ebmpapst

engineering a better life

Ready for 2026?

The new Ecodesign Regulation for fans:
Challenges and solutions.

Who is responsible for the EC conformity declaration?

Case 1: ebm-papst fan as a complete system
ebm-papst supplies the complete fan with stator, rotor, and motor. ebm-papst has determined on suitable test benches that the overall efficiency meets the requirements of the Ecodesign Regulation. ebm-papst declares conformity and affixes the CE mark to the product.


ebm-papst

CE
ebm-papst

Case 2: ebm-papst supplies incomplete fan
ebm-papst supplies all relevant components (stator, rotor, and motor). The purchaser completes the fan according to ebm-papst specifications or ebm-papst supplies only the motor and rotor and the purchaser manufactures the stator himself according to the ebm-papst drawing. The purchaser can apply the performance data determined by ebm-papst to the assembled fan system. However, the purchaser must declare EC conformity themselves.


ebm-papst


ebm-papst design

CE
Buyer

Case 3: ebm-papst supplies incomplete fan
ebm-papst supplies the rotor and motor components. The buyers complete the fan with dimensionally deviating components (stator) and thus legally become the fan manufacturers and must declare EC conformity themselves and are responsible for compliance with the Ecodesign Regulation.


ebm-papst


Buyer design

CE
Buyer

Case 4: Buyers import fan from non-EU countries
The buyers purchase a complete fan from a non-EU country. They can use the documentation supplied to declare EC conformity, but are fully responsible for the correctness of the documentation.


External fan

CE
Buyer

Buyer carefree factor →

The most important questions and answers *on the new Ecodesign Regulation for fans.*

The minimum efficiency requirements for fans, which have been laid down in the Ecodesign Regulation since 2011, will be tightened once again in 2027.

What does the new regulation mean for fans?
The efficiency of the fans used will increase, which reduces energy consumption and consequently CO_2 emissions. Further savings potential results from the possibility of adjusting the air volume by adapting the speed to the requirements (keyword: demand-based operation).

Which fans are affected by the new version of the regulation?
Most types of fans with an electrical drive power of 125 watts to 500 kilowatts are affected. However, there are also exceptions, for example fans for kitchen exhaust hoods with an power consumption less than 280 watts and fans in tumble dryers.

What is the definition of a fan according to the regulation?
According to the regulation, a fan consists of at least three main components. These are: Stator, rotor, and motor. The stator refers to the stationary structural elements; the rotor is the fan impeller, and the motor is the electric drive, with or without speed control.

What are the requirements?
The fan must achieve the specified minimum efficiency at its best point. The efficiency is the ratio of the air performance to the electrical power used. The regulation also specifies the documentation obligations of the manufacturer/distributor/user. In addition to efficiency, this also includes information on reparability (see diagram).

Does this affect fans built in to already-regulated appliances?
Yes, the EU Commission is pursuing a cascading approach here. This means that the manufacturer of ventilation units, for example, must ensure the minimum efficiency of the fans used.

Which other products are affected?
The Ecodesign Directive deals with many products that consume energy in one form or another. For example, there are regulations on pumps, electric motors, and ventilation units.

When does the regulation come into force?
The new Regulation EU2024/1834 will take effect on July 24, 2026. However, a transitional period ending July 24, 2027 applies to the compliance with the tightened efficiency limits and the extended documentation requirement for fans that are built into other units ("embedded fans").

Do existing systems need to be retrofitted?
No, retrofitting is not necessary. There is a transitional period for servicing. However, the replacement fans must then be labeled as such.

How can you recognize fans that comply with regulations?
Compliance with the minimum efficiency must be indicated by the CE marking. Only CE-compliant products may be placed on the market in Europe.

Who issues the EC declaration of conformity?
The CE marking is a self-declaration issued by the manufacturer, importer or distributor. The issuer is personally liable for compliance with the requirements.

Will the fans become more expensive?
Many ebm-papst fans already meet the higher requirements and will not become more expensive as a result. We will remove all other fans from the market and provide suitable replacements. The more efficient replacement fans may incur higher costs, but these are usually quickly amortized.

What is the international impact of the regulation?
The regulation is binding for all products and components that are placed on the market in the EU, regardless of whether they are produced in the EU or imported from third countries. Products for export are not covered. However, comparable efficiency requirements already apply in many countries.

The Ecodesign Regulation defines a fan as a complete system consisting of the relevant components rotor, motor, and stator. The efficiency of the fan is determined by the interaction of all relevant components. As a leading manufacturer, ebm-papst offers complete, ready-to-install fans from a single source. This saves time-consuming measurements and a lot of unnecessary paperwork. ebm-papst offers precisely measured and documented fan solutions for immediate installation in your application. We provide you with the required CE Manufacturer's Declaration free of charge.

Motor: ebm-papst is a pioneer in the development of highly efficient EC technology. Our GreenTech EC motors achieve the highest levels of efficiency and are integrated into our fan systems in the best possible way.

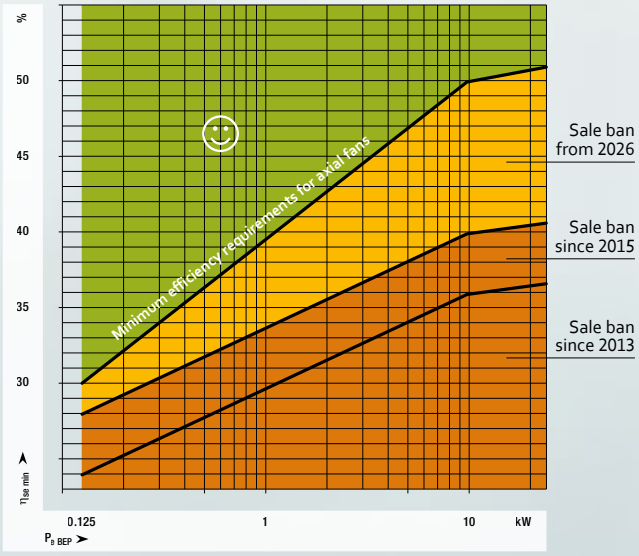
Electronics: In addition to useful functions, our innovative control electronics also have an intelligent interface between the system and the fan. This allows additional energy to be saved thanks to demand-based control.

Impeller: We have been developing the impeller as the aerodynamic centerpiece for decades constantly updating based on our latest findings and production methods in order to achieve the best efficiency.

Stator: Air guide elements and support structure are aerodynamically optimized for the system and thus contribute to the high efficiency values.

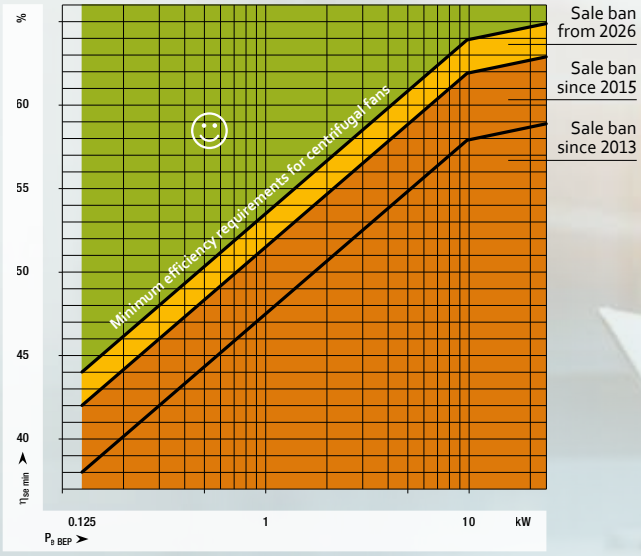
Minimum efficiency requirement for fans in the EU since 2013: Representation of the efficiency over the electrical input power.

Minimum static efficiency requirements for axial fans



Year	Input power P_e (at BEP)	Formula	Efficiency grade N [%]
2013	0.125 ≤ P ≤ 10 kW	$\eta_{target} = 2.74 * \ln(P) - 6.33 + N$	36
2015	10 < P ≤ 500 kW	$\eta_{target} = 0.78 * \ln(P) - 1.88 + N$	40
2026	Pe < 10 kW Pe ≥ 10 kW	$\eta_{min} = 4.56\ LN(Pe) - 10.5 + N$ [%] $\eta_{min} = 1.1\ LN(Pe) - 2.6 + N$ [%]	50

Minimum static efficiency requirements for centrifugal fans with backward curved blades



Year	Input power P_e (at BEP)	Formula	Efficiency grade N [%]
2013	0.125 ≤ P ≤ 10 kW	$\eta_{target} = 4.56 * \ln(P) - 10.5 + N$	58
2015	10 < P ≤ 500 kW	$\eta_{target} = 1.1 * \ln(P) - 2.6 + N$	62
2026	Pe < 10 kW Pe ≥ 10 kW	$\eta_{min} = 4.56\ LN(Pe) - 10.5 + N$ [%] $\eta_{min} = 1.1\ LN(Pe) - 2.6 + N$ [%]	64

P_e = electric input power; η_{min} = minimum fan efficiency; η_{se} = overall static fan efficiency; BEP = best efficiency point

On the safe side
with ebm-papst.

Stronger together **for the future.**

Benefit from our expertise
through a partnership-based cooperation.

It is good that the energy-saving potential of modern technologies is being exploited in order to make the best possible use of our resources and reduce global emissions. But the resulting challenges are becoming increasingly complex – for you and for us. A partnership makes us both stronger. Involve us in your product development at an early stage and use our expertise and technical capabilities to make your products future-proof. At the same time, you afford us the opportunity to adapt our fans perfectly to your requirements.

You receive real measurement data directly from your end device.
Every installation situation is different and has an influence on the actual performance data during operation. In our modern test laboratories, we have the ability to measure air performance, noise, and any electromagnetic interference directly in your device. If your project is still at an early stage, CFD simulations can be used to visualize the flow conditions or compare different concepts. This allows you to optimize your application and select the perfect fan.

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