

Title (en)

BLOWER AND HEAT PUMP DEVICE USING SAME

Title (de)

GEBLÄSE UND WÄRMEPUMPENVORRICHTUNG DAMIT

Title (fr)

SOUFFLANTE ET DISPOSITIF DE POMPE A CHALEUR L'UTILISANT

Publication

EP 2270338 B1 20181114 (EN)

Application

EP 09734028 A 20090311

Priority

- JP 2009054645 W 20090311
- JP 2008111585 A 20080422
- JP 2008228399 A 20080905

Abstract (en)

[origin: EP2270338A1] A now-noise blower is provided which reduces the turbulence of incoming air flow itself even if there is un-uniformity resulting from circumferential positions around a rotation shaft of air inlet passage. Such a blower includes a blade 1 having its outer circumferential edge 1c warped in a rotational direction and a bellmouth 5 covering the circumference of the blade at the air outlet side, wherein a surface of the bellmouth facing the blade has a convex-shaped first upstream expanding portion 5c upstream extending from a minimum inner diameter portion Pb3 and a concave-shaped second upstream expanding portion 5d further upstream extending, the second upstream expanding portion being continuous from the first upstream expanding portion.

IPC 8 full level

F04D 29/16 (2006.01); **F04D 29/52** (2006.01); **F24F 1/38** (2011.01); **F24F 1/40** (2011.01)

CPC (source: EP US)

F04D 29/164 (2013.01 - EP US); **F04D 29/526** (2013.01 - EP US); **F24F 1/38** (2013.01 - EP US); **F24F 1/40** (2013.01 - EP US)

Cited by

EP3182025A1; CN106871266A; US10054355B2

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 TR

DOCDB simple family (publication)

EP 2270338 A1 20110105; **EP 2270338 A4 20141001**; **EP 2270338 B1 20181114**; CN 102016327 A 20110413; ES 2702364 T3 20190228; JP 5213953 B2 20130619; JP WO2009130954 A1 20110818; US 2011017427 A1 20110127; WO 2009130954 A1 20091029

DOCDB simple family (application)

EP 09734028 A 20090311; CN 200980114335 A 20090311; ES 09734028 T 20090311; JP 2009054645 W 20090311; JP 2010509112 A 20090311; US 93383809 A 20090311