

ATORN® Paint and powder-coating tester

With integrated combined measuring probe FNF for iron (F) or Non-ferrous substrates

Application:

For measuring paint, powder and plastic coatings on ferrous and non-ferrous base materials such as steel, iron, cast iron, aluminium, copper and brass. For smooth, thin, flat or curved surfaces.

Execution:

- Axial single-pole sensor with spring-loaded measuring element
- Battery capacity for approx. 4.5 hrs of continuous use
- Bluetooth 4.0 (low energy) for data transfer to smartphone or tablet
- Measuring pole point IP65 and USB connection point IP54
- For operating systems Android 5.0 or higher, iOS 9.0 or higher

- App download available on Google Play and Apple App Store
- Unit dimensions (DxL) 25 x 134 mm

Advantage:

- Log generation in PDF format, including photos and comments
- Wireless probe with Bluetooth for connection to smartphone or tablet
- Coloured LED lighting for exceeding of tolerance limits

Delivery:

Measuring instrument, app information to download, calibration set with two calibration films (approx. 75 µm and approx. 250 µm), as well as two metal plates with ISO/FE and ISO/NF marked for test purposes, BA (download), USB cable to recharge the battery, carrying strap, supplied in a case



Test probe	Integrated
Min./max. layer thickness of measuring range	0-2500 µm
Data transmission type	USB
45801... Ident. No.	010

Prod. Gr. 451

ATORN® Layer thickness gauge

With integrated combined measuring probe FNF for iron (F) or Non-ferrous substrates

Application:

For measuring non-magnetic coatings (paints, plastics, chromium, copper, zinc etc.) on iron-magnetic surfaces as well as measuring non-conductive coatings (paints, plastics etc.) on non-ferrous metal substrates (copper, aluminium, zinc, bronze, brass etc.)

Execution:

- Shock-resistant, dustproof and water spray protected housing (IP65)
- Non-slip rubberised surface for perfect feel
- High-contrast, rotating display for all viewing angles
- Dual probe enables measurement on each relevant substrate
- Pre-configured batches according to SSPC-PA 2, IMO PSPC, ISO 19840, Australian AS 3894.3 B, Swedish IS 18 41 60 etc.
- Storage space for 250,000 measured values in up to 2500 batches
- USB interface for secure and fast data transfer

Advantage:

- Three-point support for precise measurement in every situation
- One-handed operation via 4 buttons for efficient working
- Durable sensor pole for continuously reliable measuring results
- Graphical assistance guides the user through each work step
- Feedback through light, sound and vibration

Notes:

In combination with ATORN dew point measuring device 45801040 and ATORN surface profile measuring device 45801060, perfect for professional corrosion protection!

Technical data:

- Test probe: Integrated
- Min./max. layer thickness of measuring range: 0-2500 µm
- Data transmission type: USB



Probe design	Ident. No.
45801... FNF	020

Prod. Gr. 451

elcometer® Coating thickness gauges, model series 456C
 Integrated Bigfoot™ sensor

Application:

Ident. No. 600: For measuring non-magnetic coatings (paintwork, plastics, chrome, copper, zinc etc.) on magnetic substrates.

Ident. No. 605: For measuring non-magnetic coatings (paints, plastics, chrome, copper, zinc etc.) on magnetic substrates and for measuring non-conductive coatings (paints, plastics etc.) on non-metallic substrates (copper, aluminium, zinc, bronze, brass, etc.)

Execution:

- Robust ABS plastic housing
- Large, easy-to-read 2.4" colour display
- Degree of protection: IP 64, dust-proof and water-resistant
- Internal memory for displaying the last 5 measured values
- Data logging, concave from R=2
- **Ident. No. 600:** Built-in Bigfoot™ F sensor for ferrous (F) metal substrates
- **Ident. No. 605:** Integrated Bigfoot™ combined sensor FNF for ferrous (F) or non-ferrous (NF) metal substrates

Advantage:

- Fast samplings rates of over 70 measurements per minute
- Various calibration methods stored
- Integrated Bigfoot™ sensor for high measuring certainty
- Statistical display

Delivery:

Measuring instrument, calibration films (25, 50, 125, 250, 500, 1000 µm), hand strap, protective sleeve, plastic bag, 2x AA batteries, operating instructions

Technical data:

- Test probe: Integrated
- Min./max. layer thickness of measuring range: 0-1500 µm
- Layer thickness resolution: < 100 µm: 0.1 µm
- Accuracy (+/-): 2.5 µm
- Min./max. accuracy (+/-) in %: 1-3 %
- Measuring rate: > 70 measurements/min
- Data transmission type: USB
- Internal memory: 5 measured values
- Adjustable limit values: No



	Model	Type	Probe design	Ident. No.	
45800...	A456CFBFI	B	F	Ident. No.	600
45800...	A456CFNFB1	B	FNF	Ident. No.	605

Prod. Gr. 451

elcometer® Coating thickness gauges, model series 456C
 For separate Bigfoot™ sensors

Application:

Ident. No. 610: For measuring non-magnetic coatings (paintwork, plastics, chrome, copper, zinc etc.) on magnetic substrates.

Ident. No. 615-625: For measuring non-magnetic coatings (paints, plastics, chrome, copper, zinc etc.) on magnetic substrates and for measuring non-conductive coatings (paints, plastics etc.) on non-metallic substrates (copper, aluminium, zinc, bronze, brass, etc.)

Execution:

- Robust ABS plastic housing
- Large, easy-to-read 2.4" colour display
- Degree of protection: IP 64, dust-proof and water-resistant
- Data logging, concave from R=2 and convex from R=25
- **Ident. No. 610:** Connection for F sensor for ferrous (F) metal substrates
- **Ident. No. 615:** Connection for combined sensor FNF for ferrous (F) or non-ferrous (NF) metal substrates
- **Ident. No. 620-625:** Connection for FNF combination sensor for ferrous (F) and/or non-ferrous (NF) metal substrates

- Various calibration methods stored
- **Ident. No. 620:** View and delete measured values and delete batches
- **Ident. No. 625:**
 - View and delete measured values and batches
 - Alphanumeric batch names entered into device by user
 - Scanning and auto repeat mode with connected ultra/scan probe

Delivery:

Ident. No. 610-615: Measuring instrument, hand strap, protective sleeve, plastic bag, 2x AA batteries, operating instructions

Ident. No. 620-625: Measuring instrument, hand strap, transport case, screen protector, USB cable, ElcoMaster 2.0™ software, protective sleeve, 2x AA batteries, operating instructions

Notes:

Probes not included in scope of delivery. For suitable probes, see 45800 650-665.

Technical data:

- Test probe: Separately
- Min./max. layer thickness display range: 0-31 mm
- Layer thickness resolution: < 100 µm: 0.1 µm
- Accuracy (+/-): 50 µm
- Min./max. accuracy (+/-) in %: 1-3 %
- Measuring rate: > 70 measurements/min



Data transmission type				USB	USB/Bluetooth	USB/Bluetooth
Internal memory				5 measured values	1500 measured values	150000 measured values
Adjustable limit values				No	Yes	Yes
	Model	Type	Probe design			
45800...	A456CFBS	B	F	Ident. No.	610	-
45800...	A456CF-NFBS	B	FNF	Ident. No.	615	-
45800...	A456CF-NFSS	S	FNF	Ident. No.	-	620
45800...	A456CF-NFTS	T	FNF	Ident. No.	-	625

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Accessories for		45800 610	45800 615	45800 620
45800...	USB Bluetooth transmitter/receiver	Ident. No. 690 ○	692 ○	692 ○

Accessories for		45800 625
45800...	USB Bluetooth transmitter/receiver	Ident. No. 692 ○

ATORN® Dew point measuring device

For professional corrosion protection

Application:

Dew point measuring device with integrated sensor for measuring and recording the coating processes relevant for climate parameters such as relative humidity, air temperature, surface temperature, dew point, difference between surface temperature and dew point, dry and wet temperature, outside temperature correction (type K), specific humidity.

Execution:

- Shock-resistant, dustproof and water spray protected housing (IP65)
- Non-slip rubberised surface for perfect feel
- Robust temperature sensors

- User-defined time intervals between 1 second and 24 hours
- USB and Bluetooth® data output to computer, Android™ and iOS® devices
- Storage space for 250,000 measured values in up to 999 batches

Advantage:

- Feedback through light, sound and vibration for user-defined limits on some or all parameters

Notes:

In combination with ATORN thickness measuring device 45801020 and ATORN surface profile measuring device 45801060, perfect for professional corrosion protection!



45801...	Ident. No. 040
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Prod. Gr. 451

ATORN® Surface profile measuring device

For professional corrosion protection

Application:

Surface profile measuring device with integrated sensor, for precisely determining the surface profile before the coating process in accordance with ASTM 4417-B, SSPC-PA17, SANS 5772, US Navy NSI 009-32, US Navy PPI 63101-000.

Execution:

- Shock-resistant, dustproof and water spray protected housing (IP65)
- Non-slip rubberised surface for perfect feel
- Measuring range 0–500 µm

- USB and Bluetooth® data output to computer, Android™ and iOS® devices
- Storage space for 250,000 measured values in up to 999 batches

Advantage:

- Feedback through light, sound and vibration for user-defined limits on some or all parameters

Notes:

In combination with ATORN thickness measuring device 45801020 and ATORN dew point measuring device 45801040, perfect for professional corrosion protection!



45801...	Ident. No. 060
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Prod. Gr. 451

Ultrasonic wall thickness measuring instrument

Integrated probe

Application:

For undisturbed recording of material thicknesses of highly-diverse acoustically conductive materials such as metals, NF metals, ceramic, plastics, glass etc. Ideal for monitoring corrosion and erosion on closed components and structures or those accessible only from one side, e.g. pipes, tanks, large metal sheets etc.

Execution:

- Robust stainless steel housing
- Dust and water-proof, degree of protection IP 67
- Swivelling, backlit LCD display
- Integrated, replaceable 5 MHz probe
- mm/inch switch-over

- Automatic zero point calibration
- Calibration to known wall thickness(es) and/or known material sound velocity

Delivery:

Measuring instrument with replaceable probe (5 MHz), carrying strap, 100 ml coupling liquid, 1x 1.5 V AA battery, operating instructions, manufacturer's certificate, transport case

Technical data:

- Min./max. length measuring range: 1-250 mm
- Resolution of wall thickness: < 100 mm: 0.01 mm | > 100 mm: 0.1 mm
- Probe: Integrated
- Transceiver probe diameter: 12 mm
- Test frequency: 5 MHz

Advantage:

- Simple operation using four function keys



46100...	Ident. No. 500
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Prod. Gr. 451

Accessories for		46100 500
46100...	Coupling liquids 500 ml for ultrasonic wall thickness gauges	Ident. No. 090 ●

Ultrasonic wall thickness measuring instrument

with separate probe

Application:

For undisturbed recording of material thicknesses of highly-diverse acoustically conductive materials such as metals, NF metals, ceramic, plastics, glass etc. Ideal for monitoring corrosion and erosion on closed components and structures or those accessible only from one side, e.g. pipes, tanks, large metal sheets etc. Large-area inspections can be conveniently carried out in scan mode.

Execution:

- Robust plastic housing
- Graphic-capable, backlit LCD display
- Incl. standard 5 MHz probe with 10 mm probe diameter
- Single point measurement and/or scan mode (10 measurements per second)
- Internal memory for 20 files (up to 100 measured values per file)

Advantage:

- Simple operation via user-friendly menu
- Optional probes available for numerous applications
- Integrated calibration standard

Delivery:

Measuring instrument with 5 MHz probe, 2x 1.5 V, AA batteries, 70 ml coupling liquid, operating instructions, transport case

Technical data:

- Min./max. length measuring range: 1.2-230 mm
- Min./max. sound velocity of measuring range: 1000-9999 m/s
- Resolution of wall thickness: 0.1 mm
- Probe: Separately
- Transceiver probe diameter: 10 mm
- Test frequency: 5 MHz



TN 230-0.1 US display unit with optional miniature test head



Example application with standard test head

45900... | Ident. No. 010

Prod. Gr. 451

Accessories for		45900 010	
46100... Coupling liquids 500 ml for ultrasonic wall thickness gauges	Ident. No.	090	

Probe for ultrasonic wall thickness measuring instrument

Model TN 230-0.1 US

Execution:

- **Ident. No. 110:** Measuring range for steel 0.75-80 mm
- **Ident. No. 115:** Measuring range for steel 1-225 mm at normal temperature, 4-100 mm for applications up to 300°
- **Ident. No. 150:** Measuring range for steel 1.2-230 mm

Probe height (mm)	25	86	68
Test frequency (MHz)	7	7	5
45900... Ident. No.	110	115	150

Prod. Gr. 451



Example application with standard test head

Ultrasonic wall thickness measurement Overview of measurement methods and functions

ELCOMETER ultrasonic wall thickness gauges from the MTG model series feature different measurement modes depending on the model version, MTG2, MTD4, MTG6 or MTG8, to produce measurement values with the greatest possible accuracy.

Pulse-Echo (P-E) mode

- Ideal for hole mark and material defect detection.
- In this method, the overall thickness is measured from the base of the measurement head to the material thickness boundary (usually the rear panel).

Echo-Echo TruePaint (E-E)

- In this mode, termed TruePaint, the coating thickness is ignored and the material thickness is measured from the surface of the material to the material thickness boundary layer (usually the rear panel).
- A highly damped measurement head is required to use the Echo-Echo, True-Paint mode.

Sound velocity mode (VM)

- In sound velocity mode, the sound velocity of materials is measured.
- Ideal for determining the homogeneity of a material or alloy.
- For determining the correct sound velocity of a material for calibration.

Scan mode

- Ideal for examining large surfaces.
- The measuring instrument records measurement values with a measurement rate of 16Hz (16 measurements per second)
- The thickness is indicated live throughout together with an analogous bar chart that illustrates the relative thickness for the set zero value.

- Acoustic and visual warnings indicate deviations from the set boundary values.
- When the measurement head is removed, the average, lowest and highest thickness values are indicated.

Sequence or grid lots

- Individual measurement values can be saved in up to 1,000 alphanumeric sequence or grid lots.
- Where grid lots are used, the measurement values are saved in a type of calculation table.
- Grid lots: The inaccessibility function allows inaccessible areas to be saved in the grid.

B-image measurement value

- Time-based, two-dimensional cross-section B-image facilitates graphical rendering of the material thickness
- Ideal for relative depth analysis
- The zoom view of the B-image can be set either by the user or automatically.

Discrepancy mode

- Determines the deviation from the set nominal value.
- Indicates areas of a material that are thinner or thicker than expected.

Bar chart

- Analogue representation of the current measurement value
- The highest, lowest and average measurement values are also included
- Diagram is automatically updated when each measurement value is recorded

elcometer® Ultrasonic wall thickness measuring instrument including 5 MHz dual-element probe, 1/4"

Application:

For non-destructive recording of material thickness, for use on steel materials only. Ideal for monitoring corrosion and erosion on closed components and structures or those accessible only from one side, e.g. pipes, tanks, large metal sheets etc.

Execution:

- Robust ABS plastic housing
- Large, easy-to-read 2.4" colour display
- IP 54 degree of protection, splash-proof
- Integral zero disc
- Red/green LEDs on the housing, for displaying the upper and lower limit value
- Includes 5 MHz 1/4" dual element measuring head

Notes:

Delivery includes 5 MHz 1/4" dual element measuring head

Technical data:

- Model: MTG 2
- Min./max. Pulsed-Echo (P-E) measuring range: 0.63-500 mm
- Resolution of wall thickness: 0.1 mm
- Accuracy (+/-): 0.1 mm
- Accuracy (+/-) in %: 1 %
- Calibration methods: Precalibrated
- Calibration memory: No
- Display mode: Measurement



46 100... | Ident. No. 100

Prod. Gr. 451

elcometer® Ultrasonic wall thickness measuring instrument for separate test probes

Application:

For non-destructive recording of the material thickness of a wide range of acoustically conductive materials such as metals, NF metals, ceramic, plastics, glass, etc. Ideal for monitoring corrosion and erosion on closed components and structures or those accessible only from one side, e.g. pipes, tanks, large metal sheets etc.

Execution:

- Robust ABS plastic housing
- Large, easy-to-read 2.4" colour display
- IP 54 degree of protection, splash-proof

- Integral zero disc
- Red/green LEDs on the housing, for displaying the upper and lower limit value
- Ident. No. 120-130: Scan mode for uniform inspections

Advantage:

- Ident. No. 110:
 - Easy to use
 - High measuring accuracy
 - Efficient measurement

Notes:

Test sensor not included in scope of delivery!



Ident. No. 110



Ident. No. 120



Ident. No. 130

Model	MTG 4	MTG 6	MTG 8
Min./max. Pulsed-Echo (P-E) measuring range	0.63-500 mm	0.63-500 mm	0.63-500 mm
Min./max. Echo-Echo ThruPaint (E-E) measuring range	2.54-25.4 mm	2.54-25.4 mm	2.54-25.4 mm
Resolution of wall thickness	0.1 mm	0.1 mm 0.01 mm switchable	0.1 mm 0.01 mm switchable
Accuracy (+/-) (mm)	0.1	0.05	0.05
Accuracy (+/-) in % (%)	1	1	1
Number of measurements (PCS)	-	1500	100000
Number of batches (PCS)	-	1	1500
Calibration methods	1-point Reset to factory calibration	1-point 2-point Material Speed of sound Known thickness Reset to factory calibration	1-point 2-point Material Speed of sound Known thickness Reset to factory calibration
Calibration memory	No	No	Yes
Display mode	Measurement	Measurement Statistics Bar chart of the scanned thickness History chart	Measurement Statistics Bar chart of the scanned thickness History chart Measurements and difference B-cross sectional view
Data recording	-	Sequence off function Delete last measurement Date and time signature	Sequence off function Raster off function Delete last measurement Date and time signature Alphanumeric lot names Lot chart
46 100...	Ident. No. 110	Ident. No. 120	Ident. No. 130

Prod. Gr. 451

elcometer® Dual-element probes
 For ultrasonic wall thickness measuring instruments in the MTG model series

Application:

Suitable for measuring e.g. steel, glass and thin plastics in conjunction with an Elcometer ultrasonic wall thickness gauge from the MTG series.

Advantage:

- **Ident. No. 205–210:** ThruPaint technology – ignores the thickness of coatings in Echo-Echo mode

Technical data:

- Test frequency: 5 MHz
- Cable output direction: Radial



Probe Ø inch			1/4	1/4	1/2
Cushioning effect			No	High cushioned	High cushioned
Measuring mode			-	Echo-Echo Thru-Paint (E-E)	Echo-Echo Thru-Paint (E-E)
46 100...	TXC5M00CP-4	Ident. No.	202 ○	-	-
46 100...	TXC5M00CP-6	Ident. No.	-	205 ○	-
46 100...	TXC5M00EP-4	Ident. No.	-	-	210 ○

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