

Title (en)  
BLOWER, AIR CONDITIONER, AND REFRIGERATION CYCLE DEVICE

Title (de)  
GEBLÄSE, KLIMAANLAGE UND KÄLTEKREISLAUFVORRICHTUNG

Title (fr)  
SOUFFLANTE, CLIMATISEUR ET DISPOSITIF À CYCLE DE RÉFRIGÉRATION

Publication  
**EP 4336045 A4 20240605 (EN)**

Application  
**EP 21939823 A 20210507**

Priority  
JP 2021017432 W 20210507

Abstract (en)  
[origin: EP4336045A1] An air sending device is provided with a cross flow fan including an impeller in which a plurality of blades is arranged annularly. Each of the blades includes a pressure surface, a suction surface, an inner peripheral end face, and an outer peripheral end face, and in a section perpendicular to a rotation shaft of the cross flow fan, the pressure surface is concave in a rotation direction of the cross flow fan, the suction surface is convex in the opposite direction to the rotation direction, the inner peripheral end face is arcuately formed on an inner peripheral side of the blade and connecting the pressure surface and the suction surface, and the outer peripheral end face is arcuately formed on an outer peripheral side of the blade and connecting the pressure surface and the suction surface. The outer peripheral end face is located more forwardly than the inner peripheral end face in the rotation direction. The pressure surface of the blade satisfies the following relationship: a curvature of a second pressure-surface side curved surface > a curvature of a third pressure-surface side curved surface > a curvature of a first pressure-surface side curved surface. When a first pressure-surface side area, a second pressure-surface side area, and a third pressure-surface side area of a surface of part of the blade that is located on a pressure surface side of the blade are projected on a chord line connecting the inner peripheral end and the outer peripheral end of the blade, a length of the first pressure-surface side area, a length of the second pressure-surface side area, and a length of the third pressure-surface side area satisfy the following relationship: the length of the third pressure-surface side area > the length of the first pressure-surface side area > the length of the second pressure-surface side area.

IPC 8 full level  
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CPC (source: EP US)  
**F04D 17/04** (2013.01 - EP US); **F04D 29/283** (2013.01 - EP); **F04D 29/30** (2013.01 - EP); **F04D 29/324** (2013.01 - US)

Citation (search report)

- [A] JP 2001263285 A 20010926 - MITSUBISHI ELECTRIC CORP
- [A] US 6261051 B1 20010717 - KOLACNY GORDON A [US]
- See also references of WO 2022234630A1

Designated contracting state (EPC)  
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Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4336045 A1 20240313**; **EP 4336045 A4 20240605**; CN 117222815 A 20231212; JP 7466765 B2 20240412; JP WO2022234630 A1 20221110; US 2024159238 A1 20240516; WO 2022234630 A1 20221110

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**EP 21939823 A 20210507**; CN 202180097651 A 20210507; JP 2021017432 W 20210507; JP 2023518563 A 20210507; US 202118549418 A 20210507