

Title (en)
FUEL INJECTION VALVE

Title (de)
BRENNSTOFFEINSPRITZVENTIL

Title (fr)
SOUPAPE D'INJECTION DE CARBURANT

Publication
EP 0862781 B1 20030319 (DE)

Application
EP 97909180 A 19970924

Priority

- DE 9702160 W 19970924
- DE 19639117 A 19960924

Abstract (en)
[origin: DE19639117A1] The present invention relates to a fuel injection valve for fuel injection systems in internal combustion engines. Said valve is characterized by a core (2) acting as an internal pole made of a soft magnetic powder composite . Powder composite is an iron powder provided with a polymer additive and its individual iron grains are covered with an electrically isolating layer. Such a powder composite enables significant minimization of eddy current in magnetic circuit in comparison with other known materials such as chrome steel, which are usually employed as magnetic composites. The mechanically and fuel sensitive core (2) is encapsulated at least with regard to the fuel circulating components of the fuel injection valve. To this effect a sleeve (10) protrudes through an inner longitudinal opening (7) of the core (2) enabling internal fuel flow and is firmly connected to a pole section (13) occluding the core downwards. The core (2) and the magnetic coil are therefore not exposed to wetting by fuel. The fuel injection valve is particularly suited for use in fuel injection systems in mixture compressing internal combustion engines with externally supplied ignition.

IPC 1-7
H01F 3/08; **F02M 59/46**

IPC 8 full level
H01F 7/16 (2006.01); **F02M 51/06** (2006.01); **F02M 59/46** (2006.01); **F02M 61/16** (2006.01); **H01F 3/08** (2006.01)

CPC (source: EP KR US)
F02M 51/0671 (2013.01 - EP US); **H01F 3/08** (2013.01 - EP KR US); **F02M 2200/07** (2013.01 - EP US); **F02M 2200/9092** (2013.01 - EP US); **H01F 2007/1676** (2013.01 - EP US)

Citation (examination)

- DE 4137786 A1 19930519 - BOSCH GMBH ROBERT [DE]
- US 2498702 A 19500228 - GUSTAVE NAHMAN

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
DE 19639117 A1 19980326; DE 59709572 D1 20030424; EP 0862781 A1 19980909; EP 0862781 B1 20030319; JP 2000501570 A 20000208; KR 19990071489 A 19990927; RU 2193685 C2 20021127; US 6244526 B1 20010612; WO 9813837 A1 19980402

DOCDB simple family (application)
DE 19639117 A 19960924; DE 59709572 T 19970924; DE 9702160 W 19970924; EP 97909180 A 19970924; JP 51515198 A 19970924; KR 19980703761 A 19980520; RU 98111759 A 19970924; US 7717098 A 19980521