

Title (en)

Heat exchanger with tube bundle, more particularly for motor vehicle

Title (de)

Wärmetauscher mit Rohrbündel, insbesondere für Kraftfahrzeug

Title (fr)

Echangeur de chaleur à faisceau de tubes, en particulier pour véhicule automobile

Publication

**EP 0505244 B1 19960508 (FR)**

Application

**EP 92400667 A 19920313**

Priority

FR 9103412 A 19910320

Abstract (en)

[origin: EP0505244A1] The heat exchanger of the invention comprises a bundle of tubes (10) arranged in at least one row and in which each tube has a body (12) finishing with an end (14) received in a collector plate (20). At least two adjacent tubes (10) of the bundle have a terminal centre-to-centre distance (A') separating their respective ends (14) which is different from a central centre-to-centre distance (A) separating their respective bodies (12). <IMAGE>

IPC 1-7

**F28F 9/04**; **F28F 9/16**

IPC 8 full level

**B60H 1/00** (2006.01); **F28D 1/053** (2006.01); **F28F 9/04** (2006.01); **F28F 9/14** (2006.01); **F28F 9/16** (2006.01); **F28F 9/18** (2006.01)

CPC (source: EP US)

**F28D 1/05383** (2013.01 - EP US); **F28F 9/14** (2013.01 - EP US); **F28F 9/165** (2013.01 - EP US); **F28F 9/182** (2013.01 - EP US)

Cited by

FR2703767A1; US6435271B1; EP0590945A1; DE4432972A1; DE4432972B4

Designated contracting state (EPC)

DE ES GB IT

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**EP 0505244 A1 19920923**; **EP 0505244 B1 19960508**; BR 9200966 A 19921117; DE 69210452 D1 19960613; DE 69210452 T2 19960905; ES 2089435 T3 19961001; FR 2674322 A1 19920925; FR 2674322 B1 19980213; JP 3316692 B2 20020819; JP H0650695 A 19940225; MX 9201230 A 19921001; US 5219024 A 19930615

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