

Title (en)

HEAT EXCHANGER AND METHOD FOR THE PRODUCTION THEREOF

Title (de)

WÄRMEÜBERTRÄGER SOWIE VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

ECHANGEUR DE CHALEUR ET PROCEDE DE FABRICATION DUDIT ECHANGEUR

Publication

**EP 1654508 B1 20161019 (DE)**

Application

**EP 04763632 A 20040729**

Priority

- EP 2004008542 W 20040729
- DE 10336033 A 20030801

Abstract (en)

[origin: WO2005012820A1] The invention relates to a heat exchanger which is especially used as an oil cooler in vehicles, and a method for the production thereof. A heat exchanger which is especially used as an oil cooler in the motor vehicle industry consists of interconnected plates. Outwardly closed cavities are embodied between the plates. Said cavities are alternately supplied with a first or second medium by means of respectively at least one supply line and one discharge line, and a corresponding medium flows through them. The plates are profiled in such a way that contact points are created between the respective profiles of the plate, and said plates are interconnected in the region of said contact points. The plates are designed such that the current from the first or second medium forming between the plates, from the corresponding supply line to the corresponding discharge line, does not follow a linear path.

IPC 8 full level

**F28D 9/00** (2006.01); **F28F 3/04** (2006.01)

CPC (source: EP US)

**F28D 9/005** (2013.01 - EP US); **F28F 3/046** (2013.01 - EP US); **F28D 2021/0049** (2013.01 - EP US); **F28D 2021/0089** (2013.01 - EP US);  
**Y10S 165/372** (2013.01 - EP US)

Citation (opposition)

Opponent : VALEO SYSTEMES THERMIQUES

- DE 19959780 A1 20010613 - PATENTE REHBERG LAUER GBR [DE]
- EP 1070928 A1 20010124 - DAIKIN IND LTD [JP]
- US 5988269 A 19991123 - KARLSSON SVEN [SE], et al
- WO 8605866 A1 19861009 - TORELL AB [SE]
- FR 2821926 A1 20020913 - CIAT SA [FR]
- US 5462113 A 19951031 - WAND STEVEN M [US]
- DE 19948222 A1 20010419 - XCELLSIS GMBH [DE]
- WO 8801722 A1 19880310 - FISCHER GERHARD [AT]
- US 5531269 A 19960702 - DAHLGREN ARTHUR [SE]
- US 2858112 A 19581028 - GERSTUNG GEORGE W
- US 3731737 A 19730508 - JENSSSEN S
- GB 699037 A 19531028 - CHARLES ZEUTHEN, et al
- DE 19540271 C1 19961107 - GEA ECOFLEX GMBH [DE]
- DE 2944799 A1 19800522 - REHEAT AB
- DE 1282037 B 19681107 - JULIUS & AUGUST ERBSLOEH KOMMA
- DE 4100651 A1 19920716 - GEA AHLBORN GMBH [DE]
- DE 3239004 A1 19830505 - REHEAT AB [SE]
- GB 2107845 A 19830505 - SCHMIDT W GMBH & CO
- US 5193612 A 19930316 - STIRNKORB ULRICH [DE]
- US 4781248 A 19881101 - PFEIFFER JOHANN [DE]

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2005012820 A1 20050210**; BR PI0413194 A 20061003; BR PI0413194 B1 20190430; CN 1833153 A 20060913; CN 1833153 B 20120404;  
DE 102004036951 A1 20050525; EP 1654508 A1 20060510; EP 1654508 B1 20161019; EP 1654508 B2 20200311; JP 2007500836 A 20070118;  
US 2007107890 A1 20070517; US 8061416 B2 20111122

DOCDB simple family (application)

**EP 2004008542 W 20040729**; BR PI0413194 A 20040729; CN 200480022295 A 20040729; DE 102004036951 A 20040729;  
EP 04763632 A 20040729; JP 2006521538 A 20040729; US 56605304 A 20040729