Energy Technology List

Department for Energy Security & Net Zero

Product application checklist

Please complete in BLOCK CAPITALS

Evaporative Air Coolers

Manufacturer/supplier name: .....

Applicant's name: .....

Telephone number: .....

Product information

Product name: .....

Model number: .....

Please complete each section of this form based on your product's characteristics. Incomplete or incorrect data could affect the processing of your product application.

Each product application should be made on a separate form unless a product's design characteristics are common to all the products. In this instance a single application can be made for multiple products.

1. Product testing and certification	No	Yes

Where type testing has been applied to demonstrate product performance please ensure that the information supplied is sufficient to demonstrate the performance of all the products for which applications are being made.

1.1 **Does the product have an appropriate Conformity Assessment mark?** ☐ ☐

If so, to which directive?

.....

1.2 **How was the product(s) performance tested?** *(Please select one)*

a) Tested in the manufacturers in-house laboratory, in accordance with a registered Quality Management System (i.e. 'self-tested'). ☐

b) Tested in a laboratory either in house or on-site, witnessed by an independent body (i.e. 'witnessed testing') ☐

c) Tested by an independent laboratory (i.e. 'independent testing') ☐

d) Representative testing ☐

Please refer to the ETL Testing Framework for details of the requirements that must be satisfied for each of these product testing options.

1.3 **Where product testing has been done in accordance with a registered Quality Management System, what is its registration number?**

.....

1.4 **Where product testing has been witnessed by an independent body, what was the name of the witness?** *(Please include contact details).*

.....

1. Product testing and certification (continued)

	No	Yes

1.5 Where products have been tested by an independent laboratory:

a) What is the name of the independent laboratory?

.....

b) What is the laboratory's registration number (where accredited)?

.....

1.6 If representative testing has been used, what are the 'representative models'?

ETL Product ID number	Product name and model number
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

Representative testing may be used where applications are being made for a range of two or more products that are variants of the same basic design. Test data may be submitted for a representative selection of models provided that it can be demonstrated that all variants utilise the same core technology and the same key components as the tested model .

The representative models must be selected by dividing the range of products into groups of models with similar design characteristics, and testing a model in the lowest quartile of predicted performance in each group. The performance of each model in the group must be predicted using a validated mathematical model. As a minimum, at least one model must be tested in each range of products.

2. Product type and features

	No	Yes

2.1 What category of product are you applying for? (tick only one)

a) Direct evaporative air cooler ☐

b) Indirect evaporative air cooler ☐

2.2 Does the product:

a) Incorporate one or more electrically powered fans? ☐ ☐

b) Incorporate an electrically powered pump to circulate water to a water-saturated medium through which an air stream passes or to spray nozzles in an air stream? ☐ ☐

c) Minimise scale build up with optimised water bleed rate? ☐ ☐

d) Maintain conditions compliant with ACoP L8 legionella code of practice and guidance? ☐ ☐

e) Not use air to cool a water stream? ☐ ☐

f) Demonstrate conformity* with the general principles and requirements for cybersecurity set out in:

- The foundational requirements of the IEC 62443 series of standards and all relevant technical security requirements set out in IEC 62443-4-2, or: ☐ ☐
- The security baseline requirements of ETSI EN 303 645 for IOT (Internet of Things) enabled products. ☐ ☐

**This eligibility requirement is relevant for products that can be programmed to communicate directly with a remote monitoring & control station, across a computer network or a fieldbus, or the internet.*

2.	Product type and features (continued)	No	Yes

2.3 **For direct evaporative air coolers, does the product meet the following criteria:**

a) The product cools an air stream by moving air through a water-saturated medium which is cooled by evaporation. Moisture must be added to the air stream until it is close to the point of saturation (i.e. the wet bulb depression is close to zero). ☐ ☐

b) The product dry bulb temperature should reduce while the wet bulb temperature remains constant. ☐ ☐

2.4 **For indirect evaporative air coolers, does the product meet the following criteria:**

a) The product incorporates a secondary air stream that is cooled by means of evaporation of water. ☐ ☐

Could you please confirm if:

- The secondary air stream is an offshoot from the primary air stream (like in a sub-wet bulb temperature evaporative air cooler)? ☐ ☐
- The offshoot secondary air stream is not later recombined to the primary air stream? ☐ ☐

b) The product incorporates a secondary air stream that passes through a heat exchanger in order to provide further cooling to a primary air stream. ☐ ☐

c) The product incorporates a primary air stream with no change in absolute moisture content. ☐ ☐

3.	Information requirements	No	Yes

3.1 **For direct and indirect evaporative air coolers, please provide the following parameters for each model:**

a) Air flow, (m3/hour):

.....

b) Cooling capacity (kW), defined as per points 2 in section 1.3.3 of the criteria:

.....

c) Electrical power input (kW), defined as the sum of pump, air-moving device, and any other electric power input due to appurtenances required to produce cooling:

.....

d) Energy Efficiency Ratio (EER), also referred to as the Evaporative System Coefficient of performance (EvaCOP). The EER is the ratio of cooling capacity (kW) to electrical power input (kW):

.....

e) Water consumption resulting from the water evaporation process (m3/hour):

.....

f) Whether the product can be programmed to communicate directly with a remote monitoring & control station, across a computer network or fieldbus, or the internet, and whether it is IOT (Internet of Things) enabled product:

.....

g) For **direct evaporative air coolers**, the evaporative efficiency (or saturation efficiency), (%):

.....

h) For **indirect evaporative air coolers**, the cooling effectiveness (ε), as per point 5 in section 1.3.3 of the criteria:

.....

4.	Product performance	No	Yes
4.1	**For direct evaporative coolers, have the products been tested and values reported according to:**		
	a) AS 2913-2000 Evaporative air conditioning equipment; or	☐	☐
	b) ASHRAE 133-2015 'Method of testing direct evaporative air coolers'	☐	☐
4.2	**For indirect evaporative coolers, have the products been tested in accordance with procedures and test conditions laid down in:**		
	a) ANSI/ASHRAE Standard 143-2015: Method of Test for Rating Indirect Evaporative Coolers	☐	☐
	b) ASHRAE 133-2015 (section 6.5) for water consumption values	☐	☐
4.3	**Were the EER and cooling effectiveness of the product calculated when operated at an inlet psychometric condition of 38°C dry bulb temperature, and a 21°C wet bulb temperature?**	☐	☐
4.4	**Were the following external resistance (system static pressure) applied when calculating the EER and cooling effectiveness:**		
	a) Units up to $4m^3/s$ = 80 Pa resistance	☐	☐
	b) Units greater than $4m^3/s$= 120 Pa resistance	☐	☐

5. Summary of documents to be included

No | Yes

Please send ONE copy of each of the following documents:

If the relevant information in support of the questions above is contained within a larger document, please indicate the location of the relevant information. Note that all documentation submitted must directly refer to the model numbers for which you are making this application. Documentation should be added to your online application.

a) A technical sales brochure or leaflet for the product clearly summarising:

i) The key features of the product (ideally including photographs of the product's exterior). ☐

ii) The product's operation (i.e. in-built functionality) and intended applications (i.e. usage). ☐

iii) Any product selection options (including optional extras, alternative configurations etc.). ☐

This documentation should contain sufficient detail to enable the assessor to confirm that the proposed entry on the Energy Technology Product List (ETPL) is correct, and that the supplied documentation can evidence the conformity of the products against the requirements the ETL eligibility criteria. If the model names contain any 'wildcards' in respect of cosmetic variations please check with ETL Questions that this is permitted before submitting your application.

b) A technical specification for the product, including:

i) Details of the model numbers covered (including individual features of each model). ☐

ii) The product's design ratings (electrical, mechanical, thermal, flow rates, energy use etc.). ☐

iii) A description of how to install the product including connection/wiring diagrams. Where the product must be assembled, configured and/or commissioned on site before use, please include instructions. ☐

This documentation should contain sufficient detail to enable the assessor to confirm that each product entry on the Energy Technology Product List (ETPL) has the design features specified in the eligibility criteria for that category of product. Please indicate on the checklist where information on specific design features is located in the documentation.

c) Evidence that the product meets the performance criteria, including:

i) Test reports showing product performance at the standard rating/test conditions. ☐

ii) Details of the test procedures/standards used to determine product performance. ☐

iii) A declaration certifying the accuracy of the test reports and confirming that:

- The test facilities used comply with the minimum specifications outlined in the test standard, and the required test conditions where applied during testing. ☐
- All measurement equipment used in testing was calibrated by an accredited laboratory, or its calibration is otherwise traceable back to national standards. ☐
- Appropriate quality assurance procedures have been used to verify or cross-check the accuracy and repeatability of the test procedures and test results. ☐

Please note that summary test reports will only be accepted, where the accuracy of the test reports has been certified by a recognised independent body, or where two detailed test reports have been submitted per product range.

iv) Where representative testing has been used, please include details of selection method used and evidence that the products covered by the representative model(s) are variants of the same basic design. ☐

Please refer to the ETL Testing Framework for further guidance on the submission of test results, and minimum information requirements.

d) A Declaration of Conformity with UK/EU Directives on product safety, including:

i) An appropriate Conformity Assessment mark. ☐

e) Evidence that a quality assurance system/procedures is/are in place to:

i) Control the specification, design, manufacturing and testing of the products. ☐

f) Signed application checklist. ☐

Please note that all product documentation provided must be written in, or translated into, English.

6. Declaration

I confirm that the information given above is correct to the best of my knowledge and that I have read and agree to the terms and conditions governing the management of the Energy Technology List.
A copy of the terms and conditions can be found **here**.

Signature: ..... Date: .....

For more information:

Web:
etl.energysecurity.gov.uk

Phone:
+44 20 3096 4800

Email:
info@etl.energysecurity.gov.uk

Post:
Energy Technology List Coordinator
ICF
1st Floor, 62 Threadneedle Street
London
EC2R 8HP

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