Patent Search

Invention Title	SOLAR POWERED ADSORPTION COOLING SYSTEM
Publication Number	10/2021
Publication Date	05/03/2021
Publication Type	INA
Application Number	201921035685
Application Filing Date	04/09/2019
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	CHEMICAL
Classification (IPC)	C02F0001280000, B01J0020320000, B01D0053040000, B01J0020280000, B01J0020200000

Inventor

Name	Address	Country	Na
Dr. Samir J. Deshmukh	P.R.M. Institute of Technology and Research, Badnera-Amravati	India	Inc
Arun Mahadeorao Thakare	Ph. D. Scholar, P.R.M. Institute of Technology and Research, Badnera-Amravati	India	Inc

Applicant

Name	Address	Country	Na
Dr. Samir J. Deshmukh	P.R.M. Institute of Technology and Research, Badnera-Amravati	India	Inc
Arun Mahadeorao Thakare	Ph. D. Scholar, P.R.M. Institute of Technology and Research, Badnera-Amravati	India	Inc

Abstract:

Present invention relates to the intermittent solar adsorption cooling system with composite adsorbent and water as a refrigerant. The composite adsorbent used in is 25 % activated carbon and 75 % silica gel. The system consists of adsorption container integrated with solar flat plate collector with absorber area of 0.9 square me contains a porous adsorbent medium. The other components of the system are condenser, evaporator, cooling cabinet and valves. The system works on the thermo adsorption cycle. Following invention is described in detail with the help of Figure 1 of sheet 1 showing perspective assembly drawing of the invention and Figure 2 o showing the cycle flow diagram.

Complete Specification

Claims:We claim:-

1. Solar adsorption refrigeration system for water cooling comprises of solar collector (absorber bed), condenser, expansion valve and the evaporator characteriz that adsorption container integrated with solar flat plate collector contains a porous adsorbent medium consists of fifteen copper tubes (3) and two cooper header temperature gauges and pressure gauges (7) are used to monitor the corresponding values at different locations.

2. Accordingly as claimed in claim 1 wherein said collector is insulated from all sides and bottom with an insulator of 100 mm thickness, and top side of the collec covered with 3 mm clear perspex sheet.

3. Accordingly as claimed in claim 1 wherein said tubes are filled with composite adsorbent, comprises of 25 % activated carbon and 75 % silica gel.

4. As claimed in claim 1 wherein the exposed projected area of the collector to the sun is 0.9 square meter.

5. Accordingly as claimed in claim 1 wherein said system consist of four valves to connect and disconnect the different components; V1 to isolate adsorption reac the evaporator, V2 to isolate adsorption reactor from the condenser, V3 to connect with the vacuum pump and V4 to isolate the condenser from the expansion valv

View Application Status