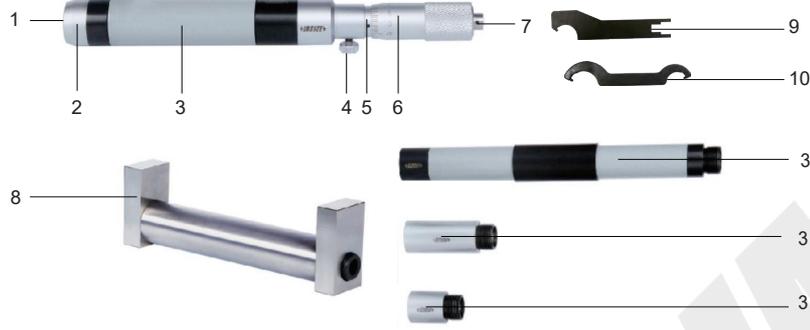


Graduation: 0.01mm
 Travel of micrometer head: 25mm
 Accuracy: $(3+n+L/50)\mu\text{m}$ (n is number of rods, L is maximum measuring length(mm))

Graduation: .001"
 Travel of micrometer head: .5"
 Accuracy: $\pm[.00005(3+n+L/2)]$ " (n is number of rods, L is maximum measuring length(inch))



- | | |
|------------------------|-------------------------|
| 1-Fixed measuring face | 6-Friction thimble |
| 2-Casing | 7-Moving measuring face |
| 3-Extension rod | 8-Setting standard |
| 4-Locking screw | 9-Spanner 1 |
| 5-Sleeve | 10-Spanner 2 |

- Micrometer is used to measure inside size.
- It is necessary to calibrate micrometer with setting standard before measuring. Clean the measuring faces and setting standard surface with soft cloth. Then use micrometer to measure setting standard: rotate friction thimble to adjust the size to be less than setting standard. Put fixed measuring face to contact setting standard, rotate friction thimble slowly, meanwhile shake micrometer to find the minimum value when moving measuring face contacts setting standard. If result is equal to the normal value of setting standard, micrometer is ready to measure, otherwise,

mark down the position of the zero scale points, take out micrometer, rotate friction thimble until zero scale points the mark as before. Tighten the locking screw, fasten the zero adjustment hole(Fig.1) with spanner 2, slightly rotate sleeve(Fig.2) until the zero scale on sleeve coincides with the scale on friction thimble. Loosen the locking screw, calibrate again to make sure the result is equal to the normal value of setting standard.



- According to the measured workpiece to select extension rod, the number of extension rod is less to reduce accumulated errors. The longest one connects to sleeve first, and decrease in length in turn, the shortest is the last one. Install extension rod, first take down thimble(Fig.3), extension rod connects to sleeve(Fig.4), use spanner 3 to tighten it, and screw on the thimble(Fig.5).



- During measurement, make sure there are no cutting chips or other debris on both measuring faces and workpiece surface which will affect the result. Rotate friction thimble to set its size less than the hole's diameter, and then put micrometer into the hole. Put fixed measuring face to contact the measured hole, rotate friction thimble slowly, shake micrometer gently along hole's axial and radial to find the minimum value in axial direction(Fig.6) and the maximum value in radial direction(Fig.7), tighten the locking screw, take out micrometer to get the result.

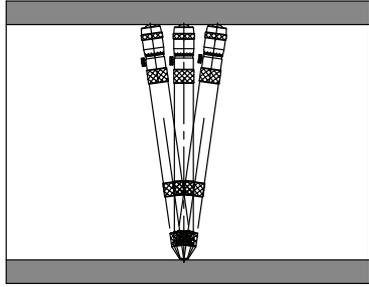


Fig.6

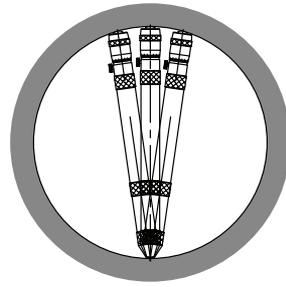
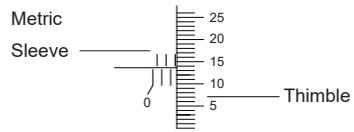
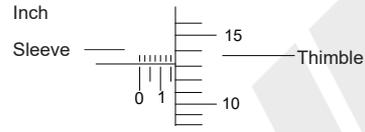


Fig.7

5. During reading, the sight is perpendicular to the scale to avoid parallax reading. The reading is the sum of a initial reading, extension rod's range, sleeve, thimble. For example, the rod's range is 25mm in metric or 1" in inch, the reading method is following.



Initial reading: 100mm
 Extension rod: 25mm
 Sleeve reading: 2.5mm
 Thimble reading: 0.137mm(7 is estimated)
 Reading: 127.637mm



Initial reading: 4"
 Extension rod: 1"
 Sleeve reading: 0.15"
 Thimble reading: 0.0131"(1 is estimated)
 Reading: 5.1631"

6. Take down extension rod, they should be oiled to prevent rust after measurement.