SLOVENSKI STANDARD
SIST EN IEC 61591:2020

01-oktober-2020

Nadomešča:
SIST EN 61591:2001
SIST EN 61591:2001/A1:2006
SIST EN 61591:2001/A11:2014
SIST EN 61591:2001/A12:2015
SIST EN 61591:2001/A2:2011

Odvajalniki kuhinjskih hlapov - Metode za merjenje lastnosti

Cooking fume extractors - Methods for measuring performance

Ta slovenski standard je istoveten z: **EN IEC 61591:2020**

ICS:

97.040.20	Štedilniki, delovni pulti, pečice in podobni aparati	Cooking ranges, working tables, ovens and similar appliances

SIST EN IEC 61591:2020 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61591

July 2020

ICS 97.040.20

Supersedes EN 61591:1997 and all of its amendments and corrigenda (if any)

English Version

Cooking fume extractors - Methods for measuring performance (IEC 61591:2019)

Extracteurs de fumée de cuisine - Méthodes de mesure de l'aptitude à la fonction (IEC 61591:2019)

Absauger für Kochdünste - Verfahren zur Messung der Gebrauchseigenschaft (IEC 61591:2019)

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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

European foreword

The text of document 59K/304/CDV, future edition 2 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 61591:2020.

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) 2021-01-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-07-10

This document supersedes EN 61591:1997 and all of its amendments and corrigenda (if any).

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Endorsement notice

The text of the International Standard IEC 61591:2019 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 standards indicated:

IEC 60335-1	NOTE	Harmonized as EN 60335-1
IEC 60335-2-31	NOTE	Harmonized as EN 60335-2-31
IEC 60704-3	NOTE	Harmonized as EN 60704-3

IEC 61591

Edition 2.0 2019-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Cooking fume extractors – Methods for measuring performance

Extracteurs de fumée de cuisine – Méthodes de mesure de l'aptitude à la fonction

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 97.040.20

ISBN 978-2-8322-7410-1

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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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International Standard 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.

This second edition cancels and replaces the first edition published in 1997, Amendment 1:2005 and Amendment 2:2010. This edition constitutes a technical revision.

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

a) new subclause about instruments and measurements (see 6.6);
b) new procedure for measuring the fluid dynamic efficiency (FDE), which follows the CENELEC proposal in principle;
c) revised procedure for determining the odour reduction for cooking fume extractors in recirculation mode (see Clause 12);
d) modification to the measurement of the effectiveness of the lighting system (see Clause 11);
e) clearer procedure to measure the grease absorption (see Clause 13);

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

CDV	Report on voting
59K/304/CDV	59K/306/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this standard, the following print types are used:

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

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://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.

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

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 62301, *Household electrical appliances – Measurement of standby power*

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*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
cooking fume extractor
appliance with fan and filter intended to collect and treat cooking fumes, which can be operated in **recirculation mode** or **extraction mode**

3.2
range hood
cooking fume extractor installed over a cooking appliance

3.2.1
wall range hood
range hood mounted to the wall

3.2.2
island range hood
range hood mounted to the ceiling

3.2.3
ceiling range hood
range hood integrated onto or into the ceiling

3.2.4
built-in range hood
range hood mounted onto or into a cabinet

3.3
microwave hood combination
cooking fume extractor integrated in a microwave oven

3.4
multiple combination hood
cooking fume extractor where the fan is mounted separately of the appliance, but controlled by the appliance

3.5
down-draft system
cooking fume extractor intended for installation adjacent to a cooking appliance or integrated in a cooking appliance that draws vapour down into a duct

Note 1 to entry: A **down-draft system** can also be a system where the fan is mounted separately from the appliance but controlled by the appliance.

3.6
recirculation mode
mode of a **cooking fume extractor** that discharges air back into the room, which includes an **odour-reduction filter**

3.7
extraction mode
mode of a **cooking fume extractor** that discharges the air to the outside of the building by means of ducting

Note 1 to entry: **Extraction mode** is also known as "vented mode" or "ducted mode".

3.8
rated voltage
voltage assigned to the **cooking fume extractor** by the manufacturer

3.9
grease absorption factor
G_{FE}
percentage of grease retained within a **grease filter**

3.10
grease filter
components for absorbing grease, which are intended to be replaced or removed for cleaning without tools

3.11
odour-reduction filter
components for reducing odour

3.12
odour reduction factor
capability of the **cooking fume extractor** to reduce odours

3.13
odour dispersion time
time taken to reduce odours to a defined level after the odour generating source has been switched off

3.14
highest continuous setting for normal use
control setting of **cooking fume extractor** at highest speed, excluding the **boost position setting**

Note 1 to entry: Marked setting on the appliance, which is described in the instructions for use.

3.15
boost position setting
marked control setting at maximum fan speed, which is automatically limited in duration

Note 1 to entry: Marked setting on the appliance, which is described in the instructions for use.

3.16
working point
intersection point of pressure/airflow curve and resistance curve

3.17
best efficiency point
BEP
maximum value of the efficiency of a **cooking fume extractor**

Note 1 to entry: This term applies to the French language only.