



APPLICATION REPORT WIND POWER

Canned motor pumps for cooling inverters in wind turbines

During the operation of inverters and transformers, high heat emissions develop that must be dissipated to allow continuous operation. Due to the high demands of wind turbines, refrigeration systems with canned motor pumps from HERMETIC Pumpen are used for this purpose. The canned motor pumps used impress above all with their long, maintenance-free service life and compact, lightweight design. Water-glycol mixtures are mainly used as refrigerants.

Your benefits

- Meantime between Failure > 130,000 h
- Compact design
- Hermetically sealed system for total environmental friendliness
- Attractive prices

Application areas

- Wind power: Cooling of inverters
- Railway: Cooling of inverters
- Railway: Cooling of transformers



Sealless Technology **Unlimited**

Wind power: Cooling of inverters

Requirements

Durable, low-maintenance, compact, environmentally friendly and cost-effective – these are the characteristics pumps must have that are used to cool inverters in wind turbines. As the maintenance of wind turbines is usually difficult and cost-intensive, maintenance intervals should be as long as possible. Due to the limited space available, all components mounted inside must be as small as possible.

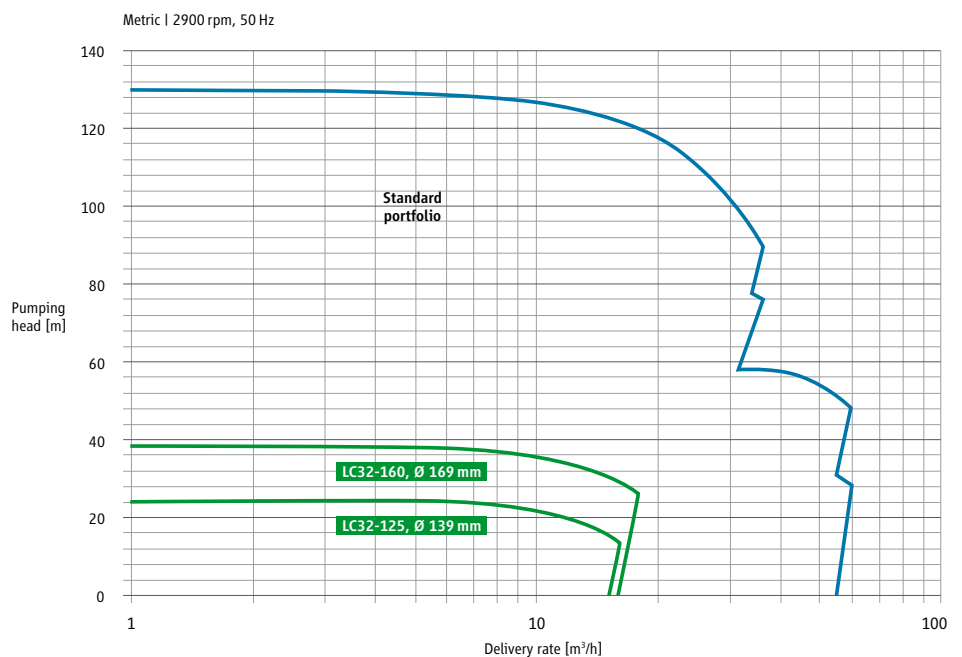
The leakage of cooling liquids must be prevented to protect the environment and maintain the functionality of the cooling circuit.

The pump used

HERMETIC Pumpen has developed the new LC series especially for the cooling of inverters in the wind power and railway industries. With an MTBF of over 130,000 hours, a compact design, a hermetically sealed system for total environmental protection and attractive prices, the LC series is the ideal solution. For a current project, a water-glycol mixture with a ratio of 58 % water and 42 % glycol is used. The refrigerant will be pumped at 180 l/min, a head of 20 m and an operating temperature of 40 °C.

The LC32-125 AGX1.8 pump with a motor of 1.8 kW, a maximum delivery rate of 266 l/min and a maximum pumping head of 25 m was selected as the ideal solution. The diameter of the pump's impeller is reduced so far that the pump operating point matches the system operating point ideally.

More detailed information on the LC series is available [here](#).



Medium / refrigerant

Water-glycol mixtures are based on a combination of water and glycol, such as ethylene glycol. Glycol acts as an anti-freeze and anti-corrosion agent. The mixture may have a different composition depending on the required temperature range. The freezing point can be lowered to -50°C . Advantages of the water-glycol mixture lie in the low-cost procurement, the non-toxic substance property and the high specific heat capacity of water.

We have the right pumps for your industry



LC



CNF



CAM / CAMR

Delivery rate:	max. 19.2 m ³ /h	max. 80 m ³ /h	max. 40 m ³ /h
Pumping head:	max. 38 m	max. 70 m	max. 180 m
Pressure rating:	PN10	PN25 and PN40	PN25 and PN40
Operating temperature:	-40°C to $+80^{\circ}\text{C}$	-50°C to $+30^{\circ}\text{C}$	-50°C to $+30^{\circ}\text{C}$

Customisation

If you cannot find a suitable pump series? We are happy to help you with a customised solution regardless of the quantity. Please contact us for further information.

To contact us now



HERMETIC-Pumpen GmbH
79194 Gundelfingen, Germany
www.hermetic-pumpen.com
lc-support@hermetic-pumpen.com