



ACS Material Equipment Series

MetriTec™ Ultrasonic Thickness Gauge

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I. Product Overview

ACS Materials' MetriTec™ Ultrasonic Thickness Gauges provide precise, non-destructive measurement of wall thickness in materials such as metals, plastics, and composites. Utilizing advanced ultrasonic technology, these instruments are particularly effective for assessing corrosion-related thinning in pipes, tanks, and structural components—especially in situations where access is limited to one side of the material.

II. Product Features of the MetriTec™ Ultrasonic Thickness Gauge Series

MetriTec™ Ultrasonic Thickness Gauge M211 and M212 ultrasonic thickness gauge uses the ultrasonic pulse reflection principle for thickness measurement. The instrument can be equipped with four types of probes: standard probe, micro-diameter probe, coarse crystal probe and high temperature probe, and is professionally used for thickness measurement of metals (such as steel, aluminum, copper, etc.), plastics, ceramics, glass and other materials that can transmit ultrasonic waves. The instrument adopts professional timing chip design, the resolution is up to 0.001mm.

In many industries, It is essential to measure the wall thickness to confirm the condition of the material for the normal running of the items or structure safety. It can be widely used in testing the thickness of various accessories or metallic structure to check them whether to be repaired or changed such as ships, tanks, pipes or steel structure. The gauge is applicable for petroleum, chemical, metallurgical, shipbuilding, aviation and aerospace various fields.



Photo of MetriTec™ Ultrasonic Thickness Gauge M211



Photo of MetriTec™ Ultrasonic Thickness Gauge M212

MetriTec™ Ultrasonic Thickness Gauge M213 ultrasonic thickness gauge is easy to operate and uses the principle of ultrasonic pulse reflection to test the thickness of materials. The instrument can be equipped with four types of probes: standard probe, micro-diameter probe, coarse crystal probe and high-temperature probe, and is professionally used for thickness measurement of metals (such as steel, aluminum, copper, etc.), plastics, ceramics, glass, fiberglass and other materials that can transmit ultrasonic waves. The instrument adopts professional timing chip design, the resolution is up to 0.01mm.



Photo of MetriTec™ Ultrasonic Thickness Gauge M212

MetriTec™ Ultrasonic Thickness Gauge M216 (SKU#ELUG0216) is designed based on the pulse-echo ultrasonic measurement principle. It is specifically used to measure coating thickness on non-metallic substrates such as plastic components, wood, and glass, as well as the thickness of the substrates themselves. In addition, it can measure both the coating thickness on metal substrates and the thickness of the metal substrate.



Photo of MetriTec™ Ultrasonic Thickness Gauge M216

III. Product Application

The **MetriTec™ Ultrasonic Thickness Gauge** can be used in various industries for non-destructive testing and material quality and condition assessment, including petroleum, chemical, metallurgical, shipbuilding, aviation, aerospace and etc.

1. Industrial Quality Control

Ultrasonic thickness measurement is essential in manufacturing and production processes to verify that materials and components meet precise thickness specifications. Common applications include:

- Metal and plastic fabrication
- Aerospace and automotive parts inspection
- Composite material thickness verification

2. Corrosion and Erosion Monitoring

Many industries rely on ultrasonic thickness gauges to monitor the degradation of materials over time due to corrosion, erosion, or wear. This is particularly important in:

- Oil & Gas Pipelines: Detecting internal corrosion in pipelines to prevent leaks or failures.
- Storage Tanks & Pressure Vessels: Ensuring walls maintain structural integrity to avoid hazardous conditions.
- Boilers & Heat Exchangers: Measuring metal thinning caused by high temperatures and chemical reactions.

3. Automotive & Aerospace Industry

- Vehicle Inspection: Checking the thickness of automotive panels, frames, and components for quality assurance.
- Aircraft Maintenance: Evaluating the structural integrity of airplane fuselages, wings, and other critical parts.

4. Shipbuilding & Marine Industry

- Assessing hull thickness to prevent structural failures due to seawater corrosion.
- Ensuring compliance with international maritime safety regulations.

5. Construction & Infrastructure Inspection

- Steel & Concrete Structures: Measuring the thickness of bridge components, buildings, and tunnels for maintenance.
- Railway Tracks: Detecting material wear in rails to prevent accidents.

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