

Title (en)  
ELECTROMAGNETIC ACTUATOR WITH PERMANENT MAGNET

Title (de)  
ELEKTROMAGNETISCHER BETÄTIGER MIT DAUERMAGNET

Title (fr)  
ACTIONNEUR ELECTROMAGNETIQUE A AIMANT PERMANENT

Publication  
**EP 1497839 A1 20050119 (FR)**

Application  
**EP 03740622 A 20030416**

Priority  
• FR 0301213 W 20030416  
• FR 0204988 A 20020422

Abstract (en)  
[origin: US2003197582A1] The electromagnetic actuator comprises a coil, a magnetic actuator member mounted in the coil, at least one ring of magnetic material placed around the coil, and at least one permanent magnet adjacent to one end of the ring and disposed overlying a portion of the outside surface of the coil, the permanent magnet having a magnetic field that extends in an axial direction of the coil, the magnetic actuator member being slidably mounted in a non-magnetic guide member extending inside the coil, and the ring having an end opposite from the magnet which is spaced apart from the non-magnetic guide member by a non-magnetic gap.

IPC 1-7  
**H01F 7/16**; **H01F 7/122**

IPC 8 full level  
**H01F 7/08** (2006.01); **H01F 7/16** (2006.01); **H01F 7/122** (2006.01)

CPC (source: EP US)  
**H01F 7/081** (2013.01 - EP US); **H01F 7/1615** (2013.01 - EP US); **H01F 7/122** (2013.01 - EP US)

Citation (search report)  
See references of WO 03090237A1

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**US 2003197582 A1 20031023**; **US 6670876 B2 20031230**; AT E330321 T1 20060715; BR 0309070 A 20050201; BR PI0309070 B1 20161018; BR PI0309070 B8 20170321; CN 100351959 C 20071128; CN 1647219 A 20050727; DE 60306140 D1 20060727; DE 60306140 T2 20070426; DK 1497839 T3 20061023; EP 1497839 A1 20050119; EP 1497839 B1 20060614; ES 2265575 T3 20070216; FR 2838863 A1 20031024; FR 2838863 B1 20040625; JP 2005535106 A 20051117; PT 1497839 E 20061130; WO 03090237 A1 20031030

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