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# COATING THICKNESS MEASUREMENT

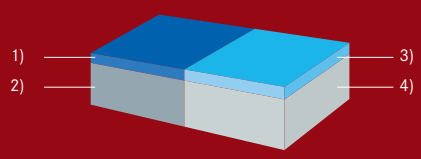
Measurement of coating thicknesses is known from, for example, the paint measurement for coating thickness at cars. In fact, these measurements are used much more widely in industrial applications. This is where the thickness of the surface finish is measured, such as galvanisation, zinc coating etc. or also lacquers.

Fundamentally there are two measuring principles for determining coating thickness:

Typ F: Non-magnetic coatings on magnetic metals, such as iron or steel (magnetic induction principle). Here are some sample material combinations:
1) [chrome, copper, rubber, lacquer] on
2) [steel, iron, alloys, magnetic stainless steel]

Typ N: Coatings on non-magnetic metals, such as aluminium (eddy current principle). Here are some sample material combinations:
3) [lacquer, paints, enamel, chrome, plastics] on
4) [aluminium, brass, sheet metal, copper, zinc, bronze]

Typ FN: All coatings as for type F and N on all metals as for type F and N (combination of magnetic induction and eddy current principle)




## Quick-Finder

| Readout [d] µm | Measuring range [Max] µm | **Model** SAUTER | Page |
|---|---|---|---|
| 0,1 | 2000 | **JCT 100** | 58 |
| 0,1 \| 1 | 100 \| 1000 | **TB 1000-0.1F** | 54 |
| 0,1 \| 1 | 100 \| 1000 | **TB 1000-0.1FN** | 54 |
| 0,1 \| 1 | 100 \| 2000 | **TB 2000-0.1F** | 54 |
| 0,1 \| 1 | 100 \| 1250 | **TC 1250-0.1F** | 55 |
| 0,1 \| 1 | 100 \| 1250 | **TC 1250-0.1FN** | 55 |
| 0,1 \| 1 | 100 \| 1250 | **TC 1250-0.1FN-CAR** | 55 |
| 0,1 \| 1 | 100 \| 1250 | **TE 1250-0.1F** | 56 |
| 0,1 \| 1 | 100 \| 1250 | **TE 1250-0.1FN** | 56 |
| 0,1 \| 1 | 100 \| 1250 | **TE 1250-0.1N** | 56 |
| 0,1 \| 1 | 100 \| 1250 | **TF 1250-0.1FN** | 57 |
| 0,1 \| 1 | 100 \| 1250 | **TG 1250-0.1FN** | 57 |

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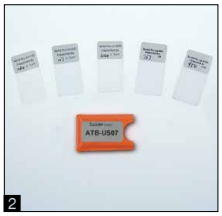

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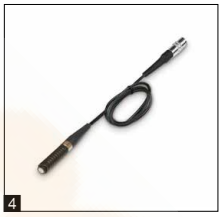
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4

## Practical measuring device for measuring the thickness of layers for daily use

### Features

- External sensor for difficult-to-access measuring points
- Base plate and calibration foils included
- 1 Delivered in a robust carrying case
- Offset-Accur: This function allows you to adjust the instrument precisely on the locally measured range by a two-point calibration. This results in a superior accuracy of 1 % (or less) of the measured value
- Selectable measuring units: µm, inch (mil)
- Auto-Power-Off
- Type F: Non-magnetic coatings on iron and steel
- Type N: Coatings on non-magnetic metals
- SAUTER TB 2000-0.1F: Specifically designed for the automobile industry, Precision: Standard 3 % of measured value

### Technical data

- Measuring precision:
  - Standard: 3 % of measured value
  - Offset-Accur: 1 % of measured value
- Smallest sample surface (radius)
  Type F
  - Convex: 1,5 mm
  - Flat: 6 mm
  - Concave: 25 mm
  Type N
  - Convex: 3 mm
  - Flat: 6 mm
  - Concave: 50 mm
- Minimum thickness of base material: 300 µm
- Overall dimensions W×D×H 161×69×32 mm
- Battery operation, batteries standard (4×1.5 V AA)
- Net weight approx. 0,75 kg

### Accessories

- 2 Calibration foils for increased measuring accuracy (covers the range from 20 up to 2000 µm, with < 3 % tolerance), SAUTER ATB-US07
- 3 External sensor, Type F, SAUTER ATE 01
- 4 External sensor, Type N, SAUTER ATE 02

STANDARD


OPTION


| Model | Measuring range | Readout | Test object | Option |
|---|---|---|---|---|
| | | | | **Factory calibration certificate** |
| **SAUTER** | [Max] µm | [d] µm | | KERN |
| **TB 1000-0.1F** | 100 \| 1000 | 0,1 \| 1 | Type F | 961-110 |
| **TB 2000-0.1F** | 100 \| 2000 | 0,1 \| 1 | Type N | 961-110 |
| **TB 1000-0.1FN** | 100 \| 1000 | 0,1 \| 1 | Combination instrument Type F / Type N | 961-112 |

1

2



# Robust measuring device for coating thickness – compact and easy to use

### Features

- Ergonomic design for easy handling
- Data interface RS-232 as standard
- Base plate and calibration foils included
- 1 Delivered in a robust carrying case
- Offset-Accur: This function allows you to adjust the instrument precisely on the locally measured range by a two-point calibration. This results in a superior accuracy of 1 % (or less) of the measured value
- Selectable measuring units: µm, inch (mil)
- Type F: Non-magnetic coatings on iron and steel
- Type N: Coatings on non-magnetic metals

**2 SAUTER TC 1250-0.1FN-CAR**

- Specifically designed for the automobile industry
- Automatic recognition of measuring mode (F or N): “point and shoot”
- Simple and convenient 1-key operation

### Technical data

- Measuring precision:
  - Standard: 3 % of measured value or ± 2,5 µm
  - Offset-Accur: 1% of measured value or ± 1 µm
- Smallest sample surface (radius)
  Type F
  - Convex: 1,5 mm
  - Flat: 13 mm
  - Concave: 80 mm
  Type N
  - Convex: 3 mm
  - Flat: 6 mm
  - Concave: 50 mm
- Minimum thickness of base material: 300 µm
- Overall dimensions W×D×H 125×65×26 mm
- Battery operation, batteries standard (4×1.5 V AAA)
- Net weight approx. 0,15 kg

### Accessories

- Data transfer software, interface cable included, SAUTER ATC-01
- Calibration foils for increased measuring accuracy (covers the range from 20 up to 2000 µm, with < 3 % tolerance), SAUTER ATB-US07

STANDARD: CAL BLOCK, FOCUS, RS 232, ZERO, BATT, 1 DAY

OPTION: SOFTWARE, ISO +4 DAYS

| Model | Measuring range | Readout | Test object | Option Factory calibration certificate |
|---|---|---|---|---|
| SAUTER | [Max] µm | [d] µm | | KERN |
| TC 1250-0.1F | 100 \| 1250 | 0,1 \| 1 | Type F | 961-110 |
| TC 1250-0.1FN | 100 \| 1250 | 0,1 \| 1 | Combination instrument Type F / Type N | 961-112 |
| TC 1250-0.1FN-CAR | 100 \| 1250 | 0,1 \| 1 | Combination instrument Type F / Type N | 961-112 |




## Ergonomic design and external measuring head for highest ease of use

### Features

- External sensor for difficult-to-access measuring points
- Data interface RS-232 as standard
- Base plate and calibration foils included
- 1 Delivered in a robust carrying case
- Offset-Accur: This function allows you to adjust the instrument precisely on the locally measured range by a two-point calibration. This results in a superior accuracy of 1 % (or less) of the measured value
- Selectable measuring units: µm, inch (mil)
- Auto-Power-Off
- Type F: Non-magnetic coatings on iron and steel
- Type N: Coatings on non-magnetic metals

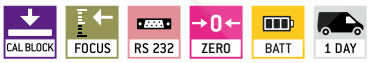
### Technical data

- Measuring precision:
  - Standard: 3 % of measured value or ± 2,5 µm
  - Offset-Accur: 1 % of measured value or ± 1 µm
- Smallest sample surface (radius)
  Type F
  - Convex: 1,5 mm
  - Flat: 6 mm
  - Concave: 50 mm
  Type N
  - Convex: 1,5 mm
  - Flat: 6 mm
  - Concave: 50 mm
- Minimum thickness of base material: 300 µm
- Overall dimensions W×D×H 131×65×28 mm
- Battery operation, batteries standard (4×1.5 V AAA)
- Net weight approx. 0,10 kg

### Accessories

- Data transfer software, interface cable included, SAUTER ATC-01
- Calibration foils for increased measuring accuracy (covers the range from 20 up to 2000 µm, with < 3 % tolerance), SAUTER ATB-US07
- 2 External sensor, Type F, SAUTER ATE 01
- 3 External sensor, Type N, SAUTER ATE 02

STANDARD




OPTION


| Model | Measuring range | Readout | Test object | Option |
|---|---|---|---|---|
| | | | | **Factory calibration certificate** |
| **SAUTER** | [Max] µm | [d] µm | | KERN |
| **TE 1250-0.1F** | 100 \| 1250 | 0,1 \| 1 | Type F | 961-110 |
| **TE 1250-0.1N** | 100 \| 1250 | 0,1 \| 1 | Type N | 961-110 |
| **TE 1250-0.1FN** | 100 \| 1250 | 0,1 \| 1 | Combination instrument Type F / Type N | 961-112 |

PREMIUM ★★★

SAUTER TF

PREMIUM ★★★

SAUTER TG


1



# Premium coating thickness gauge for paint layer, lacquer layer etc.

### Features

- 1 LCD display, backlit, display of all information at a glance
- Offset-Accur: This function allows you to adjust the instrument precisely on the locally measured range by a two-point calibration. This results in a superior accuracy of 1 % (or less) of the measured value
- 2 different measuring modes: single measurement and scan mode for continuous measurement
- Mini Statistics Kit: displays the measured result, the average value and the max and the min value
- Internal data memory for up to 99 values
- Selectable measuring units: µm, inch (mil)
- Base plate and calibration foils included
- Data interface RS-232 as standard
- Delivered in a robust carrying case
- Type F: Non-magnetic coatings on iron and steel
- Type N: Coatings on non-magnetic metals

**SAUTER TG**

- External sensor for difficult-to-access measuring points

### Technical data

- Measuring precision:
  - Standard: 3 % of measured value or ± 2,5 µm
  - Offset-Accur: 1 % of measured value or ± 1 µm
- Minimum thickness of base material: 300 µm
- Overall dimensions W×D×H 126×65×35 mm
- Battery operation, batteries standard (2×1.5 V AAA)
- Net weight approx. 0,10 kg

### Accessories

- Data transfer software, interface cable included, SAUTER ATC-01
- Calibration foils for increased measuring accuracy (covers the range from 20 up to 2000 µm, with < 3 % tolerance), SAUTER ATB-US07
- SAUTER TG: External sensor, Type FN, SAUTER ATG 01

STANDARD: CAL BLOCK · SCAN · FOCUS · MEMORY · RS 232 · STATISTIC · ZERO · BATT · 1 DAY

OPTION: SOFTWARE · ISO +4 DAYS

| Model<br>SAUTER | Measuring range<br>[Max]<br>µm | Readout<br>[d]<br>µm | Test object | Smallest sample surface (radius)<br>mm | Option **Factory calibration certificate**<br>KERN |
|---|---|---|---|---|---|
| **TF 1250-0.1FN** | 100 \| 1250 | 0,1 \| 1 | Combination instrument Type F / Type N | F: Convex: 1,5/ Concave: 25 | 961-112 |
| **TG 1250-0.1FN** | 100 \| 1250 | 0,1 \| 1 | Combination instrument Type F / Type N | N: Convex: 3/ Concave: 50 | 961-112 |


NEW

PREMIUM ★★★




# New-generation measuring coating thickness gauge

## Features

- Accurately determines the thickness of coats of paint or varnish on iron or non-iron base material
- Combination of magnetic and eddy current measuring methods enables particularly high levels of precision and flexibility. The base material is detected automatically
- Stable, reliable performance as well as non-destructive measuring
- Measuring range up to 2000 µm
- Low-wear sensor thanks to state-of-the-art technologies
- Single and two-point calibration
- Single and repeated measurements for pass/fail assessment. The three-colour LED display shows the current value attribute (green: qualified, red: below the limit value, yellow: above the limit value)
- 1 The display rotates automatically and makes it easier for the user to read the measured values from many different angles, or alternatively it can be locked in place manually
- Selection of functions with automotive mode, voice transmission, Bluetooth App and LED torch
- Bluetooth App included for communication and applications
- 2 Main application areas: Coating thickness measurement on metals in industry and research, for example in the automobile industry, metal processing, painting and inspection
- 3 Delivery in a practical box

## Technical data

- Measuring precision: 2 % of [Max]
- Selectable measuring units: µm, inch (mil)
- With internal sensor
- Internal data memory for up to 55 sets of values and 60 cells per set
- Overall dimensions W×D×H 152×65×35 mm
- Net weight approx. 0,20 kg

## Accessories

- Calibration foils for increased measuring accuracy (covers the range from 20 up to 2000 µm, with < 3 % tolerance), SAUTER ATB-US07

STANDARD

PEAK | SCAN | MEMORY | STATISTIC | BT | UNIT | TOL | ACCU | 1 DAY

| Model | Measuring range | Readout | Sensor types |
|---|---|---|---|
| SAUTER | [Max] µm | [d] µm | |
| JCT 100 NEW | 2000 | 0,1 | FE \| NFE |

NEW New model