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## **Eurovent comments on the ICF Technical Analysis (Phase 1.1) with regard to NRVU aspects**

### **Introduction**

The follow up study of the review of the Ecodesign and Energy Labelling regulations on ventilation units (1253/2014 and 1254/2014) carried out by the ICF consultancy, was launched at the beginning of 2024. Its first phase – technical analysis – resulted in a draft report that was published on 12 June 2024.

Eurovent appreciates very much the work done by the Commission and ICF and welcomes recommendations made in the [Phase 1.1: Technical Analysis \(Draft\)](#) document. At the same time would like to present the following comments on both this draft and draft revised regulation (working document) of 01 March 2021 for the Consultation Forum in 2021, in preparation for the Stakeholder meeting on 1 July 2024.

### **1 Energy Consumption Evaluation of Air Filters**

Reference: ICF Phase 1.1 draft analysis. Point 2.2

ICF recommends adding into the Regulation the time-based method as proposed in [Eurovent 4/25](#) as a mandatory Ecodesign requirement for NRVUs for the final pressure drop calculation.

It is not clear to us, what is exactly meant by using this method to calculate the final pressure drop. Would this value be used for information requirements as per Annex V point (s) or would it have impact on the  $SFP_{int}$  calculation?

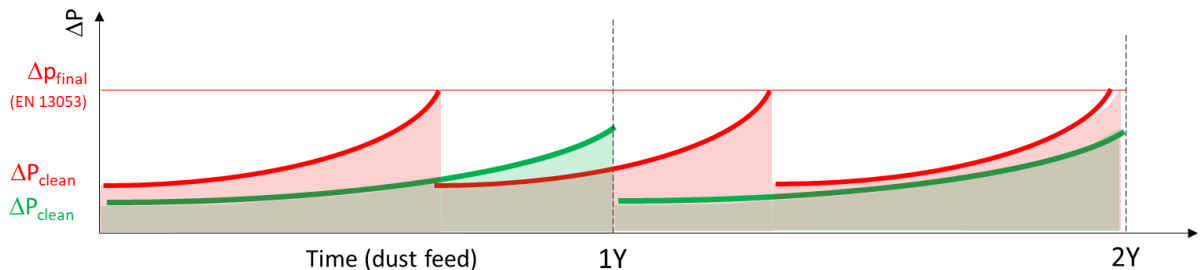
The Eurovent proposals for the  $SFP_{int\_limit}$  and for energy consumption evaluation of filters were considered as two separate and independent requirements.

The approach for the known-unknown place of installation, which was also recommended to be included in the Regulation, was developed (including the values of all factors) under the assumption that  $SFP_{int}$  would be calculated as at present - for clean filter pressure drop (see also point 1.5 in our comments [PP – 2021-04-30](#)). Whereas the design operating point for the fan (i.a. for motor power sizing) would be determined for the final pressure drop according to EN 13053. This is the correct and obvious method employed by all AHU manufacturers.

The proposal for energy consumption evaluation of filters is intended as a separate measure to eliminate low energy efficient filters but without any impact on the fan power input calculation.

The objective of the Eurovent time-based method is to calculate the average pressure drop over a filter's lifetime, rather than the final pressure, to determine the energy consumption associated with filters. The concept of the method is presented in Figure 1. It compares two filters. A low energy-efficient filter (red) which must be replaced three times over two years because it reaches the final pressured drop (acc. to EN 13053) and a high energy-efficiency filter (green) which is replaced twice, not because it reaches the final pressure but due to the time-base approach to the replacement

frequency that is common in the EU. Area below the curves represents energy consumption, and the green area is lower than red one, let alone the sustainability issues.



**Figure 1. Concept of Eurovent proposal for the evaluation of energy efficiency of air filters. Time-based approach vs. condition-based approach.**

The Eurovent proposal aims at setting a limit for the filter energy use, as an additional requirement not related to the design operating point.

The AEC value calculated according to the proposed methodology would be declared by the filter manufacturers, who need to carry out the ISO 16890 tests anyway, in order to evidence that a filter meets ecodesign requirements and can be installed in a NRVU. The filter tests would not be carried out by NRVU producers. This would involve a single test of each filter either at the method's nominal 3.400 m<sup>3</sup>/h, or with a reduced airflow rate at which the AEC limit is met.

If the final pressure were to be calculated, declared and considered in the  $SFP_{int}$  (?) according to the method for any actual operating point of the AHU, the implementation of the proposal would not be technically and economically feasible. Therefore, we would suggest keeping the original proposal developed jointly by Eurovent Product Groups 'Air filters' and 'Air Handling Units' presented in Eurovent 4/25.

## 2 Internal leakage limits requirements

### Draft revised Regulation 1253 (working document), Annex III

The draft revised Regulation proposed in Annex III to set the limits for OACF and EATR values, referring to prEN 308:2019 as the reference test standard. This new requirement was fully in line with the Eurovent proposal which was greatly appreciated by Eurovent members.

Since making the draft revised Regulation available, Eurovent members have started testing internally the implementation of the new proposed requirements into their products and selection software. This resulted in raising some additional questions and the potential need for detailing the requirements, in particular with regard to the following aspects:

- OACF and EATR significantly depend on the external static pressure (ESP) in the connected ductwork. This value is defined by the customer / designer and is out of control of the AHU supplier. With some ESP values, meeting the proposed requirement would not be technically feasible. As the Regulation is intended to be a product regulation, this external system impact needs to be eliminated.
- Which exactly method of the test standard, which was published as EN 308:2022, should be applied.

- Depending on the applied test method, some small units NRVUs may not technically be able to meet the proposed requirements.

Eurovent members would be happy to put forward a suggestion for amendments to the proposed requirements addressing the above-mentioned issues.

### **3 Other issues not covered by the ICF Technical Analysis**

#### **Draft revised Regulation 1253**

Eurovent members maintain their comments presented in [PP – 2021-04-30](#), and which were not addressed in the ICF Technical Analysis for Phase 1.1 of the follow-up study.

## Eurovent and transparency

### When assessing position papers, are you aware whom you are dealing with?

Eurovent's structure rests upon democratic decision-making procedures between its members and their representatives. The more than 1.000 organisations within the Eurovent network count on us to represent their needs in a fair and transparent manner. Accordingly, we can answer policy makers' questions regarding our representativeness and decisions-making processes as follows:

<p><b>1. Who receives which number of votes?</b></p> <p>At Eurovent, the number of votes is never determined by organisation sizes, country sizes, or membership fee levels. SMEs and large multinationals receive the same number of votes within our technical working groups: 2 votes if belonging to a national Member Association, 1 vote if not. In our General Assembly and Eurovent Commission ('steering committee'), our national Member Associations receive two votes per country.</p>	<p><b>2. Who has the final decision-making power?</b></p> <p>The Eurovent Commission acts as the association's 'steering committee'. It defines the overall association roadmap, makes decisions on horizontal topics, and mediates in case manufacturers cannot agree within technical working groups. The Commission consists of national Member Associations, receiving two votes per country independent from its size or economic weight.</p>
<p><b>3. How European is the association?</b></p> <p>More than 90 per cent of manufacturers within Eurovent manufacture in and come from Europe. They employ around 150.000 people in Europe largely within the secondary sector. Our structure as an umbrella enables us to consolidate manufacturers' positions across the industry, ensuring a broad and credible representation.</p>	<p><b>4. How representative is the organisation?</b></p> <p>Eurovent represents more than 1.000 companies of all sizes spread widely across 20+ European countries, which are treated equally. As each country receives the same number of votes, there is no 'leading' country. Our national Member Associations ensure a wide-ranging national outreach also to remote locations.</p>

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Eurovent's roots date back to 1958. Over the years, the Brussels-based organisation has become a well-respected and known stakeholder that builds bridges between the manufacturers it represents, associations, legislators and standardisation bodies on a national, regional and international level. While Eurovent strongly supports energy efficient and sustainable technologies, it advocates a holistic approach that also integrates health, life and work quality as well as safety aspects. Eurovent holds in-depth relations with partner associations around the globe. It is a founding member of the ICARHMA network, supporter of REHVA, and contributor to various EU and UN initiatives.