

NATIONAL PHYSICAL LABORATORY

STANDARDS DIVISION

Ref: **MOY/SCMI/76** **SPECIFICATION OF ACCURACY**
(Issue 3)

for

AN 18 X 18-INCH 'MATRIX' INCLINABLE TABLE

Made by: Coventry Gauge & Tool Co. Ltd.
 (with an associated cliometer
 made by Messrs. Hilger & Watts Ltd.)

LIMITING VALUE OR
MAXIMUM
PERMISSIBLE ERROR

1. **GENERAL**

- 1.1 The general workmanship and finish shall be in keeping with a precision measuring tool of this class.
- 1.2 The table shall be marked with an identification number, and the maker's name or trade mark.

2. **BASE**

- 2.1 The under surface of the base casting shall be free from blow holes, and shall have a uniformly distributed bearing area 20% minimum.

3. **TABLE**

- 3.1 The upper surface of the table shall be flat whether the table be clamped or unclamped 0.0003 in. (0.008 mm).
- 3.2 The upper surface of the table, when resting on the horizontal stop, shall be parallel with the under surface of the base, whether clamped or unclamped 0.0003 in. (0.008 mm).
- 3.3 When the table is inclined to any position its upper surface shall remain flat 0.0006 in. (0.015 mm).
- 3.4 When the precision cliometer is clamped to the upper surface of the table, and the latter is in the horizontal plane, the cliometer shall read zero to within 1 micrometer scale division (1/6th minute of arc).
- 3.5 The axis of inclination shall be parallel to the under surface of the base 0.0003 in (0.006 mm).
- 3.6 The mean height of the upper surface of the table from the horizontal axis of inclination shall be measured and recorded to the nearest 0.0001 in.
- 3.7 Each end abutment face shall be parallel to the axis of inclination 0.0002 in. (0.005 mm) over width of face.

		<u>LIMITING VALUE OR MAXIMUM PERMISSIBLE ERROR</u>
3.8	The mean distance of each end abutment face from the axis of inclination shall be equal	0.0002 in. (0.005 mm).
3.9	The end abutment faces shall be square to the upper surface of the table	0.0001 in. (0.0025 mm) over the depth of the abutment faces.
3.10	The mean distance from the end abutment faces to the axis of inclination shall be measured and recorded to the nearest 0.0001 in.	
3.11	The side abutment faces shall be co-planar	0.0002 in. (0.005 mm).
3.12	The side abutment faces shall be square with the base	0.0001 in. (0.0025 mm) over the depth of the abutment faces.
3.13	The side abutment faces shall be, in the mean, square with the end abutment faces	0.0003 in. (0.008 in) over the separation of the side abutment faces.

G.B.B.M. SUTHERLAND

Director



Superintendent, Standards Division



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