



Press Release

Patented membrane protects electronics from moisture

Centrifugal fans for extreme applications

Fan specialist ebm-papst has developed a patented membrane that protects electronic components in fans against corrosion that causes malfunctions – even in environments subject to frequent fluctuations in temperature and humidity. The fans are used primarily in IT and telecommunications applications.

Patented membrane protects against moisture

Special protective measures are required for fans that are directly exposed to environmental conditions such as extreme humidity or rapid temperature fluctuations. Moisture can accumulate when temperature fluctuations occur frequently, for example in on/off operation, leading first to corrosion and then to failure of the electronics. ebm-papst has developed a housing with a special patented membrane to provide optimum moistureproofing for electronic components. This movable membrane compensates for pressure fluctuations such as those resulting from rapid temperature changes. The housing is hermetically sealed and has no problem withstanding even highly dynamic temperature changes from -40 °C to +70 °C, so even monsoon rains no longer present a problem.

Electronics with IP69K degree of protection

The electronics themselves are also dustproof and resistant to high-pressure cleaners, complying with the requirements for IP69K, a high degree of protection. In RadiCal DC centrifugal fans, the EC external rotor motor is integrated in the impeller. Their compact design makes them suitable for installation in even the tightest spaces. The impeller forms a perfectly functioning unit together with the aerodynamically adapted inlet ring. Installation and connection could not be easier thanks to plug & play. The speed can be smoothly controlled with a 0-10 V signal. Electronic commutation and the stator design ensure low-noise magnetization with a high, acoustically imperceptible cycle frequency.

Important for mobile communication

RadiCal DC fans are used in the base stations that enable mobile communication all over the world. The fans keep the electronics at a steady low temperature and ensure reliable heat dissipation, minimizing the risk of component failure and extending system service life. They are also used in control cabinets and in IT hardware such as networks and storage systems, where they cool servers and routers. RadiCal DC fans are available in sizes from 190 to 280 mm.

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Fig. 1: A patented membrane in the housing protects the centrifugal fan's electronic components from moisture, preventing corrosion and failure.

Photo ebm-papst
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About ebm-papst

The ebm-papst Group is the world's leading manufacturer of fans and motors. Since it was founded, the technology company has continuously set global market standards. Developments have ranged from electronically controlled EC fans, through aerodynamic improvements of fan blades, on to the resource-conserving selection of materials, with sustainable materials being just one option.

In fiscal year 2015/16, the company achieved sales of almost €1.7 billion. ebm-papst employs approximately 13,000 people at 25 production sites (in Germany, China, the United States and elsewhere) and in 49 sales offices worldwide. Fans and motors from the global market leader can be found in many industries, including ventilation, air conditioning and refrigeration, household appliances, heating, automobiles and drive engineering.

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