AS/NZS 3823.2:2009
(Incorporating Amendment No. 1)

AS/NZS 3823.2:2009

Australian/New Zealand Standard™

Performance of electrical appliances—Air conditioners and heat pumps

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

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 24 August 2009 and on behalf of the Council of Standards New Zealand on 4 September 2009.
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The following are represented on Committee EL-015:

Airconditioning & Refrigeration Equipment Manufacturers Association of Australia
Australian Association of Certification Bodies
Australian Consumers Association
Australian Industry Group
Australian Institute of Refrigeration, Air Conditioning and Heating
Australian Retailers Association
Business New Zealand
CHOICE
Consumer Electronic Suppliers Association
Department of Employment and Industrial Relations (Qld)
Department of the Environment, Water, Heritage and the Arts
Department of Water and Energy (NSW)
Electrical Compliance Testing Association
Energy Efficiency and Conservation Authority New Zealand
Energy Safe Victoria
Equipment Energy Efficiency Committee
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Performance of electrical appliances—Air conditioners and heat pumps

Part 2: Energy labelling and minimum energy performance standard (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 3823.2:2005.

This Standard incorporates Amendment No. 1 (May 2010). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The AS/NZS 3823 series comprises five Parts, as follows:

AS/NZS 3823		Performance of electrical appliances—Airconditioners and heat pumps
3823.1.1	Part 1.1:	Test methods—Non-ducted airconditioners and heat pumps—Testing and rating for performance
3823.1.2	Part 1.2:	Test methods—Ducted airconditioners and air-to-air heat pumps—Testing and rating for performance
3823.1.3	Part 1.3:	Water-source heat pumps—Water-to-air and brine-to-air heat pumps—Testing and rating for performance
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 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.

(e) 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.

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 and some single-phase units (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, 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 as follows:

(i) Introduction of more stringent cooling MEPS levels for all products.

(ii) Introduction of heating MEPS levels for all products capable of heating.

(iii) Introduction of new efficiency metrics that includes non-operating power (such as standby and crankcase heaters) as well as EER and COP in annual efficiency values.

(iv) Inclusion of minimum permitted power factor levels for all air conditioners.

(v) A new energy labelling algorithm for the calculation of star ratings for labelled products.

(vi) A new energy label design and format.

(vii) Mandatory reporting of demand response capability during the product registration and an option to indicate demand response capability on the energy label where this is present.

The part load MEPS allowance contained in AS/NZS 3823.2:2005 Amendment 3 has been retained with the additional requirement of reporting of EER and/or COP at 50% load output.

It is anticipated that registrations (or pre-registrations) to this Standard will be accepted by regulators from the date of publication. Registrations to AS/NZS 3823.2:2005 (as amended) will be accepted for a further period of up to 2 months following the publication 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 2010, are required to be registered to this Standard. At this time, all registrations to previous editions of this Standard will be grandfathered.

In New Zealand, this Standard is anticipated to be incorporated by reference into New Zealand law prior to 1 April 2010 to align with the Australian regulatory processes. Once incorporated all items that are within the scope of this Standard, that are manufactured in, or imported into New Zealand may not be sold to a consumer unless they comply with this Standard. At this time, all registrations to previous editions of this Standard will be grandfathered.

Registrations that do not comply with the relevant requirements of this Standard for 2011 will be grandfathered from 1 April 2011.

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.

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 strategy includes a proposal to improve the energy performance of air conditioners by a further 10 percent from 1 October 2011. COAG announced that this proposal is subject to full consultation with industry stakeholders and a comprehensive regulatory impact assessment process.

It is anticipated by regulatory authorities that a further amendment will be undertaken to this Standard following the stakeholder consultation and regulatory impact assessment process. The anticipated changes associated with this future amendment are as follows:

(1) Inclusion of new MEPS levels as noted above to be finalised during the consultation process.

(2) Removal of the part load MEPS compliance option.

(3) Inclusion of mandatory demand response capability or potential demand response capability.

(4) Limitation on the use of AS/NZS 3823.3 (Simulation) for products under 30 kW output capacity.

(5) Consideration of ratings based upon seasonal energy consumption.

(6) Consideration of mandatory performance requirements in respect of condition H2 (possibly restricted to application in colder climates)

A1 It should be noted the Queensland government and the South Australian government have announced MEPS requirements that are different to the requirements specified in this Standard. Information on the Queensland restrictions can be found at www.dip.qld.gov.au. Information on the South Australian restrictions can be found at www.energy.sa.gov.au/airconditioners.

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.

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 are deemed to be requirements of this Standard.

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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 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 or AS/NZS 3823.1.3.

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.

(j) The performance criteria for energy labelling validity.

(k) Test report format.

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

(m) Minimum energy performance standard requirements for cooling and heating.

(n) Power quality (power factor).

1.2 EXCLUSIONS

The following equipment is excluded from the scope of this Standard:

(a) **Close controlled air conditioners** within the scope of AS/NZS 4965 and **chillers** within the scope of AS/NZS 4776.

(b) **Multi-split systems** (i.e., those having more than one indoor unit with an independent control for each indoor unit) pending the development of a suitable test method. MEPS levels are under consideration.