SLOVENSKI STANDARD
SIST EN 60335-2-40:1998/A11:2005

01-april-2005

Varnost gospodinjskih in podobnih električnih aparatov - 2-40. del: Posebne zahteve za električne toplotne črpalke, klimatske naprave in sušilnike zraka

Safety of household and similar electrical appliances -- 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

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

Ta slovenski standard je istoveten z: **EN 60335-2-40:1997/A11:2004**

ICS:

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

SIST EN 60335-2-40:1998/A11:2005 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60335-2-40/A11

December 2004

ICS 23.120

English version

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

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

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

This amendment A11 modifies the European Standard EN 60335-2-40:1997; it was approved by CENELEC on 2004-09-22. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 60335-2-40:1997/A11:2004 E

Foreword

A proposal to amend EN 60335-2-40, document CLC/TC 61(SEC)1397, was discussed during the Brussels meeting of CENELEC TC 61 in November 2002, when it was decided to submit a draft for an amendment to the Unique Acceptance Procedure.

The draft was circulated in June 2003 and was approved by CENELEC as amendment A11 to EN 60335-2-40:1997 on 2004-09-22.

The following dates are applicable:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-10-01

- date on which national standards conflicting with the amendment have to be withdrawn (dow) 2007-03-01

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Introduction

Add:

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 ZAA.

Add:

Annex ZAA
(informative)

The relevance of the pressure equipment directive

Refrigerating systems having a pressure greater than 0,05 MPa are considered to be assemblies falling within the scope of the Pressure Equipment Directive, 97/23/EC. However, according to Article 1, item 3.6 of the directive, equipment classified no higher than category I and covered by the low voltage directive is excluded from its scope.

According to guideline 1/39 of the directive, this exclusion applies to both components and assemblies (refrigerant circuits). This applies to appliances containing vessels (e.g. compressors, receivers) or piping with limits in accordance with the following:

Vessels

– dangerous refrigerants (Annex II, Table 1):
  - volume not exceeding 1 l, or
  - pressure x volume not exceeding 5 MPa l.
– non-dangerous refrigerants (Annex II, Table 2):
  - volume not exceeding 1 l, or
  - pressure x volume not exceeding 20 MPa l.

Piping

– dangerous refrigerants (Annex II, Table 6):
  - numerical designation not exceeding 25, or
  - pressure not exceeding 1 MPa and numerical designation not exceeding 100, or
  - pressure exceeding 1 MPa and pressure x numerical designation not exceeding 100 MPa.
– non-dangerous refrigerants (Annex II, Table 7):
  - numerical designation not exceeding 100, or
  - pressure x numerical designation not exceeding 350 MPa.

For other components, the most onerous limit of the two applies.

The volume is the internal volume of the vessel and includes the volume of pipework up to the first connection. It excludes the volume of fixed internal parts.

The pressure is the maximum pressure the vessel or piping system is exposed to, as specified by the manufacturer of the appliance.

NOTE 1 The pressures may differ throughout the refrigerating system.

NOTE 2 The pressures may be taken from EN 378. However, some applications may exceed the range given in EN 378.

The numerical designation designates the size common to all components in the piping system.

If any component exceeds the limits given above, the appliance has to comply with the directive. The technical requirements are given in Annex I and the conformity assessment tables and procedures in Annexes II and III of the directive.

Commonly used dangerous refrigerants, identified as Group 1 in the directive, are listed in Table ZAA.1.

Table ZAA.1 - Dangerous refrigerants

Refrigerant number	Refrigerant name	Refrigerant formula
R-32	difluoromethane	CH_2F_2
R-143a	1,1,1-trifluoroethane	CF_3CH_3
R-152a	1,1-difluoroethane	CHF_2CH_3
R-290	propane	C_3H_8
R-600	butane	C_4H_{10}
R-600a	isobutane	$CH(CH_3)_3$
R-717	ammonia	NH_3
R-1270	propylene	C_3H_6

Commonly used non-dangerous refrigerants, identified as Group 2 in the directive, are listed in Table ZAA.2.

Table ZAA.2 – Non-dangerous refrigerants

Refrigerant number	Refrigerant name	Refrigerant formula	Blended refrigerants
R-22	chlorodifluoromethane	$CHClF_2$	-
R-125	pentafluoroethane	CF_3CHF_2	-
R-134a	1,1,1,2-tetrafluoroethane	CF_3CH_2F	-
R-404A	-	-	R-125 (44 %) + R-143a (52 %) + R-134a (4 %)
R-407C	-	-	R-32 (23 %) + R-125 (25 %) + R-134a (52 %)
R-410A	-	-	R-32 (50 %) + R-125 (50 %)
R-507A	-	-	R-125 (50 %) + R-143a (50 %)

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