

Title (en)  
HEAT EXCHANGER AND AIR-CONDITIONING DEVICE

Title (de)  
WÄRMETAUSCHER UND KLIMATISIERUNGSVORRICHTUNG

Title (fr)  
ÉCHANGEUR DE CHALEUR ET DISPOSITIF DE CLIMATISATION

Publication  
**EP 4310427 A4 20240501 (EN)**

Application  
**EP 21931415 A 20210315**

Priority  
JP 2021010336 W 20210315

Abstract (en)  
[origin: EP4310427A1] An outdoor heat exchanger (1) includes: a group of windward flat tubes including a plurality of first flat tubes (201) and a plurality of second flat tubes (202); a group of leeward flat tubes including a plurality of third flat tubes (301) and a plurality of fourth flat tubes (302) and disposed at a leeward position with respect to the group of windward flat tubes in a flow direction of air; and a distributor (10) that distributes refrigerant that flows in from a center of the distributor to the plurality of third flat tubes (301) through a plurality of branches. When the outdoor heat exchanger (1) acts as an evaporator, the refrigerant flows through the plurality of second flat tubes (202), the plurality of fourth flat tubes (302), the plurality of third flat tubes (301), and the plurality of first flat tubes (201) in this order, and when the outdoor heat exchanger (1) acts as a condenser, the refrigerant flows through the plurality of first flat tubes (201), the plurality of third flat tubes (301), the plurality of fourth flat tubes (302), and the plurality of second flat tubes (202) in this order.

IPC 8 full level  
**F28D 1/047** (2006.01); **F28D 1/04** (2006.01); **F28D 1/053** (2006.01); **F28F 9/02** (2006.01); **F28F 9/22** (2006.01)

CPC (source: EP US)  
**F24F 1/0067** (2019.02 - US); **F28D 1/0435** (2013.01 - EP); **F28D 1/0476** (2013.01 - EP); **F28D 1/05391** (2013.01 - EP); **F28D 7/16** (2013.01 - US); **F28F 9/0221** (2013.01 - EP); **F28F 9/0278** (2013.01 - EP); **F28F 2210/08** (2013.01 - EP); **F28F 2210/10** (2013.01 - EP)

Citation (search report)  
• [A] EP 3477227 A1 20190501 - MITSUBISHI ELECTRIC CORP [JP]  
• [A] EP 3467404 A1 20190410 - MITSUBISHI ELECTRIC CORP [JP]  
• [A] EP 3064881 A1 20160907 - MITSUBISHI ELECTRIC CORP [JP]  
• [A] EP 3290851 A1 20180307 - MITSUBISHI ELECTRIC CORP [JP]  
• [A] GB 2562935 A 20181128 - MITSUBISHI ELECTRIC CORP [JP]  
• [A] EP 3205967 A1 20170816 - MITSUBISHI ELECTRIC CORP [JP]  
• See also references of WO 2022195659A1

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)  
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US 2024093945 A1 20240321; WO 2022195659 A1 20220922

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