

Title (en)
ROTOR AND VACUUM PUMP

Title (de)
ROTOR UND VAKUUMPUMPE

Title (fr)
ROTOR ET POMPE À VIDE

Publication
EP 2722528 A4 20141203 (EN)

Application
EP 12800506 A 20120531

Priority
• JP 2011133869 A 20110616
• JP 2012064125 W 20120531

Abstract (en)
[origin: EP2722528A1] Provided are a rotor having a load variation relaxation structure that relaxes load variations in the boundary portion of a cylindrical body and a cylindrical rotating portion, and a vacuum pump in which rotation performance (that is, discharge performance), reliability, and durability are improved over those in the related art by incorporating the cylindrical body. In the vacuum pump, a rotating portion made from a metal (aluminum alloy or the like) is provided with the load variation relaxation structure, which relaxes load variations caused by thermal stresses, in a joined section where the cylindrical rotating portion formed from a different material (FRP or the like) is joined. More specifically, any one from among a gentle taper, a curved section and a taper section, and a corner R is provided in the boundary portion of the rotating portion and the cylindrical rotating portion.

IPC 8 full level
F04D 19/04 (2006.01); **F04D 29/26** (2006.01); **F04D 29/32** (2006.01)

CPC (source: EP)
F04D 19/042 (2013.01); **F04D 19/044** (2013.01); **F04D 29/266** (2013.01); **F04D 29/32** (2013.01)

Citation (search report)
• [X] JP H08219086 A 19960827 - DAIKIN IND LTD
• [XP] WO 2012002084 A1 20120105 - EDWARDSJAPAN LTD [JP], et al
• [XI] EP 1318308 A2 20030611 - BOC TECHNOLOGIES LTD [JP]
• [X] WO 2005121561 A1 20051222 - BOC GROUP PLC [GB], et al
• [X] JP 2006291794 A 20061026 - OSAKA VACUUM LTD
• [XI] JP 2007071139 A 20070322 - OSAKA VACUUM LTD
• [XI] JP 2005180265 A 20050707 - BOC EDWARDS KK
• [X] EP 2108844 A2 20091014 - EBARA CORP [JP]
• [X] DE 102008056352 A1 20100512 - OERLIKON LEYBOLD VACUUM GMBH [DE]
• [XI] EP 1101945 A2 20010523 - BOC GROUP PLC [GB]
• [A] JP S62152520 A 19870707 - TOSHIBA CORP
• See references of WO 2012172990A1

Cited by
EP2597313A3

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

DOCDB simple family (publication)
EP 2722528 A1 20140423; EP 2722528 A4 20141203; EP 2722528 B1 20180530; CN 103562554 A 20140205; CN 103562554 B 20161221;
JP 6047091 B2 20161221; JP WO2012172990 A1 20150223; WO 2012172990 A1 20121220

DOCDB simple family (application)
EP 12800506 A 20120531; CN 201280026312 A 20120531; JP 2012064125 W 20120531; JP 2013520501 A 20120531