

INTERNATIONAL STANDARD



**Household and similar electrical appliances – Safety –
Part 2-40: Particular requirements for electrical heat pumps, air-conditioners
and dehumidifiers**



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and dehumidifiers**

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ELECTROTECHNICAL
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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	9
1 Scope.....	10
2 Normative references	11
3 Terms and definitions	12
4 General requirement.....	19
5 General conditions for the tests	19
6 Classification.....	20
7 Marking and instructions.....	20
8 Protection against access to live parts.....	26
9 Starting of motor-operated appliances	26
10 Power input and current.....	26
11 Heating.....	27
12 Void.....	32
13 Leakage current and electric strength at operating temperature.....	32
14 Transient overvoltages	32
15 Moisture resistance	32
16 Leakage current and electric strength.....	34
17 Overload protection of transformers and associated circuits	34
18 Endurance.....	34
19 Abnormal operation.....	34
20 Stability and mechanical hazards.....	39
21 Mechanical strength	39
22 Construction.....	39
23 Internal wiring.....	49
24 Components.....	49
25 Supply connection and external flexible cords	50
26 Terminals for external conductors.....	51
27 Provision for earthing	51
28 Screws and connections.....	51
29 Clearances, creepage distances and solid insulation	51
30 Resistance to heat and fire.....	51
31 Resistance to rusting.....	51
32 Radiation, toxicity and similar hazards.....	52
Annexes	57
Annex D (normative) Thermal motor protectors.....	57
Annex I (normative) Motors having basic insulation that is inadequate for the rated voltage of the appliance.....	57
Annex AA (informative) Examples for operating temperatures of the appliance	58
Annex BB (normative) Selected information about refrigerants.....	59

Annex CC (informative) Transportation, marking and storage for units that employ flammable refrigerants	62
Annex DD (normative) Instruction manual for servicing refrigerant containing appliances Requirements for operation, service and installation manuals of appliances using flammable refrigerants	63
Annex EE (normative) Pressure tests.....	72
Annex FF (normative) Leak simulation tests.....	75
Annex GG (normative) Charge limits, ventilation requirements and requirements for secondary circuits.....	77
Annex HH (informative) Competence of service personnel.....	106
Annex II (Void).....	109
Annex JJ (normative) Allowable opening of relays and similar components to prevent ignition of A2L refrigerants.....	110
Annex KK (normative) Test method for hot surface ignition temperature for A2L.....	112
Annex LL (normative) Refrigerant detection systems for A2L refrigerants.....	116
Annex MM (normative) Refrigerant sensor location confirmation test.....	118
Annex NN (normative) Flame arrest enclosure verification test for A2L refrigerants.....	120
Annex OO (normative) UV radiation conditioning.....	122
Bibliography.....	123
Figure 101 – Example of label for field charged units.....	53
Figure 101 102 – Arrangement for heating test of appliances with supplementary heater.....	55
Figure 102 103 – Supply circuit for locked-rotor test of a motor of the single-phase type – Revise as needed for three-phase test.....	56
Figure GG.1 – Unventilated area.....	102
Figure GG.2 – Mechanical ventilation.....	103
Figure GG.3 – Isosceles triangle arrow test gauge.....	103
Figure GG.4 – Measurement of vibration amplitude.....	103
Figure GG.5 – Relevant heights h_{inst} , h_0 and h_{rel} for calculation of A_{min} and m_{max}	104
Figure GG.6 – Airflow direction.....	105
Figure KK.1 – Front view of test apparatus labels.....	112
Figure KK.2 – Test apparatus with dimensions.....	113
Figure KK.3 – Top view of test apparatus.....	114
Table – Minimum room area (m^2) (see Note 2 of Clause GG.2).....	
Table – Maximum charge (kg) (see Note 2 of Clause GG.2).....	
Table – Mass of refrigerants.....	
Table 3 – Temperature limits.....	30
Table 101 – UVC irradiance measurement location.....	52
Table AA.1 – Examples for operating temperatures of the appliance.....	58
Table BB.1 – Selected information about refrigerants.....	59
Table DD.1 – Mandatory clauses in each manual.....	63
Table GG.1 – Outline of Annex GG (informative).....	78
Table GG.2 – Circulation airflow.....	83

Table GG.3 – Appliance with packaging	88
Table GG.4 – Appliance without packaging	89
Table GG.5 – Minimum airflow	101

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

**Part 2-40: Particular requirements for electrical heat pumps,
air-conditioners and dehumidifiers**

FOREWORD

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International Standard IEC 60335-2-40 has been prepared by subcommittee 61D: Appliances for air-conditioning for household and similar purposes, of IEC technical committee 61: Safety of household and similar electrical appliances.

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

FDIS	Report on voting
61D/386/FDIS	61D/391/RVD

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 sixth edition cancels and replaces the fifth edition published in 2013 and its Amendment 1:2016. This edition constitutes a technical revision.

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

- Clause 1 – limiting A2L refrigerants to those of a molar mass of more than or equal to 42 kg/kmol;
- Clause 7 – added requirements for A2L refrigerants,
- Clause 7 – added requirement for pre-charge pipe sets, detection systems, ventilation and the resulting charge;
- Clause 7 – added requirements for UV-C systems;
- Clause 7 – added requirements for transcritical refrigerating systems;
- Subclause 19.7 – amended text to match the intention of the subclause;
- Clause 21 – added requirements for transcritical refrigerating systems;
- Subclause 22 – added requirements for A2L refrigerants;
- Subclause 22 – added detection systems;
- Subclause 22 – added new requirements for enhanced tightness refrigerating systems;
- Subclause 22 – added new requirements for UV-C;
- Clause 23 – added new requirements for UV-C; Clause
- Clause 24 – added requirements for transcritical refrigerating systems;
- Subclause 24 – added requirements for detection systems and airflow;
- Clause 32 added new requirements for UV-C;
- Annex BB – revised to add surface temperatures;
- Annex DD – added requirements for A2L refrigerants and amended requirements for flammable refrigerants to exempt A2L refrigerants;
- Annex GG – added requirements for A2L refrigerants;
- Annex GG.1 – amended Table GG.1 and related wording
- Annex GG.7 – added requirement to test;
- Annex GG.8 to GG.13 – new coverage for A2L refrigerants;
- Annex HH – revised to take into account A2L refrigerants;
- Annex JJ – new coverage of allowable opening of relays and similar components to prevent ignition of A2L refrigerants;
- Annex KK – new coverage of test method for hot surface ignition temperature for A2L;
- Annex LL – new coverage of refrigerant detection systems for A2L Refrigerants;
- Annex MM – new coverage of refrigerant sensor location confirmation test;

- Annex NN – new coverage of flame arrest enclosure verification test for A2L refrigerants;
- Annex OO – new coverage of UV radiation conditioning
- Bibliography – added new references.

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

This part 2-40 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of IEC 60335-1:2010, its Amendment 1:2013 and its Amendment 2:2016.

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

This part 2-40 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for electrical heat pumps, air-conditioners and dehumidifiers.

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 associated noun are also in bold.

The following differences exist in the countries indicated below:

- 6.1: Class 01 appliances are allowed (Japan).
- 11.8: The temperature of the wooden walls in the test casing is limited to 85 °C (Sweden).

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.

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

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