Title (en)

APPARATUS FOR CONTROLLING SWASH-PLATE PUMP AND MOTOR

Title (de)

GERÄT ZUM KONTROLLIEREN VON TAUMELSCHEIBENPUMPE UND MOTOR

Title (fr)

DISPOSITIF DE COMMANDE D'UNE POMPE ET D'UN MOTEUR A DISQUE EN NUTATION

Publication

EP 0821163 A1 19980128 (EN)

Application

EP 96909350 A 19960411

Priority

- JP 9601006 W 19960411
- JP 8668795 A 19950412

Abstract (en)

A swash-plate controlling apparatus for a swash-plate type pump or a swash-plate type motor comprises: a cylinder bore (31) formed in a housing (20); a piston (40) slidably inserted into the cylinder bore (31); a large-sized pressure-receiving chamber (43) and a small-sized pressure-receiving chamber (44) defined at both end sides of the piston, respectively, for pushing the piston in one or another direction by the action of pressurized oil charged in the respective chamber; a spool bore (45) formed at an axial central portion of the piston; a spool (47) slidably inserted into the spool bore (45); a first port (58), a second port (65) and a drain port (66) each provided between the piston and the spool, for being communicated with or shut off from each other by the action of a relative movement of the piston and the spool; another pressure-receiving chamber (54) defined at one end side of the spool for pushing the spool in one direction by the action of the pressurized oil charged in another pressure-receiving chamber; and a spring (74) for urging the piston and the spool in another direction; wherein the piston is connected to the swash-plate (4) so that a tilting angle of the swash-plate is changed when the piston is moved, wherein the small-sized pressure-receiving chamber is communicated with a main port (26) of the swash-plate type pump or the swash-plate type motor, the first port is communicated with the small-sized pressure-receiving chamber and the another pressure-receiving chamber, the second port is communicated with the large-sized pressure-receiving chamber, and the drain port is communicated with a tank (18) through the housing; wherein a communication between the first port and the second port is shut off and the second port is communicated with the drain port when the piston is relatively moved with respect to the spool in one direction; and wherein the first port is communicated with the second port and a communication between the second port and the drain port is shut off when the piston is relatively moved in another direction with respect to the spool. <IMAGE>

IPC 1-7

F04B 1/26; F03C 1/40

IPC 8 full level

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CPC (source: EP KR)

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Cited by

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