

Title (en)  
Metallic heat exchanger and method for manufacturing the same

Title (de)  
Ganz-Metall-Wärmetauscher und Herstellungsverfahren

Title (fr)  
Echangeur de chaleur métallique et procédé de fabrication de celui-ci

Publication  
**EP 1731864 A1 20061213 (DE)**

Application  
**EP 05012589 A 20050611**

Priority  
EP 05012589 A 20050611

Abstract (en)  
The heat exchanger includes flat tubes (1) of rectangular cross section. The tubes are associated with bases or end plates (5) having projections (11). Spacings of the projections corresponds with those of the flat tubes. The projections enter and engage in the ends of the rectangular tubes, close to their narrow sides (2). The flat tubes overlap the width of the end plates with their narrow sides, the projections engaging in the tube ends, in the region of overlap. The tube plate width overlaps the narrow sides of the flat tubes, with the projections engaging their ends in the region of overlap. The projections touch the narrow sides internally, where they are preferably soldered. The projections are arranged on long edges (10) of the header boxes (6). The end plates include conventional formations, in that their long edges are turned through a right angle, and they each have openings (21) to accept a flat tube end. The openings extend up to and into the edge bends. Edge bends are only made on the long edges, allowing the end plates to be manufactured from continuous sheet metal strip. The headers have end openings (60). These are closed by known side plates (30) which also extend along the length of the tubes. Formation of the projections assist entry into the tube ends. The projections are either on the end plates, or are inserted as a separate frame with projections. An independent claim is included for the method of manufacture.

IPC 8 full level  
**F28F 9/02** (2006.01); **B21D 53/08** (2006.01)

CPC (source: EP)  
**B21D 53/085** (2013.01); **F28D 1/05366** (2013.01); **F28F 3/025** (2013.01); **F28F 9/001** (2013.01); **F28F 9/0224** (2013.01); **F28F 13/06** (2013.01); **F28F 21/084** (2013.01); **F28D 2021/0082** (2013.01)

Citation (search report)  
• [AD] DE 19819247 A1 19991111 - VALEO KLIMATECH GMBH & CO KG [DE]  
• [A] EP 0704666 A1 19960403 - ZEXEL CORP [JP]  
• [A] DE 10244629 A1 20030410 - DENSO CORP [JP]  
• [A] DE 19942458 A1 20000330 - DENSO CORP [JP]  
• [A] EP 0656517 A1 19950607 - THERMAL WAERME KAELTE KLIMA [DE]

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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 MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA HR LV MK YU

DOCDB simple family (publication)  
**EP 1731864 A1 20061213**; CN 101194140 A 20080604

DOCDB simple family (application)  
**EP 05012589 A 20050611**; CN 200680020776 A 20060218