

# Alpine Components

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II 1 G Ex ia IIC T6 Ga  
I M 1 Ex ia I Ma (for use in MINES)



CSA Class 1 Group A, B, C & D Division 1

## Cygnus 1 Intrinsically Safe

**MULTIPLE ECHO** ULTRASONIC DIGITAL THICKNESS GAUGE

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



## Primary Features

- Certified Intrinsically Safe to:



II 1 G Ex ia IIC T6 Ga  
I M 1 Ex ia I Ma **NEW!**



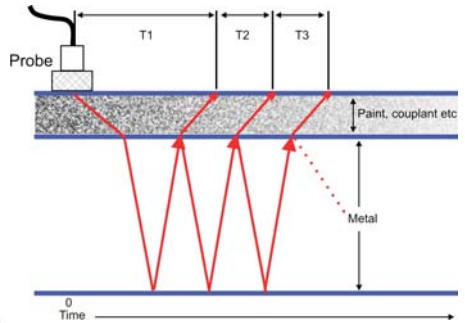
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- For use in Zone 0, Zone 1 hazardous areas
- Also approved for use in MINES **NEW!**
- No plant shutdown or hot work permit necessary
- Heavy duty sealed unit - IPX5 and IPX7 rated
- Rugged, durable, shock-proof construction
- Stable calibration - linear accuracy - no zero adjustment
- Self verification of the measurements to ensure accuracy
- Bright LED display with polarised filter
- Two rechargeable battery packs with charger
- Displays sound velocity settings
- Echo strength indicator to aid measurement
- Various probe options
- Right angle probe is available for use in areas of restricted access
- Probe frequency selectable
- Metric / Imperial switchable
- Low battery warning



## 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  $T2 = T3$ ).



Right Angle Probe  
(Optional)





## Applications

Maintenance and safety checks of metal thickness for:

- Chemical plants
  - Petroleum, chemical storage tanks
  - Oil and gas production facilities such as pipelines and offshore platforms
  - Dry, dusty environments where ignition could occur
  - LPG vessels
  - Road transport tankers carrying potentially explosive contents
  - Grain processing plants
  - Fuel depots
  - Processing vessels
  - Structures and facilities in mines **NEW!**
- ...plus many more

## Kit contents

Instrument, heavy duty remote 2.25 MHz x 13 mm diameter probe, nose cone tommy bar, probe locking ring key, 2 rechargeable batteries, battery charger, spare membranes, membrane couplant, O rings, steel test block, calibration jumper lead, calibration trim tool, hex key, ultrasonic couplant, operation manual and carry case.



## Specification

<b>Materials</b>	Sound velocities between 2000 m/s and 7000 m/s – covers virtually all common engineering materials
<b>Measurement 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>	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>	10 hours' continuous operation
<b>Display</b>	Large, bright LED display
<b>Size</b>	235 mm x 75 mm
<b>Weight</b>	1040 gm - with remote probe 940 gm - with fixed head probe (Including batteries)
<b>Operating Temp</b>	-10°C to +50°C
<b>Environmental Protection</b>	IPX5 and IPX7
<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>	WEEE compliant

Specifications are subject to change for product improvement