

Fans for wind turbines

Energy-efficient solutions for
wind turbine applications



Customer-specific system solutions



The engineer's choice

ebmpapst

Perfect solutions for many different applications

Among the renewable energies, wind energy is considered to be the sector with the greatest potential for growth. Its proportion of the overall energy mix is set to continue its growth.

The range of applications of ebm-papst products in the wind energy sector is very wide. Here, quality and reliability are in particular the key to success. This is illustrated by the basic premises of ebm-papst products. As a parts supplier and R&D partner for customer-specific applications, ebm-papst offers optimum fan solutions for any class in terms of performance, energy efficiency, acoustics and - most importantly - reliability.



For example, ebm-papst has developed the new „RadiCal“ EC centrifugal fans for use in inverse rectifiers. With identical dimensions to those of its predecessor AC solutions, it is an easily installed improvement. Intelligently selected material combinations increase the stability of the aerodynamically optimised impellers. The improved thermal management of the motor guarantees extremely high efficiency and also ensures high IP protection. They excel in particular with respect to efficiency and acoustics, and their modular construction represents an ideal system solution for the customer.

Fans for inverse rectifier and electronics cooling

Very tight space and a high power density are typical requirements. The extremely broad product range and many decades of experience in electronics cooling ensure that no customer wish is left unanswered.

The following series are the preferred solutions here:

- RadiCal centrifugal fans
- Centrifugal blowers with single or dual inlet
- Compact fans
- Customer-specific solutions (e.g. Fan Trays)

Fans for generator cooling

The synchronous and asynchronous generators in a wind turbine are also required to guarantee a service life that is as long and maintenance-free as possible. To this end, the generators have to be kept at a reasonable temperature level. Our compact and robust fans are especially suitable for use in generator cooling – even if installation space is tight.

The following series are the preferred solutions here:

- Plug Fan centrifugal fans
- Centrifugal blowers with single or dual inlet
- HyBlade® axial fans

Fans for cooling pitch drives

The pitch systems in wind turbines ensure that the rotor blades have the optimum setting so that they always work at the optimum operating point. Even in strong winds, they must reliably ensure that the turbine is properly „pitched“. That makes the adjustment drives on wind turbines an extremely important component when it comes to reliability and operating safety. Reliable cooling of the drive motor is absolutely vital for a long service life and maximum efficiency of these pitch drives.

The following series is the preferred solution here:

- Compact fans





Remote monitoring – no problem!

GreenTech EC fans from ebm-papst give you the ability to remotely monitor operation via internet/modem by making all information, including speed, motor temperature and operating messages or alarms, available at any time. If necessary, this can be done from anywhere in the world.

ebm-papst fan products are also widely used in gondola and tower air conditioning. Decades of experience in the ventilation and air-conditioning sector enable ebm-papst to implement innovative solutions for the customer.

ebm-papst's HyBlade® axial fans also offer an extremely broad spectrum for gear unit cooling concepts. Older fan solutions featuring standard motors with an impeller attached can be simply replaced with the more compact axial fans from ebm-papst featuring EC external rotor motor.

Fans for gondola air conditioning

Again here, reliability and robustness are the decisive factors for which we have the right products. Depending on the cooling concept and air ducting selected, we have the right fan for all requirements. Increased corrosion and vibration requirements can be achieved with our products.

The following series are the preferred solutions here:

- HyBlade® axial fans
- Centrifugal blowers with single or dual inlet

Fans for tower air conditioning

To ensure that it doesn't get too hot inside the wind turbine, the tower has to be cooled and ventilated. Our HyBlade® axial fans are especially suitable for such high air flows and for low to medium static pressures.

The following series is the preferred solution here:

- HyBlade® axial fans

Fans for gear unit cooling

The gear unit transmits the relatively low rotor speed to the installed nominal speed of the generator. To ensure a long service life, it is essential for the gear unit to be cooled. This is usually realised with oil or air/air cooling. Our HyBlade® axial fans are especially well suited to this job on account of their compactness and robustness.

The following series is the preferred solution here:

- HyBlade® axial fans



We hope that this brochure has given you a comprehensive overview of our innovative solutions for wind turbines.

If you have any other questions about a specific application, please do not hesitate to contact us. Our specialists will be happy to help.

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