
TSi 150CC COMPACT CRAWLER-MOUNTED SONIC DRILL RIG

- **COMPACT CRAWLER-MOUNTED UNIT**
- **225 HP DIESEL ENGINE TO POWER ALL DRIVING, DRILLING AND ACCESSORY HYDRAULIC FUNCTIONS**
- **EXCLUSIVE TSi 150 SERIES SONIC OSCILLATOR USES 150 HP TO GENERATE RESONANT SONIC ENERGY**
- **STANDARD 19 FT 1 IN. (5.8 M) LONG MAST; AVAILABLE 14 FT 6.5 IN. (4.4 M) SHORT MAST**
- **MAST ACCOMMODATES 10 FT (3 M) SECTIONS OF TOOLING OR 5 FT (1.5 M) WITH OPTIONAL SHORT MAST**
- **ANGLE DRILLS BETWEEN VERTICAL AND NEARLY HORIZONTAL**
- **RATED DRILLING DEPTH OF UP TO 1,000 FT (304.8 M) DEPENDING ON THE LITHOLOGY AND CASING DESIGN**



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SONIC HEAD SPECIFICATIONS

- SONIC Head Model TSi 150
- Oscillator Frequency of 0–150 Hz
- Oscillator Force of 50,000 lbf (222 kN)
- Max Torque (high torque/low speed) of 4,677 ft-lb (6,341 N-m)
- Rotation Speed (low speed/high torque) of 0 to 80 rpm

DIMENSIONS AND WEIGHT

- Width (Folded) is 7 ft 3 in. (2.2 m)
- Width (Unfolded) is 7 ft 11.5 in. (2.4 m)
- Length (Folded) is 19 ft 2.25 in. (5.85 m)
- Length (Unfolded) is 19 ft 3.25 in. (5.87 m)
- Height (Folded) is 7 ft 1.38 in. (2.2 m)
- Height (Unfolded) with Jib Stored and Mast Fully Raised is 20 ft 2.5 in. (6.16 m)
- Weight is 22,400 lbs (10,161 kg)
- Ground Clearance is 10.5 in. (267 mm)

MAST SPECIFICATIONS

- Head Tilts 87 Degrees and Hinges Away from Driller to Enable Jib Over the Hole
- Head Travel of 14 ft 1 in. (4.3 m)
- Head Travel Speed of 0 to 155 fpm (0 to 47.3 m/min)
- Overall Length is 19 ft 1 in. (5.8 m)
- Drilling Angle of Vertical to Nearly Horizontal
- Upper Jib Hoist of 2,000 lb (907 kg) Capacity, 150 fpm (46 m/min) Bare Drum Speed
- Feed System is a Hydraulic Operated Feed Frame Using Half the Leaf Chain Length and Rollers as Conventional Hydraulic Cylinder/Chain Method
- Mast Lock—Manual Mast Lock in Vertical Position
- Hose Carrier is a Mast Integrated Hose Management System with Accessible Bulkheads
- Optional Low Clearance (Short) Mast Available—14 ft 6.5 in. (4.4 m)

DECK SPECIFICATIONS

- Driller Platform is 3 ft (914 mm) L x 2 ft 6 in. (762 mm) W, with a Hinge for Folding it Up
- Four Jacklegs 3½ in. (89 mm) x 24 in. (618 mm); Located at Deck Corners with Built-in Lock Valves

RIG PERFORMANCE SPECIFICATIONS

- Rated Drill Depth of Up to 1,000 ft (304.8 m) Depending on the Lithology and Casing Design
- Max Drilling Diameter of 12 in. (305 mm) Casing
- Drill Feed Rate of 0 to 135 fpm (0 to 41 m/min)
- Pull Back Force of 16,800 lbf (74.7 kN)
- Down Force of 11,300 lbf (50.3 kN)
- Max Casing Length of 10 ft (3 m)

HYDRAULIC SYSTEM SPECIFICATIONS

- Hydraulic Oil Capacity is 120 gal (454 L)
- Hydraulic Cooling System of 240,000 Btu/hr @ 100 gpm (70.3 kW @ 379 Lpm) and 50,000 Btu/hr @ 20 gpm (14.7 kW @ 76 Lpm) for Sonic Head Lubrication
- Variable Displacement Pumps—Load Sense Piston Pumps with Pilot Controlled Valves
- Hydraulic Control is Hydraulic Over Hydraulic for All Functions
- Manual Setup Functions

ENGINE SPECIFICATIONS

- Engine is a John Deere, Model 6068, Diesel, Tier 3 with Stage IIIA Emission Certification Standards
- Engine Power of 225 hp (168 kW) @ 2,000 rpm
- Murphy PowerView is Used to Monitor Engine and Transmission Parameters
- Fuel Capacity of 42 gal (159 L)
- Auxiliary Air Compressor of 13.2 CFM @ 120 psi (22.4 m³/hr @ 8.3 bar)

BREAKOUT WRENCH SPECIFICATIONS

- Wrench Has Dual Cylinders on Both Top and Bottom Wrench
- Bottom Wrench Clamping Cylinders Have Integral Lock Valves
- Wrench Clamp Force has Adjustable Pressure Control Preset at 34,500 lbf (153.4 kN)
- Breakout Torque of 30,365 ft-lb (41,157 N-m) with Dual Cylinders
- Wrench Size Range of 3 in. (76 mm) to 12 in. (305 mm)
- Wrench Travel is 19-Degree Swing
- Hardened Inserts are Standard
- Optional Casing Clamp with Integral Lock Valves in Clamping Cylinders

WATER SYSTEM

- Deck Mounted Triplex Pump—Standard for Water Soluble Fluids (40 gpm) (151.42 Lpm)
- Water Meter with LED Readout
- Optional FMC Bean Mud Pump (44 to 53 gpm) (166.56 to 200.63 Lpm)
- Optional 300-Gallon Detachable Water Tank (1,136 L)
- Optional Progressive Cavity Grout Pump