

Title (en)

EVAPORATIVE COOLER AND DESICCANT ASSISTED VAPOR COMPRESSION AC SYSTEM

Title (de)

VERDUNSTUNGSKÜHLGERÄT UND TROCKENMITTELGESTÜTZTES DAMPFKOMPRESSIONS-WECHSELSTROMSYSTEM

Title (fr)

REFROIDISSEUR ÉVAPORATIF ET SYSTÈME DE CONDITIONNEMENT D'AIR PAR COMPRESSION DE VAPEUR ASSISTÉE PAR DÉSHYDRATANT

Publication

EP 2156116 A1 20100224 (EN)

Application

EP 08754271 A 20080507

Priority

- US 2008005920 W 20080507
- US 80154507 A 20070510

Abstract (en)

[origin: US2008276640A1] An air conditioning system includes an evaporator assembly and a condenser assembly. A first portion of the exhaust airstream leaves the condenser and enters a primary channel of an evaporative cooler assembly. Water evaporates from the evaporative cooler tubes and creates a moisture-laden airstream. A plurality of apertures in the evaporative cooler tubes bleeds the moisture-laden airstream into a secondary channel defined within the evaporative cooler tubes. The heat drawn from the air in the primary channel produces an evaporatively cooled airstream that enters a desiccant wheel. A solid desiccant material within the desiccant wheel absorbs moisture from the evaporatively cooled airstream to produce a dehumidified airstream that enters the evaporator assembly. A second portion of the exhaust airstream is directed through a heater and then into the desiccant wheel to provide heat for regeneration of the solid desiccant material.

IPC 8 full level

F25D 17/06 (2006.01)

CPC (source: EP US)

F24F 3/1423 (2013.01 - EP US); **F24F 3/153** (2013.01 - EP US); **F24F 6/00** (2013.01 - EP US); **F24F 2203/1016** (2013.01 - EP US); **F24F 2203/1032** (2013.01 - EP US); **F24F 2203/1056** (2013.01 - EP US); **F24F 2203/1068** (2013.01 - EP US); **F24F 2203/1084** (2013.01 - EP US)

Citation (search report)

See references of WO 2008140746A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

US 2008276640 A1 20081113; CN 101680701 A 20100324; EP 2156116 A1 20100224; JP 2010526981 A 20100805; WO 2008140746 A1 20081120

DOCDB simple family (application)

US 80154507 A 20070510; CN 200880015492 A 20080507; EP 08754271 A 20080507; JP 2010507465 A 20080507; US 2008005920 W 20080507