

Title (en)

Fuel pump for a direct injection system

Title (de)

Kraftstoffpumpe für ein Direkteinspritzsystem

Title (fr)

Pompe à combustible pour système à injection directe

Publication

**EP 2434137 A1 20120328 (EN)**

Application

**EP 11182648 A 20110923**

Priority

IT BO20100569 A 20100923

Abstract (en)

A fuel pump (4) for a direct injection system provided with a common rail (3); the fuel pump (4) has: a pumping chamber (11); a piston (12) which is slidingly mounted inside the pumping chamber (11); a suction channel (14) connected to the pumping chamber (11) and regulated by a suction valve (15); an outlet channel (16) connected to the pumping chamber (11) and regulated by an outlet valve (17); an exhaust channel (27) which originates from the outlet channel (16) and is regulated by a pressure relief valve (28); and a setting device (19) which acts on the suction valve (15) to keep the suction valve (15) open during a pumping phase of the piston (12) and is provided with a hydraulic actuator (21) which is connected to the exhaust channel (27) to be driven by the fuel pressure present in the exhaust channel (27) itself.

IPC 8 full level

**F02M 69/02** (2006.01); **F02M 59/20** (2006.01); **F02M 59/34** (2006.01); **F02M 59/46** (2006.01); **F04B 49/24** (2006.01)

CPC (source: EP)

**F02M 59/20** (2013.01); **F02M 59/34** (2013.01); **F02M 59/46** (2013.01); **F02M 59/462** (2013.01); **F02M 69/02** (2013.01); **F04B 49/24** (2013.01)

Citation (applicant)

- IT BO20090197 A 20090330
- US 2006159555 A1 20060720 - INOUE HIROSHI [JP]

Citation (search report)

- [A] US 2006159555 A1 20060720 - INOUE HIROSHI [JP]
- [A] US 2008078362 A1 20080403 - TIAN YE [US]
- [A] EP 1241349 A2 20020918 - HITACHI LTD [JP]
- [A] WO 03023232 A2 20030320 - STANADYNE CORP [US], et al

Cited by

JPWO2017203861A1; US2019301414A1; US9726105B2; US9771909B2; US10094319B2; JPWO2015098351A1; JP2018523778A; WO2017203861A1; WO2013039868A1; US9546628B2; US9316161B2; US9243596B2; US10371109B2; US10683835B2; US10900451B2; US11459988B2; WO2020112933A1

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)

**EP 2434137 A1 20120328**; **EP 2434137 B1 20130703**; CN 102434347 A 20120502; CN 102434347 B 20150408; IT 1401819 B1 20130828; IT BO20100569 A1 20120324

DOCDB simple family (application)

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