

Observation Class ROV

An Industry-leading Versatile ROV for Inspections and Expeditions

The Boxfish ROV is an industry-leading observation class ROV that delivers 4K live video from depths of up to 1000m over its lightweight neutrally-buoyant low drag fibre optic tether.

Although the Boxfish ROV is a portable, lightweight system able to be lifted and deployed by a crew of two (24 kg), it is capable of operation and precise positioning in heavy currents thanks to a patented active stabilisation system. With batteries onboard, the ROV can hover up to 15 hours underwater at a time.

The Boxfish ROV has a flexible, modular design allowing for a payload of additional sensors and accessories. The

Boxfish ROV platform can be integrated with a range of accessories including grabbers, manipulators, altimeter, USBL, laser scaler, and much more. Multibeam imaging sonar, profiling sonar and stereo cameras can be configured to allow detailed imaging and 3D mapping.

The complete package comes in three easily portable hard cases for tether, ROV and surface control/ accessories, and is able to be deployed in minutes from any vessel and repackaged for further travel.



ROV Summary

- **Unsurpassed image quality:** The only ROV with uncompressed near-zero latency 4K UHD video and 20MP Photo Mode.
- **High capacity battery:** Up to fifteen hours runtime with optional one hour recharge.
- **Eight powerful thrusters:** 3D vectored propulsion system for unmatched control in heavy currents.
- **Fly-by-wire control:** Position ROV at any angle, even in current.
- **Three cameras:** Main 4K camera plus front and rear 180° navigation cameras ensure exceptional situational awareness.
- **Thin tether to 3km+ (2mi+):** Low drag ultra-light 2.7mm (0.11in) fibre-optic tether, which is virtually indestructible (Optional 4.3mm).
- **500/1000m (1640/3300ft) depth:** Proven, rugged and upgradable design you can count on no matter how deep or shallow you are going.
- **Light, portable and air-travel friendly design:** (see technical specifications).
- **Made to last:** Hard anodised aluminium, user-replaceable parts, fault-tolerant design.
- **Ultra-bright lights:** Dual dimmable 8,500-lumen lights upgradable to 17,000 lumens for better vision.



Features and Benefits

Industry-Leading Design

The Boxfish ROV's lightweight design offers easy deployment and operation with a crew of just two from virtually any small boat without additional equipment. At just 24kg, it is easy to launch and recover by hand and operate down to 500m with options to go to 1000m.

Built-in ultra-wide-angle navigation cameras offer unprecedented surround visibility giving the pilot excellent situational awareness and the ability to navigate in poor visibility. This feature, coupled with the auto-stabilisation system and pilot assist, makes piloting the ROV a breeze. Should disaster strike, the ROV will automatically return to the surface under its own power.

Manoeuvrability and Stability

With eight 3D vectored thrusters, the Boxfish ROV offers the unique capability of true six degrees of freedom of movement. The vehicle can travel and orientate itself in any direction giving the user a powerful tool for getting into and working in tight spaces and traversing strong currents.

Surface Monitoring and Controls

Live uncompressed 4K30 video is displayed in real-time on a stunning 17" 4K monitor, while navigation cameras and telemetry are shown on a second, super-bright 10" monitor. A multitude of inputs and outputs cater for the addition of external video recorders, and optional USBL (underwater GPS) systems, sonar and other accessories. The intuitive layout allows even a novice to learn the controls quickly.

Superior Image Capabilities

Boxfish ROV integrates a superior 4K front camera for inspection videography and two 180-degree navigation cameras – one forward and one rear. The primary camera provides 6x true 4K zoom, facilitating non-intrusive examination of underwater assets at a distance. Photo Mode allows operators to snap detailed 20MP RAW and JPG stills quickly.

Technical Specifications

Portable

- Weight in air – salt water ballast: 24kg (53lbs); fresh water ballast: 23kg (51lbs).
- Dimensions (l/w/h): 714mm (28in)/ 435mm (17in)/ 351mm (14in).

Primary Camera and Two Navigation Cameras

- Main large sensor 4K camera delivering live uncompressed 30p 8-bit video at the surface and 20MP RAW and JPG stills. Includes 6x true 4K zoom and focus control (automatic and push-to focus).
- Forward and reverse navigation cameras: FHD 180-degree wide-angle.

Surface Control Station

- A 17" 4K UHD main display, camera zoom and three joy sticks for easy control.
- Splash proof open. Waterproof closed.

Battery Capacity and Endurance

- Equipped with a 600 Wh battery with 4-15 hours endurance and 5-hour recharge via AC (typical).
- Fast 1-hour re-charge optional.

Lighting

- Dimmable, high CRI forward lighting consisting of 2 x 8,500 lumens mounted on adjustable arms.
- Reverse lights.

Tether

- Ultra-lightweight, neutrally buoyant 2.7mm diameter fibre optic tether with a breaking strength of 110kg.
- Upgradeable to 4.3mm high-strength tether and from standard 350m to 5,000m length.

Flexibility

- Built-in payload capacity for easy installation of up to eight accessories or sensors.

“ The Boxfish ROV – relatively small, compact, easy handled, and with great video capabilities. The solution that Boxfish incorporated in the ROV is quite unique and it works well. ”

Nigel Ironside, Senior Environmental Advisor, POAL