

Title (en)  
FUEL INJECTION VALVE UNIT FOR AN INTERNAL COMBUSTION PISTON ENGINE AND A METHOD OF OPERATING THE FUEL INJECTION VALVE UNIT

Title (de)  
KRAFTSTOFFEINSPRITZVENTILEINHEIT FÜR EINEN HUBKOLBENMOTOR UND VERFAHREN ZUM BETRIEB DER KRAFTSTOFFEINSPRITZVENTILEINHEIT

Title (fr)  
UNITÉ DE SOUPAPE D'INJECTION DE CARBURANT POUR MOTEUR À PISTON À COMBUSTION INTERNE ET PROCÉDÉ D'EXPLOITATION DE LADITE UNITÉ

Publication  
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Application  
**EP 16726619 A 20160525**

Priority  
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Abstract (en)  
[origin: WO2017203092A1] Invention relates to fuel injection valve unit (1) for an internal combustion piston engine, comprising a fuel inlet (9) connectable to a common rail system (40) of the internal combustion piston engine for feeding pressurized fuel into the valve unit (1); at least one fuel injection opening (8) arranged at an end of the valve unit (1) for controllably injecting fuel; a fuel space (6) with which the fuel inlet (9) is in flow communication; a control space (7) with which the fuel inlet (9) is flow communication; a control valve (5) arranged in connection with the control space (7), which control valve (5) is arranged to open or close a flow connection from the control space (7) to a discharge channel (10); a fuel injection valve needle (2,22) comprising a first end (3) and a second end (4), in which the first end of fuel injection valve needle (2,22) is arranged to open or close a flow communication between the fuel space (6) and the at least one fuel injection opening (8), and in which the second end (4) of the fuel injection valve needle (2,22) is arranged to extend into the control space (7); the fuel injection valve needle (2,22) is partially circumscribed by a cylindrical support section (12) arranged between the fuel space (6) and the control space (7) and through which the valve needle (2,22) is arranged to extend in supported manner into the control space (7); and wherein a contact area (14) between the cylindrical support section (12) and the valve needle (2,22) is provided with a grooving (13) arranged at least partially at an angle with the center axis (A) of the valve needle (2,22).

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