

Title (en)  
CROSS-FLOW FAN AND AIR CONDITIONER

Title (de)  
QUERSTROMLÜFTER UND KLIMAAANLAGE

Title (fr)  
VENTILATEUR À FLUX TRANSVERSAL ET CLIMATISEUR

Publication  
**EP 2549114 A4 20170913 (EN)**

Application  
**EP 10847797 A 20100318**

Priority  
JP 2010001945 W 20100318

Abstract (en)  
[origin: EP2549114A1] Provided are impeller units 8d having disk-shaped support plates 8b, whose center of rotation is located in the center thereof, and a plurality of blades 8c extending in a rotation-axis direction and arranged along the outer peripheries of the support plates 8b, the support plates 8b supporting opposite ends of the blades; an impeller 8a formed of the multiple impeller units 8d that are fixed to each other in the rotation-axis direction; and a plurality of grooves 14 having a depressed shape that extend in the rotation-axis direction and are provided in a blade suction surface 13a serving as a back side in a rotational direction of each blade 8c. The grooves 14 are separated from each other by a predetermined distance such that a flat section M is provided between neighboring grooves 14.

IPC 8 full level  
**F04D 17/04** (2006.01); **F04D 29/28** (2006.01); **F04D 29/30** (2006.01); **F04D 29/68** (2006.01)

CPC (source: EP)  
**F04D 17/04** (2013.01); **F04D 29/283** (2013.01); **F04D 29/30** (2013.01); **F04D 29/681** (2013.01); **F05D 2240/306** (2013.01); **F05D 2250/294** (2013.01)

Citation (search report)

- [A] JP 2007010259 A 20070118 - HITACHI APPLIANCES INC
- [A] JP H09280196 A 19971028 - DAIKIN IND LTD
- [A] US 6092766 A 20000725 - LAROCHE ULRICH [CH], et al
- See references of WO 2011114375A1

Cited by  
US11947263B2

Designated contracting state (EPC)  
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 SE SI SK SM TR

DOCDB simple family (publication)  
**EP 2549114 A1 20130123; EP 2549114 A4 20170913; EP 2549114 B1 20180829**; AU 2010348684 A1 20120913; AU 2010348684 B2 20131107; CN 102812253 A 20121205; CN 102812253 B 20160803; ES 2690196 T3 20181119; WO 2011114375 A1 20110922

DOCDB simple family (application)  
**EP 10847797 A 20100318**; AU 2010348684 A 20100318; CN 201080065532 A 20100318; ES 10847797 T 20100318; JP 2010001945 W 20100318