Title (en)

FUEL INJECTION NOZZLE FOR INTERNAL COMBUSTION ENGINES

Publication

EP 0413173 B1 19930825 (DE)

Application

EP 90114186 A 19900724

Priority

AT 195189 A 19890817

Abstract (en)

[origin: EP0413173A2] The invention relates to a fuel injection nozzle for internal combustion engines of the multiple hole type with a nozzle housing 1 ending in a nozzle cup 3 and a nozzle needle 7 carried in this, which on the inside forms a conical valve seat 4 for the nozzle needle 7, likewise conical at its end and sprung against the valve seat 4 and in the area of this valve seat has at least one jet bore 15 covered by the conical end 8 of the nozzle needle 7 when the valve is closed, the conical valve seat 4 with sharp edges passing into a blind hole 6 and the conical section 8 of the nozzle needle 7 being defined towards the blind hole by an edge 16. Under the pressure of the fuel delivered the nozzle needle 7 in a first lifting phase rises from the valve seat against the force of a spring and bears on a stop, which in turn in a second lifting phase is to a limited extent displaceable against the force of another spring. When the valve is closed, the centre point of the inlet hole 17 of the jet bore 15 or at least one of the jet bores 15 is at a short distance a or A from the two edges 5;16 provided on the transition of the valve seat 4 to the blind hole and at the limit of the conical section 8 of the nozzle needle 7, which on the one edge 5;16 is at most one and a half times the diameter of the inlet hole 17 and on the other edge 16;5 is designed equal to or greater than this amount. <IMAGE>

IPC 1-7

F02M 45/08; F02M 61/18

IPC 8 full level

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CPC (source: EP)

F02M 45/083 (2013.01); **F02M 61/1846** (2013.01)

Cited by

DE4432686A1; DE19547423B4; EP0867611A1; EP0809017A1; US5934571A; WO2012010657A3

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