

Title (en)
Variable-discharge-rate high-pressure pump

Title (de)
Hochdruckpumpe mit variabler Durchflussrate

Title (fr)
Pompe à haute pression à débit variable

Publication
EP 0902181 B1 20031217 (EN)

Application
EP 98117065 A 19980909

Priority
JP 26498897 A 19970911

Abstract (en)
[origin: EP0902181A2] An object of this invention is to reduce the drive torque required by a variable-discharge-rate high-pressure pump. The reduction in the drive torque enhances the durability of a timing belt used in a mechanism for power transmission to the high-pressure pump. The high-pressure pump has a plurality of cylinders (2a, 2b). A pair of plungers (21a, 21c) are disposed in the cylinder (2a). A pair of plungers (21b, 21d) are disposed in the cylinder (2b). A pressure chamber (23a) is defined between opposing end surfaces of the plungers (21a, 21c). A pressure chamber (23b) is defined between opposing end surfaces of the plungers (21b, 21d). Low-pressure fuel which is metered by an electromagnetic valve (6) for flow rate control is sequentially fed to the pressure chambers (23a, 23b). An inner cam (8) is provided which drives the plungers (21a, 21b, 21c, 21d). The inner cam (8) is common to the plungers (21a, 21b, 21c, 21d). Fuel pressurization and fuel pumping are alternately implemented in the pressure chambers (23a, 23b) in accordance with rotation of the inner cam (8). According to the alternate fuel pressurization and fuel pumping, the peak value of the drive torque required by the high-pressure pump can be reduced. <IMAGE>

IPC 1-7
F02M 41/14

IPC 8 full level
F02M 39/02 (2006.01); **F02M 41/14** (2006.01); **F02M 63/02** (2006.01)

CPC (source: EP)
F02M 39/02 (2013.01); **F02M 41/1411** (2013.01); **F02M 41/1427** (2013.01); **F02M 63/0225** (2013.01)

Cited by
WO03002866A1; GB2552328A; CZ298452B6; EP1396632A4; EP1767769A1; US6668805B2; EP3438445A1; GB2565093A; GB2565093B

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
EP 0902181 A2 19990317; EP 0902181 A3 20011212; EP 0902181 B1 20031217; DE 69820550 D1 20040129; DE 69820550 T2 20041104

DOCDB simple family (application)
EP 98117065 A 19980909; DE 69820550 T 19980909