

Solar Energy South Africa

Water-cooled generator wind power



Overview

Can a wind turbine use a water-cooled generator?

Some wind turbines use water-cooled generators, which require a radiator in the nacelle to dissipate heat from the liquid cooling matrix. Wind turbines may be designed with either synchronous or asynchronous generators, and with various forms of direct or indirect connection to the power grid. Water-cooled generators are used in some wind turbines.

What is wind turbine cooling?

Wind turbine cooling involving: wind generator, electronic and electric equipment, gearbox and other components cooling. Through the years challenges of cooling systems for wind turbine caused the new cooling systems.

Which generator is best for a wind turbine?

Small wind turbine applications are therefore better using a gearbox or an oversized direct-drive generator that can be naturally cooled. The direct-drive generator is therefore more suitable for medium to large wind turbines.

How is a wind turbine cooled?

Wind turbines are typically cooled by enclosing the generator in a duct and using a large fan for air cooling. Some manufacturers offer water-cooled generators that require a radiator in the nacelle to void the heat from the liquid cooling matrix. (On most wind turbines this cooling is accomplished.).

Do MW wind turbines use oil or water for cooling?

These days in MW wind turbines use oil or water for cooling. About 5% of wind turbine power is changed to the waste heat while this heat load is related to the size, type, wind turbine producing and etc. for a MW turbine generator, gearbox and control inverter are the main heat generation parts.

Can a 750 kW wind turbine be cooled?

As to large- and medium-scale wind generating set with power more than 750 kW, a liquid recirculation cooling method can be implemented to satisfy the cooling requirement . Regarding MW wind turbine with a larger power capacity, the gearbox, generator and control converter all produce comparatively large amount of heat .

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Development, components & service for wind turbines , HYDAC

Wind Power. A pioneer from day one - HYDAC has been your contact for the challenges in the wind industry right from the beginning. water cooling or hydraulic power packs for brake and ...

Industry Developments: Cooling Electronics in Wind ...

Some manufacturers provide water-cooled generators that can be used in wind turbines. The water-cooled models require a radiator in the nacelle to void the heat from the liquid cooling matrix. Wind turbines may be ...



Thermal design and analysis of a direct-water cooled direct drive

The development of compact high-power direct drive wind turbine generators necessitates design of more effective cooling system to ensure their safe operation. The focus of this paper is in ...

Cooling Techniques in Direct-Drive Generators for ...

Direct-drive generators are an attractive candidate for wind power application since they

do not need a gearbox, thus increasing operational reliability and reducing power losses. However, this is achieved at the cost of ...



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