AS/NZS 3823.2:2013

Australian/New Zealand Standard™

Performance of electrical appliances—Air conditioners and heat pumps

Part 2: Energy labelling and minimum energy performance standards (MEPS) requirements

STANDARDS Australia

STANDARDS NEW ZEALAND PAEREWA AOTEAROA

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-056, Room Air Conditioners. It was approved on behalf of the Council of Standards Australia on 16 April 2013 and on behalf of the Council of Standards New Zealand on 7 May 2013.
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The following are represented on Committee EL-056:

Air-Conditioning & Refrigeration Equipment Manufacturers Association of Australian (AREMA)
Australian Building Codes Board
Australian Industry Group
CHOICE
Consumer Electronics Association of New Zealand
Consumer Electronics Suppliers Association (CESA)
Department of Climate Change and Energy Efficiency
Electrical Compliance Testing Association
Energy Efficiency & Conservation Authority of New Zealand
Energy Safe Victoria
Institute of Refrigeration Heating and Air Conditioning Engineers New Zealand
Institution of Professional Engineers New Zealand
NSW Department of Trade and Investment, Regional Infrastructure and Services
Office of the Technical Regulator, SA
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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 either Standards Australia or Standards New Zealand at the address shown on the back cover.

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Australian/New Zealand Standard™

Performance of electrical appliances—Air conditioners and heat pumps

Part 2: Energy labelling and minimum energy performance standards (MEPS) requirements

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PREFACE

This Standard was prepared by the Joint Standards Australia Standards New Zealand Committee EL-056, Room Air Conditioners, to supersede AS/NZS 3823.2:2011.

The AS/NZS 3823 series comprises the following parts:

AS/NZS	
3823	Performance of electrical appliances—Airconditioners and heat pumps
3823.1.1	Part 1.1: Non-ducted airconditioners and heat pumps—Testing and rating for performance (ISO 5151:2010, MOD)
3823.1.2	Part 1.2: Ducted airconditioners and air-to-air heat pumps—Testing and rating for performance (ISO 13253:2011, MOD)
3823.1.3	Part 1.3: Water-source heat pumps—Water-to-air and brine-to-air heat pumps—Testing and rating for performance (ISO 13256-1:1998, MOD)
3823.1.4	Part 1.4: Multiple split-system airconditioners and air-to-air heat pumps—Testing and rating for performance (ISO 15042:2011, MOD)
3823.2	Part 2: Energy labelling and minimum energy performance standard (MEPS) requirements (this Standard)
3823.3	Part 3: Calculation of performance for minimum energy performance standard (MEPS) requirements

The overall objective of the AS/NZS 3823 series of Standards is to promote high levels of performance and energy efficiency in air conditioners and heat pumps. The Parts of the AS/NZS 3823 series are summarized as follows:

(a) Part 1.1 includes performance test procedures for rating **non-ducted air conditioners** and heat pumps, to be used in conjunction with Part 2.

(b) Part 1.2 includes performance test procedures for rating **ducted air conditioners** and heat pumps, to be used in conjunction with Part 2.

(c) Part 1.3 includes performance test procedures for rating water-to-air heat pumps and air conditioners with water cooled condensers, to be used in conjunction with Part 2.

(d) Part 1.4 includes performance test procedures for rating **multi-split system** air-cooled air conditioners and air-to-air heat pumps, to be used in conjunction with Part 2.

(e) Part 2 specifies minimum energy performance standard (MEPS) requirements and includes algorithms for the calculation of the energy efficiency **star rating**, performance requirements, details of energy labels and requirements for valid applications for **registration**.

(f) Part 3 specifies procedures for calculating the performance (simulation) of air conditioners of the vapour compression type, in lieu of physical tests.

This Standard is published with the approval of the combined state and territory regulatory authorities and is structured to be suitable for reference in legislation calling up minimum energy performance standards and also for reference in energy labelling regulatory legislation.

The Council of Australian Governments (COAG), at its meeting in Darwin on 2 July 2009, announced the signing of the National Partnership Agreement on Energy Efficiency, which will deliver a nationally-consistent and cooperative approach to energy efficiency. COAG also announced a comprehensive 10-year strategy to accelerate energy efficiency improvements as a key component of the overall approach to combat climate change. The Ministerial Council on Energy agreed to the increased MEPS levels included in this revision at the conclusion of Regulatory Impact Statement process during 2010.

Similar to the previous revisions of this Standard it is possible to use either physical tests or simulated performance tests (described in AS/NZS 3823.3) to demonstrate compliance with the MEPS requirements for units that do not carry an energy label.

Only physical tests in a calorimeter can be used to demonstrate compliance for products that carry an energy label. Suppliers of three-phase and single-phase ducted and single-phase commercial units may choose to fix energy labels to those products. In such cases, the products must be registered for energy labelling and all of the usual requirements for energy labelling will apply (including the requirement for a physical test in a calorimeter). The status of energy labelling and MEPS Australian regulatory programs and their date of implementation, for the various air conditioning equipment configurations, is provided in Appendix E.

The main changes in this edition of the Standard are in accordance with the relevant Regulatory Impact Statement, as follows:

(i) Introduction of cooling and heating MEPS levels for **multi-split system** air-cooled air conditioners and air-to-air heat pumps within the scope of AS/NZS 3823.1.4 from 1 April 2014.

(ii) The use of simulation is generally only permitted for products including multi-split products with a **rated capacity** of 30 kW or greater.

The technical details with respect to each of these changes are set out in the body of this Standard.

In Australia, all appliances within the scope of this Standard manufactured or imported for sale in Australia on or after 1 April 2014, are required to be registered to this Standard. Products registered in Australia to previous editions of this Standard will be grandfathered on the applicable date if they do not meet the requirements of this Standard.

In New Zealand, this Standard will be incorporated by reference into New Zealand regulations at a date to be notified. It is anticipated that New Zealand will accept **registrations** to this Standard on publication and will continue to allow **registrations** to the 2011 Part 2 Standard for the time being. Once this Standard is incorporated by reference in New Zealand regulations, **registrations** to previous editions will cease and will be grandfathered under normal transition provisions. New Zealand **registration** holders **should** consult the relevant regulatory authority.

Section 4 of this Standard sets out the transition provisions for energy labelling and MEPS under this Standard.

Administrative arrangements during the transition period may vary so **registration** holders **should** contact their regulator to obtain detailed requirements with respect to **registration** requirements (see also Section 4 and Appendix F of this Standard). An overview of the regulatory requirements in New Zealand for energy labelling and MEPS is included in Appendix F.

Check testing, where applicable, will be undertaken to the version of the test Standard or the appropriate MEPS levels which have been used to support the **registration** for that model. A summary of the Administrative Guidelines has been included in Appendix F for the information of users of this Standard.

Governments have indicated that Seasonal Energy Efficiency Ratings will be considered as part of the next regulatory change for air conditioners, providing a system of testing and calculating seasonal performance factors from a series of standardized test points has been developed and internationally agreed.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

Statements expressed in mandatory terms in footnotes to tables are deemed to be requirements of this Standard.

CONTENTS

Page

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Performance of electrical appliances—Air conditioners and heat pumps

Part 2: Energy labelling and minimum energy performance standards (MEPS) requirements

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies the energy labelling requirements for single-phase **non-ducted air conditioners** of the vapour compression type within the scope of AS/NZS 3823.1.1 and the MEPS requirements for single-phase and three-phase air conditioners of the vapour compression type up to a rated total cooling capacity of 65 kW that fall within the scope of AS/NZS 3823.1.1, AS/NZS 3823.1.2, AS/NZS 3823.1.3 or AS/NZS 3823.1.4.

Particular regulatory requirements for different categories of air conditioning equipment and validity dates are summarized in Appendix E of this Standard.

NOTE: Typical applicable products are shown in Appendix J.

This Standard does not specify electrical safety requirements.

This Standard specifies the following values for cooling and heating, as applicable:

(a) **Rated power** (input).

(b) **Rated capacity** (output).

(c) Energy Efficiency Ratio (EER) for cooling.

(d) **Coefficient of Performance (COP)** for heating.

(e) **Annual Energy Efficiency Ratio (AEER)** for cooling.

(f) **Annual Coefficient of Performance (ACOP)** for heating.

(g) **Star Rating Index (SRI)**.

(h) **Star rating**.

(i) Some of the requirements for energy label validity.

(j) The performance criteria for energy labelling validity.

(k) Test report format.

(l) Printing requirements for air conditioner appliance energy labels.

(m) MEPS requirements for cooling and heating.

(n) Power quality (power factor).

NOTE: Terms that are defined in Clause 1.6 are shown in bold text.