

Title (en)
GEAR PUMP HAVING OPTIMAL AXIAL PLAY

Title (de)
ZAHNRADPUMPE MIT OPTIMIERTEM AXIALSPIEL

Title (fr)
POMPE A ENGRENAGES A JEU AXIAL OPTIMISE

Publication
EP 1644641 B1 20070523 (DE)

Application
EP 04740962 A 20040712

Priority
• EP 2004007729 W 20040712
• DE 10331979 A 20030714

Abstract (en)
[origin: WO2005005834A1] The invention relates to a pump, particularly an oil pump for internal combustion engines, comprised of a pump case. This pump case consists of a pump cover (2) and of a pump flange (3), whereby at least one gear set (4) is placed between the pump cover (2) and the pump flange (3), and the pump cover and the pump flange are connected via at least one spacer element (5).

IPC 8 full level
F04C 2/10 (2006.01); **F04C 2/08** (2006.01); **F04C 15/00** (2006.01)

CPC (source: EP KR US)
F04C 2/086 (2013.01 - EP US); **F04C 2/10** (2013.01 - KR); **F04C 2/102** (2013.01 - EP US); **F04C 15/0026** (2013.01 - EP US); **F04C 2230/602** (2013.01 - EP US); **F05C 2251/046** (2013.01 - EP US)

Cited by
WO2014111347A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2005005834 A1 20050120; AT E363028 T1 20070615; BR PI0412661 A 20060926; CN 100564877 C 20091202; CN 1823224 A 20060823; DE 10331979 A1 20050217; DE 502004003895 D1 20070705; EP 1644641 A1 20060412; EP 1644641 B1 20070523; JP 2009513859 A 20090402; JP 4489076 B2 20100623; KR 100777961 B1 20071121; KR 20060038444 A 20060503; MX PA06000263 A 20060703; PL 1644641 T3 20070928; US 2006140811 A1 20060629; US 2010239449 A1 20100923; US 7713041 B2 20100511; US 7887309 B2 20110215

DOCDB simple family (application)
EP 2004007729 W 20040712; AT 04740962 T 20040712; BR PI0412661 A 20040712; CN 200480020263 A 20040712; DE 10331979 A 20030714; DE 502004003895 T 20040712; EP 04740962 A 20040712; JP 2006519860 A 20040712; KR 20067000900 A 20060113; MX PA06000263 A 20040712; PL 04740962 T 20040712; US 33252306 A 20060113; US 75440410 A 20100405