

LMTM110 UNDERGROUND CORING DRILL Technical Overview

BOART LONGYEAR

LM[™]110 UNDERGROUND CORING DRILL

The LM[™]110 is the most powerful underground diamond coring drill offered by Boart Longyear, suited for deep-hole drilling. Equipped with a 128 kN feed frame, this drill provides high pullback force as well as a fast rodhandling rate, delivering increased productivity.

Safety

Optional Rod Handler - Hands-free making and breaking of joints increases driller and helper safety and reduces operator fatigue.

Productivity

New 110 kW Power Pack Option - Up to 33% more torque available at the drill head for increased drilling productivity.



Optional Drill Control Interface (DCI) - Allows unattended drilling, delivering more meters drilled per shift and increased revenue.

Flexibility

Modular Drill Design - Enables tailored drilling packages and easy component upgrades when requirements change.



1 **REVERSIBLE FEED CYLINDER** The feed cylinder is reversible

The feed cylinder is reversible which increases up-hole drilling capacity

4 FAIL SAFE ROD CLAMP

Hydraulic open and spring close rod clamp results in fail safe operation

DIRECT COUPLED FEED FRAME

Direct coupled feed frame results in lower maintenance and smoother feed transmission

2 SEMI-AUTOMATED ROD HANDLING (Optional)

Semi-automated rod handler (optional) makes handling of rods safer and easier

LOAD SENSING HYDRAULICS

Load sensing hydraulics maximize efficiency and reduce heat

3 HIGH TORQUE BREAKOUT

Automated high torque break out device breaks most rod joints automatically

PROPORTIONAL CONTROLS

Proportional controls and lock levers provide optimum control of rpm and feed

LMTM110 TECHNICAL INFORMATION

Drill Depth Guidelines						
	Hole Depth			Hole Depth		
Drill Rod	Metric (Meters)			U.S. (Feet)		
	Up	Horizontal	Down	Up	Horizontal	Down
BQ	430	1500	1350	1430	4920	4440
NQ	260	1260	990	870	4140	3260
HQ	130	640	610	430	2120	2010
AQTK	820	1500	1500	2700	4920	4920
Drill Depth Guidelines with Cylinder Reversed						
	Hole Depth			Hole Depth		
Drill Rod	Metric		U.S.			
	Up		Up			
BQ	930		3060			
NQ	620		2050			
HQ	360		1200			
AQTK	1500		4920			

The figures in this table are estimates that have been calculated using the applicable pullback capacity of the drill. Actual drilling results may vary and will depend on in-hole tools, subsurface and other environmental conditions, drilling techniques and equipment used.

Drill Specification:					
Feed Frame (1300 Series)	Metric	U.S.			
Feed Stroke	1830 mm	72 in			
Max. rated pushing force	63.56 kN @ 28 MPa	14289 lbf @ 4061 psi			
Max. rated pulling force	127.69 kN @ 28 MPa	28706 lbf @ 4061 psi			
Rated carriage speed	0.70 m/s per complete cycle	2.3 ft/s per complete cycle			
Normal rod handling speed	Approximately 15 m/min.*	Approximately 50 ft/minute*			
Note	The feed frame is reversible				
11×11	Actual rod handling speed may vary with working conditions				
Chuck and Rod Holder					
	HQ™ Chuck	PQ [™] Rod Holder			
Maximum opening	97.0 mm (3.82 in) Diameter corresponding to the ID of the HQ [™] guide bush	125 mm (4.875 in) Diameter corresponding to the ID of the PQ [™] guide bush			
Туре	Closed hydraulically Opened mechanically Automatic synchronization with rod holder	Closed mechanically Opened hydraulically Automatic synchronization with chuck Manual overdrive			
Jaws	3 (same as used with chuck)	3 (same as used with chuck)			
Max. rated axial holding capacity	85.0 kN* (19110 lbf*)	130 kN* (33750 lbf*)			
Max. rated static torsional holding capacity	Forward and reverse rotation 3900 N-m (2870 lbf*)	Forward and reverse rotation 5800 N-m (4255 lbf*)			
II×II	At 7 MPa (1015 psi) with new jaws and rods				
HQ™ Drill Head, HI torque					
Forward Rotation					
Chuck Speed	1330 RPM, continuously variable. Speeds will vary with oil type and temperature and are approximate				
Chuck torgue output	430 N-m @ 1200 RPM	317 lb-ft @ 1,200 RPM			
	1088 N-m @ 500 RPM	802 lb-ft @ 500 RPM			
Reverse Rotation					
Chuck Speed	100 RPM, fixed to help prevent rod thread damage				
huck Torque output 3920 Nm with break-out 2890 lb-ft with break-out device @ 31.0 MPa device @ 4,496		2890 lb-ft with break-out device @ 4,496 psi			

LM™110 TECHNICAL INFORMATION

Hydrostatic Pumps				
Main Pump	Metric	U.S.		
Туре	Variable displacement, axial piston w/pressure compensated load sensing control			
Operating conditions as used on LM™110 drill: Maximum pressure	31 MPa, forward rotation, reverse rotation, rod handling	4500 PSI, forward rotation, reverse rotation, rod handling		
Recirculation pump	Oil cooling and charge pump			
Туре	Gear, fixed displacement			
Maximum pressure operating conditions as used on LM [™] 110 drill	1-1.5 Bar	14.5-21.8 psi		
Normal speed	1490 RPM @ 50 Hz 1790 RPM@ 60 Hz			
Hydraulic tank volume	60 L	15.8 Gal		

Wireline Hoist (optional)					
	Ме	tric	U.S.		
Туре	All hydraulic, with proportional spooling control power up, power down, hydraulically locked in neutral free wheel override, chain driven spooling device				
Line Pull	6 mm	5 mm	6 mm	5 mm	
Bare Drum	11.77 kN	9.2 kN	2649 lbf	2068 lbf	
Full Drum	3.9 kN	3.1 kN	877 lbf	697 lbf	
Line Speed					
Bare Drum	0 - 80 m/min		0 - 262 ft/min		
Full Drum	0 - 240 m/min		0 - 787 ft/min		
Drum Capacity					
5 mm	1500 m		4920 ft		
6 mm	1000 m		3280 ft		
1/4"	895 m		2930 ft		

DIMENSIONS AND WEIGHTS





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MINING AND EXPLORATION DRILLING PRODUCTS



Coring Bits



Coring Rods



Multipurpose Rigs

www.boartlongyear.com

February 2018