

1000HP ZJ40DB AC VFD Modular Drilling Rig

General Description

- Hook load: 505,000lbs, 250 US ton (2250KN) with 10 lines
- Setback capacity: 270,000 lbs, 135 US ton (1200KN)
- Simultaneous hook load and setback capacity: 832,000lbs, 415 US ton (3700KN)
- Static Rotary beam capacity: 562,000lbs, 280 US ton (2500KN)
- Mast type: K Type mast open fronted 141 ft (43m) with adjustable monkey board 80.3ft, 83.6ft, 86.5ft (24.4m, 25.5m, 26.5m) with SALA Geronimo Escape system
- Substructure type: Parallelogram swing up integrated raising substructure with rig floor
- Depth rating: 4 ½" drill pipe: 13,100 ft (4000M), 5" drill pipe 10,500ft (3200M)
- Wind speed: No hook load & no pipe in set back: 107 mph (172 km/h), No hook load & set back full of drill pipe: 80 mph (130 km/h)
- Rig floor height: 31.5' (9.6m)
- Clear height below rotary beams: 27ft (8.3m) (can be increased upon request or by the addition of a skidding system)
- Rotary table size: 27.5 in (698.5mm)
- Drill line size: 1 ¼ in (32mm)
- Draw works: JC40 1000 hp (746KW), 2 x Disc brake, dual 535 hp (400 KW) AC VFD drive motors and single speed transmission. Regenerative braking
- Catheads: Model YM16, with rated traction force 36,000 ft lbs straight pull
- Rig floor total area: 970ft² (90m²)
- Air winches: 2 x 5T air winches on rig floor, 1 at the end of the catwalk and the monkey board has 2 x 0.5T air winch
- Martin Decker RigSense 2.0 drilling instrumentation system
- Gaitronics rig site communications system
- Mathey wireline unit complete with Totco 8 and 16 degree survey equipment
- Operating temperature: -20°C to +55°C (cold weather or desert modifications on request)

Top Drive

- TDS and drive unit: Tesco 250 HXI 700 (hydraulic) or 250 EMI 400 (electric) Top Drive system complete with electrical and hydraulic control systems, power unit, Guide rail, shipping containers, spares, tools and operation manuals

Swivel and Kelly

- Swivel with integral spinner
- 5 ¼", hexagonal roller Kelly and bushing

Power Package

- Type and rating of generator sets: 3 x Cat 3512B 1200KW c/w 1500KVA generators

Electrical System

- Power system 600v, 50 Hz for VFD drives. 400V 50 Hz for AC Motor control and 230v 50 Hz for solids control system, lighting and general power. 60 Hz Electrical System available on request

Mud Pumps

- Mud Pumps: Qty 3 x RGF-1000hp triplex pumps c/w liner wash, charge pumps, suction strainer, suction dampener and pulsation dampener also reset relief valves with integrated bleed off line. Each pump is powered by 1000hp AC motor

Drilling Control system

- Stainless steel clad Drillers cabin
- High tech PLC control system is utilized to give precise control of the Variable Frequency Drives (VFD) to operate all rig functions
- Driller control system employs a drillers chair with two joysticks to control draw works hoisting and lowering, the second to apply and release the disc brakes
- The driller controls the major rig functions such as the Mud Pumps and the Top Drive via simple, user friendly touch screen terminal and switch panels mounted within easy reach of the driller
- Drillers cabin console also houses all other interface devices such as video system monitor, Gai-tronics 6 station communication system, MD Totco Drillers instrumentation system, weight indicator and stand pipe pressure gauges all within easy reach

Air System

- 2 X Air compressors 50 hp (Sullair LH12-50) and air dryer system with reservoirs

BOP and Control system

- 13- $\frac{5}{8}$ " 5K Annular BOP, 13- $\frac{5}{8}$ " 5K Double Ram BOP, Single Ram BOP, Drilling Spool. Additional ram assemblies. BOP Test Pump, (air powered) with hoses and chart recorder. BOP Test Base. BOP Stack Lifting device. Transport Skid. BOP Control Unit. BOP Control Unit remote Panel, (For Drill floor) Transport Skid for above control units. Choke and Kill Manifold 3-1/16" X 5K. 3-1/16" X 5K Manual and Hydraulic valves. JY-70A Remote Choke panel. DSA. 2-1/16" 5K Non-return Valve. All high pressure fire proof hydraulic hoses, hand wheels etc

Solid Control System

- BBL capacity: 1695 BBL (270M³) system. Five tanks with additional brake cooling water tank and trip tank
- 3 each Brandt King Cobra Linear Shale Shakers with 3rd shaker incorporating 1 each Brandt King Cobra Mud Cleaner (16 x 4" de-silter cones rated for 1000GPM and 2 x 12" de-sander cones rated for 1000GPM)
- Qty 1 Ea Model Brandt DG-12 Vacuum Degasser with 5 hp, motor rated for 1200 GPM complete with JP-12 Jet Pump Eductor.
- Mix hopper: Qty 2 DN150 x Jet hoppers
- Agitators: 16 total. 15 x HM-15, 20 hp (15KW) and 1 x 7 hp (5.5 KW)
- Poor Boy degasser: Qty 1- NQF1200/0.7
- Mud Guns: Qty 11- mud guns supplied
- Centrifugal pumps: Qty 2- 6 x 8 x 12 1/2" impeller, 100 hp (75KW) (de-silter, de-sander pumps)
- Centrifugal pumps: Qty 2- 6 x 8 x 13" impeller, 100 hp (75KW) (mix pumps)
- Centrifugal pumps: Qty 3- 6 x 8 x 13" impeller, 100 hp (75KW) (charge pumps)
- Centrifugal pumps: Qty 2- 3 x 4 x 9" impeller, 15 hp (11KW) (water pumps)
- Centrifugal pumps: Qty 2- 3 x 4 x 9" impeller, 15 hp (11KW) (cooling water pumps)

Handling Tools and Equipment

- Drill pipe and casing elevators, Bails, Slips for drill pipe and casing, Manual drill pipe and casing tongs, Pipe spinner, Casing power tong, Hydraulic unit, Swivel/Kelly unit with drive bushings, rotary table bushings and inserts, pipe racks, bit breakers

Auxiliary Tanks

- Water tank: 255 bbl (40 M³) including 2 x pumps
- Diesel Fuel tank: 314 bbl (50 M³) fuel tank and 32 bbl (5 M³) day tank, complete with pumps, filtration and distribution system

Technical Drawings

- Side and Front Views

