FläktGroup

DENCO HAPPEL SEMCO FLÄKT WOODS DELBAG ILOXAIR

ECODESIGN *by* FLÄKTGROUP

» ErP REGULATION 1253 AND 1254/2014 FOR RESIDENTIAL AND NON-RESIDENTIAL VENTILATION UNITS

All our research, development and testing activities are singularly focused to provide our customers with the best and most efficient solutions possible to their ventilation and indoor climate challenges. From new and innovative concepts, smart material choices and manufacturing processes to advanced controls, minimised running cost and easy maintenance, FläktGroup always strive to deliver the best for your long-term economy and our environment.

ECODESIGN – DIRECTIVE (2009/125/EC) FOR ENERGY-RELATED PRODUCTS

The Ecodesign Directive (2009/125/EC) for Energy-related Products (ErP) is a vital part of the European Union's that allows the European Commission to develop regulations for practically any product used in buildings to the commitment of reaching the "2020 goals".

20% reduction of greenhouse gas emissions

20% share of renewable energy

20% better energy efficiency

The first 13 measures which have been implemented are estimated to deliver annual power savings of 365 TWh by 2020, equivalent to more than 12% of the final EU electricity consumption in 2009. Electric motors alone are estimated to contribute more than 35% of these savings.

The Regulations encompassed by this Directive set out the minimum efficiency levels for energy recovery devices, fans and Unidirectional Ventilation Units (UVUs). Applicable Regulations are EU 1253/2014, EU 1254/2014 and EU 327/2011.

FläktGroup fully support these initiatives as they are fully in line with our strategy to develop Air Handling Units for residential and non-residential use and fans with low energy consumption that meet or surpass legislative demands.

FläktGroup has prepared for this by developing new products for rotary heat exchangers, run-around coils and plate heat exchangers to meet the minimum temperature efficiency requirements as well as low energy consumption, high efficiency fans. We are well prepared for this regulation and in many cases futureproof.

Source:

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014R1253

BUILDING AND PRODUCT CONSIDERATIONS FOR **ENERGY EFFICIENCY IN EUROPE**

With a century of innovation of Air Technology solutions, FläktGroup takes pride in developing energy efficient ventilation solutions that fulfill or surpass customer, societal and legislative demands. The EU Regulation 1253 and 1254/2014 for Ecodesign are major steps in improving our shared environment, to reduce climate impact and minimize the carbon foot print. We are prepared for this and coming steps.

	Buildings		*Products*	
	LEGISLATION	**VOLUNTARY CERTIFICATION**	**LEGISLATION**	**VOLUNTARY CERTIFICATION**
WHAT?	Energy Performance of Buildings Directive (EPBD)	10 Major certification schemes available BREEAM, LEED, DGNB, HQE, etc	ECO design • Ecodesign – ErP • CE	• AMCA • Eurovent • TUV • Etc.
PERFORMANCE CRITERIA	Overall Building Energy Performance- Energy to cover building heating & cooling needs	Scheme dependent – classification: • Ecology • Energy/Economy • Health & Comfort • Design & process	• Mandatory Energy Recovery for bidirectional Air Handling Units and ERUs • Min. Thermal Efficiency • Min. Specific Fan Power$_{int}$ • Multi-Speed drives or VSDs are mandatory for Ventilation Units • Min. Combined motor and fan efficiency (FMEG)	Certified product performance by independent Worldwide accredited body
FLÄKTGROUP CONTRIBUTION TO PERFORMANCE	FläktGroup solutions significantly contribute to the Building Energy consumption reduction	Fläkt Group Solutions contribute to a large part of building certification schemes	All FläktGroup products exceed current legislation and most beyond 2018	> 90% of FläktGroup Air Movement and Air Treatment products are certified

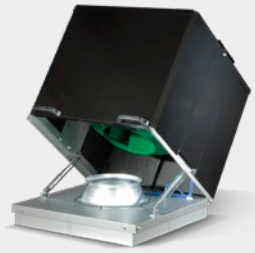
FLÄKTGROUP AND THE COMMISSION REGULATION 1253 AND 1254/2014 FOR **TERTIARY AIR CONDITIONING PRODUCTS**

Regulations 1253/2014 for Non Residential Ventilation Units (NVRU)

Maximum flow rate > 250 m^3/h selected by professionals

Bidirectional Ventilation Units (BVU) – energy recovery, fans and filters (for example Air Handling Units).

Unidirectional Ventilation Units (UVU) – fan and filter, (for example Supply/Exhaust Air Units).



Fans (UVU) – fan, (for example Roof and Box fans).

Fans in ventilation shall be speed controlled. Bidirectional Ventilation Units (BVU) shall have Heat Recovery System and they shall have a thermal bypass facility.

In FläktGroup offering already

Minimum thermal efficiency for Run around coil (RAC) systems is:
January 2016: 63%
January 2018: 68%

In FläktGroup offering already

Minimum thermal efficiency for Rotary- and Plate heat exchangers (RHE/PHE):
January 2016: 67%
January 2018: 73%

In FläktGroup offering already

New SFP definition, SFPint.*
This is a measure of the electrical power required to overcome the pressure drop of the energy recovery device and the filters in the reference unit according to the Regulation.

In FläktGroup offering already
FläktGroup selection tool Acon calculates SFPint instantly

Fan efficiency
Minimum fan efficiency values have to be achieved by all Unidirectional Ventilation Units (UVU). This is based on the static efficiency of the UVU determined from the nominal flow rate, external pressure and the electrical input power to the fan drive.

In FläktGroup offering already
FläktGroup Fan Selection tool provides efficiency data

**The numbers used to evaluate Ecodesign compliance SFPint and temperature efficiency at balanced air flow does not replace the value of SFPv and real temperature efficiency when looking at the ventilation system performance.*

Regulations 1253 and 1254/2014 for Residential Ventilation Units (RVU)

<250 m³/h selected by professionals and consumers

Energy labelling for Residential Ventilation Units

The energy efficiency and energy classification of the product must be clearly visible and easy to understand for the consumer. The labelling is available in the documentation and on the relevant product pages on the FläktGroup website.

The energy class rating can vary depending on geographical climate zone. Example:

MiniMASTER

Energy class A+ grading is accomplished in cold climate (Nordics). When configured for demand controlled ventilation, the unit meets energy class A rating in average climate conditions according to Ecodesign regulation 1254/2014.

All ventilation units shall be equipped with multi-speed drive or VSD. Bidirectional Ventilation Units (BVU) shall be equipped with a Heat Recovery System and with a thermal bypass facility.

In FläktGroup offering already

From the 1st of January 2016, all RVU shall display the following performance:

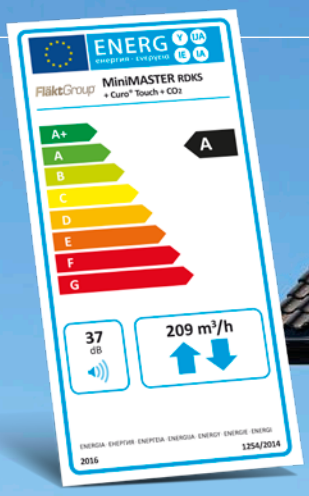
- *Thermal efficiency of the heat recovery system in % (no minimum threshold to achieve)*
- *The specific energy consumption (SEC) in kWh/(m².a) for each European climate zone, expressing the energy consumed for ventilation per m² heated floor area*
- *Non-ducted units including ventilation units intended to be equipped with one duct connection on either supply or extract air side shall have a maximum sound power level (LWA) of 45 dB in January 2016 (40 dB in January 2018) at reference flow.*

FläktGroup products comply with these requirements and the performance is calculated and printed in our selection tools (Acon, Iloxair)

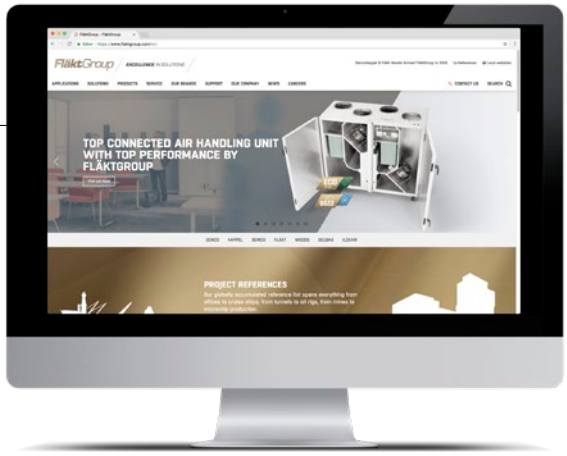
The energy labelling of residential ventilation units also apply to the RVU from 1 January 2016 and must display:

- *The energy consumption class based on the SEC value calculated for average climate*
- *The sound power level (LWA) in dB*
- *The maximum flow rate in m³/h, and if the unit is a UVU or a BVU*

FläktGroup provide an energy label with each product



DOCUMENTATION, PRODUCT SELECTION AND RESOURCES



Product documentation

Complete documentation for product information, including energy labelling and recycling instructions are available at FläktGroup free access website ***www.flaktgroup.com***

The documentation is compliant with Ecodesign regulation 1253/2014 Article 4(1) Annex IV, Point 1, a-u for Residential Ventilation Units and Article 4(2) Annex V Point 1, a-s for Non Residential Ventilation Units.

Are there any exceptions to the rules?

Yes – the following examples are not required to meet the regulation *(Note that this affects both new-builds and renovation projects)*:

- Units with an electric power less than 30W
- Some motorised impellers that are mounted in a box
- ATEX, marine and process products
- Units exclusively for emergency use for short periods of time (Hot Smoke extraction)
- High temperature applications (>100 °C),
- High voltage applications (>1000V)
- Applications where the fan motor is operating at temperature below -40 °C
- Toxic or flammable environments
- Installations outside of the EEA

Product Selection Tools

FläktGroup has a complete range of selection tools (Acon, Fan Selector, Centriware) which calculate unit performance in accordance with the regulation and product category. Key data includes:

- Minimum thermal efficiency
- Minimum fan efficiency
- Specific energy consumption

SFPint calculations

According to the ErP regulation for Non Residential Ventilation Units the SFPint value needs to be calculated for each individual AHU. FläktGroup selection tool Acon for Air Handling Units calculates the actual value of SFPint and compares it with the allowable limit.

WE SUPPORT YOUR NEEDS

For Property owners

Proven and certified energy efficient products and solutions that meets or surpass legislative demands.

For Designers

Powerful selection tools for easy dimensioning, energy calculation and access to documentation.

For Installers

Reliable products with full documentation and access to service support for optimum operation.

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EXCELLENCE IN SOLUTIONS

FläktGroup is the European market leader for smart and energy efficient Indoor Air and Critical Air solutions to support every application area. We offer our customers innovative technologies, high quality and outstanding performance supported by more than a century of accumulated industry experience. The widest product range in the market, and strong market presence in 65 countries worldwide, guarantee that we are always by your side, ready to deliver Excellence in Solutions.

PRODUCT FUNCTIONS BY FLÄKTGROUP

Air Treatment | Air Movement | Air Diffusion
Air Distribution | Air Filtration | Air Management & ATD's
Air Conditioning & Heating | Controls | Service

» *Learn more on* ***www.flaktgroup.com***
or contact one of our offices