

Title (en)  
Heat exchanger with modular headers

Title (de)  
Wärmetauscher mit modularen böden

Title (fr)  
Échangeur thermique doté de boites a eau modulaires

Publication  
**EP 2096399 A1 20090902 (EN)**

Application  
**EP 09150708 A 20090116**

Priority  
IT PN20080018 A 20080229

Abstract (en)  
The present invention refers to a heat exchanger provided with modular headers. A heat exchanger, in particular of the finned-pack type, made according to the present invention comprises a plurality of tubes (1) that extend between a plurality of hollow interspaces (2); at least a header (4) comprising a support (5) provided with a plurality of first apertures (6) adapted to accommodate an extremity region (7, 8) of the tubes (1); and a cover (9) associated to said support (5). The heat exchanger is characterized in that each one of said support (5) and said cover (9) comprises a plurality of modular members (10, 18) that are removably associated to each other by means of conjugate surfaces (11a, 11b; 19a, 19b).

IPC 8 full level  
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**F28D 1/05341** (2013.01); **F28F 9/0221** (2013.01); **F28F 9/06** (2013.01)

Citation (applicant)  
• EP 1046876 A2 20001025 - CALSONIC KANSEI CORP [JP]  
• EP 1046867 A2 20001025 - KARLSRUHE FORSCHZENT [DE]

Citation (search report)  
• [XY] US 2003192681 A1 20031016 - YAMAUCHI YOSHIYUKI [JP], et al  
• [X] FR 2214875 A1 19740819 - SUEDEDEUTSCHE KUEHLER BEHR [DE]  
• [X] US 2005235691 A1 20051027 - KATOH YOSHIKI [JP], et al  
• [Y] US 5123482 A 19920623 - ABRAHAM ANTHONY W [US]  
• [Y] JP H04268199 A 19920924 - NIPPON DENSO CO  
• [A] DE 10057190 A1 20020523 - MODINE MFG CO [US]  
• [A] EP 0284463 A1 19880928 - VALEO CHAUSSON THERMIQUE [FR]

Cited by  
RU200074U1

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