

Title (en)

FUEL INJECTION DEVICE FOR AN INTERNAL COMBUSTION ENGINE

Title (de)

KRAFTSTOFFEINSPRITZEINRICHTUNG FÜR EINE BRENNKRAFTMASCHINE

Title (fr)

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

Publication

**EP 1430216 A1 20040623 (DE)**

Application

**EP 02764517 A 20020713**

Priority

- DE 0202576 W 20020713
- DE 10146739 A 20010922

Abstract (en)

[origin: WO03027481A1] The invention relates to a fuel injection device comprising a fuel injection valve (12) with an injection valve member (34), by means of which at least one injection opening (36) is controlled. Said injection valve member (34) is impinged upon by the pressure prevailing in a pressure chamber (44) of the fuel injection valve (12) and can be displaced by said pressure in an opening direction against the force of a closing spring (48), in order to release the at least one injection opening (36), whereby fuel is supplied at high pressure to said pressure chamber (44) by a high-pressure fuel pump (10) for a fuel injection. Said injection valve member (34) is at least indirectly impinged upon by the pressure prevailing in a control chamber (58) of the fuel injection valve (12) in the closing direction, the pressure prevailing in said control chamber (58) being variable. Said control chamber (58) is linked to a pressure source (66), controlled by an electric valve (67). Different opening pressures of the fuel injection valve (12) can thus be achieved for a fuel preinjection and main injection.

IPC 1-7

**F02M 47/02; F02M 57/02; F02M 59/36; F02M 63/00**

IPC 8 full level

**F02M 45/00** (2006.01); **F02M 45/08** (2006.01); **F02M 47/02** (2006.01); **F02M 57/02** (2006.01); **F02M 59/36** (2006.01); **F02M 61/20** (2006.01)

CPC (source: EP US)

**F02M 45/00** (2013.01 - EP US); **F02M 47/027** (2013.01 - EP US); **F02M 57/023** (2013.01 - EP US); **F02M 59/366** (2013.01 - EP US);  
**F02M 61/205** (2013.01 - EP US)

Designated contracting state (EPC)

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

DOCDB simple family (publication)

**WO 03027481 A1 20030403**; DE 10146739 A1 20030410; EP 1430216 A1 20040623; HU P0301448 A2 20031028; JP 2005504215 A 20050210;  
PL 370717 A1 20050530; US 2004069275 A1 20040415

DOCDB simple family (application)

**DE 0202576 W 20020713**; DE 10146739 A 20010922; EP 02764517 A 20020713; HU P0301448 A 20020713; JP 2003531016 A 20020713;  
PL 37071702 A 20020713; US 43238103 A 20031119