



**AIRBLAST**

## **DFT-441**

Dry Film Thickness Gauge



The DFT-441 Dry Film Thickness Gauge provides a fast and economical solution to non-destructive dry film thickness measurement, data storage, and analysis on ferrous and non-ferrous substrates, is calibrated for life, features a patented probe design which allows for integral or separate use, and has an industry leading three year warranty.

The DFT-441 Dry Film Thickness Gauge is ergonomic and light weight (127 gram) yet tough and reliable, and is powered by standard alkaline batteries. The easy to use back lit four button key pad is intuitive and leads the user through the available menu options. The back lit screen displays readings clearly and has the possibility to flip through 180 degrees when the gauge is turned upside down.

In addition to a (constant) factory calibration, the DFT-440 offers two calibration processes that are useful during specific measuring tasks such as measurement on curvatures or small parts.

- A one-point calibration can optimize the probe's measuring accuracy with an expected coating thickness.
- A two point calibration can increase the probe's measuring accuracy in a certain coating thickness range.

Up to thirty thousand readings can be stored in up to 250 batches in the gauge before downloading via a wireless connection to the software provided as standard with the gauge. Once downloaded the data can be analysed and stored in Excel.

When taking readings on very rough substrates the average zero value can be stored in the gauge memory to ensure that the substrate condition does not affect the quality of the readings. Furthermore a unique "Combined" mode allows the simultaneous measurement of zinc plated and epoxy based coating on steel substrates – in this mode the gauge will display the two separate coatings as two separate values.

The DFT-441 Dry Film Thickness Gauge features a patented probe design which allows for integral or separate use to access hard to reach areas. Each probe features an industry leading tip manufactured from ruby ensuring millions of fast, reliable and accurate readings. The gauge features a sleep mode which turns the unit off after a short period of inactivity, by placing the probe onto a surface to be measured the unit reactivates and is immediately ready for use.

A wireless probe is available as a cost option. The wireless probe allows measurements to be taken at a distance of up to twenty meters from one or multiple gauge units allowing for readings to be taken in very hard to access areas as well as being simultaneously monitored and recorded on multiple gauges. The wireless probe is extremely small and light weight (30 grams) and can take up to 4000 measurements without recharging.

<b>Gauge model</b>	<b>DFT-441 - part no. 7864410</b>
<b>Probe type</b>	Integral + Separate
<b>Units</b>	µm/mil
<b>Measurement resolution</b>	0.1 µm in the range below 100 µm, 1 µm in the range from 100 to 999 µm, 0.01 mm in the range from 1000 µm
<b>Operating temperature</b>	0 to 50 °C
<b>Storage temperature</b>	-10 °C to 60 °C

<b>Menu structure</b>	
<b>Measuring Mode</b>	FE/NFe automated, combined measurement
<b>Measuring Range</b>	Upper/lower limit, average
<b>Memory Capacity</b>	up to 30000 measurements in 250 batches
<b>Statistics</b>	Average/standard deviation/ maximum/minimum

<b>Interchangeable probes/Probe type</b>	<b>Fe 2000 µm</b> part no. 7864420	<b>Fe 5000 µm</b> part no. 7864421	<b>NFe 2000 µm</b> part no. 7864422	<b>Dual Fe/NFe 2000 µm</b> part no. 7864423	<b>Dual Fe/ NFe 5000 µm/2000 µm</b> part no. 7864424
Measuring mode	Magnetic: Magnetic flux/ Hall effect Fe*	Magnetic: Magnetic flux/ Hall effect Fe*	Magnetic: Eddy current NFe*	Magnetic: Magnetic flux/ Hall effect Fe*/ Eddy current NFe*	Magnetic: Magnetic flux/ Hall effect Fe*/ Eddy current NFe*
According to standard	DIN EN ISO 2808 DIN 50981 ISO 2178 BS 5411 (11) BS 3900-C5 ASTM B 499 ASTMD1186 ASTM D 7091	DIN EN ISO 2808 DIN 50981 ISO 2178 BS 5411 (11) BS 3900-C5 ASTM B 499 ASTMD1186 ASTM D 7091	DIN EN ISO 2808 BS 3900-C5 ASTM D 7091 DIN 50984 BS 5411 (3) ISO 2360 ASTM D 1400	DIN EN ISO 2808 DIN 50981, DIN 50984 ISO 2178, BS 5411 (3 & 11) BS 3900-C5, ASTM B 499, ISO 2360 ASTM D 1400, ASTM D 1186 ASTM D 7091	DIN EN ISO 2808 DIN 50981 DIN 50984 ISO 2178 BS 5411 (3 & 11) BS 3900-C5 ASTM B 499 ISO 2360 ASTM D 1400 ASTM D 1186 ASTM D 7091
Measuring range	0 – 2000 µm	0 – 5000 µm	0 – 2000 µm	Fe: 0 – 2000 µm NFe: 0 – 2000 µm	Fe: 0 – 5000 µm, NFe: 0 – 2000 µm
Measuring interval	1500 ms	1500 ms	1500 ms	1500 ms	1500 ms
Measuring accuracy regarding automation-standards	± (1 µm + 2% of the reading)	± (1 µm + 2% of the reading) in the range of 0.0 to 2.0 mm ± 3.5 % of the reading- from 2.0 mm	± (1 µm + 2% of the reading)	Fe: 0 – 5000 µm NFe: 0 – 2000 µm	± (1 µm + 2% of the reading) in the range of 0.0 to 2.0 mm ± 3.5 % of the reading from 2.0 mm
Minimum measuring surface (mm x mm)	20 x 20	20 x 20	20 x 20	20 x 20	20 x 20
Minimum radius of curvature	Convex: 5 mm Concave: 30 mm	Convex: 5 mm Concave: 30 mm	Convex: 5 mm Concave: 30 mm	Convex: 5 mm Concave: 30 mm	Convex: 5 mm Concave: 30 mm
Minimum thickness of base material	0.2 mm	0.2 mm	0.05 mm	Fe: 0.2 mm NFe: 0.05 mm	Fe: 0.2 mm NFe: 0.05 mm
Operation temperature	0 to 50 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C
Storage temperature	-10 to 60 °C	-10 to 60 °C	-10 to 60 °C	-10 to 60 °C	-10 to 60 °C
Power supply	From gauge	From gauge	From gauge	From gauge	From gauge
Dimensions (L x W x H in mm)	60 x 26 x 22 without extensions	60 x 26 x 22 without extensions	60 x 26 x 22 without extensions	60 x 26 x 22 without extensions	60 x 26 x 22 without extensions
Weight incl. batteries	ca. 12 g	ca. 12 g	ca. 12 g	ca. 12 g	ca. 12 g

Technical data subject to change without notice.

<b>Related Literature</b>	
LT9000E	AIE Airblast Inspection Equipment - The Guide
LT9400E	Data Sheet - DFT-400/420 Dry Film Thickness Gauges
LT9440E	Data Sheet - DFT-440 Dry Film Thickness Gauge
MN9400E	Instruction Manual - DFT-400/420 Dry Film Thickness Gauges
MN9440E	Instruction Manual - DFT-440 Dry Film Thickness Gauge
MN9441E	Instruction Manual - DFT-441 Dry Film Thickness Gauge