

Title (en)  
HEAT EXCHANGER AND REFRIGERATION CYCLE DEVICE

Title (de)  
WÄRMETAUSCHER UND KÜHLZYKLUSVORRICHTUNG

Title (fr)  
ÉCHANGEUR DE CHALEUR ET DISPOSITIF DE CYCLE DE RÉFRIGÉRATION

Publication  
**EP 2840342 A4 20160217 (EN)**

Application  
**EP 12870627 A 20120831**

Priority  
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• JP 2012072132 W 20120831

Abstract (en)  
[origin: EP2840342A1] A type-A heat exchanger (10a) includes a plurality of first fluid passages (1) provided parallel to one another in a first plane (41) that is a flat plane present in a heat transfer block (4), so as to extend through the heat transfer block (4); a plurality of second fluid passages (2a) (second fluid passages (21a, 21b, and 21c)) provided parallel to the first fluid passages (1) in second planes (42a, 42b, and 42c) that are present in the heat transfer block and are parallel to the first plane (41), so as to extend through the heat transfer block (4); and a lateral hole (3a) provided in the heat transfer block (4) and communicating with all of the second fluid passages (2a). The lateral hole (3a) extends perpendicularly to the second fluid passages (2a). A heat-pump heating system (60) which exemplifies a refrigeration cycle apparatus includes the type-A heat exchanger (10a). Hence, although the lateral hole (3a) communicates with a plurality of fluid passages, the pressure loss can be reduced.

IPC 8 full level  
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Citation (search report)  
• [A] WO 2012017681 A1 20120209 - MITSUBISHI ELECTRIC CORP [JP], et al  
• [A] US 6354002 B1 20020312 - WRIGHT LLOYD F [US], et al  
• [A] JP 2002098486 A 20020405 - ZEXEL VALEO CLIMATE CONTR CORP  
• [A] US 2011139404 A1 20110616 - REDDY SUDHAKAR EDDULA [IN], et al  
• See references of WO 2013132679A1

Cited by  
CN111581844A; EP3699536A4; CN113883752A

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