

# LS250 ROTA-SONIC DRILL RIG



LS250 SUMMARY		
Penetration rates and bit life are optimised through the precise control the operator has over rpm, torque and bit weight		Articulated mast and wiggle tail which allows the mast to shift from left to right and front to back enabling hole precision. Mast allows drilling from 90 to 45 degrees.
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). Diesel engine is inside a sound proofing housing.		Emergency STOP switches are fitted on the main driller control panel, front safety cage and right operating side and radio tracking remote.
The crawlers are operated from a remote control panel. Two leavers (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. Wide tracked and low ground pressure. An E-Stop button is available also.		Interlocked safety cage rotation barrier provides protection from, and obstructs access to, the rotating drill string in tandem with pressure switches linked to the rotation feed. This allows the drill crew to open the barrier and gain access to the drill string to perform borehole advance and sample retrieval procedures, with an in built failsafe as the rotation feed is minimised at such time as the circuit is open
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 drill mast carries a mini-sonic drill head, together with the entire drill string. The drill mast is attached to the mast carrier by means of adjustable trappings. Holding and thread breaking clamps allow for rapid rod changes,
The hydraulically driven 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.
 		
LS250 DIMENSIONS:		LS250 MAIN FEATURES:
Transport Mode:	L: 7.18m; W:2.20m; H:2.80m	Superficial & Bedrock Coring Capabilities
Drill Mode (Mast Vertical):	L: 5.61m; W:2.20m; H: 7.18m	Standard or Lined Samples
Max (laden) Weight:	11,500 kg	SPT (C) Drop Hammer Capability
Ground Pressure:	4.0 psi / 27.6 KPa	In-Situ Sampling (UT)
Head Travel:	4.00m	412, T2-101, SWF & Geobor Wireline Adaptability
Tooling Size:	121mm to 273mm (4.75"-10")	Rotation Guarding, Trip Wire Switches & Emergency Stops
Hydraulic Fluid Capacity:	160 litres	On board cold pressure washer
Diesel Capacity:	193 litres	Rod & Casing Handler
Depth Capacity:	78m	Flush Containment and Re-circulation option

## LS250 TECHNICAL DETAILS

Sonic Coring Head		Prime Mover		Hydraulic System	
Vibration Motor Flow	0-110 l/min @ 0-275 bar	Standard	CUMMINS QSB	Max Flow	280 bar
Rotation Motor Flow	0-55 l/min @ 0-275 bar	Power Maximum	119kW@2000rpm	Max Pressure	280 bar
Lubrication Motor Flow	20 l/min @ 30-60 bar	Diesel Tank Capacity	193 litres	Hydraulic Oil Volume	160 litres
Torque at 275 bar	240 da Nm	Displacement	4.5L	Oil Cooler Capacity	16 kW
Speed	80 rpm / 15 rpm (ROM)	Emissions	Stage IIb (tier 4(i))		
Drill Mast & Feed System		Winches		Undercarriage	
Total Length	7.18m	Max Pull on Inner Layer	9 kN	Pad Width	600 mm
Feed Stroke	4.00m	Line Speed	34 m/min	Max Speed	6.25 km/hr
Feed Speed - Down	1.11 m/sec	Cable	8mm	Ground Pressure	4.0PSI / 0.028MPa
Feed Speed - Up	0.68m/sec	Rod Clamps		SPT Auto-hammer	
Pull Back Force	66 kN	Max. Diameter	273 mm	Drop Weight & Travel	63.5kg / 750mm
Pull Down Force	24 Kn	Max. Capacity	129 kN		
		Max. Breaking Torque	23 kNm		
Dimensions & Weights		FMC Triplex Water Pump		Bredel Pump	
Length in Transport / Drill Mode	7.18m / 5.61m	Flow	80 lpm FMC E0413	Model	SPX40
Height in Transport / Drill Mode	2.80m / 7.18m	Pressure	41 bar	Max. Continuous Flow	6 m3/H
Width in Transport / Drill Mode	2.20m / 2.20m			Max. Intermittent Flow	9.6 m3/h
Total (Dry) Weight Approx.	11,500kg	Water Pump		Max. Pressure	16 bar
Climbing Capacity	(Grade 60%) 30° approx	Flow	30 lpm HPW 200/30-45 ST	For more information on our capabilities please visit:  <a href="http://www.geosonicdrilling.co.uk">www.geosonicdrilling.co.uk</a>	
Sound Level	Below 76dba at 10m	Pressure	200 bar		
Welding Generator		Self-suction up to	3 m		
Dynaset		Connection	¾" G Female		

