

## HOW TO READ A MICROMETER

The first thing before you try to read a micrometer for the first time is to understand how it works.

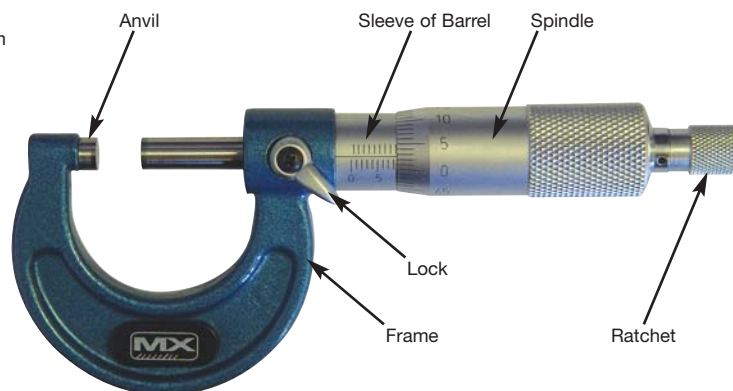
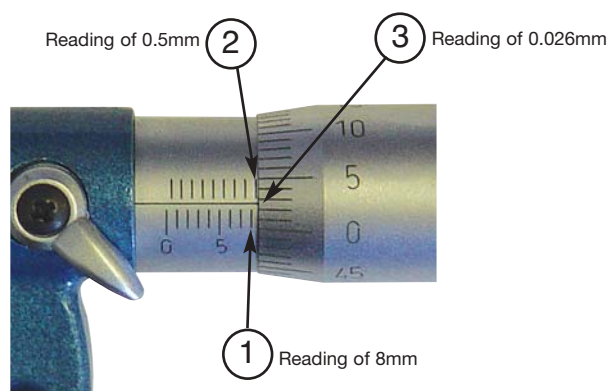
The micrometer is made up of many parts including the spindle and the sleeve or barrel.

The spindle of a micrometer has a thread pitch of 0.5mm so that when the spindle is rotated two complete turns, the spindle moves 1mm. One revolution of the spindle moves the spindle 0.5mm.

Along the barrel the graduations below the line are divided into 1mm intervals with the graduations above the line set at 0.5mm reading. The spindle is divided into 50 graduations around the spindle. Each graduation when moved from one mark to another on the spindle moves the spindle 0.01mm

When a measurement is taken the first reading to take notice of is the reading below the line on the sleeve. These are graduations of 1mm. The first reading is taken by reading the last graduation visible just left of the spindle. In the example below the reading below the centre line is 8mm. The second reading is above the centre line and each graduation is half of the 1mm graduations below the line or is 0.5mm. The last half line graduation that is exposed just left of the spindle above the line. In the example the half line is exposed above the line. So the measurement so far is 8.5mm. The final reading is now taken around the spindle. In the example the spindle is between 2 and 3 or 2.6

The reading is 8.526mm



To get to the final reading size of a micrometer above we add up the three readings

|       |         |
|-------|---------|
| 1:    | 8.0     |
| 2:    | 0.5     |
| 3:    | 0.026   |
| <hr/> |         |
| Total | 8.526mm |

To measure an object it is placed between the anvil and the spindle and the spindle rotated by turning the ratchet until the item is held between the anvil and the spindle. Continue until the ratchet clicks two or three times to ensure that the instrument is not damaged or the reading inconsistent. The lock should be used to prevent the spindle from turning as the micrometer is removed.

Some models instead of fitted with a ratchet and fitted with a friction spindle that prevents the spindle from being over tightened when taking readings.

NOTE!~ Some instruments may be supplied with the scales on the barrel above and below the centre line reversed.

When taking readings please ensure that the readings are not taken at extreme temperatures to eliminate incorrect readings