

TSI 150T



TRUCK-MOUNTED SONIC DRILL RIG

Terra Sonic combines the industry-leading innovation of their exclusive Sonic Head Oscillator with a full-size truck. This rig is perfect for projects requiring long-distance mobilization, frequent travel between jobsites and drilling in densely populated urban areas. And its design allows for stacking rods in the mast, making it ideally suited for deep sampling.



FEATURES

- Deck mounted, 250 hp, Tier 4, engine powers all drilling and accessory hydraulic functions
- Angle drills between vertical and 45°
- Mast accommodates 20 in (6.1 m) sections of tooling
- Rod stacking capability in the mast ideal for deep sampling
- Rated drilling depth up to 1,000 in (304.8 m) depending on lithology and casing design
- Elevated work platform and enclosed box truck maximize safety





SONIC HEAD SPECIFICATIONS

Sonic Head Model	TSi 150
Oscillator Frequency	0-150 Hz
Oscillator Output 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 DIMENSIONS AND WEIGHT

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 lb (19,051 kg)

MAST SPECIFICATIONS

Head Travel/Stroke	24 ft 5 in (7.5 m)
Head Travel Speed	0 to 180 fpm (0 to 55 m/min)
Overall Height (ground to top of boom with tires on ground)	36 ft 10 in (11.2 m)
Drilling Angle	90° to 45°
Upper Jib Boom and Hoist	2,000 lb (907 kg) Capacity, 150 ft/min (46 m/min) Bare Drum Speed
Mast Lock	Mast Locks in Vertical Position, Uses Manual Pin for Travel Mode
Rod Rack	800 ft (244 m) of Vertical Mast Rod Storage
Feed System	Hydraulic Operated Feed Frame Using Half Leaf Chain Length and Rollers as Conventional Hydraulic Cylinder/Chain Method



MAST SPECIFICATIONS

Hose Carrier	Mast Integrated Hose Management System with Accessible Bulkheads
Head Tilt	87° and Hinges Away from Driller to Enable Jib Over Hole

DECK SPECIFICATIONS

Driller Platform	7 ft 1/4 in (2 m) L × 11 ft 6 in (3.5 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 Sides of Deck
Tow Hooks	Located on Front and Rear of Chassis
Deck Skin	Reinforced Diamond Plate

RIG PERFORMANCE SPECIFICATIONS

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 SPECIFICATIONS

Hydraulic Oil Tank Capacity	120 gal (454 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	40 gal (151.4 L)
Variable Displacement Pump	Load Sense Piston Pumps with Pilot Controlled Valves
Pilot Hydraulic Drilling Controls	
Hydraulic Setup Functions	

ENGINE SPECIFICATIONS

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 m ³ /hr @ 8.27 bar)
Engine Monitor	Murphy PowerView® Display to Track Engine and Transmission Parameters



BREAKOUT WRENCH SPECIFICATIONS

Top and Bottom Wrenches	Dual Clamping Cylinders
Bottom Wrench Clamping Cylinders	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 (41,169 N-m) 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/Swing	19°
Hardened Teeth Inserts	Replaceable

WATER/MUD PUMP SYSTEM

Pump Type	Deck-Mounted FMC W1122 Triplex Bean 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)
Water Tank Capacity	725 gal (2,744 L)

RIG OPTIONS

Permanently Mounted SPT
Safety Cage (limit switch and rotation button)
Lower Jib Boom with Standard Winch
LED Work Lights
Progressive Cavity Grout Pump (3LL6, 3LL8)
Casing Clamp (3rd wrench)
Diamond Coring Option (DCO) Coring Head with Frame



