EMA Thickness Gauge
NOVOTEST UT-3M-EMA

◄Description►

Electromagnetic-acoustic (EMA) thickness gauge UT-3M-EMA allows user to measure the thickness of metal products without of couplant, through a layer of coating or rust. This compares favorably with standard ultrasonic thickness gauges. It should also be noted that the EMA thickness gauge allows measuring thickness through a significant gap – up to 6 mm, thus it becomes possible to measure thickness without contact.

EMA thickness gauge UT-3M-EMA probe design includes a permanent magnet. Probe magnets with different strengths are installed into the probe depending on its type. The more powerful a magnet is used, the thicker the gap between the probe and the test object can be. However, the use of excessively strong magnets complicates the work of the operator, because of needs to install probe on the surface carefully and makes efforts to remove it from the test

object. EMA NOVOTEST thickness gauge applied original circuit solutions, new modern high-performance FPGA chips, as well as digital signal processing techniques, which made it possible to obtain high sensitivity, a wide measurement range when using weak magnets.

Contactless thickness gauge is made in a durable and lightweight metal body. By special order, the thickness gauge can be made in dustproof and waterproof protection till IP65. The thickness gauge is equipped with high-capacity lithium-ion batteries, which made it possible to ensure a long battery life. By special order, the battery capacity can be further increased, which will allow up to 30 hours of operation from a single battery charge.

◄Advantages►

- A significant advantage in comparison with analogues is the unique automatic operation mode of the thickness gauge. The device automatically analyzes the measured signals, selects the required measurement method, adjusts the parameters of the receiving path and displays the measured thickness in large numbers on the display. Even an unprepared user in the automatic mode will be able to accurately and quickly measure the thickness of various metal structures and products.
- It is also necessary to pay attention to the fact that the device implements the B-scan mode, which allows user to get the product profile like a picture that is easy to read. Using a specialized carriage for the probe, it becomes possible to scan extended objects and obtain a thickness profile.
- In cases when it is necessary to sort the products with clearly defined thicknesses (min., max.), above which a decision is taken on the products is defective, a special control mode of the thickness gauge is used. The operator sets the minimum and maximum gates and watch a graphical representation on the display of the measured thickness, receives an alarm when the measured thickness goes beyond the gate and also can estimate corrosion damage as a percentage of the nominal thickness of the product.
- For expert control, it is possible to carry out manual measurements using all known methods – using the autocorrelation function (ACF), measurement between two maximum signals in the gate, echo by zero crossing, echo-echo passing through zero.
- To calibrate the device, there is a special auto calibration mode on a standard thickness sample.

◄Specification►

Measuring thicknesses range for steel	0.6…200.0 mm
Permissible gap between device and testing object	Up to 6 mm
Operation modes	Autocorrelation function (ACF) Echo Echo Echo (Dual Echo) Peak Peak
Setting range of the ultrasonic velocity	1000…9999 m/s
Time of continuous work hours, not less	8 h
Display	3.5 inches
Operating temperature	from -20 to +50 ºC

◄Standard set►

- Electronic unit EMA Thickness Gauge
- EMA probe
- Cable 2 Lemo – 2 Lemo
- PC connection cable
- Charger
- Operation manual
- Case

◄Available options►

- Different types of probes
- Calibration blocks