



OM-14-2014

Published September 2014

OPERATIONAL MANUAL
for the
CERTIFICATION
of
DRIFT ELIMINATORS

OM-14-2014

Published September 2014
Supersedes OM-14-2009 (May 2009)

Editing (date)	Véronique NOËL	May 2014
Checking (date)	Jean FOURCROY	8 July 2014
	Compliance Committee for Drift Eliminators	16 May 2014
	CPPC	18 August 2014
Comes into effect from		September 2014

Modifications as against last version:

No.	Modifications	Section	Page
1	Editorial changes following merge between Eurovent Certification Company and Certita into Eurovent Certita Certification	various	
2	Removal of the requirement of carrying out an annual inspection of factory or site	III.3	4
3	Specification about how new campaigns are organised	IV.1	4-5
4	Clarification on the number of significant digits	IV.1	5
5	Addition of the possibility of video witnessing of testing installation	IV.3	6
6	Update of the Eurovent Certified Performance logo	IV.2	11
7	Removal of measured sheet thickness from form DE-3-4-5 (mention "as declared" added)	C.III	12

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Published by *Eurovent Certita Certification SAS*
 48-50 rue de la Victoire - 75009 Paris, France
 Tel: +33 1 75 44 71 71
 E-mail: v.noel@eurovent-certification.com

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I. PURPOSE

The purpose of this manual is to prescribe procedures for the operation of the *Eurovent Certified Performance (ECP)* programme for Drift Eliminators, in accordance with the Certification Manual.

II. SCOPE

The programme for Drift Eliminators applies to Drift Eliminators used for evaporative water-cooling equipment.

III. BASIC OUTLINE OF THE PROGRAMME

Participation in the *ECP* programme for Drift Eliminators consists of the following:

III.1 Application

After signing the License Agreement, the Applicant has to submit a file describing the types of Drift Eliminators which are to be qualified by *Eurovent Certita Certification* according to Rating Standard 9/C/003.

III.2 Qualifying procedure

All drift eliminator types described in the application form shall be tested by an independent test agency in the laboratory assigned by *Eurovent Certita Certification*. For each drift eliminator, the maximum air velocity shall be determined and registered and the design shall qualify if the performance criteria specified in the relevant Rating Standard are met.

If the results show conformity with the relevant Rating Standard, ECP certification is granted until delivery deadline of the declaration of conformity (see § III.3 Repetition procedure) + 3 months.

III.3 Repetition procedure

The manufacturer has to ensure that there is conformity between design of the drift eliminator he manufactures and sells and the design described in the application form and then tested. Conformity is verified on an annual basis by the collection of a declaration of conformity from the Participant.

Upon decision of *Eurovent Certita Certification*, an independent agency could perform at random checking of either the manufacturing facility or sites where the drift eliminators are actually installed. In case of inspection on site, the site must not be older than 3 months.

If the requirements of the repetition procedure are fulfilled, then the certificate could be renewed for another year.

If the manufacturer makes changes to his design, this will require a new application file and a new test. *Furthermore, if manufacturer A wants to certify new references, he contacts Eurovent Certita Certification. Eurovent Certita Certification calls for references from other manufacturers to be certified, with answer to be given within the time period defined with A. After that period, Eurovent Certita Certification calls for tender regarding the test facility and the test agency with the number and type of DE to be tested. Fixed costs will be shared by all the manufacturers of the new testing campaign.*

III.4 Failure treatment

When the test results fail to comply with the requirements of the Rating Standard, the drift eliminator does not qualify and the certification is not *granted*.

Whenever the manufacturer has changed his design and has not submitted a new application and continues to use the *ECP mark*, it is considered as violation of rules.

III.5 Complaint procedure

Under special conditions a complaint procedure may be carried out as described in the Certification Manual *for ECP mark*. The complaint procedure here is limited to the case when a manufacturer uses the *ECP mark* in an unauthorised manner.

IV. OPERATION OF THE PROGRAMME

IV.1 Declaration of data

All characteristics shall be expressed in SI Units. *On counter flow test results, velocities will be rounded with 3 significant digits (3.32 m/s).*

All drift measured values will be rounded with 4 digits after the decimal point for the display, while the average will be calculated on the non-rounded value, and then it will be also rounded to 4 digits after the decimal point.

Original Equipment Manufacturer: For models submitted by an original equipment manufacturer Form DE-1 will be used, specifying:

- The name of the company
- The name of the model
- The material of the drift eliminator
- One photo of the drift eliminator

Technical form: Submittal for certification of drift eliminator models shall be made in writing and sent by email to *Eurovent Certita Certification* as an Excel file, Form DE-3, specifying as a minimum:

- Material of the drift eliminator
- Photographs from each side of the drift
- Detailed drawings of the drift eliminator with the following key dimensions:
 - Air travel dimension
 - Thickness
 - Pitch
 - Other dimensions critical for the design

Copies of the forms are part of this manual (see APPENDIX C FORMS).

Confidentiality of Certification Data: All data submitted to *Eurovent Certita Certification* shall be held confidential except for information authorised to be published on the Website.

IV.2 Models to be tested

Each drift eliminator model submitted shall be tested. Drift eliminators of different material family (such as PVC, PP, steel, FRP, etc) and design shall be considered as a new drift eliminator.

IV.3 Tests at the laboratory

a. General

Scheduled tests shall be performed at designated laboratories by an independent testing agency selected by *Eurovent Certita Certification*. Units shall be installed in the test facility in accordance with the set-up description provided by the Participant.

The Participant shall bear the cost for un-crating, handling, installing, testing and re-crating of the unit for shipment.

The independent test agency personnel shall install and check out test units.

If the facility allows it, the Participant may review the installation prior to the test. If the facility doesn't allow Participant's personnel then video monitoring of the installation in real time shall be made available through a webcam. In any case, the participants must formally approve the installation. Participant may review its own test results given with the conductivity methodology. In any case, the participant may not attend the data collection.

b. Time limitation of acquisition of unit

Deadline for delivery of units to the laboratory together with the technical form completed and the purchase order shall be decided by *Eurovent Certita Certification* in accordance with the Compliance Committee and the laboratory.

The Participant shall place a purchase order with *Eurovent Certita Certification* to execute a test and participation to the repetition procedure.

If units, technical form and order are not delivered within the time limits (specified in the notification received from *Eurovent Certita Certification*), it is considered as violation of rules (see IV.5).

c. Report of tests results

Upon completion of the tests on each unit, the independent test agency will send to *Eurovent Certita Certification* the complete report as a PDF file. *Eurovent Certita Certification* will forward a copy of the report together with the reporting and test result Form DE-4-5 and eventual re-rate Form DE-6 to the participating company (see APPENDIX C).

Participant has to recover its products one month after receiving the test report. If the units are not recovered after this delay, the laboratory will destroy the units and invoice the manufacturer.

IV.4 Failure treatment

a. General

In case of test failure, the Participant will have four working weeks from the notification of the failure to ask for a second test on the same unit scheduled as per availability of the laboratory and the test agency.

If this second test is successful, the drift eliminator design shall be listed on the *ECP Website*. When the second test is unsuccessful, the drift eliminator design is not qualified and will not carry the *ECP mark*.

b. Component failure

If the drift eliminator is damaged and cannot be repaired or replaced at the laboratory, then this is considered as "component failure". Replacements shall then be delivered for a subsequent test; timing to be agreed with the laboratory and the test agency.

IV.5 Non application of procedures

Non-application of procedures and relevant penalties are described in the Certification Manual, Section VIII.

To come back to the certification programme, a *suspended* Participant has to complete the repetition procedure (see III.3) of the year for which he has been *suspended* and provide all necessary documentation for the following repetition campaign.

V. PROMOTION OF THE PROGRAMME

V.1 By *EUROVENT CERTITA CERTIFICATION*

The products certified according to the Rating Standard are published on the *ECP* Website: www.eurovent-certification.com.

Beside current models, the Participant shall declare on Form DE-1:

- As deleted, “DEL”, the models for which the production has ceased but stock is still available. Deleted models cannot be selected for test campaign n. The deleted models are displayed on the *ECP* Website as such, with a “DEL” mark. Models deleted for a previous test campaign can only become obsolete.
- As obsolete, “OBS”, the models for which the production has ceased and no stock is available. Deleted models cannot be selected for test campaign n. The obsolete models are withdrawn from the *ECP* Website.

Eurovent Certita Certification will supply, on request, to any interested party, the current status of any Participant or of any model.

The following information pertaining to each model certified shall be published on the *ECP* Web page for Drift Eliminators:

- Name of Company
- Trade or brand name of model
- Model number(s) or designation(s)
- The certified drift eliminator has produced a drift rate less than or equal to 0.01% when tested according to Rating Standard 9/C/003.
- The value over time of this certification is subject to proper installation and maintenance of the drift eliminator and to the respect of adequate manufacturer’s recommendations.
- Breakthrough velocity (not certified, for information only).

V.2 By Participants

The participating Company shall indicate participation in the Programme by displaying the appropriate *ECP logo* on all specification sheets and in other literature and software carrying ratings, or claiming certification, of certified models.

The participation to the *ECP* Programme for Drift Eliminators may further be indicated by:

a. **Display of Eurovent Certified Performance logo on production units**

A supplier of evaporative cooling equipment equipped with certified eliminators is entitled to display the *ECP logo* (see APPENDIX B), in an authorised manner, on his equipment.

Regulations regarding display of *ECP logo*

- **Data on *logo***

No data or other marking shall be added to the *logo*.

- **Location of *logo* on units**

The supplier of evaporative cooling equipment equipped with certified eliminators may affix the *ECP logo* at any location satisfactory to him.

The *ECP logo* may be applied under the following regulations:

- **Design**

The *ECP logo* shall be identical to the design approved for the logo (specifications will be supplied by *Eurovent Certita Certification*) in all respects, including design, dimensions, letter size and style, and colour.

- **Colour**

The acceptable colour combinations consist of green Pantone No. 341 on white or black on white.

b. Display of *Eurovent Certified Performance logo* on sheets, literature, software and advertising

1. Publications

The test data are the property of *Eurovent Certita Certification* and of the Participant. The manufacturer of the drift eliminator is then allowed to use the actual measured values for his own literature, but he cannot mention *Eurovent Certita Certification* in connection with these data.

The Participant may state in his publications that a specified drift eliminator design has been qualified under test by the *Eurovent Certita Certification*. He may furthermore state that tests were carried out by an independent testing agency according to the isokinetic test method. He may state that the breakthrough velocity has been measured. He may however NOT state that all performance information he publishes has been certified by *Eurovent Certita Certification*.

2. Non-certified models

If any of the above literature contains references to non-certified models outside of the applied Certification Programme, these may be included providing that they are clearly footnoted and the footnote states:

"Models so marked are not *ECP* Certified".

APPENDIX A. EXCLUSION CLAUSE

In no event shall *Eurovent Certita Certification* be responsible for any damage or adverse consequences resulting from the use by a Participant or its clients of drift eliminators similar to the ones submitted by the Participant to *Eurovent Certita Certification* for certification purposes.

APPENDIX B. EUROVENT CERTIFIED PERFORMANCE LOGO



APPENDIX C. FORMS

C.I. Form DE-1: Declaration file for certification by Original Equipment Manufacturer

<i>ECP</i> article n°	<i>ECP</i> Classification	Participant	Trade Name	Distributor	Master article n°	Design Model	Material	Drift rate (%)	Breakthrough velocity (m/s)	Status (DEL/OBS)	Testing year	Update date	Note
	DE/CO												
	DE/CR/NI												
	DE/CR/I												

C.II. Form DE-2: Declaration file for certification by Brand Names

<i>ECP</i> article n°	<i>ECP</i> Classification	Participant	Trade Name	Distributor	Master article n°	Design Model	Material	Drift rate (%)	Breakthrough velocity (m/s)	Status (DEL/OBS)	Testing year	Update date	Note
	DE/CO												
	DE/CR/NI												
	DE/CR/I												

C.III. Form DE-3-4-5: Technical form for unit to be tested, Reporting form and Result form

EUROVENT CERTIFIED PERFORMANCE PROGRAMME
EVAPORATIVE COOLING EQUIPMENT DRIFT ELIMINATORS

Selected design, sample to be tested, summary of test results and conclusions

REFERENCES ¹	Company	Example Company	ECP Participant n°	100	
	Model name	MyModel		Drift eliminator type	Counter Flow
	Model number	10		Test Facility	BestCell
	Material Family	PVC		Test Agency	BestTest
	ECP Article n°	12345		ECP Test n°	3210
	Production place name	Example Factory		ECP Factory n°	213

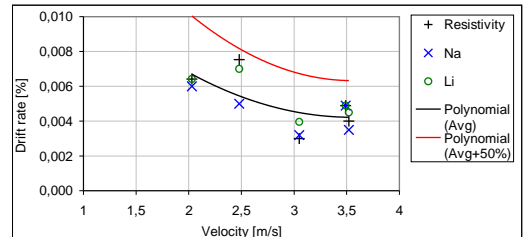
PICTURES AND DRAWINGS (SEE ANNEX) File Names ²	
General Picture	DE MyModel 10_GP.jpg
Picture side 1	DE MyModel 10_pic1.jpg
Picture side 2	DE MyModel 10_pic2.jpg
Picture side 3	DE MyModel 10_pic2.jpg
Drawing 1	DE MyModel 10 draw1.jpg
Drawing 2	DE MyModel 10 draw2.jpg
Drawing 3	DE MyModel 10 draw3.jpg
Other	-

DESIGN	Material	Declared ²	Measured ³	Conclusion ⁴
	Air travel dimension [mm]	HPVC	as declared	Passed
	Thickness [mm]		as declared	
	Pitch [mm]			
	Other dimensions			Drawing Reference ²
	Dimension A [mm]			draw2
	Dimension B [mm]			draw1
	Dimension C [mm]			draw1
	Dimension D [mm]			draw2
	Dimension E [mm]			draw3
Dimension F [mm]				

BREAKTHROUGH VELOCITY	
Breakthrough velocity [m/s]	
Declared ⁵	Measured ³
4,5	
Average	5,16
Test 1	5,1
Test 2	4,9
Test 3	5,4
Test 4	5,5
Test 5	4,9

DRIFT RATE	Single Drift rate	Declared Drift Rate [%] ⁵	Measured Specific Water Flow [m³/hm²] ³	Measured Velocity [m/s] ³	Measured Drift Rate Resistivity [%] ³	Measured Drift Rate Tracer Na [%] ³	Measured Drift Rate Tracer Li [%] ³	Target Drift Rate [%]	
		Velocity 4 4 A		3,52	0,00400	0,00350	0,00450	=< 0,007	
		Velocity 1 1	0,0084		2,03	0,00642	0,00600	0,00642	CONCLUSION ⁴
		Velocity 2 2	0,0062		2,48	0,00754	0,00500	0,00700	PASSED
		Velocity 3 3	0,0046		3,05	0,00300	0,00320	0,00395	
		Velocity 4 4 B			3,49	0,00489	0,00489	0,00489	Drift rate avg (%)
		Additional test							
		Velocity 4 4 (Average)	0,0042		3,51	0,00445	0,00420	0,00470	0,00445
		Drift rate (rounded at 3 digits) [%]	0,004			0,004	0,004	0,005	0,004

TESTING CONDITIONS	Air Velocities 1 / 2 / 3 / 4 [m/s]	Specific Water Flow [m³/hm²]	
	Counter Flow	2.0/ 2.5/ 3.0/ 3.5	20
	Cross Flow Non Integrated	1.5/ 2.0/ 2.5/ 3.0	50
	Cross Flow Integrated	2.0/ 2.5/ 3.0/ 3.5	70
	Tolerance	-	+/- 5%



Applicant/Participant comments and additional information²

No additional comment

Test Agency comments and additional information³

No additional comment

EUROVENT CERTITA CERTIFICATION comments and additional information⁴

No additional comment

GENERAL CONCLUSION⁴
PASSED

Signature	For the APPLICANT/ PARTICIPANT	For the TEST AGENCY	For EUROVENT CERTITA CERTIFICATION	
	Date	15/03/2009	10/04/2009	25/04/2009
	Name	Mr Dupont	Mr Smith	Mr Martin
	Title	R&D Manager	Test Engineer	Certification Engineer

¹ to be completed by EUROVENT CERTITA CERTIFICATION according to declaration form DE-1
³ to be completed by the TEST AGENCY

² to be completed by the APPLICANT/PARTICIPANT
⁴ to be completed by EUROVENT CERTITA CERTIFICATION
⁵ not mandatory to be declared

C.IV. Form DE-6: Re-rate form

CERTIFICATION PROGRAMME FOR DRIFT ELIMINATORS

RESPONSE FORM AFTER FAILURE ON TESTED UNIT

This response form shall be sent back by *email* to *EUROVENT CERTITA CERTIFICATION* within one month maximum.
 Without news from you after this delay, we will re-rate performances and our Website will be automatically updated with re-rated performances.
Our email: technical@eurovent-certification.com

Date : _____ Your name : _____ Signature :

According to the document *OM-14-2014*, you are asked to select one of the following alternatives :

- Ask for a second test on the sample already tested.
- Ask for a second test on another unit of the same model selected by *EUROVENT CERTITA CERTIFICATION*.
- Re-rate your performance according to the test results, as follows :

Re-rated data:

<i>ECP</i> article n°	<i>ECP</i> Classification	Participant	Trade Name	Distributor	Master article n°	Design Model	Material	Drift rate (%)	Breakthrough velocity (m/s)	Status (DEL/OBS)	Testing year	Update date	Note

Declared data:

<i>ECP</i> article n°	<i>ECP</i> Classification	Participant	Trade Name	Distributor	Master article n°	Design Model	Material	Drift rate (%)	Breakthrough velocity (m/s)	Status (DEL/OBS)	Testing year	Update date	Note