INTERNATIONAL STANDARD

ISO 835

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Laboratory glassware — Graduated pipettes

Verrerie de laboratoire — Pipettes graduées

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 835 was prepared by Technical Committee ISO/TC 48, *Laboratory equipment*, Subcommittee SC 6, *Laboratory and volumetric ware*.

This first edition of ISO 835 cancels and replaces ISO 835-1:1981, ISO 835-2:1981, ISO 835-3:1981 and ISO 835-4:1981, which have been technically revised and combined into one document.

Laboratory glassware — Graduated pipettes

1 Scope

This International Standard specifies metrological and constructional requirements for graduated pipettes, adequate for general laboratory purposes.

The details specified are in conformity with the principles of design and construction of volumetric glassware given in ISO 384.

NOTE For one-mark pipettes, see ISO 648. For piston-operated pipettes, see ISO 8655-2.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 384:1978, *Laboratory glassware — Principles of design and construction of volumetric glassware*

ISO 719, *Glass — Hydrolytic resistance of glass grains at 98 °C — Method of test and classification*

ISO 1769, *Laboratory glassware — Pipettes — Colour coding*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
delivery volume
volume of liquid discharged from the pipette

NOTE Due to retention of liquid on the inner surface of the pipette, the volume of liquid delivered is not identical with the volume of liquid contained by the pipette.

3.2
delivery time
time required for the pipette to deliver its nominal volume

3.3
waiting time
time to be observed after apparent completion of the liquid delivery of the pipette and before the final reading of the delivered volume is taken

NOTE A waiting time applies for graduated pipettes of Class AS (see 5.1 and 7.6).