

SLOVENSKI STANDARD

SIST EN 14511-1:2018

01-maj-2018

Nadomešča:
SIST EN 14511-1:2013

Klimatske naprave, enote za hlajenje kapljevine, toplotne črpalke za ogrevanje in hlajenje prostora ter procesne hladilne naprave z električnimi kompresorji - 1. del: Izrazi in definicije

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

iTeh STANDARD PREVIEW

Luftkonditionierer, Flüssigkeitskühlsätze und Wärmepumpen für die Raumbeheizung und -kühlung und Prozess-Kühler mit elektrisch angetriebenen Verdichtern - Teil 1: Begriffe

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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 1: Termes et définitions

Ta slovenski standard je istoveten z: EN 14511-1:2018

ICS:

01.040.23	Tekočinski sistemi in sestavni deli za splošno rabo (Slovarji)	Fluid systems and components for general use (Vocabularies)
23.120	Zračniki. Vetrniki. Klimatske naprave	Ventilators. Fans. Air-conditioners
27.080	Toplotne črpalke	Heat pumps
91.140.30	Prezračevalni in klimatski sistemi	Ventilation and air-conditioning systems

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en,fr,de

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EUROPEAN STANDARD

EN 14511-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2018

ICS 01.040.27; 01.040.91; 27.080; 91.140.30

Supersedes EN 14511-1:2013

English Version

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

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 1: Termes et définitions

Luftkonditionierer, Flüssigkeitskühlsätze und
Wärmepumpen für die Raumbeheizung und -kühlung
und Prozess-Kühler mit elektrisch angetriebenen
Verdichtern - Teil 1: Begriffe

This European Standard was approved by CEN on 1 January 2018.

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, Serbia, 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: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 14511-1:2018) 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 14511-1:2013.

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 Commission Regulation (EU) No 206/2012.

For relationship with Commission Regulation (EU) No 206/2012, see informative Annex ZA, which is an integral part of this document.

The main change with respect to the previous edition is the addition of terms and definitions for process chillers.

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;
- the Commission Regulation (EU) n° 626/2011 supplementing Directive 2010/30/EU with regard to energy labelling for air conditioners;
- the Commission Regulation (EU) No 813/2013 implementing Directive 2009/125/EC with regard to ecodesign requirements for air-to-water and water-to-water heat pump space heaters;
- the Commission Regulation (EU) n° 811/2013 supplementing Directive 2010/30/EU with regard to energy labelling for air-to-water and water-to-water heat pump space heaters;
- the Commission Regulation (EU) 2015/1095 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for process chillers.

EN 14511, *Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors* currently comprises the following parts:

- *Part 1: Terms and definitions*
- *Part 2: Test conditions*
- *Part 3: Test methods*
- *Part 4: Requirements*

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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, 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

This European Standard specifies the terms and definitions 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/or cooling.

It also specifies the terms and definitions for the rating and performance of process chillers.

This European Standard does not apply to heat pumps for domestic hot water, although certain definitions can be applied to these.

This European Standard applies to:

- factory-made units that can be ducted,
- factory-made liquid chilling packages with integral condensers or for use with remote condensers,
- factory-made units of either fixed capacity or variable capacity by any means, and
- air-to-air air conditioners which can also evaporate the condensate on the condenser side.

Packaged units, single split and multisplit systems are covered by this standard. Single duct and double duct units are covered by the standard.

In the case of units consisting of several parts, this European Standard applies only to those designed and supplied as a complete package, except for liquid chilling packages with remote condenser.

This European Standard is primarily intended for water and brine chilling packages but can be used for other liquid subject to agreement.

The units having their condenser cooled by air and by the evaporation of external additional water should have their performance in the cooling mode determined in accordance to EN 15218. For those which can also operate in the heating mode, the EN 14511 series applies for the determination of their performance in the heating mode.

NOTE 1 Part load testing of units is dealt with in EN 14825.

NOTE 2 All the symbols given in this text are used regardless of the language.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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>

3.1

air conditioner

device capable of cooling or heating, or both, indoor air, using a vapour compression cycle driven by an electric compressor, including air conditioners that provide additional functionalities such as dehumidification, air purification, ventilation or supplemental air heating by means of electric resistance heating, as well as appliances that may use water (either condensate water that is formed on

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the evaporator side or externally added water) for evaporation on the condenser, provided that the device is also able to function without the use of additional water, using air only

Note 1 to entry: Appliances using additional external water are rated according to EN 15218.

**3.2
heat pump**
encased assembly or assemblies designed as a unit, using a vapour compression cycle driven by an electric compressor, to provide delivery of heat

Note 1 to entry: It can have means for cooling, circulating, cleaning and dehumidifying the air. The cooling is by means of reversing the refrigerating cycle.

Note 2 to entry: Also known as a reverse cycle air conditioner, when cooling and heating air.

**3.3
comfort air conditioner or heat pump**
air conditioner or heat pump to satisfy the comfort requirements of the occupants of the air conditioned room

**3.4
close control air conditioner**
air conditioner to satisfy the requirements of the process carried out in the air conditioned room

**3.5
control cabinet air conditioner** **(standards.iteh.ai)**
air conditioner to satisfy the requirements of the control cabinet

**3.6
packaged unit**
factory assembly of components of refrigeration system fixed on a common mounting to form a discrete unit

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**3.7
single split unit**
factory assembly of components of refrigeration system fixed on two mountings to form a discrete matched functional unit

**3.8
single-duct air conditioner**
air conditioner in which, during cooling or heating, the condenser (or evaporator) intake air is introduced from the space containing the unit and discharged outside this space

**3.9
double-duct air conditioner**
air conditioner in which, during cooling or heating, the condenser (or evaporator) intake air is introduced from the outdoor environment to the unit by a duct and rejected to the outdoor environment by a second duct, and which is placed wholly inside the space to be conditioned, near a wall

**3.10
liquid chilling package**
factory-made unit designed to cool liquid, using an evaporator, a refrigerant compressor, an integral or remote condenser and appropriate controls

Note 1 to entry: It may have means for heating which can be reversing the refrigerating cycle, such as a heat pump.

3.11

comfort chiller

liquid chilling package whose indoor heat exchanger extracts heat from a water-based cooling system designed to operate at leaving chilled water temperatures greater than or equal to 2° C

3.12

process chiller

factory-made product integrating at least one compressor and one evaporator, capable of cooling down and continuously maintaining the temperature of a liquid in order to provide cooling to a refrigerated appliance or to a process cooling system

Note 1 to entry: It may or may not integrate the condenser, the coolant circuit hardware and other ancillary equipment.

3.13

low temperature process chiller

process chiller that is capable of delivering its rated cooling capacity at an indoor heat exchanger outlet temperature of -25 °C, at standard rating conditions

3.14

medium temperature process chiller

process chiller that is capable of delivering its rated cooling capacity at an indoor heat exchanger outlet temperature of -8 °C, at standard rating conditions

3.15

high temperature process chiller

process chiller that is capable of delivering its rated cooling capacity at an outlet chilled water temperature of 7 °C

3.16

heat recovery liquid chilling package

factory-made liquid chilling package designed for the purpose of chilling liquid and recovering of heat

3.17

heat recovery

recovery of heat rejected by the unit whose primary control is in the cooling mode by means of either an additional heat exchanger (e.g. a liquid chiller with an additional condenser) or by transferring the heat through the refrigerating system for use to unit whose primary control remains in the heating mode (e.g. variable refrigerant flow)

3.18

indoor heat exchanger

heat exchanger which is designed to transfer heat between the refrigerant and the indoor heat transfer medium

Note 1 to entry: In the case of an air conditioner or heat pump operating in the cooling mode, this is the evaporator. In the case of an air conditioner or heat pump operating in the heating mode, this is the condenser.

3.19

outdoor heat exchanger

heat exchanger which is designed to transfer heat between any available heat source and the refrigerant