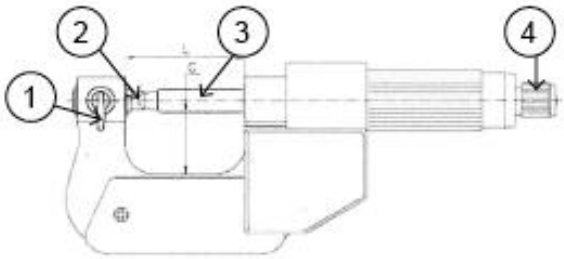
Mechanical Thread Micrometers 50-190-Series

Accuracy conforms to DIN 863
Resolution: Metric 0.01mm,
Models above 25mm supplied with setting rod
Micro fine graduations for accurate reading
Tungsten carbide measuring faces
Spindle locking lever
Ratchet stop
Non-glare satin chrome barrel and sleeve
Blue baked enamel hammer tone finish
Supplied in fitted case with adjustment tools

Packed Weight and Dimensions

Code	Description	Weight g	W mm	H mm	L mm
50-190-025	Thread Micrometer: 0-25mm	531	105	45	192
50-190-050	Thread Micrometer: 25-50mm	681	115	45	223
50-860-200	Thread Element Set Nos. 1 - 6	54	35	22	55



Code	Range mm/	C mm	L mm	Accuracy mm
50-190-025	0-25	26	42	+/- 0.004
50-190-050	25-50	38	67	+/- 0.004

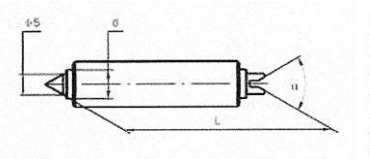
1 Floating Anvil lock
2 Floating Anvil
3 Spindle
4 ratchet

Thread Elements:

Element No.	Pitch Range	TPI Range
1	0.4 – 0.5	64 - 48
2	0.6 – 0.9	44 - 28
3	1.0 – 1.75	24 – 14
4	2.0 – 3.0	13 – 9
5	3.5 – 5.0	8 - 5
6	5.5 - 7	4.5 – 3.5

Elements in Set	Supplied with	Range
1 - 5	50-190-025	0 – 25mm
2 - 6	50-190-050	25 – 50mm

Code	Description
50-190-200	Set of 6 pairs of Elements No 1 - 6



Setting Master

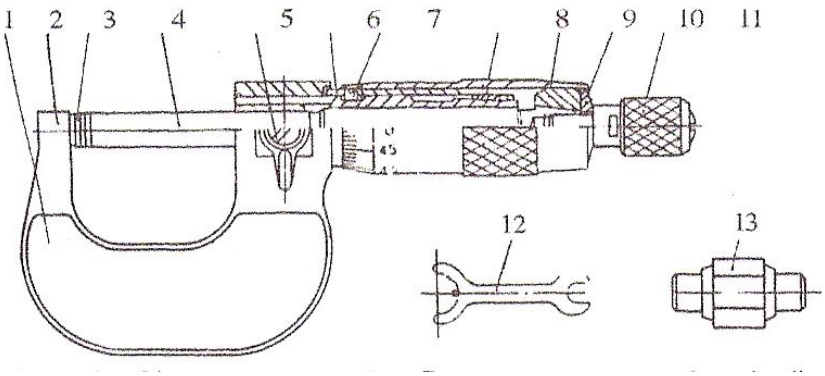
Supplied with	L	Angle	d	Accuracy
50-190-050	25mm	60 deg.	7mm	0.003mm

Initial Setup

Select, clean and insert the required pair of thread elements
Check the elements are free to rotate to ensure they align with the thread helix when taking measurements
Unlock the adjustable fixed anvil to allow it to float when setting the spindle
For the 0-25mm model set the micrometer spindle to read zero
Push the adjustable fixed anvil to nest the single point element inside the V angle element and lock in this position
Wind back the spindle from the zero position then re-advance the spindle towards the fixed element. Use the ratchet stop to finally nest the 2 elements together. Rotate the ratchet stop 1 ½ to 2 revolutions to exert a constant measuring force
When fully closed the zero position on the thimble should coincide with the horizontal line on the sleeve
If the two lines do not coincide, small adjustments can be made by using the “C” spanner provided
Insert the “C” spanner into the hole at the back of the sleeve and gently turn the sleeve in the direction required to achieve line up
The micrometer is now set and ready for use
For the 25mm model set the micrometer spindle to read 25mm
Push the adjustable fixed anvil so that the thread elements nest positively into the setting master and lock in this position
Wind back the spindle from the zero position then re-advance the spindle towards the setting master. Use the ratchet stop to finally nest the elements into the setting master. Rotate the ratchet stop 1 ½ to 2 revolutions to exert a constant measuring force
When fully closed the zero position on the thimble should coincide with the horizontal line on the sleeve
If the two lines do not coincide, small adjustments can be made by using the “C” spanner provided
Insert the “C” spanner into the hole at the back of the sleeve and gently turn the sleeve in the direction required to achieve line up
The micrometer is now set and ready for use

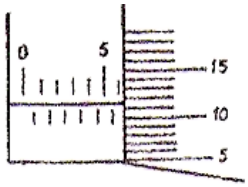
Clean micrometers and check zero position regularly during use to ensure their continued accuracy
After use always clean and replace the micrometer in its box

Mechanical Micrometers

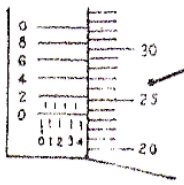


1	Heat Resistant Plate
2	Frame
3	Anvil
4	Spindle
5	Spindle Lock
6	Sleeve
7	Thimble
8	Barrel
9	Taper
10	End Cap
11	Ratchet Stop
12	Spanner
13	Setting Standard

Reading Examples: Metric

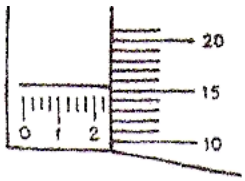


Example for division 0.01mm
Reading:
From Sleeve: 6mm
From thimble: 0.11mm
Final readings should be
6. + 0.11 = 6.11mm

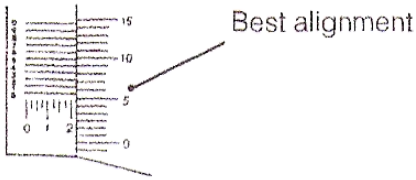


Example for division 0.002mm
Reading:
From Sleeve: 4mm
From thimble: 0.23mm
From vernier of sleeve:
0.004mm
Final readings should be
4 + 0.23 + 0.004 = 4.234mm

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"

Mechanical Micrometers

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