

Micrometry

Comments

Micrometry is the measurement of microorganisms. Since microorganisms can be seen only under a microscope, a suitable scale for their measurements should be somewhere in the microscope itself. For this an ocular micrometer serves as a scale or rule. Ocular micrometer is simply a disc of glass upon which are etched lines. By determining how many divisions of ocular micrometer superimpose a known distance on the stage micrometer, it is easy to find out the exact value of one division of ocular micrometer in the microscope field. Once calibrated, the ocular micrometer can be used to measure the size of various microbes in terms of length, breadth, diameter.

Procedure

There are usually etched 100 equally spaced divisions, marked 0 to 10 upon an **ocular micrometer**. When placed in the ocular (eye piece), the ruled lines superimpose certain distance markers on the microscope field. However, the scale on ocular micrometer does not have any standard value. We can find out the value of one division of this unknown scale by calibrating it with a known scale

Thus actual value of one division of ocular micrometer is found by using another known scale, the stage micrometer. **Stage micrometer** is simply a microscope glass slide having in its centre a known (one millimeter) distance etched into 100 equally spaced divisions. This 1 mm (1000 micro.m) distance is encircled and mounted by a cover glass. Thus each division of stage micrometer equals to 0.01 mm or 10 micro.m

The distance of each division of stage micrometer becomes correspondingly enlarged under high power and oil immersion objectives of the microscope. Ocular micrometer is, therefore, calibrated under different objective lens systems of the microscope.