

Title (en)  
Heat exchanger

Title (de)  
Wärmetauscher

Title (fr)  
Échangeur de chaleur

Publication  
**EP 1762807 B2 20161228 (DE)**

Application  
**EP 05019383 A 20050907**

Priority  
EP 05019383 A 20050907

Abstract (en)  
[origin: US2007023174A1] A heat exchanger, including a coolant inlet, a coolant outlet, and flat tubes consisting of two joined parts having broad and narrow sides, the joined parts being stacked on top of one another and joined along their edges to form channels therebetween for flow of gas cooled by coolant flowing through channels between the flat tubes. A partial housing includes a first side, a second side, and a joining side between the first and second sides, with the flat tubes being arranged in the partial housing. The joining side of the housing has at least one cut-out with at least one joining strip between the first and second sides, with one of the inlet and outlet in the joining strip.

IPC 8 full level  
**F28D 9/00** (2006.01); **F28F 9/00** (2006.01)

CPC (source: EP US)  
**F28D 9/0037** (2013.01 - EP US); **F28F 9/001** (2013.01 - EP US); **F28D 2001/0273** (2013.01 - EP US); **F28F 2235/00** (2013.01 - EP US); **F28F 2250/102** (2013.01 - EP US); **F28F 2250/104** (2013.01 - EP US)

Citation (opposition)  
Opponent :

- US 5487424 A 19960130 - DAVISON ROGER C [US]
- DE 2421424 A1 19751113 - GUENTHER & CO KG
- DE 10359806 A1 20050714 - MODINE MFG CO [US]
- US 3992168 A 19761116 - TOYAMA AKIRA, et al
- US 2869835 A 19590120 - BUTT ALAN G
- DE 29809080 U1 19980723 - WAGNER WILFRIED [AT]
- DE 68905070 T2 19930930 - UNITED TECHNOLOGIES CORP [US]
- WO 2004109211 A1 20041216 - UOP LLC [US], et al
- DE 1946066 A1 19700319 - KOBE STEEL LTD

Cited by  
DE102013218444A1; DE102018114859A1; RU2636358C2; US9683786B2

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**US 2007023174 A1 20070201**; DE 502005010654 D1 20110120; EP 1762807 A1 20070314; EP 1762807 B1 20101208; EP 1762807 B2 20161228

DOCDB simple family (application)  
**US 51611206 A 20060906**; DE 502005010654 T 20050907; EP 05019383 A 20050907