

Title (en)

HIGH PRESSURE PUMP FOR A FUEL INJECTION DEVICE OF AN INTERNAL COMBUSTION ENGINE

Title (de)

HOCHDRUCKPUMPE FÜR EINE KRAFTSTOFFEINSPRITZEINRICHTUNG EINER BRENNKRAFTMASCHINE

Title (fr)

POMPE A HAUTE PRESSION POUR UN DISPOSITIF D'INJECTION DE CARBURANT D'UN MOTEUR A COMBUSTION INTERNE

Publication

EP 1759115 B1 20091104 (DE)

Application

EP 05726501 A 20050418

Priority

- EP 2005051692 W 20050418
- DE 102004028998 A 20040616

Abstract (en)

[origin: WO2005124146A1] The high pressure pump comprises at least one pump element (16), with a pump piston (20) which is driven in a stroke movement and which defines a pump working chamber (24) into which fuel is admitted via an inlet valve (30) from a fuel inlet (50) during the admission stroke of the pump piston (20) and out of which fuel is displaced (20) during the delivery stroke of the pump piston (20). The inlet valve (30) comprises a valve member (46) which cooperates with a sealing surface (49, 40) with a valve seat (45) in order to control the connection of the pump working chamber (24) to the fuel inlet (38,53). The sealing surface (49,50) of the valve member (46) comprises two sections (49, 50) with different first and second cone angles (α 1, α 2). The seat surface (45) comprises a constant third cone angle (α 3) which is different from the first and second cone angles (α 1, α 2). A protruding edge (54) is formed in the transition between the two sections (49,50) of the sealing surface, enabling the sealing surface to rest upon the seat surface (45) at a constant cone angle (α 3).

IPC 8 full level

F02M 59/46 (2006.01); **F02M 63/02** (2006.01)

CPC (source: EP KR US)

F02M 59/46 (2013.01 - KR); **F02M 59/462** (2013.01 - EP US); **F02M 63/0225** (2013.01 - EP US)

Designated contracting state (EPC)

DE ES FR IT

DOCDB simple family (publication)

WO 2005124146 A1 20051229; CN 100473822 C 20090401; CN 1969124 A 20070523; DE 102004028998 A1 20060105; DE 502005008446 D1 20091217; EP 1759115 A1 20070307; EP 1759115 B1 20091104; ES 2333344 T3 20100219; JP 2006523806 A 20061019; KR 20070020074 A 20070216; US 2007221162 A1 20070927

DOCDB simple family (application)

EP 2005051692 W 20050418; CN 200580019809 A 20050418; DE 102004028998 A 20040616; DE 502005008446 T 20050418; EP 05726501 A 20050418; ES 05726501 T 20050418; JP 2006520844 A 20050418; KR 20067026394 A 20061215; US 59732606 A 20061122