

Title (en)

Fuel injection nozzle for an internal combustion engine

Title (de)

Kraftstoffeinspritzdüse für eine Brennkraftmaschine

Title (fr)

Buse d'injection de combustible pour un moteur à combustion interne

Publication

EP 0867611 B1 19991229 (DE)

Application

EP 98104239 A 19980310

Priority

DE 19712670 A 19970326

Abstract (en)

[origin: EP0867611A1] The nozzle needle (5) of a fuel injection nozzle is arranged in a guide (3) in a nozzle body (2) and acts against a closing spring (4). The tip (6) of the needle cooperates with a fuel inlet bore (8) partly surrounding the needle to control injection holes (10) spaced around the periphery of a valve seat (9) to effect pre-injection and main injection stages. The needle guide is selected with clearance in the direction of the plane passing through the needle axis (5') and the axis (4') of the closing spring sufficient to displace the needle tip laterally at the start of its stroke so that it closes at least one injection hole. Guide and closing spring preferably have an oval or elliptical cross section.

IPC 1-7

F02M 45/08; **F02M 61/20**; **F02M 61/12**

IPC 8 full level

F02M 45/08 (2006.01); **F02M 61/12** (2006.01); **F02M 61/20** (2006.01)

CPC (source: EP)

F02M 45/08 (2013.01); **F02M 61/12** (2013.01); **F02M 61/20** (2013.01)

Cited by

CN108474315A; DE10023957B4; EP1391610A1; DE10143026A1; US10077750B2; WO0216759A1; WO2017127680A1

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