

Title (en)  
ELECTROMAGNETICALLY OPERATED VALVE

Title (de)  
ELEKTROMAGNETISCH BETÄTIGBARES VENTIL

Title (fr)  
SOUPAPE A COMMANDE ELECTROMAGNETIQUE

Publication  
**EP 0900333 B1 20030507 (DE)**

Application  
**EP 98902943 A 19980109**

Priority  
• DE 9800052 W 19980109  
• DE 19712590 A 19970326

Abstract (en)  
[origin: DE19712590A1] The invention relates to an electromagnetically operated valve which has an axially displaceable valve needle (13), said valve needle comprising at least one armature (17) and one spherical valve closing body (18). Said armature (17) forms a closing body support which holds said valve closing body (18) with an end area (46) situated downstream, said end area (46) encompassing said valve closing body (18) in such a way that at least one channel (49) which is directly connected to a longitudinal bore (23) in said armature (17) is formed on the surface of said valve closing body (18). The valve is especially suitable for use in fuel injection devices of mixture-compressing internal combustion engines with externally supplied ignition.

IPC 1-7  
**F02M 51/06**; **F02M 61/16**

IPC 8 full level  
**F02M 51/06** (2006.01); **F02M 51/08** (2006.01); **F02M 61/10** (2006.01); **F02M 61/16** (2006.01)

CPC (source: EP KR US)  
**F02M 51/0657** (2013.01 - EP KR US); **F02M 51/0682** (2013.01 - EP KR US); **F02M 61/168** (2013.01 - EP KR US);  
**Y10S 239/90** (2013.01 - EP KR US)

Designated contracting state (EPC)  
DE ES FR GB IT

DOCDB simple family (publication)  
**DE 19712590 A1 19981001**; BR 9804798 A 19990817; CN 1089856 C 20020828; CN 1220722 A 19990623; DE 59808230 D1 20030612;  
EP 0900333 A1 19990310; EP 0900333 B1 20030507; ES 2199419 T3 20040216; JP 2000511616 A 20000905; KR 20000015943 A 20000315;  
US 6045116 A 20000404; WO 9842976 A1 19981001

DOCDB simple family (application)  
**DE 19712590 A 19970326**; BR 9804798 A 19980109; CN 98800372 A 19980109; DE 59808230 T 19980109; DE 9800052 W 19980109;  
EP 98902943 A 19980109; ES 98902943 T 19980109; JP 54464798 A 19980109; KR 19980709499 A 19981124; US 19426999 A 19990429