

Title (en)
FUEL INJECTION VALVE FOR INTERNAL COMBUSTION ENGINES

Title (de)
KRAFTSTOFFEINSPRITZVENTIL FÜR BRENNKRAFTMASCHINEN

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

Publication
EP 1709321 B1 20090311 (DE)

Application
EP 04798204 A 20041115

Priority
• EP 2004052959 W 20041115
• DE 102004002084 A 20040115

Abstract (en)
[origin: WO2005068824A1] The fuel injection valve comprises at least one valve body (1) wherein a piston-shaped valve needle (5) is arranged in a bore (3), cooperating with a valve seat (7). A throttle bundle (34) is embodied on the valve needle (5) and is arranged in a throttle section (36) when the valve needle (5) rests on the valve seat (7). When the valve needle (4) is opened in a lifting movement, said throttle bundle emerges from the throttle section (36), whereupon a flow cross-section (14) is controlled in such a way that fuel can flow between the valve needle (5) and the wall of the bore (3) to the injector openings (11). A fuel channel (42), which is formed in the valve needle, is provided with at least one inlet (43) located downstream from the throttle bundle (34) and an outlet (48), enabling fuel to be also supplied to the injector openings (11) via the fuel channel (42).

IPC 8 full level
F02M 61/04 (2006.01); **F02M 47/02** (2006.01); **F02M 61/12** (2006.01); **F02M 61/18** (2006.01)

CPC (source: EP)
F02M 47/027 (2013.01); **F02M 61/042** (2013.01); **F02M 61/1873** (2013.01)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
DE 102004002084 A1 20050804; AT E425355 T1 20090315; DE 502004009164 D1 20090423; EP 1709321 A1 20061011;
EP 1709321 B1 20090311; WO 2005068824 A1 20050728

DOCDB simple family (application)
DE 102004002084 A 20040115; AT 04798204 T 20041115; DE 502004009164 T 20041115; EP 04798204 A 20041115;
EP 2004052959 W 20041115