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Refrigerant compressors - Rating conditions, tolerances and presentation of performance data

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

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ICS 23.140; 27.200 Supersedes EN 12900:2013

English Version

Refrigerant compressors - Rating conditions, tolerances and presentation of performance data

Compresseurs pour fluides frigorigènes - Détermination des caractéristiques, tolérances et présentation des données de performance

Kältemittel-Verdichter - Nennbedingungen, Toleranzen und Darstellung von Leistungsdaten

This European Standard was approved by CEN on 10 February 2025.

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

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European foreword

This document (EN 12900:2025) has been prepared by Technical Committee CEN/TC 113 “Heat pumps and air conditioning units”, the secretariat of which is held by UNE.

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of an identical text or by endorsement, at the latest by September 2025, and conflicting national standards shall be withdrawn at the latest by September 2025.

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 12900:2013.

EN 12900:2025 includes the following significant technical changes with respect to EN 12900:2013

a) Clause 2 “Normative References” was updated;

b) Clause 3 “Terms and definitions” was modified e.g. definition of heating capacity was added;

c) Clause 4 has been renamed, restructured and revised to simplify it;

d) the content of the old clause “Requirements” was integrated into the clause “Performance data”;

e) Annex A “Calculation of dew point temperatures from given mean temperatures” was added;

f) the document was revised editorially.

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

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Introduction

The performance data of a refrigerant compressor is commonly expressed as the refrigerating capacity and power consumption when applied in an ideal refrigeration cycle. An ideal cycle is one in which there is no pressure drop or heat transmission through the pipework between the major circuit components. Optionally, the heating capacity, i.e. heat delivered by the condenser or gas cooler, can be shown.

This document defines the conditions for presentation of performance data, so that different compressors can be compared.

1 Scope

This document specifies the rating conditions, tolerances and the method of presenting performance data of refrigerant compressors to enable comparison of different compressors.

This document is applicable to single-stage compressor and two-stage compressor data with or without an additional intermediate pressure inlet.

The performance data of compressors used with R-744 in transcritical operation are covered in this document.

The data relating to the refrigerating capacity, heating capacity and power absorbed include requirements for part-load operation where applicable.

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 13771-1, *Compressors and condensing units for refrigeration — Performance testing and test methods — Part 1: Refrigerant compressors*

EN 378-1:2016+A1:2020, *Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Basic requirements, definitions, classification and selection criteria*

ISO 817, *Refrigerants — Designation and safety classification*