



ACS Material Equipment Series

MetriTec™ Coating Thickness Gauge

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I. Product Overview

ACS Materials' MetriTec™ MT Series Coating Thickness Gauges offer precise, non-destructive thickness measurement with automatic substrate recognition. Designed for versatile applications, these instruments are ideal for evaluating coating, plating, fireproof, and anti-corrosive layer thickness across a range of materials. The series includes dual-use models such as LS220H and LS221, suitable for both ferrous and non-ferrous substrates. For more specialized applications, LS225+F500 is optimized for ferrous materials, while LS225+N1500/N2000 is tailored for non-ferrous substrates—ensuring reliable and accurate measurements in diverse industrial environments.

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

MetriTec™ Coating Thickness Gauge M220H is an integrated high-precision coating thickness gauge, which combines the Hall effect and Eddy current thickness measurement principles. Based on the Hall effect, the instrument can measure non-ferromagnetic coatings on ferromagnetic metal substrates, while under the Eddy current principle effect, it can measure non-conductive coatings on non-magnetic metal substrates.

- There are only four types of ferromagnetic metal elements at room temperature: iron, cobalt, nickel, and gadolinium.
- Common non-ferromagnetic metals: copper, aluminum, zinc, chromium, etc.
- Hall effect: can be used for the measurement of non-ferromagnetic coatings on ferromagnetic metal substrates.
- Eddy current: can be used for the measurement of non-conductive coatings on non-magnetic metal substrates.



MetriTec™ Coating Thickness Gauge M221 Coating Thickness Gauge is a specialist instrument for measuring the thickness of coatings on metal surfaces. The instrument combines the Hall effect and Eddy current principles to measure the thickness of non-ferromagnetic coatings on ferromagnetic metal substrates and the thickness of non-

conductive coatings on non-magnetic metal substrates. The host and probe of M221 is separate, which makes it easy for the user to view the data under complex testing conditions. It can be used in the laboratory and engineering field.

- Hall Effect: can be used for the measurement of non-ferromagnetic coatings on ferromagnetic metal substrates.
- Eddy current: can be used for the measurement of non-conductive coatings on non-magnetic metal substrates.
- There are only four types of ferromagnetic metal elements at room temperature: iron, cobalt, nickel, and gadolinium.
- Common non-ferromagnetic metals: copper, aluminum, zinc, chromium, etc.



MetriTec™ Coating Thickness Gauge M225+N1500 is a split type plating thickness tester, which consists of the host and the digital probe N1500. It adopts the eddy current induction principle and has ultra-high measurement accuracy and repeatability which is especially suitable for measuring ultra-thin coatings and various small-sized work pieces and special-shaped materials. Its plating thickness tester can be used in production inspection, construction acceptance as well as sales and exhibition sites. It can quickly and non-destructively measure the thickness of non-conductive coating on non-magnetic metal substrates. This plating thickness measurement device can be used in industries such as aviation, building materials, machinery, chemicals, engineering and instrumentation, etc.



III. Product Specifications

Model/SKU#	Principles	Accuracy (H is the standard value)	Measuring Area	Measuring Range	Best for
MetriTec™ Coating Thickness Gauge M220H ELCG220H	Fe: Hall Effect NFe: Eddy current	$\leq \pm(3\% H + 2\mu\text{m})$	$\varnothing > 25\text{mm}$	0.0-5000 μm	Conventional coating
MetriTec™ Coating Thickness Gauge M221 ELCG221					Coating in confined spaces
MetriTec™ Coating Thickness Gauge M225+F500 ELCG22501	Magnetic Induction	$\leq \pm(2\% H + 0.3\mu\text{m})$ after 5 points calibration	$\varnothing > 7\text{mm}$	0.0-500 μm	Ultra-thin electroplated coating
MetriTec™ Coating Thickness Gauge M225+N1500 ELCG22502	Eddy current			0.0-1500 μm	Ultra-thin anodized layer
MetriTec™ Coating Thickness Gauge M225+N2000 ELCG22503	Eddy current		$\varnothing > 30\text{mm}$	0.0-2000 μm	Large-area panel coating, PCB coating

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