

Australian/New Zealand Standard™

**Performance of electrical appliances—
Air conditioners and heat pumps**

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



AS/NZS 3823.2:2011

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-015, Quality and Performance of Household Electrical Appliances. It was approved on behalf of the Council of Standards Australia on 31 August 2011 and on behalf of the Council of Standards New Zealand on 1 September 2011. This Standard was published on 23 September 2011.

The following are represented on Committee EL-015:

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Australian Retailers Association
Business New Zealand
CHOICE
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Consumers Federation of Australia
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This Standard was issued in draft form for comment as DR AS/NZS 3823.2.

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-015, Quality and Performance of Household Electrical Appliances, to supersede AS/NZS 3823.2:2009.

The AS/NZS 3823 series comprises the following parts:

AS/NZS

- 3823 Performance of electrical appliances—Air conditioners and heat pumps
- 3823.1.1 Part 1.1: Test methods—Non-ducted air conditioners and heat pumps—Testing and rating for performance (ISO 5151)
- 3823.1.2 Part 1.2: Test methods—Ducted air conditioners and air-to-air heat pumps—Testing and rating for performance (ISO 13253)
- 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)
- 3823.1.4 Part 1.4: (In preparation) Multi-split system air-cooled air conditioners and air-to-air heat pumps—Testing and rating for performance (ISO 15042)
- 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 up to a rated total cooling capacity of 65 kW, for minimum energy performance standard (MEPS) requirements, 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 minimum energy performance standard requirements for three-phase units (units that do not carry an energy label). However, this revision generally only permits simulations to be used for products with a **rated capacity** of 30 kW or greater for MEPS from October 2011.

Only physical tests in a calorimeter can be used to demonstrate compliance for products that carry an energy label. Suppliers of three-phase, 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 minimum energy performance standard (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 more stringent cooling and heating MEPS levels in Australia for air-cooled air conditioners and air-to-air heat pumps on 1 October 2011 for most products and 1 April 2012 for remaining products.
- (ii) 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 Part 1.4 one year after the publication of the relevant test method.
- (iii) The use of simulation for products is generally only permitted for products with a rated capacity of 30 kW or greater for MEPS from October 2011.

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

It is anticipated that **registrations** (or **pre-registrations**) to this Standard will be accepted by regulators from the date of publication.

In Australia, **registrations** to AS/NZS 3823.2:2009 (as amended) will be accepted following the publication of this Standard until 30 September 2011.

In Australia, all appliances within the scope of this Standard, manufactured or imported for sale in Australia on or after 1 October 2011, are required to be registered to this Standard. Products registered in Australia to previous editions of this Standard will be grandfathered on 1 October 2011 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 2009 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 notes to figures and tables are deemed to be requirements of this Standard.

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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

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 minimum energy performance standard (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.

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.
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- (l) Printing requirements for air conditioner appliance energy labels.
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- (n) Power quality (power factor).