

SLOVENSKI STANDARD **SIST EN IEC 63136:2020**

01-januar-2020

Nadomešča:

SIST EN 50593:2017

Električni pomivalni stroji za komercialno uporabo - Preskusne metode za merjenje lastnosti

Electric dishwashers for commercial use - Test methods for measuring the performance

iTeh STANDARD PREVIEW (standards.iteh.ai)

Ta slovenski standard je istoveten z:log/starEN JEC 63136:2019/65-af6f-

10f64860a1c6/sist-en-iec-63136-2020

ICS:

Pomivalni stroji 97.040.40 **Dishwashers**

SIST EN IEC 63136:2020 en **SIST EN IEC 63136:2020**

iTeh STANDARD PREVIEW (standards.iteh.ai)

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM **EN IEC 63136**

November 2019

ICS 97.040.40

Supersedes EN 50593:2017 and all of its amendments and corrigenda (if any)

English Version

Electric dishwashers for commercial use - Test methods for measuring the performance (IEC 63136:2019)

Lave-vaisselle électriques à usage collectif - Méthodes d'essai et de mesure de l'aptitude à la fonction (IEC 63136:2019)

Elektrische Geschirrspüler für den gewerblichen Gebrauch -Messverfahren für Gebrauchseigenschaften (IEC 63136:2019)

This European Standard was approved by CENELEC on 2019-10-24. 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 63136:2020

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, 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 63136:2019 (E)

European foreword

The text of document 59A/223/CDV, future edition 1 of IEC 63136, prepared by SC 59A "Electric dishwashers" 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 63136:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2020-07-24 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-10-24

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 supersedes EN 50593:2017 and all of its amendments and corrigenda (if any).

(standards.iteh.ai)

Endorsement notice

SIST EN IEC 63136:2020

https://standards.iteh.ai/catalog/standards/sist/45a3abf6-5297-4765-af6f-

The text of the International Standard IEC 63136:2019 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 60335-2-58	NOTE	Harmonized as EN 60335-2-58
IEC 60734	NOTE	Harmonized as EN 60734
IEC 62053-21	NOTE	Harmonized as EN 62053-21

EN IEC 63136:2019 (E)

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.

(standards.iteh.ai)

SIST EN IEC 63136:2020

iTeh STANDARD PREVIEW (standards.iteh.ai)



IEC 63136

Edition 1.0 2019-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Electric dishwasher for commercial use Test methods for measuring the performance (standards.iteh.ai)

Lave-vaisselle électriques à usage collectif - Méthodes d'essai et de mesure de l'aptitude à la fonction dards.iteh.ai/catalog/standards/sist/45a3abf6-5297-4765-af6f-10f64860a1c6/sist-en-iec-63136-2020

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ISBN 978-2-8322-7409-5

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

F	DREWC	PRD	4
IN	ITRODU	JCTION	6
1	Scop	pe	7
2	Norn	native references	7
3	Term	ns and definitions	7
4		of measurements	
5		eral conditions for measurements	
Ü	5.1	General	
	5.1	Conditioning of the machine under test and sequence of test procedures	
	5.3	Electricity supply	
	5.4	Test programme	
	5.5	Ambient conditions	
	5.6	Water supply	
	5.6.1		
	5.6.2		
	5.6.3		
	5.6.4		
	5.7	Detergent	12
	5.8	Killse alu	1 ∠
	5.9	Load (standards.iteh.ai)	12
	5.10	Temperature measurement	13
6	Clea	ning and resoiling performance testEC 63136:2020	13
	6.1	Purpose and general description	13
	6.2	https://standards.iteh.ai/catalog/standards/sist/45a3abf6-5297-4765-af6f- Purpose and general description 10i64800a1c6/sist-en-iec-63136-2020 Description of the cleaning performance test procedure	13
	6.2.1		
	6.2.2	Pormulation of test soil	16
	6.2.3	Application of test soil	17
	6.3	Evaluation	19
	6.3.1	General	19
	6.3.2	•	
7	Ener	gy, water consumption and time measurement	20
	7.1	General information	20
	7.2	Measurement method	20
	7.2.1		
	7.2.2	•	
	7.2.3	'	
	7.2.4	1 1 3	
_	7.2.5	,	
8	Data	to be reported	
	8.1	Laboratory and test data	
	8.2	Evaluation sheet for cleaning performance calculation	
Αı		(normative) Test materials for laboratories	
	A.1	Reference detergent	
	A.2	Reference rinse aid	
	A.3	Basic cleaning detergent	
	A.4	Load	29

A.5 Test pipette/dispenser	30	
A.6 Stainless steel holder and support	31	
A.7 Sesame seeds	33	
Annex B (informative) Flowchart – Test sequence		
Bibliography	35	
Figure 1 – Template with dot test pattern	15	
Figure 2 – Template – 3D view	15	
Figure 3 – Coarse Nigrosin kernels are ground in a chemical mortar	17	
Figure 4 – Mixed test soil	17	
Figure 5 – Plate with 33 dots after drying	18	
Figure 6 – Time schedule for test procedure		
Figure 7 – Evaluation example	27	
Figure A.1 – Pipette	30	
Figure A.2 – VWR Dispenser tip 1,25ml		
Figure A.3 – Holder for stainless steel support		
Figure A.4 – Stainless steel support		
Figure A.5 – Temperature probe positioning		
Figure B.1 - Flowchart fortest sequence DARD PREVIEW	34	
(standards.iteh.ai)		
Table 1 – Laboratory data	24	
Table 2 – Dishwasher data <u>SIST.EN.IEC.63136:2020</u> .	24	
Table 3 – Measured data and ards. itch. ai/catalog/standards/sist/45a3abf6-5297-4765-af6f-	25	
Table 4 – Evaluation sheet	26	
Table A.1 – Detergent		
Table A.2 – Rinse aid		
Table A 3 – Basic cleaning detergent	29	

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRIC DISHWASHER FOR COMMERCIAL USE – TEST METHODS FOR MEASURING THE 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 1.6dependent 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 63136 has been prepared by subcommittee 59A: Electric dishwashers, of IEC technical committee 59: Performance of household and similar electrical appliances.

EN 50593:2017 has served as a basis for the elaboration of this standard.

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

CDV	Report on voting
59A/223/CDV	59A/226/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.

IEC 63136:2019 © IEC 2019

- 5 -

In this standard, the following print types are used:

terms used throughout this standard which have been defined in Clause 3: in bold type

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)

IEC 63136:2019 © IEC 2019

INTRODUCTION

This first edition has been developed to provide a globally applicable and agreed method to test the performance of electric dishwashers for commercial use.

iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN IEC 63136:2020</u> https://standards.iteh.ai/catalog/standards/sist/45a3abf6-5297-4765-af6f-10f64860a1c6/sist-en-iec-63136-2020

-6-

IEC 63136:2019 © IEC 2019

-7-

ELECTRIC DISHWASHER FOR COMMERCIAL USE – TEST METHODS FOR MEASURING THE PERFORMANCE

1 Scope

This document applies to manually loaded under-counter one-tank and one-tank hood-type electrically heated dishwashing machines for washing plates, dishes, glassware, cutlery and similar articles.

These machines are used in commercial kitchens, such as restaurants, canteens, hospitals and in businesses such as bakeries, butchers' shops, etc.

This document does not apply to commercial dishwashers with transport systems (flight-type and rack conveyor dishwashers) and utensil washers.

This document does not apply to undercounter water-change dishwashers.

This document does not apply to appliances designed exclusively for industrial purposes.

The object is to state and define the principal performance characteristics of electric dishwashers for commercial use and to describe the standard methods of measuring these characteristics.

The characteristics are measured by washing plates.

This document is concerned neither with safety nor with minimum performance requirements.

10f64860a1c6/sist-en-iec-63136-2020

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 15510, Stainless steels - Chemical composition

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

commercial dishwasher

electric dishwasher that is specially designed for use in commercial environments and that cleans and rinses dishes, glasses, cutlery, and, in some cases, cooking utensils by chemical, mechanical, thermal and electrical treatment