

Title (en)  
Fuel injection device

Title (de)  
Kraftstoffeinspritzvorrichtung

Title (fr)  
Dispositif d'injection de combustible

Publication  
**EP 0703363 A2 19960327 (EN)**

Application  
**EP 95306276 A 19950907**

Priority  
JP 25159994 A 19940921

Abstract (en)  
A fuel injection device comprises a body (10), a needle valve (21) axially slidably received in the body, a nozzle spring (22) for biasing the needle valve (21) toward a valve seat (18), and a detection assembly for detecting a time point for lifting the needle valve, that is, a fuel injection time. The detection assembly and the nozzle spring are received in a spring receiving hole (15). The detection assembly has an earth plate (31), a piezoelectric device (32) and an electrode plate (33) arranged in order toward the valve seat. A conical receiving surface (15a) is formed on an upper end of the spring receiving hole (15). The earth plate has an abutment surface (31a) which can be brought into surface contact with the receiving surface. <IMAGE>

IPC 1-7  
**F02M 65/00**

IPC 8 full level  
**F02M 65/00** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)  
**F02M 65/005** (2013.01); **F02M 2200/21** (2013.01); **F02M 2200/24** (2013.01)

Citation (applicant)  
• JP S6314188 A 19880121 - HITACHI ELECTR ENG  
• JP H0447163 A 19920217 - MITSUBISHI ELECTRIC CORP

Cited by  
EP2884093A1; EP1961952A1; WO2004007951A3

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DE GB

DOCDB simple family (publication)  
**EP 0703363 A2 19960327**; **EP 0703363 A3 19961218**; **EP 0703363 B1 19991201**; DE 69513604 D1 20000105; DE 69513604 T2 20000713; JP 3274294 B2 20020415; JP H0893602 A 19960409; KR 0168982 B1 19990115

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