Generator rotor wind holes

What is a generator rotor?

The generator rotor represents an excellent combination of electrical,mechanical and man- ufacturing skillsin which the field coils are well insulated,supported and ventilated in a com- pound structure rotating at very high speed (typically 1800 or 3600 rpm).

Can a generator rotor be converted to a direct cooled winding?

Depending on the design of the rotor,in some casesit is possible to convert to a direct-cooled winding. Converting involves machining subslots in the rotor forging below the coil slots. Because of rotor geometry and size,this modifica- tion is not possible on all rotors. Q. Is there asbestos in generator rotor insulation and blocking materials?

Why do generator rotors have aluminum windings?

Aluminum alloy (condal) windings were incorporated on some generator rotors,enabling the rotor size and ratings to increaseand still allow conventional indirect cooling to be used in the design of these units. These units have provided many years of reliable operation.

What causes a generator rotor to degrade?

One component of the generator that is typically refurbished,upgraded or uprated is the generator rotor (field). Degradation of the generator field can be caused by a number of factors,including a breakdown in insulation due to time and tem- perature and mechanical wear.

It is very difficult to determine the rotor temperature distribution by accounting the influence of complicated ventilation system and rotor rotating. In light of this situation, taking a 1100 MW ...

This paper describes modified ventilation system and thermal analysis of low-power 40-MW turbo generator. The study compares thermal behaviour of the machine for three different ...

Explore generator rotor design, operational issues, and refurbishment options. Learn about rotor types, reliability, and maintenance strategies.

The electrical generator is mounted inside the nacelle at the top of a tower, behind the hub of the turbine rotor. Usually the rotational speed of the wind turbine is slower than the equivalent ...

To enhance the ventilation and thermal performance of forced air-cooled permanent magnet synchronous wind generators (PMSWGs), this paper proposes a novel ventilation structure ...

Overview With the average age of the GE generator fleet rapidly approaching the limit of the original intended life, utilities and industrial users are seeking alternatives to replace this aging ...

Wenting Wang"s 7 research works with 4 citations and 86 reads, including: Enhanced Ventilation and Thermal Performance by Skewed Through Holes on Rotor Yoke in Forced Air-Cooled Permanent ...

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Summary The cooling performance of medium-speed permanent magnet synchronous wind generators (MS-PMSWGs) is critically important, as it determines the sustained output power ...

Figure 1 Schematic Diagram of a Large Generator Rotor Shaft with Blind Holes In summary, deep hole machining research guides vibration reduction and quality improvement.

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