

Title (en)
Coolant radiator

Title (de)
Kühlmittelkühler

Title (fr)
Radiateur pour liquide de refroidissement

Publication
EP 1398589 B1 20070418 (DE)

Application
EP 03016862 A 20030724

Priority
DE 10242311 A 20020912

Abstract (en)
[origin: EP1398589A2] Coolant radiator for a motor vehicle comprises a radiator component soldered to adjoining cooling ribs (4) and collecting tanks (1, 2). The radiator component is a multifunction flat tube (MFF) having a greater section modulus than an individual flat tube (3). The ends (5) of the multifunction flat tube are connected to the two collecting tanks so that coolant flows through the multifunction flat tube and its fulfills the function of an inner side part of the coolant network and can be used as a filling pipe during filling of the coolant circuit. An Independent claim is also included for an alternative coolant radiator.

IPC 8 full level
F28D 1/053 (2006.01); **F28F 3/02** (2006.01); **F28F 3/04** (2006.01); **F28F 9/00** (2006.01)

CPC (source: EP US)
F28D 1/05366 (2013.01 - EP US); **F28F 3/025** (2013.01 - EP US); **F28F 3/044** (2013.01 - EP US); **F28F 9/001** (2013.01 - EP US)

Cited by
DE102014010632A1; EP1764571A1

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 PT RO SE SI SK TR

DOCDB simple family (publication)
EP 1398589 A2 20040317; **EP 1398589 A3 20051005**; **EP 1398589 B1 20070418**; AT E360182 T1 20070515; DE 10242311 A1 20040318; DE 50307061 D1 20070531; US 2004112577 A1 20040617; US 6904965 B2 20050614

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EP 03016862 A 20030724; AT 03016862 T 20030724; DE 10242311 A 20020912; DE 50307061 T 20030724; US 65897203 A 20030910