

Title (en)
ARRANGEMENT OF A COOLANT PUMP.

Title (de)
ANORDNUNG EINER KÜHLMITTELPUMPE

Title (fr)
AGENCEMENT D'UNE POMPE À RÉFRIGÉRANT

Publication
EP 2912317 A2 20150902 (DE)

Application
EP 13824477 A 20131017

Priority
• DE 102012020618 A 20121019
• DE 2013000608 W 20131017

Abstract (en)
[origin: WO2014059965A2] The invention relates to the development of a novel arrangement of a coolant pump for internal combustion engines that is of simple and robust design, can be simply manufactured, allows substantially easier access to the coolant pump in the engine compartment and which furthermore, with standard operating parameters, can be uniformly configured (universal pump) even for different engine platforms and at the same time minimises wear of the assemblies and of operating noise, facilitates diagnostic capability of the pump functions, furthermore substantially reduces the weight of the coolant pumps and the manufacturing costs of the coolant pumps and at minimal additional expense allows the pump functions to be electrified. The arrangement of a cooling pump according to the invention is characterised inter alia in that the bearing housing (2) of the coolant pump (1) is arranged inside the oil pan (10) at the crankcase (9), and in the bearing housing (2) an oil pump (11) is arranged next to the coolant pump (1), wherein the drive shaft (3) of the coolant pump (1) is simultaneously also the drive shaft (3) of the oil pump (11). A pump shaft seal (8) is arranged on the drive shaft (3) on the output side next to the impeller (7) of the coolant pump (1) and on the oil pump side in the bearing housing (2) a leakage collecting space (12) having a leakage bore (13) is arranged next to the pump shaft seal (8) of the coolant pump (1). A shaft seal (14) is arranged on the oil pump side next to the leakage collecting space (12), and in the leakage collecting space (12) a leakage pump (15) is arranged on the drive shaft (3). The invention relates to the arrangement of a coolant pump (1) for combustion engines having a drive shaft (3) mounted rotatably in a bearing housing (2), an impeller (7) arranged on the flow-side end of the drive shaft (3) in a working chamber (6) provided with an aspiration opening (4) and a discharge opening (5), having an oil pump (11) arranged inside an oil pan (10) at the crankcase (9).

IPC 8 full level
F04B 17/05 (2006.01); **F01P 5/12** (2006.01); **F04B 23/04** (2006.01); **F04C 2/344** (2006.01); **F04C 11/00** (2006.01); **F04C 15/00** (2006.01); **F04D 13/12** (2006.01); **F04D 29/10** (2006.01)

CPC (source: EP)
F04B 17/05 (2013.01); **F04B 23/04** (2013.01); **F04C 2/3442** (2013.01); **F04C 11/005** (2013.01); **F04D 13/12** (2013.01); **F04D 29/106** (2013.01); **F01P 5/12** (2013.01); **F04C 15/0038** (2013.01); **F05B 2260/603** (2013.01); **F05D 2260/6022** (2013.01)

Citation (search report)
See references of WO 2014059965A2

Cited by
CN111120347A; DE102021110123A1; DE102021110123B4

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 102012020618 B3 20140320; EP 2912317 A2 20150902; WO 2014059965 A2 20140424; WO 2014059965 A3 20141204

DOCDB simple family (application)
DE 102012020618 A 20121019; DE 2013000608 W 20131017; EP 13824477 A 20131017