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NSAI Standards

Irish Standard
I.S. EN 14511-3:2018

Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors - Part 3: Test methods

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National Foreword

I.S. EN 14511-3:2018 is the adopted Irish version of the European Document EN 14511-3:2018, Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors - Part 3: Test methods

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14511-3

March 2018

ICS 27.080; 91.140.30

Supersedes EN 14511-3:2013

English Version

Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors - Part 3: Test methods

Climatiseurs, groupes refroidisseurs de liquide et pompes à chaleur pour le chauffage et le refroidissement des locaux et refroidisseurs industriels avec compresseur entraîné par moteur électrique - Partie 3: Méthodes d'essai

Luftkonditionierer, Flüssigkeitskühlsätze und Wärmepumpen für die Raumbeheizung und -kühlung und Prozess-Kühler mit elektrisch angetriebenen Verdichtern - Teil 3: Prüfverfahren

This European Standard was approved by CEN on 31 December 2017.

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Contents

Page

European foreword ... 5
1 Scope ... 7
2 Normative references ... 7
3 Terms and definitions ... 7
4 Tests for determination of capacities ... 7
4.1 Basic principles, method of calculation for the determination of capacities ... 7
4.1.1 Heating capacity ... 7
4.1.2 Cooling capacity ... 8
4.1.3 Heat recovery capacity ... 9
4.1.4 Capacity correction ... 9
4.1.5 Effective power input ... 12
4.1.6 Units on a distribution network of pressured water ... 13
4.1.7 Units for use with remote condenser ... 13
4.2 Test apparatus ... 14
4.2.1 Arrangement of the test apparatus ... 14
4.2.2 Installation and connection of the test object ... 14
4.3 Uncertainties of measurement ... 16
4.4 Test procedure ... 18
4.4.1 Settings ... 18
4.4.2 Output measurement for water (brine)-to-water (brine) and water (brine)-to-air units ... 20
4.4.3 Output measurement for cooling capacity of air-to-water (brine) and air-to-air units ... 21
4.4.4 Output measurement for heating capacity of air-to-air and air-to-water units ... 21
4.5 Test results ... 26
4.5.1 Data to be recorded ... 26
4.5.2 Cooling capacity and heat recovery capacity calculation ... 29
4.5.3 Heating capacity calculation ... 29
4.5.4 Effective power input calculation ... 30
5 Electrical consumptions for single duct and double duct units ... 30
5.1 Determination of power consumption due to standby mode ... 30
5.2 Determination of power consumption in off-mode ... 31
5.3 Electricity consumption ... 31
6 Air flow rate measurement of ducted units ... 31
7 Heat recovery test for air-cooled multisplit system ... 31
7.1 Test installation ... 31
7.1.1 General ... 31
7.1.2 Three-room calorimeter method ... 32
7.1.3 Three-room air-enthalpy method ... 32
7.1.4 Two-room air-enthalpy method ... 32
7.2 Test procedure ... 32
7.3 Test results ... 32
8 Test report ... 32
8.1 General information ... 32
8.2 Additional information ... 33

This is a free page sample. Access the full version online.

8.3 Rating test results ... 33
Annex A (normative) Calorimeter test method ... 34
A.1 General ... 34
A.2 Calibrated room-type calorimeter ... 36
A.3 Balanced ambient room-type calorimeter ... 37
A.4 Calculations-cooling capacities ... 37
A.4.1 General ... 37
A.4.2 Total cooling capacity on the indoor-side ... 38
A.4.3 Total cooling capacity of liquid (water)-cooled equipment deducted from the condenser side ... 39
A.4.4 Latent cooling capacity (room dehumidifying capacity) ... 39
A.4.5 Sensible cooling capacity ... 39
A.4.6 Sensible heat ratio ... 39
A.5 Calculation-heating capacities ... 40
A.5.1 General ... 40
A.5.2 Determination of the heating capacity by measurements in the indoor-side room ... 40
A.5.3 Determination of the heating capacity by measurements in the outdoor-side room ... 40
A.5.4 Total heating capacity of liquid (water)-to-air unit deducted from the water side ... 41
Annex B (normative) Indoor air enthalpy test method ... 42
B.1 General ... 42
B.2 Determination of the air flow rate ... 42
B.3 Calculations-cooling capacities ... 42
B.4 Calculations-heating capacities ... 43
Annex C (informative) Conformance criteria ... 44
C.1 Liquid chilling packages ... 44
C.2 Calorimeter room method ... 44
C.3 Heat recovery of multisplit systems ... 44
Annex D (informative) Symbols used in annexes ... 45
Annex E (informative) Test at system reduced capacity ... 47
E.1 Test at system reduced capacity for multisplit system and modular heat recovery multisplit system ... 47
E.2 Selection of units ... 47
E.3 Test results ... 47
Annex F (informative) Individual unit tests ... 48
F.1 General ... 48
F.1.1 Methods ... 48
F.1.2 Calorimeter method ... 48

This is a free page sample. Access the full version online.

F.1.3 Air-enthalpy method ... 48
F.2 Test results ... 48
F.3 Published results ... 48
Annex G (normative) Determination of the liquid pump efficiency ... 49
G.1 General ... 49
G.2 Hydraulic power of the liquid pump ... 49
G.2.1 The liquid pump is an integral part of the unit ... 49
G.2.2 The liquid pump is not an integral part of the unit ... 49
G.3 Efficiency of integrated pumps ... 49
G.3.1 Glandless circulators ... 49
G.3.2 Dry motor pumps ... 50
G.4 Efficiency of non-integrated pumps ... 51
Annex H (informative) Rating of indoor and outdoor units of multisplit and modular heat recovery multisplit systems ... 52
H.1 General ... 52
H.2 Terms and definitions ... 52
H.3 Rating of indoor units ... 53
H.3.1 General ... 53
H.3.2 Air flow rate measurement ... 53
H.3.3 Measurement of the power input of indoor units ... 53
H.4 Rating of outdoor units ... 53
H.4.1 General ... 53
H.4.2 Test procedure ... 53
Annex I (normative) Air flow rate measurement ... 54
I.1 General ... 54
I.2 Test installation ... 54
I.3 Test conditions ... 54
I.4 Air flow measurement ... 54
Annex ZA (informative) Relationship between this European Standard and the requirements of Commission regulation (EC) No 206/2012 aimed to be covered ... 55
Annex ZB (informative) Relationship between this European Standard and the energy labelling requirements of Commission Delegated Regulation (EU) No 626/2011 aimed to be covered ... 56
Bibliography ... 58

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European foreword

This document (EN 14511-3:2018) 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 2018, and conflicting national standards shall be withdrawn at the latest by March 2021.

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

This document supersedes EN 14511-3:2013.

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 Regulation No 206/2012 and EU Regulation No 626/2011.

For relationship with EU Regulation No 206/2012 and EU Regulation No 626/2011, see informative Annexes ZA and ZB, which are an integral part of this document.

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

a) the revision of Annexes A and B on the test methods;

b) deletion of Annex C;

c) the revision of Annex G (Annex H on the previous version) on liquid pumps corrections;

d) the inclusion of process chillers into the scope of the EN 14511 series and of this Part 3.

Although this document has been prepared in the frame of the Commission Regulation (EU) No 206/2012 implementing Directive 2009/125/EC with regard to ecodesign requirements for air conditioners and comfort fans, it is also intended to support the Essential Requirements of the European Directive 2010/30/EU.

EN 14511 currently comprises the following parts:

— *Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers with electrically driven compressors — Part 1: Terms and definitions,*

— *Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors — Part 2: Test conditions,*

— *Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors — Part 3: Test methods,*

— *Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors — Part 4: Requirements.*

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,

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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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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1 Scope

1.1 The scope of EN 14511-1 is applicable.

1.2 This European Standard specifies the test methods for the rating and performance of air conditioners, liquid chilling packages and heat pumps using either air, water or brine as heat transfer media, with electrically driven compressors when used for space heating and cooling. These test methods also apply for the rating and performance of process chillers.

It also specifies the method of testing and reporting for heat recovery capacities, system reduced capacities and the capacity of individual indoor units of multisplit systems, where applicable.

This European Standard also makes possible to rate multisplit and modular heat recovery multisplit systems by rating separately the indoor and outdoor units.

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 14511-1:2018, *Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors — Part 1: Terms and definitions*

EN 14511-2:2018, *Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors — Part 2: Test conditions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14511-1:2018 apply.

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

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

4 Tests for determination of capacities

4.1 Basic principles, method of calculation for the determination of capacities

4.1.1 Heating capacity

The heating capacity of air conditioners and of air-to-air or water(brine)-to-air heat pumps shall be determined by measurements in a calorimeter room (see Annex A) or by the air enthalpy method (see Annex B).

However, the heating capacity of air conditioners and of air-to-air heat pumps having a capacity below or equal to 12 kW for cooling, or heating if the unit has no cooling function, under the standard rating conditions of EN 14511-2 shall be determined by measurements in a calorimeter room.

For heating only units the limit of 12 kW applies to the heating capacity as given under the standard rating conditions of EN 14511-2.

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