

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 1135606 A1 20010926 (DE)**

Application  
**EP 00967602 A 20000920**

Priority  
• DE 0003269 W 20000920  
• DE 19947194 A 19991001

Abstract (en)  
[origin: DE19947194A1] The fuel injection valve has a valve body (1), containing a piston valve element (4), displaced axially against a closure spring (21), within a valve bore (5), for controlling at least one fuel injection opening (8). The valve element is enclosed by a control space (10), coupled to a feed channel (2) via an annular gap and to a leakage oil space (20) via a control bore. The volume of the control space is reduced during the closure movement of the valve element for displacement of fuel into the leakage oil space.

IPC 1-7  
**F02M 61/20**

IPC 8 full level  
**F02M 37/00** (2006.01); **F02M 61/04** (2006.01); **F02M 61/08** (2006.01); **F02M 61/10** (2006.01); **F02M 61/20** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)  
**F02M 61/045** (2013.01 - EP US); **F02M 61/08** (2013.01 - EP US); **F02M 61/20** (2013.01 - EP US); **F02M 61/205** (2013.01 - EP US);  
**F02M 2200/304** (2013.01 - EP US)

Citation (search report)  
See references of WO 0125622A1

Designated contracting state (EPC)  
DE FR GB IT

DOCDB simple family (publication)  
**DE 19947194 A1 20010405**; DE 50009419 D1 20050310; EP 1135606 A1 20010926; EP 1135606 B1 20050202; JP 2003511611 A 20030325;  
US 6712296 B1 20040330; WO 0125622 A1 20010412

DOCDB simple family (application)  
**DE 19947194 A 19991001**; DE 0003269 W 20000920; DE 50009419 T 20000920; EP 00967602 A 20000920; JP 2001528330 A 20000920;  
US 85729201 A 20011226