

Title (en)

FUEL INJECTION DEVICE WITH A SOLENOID VALVE WHICH HAS BOTH A LAMINAR AND A TURBULENT DAMPING THROTTLE

Title (de)

KRAFTSTOFFEINSTPRITZVORRICHTUNG MIT SOWOHL LAMINAR ALS AUCH TURBULENT GEDÄMPFTEM MAGNETVENTIL

Title (fr)

DISPOSITIF D'INJECTION DE CARBURANT POURVU D'UNE ELECTROVANNE AMORTIE TANT EN REGIME LAMINAIRE QU'EN REGIME TURBULENT

Publication

EP 1196688 A2 20020417 (DE)

Application

EP 00991545 A 20001222

Priority

- DE 0004587 W 20001222
- DE 19963922 A 19991231

Abstract (en)

[origin: WO0150008A2] The invention relates to a fuel injection device for internal combustion engines with a solenoid valve (24) which has a damping chamber (40) and a relief chamber (41). Said chambers are hydraulically connected by both a laminar and a turbulent damping throttle (39, 51). This reduces the ripple of the characteristic curves of the fuel injection system, thus improving its operation.

IPC 1-7

F02M 59/46; **F02M 41/14**

IPC 8 full level

F02M 61/16 (2006.01); **F02M 41/12** (2006.01); **F02M 41/14** (2006.01); **F02M 47/00** (2006.01); **F02M 59/46** (2006.01); **F02M 61/10** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)

F02M 41/1411 (2013.01 - EP US); **F02M 59/466** (2013.01 - EP US); **F02M 2200/304** (2013.01 - EP US)

Citation (search report)

See references of WO 0150008A2

Designated contracting state (EPC)

CH DE FR GB IT LI

DOCDB simple family (publication)

WO 0150008 A2 20010712; **WO 0150008 A3 20020214**; DE 19963922 A1 20010719; DE 19963922 B4 20071213; EP 1196688 A2 20020417; HU P0202382 A2 20021228; JP 2003519333 A 20030617; PL 350223 A1 20021118; US 2002104905 A1 20020808; US 6910639 B2 20050628

DOCDB simple family (application)

DE 0004587 W 20001222; DE 19963922 A 19991231; EP 00991545 A 20001222; HU P0202382 A 20001222; JP 2001549919 A 20001222; PL 35022300 A 20001222; US 91456702 A 20020320