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# LM™ 30SS - UNDERGROUND CORE DRILL

Technical Overview

## LM™ 30SS (SKID STEER) - UNDERGROUND CORE DRILL

The LM30SS (Skid Steer) drill is a mobile underground diamond coring rig suited for drilling small holes with either conventional or wireline drilling methods.

The LM30SS uses a CAT 246C Skid Steer carrier to power and transport the drill components. The compact, mobile unit ensures quick setup time and ease of moving from site to site. The 54 kW (73 HP) CAT 3044C DIT diesel engine also provides hydraulic power to run the drill.

This drill uses the same lightweight control panel and hydraulic system as that on the modular UC2-30. Each drill is integrated with a positioner and turntable that enable it to drill in all angles, from vertically up to vertically down.



For more information on the LM™30SS, scan with a QR code reader on your smart phone.



### 1 **MOBILE UNIT**

The compact and mobile unit ensures quick setup time and ease of moving from site to site

### 2 **VARIABLE CONTROLS**

Variable controls to ensure smooth operation throughout the operating range

### 3 **DIRECT COUPLED FEED FRAME**

Direct coupled feed frame reduces maintenance requirements

### 4 **HIGH PRESSURE BREAKOUT**

Breakout system features high pressure circuit to effortlessly break rod joints

### 5 **INTEGRATED POSITIONER AND TURNTABLE**

Integrated positioner and turntable allow for 360 degrees and up/down drilling with ease.

### 6 **FAIL-SAFE ROD CLAMP**

Spring-close and hydraulic open rod clamp ensures fail safe operation in case of a burst hose.

### 7 **SMART HYDRAULICS**

Smart hydraulics with synchronized control between rotation unit and foot clamp allow for faster and safer rod handling.

# TECHNICAL INFORMATION

Drill Depth Guidelines						
	Hole Depth			Hole Depth		
BQ™ Drill Head	Metric (Meters)			U.S. (Feet)		
	Up	Horizontal	Down	Up	Horizontal	Down
LTK48 (AWJ 14.5kg/3m rod)	470	800	600	1,540	2,625	1,968
LTK60 (BWJ 18.0kg/3m rod)	350	500	400	1,148	1,640	1,312
LTK48 (AWJLT 10.4kg/3m rod)	500	1,100	800	1,148	3,609	2,625
LTK60 (BWJLT 16.4kg/3m rod)	400	500	450	1,312	1,640	1,476
BRQHP/BQ (18.0kg/3m rod)	320	450	400	1,050	1,476	1,312
Note	Depth capacity includes allowance for force required to break core using 10 MPa rock strength					

Drill Depth Guidelines						
	Hole Depth			Hole Depth		
HQ™ Drill Head	Metric			U.S.		
	Up	Horizontal	Down	Up	Horizontal	Down
NRQ/NQ (23.4kg/3m rod)	250	400	250	820	1,312	820
HRQ/HQ (34.5kg/3m rod)	180	190	50	591	623	164
Note	Depth capacity includes allowance for force required to break core using 10 MPa rock strength					
The figures in these tables have been calculated, based on field experiences and may be reasonably expected. Actual drilling capacity will depend on in-hole tools, conditions, drilling techniques and equipment used. depth ratings include allowances for breaking of the core (rock strength 10MPa). down hole conditions may result in depth capacity variations.						

Feed Frame (400 Series)		
	Metric	U.S.
Feed Stroke	1100 mm	3.6 ft
Max. rated pushing force	42 kN @ 26 MPa	9440 lbf @ 3770 psi
Max. rated pulling force	40.3 kN @ 26 MPa	9060 lbf @ 3770 psi
Rated carriage speed	0.5 m/s per complete cycle	1.64 ft/s per complete cycle
Normal rod handling speed	Approximately 15 n/min.*	Approximately 50 ft/minute*
Note	Feed cylinder cushioned at both ends. Dual load holding valves.	
**	Actual rod handling speed may vary with working conditions	

Skid Steer Loader		
	Metric	U.S.
Standard unit CAT 246 C	CAT 3044C DIT Diesel Engine	
Power	54 kW	73 hp
Cat® is a registered trademark of Caterpillar® Company		

Chuck and Rod Holder (BQ™)		
	BQ™ Chuck	BQ™ Rod Holder
Maximum opening	60.0 mm (2.86 in) Diameter corresponding to the ID of the LTK60 guide bush	60.0 mm (2.86 in) Diameter corresponding to the ID of the LTK60 guide bush
Type	Closed hydraulically Opened mechanically Automatic synchronization with rod holder	Closed mechanically Opened hydraulically Automatic synchronization with chuck Manual overdrive
Jaws	3 with tungsten carbide inserts	2 with tungsten carbide inserts
Max. rated axial holding capacity	Forward and reverse rotation 75.0 kN* (16600 lbf*)	Forward and reverse rotation 60.0 kN* (13300 lbf*)
Max. rated static torsional holding capacity	520 N-m (383 lbf*)	1670 N-m (1230 lbf*)
***	At 7 MPa (1015 psi) with new jaws and rods	

Chuck and Rod Holder (HQ™)		
	HQ™ Chuck	HQ™ Rod Holder
Maximum opening	97.0 mm (3.82 in) Diameter corresponding to the ID of the HQ™ guide bush	97.0 mm (3.82 in) Diameter corresponding to the ID of the HQ™ guide bush
Type	Closed hydraulically Opened mechanically Automatic synchronization with rod holder	Closed mechanically Opened hydraulically Automatic synchronization with chuck Manual overdrive
Jaws	3 with tungsten carbide inserts	2 with tungsten carbide inserts
Max. rated axial holding capacity	80.0 kN* (17985 lbf*)	80.0 kN* (17985 lbf*)
Max. rated static torsional holding capacity	Forward and reverse rotation 3900 N-m (2870 lbf*)	Forward and reverse rotation 3900 N-m (2870 lbf*)
***	At 7 MPa (1015 psi) with new jaws and rods	

Drill Head (BQ™)		
Forward Rotation	Metric	U.S.
Chuck Speed	2,300 RPM, continuously variable. speeds will vary with oil type and temperature are only approximate.	
Chuck torque output	140 N-m @ 1500 RPM 390 N-M @ 500 RPM	103 lb-ft @ 1500 RPM 287 lb-ft @ 500 RPM
Reverse Rotation		
Chuck Speed	45 RPM, Fixed to help prevent rod thread damage	
Chuck torque output	1230 N-m & 26 MPa with break-out device	910 ft-lb @ 3770 psi with break-out device





## TECHNICAL INFORMATION

<b>Drill Head (HQ™)</b>		
<b>Forward Rotation</b>	<b>Metric</b>	<b>U.S.</b>
Chuck Speed	1650 RPM, continuously variable. speeds will vary with oil type and temperature are only approximate.	
Chuck torque output	104 N-m @ 1200 RPM 375 N-M @ 500 RPM	77 lb-ft @ 1200 RPM 276 lb-ft @ 500 RPM
<b>Reverse Rotation</b>		
Chuck Speed	60 RPM, Fixed to help prevent rod thread damage	
Chuck torque output	1825 N-m & 26 MPa with break-out device	1350 ft-lb @ 3770 psi with break-out device

<b>Hydraulic System</b>		
<b>High Flow XPS</b>	<b>Metric</b>	<b>U.S.</b>
Max Pressure	26 MPa	3770 psi
Max Flow	80 L/Min	21 gpm
Control System PLC		

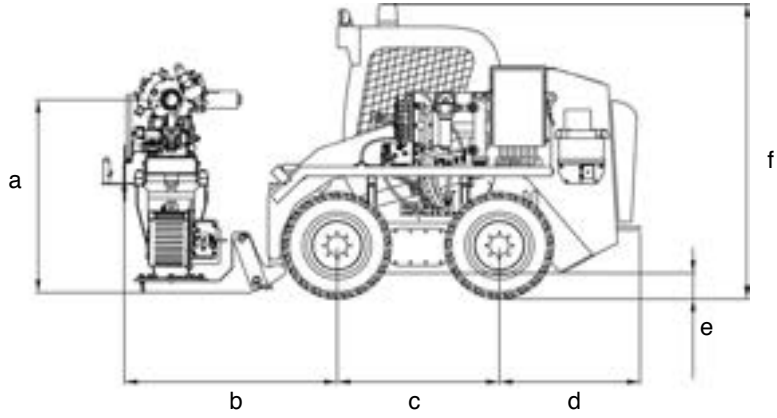
<b>Water Pump</b>
Variable speed hydraulically driven piston pump

<b>Wireline Hoist (Optional)</b>		
Variable speed hydraulically driven c/w 500 m (1,640 ft) cable		
Type	All hydraulic, with proportional spooling control power up, power down, hydraulically locked in neutral free wheel override, chain driven spooling device	
Line Pull		
	Bare Drum	11.77 kN 2649 lb
	Full Drum	4.51 kN 1015 lb
Line Speed		
	Bare Drum	0 - 100 m/min 328 ft/min
	Full Drum	0 - 254 m/min 833 ft/min
Drum Capacity		
	5 mm	1400 m 4600 ft
	6 mm	1000 m 3280 ft
	1/4"	895 m 2930 ft

# DIMENSIONS AND WEIGHTS

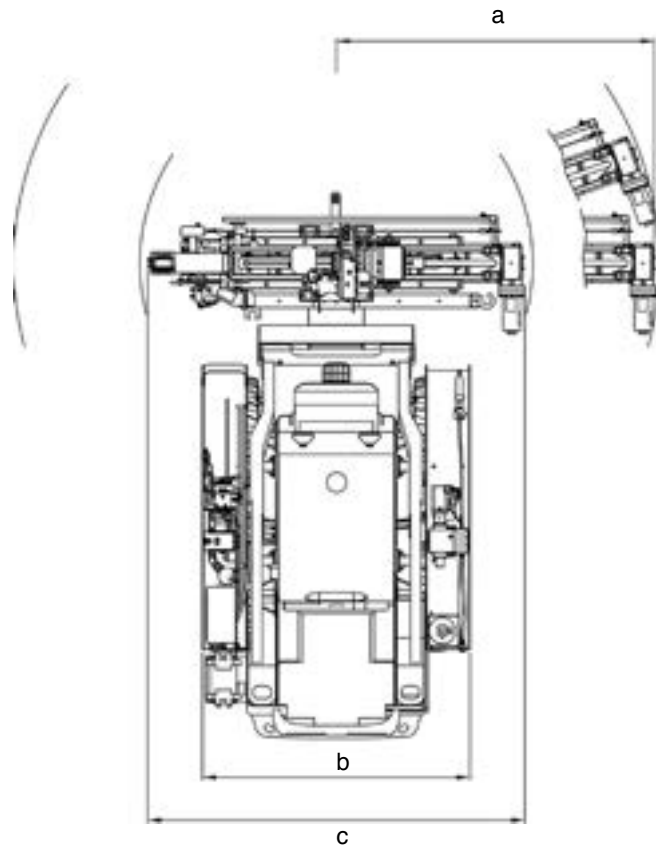
## Drill Side View

a = 1505 mm (59.25 in)  
b = 1625 mm (63.98 in)  
c = 1240 mm (48.82 in)  
d = 1076 mm (42.36 in)  
e = 225 mm (8.86 in)  
f = 2300 mm (90.55 in)



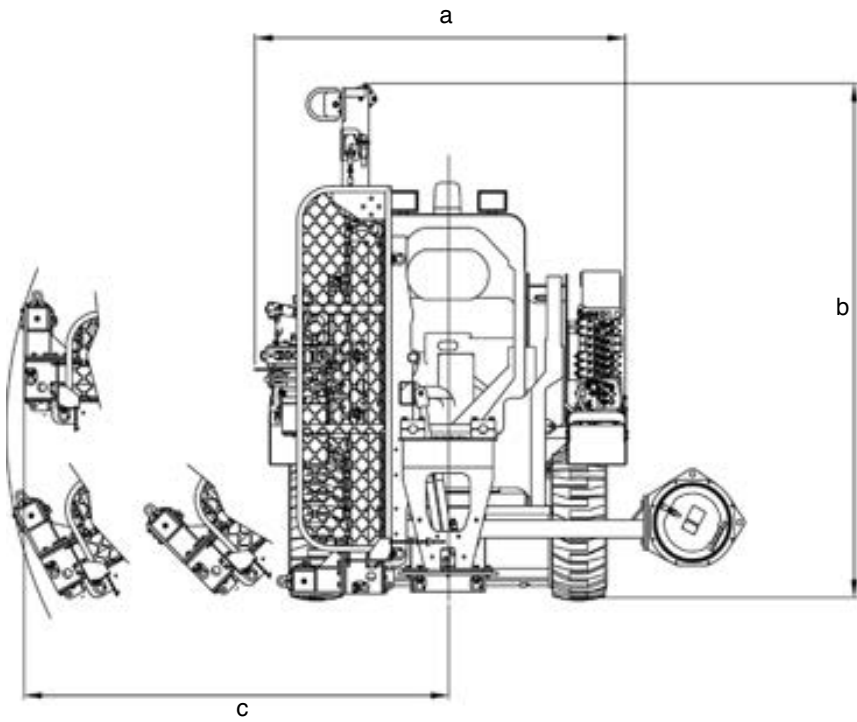
## Drill Top View

a = 2393 mm (94.21 in)  
b = 2010 mm (79.13 in)  
c = 2836 mm (111.65 in)



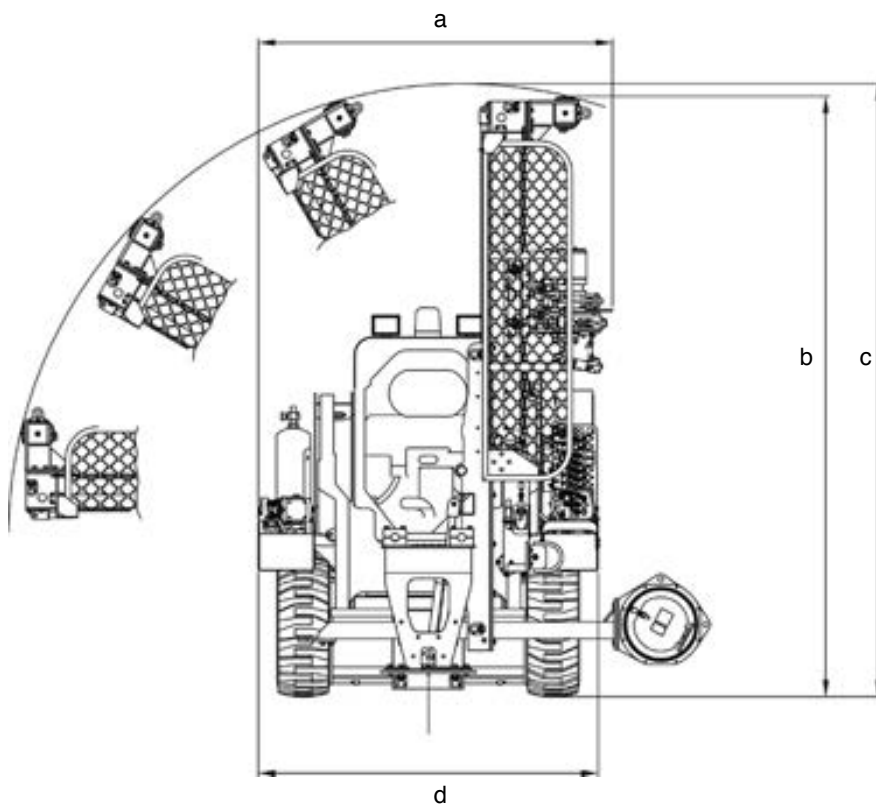
### Drill Side View

a = 2085 mm (82.09 in)  
b = 2830 mm (111.42 in)  
c = 2390 mm (94.09 in)



### Drill Top View

a = 2095 mm (82.48 in)  
b = 3550 mm (139.76 in)  
c = 3624 mm (142.68 in)  
d = 2010 mm (79.13 in)







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