

Title (en)
OUTDOOR UNIT FOR AIR CONDITIONING DEVICE

Title (de)
AUSSENEINHEIT FÜR EINE KLIMAAANLAGE

Title (fr)
UNITÉ EXTÉRIEURE POUR DISPOSITIF DE CLIMATISATION

Publication
EP 4166858 A1 20230419 (EN)

Application
EP 20940548 A 20200615

Priority
JP 2020023375 W 20200615

Abstract (en)
An outdoor unit of an air conditioning device is provided, which is configured so that a pressure loss upon use as an evaporator can be reduced and a high heating capacity and improved cooling performance can be achieved at a low cost under influence of a liquid head in association with wind speed distribution in a heat exchanger and the height of the heat exchanger. The heat exchanger has a height of 1 m or more, and includes three columns of heat exchanger units arranged along an air flow direction. A first-column heat exchange unit as a windward-side heat exchange unit is configured such that U-shaped heat transfer pipes are arranged in a row direction, and U-shaped heat transfer pipes are arranged over two columns of a second-column heat exchange unit and a third-column heat exchange unit on the leeward side. The third-column heat exchange unit in an upper heat exchanger is connected to a gas header. The number of refrigerant paths connected to the gas header is greater than the half of a total row number in the heat exchanger, and the number of rows in the upper heat exchanger is equal to the number of refrigerant paths connected to the gas header. The first-column heat exchange unit in a lower heat exchanger is connected to a liquid refrigerant distributor. Each U-shaped heat transfer pipe of the third-column heat exchange unit in the lower heat exchanger is connected to a corresponding one of the U-shaped heat transfer pipes of the first-column heat exchange unit in the upper heat exchanger through a path connection pipe.

IPC 8 full level
F24F 1/14 (2011.01)

CPC (source: EP)
F24F 1/14 (2013.01); **F24F 1/18** (2013.01); **F24F 1/50** (2013.01); **F28D 1/0435** (2013.01); **F28D 1/0443** (2013.01); **F28D 1/0475** (2013.01); **F28D 2021/0068** (2013.01)

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 4166858 A1 20230419; **EP 4166858 A4 20240313**; CN 115298486 A 20221104; JP 7374321 B2 20231106; JP WO2021255780 A1 20211223; WO 2021255780 A1 20211223

DOCDB simple family (application)
EP 20940548 A 20200615; CN 202080098784 A 20200615; JP 2020023375 W 20200615; JP 2022531108 A 20200615