

COMMITTEE: EL-002  
Safety of Household and Similar  
Electrical Appliances and Small Power  
Transformers

ATTENTION: Bev Harniss

DR 22018 CP

**DRAFT**

# **COMBINED POSTAL BALLOT/ AUSTRALIAN / NEW ZEALAND STANDARD FOR COMMENT**

LIABLE TO ALTERATION DO NOT USE AS A STANDARD

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DATE OF ISSUE: 25/11/2022  
CLOSING DATE FOR  
COMMENT: 17/02/2023

DR 22018 CP

**AS/NZS 60335.2.40:2023**

**Household and similar electrical appliances –  
Safety –**

**Part 2.40: Particular requirements for heat  
pumps, air-conditioners and dehumidifiers**

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## **COMBINED DRAFT FOR COMMENT/POSTAL BALLOT STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND**

Committee EL-002- Safety of Household and Similar Electrical Appliances and Small Power Transformers

### **DRAFT Australian/New Zealand Standard**

#### **Household and similar electrical appliances – Safety –**

#### **Part 2.40: Particular requirements for heat pumps, air-conditioners and dehumidifiers**

Please note that this document is currently being voted by the committee and the results of the postal ballot will be contingent on public comment received.

Comment on the proposal is invited from persons and organizations concerned with this subject. Comments can be submitted electronically via the Standards New Zealand website <https://www.standards.govt.nz/develop-standards/commenting-on-draft-standards/joint-draft-standards>

Alternatively, please contact [kenia.barnaby@mbie.govt.nz](mailto:kenia.barnaby@mbie.govt.nz) for a comment form in Word format.

Attention is drawn to the fact that this document is a draft only and is liable to alteration in the light of comment received. It is not to be regarded as an Australian/New Zealand Standard until finally issued as such by Standards Australia and Standards New Zealand.

#### **NOTES OF THE SECRETARY:**

THE INTRODUCTION OF ANY NATIONAL VARIATIONS TO BE INCLUDED IN THIS STANDARD WILL OCCUR AFTER THE PUBLIC COMMENT HAS BEEN CONSIDERED AND PRIOR TO THE PUBLICATION OF THE STANDARD.

THIS DOCUMENT MUST BE READ IN CONJUNCTION WITH IEC 60335-2-40 ED 7, COPIES OF WHICH MAY BE VIEWED BY CONTACTING [kenia.barnaby@mbie.govt.nz](mailto:kenia.barnaby@mbie.govt.nz).

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AS/NZS 60335.2.40:2023

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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL 002 - Safety of household and similar electrical appliances and small power transformers. It was approved on behalf of the Council of Standards Australia on xxxxxxxx and by the New Zealand Standards Approvals Board on xxxxxxxx. It was published on xxxxxxxx.

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The following interests are represented on Committee EL/2

Association of Accredited Certification Bodies

Australian Industry Group

Australian Retailers Association

Better Regulation Division (Fair Trading, Safework NSW, TestSafe)

Business New Zealand

Consumer Electronic Suppliers Association, Australia

Consumers' Federation of Australia

Electrical Regulatory Authorities, Australia

Electrical consultants

Engineers Australia

JAS-ANZ

New Zealand Electric Fence Energizer Manufacturers' Standards Group

Testing Interests New Zealand

WorkSafe, New Zealand

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### Keeping Standards up-to-date

Standards are living documents, which reflect progress in science, technology and systems.

To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Australia web site at [www.standards.org.au](http://www.standards.org.au) or Standards New Zealand web site at [www.standards.govt.nz](http://www.standards.govt.nz) and looking up the relevant Standard in the on-line catalogue. Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comment to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

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*This standard was issued in draft form for comment as DR 22018*

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AS/NZS 60335.2.40:2023  
(IEC 60335-2-40 Ed 7, IDT)

Australian/New Zealand Standard™

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**Household and similar electrical  
appliances – Safety –**

**Part 2.40: Particular requirements  
for heat pumps, air-conditioners  
and dehumidifiers**

(IEC 60335-2-40 Ed 7, IDT)

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

AS/NZS 60335.2.40:2023

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –**

**Part 2.40: Particular requirements for heat pumps, air-conditioners and  
dehumidifiers**

**Foreword**

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002 - Safety of Household and Similar Electrical Appliances and Small Power Transformers to supersede AS/NZS 60335.2.40:2019 three years from the date of publication of this Standard. During this period AS/NZS 60335.2.40:2019 and its amendments will also remain current. Regulatory authorities that reference this Standard in regulation may apply these requirements at a different time. Users of this Standard should consult with these authorities to confirm their requirements.

The objective of this Standard is to provide manufacturers, designers, regulatory authorities, testing laboratories and similar organizations with safety requirements designed to give the user protection against hazards that might occur during normal operation and abnormal operation of the appliance and which may be used as the basis for approval for sale or for connection to the electricity supply mains in Australia and New Zealand.

The text of IEC 60335-2-40 Ed 7, prepared by IEC Technical Subcommittee SC 61D, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption of the IEC standard as a Standards Australia/Standards New Zealand joint standard.

The principal changes in this edition as compared with the 2019 edition of AS/NZS 60335.2.40 are as follows (minor changes are not listed):

- the text has been aligned with AS/NZS 60335.1:2022;
- Clause 1 – added thermoelectric heat pumps to the scope and increased maximum rated voltage to 300 V for single phase appliances;
- Clause 7 – revised requirements for marking on the appliance and packaging, including a symbol for minimum floor area and modifying the symbol for flammable refrigerants to include the safety group per ISO 817;
- Clause 11 and Clause 19 – restructured for alignment with Part 1 and added requirements for supplementary air heaters;
- Clause 13 and Clause 16 – revised requirement for leakage current for stationary class I motor-operated appliances;
- Clause 21 – added requirements for particle foam material and revised requirements for transport testing;
- Clause 22 – removed limit on the sum of refrigerant charges for appliances with multiple refrigerating systems, and revised requirements for avoiding ignition sources, leak detection systems, safety shut-off valves, and particle foam material;
- Clause 23 – added requirements to avoid contact between wires and refrigerant piping;
- Clause 24 – revised requirements for motor-compressors;
- Clause 30 – added requirements for resistance to heat of particle foam material;
- Annex BB – revised Table BB.1 with refrigerant information and added a link to ISO 817 refrigerant data;

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- Annex DD – revised requirements for information in the manual for appliances with flammable refrigerants;
- Annex EE – revised requirements for pressure testing;
- Annex FF – revised requirements for leak simulation tests;
- Annex GG – added requirements for applying releasable charge, added additional coverage for A2 and A3 refrigerants, including new charge limits for appliances with circulation airflow and for enhanced tightness refrigerating systems, and revised requirements for enhanced tightness refrigerating systems using A2L refrigerant;
- Annex LL – revised requirements for refrigerant detection systems;
- Annex MM – revised simulated leak rate;
- Annex OO – deleted annex for conditioning internal wiring using UV light.
- Annex PP – new coverage of leak detection system confirmation test;
- Annex QQ – new coverage of method for determining releasable charge.

This Standard is an adoption with national modifications of the seventh edition of IEC 60335-2-40, *Household and similar electrical appliances – Safety – Part 2-40: Particular requirements for heat pumps, air-conditioners and dehumidifiers*. It has been varied as indicated to take account of Australian and New Zealand conditions.

This part 2 has to be used in conjunction with the latest edition of AS/NZS 60335.1 *Household and similar electrical appliances – Safety – Part 1: General requirements* and its Amendments. It was established on the basis of AS/NZS 60335.1:2020.

This part 2 supplements or modifies the corresponding clauses of AS/NZS 60335.1 so as to convert it into the Australian/New Zealand Standard: Safety requirements for 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 of Part 1 is to be adapted accordingly.

NOTE 1 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.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letters AZ.

NOTE 2 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.

p NOTE 3 In this document, p is used in the margin to indicate instructions for preparing a consolidated version.

The essential safety requirements in AS/NZS 3820<sup>1</sup> that could be applicable to requirements for heat pumps, air-conditioners and dehumidifiers are covered by this standard.

The national variations to IEC 60335-2-40 Ed 7 form the Australian and New Zealand national variations for purposes of the IECCE scheme for recognition of results of testing to standards for safety of electrical equipment (the CB scheme).

<sup>1</sup> AS/NZS 3820 *Essential safety requirements for electrical equipment*

The text of the International Standard IEC 60335-2-40 Ed 7 was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

#### **AUSTRALIAN NATIONAL VARIATIONS**

There are no national variations to this Part 2 other than those listed in the national variations in AS/NZS 60335.1:2022.

#### **NEW ZEALAND NATIONAL VARIATIONS**

There are no national variations to this Part 2 other than those listed in the national variations in AS/NZS 60335.1:2022.

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**Annex ANZ  
(normative)**  
**Normative references to international publications with their corresponding joint  
Australia/New Zealand publications**

The following referenced documents are indispensable for the application 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 When an international publication has been modified by national variations the relevant joint Australia/New Zealand publications applies if the national variations are needed to ensure the safety of the appliance for Australia/New Zealand conditions. These international publications are indicated by (mod). If an international publication is not so indicated, then either it or the listed Australia/New Zealand publication may be used.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>AS/NZS</u>	<u>Year</u>
IEC 60068-2-52		<i>Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)</i>		
IEC 60079-0 (mod)		<i>Explosive atmospheres – Part 0: General requirements</i>	60079-0	2019
IEC 60079-7	2015	<i>Explosive atmospheres – Part 7:</i>	60079-7	2016
IEC 60079-7/AMD1	2017	<i>equipment protection by increased safety "e"</i>		
IEC 60079-14 (mod)	2013	<i>Explosive atmospheres – Part 14: Electrical installations design, selection and erection</i>	60079.14	2022
IEC 60079-15	2017	<i>Explosive atmospheres – Part 15: Equipment protection by type of protection "n"</i>	60079.15	2020
IEC 60335-2-34	2021	<i>Household and similar electrical appliances – Safety – Part 2-34: Particular requirements for motor-compressors</i>	60335.2.34	2021
IEC 60335-2-51		<i>Household and similar electrical appliances – Safety – Part 2-51: Particular requirements for stationary circulation pumps for heating and service water installations</i>	60335.2.51	
IEC 60695-1-10		<i>Fire hazard testing – Part 1-10: Guidance for assessing the fire hazard of electrotechnical products – General guidelines</i>		
IEC 60695-10-2	2014	<i>Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test method</i>		
IEC 60730-2-6		<i>Automatic electrical controls – Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements</i>		

IEC 62471	2006	<i>Photobiological safety of lamps and lamp systems</i>	62471	2011
ISO 817		<i>Refrigerants – Designation and safety classification</i>	817	
ISO 527-3		<i>Plastics – Determination of tensile properties – Part 3: Test conditions for films and sheets</i>		
ISO 1302 <sup>2</sup>	2002	<i>Geometrical Product Specifications (GPS) – Indication of surface texture in technical product documentation</i>		
ISO 2578		<i>Plastics – Determination of time-temperature limits after prolonged exposure to heat</i>		
ISO 5149-1	2014	<i>Refrigerating systems and heat pumps – Safety and environmental requirements – Part 1: Definitions, classification and selection criteria</i>	5149.1	2016
ISO 5149-1/AMD1	2015			
ISO 5149-1/AMD2 (mod)	2021			
ISO 5149-2	2014	<i>Refrigerating systems and heat pumps – Safety and environmental requirements – Part 2: Design, construction, testing, marking and documentation</i>	5149.2	2016
ISO 5149-2/AMD1 (mod)	2020			
ISO 5149-3	2014	<i>Refrigerating systems and heat pumps – Safety and environmental requirements – Part 3: Installation site</i>	5149.3	2016
ISO 5149-3/AMD1 (mod)	2021			
ISO 5151	2017	<i>Non-ducted air conditioners and heat pumps – Testing and rating for performance</i>		
ISO 5151/AMD1	2020			
ISO 7010	2019	<i>Graphic symbols – Safety colours and safety signs – Registered safety signs</i>		
ISO 13253		<i>Ducted air-conditioners and air-to-air heat pumps – Testing and rating for performance</i>		
ISO 13256 (all parts)		<i>Water-source heat pumps – Testing and rating for performance</i>		
ISO 14903		<i>Refrigerating systems and heat pumps – Qualification of tightness of components and joints</i>		
ISO 15042		<i>Multiple split-system air-conditioners and air-to-air heat pumps – Testing and rating for performance</i>		

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<sup>2</sup> Withdrawn