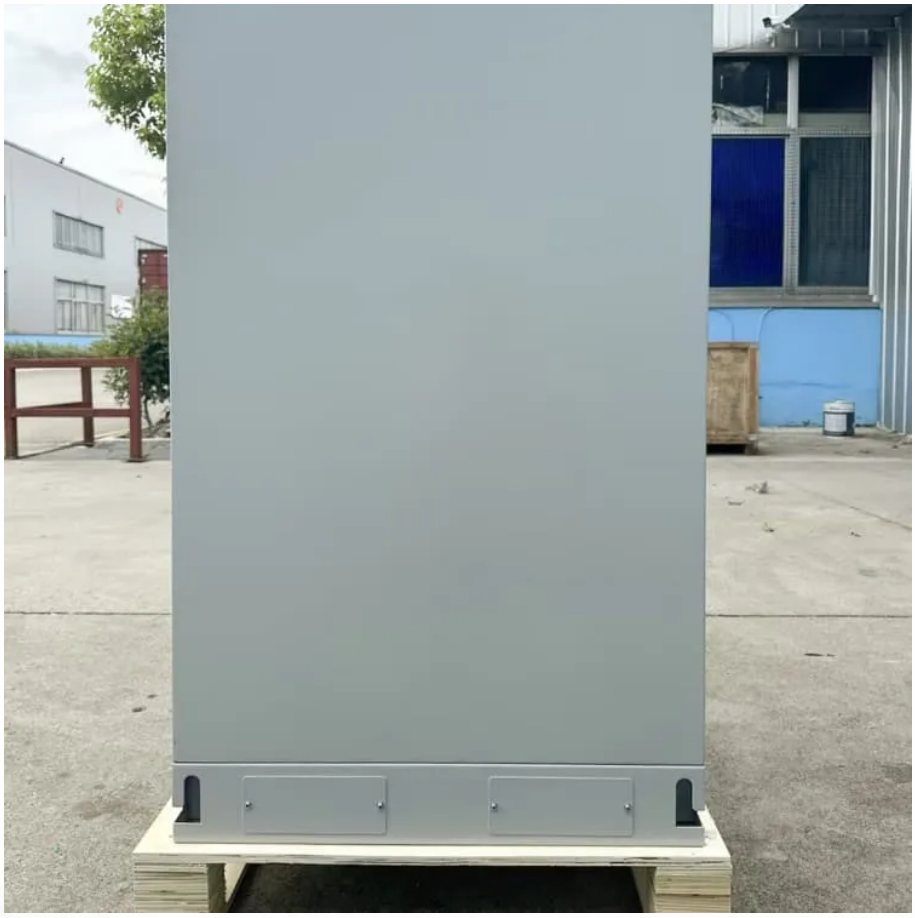
ŁOTWA SYSTEM

Solar power generation system spt



Overview

What is SPT based energy generation system?

Shan et al. recently proposed an SPT-based energy generation system for power production, heating, and cooling. Their system consists of an sCO2 cycle and a Rankine lithium bromide absorption system. Their system obtained the exergy efficiency of 55.30% and energy efficiency of 25.65%.

Can solar heat be collected from the SPT?

Four different combined cycle configurations have been examined in this work in order to gather solar heat from the SPT. Every system under consideration has had its performance compared to a standard HBC system based on SPT.

How to generate power by collecting solar heat from SPT?

To generate power by collecting solar heat from SPT by creating four new combined cycles (HBC-basicORC, HBC-RORC, HBC-RGORC, and HBC-RRORC) with a simpler design than previous research. To examine the coupled cycles based on SPT from an energetic and exergetic perspective.

How to improve solar power plant performance?

In order to improve the solar power plant performance, four combinations of combined cycles have been investigated in this work to gather solar heat from the SPT system. The performance of these combined cycles was compared with a standard HBC system that is based on SPT.

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The results demonstrate that the power generation efficiency of the proposed system is 5.5% and 3.46% higher than PV power generation and SPT systems respectively.

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