

Title (en)

FUEL-INJECTION SYSTEM WITH REDUCED PRESSURE PULSATIONS IN THE RETURN RAIL

Title (de)

KRAFTSTOFFEINSPRITZANLAGE MIT VERRINGERTEN DRUCKSCHWINGUNGEN IM RÜCKLAUFRAIL

Title (fr)

SYSTEME D'INJECTION DE CARBURANT A ONDES DE PRESSION REDUITES DANS LA CONDUITE DE RETOUR

Publication

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Application

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Abstract (en)

[origin: WO2005001280A1] The invention relates to a fuel-injection system (1) for an internal combustion engine, comprising: at least one injector (3) for injecting fuel into a combustion chamber of a motor, said injector having a high-pressure connection (10), via which it receives a supply of fuel at high pressure, a control valve (64) for controlling the injections of the injector and a low-pressure connection (12) for discharging a controlled quantity of fuel that is accumulated during the control of the injection; and a leakage line (11), which is connected to a fuel-return line (17) by the interposition of a pressure-holding valve (15), which opens in the direction of the fuel-return line when a predefined pressure is exceeded. Said system is characterised in that it is equipped with a throttle device (20) in the vicinity of the pressure-holding valve (15), said device being configured and located in such a way that when the pressure-holding valve is open, a reflection of pressure waves emanating from the injector in the form of negative-pressure waves is damped. Negative-pressure waves emanating from the pressure-holding valve towards the leakage line of the injector are damped or prevented. This reduces the risk of damage caused by cavitation.

IPC 8 full level

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