

Title (en)

Fuel injection valve.

Title (de)

Kraftstoffeinspritzventil.

Title (fr)

Soupape d'injection de combustible.

Publication

EP 0393328 B1 19931110 (DE)

Application

EP 90103656 A 19870527

Priority

- EP 90103656 A 19870527
- DE 3618413 A 19860531
- DE 3710467 A 19870330

Abstract (en)

[origin: WO8707334A2] Fuel injection valve which serves for injecting fuel into the admission passage of a mixture-compressing, externally-ignited internal combustion engine. The fuel injection valve is provided with a valve needle (27) which, by means of an armature linked therewith, is drawn against a core when a magnetic coil is excited, the valve needle (27) rising, together with a sealing seating (47) formed thereon, from a valve seating surface (48) formed on a nozzle body (9). The sealing seating (47) is designed with a rounded profile (90), the contour of which follows the external envelope of an imaginary torus (94). The cross-section of the torus (94) can for example, be circular (93) or elliptical (96). In view of the comparatively small radius of the rounded profile (90), which leads to a distinctly line-like contact between the valve needle (27) and the valve seating surface (48), the tendency of the valve needle (27) to "adhere" hydraulically to the valve seating surface (48) is much smaller than in conventional fuel injection valves.

IPC 1-7

F02M 51/08; **F02M 61/18**

IPC 8 full level

F02M 51/08 (2006.01); **F02M 51/06** (2006.01); **F02M 61/06** (2006.01); **F02M 61/18** (2006.01)

CPC (source: EP US)

F02M 51/0678 (2013.01 - EP US); **F02M 51/08** (2019.01 - EP US); **F02M 61/06** (2013.01 - EP US); **F02M 61/1853** (2013.01 - EP US); **F02M 61/188** (2013.01 - EP US); **Y10S 239/90** (2013.01 - EP US)

Cited by

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Designated contracting state (EPC)

AT DE FR GB IT

DOCDB simple family (publication)

WO 8707334 A2 19871203; **WO 8707334 A3 19871230**; AT E97193 T1 19931115; AU 4548889 A 19900308; AU 593914 B2 19900222; AU 607871 B2 19910314; AU 7435987 A 19871222; BR 8707711 A 19891031; EP 0310607 A1 19890412; EP 0310607 B1 19910403; EP 0393328 A1 19901024; EP 0393328 B1 19931110; ES 2006151 A6 19890416; JP 2553120 B2 19961113; JP H01502766 A 19890921; US 4934605 A 19900619; US 5016821 A 19910521

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DE 8700243 W 19870527; AT 90103656 T 19900226; AU 4548889 A 19891124; AU 7435987 A 19870527; BR 8707711 A 19870527; EP 87903254 A 19870527; EP 90103656 A 19870527; ES 8701597 A 19870529; JP 50323687 A 19870527; US 27288588 A 19881013; US 49560190 A 19900319