CYGNUS
INSTRUMENTS

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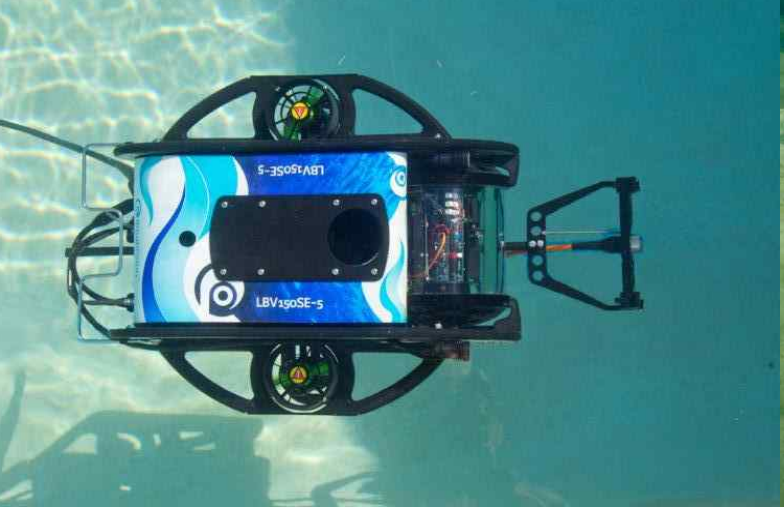
Cygnus Mini ROV Mountable

Pressure Rated to 500 m Depth

MULTIPLE ECHO ULTRASONIC DIGITAL THICKNESS GAUGE

Measures metal thickness to determine wastage or corrosion accurately, quickly and without removing protective coatings



Features for Mini ROV Mountable Gauge

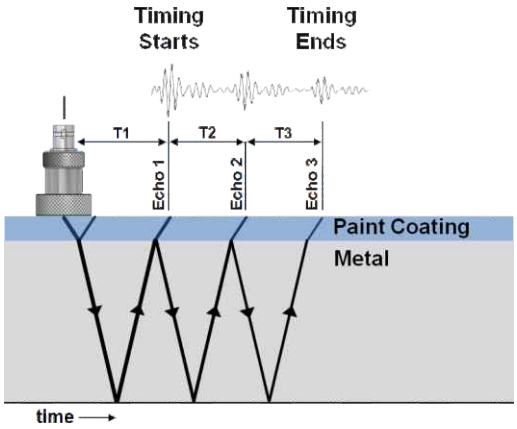
- Designed specifically to mount onto small observation ROV's
- Supplied with CygLink software to display and log thickness measurements from the ROV on a computer at the surface which can be saved to a file and printed out
- CygLink has two data logging facilities: Quick Log for simple recording of thickness measurements and Structured mode with four templates available - Single Point, Multi Point, Grid Point and Key Point
- The Cygnus Top Side Repeater (TSR) is available as an option and has the facility to display the thickness measurements remotely and overlay them on to a video signal. This allows the measurements to be superimposed on the ROV camera's monitor screen.
- Easy calibration at the surface via CygLink software or Top Side Repeater (TSR) unit
- Optional dedicated probe holder to allow measurements on curved or flat surfaces
- Only one twisted pair is required to transfer the data to the surface.

Kit Contents

- Cygnus Mini ROV Gauge
- Probe cable with marinised remote probe 0.95 m (3 ft)
- Sealed 4-way connector with fly lead including 9 way connector
- RS-422 to RS-232 converter
- Test cable
- Cyglink Data Logging software
- Membrane couplant for the UT probe
- Spare membranes for the UT probe
- Membrane locking ring key
- Spare O-Rings for ROV
- 15 mm (1/2") test block
- Operation manual
- Carry case
- Silicone grease
- *Optional Topside Repeater with video overlay facility kit.

Benefits of Cygnus Multiple Echo

- Measures remaining metal thickness on corroded and coated structures
- All measurements are error checked using 3 return echoes to give repeatable, reliable results
- Accepted by all major classification societies
- Greatly reduces inspection time and costs
- Echo strength indicator to aid measurement.



With multiple echo, readings are taken by measuring the time delay between any three consecutive backwall echos. The time of T1 (coating thickness) is ignored. The times of T2 and T3 are equal to the time that it takes to travel through the metal. Only by looking at three echoes can the measurements be automatically verified (where T2 = T3).

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CygLink Software - Standard

1. Displays the last thickness measurement value
2. Displays the current computer time
3. Displays the echo strength indicator bars
4. Selects the display mode
5. Selects between mm and inch units
6. Displays the current thickness measurement
7. Displays the link status

Calibration to a Known Thickness

The CygLink display can be calibrated to a known thickness using the gauge to measure a sample of the material that will be measured. This method ensures the velocity of sound is set for the actual material being measured rather than using a generic value.

Setting the Velocity of Sound

The velocity of sound can be set to suit the material that will be measured, manually adjusted or set to one of the pre-defined common velocity values. By default it will be set to 5,920 m/s for mild steel.

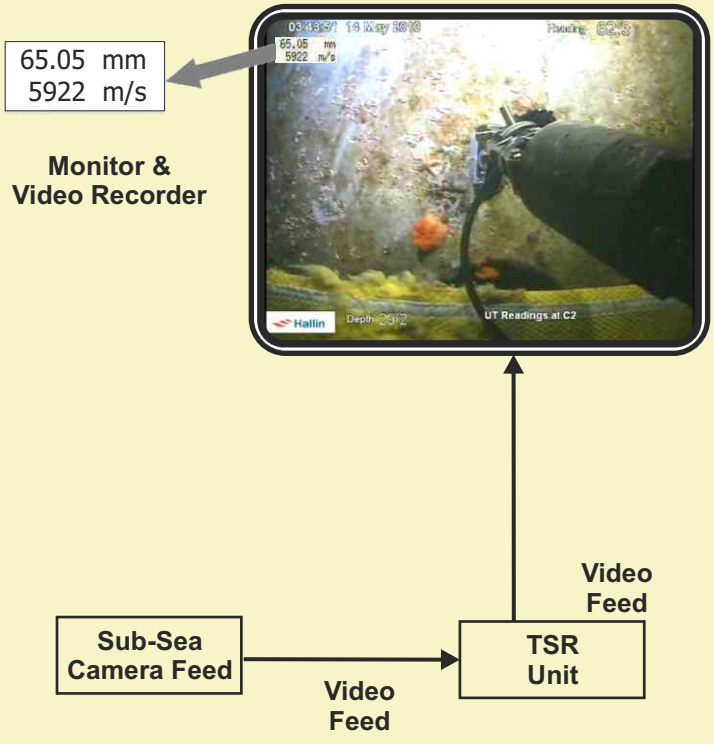
Top Side Repeater (TSR) - Optional

The Top Side Repeater is a small display unit that can be used to display the thickness measurements sent from the ROV gauge to the surface.

Kit includes data and video cables.

TSR Video Overlay Facility

The Top Side Repeater can also superimpose the thickness measurements on to a composite PAL or NTSC video signal to display it on a monitor screen and/or the video recording of the survey. This provides a thickness measurement that can be linked to a position or place in the video recording.



Specifications

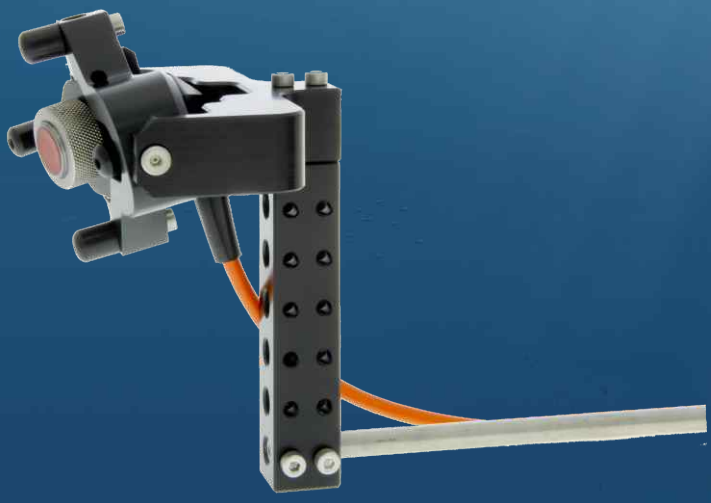
Materials	Sound velocities between 1000 m/s and 9995 m/s
Measurement Range in Steel	3 mm - 250 mm (0.110" - 9.995") with 2.25 MHz probe 2 mm - 150 mm (0.065" - 6.000") with 3.5 MHz probe 1 mm - 50 mm (0.045" - 4.000") with 5.0 MHz probe
Accuracy	0.1 mm (0.005") when calibrated in accordance with Cygnus Instruments Calibration Procedures
Resolution	0.05 mm (0.002")
Probes	Single crystal soft-faced compression 13 mm (1/2") - 2.25, 3.5 or 5 MHz (Lower frequency probes offer better penetration on heavy corrosion/coatings)
Power	7.0 - 30 V dc @ 150 mA (max)
Display	(Not included) PC or laptop with VGA
Size	160 mm x 62 mm (6.299" x 2.441")
Weight	550 g (19.4 oz)
Operating Temp.	-10°C to +50°C (14°F to 122°F)
Approvals	RINA Type approved
Testing	Tested to 500 m (1,500 ft) depth
Communication	RS-422, Simplex Single Pair, 2400 Baud (RS-232 9600 Baud Output available as special order)
Compliance	CE, British Standard BS EN 15317:2007 (Specification for the characterisation and verification of ultrasonic thickness measuring equipment)
Environmental	RoHS, WEEE compliant
Warranty	3 years on gauge, 6 months on probe

*Specifications are subject to change for product improvement

Probe Handling Solutions

Complementing the Cygnus Mini ROV Mountable thickness gauge, the Cygnus G1 is designed for use on observation, inspection and light workclass ROVs whilst the S1 probe handler is developed for use on inspection and medium sized ROVs carrying out ship hull inspections.

Details of this system and others can be found in separate brochures available on request or downloaded from our website.



Cygnus G1 Probe Handler

Cygnus S1 Probe Handler

For more products, please visit www.cygnus-instruments.com

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