

Specification for

Dial test indicators (lever type) for linear measurement

ICS 17.040.30

Cooperating organizations

The Mechanical Engineering Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following:

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Association of Hydraulic Equipment Manufacturers
Association of Mining Electrical and Mechanical Engineers
British Compressed Air Society
British Electrical and Allied Manufacturers' Association (BEAMA)
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Telecommunication Engineering and Manufacturing Association (TEMA)

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the Technical Committee entrusted with the preparation of this British Standard:

- Department of Industry (British Calibration Service)
Department of Industry (National Physical Laboratory)
- Gauge and Tool Makers' Association
Co-opted expert

This British Standard, having been prepared under the direction of the Mechanical Engineering Standards Committee, was published under the authority of the Executive Board and comes into effect on 31 March 1981

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Amendments issued since publication

Amd. No.	Date	Comments
4034	July 1983	Changes made to the Scope and Table 1.
17351	28 September 2007	Foreword updated. Publications referred to and references updated. Indicated by a sideline in the margin.
C1	30 June 2011	Foreword and publications referred to updated. References to BS EN ISO 463 replaced with reference to BS EN ISO 9493:2010

Contents

	Page
Cooperating organizations	Inside front cover
Foreword	ii
1 Scope	1
2 References	1
3 Nomenclature and definitions	1
4 General design	1
5 Dimensions	1
6 Dial	2
7 Pointer	2
8 Stylus	2
9 Performance	2
10 Packaging	3
11 Marking	3
Appendix A Methods of test	4
Appendix B Notes on care and use	6
Appendix C Dial test indicators reading in imperial units	6
Figure 1 — Nomenclature and dimensions	2
Figure 2 — Layout of dials	3
Figure 3 — Tests for repeatability of readings	5
Figure 4 — Tests for accuracy of readings	5
Figure 5 — Nomenclature and dimensions	7
Figure 6 — Layout of dials	7
Table 1 — Tolerances for performance (metric units)	3
Table 2 — Tolerances for performance (imperial units)	8
Publications referred to	Inside back cover

Foreword

BS 2795 was first published in 1957 and was concerned with both imperial and metric reading instruments.

The standard was revised in 1971 and issued in two Parts, Part 1 dealing with metric units and Part 2 with instruments reading in imperial units.

This second revision of this standard takes account of current practice and clarifies anomalies relating to tolerances on accuracy. It combines the 1971 editions by stating the requirements for instruments reading in metric units in the body of the standard and the requirements relating to imperial units in Appendix C, as these are still needed.

This standard is superseded by BS EN ISO 9493:2010, and remains current and obsolescent.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard relates to dial test indicators of the lever type fitted with an adjustable stylus lever that may be displaced in either of two opposite directions. Unless otherwise stated, the indicators are intended for applications to the work in a direction normal to the stylus lever.

Requirements are specified for dial test indicators with metric graduations in scale divisions of 0.01 mm with a minimum magnification of $\times 70$ or 0.002 mm with a minimum magnification of $\times 350$, each having a measuring range of at least one revolution of the pointer.

Test methods are given in Appendix A, and notes on care and use are given in Appendix B.

Instruments reading in imperial units are dealt with in Appendix C.

2 References

The titles of the publications referred to in this standard are listed on the inside back cover.

3 Nomenclature and definitions

For the purposes of this British Standard, the nomenclature given in Figure 1, together with the following definitions, apply.

NOTE The general definitions given in BS 5233 have been modified as applicable to dial test indicators.

3.1

repeatability

the ability to give the same reading when a dial test indicator is used by the same person and in the same manner and under the same conditions

3.2

discrimination

change of reading for small displacements of the stylus contact. The displacement may be caused gradually, cyclically or abruptly

3.3

error of reading

the difference between a repeated known displacement applied normal to the stylus lever and the mean of the readings of the dial test indicator

4 General design

The general design shall be such that readings on the dial test indicator repeat satisfactorily under all ordinary methods of operation, and the workmanship and finish shall be in conformity with a precision instrument of this class.

5 Dimensions

In order to facilitate interchangeability, the clamping dimensions shall be in accordance with Figure 1.

NOTE 1 It is recommended that the associated location hole for the clamping stem should be 6 mm or 8 mm diameter, as appropriate, with a tolerance of H7 (see BS EN 20286).

NOTE 2 In order that knuckles and similar attachments purchased prior to 1970 may continue to be used, a $\frac{1}{4}$ in stem and dovetail, dimensions in accordance with the requirements of Appendix C, may be supplied at the purchasers request.