

Title (en)
VACUUM PUMP

Title (de)
VAKUUMPUMPE

Title (fr)
POMPE À VIDE

Publication
EP 4212729 A1 20230719 (EN)

Application
EP 21866676 A 20210903

Priority
• JP 2020152347 A 20200910
• JP 2021032481 W 20210903

Abstract (en)
A vacuum pump is provided that improves productivity by reducing a flow of gas (the number of gas molecules) flowing to a gap formed for thermal insulation, and reducing an amount of by-products accumulating in the gap, and moreover extending intervals at which maintenance is required. The vacuum pump includes: an outer cylinder having an inlet port and an outlet port; a rotor shaft rotationally supported inside the outer cylinder; rotor blades in multiple stages, the rotor blades being rotatable together with the rotor shaft; stator blades in multiple stages, the stator blades being fixed to the outer cylinder and located respectively between the rotor blades in multiple stages; and a cooling-side stator and a heating-side stator that hold the stator blades in multiple stages at predetermined intervals. An opening of a gap of a predetermined width configured to provide thermal insulation between the cooling-side stator and the heating-side stator is located at a position where the opening does not face outer circumference surfaces of the rotor blades in an axial direction of the rotating body.

IPC 8 full level
F04D 19/04 (2006.01)

CPC (source: EP IL KR US)
F04D 19/04 (2013.01 - EP IL); **F04D 19/042** (2013.01 - KR US); **F04D 29/522** (2013.01 - EP); **F04D 29/5833** (2013.01 - EP);
F04D 29/584 (2013.01 - EP); **F04D 29/5853** (2013.01 - EP)

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

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
EP 4212729 A1 20230719; CN 116018464 A 20230425; IL 300575 A 20230401; JP 2022046347 A 20220323; KR 20230062812 A 20230509;
US 2024011495 A1 20240111; WO 2022054717 A1 20220317

DOCDB simple family (application)
EP 21866676 A 20210903; CN 202180053111 A 20210903; IL 30057523 A 20230212; JP 2020152347 A 20200910;
JP 2021032481 W 20210903; KR 20237005341 A 20210903; US 202118042004 A 20210903