



royal3D®

The Aquatic Drone, a next-generation autonomous drone designed to revolutionize maritime operations.

Aquatic Drone

+31(0)10-4373117 | info@royal3d.nl | www.royal3d.nl

Why the Aquatic Drone Matters

With the Aquatic Drone, Royal3D is making a significant advancement in maritime technology, addressing the evolving demands of the industry. Beyond enhancing operational efficiency in areas such as maintenance and surveillance, the sets a new benchmark for performance and sustainability. Its versatile design allows for tailored solutions to meet specific needs, ensuring that it can be adapted to the diverse requirements of various industries. As a result, the is the ideal choice for companies seeking an integration platform for various systems, like autonomous manoeuvring and data gathering.

SPECIAL FEATURES

3D printing technology

By leveraging additive manufacturing, the drone is produced with precision, reducing material usage and environmental impact. 3D printing ensures fast delivery times. Proudly made in the Netherlands, the ShearWater drone combines cutting-edge technology with local craftsmanship to deliver a high-quality, eco-friendly solution for maritime operations.

Design Flexibility

The parametric design allows for precise customization and optimization, enabling aquatic drone to be tailored for specific tasks or environments with ease. Integrated modularity boosts its flexibility, as individual components can be easily replaced or upgraded without requiring a complete redesign. This approach reduces downtime and operational costs and efficiently adapted to evolving needs.

Adoptable to any mission

The Aquatic Drone serves as a versatile integration platform for companies developing their own autonomous systems or any necessary mission-specific technology. This flexible platform allows businesses to design, test, and seamlessly integrate their proprietary systems into the drone, enabling it to perform a wide variety of tasks.

Structural Material

The drone is constructed using specially developed thermoplastic polymers and PETG fiber-reinforced materials, making it strong, stiff, and weldable, while remaining lightweight, watertight, and impact-resistant. This ensures that can withstand the harshest maritime conditions, delivering superior performance with every mission. In line with Royal3D's commitment to sustainability, the drone is made of fully recycled and materials and is recyclable itself.

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SPECIFICATIONS

FEATURE	DESCRIPTION
General	
Dimensions (length)	Starting from 0.8m up to 15m length
Hull Material	PETG+19GF
Dry weight	Starting from 30kg
Battery type	Lithium-ion batteries
Payload capacity	Starting from 30kg
Propulsion	2 x electric motors
Range *	Min 8h of operation at 1 / 3 kn (cruise speed)
Cloud Connector board	Wi-Fi and Bluetooth
Navigation systems	
Power Distribution	Integrated PDU ETA SCS1000
Batter management system	Integrated BMS
Thrusters systems	Electric pod thrusters
LED lights	Integrated led lighting for inspection and navigation
Battery pack	910 Wh x 2 (min)
Battery charging system	Provided charging system for the batteries
Autonomous systems (optional)	
Standard situational awareness	Integration of BNO085 smart motion sensor
External control	Integration of external Joystick for additional control
Visual analysis	Integration of NTB camera
Communication	Integration of The SimpleRTK3B Pro-high-precision GPS module

* can be tailored for the specific mission requirements

