

LS250 ROTA-SONIC DRILL RIG



TECHNICAL DATA SHEET

GENERAL DESCRIPTION

- The GeoSonic LS250 is a compact, lightweight drill rig especially designed for sonic drilling through unconsolidated material
- The GeoSonic LS250 is optimised to extract more competent pristine core samples in sand, clay or gravel than is usually possible with traditional coring tool techniques
- The main power source is an liquid-cooled diesel engine, which drives the hydraulic circuit; the hydraulics power all operating functions

MAIN FEATURES

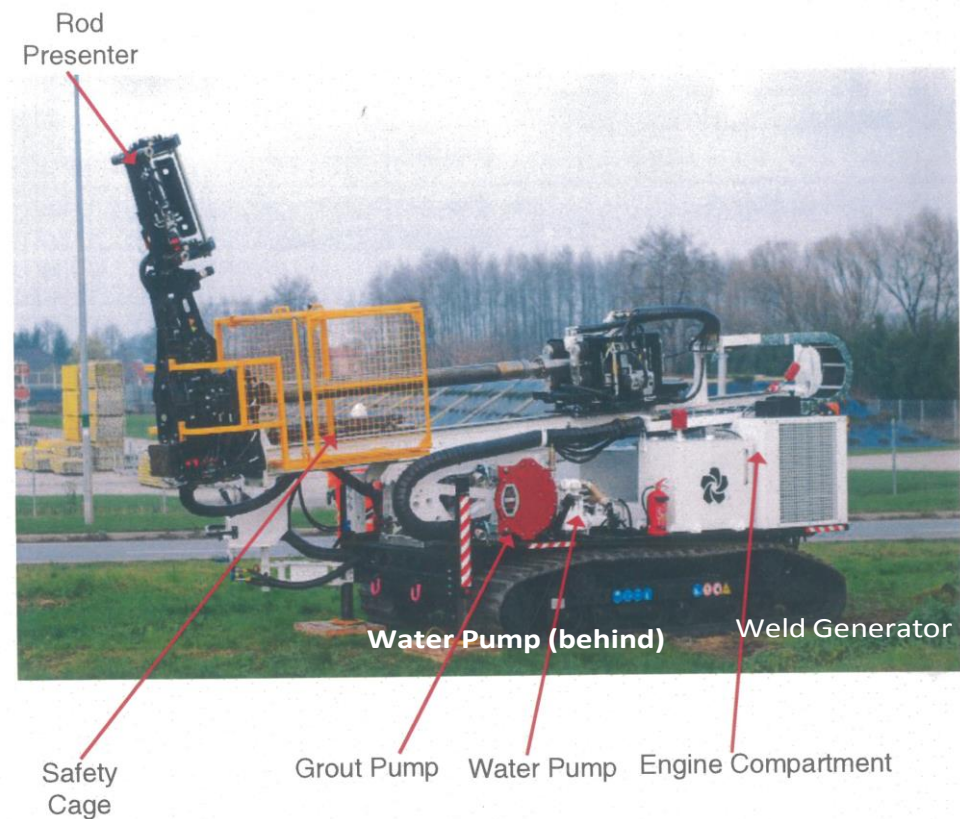
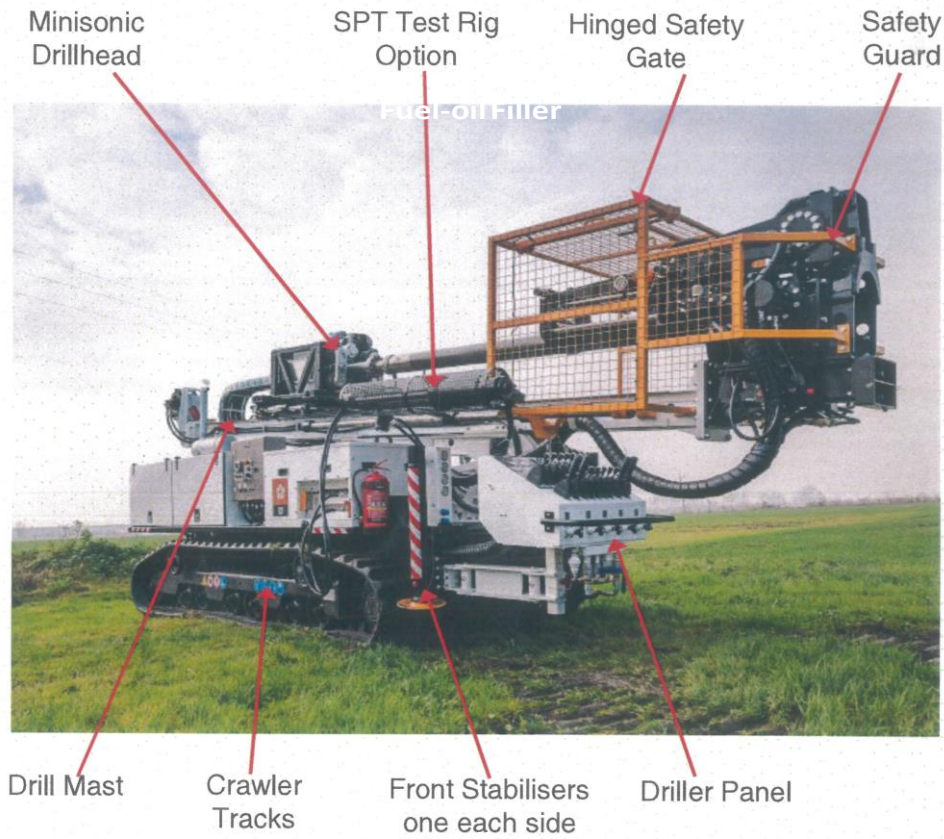
- *Superficial & Bedrock Sampling/Coring Capabilities*
- *Standard or Lined Samples*
- *SPT (C) Drop Hammer Capability*
- *Competent Core Extraction Compared to Traditional Rigs*
- *Rod holding and thread break-out clamps*
- *Hydraulic mast raising with mast shift compensates for uneven drill site conditions*
- *Enhanced Safety – Interlocked safety cage rotation barrier – head rotation slows when open for enhanced safety*
- *Pilot Operated Hydraulic System*
- *Compact Footprint*
- *Triplex FMC Pump*
- *Articulated mast and wiggle tail which allows the mast to be shifted from left to right and front to back*
- *Wide raked and low ground pressure (0.28bar/4psi/27.6kPa)*
- *Rotation Guarding, Emergency Stop & Trip Wire Switches*
- *On Board Cold Water Pressure Washer*

ADDITIONAL DETAIL

- Penetration rates and bit life are optimised through the precise control the operator has over rpm, torque and bit weight
- The main power source is a 119kW, liquid-cooled diesel engine, which drives the open-centre hydraulic circuit (at a maximum operating pressure of 275 bar)
- The diesel engine is inside a sound-proof housing that greatly reduces the amount of noise during operation
- Load sensing circuitry on the diesel engine ensures optimum energy efficiency and transmission by adjusting fuel consumption to the required power output of the hydraulic system which powers all operating functions, tracking, set-up and drilling
- The hydraulically driven GeoSonic drill head provides plenty of flexibility to perform most common coring operations
- The rig has a Direct Coupled Feed Cylinder. Having the drill head carriage connected to the feed cylinder provides excellent control of bit weights and penetration speed
- The crawlers are operated from a remote control panel. Two levers (for the left and right track sections) are used to activate and steer the crawler undercarriage. This remote control panel is normally securely stored at the rear end of the rig, and should be removed for remote operation of the rig
- The main drilling control panel is mounted on the front right hand side of the machine and swings across the front for improved operator position ergonomics.
- Emergency STOP switches are fitted on the driller control panel and on the Radio Remote Control. Activating any of these safety devices immediately stops all functions.
- A double hinged, rotation barrier provides protection from, and obstructs access to, the rotating drill string

TECHNCIAL DATA SUMMARY

GeoSonic Rota-Sonic LS250	
Transport Mode:	L 7.15m – W 2.20m – H 2.80m
Drill Mode (Mast Vertical):	L 5.68m – W 1.98m – H 6.80m
Max (Laden) Weight:	11,500 kg
Ground Pressure:	4.0 psi / 0.028 mpA / 27.6 kPa
Pull Back / Down Force:	66kN / 24kN
Tooling Size:	121mm to 305mm (4.75” to 12”)
Feed Stroke:	4.00m
Diesel Capacity:	193 Litres
Depth Capacity:	78m



TECHNICAL DETAILS

Sonic Coring Head

Vibration Motor Flow	0-110 l/min @ 0-275 bar
Rotation Motor Flow	0-55 l/min @ 0-275 bar
Lubrication Motor Flow	20 l/min @ 30-60 bar
Torque at 275 bar	240 da N.m
Speed	80 rpm

Prime Mover

Standard	Cummins QSB Liquid Cooled
Power Maximum	119kW @2000rpm
Diesel Tank Capacity	193 l

Hydraulic System – Pump Variable Load-Sensing with Torque Control

Max Flow	280 bar
Max Pressure	280 bar
Hydraulic Oil Volume	160 Litres
Oil Cooler Capacity	16 kW

Drill Mast & Feed System

Feed Stroke	4m
Feed Speed – Down	3.647ft/s
Pull Down Force	24 Kn / 2.44 T
Pull Back Force	66 Kn / 6.73 T

Winches – Main Winch on Mast Top

Max Pull on Inner Layer	9 kN / 918 Kg
Line Speed	34 m/min
Cable	Ø8 mm

Rod Clamps

Max. Clamping Diameter	305 mm
Max. Clamping Capacity	129kN
Max. Breaking Torque	23 kNm

SPT Auto Hammer – Standard Penetration Test

Drop Weight	63.5 kg
Vertical Travel	762mm

Undercarriage

Pad Width	600 mm
Max Speed	6.25km/hour
Rubber Tracks	As Standard

Dimensions & Weights

Length in Transport	7100 mm
Height in Transport	2800 mm
Width	2200 mm
Total (Dry) Weight Approximately	11,500 kg
Sound Level	Below 76 dbA at 10 meters

GeoSonic LS250 Drill Rig Technical Data Sheet



Drill Rig Only Available with Remote Control

FMC Triplex Water Pump

Flow	80 lpm FMC E0413
Pressure	41 bar

Bredel SPX40 Mud Pump

Maximum Continuous Flow	6 m3/h
Maximum Intermittent Flow	9.6 m3/h
Maximum Allowable Pressure	16 bar

Welding Generator

HWG 180/5k-33 - 3,5 kVA (1- phase 230 VAC)- 6,5 kVA(3- phase 400 VAC)