

Title (en)  
PUMP NOZZLE OF A TYPE WITH AN OPEN INJECTION NOZZLE

Title (de)  
PUMPEDÜSE VOM TYP MIT OFFENER EINSPRITZDÜSE

Title (fr)  
GICLEUR DE POMPE DU TYPE A INJECTEUR OUVERT

Publication  
**EP 1044328 A1 20001018 (DE)**

Application  
**EP 98960860 A 19981223**

Priority  
• AT 9800322 W 19981223  
• DE 19758066 A 19971229

Abstract (en)  
[origin: DE19758066A1] The invention relates to a pump nozzle of a type with an open injection nozzle. The pump nozzle is comprised of a nozzle body (1) with an axial chamber (4) which ends in a nozzle cap (3). The nozzle also has an injection piston (15) which serves as an end element and which is guided in the axial chamber. The injection piston forms a pressure chamber (23) in the axial chamber. The spray orifices (60, 61) of an upper (60) and a lower (61) row exit from said pressure chamber. In order to be able to adapt the nozzle cross-section to all operating states, the injection piston (15) has an axial orifice (30) in which a coaxial piston needle (31) is guided in a longitudinal direction of the nozzle. The needle part (33) interacts with a seating (62) formed with the interior of the nozzle cap (3). The seating is arranged underneath the upper row of spray orifices (60), and a compression spring (35) which operates in a downward direction is provided over the piston part (32) of the piston needle (31). The piston needle forms a control chamber (50) which is located underneath the piston part (32) of said needle and in the axial orifice (30). A control medium which can be fed to the control chamber lifts the piston needle (31) against the force of the compression spring (35) in relation to the injection piston (15).

IPC 1-7  
**F02M 57/02**; **F02M 61/10**

IPC 8 full level  
**F02M 57/02** (2006.01); **F02M 61/10** (2006.01)

CPC (source: EP US)  
**F02M 57/021** (2013.01 - EP US); **F02M 57/024** (2013.01 - EP US); **F02M 61/10** (2013.01 - EP US)

Citation (search report)  
See references of WO 9934114A1

Designated contracting state (EPC)  
DE GB

DOCDB simple family (publication)  
**DE 19758066 A1 19990701**; DE 59805646 D1 20021024; EP 1044328 A1 20001018; EP 1044328 B1 20020918; US 6257507 B1 20010710; WO 9934114 A1 19990708

DOCDB simple family (application)  
**DE 19758066 A 19971229**; AT 9800322 W 19981223; DE 59805646 T 19981223; EP 98960860 A 19981223; US 58280700 A 20000829