



Thickness Gauge

1. Introduction



This device is a portable meter. It is capable of measuring coating thickness quickly, precisely and without injury, **both for the laboratory and engineering environment. It is currently widely used in manufacturing, metal processing industry, chemical industry, commodity inspection and testing fields**, and is essential for material protection major.

Features

- Thickness measurement using both Magnetic Method to **measure the non-magnetic coating on a magnetic metal substrate** and Eddy Current Method to **measure the non-conductive coating on a non-magnetic metal substrate.**
- Single-point or two point method could be used to correct probe system deviation, in order to ensure the accuracy of the device in the process of measuring.
- Automatic identify ferrous and non-ferrous substrate quickly.
- Power voltage indicator.
- Speaker beep while operating.
- Power-off automatically when idle; manually power-off available.
- Negative display function to ensure the accuracy of zero point calibration.
- Showing average, max, min value.

2. Principle

The device uses magnetic thickness measurement method, which non-destructively measures thickness of non-magnetic coating (such as: **aluminium, chromium, copper, enamel, rubber, paint, etc.**) on magnetic metal substrates (such as **steel, iron, alloy and hard magnetic steel, etc.**)

Magnetic Method (F-Type probe)

When the probe contacts the cover layer, the probe and magnetic substrate forms a closed magnetic circuit; Due to the presence of non-magnetic coating, magnetic resistance changes. The thickness of the cover layer can be derived by measuring the change.

Eddy Current Method (NF-Type probe)

When the probe contacts the cover layer, the probe and the non-magnetic substrate forms Eddy Current and gives feedback to the coil inside the probe.

The thickness of the cover layer can be derived by measuring the feedback.



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3. Technical Data

Model	SM92
Principal	Magnetic Method (F-Type probe) & Eddy Current Method (NF-Type probe)
Range	0-1250um
Accuracy Error	Zero calibration $\pm (1 + 3\% H)$; Two point calibration $\pm [(1\% \sim 3\% H) H + 1.5$
Power	2 * AA battery
Unit	Um/mil
Temperature	0-40 C
Humidity	$\leq 85\%$
Minimum Substrate	10 * 10mm
Minimum Curvature	5mm convex; 5mm concave
Thinnest Substrate	0.4mm
Weight	120g
Size	110mm * 65mm * 30mm

Item Checklist

Name	Quantity
Meter device	1
Standard films	5
Base substrate	1/2
5 dry cell	2
Packing box	1
User Manual	1