



NSAI
Standards

Irish Standard
I.S. EN 13215:2016

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

I.S. EN 13215:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

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

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN 13215:2016

Published:

2016-11-30

This document was published under the authority of the NSAI and comes into effect on:

2016-12-18

ICS number:

27.200

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

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

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

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN 13215

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2016

ICS 27.200

Supersedes EN 13215:2000

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.

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



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
European foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Symbols and abbreviations	6
5 Parameters for the presentation of performance data	7
6 General requirements	7
7 Performance data.....	8
7.1 General.....	8
7.2 Part load performance data	8
7.3 Tabular or graphical form	8
7.4 Determination of the power absorbed by the condensing unit	8
7.4.1 Condensing units including the compressor motor	8
7.4.2 Motors with a specific factory assembled or factory specified means for variable speed.....	8
7.4.3 Externally driven compressors without motor.....	8
8 Rating conditions	9
8.1 General.....	9
8.2 Standard reference points	9
8.3 Air cooled condensing units.....	10
8.3.1 General.....	10
8.3.2 Data for <i>SEPR</i> calculation	10
8.4 Water cooled condensing units.....	10
9 Tolerances	10
10 Correction factors	11
10.1 Superheat.....	11
10.2 Compressors speed	11
Annex A (normative) Calculation of <i>SEPR</i>.....	12
A.1 General.....	12
A.2 Condensing unit without capacity control	12
A.3 Condensing unit with stepwise capacity control	12
A.4 Calculation of <i>SEPR</i>.....	13
Annex ZA (informative) Relationship between this European Standard and the eco-design requirements of Commission Regulation (EU) No 2015/1095 aimed to be covered	16
Bibliography.....	18

Tables

Table 1 — Symbols and abbreviations	6
Table 2 — Indices	7
Table 3 — Parameters for the presentation of performance data	7
Table 4 — Standard reference points	9
Table 5 — Actual performance in relation to published data	11
Table A.1 — Required input for <i>SEPR</i> calculation	13
Table A.2 — Ambient temperatures and duration for <i>SEPR</i> determination	14
Table ZA.1 — Correspondence between this European Standard and Commission Regulation (EU) No 2015/1095 of 5 May 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers and Commission’s standardization request M/495 (Ecodesign)	16

EN 13215:2016 (E)

European foreword

This document (EN 13215:2016) 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 May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

This document supersedes EN 13215:2000.

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 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, 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 378-1:2008+A2:2012, *Refrigerating systems and heat pumps - Safety and environmental requirements - Part 1: Basic requirements, definitions, classification and selection criteria*

EN 13771-2, *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 378-1:2008+A2:2012 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

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

3.3

sub-cooling

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

3.4

superheat

difference between the dew point temperature of the refrigerant corresponding to the pressure at the condensing unit inlet and the temperature of the refrigerant vapour at the condensing unit inlet

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-