

Title (en)  
FUEL INJECTION VALVE

Title (de)  
BRENNSTOFFEINSPRITZVENTIL

Title (fr)  
SOUPAPE D'INJECTION DE CARBURANT

Publication  
**EP 1423603 B1 20070822 (DE)**

Application  
**EP 02754214 A 20020614**

Priority  
• DE 0202176 W 20020614  
• DE 10142302 A 20010829

Abstract (en)  
[origin: DE10142302A1] The fuel injection valve (1), for an internal combustion motor, has a magnetic coil (10) which acts on an armature (20) against a return spring (23) with the valve needle (3), to form the valve unit with an axial movement. The return spring is at a guide sleeve (28), within an axial recess (33) at the valve needle. The sleeve grips through the armature, to give a force fit bond between the valve needle and the armature.

IPC 8 full level  
**F02M 61/12** (2006.01); **F02M 51/06** (2006.01); **F02M 61/20** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP KR US)  
**F02M 51/0671** (2013.01 - EP US); **F02M 51/0682** (2013.01 - EP US); **F02M 51/0685** (2013.01 - EP US); **F02M 61/12** (2013.01 - KR); **F02M 2200/505** (2013.01 - EP US)

Designated contracting state (EPC)  
DE FR GB IT

DOCDB simple family (publication)  
**DE 10142302 A1 20030320**; DE 50210773 D1 20071004; EP 1423603 A1 20040602; EP 1423603 B1 20070822; JP 2005504218 A 20050210; JP 4200098 B2 20081224; KR 100878131 B1 20090114; KR 20040029046 A 20040403; US 2005258276 A1 20051124; US 7070128 B2 20060704; WO 03027487 A1 20030403

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