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High Performance, Low Carbon: *Cooling Solutions for the Future*

ebm-papst reimagines data center cooling

Data center power density *on the rise*

The rise of generative AI and high-performance computing has been driving the growth of rack power density in data centers.

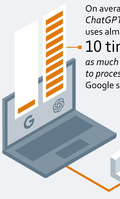
Share of respondents reporting increased rack power density over the past 3 years

89% Colocation/data center provider

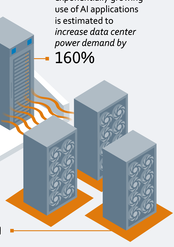
81% Cloud/hosting/ SaaS provider

80% Enterprise data center owner/ operator

Cooling demand surges with *growing AI adoption*



On average, a *ChatGPT query* uses almost **10 times** *as much power to process* as a Google search.



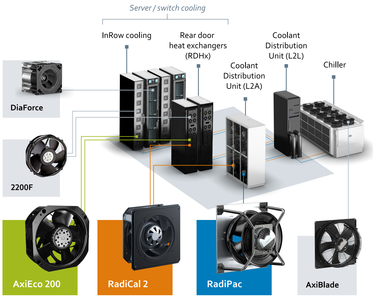
By 2030, the exponentially growing use of AI applications is estimated to *increase data center power demand by* **160%**

The escalation in power consumption directly translates to *higher heat output:* Data centers are projected to consume **3 times as much electricity for cooling** in 2030 compared to 2023.

The transformative role of *liquid cooling*

New liquid cooling technologies can provide higher cooling capacity, although implementing liquid cooling systems often requires high costs and long deployment time.

ebm-papst's new fans for liquid-to-air (L2A) systems are *cost-effective* and *easier to implement*, all the while offering *greater cooling capacity* and *higher efficiencies*.



Best-in-class cooling solutions *get even better*

As the leading supplier of ventilation and cooling technology, ebm-papst has been at the forefront of data center cooling, combining *energy efficiency* with *high power density.*

AxiEco 200

- Up to 9% more airflow and 7% more efficiency compared to other fans of the same size
- Extremely compact and powerful up to 8,000 rpm max
- Smart features for increased operational reliability and service life
- High torque ensures smooth start-up after standstill – even with high back pressure

RadiCal 2

- Higher air throughput thanks to new application-specific impeller dimensioning
- Further optimized noise behavior
- Compact design and new sizes for optimum power density
- Power consumption reduced by up to 18% for the same operating point and long service life for maximum profitability

RadiPac

- Assemblies 280 to 800 in different designs for a wide range of applications
- Versatile EC motor portfolio increase power density at the same footprint significantly
- Optimal interaction of the entire fan system, consisting of impeller, motor and electronics, enables energy-efficient and silent operation
- Passive and active PFC solutions minimizing current harmonic distortion result in lower costs for power components and emergency power supply
- Easy implementation of condition monitoring, predictive maintenance and self-optimization through configurable control interface

High power density with *small footprints*

ebm-papst's best-in-class product lineup builds on the company's cooling expertise and offers the following key benefits:

- Immediate energy savings
- High static efficiency
- Modular product implementation
- Plug & Play
- Long-term cost reductions
- Reliability and durability

As the leading fan supplier, ebm-papst strives to strengthen the product offerings for data center applications continuously.

With high power density and high efficiency, our fans help to cool new servers in the most efficient way.

This helps OEMs, providers, and planners reduce energy costs while achieving maximal performance.

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Sources: Statista+ desk research

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