

Title (en)  
Fuel Injector

Title (de)  
Kraftstoffeinspritzdüse

Title (fr)  
Injecteur de carburant

Publication  
**EP 2295785 A1 20110316 (EN)**

Application  
**EP 09166712 A 20090729**

Priority  
EP 09166712 A 20090729

Abstract (en)  
A fuel injector (100) for use in an internal combustion engine, the fuel injector (100) comprising an injection nozzle having a nozzle body (120) provided with a nozzle bore (130), a valve needle (134) being received within the nozzle bore (130) and engageable with a seat region (137) to control fuel delivery through at least one nozzle outlet (126) and first and second actuator arrangements (150, 152), at least the first actuator arrangement (150, 152) being operable to apply an opening force to the valve needle (134) thereby to cause an opening movement of the valve needle (134), wherein the first actuator arrangement (150) is configured to decouple from the valve needle (134) in response to said opening movement.

IPC 8 full level  
**F02M 51/06** (2006.01)

CPC (source: EP)  
**F02M 51/0614** (2013.01); **F02M 51/0617** (2013.01); **F02M 51/066** (2013.01); **F02M 51/0685** (2013.01)

Citation (applicant)  

- EP 0647780 A2 19950412 - LUCAS IND PLC [GB]
- EP 0740068 A2 19961030 - LUCAS IND PLC [GB]
- EP 0995901 A1 20000426 - LUCAS INDUSTRIES LTD [GB]
- EP 1174615 A2 20020123 - DELPHI TECH INC [US]

Citation (search report)  

- [XY] US 2003116657 A1 20030626 - NAKAYAMA MASAO [JP], et al
- [XY] WO 02095215 A1 20021128 - BOSCH GMBH ROBERT [DE], et al
- [Y] WO 03040546 A1 20030515 - BOSCH GMBH ROBERT [DE], et al

Cited by  
JP2014132161A; JP2014132162A; WO2023203186A1; EP2483584A1; WO2023148347A1; EP2320061A1; WO2011054613A1

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 MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**EP 2295785 A1 20110316; EP 2295785 B1 20120404; AT E552419 T1 20120415**

DOCDB simple family (application)  
**EP 09166712 A 20090729; AT 09166712 T 20090729**