

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
EP 1509693 B1 20061129 (DE)

Application
EP 03740006 A 20030515

Priority
• DE 0301579 W 20030515
• DE 10222209 A 20020518
• DE 10318989 A 20030425

Abstract (en)
[origin: WO03098031A1] A fuel injection valve comprising a valve body (1) wherein a valve needle (5) having a longitudinal axis (15) is arranged in a bore (3) such that it is longitudinally displaceable. A conical valve seat (11) is arranged on the combustion-chamber end of the bore (3). A pressure chamber (19) which can be filled with fuel is formed between the valve needle (5) and the wall of the bore (3), extending as far as the valve seat (11). A valve sealing surface (7) is formed on the valve needle (5), cooperating with the valve seat (11) in order to control at least one injection opening leading from the valve seat (11) and an annular groove (35) extends therein on a radial plane of the valve needle (5). The downstream edge of the annular groove (35) is embodied in the form of a sealing edge (38) and is constantly hydraulically connected to the pressure chamber (19).

IPC 8 full level
F02M 61/04 (2006.01); **F02M 61/10** (2006.01); **F02M 61/18** (2006.01); **F02M 61/12** (2006.01)

CPC (source: EP US)
F02M 61/042 (2013.01 - EP US); **F02M 61/18** (2013.01 - EP US); **F02M 61/1866** (2013.01 - EP US); **F02M 61/1873** (2013.01 - EP US); **F02M 61/12** (2013.01 - EP US); **F02M 61/1806** (2013.01 - EP US)

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
WO 03098031 A1 20031127; DE 50305850 D1 20070111; EP 1509693 A1 20050302; EP 1509693 B1 20061129; JP 2005526212 A 20050902; US 2005178860 A1 20050818; US 7100847 B2 20060905

DOCDB simple family (application)
DE 0301579 W 20030515; DE 50305850 T 20030515; EP 03740006 A 20030515; JP 2004505529 A 20030515; US 50893804 A 20040927