



Press Release

ebm-papst reinvents the wheel

The RadiPac centrifugal fan sets new benchmark

The experts at ebm-papst Mulfingen have long been involved in a continuous improvement process, which ultimately benefits both the environment and the customer's wallet in equal measure. As a result, the RadiPac product range, specifically designed for use in ventilation and air conditioning equipment, has been steadily improved in recent years.

The fan specialists have therefore once again taken the flow machines one step further. The main focus of this re-engineering centres around the area where air enters the impeller, the position of the external rotor motor in the impeller and the impeller's blade profile.

The inlet nozzle, for example, was redesigned to perfectly match the impeller with its aerodynamically optimised blade channel. The motor's position in the impeller was also improved to achieve a good compromise between the compactness of the overall fan unit and an aerodynamically optimal placement of the motor in the impeller. In the impellers themselves, new hollow aluminium blades result in higher efficiency; their special shape reduces the weight of the impeller while simultaneously increasing its stability. Pressure losses at the inlet were reduced further and the outflow behaviour was also improved. The air is already channelled in the main flow direction of the air-conditioning device at the air outlet, significantly reducing deflection losses. The results of the optimisation are impressive. All told, the redesign of the flow machine resulted in an efficiency increase of more than 10 percent for the RadiPac fans. while also reducing their noise level by over 3 dB(A). The new centrifugal fans run very quietly.

Since the motor and the electronics integrated in the motor system are also already perfectly adjusted to one another in EC RadiPac fans, additional electronic filters and shielded cables are unnecessary. Moreover, with the continuous closed-loop speed control typical of EC motors, the air performance of the fans can be exactly adapted to specific requirements. Communication is possible via the 0-10V input or MODBUS-RTU. The external rotor motors work without the rare-earth magnets critical to supply, and boast efficiency rates of well over 90 percent.

The new RadiPac fans will be available from autumn 2015 in sizes 250 to 560. This will make efficient, quiet and compact plug & play fans available for many applications, which do not only deliver outstanding results in central air conditioning units, but are also suitable for cooling performance electronics such as inverters.

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10 March 2015 - Page 1 of 2

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Fig. 1: The new generation of EC centrifugal fans

Photo: ebm-papst

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, and on to the resource-conserving selection of materials, with bio-materials being just one option.

In fiscal year 2013/14, the company achieved a turnover of €1.5 billion. Throughout the world, ebm-papst employs around 11,500 people at 18 production sites (including in Germany, China and the USA) and in 57 sales offices. Fans and motors from the global market leader can be found in many industries, including ventilation, air conditioning and refrigeration, household appliances, heating, IT and telecommunications, as well as automotive and commercial vehicles.

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