

Title (en)

Electrically-controlled fuel injector for large diesel engines

Title (de)

Elektrisch gesteuerter Kraftstoffeinspritzer für große Dieselmotoren

Title (fr)

Injecteur de carburant commandé électriquement pour grands moteurs diesel

Publication

EP 2503138 B1 20130508 (EN)

Application

EP 11159584 A 20110324

Priority

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Abstract (en)

[origin: EP2503138A1] An electrically controlled fuel injector for large diesel engines, comprising: - a body (22) having a delivery chamber (24) connected to a fuel supply line (26) and provided with a conical valve seat (28); - a needle (30) extending through said delivery chamber (24) and having a conical sealing surface (32) cooperating with said valve seat (28), the needle (30) being movable along a longitudinal axis (A) between a closed position wherein said conical sealing surface (32) abuts against said conical valve seat (28) and an open position wherein said conical sealing surface (32) is spaced apart from said conical valve seat (28), wherein the hydraulic pressure into said delivery chamber (24) generates a first hydraulic force pushing the needle (30) towards its open position; - a control chamber (44) connected to said fuel supply line (26) through an inlet flow restrictor (48) and connected to a discharge line (50) through an outlet flow restrictor (52), wherein the hydraulic pressure into said control chamber (44) generates a second hydraulic force pushing the needle (30) towards its closed position; - an electrically-operated control valve (54) for selectively opening and closing hydraulic communication between said control chamber (44) and a low pressure volume (14); wherein said inlet flow restrictor (48) includes a variable choking section (60), movable between a choked position corresponding to a fully closed position of the needle (30) an un-choked position corresponding to an initial opening of the needle (30).

IPC 8 full level

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CPC (source: EP KR)

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Cited by

EP3486475A1; EP3181889A1; EP3085947A1; US2018298859A1; US10550811B2; WO2016169568A1

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