Advancing with Technology ElektroPhysik

Ultrasonic Wall Thickness gauge

DELTA TT100

- fast and accurate wall thickness measurement
- 5 preset sound velocities
- stores 10 readings
- robust design

DELTA TT100 – Digital Ultrasonic Thickness gauge

Application

The DELTA TT100 is a hand held microprocessor controlled thickness gauge specifically designed for measuring the thickness of metallic and non-metallic materials e.g. aluminium, titanium, plastics, ceramics, glass and any other good ultrasonic waveconductor as long as it has parallel top and bottom surfaces.
With uses in many areas of industry the DELTA TT100 can perform precise measurements of various types of raw materials, component parts, and assembled machinery. It can also be used to monitor all types of pipes and pressure vessels for loss of thickness due to corrosion/erosion.
The DELTA TT100 is extremly easy to use, after a simple calibration to a known thickness or sound velocity, the gauge will give accurate reading in millimeters. Sound velocities for 5 different materials can be preset and 10 thickness readings can be stored in the memory.

Description

The principle of ultrasonic wave in the thickness measurement is similar to that of optical wave. The ultrasonic wave pulses transmitted by the probe reach the object to be measured and propagate in the object and when they reach the interfaces, they are reflected back. The thickness of the object is determined by precisely measuring the time the ultrasonic wave travels in the object. To increase accuracy the DELTA TT100 is equipped with automatic gain control and V-path error correction.

Supply schedule:

The DELTA TT100 comes complete with plastic case, probe, coupling agent and instruction manual.

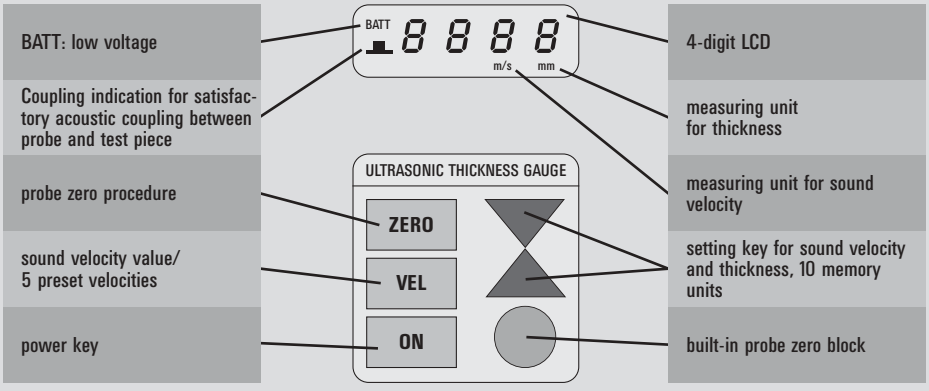
Technical specifications

Measuring range (in steel):	1.0 mm to 225.0 mm with 5 MHz transducer
Measuring range (in steel tubes):	Minimum 3 mm thickness, 200 mm dia.
Transducer frequency:	Standard 5 MHz, dia. probe 10 mm
Display resolution:	0.1 mm
Calibration:	4.0 mm integrated steel block
Display accuracy:	± 0.1 mm
Measuring unit:	mm
Sound velocity range:	1000 to 9999 m/s
Resolution:	1 m/s
Display:	4-digit LC display
Data memory:	10 readings
Working temperature:	standard –15 deg C to +150 deg C
Battery indicator:	low battery indicator
Power supply:	2 x 1.5 V AA batteries; battery life approx. 250 hours
Dimensions:	126 mm x 68 mm x 23 mm
Weight:	approx. 250 g incl. batteries

The actual sound velocities depend on the exact material compound, temperature and treatment and can thus differ from below values

Typical sound velocities

Material	m/s
Aluminium (alloy)	6380
Epoxy resin	2600–2840
Glass (window glass)	5790
Rubber (hard)	2200–2540
Cast iron (lamellar)	3800–4700
Copper	4700–5000
Brass	4400–4700
Plexiglass	2730
Polyethylene (PE hard)	2530
Steel (ferritic)	5940
Zinc	4190



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923-A1 Specifications subject to change without notice