



#### You secure the energy supply

The production of energy from regenerative sources is an important contribution to climate protection and a sustainable business field. Wind power systems convert the kinetic energy of the wind into electrical energy via their rotors and the associated drive system- of course only when the when the wheels keep moving.

With efficient filter systems that clean hydraulic fluids and lubricating oil from system-related impurities and from contaminations from air or water, Filtration Group contributes to the economical operation of offshore and onshore wind turbines. Air filters prevent corrosion and premature wear of control elements in the Nacelle and the Tower. To prevent salt water from corroding the technology or oil and lubricants from being washed into the sea, separators ensure clean separation of the liquids reliably.



## Electricity from wind power

#### This is how the wheel is being turned

The wind industry makes an important contribution to the energy revolution and to a future-oriented power supply. In order to have a secure future, wind turbines have to be running economical. This requires reliable and durable operation even under adverse weather conditions. With highly developed filter modulesand separation systems, Filtration Group Industrial creates the prerequisites for this and works hand in hand with manufacturers and operators of wind turbines to continously develop flexible and efficient solutions.

# 1 Pitch system

To ensure continuous operation and to protect the wind turbine during storms, the pitch system uses hydraulics to adjust the alignment of the rotor blades to the wind conditions.

- Medium pressure filters
- Air breathers
- Filter elements / Eco-Parts

## 2 Gear box

At the gearbox, a gear train converts the kinetic energy of the wind into mechanical energy, which sets the turbine within the power generator in motion. The heart of every wind turbine only runs at full speed when lubricated sufficiently.

- Oil filter modules
- Offline Filter Systems
- Spin-on cartidges
- 2 or three-stage filter elements

## 4 Hydraulic break system

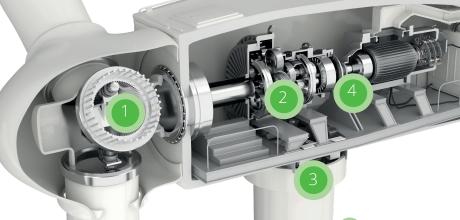
Depending on the wind spped, the wind turbine must be slowed down to prevent damage to the turbine. The hydraulic break system is based on a hydraulic system that allows controlled revolutions in all weather conditions.

- Medium and high pressure filter
- Air breathers
- Filter elements / EcoParts



The nacelle contains the technology and mechanics for the control of the wind turbine. Here it is important to keep at the turbines head cool.

Nacelle Conditioning Unit



# Tower conditioning

When the turbine is running, the technical control units in the tower run hot. Coolingis provided by the TCU, which draws in and conditions the air from the environment.

Tower Conditioning Unit (TCU)

#### Azimuth drive

The azimuth drive safely controls the nacelle along the wind currents and thus guarantees the economic operation of the plant. The rotary motion is hydraulic.

- Medium and high pressure filter
- Air breathers
- Filter elements / EcoParts

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