



OKTANTA

> Design and manufacture of
non-destructive testing equipment

EM1501 EMA+UT thickness gauge with the pulsed electromagnet probes



Application of EM1501:

EM1501 is designed for thickness measurement of steel pipes wall, flat steel, steel flat bars or steel sheets, aluminum or other metal constructions.



EM1501 allows measurements:

- > without the using of couplant;
- > without any surface pretreatment;
- > through the working gap up to 7 mm (for EMAT);
- > after a single button touch;
- > on both flat surfaces and surfaces with bending radius from 10 mm.

Pulsed electromagnet probe



EM1501 sensors:

- Pulsed electromagnet probe
- piezoelectric probes:
 - 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
- EMA transducers

EM1501 features:

- Thickness measurement through the gap up to 7 mm;
- A-scan display with a possibility of scaling;
- A choice of the algorithm for the thickness calculation (automatic, 2 strobes, 1 stroke);
- B-scan, C-scan display;
- Saving the C-scan measurement information (including A-scans);
- Connecting to various types of probes including high-temperature ones that provide thickness measurement on hot objects heated up to 750 °C;
- Dirt does not attract to the surface of the probe (for **pulsed electromagnetic probes**).



EM1501 is easily and quickly calibrated using specified thickness or sound velocity, as well as the known metal type.

A high working speed of the device (16 measurements per second) allows you to measure the thickness quickly to save time and money.



The special EMT14014T sensor allows using the EM1501 thickness gauge for thickness measurement on objects heated up to 750 °C.

The device implements a special algorithm that takes into account changes in the rate of sound velocity induced by temperature.

EM1501 has the ability to transfer measurement results to a PC to build reports on control results in the EM-Viewer application.



EM1501 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 + 0.001·H
Thickness measurement error 25..200 mm	0.1 mm + 0.001·H
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 7 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 + 0.001·H
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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