

## INSTRUCTION MANUAL FOR OUTSIDE MICROMETER (600-025)

### ➤ Specification

- ✓ It is specially designed for very accurate comparison measurements like as workshop and inspection laboratory.

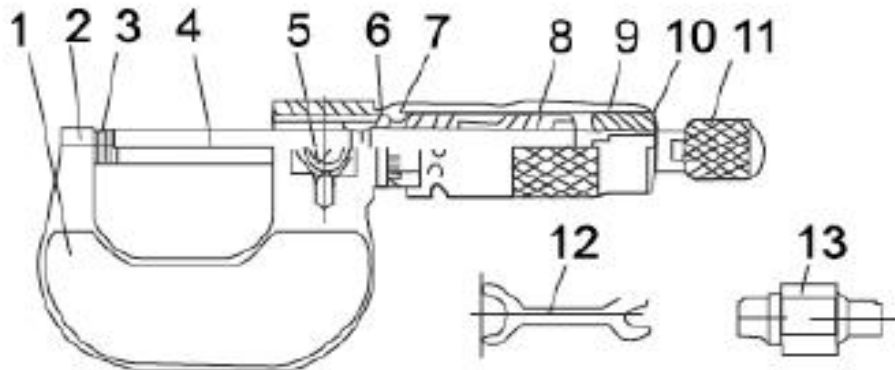
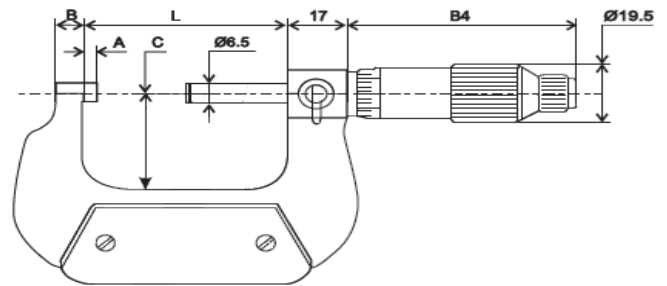
### ➤ Features

- ✓ Antimagnetic material for using in magnetic fields
- ✓ Ceramic measuring faces.
- ✓ Ratchet friction thimble.
- ✓ Resolution : 0.01mm



### ➤ Technical Specification

Code	Range	Least Count
600-025	0-25 mm	0.010 mm
600-050	0-50 mm	0.010 mm
600-075	0-75 mm	0.010 mm
600-100	0-100 mm	0.010 mm



- |                          |             |                            |
|--------------------------|-------------|----------------------------|
| 1. Heat insulating plate | 6. Sleeve   | 11. Ratchet Stop           |
| 2. Frame                 | 7. Thimble  | 12. Spanner Wrench         |
| 3. Anvil                 | 8. Barrel   | 13. Standard (if supplied) |
| 4. Spindle               | 9. Taper    |                            |
| 5. Locking Clamp         | 10. End Cap |                            |

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### ➤ **Cleaning**

- ✓ Wipe off oil, greases, dust, and other foreign substances from all surfaces of the micrometer. Use particular care on the precision finished measuring contact face of the spindle and the anvil.

### ➤ **Checking Operation**

- ✓ Inspection should be carried out particularly on the following points:
  - (a) Check if the ratchet mechanism functions properly,
  - (b) Turning the ratchet stop, check if the spindle moves smoothly throughout the entire travel,
  - (c) Examine the measuring contact faces to be sure they are in a good condition in every respect,
  - (d) Also, check the clamp for its positive action.

### ➤ **Checking Zero Point**

- ✓ The zero point setting of each micrometer has been carefully set and tested. However, it should always be checked as a routine rule to ensure the accuracy of the measurement taken. Turn the ratchet stop until the spindle touches the anvil lightly but distinctly and see if the zero point on the thimble coincides with the reference base line of the graduation on the outer sleeves. For micrometers larger than 0-25(0-1") size, the zero point is checked using the standard (supplied) or a gauge block.

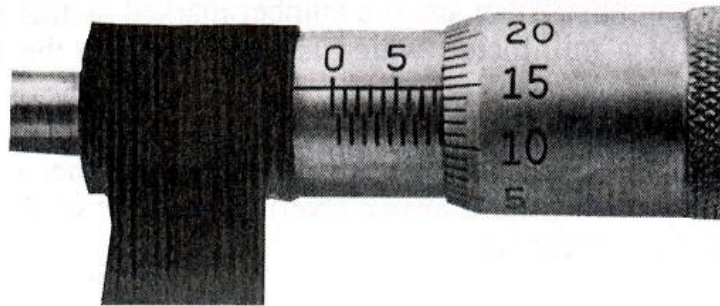
### ➤ **Adjusting Zero Point**

- ✓ If any deviation is found as the result of the above inspection, the zero point can be set correctly by the following producer:
  - (a) If the deviation is fewer than two divisions on the thimble, turn the sleeve with the spanner supplied by an amount corresponding to the deviation and bring the reference base line of the sleeve to coincide with the zero point.
  - (b) If the deviation is more than 2 divisions on the thimble, it is corrected by the following producer:

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1. Hold the frame and the thimble and loosen the ratchet stop with the spanner.
2. Disconnect the coupling of the thimble and the spindle by giving a light shock to the thimble, and then turn the thimble by an amount equal to the deviation, bringing the zero point to coincide with the reference base line of the graduation on the sleeve.
3. Securely holding the thimble in the corrected position, press it against the spindle and tighten the ratchet stop with the spanner coupling them together
4. Having adjusted, check and confirm by repeating that the zero point has been correctly set. If any adjustment of a very small degree is required, it can be adjusted, on the sleeve using the spanner wrench.

➤ **Example: Read the measurement on the micrometer below.**



- Steps:**
1. The barrel reading is 8.00 mm
  2. The rotating scale reading is 0.65 mm
  3. The estimate decimal place is 0.000 mm
  4. The total measurement is 8.650 mm

**(Note: that the head is  
-past the half mark.)**

➤ **Caution**

- ✓ When reading the micrometer, the line of vision must be in the plane containing the graduate line to be read and the line of the spindle axis to avoid parallax. Keep correct posture to avoid parallax error.
- ✓ The difference between temperatures of the micrometer and those of the work under measurement will cause errors in the measurement. Avoid pulling out the micrometer or the work without relieving the pressure at the contact points. It is apt to damage and ruin the precision finished contact face of the tool. Handle the instruments with care. Dropping and giving undue shocks will not only damage the contact faces but also effect the combined precision.