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ESSMANN Case Study Multi-storey Car Park in Dresden

The increasing volume of cars on our streets is resulting in an acute shortage of parking spaces in many town centres. Woba Dresden GmbH has built the largest, fully automatic, public multi-storey car park in Germany to cope with the lack of car parking facilities in the city on the River Elbe.

The building aimed to set new standards in terms of both engineering and visual design and to meld perfectly with the existing cityscape. The multi-storey car park on Hauptstrasse opened in autumn 2004.

ESSMANN complete solution



Front view of car park with SHE ventilation components

ESSMANN fresh air finned ventilators with integrated sound traps

→ Project definition

- Its location in a residential area necessitated soundproofing, in addition to providing natural daily aeration and ventilation
- Natural smoke extraction using equipment that complies with DIN EN 12101 part 2
- Installation of soundproofed fresh air openings for both ventilation and smoke and heat extraction
- Integration of the whole system in the on-site building control system.

→ ESSMANN Solution

ESSMANN large-surface ventilators ensure ongoing, rainproof ventilation. Since a natural ventilation system only works properly with adjusted fresh air, six ESSMANN finned ventilators were planned as fresh air units. They also provide fresh air for the smoke and heat extraction system and are fitted with integrated soundproofing.

In case of fire, the built-in ESSMANN double flaps extract smoke from the multi-storey car park. These flaps are also fitted with appropriate fire protection.

All openings have been fitted with special sound traps to ensure the necessary soundproofing (the car park is located in a residential area).

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→ Customer benefits

- **Low operating costs**
The solution requires no mechanical ventilation whatsoever. The ample availability of natural lift within the building is sufficient to act as a drive.
- **Low noise emission**
The decision not to install mechanical ventilators reduced the noise level of the systems during operation. The sound traps built into both the fresh air and discharged air systems expel any noise caused by the operation of the system.
- **Optimised maintenance**
All of the components are low maintenance. Any bearings that are required are, for example, permanently lubricated. The system was consciously designed without any electro-mechanical components whatsoever.
- **Durable design**
All components are made of sturdy, corrosion-resistant aluminium. Not only do they offer lasting visual appeal, they are also extremely resistant to wear and tear.



ESSMANN SHE double flaps and soundproofed ESSMANN large-surface ventilators

→ Result

The ESSMANN ventilation concept satisfies the demands for an innovative, next-generation solution, complies with legal fire prevention requirements and reflects the architect's vision of integrating a visually appealing concept into the overall building.

The client benefits from optimised and cost-effective ventilation provided by the ESSMANN solution. An aspect that enhances safety and productivity in equal measure.

Further information can be found at www.essmann.de

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