

Title (en)
PUMP UNIT

Title (de)
PUMPENAGGREGAT

Title (fr)
GROUPE DE POMPE

Publication
EP 2798224 B2 20191009 (DE)

Application
EP 12813319 A 20121219

Priority
• EP 11195804 A 20111227
• EP 2012076060 W 20121219
• EP 12813319 A 20121219

Abstract (en)
[origin: WO2013098142A1] Pump unit with an electric drive motor, which has a stator (20) and a rotor in the form of a permanent magnet rotor (14), at least one impeller (4) that is connected to the rotor (14) via a rotor shaft (12), and an axial bearing (26, 28) that is designed in such a way that it absorbs the axial forces acting on the impeller (4) and the rotor shaft (12) that are generated while the pump unit is in operation, and at least one radial bearing arranged on the rotor shaft (12), wherein the rotor (14) and the stator (20) are designed in such a way that a magnetic axial force acting in the direction of the axis of rotation (X) of the rotor (14) is generated between the rotor (14) and the stator (20), said axial force acting on the rotor in the direction of the prevailing current (E) into the impeller (4), and the rotor shaft (12) with the rotor (14) is supported so as to be movable in an axial direction (X) relative to the stator (20), and the radial bearing (22, 24) is designed in such a way that when the rotor shaft (12) is displaced axially into the impeller in the direction of the prevailing current (E), the bearing surfaces (34) of the radial bearing (22, 24) lying opposite one another disengage at least partially.

IPC 8 full level
F04D 13/06 (2006.01); **F04D 29/041** (2006.01); **F04D 29/042** (2006.01); **F04D 29/047** (2006.01)

CPC (source: EP US)
F04D 13/06 (2013.01 - US); **F04D 13/0633** (2013.01 - EP US); **F04D 29/041** (2013.01 - US); **F04D 29/0413** (2013.01 - EP US); **F04D 29/042** (2013.01 - EP US); **F04D 29/0473** (2013.01 - EP US); **F04D 29/049** (2013.01 - US); **F04D 29/167** (2013.01 - US)

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)
WO 2013098142 A1 20130704; CN 104024647 A 20140903; CN 104024647 B 20160824; EP 2798224 A1 20141105; EP 2798224 B1 20160323; EP 2798224 B2 20191009; US 10024324 B2 20180717; US 2015017031 A1 20150115

DOCDB simple family (application)
EP 2012076060 W 20121219; CN 201280065237 A 20121219; EP 12813319 A 20121219; US 201214368852 A 20121219