

Title (en)  
Fuel injector

Title (de)  
Kraftstoffeinspritzventil

Title (fr)  
Injecteur de carburant

Publication  
**EP 1555427 A3 20050817 (EN)**

Application  
**EP 05250097 A 20050111**

Priority  
• EP 05250097 A 20050111  
• EP 04250133 A 20040113

Abstract (en)  
[origin: EP1555427A2] A fuel injector for use in an internal combustion engine includes a valve needle (10) which is engageable with a valve needle seat (16) to control fuel injection through an injector outlet (21). An actuator (20), typically in the form of a piezoelectric actuator stack (22), is arranged to control fuel pressure within a control chamber (50) and a surface associated with the valve needle (10) is exposed to fuel pressure within the control chamber. A load transmission means (36), preferably in the form of a motion inverter, transmits movement of the actuator (20, 22) to the valve needle (10). The load transmission means includes a bellows arrangement (42) which is compressible and expandable in response to said actuator movement so as to vary fuel pressure within the control chamber (50), thereby to control movement of the valve needle (10) relative to the valve needle seat (16). A piezoelectrically operable injector is operable in an energise-to-inject mode to provide efficient opening of the valve needle (10) and to enable rapid closure of the valve needle (10). <IMAGE>

IPC 1-7  
**F02M 57/02**; **F02M 51/06**; **F02M 55/04**; **F02M 61/04**; **F02M 59/46**; **F02M 47/02**

IPC 8 full level  
**F02M 47/02** (2006.01); **F02M 51/06** (2006.01); **F02M 55/04** (2006.01); **F02M 57/02** (2006.01); **F02M 59/46** (2006.01); **F02M 61/04** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)  
**F02M 51/0603** (2013.01); **F02M 61/042** (2013.01); **F02M 2200/304** (2013.01); **F02M 2200/306** (2013.01); **F02M 2200/703** (2013.01)

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