

Title (en)
INJECTION DEVICE HAVING REDUCED PRESSURE OSCILLATIONS

Title (de)
EINSPRITZVORRICHTUNG MIT REDUZIERTEN DRUCKSCHWINGUNGEN

Title (fr)
DISPOSITIF D'INJECTION À OSCILLATIONS DE PRESSION RÉDUITES

Publication
EP 2529101 A1 20121205 (DE)

Application
EP 10793202 A 20101207

Priority
• DE 102010001170 A 20100125
• EP 2010069030 W 20101207

Abstract (en)
[origin: WO2011088928A1] The invention relates to an injection device for injecting fuel, comprising a fuel feed path (2), along which fuel can be fed, an injector (5) having an injection opening (3), out of which the fed fuel is injected, a valve element, which is movable by means of an actuator, in order to open and close the injection opening (3), and a throttle (4), which is arranged in the fuel feed path (2). A distance (9) of the throttle (4) from the injection opening (3) along the fuel feed path (2) has a length that corresponds to a wavelength of a natural frequency of the injection device.

IPC 8 full level
F02M 55/02 (2006.01); **F02M 63/00** (2006.01); **F02M 69/46** (2006.01)

CPC (source: EP KR US)
F02M 55/02 (2013.01 - EP KR US); **F02M 69/462** (2013.01 - EP KR US); **F02M 2200/28** (2013.01 - EP KR US);
F02M 2200/315 (2013.01 - EP KR US)

Citation (search report)
See references of WO 2011088928A1

Citation (examination)
• WO 2007012092 A1 20070201 - AVL LIST GMBH [AT], et al
• EP 1403510 A1 20040331 - DELPHI TECH INC [US]

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2011088928 A1 20110728; BR 112012017945 A2 20160503; CN 102725507 A 20121010; CN 102725507 B 20150923;
DE 102010001170 A1 20110728; EP 2529101 A1 20121205; EP 2529101 B1 20210929; JP 2013518208 A 20130520; JP 5409934 B2 20140205;
KR 101844747 B1 20180403; KR 20120116447 A 20121022; US 2013037631 A1 20130214; US 9279401 B2 20160308

DOCDB simple family (application)
EP 2010069030 W 20101207; BR 112012017945 A 20101207; CN 201080062317 A 20101207; DE 102010001170 A 20100125;
EP 10793202 A 20101207; JP 2012550341 A 20101207; KR 20127019553 A 20101207; US 201013574433 A 20101207