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VAAKUMISOLATSIOONIGA ANUMAD. OSA 2:  
KASUTAMISNÕUDED

Cryogenic vessels - Large transportable  
vacuum-insulated vessels - Part 2: Operational  
requirements (ISO 20421-2:2017)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 20421-2:2017 sisaldab Euroopa standardi EN ISO 20421-2:2017 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 20421-2:2017 consists of the English text of the European standard EN ISO 20421-2:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 22.02.2017.	Date of Availability of the European standard is 22.02.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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**Cryogenic vessels - Large transportable vacuum-insulated vessels - Part 2: Operational requirements (ISO 20421-2:2017)**

Réipients cryogéniques - Grands réipients transportables, isolés, sous vide - Partie 2: Exigences de fonctionnement (ISO 20421-2:2017)

Kryo-Behälter - Große ortsbewegliche vakuumisolierte Behälter - Teil 2: Betriebsanforderungen (ISO 20421-2:2017)

This European Standard was approved by CEN on 15 February 2017.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## European foreword

This document (EN ISO 20421-2:2017) has been prepared by Technical Committee ISO/TC 220 “Cryogenic vessels” in collaboration with Technical Committee CEN/TC 268 “Cryogenic vessels and specific hydrogen technologies applications” the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.

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

This document supersedes EN 13530-3:2002.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 20421-2:2017 has been approved by CEN as EN ISO 20421-2:2017 without any modification.

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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)).

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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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is ISO/TC 220, *Cryogenic vessels*.

This second edition cancels and replaces the first edition (ISO 20421-2:2005), which has been technically revised.

A list of all parts in the ISO 20421 series can be found on the ISO website.

## Introduction

Elements of this document 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 completed or re-equipped by another party, such as the operator or owner. For this reason, some of the scope of this document, which includes putting into service, inspection, filling, maintenance and emergency procedures, overlaps with ISO 20421-1.

This document applies to vessels for cryogenic fluids, primarily as specified in ISO 20421-1. It may also be used for vessels for cryogenic fluids manufactured and designed to other standards, e.g. EN 13530-2. In case of conflict between the requirements of this document with applicable regulations, regulations take precedence.

# Cryogenic vessels — Large transportable vacuum-insulated vessels —

## Part 2: Operational requirements

### 1 Scope

This document specifies operational requirements for large transportable vacuum-insulated cryogenic vessels.

These operational requirements include 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 can apply; these are defined in specific regulations.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 testing*

### 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

#### 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

Note 1 to entry: Initial inspections and tests are covered in ISO 20421-1 or similar design standards, e.g. EN 13530-2.

#### 3.2

##### **filling**

operation by which a transportable vessel 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 connected to the supply system