

Title (en)
Injection valve

Title (de)
Einspritzventil

Title (fr)
Injecteur

Publication
EP 1541859 B1 20090722 (DE)

Application
EP 04024922 A 20041020

Priority
DE 10357873 A 20031211

Abstract (en)
[origin: EP1541859A1] The injection valve has a nozzle module (3) with a first nozzle needle (4) interacting with a first injection orifice (7), and a second nozzle needle (5) interacting with a second injection orifice (8) and axially movable inside the first nozzle needle. A control module with a control chamber (9) controls the fluid pressure. The first nozzle needle has at least one driver (18) which effects an opening and closing of the second nozzle needle and is formed by a control piston of the first nozzle needle and which preferably encompasses a section of the second nozzle needle with reduced diameter.

IPC 8 full level
F02M 45/08 (2006.01); **F02M 47/02** (2006.01)

CPC (source: EP)
F02M 45/086 (2013.01); **F02M 47/027** (2013.01); **F02M 2200/46** (2013.01)

Cited by
DE102006035412B4; DE102007000095B4; DE102007000037B4; DE102013000048B3; US10454103B2; DE102012002542A1

Designated contracting state (EPC)
DE ES FR IT PL

DOCDB simple family (publication)
EP 1541859 A1 20050615; EP 1541859 B1 20090722; DE 10357873 A1 20050707; DE 502004009781 D1 20090903

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