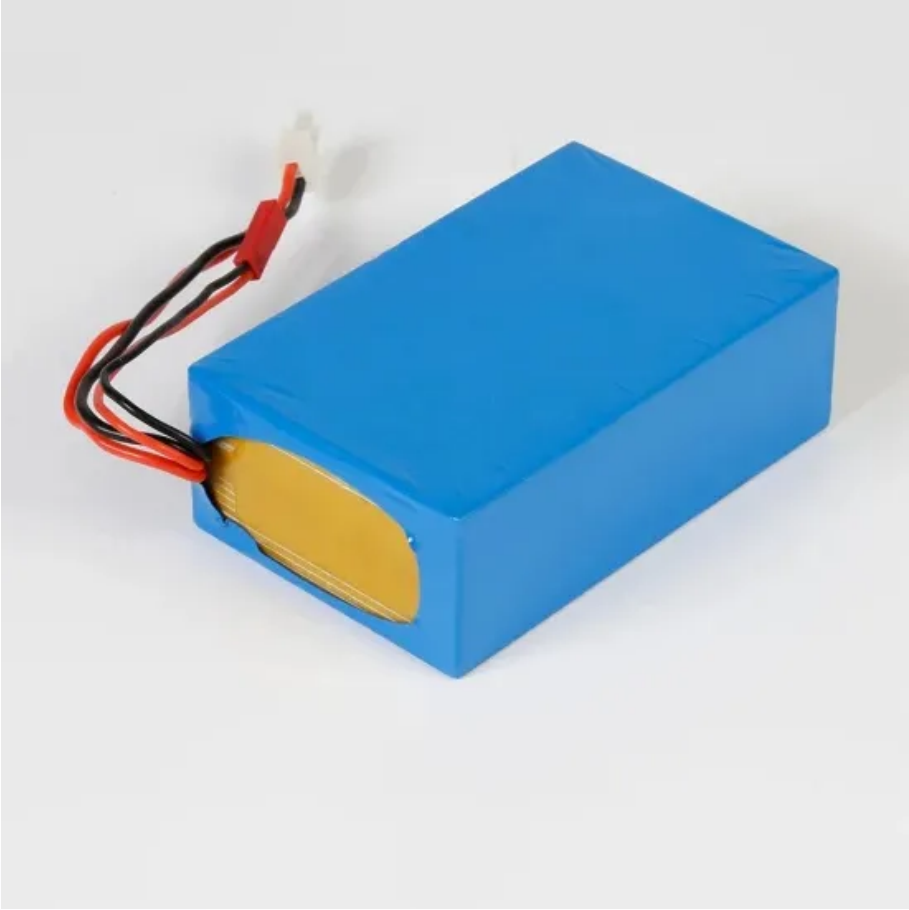
The air inlet temperature of the steam turbine generator is high



Overview

The advanced turbines that emerged from the Department's research program were able to boost turbine inlet temperatures to as high as 2600 degrees F - nearly 300 degrees hotter than in previous turbines, and achieve efficiencies as high as 60 percent. As a market leader for industrial steam turbines, we offer a comprehensive range of reliable and versatile steam turbines for the power output range from 2 to 250 MW. The inlet steam. The performance of the power plant strongly depends on ambient air temperature (AAT). Mass flow rate (kg/s) of air decreases in summer with increasing AAT for the same volumetric flow rate (m3/s), which results in reduced power output of turbine and increased heat rate.

The air inlet temperature of the steam turbine generator is high

[Effect of Ambient Air Temperature on the Performance of Steam ...]

The aim of this research is to investigate the effect of ambient air temperature on the steam generation. A parametric study was performed based on exergy analysis to study the impact of ambient air ...

[How Gas Turbine Power Plants Work , Department of Energy]

The advanced turbines that emerged from the Department's research program were able to boost turbine inlet temperatures to as high as 2600 degrees F - nearly 300 degrees hotter than in previous ...

Steam Inlet Temperature

The simple response is that, as the Carnot cycle indicates, a high inlet temperature into the steam turbine is needed if a respectable proportion of the heat in the steam is to be converted into work.

[Practical Steam Turbine Performance Calculations]

Use the extraction steam pressure, temperature and enthalpy for the inlet conditions. The steam flow is the inlet steam flow rate (M1) minus the extraction steam flow rate Mex). Use Method 1 or Method 2 ...

[Reasons for high generator air inlet temperature]

The P0127 code stands for "Intake Air Temperature Too High," which means the air temperature is higher than expected based on the sensor input. Some of the possible causes of the P0127 code ...

[Thermal Analysis of Steam Turbine Power Plants]

Parametric study showed that turbine inlet temperature played a very vital role on the performance of a steam turbine power plant in terms of power output of the turbine, thermal efficiency and specific ...

Industrial steam turbines

Steam flows into the turbine via two tangential inlets to equalize thermal loading and blade stress. Emergency stop valves and control valves are installed in the steam inlet pipes. The steam flows ...

[Effect of Ambient Air Temperature on the Performance of Steam ...]

fuel was assumed to be at the ambient temperature of 25 o C and 1 atm. As shown in Fig. 2, the second law efficiency is insensitive to ambient air temperature, for instance at excess air of 25%, the second ...

[AMBIENT AIR TEMPERATURE EFFECT ON POWER PLANT ...]

The results of analysis performed are discussed for 10MW power plant. The effect of increases in ambient air temperature by 30 c, the net power output found to be decreased by 18% with 11% ...

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