

Title (en)

HEAT EXCHANGER UNIT FOR MOTOR VEHICLES

Title (de)

WÄRMETAUSCHEREINHEIT FÜR KRAFTFAHRZEUGE

Title (fr)

UNITE D'ECHANGE DE CHALEUR POUR VEHICULES A MOTEUR

Publication

**EP 1623173 A1 20060208 (DE)**

Application

**EP 04724999 A 20040401**

Priority

- EP 2004003471 W 20040401
- DE 10321458 A 20030513

Abstract (en)

[origin: WO2004102098A1] The invention relates to a heat exchanger unit for motor vehicles, comprising one first heat exchanger (10) and one second heat exchanger (12). Each heat exchanger (10, 12) comprises two collector pipes (14, 16 and/or 18, 20) which are arranged at a distance from each other. One collector pipe (14) of the first heat exchanger (10) is arranged substantially adjacent to one collector pipe (18) of the second heat exchanger (12). Also, the other collector pipe (16) of the first heat exchanger (10) is arranged substantially adjacent to the other collector pipe (20) of the second heat exchanger (12). One and/or the transversal sections (48, 52) of the covering wall (50, 54) of said collector pipe (14, 16) does not have a circular shape, said sections being perpendicular to the longitudinal axis (32, 34) of a collector pipe of the first heat exchanger (12),

IPC 1-7

**F28D 1/04; F28F 9/02**

IPC 8 full level

**F28D 1/04** (2006.01); **F28F 9/02** (2006.01)

CPC (source: EP US)

**F28D 1/0435** (2013.01 - EP US); **F28F 9/02** (2013.01 - EP US); **Y10T 29/4935** (2015.01 - EP US)

Citation (search report)

See references of WO 2004102098A1

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 2004102098 A1 20041125**; AT E384235 T1 20080215; BR PI0410303 A 20060523; CN 100441998 C 20081210; CN 1791781 A 20060621; DE 10321458 A1 20041202; DE 502004005964 D1 20080306; EP 1623173 A1 20060208; EP 1623173 B1 20080116; JP 2007501374 A 20070125; US 2007272175 A1 20071129; US 7971631 B2 20110705

DOCDB simple family (application)

**EP 2004003471 W 20040401**; AT 04724999 T 20040401; BR PI0410303 A 20040401; CN 200480013016 A 20040401; DE 10321458 A 20030513; DE 502004005964 T 20040401; EP 04724999 A 20040401; JP 2006529672 A 20040401; US 55692204 A 20040401