

Title (en)

Fuel injector for internal combustion engines

Title (de)

Kraftstoffeinspritzventil für Brennkraftmaschinen

Title (fr)

Injecteur de combustible pour moteurs à combustion interne

Publication

EP 1344929 B1 20041201 (DE)

Application

EP 03003081 A 20030213

Priority

DE 10210927 A 20020313

Abstract (en)

[origin: EP1344929A1] The fuel injection valve has an inner control chamber (42) whose pressure exerts a closing force on an inner valve needle (12) and an outer control chamber (55) whose pressure exerts a closing force on an outer valve needle (10). Both control chambers are connected to a high pressure fuel chamber (7) via a feed choke. A control valve has a valve control chamber connected to the inner and outer control chambers via chokes.

IPC 1-7

F02M 45/08; **F02M 59/46**; **F02M 47/02**

IPC 8 full level

F02M 45/08 (2006.01); **F02M 47/00** (2006.01); **F02M 47/02** (2006.01); **F02M 59/46** (2006.01); **F02M 61/18** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)

F02M 45/086 (2013.01); **F02M 47/027** (2013.01); **F02M 61/18** (2013.01); **F02M 63/0026** (2013.01); **F02M 2200/46** (2013.01)

Cited by

EP1605157A1; EP1693561A1; US7159799B2; US7533831B2; WO2005014997A1; WO2005045229A1; WO2005019638A1; WO2006079425A1; WO2005040595A1; WO2004070192A1

Designated contracting state (EPC)

CZ DE FR GB

DOCDB simple family (publication)

EP 1344929 A1 20030917; **EP 1344929 B1 20041201**; DE 10210927 A1 20031002; DE 50300174 D1 20050105; JP 2003269282 A 20030925

DOCDB simple family (application)

EP 03003081 A 20030213; DE 10210927 A 20020313; DE 50300174 T 20030213; JP 2003066573 A 20030312