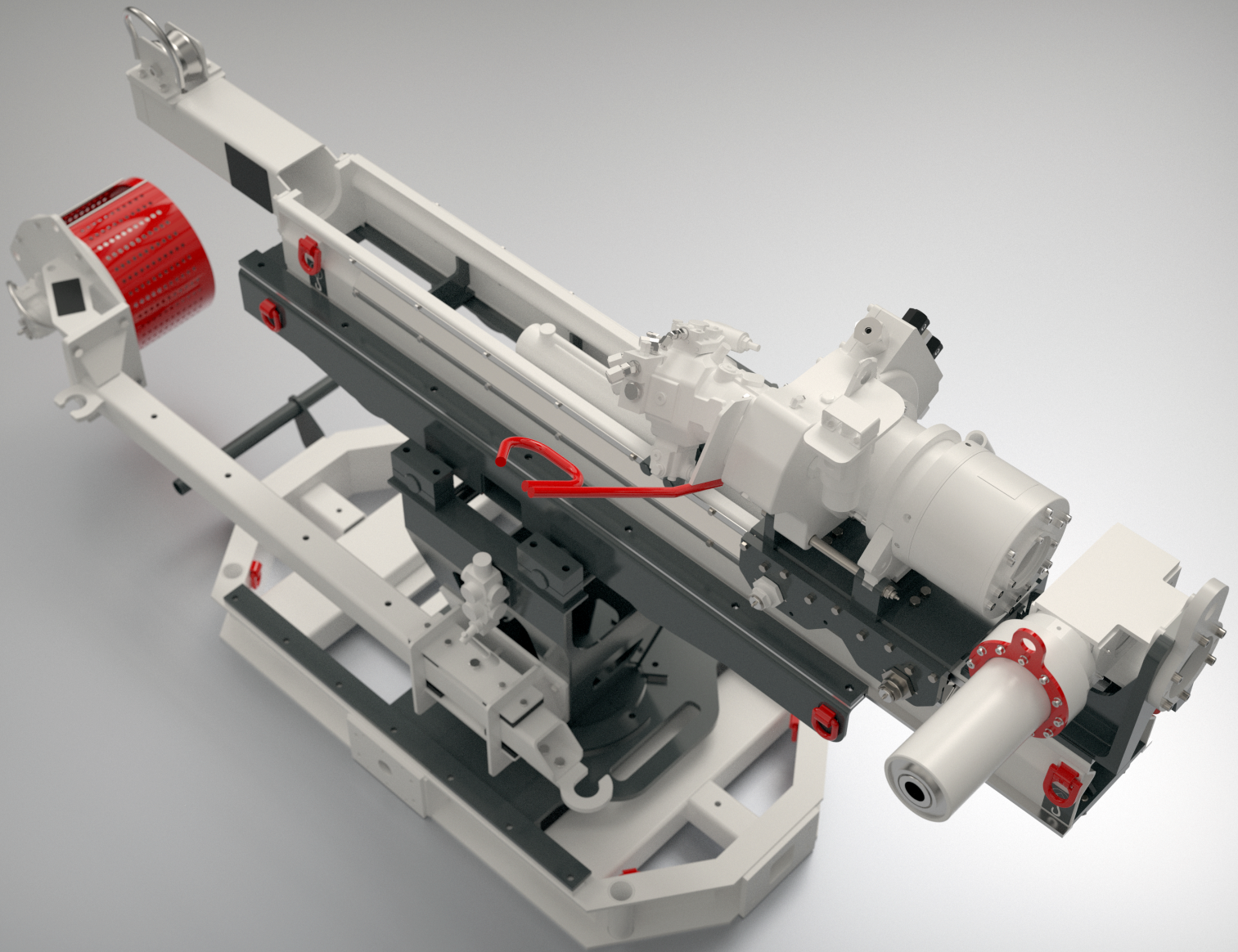


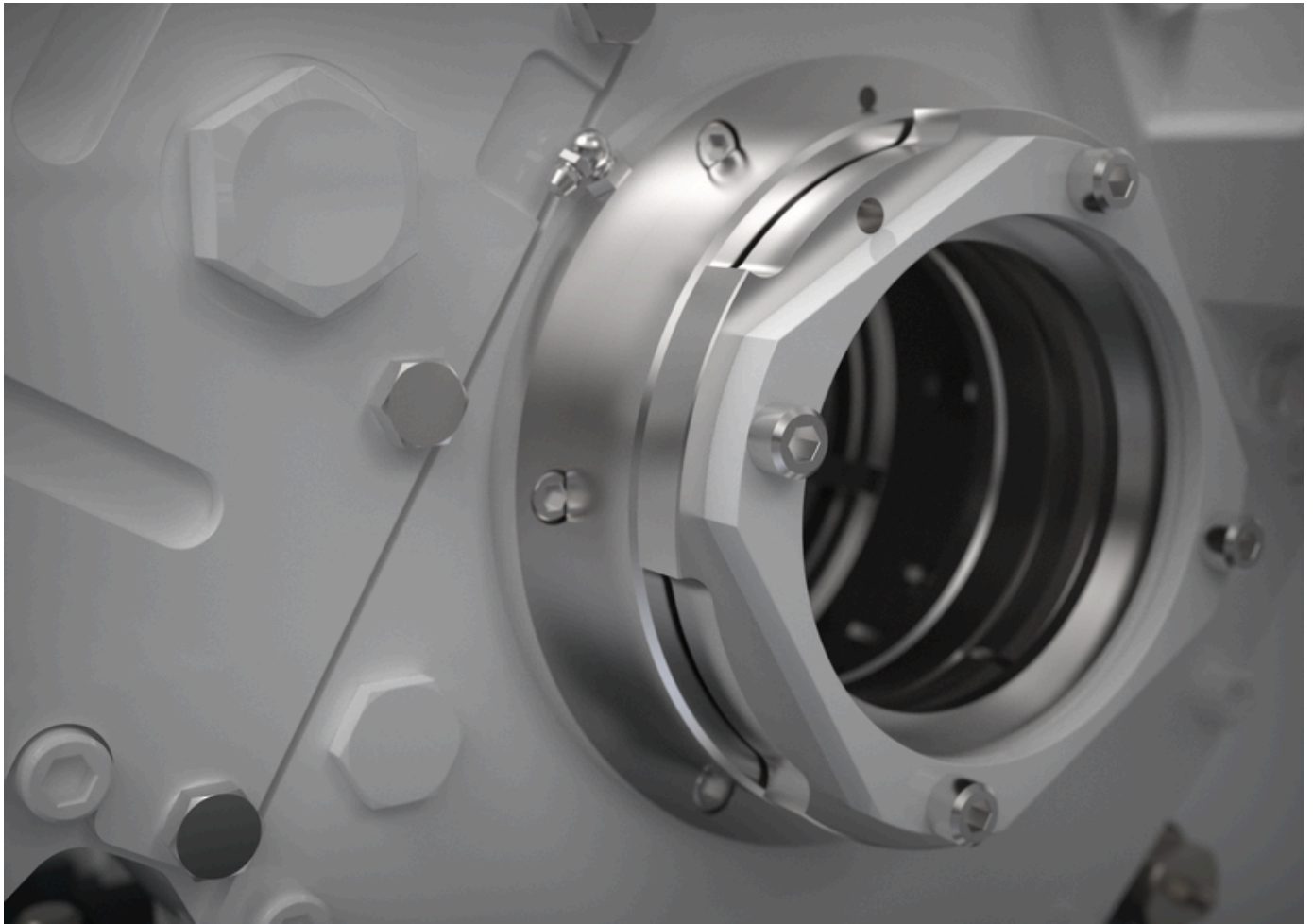


DRILLING EQUIPMENT

LM30 TECHNICAL OVERVIEW

2026.3 EDITION

OVERVIEW



The LM30 Modular is the most compact and lightest underground diamond coring drill offered by Bort Longyear. It has been developed for use in tight situations and locations where mobility and quick setup are important.

- **45kW DRILL POWER PACK**

45kW power packaged small with electric over hydraulic PLC controlled valve bank.

- **DIRECT COUPLED 400 SERIES FEED FRAME WITH REGEN**

The direct coupled feed frame results in lower maintenance and smoother feed transmission. The feed system regen circuit maintains short rod-handling cycle times even with the smaller LM30 power pack.

- **HIGH TORQUE BREAK OUT**

Automated high torque break out device.

- **FAIL-SAFE ROD CLAMP**

The hydraulic open-and-spring-close rod clamp provides fail-safe operation.

- **LOAD SENSING HYDRAULICS**

Load-sensing hydraulics maximize efficiency and reduce heat generation

- **PROPORTIONAL CONTROLS**

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

- **COMPACT POSITIONER**

Compact and lightweight positioner with 360° turntable, and feed frame tilt and dump.

DEPTH GUIDELINES



BQ ROTATION UNIT, CHUCK AND ROD HOLDER	HOLE DEPTH (METRIC / IMPERIAL)		
	Up	Horizontal	Down
ARQTK	566m / 1858ft	794m / 2606ft	1058m / 3471ft
BQ	292m / 957ft	300m / 985ft	599m / 1965ft

HQ ROTATION UNIT, CHUCK AND ROD HOLDER	HOLE DEPTH (METRIC / IMPERIAL)		
	Up	Horizontal	Down
ARQTK	550m / 1805ft	867m / 2846ft	1033m / 3390ft
BQ	282m / 925ft	336m / 1102ft	584m / 1917ft
NQ	165m / 540ft	336m / 1102ft	392m / 1285ft
NQ W-WALL	179m / 589ft	303m / 995ft	446m / 1465ft
HQ	64m / 210ft	99m / 326ft	195m / 641ft
NQ W-WALL	73m / 239ft	114m / 373ft	244m / 800ft

The values in this table are theoretical and have been calculated for a fluid-filled hole and an effective rock tensile strength of 5 MPa (unless otherwise noted). Actual drilling results may vary and will be affected by in-hole tool selection, fluid level in the hole, subsurface conditions, hole deviation, drilling techniques, additives, and equipment used.

These depths are not intended to be interpreted as machine safety limits/ratings. More favorable hole conditions may allow drilling beyond these values.

The LM30 can be configured with a HQ Rotation Unit, Chuck and Rod Holder or to save weight a BQ Rotation Unit, Chuck and Rod Holder. BQ Rotation Unit and Chuck must be used with the BQ Rod Holder. HQ Rotation Unit and Chuck must be used with the HQ Rod Holder

TECHNICAL SPECIFICATIONS



POWER PACK		METRIC / IMPERIAL	
Type		HV 1000VAC 50Hz 3PH	LV1 380-415VAC 50Hz/440-480VAC 60Hz
Power		LV2 575-600VAC 60Hz 3PH	
		45kW / 60hp	

FEED FRAME (400 SERIES)		METRIC / IMPERIAL	
Feed Stroke		1.1m (short stroke option) or 1.7m	3.6ft (short stroke option) or 5.5 ft
Feed Cylinder Size		63.5mm bore 44.45mm rod	2.5 in bore 1.75 in rod
Max. rated pushing force (Drilling)		33.9kN @ 210 bar	7621 lbf @ 3045 psi
Max. rated pushing force (Handling)		40.4kN @ 250 bar	9077 lbf @ 3625 psi
Max. rated pulling force		38.8kN @250 bar	8723 lbf @ 3625 psi
Rated carriage speed @ 50lpm		0.5m/s per complete cycle	1.64ft/s per complete cycle
Normal Rod Handling speed @ 50lpm		15m/min approx.	50ft/min approx.
Note		Feed Cylinder cushioned at both ends, dual load holding valves fitted. (1) Actual rod handling speed may vary with working conditions	

CHUCK AND ROD HOLDER (BQ)	BQ CHUCK	BQ ROD HOLDER
Maximum opening	Ø60.8mm (2.39 in) Diameter corresponds to the ID of the BQ Guide Bushes	
Type	Closed hydraulically, spring opened. Automatic synchronization with Rod Holder	Spring closed, opened hydraulically. Automatic synchronization with Chuck. Rod Holder Isolate function.
Jaws	3 with tungsten carbide inserts	2 with tungsten carbide inserts
Max. rated axial holding capacity	75kN (16860 lbf) @ 70 bar (1015 psi)	60kN (13488 lbf)
Max, rated static torsional holding capacity	520Nm (383 lbf-ft) @ 70 bar (1015 psi)	1670Nm (1232 lbf-ft)

CHUCK AND ROD HOLDER (HQ)	HQ CHUCK	HQ ROD HOLDER
Maximum opening	Ø97mm (3.82 in) Diameter corresponds to the ID of the HQ Guide Bushes	
Type	Closed hydraulically, spring opened. Automatic synchronization with Rod Holder	Spring closed, opened hydraulically. Automatic synchronization with Chuck. Rod Holder Isolate function.
Jaws	3 with tungsten carbide inserts	2 with tungsten carbide inserts
Max. rated axial holding capacity	85kN (19109 lbf) @ 70 bar (1015 psi)	80kN (17985 lbf)
Max, rated static torsional holding capacity	3900Nm (2870 lbf-ft) @ 70 bar (1015 psi)	3900Nm (2870 lbf-ft)

TECHNICAL SPECIFICATIONS (CONT.)



ROTATION UNIT (BQ)	METRIC	US
Forward Rotation		
Chuck Speed	0-2625 with variable pilot control of speed	
Chuck torque output @ 1700rpm	65 N-m	48 lbf-ft
Chuck torque output @ 600rpm	400 N-m	295 lbf-ft
Reverse Rotation		
Chuck Speed	Approx 45rpm	
Chuck torque output	1348Nm @285bar	994lbf-ft @ 4133 psi

ROTATION UNIT (HQ)		
Forward Rotation		
Chuck Speed	0-1650 with variable pilot control of speed	
Chuck torque output @ 1700rpm	135 N-m	100 ft-lb
Chuck torque output @ 600rpm	500 N-m	370 lbf-ft
Reverse Rotation		
Chuck Speed	Approx 60rpm	
Chuck torque output	2000 Nm @ 285bar	1475 lbf-ft @ 4133 psi
LM30 is not compatible with HQ-Hi Torque Rotation Unit		

HYDRAULIC SYSTEM		
Main Pump		
Type	Variable displacement 71cc/rev axial piston with load sense control of all major drill functions	
Max pressure operating conditions	285bar rotation	4133 psi rotation
Type	Fixed displacement 8cc/rev gear type	
Max pressure operating conditions	3 bar	43 psi
Normal speed	1480rpm @ 50Hz / 1770 rpm @ 60Hz	
Hydraulic tank volume	135 l	35.7 UG gal

TECHNICAL SPECIFICATIONS (CONT.)



WATER PUMP		
616 Water Pump		
Type	4 piston FMC E0413	
Rated volume	61 lpm	16 US gpm
Maximum discharge pressure	41.4 bar	600 psi
Cartridge valve required	15 lpm	3.96 US gpm
520 Water Pump		
Type	3 piston FMC L0918	
Rated volume	76 lpm	20 US gpm
Maximum discharge pressure	34.5 bar	500 psi
Cartridge valve required	30 lpm	7.92 US gpm
The Water Pump is controlled by a variable flow control valve located on the Control Panel. The Standard cartridge fitted gives an oil flow of 0-15lpm, an alternative valve is available to give a flow of 0-30lpm. The higher flow valve is used with a 520 and 535 pump, depending on water flow requirement.		

WIRELINE HOIST		
Type	Hydraulic motor driven with 6.09:1 reduction gearbox and brake. Mechanical freewheel override.	
Line pull @ 165 bar (2390 psi)		
Bare drum	5.98kN	1345 lbf
Full drum	3.85kN	861 lbf
Line speed @ 50 lpm (13.2 US gpm)		
Bare Drum	59.5 m/min	195 ft/min
Full Drum	92.9 m/min	861 ft/min
Drum capacity		
5mm	500m	1640 ft
6mm	300m	984 ft

DIMENSIONS AND WEIGHTS



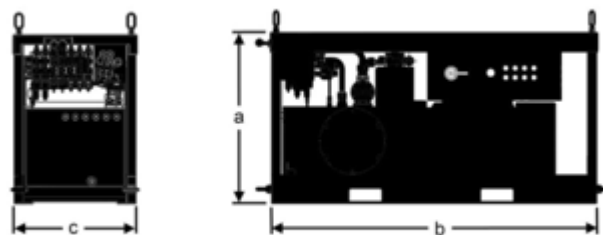
Power Pack

Weight: 1010 kg (2227 lb) - Includes Electric Motor and Starter

a = 950mm (37.4 in)

b = 1742mm (68.6 in)

c = 662mm (26 in)



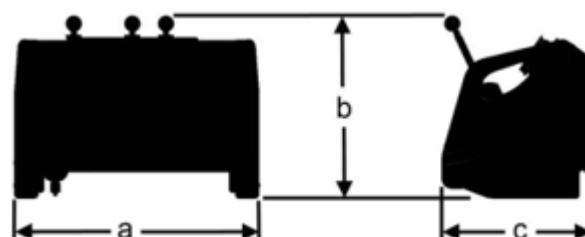
Control Panel

Weight: 40kg (88 lb) - Does not include hoses

a = 600mm (23.6 in)

b = 447mm (17.6 in)

c = 403mm (15.87 in)



Feed Frame - 400 series direct drive

Weight:

1.1m (43.3 in) - 260kg (573 lb)

1.7m (66.93 in) - 325kg (716 lb)

a = 2890mm (113.82 in)

b = 1100mm (32.3 in)

c = 4070mm (160.25 in)

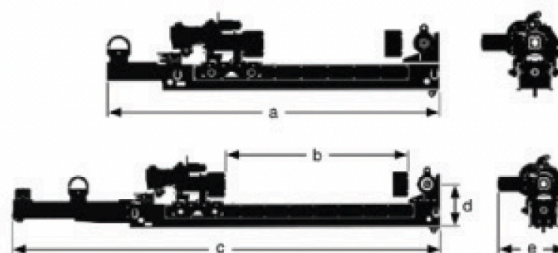
BQ - d = 379mm (14.92 in)

HQ - d = 446mm (17.56 in)

BQ - e = 650mm (25.6 in)

HQ - e = 800mm (31.5 in)

f = 1700mm (66.93 in)



Positioner Weight

575kg (1268 lb)

BQ Rotation Unit with BQ Chuck Weight

172kg (379 lb)

HQ Rotation Unit with HQ Chuck Weight

246kg (542 lb)

BQ Rod Holder Assembly Weight

50kg (110 lb)

HQ Rod Holder Assembly Weight

80kg (176 lb)

