

Title (en)
Axial flow fan and series axial flow fan

Title (de)
Axialstromlüfter und serieller Axialstromlüfter

Title (fr)
Ventilateur axial et ventilateur axial en série

Publication
EP 2884111 A1 20150617 (EN)

Application
EP 14196814 A 20141208

Priority
JP 2013257089 A 20131212

Abstract (en)
An axial flow fan includes: a casing defining a wind tunnel; a frame having a plurality of spokes extended from the casing to the center in the radial direction of the casing so as to be across the wind tunnel, and a frame hub connecting the plurality of spokes at the center in the radial direction of the casing; a stator supported by the frame hub, in which a winding is wound around the stator; a rotor pivotally supported by the frame hub in a rotatable manner and having a permanent magnet; an impeller fixed to the rotor and having a plurality of rotor blades; and a step part formed in at least one surface of the frame hub.

IPC 8 full level
F04D 19/00 (2006.01); **F04D 25/06** (2006.01); **F04D 29/52** (2006.01); **F04D 29/66** (2006.01)

CPC (source: CN EP US)
F04D 19/007 (2013.01 - EP US); **F04D 25/0646** (2013.01 - EP US); **F04D 25/08** (2013.01 - CN); **F04D 25/166** (2013.01 - CN);
F04D 29/403 (2013.01 - US); **F04D 29/522** (2013.01 - EP US); **F04D 29/668** (2013.01 - CN EP US)

Citation (applicant)
• JP 2006161688 A 20060622 - JAPAN SERVO
• JP 2012184748 A 20120927 - NIHON DENSAN KK

Citation (search report)
• [X] US 2012051940 A1 20120301 - LIU CHING-TANG [CN]
• [Y] US 2008101920 A1 20080501 - YOSHIDA YUSUKE [JP], et al
• [Y] CN 101246755 A 20080820 - SUNONWEALTH ELECTRIC MACH IND CO [CN]
• [A] WO 2013032923 A2 20130307 - BOSCH GMBH ROBERT [DE], et al

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

DOCDB simple family (publication)
EP 2884111 A1 20150617; CN 104712574 A 20150617; JP 2015113781 A 20150622; TW 201529994 A 20150801; US 2015167678 A1 20150618

DOCDB simple family (application)
EP 14196814 A 20141208; CN 201410721167 A 20141202; JP 2013257089 A 20131212; TW 103143300 A 20141211;
US 201414559219 A 20141203