

Title (en)
FUEL INJECTION SYSTEM FOR AN INTERNAL COMBUSTION ENGINE

Title (de)
KRAFTSTOFFEINSPRITZANLAGE FÜR EINE BRENNKRAFTMASCHINE

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

Publication
EP 0946830 A1 19991006 (DE)

Application
EP 98954191 A 19980918

Priority
• DE 9802771 W 19980918
• DE 19746492 A 19971022

Abstract (en)
[origin: DE19746492A1] Each dual fluid injector valve (3) of an IC engine is supplied with fuel via a common rail system (2) and with the additional fuel, e.g. water, via a pumped feed (15) and a non return valve (3.5). The application of the additional fluid shuts off the high pressure fuel feed and opens a low pressure fuel feed (5) via a second non return valve (9). The high and low pressure fuel feeds are controlled by two simple valves for all the injectors, with the second valve controlling the timing of the injection of the additional fluid.

IPC 1-7
F02M 43/00; **F02M 43/02**; **F02M 47/02**

IPC 8 full level
F02M 43/00 (2006.01); **F02M 43/02** (2006.01); **F02M 43/04** (2006.01); **F02M 47/00** (2006.01); **F02M 47/02** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP KR US)
F02M 43/00 (2013.01 - EP KR US); **F02M 43/02** (2013.01 - EP US); **F02M 43/04** (2013.01 - EP US); **F02M 47/027** (2013.01 - EP US);
F02M 2200/40 (2013.01 - EP US)

Citation (search report)
See references of WO 9920893A1

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
DE 19746492 A1 19990429; CN 1109193 C 20030521; CN 1242822 A 20000126; DE 59810274 D1 20040108; EP 0946830 A1 19991006;
EP 0946830 B1 20031126; JP 2001507101 A 20010529; KR 20000069569 A 20001125; US 6067964 A 20000530; WO 9920893 A1 19990429

DOCDB simple family (application)
DE 19746492 A 19971022; CN 98801576 A 19980918; DE 59810274 T 19980918; DE 9802771 W 19980918; EP 98954191 A 19980918;
JP 52293699 A 19980918; KR 19997005520 A 19990618; US 33147699 A 19990723