

Large-scale solar air conditioner in China and Africa





Overview

Can a solar adsorption cooling system be used in China?

This work aims to evaluate the application potential of a solar adsorption cooling (SADC) system based on a novel aluminophosphate adsorbent in various climatic zones of China through TRNSYS simulation. For a comprehensive evaluation, solar absorption cooling (SABC) and vapor compression cooling systems are selected as reference systems.

Can solar energy be used in building air-conditioning systems?

Singh and Das [23 – 26] investigated the potential application and operational strategies of solar energy in the field of building air-conditioning systems, the findings revealed that the incorporation of solar energy can substantially decrease the energy consumption of air-conditioning systems while enhancing their economic viability.

Is solar-powered refrigeration feasible?

Evidently, in all climatic zones, the irradiation during the cooling season accounts for over 46% of the annual irradiation, showing a temporal alignment between the availability of solar radiation and the need for cooling. This further reinforces the feasibility of solar-powered refrigeration.

How many solar thermal systems are installed in China in 2022?

As the world's largest producer and consumer of solar thermal systems, as of the end of 2022, China's total solar thermal application retention was 619.7 million m², with an additional 23.725 million m² installed in 2022 .



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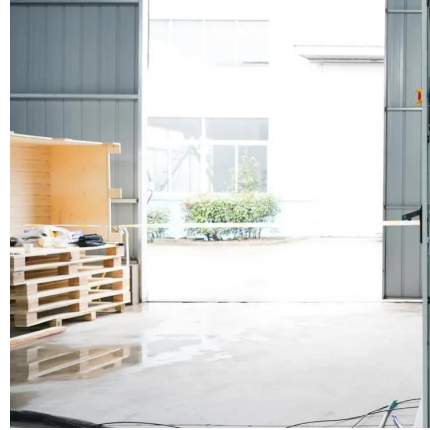
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