



LIMITING VALUE OR  
MAXIMUM  
PERMISSIBLE ERROR

3.4 The travel of the measuring head shall be perpendicular to the surface of the work-table.

0.05mm per 25mm (0.002 in per in)

4. ACCURACY OF SCALES AT 20°C

4.1 The main scale shall be accurate with respect to the zero graduation to within the tolerances give in Table 1.

TABLE I

Range		Tolerances	
mm	in	mm	in
0 up to 25	0 up to 1	±0.0005	±0.000 02
Above 25 & up to 50	Above 1 & up to 2	±0.0008	±0.000 03
“ 50 “ “ “ 75	“ 2 “ “ “ 3	±0.0008	±0.000 03
“ 75 “ “ “ 100	“ 3 “ “ “ 4	±0.0010	±0.000 04

4.2 The graticule and optical micrometer scales shall each be accurate with respect to its zero graduation.

±0.0005 mm (±0.000 02 in)

Note: It is clearly not practicable to check the accuracy of every graduation on all three scales. It is considered that a fair assessment of accuracy will be obtained by testing the scales at the intervals shown in Table II.

TABLE II

Scale		Intervals of Test
Description	Graduated	
Main scale	0 to 100 mm by 1.0 mm (0 to 4 in by 0.05 in)	every 5 mm (0.2 in)
Double line graticule	0 to 0.9 mm by 0.1 mm (0 to 0.04 in by 0.01 in)	every interval
Optical micrometer scale	0 to 0.1 mm by 0.001 mm (0 to 0.01 in by 0.000 05 in)	every 0.01 mm (0.001 in)

4.3 Without the application of any corrections, the functional accuracy of the “Microptic” measuring machine shall be within the tolerances given in Table III.

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TABLE III

Range		Tolerances	
mm	in	mm	in
0 up to 25	0 up to 1	±0.0008	±0.000 03
Above 25 & up to 50	Above 1 & up to 2	±0.0010	±0.000 04
“ 50 “ “ “ 75	“ 2 “ “ “ 3	±0.0010	±0.000 04
“ 75 “ “ “ 100	“ 3 “ “ “ 4	±0.0013	±0.000 05

(Signed) *F. W. Nichols*

for Director

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