

Title (en)

HEAT EXCHANGER AND REFRIGERATION CYCLE AIR CONDITIONER USING SAME

Title (de)

WÄRMETAUSCHER UND KÄLTEKREISLAUF-KLIMAAANLAGE DAMIT

Title (fr)

ÉCHANGEUR DE CHALEUR ET CONDITIONNEUR D'AIR À CYCLE DE RÉFRIGÉRATION L'UTILISANT

Publication

**EP 2980516 A1 20160203 (EN)**

Application

**EP 13880586 A 20130327**

Priority

JP 2013058995 W 20130327

Abstract (en)

Provided is a heat exchanger (1), including: a parallel-flow-type heat exchange unit (3) including a plurality of heat exchange pipes (11, 13) each extending in an up-and-down direction, the parallel-flow-type heat exchange unit including at least a front row portion (7) and a back row portion (9), the front row portion and the back row portion each including the plurality of heat exchange pipes each extending in the up-and-down direction; and a plate fin-and-tube-type heat exchange unit (5) including a plurality of plate fins (25) each extending in the up-and-down direction, the plate fin-and-tube-type heat exchange unit being arranged in front of a lower portion of a front surface of the parallel-flow-type heat exchange unit. An outlet end of the plate fin-and-tube-type heat exchange unit and an inlet end of the parallel-flow-type heat exchange unit are connected to each other by a pipe.

IPC 8 full level

**F28D 1/053** (2006.01); **F25B 39/02** (2006.01); **F28D 1/04** (2006.01); **F28D 1/047** (2006.01); **F28F 1/12** (2006.01); **F28F 1/32** (2006.01); **F28F 9/26** (2006.01)

CPC (source: EP)

**F28D 1/0435** (2013.01); **F28D 1/0461** (2013.01); **F28D 1/0477** (2013.01); **F28D 1/05383** (2013.01); **F28F 1/126** (2013.01); **F28F 1/32** (2013.01)

Cited by

US2022128245A1; EP3644002A4; US11175053B2; US11573056B2

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 2980516 A1 20160203**; **EP 2980516 A4 20161207**; **EP 2980516 B1 20180131**; CN 203798027 U 20140827; JP 6157593 B2 20170705; JP WO2014155560 A1 20170216; WO 2014155560 A1 20141002

DOCDB simple family (application)

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