

Heat Pumps

Summary of proposed Triple E eligibility criteria changes.

To increase the ease of product submission and modernisation of test data requirements, the supporting documentation required to demonstrate Triple E compliance for heat pumps will align to those required for Ecodesign and the Energy Labelling Regulation. Additional test certificates and/or test reports will no longer be required to demonstrate compliance.

The following documentation supporting the space heating, water heating and space cooling performance data must be provided:

- Ecodesign technical documentation according to the following regulations
 - EU 813/2013 for “to water” units providing space heating or space and water heating. Includes Gas Absorption/Adsorption Heat Pumps (GAHP) and electrically driven units.
 - EU 206/2012 for Air to air <= 12kW. Includes electrically driven units only.
 - EU 2016/2281 for Air to air units > 12kW. Includes electrically driven units only.
- Energy labelling documentation according to the following regulations
 - EU 811/2013 for “to water” units providing space heating or space and water heating. Includes Gas Absorption/Adsorption Heat Pumps (GAHP) and electrically driven units.
 - EU 626/2012 for Air to air <=12kW. Includes electrically driven units only.
 - EU 812/2013 for units providing hot water only. Includes GAHP and electrically driven units.
 - EU 814/2013 for units providing hot water only. Includes GAHP and electrically driven units.

The proposed eligibility criteria document is contained on the following pages.

Please follow this [link](#) to view the currently published eligibility criteria.

Triple E Eligibility Criteria

Category: Refrigeration and Cooling

Technology: Heat Pumps

Heat pumps are defined as equipment that is designed to transfer heat from a heat source (such as ground, water or ambient air) to a heat sink (for space heating such as indoor air or a water-based heating system; and/or Domestic Hot Water (DHW) provision and/or space cooling) using a refrigeration system.

Heat Pump equipment is considered to include the following:

Air-source Heat Pumps

Air-to-Water heat pumps are products that are specifically designed to transfer heat from the air outside a building to a water-based heating system and/or DHW provision by means of an electrically driven refrigeration system or using Gas Absorption/Adsorption Heat Pump (GAHP) technology. Air-to-water heat pumps can be split¹ or packaged units². This can include low temperature heat pumps.

Air-to-Air heat pumps are products that are specifically designed to transfer heat from the air outside a building to the air inside a building by means of an electrically driven refrigeration system. Such heat pumps may also provide cooling by reversing the direction of the refrigerant flow. Air-to-water heat pumps can be split¹ or packaged units². Air-to-Air heat pumps can also incorporate variable refrigerant flow (VRF) which is where the flow of refrigerant is automatically adjusted so that the heat delivered is matched to the demand.

Ground Source Heat Pumps

Ground-to-Water heat pumps are products that are specifically designed to transfer heat from the ground to a water-based heating system and/or DHW provision by means of an electrically-operated refrigeration system or Gas Absorption/Adsorption Heat Pump (GAHP) technology. The heat is collected from the ground by circulating a solution of water and anti-freeze (known as 'brine') through a buried, closed-loop, ground heat exchanger. This can include low temperature heat pumps.

Water-Source Heat Pumps

Water to water heat pumps are products that are specifically designed to transfer heat from water (in an internal water loop) to a water-based heating system and/or DHW provision by

¹ **Split type** heat pumps have separate heat collection and rejection units for each space known as 'indoor' and 'outdoor' units. The 'indoor' and 'outdoor' units are specifically designed to be connected together during installation by refrigerant pipe work to form a single functional unit.

² **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.

means of an electrically-operated refrigeration system or Gas Absorption/Adsorption Heat Pump (GAHP) technology . Water-source heat pumps can also incorporate variable refrigerant flow (VRF) and are designed to automatically adjust the flow of refrigerant so that the heat delivered is matched to the demand. This can include low temperature heat pumps.

Heat Pumps Eligibility Criteria:

In order to be included on the Triple E Product Register, the specific Heat Pumps equipment must meet all of the relevant requirements set out below.

Note: Supporting documentation that clearly demonstrates Triple E compliance according to the conditions below is required as part of the Triple E checking process. Detailed information on the types of documents accepted can be found in the separate Supporting Documentation guidelines.

General Eligibility Criteria

(Applicable to all Heat Pump equipment)

No.	Condition
1.	All equipment and/or components must be CE marked as required by the specific EU directive(s).
2.	All heat pumps must be designed for, and include fittings for permanent installation.
3.	Incorporate an electrical or gas absorption/adsorption refrigeration system
4.	Meet the performance criteria set out in Table 1a, 1b, 1c below for the following a) Space heating efficiency performance requirements where the unit provides space heating. This requirement doesn't apply if the unit does not provide space heating. b) Water heating efficiency performance requirements where the unit heats domestic hot water (e.g. combination heat pump OR domestic hot water heat pump). This requirement doesn't apply if the unit does not provide domestic hot water. c) Space cooling energy performance requirements where the unit provides space cooling. This requirement doesn't apply if the unit does not provide space cooling. Cooling only applies to "to air" units.

Ground-Source Heat Pump specific Eligibility Criteria

(To be met in addition to the general eligibility criteria)

No.	Condition
5.	Be designed to use an indirect, closed-loop ground heat exchanger.

Table 1a: Performance thresholds for Heat Pumps: Space heating

Product Category	Seasonal Space heating efficiency class/efficiency
Air to water, brine to water, water to water. Low temperature and non-low temperature units.	A++ or A+++ energy label

Air to air heat pumps split, multi-split and VRF $\leq 12\text{kW}$. Air conditioning, excluding double duct and single duct units.	A+ or A++ or A+++ energy label
Air to air heat pumps split, multi-split and VRF $\leq 12\text{kW}$. Only including double duct and single duct units.	A or A+ or A++ or A+++ energy label
Air to air split, multi-split and VRF heat pumps $> 12\text{kW}$	Seasonal space heating energy efficiency $\geq 165\%$

Table 1b: Performance thresholds for Heat Pumps: Water heating

Product Category	Declared load profile	Water heating energy efficiency
Any “to water “ unit providing domestic hot water. May or may not be in combination with space heating.	4XL	$\geq 130\%$
	3XL	$\geq 125\%$
	XXL	$\geq 120\%$
	XL	$\geq 115\%$
	L	$\geq 110\%$
	All other (smaller) load profiles	$\geq 110\%$

Table 1c: Performance thresholds for Heat Pumps: Space cooling

Product Category	Seasonal space cooling efficiency class/efficiency
Air to air heat pumps split, multi-split and VRF $\leq 12\text{kW}$. All types	A+ or A++ or A+++ energy label
Air to air split, multi-split and VRF heat pumps $> 12\text{kW}$	Seasonal cooling heating energy efficiency $\geq 250\%$

Notes on space heating, DHW and cooling efficiency requirements in Table 1:

For “to water” units, the energy labels defined above for space heating are specified in EU “COMMISSION DELEGATED REGULATION (EU) No 811/2013 of 18 February 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device”

For “to air” units $\leq 12\text{kW}$, the energy labels defined above for space heating and cooling are specified in EU “COMMISSION DELEGATED REGULATION (EU) No 626/2011 of 4 May 2011 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of air conditioners”

For “to air” units $> 12\text{kW}$, the energy labels defined above for space heating and cooling are specified in EU “COMMISSION REGULATION (EU) 2016/2281 of 30 November 2016 implementing Directive 2009/125/EC of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-related products, with regard to ecodesign requirements for air heating products, cooling products, high temperature process chillers and fan coil units”.

Notes on water heating requirements in Table 1:

For “to water” units providing space and water heating, the energy labels defined above for water heating are specified in EU “COMMISSION DELEGATED REGULATION (EU) No 811/2013 of 18 February 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device”.

For “to water” units providing only water heating, the energy labels defined above for water heating are specified in EU “COMMISSION DELEGATED REGULATION (EU) No 812/2013 of 18 February 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of water heaters, hot water storage tanks and packages of water heater and solar device”

For the avoidance of doubt, where requested, numerical test data must be presented to two decimal places.

----- End of Triple E eligibility criteria -----
Please see next section for technical detail submission and supporting documentation guidance

The following information is not part of the official criteria document published within the relevant statutory Instrument; it has been added here for guidance purposes only in order to provide assistance with the submission of product details and the provision of the required supporting documentation.

Note: All information contained within this guidance document is subject to change without notice.

Technical information required in product submission

The following are the specific technical values required as part of the product submission for this technology:

Heat Pumps product type

You must first select which type of Heat Pump your product is. Only one type can be chosen per product.

Thermal capacity

The thermal capacity in kW of the heat pump product is required . It must be entered as whole number only (do not include kW symbol). There should also be no spaces or full stops after the number submitted. This must correspond to the Ecodesign/energy labelling efficiency data referenced in Table 1.

Efficiency data for “To water” systems and “to air” units <= 12kW

The space heating efficiency data (and cooling efficiency) for these units is entered as the energy label efficiency value (e.g. A, A+, A++, A+++).

Efficiency data for “to air” units > 12kW and all water heating efficiencies

Efficiency figures in these cases are numeric values and are a percentage (e.g. 250%, 185% etc).

Supporting documentation required

This document must be read in full prior to submission of products.

Described below is the list of documents that are accepted as proof of compliance for the Heat Pumps Equipment condition.

Note: This information will only be requested AFTER you submit your product's basic details online

Important Notes to Product Providers

Please ensure that you read the “Important Notes to Product Providers” section at the end of this document prior to submitting documentation. Always reference the relevant page number(s) when submitting supporting documentation.

General Conditions

(Applicable to all Refrigeration and Cooling: Heat Pump equipment)

No.	Condition	Supporting Documentation Requirement
1.	All equipment and/or components must be CE-marked as required by the specific EU directive(s).	<p>Official and published manufacturer's technical data sheet or brochure that demonstrates CE-marking compliance.</p> <p>OR</p> <p>A copy of an official signed declaration on headed paper which confirms CE-marking compliance.</p> <p>Official declarations should explicitly state the product for which CE-marking is being confirmed (i.e. do not provide a letter simply stating general compliance with the relevant Triple E Condition).</p> <p>Where a document is used to demonstrate conformance for a number of products or range of products it should clearly specify each individual product covered by that document. The product name and/or code in the submission must be referenced in supporting documentation.</p>
2.	All heat pumps must be designed for, and include fittings for, permanent installation.	Official and published manufacturer's technical data sheet or brochure that demonstrates compliance with the requirements of the condition. The product name and/or code in the submission must be referenced in supporting documentation.

No.	Condition	Supporting Documentation Requirement
3.	Incorporate an electrically-driven or gas absorption/adsorption refrigeration system.	Official and published manufacturer's technical data sheet or brochure that demonstrates compliance with the requirements of the condition. The product name and/or code in the submission must be referenced in supporting documentation.
4.	<p>Meet the performance criteria set out in Table 1a, 1b, 1c above for the following</p> <p>a) Space heating efficiency performance requirements where the unit provides space heating. This requirement doesn't apply if the unit does not provide space heating.</p> <p>b) Water heating efficiency performance requirements where the unit heats domestic hot water (e.g. combination heat pump OR domestic hot water heat pump). This requirement doesn't apply if the unit does not provide domestic hot water.</p> <p>c) Space cooling energy performance requirements where the unit provides space cooling. This requirement doesn't apply if the unit does not provide space cooling. Cooling only applies to "to air" units.</p>	<p>Heat pump submissions rely on ecodesign and energy labelling directive documentation. Additional test certs / test reports are not required.</p> <p>The following documentation supporting the space heating, water heating and space cooling performance data must be provided:</p> <ul style="list-style-type: none"> • Ecodesign technical documentation according to the following regulations <ul style="list-style-type: none"> ○ EU 813/2013 for "to water" units providing space heating or space and water heating. Includes GAHP and electrically driven units. ○ EU 206/2012 for Air to air <= 12kW. Includes electrically driven units only. ○ EU 2016/2281 for Air to air units > 12kW. Includes electrically driven units only. ○ EU 814/2013 for units providing hot water only. Includes GAHP and electrically driven units. <p>AND</p> <ul style="list-style-type: none"> • Energy labelling documentation according to the following regulations <ul style="list-style-type: none"> ○ EU 811/2013 for "to water" units providing space heating or space and water heating. Includes GAHP and electrically driven units. ○ EU 626/2012 for Air to air <=12kW. Includes electrically driven units only. ○ EU 812/2013 for units providing hot water only. Includes GAHP and electrically driven units. <p>The product name and/or code in the submission must be referenced in supporting documentation.</p>

Ground-Source: Brine-to-Water Heat Pumps specific Eligibility Criteria

(To be met in addition to the general eligibility criteria)

No.	Condition	Supporting Documentation Requirement
5.	Be designed to use an indirect, closed-loop ground heat exchanger.	Official and published manufacturer's technical data sheet or brochure that demonstrates compliance with the requirements of the condition.

Important Notes to Product Providers

General

There should be a clear link between all supporting documentation supplied and the product being submitted. This will typically take the form of a product code or product name that can be cross referenced between the submitted product and relevant supporting documentation. If product codes / names have been changed since publication of the supporting documentation, then official evidence of this must be provided with the supporting documentation supplied.

Any deviation from these requirements will result in the supporting documentation not being considered adequate for the purposes of demonstrating compliance with the criteria conditions. This will in turn delay the submission and/or result in the product not being considered eligible.

Where the Triple E criteria or help documentation references compliance to appropriate rather than specific standards, the onus is on the product provider to ensure that supporting documentation supplied references recognised standards that apply to the submitted product, i.e. the product must be covered under the scope of a recognised standard.

If any product submitted is later found not to meet the performance or specification criteria, then this product will cease to be considered eligible for the Triple E.

Note: When supplying the supporting documentation through the online process you must ensure that the correct page number(s) of the document is referenced when demonstrating compliance with the relevant condition. An explanatory note should also be given where more than one page number is referenced.

Test Report

A test report must include an outline of the complete test, including:

- √ Introduction
- √ Details on test conditions
- √ The specific model details of the product tested
- √ The steps taken in the test
- √ The results
- √ Graphical representations
- √ Conclusion

All documents should be on headed paper and the document should be officially signed off.

All documentation must be in English or include adequate translation.

Certification

Where certificates are provided, all tests must be carried out by an organisation that is accredited by a national accreditation body recognised via the European Cooperation for Accreditation (preferred) or the International Accreditation Forum.

All documentation must be in English or include adequate translation.

Scientific Equivalence

Some Triple E criteria conditions allow for scientifically equivalent tests and/or standards to be used. In the event that a product has not been designed, manufactured or tested to the specific standard named, then documentation relating to an equivalent internationally recognised standard may be used (where the phrase 'Or scientific equivalent' is included in the Triple E condition or help documentation). In such applications, the onus will be on the product submitter to demonstrate satisfactory equivalence of the standards. However, submissions which reference such supporting documentation may take longer to process, and if the product provider does not provide satisfactory evidence of equivalence, then the product will not be considered eligible for the Triple E register.

All documentation must be in English or include adequate translation.

Note: Where specific standards are cited in a condition or in the Triple E help documentation, then documentation demonstrating that the relevant products have been designed, manufactured or tested to these specific standards is preferred. Scientific equivalence is considered the exception rather than the norm.

Ecodesign documentation

Energy labels and ecodesign technical documentation are as required by the ecodesign (Directive 2009/125/EC) and energy labelling (2010/30/EU) directives as well as the regulations supplementing those directives (as referenced earlier in this document).

All documentation must be in English, or include adequate translation