



Greenhouse and Energy Minimum Standards (Air Conditioners and Heat Pumps) Determination 2012¹

Greenhouse and Energy Minimum Standards Act 2012

I, MARK DREYFUS, Parliamentary Secretary for Climate Change and Energy Efficiency, make this Determination under section 23 of the *Greenhouse and Energy Minimum Standards Act 2012*.

Dated 25 October 2012

MARK DREYFUS

Parliamentary Secretary for Climate Change and Energy Efficiency

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1 Name of Determination

This Determination is the *Greenhouse and Energy Minimum Standards (Air Conditioners and Heat Pumps) Determination 2012*.

2 Commencement

This Determination comes into force on the day after it is registered.

3 Definitions

In this Determination:

Act means the *Greenhouse and Energy Minimum Standards Act 2012*.

AS/NZS 3823.1.1:1998 means *Australian/New Zealand Standard 3823.1.1:1998 Performance of electrical appliances – air conditioners and heat pumps - Part 1.1: Non-ducted air conditioners and heat pumps—testing and rating for performance*, as it existed on 24 February 2006.

Note 1: AS/NZS 3823.1.1:1998 is available from Standards Australia Limited as a superseded Standard.

Note 2 AS/NZS 3823.1.1:1998 includes all amendments up to and including AS/NZS 3823.1.1:1998/Amdt 3:2006 made on 24 February 2006.

AS/NZS 3823.1.1:2012 means *Australian/New Zealand Standard 3823.1.1:2012 Performance of electrical appliances – air conditioners and heat pumps – Part 1.1: Non-ducted air conditioners and heat pumps – testing and rating for performance*, as it existed on the date this Determination came into force.

Note: AS/NZS 3823.1.1:2012 is available from Standards Australia Limited.

AS/NZS 3823.1.2:2001 means *Australian/New Zealand Standard 3823.1.2:2001 Performance of electrical appliances – air conditioners and heat pumps. Part 1.2: Test methods—ducted air conditioners and air-to-air heat pumps—Testing and rating for performance*, as it existed on 18 October 2010.

Note 1: AS/NZS 3823.1.2:2001 is available from Standards Australia Limited as a superseded Standard.

Note 2 AS/NZS 3823.1.2:2001 includes all amendments up to and including AS/NZS 3823.1.2:2001/Amdt 5:2010 made on 18 October 2010.

AS/NZS 3823.1.2:2012 means *Australian/New Zealand Standard 3823.1.2:2012 Performance of electrical appliances – air conditioners and heat pumps – part 1.2: test methods – ducted air conditioners and heat pumps – testing and rating performance*, as it existed on the day this Determination came into force.

Note: AS/NZS 3823.1.2:2012 is available from Standards Australia Limited.

AS/NZS 3823.1.3:2005 means *Australian/New Zealand Standard 3823.1.3:2005 Performance of electrical appliances – air conditioners and heat pumps. Part 1.3: Water-source heat pumps—Water-to-air and brine-*

to-air heat pumps—Testing and rating of performance, as it existed on the date this Determination came into force.

Note 1: AS/NZS 3283.1.3:2005 is available from Standards Australia Limited.

Note 2: AS/NZS 3283.1.3:2005 includes all amendments up to and including AS/NZS 3283.1.3:2005/Amdt 1 made on 22 September 2011.

AS/NZS 3823.2:2011 means *Australian/New Zealand Standard 3823.2:2011 Performance of electrical appliances – air conditioners and heat pumps. Part 2: Energy labelling and minimum energy performance standards (MEPS) requirements*, as it existed on the date this Determination came into force.

Note: AS/NZS 3823.2:2011 is available from Standards Australia Limited.

AS/NZS 4776.1.1:2008 means *Australian/New Zealand Standard 4776.1.1:2008 Liquid-chilling packages using the vapour compression cycle – Part 1.1: Method of rating and testing performance – Rating*, as it existed on the date this Determination came into force.

Note: AS/NZS 4776.1.1:2008 is available from Standards Australia Limited.

AS/NZS 4965.1:2008 means *Australian/New Zealand Standard 4965.1:2008 Performance of close control air conditioners – Part 1: Testing for rating*, as it existed on the date this Determination came into force.

Note: AS/NZS 4965.1:2008 is available from Standards Australia Limited.

Australian Standard means a standard that is published by Standards Australia Limited denoted by the letters “AS” and identifying numbers and/or letters.

Australian/New Zealand Standard means a standard that is jointly published by Standards Australia Limited and Standards New Zealand, is applicable in both countries and denoted by the letters “AS/NZS” and identifying numbers and/or letters.

CIE Standard means a standard that is published by, or on behalf of, the International Commission on Illumination.

ducted air conditioner means an encased assembly or assemblies designed primarily to provide ducted delivery of conditioned air to an enclosed space room or zone (conditioned space), that:

- (a) may be either single-package or split system; and
- (b) comprises a primary source of refrigeration for cooling and dehumidification; and
- (c) may include means for heating other than a heat pump, as well as means for circulating, cleaning, humidifying, ventilating or exhausting air; and
- (d) may be provided in more than one assembly; the separated assemblies of which (split systems) are designed to be used together.

Note: This is the same meaning as in clause 3.1 of AS/NZS 3823.1.2:2012.

ducted heat pump means an encased assembly or assemblies designed primarily to provide ducted delivery of conditioned air to an enclosed space

room or zone (conditioned space), including a prime source of refrigeration or heating, that:

- (a) may be constructed to remove heat from the conditioned space and discharge it to a heat sink if cooling and dehumidification are desired from the same equipment; and
- (b) may include means for circulating, cleaning, humidifying, ventilating or exhausting air; and
- (c) may be provided in more than one assembly; the separated assemblies of which (split systems) are intended to be used together.

Note: This is the same meaning as in clause 3.2 of AS/NZS 3823.1.2:2012.

IEC Standard means a standard that is published by, or on behalf of, the International Electrotechnical Commission.

non-ducted air conditioner means an encased assembly or assemblies designed primarily to provide free delivery of conditioned air to an enclosed space, room or zone (conditioned space), that:

- (a) may be either single-package or split system; and
- (b) comprises a primary source of refrigeration for cooling and dehumidification; and
- (c) may include means for heating other than a heat pump, as well as means for circulating, cleaning, humidifying, ventilating or exhausting air; and
- (d) may be provided in more than one assembly; the separated assemblies of which (split systems) are designed to be used together.

Note: This is the same meaning as in clause 3.1 of AS/NZS 3823.1.1:2012.

non-ducted heat pump means an encased assembly or assemblies designed primarily to provide free delivery of conditioned air to an enclosed space, room or zone (conditioned space) and includes a prime source of refrigeration or heating, that:

- (a) may be constructed to remove heat from the conditioned space and discharge it to a heat sink if cooling and dehumidification are desired from the same equipment; and
- (b) may include means for circulating, cleaning, humidifying, ventilating or exhausting air; and
- (c) may be provided in more than one assembly; the separated assemblies of which (split systems) are intended to be used together.

Note: This is the same meaning as in clause 3.2 of AS/NZS 3823.1.1:2012.

single-phase means a model where all components in the air conditioning system that require an external power supply require only single-phase power.

Note: This is the same meaning as in subclause 1.6.19 of AS/NZS 3823.2:2011.

split system means an air conditioner with separate indoor and outdoor components that are connected with refrigerant piping. The indoor unit usually lies within the conditioned space and may be installed or portable or mobile.

Note 1: The indoor unit in some configurations may feed into a duct system. Some split ducted system indoor units may have no fan and are designed to operate with an existing system (for example, gas heater).

Note 2: This is the same meaning as in subclause 1.6.21 of AS/NZS 3823.2:2011.

standard means an Australian Standard, an Australian/New Zealand Standard, a CIE Standard, an IEC Standard or any other equivalent document.

three-phase means a model where at least one component in the air conditioning system requires an external three-phase power supply.

Note: This is the same meaning as in subclause 1.6.28 of AS/NZS 3823.2:2011.

Note: Several other words and expressions used in this Determination have the meaning given by section 5 of the Act. For example:

- category A product
- covered by
- family of models
- GEMS
- GEMS labelling requirements
- GEMS level requirements
- model
- product classes

4 Interpretation

Applicable definitions of terms or phrases

- (1) If a term or phrase is not defined under the Act, the Regulations to the Act or in this Determination, but the term is defined in a standard mentioned specifically in section 3 of this Determination, the term or phrase is to be read for the purposes of this Determination as having the meaning of the term under the relevant standard.

Note: Notwithstanding this, for convenience to users, some of the key terms for ascertaining if a product is covered by this Determination are defined in this Determination.

Applicable version of documents incorporated into standards

- (2) For the purposes of this Determination the applicable version of any document, including a standard, that:
 - (a) is referred to in a standard under the heading ‘Referenced Documents’, or under an equivalent heading in a standard; and
 - (b) must be applied to give effect to this Determination or a standard referred to in this Determination,

is the following version of the document:

- (c) if the document is the subject of a definition in section 3 of this Determination which specifies a date of effect—the version of the document that existed at that date; and
- (d) otherwise—the version of the document that existed at the date this Determination came into force.

Note: For example, subclause 2.3.2 of AS/NZS 3823.2:2011 provides that only one valid test from each unit tested shall be considered when determining the energy label data in accordance with AS/NZS 3823.1.1. For the purposes of subsection 6 (2) of this Determination, references to AS/NZS 3823.1.1 in AS/NZ 3823.2:2011 can be read as references to either AS/NZS 3823.1.1:1998 or AS/NZS 3823.1.1:2012. The applicable version of AS/NZS 3823.1.1:1998 is the version that existed on 24 February 2006 and the applicable version of AS/NZS 3823.1.1:2012 is the version that existed at the date this Determination came into force.

5 Specified product classes covered by this Determination

- (1) This Determination covers air conditioners and heat pumps of the vapour compression type with a rated total cooling capacity of 65 kilowatts or less, in the product classes set out in subsection (2).

Note 1: This subsection reflects the scope specified in clause 1.1 and 3.2 of AS/NZS 3823.2:2011.

Note 2: This subsection specifies products that are covered by the Determination. See subsection (3) for products that are not covered.

- (2) The product classes are as follows:

Product Class	Products Covered by Class	Product Class Characteristics
1	Non-ducted air conditioners and non-ducted heat pumps	This product class comprises products with the following characteristics: (a) non-ducted; (b) unitary air conditioner; (c) less than 10 kW; (d) single-phase or three-phase.
2	Non-ducted air conditioners and non-ducted heat pumps	This product class comprises products with the following characteristics: (a) non ducted; (b) unitary air conditioner; (c) 10kW to less than 19kW; (d) single-phase or three-phase.
3	Non-ducted air conditioners and non-ducted heat pumps	This product class comprises products with the following characteristics: (a) non-ducted; (b) split system; (c) less than 4kW; (d) single-phase or three-phase.
4	Non-ducted air conditioners	This product class comprises products with

	and non-ducted heat pumps	the following characteristics: (a) non-ducted; (b) split system; (c) 4kW to less than 10kW; (d) single-phase or three-phase.
5	Non-ducted air conditioners and non-ducted heat pumps	This product class comprises products with the following characteristics: (a) non-ducted; (b) split system; (c) 10kW to less than 19kW; (d) single-phase or three-phase.
6	Ducted air conditioners and ducted heat pumps	This product class comprises products with the following characteristics: (a) ducted; (b) less than 10kW; (c) single-phase or three-phase.
7	Ducted air conditioners and ducted heat pumps	This product class comprises products with the following characteristics: (a) ducted; (b) 10kW to less than 19kW; (c) single-phase or three-phase.
8	Ducted air conditioners, non-ducted air conditioners, ducted heat pumps and non-ducted heat pumps	This product class comprises products with the following characteristics: (a) 19kW to 39kW; (b) single-phase or three-phase.
9	Ducted air conditioners, non-ducted air conditioners, ducted heat pumps and non-ducted heat pumps	This product class comprises products with the following characteristics: (a) greater than 39kW to 65kW; (b) single-phase or three-phase.
10	Air conditioners with water cooled condensers, water-to-air heat pumps and brine-to-air heat pumps	This product class comprises products with the following characteristics: (a) less than 39kW; (b) single-phase or three-phase.
11	Air conditioners with water cooled condensers, water-to-air heat pumps and brine-to-air heat pumps	This product class comprises products with the following characteristics: (a) greater than or equal to 39kW (b) single-phase or three-phase.

- (3) For subsection 23 (2) of the Act, this Determination does not cover:
- (a) close control air conditioners and liquid-chilling packages; or
 - (b) evaporative coolers or any other cooling systems that are not of the vapour compression type; or
 - (c) ground-water-sourced heat pumps or ground-loop-sourced heat pumps; or
 - (d) unbalanced air conditioners and spot coolers; or

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- (e) air conditioners powered by mains electricity specifically designed and sold only for installation in end-use mobile applications of caravans, mobile homes, camper vans, boats and rail cars; or
 - (f) products that deliver conditioned fresh outdoor air to an indoor conditioned space; or
 - (g) multi-split system air conditioners and heat pumps.

Note 1: Regarding paragraph (a), some products excluded from the application of this Determination are subject to the application of other GEMS Determinations.

Note 2: Regarding paragraph (b), air conditioners of the vapour compression type that have an enhancement or option to assist the operating energy efficiency (for example, solar-boosted air conditioners) are not excluded from this Determination.

Note 3: Regarding paragraph (c), water-loop heat pumps are included in the application of this Determination.

Note 4: Regarding paragraph (e), units for end-use mobile applications listed at paragraph (e) are air conditioners that have been designed to cater for the expected vibrations, repetitive bumping and shock and other rough use conditions of the intended mobile application, and have design specifications and test evidence of complying with Australian/New Zealand Standard or IEC Standard requirements under such conditions.

Note 5: This subsection reflects the exclusions specified in clause 1.2 of AS/NZS 3823.2:2011.

(4) In this section:

brine-to-air heat pump means a heat pump which consists of one or more factory-made assemblies which normally include an indoor conditioning coil with air-moving means, compressor(s), and refrigerant-to-brine heat exchanger(s), including means to provide both cooling and heating, cooling-only, or heating-only functions.

Note 1: When such equipment is provided in more than one assembly, the separated assemblies should be designed to be used together.

Note 2: Such equipment may also provide functions of sanitary water heating, air cleaning, dehumidifying, and humidifying.

Note 3: This is the same meaning as in clause 3.1 of AS/NZS 3823.1.3:2005.

close control air conditioner means a unitary air conditioner designed for high sensible heat ratio applications that are capable of maintaining close control of both temperature and humidity. A close control air conditioner consists of one or more factory-made assemblies, which include a compressor, a direct expansion evaporator, an air-moving device and air-filtering devices, and may include a condenser, a humidifier or a reheating function.

Note: This is the same meaning as in clause 4.1 of AS/NZS 4965.1:2008

ground loop sourced heat-pump means a brine-to air heat pump using a brine solution circulating through a subsurface piping loop functioning as a heat source/heat sink.

Note 1: The heat exchange loop may be placed in horizontal tranches or vertical bores, or be submerged in a body of surface water.

Note 2: The temperature of the brine is related to climatic conditions and may vary from minus 5 degrees Celsius to 40 degrees Celsius.

Note 3: This is the same meaning as the term ‘ground-loop heat pump application’ in clause 3.1.3 of AS/NZS 3823.1.3:2005.

ground water sourced heat-pump means a water-to-air heat pump using water pumped from a well, lake or stream functioning as a heat source/heat sink.

Note 1: The temperature of the water is related to climatic conditions and may vary from 5 degrees Celsius to 25 degrees Celsius for deep wells.

Note 2: This is the same meaning as the term ‘ground-water heat pump application’ in clause 3.1.2 of AS/NZS 3823.1.3:2005.

liquid-chilling package means a factory-made and prefabricated assembly (not necessarily shipped as one package) of one or more compressors, condensers and evaporators, with interconnections and accessories, designed for the purpose of cooling water, and is a machine specifically designed to make use of a vapour compression refrigeration cycle to remove heat from water and reject the heat to a cooling medium, usually air or water.

Note: This is the same meaning as in clause 4.10 of AS/NZS 4776.1.1:2008.

multi-split system means a split system air conditioner with a refrigeration system having two or more independently controlled indoor units.

Note: This is the same meaning as in subclause 1.6.12 of AS/NZS 3823.2:2011.

solar-boosted air conditioner means a single-phase or three-phase non-ducted or ducted air conditioner of the vapour compression type up to a rated total cooling capacity of 65 kW, having provision for the input of energy from a solar source and which can be configured to operate as an air source air conditioner or heat pump (with little or no solar input).

Note: This is the same meaning as in subclause 1.6.20 of AS/NZS 3823.2:2011.

spot cooler means a unitary air conditioner that lies wholly within a conditioned space and that draws air for both the evaporator and condenser from the conditioned space and expels both of these back into the conditioned space.

Note: This is the same meaning as in subclause 1.6.22 of AS/NZS 3823.2:2011.

unbalanced air conditioner means a unitary air conditioner that lies wholly within a conditioned space and that draws air from the conditioned space and expels this to outdoors. An unbalanced air conditioner is usually ducted (where the exhaust air from the heat exchanger is expelled from the conditioned space via a flexible duct, pipe or opening) but may be connected to a pipe or other opening such as a window. These units are typically portable or mobile.

Note: This is the same meaning as in subclause 1.6.30 of AS/NZS 3823.2:2011.

unitary air conditioner means an air conditioner where the evaporator, condenser and associated refrigeration components (for example, the compressor) are contained within a single casing.

Note 1: Unitary air conditioners may be non-ducted (for example, window/wall units) or ducted (for example, single packaged units).

Note 2: This is the same meaning as in subclause 1.6.31 of AS/NZS 3823.2:2011.

water-to-air heat pump means a heat pump which consists of one or more factory-made assemblies which normally include an indoor conditioning coil with air-moving means, compressor(s), and refrigerant-to-water heat exchanger(s), including means to provide both cooling and heating, cooling-only, or heating-only functions.

Note 1: When such equipment is provided in more than one assembly, the separated assemblies should be designed to be used together.

Note 2: Such equipment may also provide functions of sanitary water heating, air cleaning, dehumidifying, and humidifying.

Note 3: This is the same meaning as in clause 3.1 of AS/NZS 3823.1.3:2005.

6 GEMS level requirements

Energy use and greenhouse gas production

- (1) For paragraphs 24 (1) (a) and 25 (a) of the Act, the specified energy use requirements for products covered by this Determination are the requirements mentioned in clause 3.2 of AS/NZS 3823.2:2011.

Conducting tests

- (2) For paragraphs 24 (1) (a) and 25 (b) of the Act, the specified requirements for conducting tests for products covered by this Determination are the requirements mentioned in clauses 3.4 to 3.8 and 3.10 of AS/NZ 3823.2:2011.
- (3) For the purposes of subsection (2):
 - (a) references to AS/NZS 3823.1.1 in AS/NZ 3823.2:2011 can be read as references to either AS/NZS 3823.1.1:1998 or AS/NZS 3823.1.1:2012; and
 - (b) references to AS/NZS 3823.1.2 in AS/NZ 3823.2:2011 can be read as references to either AS/NZS 3823.1.2:2001 or AS/NZS 3823.1.2:2012.

7 GEMS labelling requirements

Energy labelling requirements - non-ducted, single-phase products

- (1) Subject to subsection (2), for paragraphs 24 (1) (b), 26 (1) (a) and 26 (1) (b) of the Act, the specified labelling and communication requirements for:
 - (a) single-phase products in product classes 1 to 5; and
 - (b) non-ducted, single-phase products in product classes 8 and 9;are the requirements mentioned in section 2 of AS/NZS 3823.2:2011.

Exclusion from energy labelling requirements - non-ducted, single-phase products

- (2) Subject to subsection (3), products otherwise covered by subsection (1) are excluded from the requirements set out in subsection (1) if they are:
- (a) designed for non-domestic applications;
 - (b) not on display for sale through retail outlets; and
 - (c) not promoted in any catalogue or advertising material that could be interpreted as suitable for some residential applications.

Note: A product will only be excluded from the requirements set out in subsection (1) if it is exclusively designed for commercial installation. An air conditioner that has no design feature preventing it from being installed in a domestic installation will not be excluded under paragraph (2) (a) on the basis of a claim that the product is only to be sold for commercial installation.

- (3) For paragraphs 24 (1) (b), 26 (1) (a) and 26 (1) (b) of the Act, if a product referred to in subsection (2) displays an energy label, the specified labelling and communication requirements are the requirements mentioned in section 2 of AS/NZS 3823.2:2011.

Energy labelling requirements – ducted, single-phase products and three-phase products

- (4) For paragraphs 24 (1) (b), 26 (1) (a) and 26 (1) (b) of the Act, if a product displays an energy label, the specified labelling and communication requirements for:

- (a) ducted, single-phase products in product classes 6 to 9; and
- (b) three-phase products in product classes 1 to 9,

are the requirements mentioned in section 2 of AS/NZS 3823.2:2011.

Conducting tests – energy labelling requirements

- (5) For paragraphs 24 (1) (b) and 26 (1) (c) of the Act, the specified requirements for conducting tests for products covered by this section of the Determination are the requirements mentioned in section 2, clauses 3.4 to 3.8 and 3.10 and section 4 of AS/NZS 3823.2:2011.

- (6) For the purposes of subsection (5):

- (a) references to AS/NZS 3823.1.1 in AS/NZ 3823.2:2011 can be read as references to either AS/NZS 3823.1.1:1998 or AS/NZS 3823.1.1:2012; and
- (b) references to AS/NZS 3823.1.2 in AS/NZ 3823.2:2011 can be read as references to either AS/NZS 3823.1.2:2001 or AS/NZS 3823.1.2:2012.

8 Other GEMS requirements

There are no other GEMS requirements for products covered by this Determination.

9 Families of models

For section 28 of the Act, the specified circumstances in which two or more models from a single product class covered by this Determination are in the same family of models, are the circumstances mentioned in subclause 1.6.10 of AS/NZS 3823.2:2011.

10 Product Category

For section 29 of the Act, the products covered by this Determination are category A products.

Note

1. All legislative instruments and compilations are registered on the Federal Register of Legislative Instruments kept under the *Legislative Instruments Act 2003*. See <http://www.frli.gov.au>.