



# Criteria for Air Conditioner / Heat Pumps

Following are the product criteria for ENERGY STAR qualified room air conditioner / 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 reverse-cycle air conditioner:** An encased assembly or assemblies designed as a unit, primarily for mounting 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, dehumidification and heating from a heat source. It may also include means for the circulation and the cleaning of 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 the AS/NZS 3823 Standard are based on the use of matched assemblies.

**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 Single-Split 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)
Less than 4	3.60	3.60	2.88
4 to 7.5	3.05	3.45	2.76
7.5 to less than 10	2.93	3.20	2.56
10 to less than 18.9	3.30	3.35	2.68

## 4) Test Criteria:

### 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) Testing and Validation:

Products may be 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 2011.

## 7) Valid Countries:

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

## 8) 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.