



**SLOVENSKI STANDARD**  
**SIST EN IEC 60665:2019**

**01-marec-2019**

---

**Ventilatorji z izmeničnim napajanjem in regulatorji za gospodinjstva in podobne namene - Metode za merjenje funkcionalnosti**

A.C. ventilating fans and regulators for household and similar purposes - Methods for measuring performance

Lüftungsventilatoren und Regler in Klimaanlage für den Hausgebrauch und ähnliche Zwecke - Verfahren zur Messung der Gebrauchseigenschaften

Aérateurs à courant alternatif et régulateurs pour applications domestiques et analogues - Méthodes de mesure de l'aptitude à la fonction

<https://standards.iteh.ai/catalog/standards/sist/da22baa8-ee5a-4288-9401-587b3814f102/sist-en-iec-60665-2019>

**Ta slovenski standard je istoveten z: EN IEC 60665:2019**

---

**ICS:**

23.120	Zračniki. Vetrniki. Klimatske naprave	Ventilators. Fans. Air-conditioners
--------	---------------------------------------	-------------------------------------

**SIST EN IEC 60665:2019**

**en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN IEC 60665:2019](#)

<https://standards.iteh.ai/catalog/standards/sist/da22baa8-ee5a-4288-9401-587b3814f102/sist-en-iec-60665-2019>

EUROPEAN STANDARD

**EN IEC 60665**

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2019

ICS 23.120

English Version

**A.C. ventilating fans and regulators for household and similar purposes - Methods for measuring performance  
(IEC 60665:2018)**

Aérateurs à courant alternatif et régulateurs pour applications domestiques et analogues - Méthodes de mesure de l'aptitude à la fonction  
(IEC 60665:2018)

Lüftungsventilatoren und Regler in Klimaanlage für den Hausgebrauch und ähnliche Zwecke - Verfahren zur Messung der Gebrauchseigenschaften  
(IEC 60665:2018)

This European Standard was approved by CENELEC on 2018-12-28. 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.

[SIST EN IEC 60665:2019](#)

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey 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 60665:2019 (E)****European foreword**

The text of document 59L/139/CDV, future edition 2 of IEC 60665, prepared by SC 59L "Small household 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 60665:2019.

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) 2019-09-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-12-28

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.

**iTeh STANDARD PREVIEW**  
**Endorsement notice**  
**(standards.iteh.ai)**

The text of the International Standard IEC 60665:2018 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 60335-2-80	NOTE	Harmonized as EN 60335-2-80
IEC 60704-2-7	NOTE	Harmonized as EN 60704-2-7
IEC 60879	NOTE	Harmonized as EN 60879 <sup>1</sup>
IEC 61000-3-2	NOTE	Harmonized as EN 61000-3-2
IEC 61000-3-3	NOTE	Harmonized as EN 61000-3-3
CISPR 14-1	NOTE	Harmonized as EN 55014-1
CISPR 14-2	NOTE	Harmonized as EN 55014-2

---

<sup>1</sup> Under preparation. Stage at the time of publication: prEN 60879

## 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.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 5801	2007	Industrial fans - Performance testing using standardized airways	-	-

**ITW STANDARD PREVIEW**  
(standards.iteh.ai)

SIST EN IEC 60665:2019  
<https://standards.iteh.ai/catalog/standards/sist/da22baa8-ee5a-4288-9401-587b3814f102/sist-en-iec-60665-2019>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN IEC 60665:2019](#)

<https://standards.iteh.ai/catalog/standards/sist/da22baa8-ee5a-4288-9401-587b3814f102/sist-en-iec-60665-2019>



IEC 60665

Edition 2.0 2018-11

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**A.C. ventilating fans and regulators for household and similar purposes –  
Methods for measuring performance**

**Aérateurs à courant alternatif et régulateurs pour applications domestiques et  
analogues – Méthodes de mesure de l'aptitude à la fonction**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 23.120

ISBN 978-2-8322-6320-4

**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.....	3
1 Scope.....	5
2 Normative references .....	5
3 Terms and definitions .....	5
4 Bearings.....	7
5 Speed regulators .....	7
6 Marking .....	7
7 Tests .....	7
7.1 General.....	7
7.2 Test voltage .....	8
7.3 Test frequency.....	8
7.4 Limits of voltage variation .....	8
7.5 Tests for air delivery performance.....	8
8 Tolerances on fan ratings .....	8
8.1 Partition type ventilating fans (Type A).....	8
8.2 Free inlet partition ventilating fans (Type B), free outlet partition ventilating fans (Type C) and fully ducted ventilating fans (Type D) .....	8
Annex A (normative) Air delivery performance evaluation.....	9
Bibliography.....	16
Figure A.1 – Plot of partial pressure of water vapour in the air against laboratory ambient temperature for different values of relative humidity (RH) .....	10
Figure A.2 – Type A test installation (outlet-side multiple nozzle test chamber).....	12
Figure A.3 – Type B test installation (without antistirl device) using multiple nozzle test chamber .....	13
Figure A.4 – Type C test installation (inlet-side test chamber).....	14
Figure A.5 – Type D using Type B (outlet-side test duct) without antistirl device, without common segment and with inlet-duct simulation .....	15

iteh STANDARD PREVIEW  
(standards.iteh.ai)

SIST EN IEC 60665:2019  
<https://standards.iteh.ai/catalog/standards/sist/da22baa8-ec5a-4288-9401-367b31416254/iec-60665-2018>



## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**A.C. VENTILATING FANS AND REGULATORS FOR HOUSEHOLD AND SIMILAR PURPOSES – 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.
- 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.

International Standard IEC 60665 has been prepared by subcommittee 59L: Small household appliances, of IEC technical committee 59: Performance of household and similar electrical appliances

This second edition cancels and replaces the first edition published in 1980. This edition constitutes a technical revision.

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

- a) the test chambers have been updated;
- b) a test chamber for a type D fan is introduced.

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

CDV	Report on voting
59L/139/CDV	59L/156A/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.

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.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN IEC 60665:2019](#)

<https://standards.iteh.ai/catalog/standards/sist/da22baa8-ee5a-4288-9401-587b3814f102/sist-en-iec-60665-2019>

# A.C. VENTILATING FANS AND REGULATORS FOR HOUSEHOLD AND SIMILAR PURPOSES – METHODS FOR MEASURING PERFORMANCE

## 1 Scope

This document specifies the performance and the corresponding methods of test of AC ventilating fans for household and similar purposes intended for air forcing and exhaust, driven by single-phase AC motors having a power consumption of less than 125 W (including any associated regulators) for use on single-phase AC circuits not exceeding 250 V.

This document applies to ventilating fans such as partition fans for walls and windows and duct fans.

NOTE This document does not apply to:

- the safety of electric fans for household and similar purposes (IEC 60335-2- 80);
- the performance of comfort fans (IEC 60879);
- range hoods and other cooking fume extractors (IEC 61591);
- airborne acoustic noise for fans (IEC 60704-2-7);
- electromagnetic compatibility of fans (CISPR 14-1 and CISPR 14-2, IEC 61000-3-2, IEC 61000-3-3).

## 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.

ISO 5801:2007, *Industrial fans – Performance testing using standardized airways*

## 3 Terms and definitions

For the purpose of this standard, 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>

NOTE When the terms “voltage” and “current” are used, they imply root mean square (RMS) values unless otherwise specified.

### 3.1 fan

fan blades connected to and driven by an electric motor, including its associated speed regulator, if any

### 3.2 ventilating fan

fan intended to displace air either from one side of a partition to the other, or within a duct installed either on the fan inlet or on the fan outlet, or both