

Title (en)

METHOD FOR CONTROLLING A PIEZO-ACTUATED FUEL-INJECTION VALVE

Title (de)

VERFAHREN ZUM ANSTEUERN EINES PIEZOBETRIEBENEN KRAFTSTOFF-EINSPRITZVENTILS

Title (fr)

PROCEDE DE COMMANDE D'UNE SOUPAPE D'INJECTION DE CARBURANT ACTIONNEE PAR UN ACTIONNEUR PIEZOELECTRIQUE

Publication

**EP 1423593 B1 20061102 (DE)**

Application

**EP 02760150 A 20020902**

Priority

- DE 0203226 W 20020902
- DE 10143501 A 20010905

Abstract (en)

[origin: WO03023212A1] According to the invention, the current guided to the piezo actuator and the voltage which is consequently established thereon is used for calculating with the help of a non-linear actuator model, the characteristics of the longitudinal variations (s) and the force (F) exerted by the actuator (F), and variables therefrom or the derived variables (dF/dt) therefrom determine the beginning of the opening (tA) of a servovalve and the duration of injection (D).

IPC 8 full level

**F02D 41/20** (2006.01); **F02M 45/02** (2006.01); **F02D 41/40** (2006.01); **F02M 51/00** (2006.01); **F02M 51/06** (2006.01); **H02N 2/06** (2006.01); **H10N 30/80** (2023.01); **F02M 45/08** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)

**F02D 41/2096** (2013.01 - EP US); **F02D 2041/143** (2013.01 - EP US); **F02D 2041/1433** (2013.01 - EP US); **F02D 2041/2055** (2013.01 - EP US); **F02M 45/08** (2013.01 - EP US); **F02M 51/0603** (2013.01 - EP US)

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

**WO 03023212 A1 20030320**; DE 10143501 C1 20030528; DE 50208611 D1 20061214; EP 1423593 A1 20040602; EP 1423593 B1 20061102; JP 2005501999 A 20050120; JP 4047809 B2 20080213; US 2005072854 A1 20050407; US 7040297 B2 20060509

DOCDB simple family (application)

**DE 0203226 W 20020902**; DE 10143501 A 20010905; DE 50208611 T 20020902; EP 02760150 A 20020902; JP 2003527256 A 20020902; US 79501504 A 20040305