

Title (en)

PISTON FUEL PUMP

Title (de)

KOLBEN-KRAFTSTOFFPUMPE

Title (fr)

POMPE À CARBURANT À PISTON

Publication

EP 2867529 A1 20150506 (DE)

Application

EP 13729946 A 20130618

Priority

- DE 1020122211107 A 20120628
- DE 102012222826 A 20121211
- EP 2013062578 W 20130618

Abstract (en)

[origin: WO2014001126A1] A piston fuel pump (18) for an internal combustion engine comprises a non-return outlet valve (38) with a valve body (48) and a valve spring (60). According to the invention, the valve body (48), in a closed idle condition, is at a distance A from the valve spring (60) in the direction of opening such that the valve body (48) can be moved by distance A when the valve (38) is opened before the valve spring (60) is loaded.

IPC 8 full level

F04B 1/00 (2006.01); **F04B 53/10** (2006.01)

CPC (source: EP KR US)

F02M 59/462 (2013.01 - KR US); **F04B 1/00** (2013.01 - EP US); **F04B 1/2035** (2013.01 - KR); **F04B 1/2042** (2013.01 - KR);
F04B 1/2064 (2013.01 - KR); **F04B 53/10** (2013.01 - EP US); **F04B 53/1007** (2013.01 - EP US); **F04B 53/101** (2013.01 - EP US);
F04B 53/1022 (2013.01 - EP US); **F04B 53/1025** (2013.01 - EP US); **F04B 53/1027** (2013.01 - EP US); **F04B 53/1035** (2013.01 - EP US);
F04B 53/1045 (2013.01 - EP US); **F04B 53/1047** (2013.01 - EP US); **F04B 53/106** (2013.01 - EP US); **F04B 53/107** (2013.01 - EP US);
F04B 53/1085 (2013.01 - US); **F04B 53/1087** (2013.01 - US); **F04B 53/16** (2013.01 - US); **F05B 2210/11** (2013.01 - KR)

Citation (search report)

See references of WO 2014001140A1

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 102012222823 A1 20140102; CN 104428533 A 20150318; CN 104428533 B 20181009; DE 102012222826 A1 20140102;
DE 102012222853 A1 20140102; EP 2867529 A1 20150506; EP 2867529 B1 20191016; JP 2015521715 A 20150730; JP 6099739 B2 20170322;
KR 101536899 B1 20150716; KR 102020199 B1 20190911; KR 20140070636 A 20140610; KR 20140136056 A 20141127;
KR 20150125730 A 20151109; US 10352284 B2 20190716; US 10851752 B2 20201201; US 2015316013 A1 20151105;
US 2018073477 A1 20180315; WO 2014001126 A1 20140103; WO 2014001139 A1 20140103; WO 2014001140 A1 20140103

DOCDB simple family (application)

DE 102012222823 A 20121211; CN 201380034410 A 20130618; DE 102012222826 A 20121211; DE 102012222853 A 20121212;
EP 13729946 A 20130618; EP 2013062526 W 20130617; EP 2013062572 W 20130618; EP 2013062578 W 20130618;
JP 2015518972 A 20130618; KR 20147011340 A 20130618; KR 20147029839 A 20130618; KR 20157030578 A 20130618;
US 201314410078 A 20130618; US 201715817698 A 20171120