TSI 150T

TERRA SONIC INTERNATIONAL

27825 State Route 7, Marietta, Ohio 45750 USA
Telephone: 740.374.6608
www.terrasonicinternational.com

TSI 150T

Truck-Mounted Sonic Drill Rig



FEATURES

- Deck-Mounted, 250 hp, Tier 4 Final, Engine Powers Drilling and Accessory Hydraulic Functions
- 32 ft (9.75 M) Long Mast Accommodates 20 in (6.1 M) Sections of Tooling
- Rod Stacking Capability in the Mast Ideal for Deep Sampling
- Angle Drills Between Vertical and 45°
- Rated Drilling Depth up to 1,000 ft (304.8 M) Depending on Lithology and Casing Design
- Elevated Work Platform and Enclosed Box Truck Maximize Safety

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SPECIFICATIONS

SONIC HEAD

- **SONIC Head Model:** TSi 150
- **Oscillator Frequency:** 0 to 150 Hz
- **Oscillator Force:** 50,000 lbf (222 kN)
- **Max Torque (high torque/low speed):** 4,677 ft-lb (6,341 Nm)
- **Rotation Speed (low speed/high torque):** 0 to 62 rpm

TRANSPORT

- **Width:** 8 ft 6 in (2.59 m)
- **Length:** 33 ft 10 in (10.3 m)
- **Height:** 12 ft 4 in (3.8 m)
- **Weight:** 42,000 lbs (19,051 kg)
- **Ground Clearance:** 10-1/2 in (356 mm)

MAST

- **Head Travel/Stroke:** 24 ft 5 in (7.5 m)
- **Head Travel Speed:** 0 to 155 ft/min (0 to 47.24 m/min)
- **Overall Height (ground to top of boom with tires on ground):** 32 ft (10 m)
- **Drilling Angle:** 90° to 45°
- **Upper Jib Boom and Hoist:** 2,000 lbs (907 kg) capacity, 150 ft/min (46 m/min) Bare Drum Speed with 250 ft of Ø 1/4 in Steel Cable
- **Wiggle:** 6 in (15.24 mm) Lateral Swing, 6 in (15.24 mm) Fore/Aft
- **Manual Mast:** Lock in Vertical Position, uses Manual Pin for Travel Mode
- **Rod Rack:** 800 ft (244 m) of Vertical Mast Rod Storage
- **Feed System:** Hydraulic Operated Utilizing Feed Frame and Leaf Chain Design and Rollers as Conventional Hydraulic Cylinder/Chain Method
- **Hose Carrier:** Mast Integrated Hose Management System with Accessible Bulkheads
- **Head Tilt:** 87° and Hinges Away from Driller to Enable Jib Over Hole

DECK

- **Driller Platform:** 7 ft 1/4 in (2 m) L × 12 ft (3.7 m) W with Aluminum Bar Grating, Steel Hinged Grating in Center, Handrails, Adjustable Jack Legs, Removable Stairs, Safety Chain, Rear Hinge; Winch Cable Operated.
- **Jack Legs:** Two 4 in (102 mm) × 36 in (914 mm) on Front; Two 4 in (102 mm) × 30 in (762 mm) on Rear; Located at Deck Corners with Built-in Lock Valves
- **Walkway:** Aluminum Perforated Safety Grating with Aluminum Handrail, Folds Down on Both Deck Sides
- **Deck Skin:** Reinforced Diamond Plate

RIG PERFORMANCE

- **Rated Drill Depth:** 1,000 ft (304.8 m) Depending on Lithology and Casing Design
- **Max Drilling Diameter:** 12 in (305 mm) Casing
- **Drill-Feed Rate:** 0 to 135 ft/min (0 to 41 m/min)
- **Pull-Back Force:** 22,000 lbf (97.9 kN)
- **Down Force:** 15,000 lbf (66.7 kN)
- **Max Tooling Length:** 20 ft (6 m)

HYDRAULIC SYSTEM

- **Hydraulic Oil Tank Capacity:** 90 gal (340.6 L)
- **Hydraulic Cooling System:** 240,000 Btu/hr @ 100 gpm (70.3 kW @ 379 L/min) and 50,000 Btu/hr @ 20 gpm (14.7 kW @ 76 L/min) for SONIC Head Lubrication
- **SONIC Head Lube Tank:** 20 gal (75.7 L)
- **Variable Displacement Pumps:** Load Sense Piston Pumps with Pilot Controlled Valves
- **Pilot Hydraulic Control Drilling Controls**
- **Hydraulic Setup Functions**

ENGINE

- **Engine:** John Deere Model 6068, Diesel, 6.8 L, Air to Air Intercooled, Turbocharged, Tier 4 Final
- **Engine Power:** 250 hp (186 kW) @ 2,400 rpm
- **Fuel Capacity for Drilling/Transport:** 100 gal/140 gal (379 L/530 L)
- **Auxiliary Air Compressor:** 34 CFM @ 120 psi (57.8 m3/hr @ 8.27 bar)
- **Engine Monitor:** Display to Track Engine and Transmission Parameters

BREAKOUT WRENCH

- **Top and Bottom Wrenches:** Dual Clamping Cylinders
- **Bottom Wrench Clamping Cylinders:** Lock Valves Incorporated in Hydraulic Circuit
- **Wrench Clamp Force:** Preset at 34,500 lbf (153.4 kN)
- **Breakout Torque:** 30,365 ft-lb (41,169 Nm) with Dual Cylinders
- **Wrench Size Range:** 3 in (76 mm) to 8 in (203 mm) Jaw; 9 in (228.6 mm) to 12 in (305 mm) Jaw
- **Wrench Travel:** 19° Swing
- **Hardened Teeth Inserts:** Replaceable

WATER/MUD SYSTEM

- **Pump Type:** Deck-Mounted FMC W1122 Triplex Bean Pump
- **Output Pressure:** Relief Valve Set at 500 psi (34.5 bar)
- **Max Flow Rate:** 53 gpm (200 L/min)
- **Water Tank Capacity:** 725 gal (2,744 L)

RIG OPTIONS

- Permanently Mounted SPT
- Safety Cage (limit switch and rotation button)
- Progressive Cavity Grout Pump (3LL6, 3LL8)
- Casing Clamp (3rd wrench)
- Diamond Coring Option (DCO) Coring Head with Frame
- Diamond Coring Winch with 1,250 ft (381 m) of 1/4 in (6.3 mm) Steel Cable

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