

Title (en)
Automotive heat exchangers

Title (de)
Wärmetauscher für ein Kraftfahrzeug

Title (fr)
Echangeurs de chaleur pour véhicule automobile

Publication
EP 1460364 A3 20110921 (EN)

Application
EP 04251603 A 20040319

Priority
GB 0306271 A 20030319

Abstract (en)
[origin: EP1460364A2] An automotive heat exchanger (1) typically for use as a gas cooler in an automotive HVAC system having refrigerant operating in transcritical or supercritical state has an inlet header (6) and an outlet header (7) and at least two rows of tube lengths (2,3). A first row of tube lengths (2) carry working fluid in a first direction away from the inlet header (6) and a second row of tube lengths (3) carry working fluid in a direction opposed to the first direction toward the outlet header (7). The headers (6,7) are arranged in close proximity on the same side of the heat exchanger (1), an air gap separation or thermal insulator separation being provided between the headers (6,7).

IPC 8 full level
F28D 1/047 (2006.01); **F28D 1/053** (2006.01); **F28F 1/02** (2006.01); **F28F 1/12** (2006.01); **F28F 9/26** (2006.01)

CPC (source: EP)
F28D 1/0476 (2013.01); **F28D 1/05375** (2013.01); **F28F 1/022** (2013.01); **F28F 1/128** (2013.01); **F28D 2021/0073** (2013.01); **F28F 2270/00** (2013.01)

Citation (search report)

- [X] EP 1070929 A2 20010124 - VALEO KLIMATECHNIK GMBH [DE]
- [X] FR 2793013 A1 20001103 - VALEO THERMIQUE MOTEUR SA [FR]
- [E] EP 1452814 A1 20040901 - ZEXEL VALEO CLIMATE CONTR CORP [JP]
- [E] EP 1448945 A1 20040825 - MODINE MFG CO [US]
- [E] EP 1459028 A1 20040922 - MODINE MFG CO [US]
- [X] EP 0654645 A2 19950524 - SHOWA ALUMINUM CORP [JP]
- [X] US 5314013 A 19940524 - TANABE KENICHI [JP]
- [X] JP H04187991 A 19920706 - SHOWA ALUMINUM CORP

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Designated extension state (EPC)
AL LT LV MK

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