

HPR ROV

ROVER 100

High-Performance micro ROV



Ocean research, exploration and inspection are all made easily accessible by the latest addition to the HPR ROV rental fleet, the Rover 100. It provides the capabilities of a high-end commercial mini - ROV at the price of the most basic commercial ROVs.

The smooth, stable, and highly manoeuvrable ROV is comprised of six thrusters, electronics and battery enclosures, and a rugged frame. Powerful but dimmable lights provide excellent illumination for the live HD video feed.

Like all of the ROV assets in the HPR ROV rental fleet, the Rover 100 combines high-quality parts, meticulous design, continuous development and rugged reliability with proven success in the field.

Equipped with six powerful T200 thrusters and Basic ESCs, the Rover 100 has the best thrust-to-weight ratio in its class to perform demanding tasks. It is ideal for operations in shallow to moderate waters, with a standard 100m depth rating and up to 300m tether lengths available.

The Rover 100 uses the open-source ArduSub software and PixHawk autopilot to provide autonomous capabilities rarely seen in mini-ROVs and hackability paralleled by none. HPR ROV actively develops and updates its software to enhance the Rover 100's functionality.

Product Features

- Live Low-Latency 1080p HD Video
- Highly Maneuverable Vectored Thruster Configuration
- Stable and Optimized for Inspection and Research-Class Missions
- Easy to Use, Cross-Platform User Interface
- Highly Expandable with Three Free Cable Penetrators
- T200 Thrusters and Basic ESCs
- Standard 100m Depth Rating and up to 300m Tether Available
- Battery Powered with Quick-Swappable Batteries for Long Missions
- Open-Source *ArduSub* Control Software and Open-Source Hardware
- Available Single Function Manipulator and Tether Spool



Rover 100

Technical Specifications

Physical

Length	457 mm	18 in
Width	338 mm	13.3 in
Height	254 mm	10 in
Weight in Air <i>(with Ballast)</i>	10-11 kg	22-24 lb
Weight in Air <i>(without Ballast)</i>	9-10 kg	20-22 lb
Net Buoyancy <i>(with Ballast)</i>	0.2 kg	0.5 lb
Net Buoyancy <i>(without Ballast)</i>	1.4 kg	3 lb
Watertight Enclosure Inner Diameter	102 mm	4 in
Watertight Enclosure Inner Length	298 mm	11.75 in
Cable Penetrator Holes	14 x 10 mm	14 x 0.4 in
Construction	HDPE frame, aluminium flanges, end cap & acrylic tubes	
Main Tube <i>(Electronics Enclosure)</i>	4" Series w/ aluminium end caps	
Battery Tube	3" Series w/ aluminium end caps	
Buoyancy Foam	R-3318 urethane foam rated to 244 m	
Ballast Weight	6 x 200 g stainless steel weights	
Battery Connector	XT90	

Performance

Maximum Rated Depth	100 m	330 ft
Maximum Forward Speed	1.5 m/s	3 knots
Thrusters	T200	
ESC	Basic 30A ESC	
Thruster Configuration	6 thrusters	8 thrusters
	- 4 Vectored	- 4 Vectored
	- 2 Vertical	- 4 Vertical
Forward Bollard Thrust	9 kgf	20 lbf
Vertical Bollard Thrust	7 kgf	16 lbf
Lateral Bollard Thrust	9 kgf	20 lbf

Tether

Diameter	7.6 mm	0.30 in
Length	25-300 m	80-980 ft
Working Strength	45 kgf	100 lbf
Breaking Strength	160 kgf	350 lbf
Strength Member	Kevlar with waterblock	
Buoyancy in Freshwater	Neutral	
Buoyancy in Saltwater	Slightly positive	
Conductors	4 twisted pairs, 26 AWG	



Lights

Brightness	2 or 4 x 1500 lumens each with dimming control
Light Beam Angle	135 degrees, with adjustable tilt

Camera

Camera	1080p digital, USB, Low Light
Camera Field of View	80 degrees horizontally
Tilt Range	+/- 90 degree camera tilt <i>(180 total range)</i>
Tilt Servo	Hitec HS-5055MG

Sensors

- 3-DOF Gyroscope
- 3-DOF Accelerometer
- 3-DOF Magnetometer
- Internal barometer
- Bar 30 Pressure/Depth & Temperature Sensor *(external)*
- Current and Voltage Sensing
- Leak Detection

Battery *(can be changed in about 30 seconds)*

Battery Life <i>(Normal Use)</i>	2-3 hours w/ 18Ah battery
Battery Life <i>(Light Use)</i>	4-6 hours w/ 18Ah battery

