

Product Group 'Residential Air Handling Untis'

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Eurovent comments to the second Stakeholder meeting on 7 May 2020 and to the Discussion Document for 2nd Stakeholder Meeting (v1.1) on <u>Residential Aspect</u>

Background

The second Stakeholder meeting on the review of VU Regulation (1253/2014) and VU Energy Labelling Regulation (1254/2014) was held on 7 May 2020. It was preceded by the publication of Discussion Document (v1.1). The document summarized the results of the work for Phase 1 of the Review Study, comprising the Technical Analysis (Phase 1.1) and the update of the Preparatory studies (Phase 1.2).

Eurovent welcomes the tabled proposals for revisions. We believe they bring significant improvements and take into account the suggestions made by stakeholders.

In this paper, Eurovent presents additional comments on Residential aspects to the subjects addressed in the course of stakeholder meeting and to proposals for revisions included in the Discussion Document

1. Include VUs with electric power input < 30 W per airstream in EU 1253/2014 (par. 3.7 in the Discussion Document)

Eurovent fully supports the proposal to extend the scope of the Ecodesign Regulation with VUs below 30 watts per airstream.

In addition, if this extension is to come into force, we believe that the requirements in Annex II of 1253/2014 for BVUs below 30W/air stream (particularly equipped with the plate exchanger) on the mandatory by-pass facility should be revised and modified.

In opinion of our members, in such small compact Bidirectional Ventilation Units, implementation of a thermal by-pass facility is not possible. Thus, this requirement for BVU with electric power input below 30W per airstream should be lifted.

2. Multifunctional Residential BVUs (par. 3.10)

Eurovent supports the proposal to include performance data of Multifunctional Residential BVUs (residential BVUs that have one or more other functions additional to ventilation, e.g. space heating/cooling, DHW) in the in the information requirements of the revised VU Regulations.

The existing standards are not adjusted to the new technology that means that the overall efficiency of the unit is not well reflected. The need would be to see an overall approach in the future that consider the different functions as a whole unit. Therefore, we believe that introducing at this stage information requirements to collect data for the next review is a good compromise.

3. New list of CTRL-factors (par. 5.2)

Eurovent members appreciate the ambitious approach proposed by VHK to include in the assessment, in addition to the performance of a unit itself, also features directly related to the system (type of the installation and sensors installed in spaces of a dwelling). We agree this is the correct target way for improving overall energy efficiency of ventilation systems and indoor air quality.

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However, we see several issues that might hinder the effective impact on the market of the revised Regulation, if such an approach is to be introduced.

In our opinion, too many values of the factor (that impact the energy rating on the Energy Label) might be difficult to accept by end users and lead to confusion and misunderstandings.

Residential Ventilation Units are typically mass-produced. The same goes to control equipment, both sensors and flow-control devices. A manufacturer does not know in which type of system and configuration the products will be installed. The decision is up to the system designer or contractor. This raises the question who is responsible for choosing the right CTRL factor, and in turn energy rating class to be communicated to the end-user.

Variety of design options, makes it practically impossible to combine and dispatch from the factory correctly labelled packages. Moreover, some components included in the predefined types of systems (e.g. controlled grilles) are usually not offered by RVU suppliers. These elements are picked by the contractor on site.

Possible attempt for adjusting to the delivery of multi-option packages, would impose on manufactures crucial, difficult and costly changes in the production and logistic processes.

Given that the VU Regulation is a product regulation, the above arguments bring us to a position that CTRL-factors (and related energy classification) should be limited to features and performance of the product that are under manufactures control, without addressing the system design.

The proposal of CTRL factors presented in Annex II of the Discussion document does not meet this postulate. In our view, the choice of CTRL factor should be reduced and not related to the type of system.

4. Ventilation Performance (par. 5.1)

Following up conclusions of the previous paragraph, Eurovent does not supports introduction of Ventilation Performance Indicator (VPI) and displaying its value on the Energy Label. We would like to stress that the main purpose of the label should be to clearly indicate the product's performance in respect of energy efficiency. Adding excessive information would create confusion and be counterproductive.

5. Filter type / filter class on the Energy Label (par. 5.1)

Eurovent reiterates its support for the proposal to show the filter type and filter class on the Energy Label. The displayed filter class should be rated according to EN ISO 16890. The previous EN 779 standard was withdrawn and its classification is obsolete.

6. Adjustments SEC-formula (par 5.3)

Eurovent members support the proposal to adjust SEC-formula. However, in our opinion this proposal requires further in-depth discussion with Stakeholders.

7. Reference filter classes (par 5.4)

Eurovent reiterates its support for introducing reference filter classes for the tests. We also support the proposed approach for performing tests (If filters are missing, use reference class filters).

8. Increase initial filter pressure drop by a factor for SPI test (par 5.4)

In opinion of Eurovent members, the approach to increase the initial pressure drop by a factor of the default or actual (resulting from the test) value may only be introduced when a proper test method is available.

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For the moment, we hold that the initial pressure drop should be used for determination of the specific power input (SPI).

9. Including humidity recovery (par. 5.5)

In the original Position Paper of March 2019, Eurovent has proposed consideration of humidity recovery but only for Non-residential ventilation units. It was motivated energy-wise, since in applications involving control of indoor air humidity, the use of enthalpy heat exchangers leads to significant energy savings (for humidification and dehumidification). In residential applications, the indoor humidity control is not a typical case. Also, the flow rates of ventilation air in residential buildings are much lower compared to non-residential buildings (where ventilation air is also used for cooling purposes).

Humidity recovery in residential applications also has an impact on energy consumption and contributes to improving IEQ. This impact, however, depends on the climate. It differs for the cold and warm regions. Determining the exact climate impact requires further studies.

In this respect, Eurovent holds that it would only be appropriate to include humidity recovery if climate zones are distinguished in the assessment.

10. Reference external pressure difference (par. 5.6.1)

After reconsideration of all pros and cons for the proposed method to use a mathematical function for the reference external pressure, Eurovent members suggest maintaining the approach of the current Regulation (fixed reference external pressure of 50 Pa to determine the reference flowrate).

Introducing a function would force modification of standards EN 13142 and 13141-7 which work with constant max. external pressure 100 Pa and respectively ref. external pressure 50 Pa, what makes the results clearly comparable. It could also complexify the tests and increase their cost.

11. Limit values BVU leakages (par. 5.7)

Eurovent endorses the proposal for limiting BVU leakages and support the proposed limit values. We also reiterate our proposal to set a limit for class B3 or C3.

12. Adjustments Energy Label (par. 5.10)

Eurovent supports the proposal to show on the Energy Label

- energy classes for different climates
- filter type and class

Eurovent endorses the proposal to harmonise the reference working point for sound power level and flow rate on the label. However, in the opinion of Eurovent members, the <u>reference flow rate and the</u> <u>sound power at reference flow</u> should be displayed.

We also support the proposal to adjust Label classes.

Eurovent does not support the proposal for adding Ventilation Performance Indicator (VPI) on the Energy Label.

13. Other proposal

With regard to other proposals in the document, Eurovent does not take a position or holds positions already presented in the previous papers.

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