

Title (en)  
Magnet system.

Title (de)  
Magnetsystem.

Title (fr)  
Système magnétique.

Publication  
**EP 0469385 B1 19941005 (DE)**

Application  
**EP 91111897 A 19910717**

Priority  
DE 4024054 A 19900728

Abstract (en)  
[origin: JPH04254306A] PURPOSE: To provide an electromagnetic valve for fuel injection with a small control power for an electromagnet and a large degree of freedom in the dimension and material of a permanent magnet used. CONSTITUTION: The magnetic device of an electromagnetic valve for controlling liquid has an electromagnet 20 and a permanent magnet 21, and magnetic fluxes are directed in directions mutually opposite in a working air gap 31 formed between a moving member 28 and a magnetic pole 22. For achieving an attractive force that is operated on the moving member 28 so that the force becomes negative, due to a specific excitation of the electromagnet 20 and for reducing a control power for the electromagnet 20, a magnetically corresponding magnetic pole 29 is arranged, while forming a second working air gap 32 on the surface of the moving member 28 at the side opposite to the working air gap 31. Then, the magnetic pole 29 is connected to a magnet casing 25 via a flow-guiding member 35 that surrounds a permanent magnet 21 and, in some cases, via a floating air gap 34.

IPC 1-7  
**H01F 7/16**

IPC 8 full level  
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CPC (source: EP US)  
**H01F 7/1646** (2013.01 - EP US); **H01F 7/122** (2013.01 - EP US); **H01F 2007/1676** (2013.01 - EP US)

Cited by  
EP1857720A3; DE29722781U1; EP2392815A1

Designated contracting state (EPC)  
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**EP 0469385 A1 19920205**; **EP 0469385 B1 19941005**; BR 9103216 A 19920218; CS 229791 A3 19920219; CZ 279794 B6 19950614; DE 4024054 A1 19920130; DE 59103162 D1 19941110; JP 3107855 B2 20001113; JP H04254306 A 19920909; US 5161779 A 19921110

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