EVIA Comments on Ecodesign requirements for ventilation units

30 April 2013

Draft Working Document Ventilation Units Version 11.4.2013
Article 2: Definitions
(2) + (3) Definition of Residential and Non-Residential Ventilation

Comments on the Definition Residential and Non-Residential Ventilation units:

Residential and Non-Residential ventilation units are strictly different products, even if the physical function is nearly the same. The core reason for this aspect is, that the application for residential units is fixed (certain ventilation rate approx. 1,3 $m^3/(h\ m^2)$, continuous ventilation, known user scenario, low thermal loads, etc.) and for non-residential units unknown (wide range of ventilation rates from 1 to 100 $m^3/(h\ m^2)$, different operation hours, possible high thermal loads, wide range of user scenarios) .

It is essential, that the minimum requirements for the product consider all these aspects.

Residential ventilation units will need a energy label according to the Label Directive, because they have been identified as a consumer product. EVIA supports this aspect.
The aspect labelling means, that it is even more important that only residential units must have a label. Otherwise there will be a misinformation to the customer.

A split based on any nominal electrical power (75 to 250 W) is not targeting the issues of ventilation because exactly in this range are products that are intended for residential and non-residential application or both.

The originally discussed limit of 125 W possibly comes from different tax classes which might be relevant for a single fan if transferred through the border (EN 327/2011) but has no real relevance in the context of a ventilation unit.

Proposal:

As widely supported form stakeholders and member states in the Consultation Forum November 2012, EVIA still request the **Intended Use** instead the fan power which will be the best solution to avoid misinterpretations

- Residential Ventilation Unit
- Non Residential Ventilation Unit
- And to be consistent Box and Roof Fans

This would avoid misunderstandings, if such a product is not used for ventilation in the sense of this regulation (Residential – Non-Residential – Box and Roof fan not for ventilation). The risk of a loophole is very limited because:

- It is really not possible to sell products with the wrong performance data.
- There a many national requirements on Residential Ventilation products based on EPBD, CPD etc.
- The requirements in fan efficiency and heat recovery are comparable
- A labelling of products in Non-Residential applications according the SEC does not make sense.

As a compromise, EVIA can support the following split definition:

- Over ~1.000 m^3/h nominal outside air volume flow is Non-Residential Ventilation – Criteria Annex 2
- Under ~1.000 m^3/h nominal outside air volume flow the manufacturer shall declare:
  - Non-Residential Ventilation – Criteria Annex 2 or
  - Residential Ventilation – Criteria Annex 1 plus Labelling

The advantage would be that the manufacturer is not completely free. This avoids absurd declaration like a labelling for big AHU´s etc.

EVIA supports to classify all bidirectional ventilation units as Non-Residential Units (CHRV and AHU for multifamily buildings.

Proposal for a definition

Article 2
Definitions

In addition to the definitions set out in Article 2 of Directive 2009/125/EC, the following definitions shall apply for the purpose of this Regulation:

(1) 'Ventilation unit (VU)' means an appliance equipped with at least a fan, motor and casing intended to replace utilised air by fresh air in a building or part of a building;

(2) 'Residential ventilation unit (RVU)' means a ventilation unit where the nominal (maximum) outside air volume flow does not exceed 1.000 m^3/h and the manufacturer does not declare it as a NRVU;

(3) 'Non-residential ventilation unit (NRVU)' means a ventilation unit where the nominal (maximum) outside air volume flow

a. exceeds 1.000 m^3/h or

b. does not exceed 1.000 m^3/h and the manufacturer declares only for a non-residential ventilation application.

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Justification:

The SEC calculation for the minimum requirements and the labelling is based on a residential application scenario:

- Air volume flow ~1,3 $m^3/(h\ m^2)$
- Typical internal loads
- Typical CTRL factors for residential application
- Typical design of supply and exhaust rooms
- Continuous operation

For any other Non-Residential and Fan application, these values will be completely wrong and misleading.

Typical ventilation units and their data which are covered by the regulation are shown in the following table.

	Product	Application	El. Power of Fan Air Volume flow	
	Decentralised Air Handling Terminal (DAHT)	Office 4-9 $m^3/(h\ m^2)$	20 – 35 W 100 W max. 30 to 100 m^3/h	NRVU
	School Ventilation unit (Single room)	School 6-15 $m^3/(h\ m^2)$	30-125 W 300 – 800 m^3/h	NRVU
	Wall Fan	Commercial kitchens, restaurants, storage	30 – 80 W 300 – 1.500 m^3/h	NRVU Fan Unit
	Window Fan	Commercial kitchens, restaurants, storage	30 – 110 W 300 – 1.500 m^3/h	NRVU Fan Unit

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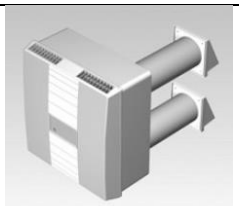
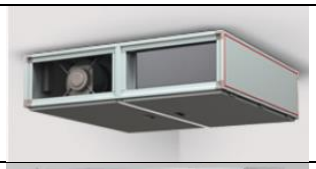
	Roof Fan	Different	30 W – over 2kW	NRVU RVU Fan Unit
	Box Fan	Different	100 - > 1,5 kW 200 – 5000 m^3/h	NRVU RVU Fan Unit
	Duct fan	Different	30 – >1,5kW 150 – 5000 m^3/h	NRVU RVU Fan Unit
	Single room bidirectional ventilation unit	Residential	15 – 50 W 30 – 100 m^3/h	RVU
	Single dwelling bidirectional Ventilation unit	Residential	30 – 280 W 30 – 600 m^3/h	RVU
	Single dwelling unidirectional ventilation unit	Residential	10 – 50 W 100 – 300 m^3/h	RVU <30 W out
	Single room unidirectional ventilation unit	Residential Bathrooms	15 -40 W 30 – 100 m^3/h	RVU <30 W out
	Extract fan	Multi	< 30 W	Out

		Compact flat ventilation unit	Multi	250 – 800 W 800 – 2500 m^3/h	NRVU
		Compact ventilation unit	Multi	250 W - > 1,5kW 800 – 8000 m^3/h	NRVU
		Air Handling unit	Multi	250W - > 25 kW 800 ->70.000 m^3/h	NRVU