rotation		
Horizontal Speed	Greater than 3 knots on surface with a short tether deployed, depending on payload		
Vertical Speed	0.75-1 knot up or down	Horizontal Speed	0.75-1 knot left or right
Operating Depth	1,150 ft (350 m) of sea water		
Stability	Gravity stabilized in roll and pitch to maintain ± 5 degrees maximum inclination		
Payload	5.5 lb (2.5 kg) in-water weight with removal of all ballast		

PHYSICAL

Size	18" high x 18" wide x 39" long (46 cm x 46 cm x 99cm)		
Weight	70 lbs (32 kgs)		
Slide Rails	Two built-in slide rails for easy installation of additional tools, sensors, etc. run the length of both sides		

THRUSTERS

Horizontal	Two 1/2 horsepower magnetically-coupled, brushless DC motors		
Vertical, Lateral	One 1/2 horsepower magnetically-coupled, brushless DC motor		
Forward Static Thrust	23 lb (10.4 kg) per thruster	Reverse Static Thrust	13 lb (5.9 kg)

VIEWING SYSTEM

Camera	High-resolution 12x zoom color video, NTSC or PAL		
Lens	3.24-38.9 mm (12:1 zoom), f1.8-2.7 with auto iris		
Focus	Remote, macro to infinity	Horizontal Field of View	2.2-53 degrees in water
Sensitivity	1 lux @ 50 IRE		
Lights	Two 150-watt quartz halogen, variable intensity, mounted to tilt bar		
Tilt Mechanism	90 degrees up from horizontal, 90 degrees down from horizontal, built-in slip clutch		
Tilt Rate	10 degrees/second		

SENSORS

Pitch/Roll	± 20 degrees, ± 0.2 degrees with 0.2 degree resolution		
Heading	0-360 degrees, ± 1 degree with 1 degree resolution		
Depth	$\pm 1\%$ of operating depth		
Angular Rate Sensor	Yaw rate gyroscope, ± 150 degrees/second		

ELECTRICAL SPECIFICATIONS

Input Power Reqs	100-120 VAC or 200-240 VAC, 47-63 Hz, single phase, 2500 W, 5000 VA maximum		
Output Power	150-300 VDC at 8 amps, isolated, regulated at vehicle		

TETHER

Length	328 ft (100 m)		
Diameter	0.65 inches (1.65 cm)		
Weight	Neutral in fresh water; 143 lb/1,000 ft (35 kg/305 m) nominal		
Breaking Strength	2,000 lb (900 kg) nominal		
Peak Tension Load	360 lb (164 kg) maximum		
Minimum Bend Radius	8 inches (20 cm)		
Construction	Outer yellow foam polyurethane flotation jacket over Kevlar braid		
Conductors	(2) 75-ohm coax, (4) 18 AWG, and (2) 26 AWG twisted shielded pair		