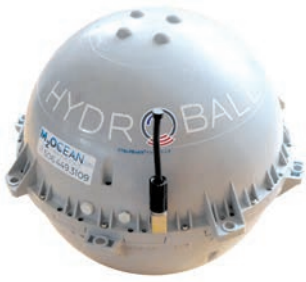




# HYDROBALL®



The **HydroBall®** buoy is a **rugged, easy-to-use** and **fully integrated solution** for **bathymetric surveying**.

Its spherical design and robust outer shell have been engineered to make the HydroBall® **most effective in complicated areas** such as river gorges, high-flowing rivers, and very shallow waters. The 40 cm spherical shell encloses a single beam echo sounder, a GNSS receiver, and a digital compass.

## TRADITIONAL SURVEYS

The HydroBall® is ideal for traditional single beam surveys. It is **simple to deploy** and **tow with any vessel of opportunity**, allowing for **rapid mobilization** in any condition and location. **No external components** are required to conduct a survey. Rechargeable batteries, data logger, sensors, and wireless communications are all integrated inside the unit.

## RIVER SURVEYS

The **rugged shell design** allows the **safe deployment** of the HydroBall® in **shallow and high-flowing rivers** to collect bathymetric data of the riverbed. The HydroBall® can be deployed in areas that are **inaccessible to traditional vessels** and **autonomous vehicles**.

## CONTINUOUS WATER LEVEL MEASUREMENT

The HydroBall® can be deployed **autonomously as a drifting buoy** in river environments for continuous **measurement of the water level** as it drifts downstream. The descent can be supervised by qualified personnel such as professional kayakers when deployed in higher-risk environments. The real-time location of the HydroBall® can also be transmitted back to its operator through the Iridium tracking option.

## CAPACITY BUILDING SURVEYS

The ease of deployment and operation of the HydroBall® make it an **ideal teaching tool** to **introduce hydrographic surveying to non-experts**. With minimal training, new operators can be collecting quality data within a day!

# SPECIFICATIONS

**DIMENSIONS** Diameter: 0.4 m (16 inches)

**WEIGHT** 13 kg (28 pounds)

**BATTERY LIFE** 24+ hours of recording time battery charger included

**COMMUNICATIONS** Serial/USB for data transfer  
Bluetooth for real-time monitoring

**POSITIONING** **GNSS receiver type:**  
Multi-Frequency GPS, GLONASS, BeiDou, Galileo and QZSS

**ACCURACY (2DRMS (95%)):**

Autonomous, no SA<sup>1</sup>: 2.5 m

SBAS<sup>1</sup>: 0.6 m

PPK<sup>1</sup>: 15 mm + 2 ppm

Update rate: 1 Hz

<sup>1</sup>: Depends on multipath environment, number of satellites in view, satellite geometry, and ionospheric activity

**ATTITUDE** **ACCURACY:**  
**Heading:** Tilt < ± 30° : 3.0°  
**Pitch, Roll:** Tilt < ± 30° : 0.4°

**Update rate:** 10 Hz

**ECHO SOUNDER** **ULTRA-SHALLOW MODEL (USM)**

**Frequency:** 500 kHz

**Beam width:** 6°

**Range<sup>2</sup>:** 0.10 m – 10.0 m

**Range resolution:** 0.025%  
of range

**Min. detect. depth<sup>3</sup>:** 0.25 m

**Update rate:** 10 Hz

**SHALLOW TO MID-RANGE MODEL (MRM)**

**Frequency:** 675 kHz

**Beam width:** 10°

**Range<sup>2</sup>:** 0.50 m – 50.0 m

**Range resolution :** 20 mm

**Min. detect. depth<sup>3</sup>:** 0.65 m

**Update rate:** 1 Hz

<sup>2</sup>: Range from transducer head to maximum detectable depth

<sup>3</sup>: Minimal detectable depth considering the HydroBall® is installed on the catamaran.

**SOFTWARE** **DepthStar™:** Windows-based post-processing software  
**HydroBall® Monitor:** Android-based application for monitoring and controlling the HydroBall®



The **rugged shell design** allows the **safe deployment** of the HydroBall® in **shallow and high-flowing rivers** to collect bathymetric data of the riverbed.

It can be deployed **autonomously as a drifting buoy** in these environments for **continuous measurement of the water level** as it drifts downstream.

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