

Title (en)
HEAT EXCHANGER AND REFRIGERATION CYCLE DEVICE

Title (de)
WÄRMETAUSCHER UND KÜHLZYKLUSVORRICHTUNG

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

Publication
EP 3608618 A1 20200212 (EN)

Application
EP 17904889 A 20170404

Priority
JP 2017014105 W 20170404

Abstract (en)
A heat exchanger includes a first fin, a second fin, a first heat transfer tube positioned away from an upstream end of the first fin by a first predetermined interval and passing through the first fin, and a second heat transfer tube positioned away from an upstream end of the second fin by a second predetermined interval and passing through the second fin. When the first heat transfer tube and the second heat transfer tube are viewed in such a manner that a lower surface of the first heat transfer tube is horizontal, in a vertical cross section perpendicular to a direction in which the first heat transfer tube passes through the first fin, upper surfaces of the first and second heat transfer tubes are inclined downward toward the upstream ends of the first and second fins, respectively, an upper end of the second heat transfer tube is located higher than the lower surface of the first heat transfer tube, and an intersecting point A at which an extension line of the upper surface of the second heat transfer tube and an extension line of the lower surface of the first heat transfer tube intersect is located closer to the second heat transfer tube than is an intersecting point B at which the extension line of the upper surface of the second heat transfer tube and an extension line of the lower surface of the second heat transfer tube intersect.

IPC 8 full level
F28F 1/32 (2006.01); **F28F 1/02** (2006.01)

CPC (source: EP US)
F24F 1/14 (2013.01 - US); **F28D 1/05383** (2013.01 - EP); **F28F 1/022** (2013.01 - EP); **F28F 1/32** (2013.01 - EP US); **F28F 13/06** (2013.01 - EP); **F28F 17/005** (2013.01 - EP US); **F28D 1/05383** (2013.01 - US); **F28D 2021/0068** (2013.01 - EP); **F28D 2021/0084** (2013.01 - US); **F28F 2215/12** (2013.01 - EP); **F28F 2250/02** (2013.01 - EP US)

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 3608618 A1 20200212; **EP 3608618 A4 20200422**; **EP 3608618 B1 20210526**; CN 110462326 A 20191115; CN 110462326 B 20210319; ES 2877582 T3 20211117; JP 6716021 B2 20200701; JP WO2018185840 A1 20191107; US 2020018494 A1 20200116; WO 2018185840 A1 20181011

DOCDB simple family (application)
EP 17904889 A 20170404; CN 201780088422 A 20170404; ES 17904889 T 20170404; JP 2017014105 W 20170404; JP 2019510536 A 20170404; US 201716480403 A 20170404