

Title (en)

FUEL INJECTION VALVE AND METHOD FOR OPERATING A FUEL INJECTION VALVE

Title (de)

BRENNSTOFFEINSPRITZVENTIL UND VERFAHREN ZUM BETREIBEN EINES BRENNSTOFFEINSPRITZVENTILS

Title (fr)

SOUPAPE D'INJECTION DE CARBURANT ET PROCEDE POUR LA FAIRE FONCTIONNER

Publication

EP 1147306 A1 20011024 (DE)

Application

EP 99955754 A 19990922

Priority

- DE 9903020 W 19990922
- DE 19901711 A 19990118

Abstract (en)

[origin: DE19901711A1] The invention relates to a fuel injection valve (1), more particularly, an injection valve for fuel injection systems in internal combustion engines, having a piezoelectric or magnetostrictive actuator (3) and a valve closing body (12) actuated by the actuator (3) along an actuation path (6, 24, 10, 9), cooperating with a valve seat surface (13) to form a sealed seat. A gap (24) is formed in the actuation path (6, 24, 10, 9) during the non-excited non-operational state of the actuator.

IPC 1-7

F02M 51/06

IPC 8 full level

F02D 41/20 (2006.01); **F02M 51/06** (2006.01); **H01L 41/09** (2006.01); **F02M 61/08** (2006.01); **F02M 61/16** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP KR US)

F02D 41/2096 (2013.01 - EP US); **F02M 51/0603** (2013.01 - EP US); **F02M 61/18** (2013.01 - KR); **F02D 2041/2044** (2013.01 - EP US); **F02M 61/08** (2013.01 - EP US); **F02M 61/163** (2013.01 - EP US)

Citation (search report)

See references of WO 0042313A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

DE 19901711 A1 20000720; DE 59903885 D1 20030130; EP 1147306 A1 20011024; EP 1147306 B1 20021218; JP 2002535536 A 20021022; KR 20010113652 A 20011228; US 6478013 B1 20021112; WO 0042313 A1 20000720

DOCDB simple family (application)

DE 19901711 A 19990118; DE 59903885 T 19990922; DE 9903020 W 19990922; EP 99955754 A 19990922; JP 2000593856 A 19990922; KR 20017008960 A 20010716; US 88952801 A 20011113