

Title (en)  
FUEL INJECTION VALVE FOR INTERNAL COMBUSTION ENGINES

Title (de)  
KRAFTSTOFFEINSPRITZVENTIL FÜR BRENNKRAFTMASCHINEN

Title (fr)  
SOUPAPE D'INJECTION DE CARBURANT POUR MOTEURS A COMBUSTION INTERNE

Publication  
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Application  
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Priority  
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Abstract (en)  
[origin: WO0201066A1] The invention relates to a fuel injection valve comprising a valve body (1) and a bore (3) configured as a blind bore, whose bottom area faces the combustion chamber. A conical valve seat (9) is formed on said bottom area and accommodates at least one injection opening (11). A piston-shaped valve member (5) is disposed in the bore (3). Said valve member can be displaced in the longitudinal direction against a closing force and is provided with a valve tip (7) which rests against the valve seat (9) when the valve member (5) is in the closed position. A first cone surface (30) and a second cone surface (32) are configured on the valve member tip (7), said second surface being disposed so as to face the combustion chamber relative to the first cone surface. The cone angle (  $\alpha$  ) of the first cone surface (30) is smaller than the cone angle (  $\gamma$  ) of the valve seat (9), which in turn is smaller than the cone angle (  $\beta$  ) of the second cone surface (32). An annular groove (35) is formed between the first (30) and the second cone surface (32), and an additional continuous annular groove (42) that at least partially overlaps the injection openings (11) in the closed position of the valve member (5) is formed on the second cone surface (32), thereby evenly providing all injection openings (11) with fuel even if the valve member (5) is misaligned.

IPC 1-7  
**F02M 61/18**

IPC 8 full level  
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Cited by  
WO2006040288A1; US7364099B2; WO2006092344A1; WO2004036026A1

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