

Title (en)

Heat exchanger, more particularly charged air cooler for automotive vehicle

Title (de)

Wärmetauscher, insbesondere Ladeluftkühler für ein Kraftfahrzeug

Title (fr)

Echangeur de chaleur, en particulier refroidisseur d'air de suralimentation pour véhicule automobile

Publication

EP 1574802 A3 20110907 (DE)

Application

EP 04028498 A 20041202

Priority

DE 102004012358 A 20040313

Abstract (en)

[origin: EP1574802A2] The heat exchanger (1), especially the air cooler for a vehicle motor turbocharger, has tubes (4) with a funnel shape at the head side (9) to give an opening without beating surfaces. The air inflow and outflow channels (8,8a) are secured within a holding frame (A1), which holds the tubes at their head sides.

IPC 8 full level

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

CPC (source: EP)

F28D 1/05366 (2013.01); **F28F 1/025** (2013.01); **F28F 9/0221** (2013.01); **F28F 9/0226** (2013.01); **F28D 2021/0082** (2013.01); **F28F 2009/029** (2013.01)

Citation (search report)

- [Y] DE 10103584 A1 20020801 - MODINE MFG CO [US]
- [Y] DE 19543986 A1 19970528 - BEHR GMBH & CO [DE]
- [AD] DE 10219867 A1 20031120 - BEHR GMBH & CO [DE]
- [A] EP 0798531 A1 19971001 - VALEO ENGINE COOLING AB [SE]
- [A] EP 0664428 A1 19950726 - VALEO THERMIQUE MOTEUR SA [FR]

Cited by

FR2996295A1; EP1748271A1; EP3045850A4; EP3540357A1; US9995540B2; WO2014048959A1; US10845135B2; US11415378B2

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 1574802 A2 20050914; EP 1574802 A3 20110907; DE 102004012358 A1 20050929

DOCDB simple family (application)

EP 04028498 A 20041202; DE 102004012358 A 20040313