

Title (en)  
Fuel injector

Title (de)  
Kraftstoffeinspritzdüse

Title (fr)  
Injecteur à carburant

Publication  
**EP 2660457 A1 20131106 (EN)**

Application  
**EP 12166388 A 20120502**

Priority  
EP 12166388 A 20120502

Abstract (en)  
A fuel injector for an internal combustion engine comprises a valve needle (12) which is movable within a bore (30) relative to a valve needle seating (34) defined by the bore to control fuel delivery through at least one outlet (38) of the injector, the bore (30) being supplied with fuel at high pressure for injection when the valve needle is moved away from the valve needle seating (34); an actuator (14) coupled to the valve needle (12) so as to effect movement thereof; and a sac volume (40) for fuel at a lower end of the valve needle (12) and downstream of the valve needle seating (34). A balance chamber (60) for fuel is provided at an upper end of the valve needle (12) which communicates with the sac volume (40) via a connecting flow path (62). The balance chamber (60), the connecting flow path (62) and the sac volume (40) define a volume for fuel which is isolated from fuel within the bore (30) when the valve needle (12) is engaged with the valve needle seating (34).

IPC 8 full level  
**F02M 51/06** (2006.01); **F02M 61/04** (2006.01); **F02M 63/00** (2006.01); **F02M 61/12** (2006.01)

CPC (source: EP)  
**F02M 51/0657** (2013.01); **F02M 61/042** (2013.01); **F02M 61/12** (2013.01); **F02M 2200/26** (2013.01); **F02M 2200/9015** (2013.01)

Citation (search report)  
• [XA] WO 2008017614 A1 20080214 - SIEMENS AG [DE], et al  
• [XAI] WO 2010108747 A1 20100930 - BOSCH GMBH ROBERT [DE], et al  
• [XA] DE 102005060655 A1 20070621 - BOSCH GMBH ROBERT [DE]  
• [XA] US 5979803 A 19991109 - PETERS LESTER L [US], et al  
• [A] DE 102008001819 A1 20091119 - BOSCH GMBH ROBERT [DE]

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