

Title (en)
Valve assembly for an injection valve and injection valve

Title (de)
Ventilanordnung für ein Einspritzventil und Einspritzventil

Title (fr)
Ensemble de soupape pour soupape d'injection et soupape d'injection

Publication
EP 2698527 A1 20140219 (EN)

Application
EP 12180630 A 20120816

Priority
EP 12180630 A 20120816

Abstract (en)
Valve assembly (14) of an injection valve (10), the valve assembly (14) comprising a valve body (20) including a central longitudinal axis (A), the valve body (20) comprising a cavity (24) with a fluid outlet portion (28), a valve needle (22) axially movable in the cavity (24), the valve needle (22) preventing a fluid flow through the fluid outlet portion (28) in a closing position and releasing the fluid flow through the fluid outlet portion (28) in further positions. The valve needle (22) has a guide portion (40) being designed to guide the valve needle (22) in the valve body (20), a tip portion (50) being designed to act together with the valve body (20) to prevent the fluid flow through the fluid outlet portion (28), and a lower needle portion (42) being arranged axially between the guide portion (40) and the tip portion (50). The lower needle portion (42) comprises a recess (44). The recess (44) enables a fluid flow to the fluid outlet portion (28). A flow resistance element (52) is arranged in the recess (44) radially between the lower needle portion (42) and the valve body (20). The flow resistance element (52) is shaped in a manner that at least in an axial portion of the recess (44) the recess (44) has a cross-section area with a given axially asymmetric shape.

IPC 8 full level
F02M 51/06 (2006.01); **F02M 61/08** (2006.01); **F02M 61/18** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)
F02M 51/0603 (2013.01); **F02M 61/08** (2013.01); **F02M 61/1893** (2013.01); **F02M 2200/707** (2013.01)

Citation (search report)
• [X] US 4082224 A 19780404 - MANGUS ERVIN E
• [X] DE 10254681 A1 20040609 - SIEMENS AG [DE]
• [A] EP 0891851 A1 19990120 - FISA CORP [JP]

Cited by
EP2927473A1; EP3103999A1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2698527 A1 20140219; WO 2014026872 A1 20140220

DOCDB simple family (application)
EP 12180630 A 20120816; EP 2013066398 W 20130805