



**OKTANTA**

> Design and manufacture of non-destructive testing equipment

# EM1401 / EM1401 UT new generation electromagnetic thickness gauge



## Application of EM1401 (UT):

EM1401 (UT) is designed for thickness measurement of steel pipes, flat steel, steel rods and other steel, aluminum or other metal constructions.



### EM1401 (UT) allows measurements:

- without usage of coupling media;
- without surface pretreatment;
- after a single button touch;
- through the working gap up to 6 mm;
- on both flat surfaces and surfaces with bending radius from 10 mm.

**The EM1401 bright color display** allows to show the thickness and A-scan of the current tested object. In addition, there is a possibility of saving the thickness and A-scan in the inner memory for further analysis.



EM1401 UT is an EM1401 modification with a possibility of piezoelectric sensors connection for higher measuring accuracy:

- PET 5 MHz, dimensions of crystal 10 mm
- PET 5 MHz, dimensions of crystal 7.2 mm
- PET 10 MHz, dimensions of crystal 5 mm

## EM1401 / EM1401 UT features:

- Thickness measurement through the gap up to 6 mm;
- A-scan display with a possibility of scaling;
- A choice of the algorithm for the thickness calculation (automatic, 2 strobes, 1 strobe);
- A flaw detector with direct entry mode;
- Saving the measurement information ( including A-scan);
- Connecting to various types of sensors including high-temperature ones that provide thickness measurement on hot objects heated up to 750 °C



EM1401 is easily and quickly calibrated using specified thickness or sound velocity, as well as measured metal type. The mode of working with strobes allows using the gauge as a flaw detector with direct entry. A high working speed of the device (32 measurements per second) allows you to measure the thickness of long objects easily and quickly.

## A high-temperature EMA sensor

The special EMT14014T sensor allows using the EM1401 thickness gauge for thickness measurement on objects heated up to 750 °C. The device implements a special algorithm that accounts for changes in the rate of sound propagation in metal induced by temperature.





# EM1401 (UT) specifications

Range of operating ambient temperature	-20...+50 °C
Duration of continuous work without battery recharge	7 hours
Range of sound velocity setting	1000...20000 m/s with 1 m/s step
Highest number of measurements per second	16
Dimensions	232 x 135 x 44 mm

## For EMAT

Range of measured thickness for steel	2 mm-200 mm
Thickness measurement error 2..25 mm	0.08 mm
Thickness measurement error 25..200 mm	0.1 mm
Permissible clearance between the sensor and tested object (with EMT14012)	up to 4 mm
Permissible clearance between the sensor and tested object (with EMT14013)	up to 6 mm
Permissible sensor skew	±25°
Lowest permissible radius of curvature of the tested object surface	≥10 mm
Range of sound velocity setting	1000...9999 m/s with 1 m/s step
Operating frequency of the device	4 MHz
Range of operating temperature on the tested object surface	-20...+80 °C (-20 ...+750 °C with EMT14014T)

## For PET

Range of measured thickness for steel	0.5 mm-300 mm
Thickness measurement error 0.5mm .. 25mm	0.08 mm
Thickness measurement error 25mm .. 300mm	0.1 mm
Lowest permissible radius of curvature of the tested object surface	25 mm
Operating frequency of the device	5 MHz, 10 MHz
Range of operating temperature on the tested object surface	-10...+60 °C

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