

**SLOVENSKI STANDARD**  
**SIST EN 60335-2-89:2011/A1:2016**  
**01-april-2016**

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**Gospodinjiski in podobni električni aparati - Varnost - 2-89. del: Posebne zahteve za komercialne hladilne naprave z vgrajeno ali zunanjo hladilno kondenzatorsko enoto ali kompresorjem - Dopnilo A1**

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

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-89: Besondere Anforderungen für gewerbliche Kühl-/Gefriergeräte mit eingebautem oder getrenntem Verflüssigersatz oder Motorverdicht

[SIST EN 60335-2-89:2011/A1:2016](https://standards.iteh.ai/catalog/standards/sist/80a94c00-6ff7-4ca0-ad16-20632a029260/sist-en-60335-2-89-2011-a1-2016)

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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

**Ta slovenski standard je istoveten z: EN 60335-2-89:2010/A1:2016**

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**ICS:**

97.130.20      Hladilne naprave za trgovine      Commercial refrigerating appliances

**SIST EN 60335-2-89:2011/A1:2016**      en

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EUROPEAN STANDARD

**EN 60335-2-89:2010/A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2016

ICS 97.130.20

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/A1:2012 , modified)

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  
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(IEC 60335-2-89:2010/A1:2012 , modifiée)

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/A1:2012 , modifiziert)

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This amendment A1 modifies the European Standard EN 60335-2-89:2010; it was approved by CENELEC on 2015-08-17. 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.

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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, Former Yugoslav Republic of Macedonia, 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.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

**EN 60335-2-89:2010/A1:2016****European foreword**

This document (EN 60335-2-89:2010/A1:2016) consists of the text of IEC 60335-2-89:2010/A1:2012 prepared by SC 61C "Safety of refrigeration appliances for household and commercial use" of IEC/TC 61 "Safety of household and similar electrical appliances", together with the common modifications prepared by CLC/TC 61, "Safety of household and similar electrical appliances".

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-08-12
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-02-12

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 amendment supplements or modifies the corresponding clauses of EN 60335-1:2012 and EN 60335-2-89:2010.

Clauses, subclauses, notes, tables and annexes which are additional to those in IEC 60335-2-89:2010/A1:2012 or in IEC 60335-1:2010 are prefixed "Z".

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

For the relationship with EU Directive 2006/42/EC, see informative Annex ZZ, which is an integral part of this document.

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**Endorsement notice**

The text of the International Standard IEC 60335-2-89:2010/A1:2012 was approved by CENELEC as a European Standard with agreed common modifications.

## COMMON MODIFICATIONS

### Introduction

*Replace the addition of CENELEC common modifications with the following:*

The Essential Health and Safety Requirements of the Machinery Directive 2006/42/EC have also been taken into account.

Products within the scope of this standard may incorporate pressurized components for which the Pressure Equipment Directive, 2014/68/EU, applies:

Refrigerating systems having a pressure greater than 0,05 MPa are considered to be assemblies falling within the scope of the Pressure Equipment Directive, 2014/68/EU. However, according to Article 1, item 2 (f) of the Directive, equipment classified no higher than category I under Article 13 of the PED and covered by the Low Voltage Directive or Machinery Directive are excluded from its scope.

Compliance with this standard does not give a means of conformity with the essential requirements of the Pressure Equipment Directive for those appliances that fall within its scope.

Other requirements and other EU Directives may be applicable to the appliances falling within the scope of this standard.

### 1 Scope

*Add after the 1<sup>st</sup> paragraph the following new paragraph:*

This standard applies to commercial refrigerators and freezers used for the display of food products, including beverages, for retail sale.

*Add the following NOTE after NOTE 101:*

NOTE Z101 **Commercial use** of these refrigerating appliances is for example their use in restaurants, canteens, hospitals and commercial enterprises such as bakeries, butcheries, supermarkets etc.

*Add the following paragraph before NOTE 102.*

In many countries additional requirements on the safe use of the equipment covered may be specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

NOTE 102:

*Delete the second dashed item:*

*Add the following dashed item:*

– for scrapping of appliances, additional requirements may be necessary.

NOTE 103

*Add the following new dashed item:*

– appliances with a charge greater than 150 g of **flammable refrigerant** in each separate refrigerant circuit.

NOTE 104: *Delete the NOTE.*

*Add the following new paragraph:*

Products covered by this standard do not create a noise hazard; therefore no specific provisions concerning noise are given.

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## 2 Normative references

Add the following standards:

EN 614-1:2006+A1:2009, *Safety of machinery – Ergonomic design principles – Part 1: Terminology and general principles*

EN 614-2:2000+A1:2008, *Safety of machinery - Ergonomic design principles - Part 2: Interactions between the design of machinery and work tasks*

EN ISO 14159:2008, *Safety of machinery - Hygiene requirements for the design of machinery* (ISO 14159:2002)

## 3 Terms and Definitions

Add the following definitions:

### 3.Z101

#### guard

part of the appliance specifically designed to provide protection by means of a physical barrier

### 3.Z102

#### operator

person installing, operating, adjusting, maintaining, cleaning or moving the appliance

### 3.Z103

#### commercial use

intended use of appliances covered by this standard in a professional way

Note 1 to entry: For the purpose of this standard **commercial use** may be read as not intended for domestic use.

## 4 General requirement

*Replacement:*

Appliances shall be constructed so that they function safely so as to cause no danger to persons or surroundings during normal use, even in the event of carelessness, and during installation, adjusting, maintenance, cleaning, repairing or transportation.

The use of **flammable refrigerants** involves some additional hazards which are not associated with appliances which use non-**flammable refrigerants**.

This standard addresses the hazard due to ignition of leaked **flammable refrigerant** by potential ignition sources associated with the appliance.

The hazard due to ignition of leaked **flammable refrigerant** by an external potential ignition source associated with the environment in which the appliance is installed is compensated for by the low probability of ignition.

*In general, this principle is achieved by fulfilling the relevant requirements specified in this standard and compliance is checked by carrying out all the relevant tests.*

*The interpretations included in CLC/TR 50417 shall be taken into consideration together with the relevant requirements in the standards listed therein.*

## 7 Marking and instructions

7.1 Replace the fourth and fifth dashed items in part 1 by:

- business name and full address of the manufacturer and, where applicable, his authorized representative;
- model or type reference, serial number, if any, and production year;

NOTE Z101 Production year is the year when the production process is completed. The production year can be a part of the serial number.

Add a new dashed item:

- designation of the appliance.

NOTE Z102 The designation may be a combination of letters and/or numbers and shall enable to identify the machine as specified in the instructions.

**7.12** *Add the following to the addition:*

The instructions shall contain the following:

- business name and full address of the manufacturer and, where applicable, his authorized representative;
- model or type reference of the appliance as marked on the appliance itself, except for the serial number;
- designation of the appliance together with its explanation in case it is given by a combination of letters and/or numbers;
- a general description of the appliance, when needed due to the complexity of the appliance;
- specific precautions if required during installation, operation, adjusting, user maintenance, cleaning, repairing or moving;
- when needed drawings, diagrams, descriptions and explanations necessary for the safe use and user maintenance of the appliance;
- the possible reasonably foreseeable misuse and, whenever relevant, a warning against the effects it may have on the safe use of the appliance;

The words “Original instructions” shall appear on the language version(s) verified by the manufacturer or by the authorized representative.

When a translation of the original instructions has been provided by a person introducing the appliance on the market; the meaning of the sentence “Translation of the original instructions” has to appear in the relevant instructions delivered with the appliance.

The instructions for maintenance/service to be done by specialized personnel, mandated by the manufacturer or the authorized representative may be supplied in only one Community language which the specialized personnel understand.

The instructions shall indicate the type and frequency of inspections and maintenance required for safe operation including the preventive maintenance measures.

*Add the new following sub-clauses:*

**7.12.Z101** Information shall be given:

- on use, transportation, assembly, dismantling when out of service, testing or foreseeable breakdowns, if these operations have consequences on stability of the appliance in order to avoid overturning, falling or uncontrolled movements of the appliance or of its component parts;
- on how to maintain adequate mechanical stability when in use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance;
- on the protective measures to be taken by the user, including, where appropriate, the personal protective equipment to be provided;

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- on the operating method to be followed in the event of accident or breakdown; if a blockage is likely to occur the operating method to safely unblock the appliance;
- on the specifications on the spare parts to be used, when these affect the health and safety of the **operator**;
- that the A-weighted emission sound pressure level is below 70 dB(A);

**7.12.1.Z102** Instructions shall be given, when necessary, concerning safe handling and transportation on the packed appliance or have to be delivered together with the package.

**7.12.1.Z103** If the installation instructions state that appliance can be placed on top of a other appliance, they shall state which appliances are suitable. Instructions shall be given for the assembly of the appliances. The instructions shall state how to obtain any fixing attachments required, unless they are supplied with the appliance.

**7.12.Z104** The instructions shall include a warning that the appliance shall be disconnected from its power source during cleaning or maintenance and when replacing parts. If the removal of the plug is foreseen, it shall be clearly indicated that the removal of the plug has to be such that an operator can check from any of the points to which he has access that the plug remains removed.

If this is not possible, due to the construction of the appliance or its installation, a disconnection with a locking system in the isolated position shall be provided.

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## 8 Protection against access to live parts

**8.1.1** *The text of A1 should read “Delete the modification in Part 2”.*  
<https://standards.iteh.ai/catalog/standards/sist/80a94c00-6ff7-4ca0-ad16-526f832cfb6c/sist-en-60335-2-89-2011-a1-2016>

## 20 Stability and mechanical hazards

### Add new sub clause

#### 20.1.Z101

Appliances and their components and fittings shall have adequate mechanical stability during transportation, assembly, dismantling and any other action involving the appliance.

*Compliance is checked by verifying the instructions and by the relevant tests, if necessary.*

#### 20.2 Add after the second paragraph:

Dangerous moving transmission parts shall be safeguarded either by design or **guards**. When **guards** are used, they shall be fixed **guards**.

NOTE Z101 Parts of the enclosure can fulfil the guarding function.



## 21 Mechanical strength

### 21.1 Add before the "Addition":

Replace the first paragraph of Part 1 by:

Appliances and their components and fittings shall have adequate mechanical strength and be constructed to withstand such rough handling that may be expected in normal use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance.

## 22 Construction

### 22.104 Add at the end of the first paragraph the following text:

In refrigerators with swing glass door(s) constructed from a two-pane or three-pane glass, the inside pane (the one at the side of the refrigerated space) is considered as an **accessible glass panel**. In refrigerators with sliding glass doors that are superposed on each other when opened, the inside pane (the one at the side of the refrigerated space) is not considered as an **accessible glass panel**. In refrigerators with glass door(s) made from a three pane glass, the middle pane is not considered as an **accessible glass panel**.

Add the following new sub-clauses:

**22.Z101** For appliances provided with separate devices for the start and the stop functions, the stop function shall be unambiguously identifiable and shall always override the start function.

For appliances provided with one device performing the start and the stop function, the stop function shall be unambiguously identifiable and shall always override the start function.

*Compliance is checked by inspection and by manual test.*

**22.Z102** Appliances shall be designed in such a way that incorrect mounting is avoided, if this can lead to an unsafe situation. If this is not possible, information on the correct mounting shall be given directly on the part and/or the enclosure.

*Compliance is checked by inspection.* (standards.iteh.ai)

**22.Z103** Where the weight, size or shape prevents empty appliances from being moved manually, they shall be fitted with attachments for lifting gear or be designed so they can be fitted with such attachments, or be shaped in such a way that standard lifting gear can easily be used.

Appliances to be moved manually shall be constructed or shall be equipped so that they can be moved easily and safely.

*Compliance is checked by inspection and by functional test, if necessary.*

**22.Z104** The fixing systems of fixed guards which prevent access to dangerous moving parts shall only be removable with the use of tools.

If such **guards** have to be removed by the user for routine cleaning or maintenance their fixing systems must remain attached to the fixed guards or to the appliance after removal. Where possible, guards must be incapable of remaining in place without their fixings.

The requirement in the above paragraph does not apply if after removal of the screws, or if the component is incorrectly repositioned, the appliance becomes inoperative.

*Compliance is checked by inspection.*

**22.Z105** In case of interruption, re-establishment after an interruption or fluctuation in whatever manner of the power supply, the appliance shall not restart, however automatic restarting of the operation is allowed if the appliance may continue to operate, without causing any hazard to the user, from the same point in its operating cycle at which the voltage interruption or fluctuation occurred.

*Compliance is checked by inspection.*

**22.Z106** Appliances shall be fitted with means to isolate them from all energy sources (e.g. hot water, steam, compressed air). Such isolators must be clearly identified. They shall be capable of being locked if reconnection could endanger persons.

Such means may be part of the fixed installation external to the appliance.

After the energy source is disconnected, it shall be possible to dissipate any energy remaining or stored in the circuits of the appliance without risk to persons.

*Compliance is checked by inspection.*

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**22.Z107** If the instructions state that an appliance can be placed on top of a other appliance, this shall be possible without tilting or falling of the above appliance.

*Compliance is checked by inspection and by the following test.*

*The appliances are assembled together in accordance with the instructions. The empty or loaded combination, whichever is unfavourable, is placed in the most unfavourable orientation on a surface that is inclined at 5° to the horizontal with doors, lids and similar parts placed in the most unfavourable position.*

*The appliances shall not tilt and the appliance above shall not fall off.*

**22.Z108** Appliances shall comply with the hygiene requirements of EN ISO 14159.

*Compliance is checked by inspection and tests, if necessary.*

**22.Z109** Appliances shall comply with the ergonomic principles of EN 614-1 and EN 614-2.

*Compliance is checked by documentation and inspection.*

**32 Radiation, toxicity and similar hazards**

This clause of Part 1 is applicable.

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## Annex ZC (normative)

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

*Replacement and addition in the annex:*

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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**Replace EN 60079-15 by EN 60079-15:2010:**

IEC 60079-15	2010	Explosive atmospheres – Part 15: Equipment protection by type of protection "n"	EN 60079-15	2010
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**Add the following standards:**

ISO 7010	2011	Graphical symbols - Safety colours and safety signs – Registered safety signs	EN ISO 7010	2012
-	-	Safety of machinery - Ergonomic design principles – Part 1: Terminology and general principles	EN 614-1+A1	2009
-	-	Safety of machinery - Ergonomic design principles - Part 2: Interactions between the design of machinery and work tasks	EN 614-2+A1	2008
ISO 14159	2008	Safety of machinery - Hygiene requirements for the design of machinery	EN ISO 14159	2008