

Title (en)  
FUEL INJECTION VALVE

Title (de)  
BRENNSTOFFEINSPRITZVENTIL

Title (fr)  
SOUPAPE D'INJECTION DE CARBURANT

Publication  
**EP 1299638 B1 20040526 (DE)**

Application  
**EP 01989419 A 20011215**

Priority  
• DE 0104751 W 20011215  
• DE 10063259 A 20001219

Abstract (en)  
[origin: WO0250427A1] The invention relates to a fuel injection valve (1), especially for the direct injection of fuel into the combustion chamber of a mixture-compressing, spark-ignited internal combustion engine. Said valve comprises an actuator (10), a valve needle (3), actuated by the actuator (10), for actuating a valve closing body (4) that forms a sealing seat together with a valve face (6), and a swirl plate (34) that has at least one swirl duct (36). An elastic membrane (37) is disposed on the inlet side of the swirl plate (34) in such a manner that a metering cross-section of the at least one swirl duct (36) can be varied depending on the fuel pressure prevailing in the fuel injection valve (1) during operation.

IPC 1-7  
**F02M 61/16**; **F02M 51/06**

IPC 8 full level  
**F02M 51/08** (2006.01); **F02M 51/06** (2006.01); **F02M 61/16** (2006.01); **F02M 61/18** (2006.01)

CPC (source: EP US)  
**F02M 51/0671** (2013.01 - EP US); **F02M 61/162** (2013.01 - EP US); **F02M 61/1806** (2013.01 - EP US)

Designated contracting state (EPC)  
DE FR GB IT

DOCDB simple family (publication)  
**WO 0250427 A1 20020627**; DE 10063259 A1 20020711; DE 50102422 D1 20040701; EP 1299638 A1 20030409; EP 1299638 B1 20040526; JP 2004516409 A 20040603; US 2005072864 A1 20050407

DOCDB simple family (application)  
**DE 0104751 W 20011215**; DE 10063259 A 20001219; DE 50102422 T 20011215; EP 01989419 A 20011215; JP 2002551288 A 20011215; US 20486502 A 20021108