

Specification for

Aspirated hygrometer

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Laboratory Apparatus Standards Policy Committee (LBC/-) to Technical Committee LBC/4, upon which the following bodies were represented:

- British Laboratory Ware Association
- British Medical Association
- Department of Health
- Department of Trade and Industry (National Physical Laboratory)
- Institute of Petroleum
- Medical Sterile Products Association
- Scientific Glassware Association

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Foreword

This British Standard has been prepared under the direction of the Laboratory Apparatus Standards Policy Committee and supersedes BS 5248:1975 which is withdrawn.

This British Standard was first published in 1975 as a result of a growing demand for a type of wet and dry bulb hygrometer which was more accurate than the whirling hygrometer specified in BS 2842.

The accuracy of the measurement of humidity using a whirling hygrometer is limited by the rapid rise in the wet bulb thermometer temperature when the rotation of the instrument is stopped in order to read the thermometer. Additional errors arise when the instrument is not fitted with radiation shields and the presence of the observer may also affect the humidity of the air. These sources of error are eliminated or reduced by the use of an aspirated hygrometer. The electrically aspirated instrument is recommended to obtain the highest reproducibility of readings.

This revision introduces changes to bring the standard up to date and in particular to modify the information on available glasses and arrangements for calibration and testing.

For the information of users a method of using the aspirated hygrometer is given in Appendix A.

Tables suitable for use with aspirated hygrometers are listed in Appendix B, and Appendix C gives the maximum errors in the computed relative humidity due to thermometer errors.

Appendix D lists thermometric glasses approved by the National Physical Laboratory and Appendix E gives details of the testing of British Standard thermometers.

Product certification. Users of this British Standard are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing surveillance, which may be coupled with assessment of a supplier's quality systems against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes will be forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself 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 10, 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.

Section 1. General

1 Scope

This British Standard specifies requirements for mercury-in-glass thermometers suitable for use in an electrically or mechanically aspirated wet and dry bulb hygrometer together with the essential construction and performance requirements for the frame.

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