

Title (en)
INJECTION NOZZLE COMPRISING TWO SEPARATELY CONTROLLABLE NOZZLE NEEDLES

Title (de)
EINSPRITZDÜSE MIT ZWEI SEPARAT STEUERBAREN DÜSENNADELN

Title (fr)
INJECTEUR COMPORTANT DEUX POINTEAUX D'INJECTION POUVANT ETRE COMMANDES SEPAREMENT

Publication
EP 1339966 A1 20030903 (DE)

Application
EP 01997634 A 20011117

Priority
• DE 0104338 W 20011117
• DE 10058153 A 20001122

Abstract (en)
[origin: WO0242631A1] The invention relates to an injection nozzle for internal combustion engines, which comprises a first nozzle needle (7) and a second nozzle needle (27), whereby the first nozzle needle (7) and the second nozzle needle (27) can be controlled independently of one another. The second injection nozzle is opened by reducing the pressure of a hydraulic fluid inside a control space (37). As a result, the injection quantity per unit of time and the atomization of the fuel inside the combustion chamber can be influenced in broad ranges and, in addition, a rate-of-discharge curve can be formed.

IPC 1-7
F02M 45/08; **F02M 61/20**

IPC 8 full level
F02M 45/08 (2006.01); **F02M 61/20** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)
F02M 45/086 (2013.01); **F02M 61/205** (2013.01); **F02M 2200/46** (2013.01)

Citation (search report)
See references of WO 0242631A1

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
WO 0242631 A1 20020530; CZ 20031313 A3 20040915; CZ 298453 B6 20071010; DE 10058153 A1 20020606; DE 50110179 D1 20060727; EP 1339966 A1 20030903; EP 1339966 B1 20060614; PL 355415 A1 20040419

DOCDB simple family (application)
DE 0104338 W 20011117; CZ 20031313 A 20011117; DE 10058153 A 20001122; DE 50110179 T 20011117; EP 01997634 A 20011117; PL 35541501 A 20011117