

Title (en)  
REFRIGERATION CYCLE DEVICE

Title (de)  
KÄLTEKREISLAUFVORRICHTUNG

Title (fr)  
DISPOSITIF À CYCLE DE RÉFRIGÉRATION

Publication  
**EP 3115730 B1 20200527 (EN)**

Application  
**EP 14884296 A 20140307**

Priority  
JP 2014056025 W 20140307

Abstract (en)  
[origin: EP3115730A1] Provided is a refrigeration cycle apparatus, including a load-side heat exchanger (15) and a heat source-side heat exchanger (13) each including tubes with inner grooves, each of the tubes having inner grooves (23) extending obliquely with respect to a direction of a tube axis, and inner fins (24) each being formed between the inner grooves (23). In the refrigeration cycle apparatus, at least two of a first relationship, a second relationship, and a third relationship are satisfied: the first relationship of  $\pm 1 > \pm 2$ ; the second relationship of  $H1 > H2$ ; and the third relationship of  $\alpha_1 < \alpha_2$ , where  $\pm 1$  and  $\pm 2$  represent lead angles of the inner grooves (23) of the load-side heat exchanger (15) and the heat source-side heat exchanger (13), respectively,  $H1$  and  $H2$  represent heights of the inner fins (24) of the load-side heat exchanger (15) and the heat source-side heat exchanger (13), respectively, and  $\alpha_1$  and  $\alpha_2$  represent apex angles of the inner fins (24) of the load-side heat exchanger (15) and the heat source-side heat exchanger (13), respectively.

IPC 8 full level  
**F25B 13/00** (2006.01); **F25B 39/00** (2006.01); **F28F 1/06** (2006.01); **F28F 1/40** (2006.01); **F28F 1/42** (2006.01); **F28D 21/00** (2006.01)

CPC (source: EP)  
**F25B 39/00** (2013.01); **F28F 1/40** (2013.01); **F28F 1/42** (2013.01); **F25B 13/00** (2013.01); **F25B 2500/01** (2013.01); **F28D 2021/0068** (2013.01)

Cited by  
EP4134601A4

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**EP 3115730 A1 20170111**; **EP 3115730 A4 20171206**; **EP 3115730 B1 20200527**; JP 6141514 B2 20170607; JP WO2015132968 A1 20170406; WO 2015132968 A1 20150911

DOCDB simple family (application)  
**EP 14884296 A 20140307**; JP 2014056025 W 20140307; JP 2016506065 A 20140307