



HydroFrog 25

Multi-purpose
Unmanned Surface Vehicle

Description

HydroFrog 25 is a multi-purpose unmanned vessel system developed and produced by OPT. 2.5 metres in length, HydroFrog 25 utilises a catamaran structure with stable rolling, and an open truss structure in the centre, which allows it to carry single-beam and multi-beam echosounder, sub-bottom profilers, ADCPs, multi-sensor instruments and other equipment to carry out different scenarios and tasks.

The HydroFrog 25 features replaceable and expandable IP65 rated battery packs, electric propulsion and a self-developed power management system for long operating time, safe and stable charging, and environmental friendliness. The main connections can be quickly setup and dismantled, allowing the vessel to be assembled, mission equipment installed and deployed by one or two people in minutes. It could be folded up in a small SUV for transport.

HydroFrog 25 is equipped with a self-developed sound velocity profiler winch, which can collect the sound velocity profile data of the target area via surface control software of the USV. We can also provide a full set of mobile USV LARS system, which is suitable for most challenging project areas. Survey project can never be so convenient.

Application

- ▶ Geological and Geophysical Surveys
- ▶ Hydrographic Surveys of Ultra-Shallow Water, Harbours and Reservoirs
- ▶ Underwater Rescue and Disaster Warning
- ▶ Underwater Structural and Offshore surveys
- ▶ Environmental monitoring

Features

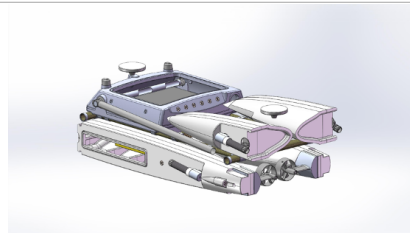
- ▶ IP65 rated battery pack with overcharge, overdischarge, overheat protection
- ▶ Robust and flame-retardant hull material
- ▶ Open truss, high flexibility in carrying
- ▶ Modular design, can be quickly setup and dismantled by single person, and transported by small SUVs.
- ▶ Active-cooling of equipment compartment
- ▶ Electric propellers, easily replaceable.

HydroFrog 25 USV Datasheet

Technical Specifications	
Dimension(Operation)	2.5 m (L) x 1.25 m (W) x 0.7 m (H)
Dimension(Transportation)	1.6 m (L) x 1.2 m (W) x 0.5 m(H)
Weight	25 kg (Hull weight only)
Draft under full load	0.22 m
Payload	50 kg
Seaworthiness	Sea State 3, Wind Force 4
Maximum Speed	12 kn (Empty Load)
Survey Speed	4 kn
Duration	Standard
	Survey Speed 10 h
Propulsion	2 x 2.5 kW electrical thrusters
Hull Material	Flame retardant and environmentally friendly special polymer materials
Battery	114Ah, 37V lithium battery, IP65 waterproof, puncture-resistant and crush-resistant
Ground Station	Standard 8-inch industrial remote control, remote control distance up to 2km (optional 10-inch large screen remote control)
Profile Winch(Optional)	Max cable length: 120m, Max spooling speed: 0.5 m/s, Web-based UI and remote control supported, Payload capacity: 10 kg; Dimensions: 13 x 11 x 11 cm, Weight: 2 kg



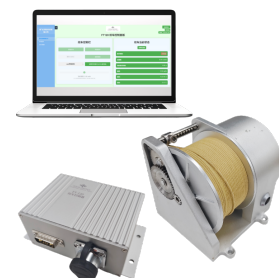
HydroFrog 25 under operation



HydroFrog 25 under transportation

Instrumentation Options

- ▶ SBES/MBES
- ▶ Sub-bottom Profiler
- ▶ Sidescan Sonar
- ▶ 2D/3D Imaging Sonar
- ▶ ADCP
- ▶ Multi-sensor
- ▶ LiDAR
- ▶ GNSS Receiver
- ▶ AIS
- ▶ Camera
- ▶ SVP Winch
- ▶ Towing Winch
- ▶ Water Sampler



FT120 Profile Winch