Discover ebm-papst for data centers.

Innovative fans for maximum energy efficiency.

ebmpapst

The engineer's choice



About ebm-papst.

As a leader in technologies for ventilation and drive engineering, ebm-papst is in demand as an engineering partner in many sectors. With over 15,000 different products, we provide the right solution for just about any challenge. Our fans and drives are reliable, quiet and energy-efficient.

Six reasons that make us the ideal partner:

Our systems expertise. As experts in advanced motor technology, electronics and aerodynamics, we provide system solutions from a single source.

Our spirit of invention. Our 600 engineers and technicians will develop a solution that precisely fits your needs.

Our lead in technology. Our GreenTech EC technology is setting standards worldwide. And our lead is your competitive advantage.

Proximity to our customers. At 57 sales offices worldwide.

Our standard of quality. Our quality management is uncompromising, at every step in every process.

Our sustainable approach. We assume responsibility with our energy-saving products, environmentally-friendly processes, and social commitment.

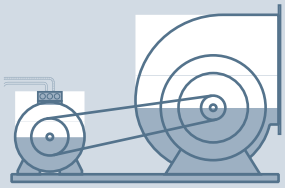


Special solutions for special requirements.
A great deal of heat is generated in a data center. This heat must be removed as efficiently as possible. A number of options are available to achieve this goal, depending on the structural conditions, the technology used and the climate conditions. For example, options include cooling an entire area using precision air-conditioning units, direct server rack cooling or cooling of the entire data center using a central fan unit. For all of these methods, ebm-papst provides unique, highly efficient fans.

Easily reduce energy costs.
With GreenTech EC technology from ebm-papst.

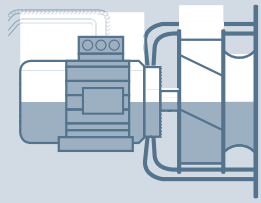
First-class system efficiency.
With ebm-papst GreenTech EC fans, the impeller, motor and electronics form a compact unit that is far superior to conventional AC solutions. The graphic provides a comparison for design and system efficiency:

42 %



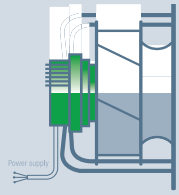
Dual inlet, belt-driven fan with forward-curved impeller and standard AC motor

49 %



Direct drive freewheel centrifugal fan with standard AC motor

68 %



Direct drive freewheel centrifugal fan (RadiPac or RadiCal series) with GreenTech EC motor

A real-world example for maximum efficiency.
In a data center, 27 precision air-conditioning units (CRAC units) are in use with a total of 54 fans. The outdated, low-efficiency AC fans were replaced with GreenTech EC fans from the RadiCal series. The energy savings reached 55 %. The PUE value (Power Usage Effectiveness) reached optimum values. For the environment, this means a savings of over 46 t CO_2. At the same time, for a price of electricity of 11.69 euro cents/kWh, this results in an annual savings of nearly 44,000 €. This means that the conversion of existing systems is highly profitable, as the investment pays for itself in a matter of months.

An overview of the benefits:
- High “wire to air” efficiency
- Low noise emissions
- Infinitely variable fan controllability
- Long service life
- Maintenance-free operation
- Easy integration into a DCIM (DataCenter Infrastructure Management System)
- Ideally suited for both new installations as well as for retrofit projects
- Up to 70 % energy saving for retrofit projects



*An example calculation:**

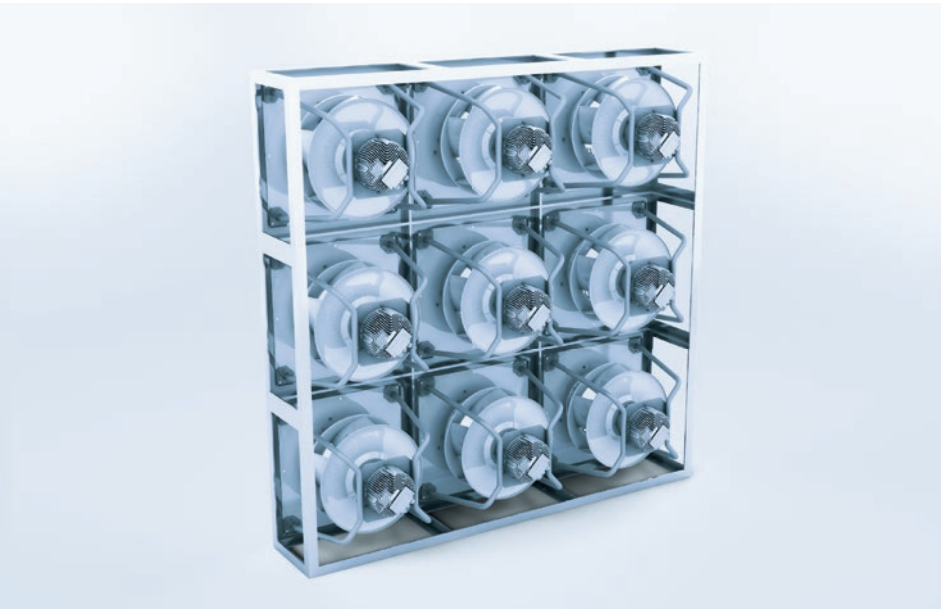
54 x	EC centrifugal fans
55 %	lower energy consumption
46 t	less CO_2 emissions/year
Approx. 44,000 €	cost saving/year

*For CO_2 emissions of 600 kg/MWh (German energy mix) and an assumption of 11.69 euro cents/kWh, average electrical price for German industry.



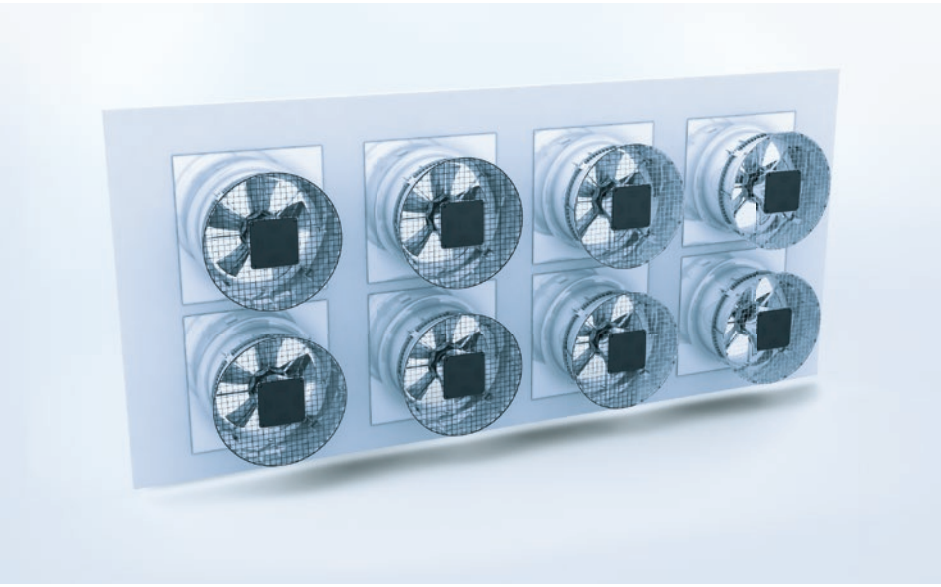
Cool solutions for hot technology.

Facility cooling



1 Supply/circulation FanGrid

Operators of data centers are increasingly relying on “free cooling”. In this configuration, multiple parallel operating RadiPac and RadiCal GreenTech EC centrifugal fans ensure the necessary inflow with a high level of efficiency.



2 Exhaust FanGrid

Powerful and efficient HyBlade® axial fans with GreenTech EC technology are the perfect choice for the controlled exhaust. The optionally available AxiTop diffuser also provides an additional reduction in noise levels and higher efficiency.

The benefits to you when using GreenTech EC fans in FanGrids:

- Reduced energy costs and lower PUE value
- Unlimited scalability thanks to modular design
- Increased operational reliability through redundancy
- Control and monitoring via the MODBUS-RTU and/or 0–10 V/PWM
- Uniform flow for upstream and downstream components
- Easy integration in DCIM systems
- Infinitely control characteristics of all fans
- Maintenance-free operation

Example applications for ebm-papst technology.

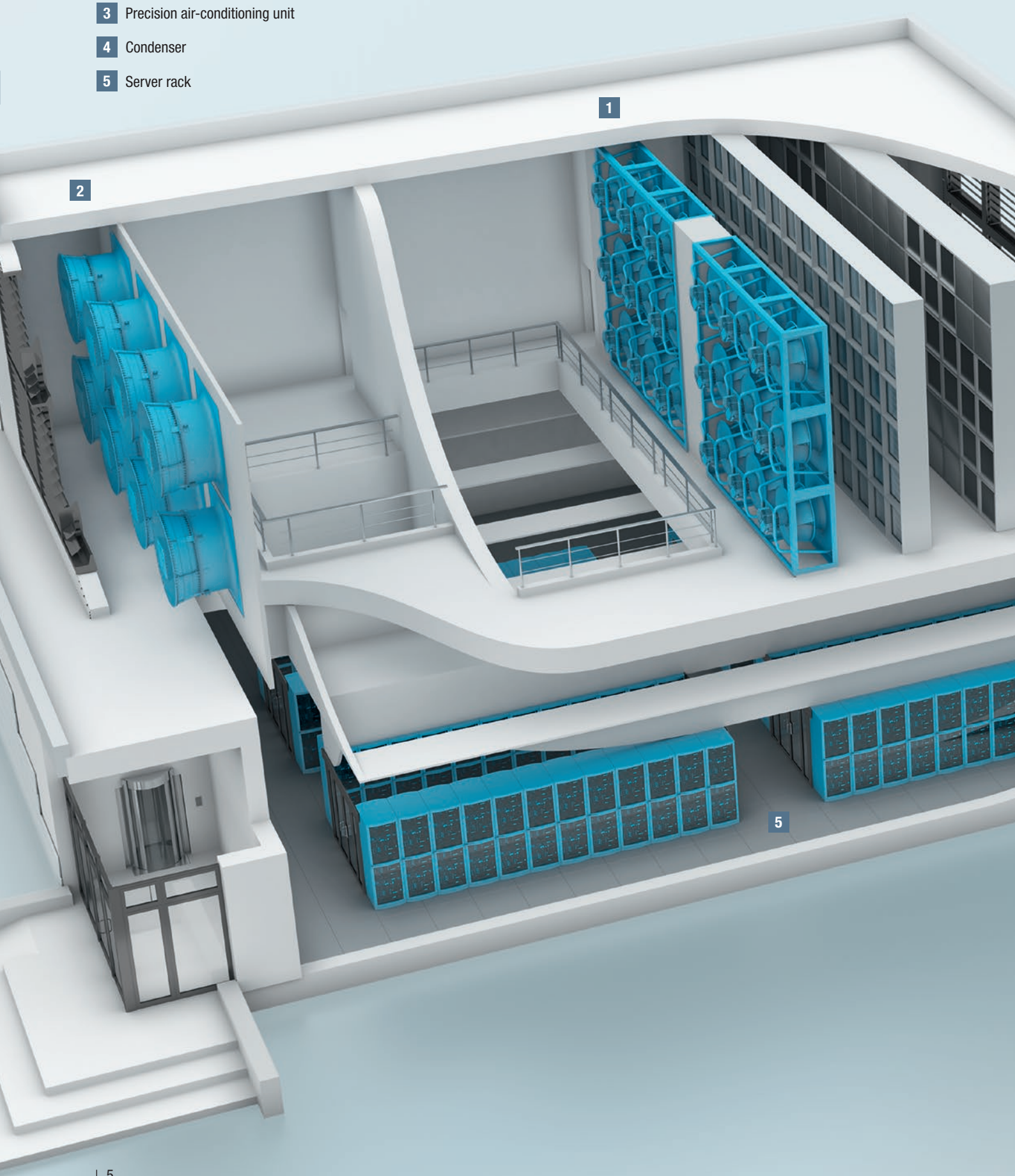
1 Supply/circulation FanGrid

2 Exhaust FanGrid

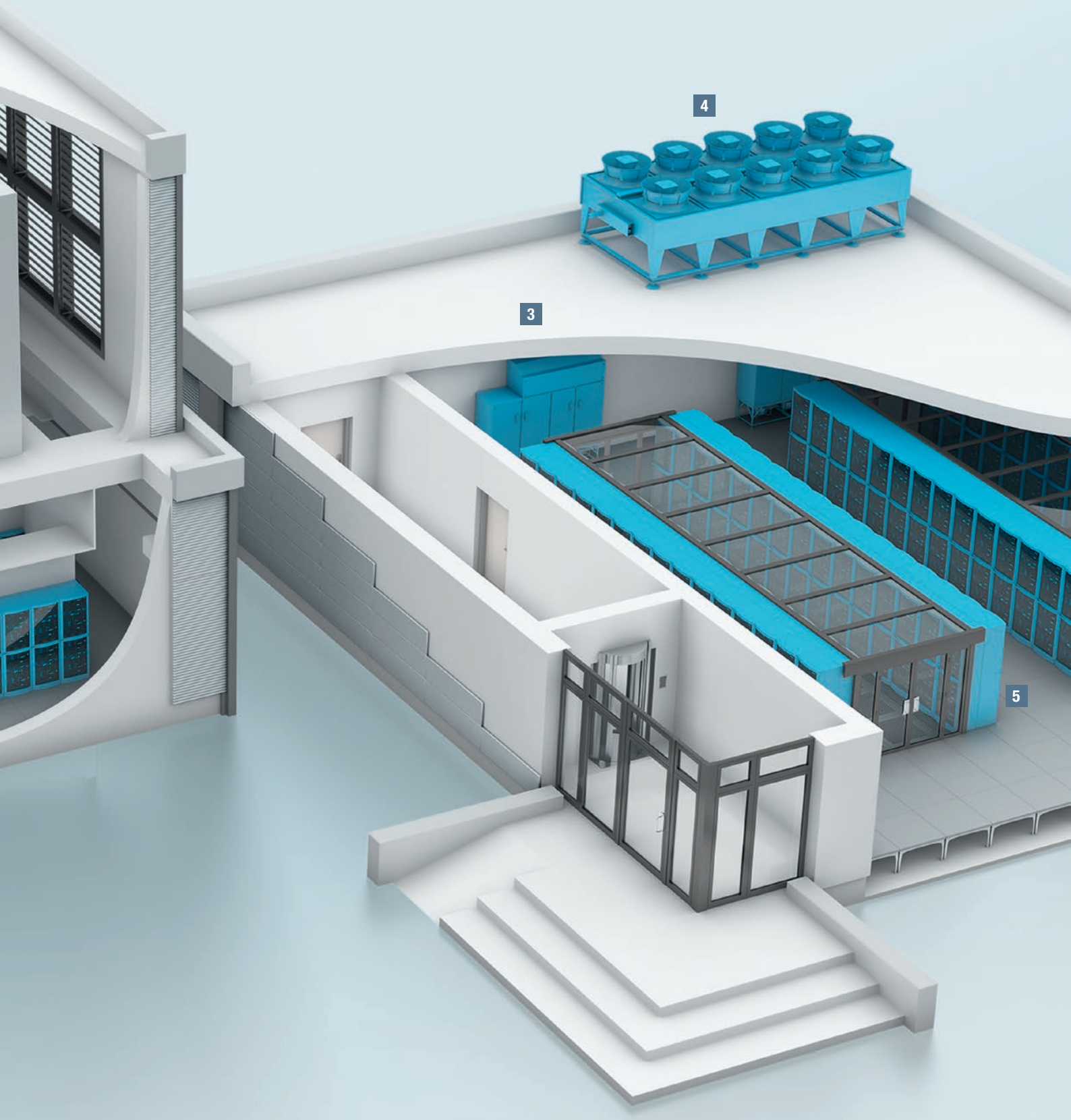
3 Precision air-conditioning unit

4 Condenser

5 Server rack



Want to find out more? Then visit us online:
discover.ebmpapst.com/datacenter



Area cooling



3 Precision air-conditioning unit

To ensure reliable server performance in a data center, air conditioners provide a precise, constant temperature level. For this reason, it is important that the fans are reliable, precise and efficient. The ideal solution in this case is our GreenTech EC centrifugal fans: RadiPac, RadiFit and RadiCal – also available in HVDC versions.

- High, static overall efficiency
- Infinitely controllable
- Control and monitoring via MODBUS-RTU and/or 0–10 V/PWM
- Maintenance-free, low noise and unmatched level of compactness





4 Condenser

In data centers in particular, fans on condensers have a high duty cycle. The ideal solution: our efficient and ultra-quiet HyBlade® axial fans – ideally complemented by our innovative AxiTop diffuser.

HyBlade®

- Highly efficient blade profiling
- Low noise emission
- Significantly improved efficiency
- Infinitely variable control characteristics
- Control and monitoring via MODBUS-RTU and/or 0–10 V/PWM

AxiTop diffuser

- Noise reduction by up to 7.2 dB(A)
- Up to 27 % less energy consumption
- Up to 9 % more air performance



Server rack cooling



5 Server rack

Powerful compact fans, available in axial, centrifugal or diagonal versions (for example the pressure-stable model DV6300 (S-Force) or the high-volume flow model 6300 N (S-Panther).

- High air performance
- High pressure increase
- Low noise level
- High efficiency



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