# Ultrasonic Thickness Gauge NOVOTEST UT-2A (A-scan)


Ultrasonic thickness gauge with A-scan UT-2A is a powerful, lightweight and portable thickness gauge, made in an ergonomic shock-resistant case with rubber protectors – a modern industrial version of a general-purpose thickness gauge. It is an excellent choice for expert ultrasonic testing in the laboratory and the field conditions.

The main advantages of the Ultrasonic Thickness Gauge UT-2A :

## HIGH MEASUREMENT ACCURACY

Due to implemented in Ultrasonic Thickness Gauge UT-2A zero-crossing method of thickness measurement have achieving maximum of measurement accuracy from ever produced Ultrasonic thickness gauge. That method of measurement doesn`t depend on gain of signal in contradistinction to method of edge measurement. Because of applying high-performance, computing FPGA microcircuit it turned out to realize high resolution in thickness, while maintaining the speed of operation and the stability of the signal

## EASY-TO-USE INTERFACE

That type of device would be appropriate even for unskilled user with using of digital measurement mode, the same as at initial devices. The digital values of thickness are displayed as large font on the screen and needless to adjustment by A-scan. Therefor simplicity and convenience identical to classical Ultrasonic Thickness Gauge UT-1M.

## OPERATING MODES

Ultrasonic thickness gauge have useful and especial operation modes for increase convenience of use.

- Control mode. User can set up nominal thickness and permissible deviation thru nominal value. During testing Ultrasonic Thickness Gauge UT-2A would indicate (thru lights or sound) if measured value deviate above limits. That is makes simplicity in testing operation and decreases ability to making mistakes.
- Product profile display mode (B-Scan). On the screen would displayed product profile by probe scanning surface. That mode is making able to visualize profile (section) of tested object. This mode can be used when it is necessary to present a report with illustrations of the object flaws.



## SPECIAL MEASUREMENT MODES

For professional users, the device implements manual modes of thickness measurement by all major methods:

- ECHO
- ECHO with adjustable gate (place of measurement)

- ECHO-ECHO (DUAL ECHO) – usually used when measuring thickness through a coating. The method allows user to measure the thickness of the metal under the coating, without polishing.
- PEAK-PEAK – the method is similar to ECHO-ECHO with the difference that the trigger moment is calculated not by the crossing of zero, but by the maximum of the signals in the gate.

The use of a large number of measurement methods allows users to flexibly use the ultrasonic thickness gauge, depending on the specific task.

## COMPARATIVE ADVANTAGES OVER CLASSIC THICKNESS GAUGE

Unlike conventional thickness gauges, which show only one thickness value, the A-scan thickness gauge allows visualization of the signal for subsequent analysis by the operator.

As a rule, function of A-scan is needed for professional users but even for beginner it would be useful function. Making observation at display visualization of reflected signals it`s able to eliminated false triggering, adjust the thickness gauges as correctly and accurately as possible. By working with a signal is able not only significantly increase the accuracy of thickness measurement and in that case to carry out flaw detection of products, in essence Ultrasonic Thickness Gauge UT-2A are able to solve flaw detection main tasks.

- Wide range of measuring thicknesses
- Function of thickness gauge and flaw detector
- Convenience and ease in operation
- B-scan mode, which allows user to get the product profile like a picture that is easy to read
- Minimum number of controls
- Select the type of probe from archive
- Preset velocity of ultrasound
- High brightness color display
- Indicator the presence of acoustic contact

Measuring thicknesses range on steel, mm:

- Probe 10MHz – P112-10-2×3
- Probe 10MHz – P112-10-6 / 2
- Probe 5MHz – P112-5-10 / 2
- Probe 2,5MHz – P112-2,5-12 / 2
- Probe 2MHz – P112-2-20 / 2
- Probe 1,25MHz – P112-1.25-20 / 2

0.4 to 1500 mm and more (depending on material and surfaces)

- 0.4-15
- 0.45-300
- 0.8-500
- 2.5-1000
- 3-1200

- 4-1500

Probe dimensions, mm:

- Probe 10MHz – P112-10-6 / 2
- Probe 5MHz – P112-5-10 / 2
- Probe 2,5MHz – P112-2,5-12 / 2
- Probe 2MHz – P112-2-20 / 2
- Probe 1,25MHz – P112-1.25-20 / 2
- D12×15
- D17×20
- D20×21
- D30×28
- D30×35

Diameter of probe contact area/crystal, mm:

- Probe 10MHz – P112-10-6 / 2
- Probe 5MHz – P112-5-10 / 2
- Probe 2,5MHz – P112-2,5-12 / 2
- Probe 2MHz – P112-2-20 / 2
- Probe 1,25MHz – P112-1.25-20 / 2
- 9/6
- 14/10
- 16/12
- 24/20
- 24/20

Optional probes

- EMAT A1 (range 0,8 – 300 mm, thickness range of any coating or air gap – up to 3 mm)
- Echo-Echo 5MHz probes for through-coating testing (range 3,5 – 26 mm, paint coating thickness range – up to 1 mm)
- High-temperature 5MHz probes, up to 250 °C/482 °F (range 0,8 – 300 mm)

Compatible probe types

- Dual-element
- Single-element

(including probes of other manufacturers)

- EMAT

Measurement units

- mm
- inch
- µs

Resolution, mm/inch0,01/0,001Ultrasound velocity adjustment range, m/s700-17000Ultrasound velocity in the standard device sample, m/s6070 ± 70Operating modes

- A-scan
- B-scan
- Digital mode
- Control mode
- Manual

Measurement methods
- Echo
- Echo Echo (Dual Echo)
- Peak-peak

PC cable connection
- Online – novotest.info
- Offline – NOVOTEST AWP

Wireless connection with Android gadgets via NOVOTEST Lab AppNoStorage capacity of measurement results7000 and more (Limited only by the memory card)Menu Language
- English
- Russian

*additional languages available by request

DisplayColour, 3,5 inch 480*320Weight of the electronic unit, not more, kg0,5Dimensions (L x W x H)165x90x50 mmPower SupplyBuilt-in Li-ion BatteryTime of continuous work, not less than, h10 (up to 20 by special order)Operating temperature range for the electronic unit, ° C-20 to +40Air moisture, no more98 %, at 35 °C

- Standard package
  - Electronic unit Ultrasonic Thickness Gauge UT-2A
  - Probe 1 pc
  - Lemo-Lemo cable
  - Calibration block
  - Cable for PC
  - Charger
  - Operating manual
  - Case