

## 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.



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

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**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	 <ul style="list-style-type: none"> <li>• Ecodesign – ErP</li> <li>• CE</li> </ul>	<ul style="list-style-type: none"> <li>• AMCA</li> <li>• Eurovent</li> <li>• TUV</li> <li>• Etc.</li> </ul>
PERFORMANCE CRITERIA	Overall Building Energy Performance- Energy to cover building heating & cooling needs	Scheme dependent – classification: <ul style="list-style-type: none"> <li>• Ecology</li> <li>• Energy/Economy</li> <li>• Health &amp; Comfort</li> <li>• Design &amp; process</li> </ul>	<ul style="list-style-type: none"> <li>• Mandatory Energy Recovery for bidirectional Air Handling Units and ERUs</li> <li>• Min. Thermal Efficiency</li> <li>• Min. Specific Fan Power<sub>int</sub></li> <li>• Multi-Speed drives or VSDs are mandatory for Ventilation Units</li> <li>• Min. Combined motor and fan efficiency (FMEG)</li> </ul>	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)

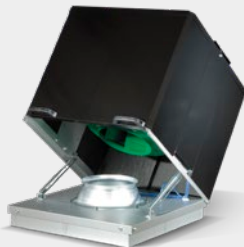
Maximum flow rate > 250 m<sup>3</sup>/h selected by professionals



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.



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# DOCUMENTATION, PRODUCT SELECTION AND RESOURCES

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## Product documentation

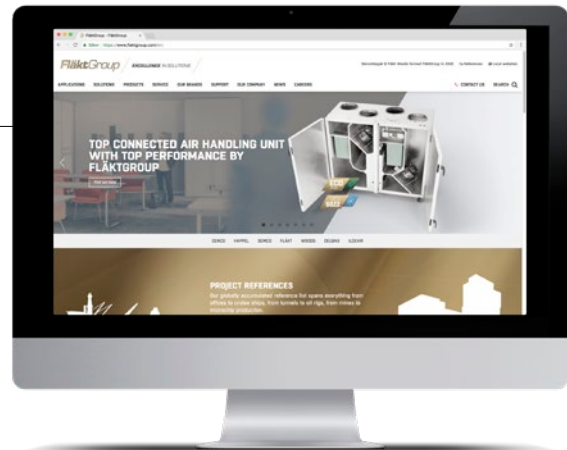
Complete documentation for product information, including energy labelling and recycling instructions are available at FläktGroup free access website [www.flaktgroup.com](http://www.flaktgroup.com)

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.

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# WE SUPPORT YOUR NEEDS

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**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.

## EXCELLENCE IN SOLUTIONS

WWW.FLAKTGROUP.COM

ECODESIGN 9849GB

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](http://www.flaktgroup.com)  
or contact one of our offices