

Australian/New Zealand Standard™

**Performance of electrical appliances—
Airconditioners and heat pumps**

**Part 1.2: Ducted air conditioners and air-
to-air heat pumps—Testing and rating
for performance (ISO 13253:2011, MOD)**



AS/NZS 3823.1.2:2012

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Australian Retailers Association
Business New Zealand
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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.

This Standard is an adoption with national modifications and has been reproduced from ISO 13253:2011, *Ducted air-conditioners and air-to-air heat pumps—Testing and rating for performance*, and has been varied as indicated to take account of Australian/New Zealand conditions. The modifications are set out in Appendix ZZ.

Although there have been many detailed changes to ISO 13253:2011 compared with ISO 13253:1995, many of these changes were anticipated in AS/NZS 3823.1.2:2001 Appendix ZZ, so there are few net technical changes in the new edition. The most significant changes are:

- (a) The more detailed test procedures for cyclic heating tests to improve the reproducibility of testing.
- (b) The addition of equations for calculating the discharge coefficient of nozzles.
- (c) The introduction of uncertainty of measurement requirements.
- (d) The ability to use a calorimeter to test ducted units (this was already in AS/NZS 3823.1.2 Appendix ZZ but is now included in ISO 13253).
- (e) There are two methods described for setting and controlling the air-flow rate on the indoor side. Both methods simulate a fixed duct resistance in the air conditioner installation, not a fixed air-flow rate as in the previous edition.

As this Standard is reproduced from an International Standard, the following applies:

- (i) Its number appears on the cover and title page while the International Standard number appears only on the cover.
- (ii) In the source text ‘this International Standard’ should read ‘this Australian/New Zealand Standard’.
- (iii) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>	<i>Australian/New Zealand Standard</i>
ISO	AS/NZS
5151 Non-ducted air-conditioners heat pumps—Testing and rating for performance	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

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

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AUSTRALIAN/NEW ZEALAND STANDARD

Performance of electrical appliances—Airconditioners and heat pumps

Part 1.2:

Ducted airconditioners and air-to-air heat pumps—Testing and rating for performance (ISO 13253:2011, MOD)

1 Scope

This International Standard specifies the standard conditions for capacity and efficiency ratings of ducted, air-cooled air-conditioners and ducted air-to-air heat pumps. This International Standard is applicable to the test methods for determining the capacity and efficiency ratings. Residential, commercial, and industrial single-package and split-system air-conditioners and heat pumps are included. The equipment (taken to mean ducted air-conditioners and/or ducted heat pumps) shall be factory-made and electrically driven, and shall use mechanical compression.

This International Standard is applicable to equipment utilizing one or more refrigeration systems, one outdoor unit and one or more indoor units controlled by a single thermostat/controller. This International Standard is applicable to equipment utilizing single-, multiple- and variable-capacity components.

This International Standard is not applicable to the rating and testing of the following:

- a) water-source heat pumps or water-cooled air-conditioners
- b) multi-split-system air-conditioners and air-to-air heat pumps (see ISO 15042 for testing of such equipment);
- c) mobile (windowless) units having a condenser exhaust duct;
- d) individual assemblies not constituting a complete refrigeration system;
- e) equipment using the absorption refrigeration cycle;
- f) non-ducted equipment (see ISO 5151 for testing of such equipment).

This International Standard does not cover the determination of seasonal efficiencies that can be required in some countries because they provide a better indication of efficiency under actual operating conditions.

2 Normative references

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.

ISO/IEC Guide 98-3, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

ISO 817, *Refrigerants — Designation and safety classification*

ISO 5151, *Non-ducted air conditioners and heat pumps — Testing and rating for performance*