

Title (en)

FUEL-INJECTION SYSTEM FOR INTERNAL COMBUSTION ENGINES

Title (de)

KRAFTSTOFFEINSPRITZVORRICHTUNG FÜR BRENNKRAFTMASCHINEN

Title (fr)

SYSTEME D'INJECTION DE CARBURANT POUR MOTEURS A COMBUSTION INTERNE

Publication

EP 1301701 A1 20030416 (DE)

Application

EP 01947367 A 20010613

Priority

- DE 10032923 A 20000706
- EP 0106692 W 20010613

Abstract (en)

[origin: WO0202926A1] A fuel-injection system for internal combustion engines feeds fuel from a high-pressure fuel source (1) via a control valve (6) that is actuated by a piezoelectric unit (9) to an injection orifice (7). The control valve (6) has a valve member (8), which can be axially displaced between a first valve seat (13) and a second valve seat (14), said seats delimiting a first valve chamber (15). A conduit (5) originating from the high-pressure fuel source (1) opens into a second valve chamber (16), which is delimited by the first valve seat (13) and a first guide element (18) of the valve member (8) in the valve body (10). A conduit (2) branches from the first valve chamber (15) towards the injection orifice (7). A second guide element (28) of the valve member (8) is provided in an area of the latter that adjoins the second valve seat (14). One respective leakage conduit (21, 30) is provided on each side of the guide elements (18, 28). The diameters of the respective valve seats (13, 14) and the guide elements (18, 28) are identical, thus producing an equalization of forces in the control valve (6).

IPC 1-7

F02M 59/46; **F02M 51/06**; **F02M 63/00**

IPC 8 full level

F02M 47/00 (2006.01); **F02M 51/06** (2006.01); **F02M 59/46** (2006.01); **F02M 61/16** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)

F02M 63/0007 (2013.01 - EP US); **F02M 63/0026** (2013.01 - EP US)

Citation (search report)

See references of WO 0202926A1

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 0202926 A1 20020110; **WO 0202926 A8 20020228**; DE 10032923 A1 20020124; EP 1301701 A1 20030416; JP 2004502085 A 20040122; US 2002162899 A1 20021107; US 6640782 B2 20031104

DOCDB simple family (application)

EP 0106692 W 20010613; DE 10032923 A 20000706; EP 01947367 A 20010613; JP 2002507160 A 20010613; US 7037102 A 20020612