TERRA SONIC INTERNATIONAL

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

TSI 150C

Crawler-Mounted Sonic Drill Rig



FEATURES

- 260 hp PTO Cummins, Tier 4 Final Diesel Engine Powers Driving, Drilling, and Accessory Hydraulic Functions
- 32 ft (9.75 M) Long Mast Accommodates 20 ft (6 m) Sections of Tooling
- Provides 24 ft 5 in (7.5 m) of stroke
- Angle Drills Between Vertical and 50°
- Rated Drilling Depth up to 1,000 ft (304.8 m) Depending on Lithology and Casing Design
- Elevated Work Platform and Support Crawler 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 11 in (10.3 m)
- **Height:** 11 ft 5 in (3.5 m)
- **Weight:** 45,440 lbs (20,611 kg)
- **Ground Clearance:** 21 in (53.3 mm)

MAST

- **Head Travel/Stroke:** 24 ft 5 in (7.5 m)
- **Head Travel Speed:** 0 to 155 ft/min (0 to 47.3 m/min)
- **Overall Length:** 32 ft (9.75 m)
- **Drilling Angle:** 90° to 50°
- **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
- **Manual Mast:** Lock in Vertical Position
- **Feed System:** Hydraulic Operated Utilizes Feed Frame and Leaf Chain Design and Rollers as Conventional Hydraulic Cylinder/Chain Method
- **Work Lights:** LED on Control Panel
- **Hose Carrier:** Mast Integrated Hose Management System with Accessible Bulkheads
- **Rod Rack:** 800 ft (244 m) of Vertical Mast Rod Storage
- **Head Tilt:** 87° and Hinges Away from Driller to Enable Jib Over Hole

DECK

- **Driller Platform:** 7 ft 1-1/4 in (2.2 m) L × 11 ft 9-5/8 in (3.6 m) W, with Aluminum Bar Grating, Steel Hinged Grating in Center, Handrails, Adjustable Jack Legs, Removable Stairs, Safety Chain, Rear Hinge; Winch Cable Operated.
- **Walkway:** Aluminum Perforated Safety Grating, Folds Down on Both Sides of Deck
- **Jack Legs:** 4 in (122 CM) × 24 in (732 mm) Located at Rear Deck Corners with Built-in Lock Valves; 4 in (122 CM) × 36 in (914 mm) Located on Front Bumper with Built-in Lock Valves
- **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 (68 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 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:** Hydraulic over Hydraulic for All Functions

ENGINE

- **Engine:** PTO Cummins, Diesel, Tier 4 Final
- **Engine Power:** 260 hp (194 kW) @ 2,200 rpm
- **Engine Monitor:** Mounted in Rig Control Panel used to Monitor Engine Parameters
- **Fuel Capacity:** 64 gal (242.2 L)
- **Auxiliary Air Compressor:** 18.7 CFM @ 100 psi (22.1 m3/hr @ 6.9 bar)

BREAKOUT WRENCH

- **Top and Bottom Wrenches:** Dual Clamping Cylinders with 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 (203.2 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 Bean Pump
- **On-Board Water Tank Capacity:** 325 gal (1,230 L)
- **Output Pressure:** Relief Value Set at 500 psi (34.5 bar)
- **Max Flow Rate:** 53 gpm (200 L/Min)

RIG OPTIONS

- Permanently Mounted SPT
- Under Head Jib Boom (Swing-In) with Wireline or Standard Winch
- Safety Cage (Limit Switch and Rotation Button)
- Progressive Cavity Grout Pump (3LL6, 3LL8)
- Casing Clamp Wrench (3rd Jaw)
- Diamond Coring Option (DCO) Coring Head with Frame
- Diamond Coring Winch with 1,250 ft (381 m) of 1/4 in (6.3 mm)

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