Title (en)

FUEL INJECTION VALVE

Title (de)

BRENNSTOFFEINSPRITZVENTIL

Title (fr)

SOUPAPE D'INJECTION DE COMBUSTIBLE

Publication

EP 2521853 B1 20190220 (DE)

Application

EP 10787447 A 20101206

Priority

- DE 102010000754 A 20100108
- EP 2010068957 W 20101206

Abstract (en)

[origin: WO2011082916A1] The fuel injection valve according to the invention is characterized in particular in that an inflow from the injection openings (32) that is uniform and stable over time is generated and a reduction in the scatter in the jet and throughput characteristics is achieved. The fuel injection valve (1) comprises at least one energizable actuator and a valve element that can be moved along a valve longitudinal axis and interacts in a sealing manner with a valve seat (28). Provided upstream of the valve seat (28), on the circumference, are a plurality of flow regions (26), between which in each case guide regions (30) for the valve element are located. The injection openings (32) downstream of the valve seat (28), the number of which differs from the number of flow regions (26), discharge the fuel finely atomized. At least two flow regions (26) differ in size, such as circumferential width and/or radial depth, and/or contour. The fuel injection valve is suitable in particular for the direct injection of fuel into a combustion chamber of a mixture-compressing spark-ignition internal combustion engine.

IPC 8 full level

F02M 61/18 (2006.01)

CPC (source: EP KR US)

F02M 61/1806 (2013.01 - EP KR US); **F02M 61/1886** (2013.01 - EP KR US); F02M 2200/16 (2013.01 - KR); F02M 2200/858 (2013.01 - KR)

Citation (examination)

- WO 0225101 A1 20020328 - BOSCH GMBH ROBERT [DE], et al
- DE 10240827 A1 20040318 - BOSCH GMBH ROBERT [DE]

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

WO 2011082916 A1 20110714; BR 112012016282 A2 20170307; CN 102713245 A 20121003; CN 102713245 B 20190827; DE 102010000754 A1 20110714; EP 2521853 A1 20121114; EP 2521853 B1 20190220; JP 2013516569 A 20130513; JP 5808340 B2 20151110; KR 101815841 B1 20180108; KR 20120101528 A 20120913; US 2013062441 A1 20130314; US 9133803 B2 20150915

DOCDB simple family (application)

EP 2010068957 W 20101206; BR 112012016282 A 20101206; CN 201080060780 A 20101206; DE 102010000754 A 20100108; EP 10787447 A 20101206; JP 2012547469 A 20101206; KR 20127017638 A 20101206; US 201013520680 A 20101206