

# The ErP Directive

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# Higher tech: Exceeding the standard with GreenTech EC technology.

*By adopting the Kyoto Protocol, the European Union has undertaken to reduce CO<sub>2</sub> emissions by at least 20 percent by 2020. To achieve this climate goal, the EU adopted the EuP Directive (Energy-using Products Directive) in 2005. Renamed the ErP Directive (Energy-related Products Directive) in 2009, it will help with studying the savings potential of numerous energy-related products and codifying minimum requirements. In June of 2010, binding limit values were defined for fans, regardless of whether they operate as individual units or as components in a device or system. This affects numerous application areas, ranging from refrigeration and air-conditioning technology to mechanical engineering or IT applications.*

## New limit values demonstrate the limitations of conventional fans

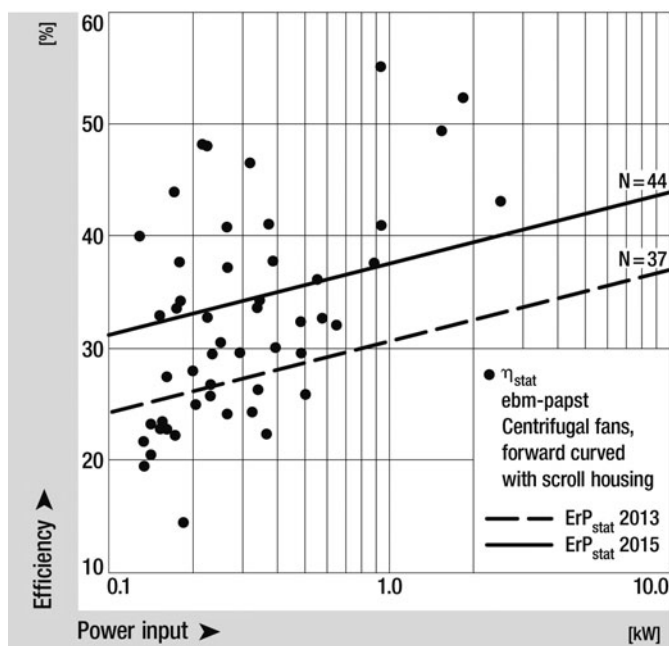
When the ErP Directive is implemented in two stages starting in 2013 and 2015, the more stringent efficiency requirements for fans will be in the power range of 125 watts to 500 kilowatts. For the different fan types, the EU specifies minimum efficiency levels. These are defined depending on the fan type, the measuring arrangement and the electrical power consumed. Even in the first stage, about 30 percent of all currently available fans will no longer satisfy the new regulations. Then with the second stage as of 2015, another 20 percent of today's products will no longer meet the required efficiency. As the illustration demonstrates clearly, the limit values required by the ErP Directive are quite demanding.

## The future belongs to GreenTech EC technology

In light of these facts, the innovative GreenTech EC technology developed by ebm-papst for fans with an electric drive exhibit all their strengths. Compared to fans with AC technology, GreenTech EC motors from ebm-papst attain an efficiency of over 90 percent. This enables achievement of significant energy savings compared to conventional AC solutions. In addition, GreenTech EC fans have a controllable speed, so it is possible to adapt the air volume to the respective requirements. The positive consequence is even more substantial energy savings. Thanks to the perfect interaction of motor, electronics and aerodynamics, the ebm-papst GreenTech EC fans not only make an impression by their energy efficiency, but also operate extremely quietly due to the optimised commutation technique and the aerodynamic design of the impellers. But that's not all: additional benefits are their reliability and durability.

## Motors also take off with GreenTech EC technology

For electric motors, basically the same applies as for fans, since as of June 2011 these have to achieve at least the IE2 efficiency class in accordance with the ErP implementing regulation No. 2009/640/EC of the EU. Otherwise these motors will no longer be allowed to operate in Europe. However, not all of today's conventional motors are affected by the directive: EC external rotor motors that are used e.g. as drives in energy-efficient fans do not fall under its jurisdiction. Nevertheless, their efficiency can still be compared to the values stipulated in the directive. In doing so, one thing becomes quite clear: even now, the groundbreaking GreenTech EC motors from ebm-papst far exceed the required efficiency level. In short: GreenTech EC technology is simply the better solution when planning energy-efficient devices and systems. And it does this even before 2015.



*Efficiency range for double inlet blowers: The black lines depict the limits as of 2013 and 2015. Not all fans are fit for the future requirements. It is also clear that for practically every fan that can no longer be used, already today there is an energy saving counterpart with GreenTech EC technology which does not just fulfil the directive, but significantly exceeds it.*

# ErP – the most frequently asked questions. The most important answers.



## **What consequences do the ErP directives have for products in which fans, etc. are used?**

Products with built-in fans are affected only if their electrical input power is greater than 125 watts at the best point. If they do not meet the efficiency requirements in that case, they have to be replaced by more efficient fans.

## **Does the directive affect fans only, or does it also include products such as compressors and pumps?**

The ErP Directive concerns all products that consume energy in some form or another. This means that compressors and pumps are also taken into consideration. Limits were already imposed for pumps, for example, when directive No. 641/2009 was passed on 22 July.

## **Are there any exceptions?**

Yes. The directive does not pertain to fans for kitchen range hoods with power of less than 280 watts and fans used in clothes dryers.

## **What does the exact timetable for implementing the directive look like?**

All 27 countries of the EU agreed to the basic conditions on 11 June 2010. The directive for fans was adopted in October of 2010. The first stage comes into effect later on 1 January 2013, the second and final stage follows in 2015.

## **Do existing installations have to be converted?**

Existing installations do not have to be converted. Only fans and devices with built-in fans that are placed on the market in the European Union as of 1 January 2013 are affected. A transition period will apply, allowing units replaced during service to be grandfathered in. However, the “old” fans must then be labelled accordingly.

## **What savings potential and energy balance can be expected with the new fans?**

Usually, efficient fans have more efficient motors. These motors, together with aerodynamically optimised impellers and demand-oriented open loop speed control, can provide energy savings of up to 70 percent – over a long service life.

## **How can I identify the energy saving fans which comply with the ErP directives?**

The user can recognise fans that satisfy the requirements of the directive by the CE mark, which will then give energy efficiency the same significance as compliance with the low-voltage and EMC directives. A designation like those for washing machines, refrigerators etc., however, is not provided, since the manufacturer usually has no influence on the installation conditions. To make the choice easier for customers, ebm-papst has created its own label to show clearly which fans are ErP-compliant. Apart from that, all ebm-papst products of the corresponding performance classes already fulfil the specifications which do not take effect until 2015.

## **Will the new fans be more expensive?**

A few existing, non-conforming fans will be able to be modified in a cost-neutral way so that they correspond to the requirements. In other cases, the increased efficiency due to the more powerful yet energy saving fans will, however, involve added costs because of the technically necessary replacement, particularly in cases where the user operates slowly rotating fans. But the higher purchase price pays off quickly due to the lower energy costs. ebm-papst will do everything in its power to offer efficient and cost-effective solutions, even in these power ranges. Ultimately it is a classic win-win situation: It benefits the operator – and the environment.

## **What consequences does the directive have for global companies – what is the situation in terms of worldwide validity and availability?**

All ErP directives are, for the time being, binding for relevant components and products placed on the market in the EU. This includes both products produced in the EU as well as imports from non-EU countries. The directive does not include products for export. But it is foreseeable that other countries will also take up these issues.

For all products with a power input between 125 W and 500 kW, the first stage of the European Energy-related Products Directive (ErP) to improve energy efficiency will enter into force by 2013 and the second stage by 2015. Thanks to groundbreaking GreenTech EC technology, all ebm-papst fans and motors in these performance classes exceed the ErP Directive even today in terms of their efficiency.

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