

Title (en)

CONTROL VALVE FOR A FUEL INJECTOR COMPRISING A PRESSURE EXCHANGER

Title (de)

SCHALTVENTIL FÜR EINEN KRAFTSTOFFINJEKTOR MIT DRUCKÜBERSETZER

Title (fr)

SOUPAPE DE COMMANDE POUR UN INJECTEUR DE CARBURANT COMPRENANT UN DISPOSITIF MULTIPLICATEUR DE PRESSION

Publication

**EP 1651862 A1 20060503 (DE)**

Application

**EP 04738706 A 20040617**

Priority

- DE 2004001255 W 20040617
- DE 10335059 A 20030731

Abstract (en)

[origin: WO2005015002A1] The invention relates to a servo valve (3) for a fuel injector (1), comprising a pressure exchanger (2) having a working chamber (7) and a differential pressure chamber (8) which are separated by means of a pressure relay piston (10, 11). A control chamber (33) of the servo valve (3) can be connected to a first return pipe (35) on the low pressure side by means of an actuator (4), and the differential pressure chamber (8) of the pressure exchanger (2) can be connected to a second return pipe (37) on the low pressure side or a return pipe system consisting of the return pipes (35, 37). A first sealing seat (38) is formed on a first servo valve piston (30). A second servo valve piston (41) embodied as a sealing sleeve is received on the first servo valve piston (30), forming a second valve seat (50) with a valve housing (29). Said second valve seat closes earlier than the first sealing seat (38) when the pressure is relieved in the control chamber (33) during a small stroke of the piston. When the control chamber (33) is subjected to pressure, the second sealing seat (50) only opens once the first sealing seat (38) is closed.

IPC 1-7

**F02M 59/36**; **F02M 47/02**; **F02M 57/02**; **F02M 63/02**; **F02M 61/20**; **F02M 59/46**

IPC 8 full level

**F02M 47/02** (2006.01); **F02M 47/04** (2006.01); **F02M 57/02** (2006.01); **F02M 59/10** (2006.01); **F02M 59/46** (2006.01); **F02M 61/20** (2006.01); **F02M 63/00** (2006.01); **F02M 63/02** (2006.01)

CPC (source: EP US)

**F02M 47/027** (2013.01 - EP US); **F02M 57/025** (2013.01 - EP US); **F02M 61/205** (2013.01 - EP US); **F02M 63/0015** (2013.01 - EP US); **F02M 63/0026** (2013.01 - EP US); **F02M 63/0029** (2013.01 - EP US); **F02M 63/004** (2013.01 - EP US); **F02M 63/0043** (2013.01 - EP US); **F02M 63/0045** (2013.01 - EP US); **F02M 63/0225** (2013.01 - EP US)

Citation (search report)

See references of WO 2005015002A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**DE 10335059 A1 20050217**; DE 502004008163 D1 20081113; EP 1651862 A1 20060503; EP 1651862 B1 20081001; JP 2007500809 A 20070118; US 2006202140 A1 20060914; US 7216815 B2 20070515; WO 2005015002 A1 20050217

DOCDB simple family (application)

**DE 10335059 A 20030731**; DE 2004001255 W 20040617; DE 502004008163 T 20040617; EP 04738706 A 20040617; JP 2006521381 A 20040617; US 56624704 A 20040617