

Title (en)

DEVICE AND METHOD FOR REGULATING THE CONTROL VALVE OF A HIGH-PRESSURE PUMP

Title (de)

VORRICHTUNG UND VERFAHREN ZUR REGELUNG DES STEUERVENTILS EINER HOCHDRUCKPUMPE

Title (fr)

DISPOSITIF ET PROCEDE DE REGULATION DU FONCTIONNEMENT D'UNE SOUPAPE DE COMMANDE D'UNE POMPE HAUTE PRESSION

Publication

**EP 1456531 A1 20040915 (DE)**

Application

**EP 02805260 A 20021206**

Priority

- DE 0204501 W 20021206
- DE 10162988 A 20011220

Abstract (en)

[origin: WO03054381A1] A high-pressure pump is provided in order to supply fuel to the fuel rail of a common rail injection system in an internal combustion engine. The input-side control valve of the pump is closed during the pumping cycle in order to separate the inner chamber of the pump from the low-pressure side. According to the invention, the valve control pulse, by which means the control valve is closed, is active when the pressure wave generated by the upward movement of the pump plunger hits the control valve. The closing of the control valve is assisted by the impact of the pressure wave.

IPC 1-7

**F02M 59/36; F02M 59/42; F02M 59/44**

IPC 8 full level

**F02D 41/38 (2006.01); F02M 59/36 (2006.01); F02M 63/02 (2006.01); F02M 63/00 (2006.01)**

CPC (source: EP US)

**F02D 41/3845 (2013.01 - EP US); F02M 59/366 (2013.01 - EP US); F02M 63/0225 (2013.01 - EP US); F02D 41/3809 (2013.01 - EP US); F02D 2250/31 (2013.01 - EP US); F02M 2200/60 (2013.01 - EP US)**

Citation (search report)

See references of WO 03054381A1

Designated contracting state (EPC)

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

DOCDB simple family (publication)

**WO 03054381 A1 20030703; DE 10162988 A1 20030717; DE 10162988 B4 20040115; DE 50213770 D1 20090924; EP 1456531 A1 20040915; EP 1456531 B1 20090812; US 2005224049 A1 20051013; US 7121263 B2 20061017**

DOCDB simple family (application)

**DE 0204501 W 20021206; DE 10162988 A 20011220; DE 50213770 T 20021206; EP 02805260 A 20021206; US 49824805 A 20050429**