

# HOW TO USE A METRIC MICROMETER

The metric micrometer looks very similar to a standard inch micrometer until you look at the graduations on the sleeve and the barrel (Figure 1).



Figure 1 0-25 millimeter micrometer

There are two separate rows of lines on the sleeve of the metric micrometer (Figure 2).

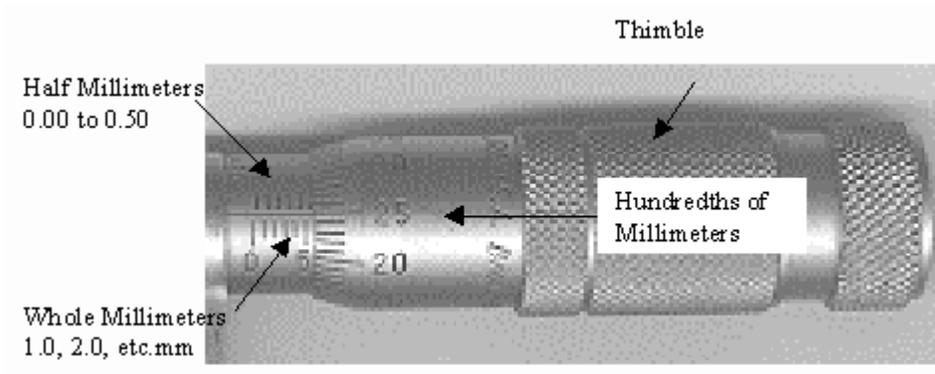


Figure 2 When reading a metric micrometer you have to remember to add the half-millimeter graduations of the upper row to the reading.

The lower row represents whole millimeter graduations. The upper row represents one-half millimeter. Each complete turn of the thimble moves the spindle  $\frac{1}{2}$  millimeter (0.5 mm). The circumference of the thimble is separated into 50 equal divisions (Figure 2) or .01 mm.

## Reading the Metric Micrometer

To read the metric micrometer, first read the number of whole millimeters on the bottom row of the sleeve of the micrometer (Figure 3). These are the whole millimeters. If there is an additional line uncovered on the top row, this is equal to one-half a millimeter (Figure 3). So 0.5 mm would need to be added to the measurement. Then add the thimble reading to whole and half millimeter sleeve readings. Refer to figures 3, 4, and 5 and try to read the measurements before looking at the answer in the figure explanation.

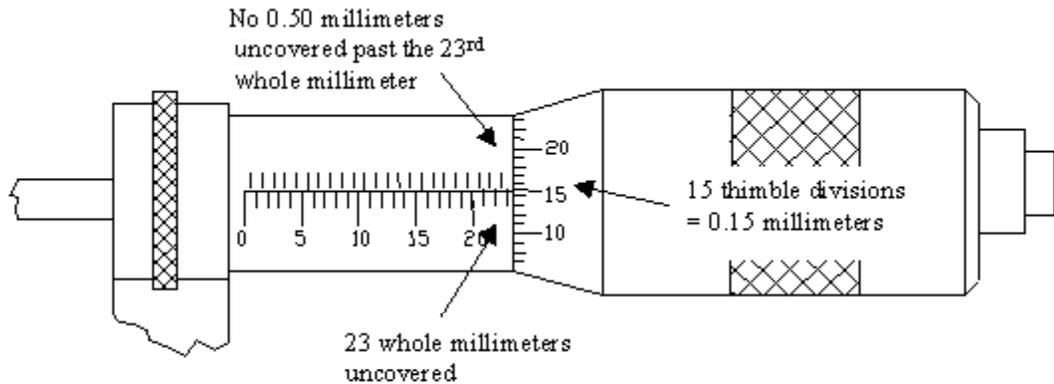


Figure 3 Metric micrometer reading equals 23.15 millimeters. 23 whole divisions are uncovered = 23 millimeters. No 0.5 mm millimeters divisions are uncovered = 0.0 millimeters

15 0.01 millimeter divisions line up on the thimble = 0.15 millimeters.

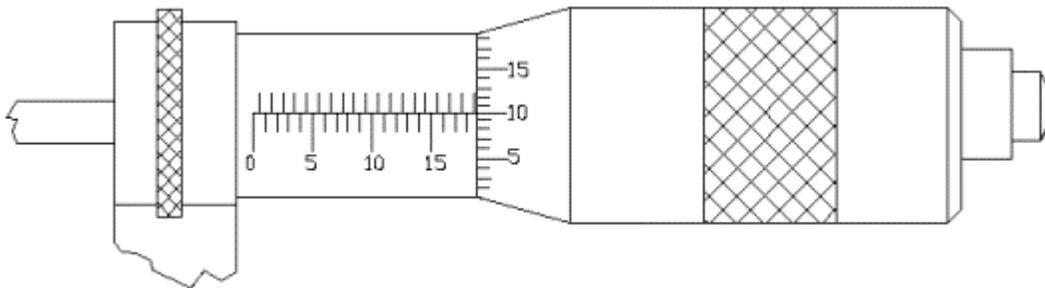


Figure 4a Metric micrometer reading equals 18.60 millimeters.

18 whole divisions are uncovered = 18 millimeters.

1 .5 millimeters division is uncovered = 0.5 millimeters

10 0.01 millimeter divisions line up on the thimble = 0.10 millimeters

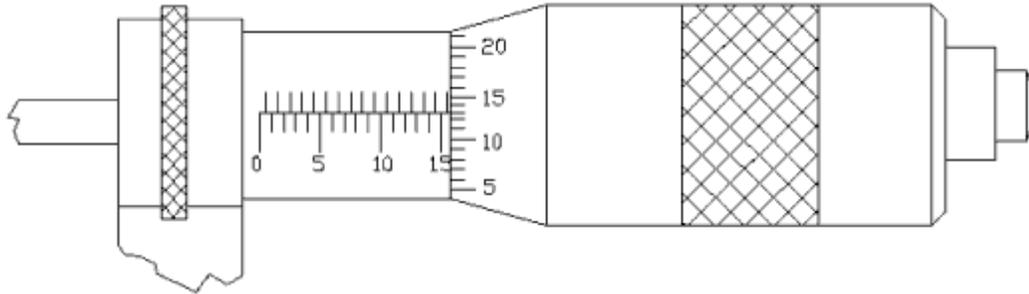


Figure 4b Metric micrometer reading equals 15.63 millimeters.

- 15 whole divisions are uncovered = 15 millimeters.
- 1 0.50 millimeters division is uncovered = 0.5 millimeters
- 13 0.01 millimeter divisions line up on the thimble = 0.13 millimeters.

**Note: Some manufacturers of micrometers may reverse the position of the whole and half millimeter graduations. The order in which you read the micrometers will still remain the same i.e., whole-millimeters, half-millimeters and hundredths of a millimeter.**