



NSAI
Standards

Irish Standard
I.S. EN 13215:2016+A1:2020

Condensing units for refrigeration - Rating conditions, tolerances and presentation of manufacturer's performance data

I.S. EN 13215:2016+A1:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 13215:2016+A1:2020 is the adopted Irish version of the European Document EN 13215:2016+A1:2020, Condensing units for refrigeration - Rating conditions, tolerances and presentation of manufacturer's performance data

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EUROPEAN STANDARD

EN 13215:2016+A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2020

ICS 27.200

Supersedes EN 13215:2016

English Version

Condensing units for refrigeration - Rating conditions, tolerances and presentation of manufacturer's performance data

Unités de condensation pour la réfrigération -
Détermination des caractéristiques, tolérances et
présentation des performances du fabricant

Verflüssigungssätze für die Kälteanwendung -
Nennbedingungen, Toleranzen und Darstellung von
Leistungsdaten des Herstellers

This European Standard was approved by CEN on 24 September 2016 and includes Amendment 1 approved by CEN on 5 July 2020.

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.

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

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EN 13215:2016+A1:2020 (E)

European foreword

This document (EN 13215:2016+A1:2020) has been prepared by Technical Committee CEN/TC 113 “Heat pumps and air conditioning units”, the secretariat of which is held by AENOR.

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 February 2021, and conflicting national standards shall be withdrawn at the latest by February 2021.

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 includes Amendment 1 approved by CEN on 5 July 2020.

This document supersedes A1 EN 13215:2016 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

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

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

The main changes with respect to the previous edition are listed below:

- a) part load conditions according to M/495 “Standardisation mandate to CEN, CENELEC and ETSI under Directive 2009/125/EC relating to harmonised standards in the field of Ecodesign” are taken into account;
- b) inclusion of the calculation of seasonal energy performance ratio (*SEPR*).

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

1 Scope

This European Standard specifies the rating conditions, tolerances and presentation of manufacturer's performance data for condensing units for refrigeration with compressors of the positive-displacement type. These include single stage compressors and single and two stage compressors having an integrated means of fluid sub cooling. This is required so that a comparison of different condensing units can be made. The data relate to the refrigerating capacity and power absorbed and include requirements for part-load performance where applicable.

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.

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

EN 13771-2:2017, *Compressors and condensing units for refrigeration - Performance testing and test methods - Part 2: Condensing units*

ISO 817, *Refrigerants — Designation and safety classification*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 378-1:2016 and the following apply.

3.1

condensing unit

combination of one or more compressors, condensers/gas coolers and, where applicable, liquid receivers and the regularly furnished accessories

3.2

evaporating temperature

t_0

temperature between the evaporating dew point and the evaporator inlet temperature of the refrigerant at the pressure of the condensing unit inlet, as calculated according to Annex B

Note 1 to entry: For refrigerants without glide the evaporating temperature is equal to the dew point temperature at the condensing unit inlet pressure.

3.3

refrigerating capacity

Q

product of the mass flow of refrigerant through the condensing unit and the difference between the specific enthalpy of the refrigerant at the condensing unit inlet, the refrigerant being superheated above the suction dew point temperature to the appropriate value (see Table 3), and the specific enthalpy of the liquid refrigerant at the condensing unit outlet

3.4

subcooling

difference between the bubble point temperature of the refrigerant corresponding to the pressure at the condensing unit outlet and the temperature of the liquid refrigerant at the condensing unit outlet

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