

Title (en)

ACTUATOR FOR AN INTERNAL COMBUSTION ENGINE

Title (de)

AKTUATOR FÜR EINE VERBRENNUNGSKRAFTMASCHINE

Title (fr)

ACTIONNEUR POUR MOTEUR À COMBUSTION INTERNE

Publication

**EP 2486575 B1 20181107 (DE)**

Application

**EP 10752788 A 20100907**

Priority

- DE 102009049009 A 20091009
- EP 2010063084 W 20100907

Abstract (en)

[origin: WO2011042273A1] Known electromagnetic actuators comprising permanent magnets often have the disadvantage that returning the tappet is often not possible solely by way of permanent magnetic forces, when a distance of over 1 mm between the armature and core must be overcome. According to the invention, an actuator is proposed, in which the permanent magnet (32) is arranged in a stationary manner within the electromagnetic circuit (4) and means (34, 40) are designed for focusing axial magnetic field lines on the permanent magnetic circuit (8).

IPC 8 full level

**H01F 7/13** (2006.01); **H01F 7/16** (2006.01)

CPC (source: EP)

**F01L 13/0042** (2013.01); **H01F 7/13** (2013.01); **H01F 7/1615** (2013.01); **H01F 7/1646** (2013.01)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)

**WO 2011042273 A1 20110414**; DE 102009049009 A1 20110421; DE 102009049009 B4 20121004; EP 2486575 A1 20120815;  
EP 2486575 B1 20181107

DOCDB simple family (application)

**EP 2010063084 W 20100907**; DE 102009049009 A 20091009; EP 10752788 A 20100907