

Cooling and Filtration System



**Many well-known manufacturers of Windpower Generators
- and their suppliers -
have placed their trust in AKG cooling systems over many years**

Pump – Filtration unit for gearbox lubrication

Electric motor

Pole changing dual speed motor
for direct grid connection
Level I for cold startup 3,5 / 4,2 kW
Level II for continuous operation 6 / 7,2 kW
750 / 1500 rpm at 50 Hz
900 / 1800 rpm at 60 Hz
Permanently greased shaft bearing
Idleness heating
Protection level IP 55
CE, RC Certification

Pump

Self priming gerotor pump with wearless plain bearing
Available sizes
63, 80, 100 140 cm³
Flow rate 88 to 186 l/min at 50 Hz
Flow rate 105 to 223 l/min at 60 Hz
Suction port SAE 2"
Operating pressure inlet temporary -0,5 bar
Operating pressure outlet continuous 15 bar
Range of viscosity 10 to 2000 mm²/s
Degree of contamination max. 21/18/15 corresponding ISO 4406 (c)

Connecting modul

Peak pressure relief valve 12 bar
Secondary inlet for mechanical driven pump
Test connectors for diagnostics
Optionally: Port for particle counter

Thermovalve modul

The thermovalve is controlled by the gear oil temperatur. In a selectable range of temperature the cooler bypass is reduced from 100% to 0%. By this mean the cooling power is adjusted to the respective operating condition.



Filter modul

Filter top

The filter top covers the upper end off the filter tube. It includes the filter bleeding and a bypass valve. The bypass valve ensures that at any time not less than 40 µm filtrated oil is supplied.

Filter element

The filter element is the vital element in the pump-filter-unit. The filter elements consist of zinc free components to prevent zinc plater particularly by using synthetic oil. A twin filter element is used.

Operating filter

Deep bed filter of inorganic micro glass
High dirt holding capacity by multi layer technology.
Very low pressure drop.
Fineness of filtration absolut 10 µm

Guard filter

Surface filter of stainless steel mesh.
Very low pressure drop
Fineness of filtration nominal 40 µm



Drain cock

The drain cock enables discharging the filter housing for element replacement. This enables draining of the used element before replacement and prevents contamination of new element by old oil.

Clogging indicator

The filter modul is generally equipped with a mechanic-optic service indicator.
Optional: electronic signaling device with 1 or 2 set points and signal elimination below 30° C.

AKG cooling modul

Many well-known manufacturers of Windpower Generators – and their suppliers – have placed their trust in AKG cooling solutions over many years. The spectrum ranges from customized cooling units to fully integrated cooling systems.



Product features:

- Customized layout design according to customer requests, for example related to:
 - Fitting conditions
 - Specific cooling power
 - Sound emission
 - Mechanical strength
 - Resistance to corrosion according to DIN EN ISO12944
 - Power consumption of the complete cooling system
- Diversified operating range with working pressures up to 20 bar (depending on design) through bar/plate heat exchangers with high strength and durability
- Adjustable fan operation is possible
- Applicable for all current industrial oils up to ISO VG 320
- Choices of Bypass options, integrated or external
- Cooling solutions for off-shore or on-shore use

Advantages of AKG Cooling and Filtration System:

- High lifetime
- High efficiency factor of the complete system
- Customer specific requests will be engineered into custom solutions
- Optional integrated bypass for cooler:
 - No wear parts like hoses and accordingly no maintenance costs
 - Optimal use of space
 - Avoiding of overstress during cold starting and increased temperatures
 - Reduction of negative effects of thermal shocks
- Bypass valve of the filtration unit is independent from filter element – this is saving costs and facilitates waste management
- Low maintenance costs because of high life time of filter
- Attractive prices
- Product available worldwide with local service and engineering support
- Increase of lifetime of the gear box by adequate temperature control and filtration of the oil
- Increase of energy efficiency by a layout design, which is optimized relating to the gear box

The AKG Group presence worldwide!



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