

Title (en)

TWO-STAGE ELECTROMAGNETIC VALVE FOR AN INJECTOR OF INTERNAL COMBUSTION ENGINES

Title (de)

ZWEISTUFIGES MAGNETVENTIL FÜR EINEN INJEKTOR VON BRENNKARFTMASCHINEN

Title (fr)

ELECTROVANNE BIETAGEE DESTINEE A UN INJECTEUR D'UN MOTEUR A COMBUSTION

Publication

EP 1203151 A1 20020508 (DE)

Application

EP 00958208 A 20000802

Priority

- DE 0002578 W 20000802
- DE 19937559 A 19990809

Abstract (en)

[origin: US6783086B1] A two-stage magnet valve for injectors of injection systems for internal combustion engines is proposed, which is very compact and simple in design, because an in-line connection of the first valve spring and a second valve spring can be avoided.

IPC 1-7

F02M 47/02; **F02M 45/08**

IPC 8 full level

F02M 51/08 (2006.01); **F02M 45/08** (2006.01); **F02M 47/00** (2006.01); **F02M 47/02** (2006.01); **F02M 51/06** (2006.01); **F02M 59/46** (2006.01)

CPC (source: EP US)

F02M 45/08 (2013.01 - EP US); **F02M 47/027** (2013.01 - EP US); **F02M 63/0022** (2013.01 - EP US); **F02M 63/0036** (2013.01 - EP US); **F02M 63/0056** (2013.01 - EP US); **F02M 63/022** (2013.01 - EP US)

Citation (search report)

See references of WO 0111221A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

US 6783086 B1 20040831; AT E386205 T1 20080315; CZ 20011227 A3 20020213; DE 19937559 A1 20010301; DE 50014969 D1 20080327; EP 1203151 A1 20020508; EP 1203151 B1 20080213; HU P0104906 A2 20020429; HU P0104906 A3 20020528; JP 2003524725 A 20030819; WO 0111221 A1 20010215

DOCDB simple family (application)

US 80712001 A 20010727; AT 00958208 T 20000802; CZ 20011227 A 20000802; DE 0002578 W 20000802; DE 19937559 A 19990809; DE 50014969 T 20000802; EP 00958208 A 20000802; HU P0104906 A 20000802; JP 2001515447 A 20000802