

Title (en)

FLAT PLATE HEAT TRANSFER DEVICE AND METHOD FOR MANUFACTURING THE SAME

Title (de)

FLACHPLATTEN-WÄRMETAUSCHERINRICHTUNG UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

DISPOSITIF DE TRANSFERT THERMIQUE A PLAQUES PLATES ET PROCEDE DE FABRICATION DE CELUI-CI

Publication

EP 1695601 A4 20100303 (EN)

Application

EP 04808415 A 20041214

Priority

- KR 2004003284 W 20041214
- KR 20030092088 A 20031216

Abstract (en)

[origin: WO2005060325A1] A flat plate heat transfer device contacted with heat source and heat-emitting unit at both end transfers heat generated at the heat source to the heat-emitting unit horizontally. The device includes a thermally-conductive flat case containing a working fluid evaporated with absorbing heat from the heat source and condensed with emitting heat to the heat-emitting unit; and a mesh aggregate installed in the case so that coarse and fine meshes in which wires are woven to be alternately crossed up/down are vertically laminated in contact. The coarse mesh gives main-directional and sub-directional vapor dispersion channels with different sectional areas at each crossing point of the mesh wires for vapor to flow therethrough. The main-directional vapor dispersion channel with relatively larger sectional area is parallel to heat transfer direction. The fine mesh gives liquid flow channels along running direction of the mesh wire from each crossing point of the mesh wires.

IPC 8 full level

H05K 7/20 (2006.01); **H01L 23/427** (2006.01)

CPC (source: EP KR US)

H01L 23/427 (2013.01 - EP US); **H05K 7/20** (2013.01 - KR); **H01L 2924/0002** (2013.01 - EP US)

Citation (search report)

- [A] US 2002124995 A1 20020912 - MOON SEOK-HWAN [KR], et al
- [A] US 2002056542 A1 20020516 - YAMAMOTO MASAAKI [JP], et al
- [A] US 2002189793 A1 20021219 - NODA HAJIME [JP], et al
- [A] NL 7515197 A 19761012 - SIEMENS AG
- [A] DOLGIREV YU E ET AL: "Flat heat pipe - has capillary-porous structure forming slot in central part of housing which houses mesh layer", WPI/ THOMSON,, vol. 1992, no. 42, 30 August 1991 (1991-08-30), XP002506755
- [A] HAN JAE SEOP ET AL: "Heat Pipe with Braiding Wick Structure", EPODOC,, 15 December 1999 (1999-12-15), XP002506754 & SU 1673824 A1 19910830 - RYLOV LEV V [SU], et al
- See references of WO 2005060325A1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

WO 2005060325 A1 20050630; CN 1895011 A 20070110; EP 1695601 A1 20060830; EP 1695601 A4 20100303; JP 2007519877 A 20070719; KR 100581115 B1 20060516; KR 20050060461 A 20050622; TW 200523518 A 20050716; TW I266851 B 20061121; US 2007163755 A1 20070719

DOCDB simple family (application)

KR 2004003284 W 20041214; CN 200480037671 A 20041214; EP 04808415 A 20041214; JP 2006545231 A 20041214; KR 20030092088 A 20031216; TW 93138754 A 20041214; US 58351404 A 20041214