Title (en)

AXIAL FAN, BLOWING DEVICE, AND REFRIGERATION CYCLE DEVICE

Title (de)

AXIALLÜFTER, GEBLÄSEVORRICHTUNG UND KÄLTEKREISLAUFVORRICHTUNG

Title (fr)

VENTILATEUR AXIAL, DISPOSITIF DE SOUFFLAGE, ET DISPOSITIF À CYCLE FRIGORIFIQUE

Publication

EP 4130487 A4 20230503 (EN)

Application

EP 20927809 A 20200324

Priority

JP 2020013027 W 20200324

Abstract (en)

[origin: EP4130487A1] An axial fan includes a hub, and a blade. The hub has a rotational axis, and is configured to be driven to rotate. The blade is connected to the hub, and has a front edge and a rear edge. In a shape of the blade as viewed in a cross section perpendicular to the rotational axis and in a part nearer to a pressure surface of the blade, the blade has a region in which a distance ratio L2/L1 increases in a direction from the front edge to the rear edge, where: a front end of a mountain-like portion formed to be convex in a rotation direction of the blade is defined as a vertex portion; a vertex portion positioned nearest to an inner circumference is defined as a vertex portion Pi; a vertex portion positioned nearest to an outer circumference is defined as a vertex portion Po; a position of a radius centering around the rotational axis and including the vertex portion Pi is defined as a radius position Ri; a position of a radius centering around the rotational axis and including the vertex portion Po is defined as a radius position Ro; a position of a radius in the middle between the radius position Ri and the radius position Ro is defined as a radius position Rc; a position of a radius in the middle between the radius position Ri and the radius position Rc is defined as a radius position R1; a position of a radius in the middle between the radius position Ro and the radius position Rc is defined as a radius position R2; a virtual straight line connecting the vertex portion Pi and the vertex portion Po is defined as a reference line SL; at the radius position R1, a distance between the reference line SL and the pressure surface is defined as a distance L1; at the radius position R2, a distance between the reference line SL and the pressure surface is defined as a distance L2; and a ratio between the distance L1 and the distance L2 is defined as the distance ratio L2/L1.

IPC 8 full level

F04D 29/38 (2006.01)

CPC (source: EP)

F04D 29/384 (2013.01); F05D 2240/301 (2013.01); F05D 2240/305 (2013.01); F05D 2250/182 (2013.01); F05D 2250/611 (2013.01)

Citation (search report)

- [XA] EP 3085966 A1 20161026 - MITSUBISHI ELECTRIC CORP [JP]
- [A] WO 2018158859 A1 20180907 - MITSUBISHI ELECTRIC CORP [JP]
- [A] US 2019107118 A1 20190411 - ARAI TOSHIKATSU [JP], et al
- [A] WO 2016071948 A1 20160512 - MITSUBISHI ELECTRIC CORP [JP]
- See references of WO 2021192036A1

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 4130487 A1 20230208; **EP 4130487 A4 20230503**; CN 115280020 A 20221101; CN 115280020 B 20231205; JP 7258225 B2 20230414; JP WO2021192036 A1 20210930; WO 2021192036 A1 20210930

DOCDB simple family (application)

EP 20927809 A 20200324; CN 202080098663 A 20200324; JP 2020013027 W 20200324; JP 2022509831 A 20200324