

## Specifications

Gauge versions	Delta TT-100 Delta TT-110 Delta TT-120 Delta TT-130 Delta TT-300	Standard design for different materials Special design for measurements on steel only Special design for high-temperature measurements up to 250°C / 480°F Special design with increased resolution of 0.01 mm for different materials High-quality design with data memory, for exchangeable probes
Gauge design	Basic gauge and separate connection cable of 0.9 m / 3 feet with non-detachable probe	
Measuring method	Ultrasonic pulse-echo method with T/R probes	
Zero calibration	TT-100 - 130 TT-300	manually on an integrated steel block automatically or manually with 2-point calibration
Measuring range	TT-100 - 130 TT-300	1.2 mm to 225.0 mm with 5 MHz probe (dia. 12.5 mm / 0.5") 0.75 mm to 25.0 mm with 10 MHz probe (dia. 7.4 mm) 0.03" to 1" with 10 MHz probe (dia. 0.3") 1.2 mm to 225.0 mm with 5 MHz probe (dia. 12.5 mm) 0.048" to 9" with 5 MHz probe (dia. 0.5") 5.0 mm to 300.0 mm with 2 MHz probe (dia. 22.5 mm) 0.2" to 12" with 2 MHz probe (dia. 0.9")
Resolution	TT-100 - 120 TT-130 TT-300	fixed: 0.1 mm fixed: 0.01 mm selectable: low 0.1 mm/0.01" or high 0.01 mm/0.001"
Measuring accuracy	TT-100 - 120 TT-130 TT-300	+/- 0.1 mm +/- 0.02 mm +/- 0.02 mm / 0.008" Depending on material, surface quality and temperature
Units of measurement	TT-100 - 120 TT-300	mm selectable: mm or inch
Display	4-digit LCD (TT-300 with connectable backlight)	
Sound velocity range	TT-100 - 130 TT-300	1000 to 9999 m/s 1000 to 9999 m/s; ~0.04 to ~0.4 in./µsec Resolution 1 m/s; Resolution 1 m/s; 0.001 in./µsec
Gain	TT-100 - 130 TT-300	fixed setting variable in 2 steps
Frequency range	TT-100 - 130 TT-300	5 MHz probe for probes from 2 to 10 MHz
Minimum reading	TT-300	Scan mode, display of current thickness or minimum thickness
Alarm function	TT-300	Beeper if limit value settings are exceeded / not reached
Interface	TT-300	RS 232, selectable baud rate, for printer and PC
Data memory	TT-100/130 TT-300	10 readings can be stored memory for 500 readings in 5 files
Surface temperature	Standard -15°C to +60°C / 5°F to 140°F special probes are available for higher temperatures up to 250°C / 480°F	
Low battery indicator	Indicator icon with low battery power	
Power supply	2 pieces of 1.5V AA-type batteries	
Operating time	TT-100 - 130 TT-300	250 hours 150 hours without backlight, with backlight 60 hours
Housing/keypad	impact-resistant, dust-tight and splash-proof	
Dimensions	TT-100 - 130 TT-300	126 mm x 68 mm x 23 mm (H x W x D) 5" x 2.7" x 0.92" (H x W x D) 152 mm x 74 mm x 35 mm (H x W x D) 6" x 2.9" x 1.4" (H x W x D)
Weight	TT-100 - 130 TT-300	250 g / 9 oz 370 g / 13 oz Gauge with batteries and probe

## Standard package

- gauge incl. 5 MHz probe
- manufacturer's certificate
- coupling paste
- 2 batteries
- protective rubber sleeve (TT-300 only)
- operating manual
- transport case

## Accessories (TT-300 only)

- RS232 interface cable 1.5 m / ~5 feet for PC/printer
- DataView software
- thermal printer DPU 414 (with graphics capabilities)
- 2 MHz or 10 MHz probe

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**PHYNIX**   
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Physical Surface Testing Technology

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**PHYNIX** 

## Delta™ Series

Handy Ultrasonic  
Thickness Gauges



easy, rugged, powerful

Delta™ series for thickness  
measurements of metallic and  
non-metallic materials

# Delta TT series – from individual to all-round applications

## The product family

The gauges from the Delta series are precise, compact and easy-to-use ultrasonic thickness gauges. They are not only suitable for measuring wall thickness and residual wall thickness on wear parts but also for checking the dimensional accuracy of new components. Make your choice from 5 different gauge versions to meet your requirements – depending on the fact whether your application is an individual simple test job or whether a demanding all-round application is required.

## The test method

The ultrasonic pulses emitted by the probe hit the material to be tested, penetrate the material and are reflected from it. The material thickness is exactly determined by means of the time during which the ultrasonic waves propagate through the object. The special benefit of this test method is the fact that the test object only has to be accessible from one side.



## The applications

The Delta TT series is used within the petrochemical industry, in shipbuilding industry, in aviation industry and in many other branches of industry, especially on parts such as tubes or pressure vessels which are susceptible to corrosion and erosion. Besides the pure determination of wall thickness on different materials, the main field of application is the preventive maintenance and inspection of machines and systems. The range of materials allowing measurements is varied starting from steel, aluminium, grey cast iron and reaching up to glass, ceramics and plastics. As all PHYNIX gauges, the Delta TT series stands out due to its high quality, reliability and flexibility. The operation is easy so that no special previous knowledge is required.

## Delta TT-100 – 130

Individual thickness gauges of identical design for the daily work in the field

- TT-100** Measurements on different materials
- TT-110** Measurements only on steel
- TT-120** High-temperature measurements up to 250°C / 480°F
- TT-130** Increased resolution of 0.01 mm



Delta TT-300  
Innovative thickness measurements thanks to

- a large variety of field-proven probes
- integrated data memory
- a wealth of special functions



Special probes for varied fields of application

- universal probes in offset/angle and straight design with a large measuring range
- small design for small wall thickness values
- materials showing high sound attenuation
- measurements on hot components



Thermal printer

Fast online production of test reports on site, with mains and battery operation



DataView

Extensive Windows® software for data transfer and management

## Delta TT-300 The all-round thickness gauge

### Innovative gauge technology

- precision thickness measurements for a number of demanding test jobs
- a wide selection of probes for different applications with high detection sensitivity
- menu-guided operation makes the handling easy without any special previous knowledge
- reliable and easy-to-service, state-of-the-art microprocessor technology

### Powerful functions

- automatic zero calibration for reproducible measurements
- improved accuracy in a certain measuring range and connection of further probes by means of an additional two-point calibration
- selectable sensitivity for optimisation to the material to be tested
- determination of the minimum reading during scanning of a workpiece area (Scan mode)
- alarm message with values exceeding or falling below selectable thickness limits
- coupling monitor in the display ensures comprehensive measuring accuracy

### Field-proven equipment

- large LCD digits, backlight, selectable resolution/units of measurement, automatic switch-off, 150 hours of battery operation, and much more
- rugged housing with protective rubber sleeve ensures permanent protection in hostile industrial environment
- functional transport case for stowing away the gauge and accessories

### Reliable documentation

- extensive data memory for reliable documentation of measuring results
- fast production of test reports by direct printout on site
- transfer of saved files to PC for storage there as well as for subsequent data analysis and management
- flexible DataView software supports all possible means of modern documentation