

# Hot air temperature in the wind zone of the generator base

Does ambient temperature affect the cooling of a permanent magnet wind turbine?

Taking a 2.5 MW PMSG permanent magnet wind turbine as an example, four kinds of ambient temperature were selected to be tested when the generator was full of power. It is revealed that the ambient temperature has a great influence on the cooling of the generator.

How does ambient temperature affect gas turbine power?

On-site test results approved maximum power enhancement in hot ambient temperature. The output power and efficiency of gas turbines are profoundly influenced by ambient temperatures, with higher temperatures resulting in a notable decline in power output.

Does ambient temperature affect the cooling of a generator?

It is revealed that the ambient temperature has a great influence on the cooling of the generator. It is verified that the cooling system has a good effect on the cooling of the generator. Ningqiang Shi: We have discussed and written in depth the content and structure of the manuscript.

Can a 2 MW wind turbine generator be thermally analyzed?

This paper focuses on the thermal analysis of a 2 MW wind turbine generator. The goal is to estimate the stator winding temperature with a model as straightforward as possible. Boundary conditions are that no additional sensor than the ones already installed in the wind turbine should be used.

What temperature should a generator be rated at?

Feel free to contribute! Manufacturers guarantee the power of their generators, operating at temperatures of below 40°C. At higher values, derating is 3% for each +5°C.

Can a gas turbine inlet air cooling system increase power generation capacity?

Mohanty et al. investigated the integration of a gas turbine inlet air cooling system for a 100 MW gas turbine in Bangkok. They showed that reducing the intake air temperature from ambient condition to 15 °C can raise the gas turbine power generation capacity by 8%-13%.

Hot gas generators are used, if hot air / gases are needed for drying or other processes. There are two types of hot gas generators, direct type / indirect type. In direct type, dilution air / hot recirculating gases are mixed with burner flue ...

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