SVENSK STANDARD

SS-EN IEC 61591, utg 3:2024

2024-01-24

COMMENTED VERSION

Elektriska hushållsapparater – Köksfläktar – Funktionsprovning

Cooking fume extractors – Methods for measuring performance

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IEC 61591

Edition 3.0 2023-03
COMMENTED VERSION

INTERNATIONAL STANDARD

colour inside

Cooking fume extractors – Methods for measuring performance

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 97.040.20

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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COOKING FUME EXTRACTORS – METHODS FOR MEASURING PERFORMANCE

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.
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This commented version (CMV) of the official standard IEC 61591:2023 edition 3.0 allows the user to identify the changes made to the previous IEC 61591:2019 edition 2.0. Furthermore, comments from IEC SC 59K experts are provided to explain the reasons of the most relevant changes, or to clarify any part of the content.

A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text. Experts' comments are identified by a blue-background number. Mouse over a number to display a pop-up note with the comment.

This publication contains the CMV and the official standard. The full list of comments is available at the end of the CMV.

IEC 61591 has been prepared by subcommittee 59K: Performance of household and similar electrical cooking appliances, of IEC technical committee 59: Performance of household and similar electrical appliances. It is an International Standard.

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This edition includes the following significant technical changes with respect to the previous edition:

a) new definition of **working point**, see 3.19;
b) new definition for **lowest setting** and **automatic setting**, see 3.17 and 3.18;
c) revised requirements for installation and positioning, see 6.2;
d) added a normative reference ISO 5801 for the specification of the pressure compensation chamber, see Clause 10;
e) separate clauses for determining the volumetric airflow and fluid dynamic efficiency, see Clauses 10 and 11;
f) new approach for determining the fluid dynamic efficiency ("9-point calculation");
g) new definitions, new clause and new Annex B regarding the measurement of low-power modes;
h) new Annex A: assumption for the parameter b.

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

Draft	Report on voting
59K/352/CDV	59K/361/RVC

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/publications.

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– terms listed in Clause 3: **Arial bold**.

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COOKING FUME EXTRACTORS – METHODS FOR MEASURING PERFORMANCE

1 Scope

This document applies to **cooking fume extractors** incorporating a fan for the **recirculation** or **extraction mode** situated in a household kitchen.

It can also be used for **cooking fume extractors** where the fan is mounted separately from the appliance, but controlled by the appliance when the fan is defined in the technical documentation (e.g. name plate data) and instructions for installation.

This document deals also with **down-draft systems** arranged beside, behind or under the cooking appliance.

This document defines the main performance characteristics of these appliances, which are of interest to the user, and specifies methods for measuring these characteristics.

This document does not specify a classification or ranking for performance.

NOTE 1 This document does not deal with safety requirements that are in accordance with IEC 60335-1 and IEC 60335-2-31.

NOTE 2 **Cooking fume extractors** without fans operated by a central ventilation system are covered in EN 13141-3.

2 Normative references

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.

IEC 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*

IEC 60704-2-13, *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 2-13: Particular requirements for range hoods and other cooking fume extractors*

IEC 60751, *Industrial platinum resistance thermometers and platinum temperature sensors*

IEC 62301:2011, *Household electrical appliances – Measurement of standby power*

IEC 63474:—[1], *Electrical and electronic household and office equipment – Measurement of networked standby power consumption of edge equipment*

ISO 5167-1, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full – Part 1: General principles and requirements*

ISO 5167-2, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full – Part 2: Orifice plates*

[1] Under preparation. Stage at the time of development: IEC CDV 63474:2022.

ISO 5167-3, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full – Part 3: Nozzles and Venturi nozzles*

ISO 5167-4, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full – Part 4: Venturi tubes*

ISO 5801:2017, *Fans – Performance testing using standardized airways*

ISO 80000-1:2009, *Quantities and units – Part 1: General*

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Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN IEC 61591

May 2023

ICS 97.040.20

Supersedes EN IEC 61591:2020;
EN IEC 61591:2020/A11:2020

English Version

Cooking fume extractors - Methods for measuring performance (IEC 61591:2023)

Extracteurs de fumée de cuisine - Méthodes de mesure de l'aptitude à la fonction
(IEC 61591:2023)

Absauger für Kochdünste - Verfahren zur Messung der Gebrauchseigenschaft
(IEC 61591:2023)

This European Standard was approved by CENELEC on 2023-05-01. 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.

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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

Ref. No. EN IEC 61591:2023 E

SEK Svensk Elstandard

SS-EN IEC 61591, utg 3:2024

European foreword

The text of document 59K/352/CDV, future edition 3 of IEC 61591, prepared by SC 59K "Performance of household and similar electrical cooking appliances" of IEC/TC 59 "Performance of household and similar electrical appliances" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61591:2023.

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)	2024-02-01
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2026-05-01

This document supersedes EN IEC 61591:2020 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.

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 61591:2023 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 60335-1 NOTE Approved as EN 60335-1

IEC 60335-2-31 NOTE Approved as EN 60335-2-31

IEC 60704-3 NOTE Approved as EN 60704-3

Annex ZA
(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.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60584-1	-	Thermocouples - Part 1: EMF specifications and tolerances	EN 60584-1	-
IEC 60704-2-13	-	Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-13: Particular requirements for range hoods and other cooking fume extractors	EN 60704-2-13	-
IEC 60751	-	Industrial platinum resistance thermometers and platinum temperature sensors	EN IEC 60751	-
IEC 62301	2011	Household electrical appliances - Measurement of standby power	EN 50564	2011
IEC 63474	—[1]	Electrical and electronic household and office equipment - Measurement of networked standby power consumption of edge equipment	EN IEC 63474	—[2]
ISO 5167-1	-	Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 1: General principles and requirements	EN ISO 5167-1	-
ISO 5167-2	-	Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 2: Orifice plates	EN ISO 5167-2	-
ISO 5167-3	-	Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 3: Nozzles and Venturi nozzles	EN ISO 6157-3	-

[1] Under preparation. Stage at the time of publication: IEC CDV 63474:2022.

[2] Under preparation. Stage at the time of publication: prEN IEC 63474:2022.

ISO 5167-4	-	Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 4: Venturi tubes	EN ISO 5167-4	-
ISO 5801	2017	Fans - Performance testing using standardized airways	EN ISO 5801	2017
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IEC 61591

Edition 3.0 2023-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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