

## PIENAAR ENERGY (PTY) LTD

# Rated inlet air temperature of generator



## Overview

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Ambient temperature is the same as air filter inlet temperature. For short periods of time the genset can run at 5 °C higher. At ISO3046 reference conditions, altitude 1013 mbar (30 in. Power output and efficiency include the effect of Cummins supplied engine driven LT coolant pump. 0 power factor, 97% alternator efficiency. Based on pipeline natural gas. Like ICE-powered automobiles, ICE electrical generator systems have radiators and exhaust systems that reject heat. The cooling system on an ICE electrical generator typically comprises a water-circuit radiator to cool the engine block and may also include radiators for oil cooling as well as. Air cooled unit draws cooling air from different ends of the unit to cool the system, dependent upon the units cooling system design. Check with the generator's manufacturer to determine the optimal cooling method for the system. Site conditions, including altitude and relative humidity, will cause the ambient capability to vary.

## Rated inlet air temperature of generator

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### LIQUID COOLING ENERGY STORAGE SYSTEM

EMS real-time monitoring  
No container design  
flexible site layout



Cycle Life  
**≥ 8000**

Nominal Energy  
**200kwh**

IP Grade  
**IP55**

### Examples of Airflows for Different Enclosed Generator Applicatio

When discharging air vertically, because the generator is surrounded on all sides, can result in higher than ambient air temperatures being pushed into inlet vents.

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### Ambient temperature vs. air on core (AOC) temperature

This paper aims at differentiating between the ambient temperature vs. air-on-core (AOC) method of rating the performance of a cooling system used on a generator set.



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### Generator Enclosure Spacing

The heat dissipated by the exhaust and the cooling system are injected into the airflow field and the temperature of the flow field is measured to quantify the amount of heat recirculation, which reduces ...

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## High Ambient Temperature Effects on an Engine/Generator System

If an existing generator installation starts to have problems related to very high ambients, after all the usual factors have been eliminated, a review of the installation itself should be made including:



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### Data sheet (template)

LT inlet temperature is 40 °C, or 10 °C above ambient, whichever is higher. Table refers to the capability to run at continuous power level. For short periods of time the genset can run at 5 °C higher ...

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## Ambient Capability of Enclosed Generator Sets , Cat , Caterpillar

When specing a generator set with an enclosure for use in a hot climate, outside air temperature defines the ambient capability. Site conditions, including altitude and relative humidity, will cause the ambient ...



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## Generator Ventilation

Reading your OP, I would first inquire



from the generator supplier if it is possible to provide specially build generators to withstand 55dC ambient temperatures.

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## GENERIC GENERATOR INSTALLATION MANUAL

The installer must make sure that the total square inches of free air inlet opening is sufficient to limit the heat rise in the room to prevent the room temperature from exceeding the generator 's operating ...



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## Air-cooled generator inlet temperature

The primary reason turbine inlet air is cooled is to reduce or prevent the often significant loss of power output, compared to the rated capacity, of combustion turbines when ambient air

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## Generator cooling air temperature standard value

A design of a cooling system for D-Ti and

T-Ti targets is given, which can dissipate 4300 W/cm<sup>2</sup>, while the target temperature does not rise above 115°C and the cooling fluid is water of 15°C.

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