

Title (en)

DIRECTLY CONTROLLED FUEL INJECTION DEVICE FOR A RECIPROCATING INTERNAL COMBUSTION ENGINE

Title (de)

DIREKTGESTEUERTE KRAFTSTOFFEINSPRITZEINRICHTUNG FÜR EINE KOLBENBRENNKRAFTMASCHINE

Title (fr)

DISPOSITIF D'INJECTION DE CARBURANT A COMMANDE DIRECTE POUR UN MOTEUR A COMBUSTION INTERNE A PISTONS

Publication

EP 1252432 B1 20051109 (DE)

Application

EP 00988800 A 20001215

Priority

- DE 10001828 A 20000118
- EP 0012777 W 20001215

Abstract (en)

[origin: WO0153688A2] The invention relates to a fuel injection device for a reciprocating internal combustion engine, comprising a nozzle part (5) with an injection nozzle (13), said nozzle part having a pressure chamber (10) in which a nozzle needle (9) that closes the injection nozzle (13) is guided. Said nozzle needle can be moved into the opening position when subjected to pressure by the fuel to be injected. The pressure chamber (10) is connected to a control part (7) by a connecting channel (6), this control part having a valve chamber (21) into which the connecting channel (6) and a high pressure channel (8) that is connected to a fuel supply (4) open, and in which a valve body (23) is guided. Said valve body (23) acts as a piston system and is held in the closing position by a valve spring and a valve seat (22). The nozzle part also comprises an actuator part (20) which is functionally connected to the valve body (23) and which when activated, moves said valve body in the opening direction and releases the through-flow from the high pressure channel (8) into the connecting channel (6).

IPC 1-7

F02M 39/00

IPC 8 full level

F02M 47/00 (2006.01); **F02M 45/00** (2006.01); **F02M 45/12** (2006.01); **F02M 51/00** (2006.01); **F02M 51/06** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)

F02M 45/12 (2013.01 - EP US); **F02M 63/0003** (2013.01 - EP US); **F02M 63/0005** (2013.01 - EP US); **F02M 63/0007** (2013.01 - EP US); **F02M 63/0026** (2013.01 - EP US)

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

WO 0153688 A2 20010726; **WO 0153688 A3 20020523**; AT E309461 T1 20051115; DE 10001828 A1 20010719; DE 50011592 D1 20051215; EP 1252432 A2 20021030; EP 1252432 B1 20051109; JP 2003520325 A 20030702; US 2003146305 A1 20030807; US 6811103 B2 20041102

DOCDB simple family (application)

EP 0012777 W 20001215; AT 00988800 T 20001215; DE 10001828 A 20000118; DE 50011592 T 20001215; EP 00988800 A 20001215; JP 2001553525 A 20001215; US 18157002 A 20020930