

Title (en)

PUMP STAGE ASSEMBLY, EXTERNAL GEAR PUMP, USE OF A PUMP STAGE ASSEMBLY AND VEHICLE TRANSMISSION

Title (de)

PUMPENSTUFENANORDNUNG, AUßENZAHNRADPUMPE, VERWENDUNG EINER PUMPENSTUFENANORDNUNG UND FAHRZEUGGETRIEBE

Title (fr)

ENSEMBLE ÉTAGES DE POMPE, POMPE À ENGRENAGES EXTÉRIEURS, UTILISATION D'UN ENSEMBLE ÉTAGES DE POMPE ET TRANSMISSION DE VÉHICULE

Publication

EP 3987159 A1 20220427 (DE)

Application

EP 20734138 A 20200617

Priority

- DE 102019208845 A 20190618
- EP 2020066832 W 20200617

Abstract (en)

[origin: WO2020254449A1] Proposed is a pump stage assembly (2) for supplying lubricating oil to at least one consumer, comprising: - at least two pump suction stages (4, 6) and - at least one pump pressure stage (8), said pump suction stages and said pump pressure stage being arranged at a distance relative to each other in a pump housing PG and having a common drive shaft (56), wherein the pump suction stages (4, 6) are formed by a first assembly ZA1 of at least three intermeshing external gears (12, 14, 16) which lie on a first plane, and the pump pressure stage (8) is formed by a second assembly ZA2 of two intermeshing external gears (18, 20) which lie on a second plane. As a result, a first delivery volume flow can be drawn in from a first region of a dry sump (24) by means of a first pump suction stage (4), and a second delivery volume flow can be drawn in from a second region of the dry sump (24) by means of a second pump suction stage (6). The two delivery volume flows intermix in the pump housing PG before they reach an oil reservoir (26).

IPC 8 full level

F01M 1/12 (2006.01); **F01M 1/02** (2006.01); **F01M 11/00** (2006.01); **F04C 2/08** (2006.01); **F04C 2/14** (2006.01); **F04C 11/00** (2006.01); **F04C 15/00** (2006.01)

CPC (source: CN EP US)

F01M 1/02 (2013.01 - EP); **F01M 1/12** (2013.01 - EP); **F01M 11/0004** (2013.01 - EP); **F04C 2/14** (2013.01 - EP); **F04C 2/18** (2013.01 - US); **F04C 11/001** (2013.01 - EP US); **F16H 57/0436** (2013.01 - CN US); **F16H 57/0453** (2013.01 - US); **F16H 57/0476** (2013.01 - US); **F16N 7/38** (2013.01 - CN); **F16N 13/20** (2013.01 - CN); **F01M 2001/0238** (2013.01 - EP); **F01M 2001/123** (2013.01 - EP); **F01M 2001/126** (2013.01 - EP); **F01M 2011/0079** (2013.01 - EP); **F01M 2011/0083** (2013.01 - EP); **F04C 2210/206** (2013.01 - EP US); **F04C 2240/20** (2013.01 - US); **F04C 2240/30** (2013.01 - US); **F16N 2210/04** (2013.01 - CN)

Citation (examination)

- US 2014286801 A1 20140925 - BÖHM CHRÍSTIAN [DE]
- JP 2018538471 A 20181227
- See also references of WO 2020254449A1

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 102019208845 A1 20201224; CN 114008371 A 20220201; EP 3987159 A1 20220427; US 11867281 B2 20240109; US 2022356941 A1 20221110; WO 2020254449 A1 20201224

DOCDB simple family (application)

DE 102019208845 A 20190618; CN 202080045975 A 20200617; EP 2020066832 W 20200617; EP 20734138 A 20200617; US 202017620270 A 20200617