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## INSIZE 2304-0255

# INSIZE 2304-0255 Compact Dial Indicator User Manual

Model: 2304-0255

## 1. INTRODUCTION

### 1.1 Product Overview

The INSIZE 2304-0255 Compact Dial Indicator is a precision measuring instrument designed for accurate dimensional measurements. It features a compact design with a 0.25-inch measuring range and a graduation of 0.0005 inches, making it suitable for various industrial and scientific applications requiring precise readings of small displacements or variations.



**Figure 1:** INSIZE 2304-0255 Compact Dial Indicator. This image displays the INSIZE 2304-0255 Compact Dial Indicator, highlighting its circular dial with a light green face and black markings. The dial features a large black needle indicating measurements and a smaller needle for revolutions. Numerical markings from 0 to 90 are visible, along with graduations of 0.0005 inches. The INSIZE brand logo is prominently displayed on the dial. The indicator is constructed with a polished chrome-plated stem and a spherical contact point.

## 1.2 Package Contents

- One (1) INSIZE 2304-0255 Compact Dial Indicator
- Instruction Manual (this document)

## 2. SAFETY INFORMATION

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To ensure safe and proper operation of your INSIZE 2304-0255 Compact Dial Indicator, please observe the following safety precautions:

- Always handle the instrument with care to prevent damage from drops or impacts.
- Do not apply excessive force to the spindle or contact point, as this can affect accuracy and damage internal mechanisms.
- Keep the dial indicator clean and free from dust, debris, and corrosive substances.
- Store the instrument in its protective case or a clean, dry environment when not in use.
- Avoid exposing the indicator to extreme temperatures or humidity.
- Only use the dial indicator for its intended purpose of dimensional measurement.

## 3. SETUP

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Proper setup is crucial for accurate measurements. Follow these steps to prepare your dial indicator for use:

1. **Unpacking:** Carefully remove the dial indicator from its packaging. Inspect for any visible damage.
2. **Mounting:** Securely mount the dial indicator to a suitable stand or fixture using its stem. Ensure the mounting is rigid and free from vibration. The stem diameter is standard for most indicator holders.
3. **Positioning:** Position the indicator so that its contact point is perpendicular to the surface being measured.
4. **Zeroing:** Gently bring the contact point into contact with the reference surface or workpiece. Rotate the outer bezel of the dial until the large needle aligns with the "0" mark.
5. **Pre-load:** For consistent measurements, ensure there is a slight pre-load on the contact point, meaning the spindle is slightly compressed before zeroing.

## 4. OPERATION

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Once set up, the dial indicator is ready for measurement. The indicator measures the displacement of the spindle.

### 4.1 Taking a Measurement

1. Ensure the indicator is properly mounted and zeroed on a reference surface or the initial point of measurement.
2. Move the workpiece or the indicator stand to bring the contact point to the desired measurement location.
3. Observe the movement of the large needle on the dial. Each major division represents 0.001 inches, and each small division represents 0.0005 inches.
4. The small revolution counter needle indicates the number of full revolutions the large needle has made. For this model, the range is 0.25 inches.
5. Read the total displacement by combining the reading from the large needle and the revolution counter.

### 4.2 Reading the Dial

The dial is marked with numbers from 0 to 90. The large needle indicates the fractional part of an inch. The small needle indicates the number of full revolutions. For example, if the large needle points to '20' and the small needle has moved one full mark, the reading would be 0.020 inches plus the value indicated by the small needle's position (e.g., 0.1 inch for one full revolution of the small needle). The total range is 0.25 inches.

## 5. MAINTENANCE

Regular maintenance ensures the longevity and accuracy of your dial indicator.

- **Cleaning:** After each use, wipe the contact point, spindle, and body with a clean, soft, lint-free cloth. If necessary, use a small amount of instrument cleaning fluid, applied to the cloth, not directly to the indicator.
- **Lubrication:** The internal mechanisms are factory-lubricated and generally do not require user lubrication. Avoid applying oils or greases unless specifically instructed by the manufacturer.
- **Storage:** Store the dial indicator in its original protective case or a dedicated storage box in a clean, dry, and temperature-controlled environment. Avoid areas with high humidity, dust, or corrosive fumes.
- **Inspection:** Periodically inspect the contact point for wear or damage. A worn contact point can affect measurement accuracy.
- **Calibration:** For critical applications, regular calibration by a qualified technician is recommended to ensure continued accuracy.

## 6. TROUBLESHOOTING

If you encounter issues with your INSIZE 2304-0255 Compact Dial Indicator, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Inaccurate readings	Improper zeroing, loose mounting, worn contact point, internal damage.	Re-zero the indicator. Ensure secure mounting. Inspect and replace contact point if worn. If internal damage is suspected, contact support.
Needle sticks or moves erratically	Dirt or debris in the spindle, bent spindle, lack of lubrication.	Clean the spindle area carefully. Do not attempt to bend the spindle back. Contact support for service if cleaning does not resolve the issue.
Bezel difficult to rotate	Dirt or debris under the bezel, minor damage.	Clean around the bezel. Do not force rotation. If the issue persists, contact support.

## 7. SPECIFICATIONS

Key technical specifications for the INSIZE 2304-0255 Compact Dial Indicator:

- **Model Number:** 2304-0255
- **Measuring Range:** 0.25 inches
- **Graduation:** 0.0005 inches
- **Product Type:** Precision Measuring Instrument
- **Manufacturer:** INSIZE
- **Country of Origin:** China
- **Package Dimensions:** 6.1" (L) x 3.82" (W) x 2.64" (H)
- **Item Weight:** Approximately 10.56 ounces (package weight)
- **ASIN:** B01GL4XFXM

## 8. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries regarding your INSIZE 2304-0255 Compact Dial Indicator, please contact INSIZE directly or your authorized INSIZE distributor. Refer to the official INSIZE website

or product packaging for the most current contact details.

**Manufacturer:** INSIZE

**Website:** [www.insize.com](http://www.insize.com)