

**Majapidamis- ja muud taolised elektriseadmed. Ohutus.  
Osa 2-79: Erinõuded kõrgsurvepuhastitele ja  
aurupuhastitele**

**Household and similar electrical appliances - Safety -  
Part 2-79: Particular requirements for high pressure  
cleaners and steam cleaners**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 60335-2-79:2012 sisaldab Euroopa standardi EN 60335-2-79:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 60335-2-79:2012 consists of the English text of the European standard EN 60335-2-79:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English version

**Household and similar electrical appliances -  
Safety -  
Part 2-79: Particular requirements for high pressure cleaners and steam  
cleaners  
(IEC 60335-2-79:2012, modified)**

Appareils électrodomestiques et  
analogues -  
Sécurité -  
Partie 2-79: Règles particulières pour les  
appareils de nettoyage à haute pression  
et les appareils de nettoyage à vapeur  
(CEI 60335-2-79:2012, modifiée)

Sicherheit elektrischer Geräte für den  
Hausgebrauch und ähnliche Zwecke -  
Teil 2-79: Besondere Anforderungen für  
Hochdruckreiniger und Dampfreiniger  
(IEC 60335-2-79:2012, modifiziert)

This European Standard was approved by CENELEC on 2012-04-03. 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.

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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.

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**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 61J/485/FDIS, future edition 3 of IEC 60335-2-79, prepared by SC 61J, "Electrical motor-operated cleaning appliances for commercial use", of IEC/TC 61, "Safety of household and similar electrical appliances" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60335-2-79:2012.

A draft amendment, which covers common modifications to IEC 60335-2-79, was prepared by CLC/TC 61, "Safety of household and similar electrical appliances" and approved by CENELEC.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-04-03
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2015-04-03

This document supersedes EN 60335-2-79:2009.

The principal changes in EN 60335-2-79:2012 as compared with EN 60335-2-79:2009 are as follows (minor changes are not listed):

- the scope has been revised editorially to avoid misunderstandings;
- terms and definitions has been revised with regard to the requirements revised;
- the standard has been revised in general and updated regarding state-of-the-art, as far as necessary, in particular some changes have been made to Clauses 15, 22, and 25;
- a new Annex CC 'Emission of acoustical noise' was added;
- a new Annex DD 'Emission of vibration' was added;
- a new Annex EE with a model test report for vibration emission was added.

This part 2 is to be used in conjunction with the EN 60335-1:2012 and its amendments.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to EN 60335-1.

This part 2 supplements or modifies the corresponding clauses in EN 60335-1, so as to convert that publication into the European Standard: *Safety requirements for high pressure cleaners and steam cleaners*.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.

NOTE 3 The following print types are used:

- requirements: in roman type;

– *test specifications: in italic type;*

– notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60335-2-79:2012 are prefixed "Z".

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

### Endorsement notice

The text of the International Standard IEC 60335-2-79:2012 was approved by CENELEC as a European Standard with agreed common modifications.

### COMMON MODIFICATIONS

## 1 Scope

*Add the following paragraph before the last one:*

"This standard deals with the reasonably foreseeable hazards presented by machines that are encountered by all persons.

However, in general, it does not take into account:

- **children** playing with the machine;
- the use of the machine by **children**;
- user maintenance by **children**, including the cleaning of the machine;
- the use by **vulnerable people** of machines intended for **commercial use**.

It is recognized that **very vulnerable people** may have needs beyond the level addressed in this standard."

## 3 Terms and definitions

### 3.6.3

#### **accessible part**

*Modification:*

*Delete "and probe 18".*

### 3.Z101

#### **commercial use**

intended use of machines, also covered by this standard. These machines are not intended for normal housekeeping purposes by private persons but which may be a source of danger to the public.

I.e. in particular that:

- the machines may be used by cleaning contractors, cleaning staff, etc.;
- they are used in commercial or public premises (i.e. offices, shops, hotels, hospitals, schools, etc.) or in industrial (plants etc.) and light industrial (workshops etc.) environments

Note 1 to entry **Commercial use** is also called professional use.

## 7 Marking and instructions

**7.12** Replace the 4<sup>th</sup> paragraph beginning with "This appliance can be used..." by the following:

"Machines shall not be used by children. Children should be supervised to ensure that they do not play with the machine.

The instructions for machines intended for **commercial use** shall include the substance of the following:

This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.

The instructions for machines not intended for **commercial use** shall include the substance of the following:

This machine can be used by people with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the machine in a safe way and understand the hazards involved."

### 7.12.102 Information on noise

Replace the Note by the following requirement:

"The instructions shall provide information on airborne noise emission as indicated in CC.2.7."

### 7.12.103 Information on vibration

Replace the Note by the following requirement:

"The instructions shall provide information on vibration emission as indicated in DD.2."

## 8 Protection against access to live parts

**8.1.1** Replace the 3<sup>rd</sup> paragraph by the following one:

"Test probe B of EN 61032 is applied with a force not exceeding 1 N, the appliance being in every possible position except that appliances normally used on the floor and having a mass exceeding 40 kg are not tilted. Through openings, the test probe is applied to any depth that the probe will permit and is rotated or angled before, during and after insertion to any position. If the opening does not allow the entry of the probe, the force on the probe in the straight position is increased to 20 N. If the probe then enters the opening, the test is repeated with the probe in the angled position."

**8.2** Modification:

In the 3<sup>rd</sup> sentence, replace "test probes of EN 61032" by "test probe B of EN 61032".

In the 4<sup>th</sup> sentence, replace "test probe B and probe 18 of EN 61032 are" by "test probe B of EN 61032 is".

## 20 Stability and mechanical hazards

**20.2** Replace the 1<sup>st</sup> paragraph of compliance by:

"Compliance is checked by inspection, by the test of 21.1 and by applying a force not exceeding 5 N by means of a test probe that is similar to test probe B of EN 61032 but having a circular stop face with a diameter of 50 mm, instead of the non-circular face."

### **Modifications to Annexes CC and DD**

*In the titles of Annex CC and Annex DD, replace "(informative)" with "(normative)" so as to make these two annexes normative.*

### **Modifications to Annexes Z**

*The annexes of Part 1 are applicable except as follows:*

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Apply the following changes to Annex ZC of EN 60335-1:2012:

**Annex ZC**  
(normative)

**Normative references to international publications  
with their corresponding European publications**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
<i>Add:</i>				
IEC 60364-1	-	Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions	HD 60364-1	-
IEC 61558-2-3	-	Safety of transformers, reactors, power supply units and combinations thereof - Part 2-3: Particular requirements and tests for ignition transformers for gas and oil burners	EN 61558-2-3	-
<i>Replace:</i>				
IEC 61770	2008	Electric appliances connected to the water mains - Avoidance of backsiphonage and failure of hose-sets	EN 61770 + AC	2009 2011

**Annex ZE**  
(informative)

**Specific additional requirements for appliances and machines intended  
for commercial use**

This annex is not applicable.

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**Annex ZZ**  
(informative)

**Coverage of Essential Requirements of Directive 2006/42/EC**

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Annex I of the EU Directive 2006/42/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

**WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.**

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## Bibliography

### *Addition to EN 60335-1:2012:*

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

ISO 3743-1	NOTE	Harmonized as EN ISO 3743-1.
ISO 3744	NOTE	Harmonized as EN ISO 3744.
ISO 4871	NOTE	Harmonized as EN ISO 4871.
ISO 5349-1	NOTE	Harmonized as EN ISO 5349-1.
ISO 5349 series	NOTE	Harmonized in EN ISO 5349 series.
ISO 11203	NOTE	Harmonized as EN ISO 11203.
ISO/TR 11688-1	NOTE	Harmonized as EN ISO 11688-1.
ISO 28927 series	NOTE	Harmonized in EN ISO 28917 series.

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## INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the appliance in question over and above the general requirements.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features that impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

### Part 2-79: Particular requirements for high pressure cleaners and steam cleaners

#### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of high-pressure cleaners without traction drive, intended for household and commercial indoor or outdoor use, having a **rated pressure** not less than 2,5 MPa and not exceeding 35 MPa.

It also applies to steam cleaners and those parts of hot water high pressure cleaners incorporating a steam stage which have a capacity not exceeding 100 l, a **rated pressure** not exceeding 2,5 MPa and a product of capacity and **rated pressure** not exceeding 5 MPa·l.

They are not equipped with a traction drive. The following power systems of the drive for the high pressure pump are covered:

- mains powered motors up to a **rated voltage** of 250 V for single-phase machines and 480 V for other machines,
- battery powered motors,
- internal combustion engines,
- hydraulic or pneumatic motors.

This standard does not apply to

- high pressure water jet machines having a **rated pressure** exceeding 35 MPa;

NOTE 101 In Europe, those machines are covered by EN 1829-1.

- steam cleaners intended for domestic use (IEC 60335-2-54);
- hand-held and transportable motor-operated electric tools (IEC 60745 series, IEC 61029 series);
- appliances for medical purposes (IEC 60601);
- agricultural sprayers;

NOTE 102 In Europe, EN 907 gives requirements for sprayers and liquid fertilizer distributors for agricultural and forestry purposes.

- non-liquid, solid abrasive cleaners;
- machines designed to be part of a production process;
- machines designed for use in corrosive or explosive environments (dust, vapour or gas);
- machines designed for use in vehicles or on board of ships or aircraft.

NOTE 103 Attention is drawn to the fact that in many countries additional requirements on the safe use of the equipment covered can be specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

## 2 Normative references

This clause of Part 1 is applicable except as follows.

*Addition:*

IEC 60364-1, *Low-voltage electrical installations – Part 1: Fundamental principles, assessment of general characteristics, definitions*

IEC 61558-2-3, *Safety of transformers, reactors, power supply units and combinations thereof – Part 2-3: Particular requirements and tests for ignition transformers for gas and oil burners*

*Replacement:*

IEC 61770:2008, *Electric appliances connected to the water mains – Avoidance of backsiphonage and failure of hose-sets*

## 3 Terms and definitions

This clause of Part 1 is applicable except as follows.

### 3.1.9 Replacement:

#### **normal operation**

conditions under which the machine is operated in normal use

It denotes the operation at **rated flow** and **rated pressure** with the appropriate nozzle and **hose line** fitted, all strainers and filters in a clean operating condition and the **unloader valve** set to the **rated pressure**. The **water heater**, if fitted, is operated at maximum power. Electric motor driven machines are supplied at **rated voltage**.

Socket outlets for accessories are loaded with a resistive load in accordance with the marking.

The burner is operated at rated power. Machines designed for operation at more than one rated power setting are additionally tested at the most disadvantageous power.

On machines designed for use with a flue pipe, a section of flue pipe is attached to the machine. Flue gas determinations are taken in this flue pipe.

The draught is adjusted as recommended in the instructions.

### 3.101

#### **unloader valve**

pressure operated device which, when the pump pressure exceeds a preset value, releases the pressure and leads the excess fluid into the inlet system

In addition, it bypasses the total pump flow at reduced pressure when its outlet flow is cut off.

### 3.102

#### **safety valve**

pressure operated device which, when the pump or steam cleaner pressure exceeds a preset value, releases the pressure and which may return the excess fluid or steam either to the inlet system or into the atmosphere

### 3.103

#### **rated pressure**

maximum working pressure at the pressure generator during **normal operation**