

Title (en)

METHOD OF MANUFACTURING A FUEL INJECTOR

Title (de)

VERFAHREN ZUM HERSTELLEN EINES KRAFTSTOFFEINSPRITZVENTILS

Title (fr)

PROCÉDÉ DE FABRICATION D'UN INJECTEUR DE CARBURANT

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Application

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Abstract (en)

[origin: WO2011057863A1] The invention relates to a method for producing a fuel injection valve (10; 10a; 60; 60a), in which a valve needle (40; 40a; 62; 62a) which closes at least one fuel outlet opening (49) is inserted into an injector housing (11), wherein that end of the valve needle (40; 40a; 62; 62a) which lies opposite the at least one fuel outlet opening (49) is guided in a valve element (32) which has a pressurized control chamber (37) which is filled with fuel, wherein the control chamber (37) can be closed on the side which faces away from the valve needle (40; 40a; 62; 62a) by a closing element (23) which forms a passage during opening and is connected at least indirectly to a fuel return line (5) which is under low pressure, wherein fuel volume which is present in the control chamber (37) flows away through the passage after opening of the control chamber (37) by means of the closing element (23), wherein the valve needle (40; 40a; 62; 62a) moves in the direction of the closing element (23), wherein the at least one fuel outlet opening (49) is opened, and wherein a delay time (t) occurs between the opening of the control chamber (37) and the opening of the at least one fuel outlet opening (49) on account of the magnitude of the volume of the control chamber (37) and on account of the rigidity of the valve needle (40; 40a; 62; 62a), which rigidity is caused by the modulus of elasticity, the diameter (D) and the length (L) of the valve needle (40; 40a; 62; 62a). There is provision according to the invention for at least the volume of the control chamber (37) to be adapted in order to achieve identical delay times (t) in fuel injection valves (10; 10a; 60; 60a) having injector housings (11) of different length and valve needles (40; 40a; 62; 62a) of different length, in such a way that the volume of the control chamber (37) is reduced in order to shorten the delay time (t) and the volume of the control chamber (37) is increased in order to lengthen the delay time (t).

IPC 8 full level

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Citation (search report)

See references of WO 2011057863A1

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