

## FANS FOR WIND TURBINES



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# Your powerful business partner

... for the wind energy industry



Air is our element – moving it **intelligently and efficiently** is our passion. Since 1981, we have been developing and producing adjustable external rotor motors, fans and air handling units.

**German Engineering skill** is the basis of our development work and it drives our innovation. As a worldwide company we are represented where our customers need us. With production sites and sales offices in more than 45 countries **we are present worldwide** – as a strong and reliable partner always within reach of our customers.

Numerous manufactures and suppliers of the wind energy industry trust in our fans. **Permanent and logical products as well as quality improvements come first with us.** The continuous exchange of information between customers and factory engineers enables us to develop flexible and reliable system solutions quickly.



## **We offer competent and flexible solutions for:**

- optimal airflow
- minimum maintenance
- optimized noise behavior
- various operation voltages (at 50/60Hz)
- maximum efficiencies at variable speeds
- space saving installation due to external rotor motors
- smooth operation even under vibration and at voltage peaks

# Our versatilely business activities





#### **Nacelle ventilation**

The nacelle of a wind turbine hosts a lot of high-tech components, some of which give off the heat to their surroundings. For smooth operation of the plant, heat dissipation is absolutely necessary. This is the job of our fans from the DRA, AND and DQ/DR series for example.



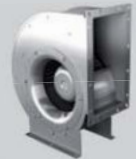
#### **Generator cooling**

The generator converts kinetic energy (moving energy) into electrical energy. This conversion causes heat losses. To protect the generator from overheating, the heat has to be dissipated. For this task our fans from the DRA series are ideally suited.



#### **Switch gear cabinet ventilation**

To synchronize the components of a wind turbine perfectly switch gear cabinets are indispensable. Here too, sufficient heat dissipation is required, to protect the sensitive electronic components. For this application our free-running impellers in different variants and fans from the ERA series have been specifically designed.



#### **Tower recirculation cooling**

The tower recirculation cooling of a wind turbine requires big air volumes. For this reason various axial fans and free-running impellers with IEC standard motors (DKNM/DKNB/DKNR) are used here.



#### **Inverter- and transformer cooling**

Also the cooling of other electronic equipment, just like converters or transformers, is no problem for our individual designed fans. It doesn't matter whether the cooling has to take place in the nacelle or in the base of a wind turbine.

# Product choice for wind turbines

## Fans for highest standards



### **Centrifugal fans Type: DRA / DHA**

- double inlet centrifugal fan with forward curved centrifugal impeller (Type: DRA)
- double inlet centrifugal fan with backward curved centrifugal impeller (Type: DHA)
- variable mounting positions possible
- air volumes up to 28.000 m<sup>3</sup>/h (16,400 cfm)
- total pressure increase up to 1.100 Pa (4.4 "WG)

### **Fields of application:**

Generator cooling, nacelle ventilation

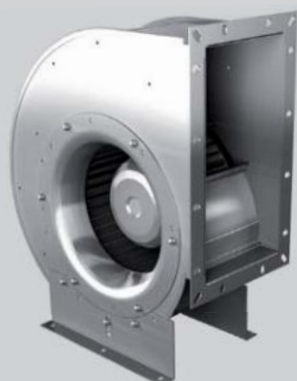


### **Axial fans Type: AND/ANDB/DR/DQ**

- optional narrow (AND) or wide blades (ANDB)
- adjustable blades for achieving the required operation point
- long and short casings available
- air volumes up to 80.000 m<sup>3</sup>/h (47,000 cfm)
- total pressure increase up to 1.000 Pa (4.0 "WG)

### **Fields of application:**

Ideally suited for the movement of extended air volumes, for example for tower recirculation cooling or nacelle ventilation



### **Centrifugal fans Type: ERA**

- single inlet centrifugal fan with forward curved centrifugal impeller
- variable mounting positions possible
- air volumes up to 8.000 m<sup>3</sup>/h (4,700 cfm)
- total pressure increase up to 1.000 Pa (4.0 "WG)

### **Fields of application:**

Switch gear cabinet ventilation,  
Inverter- and transformer cooling





**Free running impellers Type: DKHM / DKHR / GKHM / GKHR**

- with AC external rotor motor, optional also with EC motor
- impeller with backward curved blades
- single impeller (GKHR / DKHR) or as module ready-to-install (GKHM / DKHM)
- because of its space saving design ideally suited for small installation space
- air volumes up to 15.000 m<sup>3</sup>/h (8,800 cfm)
- total pressure increase up to 1.400 Pa (5.6 "WG)

**Fields of application:**

Switch gear cabinet ventilation, tower recirculation cooling



**Free running impellers Type: DKNB / DKNM / DKNR**

- Free running impellers with IEC standard motors (DKNB)
- impeller with backward curved blades
- single impeller (DKNR) or as module ready-to-install (DKNM)
- because of its space saving design ideally suited for small installation space
- air volumes up to 35.000 m<sup>3</sup>/h (20,600 cfm)
- total pressure increase up to 2.800 Pa (11.2 "WG)

**Fields of application:**

Switch gear cabinet ventilation, tower recirculation cooling



**Centrifugal fans Type: EHN / ERN**

- single inlet centrifugal fan with forward curved (ERN) or backward curved (EHN) blades
- with IEC standard motor
- variable mounting positions possible
- air volumes up to 14.000 m<sup>3</sup>/h (8,200 cfm)
- total pressure increase up to 1.900 Pa (7.6 "WG)

**Fields of application:**

suitable for various cooling applications within a wind turbine

**Longtime know how**

... especially in special solutions



**Whether on Onshore wind turbines or at Offshore wind parks, with extremely salty air and high risk of corrosion - Rosenberg fans and air handling units meet the highest requirements!**





## Rosenberg fans are successfully used in wind turbine applications all over the world

### Reference customers

Our customers in the wind energy industry include well-known companies like **REpower Systems AG**, **Loher GmbH**, **Winergy AG**, **Siemens Wind Power GmbH**, **General Electric Energy**, **Suzlon Energy**, **Enercon GmbH**, **Bard Engineering GmbH**, **DEC**, **Indar** and many more.

# Our sales offices

The Rosenberg Group worldwide



Argentina  
Austria  
Australia  
Belgium  
Bulgaria  
Canada  
Chile  
China  
Cyprus  
Czech Republic  
Denmark  
Egypt  
Finland  
France  
Great Britain

Hungary  
Iceland  
India  
Indonesia  
Ireland  
Israel  
Italy  
Kirgistan  
Korea  
Lithuania  
Malaysia  
Moldova  
Netherlands  
New Zealand  
Norway

Poland  
Romania  
Russia  
Saudi Arabia  
Singapore  
Slovakia  
Slovenia  
Spain  
Sweden  
Switzerland  
Syria  
Thailand  
U.A.E. (Dubai)  
Ukraine  
USA



## **We remain at your disposal**

Our employees will advise you personally.  
We are looking forward to receiving your enquiry!

Your sales representative: