

Title (en)
A VARIABLE DISPLACEMENT LUBRICANT PUMP

Title (de)
SCHMIERMITTELPUMPE MIT VARIABLER VERDRÄNGUNG

Title (fr)
POMPE À LUBRIFIANT À CYLINDRÉE VARIABLE

Publication
EP 3377765 B1 20200101 (EN)

Application
EP 15797106 A 20151119

Priority
EP 2015077085 W 20151119

Abstract (en)
[origin: WO2017084710A1] The invention refers to a variable displacement lubricant pump (10) fluidically coupled to and mechanical driven by an Internal combustion engine (12) for pumping pressurized lubricant to the engine (12). The pump comprises a pump rotor (44) with radially slidable vanes (46) rotating in a shiftable control ring (42) being radially shiftable or pivotable with respect to the rotor axis (47) between a high pumping volume position and a low pumping volume position, and a pressure control system for controlling the discharge pressure of the pressurized lubricant. The pressure pump's control system comprises a pressure control chamber (54) for pushing the control ring (42) into high pumping volume direction, a pressure conduit (66, 68) for connecting an actual pickup pressure source with the pressure control chamber (54), and a pressure control valve (78) controlling the pressure in the pressure control chamber (54). The pressure control valve (78) comprises a control plunger (86), an input pressure plunger (90) and a control spring (92). The pressure pump's control system further comprises a fluidic set value control valve (96) which is switchable between an open and a closed state, wherein in the opened state the set value control valve (96) fluidically connects a first discharge port (94) of the pressure control valve (78) and an input pressure chamber (88) of the pressure control valve (78) with a lubricant tank (60).

IPC 8 full level
F04C 14/22 (2006.01); **F04C 2/344** (2006.01); **F04C 14/24** (2006.01)

CPC (source: EP)
F04C 2/344 (2013.01); **F04C 14/223** (2013.01); **F04C 14/24** (2013.01); **F04C 2240/81** (2013.01)

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 2017084710 A1 20170526; EP 3377765 A1 20180926; EP 3377765 B1 20200101

DOCDB simple family (application)
EP 2015077085 W 20151119; EP 15797106 A 20151119