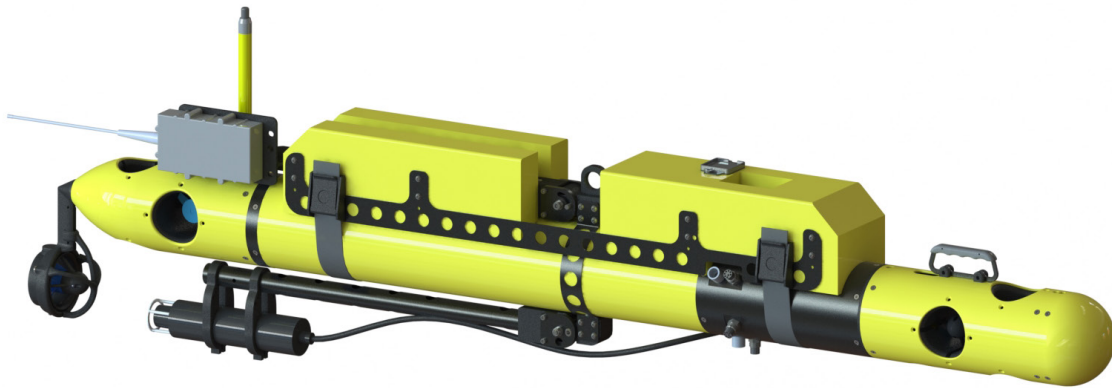


MGB-300 – Mobile Gateway Buoy



PRODUCT

Specifications

Length:

2044 mm

Height:

2017 mm

Weight in air:

28 kg

Weight in water:

Positive range from 2 to 4 [Kg]

Speed:

2 knots (up to 4 knots if required)

Energy storage

Li-Ion Batteries 14,4 Volt – 1200 Wh

Endurance:

12 hours at max speed

Navigation sensors:

GPS, depth-meter, 3D inclinometer

Additional sensors:

humidity, temperature, battery level

Software:

Windows GUI

Communication:

WiFi radio Link (Short range 1km), UHF radiomodem (long range 10Km)

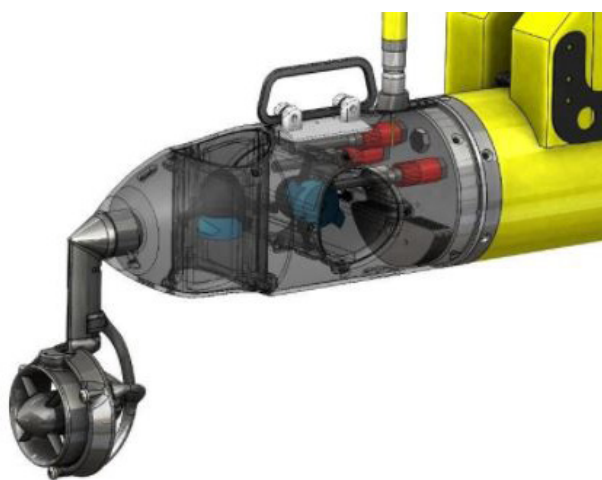
INTRODUCTION

What is Mobile Gateway Buoy

MGB-300 is the newest Graal Tech autonomous vehicle belonging to the X-300 family. It is an **Autonomous Surface Vehicles** (ASV), equipped with a long-range radio device and an underwater acoustic modem. When used in combination with one or more X-300 AUVs can act as a **data gateway** between the underwater vehicles and the control station. Like its parent X-300, MGB-300 is characterized by high **manoeuvrability**, flexible **payload modularity**, and **open control system**, making it a unique and versatile platform that can comply with many different mission needs.

Data Gateway

MGB-300 is characterized by two retractable rods. During transportation the rods are folded, but when the vehicle is in operation, the rods are opened in a vertical configuration. One points upward and carries an UHF radio modem for long-range data link with the control station. The other is completely underwater and transports an acoustic modem for transferring data to and from submerged assets.



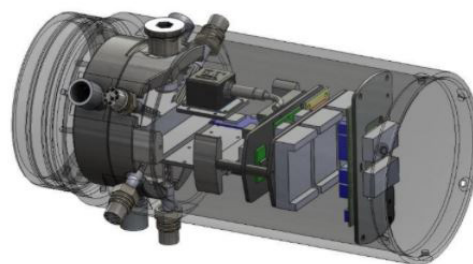
Manoeuvrability

The forward and backward motions are produced by 1 bi-directional rear thruster, mounted with a proper drive leg, granting always a good enough input flow.

Steering motions are instead made possible by 2 additional bi-directional thrusters placed at the vehicle bow and stern.

Payload Modularity

Like in X-300, different payload modules containing the instruments of interest can be realized and inserted in the middle of the vehicle. In addition, other underwater equipment can be fixed to the underwater rod and easily interfaced with the vehicle thanks to the presence of spare underwater connectors in the front connection module



Open Control System

Customer favourite control board (Arduino, Arm, x86) can be easily hosted in a payload module, with or without other equipment. A serial and a network link are available for connecting the board to the vehicle CPU. A **ROS based interface** provides access to all the vehicle sensors and actuators and to the communication devices. In this way **the user can write its own code** and getting the **total control** of the X-300 AUV for testing GNC algorithms or coordination strategies between multiple AUVs.