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Hydraulic motors type SOK1

Application:

Circulating cam hydraulic motors type SOK1 are used presently most of all in drives of rotary motion: of winches, appliances as well as underground and ground coal-mine machines, vehicles wheels, drilling rigs, mixers, conveyors. About 70% of manufactured motors were used in coal-mine industry – in wall-type mechanical coal miners and appliances of coal transportation from exploratory coal faces to the surface.

Remaining motors are used in different branches of chemical, machinery industry etc.

The basic advantages of these motors are: high resistance for pollution, plate structure at favourable indices as: dimensional index, structure compactness index, moment volume index and power weight index, good starting properties, possibility of shaft load with great radial forces.



Technical characteristics:

Type of motor: slow-speed, high-moment hydraulic motor, of constant geometrical working volume

Kinds of work: one-speed, two-speed, in synchronizing system, as "free wheel"

Kind of fastening: flange system – utilizing four ports or four threaded holes in front or rear cover. Outer diameters of covers are toleranced which enable to use them for fitted connections.

Moment output via: one-side shaft with cylindrical tip with two keys, one-side shaft with involute teeth tip $\alpha=20^\circ$, one-side shaft with involute teeth $\alpha=30^\circ$, hollow shaft with inner involute teeth $\alpha=30^\circ$, two-sides shaft for special applications

Connection to installation

- from manifold together with radial or axial supply outlet

Supply socket

- threaded sockets acc. to PN-64/M-73101. It is possible to manufacture supply sockets acc. to the other requirements

Direction of revolutions

- reversible, right-hand and left-hand revolutions

Position of work

- optional

Working liquid

- hydraulic oil used in hydraulic drives: temperature $-20^\circ\text{C} \div 80^\circ\text{C}$, viscosity $20 \text{ cSt} \div 600 \text{ cSt}$

Filtration accuracy

- max $100 \mu\text{m}$

Construction of the hydraulic motors SOK appeared in the seventies and was improved during the next years in the range as follows:



- bearings (increasing of permissible radial loads of shaft),
- seals of shaft output,
- functional forms (one-speed, two-speed, synchronizing, „free wheel“),
- executions of shafts tips, including through shaft, two-sides shaft.

The basic operation parameters of the motors, i.e. nominal pressure, maximum pressure, speed of rotation are on unchanged level. In the last period, works connected with increase of nominal pressure by 25% were undertaken.

Series of types for hydraulic motors SOK includes eight magnitudes.

Production program

Production program of the hydraulic motors SOK1 includes the magnitudes presented in the below given table of working parameters.

Parameters of one-speed motor

Discriminant of magnitude			63	100	160	250	400	630	1000	1600	
Geometrical working volume		cm ³	250	400	630	1000	1600	2500	4000	6300	
Pressure	nominal	MPa	16								
	maximum		25								
Torque	nominal	daNm	63	100	160	250	400	630	1000	1600	
	maximum		100	160	250	400	630	1000	1600	2500	
Rotationla speed	nominal	min ⁻¹	160					100		80	
	maximum		250					160		125	
	minimum		3	2	3	2	3	2	3	2	
Nominal power		kW	10,4	17	26,4	42,4	68	68	106	134	

Notes:

Short lasting operation of the motor at the parameters exceeding nominal parameters, is permissible.

Run of motor at rotational speed below minimal can show slight pulsation of the rotational speed.

More detailed information is presented in the Catalogue Card of the hydraulic motors SOK1 No. KKP-16713/12.99.