

Title (en)  
FUEL INJECTION VALVE

Title (de)  
BRENNSTOFFEINSPRITZVENTIL

Title (fr)  
SOUPAPE D'INJECTION DE CARBURANT

Publication  
**EP 1481157 A1 20041201 (DE)**

Application  
**EP 02795039 A 20021223**

Priority  
• DE 0204732 W 20021223  
• DE 10208224 A 20020226

Abstract (en)  
[origin: WO03072928A1] A fuel injection valve (1), particularly for directly injecting fuel into the combustion chamber of an internal combustion engine, comprises a valve needle (3) that interacts with a valve seat face (6) to create a sealing seat, and comprises an armature (20) that acts upon said valve needle (3). The armature (20) can axially move on the valve needle (3) and is dampened by a damping element (32) made of an elastomer. A spacer ring (33) is placed between the armature (20) and the damping element (32), and the damping element (32) rests against a flange (31) that is connected to the valve needle (3) in a non-positive manner. The armature (20) is mounted on the valve needle (3), whereby the spacer ring (33) prevents it from turning.

IPC 1-7  
**F02M 51/06**; **F02M 61/20**

IPC 8 full level  
**F02M 51/06** (2006.01); **F02M 61/20** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP KR US)  
**F02M 51/0685** (2013.01 - EP KR US); **F02M 61/205** (2013.01 - EP KR US); **F02M 2200/306** (2013.01 - EP KR US);  
**F02M 2200/8084** (2013.01 - KR)

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

DOCDB simple family (publication)  
**WO 03072928 A1 20030904**; AT E302902 T1 20050915; DE 10208224 A1 20030911; DE 50204045 D1 20050929; EP 1481157 A1 20041201; EP 1481157 B1 20050824; JP 2005518497 A 20050623; JP 4276954 B2 20090610; KR 20040086443 A 20041008; US 2004155124 A1 20040812; US 7007870 B2 20060307

DOCDB simple family (application)  
**DE 0204732 W 20021223**; AT 02795039 T 20021223; DE 10208224 A 20020226; DE 50204045 T 20021223; EP 02795039 A 20021223; JP 2003571587 A 20021223; KR 20047013238 A 20021223; US 47496504 A 20040407