Everything within Reach

Reach Remote

A major milestone for uncrewed over-the-horizon maritime operations

Length
23.90

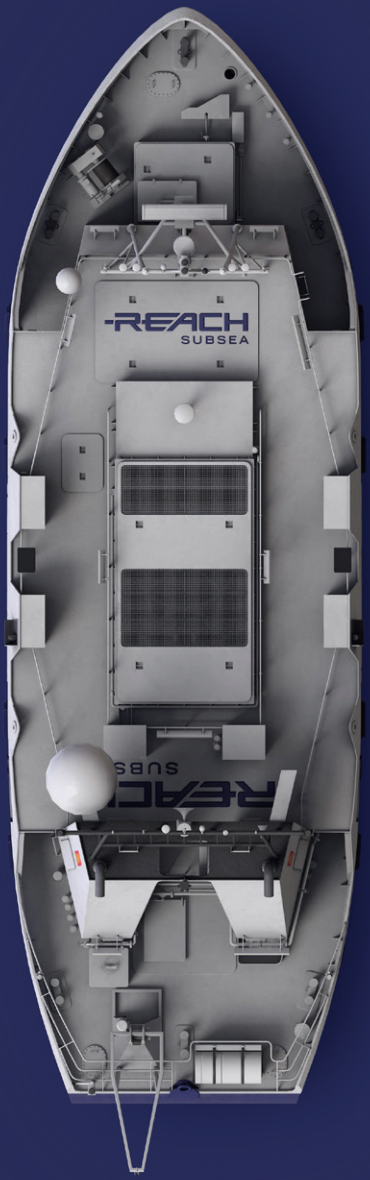
Max speed (knots)
11.0

Gross tonnage (t)
230

Min. Endurance (days)
30

Sustainable access to ocean space, find out more at reachsubsea.com

REACH SUBSEA



SCAN ME

Setting new standards

Introducing Reach Remote: A pioneering fleet of uncrewed 24-meter surface vessels (USVs), featuring hull-mounted survey sensors and a Work Class Electric ROV.

Operating under the Norwegian Flag, these vessels are poised to revolutionize offshore subsea operations, aligning with sustainability initiatives. Reach Remote offers secure, eco-friendly, and cost-effective solutions for global subsea inspection, survey, and intervention services. This ground breaking project integrates Uncrewed Surface Vessels (USVs) with Remotely Operated Vehicles (ROVs), paving the way for advancements in remote maritime technologies and marking a significant milestone in global maritime operations.

Key features include

- Length: 23.9 meters
- Optimized for low energy consumption
- Electric Work Class ROV onboard
- Hull-mounted survey sensors
- Endurance of 30 days
- No personnel onboard

Strategic Partners

Through strategic partnerships with industry leaders in remote and autonomous systems, Reach Subsea ensures expertise and innovation.

Kongsberg Maritime is at the forefront of USV design, with specialized knowledge in key components such as the Launch and Recovery System (LARS). Massterly, a joint venture between Kongsberg and Wilhelmsen—oversees the manoeuvring of the USVs and manages their remote and autonomous control systems. Reach Subsea is responsible for mission planning and execution of subsea operations. These partnerships bring together extensive experience in remote and autonomous vessel operations, forming a cornerstone of the Reach Remote project's success.

Uncrewed remote operations

The Reach Remote USV will be uncrewed from day one and equipped to operate from a Remote-Operations Control Center (ROC).

The USV will be equipped with state-of-the-art systems to enable remote operations, covering requirements from all stakeholders such as regulators, clients, and class. Multiple communication systems are incorporated in the design, such as VSAT, 5G, Iridium, Ceragon Pointlink and Starlink.

USV technology and capabilities

The USV is equipped with the newest technology from Kongsberg including hull mounted dual EM2040 multibeam echosounder and a Topas PS120 sub-bottom profiler system.

The ZEEROV system has the capacity to carry all standard survey systems, including dual multibeam, side-scan sonar and sub-bottom profiler systems. The navigation is improved by the built-in acoustically aided inertial navigation system.

The USV is designed as a data collection platform utilizing both hull mounted systems and ROV based survey systems.

The vessel has the capacity to perform bathymetric survey and sub-bottom surveys to a water depth of 500m using the hull mounted equipment. Utilizing EM2040 in a dual configurations enables superior swath and data resolution ratio.

ZEEROV work class payload capacity further enable the USV as data collection platform. The ZEEROV will have acoustically aided inertial navigation system to improve the HiPAP 502 positioning. The ZEEROV will be able to provide high resolution geophysical survey including gradiometer, visual and acoustic pipeline surveys, general visual and photogrammetry inspection surveys.

The survey operations will be monitored from the survey operational center and near real-time data acquisition results will be provided continuously for quality control and made available for employers in a visualized solution.

Reach Subsea and its partners are collaborating with the Norwegian Maritime Authority to ensure that the vessels are just as safe to operate as a comparable conventional vessel. Reach Subsea is also contributing via different channels in establishing guidelines and regulations for remotely operated vessels. International regulatory frameworks, such as the Maritime Autonomous Surface Ships (MASS) Code, are being developed to govern the safe operation of remote and autonomous vessels globally.


Aerial Drone Capacity
Multiple redundant communication carriers
Battery packs
Electric Work Class ROV onboard
Multibeam echo sounders
Sub-bottom profiler

ZEEROV: Cutting-edge ROV innovation

ZEEROV introduces a revolutionary leap in ROV technology, featuring full electric work-class capabilities driven by an innovative power management system.

Key features include

- 150 horsepower
- 2000 meters depth rating
- Powerful Electric Propulsion
- Prepared for Survey sensors
- High payload capacity
- 30 days submersion

ROV system

Manufacturer	Kystdesign
Model	ZEEROV
Dimensions (L/W/H)	2750 × 1700 × 1690 mm
Weight	3800 kg
Payload	600 kg
Through frame lift	1500 kg
Power	115 kW / 150 hp
Depth rating	2000 m
Umbilical length	1065 m

TMS

Manufacturer	Kystdesign
Model	E-TMS
Dimensions (Ø/H)	Ø2200 × 1640 mm
Weight without tether	2100 kg
Tether length	330 m (max. 400 m)

This system not only increases the ROV's power but also enhances its manoeuvrability, while maintaining a compact form factor comparable to the proven Supporter ROV.

Designed with a paramount focus on reliability and flexibility, ZEEROV ensures prolonged submersion and seamless remote control from shore, making it a key component for long-term operational success.

Refined through years of operational experience and hands-on development by Kystdesign, ZEEROV boasts refined technology. Its advanced control system is equipped with various auto functions, including AutoPOS and AutoTRACK capabilities, enabling efficient over-the-horizon control from a Remote Operation Center onshore.

Control room & situational awareness

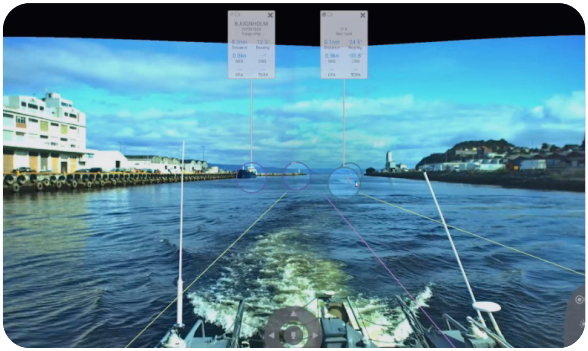
Various levels of autonomy, monitoring and control.

- Monitor and observe
- Control and support
- Operate and overrule
- Direct Control

Enabling remote supervision and detection.

PTZ camera, Radar, AIS, GPS, Doppler, Gyro, SRS, Echosounder, Wind

Mission Manager
Automatic Navigation System (ANS)
Situation Awareness System (SA)
Advanced Manoeuvring System (AMS)
Advanced Automation System (AAS)



Human in the loop - HITL

"Collaborative systems that combine the subtlety of human reasoning and the power of intelligent automation"

DNV	Det Norske Veritas
IMO	International Maritime Organisation
LARS	Launch and Recovery System
L&R	Launch & Recovery
LSW	Light Ship Weight
MBR	Maritime Broadband Radio
MT	Metric Tonnes
ROV	Remoted Operated Vehicle
TMS	Tether Management System

Reach Subsea information

Company Name	Reach Subsea AS
Headquarters	Norway
Operational area	Globally
Certifications	ISO 9001, ISO14001, ISO45001
QSHE accreditation	Achilles, IMCA

General information

USV type	Reach Remote, Newbuild
Manufacturer	Kongsberg Maritime
Degree of autonomy	Autonomous shipping Degree three (IMO)
Degree explanation	The ship is controlled and operated from another location. There are no seafarers on board.

Principal dimensions

Length (Rule)	23.90 m
Breadth	8.00 m
Draught	5.5 m max draft
Deadweight	105 MT (with open moonpool)
Gross Tonnage	230
LSW	265 MT

Specifications Remote 1 / Remote 2

Building year	2024
Flag	Norway
Port of Registry	Haugesund
Call sign	JXMQ / JXOW
IMO No.	9972191 / 9972206
Class	DNV +1A (hull only), Battery (Power), Recyclable, ER (SCR)

Power, propulsion and thrusters

Azimuth thrusters	2 × 350kW-ZF ATL 4014 WM-FP
Main engines	2 x Volvo Penta D13-600 MH
Engine type	Variable speed gen sets
Engine power	2 × 441 kW
Generators	2 × 385 kW
Battery capacity	2 × 369 kWh

Bunkers capacities

Fuel oil	74.1 m^3
Urea	5.5 m^3
Bilge water	3.4 m^3

Performance - USV

Endurance	Min. 30 days
Max speed	11 knots
Service speed	9 knots
DP limits	3.5 m Hs, 20 m/s wind

Navigation, positioning, communication

Reference system	SpotTrack, Dual Seapath380, DPSi4
Underwater positioning	HPR HiPAP 502
Hull mounted sensors	Multi Beam Echo Sounder (DH EM2040), Sub-bottom profiler (TOPAS PS 120)
Communication	VSAT, Ceragon Pointlink, Dual Starlink, Iridium, MBR, 5G

Lifting appliances

LARS	8.6 MT SWL trough LARS winch

ROV system

Manufacturer	Kystdesign
Model	ZEEROV
Dimensions	2500 × 1700 × 1650 mm (LWH)
Power	115 kW electric propulsion with optional HPU for manipulators
Umbilical	1065 m
TMS	Kystdesign
Tether	330 m
LARS	8.6 MT SWL
Tooling	Mission optimized ROV skids. Two tool garages onboard

Performance ROV

L&R Limitation	3.0 m Hs
Depth rating	2000 m
Service interval	30 days

Our vision “Sustainable access to ocean space” underpins our commitment to take part in the creation of a sustainable future.

Our services are delivered through a fleet of vessels, supported by offices in Norway, Sweden, the UK, the US, Brazil, Cyprus, Trinidad, Australia, and Singapore.

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