

INTERNATIONAL STANDARD



This extended version of IEC 60335-2-41:2024 includes the content of the references made to IEC 60335-1:2020

**Household and similar electrical appliances – Safety –
Part 2-41: Particular requirements for pumps**

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 1: General requirements

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

The text of this Interpretation Sheet is based on the following documents:

Draft	Report on voting
61/5999/DISH	61/6009/RVDISH

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

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INTRODUCTION

Edition 6 of IEC 60335-1:2020 defines and introduces requirements for a detachable power supply part of an appliance. In the document, 24.2 prohibits the use of a power supply in a flexible cord.

QUESTION:

Does Subclause 24.2 prohibit the use of a detachable power supply part?

ANSWER

No, a "detachable power supply part" is a defined term and is not captured by the term "power supply" as used in Subclause 24.2.

NOTE A detachable power supply part is captured by the defined term when the output of the power supply part is detachable from the class III construction part of the appliance at:

- the power supply part, or
- the class III construction part of the appliance.

However, the supply cord (if any) does not have to be detachable from the detachable power supply part.

CONTENTS

FOREWORD.....	6
INTRODUCTION.....	9
1 Scope.....	10
2 Normative references	11
3 Terms and definitions	16
4 General requirement.....	28
5 General conditions for the tests	28
6 Classification.....	32
7 Marking and instructions.....	33
8 Protection against access to live parts.....	43
9 Starting of motor-operated appliances	45
10 Power input and current.....	46
11 Heating.....	48
12 Charging of metal-ion batteries.....	54
13 Leakage current and electric strength at operating temperature.....	56
14 Transient overvoltages	58
15 Moisture resistance	59
16 Leakage current and electric strength.....	62
17 Overload protection of transformers and associated circuits	64
18 Endurance	64
19 Abnormal operation	64
20 Stability and mechanical hazards.....	74
21 Mechanical strength	76
22 Construction	78
23 Internal wiring.....	92
24 Components	94
25 Supply connection and external flexible cords	99
26 Terminals for external conductors.....	108
27 Provision for earthing	111
28 Screws and connections	112
29 Clearances, creepage distances and solid insulation	115
30 Resistance to heat and fire	123
31 Resistance to rusting.....	128
32 Radiation, toxicity and similar hazards.....	128
Annex A (informative) Routine tests	142
Annex B (normative) Battery-operated appliances, separable batteries and detachable batteries for battery-operated appliances	144
Annex C (normative) Ageing test on motors	165
Annex D (normative) Thermal motor protectors	166
Annex E (normative) Needle-flame test.....	167
Annex F (normative) Capacitors.....	168
Annex G (normative) Safety isolating transformers	170

Annex H (normative) Switches	171
Annex I (normative) Motors having basic insulation that is inadequate for the rated voltage of the appliance	173
Annex J (normative) Coated printed circuit boards	175
Annex K (informative) Overvoltage categories	176
Annex L (informative) Guidance for the measurement of clearances and creepage distances	177
Annex M (informative) Pollution degree	180
Annex N (normative) Proof tracking test.....	181
Annex O (informative) Selection and sequence of the tests of Clause 30	182
Annex P (informative) Guidance for the application of this standard to appliances used in tropical climates	187
Annex Q (informative) Sequence of tests for the evaluation of electronic circuits	189
Annex R (normative) Software evaluation	192
Annex S (informative) Guidance for the application of this standard on measurement of power input and current based on the requirements of 10.1 and 10.2 concerning the representative period	206
Annex T (normative) UV-C radiation effect on non-metallic materials	207
Annex U (normative) Appliances intended for remote communication through public networks	210
Bibliography.....	214
Index of defined terms	217
Figure 1 – Circuit diagram for leakage current measurement at operating temperature for single-phase connection of class II appliances and for parts of class II construction	129
Figure 2 – Circuit diagram for leakage current measurement at operating temperature for single-phase connection of other than class II appliances or parts of class II construction	130
Figure 3 – Circuit diagram for leakage current measurement at operating temperature for three-phase with neutral class II appliances and for parts of class II construction	131
Figure 4 – Circuit diagram for leakage current measurement at operating temperature for three-phase with neutral appliances other than those of class II or parts of class II construction	132
Figure 5 – Small part	133
Figure 6 – Example of an electronic circuit with low-power points	133
Figure 7 – Test finger nail	134
Figure 8 – Flexing test apparatus.....	135
Figure 9 – Constructions of cord anchorages	136
Figure 10 – An example of parts of an earthing terminal	137
Figure 11 – Examples of clearances	138
Figure 12 – Example of the placement of the cylinder	139
Figure 13 – Small parts cylinder.....	140
Figure 14 – Example of a specified operating region of a lithium-ion cell during charging	141
Figure 101 – Probe for measuring surface temperatures	141
Figure B.1 – Examples of battery-operated appliance constructions and application of normative Annex B (1 of 2)	162

Figure B.2 – Examples of correct polarity connection marking representing three batteries	164
Figure I.1 – Simulation of faults	174
Figure L.1 – Sequence for the determination of clearances	177
Figure L.2 – Sequence for the determination of creepage distances	178
Figure L.3 – Measurement of clearances	179
Figure O.1 – Tests for resistance to heat	182
Figure O.2 – Selection and sequence of tests for resistance to fire in hand-held appliances	183
Figure O.3 – Selection and sequence of tests for resistance to fire in attended appliances	183
Figure O.4 – Selection and sequence of tests for resistance to fire in unattended appliances	184
Figure O.5 – Some applications of the term "within a distance of 3 mm"	186
Figure Q.1 – Flowchart outlining the sequence of tests for the evaluation of electronic circuits (1 of 2).....	190
Figure S.1 – Flowchart giving guidance on measurement of power input and current concerning the representative period	206
Table 1 – Power input deviation	46
Table 2 – Current deviation	47
Table 3 – Maximum normal temperature rises	50
Table 101 – Maximum temperature rises for specified external accessible surfaces under normal operating conditions	54
Table 4 – Voltage for electric strength test	58
Table 5 – Characteristics of high-voltage sources	58
Table 6 – Impulse test voltage	59
Table 7 – Test voltages	63
Table 8 – Maximum winding temperature	67
Table 9 – Maximum abnormal temperature rise	72
Table 10 – Dimensions of cables and conduits	101
Table 11 – Minimum cross-sectional area of conductors	103
Table 12 – Pull force and torque	105
Table 13 – Nominal cross-sectional area of conductors	110
Table 14 – Torque for testing screws and nuts	114
Table 15 – Rated impulse voltage	116
Table 16 – Minimum clearances	116
Table 17 – Minimum creepage distances for basic insulation	120
Table 18 – Minimum creepage distances for functional insulation	121
Table 19 – Minimum thickness for accessible parts of reinforced insulation consisting of a single layer	123
Table A.1 – Test voltages	143
Table B.1 – Artificial source characteristics	146
Table B.2 – Total area of openings for metal-ion cells	154
Table B.3 – Volume of air injected at 2 070 kPa	154
Table C.1 – Test conditions	165

Table R.1 – General fault/error conditions..... 194
Table R.2 – Specific fault/error conditions..... 196
Table R.3 – Semi-formal methods 202
Table R.4 – Software architecture specification 202
Table R.5 – Module design specification 203
Table R.6 – Design and coding standards..... 204
Table R.7 – Software safety validation 204
Table T.1 – Minimum property retention limits after UV-C exposure 208
Table T.2 – Minimum electric strength for internal wiring after UV-C exposure 209
Table U.1 – Examples of acceptable measures against unauthorised access and
transmission fault/error modes..... 212

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-41: Particular requirements for pumps

FOREWORD

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This extended version (EXV) of the official IEC Standard provides the user with the comprehensive content of the Standard.

IEC 60335-2-41:2024 EXV includes the content of IEC 60335-2-41:2024, and the references made to IEC 60335-1:2020.

The specific content of IEC 60335-2-41:2024 is displayed on a blue background.

IEC 60335-2-41 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This fifth edition cancels and replaces the fourth edition published in 2012. This edition constitutes a technical revision.

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

- a) alignment with IEC 60335-1:2020;
- b) modification or conversion of some notes to normative text (Clause 1, 7.12.1, 25.7);
- c) introduction of IEC 60417 symbol for maximum operating depth and indoor use only (7.1, 7.6, 7.12.1);
- d) clarification of requirements for aquarium pumps and garden pond pumps;
- e) addition of legibility requirements for markings exposed to solar radiation (7.14);
- f) clarification of pumps subjected to test probe 18 (8.1.1, 20.2);
- g) introduction of accessible surface temperature limits (Clause 11);
- h) addition of requirements for IEC 61984 connectors for pumps intended for permanent connection to fixed wiring (22.107, 24.1.5, 24.1.101, 25.3).
- i) clarifications on remote operation for pumps in scope of this standard (22.40, 22.49, 22.51)

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

Draft	Report on voting
61/7007/FDIS	61/7079/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts of the IEC 60335 series, under the general title: *Household and similar electrical appliances – Safety*, can be found on the IEC website.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments unless that edition precludes it; in that case, the latest edition that does not preclude it is used. It was established on the basis of the sixth edition (2020) of that standard.

NOTE 1 When “Part 1” is mentioned in this standard, it refers to IEC 60335-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Particular requirements for pumps.

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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations can need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

The following differences exist in the countries indicated below.

- 6.1: Pumps intended to be used in or close to swimming pools, garden ponds and similar places may be class 0I if their supply circuit incorporates a residual current device. Other pumps may be class 0I (Japan).
- 7.14: Marking and labelling systems complying with UL 969 for outdoor use are considered to meet the UV exposure compliance criteria (USA).

IMPORTANT – The "colour inside" logo on the cover page of this document 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

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.

Guidance documents concerning the application of the safety requirements for appliances can be accessed via TC 61 supporting documents on the IEC website

<https://www.iec.ch/tc61/supportingdocuments>

This information is given for the convenience of users of this International Standard and does not constitute a replacement for the normative text in this standard.

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 can 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 publications, basic safety publications and group safety publications 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.

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.

NOTE 3 Standards dealing with non-safety aspects of household appliances are:

- IEC standards published by TC 59 concerning methods of measuring performance;
- CISPR 11, CISPR 14-1 and relevant IEC 61000-3 series standards concerning electromagnetic emissions;
- CISPR 14-2 concerning electromagnetic immunity;
- IEC standards published by TC 111 concerning environmental matters.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-41: Particular requirements for pumps

1 Scope

This part of IEC 60335 deals with the safety of electric pumps for liquids having a temperature not exceeding 90 °C, intended for household and similar purposes, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances including direct current (DC) supplied appliances and **battery-operated appliances**.

Examples of appliances within the scope of this standard are

- **aquarium pumps;**
- **garden pond pumps;**
- **shower-boost pumps;**
- **sludge pumps;**
- **submersible pumps;**
- table fountain pumps;
- **vertical wet pit pumps.**

Appliances not intended for normal household use, but that nevertheless can be a source of danger to the public, such as appliances intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

- persons (including children) whose
 - physical, sensory or mental capabilities; or
 - lack of experience and knowledgeprevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements can be necessary;
- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour and similar authorities.

This standard does not apply to

- **stationary circulation pumps** for heating and service water installations (IEC 60335-2-51);
- pumps for flammable liquids;
- pumps intended exclusively for industrial purposes;
- pumps intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- pumps incorporating chlorinators of the electrolytic type.