

Title (en)  
FUEL INJECTION APPARATUS

Publication  
**EP 0246373 B1 19920304 (EN)**

Application  
**EP 86303903 A 19860522**

Priority  
EP 86303903 A 19860522

Abstract (en)  
[origin: EP0246373A1] Fuel is pumped and supplied to an injector (114, 208, 308, 408) which injects the fuel in the form of mist. The quantity of fuel injected from the nozzle is regulated by quantity control means. The control means is comprised of a control valve (152, 210, 310, 410), which is disposed on the injection hole (153, 238, 342, 426) of the injector for controlling the area of the injection hole. When the control valve has sufficient stroke to close the injection hole, the valve serves not only as a control valve, but also as a timing control valve. The movement or stroke of the control valve is accomplished by an actuator (126, 218, 338, 418) which is controlled by electrical control means, for example a microcomputer (122, 205, 305, 405), to enable a precise injection of fuel and an ideal combustion.

IPC 1-7  
**F02M 45/08; F02M 51/06; F02M 61/16; F02M 61/18; F02M 63/00**

IPC 8 full level  
**F02M 45/08** (2006.01); **F02M 51/06** (2006.01); **F02M 61/04** (2006.01); **F02M 61/06** (2006.01); **F02M 61/16** (2006.01); **F02M 61/18** (2006.01); **F02M 63/00** (2006.01); **F02M 69/04** (2006.01)

CPC (source: EP)  
**F02M 45/08** (2013.01); **F02M 51/0603** (2013.01); **F02M 51/0621** (2013.01); **F02M 51/0682** (2013.01); **F02M 51/0696** (2013.01); **F02M 61/042** (2013.01); **F02M 61/06** (2013.01); **F02M 61/161** (2013.01); **F02M 61/18** (2013.01); **F02M 63/0007** (2013.01); **F02M 69/048** (2013.01)

Cited by  
US5494219A; EP1619385A1; US5494220A; US5720318A; US5474234A; US5605289A; EP0383065A1; EP2365206A1; CN102192063A; GB2282183A; US5518184A; GB2282183B; US5667145A; DE102007056988B4; DE102007056988A1; US5488340A; US5752308A; ITRE20120091A1; US5407131A; US5449119A; DE4034203A1; FR2668545A1; US5758626A; US5421521A; GB2285095A; GB2285095B; GB2319062A; GB2319062B; DE19637186A1; AT408132B; EP0719936A1

Designated contracting state (EPC)  
AT CH DE FR GB IT LI SE

DOCDB simple family (publication)  
**EP 0246373 A1 19871125; EP 0246373 B1 19920304**; AT E73207 T1 19920315; DE 3684143 D1 19920409

DOCDB simple family (application)  
**EP 86303903 A 19860522**; AT 86303903 T 19860522; DE 3684143 T 19860522