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## Insize 3560-25SA

# User Manual

## INSIZE 3560-25SA DIGITAL SPHERICAL ANVIL TUBE MICROMETER

Model: 3560-25SA

### 1. Product Overview

The InSize 3560-25SA Digital Spherical Anvil Tube Micrometer is a precision measuring instrument designed for accurately determining the wall thickness of various tubing. It features a spherical anvil and a spherical spindle tip, allowing for precise contact on curved surfaces. Equipped with a digital display and a ratchet stop mechanism, it ensures consistent measuring force for reliable readings.



Figure 1: InSize 3560-25SA Digital Spherical Anvil Tube Micrometer showing its digital display, buttons, and measuring faces.

### 2. Key Features

- Designed for measuring wall thickness of tubes.
- Features a ratchet stop for applying constant and repeatable measuring force.
- Equipped with durable carbide measuring faces for extended lifespan and accuracy.
- Digital display for clear and easy-to-read measurements.
- Measurement range: 0-25mm / 0-1 inch.
- IP54 protection rating, offering protection against dust and splashing water.

### 3. Components

Familiarize yourself with the main components of your micrometer:

1. **Frame:** The main body of the micrometer, typically C-shaped.
2. **Spherical Anvil:** The fixed measuring face, designed with a spherical shape for contact on curved surfaces.
3. **Spherical Spindle Tip:** The movable measuring face, also spherical, which advances towards the anvil.
4. **Digital Display:** Shows the measurement reading in numerical format.
5. **ON/OFF Button:** Powers the device on or off.
6. **ABS/INC Button:** Toggles between absolute and incremental measurement modes.
7. **UNIT Button:** Switches between metric (mm) and imperial (inch) units.
8. **SET Button:** Used for setting the zero point or other functions.
9. **Sleeve:** The stationary part of the barrel with the main scale markings (for reference).
10. **Thimble:** The rotating part with finer scale markings.
11. **Ratchet Stop:** Located at the end of the thimble, used to apply consistent measuring pressure.

### 4. Setup

1. **Unpacking and Inspection:** Carefully remove the micrometer from its packaging. Inspect for any visible damage.
2. **Cleaning:** Before first use, gently wipe all measuring surfaces and the spindle with a clean, lint-free cloth. Avoid using harsh solvents.
3. **Battery Installation:**
  - Locate the battery compartment cover, usually on the back or side of the digital unit.
  - Open the cover (a small screwdriver may be required).
  - Insert a new SR44 or CR2032 (check manual for exact type if available, common types for digital micrometers) battery with the positive (+) side facing up.
  - Close the battery compartment securely.
4. **Power On:** Press the "ON/OFF" button to turn on the micrometer. The display should light up.
5. **Zero Setting:**
  - Clean both the spherical anvil and spindle tip thoroughly.
  - Gently bring the anvil and spindle tip into contact using the ratchet stop until it clicks 2-3 times.
  - Ensure there is no gap between the measuring faces.
  - Press the "SET" button (or "ZERO" if labeled differently) to set the display to 0.000.
  - If the display does not show zero, repeat the process.

### 5. Operating Instructions

1. **Unit Selection:** Press the "UNIT" button to toggle between millimeters (mm) and inches (in) as desired.
2. **Measurement Mode (ABS/INC):**
  - **Absolute (ABS) Mode:** Displays the measurement from the set zero point. This is the default and most common mode.
  - **Incremental (INC) Mode:** Allows you to set a temporary zero point at any position, useful for

comparative measurements. Press "ABS/INC" to switch to INC mode, then press "SET" to zero the display at the current position. Press "ABS/INC" again to return to ABS mode.

### 3. Taking a Measurement:

- Open the micrometer by rotating the thimble counter-clockwise until the gap between the anvil and spindle is slightly larger than the object to be measured.
- Position the tube or object between the spherical anvil and spindle tip. Ensure the spherical faces make proper contact with the curved surface of the tube.
- Slowly close the micrometer by rotating the thimble clockwise until the spindle tip is close to the object.
- Use the ratchet stop to apply the final measuring pressure. Rotate the ratchet stop until it clicks 2-3 times. This ensures consistent and accurate pressure.
- Read the measurement directly from the digital display.

4. **Power Off:** Press and hold the "ON/OFF" button for a few seconds to turn off the micrometer when not in use to conserve battery life. The micrometer may also have an auto-off feature.

## 6. Maintenance

Proper maintenance will ensure the longevity and accuracy of your micrometer.

- **Cleaning:** After each use, wipe down the micrometer, especially the measuring faces, with a clean, lint-free cloth. If necessary, use a small amount of instrument cleaning oil.
- **Storage:** Store the micrometer in its protective case when not in use. Keep it in a dry, temperature-stable environment, away from direct sunlight, dust, and corrosive substances. Ensure the measuring faces are slightly separated to prevent pressure on the spindle.
- **Battery Replacement:** Replace the battery when the display becomes dim or shows a low battery indicator. Refer to Section 4 for battery installation steps.
- **Calibration Check:** Periodically check the micrometer's zero point. For critical applications, professional calibration services are recommended annually.
- **Avoid Dropping:** Dropping the micrometer can severely damage its precision components and affect accuracy.

## 7. Troubleshooting

Problem	Possible Cause	Solution
Display is blank or dim.	Low or dead battery.	Replace the battery (refer to Section 4).
Inaccurate readings.	Measuring faces are dirty. Incorrect zero setting. Improper measuring technique (e.g., not using ratchet stop). Micrometer is damaged or out of calibration.	Clean measuring faces. Perform zero setting (refer to Section 4). Ensure proper use of ratchet stop. Contact Insize support for calibration or repair.
Display shows "E" or error code.	Internal error or excessive force applied.	Turn off and restart the micrometer. If the error persists, contact Insize support.

## 8. Specifications

Parameter	Value
Model Number	3560-25SA
Measurement Range	0-25mm / 0-1 inch
Protection Rating	IP54
Measuring Faces	Carbide, Spherical Anvil, Spherical Spindle Tip
Force Mechanism	Ratchet Stop
Item Weight	524 g
Package Dimensions	19.5 x 11.7 x 4.3 cm
Battery Type	SR44 or CR2032 (typical, verify with product documentation)

## 9. Warranty and Support

Insize is committed to providing quality products and excellent customer service. While specific warranty details may vary by region and purchase point, Insize products are generally manufactured to international standards and come with a guarantee of quality.

For technical support, warranty claims, or service inquiries, please contact your authorized Insize dealer or visit the official Insize website for contact information. Please have your model number (3560-25SA) and purchase details ready when contacting support.

For more information, visit: [www.insize.com](http://www.insize.com)