

Fact Sheet - Standards and Regulations



1. Reference Documents

Regulatory Standard - Air-conditioners and Heat Pumps - Energy Labelling and MEPS AS/NZS3823.2 : 2005 (2009 revision to be published October 2009)

Test Standards - Non Ducted Units - AS/NZS3823.1.1
Ducted Units - AS/NZS3823.1.2
Water Source Heat Pumps - AS/NZS3823.1.3
Assessment using Simulation Methods - AS/NZS3823.3*

- *Not applicable to applications for energy labeling

It should be noted that there are close links between the AS/NZS test standards and ISO test standards, which reflects Australia and New Zealand aligning to world best practice. The ISO standards include:

ISO5151 (non ducted)
ISO13253 (ducted)
ISO13256-1 (water source)

Interactive Products List - http://search.energyrating.gov.au/air_srch.asp

Website Data sheets - <http://www.energyrating.gov.au/acmenu.html>

Purchasing the Standard - <http://www.saiglobal.com>

2. Scope and Application

The scope is set out in clause 1.1 of AS/NZS3823.2 : 2005 (2009 revision to be published October 2009), coverage includes:

- i. the energy labelling requirements for single-phase non-ducted air conditioners of the vapour compression type, and
- ii. the minimum energy performance standard (MEPS) requirements for single-phase and three-phase air conditioners of the vapour compression type up to a rated cooling capacity of 65 kW and that fall within the scope of AS/NZS3823.1.1, AS/NZS3823.1.2 or AS/NZS3823.1.3.

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3. Exclusions

- Close controlled air conditioners typically for computer room applications
- Multi split units (having independent controls for each indoor unit)
- Evaporative coolers
- Ground water sourced or ground loop sourced heat pumps
- Unbalanced air conditioners and spot coolers (these include some portable types)
- Commercial chillers used in commercial buildings
- Models not intended¹ for human comfort - eg units designed for process heating or cooling

Note 1: Noting that intention to use for a particular application may be difficult to establish

Applicable Regulatory Rulings

Ruling No.	Date	Description
002F	22/05/2006	Effective temporary exclusion of air conditioners designed for installation in Caravans, Mobile Homes, Campervans and Rail Cars
014A	27/11/2008	The following models have been exempted from the provisions of AS/NZS3823.2 and as such are not required to be registered: Brand: Airwell Model(s): "May" Series

Refer also <http://www.energyrating.gov.au/reg-ruling.html> for latest rulings

4. Identifying the product types

4.1 Classification system

Refer to Appendix E of AS/NZS3823.1.1 for comprehensive details.

The classification system consists of the following major components that will impact on the type of regulatory provisions (in particular MEPS levels) applicable to the air-conditioner:

Type*

- Window Wall
- Wall Hung Portable (balanced)
- Split
- Twin or triple split (single control only)
- Single packaged unit
- Water cooled split or packaged
- Water source heat pump

*See appendix for pictures of these units

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Distribution Method

- Ducted
- Non Ducted

Phase

- Single Phase
- Three Phase

Application

- Household Only
- Commercial (may also include household)

5. Outline of the test procedure

- The test unit is mounted in a test rig either in a balanced air calorimeter room or a room suitable for air enthalpy testing (if applicable).
- The outdoor side of the air conditioner is then subjected to set environmental conditions depending upon the test. For cooling tests it is set at "T1" conditions 35°C dry bulb and 24°C wet bulb. For heating tests it is set to 7°C dry bulb and 6°C wet bulb.
- The unit is then operated usually at maximum output (rated capacity) except where the supplier has claimed compliance with MEPS at less than 100% of rated capacity (variable speed compressors only), in this instance the output may be reduced to as little as 50% of rated capacity.
- Sufficient heating (or cooling in the case of a heating test) is then applied to the inside side of the air-conditioner until the design internal environmental conditions are met. For cooling tests 27°C dry bulb and 19°C wet bulb and for heating tests 20°C dry bulb and 15°C wet bulb.
- The unit is operated until stable conditions are achieved after which measurement of electrical power input, heating or cooling energy applied to the inside side of the unit (sensible heat) and mass of moisture added to the internal air (latent heat - cooling test only) is measured.
- From these measurements total electrical input and cooling or heating output capacity can be determined. This provides the basis for determining EER, COP and SRI.

6. Requirements for qualification as a family of models

The "family" provision in the registration approval process is intended to apply to a range of models that are almost identical except for differences unrelated to the products energy performance (eg cosmetic differences such as the finish on the facing, certain extra features such as remote controls, timers etc).

This form of application is primarily intended to minimise the fees paid by companies for the registration of a large number of very similar products.

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To qualify as a family the entire range of models must:

- Be of the one brand
- Rely on the one test report
- Have the same physical characteristics
- Have the same rated energy consumption rated capacity and energy efficiency rating
- Have the same performance characteristics.

Naming Conventions:

There are no specified naming conventions for families of models but it is common practice to either:

- Refer to the family as a “range or series” eg the “Super chill range”. This is acceptable provided all the supplier’s products that use the name “Super Chill” (eg Super Chill A, Super Chill B, Super Chill C etc) conform to the requirements for a family.
- Refer to the family model number using “wildcards”. Eg for a range of 3 models, ABC-1, ABC-2, ABC-3, the family name could be stated as ABC-***

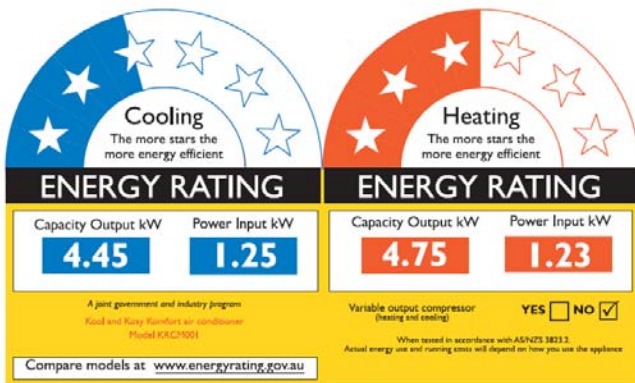
7. Documentation requirements (test reports, labels, traceability etc)

Test Reports	At least one test report must be supplied with the application. In the case of applications to Part 3 of the standard (simulation) the report may be in the form of an electronic simulation file.
Labels	Required for single phase non ducted units. Voluntary for three phase and single phase ducted units
MEPS Compliance	Required for all Types
Simulation Files	Where a registration application relies upon a simulation test report to AS/NZS3823.3, the simulation file will normally need to form part of the application unless appendices A and B of AS/NZS3823.3 are included in the application form
Traceability Data	Required to be supplied as part of the application

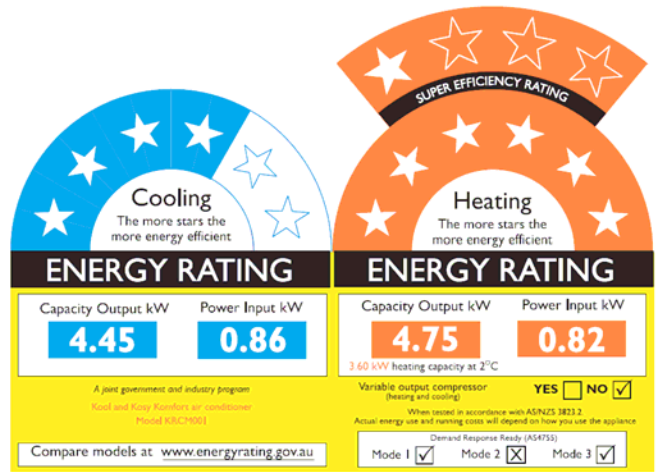
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8. Label Design and Graphics

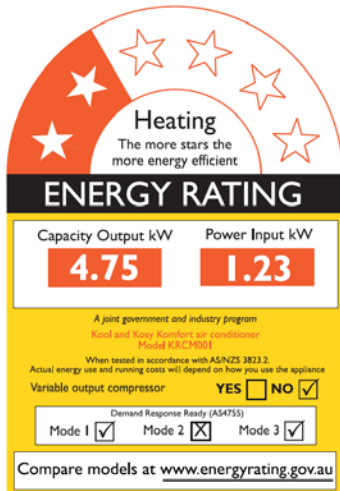
Air conditioner labels are typically redesigned each time the label algorithm is revised. A new label (including the new ten star 'super efficient' option) will be introduced from late 2009. All air conditioners will be required to carry the new label from April 2010. Examples of the new label are shown below.



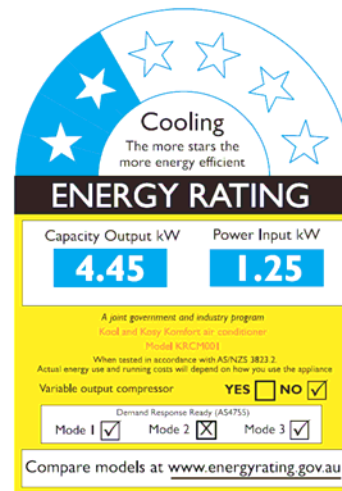
Heating and cooling model



Heating and cooling model with 7 star heating label



Heating only model



Cooling only model

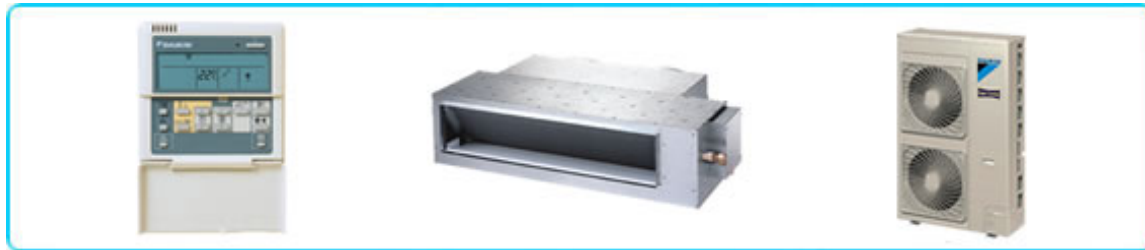
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9. Air Conditioner Types - Graphics

Split system



Ducted System



Window Wall



Packaged System

