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

TSI 150CT

Compact Truck-Mounted Sonic Drill Rig



FEATURES

- Exclusive TSi 150 Series Sonic Oscillator Uses 150 hp to generate resonant sonic energy
- Truck-mounted design provides ease of movement of the rig to and from the drill site
- PTO-Driven Power System
- Mast accommodates 10 ft (3 m) sections of tooling
- Vertical to 45° off vertical
- Drills up to 800 ft (244 m), lithology-dependent
- Electric over hydraulic design with remote control operation
- The 150CT control panel can be mounted on the rig or used remotely with the included padded shoulder sling
- Slide base, wiggle tail and dump mast

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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 3 in (2.5 m)
- **Length:** 23 ft (7 m)
- **Height:** 13 ft (4 m)
- **Standard Weight:** 33,000 (14,969 kg)
- **Ground Clearance:** 9.5 in (241 mm)

MAST

- **Head Travel/Stroke:** 14 ft 1 in (4.3 m)
- **Head Travel Speed:** 0 to 155 ft/min (0 to 47.3 m/min)
- **Overall Length:** 19 ft 1 in (6.1 m)
- **Drilling Angle:** Vertical to 45° off Vertical
- **Articulating Jib Boom and Hoist:** 2,000 lb (907 kg) Capacity, 150 ft/min (46 m/min) Bare Drum Speed with 250 ft of Ø 1/4 in Steel Cable
- **Mast Dump:** 55 in (1.5 m)
- **Mast Lock:** Manual Mast Lock in Vertical Position
- **Feed System:** Hydraulic Operated Feed Frame Using Half the Leaf Chain Length and Rollers as Conventional Hydraulic Cylinder/ Chain Method
- **Work Lights:** LED Work Lights
- **Hose Carrier:** Mast Integrated Hose Management System with Accessible Bulkheads
- **Head Tilt:** 87° and Hinges Away from Driller to Enable Jib Over the Hole

DECK

- **Ground Operation using Remote Control**
- **Articulating Arm for Mounting Remote**
- **12 in Color Screen to Monitor Drilling Parameters**
- **Slide Base and Wiggle Tale:** 4” side-to-side and 6” front-to-back movement
- **Jacklegs:** 3-1/2 in (89 mm) × 24 in (610 mm); Built-in Lock Valves

RIG PERFORMANCE

- **Rated Drill Depth:** Up to 800 ft (244 m)
- **Max Drilling Diameter:** 12 in (305 mm) Casing
- **Drill Feed Rate:** 0 to 135 ft/min (0 to 41 m/min)
- **Pull Back Force:** 16,800 lbf (74.7 kN)
- **Down Force:** 11,300 lbf (50.3 kN)
- **Max Tooling Length:** 10 ft (3.1 m)

HYDRAULIC SYSTEM

- **Hydraulic Oil Tank Capacity:** 100 gal (379 L)
- **Hydraulic Cooling System:** 230,000 Btu/hr @ 100 gpm (67 kW @ 379 Lpm) and 100,000 Btu/hr @ 20 gpm (29 kW @ 76 Lpm) for SONIC Head Lubrication
- **Variable Displacement Pumps:** Load Sense Piston Pumps with Electric Controlled Valves
- **Hydraulic Control:** Electric Over Hydraulic for All Functions
- **Manual Override Capable**

ENGINE

- **Engine:** Cummins L9, Diesel Tier 4 Emission Certification Standards
- **Engine Power:** 370 hp (272.1 kW) @ 3,100 rpm
- **Fuel Capacity for Drilling/Transport:** Dual 50 gal (189 L) Tanks
- **Engine Mounted Air Compressor:** 18.7 CFM @ 120 psi (31.7 m3/hr @ 8.3 bar)
- **Power Take-Off**
- **Design:** Selected Truck Base Model International HV

BREAKOUT WRENCH

- **Top and Bottom Wrenches:** Dual Clamping Cylinders with Lock Valves Incorporated in Hydraulic Circuit
- **Wrench Clamp Force:** Adjustable Pressure Control Preset at 34,500 lbf (153.4 kN)
- **Breakout Torque:** 30,365 ft-lb (41,157 Nm) with Dual Cylinders
- **Wrench Size Range:** 3 in (76 mm) to 12 in (305 mm)
- **Wrench Travel:** 19° Swing
- **Hardened Teeth Inserts are Standard**

WATER/MUD SYSTEM

- **Pump Type:** FMC Bean Mud Pump
- **Output Pressure:** 1,000 psi (69 bar) with relief valve set at 500 psi (34.5 bar)
- **Max Flow Rate:** 53 gpm (200 L/min)

RIG OPTIONS

- **Options may need to be removed for transport**
- Diamond Coring Option (DCO)
- TUG Tooling Handling System
- Air/Water Swivels (Rotary Drill Method)
- Three Auxiliary Hydraulic Controls
- Liberty 3LL6 or 3LL8 Progressive Cavity Pump
- Casing Clamp
- Coring Wrench

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