

Title (en)  
Fuel injection valve

Title (de)  
Brennstoffeinspritzventil

Title (fr)  
Soupape d'injection de carburant

Publication  
**EP 1519037 B1 20060705 (DE)**

Application  
**EP 04104647 A 20040924**

Priority  
DE 10345203 A 20030929

Abstract (en)  
[origin: EP1519037A1] The hydraulic piston (24) defines a chamber filled with oil (36) between its top surface and the top of a cylinder cavity in the top part (19) of the injector. A recess (16) in the top of the piston contains a compensation body (15). There is a gap (32,25) between the sides of the piston and the cylinder communicating with a chamber (14) in a bellows or membrane (27) inside a coil spring (20). The piezoelectric, electrostrictive or magnetostrictive actuator pushes against the hydraulic piston.

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

CPC (source: EP)  
**F02M 51/0603** (2013.01); **F02M 61/167** (2013.01); **F02M 2200/707** (2013.01)

Cited by  
EP1813805A1; EP3118443A1; EP1705369A1; EP1591656A3; CN102971522A; EP3139028A1; US9587609B2; US7198202B2; WO2012007311A1

Designated contracting state (EPC)  
DE FR GB IT

DOCDB simple family (publication)  
**EP 1519037 A1 20050330; EP 1519037 B1 20060705**; DE 10345203 A1 20050504; DE 502004000909 D1 20060817

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