

Title (en)  
FUEL INJECTION VALVE

Title (de)  
BRENNSTOFFEINSPRITZVENTIL

Title (fr)  
INJECTEUR DE COMBUSTIBLE

Publication  
**EP 2232045 B1 20130220 (DE)**

Application  
**EP 08870377 A 20081203**

Priority  
• EP 2008066708 W 20081203  
• DE 102008003851 A 20080110

Abstract (en)  
[origin: WO2009086997A1] A fuel injection valve (1) is preferably configured as an injector for fuel injection systems of air-compressing, self-igniting internal combustion engines. The fuel injection valve (1) comprises a piezoelectric actuator (2) and a valve needle (14) that can be directly actuated by the actuator (2). Further, a throttle plate (7) is provided with an intake throttle (8) and an outlet throttle (24) which feed into a control space (9). The control space (9) is delimited by a front surface (13) of the valve needle (14) and a first side (10) of the throttle plate (7). Further, in order to control the outlet throttle (24), a valve sleeve (21) is provided at a second side (11) of the throttle plate (7) facing away from the first side (10) of the throttle plate (7), said sleeve being actuatable by the actuator (2) against a spring force of a first spring element (40) for release of the outlet throttle (24), wherein the actuator (2) can be actuated against a spring force of a second spring element (41). Upon release of the outlet throttle (24), the pressure in the control space (9) drops such that the valve needle (14) is actuated.

IPC 8 full level  
**F02M 47/02** (2006.01); **F02M 51/06** (2006.01); **F02M 61/16** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)  
**F02M 47/027** (2013.01); **F02M 51/0603** (2013.01); **F02M 61/167** (2013.01); **F02M 63/004** (2013.01)

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

DOCDB simple family (publication)  
**DE 102008003851 A1 20090716**; CN 101910607 A 20101208; EP 2232045 A1 20100929; EP 2232045 B1 20130220;  
WO 2009086997 A1 20090716

DOCDB simple family (application)  
**DE 102008003851 A 20080110**; CN 200880124435 A 20081203; EP 08870377 A 20081203; EP 2008066708 W 20081203