



## Taiyuan Machinery Equipment (Dongguan) Co., Ltd

Address: No. 28, Huancheng dong road, DongCheng District, Dongguan city, Guangdong province, China

[Mail: crownzhiborobot@foxmail.com](mailto:crownzhiborobot@foxmail.com) TEL/WhatsApp/Wechat: +86-13480085060

### TY-180B Metal Shell Ultrasonic Thickness Gauge



UCT-180B Metal Shell Ultrasonic Thickness Gauge adopts high-performance, low-power microprocessor technology. Based on the ultrasonic measurement principle, it can measure the thickness of metals and other materials, and can measure the sound velocity of the material. It can monitor various pipelines and pressure vessels in production equipment, monitor their thinning degree after corrosion during use, and can also make accurate measurements of various plates and various processed parts. This instrument can be widely used in many fields such as petroleum, chemical industry, metallurgy, shipbuilding, aviation, aerospace, etc.



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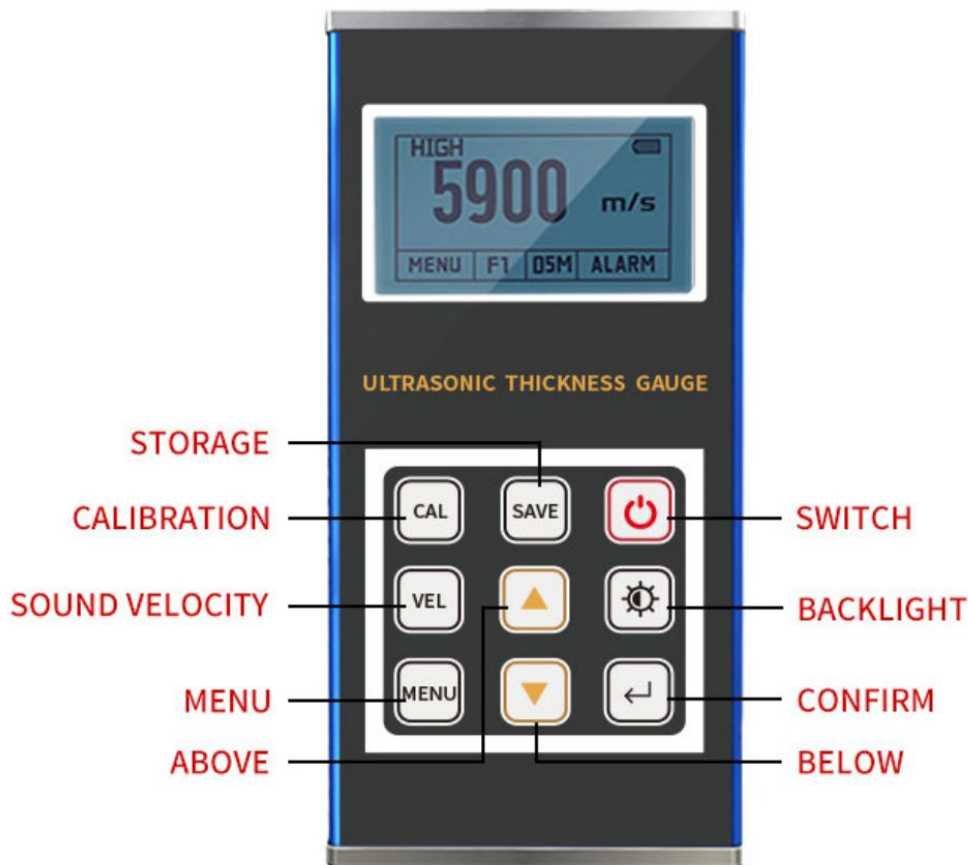
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### Main Functions:

1. Suitable for measuring the thickness of metals (such as steel, cast iron, aluminum, copper, etc.), plastics, ceramics, glass, glass fiber and any other good conductors of ultrasonic waves.
2. Can be equipped with a variety of probes with different frequencies and different chip sizes.
3. Knowing the thickness can be used to measure the sound velocity to improve the measurement accuracy.
4. It has the function of prompting the coupling status.
5. It has an EL backlight display, which is convenient for use in dimly lit environments.
6. It has a remaining power indicator function, which can display the remaining battery power in real time.
7. It has energy-saving functions such as automatic sleep and automatic shutdown.
8. The sealed all-aluminum alloy metal housing is suitable for harsh operating environments and is resistant to vibration, shock and electromagnetic interference.
9. There are two shutdown modes: manual shutdown and automatic shutdown.
10. Powered by a lithium battery, it has a battery life of up to 200 hours (without backlight).





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### Technical Parameters:

Measuring Range	0.65-600mm (in steel)
Resolution	0.01mm
Units of Measurement	Metric and Imperial options available
Indication Accuracy	$\pm 0.04\text{mm}$ (<10mm); ( $\pm 0.5\%H+0.01\text{mm}$ ) (>10mm); H is the actual thickness of the object being measured
Sound Speed Range	1000~9999 m/s
Display Method	High contrast segment LCD display, high brightness EL backlight
Storage Capacity	Can store 2000 thickness measurement data
Working Mode	It has two thickness measurement working modes: single point thickness measurement and scanning thickness measurement
Ambient Temperature	Operating temperature $-20^{\circ}\sim+50^{\circ}\text{C}$ ; Storage temperature: $-30^{\circ}\text{C}\sim+70^{\circ}\text{C}$ ; Relative humidity: $\leq 90\%$
Measuring Cycle	4 times/second in single point measurement, 10 times/second in scanning mode
Pipe Measurement Lower Limit	$\Phi 20\text{ mm} \times 3.0\text{ mm}$ (5Mhz probe); $\Phi 15\text{ mm} \times 2.0\text{ mm}$ (7Mhz probe) indication error does not exceed $\pm 0.1\text{ mm}$
Calibration	4.0 mm (Steel)
Probe Specifications	$\Phi 6\text{ mm}$ (optional) $\Phi 10\text{ mm}$ (optional) $\Phi 12\text{ mm}$ (optional)
Power Supply	Lithium battery
Operation Time	Continuous operation greater than 200h (without backlight)
Overall Dimensions	$125 \times 71 \times 27\text{ mm}$ (length $\times$ width $\times$ height)
Weight	400g



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### Optional probes and parameters:

name	model	Frequency(MHz)	Probe diameter	Measuring range	Surface temperature of the object being measured	Features	Picture
Standard probe	N05	5	10mm	1mm~600mm	-10~60℃	Use at room temperature(<60℃)	
	N05/90						
Coarse grain probe	N02	2	12mm	3.0-300.0mm (Steel) 5.0-40.0mm (cast iron)	-10~60℃	Used for measuring coarse-grained materials such as cast iron	
Micro-diameter probe	N07	7	6mm/4mm	0.65mm-260mm(steel)	-10~60℃	For measuring thin walls and small curved surfaces	
High temperature probe	HT5	5	14mm	3mm-200mm(steel)	-10~400℃	For measuring materials with temperature less than 350℃	



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### Comparison of instrument advantages:

Advantages of Ultrasonic Thickness Gauge UCT180B	Other thickness gauges at the same price
Menu-based operation, high-brightness EL LCD display with LED backlight	Broken code EL display, high power consumption, and unclear in dark environment
Adjustable sound velocity, capable of measuring a variety of materials	Low-priced manufacturers only have the sound velocity of 5920 steel
Can be equipped with a variety of probes (standard, coarse crystal, micro diameter, high temperature) No calibration required, automatic identification and calibration	Cannot automatically identify multiple probes
Lithium battery rechargeable, long battery life	Ordinary AA batteries, short battery life
Can store 2000 thickness measurement data	Can only store 20~50 sets of data
A highly integrated motherboard is used inside, and the chips are all imported	Most of them use two circuit boards, and most of them use domestic devices
Aluminum alloy metal shell, dustproof and anti-electromagnetic interference	Ordinary plastic shell, not anti-interference



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**Material sound velocity table (subject to actual conditions, the list is for reference only):**

Material	Speed of sound	
	in/us	m/s
Aluminum	0.250	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	0.100	2540
Ice	0.157	3988
Nickel	0.222	5639
Plexiglass	0.106	2692
Porcelain	0.230	5842
PVC	0.094	2388
Quartz glass	0.222	5639
Rubber, vulcanized	0.091	2311
Water	0.058	1473
Acrylic (type) resin	0.109	2760