SEA-KIT

SEA-KIT INTERNATIONAL
SEA-KIT H CLASS 12M & 15M USV

The SEA-KIT H-Class USV's highly configurable design, with a retractable gondola and dual sensor deployment options, is based on a wealth of operational data and feedback collected from the company's proven and established X-Class USVs.

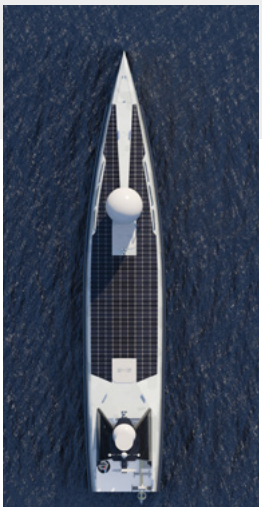
As well as increased power, seakeeping and fuel capacity, the vessel has a composite hull, reducing the ship's weight with the resulting fuel saving and endurance benefits. Active stabilisers minimise roll and improve data collection quality. The new H-Class design also further reduces surface and subsurface noise and vibration. Reduced risk to personnel as well as significantly decreased costs and environmental impact remain an integral aspect of the H-Class – SEA-KIT's latest step towards the company's ultimate zero emissions goal.

Enhanced design development means that this vessel offers flexible operational parameters. It can accommodate a variety of sensors in its retractable gondola, such as a Single or Multi Beam Echo Sounder or a Sub Bottom Profiler. In addition, the USV can deploy a tow cage, SVP, MAPR, CTD and towfish/side scan sonar for successful deepwater and nearshore bathymetric and hydrographic survey missions.

The SEA-KIT H-Class is designed to MCA Category 0, ensuring over-the-horizon endurance capability. Its increased endurance means that multiple missions can be undertaken without the need for frequent returns to shore for refuelling.

SEA-KIT USVs are controlled using SEA-KIT's proprietary G-SAVI control and surveillance platform, which provides safe and secure operation from remote control centres. Data can be transmitted via broadband link or satellite following on-board processing and compression or stored on-board for future retrieval.

The SEA-KIT H-Class design will hold Unmanned Marine Systems certification from Lloyd's Register as well as Lloyd's Register approval for design and hull construction.

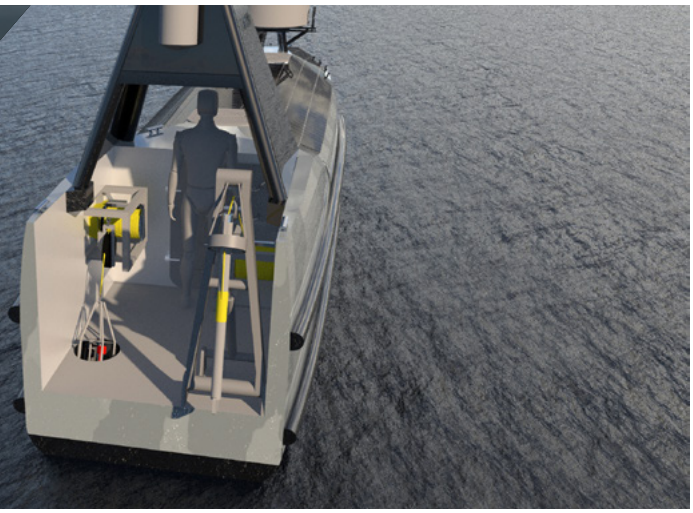


KEY BENEFITS

- Composite hull for higher transit & survey speeds
- Active stabilisers to minimise roll
- Retractable gondola
- Dual sensor deployment options
- Safer, reduced risk, low environmental impact offshore operations
- Commercially proven technology with extended endurance & full ocean capability
- Highly configurable payload options
- Acoustically quiet operation
- Lloyd's Register Unmanned Marine Systems certified & COLREGS compatible
- On-board processing capability, including ATR & data compression

OPERATIONAL CAPABILITIES

The SEA-KIT H USV is designed to support a wide range of maritime operations and is highly configurable.



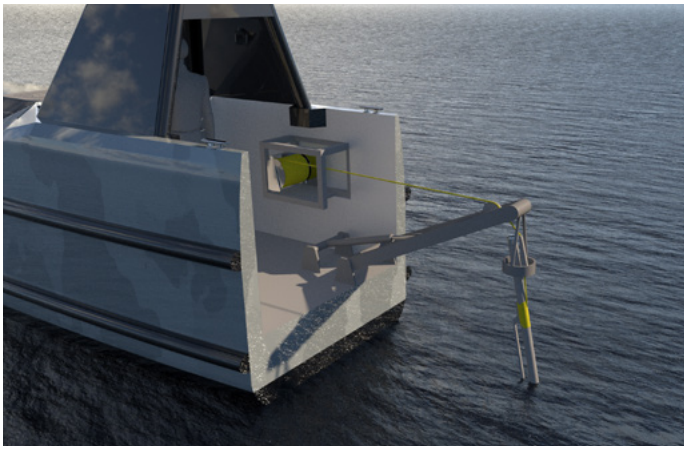
SEA-KIT H

The **SEA-KIT H** includes a multibeam echosounder, station holding and winch deployed sensor payloads to deliver versatile ocean survey capability. The extended endurance and robustness of the H-Class allows for hydrographic surveys many miles from port or mother ship.

Sensors already successfully deployed on other SEA-KIT USVs operating commercially in the Indian Ocean, North Sea, Red Sea and Pacific Ocean include:

- EM304
- EM2040
- EM710
- NORBIT WINGHEAD
- MAPRs
- SBP
- CTD/SVP
- SIDE SCAN SONAR

Equipment installed can be varied subject to request and approval.



SEA-KIT

SEA-KIT INTERNATIONAL
SEA-KIT H USV

VESSEL SPECIFICATION

	12m	15m	
LENGTH OVERALL	11.98	14.95	metres
BREADTH	2.1	2.1	metres
HEIGHT (FROM WATERLINE)	7.12	7.12	metres
OPERATIONAL DRAFT GONDOLA RETRACTED	0.95	0.95	metres
OPERATIONAL DRAFT GONDOLA EXTENDED	2.00	2.00	metres
12m VESSEL MAST AND GONDOLA CAN FIT IN A 40FT CONTAINER FOR EASE OF TRANSPORT			
DYNAMIC STABILISATION SYSTEMS TO AVOID NOISE IN READINGS			
MAX DISPLACEMENT *	7.5	11.5	tonnes
ENDURANCE @ 6kts*	23	39	days
HULL CONSTRUCTION	Composite	Composite	
MAST CONSTRUCION	Composite	Composite	
PROPULSION	2 X 25 kW / 1200 rpm	2 X 25 kW / 1200 rpm	Directional thrusters
	1 X 12 kW / 2000 rpm	1 X 12 kW / 2000 rpm	Azipod thruster
BOLLARD PULL	TBC	TBC	
LOITERING CAPABILITIES	8	8	Beaufort
MAX SPEED	10	9	knots
OPERATIONAL SPEED	6	6	knots
RANGE @ 6kts*	3,300	5,600	nm
FIXED FUEL CAPACITY	2,500	5,000	litres
COMMUNICATIONS	Vessel control and monitoring via the purpose-built G-SAVI package		
	SEA-KIT Autopilot system, Remotely controlled VHF & DSC system with two-way onboard sound feed		
	Wi-Fi, Radio, Satellite (Iridium and Inmarsat) and Kongsberg Maritime		
	Broadband Radio		
	Multiple internal and external cameras, 1 pan-tilt-zoom thermal imaging camera		CCTV
	Multiple Satellite data communication options with seamless data switching		
COMPLIANCE	Lloyd's Register		Class
	COLREGS		Compatible
OPERATIONAL ENVELOPE	Multiple worldwide control stations		Cat-0 Unrestricted
	MCA MGN 280		(Operations)
SELF RIGHTING	YES		

*** Values will depend on the operational profile**

CERTIFICATION

The SEA-KIT H design will hold Lloyd's Register Unmanned Marine Systems certification. The structural arrangement and design of SEA-KIT is certified by Lloyd's Register.

Lloyd's Register

CONTACT US FOR INFORMATION ON THE SEA-KIT XL CLASS (18M)

SEA-KIT

SCAN TO WATCH THE SEA-KIT STORY SO FAR

G-SAVI – A VIRTUAL HELM FOR REMOTE USV CONTROL

G-SAVI is SEA-KIT's proprietary, purpose-built virtual helm station. Numerous software elements interact with onboard systems, allowing the vessel operator to:

- Take direct control of the vessel's autopilot and access all features, including multiple control modes
- Access full admin control through various levels of operator user accounts
- Monitor the connection state of all systems onboard the vessel
- Switch power to all onboard systems and control their function
- Monitor machinery, environmental and vessel health data and easily recall data from any point in time.

G-SAVI can be easily customised to control additional equipment. It also incorporates the vessel's numerous redundancy features and can be installed on most standard desktop computers for the control of USVs located anywhere in the world.

REDEFINING THE WAY WE WORK OFFSHORE

SEA-KIT International is a British SME providing hi-tech, robust USV solutions for nearshore and over the horizon deployment. The company is sharply focused on driving down the cost of geo-data collection and reducing the sector's carbon emissions. Since Shell Ocean Discovery XPRIZE success in 2019, SEA-KIT USVs have achieved numerous world firsts and are now deployed around the world on commercial projects.

FIRST INTERNATIONAL COMMERCIAL UNCREWED TRANSIT IN 2019

22 hour transit in busy shipping lane

5% fuel consumption compared to crewed vessels

2.5 Only 0.2% of 2.5 tonne payload capacity used

1 shipping container needed to deploy USV globally

FIRST UNCREWED OFFSHORE PIPELINE INSPECTION IN 2019

4 offshore pipelines inspected

175 175km of pipe surveyed

100 Up to 100km from shore

6 days offshore operation

0 risk to personnel with no crew onboard

UNCREWED ATLANTIC SURVEY MISSION IN 2020

22 days offshore

1.5 billion data points gathered

24/7 remote operation from UK control centre

1200 1200+nm travelled

1000 1000+km^2 ocean floor mapped

WWW.SEA-KIT.COM / INFO@SEA-KIT.COM / +44 (0) 1206 625180