

Title (en)
FUEL INJECTION DEVICE

Title (de)
VORRICHTUNG ZUM EINSPRITZEN VON KRAFTSTOFF

Title (fr)
DISPOSITIF D'INJECTION DE CARBURANT

Publication
EP 2627891 B1 20160831 (DE)

Application
EP 11758220 A 20110921

Priority
• DE 102010042476 A 20101014
• EP 2011066446 W 20110921

Abstract (en)
[origin: WO2012048999A2] The invention relates to a fuel injection device comprising an outward-opening valve needle (3), a piezo actuator (2) that is connected to the valve needle (3), a valve body (4) having a first through-hole (40), and a retaining element (5) that is connected to the valve body (4) and has a second through-hole (50). The valve body (4) has a valve seat (13) and a first guiding zone (11) for guiding the valve needle (3). The valve needle (3) is arranged in the valve body (4) and in the retaining element (5), and the first through-hole (40) in the valve body (4) is designed without an undercut.

IPC 8 full level
F02M 51/06 (2006.01); **F02M 55/00** (2006.01); **F02M 61/08** (2006.01); **F02M 61/12** (2006.01); **F02M 61/16** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)
F02M 51/0603 (2013.01 - EP US); **F02M 55/004** (2013.01 - EP US); **F02M 61/08** (2013.01 - EP US); **F02M 61/12** (2013.01 - EP US); **F02M 61/166** (2013.01 - EP US); **F02M 61/168** (2013.01 - EP US); **F02M 2200/16** (2013.01 - EP US); **F02M 2200/8084** (2013.01 - EP 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)
DE 102010042476 A1 20120419; EP 2627891 A2 20130821; EP 2627891 B1 20160831; JP 2013539838 A 20131028; JP 5865911 B2 20160217; US 2013284828 A1 20131031; WO 2012048999 A2 20120419; WO 2012048999 A3 20120816

DOCDB simple family (application)
DE 102010042476 A 20101014; EP 11758220 A 20110921; EP 2011066446 W 20110921; JP 2013533141 A 20110921; US 201113879247 A 20110921