

Title (en)

Fuel injector for fuel injection systems

Title (de)

Einspritzventil für Kraftstoffeinspritzsysteme

Title (fr)

Injecteur à combustible pour systèmes d'injection de combustible

Publication

EP 0952333 A3 20020213 (DE)

Application

EP 99106924 A 19990408

Priority

DE 19817320 A 19980418

Abstract (en)

[origin: EP0952333A2] The valve has an injector housing containing a piezo stack, a valve housing with a movable valve closure device with a nozzle needle (8) actuated by the piezo stack, a restoring device for the valve closing device and a displacement piston actuated by the piezo stack followed by a control piston which increases the displacement distance. Hydraulic sequential gain is achieved by a working piston that actuates the nozzle needle and increases the actuation force.

IPC 1-7

F02M 51/06; **F02M 47/00**

IPC 8 full level

F02M 47/00 (2006.01); **F02M 51/06** (2006.01); **F02M 55/00** (2006.01); **F02M 61/08** (2006.01)

CPC (source: EP US)

F02M 51/0603 (2013.01 - EP US); **F02M 55/002** (2013.01 - EP US); **F02M 61/08** (2013.01 - EP US); **F02M 2200/703** (2013.01 - EP US)

Citation (search report)

- [X] EP 0816670 A1 19980107 - SIEMENS AUTOMOTIVE CORP LP [US]
- [X] US 3635016 A 19720118 - BENSON GLENDON M
- [A] DE 19519191 A1 19961219 - SIEMENS AG [DE]
- [A] DE 19500706 A1 19960718 - BOSCH GMBH ROBERT [DE]

Cited by

EP1174615A3; EP1703119A1; DE10006319A1; WO2006008200A1; US6776354B2; US7451938B2

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)

EP 0952333 A2 19991027; **EP 0952333 A3 20020213**; **EP 0952333 B1 20040623**; DE 19817320 C1 19991111; DE 59909783 D1 20040729; US 6302333 B1 20011016

DOCDB simple family (application)

EP 99106924 A 19990408; DE 19817320 A 19980418; DE 59909783 T 19990408; US 29376799 A 19990419