Press Release

Axial fans for air conditioning and refrigeration systems

A fan for every situation

Besides the required air flow, minimal noise emission and increased energy efficiency are key characteristics for axial fans used in evaporators, condensers and heat exchangers in ventilation, refrigeration and air conditioning systems. In the form of the AxiBlade, fan and motor specialist ebm-papst has developed a new generation of axial fans that exploit every last bit of optimization potential offered by the current state of the art.

Modular design
With fans, different back pressures have to be taken into consideration depending on the application and conditions of installation. A selection of optimized plug & play system solutions from the AxiBlade series are now available, specifically for this reason. Guide vanes are recommended depending on the pressure range required; their pressure increasing effect minimizes outflow turbulences and therefore dynamic losses, thus contributing to an improved energy balance. Further features include impellers with profiled blade geometry and winglets for maximum efficiency. The impellers have been designed for the various motors they can be combined with, which increases efficiency and reduces running noise. The guard grilles are matched to the various combinations and aerodynamically optimized. They not only protect against accidental contact, but also contribute to the high overall efficiency of the axial fans. AxiBlade axial fans operate in a wide variety of applications with optimum efficiency of up to 54%. In the process, a noise reduction of up to 8 dB(A) can be achieved when compared with the standard program.

The right solution for every pressure range
The new axial fans can be ideally matched to the application in question. The version without guide vanes, for instance, is suitable for low to medium pressure ranges of up to 200 Pa. In this case, the benefits of the guide vanes do not come into play. Even without them, the efficiency and operating noise are much better than the current industry standard. Guide vanes are appropriate for high back pressures of up to 290 Pa. In these cases, they are essential for achieving high efficiency.

No design changes to the customer's unit required
Since the new axial fans’ footprint corresponds to the current industry standard, virtually no design changes to the end unit are necessary. Besides the especially energy-efficient GreenTech EC motors, the new AxiBlade models are also available with the AC motors that are still widely used.
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Fig. 1: The AxiBlade offers the user maximum flexibility so as to run the fan as close to the optimum level as possible in the typical operating range.

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About ebm-papst

The ebm-papst Group is the world's leading manufacturer of fans and motors. Since it was founded, the technology company has continuously set global market standards. Developments have ranged from electronically controlled EC fans, through aerodynamic improvements of fan blades, and on to the resource-conserving selection of materials, with sustainable materials being just one option.

In fiscal year 2015/16, the company achieved sales of almost €1.7 billion. ebm-papst employs approximately 12,500 people at 18 production sites (in Germany, China, the United States and elsewhere) and in 57 sales offices worldwide. Fans and motors from the global market leader can be found in many industries, including ventilation, air conditioning and refrigeration, household appliances, heating, automobiles and drive engineering.