

speedstar 110K



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The WDC year 2005 model Speedstar 110K is an incredibly reliable and versatile top-head rotary drive drilling rig designed to perform exceptionally well in water supply, energy and deep environmental drilling and well installation applications. This rig has the rotary torque and pullback required for large diameter well installations combined with the safety and efficiency associated with top-head rotary drill configurations. The Range 3 mast is built to accommodate 40-foot casing lengths, which translates to less welding and well installation time when compared to most top-head drive rigs with shorter derricks.

The rig mounted 1000 CFM / 350 PSI air compressor and mud pump combined with the factory integrated casing hammer results in a multi-capable rig that can safely adapt onsite to drill large diameter flooded reverse circulation, direct mud rotary, direct air rotary and casing advance methods with minimal rig reconfiguration.



rigspecs

Pulldown/Holdback Pullout

The pulldown/holdback system powers the tophead rotary in either the pull down mode or the holdback mode through the use of heavy-duty cable and two hydraulic cylinders, providing 42-ft. of travel. Pulldown mode provides 30,000 lb. **Holdback mode provides for 110,000 lbs.**

Hoistine Drum

Pipe hoisting drum hydrostatic driven variable speed with failsafe disc brake. Includes 3/4" cable and double sheave 4-part line traveling block with rated swivel hook. Drum is powered through gearbox. **Hoisting drum capable of 110,000 lbs.**

Main Frame

Structural steel constructed, electrically welded, containing mast rest and hinge post manufactured as an integral part of truck frame. Hinged operator and helper platform are fitted with steps from ground. **Mast is rated at 165,000 lbs.**

Tophead Rotary

Hydrostatically powered tophead rotary with an infinite controlled rotation speed of 0 to 60 RPM with **maximum torque of 15,000 ft-lbs** and speed of 0 to 120 RPM with maximum torque of 7500 ft-lbs. Unit has a low torque mode controlled from operator's station for use when spinning in or out of pipe. Air/fluid course is 6" diameter and retracts to back of mast for casing clearance. 3" Schedule 80 standpipe and 3" swivel hose provided. Tophead has 42-ft. of travel.



Air Compressor

Sullair two-stage twin-screw rotary compressor rated at 1150 CFM and maximum pressure up to 350 PSI. Unit is driven from power gear transfer through multi-disc air clutch and standard universal joint drive shaft. Used to conserve fuel, reduce engine-starting loads and to disengage when not in use. Automatic low oil/high temperature shutdown system. Equipped with air receiver, pressure gauges, valves and all necessary discharge piping. 3" Schedule 80 air piping and auxiliary compressor connection. In-line filter on discharge piping installed to filter discharge air.



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Water Injection Pump w/Foam

A Cat model hydraulically powered water injection pump, equipped with variable speed control for rated output up to 25 GPM and 700 PSI. A needle control valve on suction side enables foam to be metered into the system. Suction hose with strainer provided with earn-lock style connection. Water hose connection from discharge to have earn-lock style fitting to connect to pump.

Operator's Station

Rig is equipped with hinged operator's platform. All controls and gauges grouped at left hand rear corner of drill and labeled for operator's convenience and safety. Foot throttle control are installed at driller's platform to override hand throttle on control panel. Foot pedal for drillpipe fork to be installed at driller's platform. Lighter style 12-volt connection for cell phone to be wired at control panel. Engine Emergency Kill switch located at control panel.

Lighting

Drill is equipped with four 48" long 12-volt fluorescent lights and six halogen floodlights. All lighting powered by carrier electric system and control for lights at operators console. One beacon style light located on top of crown block with switch also located at operators console.

4x3 Magnum Pump

Mission MagnaChrome 4x3 centrifugal pump with 13 in. impeller is hydrostatically driven and speed is infinitely controlled. Pump is capable of producing 320 GPM and a maximum pressure of 230 PSI. Equipped with 3" schedule 80 mud piping and auxiliary mud connection. Hydraulic quick connections are added to side of rig for auxiliary mud pump.

Welder

Portable Miller Big Blue 251D 400 Amp diesel driven welder is located on drill deck with welder face is fitted inside torch box if possible. Welder is complete with 50-ft of welding leads and canvas cover to house welder.

Torch Box

Torch bottle box with hose reel, 100' of torch hose, accommodation for two-bottle storage, and fitted for face of portable welder.

Mast and Crown Block

Mast constructed of square steel tubing and structural steel, electrically welded. Equipped with cable sheaves and guide tracks for tophead rotary, which allows tophead to retract off centerline of hole. Allows 48-ft. working space above breakout table. Raised and lowered by two hydraulic cylinders. Tapered back leg design to give maximum working area around the table. Full-length mast climbing capability to crown complete with mast climbing safety harness incorporated in mast. Crown saver safety switch requested to prevent traveling block from traveling into crown block. Flag pole socket located at top of crown block. Beacon lights are installed at top of crown block. All retract gates operate from one cylinder per pair of gates, rod to operate opposite side gate.

Auxiliary Winch

Hydraulically driven with planetary gear reduction with built-in fail-safe brake. Drum equipped with 225 ft. of 1/2" cable. Bare drum line speed 70 FPM. Bare drum line pull 10,000 lbs. Cable is reeved over hydraulically actuated jib boom and rated swivel hook.

Jib Boom

Hydraulic actuated jib boom mounted on top of crown block. Is capable of swinging to outside beyond edge of machine.

Sandline Winch

Hydraulically driven sandline winch for bailing, tool handling & cyclone hose. Capacity of winch is 6,000 pounds single line pull on bare drum with 2,500 ft of 3/8" wireline. Speed of winch at mid drum is approximately 500 ft. / min.

Breakout System

"LF" type breakout tong with hanger and counter balance. Actuated by hydraulic cylinder and cable mounted on mast. System includes a cylinder and cable on both sides facilitating the operation of the tong in either make up or breakout mode. Tong is furnished with latch lug jaws from 4" thru 8" diameter catch sizes.

Centralizer/Breakout Table

Constructed as a detachable part of the drill frame with 32" diameter opening when retracted with all bushings removed. Front section hinges open for removal of large tools and back section retracts hydraulically. Opening is 18" when table is closed.