**The digital world is developing at a breathtaking pace; the systems that process huge amounts of data are becoming increasingly powerful. However, the ever increasing power density of these systems and the increasing flow of data mean that cooling is becoming a challenge, both in telecommunications and automation.**

Electronics cooling is mainly based on the use of axial compact fans because they deliver strong air flows and can be integrated easily into the application thanks to the axial flow. However, axial compact fans have their limits if ever-more powerful electronics are housed in the same space or have to be made even more compact in telecommunications systems or data centers, for example. To increase cooling capacity, two axial compact fans are often connected in series, usually with counter-rotating blades. This double-fan design increases the pressure, but also results in higher noise levels.

**DiaForce instead of double fans**

This is why ebm-papst has developed the high-performance DiaForce fan series specially for applications such as data centers, telecommunications systems and industrial electronics. The secret of the DiaForce lies in the combination of a high-performance motor with unique impeller and housing geometries. The innovative design of the components for the flow machine minimizes the main vortices that cause noise. On the one hand, this ensures a significant noise reduction, but it also increases pressure and efficiency. A particular advantage in terms of aerodynamics is that the DiaForce offers an air performance curve with no dip. The high maximum cooling capacity is often not required in normal operation because these fans are frequently used in partial-load operation. However, a sufficient power reserve is crucial to ensure that the cooling system continues to function sufficiently under conditions outside normal operation and deliver adequate cooling.

**New product ranges open up further areas of application**

In addition to the flagship DiaForce 120, two further sizes – 40 mm and 80 mm – are now also available. The compact DiaForce 80 impresses in applications such as server trays and high-performance power supply units with high performance and pleasant noise characteristics. The DiaForce 40 is a smaller addition to the product range and brings its advantages to routers, switches, network technology, industrial automation and control systems, and robotics.



Fig. 1: New sizes available: DiaForce 40 (left) and DiaForce 80 (right).

# Photo ebm-papst

# Characters Approx. 3,200, including headings and sub-headings

Tags DiaForce, electronics, switch cabinet cooling, telecommunications, noise reduction

# Link [www.ebmpapst.com/diaforce](http://www.ebmpapst.com/diaforce)

**About ebm-papst**

The ebm-papst Group, a family-run company headquartered in Mulfingen, 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 2023/24 financial year, the Group generated turnover of EUR 2.408 billion. It employs just under 14,000 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.