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Solar Energy South Africa

Generator rotor air inlet

Overview

What type of ventilation system does a generator have?

A generator can have a principally axial or radial ventilation system. In the axial alternative, the air is mainly driven by fan blades attached at the extremities of the rotor. The air flows axially through the rotor-stator air gap before entering the stator ventilation channels.

How does a 150 MW air-cooled turbine generator ventilation system work?

According to the practical structure of the ventilation system of the 150 MW air-cooled turbine generator, as shown in Fig. 2, a global flow resistance network is set up to determine the flows and pressures of the inlet and the outlet of the air cooling ventilation system.

What is rotor and air-gap inlet?

The rotor and air-gap inlet of the third solid model are set as “velocity-inlet”. The velocity value of the cross-sectional is determined by the first and second solid models. The main losses of the turbine generator are the copper losses, iron core losses, and windage losses of the rotor and stator.

How does a generator rotor and stator work?

The generator rotor and stator incorporated inlet and outlet sections along their axial lengths to achieve uniform cooling along the length of the generator field. This uniform cooling elim-inated axial hotspots and allowed the ratings of the generators to be increased.

What is a generator rotor?

The generator rotor represents an excellent combination of electrical, mechanical and man-ufacturing skills in 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).

Do axially ventilated generators have a salient pole rotor?

The flow field attributes of an axially ventilated generator model with a salient pole rotor are investigated both experimentally and numerically. Mean total pressure and instantaneous velocity distributions are measured at the outlet of the stator ventilation channels.

Generator rotor air inlet

501F user discussions, presentations cover from air inlet to exhaust

Exhaust cylinder and manifold replacement on one gas turbine at a 2 × 1 combined cycle was part of an 11-week major inspection that included rotor lifetime inspection, replacement of HGP ...

VENTILATION AIR FLOW FIELD CHARACTERISTICS IN A HYDRO ...

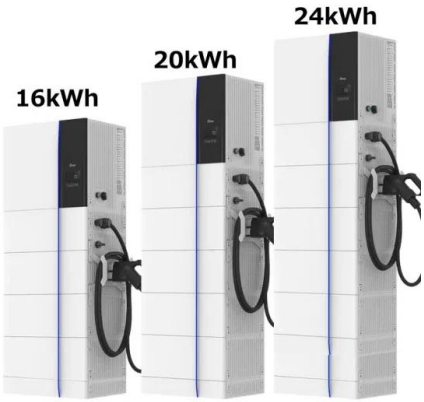
A generator can have a principally axial or radial ventilation system. In the axial alternative, the air is mainly driven by fan blades attached at the extremities of the rotor. The air flows axially ...

Field and Application Experience of the Titan 130 Industrial Gas ...

shell of the gas generator module consists of the radial air inlet, compressor, compressor diffuser and turbine support housings. The Titan 130 gas turbine features the integral accessory-drive ...

What is the appropriate size of the air inlet of a diesel generator?

What is the appropriate size of the air inlet of a diesel generator? Hot air method: blow the dry and clean waste hot air generated by the main engine into the generator to dry the stator and ...



Study on the suppression effect of variable hydrogen ...

The air extraction coefficient of the inlet wedge is 0.35 [17-20]. When the rotor rotates, the hydrogen will have a traction effect on the rotor surface, which will cause the incoming wind speed at the inlet wedge to be ...

GE Generator Rotor Design, Operational Issues, and ...

The generator rotor and stator incorporated inlet and outlet sections along their axial lengths to achieve uniform cooling along the length of the generator field. This uniform cooling eliminated axial hotspots and allowed the ratings of the ...

Heat transfer in air-gap and thermal-fluid coupling field of a large

The rotor sub-slot inlet of the first solid model is set as "velocity-inlet", in which the fluid velocity is 59.58 m/s and the inlet temperature is 40 ?. The radial outlet of the rotor is ...

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