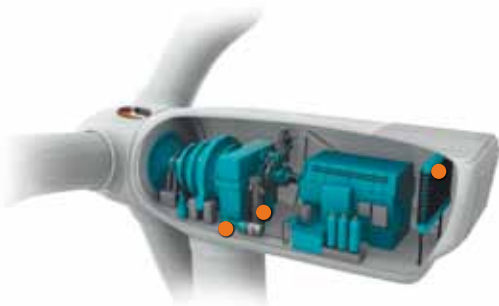


Lubrication and Cooling Solutions



Lubrication and cooling

PMC Windsyn has developed complete, reliable and safe systems based on our experience with lubrication and cooling systems for wind turbines.

In order to comply with the demand for high turbine availability and long service intervals in the wind energy sector, we supply a combination of high-quality components and know-how which ensures 'best in class' lubrication & cooling performance.

Pump systems

Based on tests and years of experience we utilise a specially designed screw pump to pump the high viscosity gear oil.

In order to optimise the gearbox's operational life, the cooling and filtration system must provide the best possible condi-

tions for the gearbox regardless of the oil viscosity. The use of screw pumps ensures that this is possible, as these pumps are characterised by:

- High self-priming capacity
- Very low-noise level
- Wide compatibility with high-viscosity media
- Optimum performance also with entrapped air
- Very low-pulsation level
- Less particles are released into pumped media
- Low pump maintenance.

The screws are hydrostatically balanced along with the pump body and can operate at speeds from 500 to 3000 rpm. This allows the pump to precisely deliver the required flow and pressure in any given situation.

Lubrication and Cooling Solutions for Wind Turbines



Filtration technology

For filtration of gear oil we use in-line filters with large by-pass construction and optional magnetic pre-filtration. The filter elements have a large “dirt holding capacity”, and are 10 micron β_{75} element or better.

Some of the benefits using magnetic pre-filtration are:

- Increased lifetime of the filter element
- Ferro-magnetic particles are captured by the magnets, even when running in by-pass
- Non-magnetic particles stick to the magnet column
- Particles smaller than filter pore size are captured
- Less dirt concentration in solenoid valves or other components with an internal magnetic field
- Magnets last a lifetime
- Positive influence on reducing oil degradation.

In addition to these characteristics, the magnets give an “Early warning” about the condition in the gearbox. Fragments are “captured” by the magnetic column and give visual indication of the state of the system.



Manifold solutions

PMC Windsyn has developed a range of unique manifold solutions for application in systems operating with high viscosity oil. The use of manifold blocks with integrated valve solutions ensures simplicity of construction in addition to providing the following advantages:

- Minimises the risk of leakage
- Compact physical dimensions
- Simple installation.





PMC Windsyn is a division of PMC Group AB and has its head office near Copenhagen, Denmark. We work in the global market serving customers in the WTG industry.

PMC Windsyn is a leading solution provider, and through more than 25 years we have developed our core competences within design and production of complete hydraulic systems for pitch, brake and yaw as well as complete systems for lube oil conditioning and cooling. Strong resources for R&D and logistics are explicitly allocated to PMC Windsyn.

From idea to installation

PMC Windsyn offers thorough consultancy and often participates, together with our customers, in product development as an active, integrated partner. Our highly qualified employees specialise in their specific product areas and are up-to-date with all the latest products and knowledge to ensure that you have access to extensive experience and wide-ranging expert knowledge.

Capacity

Our customers are serviced from our ISO certified and LEAN compliant production set-ups. A 10,000 square metre plant near Copenhagen, Denmark; a 10,000 square metre plant in Qingdao, China; and a 4,000 square metre plant in Denver, USA are at our disposal. Furthermore, we have entered into a partnership with Winstar in India.

We have extensive experience and in-depth knowledge of delivering complete systems to leading, global wind turbine manufacturers.

We collaborate with the most innovative and professional suppliers in the industry, and being a strategic supplier we are capable of delivering world-wide.

Strategic Profile



PMC Windsyn operates in the growing global wind turbine market, where we have obtained a leading position and has made a global footprint through the last 25 years.

PMC Windsyn covers the need for complete hydraulic systems for pitch, brake and yaw as well as complete systems for lube oil conditioning and cooling through application of fluid power and allied technologies. In close collaboration with customers and suppliers we combine systems, components, service and consultancy into customised, functional and highly reliable solutions.

We strive to become a world-class supplier, as well as a world-class designer of hydraulic/lubrication systems for wind turbines.

PMC Windsyn's objective is to be an integrated partner in the supply chain whilst improving the continual upward profitability for ourselves and our partners.

pmcwindsyn

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Power, Motion & Control

PMC Windsyn is the centre of all wind turbine related activities within the PMC Group.
PMC Group is the leading hydraulic group in Northern Europe with the world as its workplace.