

High-precision Wall Thickness Gauges



**MiniTest 7200 FH/  
MiniTest 7400 FH**

**High-precision Wall Thickness  
Measurement**

- Of non-ferrous materials
- Up to 24 mm thickness
- For packaging materials such as bottles, glass or plastics containers
- For composite materials, aluminium or titanium parts of complex shapes in the aviation or automotive industry
- Menu-guided user interface
- Context-oriented online help
- SPC
- Extremely accurate through digital signal processing

**Extended measuring range up to 24 mm**

# MiniTest 7200 FH/MiniTest 7400 FH

## High-Accuracy Wall Thickness Measurement

The MiniTest 7200 FH/MiniTest 7400 FH is a portable thickness measuring device that offers the capability to precisely measure materials up to 24 mm thickness. The small size and portability of the device enables it to be operated in production areas and quality laboratories. The two models ensure easy, non-destructive and highly accurate wall thickness measurement on all types of non-ferrous products, regardless of their size, shape, and material.

They are 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 a larger memory for automatic storage of up to 240,000 readings, e.g. 1,200 readings per batch.

## SIDSP® Provides Higher Accuracy

The MiniTest 7200 FH/MiniTest 7400 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.

## Two Sensors to Choose From

In order to maximize the accuracy of readings, two easily interchangeable sensors with a hardened tip and a variety of ball sizes are available to cover the various thickness ranges. The FH 4 sensor uses steel balls to



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

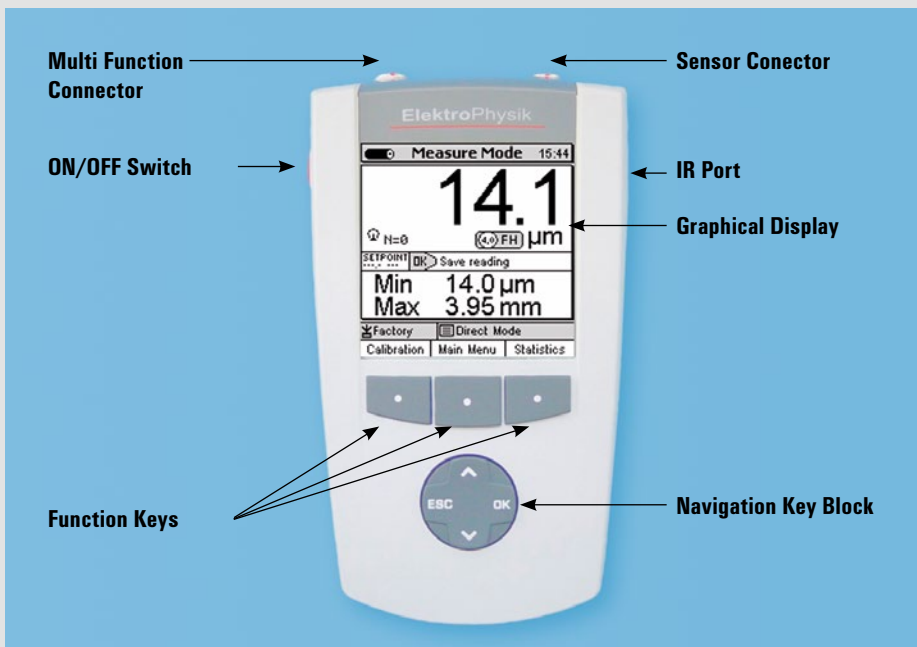
measure from 0 to 6 mm and magnetic balls to measure up to 9 mm. The FH 10 sensor uses steel balls to measure from 0 to 13 mm and magnetic balls to measure up to 24 mm. The two sensor models are interchangeable and can be connected to any of the two gauge models.

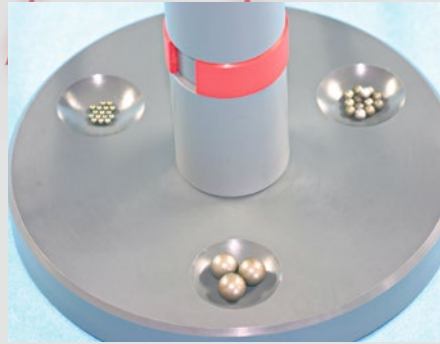
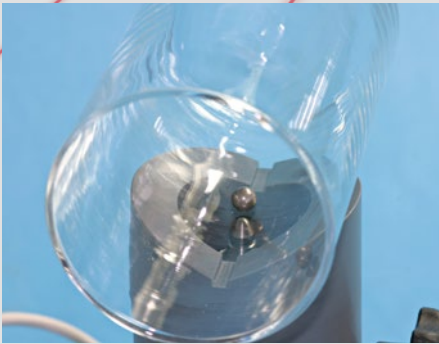
## Advanced Reference Ball Design

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 mm, 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). The measuring range has been extended by magnetic reference balls so that also very thick walls can be measured such as engine parts made of aluminium or titanium or very thick-walled plastic containers.

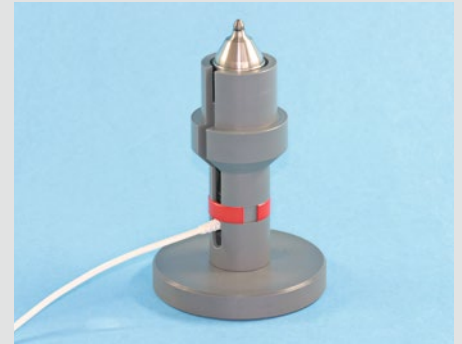
## Innovative Menu Control and Data Filing System

The MiniTest 7200 FH/MiniTest 7400 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.





Sensor stand with grooves to hold steel balls in place



Measuring stand for FH 10 sensor

## Standard Delivery Schedule

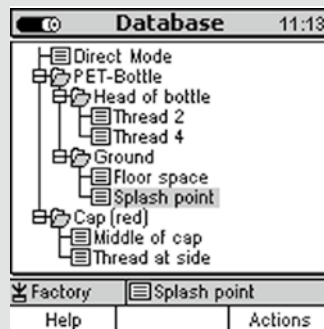
- MiniTest 7200 FH or
- MiniTest 7400 FH
- Operating instructions in German/English/French/Spanish/Portuguese/Italian on CD Rom
- Short instructions
- 4 AA cells, type LR06
- Plastics carrying case
- Rubber protection case with positioning device and belt
- MSoft 7 Professional Edition on USB stick (data transfer software for creation and management of batches for MiniTest 7200 FH and MiniTest 7400 FH)
- Magnetic screwdriver

## Sensor Models

- **Sensor type FH 4** (0 to 4 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)



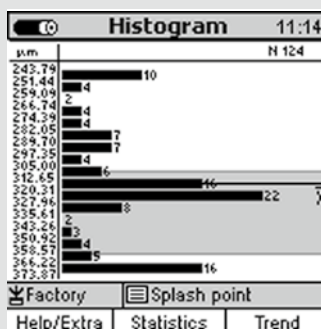
Measuring Value combined with Real-Time Trend Diagram



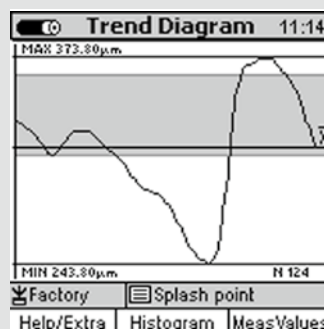
Convenient Data Filing System



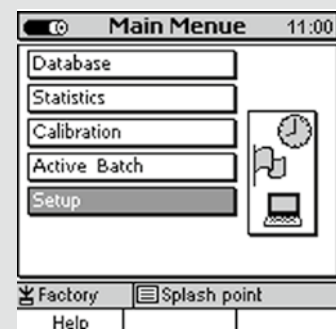
Measure Screen of MiniTest 7200 FH



Histogram with MiniTest 7400 FH



Trend Diagram with MiniTest 7400 FH



Menu System



## Recommended Accessories

- MiniPrint 7000 data printer incl. charger unit
- Quick charger unit for NiMH storage batteries
- NiMH-Akku AA HR6 1.2 V baby cells (4 pcs for MiniTest FH required)
- Basic calibration set for FH 4 sensor, for 1.0 mm dia. balls: zero calibration standard and 1 set of 1.0 mm dia. steel balls (100 pcs)
- Calibration set to extend the FH 4 sensor measuring range: zero calibration standards for the magnetic balls 1.5 mm and 3 mm dia.; precision standard for approx. 8mm; set of magnetic balls 1.5 mm dia. (25 pcs); set of magnetic balls 3 mm dia. (20 pcs)
- Calibration set to extend the FH 10 sensor measuring range: precision standard for approx. 18 mm; 1 set of magnetic balls 4 mm dia. (20 pcs); 1 set of magnetic balls 6 mm dia. (20 pcs)
- Footswitch for data storage trigger incl. adapter unit for mains operation
- Shoulder bag with belt for MiniTest 7200 FH/MiniTest 7400 FH
- Anti-dust cover
- Multi-purpose connection box incl. USB cable for connecting
  - power supply unit
  - footswitch
  - alarm device
  - headphones
  - PC
  - USB adapter cable
  - RS232 adapter cable



Zero calibration standard



MiniPrint 7000 data printer

- IrDA/USB adapter for wireless data transfer
- Manufacturer's Test Certificate (DIN 55350M) for MiniTest 7200 FH/MiniTest 7400 FH and sensors

### Product Features at a Glance

- Wear-resistant carbide sensor 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
- Display of minimum and maximum
- Menu-controlled user interface
- Context-sensitive online help
- SPC capabilities

# ElektroPhysik

## Technical Data

	Measuring Ranges	Measuring Tolerance*
FH 4 sensor	0...1.3 mm with 1.0 mm steel ball 0...2.0 mm with 1.5 mm steel ball 0...3.5 mm with 2.5 mm steel ball 0...6.0 mm with 4 mm steel ball 0...5.0 mm with 1.5 mm magnetic ball 0...9.0 mm with 3.0 mm magnetic ball	0...1.3 mm: $\pm (3 \mu\text{m} + 1\% \text{ of reading})$ 0...2.0 mm: $\pm (3 \mu\text{m} + 1\% \text{ of reading})$ 0...3.5 mm: $\pm (5 \mu\text{m} + 1\% \text{ of reading})$ 0...6.0 mm: $\pm (10 \mu\text{m} + 1\% \text{ of reading})$ 0...5.0 mm: $\pm (20 \mu\text{m} + 2\% \text{ of reading})$ 0...9.0 mm: $\pm (40 \mu\text{m} + 2\% \text{ of reading})$
FH10 sensor	0...4.0 mm with 2.5 mm steel ball 0...7.0 mm with 4.0 mm steel ball 0...10.0 mm with 6.0 mm steel ball 0...13.0 mm with 9.0 mm steel ball 0...16.0 mm with 4.0 mm magnetic ball 0...24.0 mm with 6.0 mm magnetic ball	0...4.0 mm: $\pm (5 \mu\text{m} + 1\% \text{ of reading})$ 0...7.0 mm: $\pm (10 \mu\text{m} + 1\% \text{ of reading})$ 0...10.0 mm: $\pm (20 \mu\text{m} + 1\% \text{ of reading})$ 0...13.0 mm: $\pm (20 \mu\text{m} + 1\% \text{ of reading})$ 0...16.0 mm: $\pm (40 \mu\text{m} + 2\% \text{ of reading})$ 0...24.0 mm: $\pm (60 \mu\text{m} + 2\% \text{ of reading})$
Low range resolution	0.1 $\mu\text{m}$ (FH 4) / 0.2 $\mu\text{m}$ (FH 10)	
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 ( $\mu\text{m}$ , mm), imperial (mils, inch)	
Statistical charting	Numeric, trend, and histogram (with MiniTest 7400 FH only)	
Interfaces	RS232 TTL + IrDA 1.0 + USB (via connection box)	
Operating temperature	-10 °C to +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

# WALL THICKNESS



# AMTG-2



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WALL THICKNESS

# AMTG-2

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The "AMTG-2" is a portable feeler gauge. It is used to measure the thickness of non-magnetic materials, such as plastic, glass, ceramic, aluminum, titanium, copper etc... The accuracy of the measurement is not affected by the shape of the samples.

It's designed by basing on the method of the Hall Effect. Simple and rapid measure as below:

Place the steel ball on one side of the sample and the probe on the opposite side  
Move the sample and let the probe to be the tested position  
The steel ball will be drawn by the probe automatically  
The Hall Effect sensor on the probe measures the distance between the probe tip and the steel ball

## Advantages:

- Non-destructive measure
- High resolution 7" touching screen
- Dynamic display: measuring value / graph / date / hour / battery life
- Full aluminum frame
- Fast and accurate measurement of the thickness
- Achieving accurate thickness measurement in corners, small radius and some irregular shape.
- Display real-time measurement value
- and Min. mode: Automatic capture of the maximum or minimum value
- Value difference function: Display the value difference between preset value and actual measured value
- "CYCLE" function: Record the Max, Min, Average value & Graph during a predefined time. "Delayed start & Auto-stop" - function frees the hands of operator and it's convenient for large-size sample measuring.
- Alarm function: Programmable, warns the high or low preset value by sound or visual indication
- Password function enables the safety of the calibration data and measuring data.
- Can store 9999 measurement data



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# AMTG-2

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## Technical characteristics:

- Measure mode: Normal / High accuracy
- Display mode: Real-time / Minimum or Maximum
- Resolution: 0.01mm or 0.001 mm (0.001" or 0.0001")
- Display: TFT screen displays the real time reading, minimum - reading, alarm status and data info
- Outputs: RS-232
- Calibration: Multi-point calibration (up to 13 points)
- Power : DC 8.4V
- Battery: Rechargeable lithium battery. Full loaded working time without charging is approx 2-3 hours.
- Units: mm / Inch
- Language: English
- Dimensions: 210 x 150 x 65 mm
- Net weight: 2 kg (Package weight: 5 kg)
- Measure range and accuracy (Custom made for range 0-8 mm)

## Standard configuration:

- Standard probe with cable and stand
- Using manual
- Charger
- Steel balls\* and supports
- Foot switch
- Portable case
- Calibration blocks\*

Steel Ball Dia.	Thickness upper limit	Accuracy
4.76mm	6.35mm	1% $\pm$ 0.003
3.18mm	4.57mm	2%
1.59mm	2.29mm	3%

\* Steel balls included: 1.59 / 3.18 / 4.76 mm

\* Calibration blocks included: 0.23 / 0.5 / 1 / 2 / 3 / 4 / 5 mm (Custom-made thickness of block is available)



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**AMTG-2**

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# PICTURE





# WALL THICKNESS

Thickness Range and Accuracy

Target Ball Thickness Range

Calibrated Diameter

(with standard probe)

**Accuracy**

- (1.50 mm) (0.001-2.00 mm)  $\pm 2\%^*$
- (2.50 mm) (0.001-3.90 mm)  $\pm 2\%^*$
- (4.00 mm) (0.001-9.00 mm)  $\pm 2\%^*$

**Feature:**

- Hardened Probe Tip.
- Precision Target Steel Balls.
- Statistics (Min, Max, Avg., Standard Deviation, Relative Standard deviation) of selected reading.
- Storage Capacity up to 1500 Readings.
- Reading can be stored with different Job Names, along with Date, Month, Time and Statistics of that Job.
- Old Reading can be displayed on the Screen or send to computer for Record and Data Analysis.

## ITK-IN001



**Accessories:**

- Rechargeable Battery and Charger (No need of removing battery for charging)
- RS232 cable to computer with RS232 9pin
- Serial to USB converter for computer with USB
- Set of target Balls 15 nos. each.
- Wooden protection Box.

# ITK-IN001

Power	4 x AA (LRO6) batteries, or optional power unit (90 - 240V-/ 48 -62 Hz)
Interfaces	RS232 TTL + IrDA 1.0
Operating temperature	-10Degree to + 60 Degree (Storage temperature:- 20 Degree to +80 Degree)
Dimension	155mm x 95mm x 30mm
Weight	300g
Range	0 - 7mm
Accuracy	+/-2%
Low range resolution	0.01mm or 0.001mm(below 1mm)
Repeatability	Better than +/- (1 micrometer + 0.5 % of reading)
Measuring Principle	Magnet-o-static
Logging rate	1,2,5,10,20 readings per second (selectable)
Data memory	Yes
Calibration modes	Factory, Zero, Zero + up to 4 points
Measuring units	Metric - mm
Statistical Charting	Numeric, trend, and histogram ( with mini test 7400 FH only)



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# WALL THICKNESS

MBT-201

CE



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# WALL THICKNESS

## MBT-201

### Applications

Canneer-MBT-201 Hall Effect Thickness Gauge (Magnetic Bottle Thickness Gauge) is a refined portable thickness gauge. It is used to measure the thickness of nonmagnetic material, such as plastic, glass, synthetics, aluminum and titanium, etc. The measurement accuracy is undistorted by the samples' shapes.

MBT-201 is based on the theory of Hall Effect. For test, place the steel ball on one side of the sample and the probe on the other side. The Hall Effect sensor on the probe measures the distance from the probe tip to the steel ball. The calculator will display the real thickness readings.

### Advantages

- Adopted non-destructive test method. With quick measurement for spot thickness on area where accurate measurement of corners, small radii, or complex shapes are required
- Display the real time thickness readings and automatically capture the minimum thickness
- A standard instrument in plastic packaging industry
- Rapid measurement, up to 16 times per second
- Accuracy:  $\pm 1\%$
- It stores 95,000 thickness readings as the internal data record

## MADE IN USA



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# WALL THICKNESS

MADE IN USA

MBT-201



## Technical Parameter

- Scanning Speed : up to 16 times (Optional)
- Minimum Mode : rapid search and minimum thickness display
- Resolution : 0.01 mm or 0.001 mm (0.001 or 0.0001)
- Data Output : RS-232 serial port
- Power : 100/120/220/240 VAC, 48-62 Hz
- Metric/Imperial Unit : Inch or mm for option
- Working Temperature : 0 - +50C
- Dimension : 9.375 x 5.45 x 1.5" (238 x 138 x 38mm)

Steel Ball Dia.	Thickness Range (Standard Probe)	Calibration Graduation (Accuracy)
1/16" (1.59 mm)	.0001 - .0900" (.001 - 2.590 mm)	±3%*
1/8" (3.18 mm)	.0001 - .0900" (.001 - 4.570 mm)	±2%*
3/16" (4.76 mm)	.0001 - .0900" (.001 - 6.350 mm)	±1%*



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## PICTURE MBT-201



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