

Title (en)
FUEL INJECTION VALVE

Title (de)
BRENNSTOFFEINSPRITZVENTIL

Title (fr)
SOUPAPE D'INJECTION DE CARBURANT

Publication
EP 1165960 A1 20020102 (DE)

Application
EP 01913566 A 20010202

Priority
• DE 0100423 W 20010202
• DE 10004961 A 20000204

Abstract (en)
[origin: WO0157390A1] The invention relates to a fuel injection valve (1), especially to a fuel injection valve (1) for fuel injection systems of internal combustion engines. Said fuel injection valve comprises a first magnet coil (2) interacting with an armature (3), a second magnet coil (4) interacting with the armature (3), and a valve needle (13) that is non-positively linked with the armature (3) and that actuates a valve closing body. The first magnet coil (2) impinges the armature (3) in the closing direction and the second magnet coil (4) in the opening direction.

IPC 1-7
F02M 51/06; **F02D 41/20**; **F01L 9/04**

IPC 8 full level
F01L 9/20 (2021.01); **F02D 41/20** (2006.01); **F02M 51/00** (2006.01); **F02M 51/06** (2006.01)

CPC (source: EP KR US)
F01L 9/20 (2021.01 - EP US); **F02D 41/20** (2013.01 - EP KR US); **F02M 51/0617** (2013.01 - EP KR US); **F02M 51/0671** (2013.01 - EP KR US); **F02D 2041/2079** (2013.01 - EP KR US); **H01F 2007/1676** (2013.01 - EP KR US)

Citation (search report)
See references of WO 0157390A1

Designated contracting state (EPC)
DE FR IT

DOCDB simple family (publication)
WO 0157390 A1 20010809; DE 10004961 A1 20010809; DE 10004961 B4 20130822; DE 50112756 D1 20070906; EP 1165960 A1 20020102; EP 1165960 B1 20070725; JP 2003521634 A 20030715; JP 4741147 B2 20110803; KR 20020023214 A 20020328; US 2002170986 A1 20021121; US 7021568 B2 20060404

DOCDB simple family (application)
DE 0100423 W 20010202; DE 10004961 A 20000204; DE 50112756 T 20010202; EP 01913566 A 20010202; JP 2001556007 A 20010202; KR 20017012657 A 20011004; US 95837202 A 20020509