

Title (en)
DEVICE FOR INJECTING FUEL INTO A DIESEL ENGINE

Title (de)
KRAFTSTOFFEINSPRITZVORRICHTUNG FÜR DIESELMOTOREN

Title (fr)
DISPOSITIF D'INJECTION DE COMBUSTIBLE POUR MOTEURS DIESEL

Publication
EP 0995031 A1 20000426 (FR)

Application
EP 98938739 A 19980713

Priority
• FR 9801524 W 19980713
• FR 9709196 A 19970716
• FR 9802938 A 19980306

Abstract (en)
[origin: US6189509B1] The invention concerns a device for injecting fuel into a diesel engine using a pulsating flow pump for improving the fuel performance of the engines by controlling the beginning and the end of the injection. It comprises a device (20) controlling the closing and opening of the nozzle needle (5) provided with a discharge circuit (21, 21') controlled by an electrovalve (25) in branched connection between the high pressure supply conduit (7) and the low pressure return conduit (8). The discharge circuit (21, 21') comprises a discharge valve (22) whereof the opening and the closing are slowed down by a calibrated orifice (23). The discharge valve (22) located upstream of a discharge orifice (27) provided on the return conduit (8) enables to deviate part of the non-injected fuel flow towards the nozzle needle (5) to exert thereon a closing pressure. Consequently, this results in a better control over the opening and closing of the nozzle needle (5). A calibrated valve (24) ensures that the pressure in the discharge circuit (21) is maintained between two injections. During the injection cycle, the supply of fuel towards the nozzle needle (5) is not impeded by the control device (20) components. The invention is applicable to diesel engines using pulsating injection pumps.

IPC 1-7
F02M 61/20; **F02M 47/02**; **F02M 59/36**; **F02M 45/00**; **F02M 45/08**

IPC 8 full level
F02M 45/00 (2006.01); **F02M 45/06** (2006.01); **F02M 45/08** (2006.01); **F02M 47/00** (2006.01); **F02M 47/02** (2006.01); **F02M 59/36** (2006.01); **F02M 61/20** (2006.01)

CPC (source: EP US)
F02M 45/00 (2013.01 - EP US); **F02M 45/08** (2013.01 - EP US); **F02M 47/02** (2013.01 - EP US); **F02M 47/025** (2013.01 - EP US); **F02M 47/027** (2013.01 - EP US); **F02M 59/366** (2013.01 - EP US); **F02M 61/205** (2013.01 - EP US)

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI NL PT SE

DOCDB simple family (publication)
WO 9904160 A1 19990128; AT E211525 T1 20020115; AU 8735198 A 19990210; DE 69803384 D1 20020228; DE 69803384 T2 20020926; EP 0995031 A1 20000426; EP 0995031 B1 20020102; ES 2171038 T3 20020816; JP 2001510265 A 20010731; US 6189509 B1 20010220

DOCDB simple family (application)
FR 9801524 W 19980713; AT 98938739 T 19980713; AU 8735198 A 19980713; DE 69803384 T 19980713; EP 98938739 A 19980713; ES 98938739 T 19980713; JP 2000503339 A 19980713; US 46283600 A 20000113