



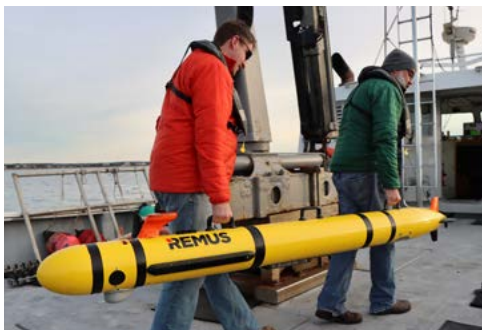
REMUS 300M

Unmanned Underwater Vehicle

MINE COUNTERMEASURES VARIANT

The REMUS 300 is our latest small-class, two-man portable unmanned underwater vehicle (UUV) with increased modularity and maximum payload flexibility.

The open architecture and modularity of the REMUS Technology Platform facilitate increased capabilities, interoperability and applications while decreasing risk and cost.

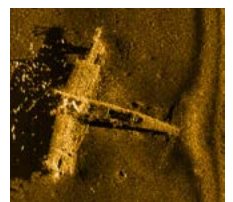


Mine Countermeasures (MCM)

The REMUS 300M can conduct MCM down to 305 meters, and port and harbor clearance. Using side scan sonar, the REMUS 300M surveys large areas autonomously, allowing operators to review the data away from the mine field to identify and classify mine-like objects.

Search and Recovery (SAR)

REMUS 300 UUVs are rapidly deployable from any vessel of opportunity and provide large area coverage on a single mission, making them ideal for SAR operations. Side scan sonar and precision navigation provide highly accurate data to locate targets, including downed aircraft and sunken ships.



Key Features

- Two-man portable, small-class UUV
- 305-meter depth rated
- Up to 30-hour mission duration
- Speeds up to 5 knots
- Flexible energy options
- Open architecture
- Modular and reconfigurable
- Removeable 1 TB hard drive



Long Endurance Configuration
4.5 kWh for up to 30 hours of endurance



Small Payload Configuration
3.0 kWh for up to 20 hours of endurance



Large Payload Configuration
1.5 kWh for up to 10 hours of endurance



Base Configuration
1.5 kWh for up to 10 hours of endurance

Other Applications

Given the stability and versatility of the REMUS 300M, there are numerous applications possible. Other common applications include:

- Rapid Environmental Assessment (REA)
- Marine Archaeology
- Offshore Oil and Gas
- Renewables

Optional scalable modular space is available for integration of payloads to perform customer-defined missions, including:

- Intelligence, Surveillance and Reconnaissance (ISR)
- Anti-Submarine Warfare (ASW)

Advanced Modularity

With the added modularity, the REMUS 300 can be reconfigured for different missions, from a 107-pound expeditionary configuration to a 155-pound long-endurance configuration. REMUS 300 has options for 1.5, 3.0 or 4.5 kWh lithium-ion battery sections that correspond to up to 10, 20 or 30 hours of endurance. Blind-mated end caps allow for field-expedient battery exchange during missions.

REMUS 300M Unmanned Underwater Vehicle

Specifications

Vehicle Specifications: Three Rechargeable Battery Options			
Lithium-ion Battery Options	1.5 kWh Battery	3.0 kWh Battery (Standard)	4.5 kWh Battery
Diameter	19cm (7.5 in.)	19cm (7.5 in.)	20.7cm (8.13 in.)
Length	2.03m (80 in.)	2.39m (94 in.)	2.64m (104 in.)
Weight	48.5kg (107 lb.)	58.5kg (129 lb.)	70.3kg (155 lb.)
Estimated Endurance*	10 hours	20 hours	30 hours
Maximum Range*	55km (29nm)	110km (59nm)	165km (89nm)
Recharge Time in Vehicle**	6 hours	12 hours	18 hours
Standard Specifications, Sensors and Payloads			
Depth Rating	305m (1000 ft.)		
Speed	0–5 knots (0–2.6 m/s)		
Propulsion and Control	Direct drive DC brushless motor, open 3-blade propeller; Cruciform fin control (yaw and pitch)		
Communications	WHOI micromodem 2.0 high frequency (20–30 kHz) acoustic communications; 2.4 GHz WiFi; Iridium (optional)		
Antenna	GPS, WiFi, Iridium, LED status lights and visible and infrared (IR) recovery locating strobe		
Navigation	iXblue Phins C3 Inertial Navigation System (INS); Garmin commercial or optional GB–Gram Military GPS; Long Baseline (LBL); DVL-aided dead reckoning		
Doppler Velocity Log (DVL)	Teledyne 300 kHz phased array DVL with 200m bottom lock		
Side Scan Sonar	Marine Sonics MK II Arc Scout 900/1800 kHz dual frequency; Resolution up to 5cm; Swath up to 160m		
Other Sensors	NBOSI conductivity and temperature (CT) sensor; TE Connectivity depth sensor		
Hard Drive	1 TB removeable solid state hard drive; Optional spare drives and data docking station		
Warranty	Standard 1 year warranty; Warranty options available		
Software	Vehicle Interface Program (VIP) for mission programming and post-mission analysis		
External Connections	Gigabit ethernet; Vehicle power/charging (110/220V)		
Tracking	Ranger & VIP software via towfish communications; Mission monitoring; Re-direct, loiter and abort commands		
Safety Features	Ground fault detection; Leak detection; RJE International emergency locator beacon; Health status		
Operations	Capable of operating multiple REMUS vehicles simultaneously		
Auxiliary Equipment	Ranger and towfish; Ruggedized laptop; Hub box; Transit case with shock absorbent mounting; Lightweight, wheeled cradle; Vehicle maintenance cradle, Operations and maintenance spares		
Optional Payloads, Equipment and Software			
Camera	Voyis 4K HD stills camera module with high intensity LED lightbar		
Environmental Sensors	Seabird Scientific Eco Puck Triplet		
Iridium Communications	Iridium capable with encrypted Iridium dial-up and SMS modem; Customer must provide SIM card		
HDK and SDK	Hardware Development Kit (HDK) and Software Development Kit (SDK) for integration of third-party payloads and autonomy		
Software	SeeByte SeeTrack and Neptune; REmote CONTROL (RECON); Reflection Post-Mission Analysis		
Auxiliary Equipment	LBL transponders; Surface communications station; Extra hard drive and docking station; External battery charger**		
NiMh Batteries	Nickel–Metal Hydride (NiMH) battery options		

*At 3.0 knots (1.5 m/s) with standard sensors active

**Recharge time external to vehicle is 6 hours for all battery configurations; additional equipment required

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ABOUT US:

World leading autonomy and multi-domain autonomous systems making vast expanses of the earth accessible for defense, research and commerce.

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