

Title (en)

SURFACE FEEDING AND DISTRIBUTION OF A REFRIGERANT FOR A HEAT EXCHANGER IN SORPTION MACHINES

Title (de)

FLÄCHIGE KÄLTEMITTEL-ZUFUHR UND -VERTEILUNG FÜR EINEN WÄRMETAUSCHER IN SORPTIONSMASCHINEN

Title (fr)

AMENÉE ET DISTRIBUTION DE RÉFRIGÉRANT SUR UNE SURFACE D'UN ÉCHANGEUR DE CHALEUR ÉQUIPANT DES MACHINES À SORPTION

Publication

EP 2473811 B1 20160622 (DE)

Application

EP 10770972 A 20100902

Priority

- DE 102009040248 A 20090902
- DE 102009053843 A 20091118
- DE 2010001054 W 20100902

Abstract (en)

[origin: WO2011026483A2] The invention relates to an evaporator for sorption machines, comprising a heat exchanger provided with at least one tube and/or preferably tubular accessories, and a porous material which allows vapour to pass through is in contact with the tubes and/or the tubular accessories. The invention also relates to the use of fibrous material as filling material in an evaporator.

IPC 8 full level

F28F 13/00 (2006.01); **F25B 39/02** (2006.01)

CPC (source: EP KR US)

F25B 39/02 (2013.01 - KR); **F25B 39/026** (2013.01 - KR); **F28F 13/003** (2013.01 - EP KR US); **F28F 21/00** (2013.01 - KR); **F28F 21/006** (2013.01 - KR); **Y10T 29/4935** (2015.01 - EP US)

Citation (opposition)

Opponent : Fahrenheit Aktiengesellschaft

- GB 654396 A 19510613 - GIUSEPPE SCHWENDIMANN
- FR 2666875 A1 19920320 - BOURGOGNE TECHNOLOGIES [FR]
- GB 507416 A 19390607 - ELECTROLUX LTD
- US 2720763 A 19551018 - OSCAR DOEBELI
- DE 10217443 A1 20031106 - SORTECH AG [DE]
- DE 102006008786 A1 20070906 - FRAUNHOFER GES FORSCHUNG [DE]
- DE 19539105 A1 19970424 - WEBASTO THERMOSYSTEME GMBH [DE]
- DE 69212830 T2 19970123 - ROCKY RESEARCH [US]
- DE 4405669 A1 19950824 - ZEOLITH TECH [DE]
- DE 4036932 A1 19910620 - CARRIER CORP [US]
- DE 102007033085 A1 20090129 - TAUSCH ANDREAS [DE]
- US 5558687 A 19960924 - CAIN MICHAEL B [US]
- US 4371034 A 19830201 - YAMADA KEN ICHI [JP], et al
- US 2990696 A 19610704 - FISHER JOHN T
- JP H0961079 A 19970307 - HITACHI CABLE
- R. Z. WANG: "Efficient adsorption refrigerators integrated with heat pipes", VI MINSK INTERNATIONAL SEMINAR HEAT PIPES, HEAT PUMPS, REFRIGERATORS, 12 September 2015 (2015-09-12), pages 354 - 365, XP055365277
- GAMAL A. AMHALHEL ET AL.: "Problems of modeling flow and heat transfer in porous media", BIULETYN INSTYTUTU TECHNIKI CIEPLNEJ POLITECHNIKI WARSZA WSKIEJ, 1997, pages 1 - 34, XP055365278
- C. BECKERMANN ET AL.: "Forced convection boundary layer flow and heat transfer along a flat plate embedded in a porous medium", INT. J. HEAT MASS TRANSFER, vol. 30, no. 7, 1987, pages 1547 - 1551, XP055365279
- KAI THOMAS WITTE ET AL.: "Status report of evaporator development within SorCool project", ANNEX 34 MEETING, FRAUNHOFER-INSTITUT FÜR SOLARE ENERGIESYSTEME ISE, 28 April 2009 (2009-04-28), pages 1 - 25, XP55365280
- ANDREAS BRAUTSCH ET AL.: "Examination and visualisation of heat transfer process during evaporation in capillary porous structures", APPLIED THERMAL ENGINEERING, vol. 22, 2002, pages 815 - 824, XP055365281
- H.M. SABIR ET AL.: "A study of capillary-assisted evaporators", APPLIED THERMAL ENGINEERING, vol. 27, no. 8-9, 3 February 2007 (2007-02-03), pages 1555 - 1564, XP005873267, [retrieved on 20061114]
- H.M. SABIR ET AL.: "Experimental study of capillary-assisted evaporators", ENERGY AND BUILDINGS, vol. 40, no. 3, 2008, pages 399 - 407, XP022397118
- T.S. ZHAO ET AL.: "On capillary-driven flow and phase-change heat transfer in a porous structure heated by a finned surface: measurements and modeling", INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol. 43, 2000, pages 1141 - 1155, XP055365284
- Q. LIAO ET AL.: "A visual study of phase-change heat transfer in a two-dimensional porous structure with a partial heating boundary", INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol. 43, 2000, pages 1089 - 1102, XP055365287

Designated contracting state (EPC)

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

DOCDB simple family (publication)

WO 2011026483 A2 20110310; WO 2011026483 A3 20110915; AU 2010291608 A1 20120405; BR 112012004757 A2 20180313; EP 2473811 A2 20120711; EP 2473811 B1 20160622; ES 2587724 T3 20161026; JP 2013504029 A 20130204; KR 20120068893 A 20120627; US 2012216563 A1 20120830

DOCDB simple family (application)

DE 2010001054 W 20100902; AU 2010291608 A 20100902; BR 112012004757 A 20100902; EP 10770972 A 20100902; ES 10770972 T 20100902; JP 2012527205 A 20100902; KR 20127008313 A 20100902; US 201013393892 A 20100902