SVENSK STANDARD SS-EN 60335-2-89

| Fastställd | Utgåva | Sida | Ansvarig kommitté |
|---|---|---|---|
| 2010-04-26 | 2 | 1 (1+43) | SEK TK 61 |




# Elektriska hushållsapparater och liknande bruksföremål – Säkerhet – Del 2-89: Särskilda fordringar på kyl- och frysaggregat för kommersiellt bruk, med inbyggd eller separat kondensor eller kompressor

*Household and similar electrical appliances – Safety – Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor*

Som svensk standard gäller europastandarden EN 60335-2-89:2010. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60335-2-89:2010.

**Nationellt förord**

Europastandarden EN 60335-2-89:2010

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC

– **IEC 60335-2-89, Second edition, 2010 - Household and similar electrical appliances - Safety - Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60335-1, utgåva 4, 2002.

Tidigare fastställd svensk standard SS-EN 60335-2-89, utgåva 1, 2003, SS-EN 60335-2-89/A1, utgåva 1, 2005, SS-EN 60335-2-89/A11, utgåva 1, 2004 och SS-EN 60335-2-89/A2, utgåva 1, 2007, gäller ej fr o m 2013-03-01.

ICS 97.130.20

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 60335-2-89

March 2010

ICS 97.130.20

Supersedes EN 60335-2-89:2002 + A1:2005 + A2:2007 + A11:2004

English version

# Household and similar electrical appliances - Safety - Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor

(IEC 60335-2-89:2010)

Appareils électrodomestiques et analogues - Sécurité - Partie 2-89: Règles particulières pour les appareils de réfrigération à usage commercial avec une unité de condensation du fluide frigorigène ou un compresseur incorporés ou à distance
(CEI 60335-2-89:2010)

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-89: Besondere Anforderungen für gewerbliche Kühl-/Gefriergeräte mit eingebautem oder getrenntem Verflüssigersatz oder Motorverdichter
(IEC 60335-2-89:2010)



CENELEC

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

**Central Secretariat: Avenue Marnix 17, B - 1000 Brussels**



Ref. No. EN 60335-2-89:2010 E

SEK Svensk Elstandard

## Foreword

The text of document 61C/460/FDIS, future edition 2 of IEC 60335-2-89, prepared by SC 61X of the IEC Technical Committee 61, Safety of household and similar electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60335-2-89 on 2010-03-01.

This European Standard supersedes EN 60335-2-89:2002, EN 60335-2-89:2002/A1:2005, EN 60335-2-89:2002/A2:2007 and EN 60335-2-89:2002/A11:2004.

The principal changes in this edition as compared with EN 60335-2-89:2002 are as follows (minor changes are not listed):

– aligns the text with EN 60335-1, and its Amendments 1, 2, 11, 12 and 13;

– introduces requirements for appliances using transcritical refrigerant systems (3.107, 3.108, 3.109, 3.110, 3.111, 7.1, 7.6, 7.12.1, 22.103, 24.1.4, 24.102);

– introduces an enhanced flexing test (23.3).

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

The following dates were fixed:

| | | |
|---|---|---|
| - latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2010-12-01 |
| - date on which national standards conflicting with the EN have to be withdrawn | (dow) | 2013-03-01 |

This Part 2 has to be used in conjunction with EN 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements. It was established on the basis of the 2002 edition of that standard. Amendments and revisions of Part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of Part 1.

This Part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European Standard: Safety requirements for electric appliances - Safety - Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor

When a particular subclause of Part 1 is not mentioned in this Part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

NOTE 1 The following numbering system is used:

– subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;

– unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;

– additional annexes are lettered AA, BB, etc.;

– subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

NOTE 2 The following print types are used:

– requirements: in roman type;

– *test specifications: in italic type*;

– notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

There are no special national conditions causing a deviation from this European Standard, other than those listed in Annex ZA to EN 60335-1.

There are no national deviations from this European Standard, other than those listed in Annex ZB to EN 60335-1.

p NOTE In this document, p is used in the margin to indicate instructions for preparing the printed version.

## Introduction

p Add:

An investigation by CENELEC TC 61 has shown that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 2006/95/EC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 2006/42/EC, has shown that the risks are mainly of electrical origin and consequently this directive is not applicable. However, the relevant essential safety requirements of the Machinery Directive are covered by this standard together with the principal objectives of the Low Voltage Directive.

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## Endorsement notice

The text of the International Standard IEC 60335-2-89:2010 was approved by CENELEC as a European Standard without any modification.

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## Bibliography

p Add the following notes to the standards mentioned:

| | |
|---|---|
| IEC 60079 series | NOTE Harmonized in EN 60079 series (partially modified). |
| IEC 60335-2-24 | NOTE Harmonized as EN 60335-2-24. |
| IEC 60335-2-75 | NOTE Harmonized as EN 60335-2-75. |
| ISO 13732-1 | NOTE Harmonized as EN ISO 13732-1. |
| ISO 23953-2 | NOTE Harmonized as EN ISO 23953-2. |

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p Add:

## Annex ZC
(normative)

## Normative references to international publications with their corresponding European publications

*Addition:*

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 60079-4[1)] | - | Electrical apparatus for explosive gas atmospheres - Part 4: Method of test for ignition temperature | - | - |
| IEC 60079-4A[2)] | - | Electrical apparatus for explosive gas atmospheres - Part 4: Method of test for ignition temperature - First supplement to IEC 60079-4:1966 | - | - |
| IEC 60079-15 | 2005 | Electrical apparatus for explosive gas atmospheres - Part 15: Construction, test and marking of type of protection "n" electrical apparatus | EN 60079-15 | 2005 |
| IEC/TR 60079-20 | - | Electrical apparatus for explosive gas atmospheres - Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus | - | - |
| IEC 60335-2-5 | - | Household and similar electrical appliances - Safety - Part 2-5: Particular requirements for dishwashers | EN 60335-2-5 | 2003<br>2009 |
| IEC 60335-2-34<br>+ A1<br>+ A2 | 2002<br>2004<br>2008 | Household and similar electrical appliances - Safety - Part 2-34: Particular requirements for motor-compressors | EN 60335-2-34<br>+ A1<br>+ A2<br>+ A11 | 2002<br>2005<br>2009<br>2004 |
| ISO 817 | - | Organic refrigerants - Number designation | - | - |
| ISO 3864-1 | - | Graphical symbols - Safety colours and safety signs - Part 1: Design principles for safety signs in workplaces and public areas | - | - |
| ISO 4126-2 | 2003 | Safety devices for protection against excessive pressure - Part 2: Bursting disc safety devices | - | - |
| ISO 5149 | - | Mechanical refrigerating systems used for cooling and heating - Safety requirements | - | - |

[1)] IEC 60079-4 is superseded by IEC 60079-20-1:2010.

[2)] IEC 60079-4A is superseded by IEC 60079-20-1:2010.

# CONTENTS

# INTRODUCTION

It has been assumed in the drafting of this International standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the appliance in question over and above the general requirements.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features which impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

# HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

## Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor

## 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard specifies safety requirements for electrically operated commercial refrigerating appliances that have an incorporated compressor or that are supplied in two units for assembly as a single appliance in accordance with the manufacturer's instructions (split system).

NOTE 101 Examples of appliances that are within the scope of this standard are

– **refrigerated display** and **storage cabinets**;
– refrigerated trolley cabinets;
– service counters and self-service counters;
– blast chillers and blast freezers.

As far as is practicable, this standard deals with the common hazards presented by these types of appliances.

It does not cover those features of construction and operation of refrigerating appliances which are dealt with in ISO standards.

NOTE 102 Attention is drawn to the fact that

– for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
– in many countries, additional requirements are specified by national authorities.

NOTE 103 This standard does not apply to

– domestic refrigerating appliances (IEC 60335-2-24)
– industrial refrigerating systems;
– motor-compressors (IEC 60335-2-34);
– commercial dispensing appliances and vending machines (IEC 60335-2-75);
– commercial ice-cream appliances;
– commercial ice makers;
– cold temperature rooms;
– multiple refrigerated chambers with a remote compressor.

NOTE 104 Appliances with a charge of more than 150 g of **flammable refrigerant** in each separate refrigerant circuit are not covered by this standard. For appliances with a charge greater than 150 g of **flammable refrigerant** in each refrigerant circuit and for the installation, ISO 5149 may be applied. Consequently, such appliances cannot be assessed for safety using this part 2.

## 2 Normative references

*This clause of Part 1 is applicable except as follows:*

*Addition:*

IEC 60079-4, *Electrical apparatus for explosive gas atmospheres – Part 4: Method of test for ignition temperature*

IEC 60079-4A, *Electrical apparatus for explosive gas atmospheres – Part 4: Method of test for ignition temperatures – First supplement*

IEC 60079-15:2005, *Electrical apparatus for explosive gas atmospheres – Part 15: Construction, test and marking of type of protection "n" electrical apparatus*

IEC/TR 60079-20, *Electrical apparatus for explosive gas atmospheres – Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus*

IEC 60335-2-5, *Household and similar electrical appliances – Safety – Part 2-5: Particular requirements for dishwashers*

IEC 60335-2-34:2002, *Household and similar electrical appliances – Safety – Part 2-34: Particular requirements for motor-compressors*
Amendment 1 (2004)
Amendment 2 (2008)[1)]

ISO 817, *Refrigerants – Designation system*

ISO 3864-1, *Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs in workplaces and public areas*

ISO 4126-2:2003, *Safety devices for protection against excessive pressure – Bursting disc safety devices*

ISO 5149, *Mechanical refrigerating systems used for cooling and heating – Safety requirements*

[redacted]

1) There exists a consolidated edition 4.2 (2009) that includes Edition 4 and its Amendment 1 and Amendment 2.