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Sukhumi LiBr Solar Air Conditioner

Overview

Can a solar-assisted single-stage libr-h2o absorption air conditioner system be simulated?

Solar energy has emerged as an important alternative for many uses, including cooling and air-conditioning. In this paper, to simulate a solar-assisted single-stage LiBr-H2O absorption air conditioner system, a mathematical model is presented. The model may simulate either the static or the quasi-static state of the system.

What is the COP of a solar-powered LiBr–H 2 O absorption cooling system?

After two years, Agyenim et al. tested experimentally a 4.5 kW solar-powered LiBr–H 2 O absorption cooling system consisting of 12 m 2 ETC, at Cardiff University, UK. The results indicated that the average value of the COP obtained was 0.63, a generator temperature of 80 °C, and an average peak of global solar radiation of 812 W/m 2.

How a LiBr- absorption air conditioner works?

Fig. 1 LiBr- absorption air conditioner powered by a flat plate solar collector. 1. A pump transfers the dilute LiBr solution to the high-pressure region. 2. The thermal collector facilitates the heating of the mixture within the generator. (H 2O) from the absorbent (LiBr solution). 3.

What is a single effect solar absorption cooling system (SESAC)?

Thus, this consumption will be significant. In this work, a mathematical model of the Single-Effect Solar Absorption Cooling system (SESAC), utilizing Lithium Bromide-Water (LiBr–H2O) as the working fluid, has been developed with evacuated tube collectors. This model has been designed according to the climate in Ma'an, Jordan.

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Mechanical Engineering Department, College of Engineering, University of Thi-Qar, Thi-Qar, Iraq Modeling and design procedure for LiBr-water abs orption air-conditioning by ...

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S. Said, " Alternative designs for a 24-hours operating solar-powered LiBr-water absorption air-conditioning technology," International Journal of Refrigeration,

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