

Title (en)
INJECTION VALVE

Title (de)
EINSPRITZVENTIL

Title (fr)
SOUPAPE D'INJECTION

Publication
EP 1366282 A1 20031203 (DE)

Application
EP 01985327 A 20011221

Priority
• DE 0104860 W 20011221
• DE 10100390 A 20010105

Abstract (en)
[origin: WO02053904A1] The invention relates to an injection valve that comprises at least one nozzle module (2) provided with a valve control piston (4) interacting with a nozzle needle and a valve control chamber (5) delimited by a spring plate (21) and one front face (6) of the valve control piston (4), said valve control chamber communicating with a high-pressure feed line (9) via a feed channel (7) and being functionally linked with a valve control module (3) via a discharge channel (24). Said valve control module is actuated by means of a piezoelectric actuator device and is configured as a valve. Said valve control module furthermore comprises at least one valve closing member (14), disposed in a valve chamber (18) and interacting with at least one valve seat (16, 17). The nozzle needle is opened via the discharge channel (24) by means of a pressure reduction in the valve control chamber (5) caused by the valve control module (3) and is closed by filling the valve control chamber (5). In order to allow for a rapid closing of the nozzle needle, the injection valve is provided with means for filling the valve control chamber (5) via the feed channel (7) and the discharge channel (24).

IPC 1-7
F02M 47/02; **F02M 61/20**; **F02M 59/46**

IPC 8 full level
F02M 47/00 (2006.01); **F02M 47/02** (2006.01); **F02M 51/00** (2006.01); **F02M 59/46** (2006.01); **F02M 61/20** (2006.01)

CPC (source: EP US)
F02M 47/027 (2013.01 - EP US); **F02M 61/205** (2013.01 - EP US); **F02M 63/0026** (2013.01 - EP US); **F02M 63/0036** (2013.01 - EP US); **F02M 2200/703** (2013.01 - EP US)

Citation (search report)
See references of WO 02053904A1

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

DOCDB simple family (publication)
WO 02053904 A1 20020711; DE 10100390 A1 20020725; EP 1366282 A1 20031203; JP 2004517254 A 20040610; US 2003141472 A1 20030731

DOCDB simple family (application)
DE 0104860 W 20011221; DE 10100390 A 20010105; EP 01985327 A 20011221; JP 2002554386 A 20011221; US 22069303 A 20030106