Svensk Ventilation

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Comments from Svensk Ventilation on Draft Commission Regulations with file names EU159_EN_1_1.pdf, and EU160_EN_1_1.pdf

Differentiated requirements on SFP_{int} in NRVU for different heat recovery systems, EU159 Annex III

Svensk Ventilation strongly supports the principle of differentiation as well as the levels.

Differentiated requirements on thermal efficiency in NRVU for different heat recovery systems, EU159 Annex III

Svensk Ventilation strongly supports the principle of differentiation as well as the levels.

The minimum fan efficiency for UVUs, EU159 Annex III

Svensk Ventilation supports the proposal from EVIA, that the requirement on minimum fan efficiency for UVUs should be reformulated to be based on the same principles as the fan regulation (EU 327/2011). We also agree with EVIA's proposal of the requirement level to be 0.78 times the required level in EU 327/2011. The argument for this change is simplicity, and that the fan efficiency for UVUs in EU159_EN_1_1.pdf would favour fan types that are optimized for relatively high pressures, which is not the intention of ecodesign.

Reinstated requirements on low energy consuming filters in NRVU, EU159 Annex I and Annex IX

Svensk Ventilation supports, in accordance with Eurovent, the reinstatement (released on 10/10/2012) of clear requirements and definitions for "low energy consuming" filters integrating the corresponding maximum energy consumption of class A according to Eurovent classification. Furthermore, Svensk Ventilation proposes that Eurovent's proposal be further clarified with detailed definitions concerning the definitions of "low energy consuming filters". Our completed proposal is given on the following pages, where the red text shows Eurovent's proposal, and the blue text shows Svensk Ventilation's proposed clarifications.

Fyrtydligat till Energimyndigheten 2013-12-06:
Vi vidhåller vår synpunkt från 2013-11-14 att lågenergifilter borde ingå i kravbilden för BVU "Reinstated requirements on low energy consuming filters in NRVU, EU159 Annex I and Annex IX"
Vi har vägt in den aspekt som Du framförde, nämligen att krav på lågenergifilter här, sannolikt gör det omöjligt att i framtiden införa direkta ekodesignkrav på ventilationsluftfilter. Sådana krav vore visserligen mycket välkomna, men vi bedömer att det dröjer alltför lång tid innan de i så fall införs.

Specific energy consumption classes for RVU, EU160 Annex II

Svensk Ventilation supports EVIA's proposal to adjust the classifications limits.

With kind regards

Erik Österlund
Technical- and Environmental Manager

Britta Permats
Managing Director

EUROVENT Association comments (in red)
and
Svensk Ventilation clarifications (in blue)
on

Working document on a draft Commission Regulation implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for ventilation units
Released on 29.08.2013

ANNEX I
2. Definitions for NRVU

(15) *'Low energy consuming Fine filter' (F7) means a filter that meets the conditions for filter efficiency as defined in Annex IX;*

(16) *'Low energy consuming Medium filter' (M5) means a filter that meets the conditions for filter efficiency as defined in IX;*

ANNEX IX
Measurements and calculations for NRVUs

Low energy consuming Fine filter F7

A 'fine filter' (F7) is an air filter for a ventilation unit that meets the conditions as described in the following test and calculation methods, to be declared by the filter supplier.

Fine filters are tested at air flow of 0,944 m³/s and filter face 592x592 mm (installation frame 610x610 mm) (face velocity 2,7 m/s). After proper preparation, calibration and checking the airstream for uniformity, initial filter efficiency and pressure drop of the clean filter are measured. The filter is progressively loaded with appropriate dust up to a final filter pressure drop of 450 Pa. At first 30 g is loaded in the dust generator subsequently there must be at least 4 equidistant dust loading steps before reaching the final pressure. The dust is fed to the filter at a concentration of 70 mg/m³. Filter efficiency is measured with droplets in the size range 0,2 to 3 µm of a test aerosol (DEHS DiEthylHexylSebacate) at a rate of about 0,39 dm³/s (1,4 m³/h), Particles are counted 13 times, successively upstream and downstream of the filter at minimum 20 seconds with an optical particle counter (OPC). Incremental filter efficiency and pressure drop values are established.

Average filter efficiency over the test for the various particle size classes is calculated. To qualify as a 'fine filter' the average efficiency for particle size 0,4 µm should be more than 80% and the minimum efficiency should be more than 35%. The minimum efficiency is the lowest efficiency among the discharged efficiency, initial efficiency and the lowest efficiency throughout the loading procedure of the test. The discharge efficiency test is largely identical to the average efficiency test above, except that the flat sheet of filter media sample is electrostatically discharged with isopropanol (IPA) before testing.

*To determine whether a fine filter is 'low energy consuming", the pressure drop curve shall be recorded with at least five data points, during the course of dust loading. At final pressure drop, Final dust load should reach maximum of 100g. Through curve fitting a 4tht order polynomial pressure difference equation is generated and from this the pressure drop after loading 100 g of test dust is derived. The determined pressure difference is used to calculate the yearly energy consumption of the filter under standardised conditions of operation (air flow rate=0.944 m³/s, time = 6000 h and fan efficiency η = 0.50). The 'low energy consuming fine filter', defined by filter face 592x592 mm *) (installation frame 610x610mm), should have a calculated yearly energy consumption below*

1200 kWh, with average efficiency above 80% and minimum efficiency above 35%.

Low energy consuming Medium filter M5

A 'medium filter' (M5) is an air filter for a ventilation unit with performance tested and calculated as for the fine filter in the section above, but meeting the conditions that the average efficiency for particle size 0,4 µm should be more than 40%, to be declared by the filter supplier. For a medium filter there is no requirement on the 'minimum efficiency'.

*A 'low energy consuming medium filter' is defined as the 'low energy consuming fine filter' in the section above, but with the average filter efficiency for particle size 0,4 µm should be more than 40%. The calculated yearly electricity consumption, defined by filter face 592x592 mm *) (installation frame 610x610mm), should be below 650 kWh/year, under same experimental conditions and after loading 250 g of test dust.*

**) The calculated "low energy consuming filter" is based on filter face dimensions 592x592 mm. Additional filter face dimensions, 490x592, 287x592, 287x287, 592x287, 592x490 and 490x490 mm, with the same design and used together with filter 592x592 or individual, shall be classified as "low energy consuming filter".*
Other filter face dimensions are excluded from the demand of "low energy consumed filters" and can be used independently.