

Title (en)  
FUEL INJECTION VALVE FOR INTERNAL COMBUSTION ENGINES

Title (de)  
KRAFTSTOFFEINSPRITZVENTIL FÜR BRENNKRAFTMASCHINEN

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

Publication  
**EP 1563181 B1 20061004 (DE)**

Application  
**EP 03795728 A 20031027**

Priority  
• DE 0303561 W 20031027  
• DE 10252660 A 20021111  
• DE 10315820 A 20030407

Abstract (en)  
[origin: WO2004044414A1] The invention relates to a fuel injection valve for internal combustion engines, comprising a valve body (1), with a drilling (3) embodied therein and defined at the combustion chamber end thereof by a conical valve seat (18) from which at least one injection opening (20) leads. A hollow valve needle (8) is arranged in the drilling (3) such as to be displaced longitudinally, comprising a valve sealing surface (35) at the end thereof facing the valve seat (18). A first sealing region (31; 34) and a second sealing region (32; 46; 48) are embodied on the valve sealing surface (35), whereby, on contact of the hollow valve needle (8) on the valve seat (18), the first sealing region (31; 34) provides a seal upstream of the at least one injection opening (20) and the second sealing region (32; 46; 48) downstream thereof.

IPC 8 full level  
**F02M 45/08** (2006.01); **F02M 61/18** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP US)  
**F02M 45/086** (2013.01 - EP US); **F02M 61/1873** (2013.01 - EP US); **F02M 2200/46** (2013.01 - EP US)

Designated contracting state (EPC)  
DE FR IT

DOCDB simple family (publication)  
**WO 2004044414 A1 20040527**; DE 50305296 D1 20061116; EP 1563181 A1 20050817; EP 1563181 B1 20061004; JP 2006505745 A 20060216; US 2006011749 A1 20060119; US 7331537 B2 20080219

DOCDB simple family (application)  
**DE 0303561 W 20031027**; DE 50305296 T 20031027; EP 03795728 A 20031027; JP 2005506638 A 20031027; US 53363505 A 20050502