

Title (en)  
FUEL INJECTION VALVE

Title (de)  
BRENNSTOFFEINSPRITZVENTIL

Title (fr)  
SOUPAPE D'INJECTION DE COMBUSTIBLE

Publication  
**EP 1379773 B1 20080723 (DE)**

Application  
**EP 02727237 A 20020316**

Priority  
• DE 0200965 W 20020316  
• DE 10118163 A 20010411

Abstract (en)  
[origin: WO02084104A1] A fuel injection valve (1) for fuel injection systems of internal combustion engines comprises a solenoid (10), a valve needle (3), which is actively connected to the solenoid (10) and which, in a closing direction, is subjected to the action of a return spring (23). The valve needle is provided for actuating a valve closing body (4) that forms a tight seat with a valve seating (6), which is provided on a valve seat body (5). The fuel injection valve also comprises at least two spraying openings (7) that are provided in the valve seat body (5). The spraying openings (7) are provided in the valve seat body (5) in a manner that shields them from circulating gas mixture flows in a combustion chamber of the internal combustion engine.

IPC 8 full level  
**F02M 51/06** (2006.01); **F02M 51/08** (2006.01); **F02M 61/18** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)  
**F02M 51/0664** (2013.01 - EP US); **F02M 51/0685** (2013.01 - EP US); **F02M 61/1806** (2013.01 - EP US); **F02M 61/1833** (2013.01 - EP US); **F02M 2200/306** (2013.01 - EP US); **Y10S 239/90** (2013.01 - EP US)

Designated contracting state (EPC)  
DE FR GB IT

DOCDB simple family (publication)  
**WO 02084104 A1 20021024**; DE 10118163 A1 20021024; DE 10118163 B4 20070419; DE 50212534 D1 20080904;  
EP 1379773 A1 20040114; EP 1379773 B1 20080723; JP 2004518904 A 20040624; JP 4200009 B2 20081224; US 2004021014 A1 20040205;  
US 2008217439 A1 20080911; US 7306173 B2 20071211

DOCDB simple family (application)  
**DE 0200965 W 20020316**; DE 10118163 A 20010411; DE 50212534 T 20020316; EP 02727237 A 20020316; JP 2002581823 A 20020316;  
US 125307 A 20071210; US 29755603 A 20030617