

Title (en)  
Injection system for an internal combustion engine

Title (de)  
Einspritzanlage für eine Brennkraftmaschine

Title (fr)  
Dispositif d'injection pour un moteur à combustion interne

Publication  
**EP 1076176 A3 20031112 (DE)**

Application  
**EP 00117010 A 20000808**

Priority  
DE 19937673 A 19990810

Abstract (en)  
[origin: EP1076176A2] The injection system includes a pre-feed pump (1) for supplying fuel from a fuel tank (2). A high pressure pump (3) arranged downstream of the feed pump produces the required injection pressure for injecting the fuel into the combustion chamber of the engine. Between the pre-feed pump and the high pressure pump, a volume flow regulator valve (14) controls the flow of fuel fed to the high pressure pump. The regulator valve is controlled between an open setting and an at least partially closed setting. The volume flow regulator valve is designed in conjunction with the pre-feed pump, so that the fuel flow through the valve when in its open position is equal to the maximum fuel demand of the injection system.

IPC 1-7  
**F02M 63/02**; **F02M 37/08**; **F04B 49/22**; **F02M 37/18**; **F02M 59/34**; **F02M 59/46**

IPC 8 full level  
**F02D 33/00** (2006.01); **F02M 37/00** (2006.01); **F02M 63/02** (2006.01); **F04B 23/10** (2006.01); **F04B 49/22** (2006.01); **F02M 37/18** (2006.01)

CPC (source: EP US)  
**F02D 33/006** (2013.01 - EP US); **F02M 37/0052** (2013.01 - EP); **F02M 63/0225** (2013.01 - EP); **F04B 23/103** (2013.01 - EP US); **F04B 49/225** (2013.01 - EP); **F02M 37/18** (2013.01 - EP)

Citation (search report)  
• [PX] WO 0011342 A1 20000302 - SIEMENS AG [DE], et al  
• [X] WO 9525887 A1 19950928 - SIEMENS AG [DE], et al

Cited by  
EP1338787A1; CN104141543A; US2014336901A1; US7850435B2; WO02073029A3; WO2004076847A1; EP1180595B2

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**EP 1076176 A2 20010214**; **EP 1076176 A3 20031112**; DE 19937673 A1 20010222

DOCDB simple family (application)  
**EP 00117010 A 20000808**; DE 19937673 A 19990810