

Title (en)
CONTROLLABLE PUMP FOR AN INTERNAL COMBUSTION ENGINE

Title (de)
REGELBARE PUMPE FÜR EINE VERBRENNUNGSKRAFTMASCHINE

Title (fr)
POMPE D'UN MOTEUR À COMBUSTION INTERNE RÉGLABLE

Publication
EP 3077676 A1 20161012 (DE)

Application
EP 14805514 A 20141120

Priority
• DE 102013113362 A 20131203
• EP 2014075071 W 20141120

Abstract (en)
[origin: WO2015082223A1] Variable pumps are known, in particular coolant pumps for internal combustion engines comprising a drive wheel, (10), a drive shaft (14) which can be driven via the drive wheel (10), a coupling pump impeller (36) with pump blades (38) which is arranged rotatably fixed on the drive shaft (14), a coupling turbine wheel (68) with turbine blades (74) which is rotatably mounted on the drive shaft (14), wherein the turbine blades (74) are arranged axially opposite to the pump blades (38), and an impeller (78) which is fixedly connected to the coupling turbine wheel (68). However, the construction thereof and the type of control are often very expensive. It is therefore proposed according to the invention that the coupling pump impeller (36) is arranged axially displaceable to the coupling turbine wheel (68).

IPC 8 full level
F04D 13/02 (2006.01); **F04D 15/00** (2006.01); **F16D 33/02** (2006.01); **F16D 33/04** (2006.01); **F16H 61/50** (2006.01)

CPC (source: EP US)
F01P 5/10 (2013.01 - US); **F04D 13/021** (2013.01 - US); **F04D 13/022** (2013.01 - EP US); **F04D 15/0066** (2013.01 - EP US);
F04D 29/2261 (2013.01 - US); **F16D 1/06** (2013.01 - US); **F16D 33/04** (2013.01 - EP US); **F16H 61/50** (2013.01 - EP US);
B60K 2025/026 (2013.01 - EP US)

Citation (search report)
See references of WO 2015082223A1

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)
DE 102013113362 A1 20150603; **DE 102013113362 B4 20151022**; CN 105745449 A 20160706; EP 3077676 A1 20161012;
JP 2017500506 A 20170105; US 2016305308 A1 20161020; WO 2015082223 A1 20150611

DOCDB simple family (application)
DE 102013113362 A 20131203; CN 201480063325 A 20141120; EP 14805514 A 20141120; EP 2014075071 W 20141120;
JP 2016536628 A 20141120; US 201415100640 A 20141120