

Title (en)

Injection valve with a needle biased by a spring

Title (de)

Einspritzventil mit einer durch eine Feder vorgespannten Nadel

Title (fr)

Soupape d'injection avec une aiguille précontrainte par un ressort

Publication

EP 1460263 B1 20090715 (EN)

Application

EP 03006304 A 20030319

Priority

EP 03006304 A 20030319

Abstract (en)

[origin: EP1460263A1] The invention describes a fuel injection valve with an armature and a needle that is assigned to a valve seat. The connection between the armature and the needle is not rigid, but a spring is arranged between the armature and the needle biasing the needle in the direction of the valve seat. If the injection valve is closed, then the needle 6 is pushed onto the valve seat 5, whereby the needle 6 moves relatively to the armature 7 against the tension of the second spring 36. Using the spring connection between the armature and the needle 6, the impulse is reduced, by means of which the needle 6 is pushed onto the valve seat 5 by closing the injection valve. The second spring 36 reduces the bouncing effect that is generated by closing the needle 6 with high speed. <IMAGE>

IPC 8 full level

F02M 51/06 (2006.01); **F02M 61/20** (2006.01)

CPC (source: EP)

F02M 51/066 (2013.01); **F02M 51/0685** (2013.01); **F02M 61/20** (2013.01)

Cited by

JP2015519514A; EP2597296A1; EP1835167A1; EP2527637A1; CN103547791A; CN103890370A; KR20140079510A; EP2535552A1; CN102828873A; KR20120138710A; US9316194B2; US8528842B2; US9664161B2; WO2012160100A1; WO2013060717A1; WO2005113973A1; WO2013189639A1; US8931718B2; US9394869B2

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 1460263 A1 20040922; **EP 1460263 B1 20090715**; DE 60328355 D1 20090827

DOCDB simple family (application)

EP 03006304 A 20030319; DE 60328355 T 20030319