

The air is pure

## Efficient fans from ebm-papst help to filter the city air in Kiel

**Driving bans are still on the table in many cities due to the air exceeding permissible limit values for nitrogen dioxide. Air cleaners from Purevento enable municipalities to filter these harmful pollutants out from the ambient air. They feature powerful centrifugal fans from ebm-papst. October 2020 marked the first time the system had been used as series equipment – in Kiel, the state capital of Schleswig-Holstein.**

When faced with the challenges of dirty air and an increasing number of restrictions such as driving bans, municipalities in many places have a duty to act. The annual average limit value for nitrogen dioxide in public spaces is currently 40 micrograms per cubic meter of air, but is regularly exceeded in many hot spots.

### Filtered air prevents driving bans

Since 2017, Purevento has been working on developing a mobile city air cleaning system. The Trittau-based company has developed modular, scalable air filter units for various applications: In addition to the devices with high air throughput for effective suction of air pollutants directly at the location where the emissions are produced (by the road), smaller devices mainly aim to improve the air quality at the imission location, e.g. school yards, meeting places, bus stops, sports and leisure facilities. Thanks to integrated screens, the devices can also be used in public areas as advertising media or for infotainment. The city air cleaners fit into a parking bay and were set up at a hot spot for traffic-related air pollution – the Theodor-Heuss Ring road. Six of these devices along the urban highway help to prevent the threat of driving bans in the state capital.

### Lots of power, little noise

The centrepiece of the city air cleaners are the four-stage filter units that work synchronously. They ensure that 85% of the solids, such as fine dust particles, and gaseous impurities, such as nitrogen oxides, are retained from the air that has been suctioned in. Within an hour, a device from this series cleans up to 60,000 cubic meters of air. Each of the two cleaning chambers is equipped with two powerful RadiCal centrifugal fans from ebm-papst. The fans provide the necessary air performance with moderate operating noise. They can be controlled individually and enable real-time remote monitoring.

The city air cleaner is in operation around the clock 365 days of the year in Kiel. The respective cleaning performance is controlled as needed, taking into account local air pollution concentrations, which are primarily determined by the volume of traffic and local wind and weather conditions. The noise level of city air cleaners is well below traffic noise and takes legal regulations into account.

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Fig. 1: The powerful RadiCal centrifugal fan from ebm-papst delivers the required air performance for large-scale filtering of urban air pollutants.



Fig. 2: Six mobile air cleaners filter pollutants out of the air along the Theodor-Heuss-Ring road in Kiel. Photo: Purevento

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Fig. 1 ebm-papst  
Fig. 2 Purevento  
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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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