

Title (en)
AXIAL PISTON DEVICE

Title (de)
AXIALKOLBENVORRICHTUNG

Title (fr)
DISPOSITIF À PISTON AXIAL

Publication
EP 3111087 A1 20170104 (EN)

Application
EP 15704679 A 20150205

Priority
• US 201461937166 P 20140207
• US 201462093146 P 20141217
• US 2015014630 W 20150205

Abstract (en)
[origin: WO2015120154A1] An axial piston device may be operated as a pump and includes a self-centering rotary valve. The device includes a stationary housing encompassing a shaft and the rotary valve. The rotary valve and the shaft are coupled to each other. Upon rotation, the rotary valve self-centers as a result of elimination of moments and forces within the pump. The inventive pump is a piston device. The valve is within a valve bore, which is a part of a manifold. A shaft is within the manifold and the shaft is attached at its distal end to a planar surface of the rotary valve. The shaft has a first axis of rotation and the rotary valve has a second axis of rotation. During operation of the pump, the first axis is often times offset from the second axis. The pump operates via a swashplate with reciprocating pistons while the housing remains stationary

IPC 8 full level
F04B 1/14 (2006.01); **F04B 1/16** (2006.01); **F04B 1/18** (2006.01); **F04B 1/29** (2006.01); **F04B 7/00** (2006.01); **F04B 27/10** (2006.01); **F04B 27/12** (2006.01)

CPC (source: CN EP KR US)
F04B 1/126 (2013.01 - US); **F04B 1/141** (2013.01 - CN EP KR US); **F04B 1/143** (2013.01 - US); **F04B 1/146** (2013.01 - US); **F04B 1/16** (2013.01 - CN EP KR US); **F04B 1/295** (2013.01 - US); **F04B 11/0091** (2013.01 - US); **F04B 27/1009** (2013.01 - EP US); **F04B 27/1036** (2013.01 - EP US); **F04B 53/10** (2013.01 - CN EP KR US); **F04B 53/1087** (2013.01 - US)

Citation (search report)
See references of WO 2015120154A1

Citation (examination)
• US 2403854 A 19460709 - GEYER HOWARD M, et al
• US 2397594 A 19460402 - BUCHANAN J D

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

DOCDB simple family (publication)
WO 2015120154 A1 20150813; BR 112016018015 A2 20170808; CN 106103988 A 20161109; EP 3111087 A1 20170104; JP 2017508097 A 20170323; KR 20160119815 A 20161014; US 2016348672 A1 20161201; US 2020332782 A1 20201022

DOCDB simple family (application)
US 2015014630 W 20150205; BR 112016018015 A 20150205; CN 201580013133 A 20150205; EP 15704679 A 20150205; JP 2016550548 A 20150205; KR 20167024538 A 20150205; US 201515116695 A 20150205; US 202016917258 A 20200630