

Title (en)
VACUUM PUMP APPARATUS

Title (de)
VAKUUMPUMPENVORRICHTUNG

Title (fr)
APPAREIL DE POMPE À VIDE

Publication
EP 3674551 B1 20240124 (EN)

Application
EP 19217767 A 20191218

Priority
JP 2018247321 A 20181228

Abstract (en)
[origin: EP3674551A1] A vacuum pump apparatus capable of reducing an installation space of a vacuum pump and reliably restarting comprising: a pair of pump rotors (6a, 6b, 6c) arranged opposite to each other, the pair of pump rotors being a roots rotor or a claw rotor; a pair of shafts (8) fixed to the pair of pump rotors (6a, 6b, 6c), the pair of shafts (8) extending in a vertical direction; a motor (10) configured to rotate the pair of pump rotors (6a, 6b, 6c); a pair of timing gears (25) fixed to the pair of shafts (8), the pair of timing gears (25) meshing with each other; a fixed-side bearing (20, 21) arranged above the pair of pump rotors; and a free-side bearing (13) configured to support the shaft (8) together with the fixed-side bearing (20, 21).

IPC 8 full level
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Citation (examination)
• WO 2010061939 A1 20100603 - EBARA CORP [JP], et al
• EP 2642127 A1 20130925 - VACUUBRAND GMBH & CO KG [DE]

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DOCDB simple family (publication)
EP 3674551 A1 20200701; **EP 3674551 B1 20240124**; CN 111502954 A 20200807; CN 111502954 B 20230718; JP 2020106005 A 20200709; JP 2022128522 A 20220901; JP 7141332 B2 20220922; KR 20200083239 A 20200708; TW 202032014 A 20200901; TW 202413803 A 20240401; TW I826620 B 20231221

DOCDB simple family (application)
EP 19217767 A 20191218; CN 201911348087 A 20191224; JP 2018247321 A 20181228; JP 2022109672 A 20220707; KR 20190169397 A 20191218; TW 108146974 A 20191220; TW 112145646 A 20191220