

Title (en)
FUEL INJECTION VALVE

Title (de)
BRENNSTOFFEINSPRITZVENTIL

Title (fr)
INJECTEUR DE CARBURANT

Publication
EP 0934459 B1 20021023 (DE)

Application
EP 98947359 A 19980728

Priority
• DE 9802135 W 19980728
• DE 19736682 A 19970822

Abstract (en)
[origin: DE19736682A1] The fuel injector has the bottom of the injector fitted with three components; a valve seat block (26), a valve needle guide block (35) and a swirl plate (47) clamped between the two blocks. The swirl plate has a central aperture (60) which is larger than the cross-section of the valve needle, and with a pattern of profiled swirl ducts (65). The swirl ducts do not reach the outer edge of the plate, which is bounded by a solid edge (66). The swirl plate generates a swirl action in the injected fuel pulses.

IPC 1-7
F02M 61/16; **F02M 61/12**; **F02M 51/06**

IPC 8 full level
F02M 51/08 (2006.01); **F02M 51/06** (2006.01); **F02M 61/12** (2006.01); **F02M 61/16** (2006.01); **F02M 61/18** (2006.01)

CPC (source: EP KR US)
F02M 51/0671 (2013.01 - EP US); **F02M 61/12** (2013.01 - EP US); **F02M 61/16** (2013.01 - KR); **F02M 61/162** (2013.01 - EP US);
F02M 61/18 (2013.01 - KR)

Designated contracting state (EPC)
CH DE GB IT LI

DOCDB simple family (publication)
DE 19736682 A1 19990225; CN 1095932 C 20021211; CN 1237225 A 19991201; CZ 135999 A3 19991215; CZ 292735 B6 20031217;
DE 59806045 D1 20021128; EP 0934459 A1 19990811; EP 0934459 B1 20021023; JP 2001504914 A 20010410; JP 2008106781 A 20080508;
JP 4097713 B2 20080611; JP 4510871 B2 20100728; KR 100623402 B1 20060913; KR 20000068730 A 20001125; US 6145761 A 20001114;
WO 9910649 A1 19990304

DOCDB simple family (application)
DE 19736682 A 19970822; CN 98801200 A 19980728; CZ 135999 A 19980728; DE 59806045 T 19980728; DE 9802135 W 19980728;
EP 98947359 A 19980728; JP 2007318193 A 20071210; JP 51375699 A 19980728; KR 19997003024 A 19990408; US 28430999 A 19990920