

# NATIONAL PHYSICAL LABORATORY

## METROLOGY CENTRE

Ref: **MOY/SCMI/53**                      **SPECIFICATION OF ACCURACY**  
(Issue 3)

for

### **AN ANGLE DEKKOR**

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Type:                      A TA. 130 Angle Dekkor fitted with two scales at right angles to each other. The scales have angular ranges of 60 minutes respectively and each can be read directly to 0.5 minute of arc.

Made by:                Rank Precision Industries Ltd.  
Metrology Division.

LIMITING VALUE OR  
MAXIMUM  
PERMISSIBLE ERROR

1. GENERAL

- 1.1     The general workmanship and finish shall be in keeping with the precision instrument of this class.
- 1.2     The instrument shall be marked with the maker's name or registered trade mark and with an identification number. In addition, the removable eyepiece unit shall be identified.

2. SURFACE PLATE AND BRACKET

- 2.1     The lapped upper working surface of the plate shall be flat.                      0.005 mm
- 2.2     The lapped upper working surface of the plate shall be parallel to the plane containing the feet.                      0.010 mm over the total working surface.
- 2.3     The work face of the bracket shall be identified.
- 2.4     The action of the clamping of the instrument to its surface plate (two clamps) shall be smooth and secure in action.

3. OPTICAL UNIT

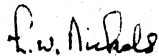
- 3.1     It shall be possible to focus both scales simultaneously when the eyepiece is approximately in its central position.
- 3.2     It shall be possible to obtain a clear, well defined image and to estimate readings to                      1/10 scale division  
(6 seconds of arc)
- 3.3     It shall be possible to obtain a reflection from the surface plate approximately in the centre of the field for all positions of the Angle Dekkor on its bracket.
- 3.4     The two scales shall be set at right angles to each other.                      To within 5 minutes of arc.

LIMITING VALUE OR  
MAXIMUM  
PERMISSIBLE ERROR

3.5 Both scales shall be accurate.

±1/10 scale division with respect to zero i.e. the maximum error between any two readings shall not exceed 1/5 division (12 seconds of arc).

3.6 The instrument shall have a maximum working distance of 12 m.

 (Signed)

for Director

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