

Title (en)

A REVERSIBLE PUMP AND A METHOD TO CONTROL A REVERSIBLE PUMP

Title (de)

UMKEHRPUMPE UND VERFAHREN ZUR STEUERUNG EINER UMKEHRPUMPE

Title (fr)

POMPE RÉVERSIBLE ET PROCÉDÉ POUR COMMANDER UNE POMPE RÉVERSIBLE

Publication

EP 3295031 B1 20220323 (EN)

Application

EP 16793086 A 20160503

Priority

- SE 1550602 A 20150511
- SE 2016050386 W 20160503

Abstract (en)

[origin: WO2016182490A1] The invention relates to a reversible pump (10) for a fluid, comprising an externally toothed inner rotor (12); an internally toothed outer rotor (14) with a circular periphery surrounding the inner rotor (12); a drive shaft (16) concentrically connected to the inner rotor (12), an inner housing (18) surrounding the outer rotor (14); an outer housing (20); an inlet (22) and an outlet (24) for the fluid arranged mirror symmetric on opposing sides of the drive shaft (16) and of a reference line (R) extending perpendicularly to the longitudinal extension of the drive shaft (16), wherein the inner rotor (12) has 10 one less tooth than the outer rotor (14) and wherein the outer rotor (14) is eccentrically arranged in meshing engagement with the inner rotor (12), such that variable cavities (26, 26', 26'') are formed between the inner rotor (12) and the outer rotor (14), wherein the inlet (22) and the outlet (24) are each arranged in fluid communication with a cavity (26', 26''). A positioning device 15 (32) is arranged in connection with the inner housing (18), wherein the positioning device (32) is adapted to be actively controlled to displace the inner housing (18) and the outer rotor (14) based on the rotational direction of the drive shaft (16), such that the centre of rotation of the outer rotor (34) is displaced along the reference line (R). 20 The invention also relates to a method to control such a reversible pump (10), a gearbox (4), a vehicle (1), a computer program (P) and a computer program product. 25

IPC 8 full level

F04C 14/04 (2006.01); **F04C 2/10** (2006.01); **F04C 14/14** (2006.01)

CPC (source: EP KR SE)

F04C 2/10 (2013.01 - KR); **F04C 2/102** (2013.01 - EP SE); **F04C 14/04** (2013.01 - EP KR SE); **F04C 14/14** (2013.01 - EP); **F04C 14/223** (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

DOCDB simple family (publication)

WO 2016182490 A1 20161117; EP 3295031 A1 20180321; EP 3295031 A4 20181024; EP 3295031 B1 20220323; KR 101973734 B1 20190429; KR 20180004757 A 20180112; SE 1550602 A1 20161112; SE 541973 C2 20200114

DOCDB simple family (application)

SE 2016050386 W 20160503; EP 16793086 A 20160503; KR 20177034705 A 20160503; SE 1550602 A 20150511