

Title (en)

Valve assembly, fluid injection valve and method for operating the fluid injection valve

Title (de)

Ventilanordnung, Flüssigkeitseinspritzventil und Verfahren für den Betrieb eines Flüssigkeitseinspritzventils

Title (fr)

Ensemble de soupape, soupape d'injection de fluide et procédé pour faire fonctionner la soupape d'injection de fluide

Publication

**EP 2765300 A1 20140813 (EN)**

Application

**EP 13154744 A 20130211**

Priority

EP 13154744 A 20130211

Abstract (en)

A valve assembly (2) for a fluid injection valve (3) is disclosed. The valve assembly (2) has a longitudinal axis (L) and comprises a valve body (4) having a valve cavity (45) and a valve seat (40), a valve needle (1) and an armature (7), the valve needle (1) and the armature (7) being arranged in the valve cavity (45) in axially moveable fashion. The valve seat (40) has a first set of orifices (41) and a second set of orifices (42). The valve needle (1) comprises a tip portion (10), the tip portion (10) having a first section (11) and a second section (12). The first section (11) is operable to seal the first set of orifices (41). The second section (12) is operable to seal the second set of orifices (42) and is axially movable with respect to the first section (11). The armature (7) is operable to interact mechanically with the valve needle (1) for axially displacing the first section (11) away from the valve seat (40). Further, a fluid injection valve (3) and a method for operating the fluid injection valve (3) are disclosed.

IPC 8 full level

**F02M 45/08** (2006.01); **F02M 51/06** (2006.01); **F02M 61/18** (2006.01)

CPC (source: EP)

**F02M 45/086** (2013.01); **F02M 51/0671** (2013.01); **F02M 61/182** (2013.01); **F02M 61/1893** (2013.01); **F02M 2200/46** (2013.01)

Citation (search report)

- [X] WO 0206665 A1 20020124 - BOSCH GMBH ROBERT [DE], et al
- [XAI] DE 102011003930 A1 20120816 - CONTINENTAL AUTOMOTIVE GMBH [DE]
- [A] EP 0978649 A2 20000209 - SIEMENS AG [DE]
- [A] JP 2002322969 A 20021108 - TOYOTA MOTOR CORP

Designated contracting state (EPC)

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