

Title (en)  
Heat exchanger for automotive vehicle

Title (de)  
Wärmeübertrager für ein Kraftfahrzeug

Title (fr)  
Echangeur de chaleur pour véhicule automobile

Publication  
**EP 0864838 A3 19991124 (DE)**

Application  
**EP 98104133 A 19980309**

Priority  
• DE 19709909 A 19970311  
• DE 19722098 A 19970527

Abstract (en)  
[origin: EP0864838A2] The heat exchanger has a block assembled from flat tubes and corrugated ribs. All the tube ends are widened so they can be combined in a stack. There are two collecting boxes, each at opposite sides of the block at the tube ends, plus two side parts which extend at least over the length of the block and are joined on opposite sides to the block. Each collecting box (1,2) is designed to be open towards its side regions relative to its longitudinal axis and the side parts (7) have closing sections (9) on the ends opposite the collecting boxes which seal the open side regions of the latter.

IPC 1-7  
**F28F 9/00**; **F28F 9/02**

IPC 8 full level  
**B60K 11/04** (2006.01); **F01P 3/18** (2006.01); **F28D 1/053** (2006.01); **F28F 9/00** (2006.01); **F28F 9/02** (2006.01); **F28F 9/04** (2006.01)

CPC (source: EP US)  
**F28D 1/05375** (2013.01 - EP US); **F28F 9/001** (2013.01 - EP US); **F28F 9/0209** (2013.01 - EP US); **F28F 9/0221** (2013.01 - EP US); **F28F 9/0246** (2013.01 - EP US); **F28D 2021/0082** (2013.01 - EP US); **F28D 2021/0094** (2013.01 - EP US); **F28F 2220/00** (2013.01 - EP US)

Citation (search report)  
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• [X] PATENT ABSTRACTS OF JAPAN vol. 012, no. 434 (M - 764) 16 November 1988 (1988-11-16)

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**EP 98104133 A 19980309**; ES 98104133 T 19980309; JP 5794598 A 19980310; US 3800898 A 19980311