

Criteria for Ducted Heat Pump / Air Conditioner

VERSION 2.0



New Zealand's
Most Energy Efficient
Products

Following are the product criteria for ENERGY STAR qualified ducted heat pump / air conditioners. 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: Ducted heat pump / air conditioner: An encased, factory-made assembly or assemblies designed to be used as permanently installed equipment to provide conditioned air to an enclosed space(s) through a duct. It includes a prime source of refrigeration for cooling, heating and dehumidification and may optionally include other means for heating, humidifying, ventilating, exhausting and cleaning the air. It normally includes an evaporator, compressor and condenser. It may be constructed to remove heat from the conditioned space and discharge it to a heat sink and/or take heat from a heat source and deliver it to the conditioned space through a duct. This task is (primarily) achieved utilising the vapour-compression cycle of a refrigerant. Such equipment may be provided in more than one assembly, the separated assemblies of which are to be designed to be used together. (Definition in accordance with the standard AS/NZS 3823.1.2:2012, clause 3.1)

EER (Energy Efficiency Ratio): The ratio of the air conditioners total cooling capacity to the effective power input (at any given set of rating conditions).

COP (Coefficient of Performance): The ratio of the reverse-cycle air conditioners (heat pump) heating capacity to the effective power input (at any given set of rating conditions).

Annualised rates (AEER and ACOP) incorporate any additional energy use, including that used in stand-by.

2) Qualifying Products: All single-phase air-to-air ducted air conditioner systems are eligible for ENERGY STAR endorsement provided they meet the criteria below.

3) ENERGY STAR Criteria: The energy performance must meet or exceed all the levels outlined below:

| Cooling (AEER) | Heating (ACOP) | Heating (COP at H2) |
|----------------|----------------|---------------------|
| 3.1 | 3.5 | 2.8 |

4) Test Criteria: To qualify, products must be:

- tested and registered for AEER performance under T1 conditions in accordance with AS/NZS 3823.1.2:2001 or 2012
- tested and registered for ACOP performance under H1 conditions in accordance with AS/NZS 3823.1.2:2001 or 2012
- tested for COP performance under H2 conditions in accordance with AS/NZS 3823.1.2:2001 or 2012 with test reports supplied to EECA as supporting evidence.

5) Effective Date: The effective date of this specification is 1 April 2013.

6) Valid Countries: This specification applies in New Zealand only.

7) 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.