

Description of the instrument:

The OMT Toolmakers Microscope is suitable for the examination of form tools, plate and template gauges, punches and dies, annular grooved and threaded hobs and the general inspection and measurement of shaped and intricate parts within its capacity. The measurement of glass graticules and other surface marked parts is possible, and also the examination and measurement of all elements of external thread forms of screw plug gauges, taps, worms and similar components. By using the various thread template oculars available, the full effective and root diameters can be measured. The flank angle and root, crest radii of threads may be examined and checked against the master forms of the graticules.

The instrument is also useful for examination of small and micro components relative to the engineering, electronic, watchmaking and other industries. The hood and projection attachment may be removed and the image viewed through the eye piece. The instrument may be used for general surface inspection by fitting the surface illuminating attachment. This feature is useful for the examination of graticules, shallow bores or recesses.

The principal lighting unit and condenser system are attached to the lower end of the column. The light source is a tungsten halogen lamp which is mounted in a pre-focus holder.

The complete instrument is supported on three adjustable feet which enable it to be levelled by means of a small built-in spirit level. A lamp centring gauge is provided as standard equipment.

A range of auxiliary equipment is available, each item being specially designed to provide means to perform the various functions described.

Description of the Readout:

An advanced and fast method of performing the measuring and inspection functions as previously described. The measuring system incorporated into each axis of the co-ordinate carriage employs the moiré fringe principle by linear gratings and photo-electric reading heads. The output signals obtained as a result of the movement of the gratings are signalled to the digital display unit for visual observation. Readings on both axes are direct to 0.001mm, or 0.00005in. Imperial version. The display unit is free-standing and connected to the instrument only by cables, thus it may be positioned convenient to the operator or particular application. The ability to create zero at any point, to 'set in' any dimension and switch over readings from inch to metric or vice-versa are standard features.

The digital readout may be linked with printout facilities enabling permanent records of dimensional data to be kept for future use or comparison. At a given signal, the printout would record the dimensions shown on the digital readout screen.