

COMPOUND DRIVE DRILLING RIG

Compound drive drilling rig is equipped with the most economical power to get good performance and meet the modern drilling technologic requirements and well received by users with its high performance cost ratio. There are two types of models:

The drawworks and mud pumps are driven by mechanism while rotary table is driven by AC VFD motor or DC motor. The mechanical drive compound can drive one energy-saving generator to provide power for rotary table.

The drawworks and rotary table are electrically driven while mud pumps are mechanical driven.

The main models are follows: ZJ30LDB, ZJ40LDB, ZJ50LDB and ZJ70LDB drilling rig, etc.

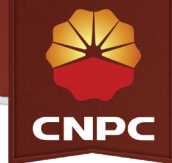
CHARACTERISTICS AND FEATURES

- High performance cost ratio. It overcomes the shortcomings of high cost of electrical drive and long route of mechanical drive;
- It solves the high-climbing drive turntable problem of rotary table of mechanical drilling rig.
- Compound drive drilling rig are simple structure, layout flexibility, energy-saving and efficient.

TECHNICAL FEATURES

- The drawworks and mud pumps are driven by "diesel engine+torque converter or coupling transmission+chain compound" while rotary table is driven by AC VFD motor or DC motor to obtain smooth speed change and torque limit for better drilling performance.
- Rig floor is in two levels. Power and transmission system are installed on the rear low level.
- Main brake is hydraulic disk and auxiliary brake is electric magnetic eddy brake or pneumatic drive and water-cooled disc brake. Drawworks is inner speed change. Speed shift adjustment and change is easily available by remote pneumatic control.
- Box or front level with swing lift and rear level with box type substructure is available, Ample space on rig floor is available for convenient operation. Module design is provided for reasonable arrangement, power compensation and high use ratio.
- Compound can be used to drive the energy saving generator and automatic air compressor.
- The auto driller system and top drive drilling system can be equipped;
- Integrated skid rail may be provided to meet requirements for cluster well drilling.
- A separate driller cabin is fitted operations for air, electric and hydraulic, drilling data and parameters are all in the cabin. Logic control, supervision and maintenance during complete drilling operations are available by PLC processes. The drilling data can be stored, printed and remote transmitted.





TECHNICAL PARAMETER

Drilling rig model		ZJ30LDB	ZJ40LDB	ZJ50LDB	ZJ70LDB/LD
Nominal drilling depth,m	127mm (5")drill pipe	1500-2500	2000-3200	2800-4500	4000-6000
	114mm(4 1/2") drill pipe	1600-3000	2500-4000	3500-5000	4500-7000
Max. hook load, kN(t)		1700 (170)	2250 (225)	3150 (315)	4500(450)
Hook speed, m/s		0.22-1.63	0.21-1.35	0.21-1.39	0.21-1.36/ 0.25-1.91
Line strung of hoisting system		10	10	12	12
Drill line diameter, mm		29	32	35	38
Max. pull of fast line, kN		210	280	350	485
Draw-works	Model	JC30B	JC40B	JC50B	JC70B
	Power rating, kW(hp)	400 (600)	735(1000)	1100(1500)	1470(2000)
	Speed	4F	6F+1R	4F+2R	6F(4F)+2R
Main brake		Hydraulic disc brake or band brake			
Auxiliary brake		Eddy brake or pneumatic disc brake			
Crown block		TC170	TC225	TC315	TC450
Traveling block		YC170/YG170	YC225	YC315	YC450
Sheave OD of hoisting system, mm		1005	1120	1270	1524
Hook		DG225/YG170	DG225	DG315	DG450
Swivel	Model	SL170	SL225	SL450	SL450
	Stem diameter, mm	64	75	75	75
Rotary table	Table opening,mm(in)	520.7 (20 1/2)	698.5 (27 1/2)	698.5(27 1/2) 952.5(37 1/2)	952.5 (37 1/2)
	Speed	I , smooth change		I or II , smooth change	
	Drive mode	VFD motor			VFD/DC motor
Mast	Type	K	K	K	K
	Height, m	42	43	45	45
	Max. load, kN	1700	2250	3150	4500
Substructure	Type	Box	Box	Front level, swing lift; rear level, box	
	Floor height, m	Front 4.5, rear 0.8	Front 6, rear 0.8	Front 9, rear 0.8	Front or10.5, rear 0.8
	Clear height, m	2.9	4.8	7.4	7.4或8.9
Mud pump	Model × number	F-1000 × 1	F-1300 × 2	F-1300 × 2	F-1600 × 2
	Drive mode	Compound drive			
electric drive mode of rotary table		AC-DC-AC or AC-SCR-DC, one for one control			