

## Eurovent Position Paper concerning the inclusion of minimum requirements on the particle concentration in the supply air of ventilation systems in the future review of the EPBD

### In a nutshell

**Within this Position Paper, the Eurovent Association requests the European Commission (DG Energy and DG Health) to introduce minimum requirements on the fine dust particle concentration in the supply air of ventilation systems in the future review of the EPBD**

- **The provision of quality air is crucial in spaces designed for human occupancy, and in many industrial applications with hygienic demands as well.**
- **The supply air classes in standard EN 16798-3, which are based on WHO air quality guidelines, can serve as a basis for enforceable requirements.**
- **In the first instance, Eurovent proposes to require that the supply air of ventilation systems be at least SUP2.**
- **Requirements on particle concentration should be placed in regulations that apply to complete systems or buildings.**

**In a second step, Eurovent also requests the European Commission to monitor, report, and set EU-wide recommended limits on the particle concentration in indoor air itself.**

### Background

European regulators have developed important EU legislation that targets to limit the concentration of certain pollutants in the ambient air (i.e. Directive 2008/50/EC), but there are no analogous regulatory requirements for the quality of indoor air. Yet both the European Commission and European Environment Agency have in the past stressed the importance of indoor air quality. It bears repeating that indoor air pollution in a building poses a threat to the health, wellbeing, comfort and productivity of its occupants. While Eurovent acknowledges that an approach similar to the one laid out in Directive 2008/50/EC might not be feasible for indoor air pollutants, we affirm that the European Commission should nonetheless concretise its intentions on indoor air quality. The primary focus should be on particulate matter (PM), which affects more people than any other pollutant.

PM10	PM2.5	PM1
Particles 10 µm in diameter or smaller can reach the respiratory ducts and potentially cause decreased lung function.	Particles 2.5 µm in diameter or smaller can penetrate the lungs and cause decreased lung function, skin and eye problems.	Particles 1 µm in diameter or smaller are tiny enough to enter the bloodstream and lead to cancer, cardiovascular diseases and dementia.

**Table 1: The health risks of particulate matter**

Indoor air quality is a preeminent concern for Eurovent and its members, who emphatically welcome the stricter air purity norms that have come with the development of more demanding legislation, standards, and health-conscious attitudes. That said, the European HVACR industry favours a harmonised approach to indoor air quality across the Single Market, to ensure a level playing field.

The incorporation of health, safety and air quality considerations in the recast Energy Performance in Buildings Directive (Directive (EU) 2018/844) was a step in the right direction. As a next step, the Eurovent Association requests the European Commission's DG Energy, with the involvement of DG Health, to consider the following proposals, especially in the context of future reviews of the EPBD:

- The introduction of minimum requirements on the particulate concentration in the supply air of ventilation systems, in the first instance
- The development of a comprehensive EU-wide approach to particulate concentration in indoor air itself, in the second instance.

## Proposal

### Particle concentration in the supply air of ventilation systems

An adequate ventilation system is crucial to the quality of indoor air. It removes particulate matter and microbial contaminants from the air supplied to a building, providing healthy, breathable air for the building's occupants and ensuring that the hygienic demands for certain industrial applications are met. Purifying the air in a ventilation system also keeps the air handling equipment itself clean, ensuring its hygienic and efficient operation. However, the absence of EU regulatory requirements can obstruct the servicing of ventilation systems and the replacement of components in way that allows them to perform these functions adequately.

The Eurovent Association therefore takes the position that EU legislation should set limits on the particle concentration in the supply air of ventilation systems. European Standard EN 16798-3 already defines supply air classes that are related to WHO air quality guidelines on particulate matter concentration – these can serve as the basis for enforceable minimum requirements. In the first instance, Eurovent proposes to require that the supply air of ventilation systems be at least SUP2 as defined in EN 16798-3.

<b>SUP1</b>	refers to supply air with concentrations of PM which fulfilled the WHO (2005) guidelines limit values multiplied by a factor x0,25 (annual mean for PM <sub>2.5</sub> ≤ 2.5 µg/m <sup>3</sup> and PM <sub>10</sub> ≤ 5 µg/m <sup>3</sup> ).
<b>SUP2</b>	refers to supply air with concentrations of PM which fulfilled the WHO (2005) guidelines limit values multiplied by a factor x0,5 (annual mean for PM <sub>2.5</sub> ≤ 5 µg/m <sup>3</sup> and PM <sub>10</sub> ≤ 10 µg/m <sup>3</sup> ).
<b>SUP3</b>	refers to supply air with concentrations of PM which fulfilled the WHO (2005) guidelines limit values multiplied by a factor x0,75 (annual mean for PM <sub>2.5</sub> ≤ 7.5 µg/m <sup>3</sup> and PM <sub>10</sub> ≤ 15 µg/m <sup>3</sup> ).
<b>SUP4</b>	refers to supply air with concentrations of PM which fulfilled the WHO (2005) guidelines limit values (annual mean for PM <sub>2.5</sub> ≤ 10 µg/m <sup>3</sup> and PM <sub>10</sub> ≤ 20 µg/m <sup>3</sup> ).
<b>SUP5</b>	refers to supply air with concentrations of PM which fulfilled the WHO (2005) guidelines limit values multiplied by a factor x1,5 (annual mean for PM <sub>2.5</sub> ≤ 15 µg/m <sup>3</sup> and PM <sub>10</sub> ≤ 30 µg/m <sup>3</sup> ).

**Table 2: Supply air categories**

These requirements would apply to ventilation systems that at least consist of one ventilation unit (as defined in Commission Regulation (EU) No 1253/2014) intended to replace utilised air by outdoor air in a building or a part of a building.

Requirements on particle concentration should be placed in regulations that are valid for complete systems or buildings. To place those requirements in regulations for ventilation units (for example in Regulation (EU) No. 1253/2014) is not useful because the air filtration can also take place up- or downstream of the unit.

### Particle concentration in the indoor air itself

The particle concentration in buildings does not just depend on the outdoor air that enters through the ventilation system, but also on the air that enters through windows and doors, and on indoor sources of particulates. Moreover, particle concentrations indoors are difficult to monitor representatively due to fluctuations caused by airflows in a room.

In order to develop a comprehensive European approach to indoor air quality, the Eurovent Association therefore also proposes that:

- EU recommended targets on maximum particulate concentrations in indoor air should be set,
- Studies on the development of a feasible and representative measurement method of indoor particulate concentration should be carried out, with a view to developing harmonised monitoring programmes in at least educational buildings and hospitals in all Members States,
- Additional studies parsing the effects of mechanical ventilation, window ventilation, and indoor particulate sources on the particulate concentration in indoor air should be carried out,
- The European Commission should collect and disseminate best practices concerning the reduction of particulate concentration in indoor air, taking into consideration the difference between mechanical ventilation and window ventilation.

### Authors

This Position Paper was developed in a joint effort of the Eurovent Product Group 'Air Filters' (PG-FIL), which represents a vast majority of all manufacturers of these products active on the EMEA market.

## 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:

#### 1. Who receives which amount of votes?

At Eurovent, the number of votes is never related to organisation sizes, country sizes, or membership fee levels. No matter if SMEs or large organisations, each company receives one vote within our technical working groups. In our General Assembly or Eurovent Commission ('steering committee'), our national member associations receive two votes per country.

#### 2. Who has the final decision-making power?

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.

#### 3. How European is the association?

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.

#### 4. How representative is the organisation?

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.

Check on us in the [European Union Transparency Register](#) under identification no. 89424237848-89.

### We are Europe's Industry Association for Indoor Climate (HVAC), Process Cooling, and Food Cold Chain Technologies – thinking 'Beyond HVACR'

Eurovent is Europe's Industry Association for Indoor Climate (HVAC), Process Cooling, and Food Cold Chain Technologies. Its members from throughout Europe, the Middle East and Africa represent more than 1.000 companies, the majority small and medium-sized manufacturers. Based on objective and verifiable data, these account for a combined annual turnover of more than 30bn Euros, employing around 150.000 people within the association's geographic area. This makes Eurovent one of the largest cross-regional industry committees of its kind. The organisation's activities are based on highly valued democratic decision-making principles, ensuring a level-playing field for the entire industry independent from organisation sizes or membership fees.

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 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.