

Title (en)
FUEL INJECTOR

Title (de)
KRAFTSTOFFINJEKTOR

Title (fr)
INJECTEUR DE CARBURANT

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Application
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Abstract (en)
[origin: WO2012069393A1] The invention relates to a fuel injector for injecting fuel into a combustion chamber of an internal combustion engine, comprising a magnetic actuator (1) for directly controlling a preferably needle-shaped injection valve member (2), by means of the stroke movement of which at least one injection opening (3) of the fuel injector can be released or closed. The magnetic actuator (1) comprises an armature element (4) that can carry out a stroke movement in order to control the control pressure in a control volume (5). According to the invention, the injection valve member (2) can be mechanically coupled to a hydraulic intensifier (6) during a first phase of the injection valve member opening stroke, said intensifier having a hydraulic active surface A1 which delimits the control volume (5) and which together with a hydraulic active surface A2 that is formed on the injection valve member (2) is larger than a hydraulic active surface A3 that is formed on the armature element (4) and delimits the control volume (5) so that a force amplification is caused on the basis of the surface area ratio of the hydraulic active surfaces A1, A2, and A3 that are relevant to the control volume (5). Furthermore, according to the invention the injection valve member (2) can be mechanically coupled to the armature element (4) during the injection valve member closing stroke, the pressing force of an armature spring (7) being applied to said armature element in the closing direction of the injection valve member (2) such that the closing stroke of the injection valve member (2) can be caused by means of the armature spring (7).

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