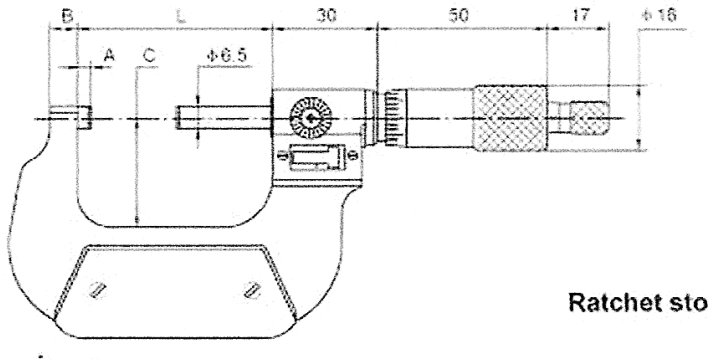
Mechanical Digit Micrometers

Resolution: Metric 0.01mm / Inch 0.001”
Models above 25mm / 1” supplied with setting rod
Tungsten carbide measuring faces
Spindle locking lever
Ratchet stop
Grey baked enamel hammer tone finish
Supplied in fitted case with adjustment tools

Packed Weight and Dimensions

Code	Range	Code	Range	Weight g	W mm	H mm	L mm
Metric	mm	Inch	inch				
50-110-025	0-25	50-110-001	0-1	317	83	29	157
50-110-050	25-50	50-110-002	1-2	465	98	29	195
50-110-075	50-75	50-110-003	2-3	604	113	30	218
50-110-100	75-100	50-110-004	3-4	775	132	30	250

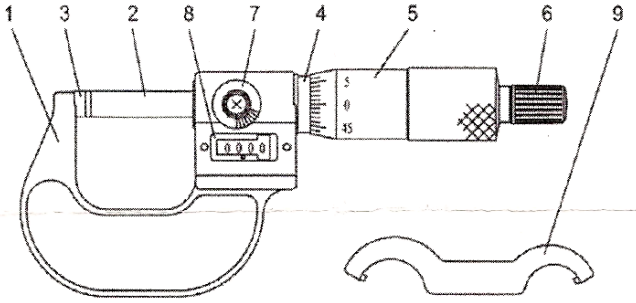


Code	Range mm	A mm	B mm	C mm	L mm	Accuracy mm
50-110-025	0-25	3.5	6	26	32	0.004
50-110-050	25-50	3.5	8	32	57	0.004
50-110-075	50-75	3.5	8	44.5	82	0.005
50-110-100	75-100	3.5	8	44.5	82	0.005
50-110-001	0-1	3.5	6	26	32	0.004
50-110-002	1-2	3.5	8	32	57	0.004
50-110-003	2-3	3.5	8	44.5	82	0.005
50-110-004	3-4	3.5	8	44.5	82	0.005

Instructions and Care

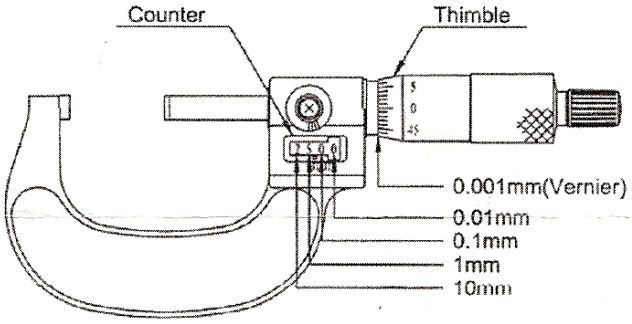
Check all new and in use micrometers for correct zero setting prior to use
Clean micrometer spindle and measuring anvils with soft cloth or paper to remove any oil or particles which may affect the measurements
Ensure that the micrometer is thermally stabilised with the temperature where it is to be used
Ensure that the spindle lock is off
For 0-25mm and 0-1” micrometers: Advance the spindle towards the fixed anvil. Use the ratchet stop to finally close the 2 anvils together. Rotate the ratchet stop 1 ½ to 2 revolutions to exert a constant measuring force
For larger micrometers a setting standard should be placed between the anvils and the ratchet stop should be used as above to obtain the zero position
The micrometer is now set and ready for use
Clean micrometers and check zero position regularly during use to ensure their continued accuracy
After use always clean and replace the micrometer in its box

[1] Name and Function of Each Part



1.Frame	2.Spindle	3.Anvil
4.Sleeve	5.Thimble	6.Ratchet stop
7.Clamp	8.Counter	9.Wrench

[2] How to Read



[3] Zero Point Adjustment

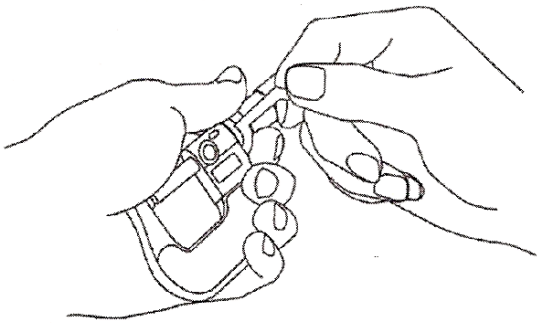


Fig.1

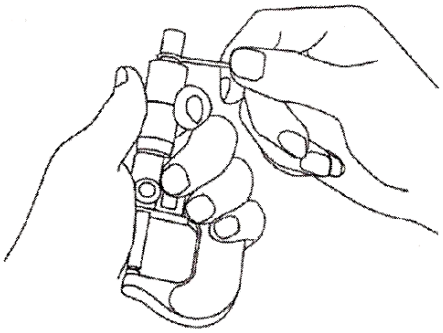


Fig.2

Safety Precautions

To ensure operator safety, use this instrument in conformance with the directions and specifcations given in this User's Manual.

CAUTION The edge of the contact point of this instrument is sharp. Handle it with great care to avoid injury.

IMPORTANT

- Do not disassemble this instrument.
- Do not use and store this instrument at sites where the temperature will change abruptly. Prior to use, thermally stabilize the instrument suffciently at a room temperature.
- Avoid storing this instrument in places where there is plenty of moisture and dust, and using it at sites where it is directly subject to water or oil.
- Do not apply excessive force to this instrument or drop it.
- Be sure to perform the zero point adjustment before measurement.
- After use, wipe off dust, cutting chips, and moisture from this instrument, then apply rust-preventive oil to it.

[1] Name and Function of Each Part

See the fgure on the left.

[2] How to Read

See the fgure on the left.

[3] Zero Point Adjustment

IMPORTANT

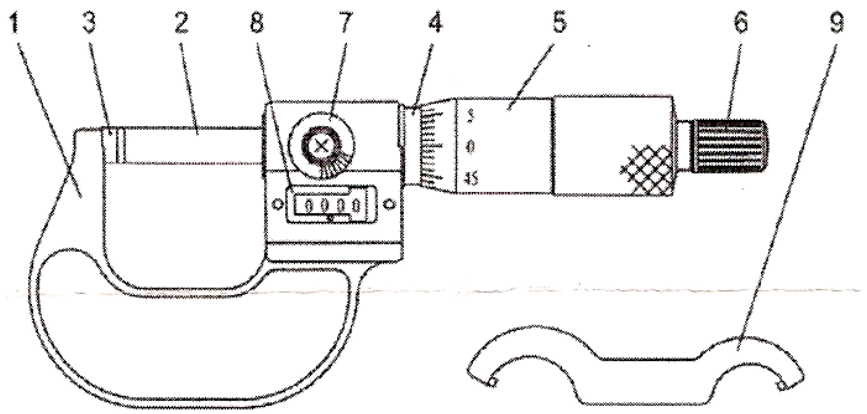
- Be sure to use the dedicated gauge block for the zero point adjustment (all of these should be inspected periodically), the standard bar for micrometer, or dedicated master gages for the workpiece to perform the zero point adjustment of this instrument.
- Wipe off the measuring faces of the gage used and this instrument cleanly before performing the zero point adjustment.

Perform the zero point adjustment in the same posture and conditions as the measurement.

1) When the reading is correct on the counter and wrong on the thimble

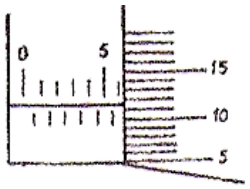
(1) If the deviation is less than 0.02mm:
Rotate the sleeve with the supplied wrench by the observed error as in the case for conventional micrometers. (Fig. 1)

(2) If the deviation is over 0.02mm:
Remove the ratchet stop with the supplied wrench. Push the thimble outward to disengage it from the spindle, then rotate it to zero position. (Fig. 2)

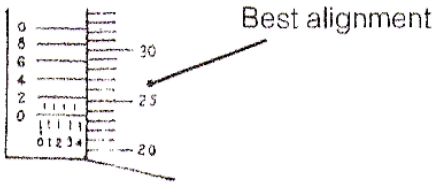


1 Frame
2 Spindle
3 Anvil
4 Sleeve
5 Thimble
6 Ratchet Stop
7 Spindle Lock
8 Digit Counter
9 Adjusting Tool

Reading Examples: Metric

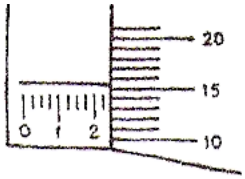


Example for division 0.01mm
Reading:
From Sleeve: 6mm
From thimble: 0.11mm
Final readings should be
6. + 0.11 = 6.11mm

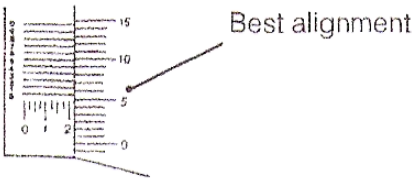


Example for division 0.002mm
Reading:
From Sleeve: 4mm
From thimble: 0.23mm
From vernier of sleeve:
0.004mm
Final readings should be
4 + 0.23 + 0.004 = 4.234mm

Reading Examples: Inch



Example for division .001"
Reading:
From sleeve:
.2 +.025 = .225"
From thimble: .0150"
Final readings should be:
.2000" + .0250" + .0150" = .2400"



Example for division 0.0001"
Reading:
From Sleeve:
.2 + .025 = .225"

From thimble: .0050"
From vernier of sleeve: .0004"
Final readings should be
.2000" + .0250" + .0050" + .0004" = .2304"

Cleaning and Basic Checking Procedure

Remove any oil, grease, dust or small particles which may cause damage to the micrometer or affect its accuracy when taking measurements. Use a soft lint free cloth or paper together with a proprietary instrument cleaning agent. Do not use acetone as this can damage parts of the micrometer

Before use check that the ratchet mechanism functions correctly
Check the spindle movement by using the ratchet stop to traverse the spindle though it's complete travel
Check that the measuring faces are in good condition
Check the locking mechanism works correctly

Zero Point Checking and Adjustment

Use the ratchet stop to move the spindle until it touches the fixed anvil. Allow the ratchet to turn 1 ½ to 2 revolutions for the final positioning
The zero point on the thimble should now coincide with the reference graduated base line on the sleeve
For micrometers above 25mm / 1" use the supplied setting standard or a gauge block to check the zero position

If the zero point does not line up as required, it can be corrected by using the following procedure
When the zero point deviation on the thimble is under 2 divisions from the graduated base line
Turn the sleeve using the "C" spanner provided until correct alignment is achieved
When the zero point deviation on the thimble is over 2 divisions from the graduated base line
Hold the frame and the thimble and loosen the ratchet stop using the spanner provided
Disconnect the coupling of the thimble to the spindle by giving a light shock to the side of the thimble
Turn the thimble until the zero point is in alignment with the base line on the sleeve
Press the thimble against the spindle and re tighten with the spanner to achieve a positive coupling
Re check the zero position, any final small adjustment can now be made using the "C" spanner to re position the sleeve to the thimble zero

Reading the Micrometer

When reading the micrometer ensure that your line of sight is directly above the graduated scale on the sleeve and the thimble scale to avoid parallax reading errors

Ensure that the micrometer and the work piece are at the same temperature

Handle the instrument with care, if it is dropped or knocked in any way it must be rechecked for correct working and accuracy as above