

Title (en)
HEAT EXCHANGER AND REFRIGERATION CYCLE DEVICE

Title (de)
WÄRMETAUSCHER UND KÄLTEKREISLAUFVORRICHTUNG

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

Publication
EP 4163580 A4 20230719 (EN)

Application
EP 20938547 A 20200604

Priority
JP 2020022105 W 20200604

Abstract (en)
[origin: EP4163580A1] A heat exchanger according to the present disclosure includes: a heat exchange portion in which a plurality of heat transfer tubes, in which refrigerant flows, are arranged in a height direction, the plurality of heat transfer tubes being configured to exchange heat between the refrigerant and air; a turn-back portion to which one end of each of the plurality of heat transfer tube is connected and which is configured to allow the refrigerant to flow between two rows of heat exchange portions arranged in an airflow direction, one of the two rows of heat exchange portions being the heat exchange portion and arranged on an airflow upstream side, the other of the two rows of heat exchange portions being the heat exchange portion and arranged on an airflow downstream side; and a plurality of distribution merge portions to each of which the other end of the heat transfer tube of the heat exchange portion of each row is connected, and which is configured to distribute the refrigerant to the heat transfer tube or merge refrigerant flows from the heat exchange portions, the plurality of heat transfer tubes of the heat exchange portion being grouped into, in order from an upper side in the height direction, a main heat exchange portion, a first auxiliary heat exchange portion having fewer number of the heat transfer tubes than those of the main heat exchange portion, and a second auxiliary heat exchange portion having fewer number of the heat transfer tubes than those of the first auxiliary heat exchange portion, and being configured to, when the heat exchanger serves as a condenser, allow the refrigerant to flow through the heat exchanger in order of the main heat exchange portion of the airflow downstream side row, the main heat exchange portion of the airflow upstream side row, the first auxiliary heat exchange portion of the airflow upstream side row, the first auxiliary heat exchange portion of the airflow downstream side row, the second auxiliary heat exchange portion of the airflow downstream side row, and the second auxiliary heat exchange portion of the airflow upstream side row, and allow the refrigerant to flow out of the heat exchanger.

IPC 8 full level
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F25B 39/04 (2013.01 - US); **F28D 7/1607** (2013.01 - US); **F28F 9/02** (2013.01 - US); **F28F 9/0278** (2013.01 - EP); **F28F 9/26** (2013.01 - US); **F28D 1/05391** (2013.01 - EP)

Citation (search report)
[A] WO 2019193713 A1 20191010 - MITSUBISHI ELECTRIC CORP [JP]

Designated contracting state (EPC)
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Designated extension state (EPC)
BA ME

Designated validation state (EPC)
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