

Title (en)  
Vacuum pump

Title (de)  
Vakuumpumpe

Title (fr)  
Pompe à vide

Publication  
**EP 2706237 A3 20150729 (DE)**

Application  
**EP 13175496 A 20130708**

Priority  
DE 102012108394 A 20120910

Abstract (en)  
[origin: EP2706237A2] The pump has a gas inlet opening, a gas outlet opening, and a rotor (201) fastened to a rotor shaft (232). The rotor comprises rotating pump-active components and a screw (280) that is arranged at the rotor shaft in an axial direction. A pin (281) is arranged radially or axially in the rotor shaft for inhibiting rotation of the rotor against the rotor shaft, and a projection is formed in the rotor shaft in a radial direction or in an axial direction. The pin stays in engagement with a recess of the rotor shaft. A supporting ring is arranged at a support section.

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

CPC (source: EP US)  
**F04D 19/04** (2013.01 - EP US); **F04D 19/042** (2013.01 - EP US); **F04D 19/044** (2013.01 - US); **F04D 29/263** (2013.01 - EP US); **F04D 29/266** (2013.01 - EP US); **F04D 29/321** (2013.01 - EP US); **F05D 2260/36** (2013.01 - EP)

Citation (search report)

- [XY] JP 2000205183 A 20000725 - MITSUBISHI HEAVY IND LTD
- [Y] DE 102010040288 A1 20120308 - SIEMENS AG [DE]
- [X] US 2009311113 A1 20091217 - KETTLEWELL NATHAN LEE [GB]
- [X] JP 2012127326 A 20120705 - SHIMADZU CORP

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IT201800007964A1; CN104019057A

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 2706237 A2 20140312; EP 2706237 A3 20150729; EP 2706237 B1 20190710**; DE 102012108394 A1 20140313; JP 2014051969 A 20140320; JP 5706483 B2 20150422; US 2014072408 A1 20140313; US 9453514 B2 20160927

DOCDB simple family (application)  
**EP 13175496 A 20130708**; DE 102012108394 A 20120910; JP 2013160344 A 20130801; US 201314016475 A 20130903