

Title (en)  
HEAT EXCHANGER AND AIR CONDITIONER

Title (de)  
WÄRMETAUSCHER UND KLIMAAANLAGE

Title (fr)  
ÉCHANGEUR DE CHALEUR ET CLIMATISEUR

Publication  
**EP 2667140 A4 20140709 (EN)**

Application  
**EP 12737117 A 20120123**

Priority  
• JP 2011011299 A 20110121  
• JP 2012000383 W 20120123

Abstract (en)  
[origin: EP2667140A1] A heat exchanger (30) has a plurality of flat tubes (33), and a plurality of fins (36) in which the flat tubes (33) are inserted in an orthogonal direction. Each of the fins (36) includes a fin body (36a), and an attachment portion (36b) to which the flat tube (33) is attached. The fin body (36a) includes an insertion region (40) in which the flat tube (33) is inserted, and an extension region (41) on the downwind side of the insertion region (40). A spacer (48) configured to keep a space between the fins (36) is formed in each of the insertion region (40) and the extension region (41) by cutting and bending part of the fin (36). The spacer (48) of the extension region (41) is straight behind the spacer (48) of the insertion region (40) on the downwind side. The spacer (48) of the insertion region (40) is configured such that the spacer body (48a) is tilted with respect to an airflow.

IPC 8 full level  
**F28F 1/32** (2006.01)

CPC (source: EP KR US)  
**F28F 1/12** (2013.01 - US); **F28F 1/32** (2013.01 - KR); **F28F 1/325** (2013.01 - EP US); **F28F 1/022** (2013.01 - EP US);  
**F28F 2215/12** (2013.01 - EP US)

Citation (search report)  
• [X] FR 2872891 A1 20060113 - VALEO THERMIQUE MOTEUR SAS [FR]  
• [X] FR 2832789 A1 20030530 - VALEO THERMIQUE MOTEUR SA [FR]  
• [X] BE 695221 A 19670814  
• See references of WO 2012098916A1

Cited by  
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