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**Gospodinjski in podobni električni aparati - Varnost - 2-34. del: Posebne zahteve za motorne kompresorje - Dopolnilo A11**

Household and similar electrical appliances - Safety - Part 2-34: Particular requirements for motor-compressors

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-34: Besondere Anforderungen für Motorverdichter

Appareils électrodomestiques et analogues - Sécurité - Partie 2-34: Exigences particulières pour les motocompresseurs

**Ta slovenski standard je istoveten z: EN IEC 60335-2-34:2023/A11:2023**

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**ICS:**

23.140	Kompresorji in pnevmatični stroji	Compressors and pneumatic machines
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**SIST EN IEC 60335-2-34:2023/A11:2023 en**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN IEC 60335-2-34:2023/A11

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ICS 97.040.30

English Version

Household and similar electrical appliances - Safety - Part 2-34:  
Particular requirements for motor-compressors

Appareils électrodomestiques et analogues - Sécurité -  
Partie 2-34: Exigences particulières pour les  
motocompresseurs

Sicherheit elektrischer Geräte für den Hausgebrauch und  
ähnliche Zwecke - Teil 2-34: Besondere Anforderungen für  
Motorverdichter

This amendment A11 modifies the European Standard EN IEC 60335-2-34:2023; it was approved by CENELEC on 2022-09-05. 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

## European foreword

This document (EN IEC 60335-2-34:2023/A11:2023) has been prepared by CLC/TC 61 “Safety of household and similar electrical appliances”.

The following dates are fixed:

- latest date by which this document has to be (dop) 2023-11-05  
implemented at national level by publication of an  
identical national standard or by endorsement
- latest date by which the national standards (dow) 2026-05-05  
conflicting with this document have to be withdrawn

This document is read in conjunction with EN IEC 60335-2-34:2023.

The numbering system for European clauses, subclauses, notes, tables, figures and annexes that are additional to those in the IEC standard are prefixed with the letter “Z”.

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

This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users’ national committee. A complete listing of these bodies can be found on the CENELEC website. :2023/A11:2023

<https://standards.iteh.ai/catalog/standards/sist/17693f21-02c5-4b9f-a06e-6c7da451de33/sist-en-iec-60335-2-34-2023-a11-2023>

## 1 Modification to the Introduction

*Addition:*

With European Amendment A11, EN 60335-2-34:2013 is superseded.

This European Amendment A11, supplements or modifies the corresponding clauses of the standards below:

- EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019+A15:2021+A16:—<sup>1</sup> (Part 1)
- EN IEC 60335-2-34:2023 (Part 2)

## 2 Modification to Clause 1, “Scope”

*Replace the fifth paragraph, excluding note 102, starting from “So far as is practicable ...” up to “-playing with the appliances by young children” by the following:*

This document deals with the reasonably foreseeable hazards presented by appliances that are encountered by all persons. However, in general, it does not take into account:

- **children** playing with the appliance;
- the use of the appliance by **young children** and **very young children**;
- the use of the appliance by **older children** without supervision.

It is recognized that **very vulnerable people** may have needs beyond the level addressed in this document.

*In the sixth paragraph starting with “This standard does not apply...”, modify the first dashed item as follows:*

- **motor-compressors** designed exclusively for industrial purposes (EN 12693 or EN 60034-1);

## 3 Modification to Clause 6, “Classification”

### 6.101 Modification

*Replace “are classified” with “shall be classified” (twice) and “can be classified” by “shall be classified”.*

## 4 Modification to Clause 19, “Abnormal operation”

### 19.13 Modification

*In the addition, replace “this shall be reported” with “shall comply with the requirements of IEC 60079-1 and IEC 60079-15, as modified by Annex DD, for group IIA gases or the refrigerant used”.*

## 5 Modification to Clause 24, “Components”

### 24.1.4 Modification

*Delete the paragraph starting with “Thermal motor protectors are tested in combination...”.*

## 6 Modification to annexes

<sup>1</sup> To be published in 2023. Stage at the time of publication: FprEN 60335-1:2012/A16:2021.

**Annex C**  
(normative)

**Ageing test on motors**

*This annex of Part 1 is not applicable, as it is covered by subclause 22.9 of this document.*

**Annex D**  
(normative)

**Thermal motor protectors**

*This annex of Part 1 is not applicable, as it is covered by subclause 19.101 of this document.*

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Add the following annexes:

## 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, 2014/68/EU. However, according to Article 1, item (f) of the Directive, equipment classified no higher than category I and covered by the Low Voltage Directive 2014/35/EU or the Machinery Directive 2006/42/EC is excluded from its scope.

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

#### Vessels

- dangerous fluids (Annex II, Table 1):
  - volume not exceeding 1 l, or
  - pressure PS x volume not exceeding 5 MPa l.

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

#### Piping

- dangerous fluids (Annex II, Table 6):
  - Nominal diameter DN not exceeding 25, or
  - pressure PS not exceeding 1 MPa and nominal diameter DN not exceeding 100, or
  - pressure PS exceeding 1 MPa and pressure x nominal diameter DN not exceeding 100 MPa.
- non-dangerous fluids (Annex II, Table 7):
  - nominal diameter DN not exceeding 100, or
  - pressure PS x nominal diameter DN 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 PS is the maximum allowable pressure the vessel or piping is exposed to, as specified by the manufacturer of the appliance.

NOTE ZAA1 The pressure PS can differ throughout the refrigerating system, e.g. for High Pressure side and for Low Pressure side.

NOTE ZAA2 The determination of PS is described in EN 378-2, 6.2.2.

## EN IEC 60335-2-34:2023/A11:2023 (E)

'Nominal size (DN)' means a numerical designation of size which is common to all components in a piping system other than components indicated by outside diameters or by thread size. It is a convenient round number for reference purposes and is only loosely related to manufacturing dimensions. The nominal size is designated by DN followed by a number. In the absence of a DN designation, it shall be assumed that DN corresponds to the internal diameter (for circular products) or the comparative diameter determined from the equivalent flow section (for non-circular products).

If any component exceeds the limits given above, the appliance must 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 refrigerants, classified as dangerous fluids of Fluid Group 1 in the Directive, are listed in Table ZAA.1.

Table ZAA.1 — Refrigerants classified as Fluid Group 1

Refrigerant number	Refrigerant name	Refrigerant formula
R-32	difluoromethane	CH <sub>2</sub> F <sub>2</sub>
R-143a	1,1,1-trifluoroethane	CF <sub>3</sub> CH <sub>3</sub>
R-290	propane	C <sub>3</sub> H <sub>8</sub>
R-600	butane	C <sub>4</sub> H <sub>10</sub>
R-600a	isobutane	CH(CH <sub>3</sub> ) <sub>3</sub>
R-1270	propylene	C <sub>3</sub> H <sub>6</sub>
R-1234yf	2,3,3,3 tetrafluoroprop-1-ene	CF <sub>3</sub> CF = CH <sub>2</sub>

Commonly used refrigerants, classified as non-dangerous fluids of Fluid Group 2 in the Directive, are listed in Table ZAA.2.

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<https://standards.globalspec.com/std/60335-2-34/2023/A11/2023>  
 Table ZAA.2 — Refrigerants classified in Fluid Group 2

Refrigerant number	Refrigerant name	Refrigerant formula	Blended refrigerants
R-125	pentafluoroethane	CF <sub>3</sub> CHF <sub>2</sub>	-
R-134a	1,1,1,2-tetrafluoroethane	CF <sub>3</sub> CH <sub>2</sub> F	-
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 %)
R-1234ze	Trans-1,3,3,3-tetrafluoroprop-1-ene	CF <sub>3</sub> CH = CHF	-

## Annex ZC (normative)

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

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

*The Annex ZC of Part 1 is applicable, with the following additions:*

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60079-1	2014	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures “d”	EN 60079-1 + AC	2014 2018
IEC 60079-15	2017	Explosive atmospheres – Part 15: Equipment protection by type of protection “n”	EN IEC 60079-15	2019
IEC 60851-4	2016	Winding wires – Test methods – Part 4: Chemical properties	EN 60851-4	2016
IEC 60851-5	2008	Winding wires – Test methods – Part 5: Electrical properties	EN 60851-5	2008
+A1	2011		+ A1	2011
+A2	2019		+ A2	2019
ISO 817	2014	Refrigerants – Designation and safety classification	-	-
+A1	2017			
ISO 7010	2019	Graphical symbols – Safety colours and safety signs – Registered safety signs	EN ISO 7010 + A1 + A2 + A3	2020 2020 2022 2022

## 7 Modification to Bibliography

Add the following notes to the references:

IEC 60335-2-11	NOTE	Harmonized as EN IEC 60335-2-11
IEC 60335-2-24	NOTE	Harmonized as EN IEC 60335-2-24
IEC 60335-2-40	NOTE	Harmonized as EN IEC 60335-2-40
IEC 60335-2-75	NOTE	Harmonized as EN IEC 60335-2-75
IEC 60335-2-89	NOTE	Harmonized as EN IEC 60335-2-89
IEC 60335-2-118	NOTE	Harmonized as EN IEC 60335-2-118
IEC 61010-2-011	NOTE	Harmonized as EN 61010-2-011

Addition:

EN 378-2:2016, *Refrigerating systems and heat pumps - Safety and environmental requirements - Part 2: Design, construction, testing, marking and documentation*

EN 12693:2008, *Refrigerating systems and heat pumps - Safety and environmental requirements - Positive displacement refrigerant compressors*

EN 60034-1:2010,<sup>2</sup> *Rotating electrical machines. Rating and performance*

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<sup>2</sup> As impacted by EN 60034-1:2010/corrigendum Oct. 2010.