



## **Downhole Motor Series**

The downhole motor is a kind of drilling tools developed for converting hydraulic energy into mechanical energy through a conjugate of a stator and a rotor. The motors are usually divided into two kinds, single lobe(1/2)and multi lobes(N/N+1)motors, according to the quantities of the lobes of the stator and rotor. Generally speaking, for motors of the same length of rotor / stator section, the more are the lobes, the higher is the output torque, while the lower is the rotate speed, vice versa. The motors are usually used together with cone bits, diamond bits and so on in drilling operation, such as directional, vertical and horizontal drilling, correcting deviation, coring, reaming, sidetracking, etc.

#### **Product Features:**

The motors may also be equipped with extended power section. Comparing with common motors, they are greatly increased in output torque and power, which help to increase penetration rate markedly. For some kinds of motor, hollowed rotors are optional as well. It can reduce the rotation inertia, optimize meshing of rotor and stator, and decrease the vibration while running. If the rotor is equipped with a nozzle, it can increase waterpower of the bit. Because the motor section can operate for thousands of hours and have excellent performance, it wins good reputation in American market.

Down hole motor adjustable bent housing is optional. It can easily adjust the angle from 0 to 3 degrees (between 0 to 3 degrees) in the rig floor without shim.

Down hole motor has patent anti-friction connecting rod. It obviously improves the capacity of the motor and also increases the running time.

The motors can equip with patent sealed bearing assembly. which improves its load and working time without interruption. The housing of the shaft can match with a stabilizer with different models and sizes.

#### Type of power section Heat-resistant performance: C: Extended power section G:150 °C D: Short power section G2:210 °C H: Evenwall power section Omitted:120 °C Omitted: Normal power section F: Hollowed rotor Motor stillness -Omitted: Common rotor Q: High stillness power section R: flexible motor W: Assembled with stabilizer Omitted: Normal power section Omitted: No stabilizer Usable medium -K: Air or foam D: Single bent (bent sub or bent housing) Omitted: liquid medium P: Bent sub and bent housing in same direction Type Code (bent sub and bent housing) Size (OD., mm) T: Double bent housing in same direction Max Pressure drop of bit nozzle (MPa) S: Double bent housing in two directions opposite to each other Design change code J: Coach motor (I, II, III, ····) K: Adjustable bent housing Omitted: Straight motor

## **Model Illustrations:**





## Specifications for Down Hole Motor (Multi-lobe)

Model	OD		Max.Torque	Default Connections	
	(inch)	(mm)	(ft-lbs)	Box up	Box down
5LZ43 × 7.0	1 11/16	43	173	M27 × 2	M27 × 2
5LZ60 × 7.0	2 3/8	60	280	1.9 TBG	1.9 TBG
5LZ73 × 7.0	2 7/8	73	480	2 3/8 TBG	2 3/8 REG
5LZ89 × 7.0	3 1/2	89	980	2 3/8 REG	2 3/8 REG
5LZ95 × 7.0	3 3/4	95	1240	2 7/8 REG	2 7/8 REG
C5LZ95 × 7.0	3 3/4	95	2235	2 7/8 REG	2 7/8 REG
C5LZ95 × 7.0 Ⅱ	3 3/4	95	1920	2 7/8 REG	2 7/8 REG
5LZ100 × 7.0	3 7/8	100	1240	2 7/8 REG	2 7/8 REG
5LZ120 × 7.0	4 3/4	120	2275	3 1/2 REG	3 1/2 REG
C5LZ120 × 7.0	4 3/4	120	4000	3 1/2 REG	3 1/2 REG
C7LZ120 × 7.0	4 3/4	120	4735	3 1/2 REG	3 1/2 REG
3LZ165 × 7.0	6 1/2	165	3750	4 1/2 REG	4 1/2 REG
5LZ165 × 7.0	6 1/2	165	5600	4 1/2 REG	4 1/2 REG
7LZ165 × 7.0	6 1/2	165	6133	4 1/2 REG	4 1/2 REG
C5LZ165 × 7.0	6 1/2	165	8000	4 1/2 REG	4 1/2 REG
D7LZ165 × 7.0	6 1/2	165	3680	4 1/2 REG	4 1/2 REG
9LZ165 × 7.0	6 1/2	165	5600	4 1/2 REG	4 1/2 REG
5LZ172 × 7.0	6 3/4	172	5856	4 1/2 REG	4 1/2 REG
C4LZ172 × 7.0	6 3/4	172	10110	4 1/2 REG	4 1/2 REG
C5LZ172 × 7.0	6 3/4	172	10992	4 1/2 REG	4 1/2 REG
C5LZ172 × 7.0 Ⅱ	6 3/4	172	8240	4 1/2 REG	4 1/2 REG
C6LZ172 × 7.0 Ⅱ	6 3/4	172	9535	4 1/2 REG	4 1/2 REG
C7LZ172 × 7.0 Ⅱ	6 3/4	172	9380	4 1/2 REG	4 1/2 REG
C9LZ172 × 7.0	6 3/4	172	10800	4 1/2 REG	4 1/2 REG
5LZ197 × 7.0	7 3/4	197	8750	5 1/2 REG	6 5/8 REG
7LZ197 × 7.0	7 3/4	197	11854	5 1/2 REG	6 5/8 REG
C5LZ197 × 7.0	7 3/4	197	14220	5 1/2 REG	6 5/8 REG
5LZ203 × 7.0	8	203	8750	5 1/2 REG	6 5/8 REG
C5LZ203 × 7.0	8	203	14220	5 1/2 REG	6 5/8 REG
7LZ203 × 7.0	8	203	11854	5 1/2 REG	6 5/8 REG
C3LZ216 × 7.0	8 1/2	216	12700	6 5/8 REG	6 5/8 REG
C5LZ216 × 7.0	8 1/2	216	17100	6 5/8 REG	6 5/8 REG
$3LZ244 \times 7.0$	9 5/8	244	11260	6 5/8 REG	6 5/8 REG
$5LZ244 \times 7.0$	9 5/8	244	16275	6 5/8 REG	6 5/8 REG
5LZ244 × 7.0 Ⅱ	9 5/8	244	16430	6 5/8 REG	6 5/8 REG



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#### Specifications for Down Hole Motor (Single-lobe)

Model	OD		Max.Torque	Default Connections	
	(inch)	(mm)	(ft-lbs)	Box up	Box down
LZ127 × 3.5	5	127	1152	3 1/2 REG	3 1/2 REG
LZ165 × 3.5	6 1/2	165	1870	4 1/2 REG	4 1/2 REG
LZ197 × 3.5	7 3/4	197	3064	5 1/2 REG	6 5/8 REG
LZ244 × 3.5	9 5/8	244	5246	6 5/8 REG	6 5/8 REG
LZ100 × 7.0	3 7/8	100	1300	2 7/8 REG	2 7/8 REG
LZ120 × 7.0	4 3/4	120	1580	3 1/2 REG	3 1/2 REG
LZ127 × 7.0	5	127	1424	3 1/2 REG	3 1/2 REG
LZ165 × 7.0	6 1/2	165	3634	4 1/2 REG	4 1/2 REG
LZ197 × 7.0	7 3/4	197	5856	5 1/2 REG	6 5/8 REG
$LZ244 \times 7.0$	9 5/8	244	12472	6 5/8 REG	6 5/8 REG

## Specifications for Down Hole Motor (Air or Foam)

Model	OD		Max.Torque	Default Connections	
	(inch)	(mm)	(ft-lbs)	Box up	Box down
K5LZ95 × 7.0	3 3/4	95	1600	2 7/8 REG	2 7/8 REG
K7LZ120 × 7.0	4 3/4	120	4430	3 1/2 REG	3 1/2 REG
K7LZ165 × 7.0	6 1/2	165	9200	4 1/2 REG	4 1/2 REG
K7LZ172 × 7.0	6 3/4	172	9600	4 1/2 REG	4 1/2 REG
K7LZ197 × 7.0	7 3/4	197	17600	5 1/2 REG	6 5/8 REG
K7LZ203 × 7.0	8	203	17600	5 1/2 REG	6 5/8 REG
K7LZ244 × 7.0	9 5/8	244	24000	6 5/8 REG	6 5/8 REG

# Specifications for Ultra-high temperature Down Hole Motor

Model	OD		Max.Torque	Default Connections	
	(inch)	(mm)	(ft-lbs)	Box up	Box down
C5LZ120 × 7.0-G2	4 3/4	120	3660	3 1/2 REG	3 1/2 REG
C5LZ172 × 7.0-G2	6 3/4	172	8240	4 1/2 REG	4 1/2 REG

#### Specifications for Pre-contoured Down Hole Motor

Model	OD		Max.Torque	Default Connections	
	(inch)	(mm)	(ft-lbs)	Box up	Box down
H5LZ120 × 7.0	4 3/4	120	3360	3 1/2 REG	3 1/2 REG
H5LZ165 × 7.0	6 1/2	165	6800	4 1/2 REG	4 1/2 REG
H5LZ172 × 7.0	6 3/4	172	7850	4 1/2 REG	4 1/2 REG
H5LZ203 × 7.0	8	203	11090	5 1/2 REG	6 5/8 REG
H5LZ244 × 7.0	9 5/8	244	16260	6 5/8 REG	6 5/8 REG

All the parameters can also be made to order.