MT160

Ultrasonic Thickness Gauge

- Professional manufacturer, best quality with competitive price
- Recommended by the world UT NDT inspection association for training and examination
- Core technology with independent intellectual property rights, certificate of CE, GOST and etc..

Product Overview

The model MT160 is a digital ultrasonic thickness gauge .Based on the principle of ultrasonic principle, the instrument is capable of measuring the thickness of various materials, such as metal, plastic, ceramic, glass and many other good ultrasonic conductors. It of all kinds of materials. Compared with the traditional measurement methods, the advantages of ultrasonic thickness gauge is exposed to one side of the workpiece to complete the measurement. Its unique non-destructive testing performance provide the perfect solution for the thickness testing of closed pipes, containers, etc. It is widely used in pertroleum , chemical ,metallurgy, shipbuilding, aviation, aerospace and other fields because of monitoring corrosion thinning degree of various pipes and pressure vessels. It can also be used for precise measurement of sheet metal and machined parts.

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Technical Specifications

Technical Specifications	Technical Parameters
Display	4.5 digits LCD with EL backlight
Measuring Range	(0.75 ~ 300)mm (in Steel)
Units	Metric/Imperial unit selectable
Sound Velocity Range	(1000~9999) m/s
Resolution	0.1mm/0.01mm
Accuracy	± (0.5%Thickness+0.04) mm, depends on materials and conditions
Measuring Frequency	Four measurements readings per second for single point measurement, and ten per second for Scan Mode.
Memory	Memory for up to 20 files (up to 99 values for each file) of stored values
Thickness Mode	Single point thickness measurement and scanning thickness measurement
Voltage	3V,Two "AA" size, 1.5 Volt alkaline batteries
Standby Time	More than 100 hours .(EL background-light off)
Communication	USB1.1(Can communicate with PC)
Outline Dimension	150mm×74mm×32 mm
Weight	245g

Features

- Capable of performing measurements on a wide range of material, including metals, plastic, ceramics, composites, epoxies, glass and other ultrasonic wave well-conductive materials.
- Can have both a variety of different frequency, chip size joint double probe is used.
- Probe-Zero function, Two-Point Calibration function. System error can be automatically corrected .
- Sound-Velocity-Calibration function,To improve the measurement precision .
- Coupling status indicator showing the coupling status.
- EL back light display, convenient to use in the dark .
- Battery information indicates the rest capacity of the battery.
- Auto sleep and auto power off function.
- Compact, portable, high reliability, suitable for bad operating conditions, resistance to vibration, shock, and electromagnetic interference.

Measuring Principle

The ultrasonic thickness gauge determines the thickness of a part or structure by accurately measuring the time required for a short ultrasonic pulse generated by a transducer to travel through the thickness of the material, reflect from the back or inside surface, and be returned to the transducer. The measured two-way transit time is divided by two to account for the down-and-back travel path, and then multiplied by the velocity of sound in the material. The result is expressed in the well-known relationship

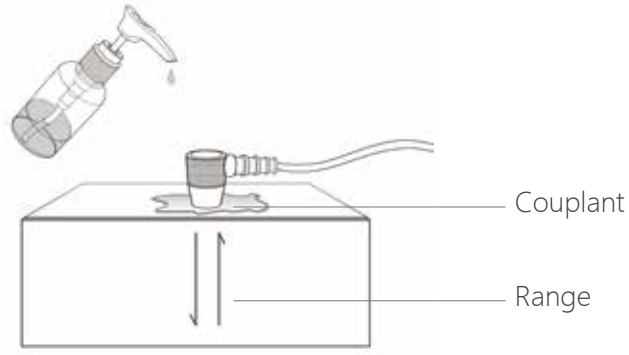
$$H = \frac{v \times t}{2}$$

Where :

H - Thickness of the test piece.

v - Sound Velocity in the material.

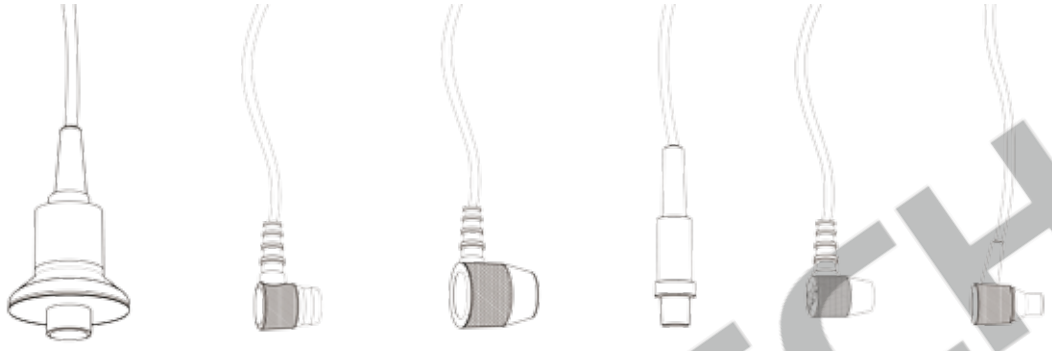
t - The measured round-trip transit time



To make sure the probe working properly, it needs to use couplant to isolate the air between the probe surface and the measured workpiece surface. The liquid used for the coupling between the probe and workpiece is called as couplant.

Transducer Selection

Model	Freq	Diam	Measuring Range	Lower limit	Description
N05	5MHz	10mm	1.2mm-230mm (In Steel)	Φ20mm×3.0mm	Normal Measurement
N05/90°	5MHz	10mm	1.2mm-230mm (In Steel)	Φ20mm×3.0mm	Normal Measurement
N07	7MHz	6mm	0.75mm ~ 80.0mm (In Steel)	Φ15mm×2.0mm	For thin pipe wall or small curvature pipe wall measurement
HT5	5MHz	12mm	3.0 ~ 200mm (In Steel)	30mm	For high temperature (lower than 300℃) measurement.
N02	2.5MHz	14mm	3.0mm ~ 300.0mm (In Steel) Under 40mm (HT200)	20mm	for thick, highly attenuating, or highly scattering materials



HT5 P5EE N02 N05 N05/90° N07

Configuration

	No.	Type	Quantity	Remarks
Standard Configuration	1	Main body	1	
	2	Probe: N05	1	
	3	Couplant	1	
	4	ABS Instrument Case	1	
	5	Operating Manual	1	
	6	Alkaline battery	2	
Optional Configuration	1	Probe: N05/90°(5MHz)		
	2	Probe: N02(7MHz)		
	3	Probe: N07(2.5MHz)		
	4	Probe: HT5(5MHz)		
	5	High temperature couplant		
	6	USB Cable		
	7	DataPro Software