

## TG-MT200 Ultrasonic Thickness Gauge

**TG-MT200 Ultrasonic Thickness gauge** is a digital ultrasonic thickness gauge. Based on the same operating principles as SONAR, the MT200 is capable of measuring the thickness of various materials with accuracy as high as 0.01 millimeters, or 0.001inches. It is suitable for a variety of metallic and non-metallic materials.



### Features:

- 1) Capable of performing measurements on a wide range of material, including metals, plastic, ceramics, composites, epoxies, glass and other ultrasonic wave well-conductive materials.
- 2) Four transducer models are available for special application, including for coarse grain material and high temperature applications.
- 3) Probe-Zero function, Sound-Velocity-Calibration function
- 4) Two-Point Calibration function.
- 5) Two work modes: Single point mode and Scan mode.
- 6) Coupling status indicator showing the coupling status.
- 7) Battery information indicates the rest capacity of the battery.
- 8) Auto sleep and auto power off function to conserve battery life.
- 9) Optional software to process the memory data on the PC.
- 10) Optional thermal mini-printer to print the measured data via RS232 port.

### Specifications

- 1) Display:128×64 dot matrix LCD with EL backlight.
- 2) Measuring Range:0.75~300mm (in Steel).
- 3) Sound Velocity Range: 1000~9999 m/s.
- 4) Resolution:0.1/0.01mm(selectable).
- 5) Accuracy:  $\pm(0.5\% \text{Thickness} + 0.04)$ mm
- 6) Units: Metric/English unit selectable.
- 7) Four measurements readings per second for single point measurement, and ten per second for Scan Mode.
- 8) Memory for 20 files (up to 99 values for each file) of stored values.
- 9) Upper and lower limit can be pre-set. It will alarm automatically when the result value exceeding the limit.
- 10) Power Supply:Two "AA" size, 1.5 volt alkaline batteries. 100 hours typical operating time (EL backlight off).
- 11) Communication:RS232 serial port.
- 12) Case:Extruded aluminum body suitable for use under poor working conditions.

13) Outline dimensions:132H X 76.2W mm.

14) Weight:345g

## Configuration

	No.	Item	Quantity	Remarks
Standard Configuration	1	Main body	1	
	2	Transducer	1	Model: N05/90°
	3	Couplant	1	
	4	Instrument Case	1	
	5	Operating Manual	1	
	6	Alkaline battery	2	AA size
Optional Configuration	7	Transducer: N02		
	8	Transducer: N07		
	9	Transducer: HT5		

## Appendix A: Transducer Selection

Model	Frequency MHZ	Diam mm	Measuring Range	Lower limit	Description
N02	2.5	14	3.0mm~300.0mm (In Steel)	20	for thick, highly attenuating, or highly scattering materials
N05	5	10	1.2mm~230.0mm (In Steel)	Φ 20mm × 3.0mm	Normal Measurement
N05 /90°	5	10	1.2mm~230.0mm (In Steel)	Φ 20mm × 3.0mm	Normal Measurement
N07	7	6	0.75mm~80.0mm (In Steel)	Φ 15mm × 2.0mm	For thin pipe wall or small curvature pipe wall measurement
HT5	5	12	3~200mm (In Steel)	30	For high temperature (lower than 300°C) measurement.

**Appendix B: Sound Velocities**

Material	Sound Velocity	
	In/us	m/s
Aluminum	0.25	6340-6400
Steel, common	0.233	5920
Steel, stainless	0.226	5740
Brass	0.173	4399
Copper	0.186	4720
Iron	0.233	5930
Cast Iron	0.173-0.229	4400—5820
Lead	0.094	2400
Nylon	0.105	2680
Silver	0.142	3607
Gold	0.128	3251
Zinc	0.164	4170
Titanium	0.236	5990
Tin	0.117	2960
Epoxy resin	0.1	2540
Ice	0.157	3988
Nickel	0.222	5639
Plexiglass	0.106	2692
Polystyrene	0.092	2337
Porcelain	0.23	5842
PVC	0.094	2388
Quartz glass	0.222	5639
Rubber, vulcanized	0.091	2311
Teflon	0.056	1422
Water	0.058	1473



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