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## Laboratory glassware — Beakers

*Verrerie de laboratoire — Béchers*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#).

The committee responsible for this document is ISO/TC 48, *Laboratory equipment* in collaboration with CEN/TC 332, *Laboratory equipment*.

This second edition cancels and replaces the first edition (ISO 3819:1985), which has been technically revised to include the following changes:

- additional series with thick-walled beakers has been added;
- dimensions and tolerances have been adjusted to state of manufacturing;
- beakers with a nominal capacity of 500 ml, 5 000 ml, and 10 000 ml have been added;
- thermal shock resistance has been modified.

# Laboratory glassware — Beakers

## 1 Scope

This International Standard specifies requirements for an internationally acceptable series of glass beakers for laboratory use.

## 2 Normative references

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

ISO 718, *Laboratory glassware — Thermal shock and thermal shock endurance — Test methods*

ISO 3585, *Borosilicate glass 3.3 — Properties*

## 3 Types of beakers

The following three types of beakers are specified:

- a) low-form beaker with spout;
- b) low-form beaker with spout, thick-walled;
- c) tall-form beaker with spout.

## 4 Series of beakers

The series of beakers covered by this International Standard and defined by type and nominal capacity shall be as follows:

- a) low-form beakers: 5 ml – 10 ml – 25 ml – 50 ml – 100 ml – 250 ml – 400 ml – 500 ml – 600 ml – 800 ml – 1 000 ml – 2 000 ml – 3 000 ml – 5 000 ml – 10 000 ml;
- b) thick-walled low-form beakers: 150 ml – 250 ml – 400 ml – 600 ml – 1 000 ml – 2 000 ml – 5 000 ml;
- c) tall-form beakers: 50 ml – 100 ml – 150 ml – 250 ml – 400 ml – 500 ml – 600 ml – 800 ml – 1 000 ml – 2 000 ml – 3 000 ml – 5 000 ml.

## 5 Capacity

The design of the beaker shall provide for the difference in volume between nominal capacity and overall capacity. The capacity of the beaker shall be determined by either one of the following relationships:

- a) overflow of capacity of a beaker shall exceed the nominal capacity by at least 5 %;
- b) distance between the levels corresponding to the nominal and overflow capacities shall be at least 10 mm.

Whichever of these two relationships produces the greater differential in capacity shall apply.