

Title (en)

Tube bundle heat-exchanger, especially for an automotive vehicle and method for its manufacture.

Title (de)

Rohrbündelwärmetauscher, besonders für ein Fahrzeug, und seine Methode zu seiner Herstellung.

Title (fr)

Echangeur de chaleur à faisceau de tubes, en particulier pour véhicule automobile, et procédé pour sa fabrication.

Publication

**EP 0514249 A1 19921119 (FR)**

Application

**EP 92401284 A 19920512**

Priority

FR 9105826 A 19910514

Abstract (en)

The invention relates to a heat exchanger comprising a bundle formed by a multiplicity of parallel tubes (10), arranged in at least one row and in which each tube (10) has a body (12) ending with an extremity (16) received in a hole (18) of a collector plate (20). <??>The cross-section (S2) of the extremity (16) of the tube has a perimeter which is smaller than the perimeter of the cross-section (S1) of the body (12) of the tube. <??>The invention thus makes it possible to optimise the value of the distance (ER) between the tube axes and to reduce the overall size of the heat exchanger. <IMAGE>

IPC 1-7

**F28F 9/16**

IPC 8 full level

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CPC (source: EP US)

**F28D 1/05383** (2013.01 - EP US); **F28F 9/165** (2013.01 - EP US); **Y10T 29/49373** (2015.01 - EP US); **Y10T 29/49391** (2015.01 - EP US)

Citation (search report)

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Designated contracting state (EPC)

DE ES GB IT

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**EP 0514249 A1 19921119**; **EP 0514249 B1 19950712**; DE 69203388 D1 19950817; DE 69203388 T2 19951221; ES 2075643 T3 19951001; FR 2676534 A1 19921120; FR 2676534 B1 19990212; JP H06235594 A 19940823; MX 9202223 A 19921101; US 5214848 A 19930601

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