

SLOVENSKI STANDARD

SIST EN 60335-2-40:2003/A13:2012

01-april-2012

Gospodinjski in podobni električni aparati - Varnost - 2-40. del: Posebne zahteve za električne toplotne črpalke, klimatske naprave in sušilnike zraka - dopolnilo A13

Household and similar electrical appliances - Safety - Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-40: Besondere Anforderungen für elektrisch betriebene Wärmepumpen, Klimageräte und Raumluft-Entfeuchter

Appareils électrodomestiques et analogues - Sécurité - Partie 2-40: Règles particulières pour les pompes à chaleur électriques, les climatiseurs et les déshumidificateurs

Ta slovenski standard je istoveten z: EN 60335-2-40:2003/A13:2012

ICS:

23.120	Zračniki. Vetrniki. Klimatske naprave	Ventilators. Fans. Air-conditioners
27.080	Toplotne črpalke	Heat pumps

SIST EN 60335-2-40:2003/A13:2012 en,fr

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60335-2-40/A13

February 2012

ICS 27.080; 91.140.30

English version

**Household and similar electrical appliances -
Safety -
Part 2-40: Particular requirements for electrical heat pumps, air-
conditioners and dehumidifiers**

Appareils électrodomestiques et
analogues -
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pompes à chaleur électriques, les
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Sicherheit elektrischer Geräte für den
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This amendment A13 modifies the European Standard EN 60335-2-40:2003; it was approved by CENELEC on 2011-07-11. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

This document (EN 60335-2-40:2003/A13:2012) has been prepared by CLC/TC 61, "Safety of household and similar electrical appliances".

The following dates are fixed:

- latest date by which the amendment has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2012-08-23
- latest date by which the national standards conflicting
with the amendment have to be withdrawn (dow) 2014-07-11

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

This European Standard has been prepared under mandate M/392 given to CENELEC by the European Commission and the European Free Trade Association and supports essential requirements of EU Directive 2006/42/EC.

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

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Introduction

Replace the addition of the CENELEC common modifications by:

The principle objectives of Low Voltage Directive 2006/95/EC, are covered in this standard. The essential safety requirements of the Machinery Directive 2006/42/EC, which can be applicable to some appliances, covered by this part have also been taken into account.

Products within the scope of this standard may incorporate pressurized components for which the Pressure Equipment Directive, 97/23/EC, applies. Further guidance is given in Annex ZAB.

1 Scope

Replace the second and third paragraphs by:

This European Standard deals with the safety of electric **heat pumps**, including **sanitary hot water heat pumps**, **air-conditioners**, and **dehumidifiers** incorporating motor-compressors and hydronic room **fan coils**, their maximum **rated voltages** being not more than 250 V for single phase appliances and 600 V for all other appliances.

Appliances and machines intended to be used in household, commercial applications, in shops, in light industry and on farms, are within the scope of this standard.

Additional requirements for appliances and machines intended for commercial use are given in Annex ZE.

NOTE Z1 Examples of appliance for household environment are appliances for typical housekeeping functions used in the household environment and appliances for typical housekeeping functions used by non expert users

- in shops, offices and other similar working environments,
- in farm houses,
- by clients in hotels, motels and other residential type environments,
- in bed and breakfast type environments.

NOTE Z2 Household environment includes the dwelling and its associated buildings, the garden, etc.

Replace NOTE 103 by:

NOTE 103 This standard specifies particular requirements for the use of flammable refrigerants.

Add the new requirement after NOTE 104:

This standard does not apply to

- humidifiers intended for use with heating and cooling equipment (EN 60335-2-88);
- appliances designed exclusively for industrial processing;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas).

Delete NOTE 105.

Annex ZE (normative)

Specific additional requirements for appliances and machines intended for commercial use

This annex of Part 1 is applicable with the following modifications:

Introduction

For the verification of compliance of appliances or machines intended for commercial use with the Essential Health and Safety Requirements (EHSR) of the Directive 2006/42/EC, the requirements in this Annex ZE shall apply.

1 Scope

This annex deals with additional requirements concerning appliances and machines intended for commercial use by persons that have been trained on the use of such appliances and appliances and machines which are declared to be for commercial use by lay persons.

2 Normative references

Add the following standards:

EN ISO 3744:2010, *Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for an essentially free field over a reflecting plane* (ISO 3744:2010)

EN ISO 4871:2009, *Acoustics – Declaration and verification of noise emission values of machinery and equipment* (ISO 4871:1996)

EN ISO 11203:2009, *Acoustics – Noise emitted by machinery and equipment – Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level* (ISO 11203:1995)

EN ISO 11688-1:2009, *Acoustics – Recommended practice for the design of low-noise machinery and equipment – Part 1: Planning* (ISO/TR 11688-1:1995)

EN 12102, *Air conditioners, liquid chilling packages, heat pumps and dehumidifiers with electrically driven compressors for space heating and cooling - Measurement of airborne noise - Determination of the sound power level*

3 Definitions

This clause of Annex ZE of Part 1 is applicable.

4 General requirement

This clause of Annex ZE of Part 1 is applicable.

7 Marking and instructions

This clause of Annex ZE of Part 1 is applicable.

7.12 Addition:

The instructions shall indicate the substance of the following: "This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons".

7.12.Z1 *Replace in the sixth dashed item:*

- the words “the relevant Part 2” by “Annex ZAB”

Replace the first sub dashed item by:

- the A-weighted emission sound pressure level at workstations, where this exceeds 70 dB(A). If the A-weighted sound pressure level is below 70 dB, no value needs to be given, but the instructions shall state that the A-weighted sound pressure level is below 70 dB.

20 Stability and mechanical hazards

This clause of Annex ZE of Part 1 is applicable except as follows:

20.1 *Replace the second paragraph by:*

Compliance is checked by inspection and the relevant tests as specified in Annex GG.

21 Mechanical strength

This clause of Annex ZE of Part 1 is applicable.

22 Construction

This clause of Annex ZE of Part 1 is applicable except as follows:

22.ZE.5 *Replace the tenth paragraph by:*

The guard is opened at the extent needed to cause the interlocking to operate and is then closed. This operation is carried out for 5 000 cycles at a rate of 5 cycles per min.

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Annex ZF
(informative)

**Criteria applied for the allocation of products covered by standards
in the EN 60335 series, under LVD or MD**

This annex of Part 1 is applicable.

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Add:

Annex ZAB (normative)

Emission of acoustical noise from appliances covered by Annex ZE

ZAB.1 Noise reduction

Noise reduction is an integral part of the design process and shall be achieved by particularly applying measures at source to control noise, see for example EN ISO 11688-1. The success of the applied noise reduction measures is assessed on the basis of the actual noise emission values in relation to other machines of the same type with comparable non-acoustical technical data.

ZAB.2 Noise test code

ZAB.2.1 Emission sound pressure level determination

The A-weighted emission sound pressure level shall be determined in accordance with EN 11203:2009, 6.2.3 d) with the surface S being the measurement surface used for the sound power level determination. If the sound power level determination is based on a measurement method requiring a reverberant sound field, the surface S to define Q, shall be a parallelepiped measurement surface at a distance of 1 m from the reference box enclosing the source and assuming only one reflecting surface.

ZAB.2.2 Sound power level determination

The A-weighted sound power level shall be determined in accordance with EN 12102 applying a measurement method of at least grade 2. Only in cases where such a measurement method can not be applied a grade 3 measurement method can be used for determining the A-weighted sound power level. In that case the reasons shall be explicitly mentioned.

ZAB.2.3 Measurement uncertainties

The total measurement uncertainty is depending on the standard deviation of reproducibility σ_{R0} of the measurement method and the standard deviation σ_{omc} representing the instability of the operating and mounting conditions. σ_{R0} has an upper value for a grade 2 measurement method of about 1,5 dB, whereas σ_{omc} may have values between 0,5 dB for small variations of the sound power due on the mounting and operating conditions or 4 dB for very instable sources.

The total measurement uncertainty for the A-weighted emission sound pressure level is of the same order as the one for the respective sound power level measurement.

ZAB.2.4 Information to be recorded

The information to be recorded covers all the technical requirements of this noise test code. Any deviations from this noise test code or from the basic standards upon which it is based are to be recorded together with the technical justification for such deviations.

ZAB.2.5 Information to be reported

The information to be given in the test report shall include:

- the data required by the manufacturer for inclusion in the noise declaration,
- the data required by the user to verify the declared values.

Thus the following information shall be included:

- reference to the noise test code and the basic noise emission standards used;
- description of the installation and operation conditions used;
- location of the work station(s) and other specified positions;
- the noise emission values obtained.

The test report shall state that all requirements of the noise test code have been fulfilled, or, if this is not the case, it shall identify any unfulfilled requirements. Deviations from the requirements shall be stated and a technical justification for these deviations shall be given.