

Title (en)
FUEL INJECTION VALVE

Title (de)
BRENNSTOFFEINSPRITZVENTIL

Title (fr)
SOUPAPE D'INJECTION DE CARBURANT

Publication
EP 1442210 A1 20040804 (DE)

Application
EP 02767123 A 20020823

Priority
• DE 0203093 W 20020823
• DE 10153630 A 20011031

Abstract (en)
[origin: WO03040545A1] The invention relates to a fuel injection valve (1) for directly injecting fuel into the combustion chamber of an internal combustion engine, comprising: a piezoelectric actuator (2), which is encapsulated in an actuator housing (3); a valve needle (9), which is actively connected to the actuator and on which a valve closing body (11) is provided that forms a tight seat with the valve seating (13), and; a nozzle body (12) into which the actuator housing (3) can be introduced. The actuator housing (3) and the nozzle body (12) are closed by a common connection part (4), whereby the connection part (4) has a first and a second diameter step (19; 20).

IPC 1-7
F02M 51/06

IPC 8 full level
F02M 51/00 (2006.01); **F02M 51/06** (2006.01); **F02M 61/16** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)
F02M 51/0603 (2013.01 - EP US)

Citation (search report)
See references of WO 03040545A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)
WO 03040545 A1 20030515; DE 10153630 A1 20030710; DE 50213748 D1 20090917; EP 1442210 A1 20040804; EP 1442210 B1 20090805; JP 2005508476 A 20050331; JP 4280633 B2 20090617; US 2004094640 A1 20040520; US 7063278 B2 20060620

DOCDB simple family (application)
DE 0203093 W 20020823; DE 10153630 A 20011031; DE 50213748 T 20020823; EP 02767123 A 20020823; JP 2003542774 A 20020823; US 25053104 A 20040106