

Title (en)
Fuel injector

Title (de)
Kraftstoffeinspritzdüse

Title (fr)
Injecteur à carburant

Publication
EP 2711537 B1 20170816 (EN)

Application
EP 12185936 A 20120925

Priority
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Abstract (en)
[origin: EP2711537A1] A fuel injector (10) for use in a high-pressure fuel injection system for an internal combustion engine is described. The fuel injector comprises a high-pressure fuel volume (32) defined by at least one wall (24a), a supply passage (30) for delivering high-pressure fuel to the high-pressure fuel volume (32) from a high-pressure fuel source, a valve needle (26) arranged to control fuel injection from one or more outlets of the injector, a surface associated with the valve needle (26) being exposed to fuel pressure within a control chamber (36), in use, a return flow path for conveying fuel from the control chamber (36) to a low-pressure drain, and a control valve (40) for controlling the flow of fuel through the return flow path. The return flow path comprises a return flow volume (62) disposed, at least in part, adjacent to the wall (24a) of the high-pressure fuel volume (32), thereby to promote heat transfer from the fuel in the return flow volume (62) to the fuel in the high-pressure fuel volume (32), in use. In this way, the fuel in the return flow path is cooled to avoid thermal breakdown of the fuel.

IPC 8 full level
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CPC (source: EP)
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