

**Coating thickness
measurement**

**MiniTest 70 Series
MiniTest 70F / 70FN**



Versatile coating thickness gauges

- for non-magnetic coatings on steel
0 ... 3,000 µm
- for insulating coatings on non-ferrous metals
0 ... 2,500 µm
- automatic identification of the substrate material
- built-in sensor
- proven measuring methods
- statistics function

MiniTest 70 – Pocket-sized Coating Thickness Gauge

Application

Designed for quick and easy non-destructive coating thickness measurement, the MiniTest 70 series is available in two models:

- **MiniTest 70 F** with built-in sensor for measuring non-magnetic coatings applied on steel
- **MiniTest 70 FN** with a built-in dual sensor for measuring non-magnetic coatings applied on steel and insulating coatings on non-ferrous metals.

Description

The MiniTest 70 series are compact, pocket sized coating thickness testing gauges. The simple 4-button operation, clear display and built-in statistics displaying the number of readings taken, the minimum, maximum, mean values and standard deviation make the MiniTest 70 series ideal for on-site applications. With new simplified operation, no special training is required to operate these gauges. An audible signal confirms reading acquisition. The MiniTest 70 Series are powered by a standard single AA battery. If the battery gets low, a BAT symbol appears to indicate the battery needs to be changed.

Special feature of the MiniTest 70 FN model: It incorporates a dual sensor for automatic identification of the substrate material. Upon contact with the surface of the measuring object, the gauge automatically switches to the suitable measuring principle according to your application: magnetic induction or eddy currents.

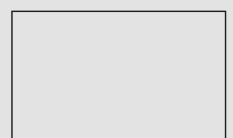
Scope of delivery

- MiniTest 70 F or FN
- Steel test plate (for model 70 F)
- Steel and aluminium test plates (for model 70 FN)
- Calibration foils
- Operating instructions
- Gauge tether
- Belt pouch

Properties	MiniTest 70 F	MiniTest 70 FN
Measuring range	0 ... 3 mm/120 mils	F: 0 ... 3 mm/120 mils / N: 0 ... 2.5 mm/100 mils
Measuring principle	magnetic-induction	magnetic-induction/eddy currents
Signal processing	Sensor integrated 32-bit signal processing (SIDSP®)	
Accuracy ¹	± (1.5 µm + 2 % of reading) with 2-point calibration ² / ± (0.06 mils + 2 % of reading) with 2-point calibration ²	
Repeatability ¹	± (1 µm + 1 % of reading) / ± (0.04 mils + 1 % of reading)	
Low range resolution	0.5 µm; 0.02 mils	
Minimum curvature radius convex	5 mm; 0.2"	
Minimum curvature radius concave	40 mm; 1.60"	
Minimum measuring area ²	Ø 30 mm ; 1.20"	
Minimum substrate thickness ²	F: 0.5 mm; 0.02" / N: 0.04 mm; 0.0016"	
Measuring units	metric/imperial switchable	
Calibration modes	1-point calibration, 2-point calibration	
Statistics	n, $\bar{x}$, s, min, max	
Operating temperature range	-10°C ... +60°C, 14°F...140°F	
Storage temperature range	-20°C ... +70°C, -4°F...158°F	
Power supply	1 x AA (Mignon)-battery	
International standards	DIN EN ISO 1461, 2064, 2178, 2360, 2808, 3882, ASTM B 244, B 499, D7091, E 376	
Dimensions	approx. 157 mm length, Ø 27 mm; 5.2" length, Ø 1.06"	
Weight incl. battery	approx. 80 g, 2.8 oz	

¹ according to DIN 55350 Part 13

² with calibration close to the thickness to be expected and related to ElektroPhysik calibration standards



Coating Thickness Measurement

MiniTest 70E / 70B MiniTest 650E / 650B



Focusing on the substance

- Gauges for use on the shop floor, in the automotive or other industries and quality inspection
- High degree of ergonomics, technology and product quality
- For all non-magnetic layers such as paint, enamel, chrome, galvanic zinc plating on steel
- For all insulating coatings such as paint, anodizing, ceramics on non-ferrous metals such as aluminium, copper, zinc die cast, brass, etc.

Single-button operation – switch on and take readings

MiniTest 70E and MiniTest 70B

Especially designed for quick and easy non-destructive coating thickness measurement, the economical and basic models **MiniTest 70E** and **70B** are suitable for all non-magnetic coatings applied on steel and insulating coatings applied on non-ferrous-metals.

Focusing on easy operation, the small and handy gauges are the ideal tool for the mobile on-site use. No prior knowledge or instructions are required: Just switch on and proceed on measurement. The acquisition of a reading is confirmed by an audible signal.

A built-in dual sensor FN is available to identify the substrate material. According to the material, the gauge will automatically set to the matching measuring principle: magnetic induction or eddy-currents.

Supply schedule

- Gauge with built-in sensor
- 1 AA (Mignon) battery
- 2 zero reference plates
- operating instructions
- 1 control standard
- belt pouch

Technical Data

	70E FN	70B FN
Measuring range	F: 0...3 mm / 120 mils N: 0...2.5 mm / 100 mils	F: 0...3 mm / 120 mils N: 0...2.5 mm / 100 mils
Measuring uncertainty	± (3 µm + 5 % of reading) ± (0.12 mils + 5 % of reading)	± (2 µm + 3 % of reading) ± (0.08 mils + 3 % of reading)
Resolution	2 µm / 0.08 mils	1 µm / 0.04 mils
Geometry of measuring sample		
Curvature radius, convex	> 50 mm / 2"	> 10 mm / 0.4"
Curvature radius, concave	> 100 mm / 4"	> 50 mm / 2"
Diameter of measuring spot	> 50 mm / 2"	> 50 mm / 2"
Minimum substrate thickness	F: 0.7 mm / 28 mils N: 0.1 mm / 4 mils	F: 0.7 mm / 28 mils N: 0.1 mm / 4 mils
Units of measurement	metric / imperial (user selectable)	metric / imperial (user selectable)
Calibration procedure	factory calibration	factory calibration, zero calibration

MiniTest 650E and MiniTest 650B

The robust models **MiniTest 650E** and **650B** are particularly suited for the rough environment in the industrial corrosion protection. Thanks to their rugged design, these wear-resistant coating thickness gauges provide reliable high-accuracy readings throughout an extended service life. Particularly adapted to harsh working environments, the two models are most convenient for use in the automotive industry, in ship-yards, steel and bridge construction. Their rubber protection and durable housing provide excellent protection against shocks and impacts.

The models **MiniTest 650E F** and **MiniTest 650B F** measure all non-magnetic coatings such as paint, enamel, chrome or galvanic zinc plating on steel whereas the dual models **MiniTest 650E FN** and **650B FN** are also suited for all insulating coatings on non-ferrous metals such as paint, anodizing, or ceramics applied to aluminium, copper, zinc die-cast, brass, etc.

The external, extremely wear-resistant one-pole measuring sensor connects to the gauge via a one-meter cable. The dual sensor FN identifies the ferrous or non-ferrous substrate and automatically adjusts to the correct measuring mode. The measuring principle conforms to DIN, ISO, BS and ASTM.

Supply schedule

- Gauge incl. sensor
- 3 AAA batteries
- 1 and/or 2 zero reference plate(s)
- control standard
- operating instructions
- soft pouch

Technical Data

	650E		650B	
Gauge type	F	FN	F	FN
Measuring range	0...3 mm / 120 mils	0...2 mm / 80 mils	0...3 mm / 120 mils	0...2 mm / 80 mils
Measuring uncertainty	± (3 μm + 5 % of reading) ± (0.12 mils + 5 % of reading)		± (2 μm + 3 % of reading) ± (0.12 mils + 5 % of reading)	
Resolution	2 μm / 0.08 mils		1 μm / 0.04 mils	
Geometry of measuring sample				
Curvature radius, convex	> 50 mm / 2"		> 10 mm / 0.4"	
Curvature radius, concave	> 100 mm / 4"		> 50 mm / 2"	
Diameter of measuring spot	> 50 mm / 2"		> 50 mm / 2"	
Minimum substrate thickness	F: 0.70 mm / 28 mils N: 0.1 mm / 4 mils		F: 0.7 mm / 28 mils N: 0.1 mm / 4 mils	
Units of measurement	according to model μm/ mm or mils/inch		according to model μm/ mm or mils/inch	
Calibration	factory calibration		factory calibration, zero calibration	

FOR MORE INFORMATION PLEASE CONTACT:



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