

Air Source: Packaged Heat Pumps

Date added to ETL 2002 (Revised 2009).

1. Definition of Technology

Air source heat pumps are products that are specifically designed to transfer heat from the air in one space to the air into another space by means of a refrigeration cycle.

'Packaged' type heat pumps are single factory assembled units that incorporate all the elements of the refrigeration system and air distribution mechanisms for space heating.

2. Technology Description

Air source packaged heat pumps use an electrically operated refrigeration system to transfer heat from air outside a building to the air inside it. They can be used to provide space heating in a wide range of buildings, and some products also are able to provide cooling by reversing the refrigeration flows around the product. (These products are known as reversible 'air-cooled' air conditioning units).

Air source packaged heat pumps are available with a wide range of efficiencies. The ECA Scheme aims to encourage the purchase of higher efficiency products.

Investments in air source packaged heat pumps can only qualify for Enhanced Capital Allowances if the specific product is named on the Energy Technology Product List. To be eligible for inclusion on the Energy Technology Product List, products must meet the eligibility criteria as set out below.

3. Eligibility Criteria

To be eligible, products must:

- Consist of a single factory-built unit.
- Incorporate an electrically driven refrigeration system.
- Be designed for, and include fittings for, permanent installation.
- Be CE marked.

Performance criteria

Eligible products must meet the performance criteria set out in Table 1 below for:

- Coefficient of Performance (COP) at 100% (full) load in heating mode.
- Energy Efficiency Ratio (EER) at 100% (full) load in cooling mode, where the product is designed to provide cooling.

Table 1 Performance requirements for air source: packaged heat pumps

Product Category	Heating mode (COP)	Cooling mode (EER)
Air source: packaged heat pumps	>3.20	>2.80

">" means "greater than"

For the avoidance of doubt test data should be presented to 2 decimal places. As an example, a product with a heating mode COP of 3.20 would be deemed to be a fail.

Required test procedures

All products must be tested in accordance with the procedures in BS EN 14511:2007 (or BS EN 14511:2004). The standard rating conditions are set out in the Table 2 below.

Table 2 Test conditions for air source packaged heat pumps

Product Category	Heating mode (COP)	Cooling mode (EER)
Air source: packaged heat pumps	BS EN 14511-2:2007 Table 3 Standard rating Conditions, Outside air/recycled air	BS EN 14511-2:2007 Table 4 Standard rating Conditions, Comfort Outside air/recycled air

4. Scope of Claim

Expenditure on the provision of plant and machinery can include not only the actual costs of buying the equipment, but other direct costs such as the transport of the equipment to site, and the direct costs of installation. Clarity on the eligibility of direct costs is available from [HMRC](#).