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AC-ROV

Underwater Inspection System

Routine Inspection

Suitable for almost any environment, the **AC-ROV** represents a sound investment for those involved in underwater inspections. These may be for security, certification purposes, hull or structural inspection, or you could be involved in manned diving. In this case it is a valuable pre-dive inspection and reconnaissance tool that then follows on into diver observation and safety control. You may work onshore or offshore, in open or confined spaces - how convenient would it be to have a hand carry underwater ROV video camera system at your disposal?

Just Plain Curious!

Maybe you want to satisfy your curiosity, take a look at that wreck or even go inside it. Check out that dive site or reef before you get wet. Perhaps you want to check out vessel hulls, props or moorings before going to the expense and risk of deploying a diver. Whatever you may need an underwater ROV camera for, the AC-ROV is an inexpensive yet robust and durable option offering portability, great image quality and the ease of use you would expect from the most innovative product in its class. Ideal for single user operations, the AC-ROV is as fun and exciting as it is practical!

The AC-ROV

A genuine breakthrough design, the **AC-ROV** is the most capable and portable small ROV on the market, designed and manufactured by **AC-CESS**. A complete system comes in one rugged waterproof hand carry case with an all up weight of just 18kg (39.69lbs). It defines the "***HAND CARRY***" class in underwater inspection systems, **CE Marked** and certified for all "feet wet" applications, offshore, onshore or down pipes, it is the safest and quickest tool for your underwater inspection. One person can easily ***deploy the system in less than 3 minutes***. Not only can it be carried in one hand, it can be controlled with one hand, leaving your other hand free to tend to the tether, take notes, operate the manipulator or answer your mobile phone. The **AC-ROV** is a single operator system and a new benchmark in ROV design.

- **Hand Carry**
- **Rapid Deployment**
- **Single Operator**

The mobility of the AC-ROV further sets it in a class apart. The 4 horizontal thrusters operate together to power the AC-ROV forward, back and sideways. Their "vectored" arrangement is like having 4 forward and 4 side, or lateral thrusters. This is the thrusters set up on the vast majority of serious commercial ROVs because lateral power and speed is as important as forward power and speed. One is used to get you to target, the other is for keeping you face onto the target. More often than not any current at a target will not be head-on, but SIDE-ON, so serious inspection requires serious lateral flight capability. This is why the AC-ROV can fly as fast sideways as it can forward and back or, more importantly, ***hold station in a current coming from any direction***. There are also 2 vertical thrusters for up, down and tilt control.

- **Unequalled Mobility** (5 degrees of freedom)
- **Equal Forward and Lateral Thrust**

To make the most of the AC-ROV's manoeuvrability, the system uses a completely **intuitive 3D controller** with a single handed grip that can be moved in any direction, rotated and tilted. The AC-ROV responds by moving in the same way that the grip is moved. The same controller also incorporates an array of push button ***flight assist functions***.

- **Intuitive 3D Control (use any hand)**
- **Powerful Flight Assist Functions**

With a "fly through" size of 190mm (7.48") and a "drop through" size of 210mm (8.27"), the AC-ROV can get into seriously small spaces. The unique AC-ROV thrusters do not have central shafts and inward pointing blades do not meet. They are virtually ***foul proof***, and provide full bore equal thrust in both directions. This is not the case for shaft mounted thrusters which normally have a motor right in the middle of the flow path and a shaft just waiting to foul up. The design results in an overall power to weight ratio 50-100% greater than other small ROVs. All these market leading attributes are delivered in an extremely robust, reliable, modular design. Its inherent strength and serviceability means that the AC-ROV keeps coming back for more.

- **190mm (7.48") Pipe Fly Through**
- **Central-less Thrusters Design** (very efficient, virtually foul proof)
- **Robust and Serviceable Modular Design**

Check its **PEDIGREE** – designed and manufactured by **AC-CESS** in Aberdeen (Scotland) by born and bred diving and ROV engineers that routinely deliver solutions for water depths from 0 to more than 6,000m. Check these people out at **www.alloceans.co.uk** and **www.ac-cess.com**.

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AC-ROV

Specifications

AC-ROV	**MODEL SP50**
SIZE	203mm x 152mm x 146mm (8" x 6" x 5.75")
WEIGHT	3kg (6.6lb)
DEPTH RATING	75m (246 feet)
CAMERA	Colour CCD 550 line x 0.1 lux (NTSC or PAL)
THRUSTERS	6 thrusters (4 horizontal vectored, 2 x vertical)
LIGHTS	4 cluster camera tracking LED's (variable intensity)
CONTROL	5 axis single handed 3-D controller (LH or RH)
MONITOR	145mm (5.7") colour LCD in waterproof case with anglepoise mount
VIDEO OVERLAY	Date, Time, Power Setting, Depth
SENSORS	Depth, temperature, humidity and water ingress
TETHER	Options to 120m with tether deployment system (TDS)
TETHER CONNECTION	Back as standard, with top and bottom options
SYSTEM POWER	300 watt (0.4 hp)
PAYLOAD	200g (8oz)
INPUTS	90/260VAC x 47/63 Hz auto ranging
OUTPUTS	Composite Video
HANDLING	18kg (40lbs) complete in one hand carry case 490mm x 380mm x 190mm (19.25" x 15" x 7.5")
INTEGRATED OPTIONS	Rear View B&W Camera (480 line x 0.05 lux) Slip ring Tether Deployment Systems 2 function manipulator – 2 or 3 jaw grip Tether to 52m - Hand carry case Tether 52m to 120m - Roller case
OTHER OPTIONS	USBL Positioning System Laser Scaling Wall Thickness Sensor Cathodic Protection Probe Custom Tether Deployment System Alternative or additional monitors Custom packaging

190mm Pipe(7.5")
Fly Through

NOTES

1. All ROV's suffer from tether drag. It affects flight control plus the ability to reach a target and is more noticeable with small ROV's. Simple dive planning can help this to work for you. Sometimes fixing a weight a distance behind the ROV to take some of the strain works well. More sophisticated still are Tether Management Systems.
2. Touch buttons on the 3-D controller provide powerful "Flight Assist" functions. These are; Flight Freeze / Flight Un-freeze / Progressive Forward Flight, vertical Trim and Tilt / 3 stage Power Increment / Camera switching.
3. The tether cable and connectors are completely field serviceable. Any damaged cable can be cut out and any remaining serviceable cable re-terminated and used again. No need for cable moulding services.
4. Connect any type of video recording device to the system for recording and data logging.