

Title (en)
SOLENOID VALVE FOR A FUEL INJECTION VALVE, METHOD FOR OPERATING THE SOLENOID VALVE, AND FUEL INJECTION VALVE HAVING A SOLENOID VALVE OF SAID TYPE

Title (de)
MAGNETVENTIL FÜR EIN KRAFTSTOFFEINSPRITZVENTIL, VERFAHREN ZUM BETREIBEN DES MAGNETVENTILS UND KRAFTSTOFFEINSPRITZVENTIL MIT EINEM SOLCHEN MAGNETVENTIL

Title (fr)
ÉLECTROVALVE POUR UNE SOUPE D'INJECTION DE CARBURANT, PROCÉDÉ DE FONCTIONNEMENT DE L'ÉLECTROVALVE ET SOUPE D'INJECTION DE CARBURANT COMPRENANT UNE TELLE ÉLECTROVALVE

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Abstract (en)
[origin: WO2017108297A1] A solenoid valve for a fuel injection valve, having a magnet armature (40) which has a longitudinal axis (3) and which is movable along said longitudinal axis (3) and which interacts with an electromagnet (44), wherein the magnet armature (40) forms an armature plate (140) which is arranged opposite the electromagnet (44). Between the electromagnet (44) and the armature plate (140), a residual air gap disc (52) prevents direct abutment of the armature plate (140) against the electromagnet (44), wherein the armature plate (140) comes into contact by means of its outer edge with the residual air gap disc (52). A closing spring (50) subjects the magnet armature (40) to a closing force in the direction of a valve seat (42), wherein the closing spring (50) lies against the armature plate (140) close to the longitudinal axis (3) thereof. By means of the interaction of the magnet armature (40) with the valve seat (42), a throughflow cross section for a fluid can be opened or closed. A weakening zone (55) is formed radially within the armature plate (140). In a method for operating the solenoid valve, in the presence of a low temperature of the solenoid valve, a first coil current is conducted through the electromagnet (44), whereby a magnetic force is generated which exceeds the level required for a movement of the magnet armature and for overcoming the force of the closing spring (50). In the presence of a higher temperature, the coil current for opening the solenoid valve is reduced in relation to the first coil current.

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