

Title (en)

Hydraulic mechanism with fluid distribution disk and counter disk.

Title (de)

Flüssigkeitsmechanismus mit Fluidverteilscheibe und Gegenscheibe.

Title (fr)

Mécanisme hydraulique comportant des glace et contre-glace de distribution du fluide.

Publication

EP 0263218 A1 19880413 (FR)

Application

EP 86402228 A 19861008

Priority

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Abstract (en)

1. A hydraulic mechanism, motor or pump, constituted by : - a cylinder block (9) comprising a face (16) for communication with the outside, - a plurality of cylinders (11) formed in the cylinder block and inside each of which slides a piston (12), each cylinder being connected to said communication face of the cylinder block by at least one cylinder conduit (32) which opens out in this communication face via a cylinder orifice (33), - a cam (4) with respect to which the cylinder block is mounted to rotate about an axis of rotation 7, on the surface of which the pistons are adapted to be in abutment (13) and which comprises a plurality of ramps following one another in pairs of ramps, - a distribution disk (17) which is maintained fast in rotation (25) with the cam, which presents a communication face (18) comprising as many pairs of orifices (23, 24) opening into its communication face as there are pairs of ramps, the first orifice (23) of a pair of orifices being adapted to be placed in communication with a first chamber (30) containing a fluid under pressure, the second orifice (24) of said pair of orifices being capable of being placed in communication with a second chamber (31) without pressure, and being disposed between the first orifice (23) of said pair and the first orifice (23) of the following pair, and each cylinder orifice (33) being capable, during relative rotation of the cylinder block with respect to the cam of being successively in communication with a first orifice (23) of a pair of orifices, then isolated from this first orifice (23) and from the second orifice (24) of said pair of orifices, being disposed between said first and second orifices, finally in communication with the second orifice (24) of said pair of orifices, the communication faces (16, 18) of the cylinder block (9) and of the distribution disk (17) further being plane, perpendicular to the axis of rotation (7) and in direct contact one on the other, the cylinder orifices (33) and the first (23) and second (24) orifices of the distribution disk (17) all opening out between two concentric circles (34, 35; 34a, 35a), characterized in that the shapes of the cylinder orifices (33) are complementary of those of the first (23) and second (24) orifices of the distribution disk (17), the area of an orifice of the communication face associated to the cylinder-block being substantially equal to that of the space defined, on the one hand, between said two circles (34, 35) and, on the other and, between the first (23) and second (24) orifices of a pair of orifices of the distribution disk (17), to within the operational clearance allowing said succession, for a cylinder orifice, of the communication with a first orifice of a pair of orifices of the distribution disk, of the isolation from the first and second orifices of said pair of orifices, and of the communication with said second orifice of the pair of orifices of the distribution disk.

Abstract (fr)

L'invention est relative à un mécanisme hydraulique à cames ondulées (4) comportant une glace de distribution (17) munie d'orifices (23, 24) correspondant aux rampes des ondulations et un bloc-cylindres (9) muni d'orifices (33) d'alimentation/échappement des cylindres. Les formes des orifices (33) de cylindre sont complémentaires de celles des orifices (23, 24), l'aire d'un orifice de cylindre (33) étant égale à celle de l'espace délimité entre les orifices (23, 24) de la glace de distribution (17), au jeu de fonctionnement près permettant la succession, pour un orifice de cylindre (33), de la communication avec un premier orifice (23), de l'isolement d'avec les premier (23) et deuxième (24) orifices d'une paire d'orifices et de la communication avec le deuxième orifice (24) de ladite paire d'orifices. Une application est la réalisation d'un moteur compact.

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- [XE] FR 2587761 A1 19870327 - POCLAIN HYDRAULICS SA [FR]
- [AD] FR 2504987 A1 19821105 - POCLAIN HYDRAULICS SA [FR]
- [AD] FR 2533965 A1 19840406 - POCLAIN HYDRAULICS SA [FR]

Cited by

EP0538637A1; DE4337508A1; US5261318A; FR3011045A1; CN105593519A; KR20160058901A; AU2014326490B2; WO2015044571A1; WO0177495A1; JP4873815B2

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