



**ORIGINAL  
Underwater  
Gauge**

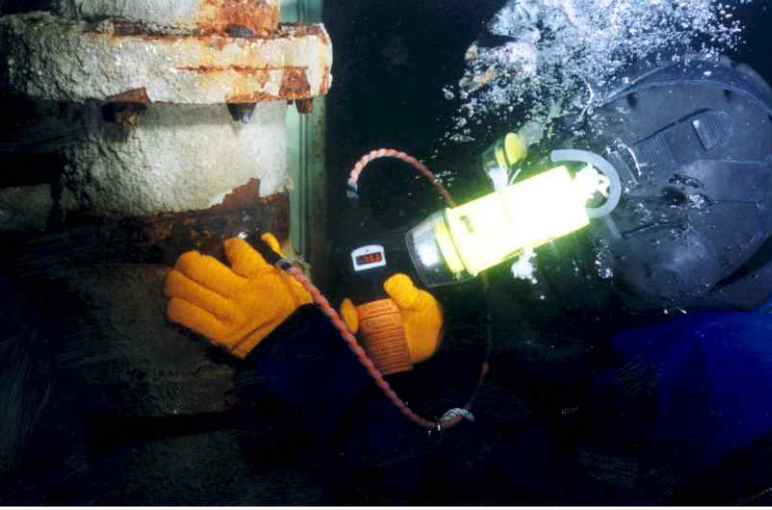
**Topside Repeater**  
Option A      Option B



# Cygnus Underwater

**DIVER-HELD MULTIPLE ECHO  
ULTRASONIC DIGITAL THICKNESS GAUGE**

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

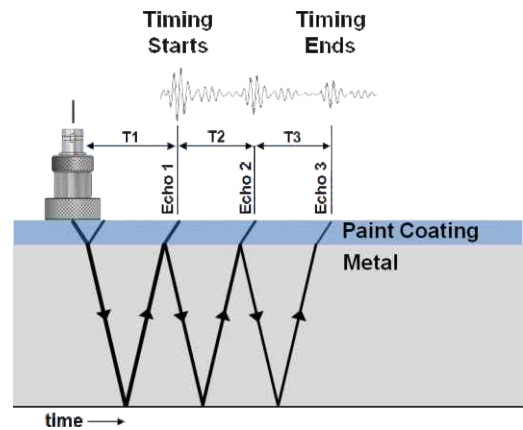


## Features

- RINA approved (Certificate No. 2009DGPO787)
- Auto - Probe Recognition (APR)
- "Deep-Coat" mode for measuring through coatings up to 20 mm (3/4") thick
- Easy calibration using convenient buttons
- Rugged, durable, shock-proof construction
- Stable calibration - linear accuracy - no zero adjustment
- Large bright LED display for poor visibility
- Pressure rated to 300 m (1,000 ft) depth
- Heavy duty sealed unit with double 'O' ring protection
- Self verification of measurements to ensure accuracy
- Echo strength indicator to aid measurement
- All probes are protected by a membrane to prevent damage
- Various probe options
- Two rechargeable battery packs with charger
- Fixed head probe option for single handed use.

## 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 echos can the measurements be automatically verified (where  $T2 = T3$ ).

## Kit Contents

Instrument, heavy duty remote 2.25 MHz 13 mm (1/2") diameter probe, nose cone tommy bar, probe locking ring key, 2 rechargeable batteries and battery charger, spare membranes and 'O' rings, steel test block, lanyard, operation manual, pressure test and calibration certificates, Molykote grease and carry case.



RINA

— Type Approved —





## Applications

Maintenance and safety checks of metal thickness for:

- Ships hulls
- Semi sub structures
- Anchor chains
- Subsea pipelines
- Offshore structures, jackets
- Storage vessels, FPSO's
- Dock gates, piers, jetties and pipings.

...plus many more.

## Topside Repeater Options

The Topside Repeater is used when the readings need to be verified on the surface. Umbilical cable length is specified by the customer up to a maximum of 1,000 m (3,280 ft).

There are three options available:

### Option A

Palm held surface display repeater with large liquid crystal display in an IP65 sealed case.

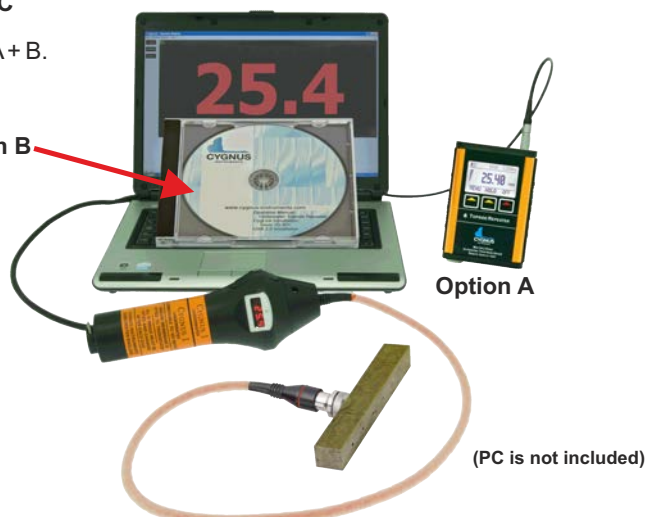
### Option B

Data logging and remote display Windows based software. The umbilical is connected directly to the serial port of the PC.

### Option C

Option A + B.

Option B



Option A

(PC is not included)

All Underwater Gauges with Topside Repeater Connectors can be upgraded to Option A, B or C. If you already have Option A or B, you can upgrade to Option C.

## Specifications

**Materials** Sound velocities between 2000 m/s and 7000 m/s (0.059 and 0.31 in/microsec) - covers virtually all common engineering materials

**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** 0.1 mm or 0.05 mm (selectable) (0.005" or 0.002")

**Probes** Remote single crystal soft-faced compression  
6 mm (1/4") - 5 MHz  
13 mm (1/2") - 2.25, 3.5 or 5 MHz  
19 mm (3/4") - 2.25 MHz  
(Lower frequency probes offer better penetration on heavy corrosion/coatings)

**Power** NiMH rechargeable battery pack

**Battery Life** 30 hours' (continuous measuring)

**Display** Large, bright LED display

**Size** 235 mm x 75 mm (8 3/8" x 3")

**Weight** 950 g (2.1 lbs) - with remote probe  
860 g (30.3 oz) - with fixed head probe

**Operating Temp.** -10°C to +50°C (14°F to 122°F)

**Environmental Protection** IPX8 continuous 300 m (984 ft) rating

**Compliance** CE, British Standard BS EN 15317:2013 (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

## Cygnus Thickness Gauges



Intrinsically Safe



Hands Free



Data Logger



General Purpose



Heavy Duty



DIVE  
(Underwater A-Scan)



Mini ROV Mountable



ROV Mountable

For more products, please visit [www.cygnus-instruments.com](http://www.cygnus-instruments.com)



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