

# Generator guard ring fan blade

Do generator rotor fan vanes & blower blades fail?

The potential failure of generator rotor fan vanes and blower blades has been identified as an area for detailed risk assessment in the electric power generation industry. Liberation of fan component has caused catastrophic damage to both the rotor and stator components on a number of units.

How many axial flow fans does a generator rotor have?

The generator rotor is equipped with two axial flow fans- one at the turbine end and one at the collector end. Each fan has 24 aluminum blades held in place by two 3/4" Grade 8 mounting bolts, secured with locking plates (see Figure 1 for typical design).

Why are generator rotor fans/blowers important?

Generator rotor fans/blowers are critical, highly-stressed components justifying design scrutiny, proper material selection, quality fabrication techniques, and judicious non-destructive examination. Generator rotor fans/blowers are subject to both high steady and fatigue stresses during operation. The fan/blower blade itself is highly stressed.

Do generator rotor fans/blowers have high stress?

Generator rotor fans/blowers are subject to both high steady and fatigue stresses during operation. 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.

What kind of fan material is used in a generator?

The fan material is believed to be a stainless steel. The generator is combustion turbine/steam turbine driven and operates at 50 Hz. One unit was found to have a cracked fan hub. Another unit had a hub failure which caused collateral damage to the generator windings, diffuser case and end bell.

What are the different types of generator cooling blowers/fans?

The two main categories of generator cooling blowers/fans are axial flow blowers and radial flow fans. There is generally one blower or fan installed at each end of the generator rotor, although there are also single-blower/fan designs.

Fan guards are used to provide a physical barrier around spinning fan blades to prevent accidental contact with fingers or other objects. They are typically constructed using metal wire ...

V-Guard Industries Ltd. 42/962, Vennala High School Road, Vennala, Kochi- 682028, Kerala, India. Item Weight : 6 kg 500 g : Net Quantity : 1.00 Unit : Included Components : One number each of Fan motor unit, Front & rear ...

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FEATURES 3 Speed Selection 120 Minutes Timer Left & Right Oscillation 3 ABS Fan Blade Full 100% Copper Coil Motor Guard Ring With Clip Adjustable Height Model: MSF1636 Voltage: 220-240V~ 50Hz Wattage: 50 W Air Volume: 66.49 ...

In gas turbine power plants, a fan is used as a cooling system to dissipate generated heat in coils (copper conductors) and generator electric circuits at the end sides of ...

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In some cases, fracture of blades causes short circuit between rotor and stator and consequently generator explosion and huge financial loss. Since fracture in cooling fan blades has been occurred five times in our case study, in this ...

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