



TSi 150C CRAWLER-MOUNTED SONIC DRILL RIG



- **CRAWLER-MOUNTED UNIT**
- **225-240 HP, TIER 4 FINAL 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**
- **32 FT (9.75 M) LONG MAST**
- **MAST ACCOMMODATES 20 FT (6 M) SECTIONS OF TOOLING**
- **ANGLE DRILLS BETWEEN VERTICAL AND 45 DEGREES**
- **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 62 rpm

DIMENSIONS AND WEIGHT

- Width (Folded) is 8 ft 5 ½ in. (2.6 m)
- Width (Unfolded) is 11 ft 9 ½ in. (3.6 m)
- Length (Folded) is 33 ft 10 ¾ in. (10.3 m)
- Length (Unfolded) is 30 ft 4 ¼ in. (9.25 m)
- Height (Folded) is 11 ft 6 ¾ in. (3.5 m)
- Height (Unfolded) is 36 ft 1 in. (11 m)
- Weight is 40,480 lbs (18,361 kg)
- Ground Clearance is 21 in. (533 mm)

MAST SPECIFICATIONS

- Head Tilt of 87 Degrees
- Head Travel of 24 ft 5 in. (7.5 m)
- Head Travel Speed of 0 to 180 fpm (0 to 55 m/min)
- Overall Length is 32 ft (9.75 m)
- Drilling Angle of Vertical to 45 Degrees
- Upper and Lower Jib Hoist of 2,000 lbs (907 kg) Capacity, 150 fpm (46 m/min) Bare Drum Speed
- Wiggle of 4 in. (101.6 mm) Lateral Swing, 6 in. (152 mm) Fore/Aft
- Feed System is a Hydraulic Operated Feed Frame Using Half the Leaf Chain Length and Rollers as Conventional Hydraulic Cylinder/Chain Method.
- Manual Mast Lock in Vertical Position
- Mast Lock Uses a Manual Pin for Travel Mode
- Hose Carrier is a Mast Integrated Hose Management System with Accessible Bulkheads
- Rod Rack with 800 ft (244 m) of Vertical Mast Rod Storage

DECK SPECIFICATIONS

- Working Platform is 7 ft 1 ¼ in. (2.1 m) L × 11 ft 9 ½ in. (3.6 m) W, with Aluminum Bar Grating, Steel Hinged Grating in Center, Handrails, Adjustable Jack Legs, Removable Stairs, Safety Chain, Rear Hinge. It is Winch Cable Operated.
- Walkway Made of Aluminum Perforated Safety Grating, Folds Down on Both Sides of Deck.
- Two Jacklegs 4 in. (102 mm) × 36 in. (914 mm) on the Front; Two Jacklegs 4 in. (102 mm) × 24 in. (610 mm) on the Rear; Located at Deck Corners with Built-in Lock Valves
- Deck Skin is Reinforced Diamond Plate

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 22,000 lbf (97.9 kN)
- Down Force of 15,000 lbf (66.7 kN)
- Max Casing Length of 20 ft (6 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 (Integral with the Specified Crawler) is Diesel, Tier 4 Final
- Engine Power Approximately 225 hp (168 kW) @ 2,200 rpm
- Engine Monitor Mounted in Rig Control Panel is Used to Monitor Engine Parameters
- Fuel Capacity of 67 gal (254 L)
- Auxiliary Air Compressor of 13 CFM @ 100 psi (22.1 m³/hr @ 6.9 bar)

BREAKOUT WRENCH SPECIFICATIONS

- Wrench has Dual Clamping Cylinders on Both Top and Bottom Wrench
- Bottom Wrench Clamping Cylinders have Lock Valves Incorporated in Hydraulic Circuit
- 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

WATER SYSTEM

- Deck Mounted Triplex Pump—Standard for Water Soluble Fluids (40 gpm) (151.42 Lpm)
- On-Board Water Tank Capacity of 325 gal (1,230 L)

RIG OPTIONS

- SPT
- Safety Cage
- LED Work Lights
- FMC Bean Mud Pump (44 to 53 gpm) (166.56 to 200.63 Lpm)
- Progressive Cavity Grout Pump
- Webasto Fluids Heating System
- Casing Clamp
- Diamond Coring Option
- Skid Plates
- Diamond Coring Winch with 1,250 ft of 0.25 in. cable