



NSAI
Standards

Irish Standard
I.S. EN ISO 24490:2016

Cryogenic vessels - Pumps for cryogenic service (ISO 24490:2016)

I.S. EN ISO 24490:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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National Foreword

I.S. EN ISO 24490:2016 is the adopted Irish version of the European Document EN ISO 24490:2016, Cryogenic vessels - Pumps for cryogenic service (ISO 24490:2016)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EUROPEAN STANDARD

EN ISO 24490

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2016

ICS 23.020.40

Supersedes EN 13275:2000

English Version

Cryogenic vessels - Pumps for cryogenic service (ISO 24490:2016)

Réipients cryogéniques - Pompes pour service cryogénique (ISO 24490:2016)

Kryo-Behälter - Pumpen für den Kryo-Betrieb (ISO 24490:2016)

This European Standard was approved by CEN on 15 March 2016.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EN ISO 24490:2016 (E)

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European foreword

This document (EN ISO 24490:2016) 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of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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 13275:2000.

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

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Endorsement notice

The text of ISO 24490:2016 has been approved by CEN as EN ISO 24490:2016 without any modification.

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**INTERNATIONAL
STANDARD**

**ISO
24490**

Second edition
2016-03-15

**Cryogenic vessels — Pumps for
cryogenic service**

Réipients cryogéniques — Pompes pour service cryogénique



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ISO 24490:2016(E)

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).

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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 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 24490:2005), which has been technically revised.

Cryogenic vessels — Pumps for cryogenic service

1 Scope

This International Standard specifies the minimum requirements for the design, manufacture and testing of pumps for cryogenic service.

This International Standard is applicable to centrifugal pumps. However, it can be applied to other types of cryogenic pumps (e.g. reciprocating pumps), where applicable.

This International Standard also gives guidance on the design of installations (see Annex A).

It does not specify requirements for operation or maintenance.

NOTE For cryogenic fluids, see ISO 21029-1, ISO 20421-1 and/or ISO 21009-1.

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 5198, *Centrifugal, mixed flow and axial pumps — Code for hydraulic performance tests — Precision grade*

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

ISO 21028-1, *Cryogenic vessels — Toughness requirements for materials at cryogenic temperature — Part 1: Temperatures below $-80\text{ }^{\circ}\text{C}$*

ISO 21028-2, *Cryogenic vessels — Toughness requirements for materials at cryogenic temperature — Part 2: Temperatures between $-80\text{ }^{\circ}\text{C}$ and $-20\text{ }^{\circ}\text{C}$*

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

3 Terms and definitions

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

3.1

nominal size

DN

alphanumeric designation of size for components of a pipework system, which is used for reference purposes

Note 1 to entry: It comprises the letters DN followed by a dimensionless whole number which is indirectly related to the physical size, in millimetres, of the bore or outside diameter of the end connections.

Note 2 to entry: The number following the letters DN does not represent a measurable value and is not to be used for calculation purposes except where specified in the relevant standard.

Note 3 to entry: In those standards which use the DN designation system, any relationship between DN and component dimensions is given, e.g. DN/OD or DN/ID.

[SOURCE: ISO 6708:1995, 2.1, modified]

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