

Willrich Precision
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High-Accuracy Thickness Gauging System



MiniTest 7400 FH / MiniTest 7200 FH

High-precision Thickness Measurement

- Of non-ferrous Materials
- Measures up to 10 mm thick
- Ideal for Bottles, Aluminum Cans, Glass and Plastic Components with Complex Shapes
- Menu-controlled User Interface
- Context-sensitive on-line Help
- SPC Capabilities

Higher Accuracy through Sensor-integrated digital Signal Processing (SIDSP®)!

MiniTest 7400 FH / MiniTest 7200 FH

High-Accuracy Thickness Measurement

The MiniTest 7400 FH/MiniTest 7200 FH is a portable thickness measuring device that offers the capability to precisely measure materials up to 10 mm thick. The small size and portability of the device enables it to be operated in production areas and quality laboratories. The MiniTest 7400 FH/MiniTest 7200 FH provides easy, non-destructive and highly accurate thickness measurement on all types of non-ferrous products, regardless of their size, shape, and material.

It is ideal for applications where accurate measurement of sharp corners, small radii and/or complex shapes are required.

Two Models

MiniTest 7200 FH offers measurement capabilities including real-time thickness measurement, display of minimum and maximum readings, an offset mode, and automatic storage of up to 100,000 values.

MiniTest 7400 FH offers the same capabilities as the MiniTest 7200 FH plus statistical graphing, real time trend, data base with up to 200 batches and increased automatic storage of up to 240,000 values. e.g. 1200 per batch.

SIDSP Provides Higher Accuracy

The MiniTest 7400 FH/MiniTest 7200 FH Gauging Systems incorporate sensor-integrated digital signal processing (SIDSP®). All measuring signals are digitally created and completely digitally processed inside the sensor itself. Only completely processed digital readings are transferred to the base unit for display, statistical analysis, and storage. Unlike analog devices, error influences on the measuring data during transfer are totally excluded.

Two Probes to Choose From

In order to maximize the accuracy of readings, two easily interchangeable probes with a hardened probe tip and a variety of ball sizes are available to cover thickness ranges from 0 to 4 mm (FH 4) and 0 to 10 mm (FH 10).

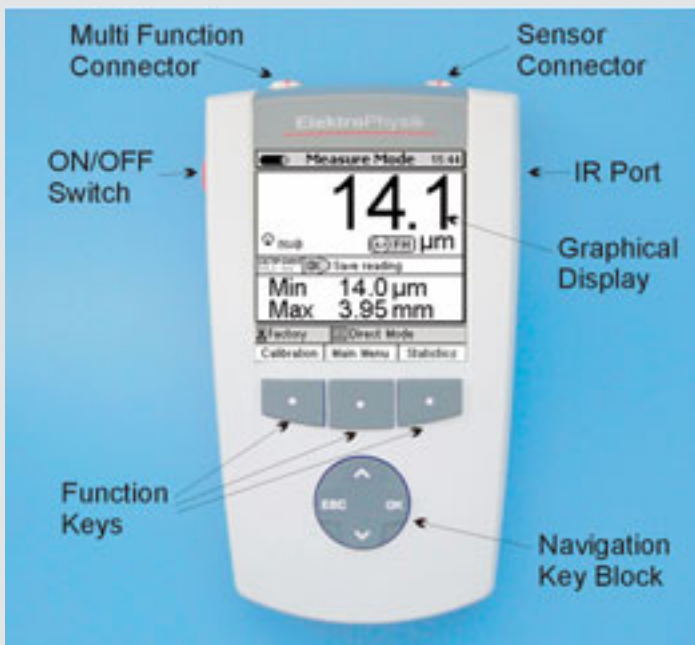


Reference balls with a specially coated finish and dimensional precision to obtain maximum reproducibility of readings.



Advanced Reference Ball Design

The MiniTest 7400 FH/MiniTest 7200 FH utilize specially treated reference balls. Balls of this design result in improved measurement reproducibility of up to 0.5 %. Reference balls are available in 1.5 mm, 2.5 mm, 4.0 mm (FH 4), and 2.5 mm, 4 mm, 6 mm and 9 mm sizes (FH 10).



Innovative menu Control and Data Filing System

The MiniTest 7400 FH/MiniTest 7200 FH feature an easy to understand, menu-driven operator interface and data filing system, similar to common PC applications. Operational assistance is always available via context-sensitive help topics.

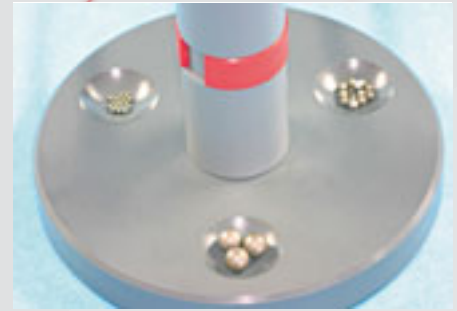
Standard Delivery Schedule

- MiniTest 7400 FH or
- MiniTest 7200 FH
- Operating instructions in German/English/French/Spanish/Portuguese/Italian on CD Rom
- Short instructions
- 4 AA cells, type LR06
- Plastics carrying case
- Rubber protection case with positioning device and belt
- Magnetic screwdriver

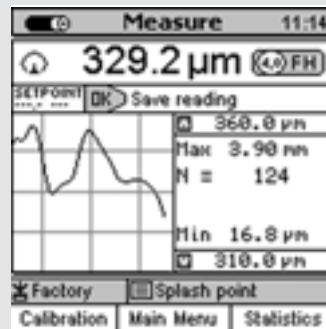
Sensor Options

- **Sensor type FH 4** (0 to 4.0 mm) incl. protection cap for shielding the magnetic field of sensor
 - 3 precision standards approx. 0.25 mm, 1 mm, 3 mm
 - Sensor stand for FH 4 sensor, spring mounted
 - Set of target balls 1.5 mm and 2.5 mm dia. (comprising 100 balls of each size)
 - Set of target balls 4 mm diameter (50 balls)
 - Set of Zero calibration standards for 1.5 mm, 2.5 mm and 4 mm dia. balls (1 pc per ball size)

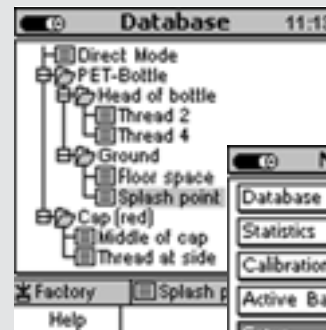
- **Sensor type FH 10** (0 to 10 mm) incl. protection cap for shielding the magnetic field of sensor and
 - 3 precision standards approx. 1 mm, 3 mm, 8 mm
 - 1 sensor stand for FH 10 sensor, spring mounted
 - Set of target balls 2.5 mm (100 pcs)
 - Set of target balls 4 mm (50 pcs)
 - Set of target balls 6 mm (25 pcs)
 - Set of Zero calibration standards for 2.5 mm, 4 mm and 6 mm dia. balls (1 pc per ball size)



Sensor stand with grooves to hold steel balls in place



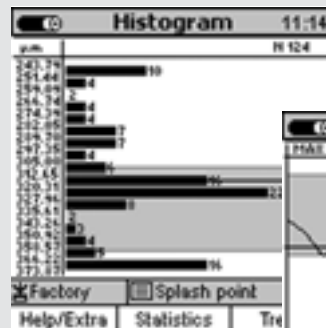
Measuring value combined with trend diagram



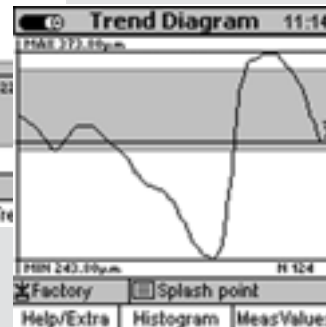
Convenient Data Filing System



Menu System



Histogram and Trend Diagram of MiniTest 7400 FH



Recommended accessories

- MiniPrint 7000 data printer incl. charger unit
- Printer connecting cable to MiniPrint 7000
- Quick charger unit for NiMH storage batteries
- NiMH-Akku AA HR6 1.2 V baby cells (4 pcs for MiniTest FH required)
- Power supply unit
- Set of target balls 9 mm (10 pcs) comprising Zero calibration standard for 9 mm dia. ball
- Footswitch for data storage trigger incl. adapter unit for mains operation
- Shoulder bag with belt for MiniTest 7400 FH/MiniTest 7200 FH
- Anti-dust cover
- Multi-purpose connection box incl. USB cable for connecting
 - power supply unit
 - footswitch
 - alarm device
 - headphones
 - PC
- IR/USB converter for PC
- MSoft 7000 basic data transfer software
- MSoft 7000 pro data management software
- Manufacturer's Test Certificate (DIN 55350M) for MiniTest 7400 FH/MiniTest 7200 FH and sensors



Zero calibration standard



Sensor stand for FH 10 Sensor

Product Features at a Glance

- Hardened probe tip
- High precision target balls for reproducible measurements
- Data capture up to 20 data points per second
- Sensor-integrated digital signal processing
- Multi-point calibration up to 5 points
- Large, easy-to-read display
- Minimum and maximum readings
- Menu-controlled user interface
- Context-sensitive on-line help
- SPC capabilities

Specifications		
	Measuring Ranges	Measuring Tolerance*
FH 4 probe:	0...1.5 mm with 1.5 mm reference ball	0...1.5 mm: $\pm (3 \mu\text{m} + 1\% \text{ of reading})$
	0...2.5 mm with 2.5 mm reference ball	0...2.5 mm: $\pm (5 \mu\text{m} + 1\% \text{ of reading})$
	0...4.0 mm with 4.0 mm reference ball	0...4.0 mm: $\pm (10 \mu\text{m} + 1\% \text{ of reading})$
FH10 probe:	0...2.5 mm with 2.5 mm reference ball	0...2.5 mm: $\pm (5 \mu\text{m} + 1\% \text{ of reading})$
	0...4.0 mm with 4.0 mm reference ball	0...4.0 mm: $\pm (10 \mu\text{m} + 1\% \text{ of reading})$
	0...10.0 mm with 6.0 mm reference ball	0...6.0 mm: $\pm (20 \mu\text{m} + 1\% \text{ of reading})$, 6.0...10.0 mm: $\pm (1.5\% \text{ of reading})$
	0...10.0 mm with 9.0 mm reference ball	0...10.0 mm: $\pm (20 \mu\text{m} + 1\% \text{ of reading})$
Low range resolution:	0.1 μm (FH 4) / 0.2 μm (FH10)	
Repeatability:	Better than $\pm (1 \mu\text{m} + 0.5\% \text{ of reading})$	
Measuring principle:	Magnetostatic	
Logging rate:	1, 2, 5, 10, 20 readings per second (selectable)	
Data memory:	240,000 values (limited to 100,000 values on MiniTest 7200 FH)	
Calibration modes:	Factory, Zero, Zero + up to 4 points	
Measuring units:	metric (μm , mm), imperial (mils, inch)	
Statistical charting:	Numeric, trend, and histogram (with MiniTest 7400 FH only)	
Interfaces:	RS232 TTL + IrDA 1.0 and USB (via connection box)	
Operating temperature:	-10°C ... +60°C (Storage temperature: -20°C to +80°C)	
Dimension/Weight:	153 mm x 89 mm x 32 mm / 310 g / 6 in. x 3.5 in. x 1.3 in. / 11 oz. (Gauge with Batteries only)	
Power supply:	4 x AA (LR06) batteries, or optional power unit (90 – 240 V~/48 – 62 Hz)	

* depending on the calibration method



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