

Title (en)
Cooling module

Title (de)
Kühlmodul

Title (fr)
Module de refroidissement

Publication
EP 0893666 A2 19990127 (DE)

Application
EP 98113381 A 19980717

Priority
DE 19731999 A 19970725

Abstract (en)
The vehicle radiator (1) consists of a central heat exchanger, preferably cross-flow radiator, which has supporting studs on the surrounding box-frame. The module has further heat exchangers (5,9,10) and plastics fixtures resting on rubber shock vibration mounts attached to the vehicle, and one or more further heat exchangers. The radiator is supported on each side by individual supports (2,3) for each heat exchanger. The supports have elastic jaws (18) on arms (19) and further support fixtures (7).

IPC 1-7
F28D 1/04; **F28F 9/00**; **F01P 3/18**

IPC 8 full level
B60K 11/04 (2006.01); **F01P 3/18** (2006.01); **F28D 1/04** (2006.01); **F28F 9/00** (2006.01)

CPC (source: EP US)
F01P 3/18 (2013.01 - EP US); **F28D 1/0435** (2013.01 - EP US); **F28F 9/002** (2013.01 - EP US); **F01P 2060/04** (2013.01 - EP US); **F01P 2060/14** (2013.01 - EP US); **F01P 2070/52** (2013.01 - EP US); **F28D 2021/0084** (2013.01 - EP US); **F28D 2021/0089** (2013.01 - EP US); **F28D 2021/0094** (2013.01 - EP US); **F28F 2275/085** (2013.01 - EP US)

Citation (applicant)
• DE 3903199 C1 19900405
• DE 4244039 A1 19940707 - BEHR GMBH & CO [DE]
• DE 4039490 A1 19920617 - BEHR GMBH & CO [DE]
• DE 19602186 C1 19970522 - PORSCHE AG [DE]
• JP H0692150 A 19940405 - NIPPON DENSO CO

Cited by
FR2822126A1; CN114872539A; FR2833691A1; EP1757479A3; WO02073112A1

Designated contracting state (EPC)
DE ES FR GB IT SE

DOCDB simple family (publication)
EP 0893666 A2 19990127; **EP 0893666 A3 19990331**; **EP 0893666 B1 20000209**; DE 19731999 A1 19990204; DE 59800090 D1 20000316; ES 2144886 T3 20000616; US 6059019 A 20000509

DOCDB simple family (application)
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