

Title (en)

NON-POSITIVE DISPLACEMENT TYPE PUMP AND LIQUID SUPPLY DEVICE

Title (de)

KRAFTSCHLÜSSIGE VERDRÄNGERPUMPE UND FLÜSSIGKEITSVERSORGUNGSVORRICHTUNG

Title (fr)

POMPE DE TYPE À DÉPLACEMENT NON POSITIF ET DISPOSITIF D'ALIMENTATION EN LIQUIDE

Publication

EP 3913228 A4 20221026 (EN)

Application

EP 20741647 A 20200116

Priority

- JP 2019004877 A 20190116
- JP 2020001379 W 20200116

Abstract (en)

[origin: EP3913228A1] A pump unit (4), which is a non-positive displacement type pump provided in a liquid supply device (1), has a first seal section (66) and a second seal section (67) provided between an intake port (53) and a discharge port (48) in the circumferential direction of an impeller (40). An angle between the two straight lines connecting the circumferential ends of each seal portion (66, 67) and the center of rotation of the impeller (40) is 43° or more and 47° or less. Each seal portion (66, 67) has a size making it possible to close at least two through flow paths (63) between both ends in the circumferential direction.

IPC 8 full level

F02M 37/08 (2006.01); **F02M 37/10** (2006.01); **F04D 5/00** (2006.01); **F04D 29/16** (2006.01); **F04D 29/18** (2006.01); **F04D 29/66** (2006.01)

CPC (source: EP)

F02M 37/08 (2013.01); **F02M 37/10** (2013.01); **F04D 5/002** (2013.01); **F04D 5/008** (2013.01); **F04D 29/165** (2013.01); **F04D 29/188** (2013.01); **F04D 29/669** (2013.01)

Citation (search report)

- [X] WO 9311355 A1 19930610 - FORD MOTOR CANADA [CA], et al
- [X] US 5299908 A 19940405 - ROBBIE MARK J [GB]
- [X] JP H07167077 A 19950704 - LUCAS IND PLC
- [X] JP S6153491 A 19860317 - SWF AUTO ELECTRIC GMBH
- See also references of WO 2020149382A1

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 3913228 A1 20211124; **EP 3913228 A4 20221026**; BR 112021014002 A2 20210921; CN 113423956 A 20210921; CN 113423956 B 20240202; JP 7350020 B2 20230925; JP WO2020149382 A1 20211202; WO 2020149382 A1 20200723

DOCDB simple family (application)

EP 20741647 A 20200116; BR 112021014002 A 20200116; CN 202080009587 A 20200116; JP 2020001379 W 20200116; JP 2020566487 A 20200116