

Title (en)  
Electromagnetic valve actuator

Title (de)  
Elektromagnetischer Ventil-Aktuator

Title (fr)  
Actionneur électromagnétique de soupape

Publication  
**EP 0992658 B1 20030521 (FR)**

Application  
**EP 99400877 A 19990409**

Priority

- FR 9812489 A 19981006
- FR 9812940 A 19981015

Abstract (en)  
[origin: EP0992658A1] The motor vehicle internal combustion engine valve (25) stem slides in a sleeve in the cylinder head (12). An end flange (31) retains a spring (28b) against the base of a cylindrical cavity in the head. A stem extension (24) ends in a similar flange (30), also spring-loaded (28a). This upper spring is seated on the core (16), fixed to the head and projecting into the cavity. The extension ends in a laminated armature (22) contained in a core cavity. The valve (25) has an integral stem sliding in a sleeve in the cylinder head (12). An end flange (31) retains a spring (28b) against the base of a cylindrical cavity in the head. A stem extension (24), aligned with and abutting the stem, ends in a similar flange (30), also spring-loaded (28a). This upper spring is seated on part of the magnet core (16), fixed to the head and projecting into the cavity. The extension, sliding in a sleeve (26) in the core, ends in a laminated armature (22) contained in a core cavity. The springs and valve are so dimensioned that, with the magnet deenergised, the valve's position is intermediate between fully open and fully closed. The core's removable top (14) encloses the exciting coil (38), which in turn is penetrated by a limb of the iron circuit. The magnet coil is energised, via an amplifier, from a controller - opt., integral with the engine management unit - receiving input from a position sensor mounted on the valve. The alternative displacements of the armature in the air-gaps provided within the core establish alternative stable flux paths associated with open and closed valve positions.

IPC 1-7  
**F01L 9/04**

IPC 8 full level  
**F01L 9/04** (2006.01); **F01L 9/20** (2021.01); **F02D 13/02** (2006.01); **F16K 31/06** (2006.01); **H01F 7/16** (2006.01)

CPC (source: EP US)  
**F01L 9/20** (2021.01 - EP US)

Cited by  
EP1162349A3; FR2812121A1; EP1160423A3; FR2818432A1; FR2808375A1; CN112178213A; US9657946B2; US9835265B2; FR2849466A1; US10503181B2; US9841122B2; US11073281B2; US9851103B2; US10851993B2; US9683674B2; US10215291B2; US10697815B2; US9645584B2; US10203049B2; US10422531B2; US11421875B2; US9995486B2; US10024439B2; US10697632B2; US6724606B2; US9846440B2; US10564062B2

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