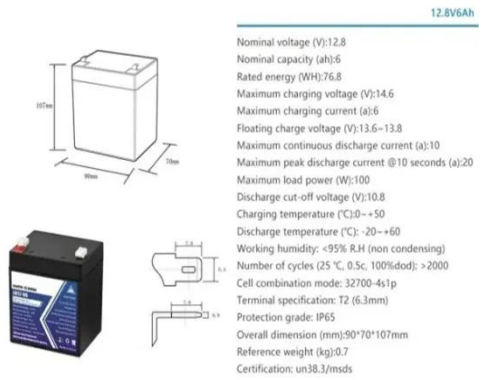
PIENAAR ENERGY (PTY) LTD

Why is the fan blade of the generator coil sinking

Overview

It is caused by a partial voltage breakdown within the generator coil insulation, in gaps between the coil and the stator core, or in the end turns when the coils are in close proximity. Because it is not a complete breakdown of the insulation system, it doesn't cause a full. Since fracture in cooling fan blades has been occurred five timesin our case study,in this research,the emphasis has been placed on failure analysis and preventing methods from the fracture in this generator's fan blades. The air after cooling, conducts to ro or from t each of two sides of generator sets up 11 blades as an axial fan that separates with 11 sp cer pie ound Retaining Ring It is obvious that the fan. Fig 1 shows coil insulation damage caused by a fan bolt that corroded and flew off into the winding. Prevention: Inspect, on a regular basis, all internal parts that are prone to failure or can be dislodged—such as rotating fan blades, balance weights, and pantleg washers. generation industry. Fracture took place at the airfoil root,surface examination showed that the blade had cracked by a high cyc e fatigue mechanism. In some cases, fracture of blades causes short circuit betwe n rotor and stator and conse-quently generator explosion and made lot of financial problems.

Why is the fan blade of the generator coil sinking



Why generators fail - Combined Cycle Journal

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Generator fan blades

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Failure analysis of gas turbine

generator cooling fan for 14

nsional fatigue crack in a typical military aircraft engine fan blade attachment by Franc3D. In the following of this paper, two series of analysis (laboratory investigation and numerical)

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Failure Investigation of Gas Turbine Generator Cooling Fan ...

short circuit between rotor and stator and consequently generator explosion and lots of financial loss. Cooling system equipments were supplied by GEC-ALSTHOM Belford under the following ...

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Understanding Steam and Gas Turbine - Generator ...

The fan/blower blade itself is highly stressed. The highest stresses ...

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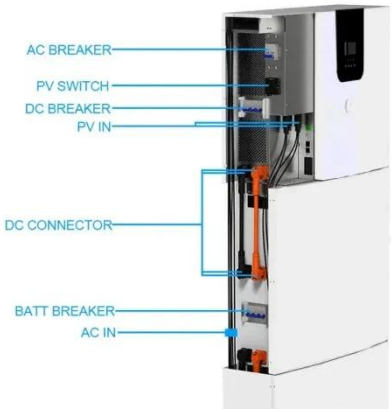

Understanding Steam and Gas Turbine - Generator Fan Failures

The fan/blower blade itself is highly

stressed. The highest stresses in an axial blower are developed in the base of the blade or in the blade root attachment to the blower hub.

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GeneratorFailure.pdf

Problem: Stator winding vibration is primarily a design-related problem that affects gas-cooled generators above 300 MWs. As these units were scaled up from their smaller predecessors, they ...

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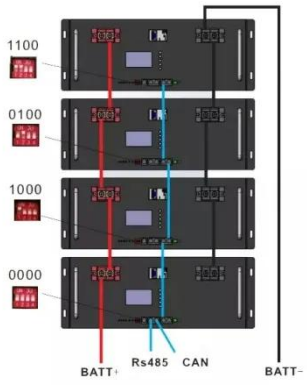

Fracture Analysis of Generator Fan Blades

Shaft driven rotating fans are commonly utilized to provide the required cooling for generators. These fans circulate cooling gas, air or hydrogen, throughout the machine to maintain the electrical ...

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Failure analysis of gas turbine generator cooling fan blades

In some cases, fracture of blades causes short circuit between rotor and stator and consequently generator explosion

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