TSI 150CC-E

TERRA SONIC INTERNATIONAL

Terra Sonic International - Italian Branch
Via Fornace n. 133/2, Località Stazione
29010 Alseno (PC), Italy
Telephone: +39 0523 798358
www.terrasonicinternational.com/europe

TSI 150CC-E

Compact Crawler-Mounted Sonic Drill Rig



FEATURES

- Exclusive Sonic Oscillator uses 150 Hz to generate resonant sonic energy with 222 kN (50,000 lbf) of force
- Rated drilling depth of 300 m (1,000 ft) with 6" tooling, depending on lithology
- Accommodates 3 m (10 ft) sections of tooling
- Capable of drilling with up to 12" (305 mm) casing
- Angle drilling from 0° (Vertical) to 45°
- Hydraulic drilling controls or radio remote drilling option
- Diamond Coring Head Option (double head option)

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SPECIFICATIONS

RIG PERFORMANCE

- **Rated Drill Depth:** Up to 300 m (1,000 ft) in 6" Depending on Lithology
- **Max Drilling Diameter:** 305 mm (12 in) Casing
- **Pull Back Force:** 80 kN (17,985 lbf) Net with Sonic
- **Down Force:** 58 kN (13,038 lbf) Net with Sonic
- **Max Tooling Length:** 3 m (10 ft)

SONIC HEAD

- **SONIC Head Model:** TSi 150
- **Oscillator Frequency:** 0-150 Hz
- **Oscillator Output Force:** 222 kN (50,000 lbf)
- **Oscillator Dampening System:** Active Air Spring
- **Max Torque:** 6,341 Nm (4,677 ft-lb) in both directions
- **Rotation Speed:** 0 to 62 rpm
- **Head Tilt:** 80° Forward
- **Head Safety Monitoring System:** Oil, Air & Bearing Pressure, Oil Level & Oil Temperature, Filter Clogging

TRANSPORT DIMENSIONS

- **Width:** 2.00 m (6 ft 7 in)
- **Length:** 8.73 m (28 ft 8 in)
- **Height:** 3.30 m (10 ft 10 in)
- **Weight:** From 16,000 kg (35,273 lb)
- **Ground Clearance:** 550 mm (21-2/3 in) (lowest point)

ENGINE

- **Engine:** Deutz, Model TCD 6.1 L6, 6 Cylinder Diesel, Stage V (Tier 4 Final)
- **Engine Power:** 180 kW (245 HP)
- **Fuel Capacity for Drilling/Transport:** 150 L (40 gal)
- **Air Compressor:** 450 l/min (15.9 CFM) and 12 Bar (174 PSI)
- **Air Tank:** 24 Liters (6.3 US Gal)
- **Engine Sound Proofing Enclosure:** Noise emission levels as per Directive 2000/14/EC
- **Engine Monitor Mounted in Rig Control Panel**

HYDRAULIC SYSTEM

- **Hydraulic Oil Tank Capacity:** 415 L (110 gal)
- **Oil Cooling System:** Double Air-Oil Heat Exchangers with Thermostat Control for Hydraulic Oil and Sonic Head Lubrication Oil
- **Hydraulic Pumps:** Variable Displacement Load Sensing Axial Piston Pumps and Fixed Displacement Gear Pumps
- **Filter System:** 6 Micron on Pressure and Return
- **Pilot Hydraulic Controls & Manual Setup Functions**

MAST

- **Head Travel/Stroke:** 4.40 m (14 ft 5 in)
- **Up Head Travel Speed:** 0 to 48 m/min (0 to 158 ft/min)
- **Down Head Travel Speed:** 0 to 28 m/min (0 to 89 ft/min)
- **Drilling Angle:** 0° (Vertical) to 45°
- **Mast Dump:** 1,300 mm (51 in)
- **Mast Lock:** Manual Mast Lock in Vertical Position, Manual Adjustable Tie Rod in Angle Position
- **Feed System:** Hydraulic cylinder and heavy-duty high resistance chain. Adjustable pull-down and hold back pressure on drill string.
- **Hose Carrier:** Hose Support Chain on Side of Mast
- **Safety Cage:** Rotation Guard with Interlocking System and Restricted Operating Mode (ROM)

DECK

- **Jack Legs:** Four Hydraulic Stabilizers, Complete with Check Valve and Support Plates (Pads)
- **Jack Legs Travel/Lift:** 500 mm (19-5/8 in), Lifting Force 18,500 kg (40,785 lb) Each
- **Slide Base:** Front/Back Translation 150 mm (5-7/8 in); Left/Right Translation 150 mm (5-7/8 in)
- **Heavy Duty Tow Bar**

JIB & SERVICE WINCH

- **Rotation Angle:** 90° Left or Right (180° Total), Hydraulically Controlled
- **Telescopic Stroke:** 500 mm (19-5/8 in)
- **Hoist Capacity:** 13 kN (2,921 lbf)
- **Cable:** 15 m (50 ft in) of Ø 10 mm (3/8 in) Steel Cable
- **Safety System:** Anti Collision Proximity Sensor

CRAWLER

- **Track Width:** 400 mm (15-3/4") - Optional 600 mm (23-1/2")
- **Crawler Type:** Steel with Rubber Pads
- **Speed:** Dual Speed 2.2 or 4.0 km/h (1.25 or 2.5 mph)
- **Ground Pressure:** 70 kPa (10.2 PSI)
- **Control:** Radio Remote with On-board Charger

BREAKOUT WRENCH

- **Top and Bottom Wrenches:** Dual Clamping Cylinders
- **Bottom Wrench Clamping Cylinders:** Lock Valves
- **Wrench Clamp Force:** Adjustable, set at 153 kN (34,500 lbf)
- **Breakout Torque:** 41,157 N-m (30,365 ft-lb)
- **Wrench Size Range:** 76 mm (3 in) to 305 mm (12 in)
- **Wrench Travel/Swing:** 19°
- **Standard Hardened Teeth Inserts**

WATER/MUD SYSTEM

- **Pump Type:** External Mounted FMC W1122 Triplex Pump
- **Output Pressure:** 69 bar (1,000 psi) with Safety Relief Valve
- **Pressure Washer:** Lance with 15m hose powered from W1122
- **Max Flow Rate:** 200 L/min (53 gpm)

OTHER ITEMS

- **Full Toolbox:** For drill rig maintenance
- **Work Lights:** LED Lights on Mast, Control Panel, Safety Cage and Inside Engine Sound Proof Enclosure
- **Emergency Stops:** On all Sides of the Rig, Control Panel and Radio Remote
- **Technical Information:** Rig supplied with operation and maintenance manual, spare parts catalogue and CE declaration.

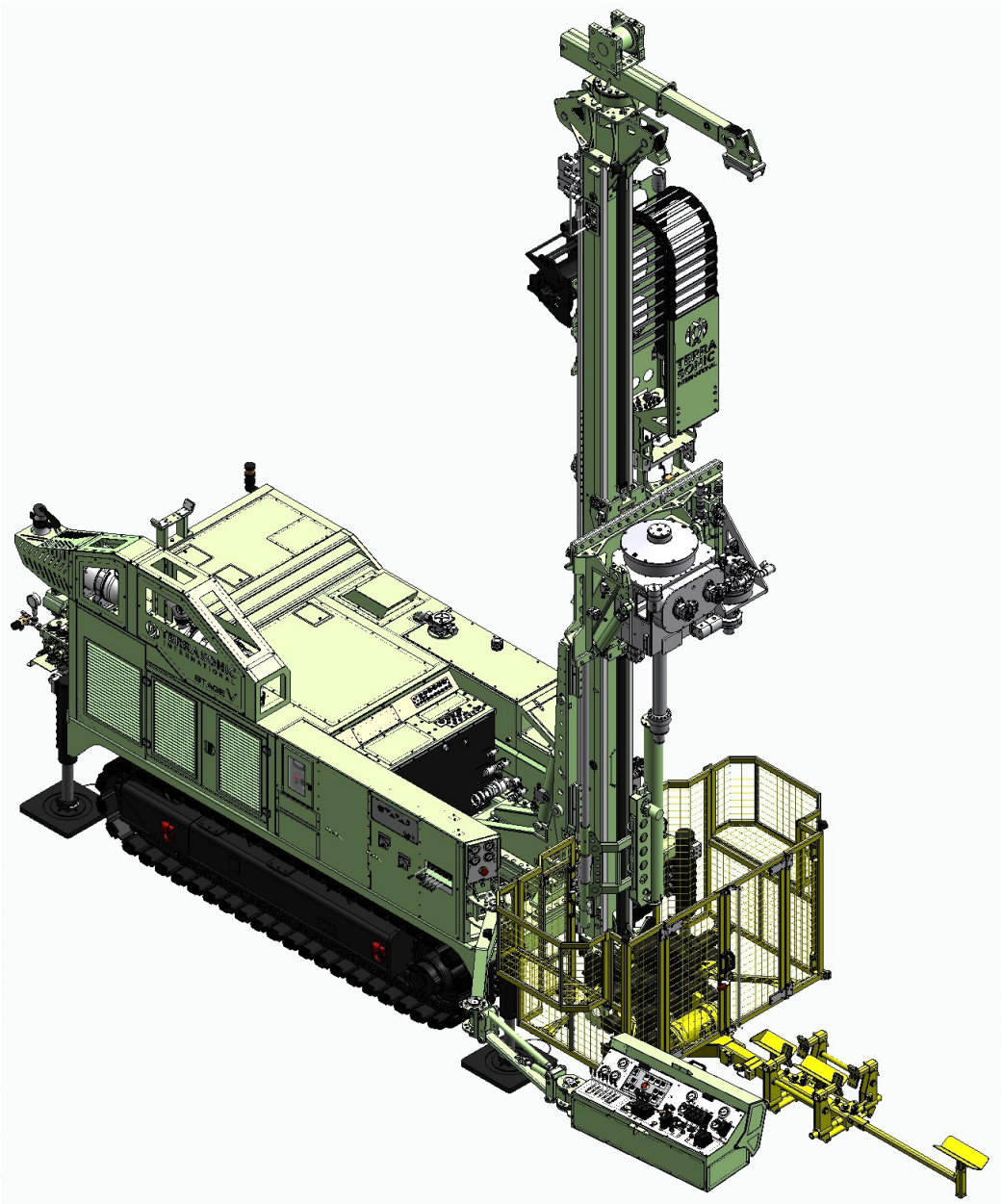
RIG OPTIONS

- Radio Remote Drilling Control with Tripod Replaces Hydraulic Control Panel on Swiveling Arm
- Automatic SPT with Digital Counter 63.5 kg Weight, 75 cm Fall Height, 30 BPM
- Diamond Coring Head: 2-speed 0-600 @ 2,200 Nm (1,623 lbf) / 0-1,000 RPM @ 1,100 Nm (811 lbf), Capacity 150 m (500 ft) S-size / 250 m (800 ft) P-size / 325 m (1,066 ft) H-size
- Wire Line Winch with Spooling Device: 325 m (1,066 ft) of 6 mm (0.24 in) 0 Cable, Max. 6 kN pull, Max Speed 100 m/min
- Generator/Welder 3 KVA 220V / 6.5 KVA 380V / Welder Power 220 A
- Progressive Cavity Grout Pump Max. 15.5 bar (225 PSI) / Max. 394 lpm (104 gpm)
- Casing Clamp (3rd Clamp)
- Rod Positioner "Scorpion" for 3.5" to 7" tooling
- Safety Cage with Anti-Intrusion Infrared Barrier
- Other Options Available on Request

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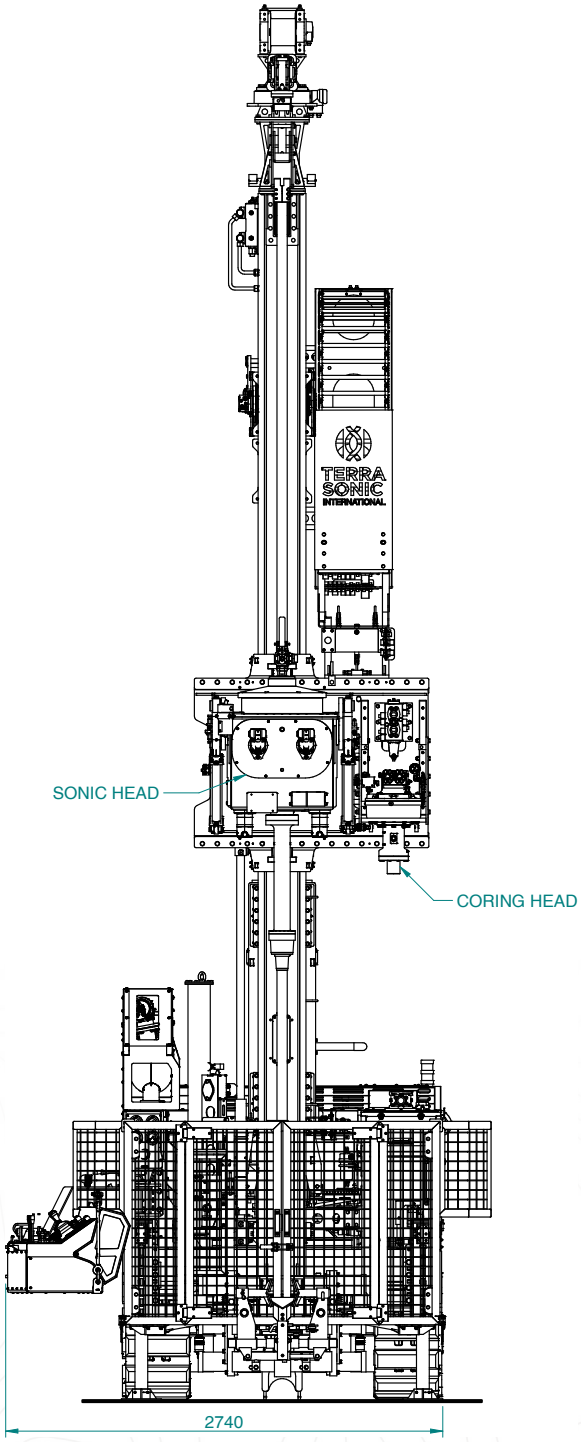
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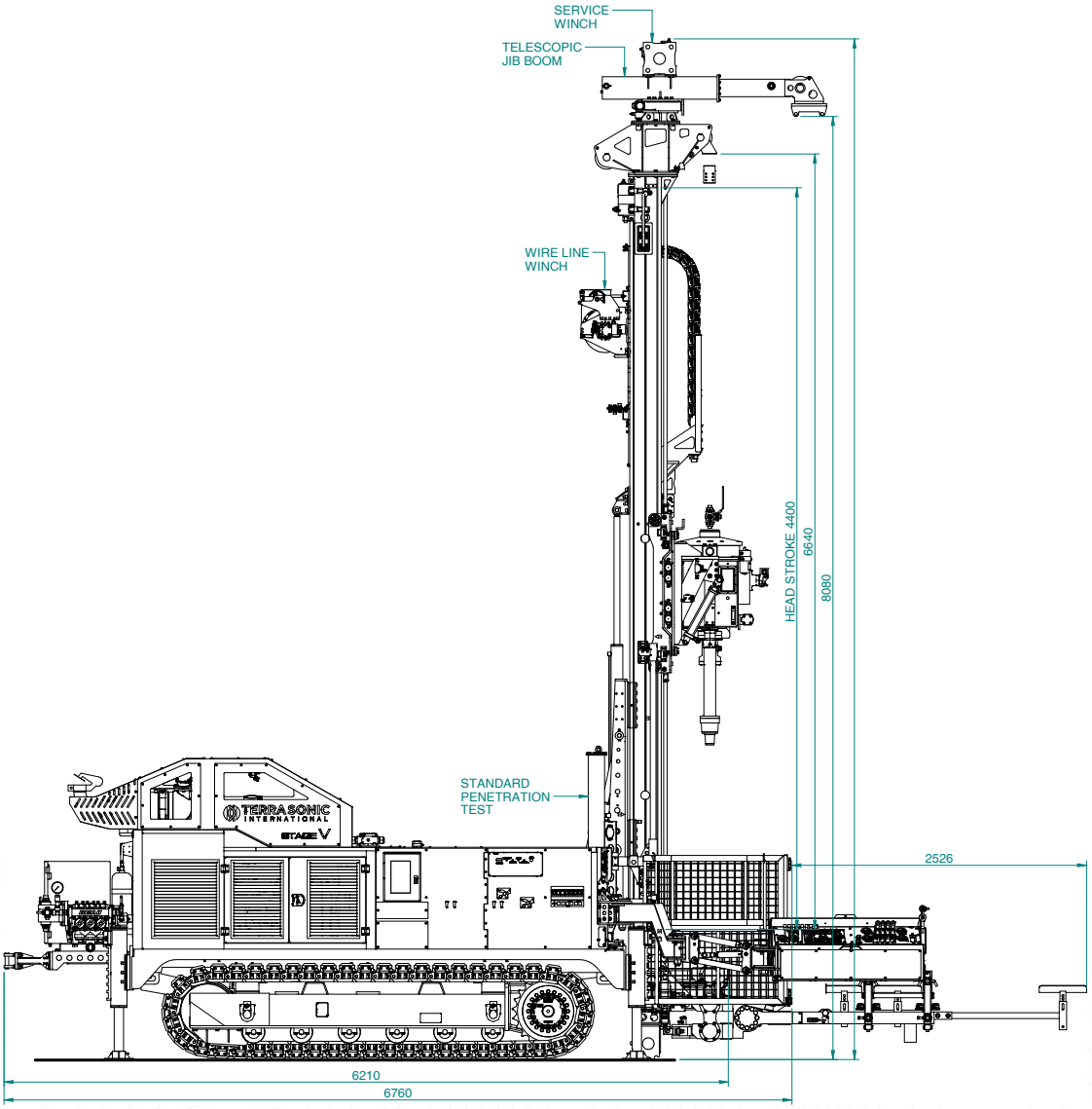


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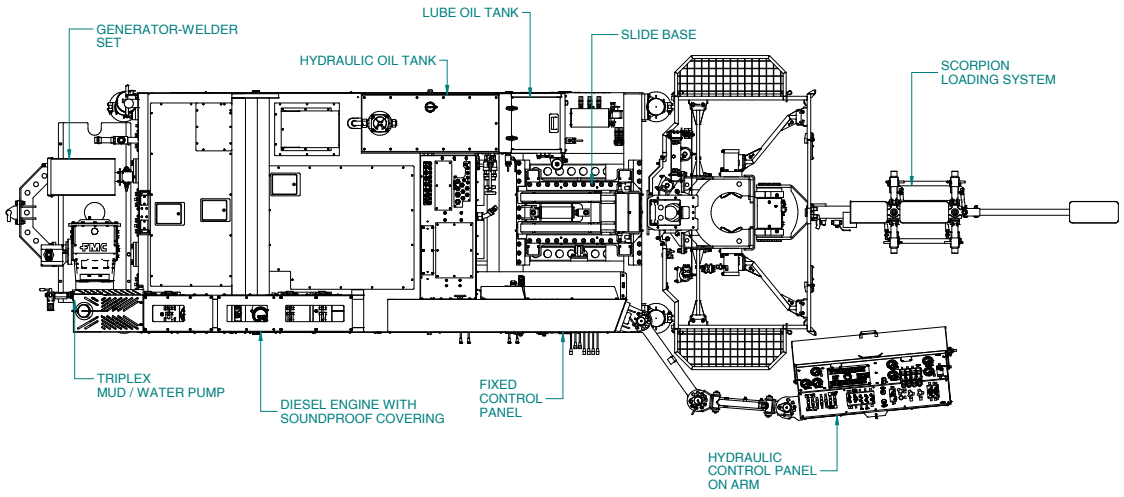
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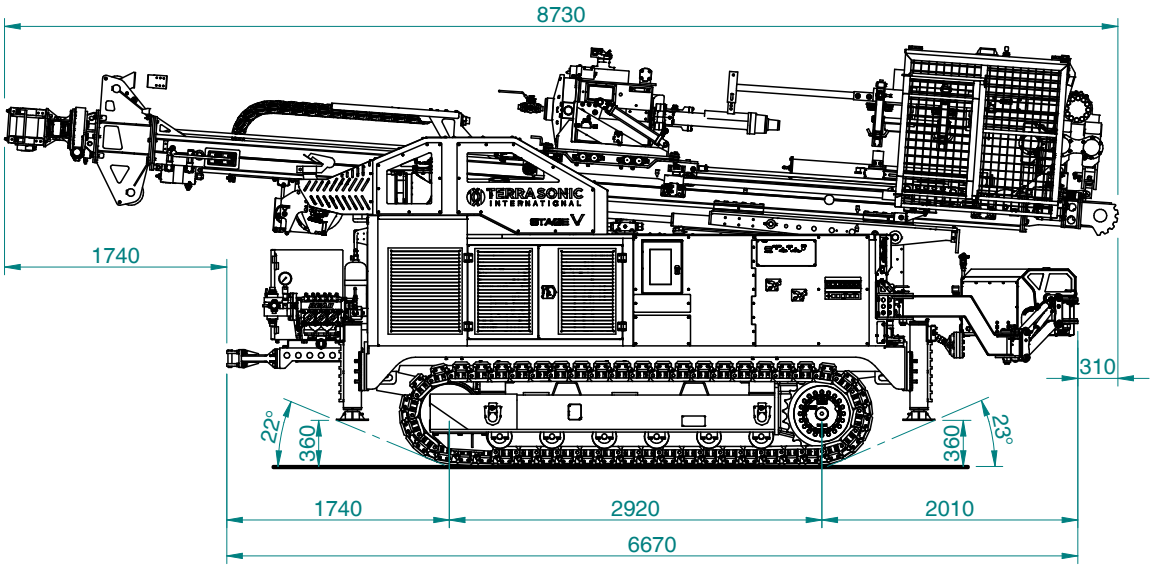


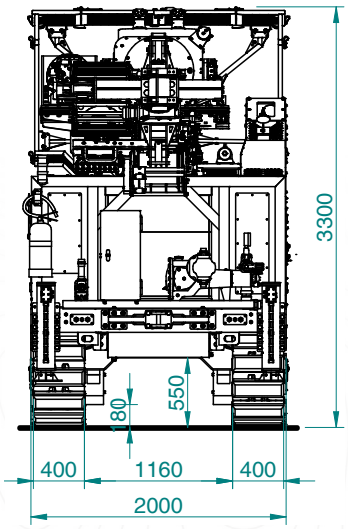
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