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Refrigerating systems and heat pumps - Valves - Requirements, testing and marking (ISO 21922:2021)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/22

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EN ISO 21922

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English Version

**Refrigerating systems and heat pumps - Valves -
Requirements, testing and marking (ISO 21922:2021)**

Systèmes de réfrigération et pompes à chaleur -
Robinetterie - Exigences, essais et marquage (ISO
21922:2021)

Kälteanlagen und Wärmepumpen - Ventile -
Anforderungen, Prüfung und Kennzeichnung (ISO
21922:2021)

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 21922:2021 (E)

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European foreword

This document (EN ISO 21922:2021) has been prepared by Technical Committee ISO/TC 86 "Refrigeration and air-conditioning" in collaboration with Technical Committee CEN/TC 182 "Refrigerating systems, safety and environmental requirements" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by May 2022, and conflicting national standards shall be withdrawn at the latest by May 2022.

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

This document supersedes EN 12284:2003.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For the relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 21922:2021 has been approved by CEN as EN ISO 21922:2021 without any modification.

EN ISO 21922:2021 (E)

Annex ZA (informative)

Relationship between this European Standard and the essential safety requirements of Directive 2014/68/EU

This European Standard has been prepared under a Commission's standardization request "M/071" to provide one voluntary means of conforming to essential safety requirements of Directive 2014/68/EU on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment.

Once this standard is cited in the Official Journal of the European Union under that Directive 2014/68/EU, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential safety requirements of that Directive, and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Directive 2014/68/EU

Essential Safety Requirements of Directive 2014/68/EU	Clause(s)/subclause(s) of this EN	Remarks/Notes
4.3	6.11	Material documentation
3.1.4	6.1.1, 6.4, 6.6, 6.7, D.3.3	Heat treatment
2.2.2	7.3	Design for adequate strength
7.1.2	Annex A.2	Allowable stresses
2.6	7.12	Corrosion
3.1.1	8	Preparation of the component parts
3.2.2, 7.4	9.1	Proof test
3.3	10.2	Marking and labelling
3.4	11	Operating instructions
7.2	Table A.2	Joint coefficients
2.2.3	Annex A, C and D	Design for adequate strength by calculation
2.2.4	Annex B, C and D	Design for adequate strength by experimental method
4.1 a) and 7.5	Annex D	Requirements to avoid brittle fracture

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

INTERNATIONAL STANDARD

ISO 21922

First edition
2021-08

Refrigerating systems and heat pumps — Valves — Requirements, testing and marking

*Systèmes de réfrigération et pompes à chaleur — Robinetterie —
Exigences, essais et marquage*



Reference number
ISO 21922:2021(E)

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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).

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).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO TC 86, *Refrigeration and air-conditioning*, Subcommittee SC 1, *Safety and environmental requirements for refrigerating systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 182, *Refrigerating systems, safety and environmental requirements*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition is based on EN 12284:2003.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

ISO 21922:2021(E)**Introduction**

This document is intended to describe the safety requirements, safety factors, test methods, test pressures used, and marking of valves and other components with similar bodies for use in refrigerating systems.

Refrigerating systems and heat pumps — Valves — Requirements, testing and marking

1 Scope

This document specifies safety requirements, certain functional requirements, and marking of valves and other components with similar bodies, hereinafter called valves, for use in refrigerating systems including heat pumps.

This document includes requirements for valves with extension pipes.

This document describes the procedure to be followed when designing valve parts subjected to pressure as well as the criteria to be used in the selection of materials.

This document describes methods by which reduced impact values at low temperatures may be taken into account in a safe manner.

This document applies to the design of bodies and bonnets for pressure relief devices, including bursting disc devices, with respect to pressure containment but it does not apply to any other aspects of the design or application of pressure relief devices.

In addition, this document is applicable to valves with a maximum operating temperature not exceeding 200 °C and a maximum allowable pressure not exceeding 160 bar¹⁾.

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 148-1, *Metallic materials. Charpy pendulum impact test — Part 1: Test method*

ISO 5149-1, *Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Definitions, classification and selection criteria*

ISO/TR 15608, *Welding — Guidelines for a metallic material grouping system*

EN 12516-2, *Industrial valves — Shell design strength — Part 2: Calculation method for steel valve shells*

EN 13445-3, *Unfired pressure vessels — Part 3: Design*

EN 14276-2:2020, *Pressure equipment for refrigerating systems and heat pumps — Part 2: Piping — General requirements*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN

1) 1 bar = 0,1 MPa.