The temperature of the air inlet at the generator excitation end is high

What are the requirements for a gas turbine inlet temperature regulator?
The gas turbine inlet temperature regulator has strict requirements for the resistance of the air flow outside the tube. Generally,the operating resistance is required to be controlled below 150 Pa,which requires that the air flow speed should not be too high.

What is a primary turbine inlet temperature?
The primary turbine inlet temperature is 1800 K.The gas enters an adiabatic,reversible secondary turbine that produces net power. The turbine exhaust enters a heat exchanger (HEX) ,the heat from which is used for space heating an interior space maintained at the dead state temperature in a cogeneration application.

How to investigate the heat transfer law of a turbine generator?
To investigate the heat transfer law of the studied turbine generator,it is necessary to analyze the temperature distributions,expecially the heat transfer of the air-gap. 1. Temperature distribution in the axial cross section of the turbine generator

What is a gas turbine inlet temperature control system?
These systems include methods for intake heating under low loads and intake cooling under basic loads,which can be used to change the intake temperature of the compressor under a variety of operational conditions. The heat exchangerof gas turbine inlet temperature control system is a key equipment.

What happens if inlet temperature regulation is not taken?
Moreover,if inlet temperature regulation measures are not taken,severe deviation of the airflow angle of the compressor blades may cause surges,overstressing the gas turbine. This,in turn,could severely affect the safe operation of the power plant.

What is a special heat exchanger for inlet gas temperature control?
The special heat exchanger for inlet gas temperature control of gas turbine has the characteristics of large span,windward surface and high position layout. So,the selection and design of heat exchanger have special and stricter requirements [14,15].

cooled generator the machine"s capability varies significantly with the amount of hydrogen pressure. For an air-cooled generator, the machine"s capability varies significantly with the ...

High-speed air intakes often exhibit intricate flow patterns, with a specific type of flow instability known as "buzz", characterized by unsteady shock oscillations at the inlet. This paper presents a comprehensive review of prior research, ...

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In the operation process of a large turbo generator, the high-order harmonic generated by high-speed rotation will induce eddy currents in the rotor slot wedge and spacer ...

The temperature of the rotor winding near the shaft center position is relatively low. The fluid in the rotor radial ventilation ducts near the shaft center position takes more heat ...

Chillers can cool the inlet air to much lower temperatures than those possible with evaporative cooling and can maintain any desired inlet air temperature down to 42F, independent of ...

The surface air coolers shall have sufficient cooling capacity to maintain temperature of the generator and it also maintains the air leaving the cooler at 35°C or less, with respect to water ...

tor within design temperature limits set by international standards [6]. The heat removal ability of a cooling medium is deter-mined by its specific heat, by the mass flow that can be achieved to ...

the target surface via control excitation of the coolent impinging air inlet temperature v ariation. Introduction of controlled fluctuations in the inflow conditions of an impinging jet can sig-

Novec7500 was pumped with different inlet temperature and flow rates through a structure that reassembles the geometry of the stator design. The walls are heated with similar values as would be expected from the machine losses. ...

The cooling water temperature was 24°C and water volume flow rate was 20 m 3/h. ... [Show full abstract] The oil temperature was 55°C and oil volume flow rate was 6-24 m ...

turbocharger compressor end filter dirty X1, air filter, air inlet channel blocking effect is poor X2 X3, X5 four dirty air inlet valve fault event. Taking into account the engine only single ...

coupling fieldin the end region, and calculate the fluidand temperature fieldsin the end region using hydrogen and air as cooling media, respectively. In Ref. [12], authors take an example of ...

In this study, the inlet condition of the test section is high temperature and low pressure air crossflow, with the temperature of 500 K, Mach number of 0.1 Ma and pressure of ...

This paper shows the effect of excess air on combustion gas temperature at turbine inlet, and how it deter-mines power and thermal efficiency of a gas turbine at different pressure ratios and...

The temperature of cooling hydrogen in the air gap is higher than that of end cooling hydrogen, resulting in a higher temperature in the middle outlet areas than in the first and last outlet areas. Regardless of the excitation ...

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Industrial Diesel Generator Set - J60U 60 Hz Reference Conditions: 25°C Air Inlet Temperature, 40°C Fuel Inlet Temperature, 100 kPa Barometric Pressure; 10.7 g/kg of dry air Humidity. ...

end region of a water - hydrogen cooled turbo - generator, the end magnetic density distribution and loss of different electrical shielding materials are obtained, and the ...

the inlet air temperature is traditionally believed to cause reduced gas turbine efficiency due to the resulting increase in the compressor power consumption. This study adopts a calculation ...

power and high electricity occur, the inlet air cooling techniques are very useful for reducing the inlet air temperature and thus improving power output and efficiency. It is observed that an ...

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