

Retrofit reduces costs and saves electricity

Saving energy in the Berlin ice rink

The public sector is facing major challenges. When it comes to air conditioning at facilities, there is great potential for achieving a successful combination of optimum use, energy savings, and reduced costs. Replacing old belt-driven centrifugal fans at a speed skating rink in Berlin with a FanGrid with efficient EC fans is an impressive example of this.

Circulating and dehumidifying air

Athletes count on perfect conditions, such as flawless, smooth ice. For this, the climate in the hall must be constantly cool and dry. No easy task, as the capacity utilization of the hall is very different, causing temperature fluctuations. "To ensure that the difference between the ice and ambient temperature does not lead to condensation or mist formation, there must be a constant temperature of eight degrees Celsius in the rink," explains Sven Kuwatsch, technical manager of the Sportforum. The technical area of the speed skating rink contains three identical ventilation systems from Munters GmbH.

Belt-driven centrifugal fans: loud, inefficient, rusty

The systems were installed in 1998 and have been serviced regularly ever since. But after 25 years of use in the tough conditions of an ice rink, the large belt-driven centrifugal fans for the supply and exhaust air in particular were completely worn out, rusty, loud and, most notably, very inefficient. Daniel Bürgel therefore suggested that the systems be brought up to date with state-of-the-art technology by performing a retrofit. The customer service advisor from Munters works closely with ventilation specialist Breuell und Hilgenfeldt GmbH, which, as an ebm-papst service center, uses highly efficient EC fans.

The latest generation of RadiPac – more efficient, quieter, smarter

The old individual fans for each process air unit were each replaced with one FanGrid with three centrifugal fans from ebm-papst's latest RadiPac generation. They provide the solution to more demanding legal requirements and fulfill customers' desires to save more and more energy as well as money. In addition, the centrifugal fans are extremely quiet, intelligent, and incredibly user-friendly as a plug-and-play solution.

Energy savings of over 50 percent

Initial measurements after replacing the supply and exhaust air fans showed total energy savings of 52 percent for the system. With an assumed operating time of 5,000 hours per year, the savings amount to around 120,000 kWh per year – at an electricity price of 25 cents, this equates to around 30,000 euros. This retrofit is an important step for the Sportforum on its path to a smaller environmental footprint.

Contacts Trade press

Pascal Schöpf
+49 7938 81-7006
Pascal.Schoepf@de.ebmpapst.com

Corinna Schittenhelm
+49 7938 81-8125
Corinna.Schittenhelm@de.ebmpapst.com

Katrin Lindner
+49 7938 81-4224
Katrin.Lindner@de.ebmpapst.com

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Press office contact
ebm-papst Group
Phone +49 7938 81-7105

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Fig. 1: The speed skating rink at the Berlin Sportforum is an important facility for both amateurs and professionals.



Fig. 2: The old fans were replaced with a FanGrid with three centrifugal fans from the latest RadiPac generation.

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About ebm-papst

The ebm-papst Group, a family-run company headquartered in Muldingen, Germany, is the world's leading manufacturer of fans and motors. Since it was founded in 1963, the technological leader has set international industry standards with its core competencies in motor technology, electronics, digitalization, and aerodynamics. ebm-papst offers sustainable, intelligent, and tailor-made solutions for virtually every requirement in ventilation and heating technology.

In the 2022/23 financial year, the Group generated turnover of EUR 2.54 billion. It employs just under 15,000 people at 30 production sites (including in Germany, China and the U.S.) and in 50 sales offices worldwide. ebm-papst sets the benchmark in almost all sectors, such as ventilation, air conditioning, and refrigeration technology, heating technology, information technology, mechanical engineering, intralogistics, and medical technology.

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Pascal Schöpf
+49 7938 81-7006
Pascal.Schoepf@de.ebmpapst.com

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+49 7938 81-8125
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