



Criteria for Single Phase Air Conditioners and Heat Pumps

Following are the product criteria for ENERGY STAR qualified room air conditioners and heat pumps. A product must be manufactured or distributed by a New Zealand ENERGY STAR partner and meet all of the identified programme requirements to be registered with the New Zealand ENERGY STAR programme.

1) Definitions:

Non-ducted air conditioner: An encased assembly or assemblies designed as a unit, primarily for mounting in a window, or through a wall, or as a console. It is designed primarily to provide free delivery of conditioned air to an enclosed space, room or zone (conditioned space). It includes a prime source of refrigeration for cooling and dehumidification and may also include means for heating other than a heat pump, and means for the circulation and the cleaning of air. It may also include means for heating, humidifying, ventilating or exhausting air. Where such equipment is provided in more than one assembly, the separated assemblies (split-systems) are to be designed to be used together, and the requirements of rating outlined in this International Standard are based on the use of matched assemblies.

Non-ducted heat pump: An encased assembly or assemblies designed as a unit, primarily for mounting in a window, or through a wall, or as a console. It is designed primarily to provide free delivery of conditioned air to an enclosed space, room or zone (conditioned space). It includes a prime source of refrigeration for heating which takes heat from a heat source. It 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. It may also include means for the circulation and the cleaning of air, humidifying, ventilating or exhausting air.

EER (Energy Efficiency Ratio): The ratio of the power input to an air conditioner to the heat energy removed and is expressed in kW/kW which is a dimensionless ratio.

COP (Coefficient of Performance): The ratio of the power input to a reverse cycle air conditioner (heat pump) to the heat energy supplied by the air conditioner and is expressed in kW/kW which is a dimensionless ratio.

2) Qualifying Products:

All single phase Non Ducted Split and Non-Ducted Unitary (window/wall) systems are eligible for ENERGY STAR endorsement provided they meet the criteria below.

3) ENERGY STAR Criteria:

The energy performance (EER & COP) must meet or exceed the levels outlined below. Only those products listed in section 2 that meet the criteria may qualify as ENERGY STAR.

Rated Cooling Capacity band (kW)	Cooling (EER)	Heating (COP at H1)	Heating (COP at H2)
<4	3.60	3.60	2.88
4 - 7.5	3.05	3.45	2.76
7.5 - 10	2.93	3.20	2.56
10 to 18.9	3.30	3.35	2.68



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4) Test Criteria:

4.1. From 1 April 2010

To qualify, products must be:

- tested for EER performance under T1 conditions in accordance with AS/NZS 3823.1.1:1998
- tested for COP performance under H1 conditions in accordance with AS/NZS 3823.1.1:1998
- either tested under H2 conditions in accordance with AS/NZS 3823.1.1:1998, or supply data modelled to H2 conditions, along with suitable supporting evidence.

4.2. From 1 April 2011

To qualify, products must be:

- tested for EER performance under T1 conditions in accordance with AS/NZS 3823.1.1:1998
- tested for COP performance under H1 conditions in accordance with AS/NZS 3823.1.1:1998
- tested under H2 conditions in accordance with AS/NZS 3823.1.1:1998, and supporting test reports must be supplied.

5) Check Testing:

Products may be check tested by EECA in accordance with AS/NZS 3823.2:2009 to ensure that they meet claimed levels of energy performance. Products not within the validity tolerances set out in Part 2.8 of AS/NZS 3823.2:2009 for check testing will be suspended from the ENERGY STAR programme.

6) Effective Date:

The effective date of this criterion is 1 April 2010.

7) Grandfathering/Old Stock:

Products located in stores, warehouses, distribution depots etc on the effective date, which do not meet the new performance criteria but are already labelled with the ENERGY STAR mark may continued to be sold until stocks are exhausted. These products should not be actively marketed as being ENERGY STAR qualified.

Any advertising, marketing materials, brochures or websites using the ENERGY STAR mark should be revised as soon after the 1st April 2010 as possible to promote only qualified products.

8) Valid Countries:

This specification applies to products listed in section 2 that are sold in New Zealand only.

9) Future Revisions:

EECA reserves the right to change the criteria should regulatory, technological and/or market changes affect its usefulness to consumers, industry or the environment.