

Filtration Group application example – Wind Energy

Gearbox lubrication in wind turbines – Oil filter module Pi 8300



Wind Power

Initial situation

In every wind turbine, that is equipped with a gearbox, the lubrication oil needs to be filtered with minimum of 10µm.

The critical point in this application is that the used oil with a viscosity of 320 cSt (at 40°C) has to be filtered reliably also at 10.000 cSt at -7°C. Also the pump needs to meet these requirements. Despite the high differences in the temperature and the vibrations in the turbine, a reliable function of the turbine over 20 years needs to be guaranteed.



Solution statement

- In close cooperation Filtration Group and a well-known wind turbine manufacturer developed a filtration system that exactly meets all the expectations
- Thanks to the decoupling of the standard components of the Pi 8300, all components could be placed flexibly on an flange plate according to the customers' requirements
- The room provided by the customer was used optimally and the function could be guaranteed thanks to the use of the proven components from the Pi 8300 filter module



Customer value

The advantage of this modular, directly connected filter concept is, that thanks to the omission of the external piping the required space and the possibility of leaking have been reduced to a minimum. Furthermore this system can be retrofitted with a metal particle sensor because of the flexibility on the mounting plate.

- Increased dirt holding capacity and a longer lifetime with Filtration Group-Components
- Ideal adaption to the customer's gearbox with the customized filter / pump system
- Maximum performance with minimum space requirements
- Proven filter/pump combination guarantees a safe operation over a long period of time

Challenge

The customer's request was to install the filter cooler pump system for the filtration of the gearbox lubrication oil as compact as possible directly at the gearbox.

The filter system needs to fit onto an area defined by the customer. The pump shall be placed directly in the oil sump, so it can be heated with the existing oil heater. Objective of the development was to save as much material, weight and room as possible, without the need to dispense with a reliable performance of the filter system.

