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Laboratory glassware — Vacuum-jacketed vessels for heat insulation

Verrerie de laboratoire — Récipients à double enveloppe à vide pour isolation thermique

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Foreword

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The committee responsible for this document is ISO/TC 48, *Laboratory equipment*.

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Laboratory glassware — Vacuum-jacketed vessels for heat insulation

1 Scope

This International Standard recommends dimensions and specifies requirements and test methods for laboratory glassware manufactured from borosilicate glass 3.3 and provided with a vacuum jacket for thermal insulation. It covers Dewar vessels, vacuum-jacketed reaction vessels and vacuum-jacketed columns intended for laboratory use and laboratory related applications. Typical dimensions are given in Tables 1 to 5.

This International Standard does not apply to large scale production equipment and equipment operated with pressures of more than 0,1 bar above atmospheric pressure.

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 383, *Laboratory glassware — Interchangeable conical ground joints*

ISO 641, *Laboratory glassware — Interchangeable spherical ground joints*

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

ISO 3585, *Borosilicate glass 3.3 — Properties*

ISO 4803, *Laboratory glassware — Borosilicate glass tubing*

ISO 4790, *Glass-to-glass sealings — Determination of stresses*

3 Terms and definitions

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

3.1
Dewar flask
glass vessel with vacuum jacket for thermal insulation, designed for keeping substances at a controlled temperature within a range from -200 °C to +200 °C

Note 1 to entry: See 8.1 for restrictions on the use of Dewar flasks.

3.2
cryo vessel
vacuum jacketed vessel made of materials other than glass

3.3
column
cylindrical vessel for the thermal separation of substances in a laboratory or pilot plant

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