

Title (en)
Heat exchanger

Title (de)
Wärmetauscher

Title (fr)
Echangeur de chaleur

Publication
EP 1657513 A1 20060517 (EN)

Application
EP 05257011 A 20051114

Priority
• JP 2004331639 A 20041116
• JP 2004332894 A 20041117

Abstract (en)
A heat exchanger (1) having at least one header (2), the whole of which is integrally formed by extrusion or drawing and in which a plurality of fluid passages are provided in parallel to each other and parted from each other, and a plurality of tubes (4), characterized in that a first partition (11) is provided in a first fluid passage, a second partition (12) is provided in a second fluid passage at a position different from a position of the first partition (11) in a fluid passage extending direction, and a communication path (14) is provided to a partition wall parting the first and second passages from each other at a position between the first and second partitions (11, 12) to communicate the first and second passages with each other. A counter flow structure suitable for a heat exchanger using carbon dioxide refrigerant can be easily realized at a simple assembling work and a high processing accuracy.

IPC 8 full level
F28F 9/02 (2006.01); **F28D 1/053** (2006.01)

CPC (source: EP)
F28D 1/05391 (2013.01); **F28F 9/0204** (2013.01); **F28D 2021/0073** (2013.01); **F28F 9/0212** (2013.01); **F28F 9/0214** (2013.01); **F28F 9/0246** (2013.01); **F28F 2220/00** (2013.01); **F28F 2225/00** (2013.01)

Citation (search report)
• [X] US 6189604 B1 20010220 - YAMAUCHI YOSHIYUKI [JP], et al
• [X] US 6176303 B1 20010123 - KOBAYASHI OSAMU [JP], et al
• [A] EP 1462749 A2 20040929 - CALSONIC KANSEI CORP [JP]
• [X] PATENT ABSTRACTS OF JAPAN vol. 2003, no. 04 2 April 2003 (2003-04-02)
• [A] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 02 29 February 2000 (2000-02-29)

Cited by
CN104937364A; US2017010055A1; CN109416231A; US2011174472A1; US2019178580A1; CN105378416A; US2016116230A1; US10337799B2; US10254054B2; US10247481B2; US11460256B2; WO2017223166A1; WO2014186251A1; WO2015169250A1; WO2014116351A1; US10830542B2; EP2345861B1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 1657513 A1 20060517; **EP 1657513 B1 20080102**; AT E382838 T1 20080115; DE 602005004094 D1 20080214; DE 602005004094 T2 20081224

DOCDB simple family (application)
EP 05257011 A 20051114; AT 05257011 T 20051114; DE 602005004094 T 20051114