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BS EN 14511-1:2013



BSI Standards Publication

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

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This British Standard is the UK implementation of EN 14511-1:2013. It supersedes BS EN 14511-1:2011 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RHE/17, Testing of air conditioning units.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

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EUROPÄISCHE NORM

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English Version

Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling - Part 1: Terms, definitions and classification

Climatiseurs, groupes refroidisseurs de liquide et pompes à chaleur avec compresseur entraîné par moteur électrique pour le chauffage et la réfrigération des locaux - Partie 1: Termes, définitions et classification

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

This European Standard was approved by CEN on 30 May 2013.

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.



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Foreword

This document (EN 14511-1:2013) 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 March 2014 and conflicting national standards shall be withdrawn at the latest by March 2014.

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

This document supersedes EN 14511-1:2011.

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

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/CE.

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

- *Part 1: Terms, definitions and classification,*
- *Part 2: Test conditions,*
- *Part 3: Test methods,*
- *Part 4: Operating requirements, marking and instructions.*

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.

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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. 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, EN 14511 applies for the determination of their performance in the heating mode.

Installations used for heating and/or cooling of industrial processes are not within the scope of this standard.

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 used.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

**2.1
air conditioner**
a 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 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.

**2.2
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