

Title (en)
FUEL INJECTION VALVE

Title (de)
BRENNSTOFFEINSPRITZVENTIL

Title (fr)
SOUPAPE D'INJECTION DE CARBURANT

Publication
EP 1105639 A1 20010613 (DE)

Application
EP 99962123 A 19991202

Priority
• DE 9903868 W 19991202
• DE 19927900 A 19990618

Abstract (en)
[origin: DE19927900A1] The fuel injection valve (1) has a magnetic coil (15) for controlling an armature (17), coupled to the valve closure element (3) via a valve needle (2), the armature cooperating with a pair of opposing stops (20,25) attached to the valve needle for limiting its movement, one of these stops provided by a spring element, e.g. a damping spring.

IPC 1-7
F02M 51/06

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

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

Citation (search report)
See references of WO 0079120A1

Cited by
CN103119282A; US9376994B2

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
DE 19927900 A1 20001221; DE 59911528 D1 20050303; EP 1105639 A1 20010613; EP 1105639 B1 20050126; JP 2003502573 A 20030121; KR 20010072511 A 20010731; US 6520434 B1 20030218; WO 0079120 A1 20001228

DOCDB simple family (application)
DE 19927900 A 19990618; DE 59911528 T 19991202; DE 9903868 W 19991202; EP 99962123 A 19991202; JP 2001505446 A 19991202; KR 20017001955 A 20010215; US 76334601 A 20010411