

Title (en)
FUEL-INJECTION SYSTEM FOR INTERNAL COMBUSTION ENGINES

Title (de)
KRAFTSTOFFEINSPRITZSYSTEM FÜR BRENNKRAFTMASCHINEN

Title (fr)
SYSTEME D'INJECTION DE CARBURANT POUR MOTEURS A COMBUSTION INTERNE

Publication
EP 1283956 B1 20060111 (DE)

Application
EP 01943031 A 20010508

Priority
• DE 0101732 W 20010508
• DE 10023621 A 20000513

Abstract (en)
[origin: WO0188368A1] The invention relates to a fuel-injection system for internal combustion engines, comprising a fuel-distribution pipe and a high-pressure pump that is driven in accordance with the engine speed. Said high-pressure pump generates the fuel pressure and throughput in the fuel-distribution pipe that is necessary in each operating state of the internal combustion engine. The fuel-injection system also comprises a fuel-metering unit assigned to the high-pressure pump. Said fuel-metering unit (10, 11) is based on an electromagnetically actuated control valve (11) and is positioned in the high-pressure pump. The outlet (36) of the control valve (11) opens into the low-pressure region of the high-pressure pump. The inlet (32, 34) of the control valve (11) is connected to the delivery side of a presupply pump. The control valve (11) has a valve plunger (23), which is spring-loaded (25) by pressure in the open position and which can be actuated by an armature pin (14) of the electromagnet (10) against the spring force in the closed position. The invention is characterized in that at least one, and preferably several radial control openings (35) are located in the valve plunger (23), said openings interacting with the induction side of the high-pressure pump.

IPC 8 full level
F02M 47/02 (2006.01); **F02M 59/34** (2006.01); **F02M 59/46** (2006.01); **F02M 63/02** (2006.01)

CPC (source: EP KR US)
F02M 59/34 (2013.01 - EP US); **F02M 63/0017** (2013.01 - EP KR US); **F02M 63/004** (2013.01 - EP US); **F02M 63/0225** (2013.01 - EP US); **F02M 59/34** (2013.01 - KR); **F02M 63/004** (2013.01 - KR); **F02M 63/0225** (2013.01 - KR)

Citation (examination)
• DE 19807037 A1 19980820 - CATERPILLAR INC [US]
• GB 752261 A 19560711 - DAIMLER BENZ AG

Designated contracting state (EPC)
DE ES FR GB IT

DOCDB simple family (publication)
WO 0188368 A1 20011122; BR 0106435 A 20020416; BR 0106435 B1 20090811; CN 1262756 C 20060705; CN 1380941 A 20021120; DE 10023621 A1 20011115; DE 50108673 D1 20060406; EP 1283956 A1 20030219; EP 1283956 B1 20060111; ES 2255559 T3 20060701; JP 2003533638 A 20031111; JP 4638649 B2 20110223; KR 100757225 B1 20070911; KR 20020032527 A 20020503; US 2002134355 A1 20020926; US 6626151 B2 20030930

DOCDB simple family (application)
DE 0101732 W 20010508; BR 0106435 A 20010508; CN 01801234 A 20010508; DE 10023621 A 20000513; DE 50108673 T 20010508; EP 01943031 A 20010508; ES 01943031 T 20010508; JP 2001584734 A 20010508; KR 20027000362 A 20020110; US 3063502 A 20020415