TG-MT150/160 Ultrasonic Thickness Gauge

TG-MT150/160 Ultrasonic Thickness gauge is used for measuring the thickness of materials where access to only one side of the test piece is available for many different materials including steel, cast iron, aluminum, red copper, brass, zinc, quartz glass, polyethylene PVC, gray cast iron, nodular cast iron and other ultrasonic wave well-conductive materials. Dual probe extended your measure range to every possible need in your area. Transducer models are available for special application, including for coarse grain material and high temperature applications. Two-Point Calibration function； Two work modes: Single point mode and Scan mode； Coupling status indicator showing the coupling status；Auto sleep and auto power off function to conserve battery life.

Features:

Large LCD for easy reading
Suitable for all metallic and non-metallic materials
Easy to operate
Wide measuring range from 0.75mm to 300mm (Steel)
Sound Speed Range up to 9999m/s
Display resolution 0.1 mm
Handheld and robust

Function :

1. Applicable to measure the thickness of any hard materials, e.g. steel, cast iron, aluminum, red copper, brass, zinc, quartz glass, polyethylene PVC, gray cast iron, nodular cast iron
2. Automatic Zero Adjustment
3. Data Store Function for up to 20 t files (up to 99 values for each file) of stored value
4. Auto Power Shut Off
5. Linear compensation circuit for high accuracy (1%H+0.1)
6. Speed of sound testing (m/s) with 12 storage memory.
7. 2.5 MHz for rough surface measurement

Application

Used for measuring thickness and corrosion of pressure vessels, chemical equipment, boilers, oil storage tanks, etc. Widely used in industries of petroleum, ship building, and machine manufacturing.

Technical Parameters：

Technical information	MT150	MT160
Display	4.5 digits LCD with EL backlight.	
Measuring Range	0.75～300mm (in Steel)	
Sound Velocity Range	1000~9999 m/s	
Resolution	0.1mm	0.1/0.01mm（selectable）
Accuracy	±（1%Thickness+0.1）mm	±（0.5%Thickness+0.04）mm, depends on materials and conditions
Units	Metric/Imperial unit selectable	
Reading type	Four measurements readings per second for single point measurement, and ten per second for Scan Mode	
Memory capacity	Memory for up to 20 files (up to 99 values for each file) of stored value	
Communication	N/M	RS232 serial port
Setting & Alarm	N/M	Upper and lower limit can be pre-set. It will alarm automatically when the result value exceeding the limit
Power Source	Two “AA” size, 1.5 Volt alkaline batteries. 100 hours typical operating time (EL backlight off)	
Outline dimensions	150×74×32 mm	
Case	ABS	
Weight	245g	

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）	Φ20mm×3.0mm	Normal Measurement
N05 /90°	5	10	1.2mm～230.0mm （In Steel）	Φ20mm×3.0mm	Normal Measurement
N07	7	6	0.75mm～80.0mm （In Steel）	Φ15mm×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℃) 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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