

Title (en)
Geared positive-displacement pump with self-compensating gear chamber

Title (de)
Zahnrad-Verdrängerpumpe mit selbstkompensierender Getriebekammer

Title (fr)
Pompe volumétrique à engrenages avec chambre d'engrenage à auto-compensation

Publication
EP 2639456 A1 20130918 (EN)

Application
EP 13158475 A 20130308

Priority
IT MI20120107 U 20120316

Abstract (en)
The invention describes a positive-displacement pump (10) of the type comprising a driving gear (12) and a driven gear (14) perfectly coupled together and each mounted on a respective support shaft (16, 18). The driving gear (12) is operatively connected to a motor (20) to set the driven gear (14) in rotation and generate the pumping action on a fluid. The gears (12, 14) are contained in a chamber (40) provided with a closing plate (42). The support shafts (16, 18), the central body (38) of the pump (10), the chamber (40) that contains the gears (12, 14), the closing plate (42) of such a chamber (40), a inner magnet (36) and the base of the rear body (28) of the pump (10) are in turn housed inside a casing (30) of the pump (10). The chamber (40) and the relative closing plate (42) are mounted in a mobile manner with respect to one another and both with respect to the other components of the pump (10) as a function of the pressure of the fluid contained in such a pump (10). A self-compensating chamber (40) is thus made that is adaptable to the varying of the clearances due to the wearing of the internal components of the pump (10) that are in movement, or that are in contact with other moving components.

IPC 8 full level
F04C 15/00 (2006.01)

CPC (source: EP US)
F04C 2/18 (2013.01 - US); **F04C 15/0026** (2013.01 - EP US); **F04C 15/0046** (2013.01 - EP US)

Citation (search report)
• [Y] US 3433168 A 19690318 - BANKER OSCAR H
• [Y] GB 1172579 A 19691203 - BORG WARNER [US]
• [A] US 2697987 A 19541228 - MADDISON BARCLAY CECIL

Cited by
US11542941B2; WO2019158935A3

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)
EP 2639456 A1 20130918; EP 2639456 B1 20160518; IT MI20120107 U1 20130917; US 2014105776 A1 20140417

DOCDB simple family (application)
EP 13158475 A 20130308; IT MI20120107 U 20120316; US 201313830640 A 20130314