

Title (en)

Injection valve having kinetic energy absorbing valve needle

Title (de)

Einspritzventil mit einer Bewegungsenergie absorbierenden Ventilhadel

Title (fr)

Soupape d'injection d'absorption de l'energie cinetique d'une aiguille

Publication

EP 2226492 A1 20100908 (EN)

Application

EP 09003116 A 20090304

Priority

EP 09003116 A 20090304

Abstract (en)

Injection valve (100), comprising a central longitudinal axis (L) and a valve needle (10). The valve needle (10) comprises a valve needle body (20) being actuated to move axially. The valve needle (10) further comprises a sealing element (50) preventing a fluid injection in a closing position and permitting the fluid injection in further positions. The valve needle (10) also comprises a guiding element (90), being axially moveable and being fixedly coupled to the sealing element (50) and being operable to couple the sealing element (50) to the valve needle body (20). Furthermore the valve needle (10) comprises at least one spring element (60), being preloaded and being adopted to supply the sealing element (50) and/or the guiding element (90) with a spring load to absorb at least partially a kinetic energy of the valve needle body (20), if the sealing element (50) reaches its closing position.

IPC 8 full level

F02M 61/18 (2006.01); **F02M 61/10** (2006.01); **F02M 61/20** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)

F02M 61/10 (2013.01); **F02M 61/188** (2013.01); **F02M 61/1893** (2013.01); **F02M 61/20** (2013.01); **F02M 2200/306** (2013.01)

Citation (applicant)

US 6523759 B1 20030225 - D ARRIGO ANGELO [US]

Citation (search report)

- [X] WO 0206664 A1 20020124 - BOSCH GMBH ROBERT [DE], et al
- [XA] DE 10325734 A1 20041223 - BOSCH GMBH ROBERT [DE]
- [A] WO 0246604 A2 20020613 - BOSCH GMBH ROBERT [DE], et al

Cited by

WO2017133892A1

Designated contracting state (EPC)

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 SE SI SK TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

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