



SLOVENSKI STANDARD
oSIST prEN ISO 20421-2:2013
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Kriogene posode - Velike premične, vakuumsko izolirane posode - 2. del: Zahteve za obratovanje (ISO/DIS 20421-2:2013)

Cryogenic vessels - Large transportable vacuum-insulated vessels - Part 2: Operational requirements (ISO/DIS 20421-2:2013)

Kryo-Behälter - Große ortsbewegliche vakuumisolierte Behälter - Teil 2: Betriebsanforderungen (ISO/DIS 20421-2:2013)

Réceptifs cryogéniques - Grands réceptifs transportables, isolés, sous vide - Partie 2: Exigences de fonctionnement (ISO/DIS 20421-2:2013)

Ta slovenski standard je istoveten z: prEN ISO 20421-2

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23.020.40 Proti mrazu odporne posode Cryogenic vessels
(kriogenske posode)

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Cryogenic vessels — Large transportable vacuum-insulated vessels —

Part 2: Operational requirements

*Réceptacles cryogéniques — Grands réceptacles transportables, isolés, sous vide —
Partie 2: Exigences de fonctionnement*

[Revision of first edition (ISO 20421-2:2005)]

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ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

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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.

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*, Subcommittee, and by Technical Committee CEN/TC 268, *Cryogenic vessels* in collaboration.

This second edition cancels and replaces the first edition (2005 which has been technically revised).

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

— *Part 1: Design, fabrication, inspection and testing*

— *Part 2: Operational requirements*

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ISO/DIS 20421-2**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 can 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 testing*

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

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

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- 3.4 outdoor location**
location outside of any building or structure and not enclosed by more than two walls or one wall if a roof is also present
- 3.5 underground location**
area or room whose ground or floor is on all sides significantly lower than the adjacent ground surfaces
- 3.6 vessel**
large transportable cryogenic vessel as defined in ISO 20421-1
- 3.7 authorized person**
person authorized by the applicable regulations
- 3.8 enterprise**
any person or company that has a legal duty of care
- 3.9 filler**
any enterprise which loads cryogenic fluids into a cryogenic vessel
- 3.10 owner**
enterprise that legally owns the cryogenic vessel
- 3.11 operator**
any enterprise for filling, storage, transport and withdrawal of cryogenic product

4 Preliminaries before putting into service

4.1 General

Before putting into service, verification shall take place to ensure that the vessel is suitable for the intended service and that the marking, labelling and handover documents are complete.

4.2 Marking and labelling

4.2.1 Marking

Marking shall be in accordance with the applicable design standard and/or regulations, e.g. ISO 20421-1.

4.2.2 Labelling

For labelling the following shall be affixed:

- a) a flow sheet denoting operation;
- b) an unshortened identification of the fluid which is transported in accordance with the transport and substance regulations and its net mass in accordance with the documentation;
- c) danger labels in accordance with transport regulations;
- d) risk and safety phrases associated with the gas content;