AC-CESS

REMOTELY OPERATED VISION AND SENSE

Tel: +44 (0)1224 790100 · Fax: +44 (0)1224 790111 · www.ac-cess.com

# AC-ROV Thickness Gauge / Laser Scaling

The market leading **AC-ROV** Underwater Inspection System is available with the following retro fit options. A Thickness Gauge for measuring metal thickness in locations previously inaccessible to divers, other ROVs and underwater inspection systems, AND a Laser Scaling head for the relative measurement of surface defects, anomalies or anything within view.

## Thickness Gauge

Thickness measurement is an established integrity monitoring technique in industry. Offshore or onshore, the **AC-ROV** can now deploy a thickness sensor in support of your maintenance, safety and survey requirements of anything metal and underwater. The vehicle mounted probe **reduces inspection time and diver costs**. There is no specialist training requirement and this means fast, accurate and repeatable results. Measurements can be taken through coatings as there is no need for special surface preparation, coating or corrosion removal. Measurements can also be electronically stored for report generation.

- **Greatly Reduce Inspection Time and Costs**
- **No special surface cleaning or preparation required**
- **Accepted by major Classification Societies**

Inline with the **AC-ROV** ethos of mobility, portability and robustness the solution is an integrated arrangement of the Cygnus multiple echo diver and ROV deployable thickness sensor. The outcome retains the clean, robust and snag free shape of the **AC-ROV**, whilst the top side hardware and interface is 100% Cygnus standard.

The market leading mobility of the **AC-ROV** enables complete "**ORBITAL**" thickness measurement. A capability never before available by ROV without a manipulator. The first truly comprehensive small ROV thickness inspection capability.

- **Unrivalled Ingress and Inspection Capability**
- **Robust, Serviceable and fully Integrated Design**
- **Unique "ORBITAL" Inspection Capability**

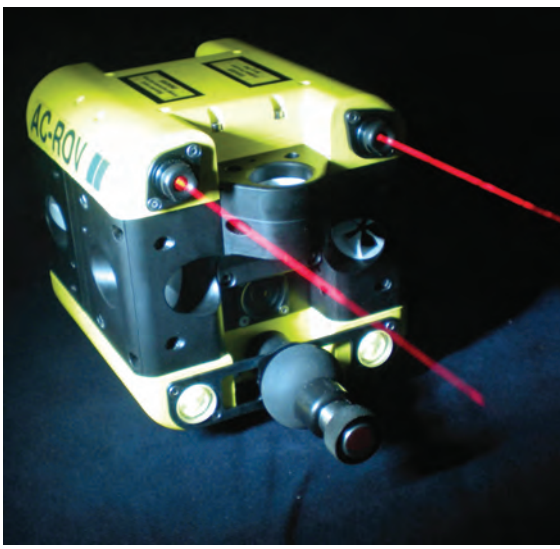
## Laser Scaling

The **AC-ROV** Laser Scaling system is a fully integrated twin laser unit that projects two parallel laser beams onto any target giving an exact indication of scale. In a market first, the **AC-ROV** Laser Scaling system utilises variable intensity lasers so beam strength can be adjusted according to the conditions without compromising video quality.

- **Variable Intensity**
- **Simple 'no modification' Retrofit**
- **Recordable Results**

Another integrated and simple retro-fit **AC-ROV** capability solution combining proven technologies.






**28/02/2014**

AC-CESS

REMOTELY OPERATED VISION AND SENSE

Tel: +44 (0)1224 790100 · Fax: +44 (0)1224 790111 · www.ac-cess.com

# SPECIFICATION

## Thickness Gauge With Integral Buoyancy Block

| | |
|---|---|
| **Readable Materials** | Sound velocities between 1000 m/s and 9995 m/s |
| **Range** | 3 mm - 250 mm with 2.25 MHz probe |
| **Accuracy** | ±0.1 mm ±0.05 mm |
| **Resolution** | 0.1 mm 0.05 mm |
| **Probe** | Remote single crystal soft-faced compression.<br>13 mm - 2.25MHz |
| **Operating Temperature** | -10°C to +50°C |

### CONFIGURED AC-ROV:

| | |
|---|---|
| **Length** | 255mm |
| **Width** | 151mm |
| **Height** | 152mm |
| **Probe Diameter** | 26mm |
| **Compliant Joint Diameter** | 40mm |
| **Vehicle Fly Through** | 200mm |

### DEPLOYMENT and OPERATION:

With the Thickness Gauge block Integrate to the AC-ROV, plug the top side repeater display unit into the AC-ROV control box. With the repeater activated calibrate the probe to the required metal / material using the supplied calibration chart. Deploy and fly the AC-ROV to the target and take readings. Instead of displaying individual readings via the topside repeater, consecutive readings can be stored in a laptop using the supplied software.

## Laser Scaling With Integral Buoyancy Block

| | |
|---|---|
| **Laser Spacing** | 100mm |
| **Wavelength** | 635nm typ, 640nm max |
| **Output Power** | 4mW +/- 5% @ 25 ºC |
| **Collimated Beam Size (1/e2)** | 3.5x1.55mm typ |
| **Collimated Beam Divergence** | < 1 mrad |
| **CW Operating Current** | 40mA typ., 50mA max |
| **Operating Temperature** | -10ºC to +40ºC |
| **Housing Material** | Brass |
| **Circuit Protection** | Static, Surge and Reverse Polarity Protected |

### CONFIGURED AC-ROV:

| | |
|---|---|
| **Length** | 205mm |
| **Width** | 151mm |
| **Height** | 152mm |
| **Vehicle Fly Through** | 200mm |

### DEPLOYMENT and OPERATION:

Integrate the Laser Scaling block to the AC-ROV - the lasers take the place of two standard AC-ROV lights. Deploy and fly the AC-ROV to the target, use the appropriate topside light control to vary the laser intensity and record image for post processing analysis.