

Title (en)

HEAT EXCHANGER, ESPECIALLY CHARGE AIR COOLER FOR MOTOR VEHICLES

Title (de)

WÄRMEÜBERTRAGER, INSBESONDERE LADELUFTKÜHLER FÜR KRAFTFAHRZEUGE

Title (fr)

ECHANGEUR THERMIQUE, NOTAMMENT REFROIDISSEUR D'AIR DE SURALIMENTATION POUR VEHICULES

Publication

**EP 1687583 A1 20060809 (DE)**

Application

**EP 04818769 A 20041110**

Priority

- EP 2004012720 W 20041110
- DE 10354382 A 20031120

Abstract (en)

[origin: WO2005050120A1] The invention relates to a heat exchanger, especially a charge air cooler (5) for motor vehicles. Said heat exchanger comprises a heat exchange block which is constituted of flat tubes (6) having flat tube ends and ribs (7) and tube bottoms (8) having ventilation passages (9) in which the flat tube ends are received and welded together. The heat exchanger also comprises collecting tanks that can be placed on the tube bottoms (8) and means for deflecting the flow in the feed section of the flat tube ends. The inventive heat exchanger is characterized in that the means for deflecting flow (deflection means 2) and means for reinforcing the flat tube ends (reinforcing means) are configured as an integrated structural component (1).

IPC 8 full level

**F28F 27/02** (2006.01); **F28D 1/053** (2006.01); **F28F 9/02** (2006.01)

CPC (source: EP US)

**F28D 1/05366** (2013.01 - EP US); **F28F 9/0224** (2013.01 - EP US); **F28F 9/0282** (2013.01 - EP US); **F28D 2021/0082** (2013.01 - EP US); **F28F 2225/04** (2013.01 - EP US); **Y10S 165/906** (2013.01 - EP US)

Citation (search report)

See references of WO 2005050120A1

Designated contracting state (EPC)

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

DOCDB simple family (publication)

**WO 2005050120 A1 20050602**; BR PI0416772 A 20070227; CN 1882818 A 20061220; CN 1882818 B 20101013; DE 10354382 A1 20050616; EP 1687583 A1 20060809; JP 2007511733 A 20070510; JP 4460583 B2 20100512; US 2007144718 A1 20070628; US 7413005 B2 20080819

DOCDB simple family (application)

**EP 2004012720 W 20041110**; BR PI0416772 A 20041110; CN 200480034539 A 20041110; DE 10354382 A 20031120; EP 04818769 A 20041110; JP 2006540254 A 20041110; US 58001504 A 20041110