**If ventilation and refrigeration systems have been running for several years, it is worth taking a close look at how efficient they are. Upgrades with modern EC fans from ebm-papst have many advantages, especially when they are well thought through and implemented correctly. But what makes a retrofit a success?**

If a ventilation system is around 15 years old or the requirements for it increase, the operator must either completely replace it or retrofit more efficient fans.In many cases, a lack of space means it is not possible to replace the entire ventilation system. It can also be both very time-consuming and expensive to do so. This is where retrofits come into play. New fans not only save energy, but also make existing systems more durable and quieter: Energy savings of 60-70 % and amortization periods of 2-3 years are attainable on average.

**The key to success is having the right data**

Prior to successful implementation, precise measurement of the current situation (pressure difference, electrical power consumption and air flow) is essential in order to record pressure losses before the measuring point in the ventilation duct or installation losses, for example. If you rely solely on the manufacturer’s specifications or previous measuring logs, you will often find that they no longer correspond to the system’s current application and are, therefore, not precise enough. This can lead to an error tolerance of up to 20 %. In addition to the building’s surroundings - on the coast there are different temperatures, humidity, air pressure and density than in the mountains - questions regarding electronic actuation, interfaces, mains supply and conversion measures on the air duct must be clarified. Then it's time to select the fans.

**Regulated as needed, extremely efficient**

Energy-efficient EC centrifugal fans from the ebm-papst RadiPac series are ideal for ventilation retrofits. They are particularly durable and their speed can be individually regulated as required. Only the power that is really needed is called up - for example from maximum power during the day to just 20 % power at night. If several small fans are installed in parallel in a space-saving fan wall, known as a FanGrid, they will be easier to install and maintain. This configuration also protects the system against failures because if there are problems with one fan, the others compensate for its power. If they are additionally equipped with integrated resonance detection, they will also be unaffected by critical vibration resonances in FanGrids. Since the fans are direct-drive fans without belts, there is no abrasion, which means the system remains clean and ensures higher air quality.

Together with the precise temperature control, this also boosts the well-being of people who work or spend their free time in the buildings.

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Fig. 1:The new RadiPac centrifugal fan from ebm-papst is ideal for retrofitting.

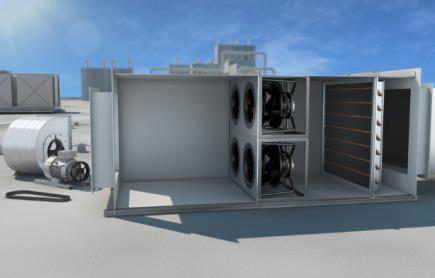


Fig. 2: Energy-efficient EC centrifugal fans from the RadiPac series from ebm-papst in use in a ventilation system, here as a FanGrid.

Photos ebm-papst

# Characters approx. 2,900, including headings and sub-headings

# Tags retrofit, EC technology, centrifugal fan, energy savings, RadiPac

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**About ebm-papst**

The ebm-papst Group, a family-run company headquartered in Mulfingen/Germany, is the world’s leading manufacturer of fans and drives. Since the technology company was founded in 1963, it has continuously set the global industry standard with its core competences in motor technology, electronics, digitization and aerodynamics. With over 20,000 products in its portfolio, ebm-papst provides the best energy-efficient, intelligent solution for virtually every ventilation or drive-engineering task.

In fiscal year 2020/21, the “hidden champion” generated revenues of € 2.129 billion. The group employs roughly 15,000 people at 29 production sites (in Germany, China and the USA, to name but a few) and in 51 sales offices worldwide. ebm-papst sets the benchmark with their fan and drive solutions which are used in almost all industries, such as ventilation, air conditioning and refrigeration, heating, automotive, information technology, mechanical engineering, household appliances, intralogistics and medical engineering.