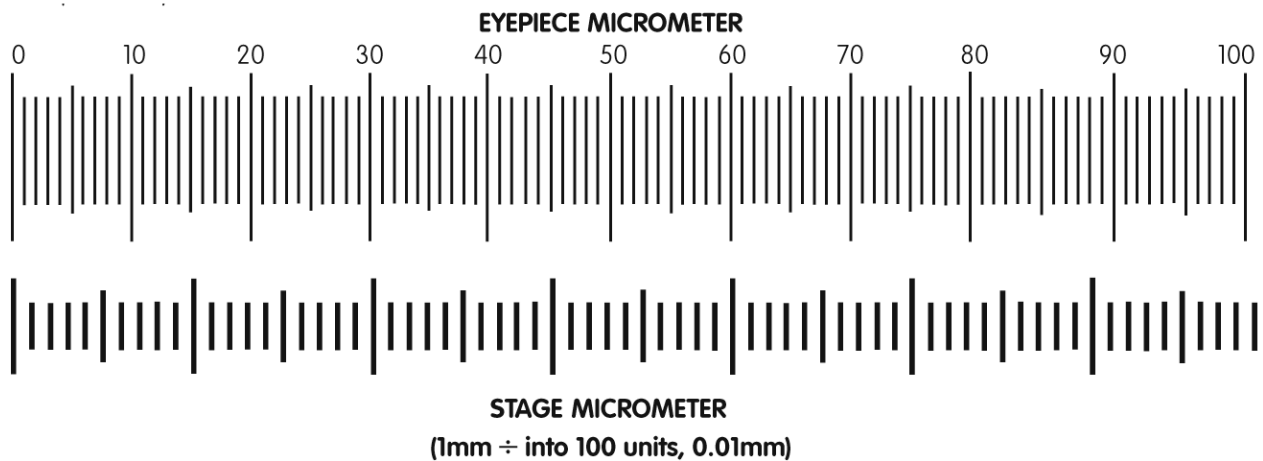


Measurement of microscopic objects requires the use of an eyepiece micrometer (reticle) and a stage micrometer. The eyepiece micrometer is a round glass disk on which a scale has been etched. The eyepiece micrometer is inserted into one eyepiece and held in place in the correct focal plane of the eyepiece with a small retaining ring. The eyepiece and eyepiece micrometer can be rotated 360 degrees in the eyetube so the measuring scale can be aligned with or superimposed over the image of your specimen. A typical eyepiece micrometer would be a 5mm or 10mm linear scale featuring 50 or 100 divisions. Before using the eyepiece micrometer it is necessary to calibrate the eyepiece micrometer using a stage micrometer. A stage micrometer is simply a microscope slide with a known dimension etched upon its surface. The stage micrometer is placed directly on the stage of the microscope and brought into focus. By rotating the eyepiece both scales can be positioned parallel to each other. To calibrate the eyepiece micrometer you must first find out how many intervals of the eyepiece micrometer correspond to a certain distance on the stage micrometer. You can then calculate the value of one interval of the eyepiece micrometer. Each microscope objective must be calibrated independently.



Example: Each division of the metric stage micrometer is 0.01mm or 10 μ . The eyepiece micrometer is divided into 100 units. First determine how many divisions of the eyepiece micrometer correspond to a certain distance on the stage micrometer and calculate the length which corresponds to one division of the eyepiece micrometer. In this example 30 divisions of the eyepiece micrometer corresponds to 20 divisions of the stage micrometer. Each division of the stage micrometer equals 10 μ so 20 divisions of the stage micrometer would equal 200 μ . To calculate the value of one division of the eyepiece micrometer we would divide 200 μ by 30 and the result would be 6.67 μ per division. The micrometer value, in this case 6.67 μ would apply only to the objective for which the calibration was made. Each microscope objective must be calibrated independently.

