

Title (en)
HEAT EXCHANGER AND REFRIGERANT DEVICE HAVING HEAT EXCHANGER

Title (de)
WÄRMETAUSCHER UND KÄLTEANLAGE MIT WÄRMETAUSCHER

Title (fr)
ÉCHANGEUR DE CHALEUR ET DISPOSITIF RÉFRIGÉRANT COMPORTANT UN ÉCHANGEUR DE CHALEUR

Publication
EP 3748275 A4 20210120 (EN)

Application
EP 18903461 A 20181225

Priority
• JP 2018015306 A 20180131
• JP 2018047589 W 20181225

Abstract (en)
[origin: EP3748275A1] This disclosure is to prevent or reduce accumulation of a liquid refrigerant. The outdoor heat exchanger (15) includes: a heat exchanging part (40) including a plurality of heat transfer tubes (41); a flow divider (90); and a plurality of second header internal space creating members (78) providing refrigerant flow paths between the heat exchanging part (40) and the flow divider (90). The flow divider (90) includes: an inflow/outflow pipe (91); a plurality of first thin tubes (93); and a flow divider main body (95) including a main body internal space (SP3) communicating with the inflow/outflow pipe (91) and first thin tubes (93) and causing the refrigerant from one of the inflow/outflow pipe (91) and first thin tubes (93) to flow into the other. The second header internal space creating members (78) each include a second header internal space (SP1) causing the refrigerant from one of its corresponding heat transfer tube (41) and first thin tube (93) to flow into the other. In the installation state, three or more second header internal spaces (SP1) are aligned vertically, and the number of heat transfer tubes (41) communicating with lower second header internal spaces (SC) is smaller than the number of heat transfer tubes (41) communicating with middle second header internal spaces (SB).

IPC 8 full level
F28F 9/02 (2006.01); **F25B 39/02** (2006.01); **F25B 39/04** (2006.01); **F25B 41/00** (2021.01); **F28F 9/22** (2006.01); **F28F 9/26** (2006.01)

CPC (source: EP US)
F24F 13/20 (2013.01 - EP US); **F25B 13/00** (2013.01 - EP); **F25B 39/028** (2013.01 - EP US); **F25B 39/04** (2013.01 - EP US); **F25B 41/40** (2021.01 - EP US); **F28F 9/02** (2013.01 - EP); **F28F 9/0275** (2013.01 - EP US); **F28F 9/22** (2013.01 - EP US); **F28F 9/26** (2013.01 - EP US); **F25B 41/42** (2021.01 - EP US); **F25B 2313/0233** (2013.01 - EP US); **F28D 2021/0068** (2013.01 - EP US)

Citation (search report)
• [A] EP 2667134 A1 20131127 - DAIKIN IND LTD [JP]
• [A] JP 2013083419 A 20130509 - DAIKIN IND LTD
• [A] US 2017328614 A1 20171116 - YOKOZEKI ATSUSHI [JP], et al
• [A] EP 3203175 A1 20170809 - DAIKIN IND LTD [JP]
• See references of WO 2019150852A1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3748275 A1 20201209; **EP 3748275 A4 20210120**; **EP 3748275 B1 20210915**; CN 111656125 A 20200911; ES 2896693 T3 20220225; JP 2019132537 A 20190808; JP 6985603 B2 20211222; US 2023106747 A1 20230406; WO 2019150852 A1 20190808

DOCDB simple family (application)
EP 18903461 A 20181225; CN 201880088246 A 20181225; ES 18903461 T 20181225; JP 2018015306 A 20180131; JP 2018047589 W 20181225; US 201816966767 A 20181225