



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN IEC 60335-2-34:2023

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

05/2023



National Foreword

This European Standard EN IEC 60335-2-34:2023 was adopted as Luxembourgish Standard ILNAS-EN IEC 60335-2-34:2023.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

<https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html>

THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

ILNAS-EN IEC 60335-2-34:2023

EUROPEAN STANDARD **EN IEC 60335-2-34**

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2023

ICS 97.040.30

Supersedes EN 60335-2-34:2013

English Version

**Household and similar electrical appliances - Safety - Part 2-34:
Particular requirements for motor-compressors
(IEC 60335-2-34:2021)**

Appareils électrodomestiques et analogues - Sécurité -
Partie 2-34: Exigences particulières pour les
motocompresseurs
(IEC 60335-2-34:2021)

Sicherheit elektrischer Geräte für den Hausgebrauch und
ähnliche Zwecke - Teil 2-34: Besondere Anforderungen für
Motorverdichter
(IEC 60335-2-34:2021)

This European Standard 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 European Standard 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 European Standard 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) consists of the text of document IEC 60335-2-34:2021, prepared by IEC/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 supersedes EN 60335-2-34:2013 and all of its amendments and corrigenda (if any).

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 is read in conjunction with EN IEC 60335-2-34:2022/A11:2023.

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.

Endorsement notice

The text of the International Standard IEC 60335-2-34:2021 was approved by CENELEC as a European Standard without any modification.



INTERNATIONAL STANDARD

NORME INTERNATIONALE



**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**

CONTENTS

FOREWORD	4
INTRODUCTION	7
1 Scope	9
2 Normative references	10
3 Terms and definitions	10
4 General requirement	12
5 General conditions for the tests	12
6 Classification	13
7 Marking and instructions	14
8 Protection against access to live parts	15
9 Starting of motor-operated appliances	15
10 Power input and current	15
11 Heating	15
12 Void	16
13 Leakage current and electric strength at operating temperature	16
14 Transient overvoltages	16
15 Moisture resistance	16
16 Leakage current and electric strength	16
17 Overload protection of transformers and associated circuits	16
18 Endurance	16
19 Abnormal operation	16
20 Stability and mechanical hazards	22
21 Mechanical strength	22
22 Construction	22
23 Internal wiring	25
24 Components	26
25 Supply connection and external flexible cords	26
26 Terminals for external conductors	26
27 Provision for earthing	26
28 Screws and connections	26
29 Clearances, creepage distances and solid insulation	26
30 Resistance to heat and fire	28
31 Resistance to rusting	28
32 Radiation, toxicity and similar hazards	28
Annexes	29
Annex C (normative) Ageing test on motors	29
Annex D (normative) Thermal motor protectors	29
Annex AA (normative) Running overload tests for motor-compressors classified as tested with Annex AA	30
Annex BB (normative) Winding wire insulation compatibility tests	34
Annex CC (normative) Tie cords and insulation compatibility tests	38

Annex DD (normative) Non-sparking “n” electrical apparatus and test condition for “dc” devices	40
Annex EE (normative) Fatigue test.....	41
Bibliography.....	43
 Figure 101 – Supply circuit for the locked-rotor test of a single-phase motor-compressor.....	28
Figure AA.1 – Substitute refrigeration circuit.....	33
Figure BB.1 – Motorette components	36
Figure BB.2 – Completely assembled motorette	37
 Table 101 – Minimum high side test pressures.....	23
Table 102 – Minimum low side test pressures	24
Table AA.1 – Substitute refrigeration circuit conditions for operation under maximum load	31
Table AA.2 – Steps for increasing the load on the motor-compressor.....	32
Table BB.1 – Time temperature heating cycles	35
Table CC.1 – Time temperature heating cycles	39