Wind temperature of steam turbine generator

This paper describes the windage heating effect in full labyrinth seals used in steam turbines. An analytical approach is presented, based on CFD simulations, to predict the resulting ...

This paper presents the mathematical modeling of the thermal state of a 1000 W wind turbine generator (WTG) integrated into a vertical-axis wind turbine (VAWT) system, taking into ...

Main Characteristic curves/ Constant head curves Curves are drawn by conducting experiment at constant head. Head and gate openings are kept constant and speed is varied by varying load on the ...

Windage heating leads to a temperature increase of the steam that flows through the labyrinth. The smaller the radial clearance of the seal, the lower the mass flow through it is, which can result in ...

During "poison-prevent",their steady state opening is proportional to the power mismatch between the poison-prevent reactor power level and actual turbine steam consumption.

When steam is expanded through a very high pressure ratio, as in utility and large industrial steam systems, the steam can begin to condense in the turbine if the temperature of the steam drops below ...

OverviewPrinciple of operation and designHistoryManufacturingTypesDirect driveMarine propulsionLocomotivesAn ideal steam turbine is considered to be an isentropic process, or constant entropy process, in which the entropy of the steam entering the turbine is equal to the entropy of the steam leaving the turbine. No steam turbine is truly isentropic, however, with typical isentropic efficiencies ranging from 20 to 90% based on the application of the turbine. The interior of a turbine comprises sev...

Steam"s starting pressure and temperature is the same for both the actual and the ideal turbines, but at turbine exit, steam"s energy content ("specific enthalpy") for the actual turbine is greater than that for ...

In modern nuclear power plants, the overall thermal efficiency is about one-third (33%), so 3000 MWth of thermal power from the fission reaction is needed to generate 1000 MWe of electrical power. Higher ...

The efficiency of a steam turbine depends largely on the pressure and temperature of the steam entering the turbine, as well as the quality of the steam--meaning how much moisture it ...

This engineering design guideline covers the basic elements of Steam Turbines in sufficient detail to allow an engineer to design a Steam Turbine with the suitable inlet and exhaust diameter, Steam ...

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