

Title (en)

Injection valve, specially fuel injection valve

Title (de)

Einspritzventil, insbesondere Brennstoffeinspritzventil

Title (fr)

Soupape d'injection, en particulier soupape d'injection de carburant

Publication

EP 1355061 B1 20050622 (DE)

Application

EP 03016782 A 19980317

Priority

- DE 19724075 A 19970607
- EP 98924016 A 19980317

Abstract (en)

[origin: DE19724075A1] The inventive method for producing a perforated disc is characterized in that first metal sheets (35) are provided, whereupon geometrical openings (27) and auxiliary openings (49, 50) are made in said metal sheets (35), the individual metal sheets (35) are centered (57) and stacked on top of each other, after which the metal sheets (35) are assembled by means of a joining process to obtain a perforated disc strip (39) with a plurality of round plates (53) and finally said round plates (53) or perforated discs (21) are individually separated. The inventive perforated discs are particularly suitable for fuel injector valves which are used in mixture compressing, externally ignited internal combustion engines.

IPC 1-7

F02M 61/18; **F02M 61/16**; **F02M 51/06**

IPC 8 full level

F02M 51/06 (2006.01); **F02M 61/16** (2006.01); **F02M 61/18** (2006.01)

CPC (source: EP KR US)

F02M 51/0671 (2013.01 - EP KR US); **F02M 61/168** (2013.01 - EP KR US); **F02M 61/1853** (2013.01 - EP KR US); **Y10T 29/302** (2015.01 - EP US)

Cited by

CN109416011A; WO2018001729A1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

DE 19724075 A1 19981210; AU 735559 B2 20010712; AU 7637198 A 19981230; BR 9806040 A 19990824; CN 1151336 C 20040526; CN 1228139 A 19990908; DE 59810659 D1 20040304; DE 59812885 D1 20050728; EP 0917624 A1 19990526; EP 0917624 B1 20040128; EP 1355061 A1 20031022; EP 1355061 B1 20050622; JP 2000517025 A 20001219; KR 100570911 B1 20060414; KR 100643558 B1 20061113; KR 20000068027 A 20001125; KR 20050090470 A 20050913; US 6168099 B1 20010102; WO 9857060 A1 19981217

DOCDB simple family (application)

DE 19724075 A 19970607; AU 7637198 A 19980317; BR 9806040 A 19980317; CN 98800742 A 19980317; DE 59810659 T 19980317; DE 59812885 T 19980317; DE 9800784 W 19980317; EP 03016782 A 19980317; EP 98924016 A 19980317; JP 50124099 A 19980317; KR 19997000732 A 19990129; KR 20057015037 A 20050816; US 23093899 A 19990203