

Title (en)  
FUEL INJECTION VALVE FOR INTERNAL COMBUSTION ENGINES

Title (de)  
KRAFTSTOFFEINSPRITZVENTIL FÜR BRENNKRAFTMASCHINEN

Title (fr)  
INJECTEUR DE CARBURANT POUR MOTEURS À COMBUSTION INTERNE

Publication  
**EP 2867517 A1 20150506 (DE)**

Application  
**EP 13723131 A 20130515**

Priority

- DE 102012211239 A 20120629
- DE 102012220025 A 20121102
- EP 2013060078 W 20130515

Abstract (en)  
[origin: WO2014000957A1] The invention relates to a fuel injection valve comprising a housing (1) in which pressure is applied to a nozzle needle (8), in a control chamber (28), at least indirectly with a closing force in the direction of a valve seat (10). The pressure in the control chamber (28) can be adjusted using a control valve (40) as said control chamber (28) is able to be connected to a low pressure chamber (46) via an outlet restrictor (31) and be filled with fuel at high pressure via an inlet restrictor (30). A longitudinally-displaceable control piston (29) is arranged in the control chamber (28) and divides said chamber (28) into a first control sub-chamber (128) and a second control sub-chamber (228), the first control sub-chamber (128) being able to be connected to the low pressure chamber (46) by means of said outlet restrictor (31). A sealing surface (38) is formed on the control piston (29) and interacts with a sealing seat (39) in the control chamber (28) such that the inlet restrictor (30) is hydraulically disconnected from the second control sub-chamber (228) when the sealing surface (38) comes to rest against the sealing seat (39). Said first control sub-chamber (128) and second control sub-chamber (228) are constantly hydraulically interconnected by means of a restrictor connection (34).

IPC 8 full level  
**F02M 47/02** (2006.01); **F02M 61/20** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)  
**F02M 47/02** (2013.01 - US); **F02M 47/025** (2013.01 - EP); **F02M 47/027** (2013.01 - US); **F02M 63/0029** (2013.01 - EP US); **F02M 63/0042** (2013.01 - EP US); **F02M 63/0043** (2013.01 - EP US); **F02M 63/0075** (2013.01 - EP US); **F02M 61/20** (2013.01 - EP US); **F02M 2547/003** (2013.01 - EP US)

Citation (search report)  
See references of WO 2014000957A1

Cited by  
EP3800344A1; WO2018162747A1; EP3800344B1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**DE 102012220025 A1 20140102**; EP 2867517 A1 20150506; EP 2867517 B1 20160713; US 2015159607 A1 20150611; US 9777684 B2 20171003; WO 2014000957 A1 20140103

DOCDB simple family (application)  
**DE 102012220025 A 20121102**; EP 13723131 A 20130515; EP 2013060078 W 20130515; US 201314411895 A 20130515