



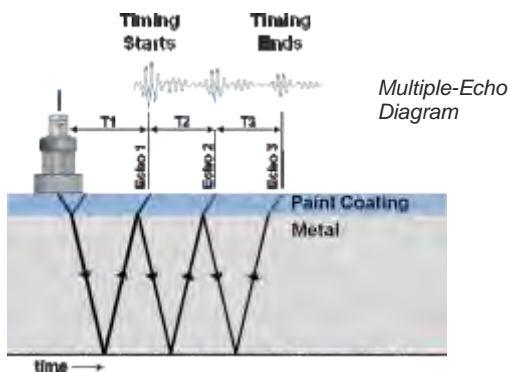
The **Cygnus 2+ HANDS-FREE** uses multiple measuring techniques to accurately measure through coatings, as well as heavily corroded metals. The gauge has an end-mounted display and wrist strap, for hands-free convenience.

### KEY FEATURES

- Uses single and twin crystal probes
- Measures using Multiple-Echo, Single-Echo and Echo-Echo
- One and two point calibration
- End-mounted display for hands-free convenience.
- Intuitive easy to use menu
- Extremely rugged enclosure – shock and impact to US MIL STD 810G
- Environmental sealing (water and dust proof) to IP67 – US MIL STD 810G.

### THREE VERSATILE MEASURING MODES

**Multiple-Echo (Single Crystal Probes)** uses three error checked back wall echoes to provide the most reliable and accurate remaining thickness measurements, with no need to remove coating (up to 20 mm thick (0.8")).



**Echo-Echo (Twin Crystal Probes)** measures through coatings of up to 1 mm thick (0.04"), ideal for measuring painted metals with back wall corrosion.

**Single-Echo (Twin Crystal Probes)** ideal for measuring uncoated metals with heavy back-wall corrosion. Also MSI™ (Measurement Stability Indicator) used in Single-Echo and Echo-Echo measurement modes effective on a range of cast metals, plastics and composites.

### MEASUREMENT STABILITY INDICATOR (MSI™)

Exclusive to Cygnus, MSI™ ensures stable and therefore reliable measurements are displayed in Echo-Echo and Single-Echo modes.

### VARIETY OF PROBES

**Cygnus Stainless Steel INOX Probes (Single Crystal)** Used in Multiple-Echo mode, these probes include replaceable membranes for long life, require no zeroing and have a high linear accuracy.



### Cygnus Stainless Steel INOX Probes (Twin Crystal)

Used in Echo-Echo and Single-Echo modes, these probes have improved measurability on extreme back wall corrosion and pitting.



### DURABLE CABLES

Using standard industry connectors our probe leads offer superior flexibility and resistance to oils and ultraviolet light. The cable will not stiffen after exposure to ultraviolet light.

### STANDARD KIT CONTENTS

Cygnus 2+ ultrasonic thickness gauge; padded carry case; operating manual; adjustable neck strap and loops; wrist strap; accessory pouch; spare membranes; surface and membrane couplant; test block; 3 x AA batteries; mini USB - USB cable and instruction manual; optional Krusell® belt clip and attachments accessory.

# Cygnus Instruments

## MK5 Ultrasonic Thickness Gauge - Cygnus 2+ HANDS-FREE



<b>Gauge</b>	<b>Cygnus 2+ HANDS-FREE</b>		
<b>Measuring Modes</b>	Multiple-Echo using 3 sound pulses to ignore coatings up to 20 mm thick Echo-Echo using 2 sound pulses to ignore coatings up to 1 mm thick Single-Echo using 1 sound pulse		
<b>Materials</b>	Sound velocities from 1,000 - 9,000 m/s (0.0390 - 0.3543 in/us)		
<b>Accuracy</b>	±0.1 mm (±0.004") or 0.1% of thickness measurement, whichever is greatest, when calibrated in accordance with Cygnus Instruments calibration procedure		
<b>Resolution</b>	Multiple-Echo mode - 0.1 mm (0.005") or 0.05 mm (0.002") Single-Echo and Echo-Echo modes - 0.1 mm (0.005") or 0.5 mm (0.002") or 0.01 mm (0.001")		
<b>Probe Diameters &amp; Frequencies</b>	Single crystal probes: • 6 mm (0.25") - 5 MHz (S5A) • 13 mm (0.5") - 2.25 MHz (S2C (standard)), 3.5 MHz (S3C) or 5 MHz (S5C) • 19 mm (0.75") - 2.25 MHz (S2D)	Twin crystal probes: • 5 mm (0.2") - 7.5 MHz (T7A) • 8 mm (0.32") - 5 MHz (T5B (standard)) • 12 mm (0.5") - 2 MHz (T2C (for attenuative materials, cast metals, plastics & composites))	
<b>Measurement Range in Steel</b>	Single crystal probes: • 1 - 250 mm (0.040" - 10.00")	Twin crystal probes in Single-Echo: • 0.8 - 250 mm (0.031" - 10.00")	Twin crystal probes in Echo-Echo: • 3 - 50 mm (0.120" - 2.000")
<b>Connector</b>	Twin Lemo 00		
<b>Power</b>	3 x AA batteries		
<b>Battery Life</b>	10 hours minimum		
<b>Electronics</b>	Dual channel pulser		
<b>Display</b>	End-mounted LCD (rotatable)		
<b>Display Info.</b>	Thickness value		
<b>Size</b>	132 x 82 x 34 mm (3.3" x 5.1" x 1.4") (W x H x D)		
<b>Weight</b>	300 grams (10.5 oz.) (inc. batteries)		
<b>Operating Temp.</b>	-10°C to 55°C (14°F - 131°F)		
<b>Environmental Rating</b>	IP67 Explosive Atmosphere: Safe operation as defined by Class I, Division 2, Group D, as found in the National Fire Protection Association Code (NFPA 70), Article 500, and tested using MIL STD 810G Method 511.5, Procedure I MIL STD 810G Method 501.6 (high temp +55°C (131°F)) MIL STD 810G Method 502.6 (low temp -20°C (-4°F)) MIL STD 810G Method 507.6 (humidity 95%) MIL STD 810G Method 512.6 (immersion - 1 metre for 30 mins)		
<b>Shock and Impact</b>	MIL STD 810G Method 514.7 (vibration - 1 hour each axis) MIL STD 810G Method 516.7 (shock 20g - 11ms half sine shock pulse, 40g 11ms in each axis) MIL STD 810G Method 516.7 (26 drops - transit drop 1.22 m)		
<b>Compliance</b>	CE, British Standard BS EN 15317:2013 (Group 1) (specification for the characterisation and verification of ultrasonic thickness measuring equipment)		
<b>Environmental</b>	RoHS, WEEE compliant		
<b>Warranty</b>	3 years on gauge and 6 months on probes		



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