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**Cryogenic vessels — Large transportable  
vacuum-insulated vessels —**

**Part 2:  
Operational requirements**

*Réipients cryogéniques — Grands réipients transportables, isolés,  
sous vide —*

*Partie 2: Exigences de fonctionnement*



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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](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

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## Contents

Page

Foreword.....	iv
Introduction .....	v
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions.....	1
4 Preliminaries before putting into service .....	2
5 Personnel training .....	3
6 General safety requirements .....	4
7 Putting into service.....	5
8 Location .....	5
9 Transport .....	6
10 Filling.....	6
11 Product withdrawal.....	8
12 Change of service .....	8
13 Taking out of service .....	8
14 Maintenance and repair.....	9
15 Periodic inspection.....	10
16 Additional requirements for flammable gases.....	10
17 Emergency equipment and procedures .....	12
Bibliography .....	13

## 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 20421-2 was prepared by Technical Committee ISO/TC 220, *Cryogenic vessels*.

ISO 20421 consists of the following parts, under the general title *Cryogenic vessels — Large transportable vacuum-insulated vessels*:

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

## Introduction

Elements of this part of ISO 20421 support the requirements of the UN-Recommendations on the Transport of Dangerous Goods and other international, national or local requirements.

Large transportable cryogenic vessels are often partly equipped by the manufacturer, but may be installed or re-installed by another party, such as the operator or owner. For this reason some of the scope of this part of ISO 20421, which includes putting into service, inspection, filling, maintenance and emergency procedures, overlaps with ISO 20421-1.

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# Cryogenic vessels — Large transportable vacuum-insulated vessels —

## Part 2: Operational requirements

### 1 Scope

This part of ISO 20421 specifies operational requirements for large transportable vacuum-insulated cryogenic vessels of more than 1 000 l volume.

The scope includes putting into service, filling, withdrawal, transport within the location, storage, maintenance, periodic inspection and emergency procedures.

For the transport of these vessels by public road, rail, waterway, sea and air, additional requirements may apply; these are defined in specific regulations.

This part of ISO 20421 applies to vessels for cryogenic fluids as specified in ISO 20421-1. The additional requirements for flammable fluids are detailed in Clause 16.

### 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 20421-1, *Cryogenic vessels — Large transportable vacuum-insulated vessels — Part 1: Design, fabrication, inspection and tests*<sup>1)</sup>

ISO 23208, *Cryogenic vessels — Cleanliness for cryogenic service*

ISO 21010, *Cryogenic vessels — Gas/materials compatibility*

### 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 new vessel being used for the first time or an existing vessel being returned to service is prepared for use

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1) To be published.