

# Mikrosize®

## iThick-200

### Ultrasonic Thickness Gauge



Video



## Contact us

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## Product Features and Application

### Product Features

- Utilizes both Interface Echo-to-backwall Echo Differential (IE) and Pulse-Echo (PE) ultrasonic principles, providing PE, IE, and TEST measurement modes for accurate thickness gauging through coatings.
- Display resolution of 0.01 mm with a measurement error limit of  $\pm 0.4\% H$  ( $H$  = workpiece thickness), ensuring high precision for demanding applications.
- Offers zero calibration and velocity calibration; automatically corrects systematic errors and determines material velocity from a known-thickness reference block.
- Stores complete measurement data—thickness value, sound velocity, and time stamp—up to 500 data groups. High-contrast LCD with LED backlight clearly displays thickness, coupling status, battery level, calibration state, velocity, time, etc., under any lighting conditions.
- Powered by two AA alkaline batteries, providing up to 5 hours of continuous operation (backlight off) with real-time battery indicator.
- Auto-power-off after 2 minutes (adjustable) of inactivity; manual power switch also provided for user convenience.
- Configurable settings: unit system (metric/imperial), scan mode (on/off), beep, flashing alarm, probe parameters, factory reset, data export to PC, file deletion, contrast, system time, standby time, and firmware version display—meeting diverse user needs.

### Application

- Purity verification: employs ultrasonic testing to detect adulteration inside gold and silver bars, coins, and other precious metals, accurately determining their fineness.
- Precise thickness measurement of plates made from various materials—steel, non-ferrous metals, etc.—across different ranges:
  - Standard mode: 1–300 mm (steel)
  - Cast-iron mode: 4–508 mm
  - Precision mode: 0.75–35 mm
  - High-temperature mode: 4.0–80 mm



## Instrument Interface



**1. Power / Backlight    2. Menu    3. Velocity    4. Enter / Confirm    5. Calibrate**  
**6. Store    7. Light Source Port    8. Up Arrow    9. Down Arrow    10. Reference Block**

## Button Function



**1. Current File Number**  
**5. Sound Velocity Unit**

**2. Measurement Mode**  
**6. Battery Level**

**3. Menu Option**

**4. Time**

**7. Coupling Indicator**

**8. Displayed Value**

# System Settings

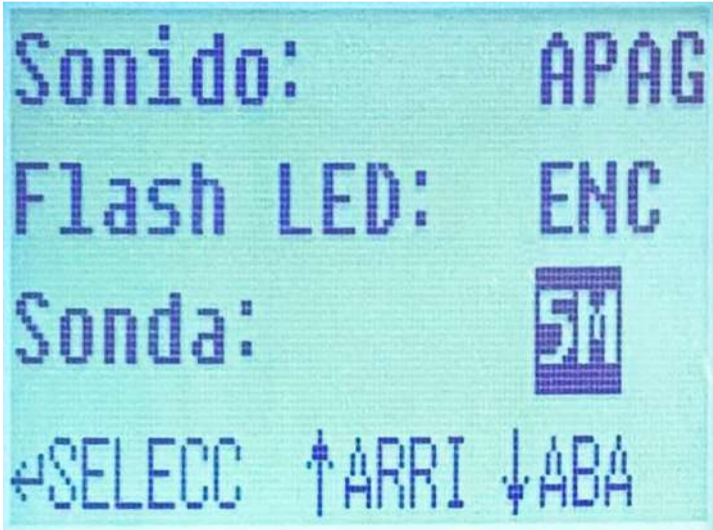
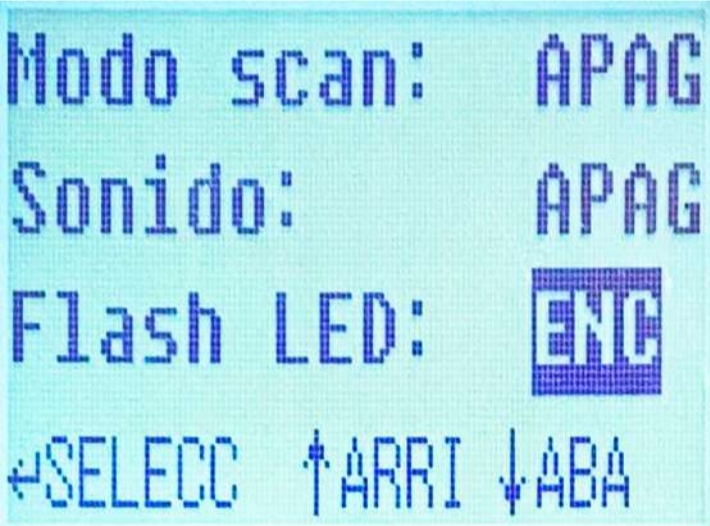


● Within the menu interface, users can configure:

- Language: Chinese, English, or Spanish
- Unit system: Metric or Imperial
- Scan mode

● Scan Mode:

In this mode, the instrument continuously updates and displays the real-time thickness value, allowing uninterrupted measurement while the probe is kept in contact with the workpiece.



● Users can configure:

- Beep and Flash Alarm: Enable or disable audible beep and visual flash alerts while in measurement mode.
- Probe Selection: Choose the appropriate probe model.
- Resolution: Set the measurement resolution to Low, Medium, or High.

## Test Mode



- PE (Pulse-Echo): Based on the pulse-echo ultrasonic principle, suitable for measuring the thickness of any material through which ultrasound can propagate at a constant velocity and from which a clear back-wall echo can be obtained.
- IE (Interface-Echo): Uses the difference in sound-path time between the interface echo and the back-wall echo; it can penetrate coatings (coating thickness < 1 mm) to provide an accurate thickness reading of the substrate.
- TEST: Employs ultrasonic technology to detect internal adulteration and determine the purity of precious metals; primarily used for verifying gold bars, silver bars, coins, and other bullion products.

## Technical Specification

<b>Working Principle</b>	Ultrasonic
<b>Traversed Coating</b>	IE Mode Can Traverse Through 1500um Coating
<b>Measuring Mode</b>	PE/IE
<b>Measuring Range</b>	0.75~300mm
<b>Precision</b>	$H < 10\text{mm} \pm 0.05\text{mm}$ $H \geq 10\text{mm} \pm (0.05\text{mm} + H/100)\text{mm}$
<b>Probe Size</b>	Standard Delivery 10mm
<b>Resolution</b>	0.1/0.01mm Optional
<b>Touch Screen</b>	2.0 " FSTN, 128 * 64 Dot Matrix, LED Backlight
<b>Measuring Material</b>	Steel, Iron, Glass, Plastic, Aluminum, Etc
<b>Sound Velocity</b>	1000~9999m/s
<b>Storage</b>	500 Groups Of Data
<b>Measuring Unit</b>	Metric/Imperial
<b>Language</b>	English Or Other Customized Languages
<b>Working Temperature</b>	0~50°C
<b>Ambient Humidity</b>	Relative Humidity Less Than 90%
<b>Power Supply</b>	2*1.5V AA Battery
<b>Product Dimensions</b>	150*71*33mm
<b>Net Weight</b>	160g



## Packing List

Item	Qty
Main Unit	1 unit
Probe	1 pc
Couplant	1 bottle
Dry Battery	2 pcs
Instrument Case	1 case
Documents	1 set