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AC-ROV 100

Underwater Inspection System

The world leading micro ROV, the **AC-ROV** is the most capable and portable underwater inspection system on the market. A complete system comes in one rugged waterproof hand carry case with an all up weight of just 18kg. It defines the **"HAND CARRY"** class in underwater inspection systems. **CE Marked** and certified for all "feet wet" applications, offshore, inshore or onshore, 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 also be controlled with one hand, leaving the other free to tend to the tether, take notes, operate the manipulator or answer your mobile. The **AC-ROV** is a single operator system and a benchmark in ROV design.

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

The mobility of the AC-ROV 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 thruster set up on the vast majority of larger commercial ROVs because lateral power and speed is as important as forward power and speed. One is used to get you to the target and 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, **turn and hold station in a current without getting washed away**. There are also 2 vertical thrusters for up, down and tilt control.

- **Unequalled Mobility (5 degrees of freedom)**
- **Equal Forward and Lateral Thrust for equal speed in all directions**

To make the most of the AC-ROV's manoeuvrability, the system uses a truly **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 direction that the grip is moved. The controller also incorporates an array of push button **flight assist functions**.

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

With a pipe "fly through" size of 190mm and a pipe "drop through" size of 210mm, the AC-ROV can get into seriously small spaces. The unique AC-ROV thrusters do not have central shafts and the inward pointing blades do not meet. They have proven to be 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 Pipe Fly Through**
- **High Performance Centre-less Thrusters (very efficient and foul proof)**
- **Robust and Serviceable Modular Design**

Check its PEDIGREE – designed and manufactured in Aberdeen (Scotland) by born and bred diving and ROV engineers that routinely deliver solutions for water depths from 0 to more than 6000m. Check these people out at www.alloceans.co.uk

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SPECIFICATION

AC-ROV

SIZE

WEIGHT

DEPTH RATING

CAMERA

THRUSTERS

LIGHTS

CONTROL

MONITOR

VIDEO OVERLAY

SENSORS

TETHER

TETHER CONNECTION

SYSTEM POWER

PAYLOAD

INPUTS

OUTPUTS

HANDLING

OPTIONS

MODEL 100

203mm x 152mm x 146mm (8" x 6" x 5.75")

3kg (6.6lbs)

100m (328feet)

Colour CCD 650 TVL x 0.1 lux (NTSC or PAL)

6 thrusters (4 horizontal vectored, 2 x vertical)

4 camera tracking LEDs (variable intensity)

5 axis single handed 3-D controller (LH or RH)

145mm (5.7") colour LCD, waterproof with angle poise mount

Date, Time, Power Setting, Depth

Depth, temperature, humidity and water ingress

Options to 120m with Tether Deployment System (TDS)

Back as standard, with Top and Bottom options

300 watt (0.4hp)

200g (8oz)

100/240, 50/60Hz auto ranging

Composite Video 1v peak to peak

18kg (40lbs) complete in one hand carry case

490mm x 390mm x 230mm (19.2" x 15.2" x 9")

Rear View B&W Camera (480 line x 0.05 lux)

Scanning Sonar (Imagenex 852 derivative)

USBL Positioning & Tracking System (Tritech Micronav derivative)

Wall Thickness Gauge (Cygnus based)

Laser Scaling (variable laser intensity)

2 Function Manipulator – grip and continuous rotate, 2 or 3 jaw grips

CP Probe

Roller Kit (useful for internal and external pipe inspections)

Slip Ring – allows AC-ROV to carry on working as tether is wound in and out

Fly-Out Package (TMS and electronics for host vehicle mounting)

100m depth rated pipe crawler, forward colour camera / B&W rear camera

Note; Consult with AC-CESS for which Options can be used simultaneously

Tethers lengths to 40m (hand carry case)

Tethers lengths to 120m (roller case)

**190mm Pipe
Fly Through**

NOTES

1. All ROVs suffer from tether drag. It affects flight control and the ability to reach a target and is more noticeable with smaller ROVs. 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.
2. All controls are integrated into the 3-D hand controller providing powerful "Flight Assist" functions. These are; Flight Freeze / Flight Un-freeze / Progressive Forward Flight / Vertical Trim / Tilt Trim / 3 stage Power Increment / Camera switching / Light brightness / Manipulator rotate and grip / TMS in and out.
3. The tether cable and connectors are completely field serviceable. IE; No need for cable moulding services.
4. Connect any type of video recording device to the system for recording and data logging. A computer is not required and is only used in sales literature for scaling purposes.