

Guidance Document

Guidance document for EN 17166 fans procedures and methods to determine the energy efficiency for the electrical input power range of 125W up to 500kW.

This standard provides procedures and methods to evaluate the compliance of the fan efficiency against the minimum efficiency requirements set by the EU Regulation 327/2011.

This standard includes stand-alone fans and fans that are integrated in other products.

Especially in the definition of “what is a fan” or “not final assembled fans” and “legal aspects for responsibility to the market surveillance authority” the industry has some open questions.

This guidance document is intended to provide a clearer understanding of the fan industry.

1.) A fan is supplied as a component part e.g. without a significant element like an inlet cone.

A fan consists of several components and is at least a combination of an impeller, a stator and a motor. It can be placed on the market as separate components or partly assembled without the stator.

- a) May the original manufacturer make the declaration of conformity and transfer the ErP data on the fan?

Yes, this will be allowed and legally correct, but the original manufacturer must deliver the fan as a component part with the test report who describes the significant element are used in the fan performance measurement. This documentation must be available for the customer and the market surveillance authority. The customer of the original manufacturer has to use the described significant element in the final assembly.

- b) Who is legally responsible and responsible for market surveillance authorities?

In all cases where the fan arrangement described by the original manufacturer is not used, the "customer" is the fan manufacturer and is responsible for the declaration of conformity and documentation of the new test report. This happens when there are some changes at the significant elements, e.g. due to different height or radius of a cone.

If the "customer" uses the geometrically identical "significant element", he may use the original manufacturer's declaration of conformity. But the customer remains responsible for ensuring that the correct parts are used.

This fan is now a new placing on the market. If the modifier or customiser does not follow the information from the original fan manufacturer then it is a new product and they are now responsible for placing on the market and demonstrating compliance/declaration of conformity.

2.) If a fan which is intended to be used without a "significant element", e.g. inlet cone, must such a fan meet the minimum efficiency requirements due to EU Regulation 327/2011?

For a fan to be measured according to the harmonised standard ISO 5801 it must have a stator, such as a wall ring, office plate or inlet ring, to provide a partition between the positive pressure side and negative pressure side of the fan.

If the device does not have such a stator then it is not a fan as defined within EU Regulation 327/2011 and is either a Jet Fan, which according to the official European Commission FAQ cannot currently be assessed with the methodology defined in EU Regulation 327/2011, or it is a comfort fan, for example a desk fan or ceiling fan. Comfort fans are regulated within the scope of EU Regulation 206/2012.

As defined in the standard, a fan must have a "significant element", but this is different from EU Regulation 327/2011. Due to this standard, such a fan is not within the scope and the manufacturer is not allowed to declare conformity with EU Regulation 327/2011.

3.) If a fan is defined for use with a VSD, what is needed in the documentation for the test report to declare the product conformity?

If the VSD is integrated, the efficiency value must be calculated with the compensation factor C_c as defined in the standard (Point 5.6.2.13, Table 5).

If the VSD is a separate item, the manufacturer must declare in the test report how he has determined the relevant efficiency for the fan. This can be done by calculation with the compensation factor C_c by measurement of the power input from the fan and the VSD as a system, or by direct Power measurement between the fan motor input and the VSD output lines. The separate VSD must be clearly identified (e.g. with the model number and the manufacturer of the VSD).