Press Release

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A small solution for a big problem

Sound absorber for small centrifugal fans

For over a year, ebm-papst's forward-thinking FlowGrid has been helping ensure that high performance is not accompanied by high noise levels. The air inlet grille is ebm-papst's efficient noise protection measure for ventilation and air conditioning, patent pending. Up to now, the grille has been used on larger axial and centrifugal fans up to size 990. ebm-papst has recently started offering the sound absorber for smaller centrifugal fans with sizes from diameter 190 to 250 mm.

The problem is the noise and additional sounds that arise when the inlet flow to the fan is disturbed, for example due to a narrow installation situation. This leads to air vortexes, also known as vortex string formations that create noise. The FlowGrid counters this by evening out these turbulences and dividing them into small portions before they hit the blades of the impeller. The grille on the intake side reduces the noise emissions and minimises disturbing individual frequencies. These narrow-band tonal noises, often referred to as propeller noise or blade passing noise, are drastically reduced.

In a size 190 centrifugal fan fitted in a ventilation unit, the intake-side sound power level was reduced by over 2 dB(A) and the blade passing noise by 15 dB, simply by using an air inlet grille. Using these grilles can help to reduce or even avoid entirely the use of cost-intensive, passive noise-reduction measures.

Unlike the larger FlowGrid grilles, the smaller sizes of 190 to 250 are centrally locked, thus combining an optimum air conduction with contact protection as per DIN EN ISO 13857 ("Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs"). Thus, it removes the need for an additional guard grille, which would negatively affect the intake flow.

The air inlet grille is made from robust compound material and is also available in the 5VA material quality as per the UL94 flammability class. FlowGrid grilles for centrifugal fans in sizes 190 to 250 are used in a range of applications in ventilation and air conditioning, such as flat air conditioners, central air conditioning units, air purifiers and heat recovery systems. They are also used for cooling switching cabinets and inverters. Purchasers can now benefit from the advantages of noise reduction in the low-frequency range, with the first sizes ready for delivery.

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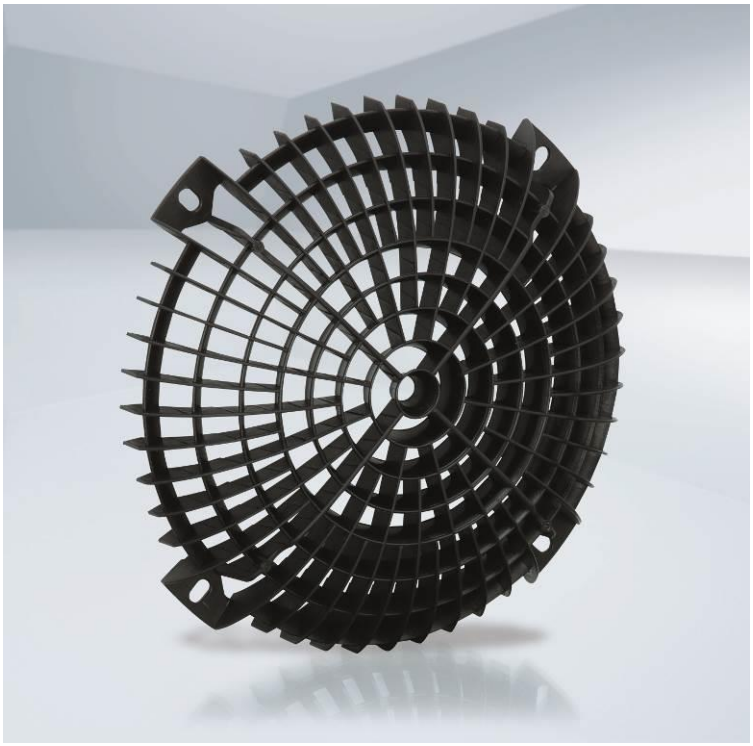

Fig. 1: FlowGrid for centrifugal fans reduces the blade passing noise by 15 dB.

Photo: ebm-papst

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 bio-materials being just one option.

In fiscal year 2013/14, the company achieved a turnover of €1.5 billion. Throughout the world, ebm-papst employs around 11,500 people at 18 production sites (including in Germany, China and the USA) and in 57 sales offices. Fans and motors from the global market leader can be found in many industries, including ventilation, air conditioning and refrigeration, household appliances, heating, IT and telecommunications, as well as automotive and commercial vehicles.