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› Bolisila Snap Gauge Micrometer Instruction Manual

Bolisila 523-142 25-50mm

Bolisila Snap Gauge Micrometer Instruction Manual

Models: 523-141 (0-25mm), 523-142 (25-50mm)

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and effective use, maintenance, and troubleshooting of your Bolisila Snap Gauge Micrometer. Designed for precise external measurements, this instrument is essential for various industrial and residential applications requiring high accuracy. Please read this manual thoroughly before operating the device.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury and ensure the longevity of your micrometer:

- Handle the micrometer with care to avoid dropping or impacting it, which can affect its accuracy.
- Keep the instrument clean and free from dust, oil, and corrosive substances.
- Store the micrometer in its protective case when not in use.
- Do not attempt to disassemble or modify the micrometer, as this will void the warranty and may damage the instrument.
- Ensure the measuring surfaces are clean before each use to guarantee accurate readings.

3. PRODUCT OVERVIEW

The Bolisila Snap Gauge Micrometer is a precision measuring tool used for accurately determining the external dimensions of objects. It features a robust frame, an anvil, a spindle, a thimble, and a ratchet stop for consistent measuring force.



Figure 3.1: Bolisila Snap Gauge Micrometer, model 523-142 (25-50mm). This image displays the main components including the frame, anvil, spindle, thimble, and ratchet stop.

3.1 Components

1. **Frame:** The main body of the micrometer, typically C-shaped.
2. **Anvil:** The stationary measuring face.
3. **Spindle:** The movable measuring face that advances towards the anvil.
4. **Lock Nut:** Used to lock the spindle in position once a measurement is taken.
5. **Sleeve (Barrel):** The main scale where millimeter readings are taken.
6. **Thimble:** The rotating part with a graduated scale for finer readings.
7. **Ratchet Stop:** Ensures consistent measuring pressure by slipping when the correct force is applied.
8. **Zero Adjustment:** For calibrating the micrometer to zero.

4. SETUP AND ZERO ADJUSTMENT

Before taking measurements, it is crucial to ensure the micrometer is properly set up and zeroed.

1. **Clean Measuring Surfaces:** Gently wipe the anvil and spindle faces with a clean, lint-free cloth to remove any dust or debris.
2. **Check for Damage:** Inspect the micrometer for any visible damage or wear that might affect its accuracy.
3. **Zero Adjustment (for 0-25mm models):**
 - Slowly close the micrometer by rotating the ratchet stop until the anvil and spindle faces meet.
 - If the zero line on the thimble aligns perfectly with the datum line on the sleeve, no adjustment is needed.
 - If misalignment occurs, use the provided wrench to rotate the sleeve until the zero line aligns.
4. **Zero Adjustment (for 25-50mm models and larger):**
 - Use a standard gauge block (e.g., 25mm for a 25-50mm micrometer).
 - Place the gauge block between the anvil and spindle.
 - Close the micrometer using the ratchet stop until it clicks 2-3 times.
 - Read the measurement. If it does not match the gauge block's dimension, adjust the sleeve using the wrench until the reading is correct.

5. OPERATING INSTRUCTIONS

Follow these steps to take accurate measurements with your Bolisila Snap Gauge Micrometer:

1. **Prepare the Object:** Ensure the object to be measured is clean and free of burrs or irregularities.
2. **Position the Micrometer:** Hold the micrometer by the frame and open the spindle sufficiently to fit the object between the anvil and spindle.
3. **Advance the Spindle:** Gently bring the spindle into contact with the object by rotating the thimble. For final contact, use the ratchet stop to ensure consistent pressure. Rotate until the ratchet clicks 2-3 times.
4. **Lock the Spindle:** Once the measurement is taken, engage the lock nut to prevent the spindle from moving while reading.
5. **Read the Measurement:**
 - **Main Scale (Sleeve):** Read the largest visible millimeter mark on the sleeve. Also, note if the 0.5mm mark is visible past the main millimeter mark.
 - **Thimble Scale:** Read the line on the thimble that aligns with the datum line on the sleeve. Each division on the thimble typically represents 0.01mm.
 - **Total Reading:** Add the main scale reading, the 0.5mm reading (if visible), and the thimble scale reading.
6. **Remove the Object:** Unlock the spindle and carefully remove the measured object.

仕様

コードNo.	符号	測定範囲 (mm)	測定力* (N)	指示のパラツキ (μm)	平面度 (μm)	平行度 (μm)	質量 (g)
523-141	PSM-25S	0~25	5~10	0.4	0.3	0.6	710
523-142	PSM-50S	25~50					810
523-143	PSM-75S	50~75				1	920
523-144	PSM-100S	75~100					1050

外観寸法図

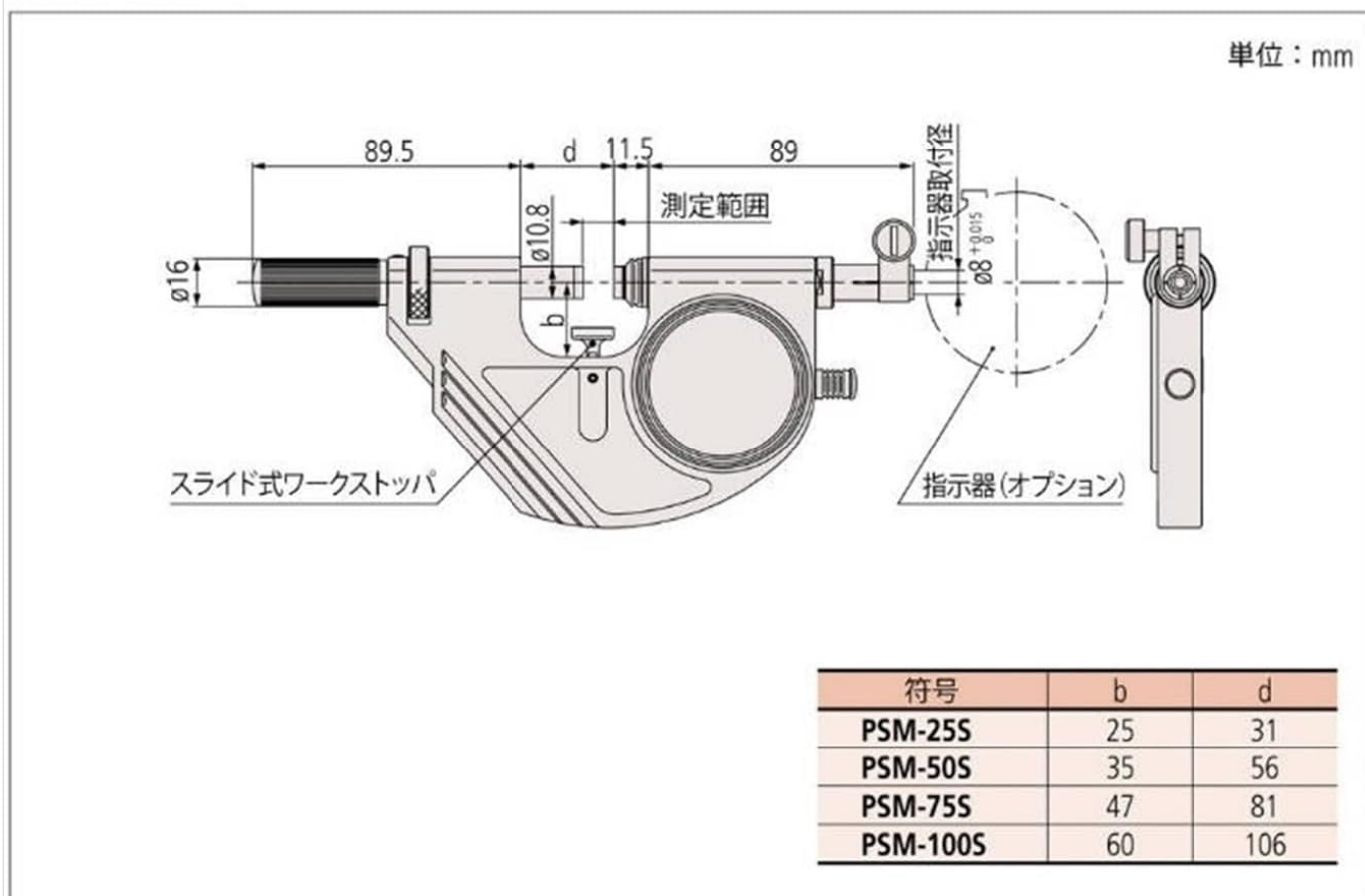


Figure 5.1: Technical diagram illustrating the dimensions and components of the Snap Gauge Micrometer. This diagram provides a visual reference for understanding the instrument's structure and measurement range.

6. MAINTENANCE AND STORAGE

Proper maintenance ensures the accuracy and longevity of your micrometer.

- **Cleaning:** After each use, wipe all surfaces with a clean, soft cloth. For stubborn grime, a small amount of instrument cleaning fluid can be used, followed by thorough drying.
- **Lubrication:** Periodically apply a thin film of light machine oil to the spindle thread to ensure smooth operation. Avoid over-lubrication.
- **Storage:** Store the micrometer in its original protective case in a dry, temperature-stable environment. Slightly open the measuring faces to prevent pressure on the spindle and anvil.
- **Calibration:** Regular calibration checks using gauge blocks are recommended, especially for professional use. If significant deviation is observed, professional calibration may be required.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Inaccurate readings	• Dirty measuring faces • Improper zero adjustment • Excessive measuring force • Wear or damage	• Clean measuring faces • Perform zero adjustment (Section 4) • Use ratchet stop for consistent force • Inspect for damage; consider professional repair/replacement
Spindle movement is stiff	• Lack of lubrication • Dirt or debris in threads	• Apply light machine oil to spindle thread • Clean spindle thread carefully
Zero point shifts	• Temperature changes • Impact or rough handling	• Allow micrometer to stabilize at ambient temperature • Handle with care; re-zero before use

8. SPECIFICATIONS

Feature	Detail
Product Name	Outside Micrometer
Models	523-141, 523-142
Measuring Range (523-141)	0-25mm
Measuring Range (523-142)	25-50mm
Accuracy	Typically $\pm 0.002\text{mm}$ (may vary by model and condition)
Resolution	0.01mm
Item Weight	Approximately 2.2 pounds (for 523-142)
Manufacturer	Bolisila

Note: Specific accuracy and other parameters may vary slightly between individual units and measurement ranges. Refer to the product packaging for precise details.

9. WARRANTY INFORMATION

Bolisila products are manufactured to high-quality standards. This product comes with a standard manufacturer's warranty against defects in materials and workmanship. The warranty period typically covers a specific duration from the date of purchase. Please retain your proof of purchase for warranty claims.

The warranty does not cover damage resulting from:

- Improper use or handling.
- Unauthorized repairs or modifications.
- Accidental damage, drops, or impacts.
- Normal wear and tear.

For detailed warranty terms and conditions, please refer to the warranty card included with your product or contact Bolisila customer support.

10. CUSTOMER SUPPORT

If you have any questions, require technical assistance, or need to make a warranty claim, please contact Bolisila customer support through the following channels:

- **Website:** Visit the official Bolisila website for FAQs and support contact forms.
- **Email:** Refer to your product packaging or warranty card for the customer support email address.
- **Phone:** Contact numbers may be available on the product packaging or website.

When contacting support, please have your product model number (e.g., 523-142) and purchase information ready.

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