



**CYGNUS**  
INSTRUMENTS

ORIGINAL  
Underwater  
Gauge

NEW  
Features



Topside Repeater  
Option A      Option B

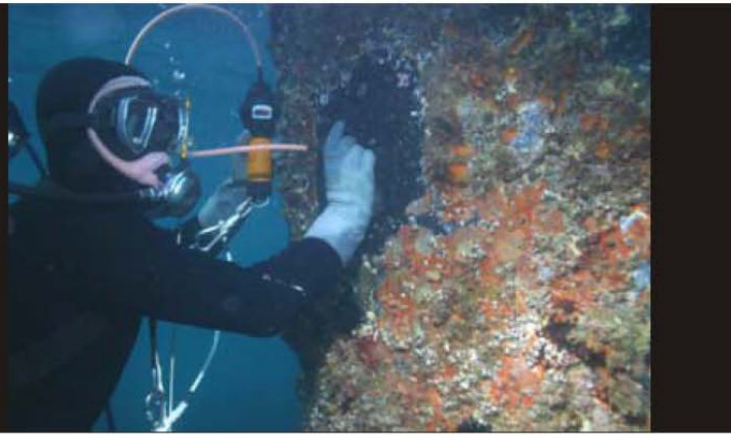


## Cygnus Underwater

**MULTIPLE ECHO ULTRASONIC DIGITAL THICKNESS GAUGE**

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

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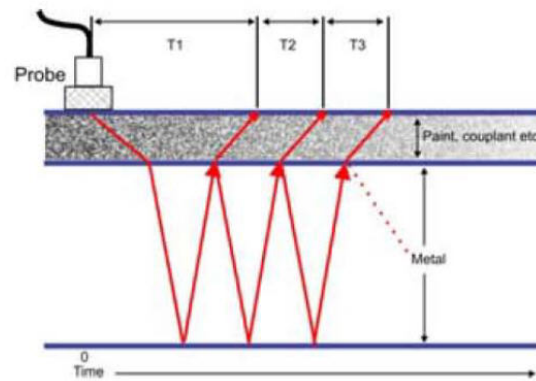


## Primary Features

- NEW!** • RINA approved (Certificate No. 2009DGPO787)
- NEW!** • Auto - Probe Recognition (APR)
- NEW!** • “Deep-Coat” mode for measuring through coatings up to 20 mm thick
- NEW!** • 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 depth
- Heavy duty sealed unit with double ‘O’ ring protection
- Remote probe with 0.9 m lead for measuring in awkward locations
- 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 of heavily 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



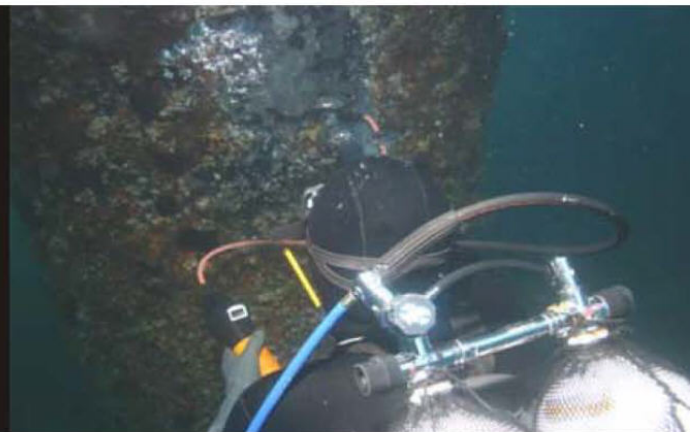
With multiple echo, readings are taken by measuring the time delay between any three consecutive backwall echos. The time of T1 (coating thickness) is ignored. The times of T2 and T3 are equal to the time that it takes to travel through the metal. Only by looking at three echos can the measurements be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



## Kit contents

Instrument, heavy duty remote 2.25 MHz 13 mm 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 & calibration certificates, Molykote grease and carry case.

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## 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 pilings
- ...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 1000 m.

There are three options available:

### Option A

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

### Option B

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

### Option C = Option A + B

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.

(The PC is not included)



## Specification

<b>Materials</b>	Sound velocities between 2000 m/s and 7000 m/s – covers virtually all common engineering materials
<b>Range in steel</b>	3 mm – 250 mm with 2.25 MHz probe 2 mm – 150 mm with 3.5 MHz probe 1 mm – 50 mm with 5 MHz probe
<b>Accuracy</b>	±0.1 mm or ±0.05 mm (selectable)
<b>Resolution</b>	0.1 mm or 0.05 mm (selectable)
<b>Probes</b>	Remote single crystal soft-faced compression 6 mm – 5 MHz 13 mm – 2.25, 3.5 or 5 MHz 19 mm – 2.25 MHz <small>(Lower frequency probes offer better penetration on heavy corrosion/coatings)</small>
<b>Power</b>	NiMH rechargeable battery pack
<b>Battery Life</b>	30 hours (continuously measuring)
<b>Display</b>	Large, bright LED display
<b>Size</b>	235 mm x 75 mm
<b>Weight</b>	950 g - with remote probe 860 g - with fixed head probe
<b>Operating Temp</b>	-10°C to +50°C
<b>Environmental Protection</b>	IPX8 Continuous 300 m rating
<b>Compliance</b>	CE, British Standard BS EN 15317:2007 <small>(Specification for the characterisation and verification of ultrasonic thickness measuring equipment)</small>
<b>Environmental</b>	RoHS, WEEE compliant

Specifications are subject to change for product improvement

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For more products  
please see our website  
[www.cygnus-instruments.com](http://www.cygnus-instruments.com)

Datalogger



Intrinsically safe



General Purpose



Hands Free



Heavy Duty



ROV Mountable



Mini ROV



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