



SLOVENSKI STANDARD SIST EN ISO 22712:2023

01-junij-2023

Hladilne naprave in toplotne črpalke - Strokovna usposobljenost osebja (ISO 22712:2023)

Refrigerating systems and heat pumps - Competence of personnel (ISO 22712:2023)

Kälteanlagen und Wärmepumpen - Sachkunde von Personal (ISO 22712:2023)

Systèmes frigorifiques et pompes à chaleur - Compétence du personnel (ISO 22712:2023)

Ta slovenski standard je istoveten z: **EN ISO 22712:2023**

ICS:

03.100.30	Vodenje ljudi	Management of human resources
27.080	Toplotne črpalke	Heat pumps
27.200	Hladilna tehnologija	Refrigerating technology

SIST EN ISO 22712:2023

en,fr,de

EUROPEAN STANDARD

EN ISO 22712

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2023

ICS 27.080; 27.200

Supersedes EN 13313:2010

English Version

Refrigerating systems and heat pumps - Competence of personnel (ISO 22712:2023)

Systèmes frigorifiques et pompes à chaleur -
Compétence du personnel (ISO 22712:2023)

Kälteanlagen und Wärmepumpen - Sachkunde von
Personal (ISO 22712:2023)

This European Standard was approved by CEN on 27 November 2022.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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, Türkiye and United Kingdom.

[SIST EN ISO 22712:2023](https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023)

<https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Contents	Page
European foreword.....	3

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 22712:2023](https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023)

<https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023>

European foreword

This document (EN ISO 22712:2023) 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 October 2023, and conflicting national standards shall be withdrawn at the latest by October 2023.

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 13313:2010.

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, Türkiye and the United Kingdom.

(standards.iteh.ai)

Endorsement notice

SIST EN ISO 22712:2023

The text of ISO 22712:2023 has been approved by CEN as EN ISO 22712:2023 without any modification.

<https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023>

INTERNATIONAL
STANDARD

ISO
22712

First edition
2023-03

**Refrigerating systems and heat
pumps — Competence of personnel**

*Systèmes frigorifiques et pompes à chaleur — Compétence du
personnel*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 22712:2023](https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023)

<https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023>



Reference number
ISO 22712:2023(E)

© ISO 2023

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 22712:2023

<https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Requirements	3
4.1 General.....	3
4.2 Competence levels.....	3
4.2.1 General.....	3
4.2.2 Evaluation procedures.....	4
4.2.3 Criteria for the evaluation of competence.....	4
Annex A (normative) Criteria for the evaluation of competence	5
Annex B (informative) Guidelines for the application of this document	12
Annex C (informative) Example of applying assessment schemes for HFC refrigerants under Regulation (EU) No 517/2014^[10]	16
Annex D (informative) R 717 (NH₃)	18
Annex E (informative) R 744 (CO₂)	24
Annex F (informative) Flammable refrigerants	30
Bibliography	36

[SIST EN ISO 22712:2023](https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023)

<https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023>

ISO 22712:2023(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).

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).

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.

Introduction

Refrigerating systems, if not properly constructed, installed, operated and maintained, can be of danger to the health and safety of persons and the safety of property, can be detrimental to the environment and can increase energy consumption.

It is therefore essential that personnel dealing with such systems have the competence to carry out the activity, or activities, listed in this document. These activities cover the particular sectors in which they can potentially operate, from original design to final dismantling and disposal. As job descriptions can vary from country to country and from company to company, this document specifies the activities which can be carried out. Job descriptions can specify these activities or a selection of these activities.

This document defines the activities related to the refrigerating circuit.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 22712:2023](https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023)

<https://standards.iteh.ai/catalog/standards/sist/4c709d8f-3f6e-4d00-88bc-6f714641edcc/sist-en-iso-22712-2023>

Refrigerating systems and heat pumps — Competence of personnel

1 Scope

This document defines the activities related to refrigerating systems according to ISO 5149-1, ISO 5149-2, ISO 5149-3 and ISO 5149-4 and other equivalent standards, such as EN 378-1, EN 378-2,^[4] EN 378-3,^[5] EN 378-4^[6] and the associated competence profiles. It also establishes the competence criteria for persons who carry out these activities. Activities concerning electricity are excluded.

NOTE 1 As a refrigerating circuit is considered not to incorporate electrical and electronic systems, activities in this area are not part of this document. National regulations or appropriate International or national standards can be referred to for competence on electrical and electronic systems.

NOTE 2 This document does not apply to persons carrying out work on self-contained refrigerating systems as defined in ISO 5149-1 or EN 378-1, from the initial design of the product to the complete manufacture of the product, provided the process is controlled and the methods used are checked by an organization or individual responsible for the conformance with statutory requirements on health, safety and environment (e.g. energy efficiency).

NOTE 3 This document does not constitute a training programme.

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.

EN 378-1, *Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Basic requirements, definitions, classification and selection criteria*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5149-1 and EN 378-1 and the following apply.

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

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

3.1

assessment

process that evaluates a person's fulfilment of the competence requirements

[SOURCE: ISO/IEC 17024:2012, 3.8, modified — reference to "certification scheme" replaced by "competence requirements".]