IEC/ASTM 62885-7

Edition 1.1 2022-06
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Surface cleaning appliances –
Part 7: Dry cleaning robots for household or similar use – Methods for measuring the performance

Appareils de nettoyage des sols –
Partie 7: Robots de nettoyage à sec à usage domestique ou analogue – Méthodes de mesure de l'aptitude à la fonction

IEC/ASTM 62885-7:2020-10+AMD1:2022-06 CSV(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 97.080

ISBN 978-2-8322-3947-6

IEC/ASTM 62885-7

Edition 1.1 2022-06
CONSOLIDATED VERSION

REDLINE VERSION

VERSION REDLINE

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SURFACE CLEANING APPLIANCES –

Part 7: Dry-cleaning robots for household or similar use – 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.
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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC/ASTM 62285-7 edition 1.1 contains the first edition (2020-10) [documents 59F/393/FDIS and 59F/401/RVD] and its amendment 1 (2022-06) [documents 59F/424/CDV and 59F/432A/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC/ASTM 62285-7 has been prepared by subcommittee 59F: Surface cleaning appliances, of IEC technical committee 59: Performance of household and similar electrical appliances, in co-operation with ASTM Committee F11: Vacuum cleaners, under the IEC/ASTM Dual Logo Agreement.

It is published as a dual logo standard.

This first edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 62929:2014:

a) the box test has been cancelled;
b) the set of straight-line tests have been extended to contain also tests on removal of different kinds of debris both from hard floors and carpets;
c) the set of straight-line tests also contains a test on the removal of fibres from carpets;
d) as a miscellaneous test, a method for the determination of energy consumption has been added;
e) a separate clause on test material and equipment has been added.

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

In this standard, the following print types are used:

– terms defined in Clause 3: **bold type**.

A list of all parts in the IEC 62885 series, published under the general title *Surface cleaning appliances*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under webstore.iec.ch in the data related to the specific publication. At this date, the publication 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.

INTRODUCTION

In addition to the performance measurement methods that are included in this International Standard, a few more performance items have been reviewed and considered. The list of the performance items that have been discussed over time but have not yet been included comprises corner/edge dust pick-up, docking, fall-off prevention, and dust re-emissions.

The performance items that have been left out in this edition will be continuously reviewed and will soon be included in future editions of this document.

INTRODUCTION to Amendment 1

The following changes to IEC 62885-7:2020 concern Clause 1, and Subclauses 8.3.2.1 and 9.1.2.

The reason for this is to clarify the area of application of this standard and to align the specification on carpets with IEC 62885-2. A new annex on test materials is added as Annex D.

SURFACE CLEANING APPLIANCES –

Part 7: Dry-cleaning robots for household or similar use – Methods for measuring the performance

1 Scope

This part of IEC 62885 is applicable to **dry-cleaning robots** for household use or under conditions similar to those in households.

The purpose of this document is to specify the essential performance characteristics of **dry-cleaning robots** that are of interest to users and to describe methods for measuring these characteristics.

Due to the nature of the way this product operates in the home, comparisons with other types of surface cleaning appliances (e.g. dry vacuum cleaners) should not be made unless otherwise indicated. The cleaning performance methods, in particular, are only used to make comparisons with other **dry cleaning robots** and not with manually operated vacuum cleaner products.

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

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

IEC TS 62885-1, *Surface cleaning appliances – Part 1: General requirements on test material and test equipment*

IEC 62885-2:2016, *Surface cleaning appliances – Part 2: Dry vacuum cleaners for household or similar use – Methods for measuring the performance*

IEC 60704-1, *Household and similar electrical appliances –Test code for the determination of airborne acoustical noise – Part 1: General requirements*

IEC 60704-2-17, *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 2-17: Particular requirements for dry cleaning robots*

ISO 554, *Standard atmospheres for conditioning and/or testing – Specifications*

ISO 2813, *Paints and varnishes – Determination of gloss value at 20 degrees, 60 degrees and 85 degrees*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62885-2 and the following 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
cleaning robot
automatic battery-powered cleaner
automatic floor cleaner that operates autonomously without human intervention within a defined perimeter

Note 1 to entry: The **cleaning robot** consists of a mobile part and may have a **docking station** and/or other accessories to assist its operation.

3.2
dry cleaning robot
cleaning robot that is intended to remove only non-liquid material from the floor by means other than with the aid of solutions or liquids

Note 1 to entry: Typical means of cleaning include vacuum, brush(es), pad(s) and duster.

3.3
robot cleaning head
cleaning head
air intake nozzle at the bottom of the **cleaning robot**

Note 1 to entry: This does not include **side brush**(**es**).

3.4
width of robot cleaning head
W
width of the air intake nozzle in the direction of forward travel

3.5
docking station
base unit
unit that can provide manual or automatic battery charging facilities, dust removal from the robot, data processing facility or other robot support functions

Note 1 to entry: For some robots, the docking station could come in the form of an external power supply.

3.6
pose tracking system
PTS
measurement system which enables the tracking of the **cleaning robot**'s position and orientation

3.7
dust receptacle
container inside of the **cleaning robot** used to hold the collected dust

3.8
test instance
entirety or superset of all trials of all samples to be measured for a single **cleaning robot** model

3.9
trial
single instance of a performance measurement carried out under identical conditions that can be repeated multiple times

3.10
run
subset of a **trial** where one or more factors affecting the test results is (are) changed

3.11
pass
single traverse of the **cleaning head** over the **test area**

Note 1 to entry: The number of **pass**es refers to the number of times the same **test area** has been traversed by the **cleaning head**.

3.12
test area
area where the test dust, or debris, or fibre is distributed for the cleaning performance test

3.13
Wilton carpet
carpet as defined in IEC TS 62885-1

3.14
fully charged
point during charging when, according to the manufacturer's instructions, by indicator or time period, the product does not need to be charged anymore

3.15
fully discharged
point in use when the manufacturer's instructions state the product is fully discharged or the robot cannot restart the operation

3.16
side brush
rotating peripheral brush whose main function is to relocate the dust and debris along the floor and extend the cleaning reach beyond the **width of robot cleaning head**

4 General conditions for testing

4.1 General

During the tests, any external interference that affects the functions of the **cleaning robot** (e.g. sensors, processors and actuators) shall be minimized.

4.2 Atmospheric conditions

The test procedures and measurements shall be carried out under the following atmospheric conditions (in accordance with ISO 554).

Cleaning performance test:

Temperature:	(23 ± 2) °C
Relative humidity:	(50 ± 5) %
Air pressure:	86 kPa to 106 kPa

All other tests:

Temperature:	(23 ± 5) °C
Relative humidity:	(45 ± 15) %
Air pressure:	86 kPa to 106 kPa