

Australian/New Zealand Standard™

**Household and similar electrical
appliances—Safety**

**Part 2.89: Particular requirements for
commercial refrigerating appliances and
ice-makers with an incorporated or
remote refrigerant unit or motor-
compressor**



AS/NZS 60335.2.89:2020

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 17 June 2020 and by the New Zealand Standards Approval Board on 3 June 2020.

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The following are represented on Committee EL-002:

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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 comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 19920.

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Household and similar electrical appliances—Safety

Part 2.89: Particular requirements for commercial refrigerating appliances and ice-makers with an incorporated or remote refrigerant unit or motor-compressor

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

AS/NZS 60335.2.89:2020**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2.89: Particular requirements for commercial refrigerating appliances and ice-makers with
an incorporated or remote refrigerant unit or motor-compressor****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 60335.2.89:2010 three years from the date of publication of this Standard. During this period AS/NZS 60335.2.89:2010 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 60335-2-89 Ed 3, prepared by IEC Technical Subcommittee SC 61C, 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 2010 edition of AS/NZS 60335.2.89 are as follows (minor changes are not listed):

- the text has been aligned with the 2011 edition of Part 1;
- some notes have been deleted or converted to normative text (4, 5.2, 7.6, 22.111, 22.111.1);
- some subclauses have been renumbered (22.103, 22.104, 22.105, 22.106, 22.107, 22.109, 22.110, 22.111, 22.112, 22.113, 22.114, 22.115);
- requirements for commercial ice-makers have been added (5.7, 5.101, 7.1, 11.8, 19.102);
- installation of appliances with a remote refrigerant unit or motor-compressor has been clarified (5.10, 11.2);
- installation instructions for appliances with a remote refrigerant unit employing R-744 refrigerant in a transcritical refrigeration system have been added (7.12.1);
- a pressure test for appliances employing R-744 refrigerant has been added (22.7);
- additional refrigerants have been added to Table 102 and it has been updated to reference only ISO 817 and ISO 5149-1 data;
- additional requirements for appliances with a refrigerant charge exceeding 150 g of flammable refrigerant within each refrigerating circuit have been added (7.1, 21.103, 22.108, 22.110, 22.116, 22.117, 22.118, 22.119, 22.120, 22.121, Annex CC).
- Annex AA has been modified to cover motors that are supplied at a voltage that is different from the rated voltage of the appliance;
- Annex BB has been updated to align with the latest edition of IEC 60079-15.

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This Standard is an adoption with national modifications of the third edition of IEC 60335-2-89, *Household and similar electrical appliances – Safety – Part 2-89: Particular requirements for commercial refrigerating appliances and ice-makers with an incorporated or remote refrigerant unit or motor-compressor*. 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 60335.1:2011.

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 commercial refrigerating appliances and ice-makers with an incorporated or remote refrigerant unit or motor-compressor.

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.

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 3820¹ that could be applicable to requirements for commercial refrigerating appliances and ice-makers with an incorporated or remote refrigerant unit or motor-compressor are covered by this standard.

The national variations to IEC 60335-2-89 Ed 3 form the Australian and New Zealand national variations for purposes of the IECEE scheme for recognition of results of testing to standards for safety of electrical equipment (the CB scheme).

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

The text of the International Standard IEC 60335-2-89 Ed 3 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 60335.1:2011.

NEW ZEALAND NATIONAL VARIATIONS

There are no national variations to this Part 2 other than those listed in the national variations in AS/NZS 60335.1:2011.

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 60079-7 | 2015 | <i>Explosive atmospheres – Part 7:</i> | | |
| IEC 60079-7:2015/AMD1 | 2017 | <i>Equipment protection by increased safety "e"</i> | | |
| IEC 60079-15 | 2017 | <i>Explosive atmospheres – Part 15: Equipment protection by type of protection "n"</i> | | |
| IEC 60079-29-1 | | <i>Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases</i> | | |
| IEC 60335-2-34 | 2012 | <i>Household and similar electrical appliances – Safety – Part 2-34:</i> | 60335.2.34 | 2016 |
| IEC 60335-2-34/AMD1 | 2015 | <i>Particular requirements for motor-compressors</i> | A1 | 2017 |
| IEC 60335-2-34/AMD2 | 2016 | | | |
| IEC 60730-2-6 | | <i>Automatic electrical controls – Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements</i> | | |
| ISO 817 | 2014 | <i>Refrigerants – Designation and safety classification</i> | | |
| ISO 817:2014/AMD1 | 2017 | | | |
| ISO 4126-2 | 2018 | <i>Safety devices for protection against excessive pressure – Part 2: Bursting disc safety devices</i> | | |
| ISO 5149-1 | 2014 | <i>Refrigerating systems and heat pumps – Safety and environmental requirements – Part 1: Definitions, classification and selection criteria</i> | | |
| ISO 5149-1:2014/AMD1 | 2015 | | | |

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