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R&D

**Date :** 22/06/15

**Réf :** NE-2015-06-IB

**Objet :** Low pressure ventilation in Eco-design regulation (EU) N° 1253/2014

Dear All

VIM is a French manufacturer of ventilation units. We propose a whole range of ventilation units for several applications. We have developed for many years now special ventilation units for low pressure ventilation systems. These units have a real and great interest in retrofitting the 50's to 70's collective buildings in several countries of Europe and they are compatible with the existing ductwork.

VIM is member of UNICLIMA, the French association which represents the interests of Heating, Ventilation, Air conditioning and Refrigeration industries.

By low pressure, we speak about system which works between 25Pa and 100Pa, and most of the time between 25Pa and 50Pa.

SPI of such fans units are very good thanks to low pressure although their efficiency is lower than "traditional" ventilation.

Because of that, it is difficult for these kind of ventilation units to match the efficiency requirements even if the absorbed power of the fan is weak and much lower than "traditional" ventilation units.

**Even so, these low pressure ventilation units are completely in the general purpose of the eco-design requirement that is to say to reduce the energy consumption.**

In order to point out those comments, you will find below a comparison between the same unit used for both application:

- Traditional ventilation
- Low pressure ventilation

■ SIÈGE SOCIAL :

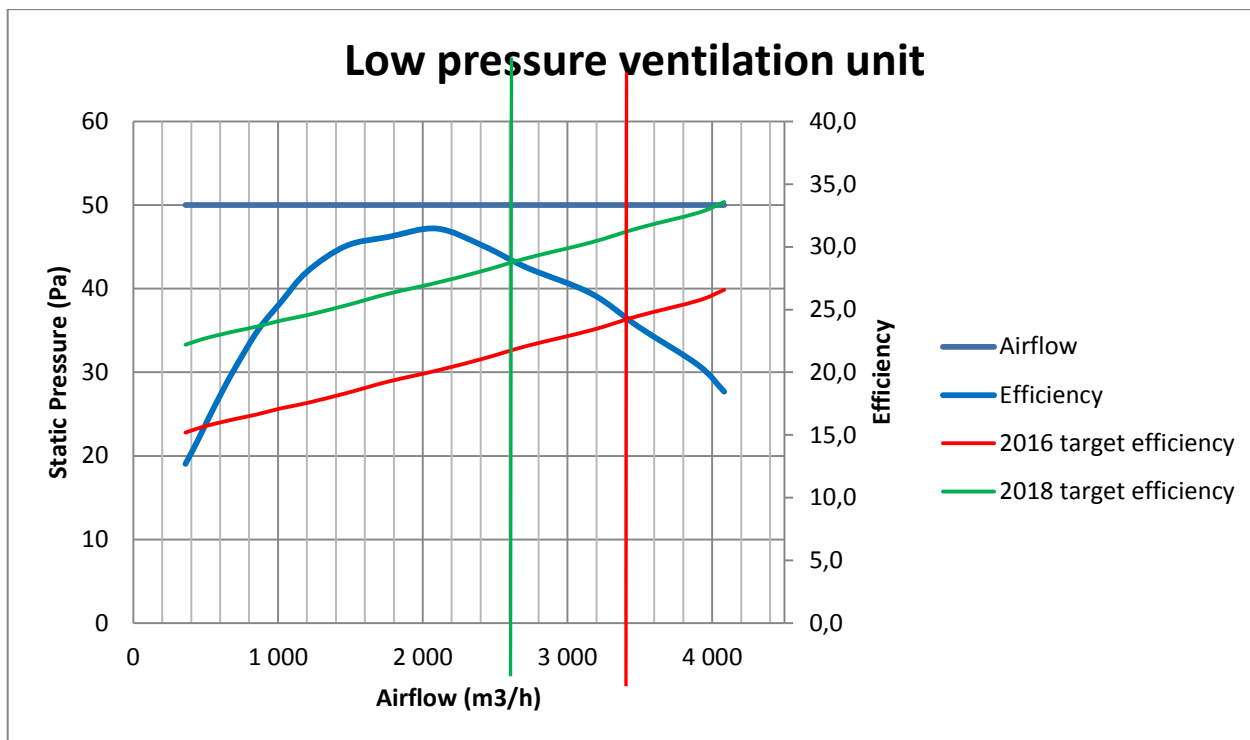
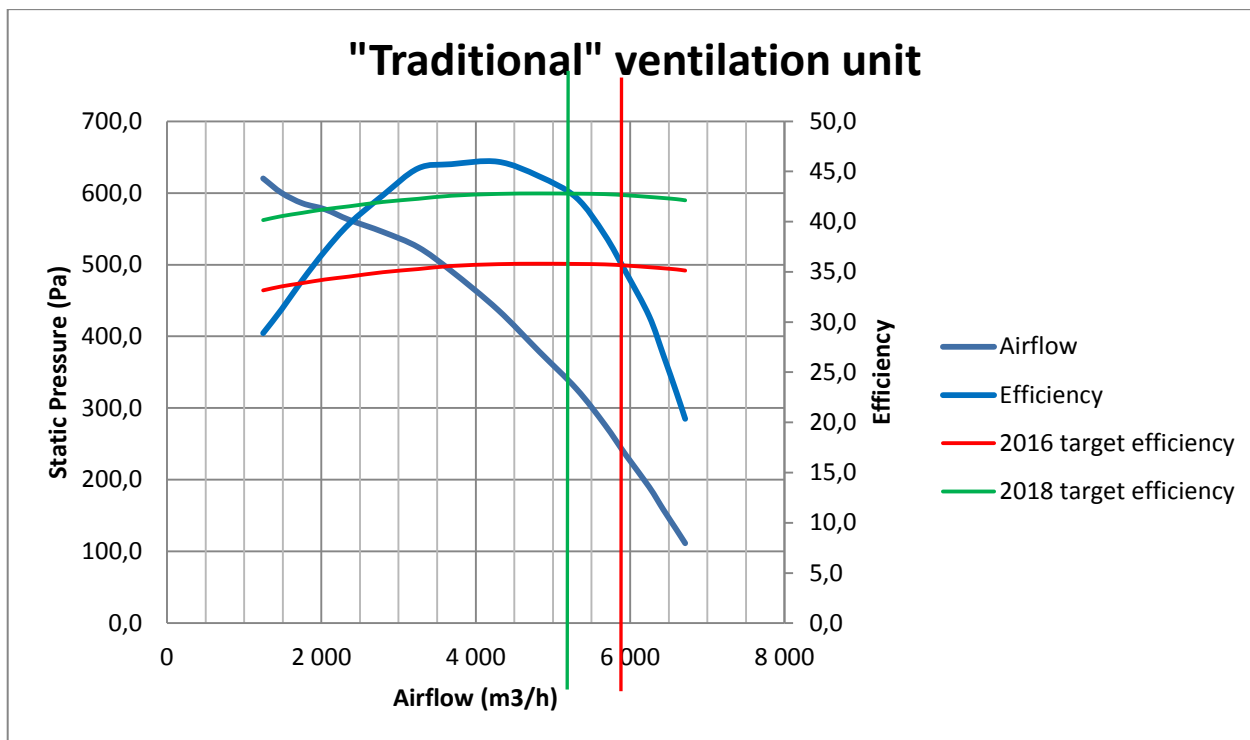
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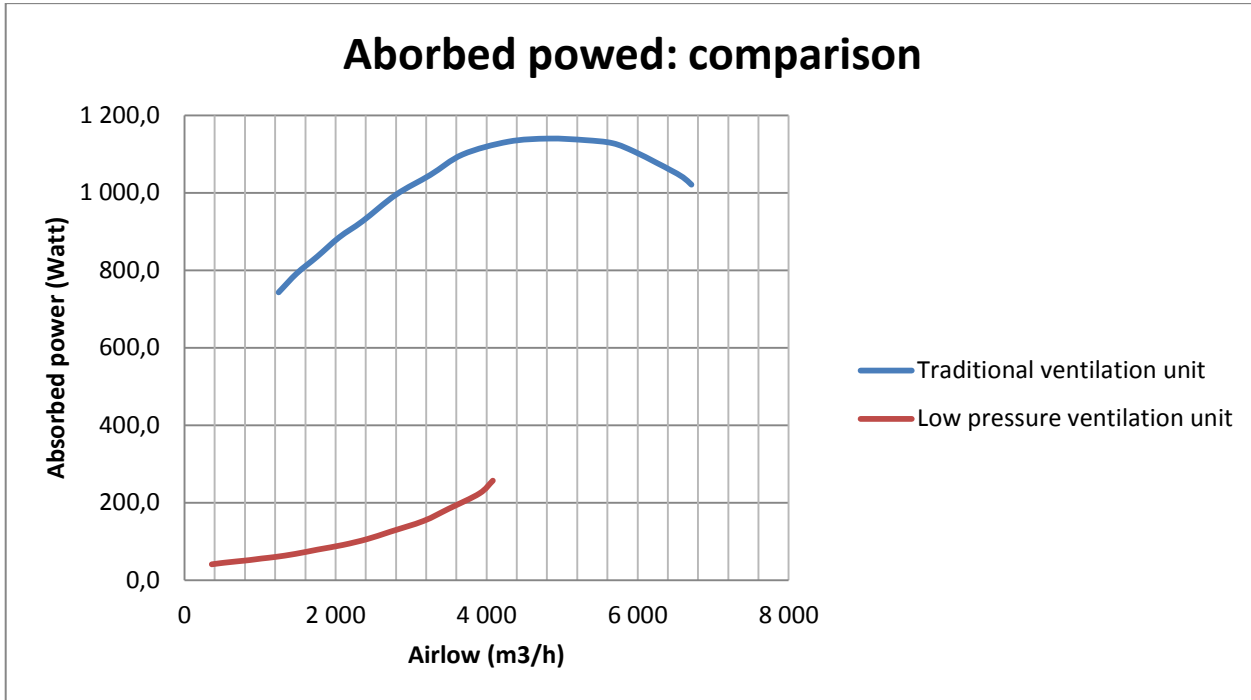
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**Resume:**

	Max airflow ERP2016	Max airflow ERP2016	Max efficiency	Absorbed power at max efficiency	Absorbed power at 4000 m <sup>3</sup> /h
Traditional	5900 m <sup>3</sup> /h	5200 m <sup>3</sup> /h	45.7%	1100 W	1100 W
Low pressure	3400 m <sup>3</sup> /h	2600 m <sup>3</sup> /h	31.5%	91 W	250 W

This example shows that:

- because of the use of the unit (low pressure), the airflow which matches with the efficiency requirement is very low compared with a traditional use.
- Although that, in term of energy saving, we notice that the absorbed power is very low due to low pressure use. The regulation should not penalize such use which fully matches with the spirit of eco-design requirements.
- In traditional ventilation, this casing unit is designed for an airflow up to nearly 6000 m<sup>3</sup>/h. In application of R1253/2014, this casing unit could be use in low pressure ventilation only up to 3450 m<sup>3</sup>/h: it means that we use a huge casing and diameter ducts for a low airflow.

**This example is based on a ventilation unit which is quite good. We can find many examples where products would hardly fulfil the requirements of the directive as it is written today. As a result, we will have no solution for low pressure application which are good alternative solution for particular application to save energy.**

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