

Title (en)  
Fuel injection valve for internal combustion engines

Title (de)  
Kraftstoffeinspritzventil für Brennkraftmaschinen

Title (fr)  
Soupape d'injection de combustible pour moteurs à combustion interne

Publication  
**EP 1777408 A1 20070425 (DE)**

Application  
**EP 06120595 A 20060913**

Priority  
DE 102005050784 A 20051024

Abstract (en)  
Fuel injection valve has a cavity, which is provided with the housing in which a piezo-actuator (15) is arranged, which exhibits a piezo-element (17). The valve has a piezo-element, which is connected in such a way with the housing by welding or by adhesive bond (40) so that the fuel tank (24) is locked externally.

IPC 8 full level  
**F02M 51/00** (2006.01); **F02M 47/02** (2006.01)

CPC (source: EP)  
**F02M 51/005** (2013.01); **F02M 51/0603** (2013.01); **F02M 63/0057** (2013.01); **F02M 2200/21** (2013.01); **F02M 2200/703** (2013.01)

Citation (applicant)  
EP 1574702 A1 20050914 - DELPHI TECH INC [US]

Citation (search report)  
• [X] EP 1577960 A1 20050921 - BOSCH GMBH ROBERT [DE]  
• [XA] EP 1574702 A1 20050914 - DELPHI TECH INC [US]  
• [X] DE 19932760 A1 20010118 - BOSCH GMBH ROBERT [DE]  
• [AD] DE 102004002299 A1 20050804 - BOSCH GMBH ROBERT [DE]  
• [AD] DE 10336327 A1 20050303 - BOSCH GMBH ROBERT [DE]  
• [A] WO 03069152 A1 20030821 - SIEMENS AG [DE], et al  
• [E] DE 102005015732 A1 20061012 - BOSCH GMBH ROBERT [DE]

Cited by  
EP2078847A3

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA HR MK YU

DOCDB simple family (publication)  
**EP 1777408 A1 20070425; EP 1777408 B1 20100526**; AT E469297 T1 20100615; DE 102005050784 A1 20070426;  
DE 502006007016 D1 20100708

DOCDB simple family (application)  
**EP 06120595 A 20060913**; AT 06120595 T 20060913; DE 102005050784 A 20051024; DE 502006007016 T 20060913