

# Trough type solar air conditioner





## Overview

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Can a solar parabolic trough collector be used for solar air conditioning?

In this paper, an independent-developed solar parabolic trough collector (PTC) for solar air conditioning has been adopted in a solar air conditioning system with a three-phase accumulator. The composition and operation strategy of the system are elaborated in detail.

What is the economic analysis of the solar air conditioning system?

Economic analysis of the solar air conditioning system According to the economics analysis method, the economic analysis of the solar air conditioning (SAC) is conducted, meanwhile, which is compared with that of the vapor compression refrigeration system (VCR). 5.1. Levelized annual total cost.

Can a solar air conditioning system supply cooling for buildings day and night?

The calculation and analysis results show that the solar air conditioning system with a three-phase accumulator can continuously and steadily supply cooling for buildings day and night.

What is a three-phase accumulator?

The three-phase accumulator is composed of a three-phase energy storage tank and a refrigerant water storage tank. Both the three-phase energy storage tank and the water storage tank are designed with the integration of the heat exchanger arranged in the upper part and the liquid storage in the lower part of the corresponding tank.



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[\(PDF\) Modeling and simulation analysis of ...](#)

The performance of solar air conditioning system (SACS) using Lithium-Bromide/water (Li-Br/H<sub>2</sub>O) solution and nanofluid -based parabolic trough collectors (PTC) under hot and humid climate

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[Dynamic Investigation of a Coupled Parabolic ...](#)

The use of solar energy for cooling processes is advantageous for reducing the energy consumption of conventional air-conditioning systems and protecting the environment. In the present work, ...

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[Design and Thermo-Economic Comparisons of an Absorption Air ...](#)

Solar absorption cycles for air conditioning systems have recently attracted much attention. They have some important advantages that aid in reducing greenhouse gas ...

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### Use of parabolic trough solar collectors for building air conditioning

The aim of this study is the evaluation of the economic and technical viability for the installation of a solar air conditioning system based on parabolic solar concentrators and ...



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### [Dynamic Investigation of a Coupled Parabolic Trough ...](#)

The use of solar energy for cooling processes is advantageous for reducing the energy consumption of conventional air-conditioning systems and protecting the environment. ...

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### **Comprehensive experimental study using a parabolic trough solar air**

The main objective of this work is to investigate the performance characteristics of two types of thermal receivers used in parabolic solar air heater (PSAH). Solar air heater ...

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### [Design and thermo-economic comparisons of large scale solar ...](#)

The aim of this work is to optimize and design H<sub>2</sub> O-LiBr absorption air conditioning systems that are operated by two different types of solar collectors (ETC and ...

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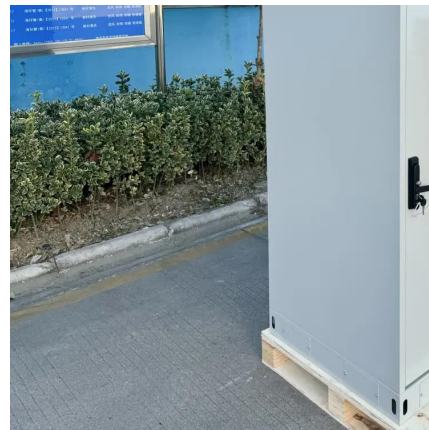




### [\(PDF\) Modeling and simulation analysis of solar absorption ...](#)

The performance of solar air conditioning system (SACS) using Lithium-Bromide/water (Li-Br/H<sub>2</sub>O) solution and nanofluid -based parabolic trough collectors (PTC) ...

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### **Development and thermodynamic analysis of a novel parabolic trough**

In the context of valuing solar thermal energy and reducing electricity consumption linked to thermal comfort in buildings, a solar air conditioning system has been studied for ...

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### [Design and Thermo-Economic Comparisons of an ...](#)

Solar absorption cycles for air conditioning systems have recently attracted much attention. They have some important advantages that aid in reducing greenhouse gas ...

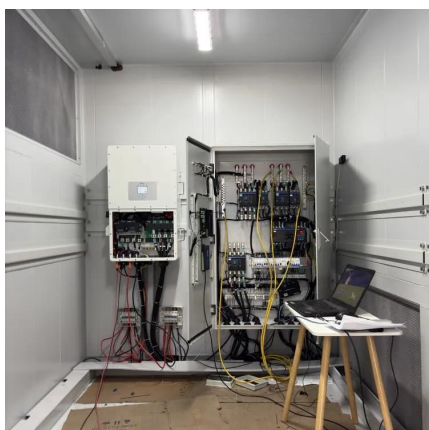
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### [Performance analysis of solar air conditioning system based ...](#)

Based on the independent-developed solar parabolic trough collector (PTC) for solar air conditioning and the measurement data of the solar radiation intensity in Beijing, the ...

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