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THE EU ERP DIRECTIVE FOR FANS

Is your organization aware of the current EU Directive for energy efficiency levels of ventilation and refrigeration products?
Aren't you sure whether the Directive applies to your products?
Do you need support to select the right ErP-compliant axial fans for your applications?
Thanks to its 30-year experience in ventilation, and our knowledgeable technical team, HW Ventilation has been extensively investigating the ErP Directive and is now able to offer you full assistance with this very topic.
HW Ventilation verified compliance of their products with the Directive through thorough testing in our Wind Tunnel.

If you need support, we can also run performance tests to analyze your product characteristics and advice on the steps you should take in order to be compliant with the requirements of the Directive.

Signing the Kyoto Protocol, the European Union committed to reach the so-called 20-20-20 target, that is: 20% less CO2 emissions, 20% less energy consumption, 20% more energy from renewable sources by year 2020.
The ErP (Energy related Products) 2009/125/CE Directive – formerly EuP (Energy using Products) 2005/32/CE – is one important measure undertaken by the EU to achieve the goals agreed in Kyoto.
The ErP, also referred to as the European eco-design directive, sets minimum energy efficiency requirements for energy-related products which are manufactured or imported in the European Union.

How does the ErP Directive apply to fans?

Suppliers of components, suppliers of complete fan sets, suppliers who integrate electrical motors and fans into their products, all have to be compliant with the requirements of the Directive.

Indeed, both the motor and the fan are affected by this legislation. EU Commission Regulation 327/2011 on eco-design requirements for fans driven by electrical motors with an input power between 125W and 500kW, and EU Commission Regulation 640/2009 on electrical motors, represent the implementation of the ErP Directive for the fan industry.

Electrical motors are strictly regulated by **EU Commission Regulation 640/2009**. This regulation, entered into force on June 16, 2011, sets the nominal minimum efficiency requirements (IE2 level) for electrical motors with a rated output power between 0,75kW and 375kW. From January 1 2015 the minimum efficiency of such motors shall meet at least the criteria set with the IE3 level, or those set with the IE2 level for motors assembled, installed, manufactured or used with variable speed drives.

Referring to fans, from January 1, 2013, the **Regulation 327/2011** applies to the complete fan impeller and motor arrangement, whether this be an external rotor motor assembly (whereby the motor is an integral part of the fan), or a separate impeller and motor arrangement (whereby the fan is driven either by a shaft or drive belt mechanism).

EU Commission Regulation 327/11

The ErP Directive decrees that companies supplying fans to the final customer are responsible for complying with EU Commission Regulation 327/11. The Regulation demands minimum efficiencies to meet overall efficiency levels of the fan, motor and driving arrangement. Both the fan and motor directives have to be taken into account when evaluating whether the required minimum efficiency levels are met.

Fans can be sold to the final customer as parts, spare parts, assembled, finished or integrated into other products. Regulation 327/11 directly impacts both manufacturers of ‘final assembly’ and those of not ‘final assembly’ electric fans, and indirectly impacts all manufacturers of products containing fans or parts. Parts or spare parts sold to the customer have to meet the requirements of not ‘final assembly’, whereas products sold to the customer as assembled, finished or integrated into other products, have to meet the requirements of ‘final assembly’.

In terms of the timing, the Regulation is defined in two stages, characterized by increasing required efficiency levels. Tier 1 started on January 1, 2013, tier 2 will start from January 1, 2015. In tier 1 existing installations are not affected by the Regulation. However, there is a period of time for the changeover of replacement fans. This means that fans that are non-compliant with the ErP Directive may be installed as retrofits up to December 31, 2014, although with effect from January 1, 2015, these fans will also have to comply with the requirements of the ErP Directive.

Which fans are affected by ErP Directive?

The ErP Directive affects a various range of fan types: Axial flow fans, Centrifugal, Mixed flow and Cross flow fans, where the power input is between 0,125kW and 500kW. Different fan types are characterized by different efficiency levels. Thus the efficiency levels are divided into specific fan categories, namely Axial flow fans, Centrifugal backward curved fans with housing, Centrifugal forward curved fans without housing, Centrifugal forward curved fans, Mixed flow fans, Cross Flow fans.

What products are exempted?

- Fans driven by motors with an electric input power of less than 125 W or more than 500kW
- Fans designed for potentially dangerous environments:
    - Explosive atmospheres (ATEX), as defined in Directive (94/9/EC6)
    - Dedicated smoke extract
    - Operating temperatures above 100°C
    - Fans for railway technology or other mobile applications
    - Fans used in toxic, highly corrosive or flammable environments, material handling or in environments with abrasive substances
- End products excluded: roof fans, duct fans, tube fans and box fans, which in the future will be covered by a specific regulation. The motor/impeller combinations used in these fans will have to comply with the existing efficiency values of directive (2011/327/EC) for fans.

Are HasconWing® fans ErP-compliant?

HW Ventilation has thoroughly performed testing activities on its fans and ventilators to verify whether or not their performance levels are in compliance with the ErP Directive.

We are pleased to announce that almost every impeller and ventilator of our portfolio has passed the tests and meet or exceed ErP 2015 requirements. For the few impellers which are not compliant with the Directive, we have developed alternative solutions.

All the data we collected are stored into our fan selection software, so that it will be easy for you to select those axial fans which comply with the Regulation.

How can HW Ventilation help you with ErP?

Since all our products have been tested at our wind tunnel, we can provide you all the performance data you can use to select the best combination of fans to suit your needs. A user-friendly fan selection software, downloadable through our website will soon be available for this scope.

Should you already have your own axial impellers and want to test whether they are compliant to the ErP requirements, we offer to you the possibility to use our wind tunnel, designed to

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AMCA 210/07 standard.

Contact us now with any inquiry about ErP.