

The invention relates to the mechanical engineering, namely to devices meant for conversion of liquid or compressible fluid media potential power into the mechanical one and vice versa, and may be used in hydraulic or pneumatic actuators, internal combustion engines with carburation or fuel injection as well as in external combustion engines, vacuum machines, and volumetric flowmeters for liquid and compressible fluid media.

The volumetric rotary machine, according to the first variant, contains a cylindrical body, inside which it is coaxially placed therewith a drive shaft 6, a rotor 5, including an internal 7 cylinder and an external 8 cylinder, both placed coaxially and rigidly joined between them, and a rotor-separator 19, including a separating cylinder 20 provided with frontal disks 21, eccentrically placed about the rotor between its cylinders and forming with it and with the frontal disks cavities of variable volume. Novelty consists in that the body is made compound with annular joint in the middle part of the lateral wall, wherein there is made a hole 18 for working medium supply and discharge. The drive shaft 6 is installed into eccentric bushes 4, at the same time the journal from one end of the shaft is made monolithic, and into the journal of the other end it is made an axial canal 17, communicating with the hole in the distributing cover 15, provided for working medium circulation, and with the cavity of the internal cylinder of the rotor. Onto the journal there is mounted a floating valve 13, separating the cavity of the internal cylinder 7 and the annular cavity, formed by the outer surface of the external cylinder 8 and by the inner surface of the body. The cylinders of the rotor are rigidly fixed onto the drive shaft 6, are joined between each other by an annular separating wall 9, placed in the middle part thereof and are additionally joined by a longitudinal partition, placed into a longitudinal slot, made into the wall of the separating cylinder, and into the longitudinal partition there are made canals connecting the cavities of alternating volume with the cavity of the inner cylinder and the annular cavity, formed by the outer surface of the external cylinder and by the inner surface of the body.

The volumetric rotary machine may additionally contain a second longitudinal partition, placed at an angle of 180° about the first one.

Claims: 8

Fig.: 14

