
High temperature solar air conditioning

Can a microclimate solar cooling system improve human thermal comfort?

This research introduces a microclimate solar cooling system to enhance human thermal comfort and reduce electrical grid energy-based consumption. A novel solar photovoltaic thermoelectric air conditioner (SPVTEAC) for local air conditioning of a 1.0 m³ compartment was experimentally examined under several interior cooling loads.

What is the performance of a solar photovoltaic thermoelectric air conditioner?

The performance of a solar photovoltaic thermoelectric air conditioner was experimentally studied. The COP of the air conditioner is estimated to be 1.14 at a PV current of 4.28 A and air flowrate of 14.40 m³/h. Random vector functional link approach was employed to model the solar air conditioner.

What is a solar cooling system?

A number of solar thermal-based absorption, adsorption and desiccant "solar cooling" systems as well as solar electric-based "solar air-conditioning" systems use photovoltaic (PV) modules to supply electricity to the compressor and outdoor condenser fan unit.

Does a solar photovoltaic thermoelectric air conditioner provide thermal comfort?

In this work, a solar photovoltaic thermoelectric air conditioner (SPVTEAC) is experimentally established and assessed to provide the simultaneous thermal comfort of local air conditioning of 1.0 m³ compartment was experimentally examined under several interior cooling loads changing from 65.0 to 260 W.

Our company mainly manufacture solar air conditioner, normal air conditioner, elevator air conditioner and heat pump water heater.

The efficiency of solar photovoltaic (PV) systems is fundamental for the global energy transition; however, extreme temperatures in tropical regions significantly degrade ...

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<p>Photovoltaic driven air conditioning (PVAC) systems offer a promising solution for reducing grid dependency and carbon emissions in the building sector by coupling solar energy ...

Especially in hot climates cooling - air conditioning represents the highest share of the energy used in buildings.

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Solar thermal systems, which simultaneously combine demand for low-temperature heat (e.g., for domestic hot water) and high-temperature heat (necessary to drive solar air ...

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