

## Fast commissioning – quiet and energy-efficient operation EC centrifugal fans for filter-fan-units in cleanrooms

**Cleanrooms place special demands on ventilation systems. Filter-fan-units (FFU) designed for ceiling mounting combine fans with filter technology. Simple and rapid commissioning is mandatory, especially when there is a very high number of FFUs. EC centrifugal fans with auto-addressing from ebm-papst make this possible.**

Operating cleanrooms with FFUs is the most economical option for supplying ultra clean air. The flat and ready-to-connect fan modules are at the heart of the units. They require little installation space and are energy-efficient.

### **MODBUS RTU with automatic addressing**

Initially commissioning a cleanroom system is usually considered time-consuming and costly. ebm-papst now also offers EC centrifugal fans with a digital MODBUS RTU interface with auto-addressing specially designed for installation in FFUs, which significantly reduces commissioning costs. Previously, devices had to be individually assigned a unique address to be operated in the network group. This time-intensive process is now automated using “DCI” (daisy-chain interface) addressing. If the cable route is known, the position of the fan unit in the cleanroom ceiling can be determined using the order of the addresses according to the cable diagram. Manual assignment is superfluous. The master control undertakes the entire addressing and localization of the installed fans. There is a significant reduction in the time and costs of commissioning.

### **Wide voltage input with active PFC**

The fans also have a wide voltage input, enabling them to be used worldwide at a wide variety of line voltages and line frequencies. The standard active PFC (Power Factor Correction) prevents the permissible harmonic limit values from being exceeded during parallel operation of many FFUs, which would otherwise put a strain on the supply network. All energy distribution components can therefore be made much smaller and more cost-effective.

### **Energy-efficient and quiet**

FFU manufacturers must guarantee overall efficiency levels of at least 50% at the design point in cleanroom technology. The RadiCal fans with EC motor optimized according to aerodynamic criteria are not only particularly energy-efficient, they also contribute to significant noise reduction of up to 7 dB(A) as compared to the conventional industry standard. The quiet and energy-saving fans are available with diameters of 250, 310, 355, and 400 mm, and cover air performance levels in the ranges of 580, 1170, 1750, and 2330 m<sup>3</sup>/h, with a back pressure of up to 300 Pa.

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Image: EC centrifugal fans have many advantages for FFUs in cleanrooms: easily networked, energy-efficient and optimally tested.

Image ebm-papst  
Characters approx. 2,600, including headings and sub-headings  
Tags FFU, cleanroom, RadiCal, centrifugal fan, DCI addressing, daisy-chain interface  
Link <https://www.ebmpapst.com/cleanroom>

### 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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