



**TSi 150CC**  
**Compact Crawler**  
**SONIC DRILL RIG**  
**TECHNICAL INFORMATION**

# TSi 150CC Compact Crawler SONIC DRILL RIG

## TECHNICAL INFORMATION

### MODEL DESCRIPTION

The TSi 150CC Compact Crawler Sonic Drill Rig is a crawler mounted unit with a 225 HP (168 kW) diesel engine that powers all driving, drilling and accessory hydraulic functions.

The TSi 150CC Compact Crawler features our exclusive TSi 150 Sonic oscillator that efficiently utilizes up to 150 HP (111.85 kW) to generate powerful resonant sonic energy in the drill string to a rated drilling depth of 800 feet (243.9 m) with 6 inch (152.4 mm) casing. In addition, the unit has full rotational drilling capability.

The TSi 150CC Compact Crawler mast enables drilling angles anywhere between vertical and 45°, incorporates an integrated hose management system within its tubular frame, and utilizes a drive system that operates the feed frame with half the chain length and rollers of conventional drive methods. The standard mast handles 10' drill steel, and an optional Low Clearance mast that handles 5' drill steel is also available.

The TSi 150CC Compact Crawler has a fold-down driller work platform to enhance driller operating efficiency and safety.

The following specifications provide a closer look at the TSi 150CC Compact Crawler.

Deck Specifications	
	US STANDARD (METRIC)
Working Platform	3 ft. (914.4 mm) Long X 2 ft. – 6 in. (762 mm) Wide Driller Platform, Hinged
Jacklegs	Four 3.5" X 24.31" (88.9 mm X 617.5 mm), at Deck Corners with Built-In Lock Valves

Engine Specifications	
	US STANDARD (METRIC)
Engine Type (Integral with Crawler)	John Deere, Model 6068, Diesel, Tier 3 / Stage IIIA Emission Certification Standards
Engine Power	225 HP (168 kW) @ 2000 RPM
Fuel Capacity	42 gal (159.3 L)
Auxiliary Air Compressor	13.2 CFM @ 120 psi (22.43 m³/hr @ 8.27 bar)

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Rig Performance Specifications		Hydraulic System Specifications	
	US STANDARD (METRIC)		US STANDARD (METRIC)
Rated Drilling Depth	800 ft. (243.9 m) with 6 in. (152.4 mm) Casing	Hydraulic Oil Capacity	120 gal (454.3 L)
Max Drilling Diameter	12" (304.8 mm) Casing	Hydraulic Cooling System	240,000 Btu/hr @ 100 gpm (70,337 w @ 378.5 Lpm), and 50,000 Btu/hr @ 20 gpm (14,654 w @ 75.7 Lpm) for Sonic Head
Drill Feed Rate	0 to 135 fpm (0 to 41.15 m/min)	Variable Displacement Pumps	Load Sense Piston Pumps with Pilot Controlled Valves
Pull Back Force	16,800 lbs. (7620kg)	Hydraulic Control	Hydraulic over Hydraulic for All Functions; Manual Setup Functions
Down Force	11,300 lbs. (5126kg)		
Max Casing Length	10 ft. (3 m)		

Mast Specifications	
	US STANDARD (METRIC)
Head Tilt and Hinge	87° Tilt and Hinge away from Driller to enable Jib over the hole
Head Travel	Standard Mast: 14 ft. – 1 in. (4.29 m) Low Clearance Mast: 8 ft. – 5 in. (2.57 m)
Head Travel Speed	0 to 155 fpm (0 to 47.26 m/min)
Overall Height from Ground	Standard Mast: 20 ft. – 2.5 in. (6.16 m) with Jib Stored and Mast Fully Raised, 19 ft. – 1 in. (5.82 m) with Jib Stored and Mast Fully Lowered, Jib in Working Position Adds 1 ft.- 3 in. (0.38 m) to Overall Height Low Clearance Mast: 14 ft. – 6.5 in. (4.43 m) with Mast Fully Raised, 13 ft. – 5 in. (4.09 m) with Mast Fully Lowered (Jib does not raise above mast)
Dump Mast	Standard Mast: 2 ft. – 6 in. (0.76 m), Low Clearance Mast: 1 ft. – 8 in. (0.51 m), Bottom of both Masts are 13.5 in. (0.34 m) above Ground Fully Raised in the Vertical Position
Upper Jib Hoist	2000 lbs. (907.18 kg) Capacity, 150 fpm (45.72 m/min) Bare Drum Speed
Feed System	Hydraulic Cylinder Operated Feed Frame Using Half the Leaf Chain Length and Rollers as Conventional Hydraulic Cylinder/ Chain Method
Mast Lock	Manual Tower Locks in Vertical Position
Drilling Angle	Vertical to Nearly Horizontal with Adjustable Tower Prop at Base of Mast
Hose Carrier	Mast Integrated Hose Management System with Accessible Bulkheads


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Breakout Specifications	
	US STANDARD (METRIC)
Wrench	Dual Cylinders on both Top and Bottom Wrench
Wrench Clamp Force	Adjustable Pressure Control Preset at 34,500 lbs. (15,649 kg)
Breakout Torque	30,365 ft-lbs (41,169 N-m) with Dual Cylinders
Wrench Size Range	3 in. (76.2 mm) to 12 in. (304.8 mm)
Wrench Travel	19° Swing
Hardened Inserts	Standard

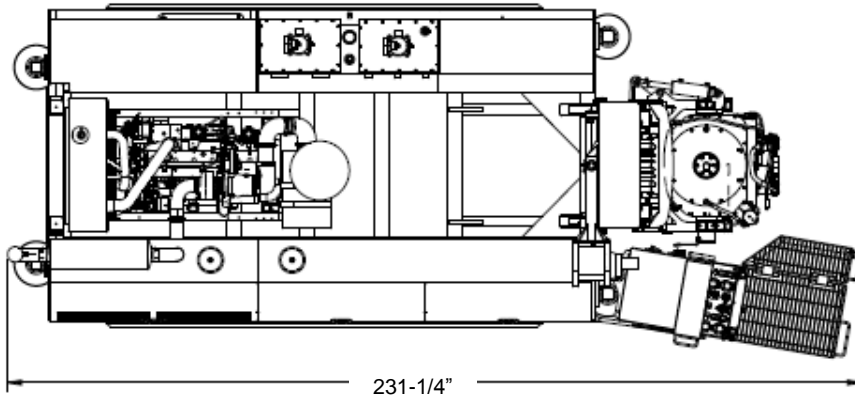
Sonic Head Specifications	
	US STANDARD (METRIC)
Sonic Head Model	TSi 150
Oscillator Frequency	0 - 150 Hz
Oscillator Force	50,000 lbs. (22,680 kg)
Max Torque (high torque/low speed)	4677 ft-lbs (6341 N-m)
Rotation Speed (low speed/high torque)	0 to 80 rpm

Options				
Automatic Pipe Handling System			Low Clearance Mast	
Steel Tracks	Casing Clamp	Water Tank – 300 Gal (984 L) Detachable	Recommended Spare Parts	
Diamond Coring Option with Dual Speed of 0 - 600 rpm with 1623 ft-lbs (2200 N-m) Continuous Torque, and 0 - 1000 rpm with 811 ft-lbs (1100 N-m) Continuous Torque				
Grout Mixer / Pump	SPT Hydraulic Hammer	FMC Bean Mud Pump	LED Work Lights	Drill Training Program
Custom Paint and Customer Logo		Larger Air Compressor Capacity of 34 CFM @ 120 psi (57.77 m <sup>3</sup> /hr @ 8.27 bar)		

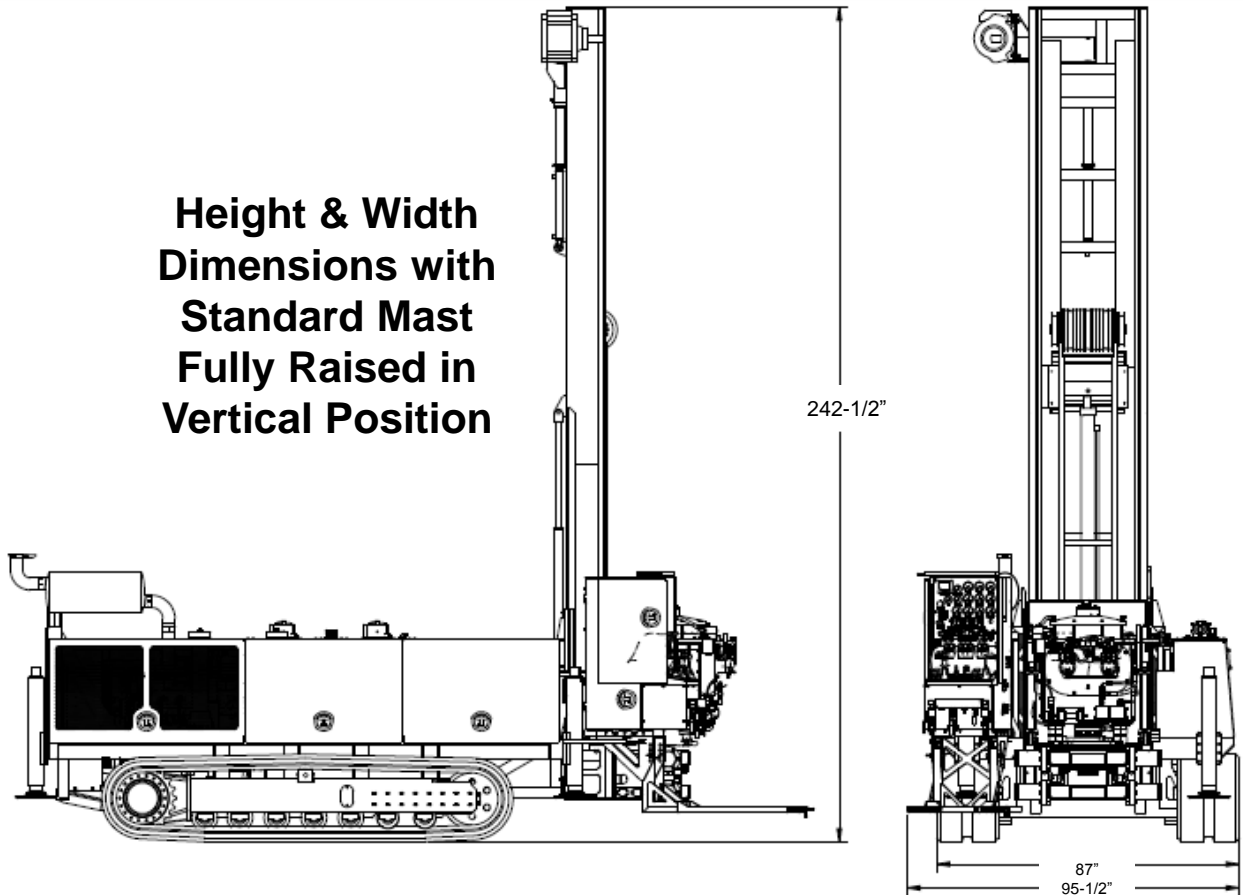

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**Height & Width  
Dimensions with  
Standard Mast  
Fully Raised in  
Vertical Position**

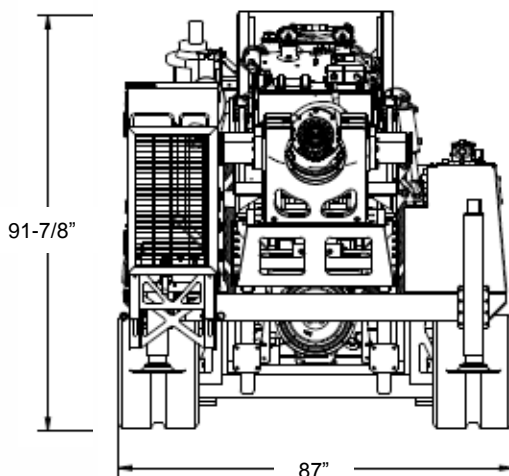
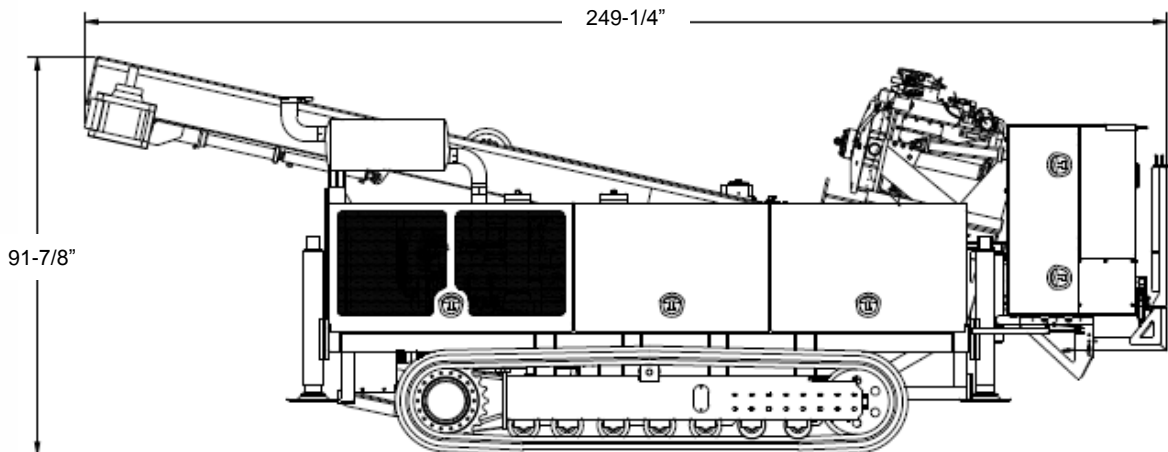
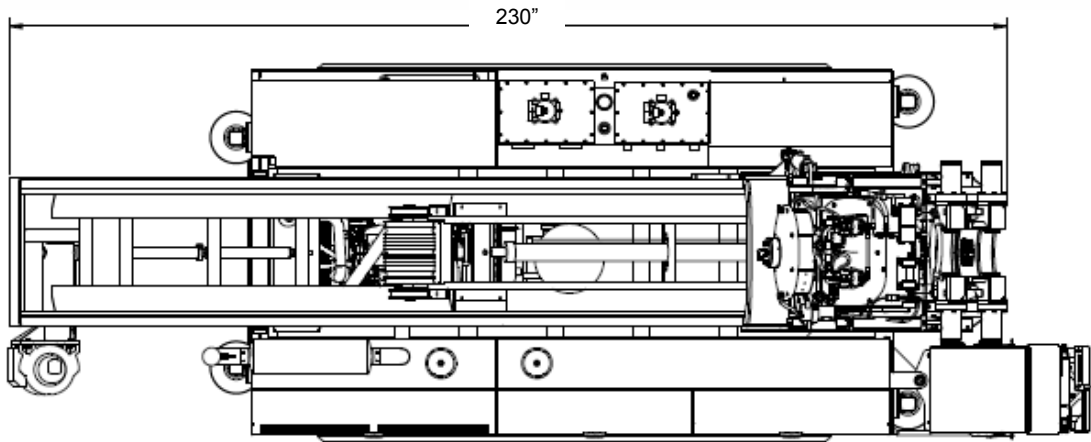


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**Height & Width  
Dimensions with Mast in  
Lowered Position for  
Transport  
Total Rig Weight =  
22,400 lbs. (10,160.5 kg)**

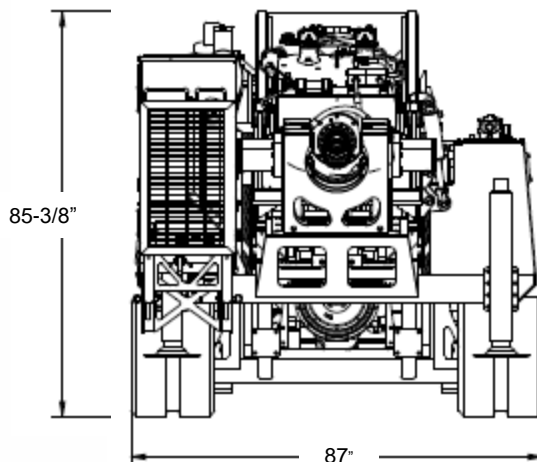
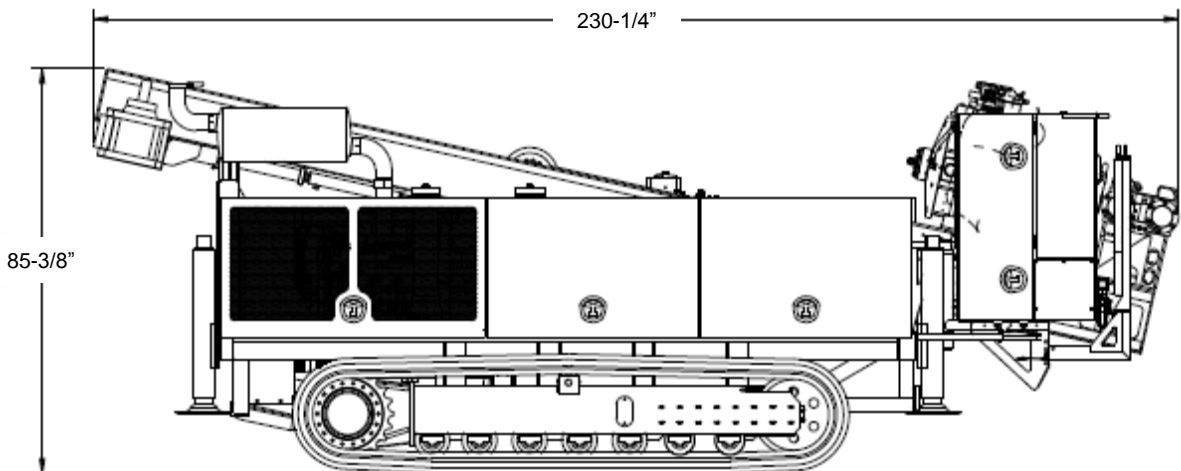
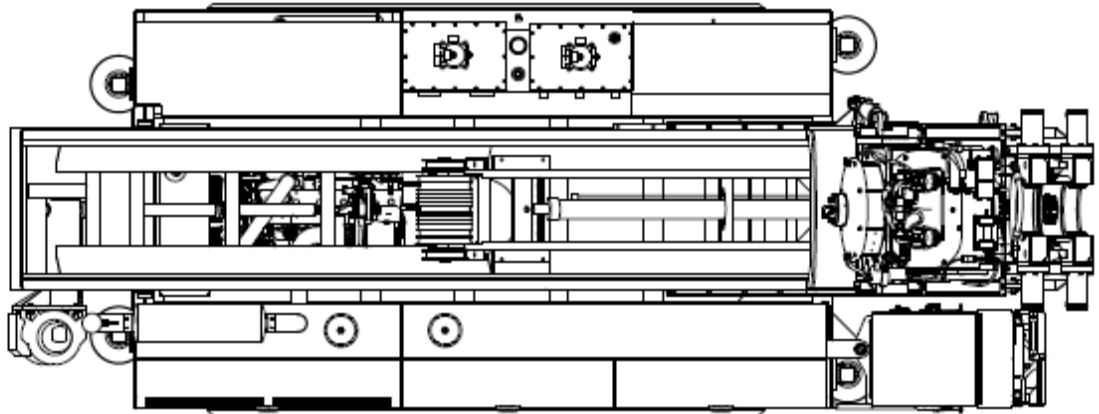
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# TSi 150CC Compact Crawler SONIC DRILL RIG

## TECHNICAL INFORMATION



**Height & Width  
Dimensions with Mast  
Lowered and Shifted  
For Container  
Shipping**

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Distributor Information

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