

EVIA comments on EU 1253 and 1254/2014 (LOT 6) Review following Draft Task 1, 2 and 3 reports November 2019

Residential Aspects

EVIA strongly supports the Ecodesign and energy Labelling Legislation. Both regulations are pushing the market to develop energy efficient products and support the harmonisation of product performance and test methods. Furthermore, they are enhancing the positioning of European Products on export markets.

Following the publication of the draft report Task 1,2 and 3 reports in November 2019, EVIA and its members have discussed the report and are submitting the below comments.

General Aspects

Based on the published draft report, it is not really clear for EVIA, what is intended to be used for the further development of the regulation, what are the effects of the proposed changes in the final SEC-calculation and when can we expect new labelling schemes etc..

EVIA members are strongly requesting a 2nd Stakeholder Meeting to clarify the open issues.

EVIA welcomes the intention, to consider multifunctional ventilation units in the revision of the regulation. To consider the important aspects, EVIA will submit a separate document on this topic as part of the industry Platform on Multifunctional Units.

Detailed Comments:

Considering joint Eurovent/EVIA FAQ:

Task 1 Introduction page 7; Task 1 1.3.3 Page 21

To better support implementation, all aspects of the FAQ shall be considered. As the current level of energy performance has already reached a high level, a high priority of the revision shall be based on higher transparency and enforcement.

Definition of ventilation units

Task 1 1.3.2 page 20

‘ventilation units (VU)’ means an electricity driven appliance equipped with at least one impeller, one motor and a casing and intended to replace air that is utilised/polluted due to presence of human beings and their use of the building including emissions from building materials, decorative and interior product and equipment.

EVIA supports the proposed definition.

The 30W limit:

Task 1 1.2.1 page 16

EVIA expects a robust proposal in the regulation to ensure, that a change of the 30W limit does not have implications on products for special applications, which are not intended for residential ventilation.

Implications in changing the 30W limit might occur in the following aspects:

- Need for refurbishments in applications with limited space (wall openings, fire restrictions)
- Acoustic requirements in cases where acoustic has lower relevance or higher levels (temporary use, non-residential applications below 250 m³/h DAHT)

EVIA continues to prefer maintaining a suitable limit in the EU 1253 revision for minimum requirements, because the energy impact is low and these units < 30W are typically not designed as a ventilation unit according to the definition used in the regulation.

EVIA would agree to lower the electrical power input in the labelling directive EU 1254 for unidirectional residential ventilation units providing ventilation according to the definition, meaning all continual running units in analogy with BVU.

EVIA still insists, to exclude all discontinual running units like toilet fans or single room fans that are not considered as a ventilation system.

Proposal: Toilet-Fan means a single room exhaust ventilation unit intended to intermittently ventilate either one bathroom or one toilet (rest room) by means of an external switch (for example light switch) or built-in sensor (motion and timer, humidity, VOC, etc.) designed to automatically stop the product operation after a pre-set period of running.

EVIA proposes the above definition for a toilet fan.

Humidity recovery

Task 3 Summary Page 6; Task 3 1.6.3. page 36; Task 3 1.7.3 page 43

EVIA welcomes the introduction of humidity recovery based on the proposal.

Test methods of EN 13141 Series shall be used to determine humidity recovery performance.

EVIA VPA Tool

Task 1 Introduction page 8; Task 3 Summary Page 6; Task 3 1.2. page 22 ff; Task 3 1.5.1 page 30; Task 3 2.8.6 page 106; Task 3 2.2.2 page 69

EVIA welcomes the introduction of the tool to calculate special ventilation performance aspects for residential ventilation. This is really a step ahead for good performing ventilation.

In relation to Ecodesign and products' performance data, the adapted tool is perfectly suited to determine the CTRL factors in a transparent and comprehensible way.

But the tool shall not be used to recalculate other more system orientated data and correction.

See Annex for the framework for a simplified approach to calculate the CTRL factors.

Task 3 Summary Page 9

7. Modifications regarding indoor/outdoor airtightness & airflow sensitivity (Section 2.2) It is proposed to correct the CTRL-factor for airflow-sensitivity 'v', using the following multiplier FCTRL,v

This procedure is unclear. EVIA strongly recommends the use of EN 13142 for correction only at the product level.

Task 3 2.5.2 page 79/80

EVIA recommends not to use VPA tool to replace INF and MISC impacts. The procedures in EN 13142 shall be implemented.

Leakages and correction of linked performance data:

Task 1 page 7 k); Task 1 2.6. page 34; Task 3 Summary Page 7; Task 3 Page 66; Task 3 Summary Page 7; Task 3 Summary Page 8;

EVIA insists to strictly use the measurement procedure and correction procedures presented in the standards EN 13141 and EN 13142. These procedures are well established, and pressure method is, where applicable, a cost-effective way to ensure good quality.

The correction of thermal efficiency presented in EN 13142 table was the result of an intensive debate with all stakeholders and has wide acceptance in the market.

EVIA recommends maintain the current test methods as described in EN 13141 standards, which reflect a good balance of easy and cost-effective testing to ensure good product quality. This means:

- The pressure method applies to classify the external and internal leakages of category I heat exchanger units, as well as the external leakages of category II heat exchangers.
- The tracer gas method applies to classify external and internal leakages of category II heat exchanger units by using the chamber method as well as the internal leakages of category II heat exchangers by using the duct method.

Ductwork leakage:

Task 3 2.3.2 page 72;

Ductwork leakage is not part of the product covered in the scope of the regulation. As it is highly dependent on installation it shall not be considered.

Energy use supply-air-heater

Task 3 2.6. page 82

EVIA supports the idea, not to implement aspects of supply air heater in the scope of the regulation. Heaters might be considered for a simplified defrosting impact calculation based on EN 13142.

Smart controls and demand control options

Task 1 Introduction page 8

3) the potential inclusion in the analysis of smart controls and demand control options (such as, but not limited to, solutions for building/home energy management system based on the European standards SAREF/SAREF4ENER).

EVIA welcome efforts to implement aspects of smart controls based on the CTRL Factors calculated with the EVIA VPA tool.

Bypass facility exception for certain BVUs

Task 1 1.4.5. page 23

EVIA proposes to use the definitions in the FAQ Document.

Climatic zones on the label

Task 3 Summary Page 7; Task 3 1.7.1 page 42

3.b. It is proposed to find a way to display the differences in specific energy consumption (SEC) for the various climate zones on the Energy Label (label lay-out comparable to the Energy Label for room air conditioners).

EVIA supports and highly recommends the use of a label for climate zones. This will allow better information to be provided to the customer.

Filter

Task 3 Summary Page 7 4a to 4c; Task 3 1.9. page 53

The filter is part of the testing setup and the initial pressure drop is considered in the SPI value already. This shall be clarified, and the filter class shall be identified on the label.

The Eurovent proposal for filter is not valid for the typical boundary conditions in residential applications.

Modifications regarding reference external pressure difference

Task 3 Summary Page 8; Task 3 Summary Page 8; Task 3 1.8.2. page 47; 1.10 page 56

EVIA insists to keep the current procedure for reference and maximum flow as described in EN 13141 and EN 13142. Industry has taken huge efforts to clarify this issue, and the effect and the benefit of the new proposal cannot be understood.

It is clear, that real life pressure in duct systems influence performance, but the proposal shown, does not solve this issue, because the spigots only partly impact on the rest of the distribution system (ductwork, distribution boxes, etc.). EVIA contend that the proposal will open additional loopholes.

Defrosting

Task 3 Summary Page 9

EVIA supports the invitation to work out a simplified approach for defrosting aspects based on EN 13142.

Extend mandatory information requirements with information on the type of defrosting strategy this is applied.

Modify calculation of energy use for defrosting, following annex F of prEN 13142:2019.

About EVIA

The European Ventilation Industry Association (EVIA)'s mission is to represent the views and interests of

the ventilation industry and serve as a platform between all the relevant European stakeholders involved in the ventilation sector, such as decision-makers at the EU level as well as our partners in EU Member States. Our membership is composed of more than 38 member companies and 6 national associations across Europe, realising an annual turnover of over 7 billion euros and employing more than 45,000 people in Europe.

EVIA aims to promote highly energy efficient ventilation applications across Europe, with high consideration for health and comfort aspects. Fresh and good indoor air quality is a critical element of comfort and contributes to keeping people healthy in buildings.

ANNEX

Definition of ErP CTRL factors for Residential Ventilation based on EVIA IAQ Tool

The Air Exchange Performance factor of the *EVIA IAQ calculation tool* can be used to calculate CTRL factors based on a more realistic scenario. A first draft was shown during the stakeholder meeting 29th May in Brussels by VHK.

EVIA fully supports this approach, but for the use within a regulation, the approach must be simplified based on the following aspects:

- As the CTRL factor has a huge impact on the result, the determination shall be **unequivocal and clear**.
- A **limited selection** of no more than ~8-12 (the fewer the better) options should be offered for the regulation identified from those currently in use. Designing engineers may opt later to use the full approach for individual consulting.
- The building and other non-ErP related product impacts to be considered shall be limited to the minimum required to compare products/systems. This might include:
 - Air tightness,
 - NDS type, (to be checked what is needed),
 - In case there is a building size or room use impact, a suitable “model” shall be determined.
- At the current level, the determination or test of the impact of different types of sensors (humidity, CO₂, VOC, etc.) and the quality of controls equipment is unclear. There are currently no suitable test procedures for this nor specifications in the current regulation.
- The sensor types could for example be reduced by the following principle:
 - For all gas sensors (hum., CO₂, VOC), an average PCO value shall be used for presence and absence and for habitable and exhaust spaces. This seem to be a good bases for ErP to reflect the “average”.

The CTRL-factors shall be simplified and pre-calculated based on the assumption above, for example in the following table:

CTRL = ...		control			
Sensors switches	/		central	zonal	local
	manual or default	(b)
	clock	(b)	...	?	...
	central	(b)	...	(a)	(a)
	zonal	(b)	(a)
	local	(b)

(a): possibly makes no sense

(b): further guidance might be needed to avoid not targeting sensor positions and types

Definitions for sensors or switches:

1. Manual or default: anything else than clock, central, zonal and local
2. Clock: (adapted from current 1253/2014)
a clocked (daytime-controlled) human interface to control the fan flow rate of the ventilation unit, with at least seven weekday manual settings of the adjustable flow rate for at least two setback periods, i.e. periods in which a reduced or no flow rate applies

3. Central: one sensor tracking a control parameter (see definition in 1253/2014) measured in the mixed exhaust air of the whole ventilated building;
4. Zonal: two or more sensors tracking one or several control parameter (see definition in 1253/2014) representative of at least two rooms or groups of rooms of the ventilated building;
5. Local: a sensor tracking a control parameter (see definition in 1253/2014) in each habitable space and each exhaust space of the ventilated building;

Definition for controls:

1. Central: one device like VAV-box/damper/Speed controlled fan etc. controlling the total ventilation flow of the ventilated dwelling.
2. Zonal: two or more devices like /VAV-box/damper/Speed controlled fan etc. per unit/system/dwelling.
3. Local: one device in each room (habitable and exhaust spaces)

Additional remarks:

- Single room units serving only one room shall be considered as local.
- Single room units serving two (or more) rooms (for example small duct to attached room, or alternating units with two room relation shall be considered as zonal.
- Alternating units with no clear relation shall be considered as central.