

OCEAN α

Inspiring Maritime Autonomy



UNCREWED SURFACE VESSEL PRODUCT BROCHURE

A World-leading Supplier of Uncrewed Surface Vessels

OceanAlpha Headquarters



ABOUT OCEANALPHA

Founded in 2010, OceanAlpha is a leading manufacturer of Uncrewed Surface Vessels (USVs). The company has since expanded to a team of over 500 employees, with offices across mainland China, Hong Kong, Singapore, and Qatar.

With 16 years of experience and 1,000+ USVs & 3,000+ rescue robots deployed globally, we provide the industry's most comprehensive solutions. We serve critical sectors including inland water survey & environmental monitoring, marine survey, maritime safety, water rescue and firefighting.

We're committed to driving innovation in maritime autonomy, delivering intelligent, efficient, and reliable solutions that enhance safety and performance for the industry.



Awards & Accreditations

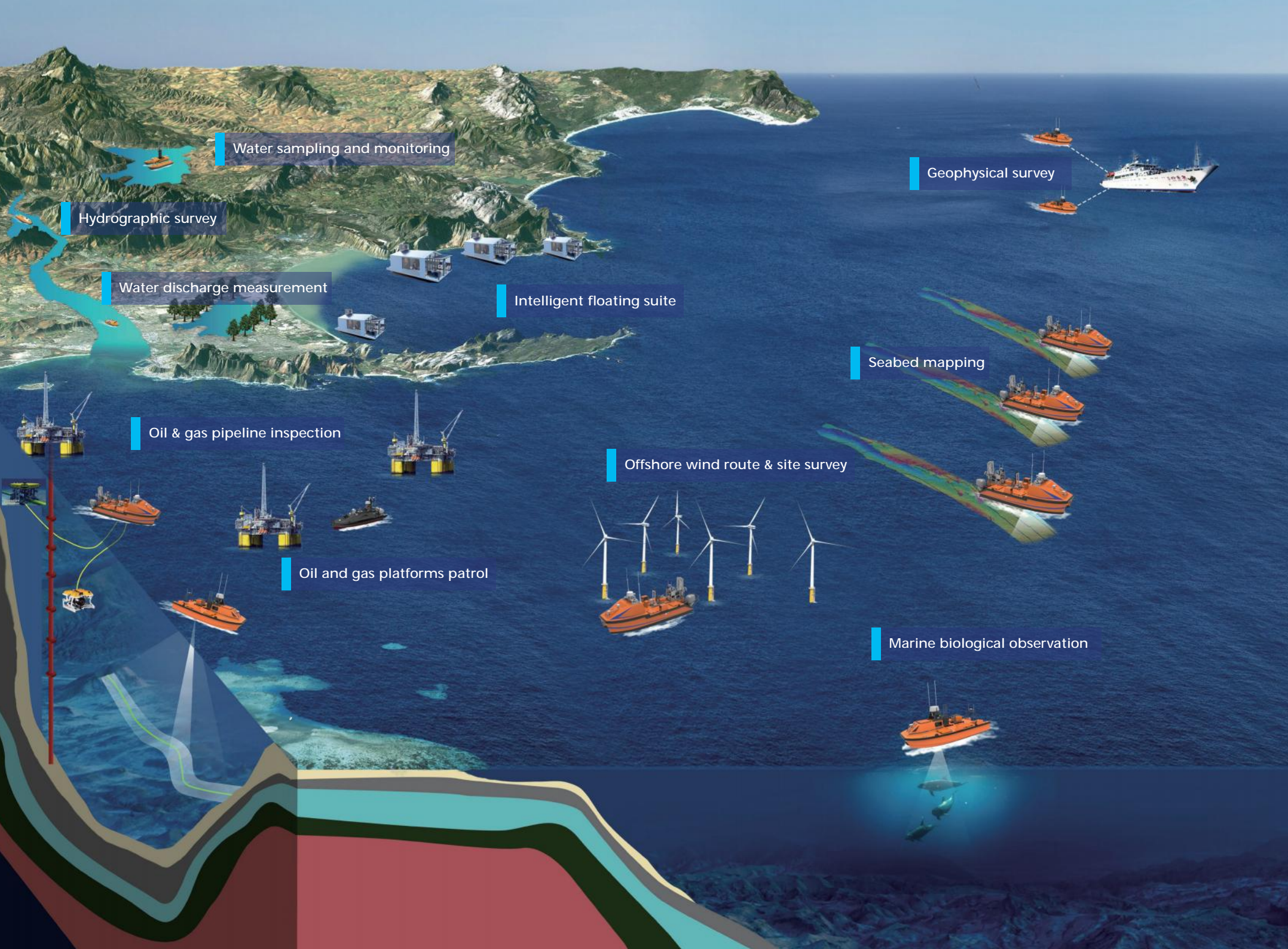


200+
Engineers

603+
Granted Patents

600+
Worldwide Users

4000+
Units Delivered



Water sampling and monitoring

Hydrographic survey

Water discharge measurement

Intelligent floating suite

Geophysical survey

Seabed mapping

Oil & gas pipeline inspection

Offshore wind route & site survey

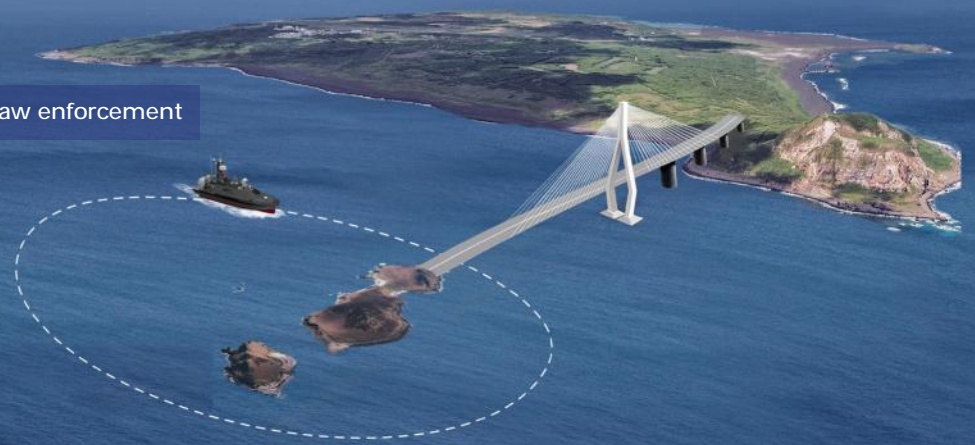
Oil and gas platforms patrol

Marine biological observation

Search and rescue



Maritime law enforcement

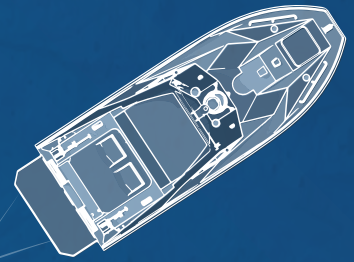


Firefighting



Cluster observation





PRODUCT PORTFOLIO

Inland Survey

SS20 Water Sampling

Hull Size: 1.1m(L) X 0.6 m(W)
Max. Speed: 8kn
Endurance: 4h @ 3kn, 1h @ 8kn
Payload: 10kg



SL20 Hydrographic Survey

Hull Size: 1.1m(L) X 0.6 m(W)
Max. Speed: 8kn
Endurance: 8h @ 2kn, 1h @ 8kn
Payload: 10kg



SL40 Hydrographic Survey

Hull Size: 1.7m(L) X 0.7m(W)
Max. Speed: 10kn
Endurance: 4h @ 4kn
Payload: 25kg



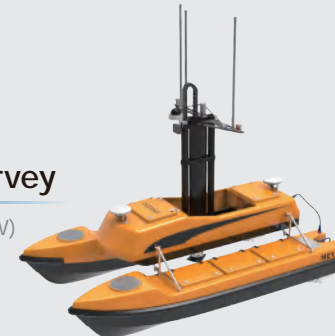
SE40 Water Sampling & Monitoring

Hull Size: 1.6m(L) X 0.7 m(W)
Max. Speed: 8kn
Endurance: 4h @ 4kn
Payload: 25kg



ME120 Hydrographic Survey

Hull Size: 2.5m(L) X 1.4m(W)
Max. Speed: 10kn
Endurance: 8h @ 4kn
Payload: 60kg



PRODUCT PORTFOLIO

Marine Survey

M40P Marine Survey

Hull Size: 4.5m(L) X 2.3 m(W)
Max. Speed: 5kn
Endurance: 48h @ 4kn
Payload: 80kg



L25 Marine Survey

Hull Size: 7.5m(L) X 2.8m(W)
Max. Speed: 10kn
Endurance: 65h @ 4kn
Payload: 200kg



V11 Marine Survey

Hull Size: 14m(L) X 1.5m(W)
Max. Speed: 8kn
Endurance: 75 h / 432nm
Payload: 800kg



L42 Marine Survey

Hull Size: 8.4m(L) X 2.8m(W)
Max. Speed: 6kn
Endurance: 8 days/810nm@4kn
Payload: 500kg



V180 Marine Survey

Hull Size: 23.9 m(L) x 8.8 m(W)
Max. Speed: 12 kn
Endurance: 30.00 days
(Unmanned mode)
Payload: 35 t



PRODUCT PORTFOLIO

Public Safety



Dolphin 3 Remote Control Lifebuoy

Hull Size: 1m(L) X 0.7m(W) X 0.25m
Max. Speed: 7 m/s
Endurance: max 70min @ 3m/s
Towing capacity: up to 1000kg



Stretcher Bed Remote Control Lifebuoy

Hull Size: 1.6m(L) * 0.9m(W)
Max. Speed: 4.7m/s
Endurance: 1hour
Payload: 200kg

Fire Conqueror Firefighting

Hull Size: 11.8m(L) X 2.4 m(W)
Max. Speed: 30kn
Endurance: 200nm
Fire Pump : 1x Darley 3000 gpm



Maritime Security

M75 Patrol & Logistic

Hull Size: 5.3m(L) X 1.7 m(W)
Max. Speed: 25kn
Endurance: 120nm @ 25kn
Payload: 50kg



L30 Patrol & Logistic

Hull Size: 7.5m(L) X 2.6 m(W)
Max. Speed: 35kn
Endurance: 220nm @ 35kn
Payload: 500kg



SS20 Water Sampling USV

APPLICATION

· Single Point Water Sampling

WORKING
ENVIRONMENT

· Lakes, Rivers and Reservoirs



// FEATURES



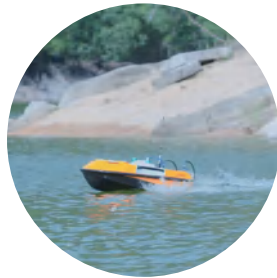
Compact and lightweight, ideal for one-person operation



Automatic water sample collection with a capacity of up to 10L



Duct-type thrusters prevent entanglement with debris and water plants



Powerful propulsion system enables the USV to achieve speeds of up to 8 kn (4 m/s)

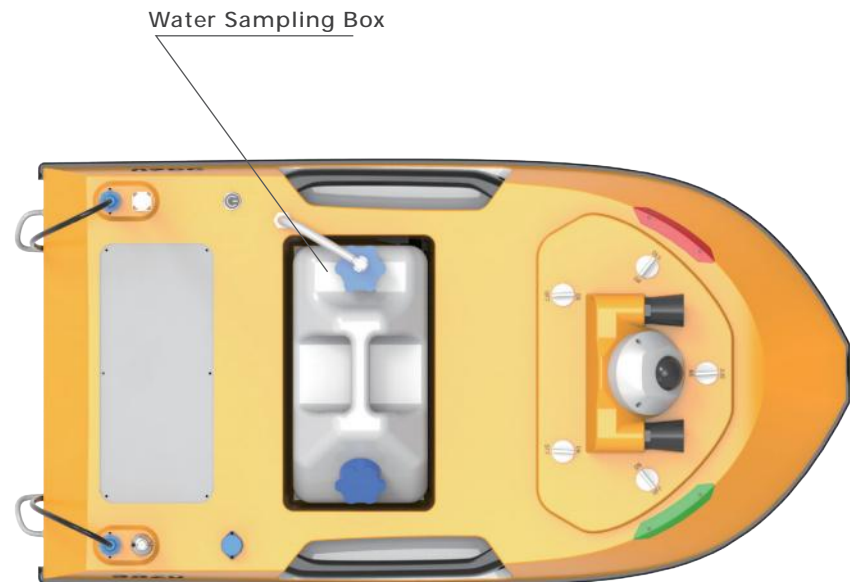


Efficient navigation and sampling using the remote controller

// SPECIFICATIONS

Hull Size	1.1m(L) × 0.6m(W)
Weight	17 kg(with battery)
Payload	10 kg
Sampling Capacity	10 L (single point)
Max. Speed	8 kn
Endurance	4h @ 3kn, 1h @ 8kn
Communication	RC 1km, data telemetry 2km
Draught	0.15m
Propulsion	Duct-type Thruster × 2

// EQUIPMENT



SL20 Hydrographic Survey USV

APPLICATION

· Bathymetric Survey · Flow Measurement

WORKING
ENVIRONMENT

· Lakes, Rivers and Reservoirs



FEATURES



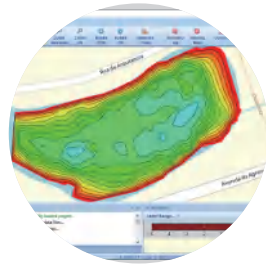
Compact and lightweight design for easy mobilization, launch, and recovery



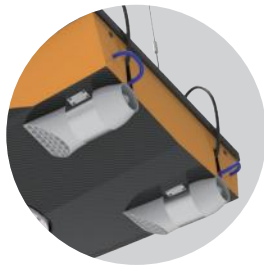
Universal through-hull moon pool flexibly adapts to transducer payloads



Swappable battery pack offers plug-and-play convenience



Real-time return of survey data to base station



Duct-type thrusters prevent entanglement with debris and water plants

SPECIFICATIONS

Hull Size	1.1m(L) × 0.6m(W)
Weight	17kg (with battery)
Payload	10kg
Moon Pool Diameter	177mm
Max. Speed	8kn
Communication	RC 1km, data Telemetry 2km
Endurance	8h @ 2kn, 1h @ 8kn
Draught	0.15m
Propulsion	Duct-type Thruster x 2

EQUIPMENT

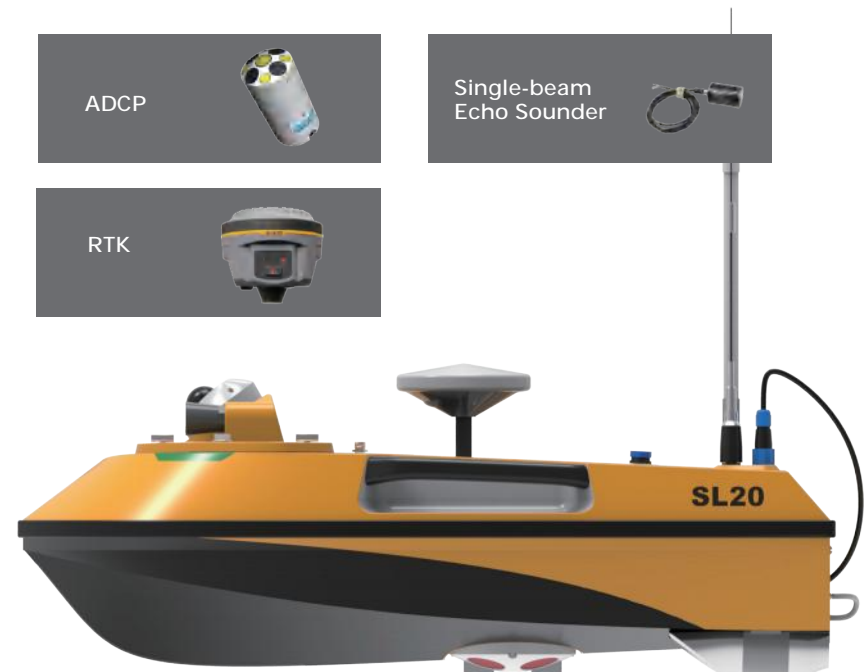
ADCP



Single-beam Echo Sounder



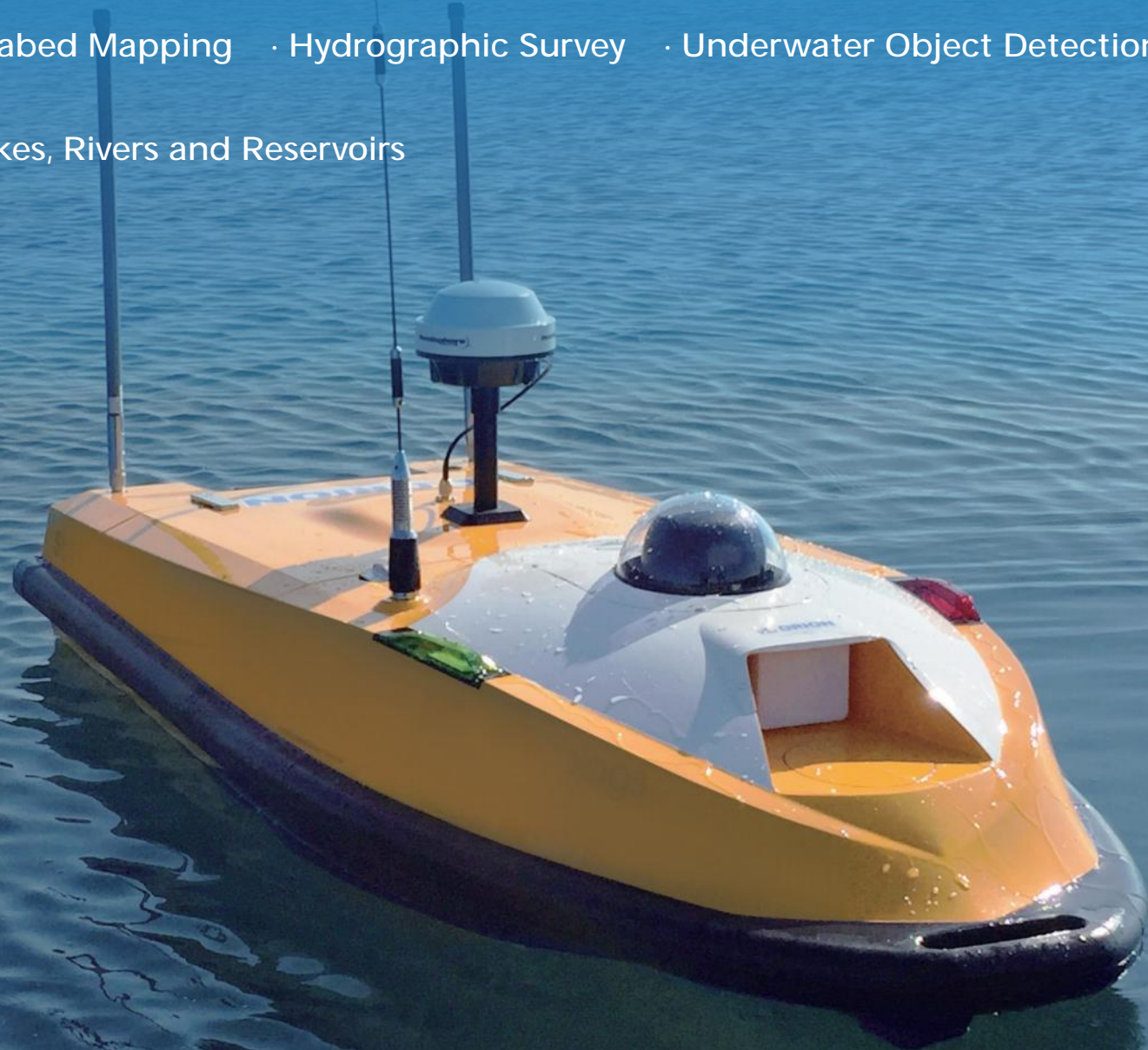
RTK



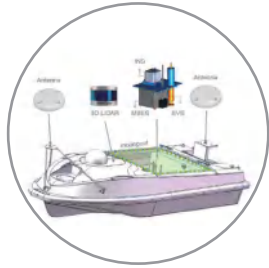
SL40 Multi-purpose USV Platform

APPLICATION | · Seabed Mapping · Hydrographic Survey · Underwater Object Detection

WORKING ENVIRONMENT | · Lakes, Rivers and Reservoirs



FEATURES



Highly expandable, adaptable to a wide range of surveying instruments



Large payload bay and interchangeable payload mount, ready to integrate



Mobile online survey, can return video and acoustic data in real time



Support for waypoint planning, autonomous navigation and collision detection



Powerful propulsion, adaptable to high-velocity waters

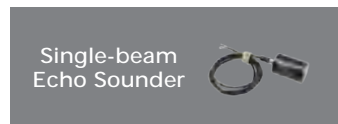


Water-jet thruster, tangle-free of debris and water plants

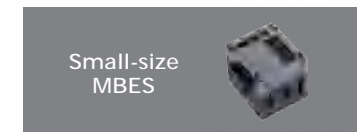
SPECIFICATIONS

Hull Size	1.7m(L) × 0.7m(W)
Weight	42kg (with battery)
Payload	25kg
Max. Speed	10kn
Endurance	4h @ 4kn
Communication	RC 1km, data Telemetry 2km
Draught	0.15m
Collision Avoidance	Millimeter Wave Radar
Propulsion	Electric Water-jet

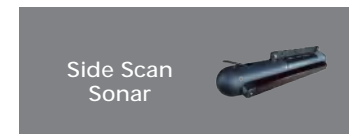
EQUIPMENT



Single-beam Echo Sounder



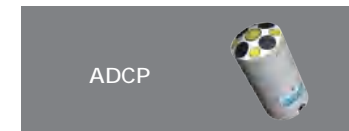
Small-size MBES



Side Scan Sonar



LiDAR



ADCP



SVS



RTK



GNSS

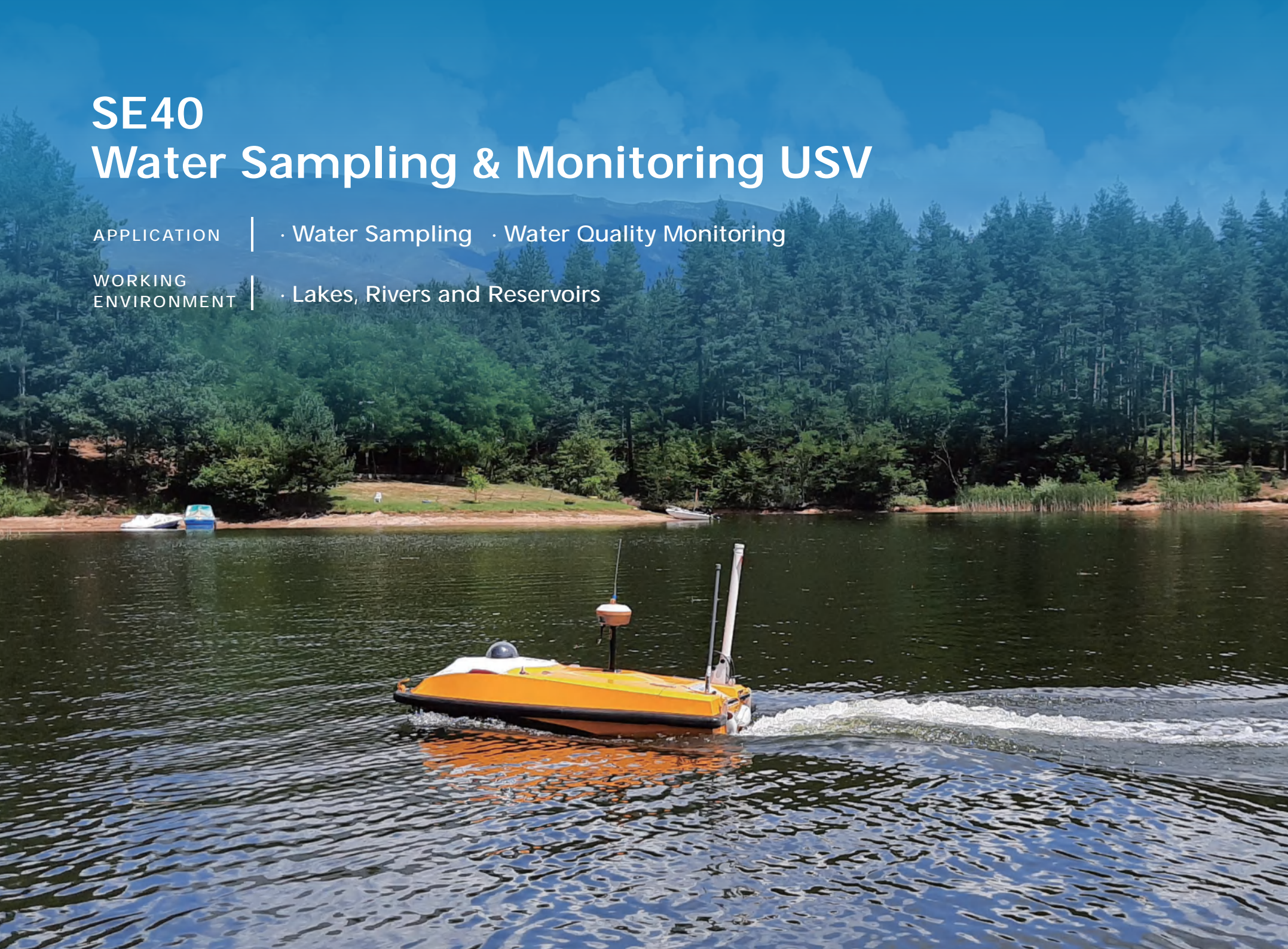
SE40 Water Sampling & Monitoring USV

APPLICATION

· Water Sampling · Water Quality Monitoring

WORKING
ENVIRONMENT

· Lakes, Rivers and Reservoirs



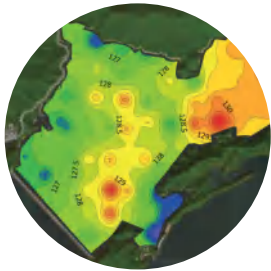
FEATURES



Support for waypoint planning, autonomous navigation and obstacle detection



Automatic water sampler with 4 x 1.8L capacity



Generate water sampling report and water quality distribution map



Collision avoidance and PTZ camera for realtime video streaming



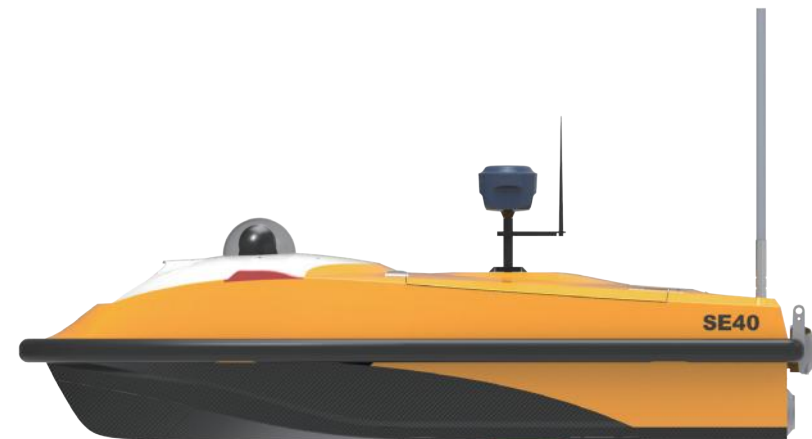
A powerful water-jet brings 10kn top speed and protects the propeller from debris and water plants

SPECIFICATIONS

Hull Size	1.6m(L) × 0.7m(W)
Weight	44kg (with battery)
Payload	25kg
Sampling Capacity	1.8L × 4
Max. Speed	8 kn
Endurance	4h @ 4kn
Communication	RC 1km, data telemetry 2km
Draught	0.15m
Collision Avoidance	Millimeter wave radar

MONITORING PARAMETERS

- PH
- Temperature
- Dissolved Oxygen
- Conductivity
- Turbidity
- ORP
- Chlorophyll
- Blue-green Algae
- Ammonia Nitrogen
- Nitrate
- Chloride
- COD



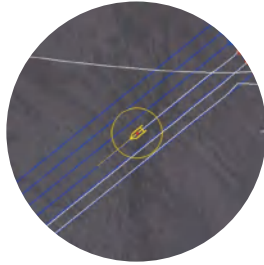
ME120 Multi-purpose USV Platform

APPLICATION | · Seabed Mapping · Hydrographic Survey · Underwater Object Detection

WORKING ENVIRONMENT | · Lakes, Rivers and Reservoirs



FEATURES



Support for waypoint planning, autonomous navigation and obstacle detection



Catamaran hull provides stable sailing, resistant to strong winds and waves



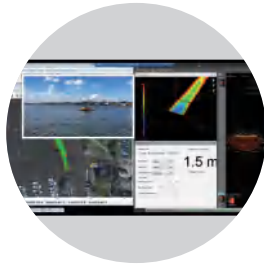
Batteries, instruments, equipment cabins and thrusters can be quickly replaced



Detachable design for quick transport and deployment



Automatic wet end lifter to protect instruments and improve sailing speed



Mobile online survey, can return video and acoustic data in real time

SPECIFICATIONS

Hull Size	2.5m(L) × 1.4m(W)
Weight	160kg (without the lifter)
Payload	60 kg
Max. Speed	10 kn
Endurance	8h @ 4kn
Communication	2km 5.8Ghz (Optional 5km 1.4Ghz)
Draught	0.45m
Collision Avoidance	Millimeter Wave Radar
Battery	50AH, 4 Units

EQUIPMENT



Sampling Buckets



Water Probe



Single-beam Echo Sounder



Side Scan Sonar



LiDAR



Multi-Beam Echo Sounder



ADCP

Customization

M40P Marine Survey USV Platform

APPLICATION

- Geomagnetic Observation
- Seabed Mapping
- Shallow Seabed Exploration
- Hydrographic Survey
- Underwater Object Detection

WORKING ENVIRONMENT

Coastal and near shore waters



// FEATURES



Catamaran Hull Structure with Optimized Stability



Exceptional Maneuverability to Mitigate Blind Spots



Auto winch with 50m+ cable length supports towing surveys



Hybrid Propulsion for Extended Range and Quiet Detection



Designated Lifting system for Easy Launch & Recovery

// SPECIFICATIONS

Hull Size	4.5m(L) × 2.3m(W)
Weight	1400 kg
Payload	80 kg
Max. Speed	5 kn
Endurance	48h @ 4kn
Communication	RC 800m , Data Telemetry 10-15km
Working Sea State	SS3
Draught	0.40 m
Collision Avoidance	Millimeter Wave Radar
Propulsion	Electric Outboard
	Motor x 2, Diesel Generator x 1
Optional Configurations	Auto Lifter, Auto Winch
	Gasoline Version, Max Speed 12kn
	Electric Version, Max Speed 8kn

// EQUIPMENT



Multi-beam Echo Sounder



Single-beam Echo Sounder



Side Scan Sonar



Sub-bottom Profiler



Magnetometer



Water Probe



ADCP



Weather Station

Customization

L25 Marine Survey USV Platform

APPLICATION

- Offshore Geophysical Exploration
- Seabed Mapping
- Offshore Wind
- Oil & Gas Pipeline Inspection
- Marine Biological Environment Monitoring

WORKING ENVIRONMENT

- Offshore Waters



FEATURES



Modular design and enhanced payload meet multiple survey mission demands



Auto towing system supports magnetometer and side-scan sonar surveys



Multiple mounting positions to carry 2-4 mission payloads simultaneously



Anti-rolling and wave-piercing catamaran hull ensures high-quality survey data



Endurance can be extended 130h by adding two 150L oil tanks

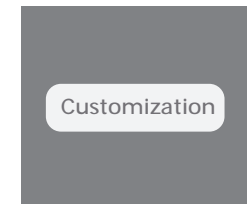
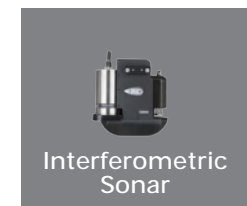
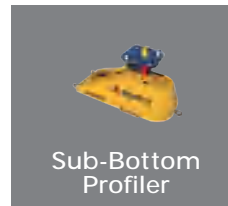


High-accuracy autonomous navigation control algorithm enables precise line tracking

SPECIFICATIONS

Hull Size	7.5m(L) × 2.8m(W)
Weight	2700 kg
Payload	200 kg
Max. Speed	10 kn
Endurance	65h @ 4kn
Communication	RC 1km, data telemetry 10-15km
Working Sea State	SS3
Propulsion	Diesel Outboard Motor * 2
Draught	0.4m
Fuel Capacity	Standard 150L x 2 Optional 150L x 4

EQUIPMENT



L42 Marine Survey USV Platform

APPLICATION

- Offshore wind site and cable route survey
- Channel, harbor, and nearshore survey
- Offshore oil and gas pipeline inspection
- Environmental monitoring, seabed mapping

WORKING ENVIRONMENT

- Offshore Waters



// FEATURES



Hybrid power brings over 8 days/1500km endurance.



Auto payload lifting, towing system onboard.



Propulsion redundancy with four electric motors.



Catamaran hull, wide deck and dual moon pool design.

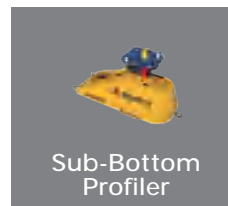


Support multi payloads, MBES, SBP, Towed SSS, MAG, USBL, etc.

// SPECIFICATIONS

Hull Size	8.4 m(L)× 2.8 m(W)
Weight	3.5 t
Payload	500 kg
Max. Speed	6 kn
Endurance	8days /810 nm @ 4kn
Communication	RC 800m,Data Telemetry 10-15km
Working Sea State	SS3
Propulsion	Diesel Generator 2 x 20kW Electric Outboard Motor 4 x 6kW Optional: Electric Outboard Motor 2 x 20kW
Draught	0.3-0.4 m
Fuel Capacity	400 L × 2 (diesel)
Classification	BV(Optional)

// EQUIPMENT



V11 Marine Survey USV Platform

APPLICATION

- Marine scientific research
- Coastal engineering construction
- Navigation safety assurance
- Offshore wind site and cable route survey
- Seabed mapping

WORKING ENVIRONMENT

- Estuary and coastal waters
- Nearshore shallow waters



FEATURES



Large deck for ROV LARS or UAV platform



Support remote deployment and recovery of ROV and wet-end instruments



Modular architecture enables flexible maintenance and efficient component replacement



Supports remote control, autonomous navigation, and manual operation under emergency conditions



Twin electric waterjets provide precise maneuvering and anti-entanglement capability

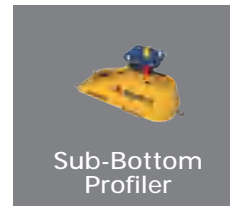


Dual power systems provide redundant backup for improved operational reliability

SPECIFICATIONS

Hull Size	14.0 m(L) × 1.5 m(W)
Weight	8.5 t
Payload	800 kg
Max. Speed	8 kn
Communication	RC 800m, Data Telemetry 10-15km
Endurance	75 h / 432 nm @ working speed
Draught	0.5-0.7 m

EQUIPMENT



V180 Marine Survey USV Platform

APPLICATION

- Subsea infrastructure inspection and maintenance
- Marine scientific research
- Deep-water ROV operation and support
- Offshore oil and gas pipeline survey
- Seabed mapping and geological survey
- Offshore engineering construction

WORKING ENVIRONMENT

- Offshore and deep-sea waters
- Night navigation capable



FEATURES



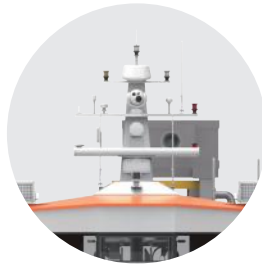
DP2 dynamic positioning with <1m accuracy (remote controllable)



Dual-mode (unmanned/manned) operation with flexible control switching



Main & auxiliary moonpools for ROV/TMS and USBL/MBES deployment



Starlink + emergency communication capability

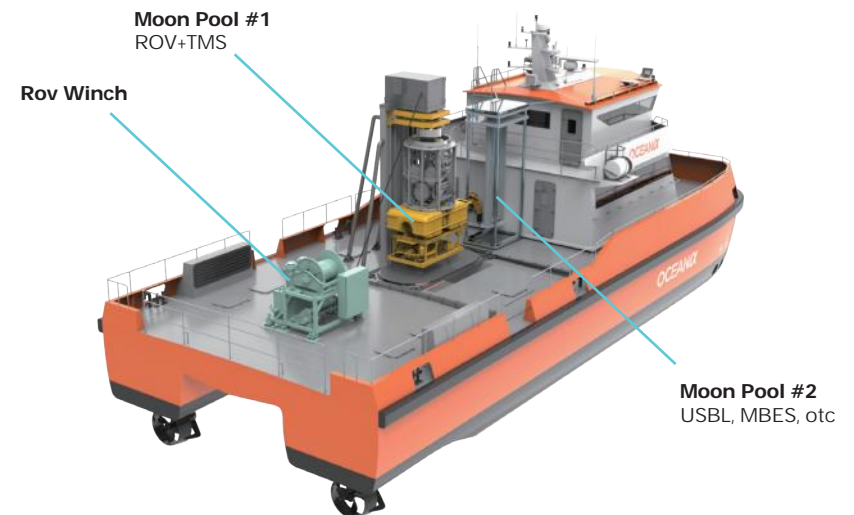


Hybrid power system for extended endurance and low-emission operation

SPECIFICATIONS

LOA	23.9 m
Beam	8.75 m
Full-Load Displacement	180 t
Full Electric Propulsion	
Maximum Speed	12kn
Payload	35 t
Endurance	30.00 days (Unmanned mode)
Dynamic Positioning Level 2, Accuracy of <1 m	
ROV Operational Depth	3000 m
ROV Operational Sea State	Up to SS 4

EQUIPMENT



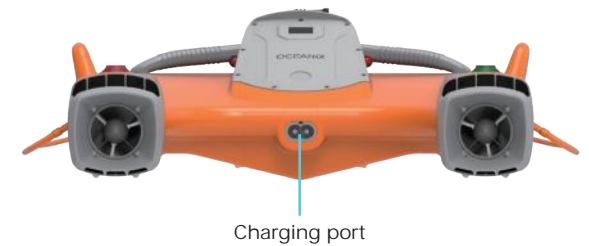
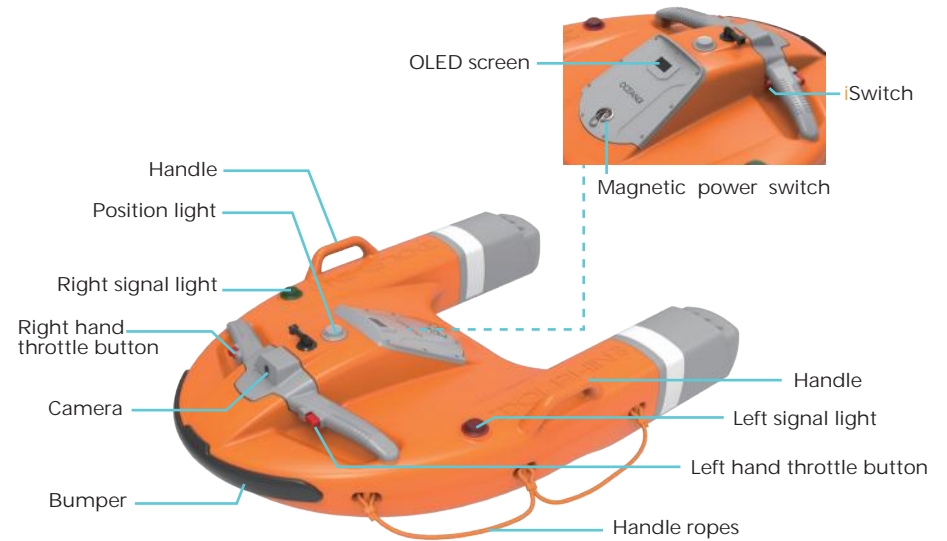
Dolphin 3 Remote Control Lifebuoy

APPLICATION | Water Rescue at Offshore Platforms, Resorts, Beaches,
Reservoirs, Parks, and Yachts



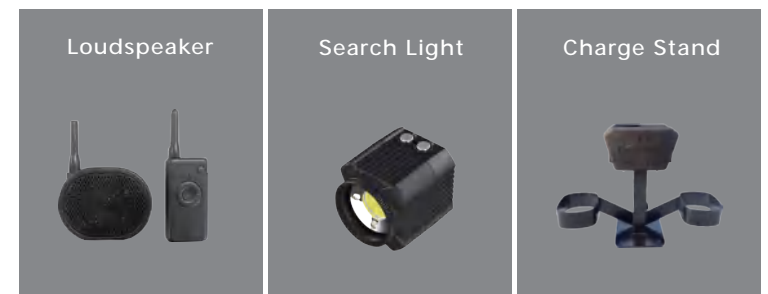
SPECIFICATIONS

Hull Size	1m(L) × 0.7m(w) × 0.25m
Weight	16.75 kg
Hull Material	LLDPE
Waterproof	IP67
Speed	max.7 m/s
Endurance	max.70 min @ 3 m/s
Control Range	max. 800m (line of sight)
Towing capacity	up to 1000 kg



Key Features	DOLPHIN 3 Plus	DOLPHIN 3
Immediate ON	Yes	Yes
Magnetic Standby Mode	Yes	Yes
Onboard Control	Yes	Yes
Water Activation	Yes	Yes
OLED Display	Yes	Yes
Auto Self-Righting	Yes	Yes
Dual GNSS	Yes	NA
Auto Return	Yes	NA
On-board Camera	Yes	NA
Remote Monitor	Yes	NA
Charging Stand	Optional	Optional
Search Light & Loudspeaker	Optional	Optional

OPTIONAL ACCESSORIES



Electric Rescue Stretcher

APPLICATION

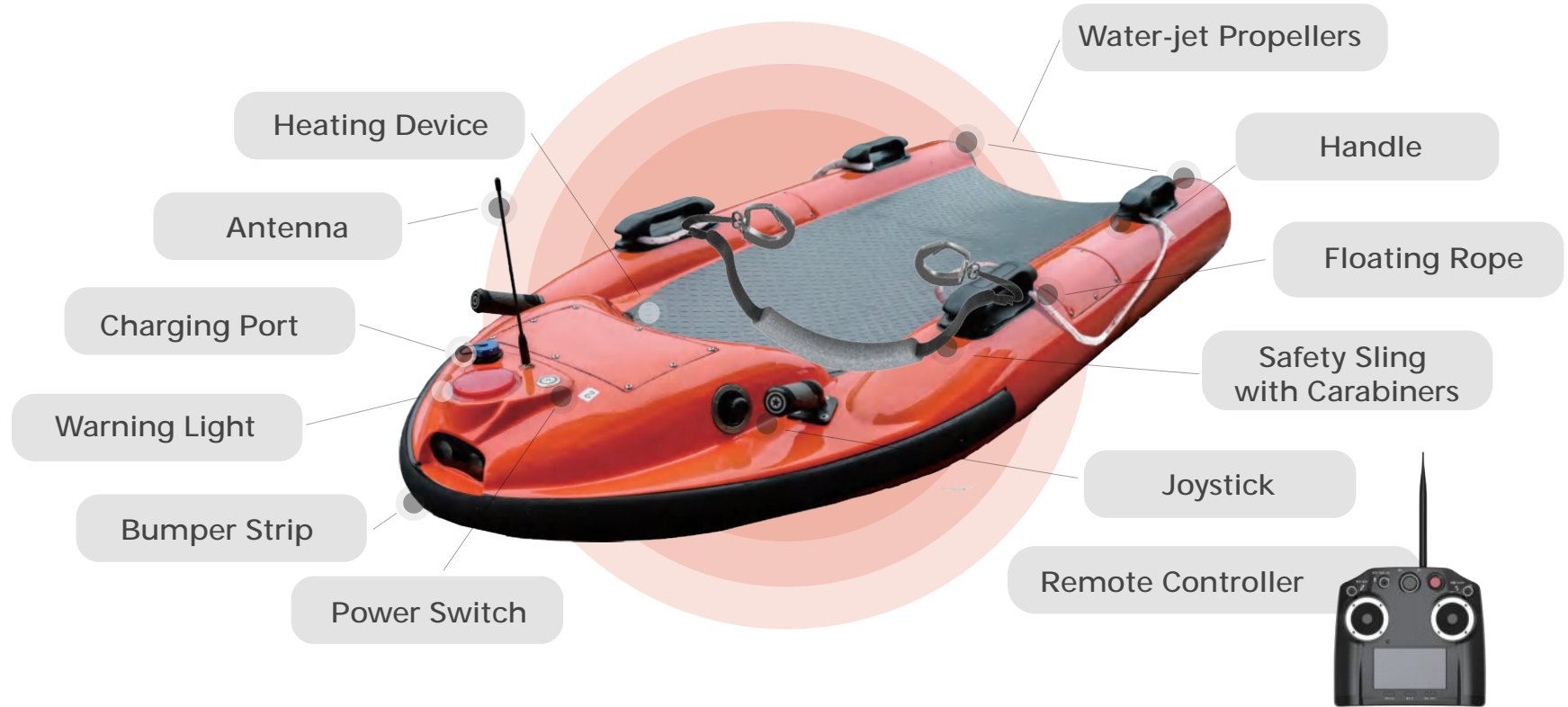
- Conduct rapid on-water rescue operations
- Rescue unconscious drowning victims
- Conduct unmanned transport of emergency supplies and first aid materials
- Assist lifeguards in conducting effective rescue operations in complex waters or for uncooperative victims

WORKING ENVIRONMENT

- Inland and near-shore open waters
- Can be launched from shore or a vessel



Parts & Components



SPECIFICATIONS

Physical

Dimension	1.6m(L) * 0.9m(W)
Weight	30kg
Hull Material	Carbon fiber composite
Heating temp.	27.2°C

Performance

Max Speed	4.7m/s
Endurance	1hour
Control Range	800m (Max. Visible Range of Human Eyes)
Floatability	200kg

Power & Propulsion

Propulsion	Water-jet Thruster
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Key Features

- 1 Powerful thruster for rapid emergency response
- 2 Easy operation via remote control or manual modes
- 3 27.2°C heating to maintain warmth for the rescued individual
- 4 Unmanned transport of emergency supplies and first aid materials
- 5 Safety sling with a carabiner to prevent the rescued person from falling back into the water
- 6 Enhanced security with low battery warning & anti-slip design

Fire Conqueror | Uncrewed Fire Fighting Vessel

APPLICATION

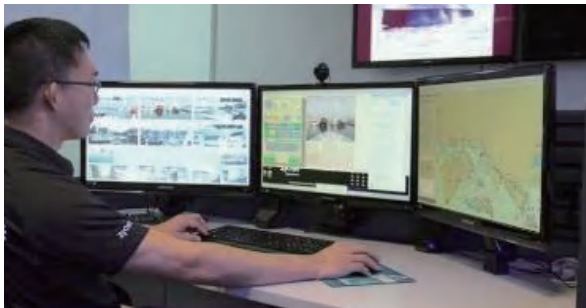
· Marina, Coastal waterway, Ports, Oil facilities, Land wildfires, Fleet fire fighting



FEATURES



24/7 autonomous uncrewed fire fighting vessel conceived with fast response in mind.



With independent berth departure and collision avoidance route navigation, transits faster and safer to the fire location.



The dynamic positioning and monitor aimpoint correction enhances fire fighting effectiveness with minimal operator interventions.

SPECIFICATIONS

Hull Size	11.8m(L) × 2.4m(W)
Draught	0.8 m
Weight	8.6 t
Max. Speed	30 kn
Endurance	200nm
Fuel Capacity	600L
Engines	1 x Cummins QSB6.7 550 hp propulsion 1x fire pump
Fire Extinguishing	StatX Aerosol



M75 Security & Patrol USV

APPLICATION

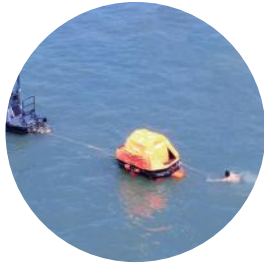
· Security Patrol · Logistics · Oil Spill Responce · Subsea Cable /Pipeline Protection

WORKING ENVIRONMENT

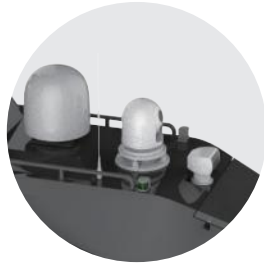
· Large Lakes, Rivers, Ports and Oceans



// FEATURES



Accessing dangerous and human-inaccessible areas



Conducting long-distance searches, range-finding, and locating, even at night



Real-time data and video transmission for rapid response capabilities



High operational intensity and exceptional mobility













Enabling underwater object detection with sonar equipment

// SPECIFICATIONS

Hull Size	5.3m(L)× 1.7m(W)
Weight	1350 kg
Payload	50 kg
Max. Speed	25 kn
Endurance	120nm @ 25kn
Communication	RC 1km, data telemetry 10-15km
Working Sea State	SS3
Propulsion	Water-jet Thruster
Payload	50kg (fuel tank 150)

// EQUIPMENT

Standard		Optional	
			
Loudspeaker	Search Light	Warning Light	Life Raft
			
Electro-optical Pod	360 Camera	Oil Detector	Transport Case
			
UV Fluorometer	Starlink		

L30 Unmanned Patrol Vessel

APPLICATION

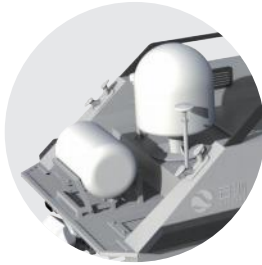
- Conducting 24/7 patrols and security missions
- Performing target surveillance, tracking and issuing warnings to suspicious vessels
- Enabling underwater object detection with sonar equipment
- Coordinating search and rescue

WORKING ENVIRONMENT

- River environments · Nearshore areas



FEATURES



Unique self-righting function, can survive under high sea conditions



Real-time HD video streaming from the electro-optical pod



Strong rescue capability with auto-deploy life raft ejection



High-speed diesel jet pump thrusters reaching up to 25 knots



Supports remote, autonomous, and manned operation modes with flexible maneuverability

SPECIFICATIONS

Dimension	7.5m(L)× 2.7m(W)
Weight	4600kg
Draught	0.6m
Max. Speed	35 kn
Endurance	220nm @ 35kn
Payload	500 kg
Propulsion	Stern Drive or Waterjet Propulsion
Communication	RC 1km, Private Network 10-20km

INTEGRATIONS

Electro-optical Pod

Side Scan Sonar (Optional)

Forward-looking Sonar (Optional)

Policelight

Self-inflating Life Raft (Optional)

Searchlight

Audiovisual Deterrent (Optional)

Loudspeaker



Brunei



UAE



Italy



Nigeria



Qatar



Malaysia



Scotland



U.A.E



Worldwide Applications



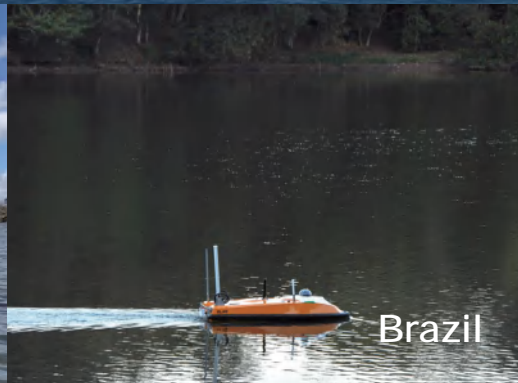
Australia



U.A.E



UK



Brazil

OceanAlpha is dedicated to inspiring maritime autonomy. We believe in the transformative power of technology to revolutionize the maritime industry and create a safer, more efficient, and sustainable future for all.



Antarctica