Advancing with Technology ElektroPhysik

NauMetrics
Precision Measuring Instruments

Ultrasonic thickness gauge

MiniTest Series 400

MiniTest 420 - MiniTest 430 - MiniTest 440

- **High precision in pocket-size**
- **Suitable for measurement of different materials e.g. steel, stainless steel, aluminium, glass, plastics (PS, PE)**
- **Automatic identifiction of transducers**
- **Automatic zero setting (MiniTest 430/440)**
- **Pulse-Echo mode from 0.65-500 mm**
- **Echo-Echo mode from 3-25 mm**

High speed scan!

Model 440 measures through paint or coated materials!

MiniTest 400 the new standard in thickness testing

Application

ElektroPhysik's robust gauge family MiniTest 400 was especially designed for use in a rough industrial environment. With their large quantity of gauge functions they come along as high-quality precision instruments mastering also sophisticated requirements without problems.

Description

The pocketsize gauge is available in three different versions:

- MiniTest 420, the rugged model on entry level offering all necessary basic functions
- MiniTest 430, the advanced model with an enhanced range of functions
- MiniTest 440, the high end model offering wall thickness measurement through coatings

Available transducers

MiniTest 400 is standard wise equipped with a 5 MHz transducer. ElektroPhysik offers a wide range of transducers with different frequencies and dimensions as well as high-temperature transducers in order to meet all customer requirements.

All three models recognize transducers automatically thus allowing to switch quickly between different measuring tasks without complicated re-adjusting of the gauge.

MiniTest 430/440

MiniTest 430 and 440 both provide a data memory as well as an USB interface. In additions, both models feature a **scan-mode** to display minimum and maximum measuring value at a measuring rate of 10 readings per second while the current reading is displayed simultaneously (recommended for high-temperature measurements).

Probe zeroing is also automatically with MiniTest 430 and 440.

MiniTest 440 also offers the ability to measure through painted or coated materials and eliminate the thickness of the paint or coating.

All requirements of thickness testing are met with one single gauge. MiniTest 440 uses a highly-damped dual element transducer which allows to conveniently switch between measuring in echo-echo-mode (through paint and coatings) and pulse-echo-mode.

Technical data of transducers

Type	Diameter	Frequency	Measuring Range	Material temperature	Application
U5.0E	8 mm	5.0 MHz	3 – 25 mm (E-E) 0.8 -300 mm (I-E)	-12-+60 °C	measurements through the coating (E-E mode), standard transducer w ith I-E mode
U5.0	8 mm	5.0 MHz	0.8 – 350 mm	-12-+60 °C	on flat surfaces or huge curvature radii
U2.0	12 mm	2.0 MHz	2.0 – 500 mm	-12-+60 °C	rough surfaces such as cast iron
U7.5	6 mm	7.5 MHz	0.65 - 50 mm	-12-+60 °C	thin w all thickness and small curvature radii
U10.0	4 mm	10.0 MHz	0.65 – 20 mm	-12-+60 °C	small tube diameters
U5.0HT	13 mm	5.0 MHz	3.0 – 200 mm	-12-+350 °C	for temperatures up to 350 °C

Technical data MiniTest 400

Technical data			420	430	440
Display	readings, sound velocity, transducer type, battery capacity, data group		•	•	•
Measuring range	Echo-Echo: 3 – 25mm				•
	Pulse-Echo: 0,65 – 500 (depending on transducer)		•	•	•
Resolution	0.01mm (0 – 99.9 mm), 0.1(> 100 mm)		•	•	•
Measuring units	sw itchable from metric to imperial		•	•	•
Sound velocity	1000 m/s to 9999 m/s		•	•	•
	preset sound velocity of 9 materials			•	•
Sensitivity	automatic and manual setting		•	•	•
Auto-V-mode	to measure w ork pieces w ith unknow n sound velocity		•	•	•
Probe identification	automatically		•	•	•
Calibration	automatically			•	•
Measuring mode	Pulse-Echo	Standard: normal operation	•	•	•
		Minimum : detection of thinnest point	•	•	•
		Difference: deviation of reading to preset value		•	•
		Alarm		•	•
	Echo-Echo	Measurements through the coating			•
	Scan	High speed scan for high temperature surfaces		•	•
Data storage	10 groups w ith max. 500 values each			•	•
Data interface	USB			•	•
Display	128X64 px w ith backlight				
Automatic sw itch-off	after tw o minutes, after five minutes or deactivated				
Dimensions	130 X 73 X 24 mm				
Weight	approx. 190 g				
Operation temperature	-20 to 50°C				
Pow er supply	2 x AA batteries, indication of low battery voltage				
Battery endurance	more than 80 hours under continuous operation				

Scope of delivery

Basic unit model MiniTest 420, 430 or 440
5 MHz standard transducer
- U5.0 for MiniTest 420/430
- U5.0E for MiniTest 440
Operating instructions
2 x 1,5V AA battery
Plastic carrying case
Coupling liquid (200 ml)
Software and data transmission cable (MiniTest 430/440)

Useful accessories

Control standard
Optional transducers
High temperature transducers

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