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**Cryogenic vessels — Static vacuum  
insulated vessels —**

**Part 2:  
Operational requirements**

*Réipients cryogéniques — Réipients fixes isolés sous vide —  
Partie 2: Exigences de fonctionnement*



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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 220, *Cryogenic vessels*.

This second edition cancels and replaces the first edition (ISO 21009-2:2006), which has been technically revised.

ISO 21009 consists of the following parts, under the general title *Cryogenic vessels — Static vacuum insulated vessels*:

- *Part 1: Design, fabrication, inspection and tests*
- *Part 2: Operational requirements*

# Cryogenic vessels — Static vacuum insulated vessels —

## Part 2: Operational requirements

### 1 Scope

This part of ISO 21009 specifies operational requirements for static vacuum insulated vessels designed for a maximum allowable pressure of more than 50 kPa (0,5 bar). It may also be used as a guideline for vessels designed for a maximum allowable pressure of less than 50 kPa (0,5 bar).

This part of ISO 21009 applies to vessels designed for cryogenic fluids specified in ISO 21009-1.

Static cryogenic vessels are often partly equipped by the manufacturer, but may be installed or re-installed by another party, such as the operator, user or owner.

NOTE 1 For the installation of these vessels, additional requirements can apply; these are defined in specific regulations.

NOTE 2 Some requirements of this standard can be covered by local regulations, e.g. safety distances, occupational safety and health. Where there is a conflict between the requirements of this International Standard and any applicable local regulation, the local regulation always takes precedence.

### 2 Normative references

The following referenced 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 23208, *Cryogenic vessels — Cleanliness for cryogenic service*

ISO 21009-1, *Cryogenic vessels — Static vacuum-insulated vessels — Part 1: Design, fabrication, inspection and tests*

### 3 Terms and definitions

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

#### 3.1

##### **putting into service**

operation by which a *vessel* (3.8) is prepared to be used

Note 1 to entry: It applies to either a new vessel being used for the first time or an existing vessel being returned to service.

#### 3.2

##### **filling**

operation by which a *vessel* (3.8) undergoes a prefill check, filling with a cryogenic fluid and an after-fill check

#### 3.3

##### **withdrawal**

operation by which the product is taken from a *vessel* (3.8) connected to the supply system