

STN	Elektrické ručné náradie, prenosné náradie a strojové zariadenia pre trávnik a záhradu Bezpečnosť Časť 4-6: Osobitné požiadavky na záhradné fukáre, záhradné vysávače a záhradné fukáre/vysávače	STN EN IEC 62841-4-6 36 1560
------------	---	--

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 4-6: Particular requirements for garden blowers, garden vacuums and garden blower/vacuums

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/24

Obsahuje: EN IEC 62841-4-6:2024, IEC 62841-4-6:2022

138854

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2024
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 62841-4-6

May 2024

ICS 25.140.20

English Version

**Electric motor-operated hand-held tools, transportable tools and
lawn and garden machinery - Safety - Part 4-6: Particular
requirements for garden blowers, garden vacuums and garden
blower/vacuums
(IEC 62841-4-6:2022)**

Outils électroportatifs à moteur, outils portables et machines
pour jardins et pelouses - Sécurité - Partie 4-6: Exigences
particulières pour souffleurs de jardin, aspirateurs de jardin
et souffleurs/aspirateurs de jardin
(IEC 62841-4-6:2022)

Elektrische motorbetriebene handgeführte Werkzeuge,
transportable Werkzeuge und Rasen- und
Gartenmaschinen - Sicherheit - Teil 4-6: Besondere
Anforderungen für Gartenbläser, Gartensauger und
Gartenbläser/-sauger
(IEC 62841-4-6:2022)

This European Standard was approved by CENELEC on 2024-04-29. 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

EN IEC 62841-4-6:2024 (E)**European foreword**

The text of document 116/622/FDIS, future edition 1 of IEC 62841-4-6, prepared by IEC/TC 116 "Safety of motor-operated electric tools" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62841-4-6:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-04-29 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2028-04-29 document have to be withdrawn

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 addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZZ, which is an integral part of EN IEC 62841-4-6:2024/A11:2024.

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 62841-4-6:2022 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60335-2-2 NOTE Approved as EN IEC 60335-2-2

IEC 60335-2-69 NOTE Approved as EN 60335-2-69



IEC 62841-4-6

Edition 1.0 2022-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –
Part 4-6: Particular requirements for garden blowers,
garden vacuums and garden blower/vacuums**

**Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses – Sécurité –
Partie 4-6: Exigences particulières pour souffleurs de jardin, aspirateurs de jardin et souffleurs/aspirateurs de jardin**

**THIS PUBLICATION IS COPYRIGHT PROTECTED****Copyright © 2022 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 300 terminological entries in English and French, with equivalent terms in 19 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC -**webstore.iec.ch/advsearchform**

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, ...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 300 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 19 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.



IEC 62841-4-6

Edition 1.0 2022-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –
Part 4-6: Particular requirements for garden blowers,
garden vacuums and garden blower/vacuums**

**Outils électroportatifs à moteur, outils portables et machines pour jardins et pelouses – Sécurité –
Partie 4-6: Exigences particulières pour souffleurs de jardin, aspirateurs de jardin et souffleurs/aspirateurs de jardin**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 25.140.20

ISBN 978-2-8322-5688-6

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD	4
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 General requirements	11
5 General conditions for the tests	11
6 Radiation, toxicity and similar hazards	11
7 Classification	12
8 Marking and instructions	12
9 Protection against access to live parts	15
10 Starting	15
11 Input and current	15
12 Heating	16
13 Resistance to heat and fire	16
14 Moisture resistance	16
15 Resistance to rusting	17
16 Overload protection of transformers and associated circuits	17
17 Endurance	17
18 Abnormal operation	18
19 Mechanical hazards	19
20 Mechanical strength	28
21 Construction	33
22 Internal wiring	34
23 Components	34
24 Supply connection and external flexible cords	37
25 Terminals for external conductors	38
26 Provision for earthing	38
27 Screws and connections	38
28 Creepage distances, clearances and distances through insulation	39
Annexes	43
Annex I (informative) Measurement of noise and vibration emissions	43
Annex K (normative) Battery tools and battery packs	50
Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources	61
Annex AA (normative) Product safety labels which can be used on machines	64
Annex BB (informative) Example of a material and construction for fulfilling the requirements for an artificial surface	67
Bibliography	69
Figure 101 – Example of a hand-held garden blower	9
Figure 102 – Example of a backpack garden blower	10
Figure 103 – Example of a hand-held garden vacuum	10

Figure 104 – Young adult arm probe	22
Figure 105 – Adult arm probe.....	23
Figure 106 – Measurement of handle dimensions	26
Figure 107 – Minimum radial clearance around the power switch	27
Figure 108 – Hand-held garden blower positions for drop test.....	30
Figure 109 – Hand-held garden vacuum positions for drop test	31
Figure 110 – Backpack machine position for drop test	32
Figure 111 – Test piece	33
Figure 112 – Test assembly for accessibility of attachment plug blades	38
Figure I.101 – Microphone positions on the hemisphere (see Table I.101)	44
Figure AA.1 – Product safety label illustrating – "Keep bystanders away"	64
Figure AA.2 – Product safety labels illustrating – "Wear eye protection".....	64
Figure AA.3 – Product safety label illustrating – "Wear ear protection".....	65
Figure AA.4 – Product safety label illustrating – "Do not expose to rain"	65
Figure AA.5 – Product safety label illustrating – "Remove plug from the mains immediately if the cable is damaged or cut"	65
Figure AA.6 – Optional product safety label illustrating – "Wear eye and ear protection"	66
Figure BB.1 – Sketch of the measurement surface covered with an artificial surface.....	68
 Table 4 – Required performance levels	 19
Table 12 – Minimum creepage distances and clearances	40
Table I.101 – Co-ordinates of microphone positions.....	46
Table I.102 – Absorption coefficients	46
Table K.301 – Pull and torque value	58
Table K.1 – Minimum creepage distances and clearances between parts of different potential.....	59
Table K.2 – Minimum total sum of creepage distances and clearances to accessible surfaces.....	60

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY –**Part 4-6: Particular requirements for garden blowers, garden vacuums and garden blower/vacuums**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 62841-4-6 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
116/622/FDIS	116/637/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

This Part 4-6 is to be used in conjunction with the first edition of IEC 62841-1:2014.

This Part 4-6 supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for garden blowers, garden vacuums and garden blower/vacuums.

Where a particular subclause of Part 1 is not mentioned in this Part 4-6, that subclause applies as far as reasonable. Where this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

The terms defined in Clause 3 are printed in **bold typeface**.

Subclauses, notes, tables and figures which are additional to those in Part 1 are numbered starting from 101.

Subclauses, notes, tables and figures in Annex K and Annex L which are additional to those in the main body of this Part 4-6 are numbered starting from 301.

A list of all parts of the IEC 62841 series, under the general title: *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 36 months from the date of publication.

ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY –

Part 4-6: Particular requirements for garden blowers, garden vacuums and garden blower/vacuums

1 Scope

IEC 62841-1:2014, Clause 1 is applicable, except as follows:

Addition:

This document applies to hand-held and backpack

- **garden blowers;**
- **garden vacuums;** and
- **garden blower/vacuums.**

This document does not apply to

- walk-behind **garden blowers**, walk-behind **garden vacuums** and walk-behind **garden blower/vacuums**;
- robotic **garden blowers**, robotic **garden vacuums** and robotic **garden blower/vacuums**;
- vacuum cleaners intended primarily for use indoors, for water suction cleaning or animal grooming; and
- blowers intended primarily for use indoors, or animal grooming.

NOTE 101 Vacuum cleaners and water-suction cleaning appliances, including vacuum cleaners for animal grooming are covered by IEC 60335-2-2.

NOTE 102 Vacuum cleaners for commercial use are covered by IEC 60335-2-69.

2 Normative references

IEC 62841-1:2014, Clause 2 is applicable, except as follows.

Addition:

IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

IEC 61058-2-6:2018, *Switches for appliances – Part 2-6: Particular requirements for switches used in electric motor-operated hand-held tools, transportable tools and lawn and garden machinery*

IEC 62841-1:2014, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety – Part 1: General requirements*

ISO 354:2003, *Acoustics – Measurement of sound absorption in a reverberation room*

ISO 22868:2021, *Forestry and gardening machinery – Noise test code for portable hand-held machines with internal combustion engine – Engineering method (Grade 2 accuracy)*

Replacement:

IEC 61058-1:2016, *Switches for appliances – Part 1: General requirements*

ISO 3744:2010, *Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for an essentially free field over a reflecting plane*

ISO 11201:2010, *Acoustics – Noise emitted by machinery and equipment – Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN