

Title (en)

DUAL PORT UNIT PUMP, INJECTOR, AND ENGINE EFFICIENCY METHODS

Title (de)

PUMPENEINHEIT MIT ZWEI ÖFFNUNGEN, DÜSE UND MOTORLEISTUNGSVERFAHREN

Title (fr)

POMPE MONOBLOC A DEUX LUMIERES, INJECTEUR, ET PROCEDES TOUCHANT AU RENDEMENT D'UN MOTEUR

Publication

EP 1390617 A4 20050601 (EN)

Application

EP 02723977 A 20020426

Priority

- US 0213205 W 20020426
- US 28645601 P 20010426

Abstract (en)

[origin: WO02088545A1] A unit pump (10) is provided with a bleed port (12) spaced from the main injection port (14). The bleed port (12) improves the rate shape of injection through an associated fuel injector by slowing the initial rate of injection. The bleed port (12) permits shifting of the engine speed at which speed advance occurs. The bleed port (12) also flattens the fuel backup curve. Altering the cross section flow area (18) of the bleed port, axial spacing between the bleed port and inlet port (20) permit the designer to vary (or even eliminate) the impact of the bleed port (12) on the unit pump (10) performance.

IPC 1-7

F04B 7/06; **F04B 7/04**

IPC 8 full level

F04B 7/04 (2006.01); **F04B 7/06** (2006.01); **F04B 53/16** (2006.01)

CPC (source: EP)

F04B 7/04 (2013.01); **F04B 53/162** (2013.01)

Citation (search report)

- [A] GB 926214 A 19630515 - INGERSOLL RAND CO
- [A] GB 1292628 A 19721011 - BORG WARNER [US]
- [A] US 5056469 A 19911015 - KIMBERLEY JOHN A [US]
- See references of WO 02088545A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

WO 02088545 A1 20021107; **WO 02088545 B1 20030103**; EP 1390617 A1 20040225; EP 1390617 A4 20050601

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