

11-8-04 JTM

WATSON INCORPORATED

Model 3100 Specifications

General Description:

The Model 3100 is a self-contained drill unit. Typical mountings include crane carrier 4-axle truck and hydraulically driven crawler undercarriage. Typical units include two-element kelly bar systems with drill depths to 80' and three-element kelly bar systems to 120'.

The following outlines standard unit specifications with 80' (nominal) drill depth:

POWER UNIT:	John Deere diesel, 201 hp
TRANSMISSION:	Torque converter driven powershift, Clark Model 32000
ROTARY:	Double reduction with spur gear primary and straight bevel ring gear and pinion final. Roller type kelly drive; output torque to 113,000 ft. lbs.
MAST:	Lattice type structure. Mast is elevated with two parallel hydraulic cylinders which allow positioning 10 degrees past vertical
KELLY:	Telescoping two-element, 8" outer/6" (5/8" wall) inner bar (kelly stub per customer's requirement)
Kelly operating Performance:	Outer element is controlled full length by a hydraulic cylinder. Crowd force to <u>50,000#</u>
KELLY AND SERVICE HOISTS:	<p>The inner kelly hoist and service hoists are controlled by air clutches mounted on a power shaft powered by a reversible hydraulic motor. With the air clutch disengaged, drum is controlled by a band brake actuated by a foot controlled air diaphragm</p> <p>Kelly hoist:</p> <p>Line pull - 25,000# Line speed - 200 ft./min. Cable size - 7/8" diameter</p> <p>Service hoist:</p> <p>Line pull - 16,000# Cable size - 5/8" diameter</p>

5 1/4" KB

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ROTATING FRAME: Mounted to a slew ring bearing with gear teeth. Rotation is provided by two hydraulic motors and gear boxes with an integral braking system. Rotational swing 360 degrees

SLIDE FRAME: Incorporates engine, hoists, mast mount and operator's control position. Slide travel is 60". Extended drill radius is 156"

MOUNTING OPTIONS: Crane type carrier, 8x4, GVW rating 86,000#. Beam type out/down outriggers. Outriggers are operator controlled and powered by upper unit

OR

Crawler type undercarriage, 11' 11" wide by 15' 9" long tracks, triple grouzers. Carbody incorporates tilt system with 5 degree tilt adjustment. Crawlers are hydraulically driven with independently controlled tracks

DRILL UNIT OPTIONS:

- Open back mast for air circulation
- Solid inner kelly bar
- Kelly/mast configuration for alternate drill depths
- Reaction jack installation for crawler unit
- Separate man hoist
- Quick disconnect mast installation
- Operator controlled panel cover
- Operator's cab with optional heater and air conditioning
- Short mast assembly

TRUCK/CARRIER OPTIONS: Detachable rear scissor-type outriggers

- 52,000# tandem rear axle assembly with heavy duty suspension
- Dash mounted air conditioning

3-7-02

WATSON INCORPORATED

Model 3100 CM with 80' (nominal) Drill Depth

OVERALL UNIT LENGTH: 55'-5"

CARBODY WIDTH (FIXED): 143" (11'-11")

ROTARY CLEARANCE: 103" (8'-7")

OVERALL UNIT HEIGHT: 150 1/2" (12'-6 1/2")

APPROX. WEIGHT UNIT: 87,000 LBS.
(hollow inner kelly)DRILL RADIUS (slide out)
C/L rotation to C/L kelly: 156" (13'-0")

DISTANCE OFF TRACK TOE TO KELLY C/L:

Slide in: 1"

Slide out: 61"

SLIDE DISTANCE: 60"

