

Title (en)  
FUEL INJECTION VALVE

Publication  
**EP 0195440 B1 19890927 (DE)**

Application  
**EP 86103736 A 19860319**

Priority  
DE 3510075 A 19850320

Abstract (en)  
[origin: EP0195440A2] 1. A fuel injection valve for an internal combustion engine, the valve comprising a valve body (1) and an insert (2) in and along the axial extent of which a valve needle (3) is located, wherein the needle is arranged to rest at one of its axial end portions on a needle seat (5) and is actuatable - in the direction to the seat (5) - by a force originating from a force reservoir, wherein a discharge aperture in the form of at least one outlet (23) is arranged to be controlled by the needle (3), wherein fuel is arranged to be fed by a - separate - injection pump through ducts and channels (7, 8, 9, 10, 13, 20) to a first pressure chamber (11) at a pressure shoulder (12) on the needle (3) and onwards to a second pressure chamber (15), wherein the channel between the first pressure chamber (11) and the second chamber (15) is the sole feed channel to the second chamber (15) and includes an inset operable as a check valve, wherein the check valve (28) is arranged to open in the direction of flow to the second chamber and to block the flow in the opposite direction, and wherein the needle (3) is actuatable in the direction to the needle seat (5) by a force generated by the fuel pressure in the second chamber (15), characterized in that the channel between the first chamber (11) and the second chamber (15) has a first section extending from the first chamber (11) to the needle seat (5), a second - control - section linked to the needle seat (5) and a third section leading to the second chamber (15), that the second and third sections are connectable by at least one connecting aperture (21), and in that at least one outlet (23) in the insert (2) is located in the region of the needle seat and/or of the second section.

IPC 1-7  
**F02M 47/06; F02M 61/06; F02M 61/20**

IPC 8 full level  
**F02M 47/06** (2006.01); **F02M 61/06** (2006.01); **F02M 61/18** (2006.01); **F02M 61/20** (2006.01)

CPC (source: EP)  
**F02M 61/06** (2013.01); **F02M 61/18** (2013.01); **F02M 61/205** (2013.01)

Cited by  
CN117627833A; GB2203795A; GB2299374A; US5645224A; GB2299374B; CN113423945A

Designated contracting state (EPC)  
AT DE FR GB IT NL

DOCDB simple family (publication)  
**EP 0195440 A2 19860924; EP 0195440 A3 19870930; EP 0195440 B1 19890927**; AT E46744 T1 19891015; DE 3510075 A1 19860925; DE 3665903 D1 19891102

DOCDB simple family (application)  
**EP 86103736 A 19860319**; AT 86103736 T 19860319; DE 3510075 A 19850320; DE 3665903 T 19860319