

Title (en)
HEAT EXCHANGER

Title (de)
WÄRMETAUSCHER

Title (fr)
ÉCHANGEUR DE CHALEUR

Publication
EP 4328534 A4 20240605 (EN)

Application
EP 21937847 A 20210420

Priority
JP 2021016042 W 20210420

Abstract (en)
[origin: WO2022224350A1] This heat exchanger comprises: a first heat exchanger that exchanges heat between air and refrigerant; and a second heat exchanger that is disposed in series with the first heat exchanger in a first direction, which is the air flow direction, and exchanges heat between air and the refrigerant. The first heat exchanger has a plurality of first heat exchanger tubes that are spaced apart from each other in a second direction intersecting the first direction and circulate the refrigerant therethrough. The axial direction of the first heat exchanger tubes extends along a third direction that intersects each of the first and second directions. The second heat exchanger has a plurality of second heat exchanger tubes that are spaced apart from each other in the second direction and circulate the refrigerant therethrough, and a corrugated fin that is provided between the plurality of second heat exchanger tubes. The axial direction of the second heat exchanger tubes extends along the third direction.

IPC 8 full level
F28F 1/30 (2006.01); **F28D 1/053** (2006.01); **F28F 1/10** (2006.01); **F28F 19/00** (2006.01)

CPC (source: EP US)
F28D 1/05391 (2013.01 - EP US); **F28F 1/128** (2013.01 - US); **F28F 1/16** (2013.01 - EP); **F28F 1/22** (2013.01 - EP); **F28F 1/30** (2013.01 - US); **F28F 19/006** (2013.01 - EP); **F28F 1/022** (2013.01 - EP); **F28F 1/128** (2013.01 - EP); **F28F 2210/08** (2013.01 - EP)

Citation (search report)
• [A] WO 2018011873 A1 20180118 - MITSUBISHI ELECTRIC CORP [JP]
• [A] WO 2020012549 A1 20200116 - MITSUBISHI ELECTRIC CORP [JP]
• [A] US 2018231320 A1 20180816 - PADUCH RAINER [DE], et al
• [A] EP 3534103 A1 20190904 - MITSUBISHI ELECTRIC CORP [JP]
• [A] WO 2018139863 A1 20180802 - LG ELECTRONICS INC [KR]
• See also references of WO 2022224350A1

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

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
EP 4328534 A1 20240228; **EP 4328534 A4 20240605**; JP WO2022224350 A1 20221027; US 2024118040 A1 20240411; WO 2022224350 A1 20221027

DOCDB simple family (application)
EP 21937847 A 20210420; JP 2021016042 W 20210420; JP 2023515929 A 20210420; US 202118264798 A 20210420