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Graduated pipettes —

Part 1: Specification for general requirements —

[ISO title: Laboratory glassware —
Graduated pipettes — Part 1: General
requirements]

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Cooperating organizations

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

- Agricultural Research Council
- Association for Science Education
- British Educational Equipment Association
- British Laboratory Ware Association*
- British Lampblown Scientific Glassware Manufacturers' Association Ltd.*
- British Pharmacopoeia Commission
- Chemical Industries' Association
- Department of Health and Social Security*
- Department of Industry (Laboratory of the Government Chemist)*
- Institute of Petroleum
- Ministry of Defence*
- Pharmaceutical Society of Great Britain
- Royal Society of Chemistry
- Scientific Instrument Manufacturers' Association
- Society of Chemical Industry*
- Society of Glass Technology
- Standardization of Tar Products Tests Committee

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:

- Association of Clinical Biochemists
- Glass Manufacturers' Federation
- Institute of Medical Laboratory Sciences
- Coopted member

This British Standard, having been prepared under the direction of the Laboratory Apparatus Standards Committee, was published under the authority of the Board of BSI and comes into effect on 31 May 1982

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National foreword

This Part of this British Standard has been prepared under the direction of the Laboratory Apparatus Standards Committee. It is identical with ISO 835/1 “Laboratory glassware — Graduated pipettes — Part 1: General requirements” published in 1981 by the International Organization for Standardization (ISO).

BS 700 was originally published in 1937 and first revised in 1952 under the title “Graduated pipettes and one-mark cylindrical pipettes”. The standard was again revised in 1962, when the one-mark cylindrical pipettes were omitted from it, and account was taken of international standardization work in progress at that time.

In 1968 ISO/R 835 was published which covered graduated pipettes types I and II, and BS 700 was revised in 1976 to take into account this ISO

Recommendation and amendments to it that were under consideration. The earlier edition of BS 700 included requirements for a type III pipette which was adjusted for content from the jet to any graduation line. This was omitted from the 1976 revision because of lack of demand and was replaced by another pipette, also designated type III, but adjusted for delivery from the zero line (at the top) to the jet. In addition, the 1976 revision included requirements for a blowout pipette, adjusted for delivery from the highest graduation line (at the top) to the jet, but with the last drop expelled by blowing. The method of use of this pipette is the responsibility of the user and for this reason alternative scales were permitted; one with the zero at the jet and the other with the zero at the highest graduation line, which reflects the general method of using the pipette as a dispenser. Pipettes of types III and IV were of class B accuracy only, and delivery times for types I and II pipettes were reduced.

Proposals made by the UK for further revision of ISO/R 835 to include shorter delivery times for types I and II pipettes were accepted, and in 1981 the ISO Recommendation was revised and published in four Parts, ISO 835/1 to 835/4. The equivalent British Standards for ISO 835/2 and ISO 835/4 are BS 700-2 and BS 700-3 respectively. The Technical Committee responsible for this British Standard, whilst approving ISO 835/3 as an international standard, decided that there should be no British Standard corresponding to ISO 835/3 because graduated pipettes having a 15 s waiting time are not used in the UK and its markets.

The principal differences between the 1976 edition and this edition include the introduction of a 0.5/0.01 ml pipette and a 25/0.01 ml pipette, both of class A accuracy. The blow-out pipettes are no longer designated as type IV and the alternative scale arrangement, with the zero at the top, for these pipettes has been deleted. The maximum scale lengths of the types 2, 3 and blow-out pipettes have been increased by 10 %, and the ranges of the delivery times for class B types 1, 2 and 3 have been widened.

This Part of this standard, together with Parts 2 and 3, supersedes BS 700:1976 which is withdrawn.

Terminology and conventions. The text of the international standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used throughout as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words “International Standard” appear, referring to this standard, they should be read as “British Standard”.

Cross-references

International standards Corresponding British Standards

ISO 384-1978	BS 5898:1980 Specification for principles of design and construction of volumetric glassware for laboratory use (Identical)
	BS 700 Graduated pipettes
ISO 835/2-1981	Part 2:1982 Specification for pipettes for which no waiting time is specified (Identical)
ISO 835/4-1981	Part 3:1982 Specification for blow-out pipettes (Identical)

The Technical Committee has reviewed the provisions of ISO 1769, to which reference is made in the text, and has decided that it is acceptable for use in conjunction with this standard.

A related British Standard to ISO 1769 is BS 3996:1978 “Specification for colour coding for one-mark and graduated pipettes (including requirements for the service performance of the colour coding enamels)”; the colour coding given in BS 3996 is identical with that in ISO 1769-1975.

The references to ISO 835/3, which appear in clause 1 and Table 2, are for information only and the lack of a corresponding British Standard does not affect the validity of this standard.

Additional information. With reference to Figure 1, it should be noted that this figure is intended to indicate the general pattern of the graduations and the unequal spacings between some lines is not intended to imply that similar inequalities may exist on a pipette (see 8.2.1).

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 to iv, 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.