

Title (en)
FUEL INJECTION VALVE

Title (de)
BRENNSTOFFEINSPRITZVENTIL

Title (fr)
SOUPAPE D'INJECTION DE CARBURANT

Publication
EP 1436499 B1 20081008 (DE)

Application
EP 02767139 A 20020907

Priority
• DE 0203336 W 20020907
• DE 10149915 A 20011010

Abstract (en)
[origin: DE10149915A1] The fuel injection valve (1) has a piezoelectric or magnetostrictive actuator (2) for operation of a valve needle and an associated valve closure cooperating with a valve seat. The actuator is enclosed by a compensation sleeve (6) of a material with a small or negative temperature expansion coefficient, radially enclosed by a spring sleeve (17) connecting upper and lower valve body sections (3,13), providing compression of the compensation sleeve.

IPC 8 full level
F02M 51/06 (2006.01); **F02M 59/46** (2006.01); **F02M 61/08** (2006.01); **F02M 61/16** (2006.01); **H01L 41/09** (2006.01); **H01L 41/12** (2006.01); **H02N 2/00** (2006.01)

CPC (source: EP US)
F02M 51/0603 (2013.01 - EP US); **F02M 61/08** (2013.01 - EP US); **F02M 61/167** (2013.01 - EP US); **F02M 63/0026** (2013.01 - EP US); **F02M 2200/26** (2013.01 - EP US)

Designated contracting state (EPC)
CZ DE FR GB IT

DOCDB simple family (publication)
DE 10149915 A1 20030424; DE 50212877 D1 20081120; EP 1436499 A1 20040714; EP 1436499 B1 20081008; JP 2005505719 A 20050224; JP 4191603 B2 20081203; US 2004061003 A1 20040401; US 7032833 B2 20060425; WO 03033905 A1 20030424

DOCDB simple family (application)
DE 10149915 A 20011010; DE 0203336 W 20020907; DE 50212877 T 20020907; EP 02767139 A 20020907; JP 2003536609 A 20020907; US 43334603 A 20031105