

## Retrofit with RadiPac FanGrid from ebm-papst Neckarsulm mall upgraded

**Malls make it possible to have a relaxed shopping experience whatever the weather. Many of them were built in Germany in the 1990s, and their technical systems are often just as old. The 30-year-old ventilation system in the Neckarsulm mall had reached its limits. The operator decided to replace the fans with new, energy-efficient fans from ebm-papst, resulting in 50% energy savings.**

At the end of 2019, it was clear that repairing the 40 kW centrifugal fan, which weighed several hundred kg, was 2.5 meters tall and was part of the central ventilation system, would no longer be worthwhile: The impeller had eaten its way into the housing. What's more, the system was no longer efficient enough for modern standards. However, it had to be replaced quickly and the new system had to fit into the limited available space. "A mall without functioning ventilation is unimaginable," says Peter Halblaub, the responsible property manager at Sauter FM GmbH.

### **16 small fans instead of one large one**

A FanGrid from ebm-papst was found as a suitable replacement. Instead of an individual unit, 16 RadiPac centrifugal fans were connected to create a fan grid in Neckarsulm. Combined this way, the EC centrifugal fans achieve high air performance: in Neckarsulm, the system achieves an air flow of more than 120,000 m<sup>3</sup>/h with 1,000 pascals static pressure.

### **Resonance detection prevents noise and bearing damage**

The redundant design ensures greater operational reliability. If one fan fails, the other fans compensate for the missing air volume by adjusting their speed and, as a result, the air performance. The controller and fans communicate via a MODBUS interface and individual fans are addressed automatically. The fans in Neckarsulm are also equipped with resonance detection. They detect any vibrations that occur and the control software automatically skips over these critical speed ranges, which prevents unnecessary noise and bearing damage.

### **50% energy savings thanks to the retrofit**

"The noise level is very low, even though there's so much power behind it. Even at idle, the old machine was noisier. The RadiPacs run very quietly and highly efficiently," says Peter Halblaub. The people in charge are also satisfied with the efficiency of the new system: it offers energy savings of almost 50%. Replacing the old ventilation unit with modern EC fans from ebm-papst has paid off. Another retrofit in the Neckarsulm mall is already being planned.

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Fig. 1: A FanGrid with 16 centrifugal fans from ebm-papst replaces the defective old fan in the central ventilation system in the Neckarsulm mall near Heilbronn.



Fig. 2: A mall without a functioning ventilation system is unimaginable.

Images ebm-papst  
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### About ebm-papst

The ebm-papst Group, a family-owned company in Mulfingen, Germany, is the world market leader in fans and drives. Founded in 1963, the technology leader with its core competences motor technology, electronics and aerodynamics, has set international market standards ever since. With over 20,000 products, ebm-papst offers customized, energy-efficient and intelligent solutions for virtually any ventilation and drive technology requirements.

In fiscal year 2019/20, the hidden champion achieved a turnover of 2.188 billion euros and employed almost 15,000 people in 29 production sites (e.g. in Germany, China and the US) as well as in 48 sales locations. With their fan and drive solutions, ebm-papst defines and sets the benchmark in practically all industries, such as ventilation, air-conditioning and refrigeration, heating, automotive, IT, mechanical engineering, catering and household appliances, intralogistics and medical engineering.

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