

Superior ROV for Inspection

An Indispensable Tool for Regular Inspections, Search and Rescue and Recovery Missions

The Boxfish Alpha is our next generation underwater drone for asset inspection, observation and light intervention work. Built using many of the same components as our 1000m Boxfish ROV, Alpha is a versatile and reliable remotely operated vehicle (ROV) for getting work done. We have customised the product to streamline underwater inspection tasks and reduce costs while retaining functional flexibility.

The 4K primary camera and precision controls enable the Boxfish Alpha to easily navigate underwater environments even in poor visibility, allowing the operator to get close to objects. Imaging and scanning sonars can assist when water clarity is less than

ideal, and profiling sonars enable the creation of detailed 3D models. High-quality 20MP stills may also be used to produce digital twins of underwater assets (photogrammetry).

Boxfish Alpha provides support in accomplishing many maintenance tasks by adding optional manipulators, such as line cutters, grabbers, and jaws. When using these tools, it's essential to have complete control of the host vehicle, especially in unpredictable underwater conditions such as current and low visibility. Boxfish Alpha's innovative eight 3D vectored thrusters layout, which gives the ROV six degrees of freedom of movement, enables this.



ROV Summary

- Setup and deploy within minutes of arriving on-site, easily done by a two-person team
- Eight 3D-vectored thrusters give true six degrees of freedom of movement to ease work and viewing
- Dynamic stabilisation for easy control of the ROV even in significant currents
- Hover time of 12 hours per charge with actual run time dependent on operational conditions plus fast in-field charging options
- Ultra-lightweight fibre-optic tether with patented fibre-optic connector
- Compact and lightweight design (see technical specifications)
- 4K UHD 17-inch monitor with telemetry screen
- Simple to maintain with a low total cost of ownership
- A powerful high-CRI lighting system (see technical specifications)
- Operates down to a depth of 300m
- Operating temperature: -10°C to +45°C.



Features and Benefits

Portable and Easy to Deploy

The Boxfish Alpha is portable, user-friendly, and easy to operate, meaning the vehicle can be quickly deployed underwater with minimal preparation and setup time. While small and lightweight, its stable, well-balanced design and eight vectored thrusters ensure Boxfish Alpha has the perfect pairing of power and manoeuvrability to navigate strong currents in challenging underwater conditions.

Highly Stable and Manoeuvrable

Boxfish Alpha offers complete auto stabilisation, pilot assist, and precision control like Boxfish Research's other ROVs. Thanks to the eight-thruster layout design, the vehicle has six degrees of freedom of movement, which means it can travel and orient itself in any direction. Boxfish Alpha gives inspectors a powerful tool for getting into and working in tight spaces not accessible or visible with traditional ROV designs.

Fully Digital 4K Control Console

The Boxfish Alpha incorporates live-streamed and recorded footage, allowing operators to seamlessly capture superior 4K video and monitor essential log data, such as GPS coordinates and depth. Live uncompressed 4K video is displayed in real-time on a 17" 4K monitor with telemetry screen. The splash-proof console's intuitive layout allows even a novice to learn the controls quickly.

Superior Image Capabilities

Boxfish Alpha integrates a high-quality 4K front camera for inspection videography with a rear 180-degree navigation camera. The ROV's front 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: 23 kg (freshwater), 24kg (seawater).
- Dimensions: (l/w/h): 714mm (28in)/ 435mm (17in)/ 351mm (14in).

Main and Navigation Camera

- Main large sensor 4K camera delivering live uncompressed video at the surface and 20MP RAW and JPG stills. Includes 6x true 4K zoom and focus control (automatic and push-to focus).
- Reverse 180-degree wide-angle camera.

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 500 Wh battery with 3-12 hours endurance and 4-hour recharge via AC (typical).
- Fast 1-hour re-charge optional.

Lighting

- Dimmable, high CRI forward lighting consisting of 2 x 5,000 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 diameter high-strength tether and from standard 100m to 5,000m length.

Flexibility

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

“ The Boxfish Alpha provides inspectors with an efficient and affordable method to perform underwater inspection tasks and is a very capable tool for search and rescue and recovery missions. ”

Craig Anderson, Co-Founder, Boxfish Research