

Title (en)
FUEL INJECTION DEVICE FOR INTERNAL COMBUSTION ENGINES

Title (de)
KRAFTSTOFFEINSPRITZEINRICHTUNG FÜR BRENNKRAFTMASCHINEN

Title (fr)
SYSTEME D'INJECTION DE CARBURANT POUR MOTEURS A COMBUSTION INTERNE

Publication
EP 0779949 B1 20000809 (DE)

Application
EP 96901744 A 19960119

Priority
• DE 19504849 A 19950215
• EP 9600230 W 19960119

Abstract (en)
[origin: DE19504849A1] A fuel injection device for internal combustion engines with a high-pressure fuel pump (1) which conveys fuel from a low-pressure chamber (3) through a feed pipe (5) into a high-pressure collecting chamber (common rail) (7) which is connected via high-pressure pipes (9) to the individual injection valves (11) projecting into the combustion chamber of the engine to be fuelled. To permit variable injection cross-sections at the injection valves (11), the latter take the form of injection valves with an outwardly open valve member (17) via the controllable opening movement towards the combustion chamber of which it is possible to set a variable injection cross-section at the injection valve (11).

IPC 1-7
F02M 47/02; **F02M 61/08**; **F02M 61/16**; **F02M 63/02**

IPC 8 full level
F02M 45/12 (2006.01); **F02M 47/00** (2006.01); **F02M 47/02** (2006.01); **F02M 47/06** (2006.01); **F02M 61/04** (2006.01); **F02M 61/08** (2006.01); **F02M 61/16** (2006.01); **F02M 61/18** (2006.01); **F02M 61/20** (2006.01); **F02M 63/02** (2006.01)

CPC (source: EP KR US)
F02M 45/12 (2013.01 - EP US); **F02M 47/02** (2013.01 - KR); **F02M 47/027** (2013.01 - EP US); **F02M 47/06** (2013.01 - EP US); **F02M 61/042** (2013.01 - EP US); **F02M 61/045** (2013.01 - EP US); **F02M 61/08** (2013.01 - EP US); **F02M 61/161** (2013.01 - EP US); **F02M 61/182** (2013.01 - EP US); **F02M 61/205** (2013.01 - EP US); **F02M 63/0225** (2013.01 - EP US)

Cited by
DE102007053156A1

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
DE 19504849 A1 19960822; CN 1062331 C 20010221; CN 1145652 A 19970319; DE 59605715 D1 20000914; EP 0779949 A1 19970625; EP 0779949 B1 20000809; JP H09512616 A 19971216; KR 970702428 A 19970513; US 5823161 A 19981020; WO 9625596 A1 19960822

DOCDB simple family (application)
DE 19504849 A 19950215; CN 96190061 A 19960119; DE 59605715 T 19960119; EP 9600230 W 19960119; EP 96901744 A 19960119; JP 52460196 A 19960119; KR 19960705746 A 19961014; US 72220097 A 19970225