

Title (en)

HIGH-PRESSURE FUEL INJECTION VALVE FOR AN INTERNAL COMBUSTION ENGINE

Title (de)

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Title (fr)

SOUPAPE D'INJECTION DE CARBURANT HAUTE PRESSION POUR UN MOTEUR À COMBUSTION INTERNE

Publication

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Application

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Abstract (en)

[origin: WO2011101419A1] The high-pressure fuel injection valve (100) according to the invention comprises a control valve (80) having an actuator (81) and a high-pressure fuel connection (4) and a low-pressure fuel connection (22). In the valve stem (8) and the valve tip (12), a control plunger (34) and the nozzle needle (13) are arranged one behind the other in the longitudinal axis direction and movably guided. Together with the control plunger (34), the receiving chamber of the control plunger (34) forms a closing control chamber (31), which is delimited by the upper control plunger surface, and an opening control chamber (35), which is delimited by the lower control plunger surface. Each of the two control chambers is hydraulically connected via a feed throttle (ZD1, ZD2) to the high-pressure fuel connection (4) and via a return throttle (RD1, RD2) to the low-pressure fuel connection (22). The control valve (80) is arranged to open and close the fuel return between the return throttles (RD1, RD2) and the low-pressure fuel connection (22) depending on the operation. The flow values of the feed throttles (ZD1, ZD2) and of the return throttles (RD1, RD2) are selected such that the high-pressure fuel injection valve (100) opens when the control valve (80) is actuated and closes again when the actuation is canceled. The design of the high-pressure fuel injection valve (100) according to the invention prevents leakage loss whereas the valve is not actuated so as to open.

IPC 8 full level

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