

# LM™ 75 Modular Core Drill

## Technical Data Sheet



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### PRODUCT OVERVIEW

The LM™ 75 drill offers a very flexible platform that can be mix and matched to ensure the rig is set up specifically to meet the end users needs.

With your choice of power pack, feed frame, rotation unit and rod clamp you can be sure to put in as much power into the smallest footprint possible.

#### FEATURES:

- Automatic, high torque rod joint break out
- Load sensing hydraulic circuitry to maximize power to the bit
- 700 series feed frame designed with conventional drilling in mind but can be set up for wireline easily
- 3 different feed frame lengths available for use in confined space
- Bent axis, variable displacement hydraulic motor provides automatic speed adjustment so that maximum hydraulic power can be used across a wide range of speeds
- Spring close foot clamp
- 360° turntable
- Dumping feed frame



### DRILLING DEPTH GUIDELINES

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.

DRILL ROD/CORE BARREL	HOLE DEPTH (METERS)			HOLE DEPTH (FEET)		
	Up	Horizontal	Down	Up	Horizontal	Down
ARQTK	650	1 150	1 700	2,133	3,773	5,577
BQ	400	740	1 000	1,476	3,609	3,281
NQ	250	650	700	820	2,133	2,297
HQ	120	430	345	394	1,411	1,132

Note: depth capacity includes allowance for force required to break core using 10 MPa rock strength.

\* ARQTK capacity shown for comparison purposes only. It is not recommended drilling practice to drill over 1 500 m ARQTK depth.

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### TECHNICAL SPECIFICATIONS

	METRIC SYSTEM	U.S. CUSTOMARY SYSTEM
<b>FEED FRAME (700 SERIES)</b>		
<b>Feed stroke</b>	1,830 mm	72 in
<b>Max. rated pushing force</b>	53.9 kN @ 28.5 MPa	12,080 lbf @ 4,130 PSI
<b>Max. rated pulling force</b>	81.4 kN @ 28.5 MPa	18,250 lbf @ 4,130 PSI
<b>Rated carriage speed</b>	0.70 m/s per complete cycle	3 ft/s per complete cycle
<b>Normal rod handling speed</b>	Approx. 15 m/min. (actual rod handling speed may vary with working conditions)	Approx. 50 ft/min. (actual rod handling speed may vary with working conditions)
<b>Note</b>	The feed frame is reversible	
<b>CHUCK AND ROD HOLDER</b>		
	<b>HQ CHUCK</b>	<b>PQ ROD HOLDER</b>
<b>Maximum opening</b>	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
<b>Type</b>	Closed hydraulically Opened mechanically Automatic synchronization w/rod holder	Closed mechanically Opened hydraulically Automatic synchronization with chuck Manual overdrive
<b>Jaws</b>	3 (same as used w/chuck)	3 (same as used w/chuck)
<b>Max. rated axial holding capacity</b>	85.0 kN* (19,110 lbf*)	130 kN* (33,750 lbf*)
<b>Max. rated static torsional holding capacity</b>	Forward and reverse rotation 3,900 N-m (2,870 lbf)*	Forward and reverse rotation 5,800 N-m (4,255 lbf)*
<i>*at 7 MPa (1,015 PSI) with new jaws and rods.</i>		
<b>HQ DRILL HEAD, HI TORQUE</b>		
<b>Forward Rotation</b>		
Chuck Speed	1,330 RPM, continuously variable. Speeds will vary with oil type and temperature are only approximate	
Chuck torque output	325 N-m @ 1,250 RPM	329 lb-ft @ 1,250 RPM
	900 N-m @ 500 RPM	662 lb-ft @ 500 RPM
<b>Reverse Rotation</b>		
Chuck Speed	100 RPM, Fixed to help prevent rod thread damage	
Chuck torque output	3,770 Nm with break-out device @ 28.5 MPa	2,780 lb-ft with break-out device @ 28.5 MPa

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	METRIC SYSTEM	U.S. CUSTOMARY SYSTEM
<b>HYDROSTATIC PUMPS</b>		
<b>Main Pump</b>	All drill functions	
Type	Variable displacement, axial piston w/pressure compensated load sensing control	
Manufacturer	Rexroth (Hydromatik Gmbh)	
Operating conditions as used on LM75 drill: Maximum pressure	28.5 MPa, forward rotation, reverse rotation and rod handling	4130 PSI, forward rotation, reverse rotation and rod handling
<b>Recirculation pump</b>	Oil cooling and charge pump	
Type	Gear, fixed displacement	
Manufacturer	Rexroth (Hydromatik Gmbh)	
Maximum pressure operating conditions as used on LM75 drill:	1-1.5 Bar	14.5-21.8 PSI
Normal speed	1,480 RPM @ 50 Hz 1,780 RPM @ 60 Hz	
Hydraulic tank volume	60 L	15.8 US Gal.
<b>WIRELINE HOIST (OPTIONAL)</b>		
<b>Type</b>	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	2,649 lb
Full Drum	4.51 kN	1,015 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	4,600 ft
6 mm	1000 m	3,280 ft
1/4"	895 m	2,930 ft

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### DIMENSIONS AND WEIGHTS\*

#### FEED FRAME (700 SERIES)

##### Feed Frame

Weight: 960 kg (2112 lbs)

##### Rotation Unit w/chuck

Weight: 235 kg (517 lbs)

##### PQ rod clamp ass'y

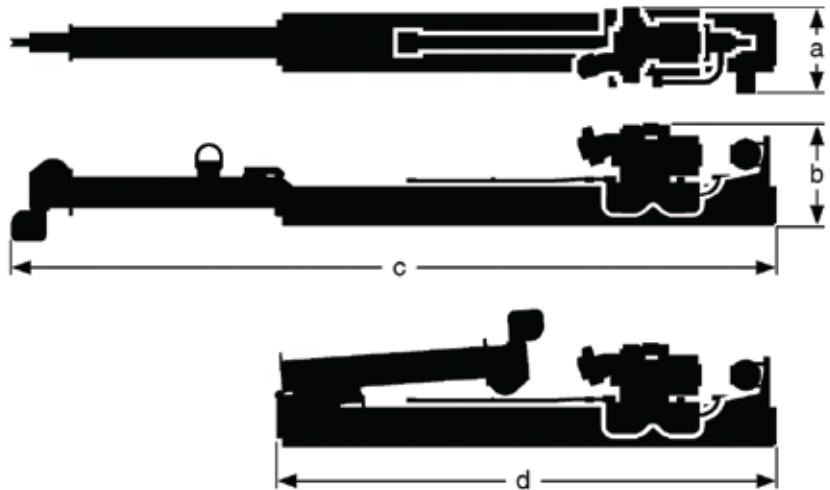
Weight: 170 kg (374 lbs)

a = 698 mm (27.50 in)

b = 801 mm (31.50 in)

c = 4,276 mm (168.25 in)

d = 8,071 mm (121.00 in)



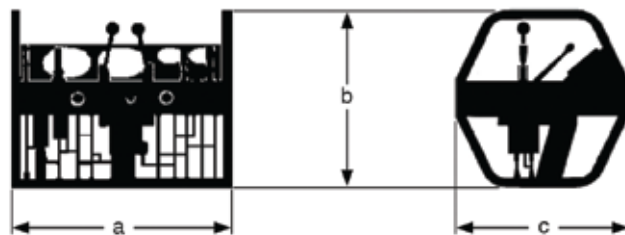
#### CONTROL PANEL

Weight: 46 kg (101 lbs) without hoses  
Add 42 kg (92 lbs) for hoses

a = 575 mm (23.00 in)

b = 521 mm (20.50 in)

c = 480 mm (19.00 in)



#### POWER PACK

Weight: 1,400 kg (3,080 lbs)  
inc. electric motor and starter, but  
without towing group

a = 1,318 mm (52.00 in)

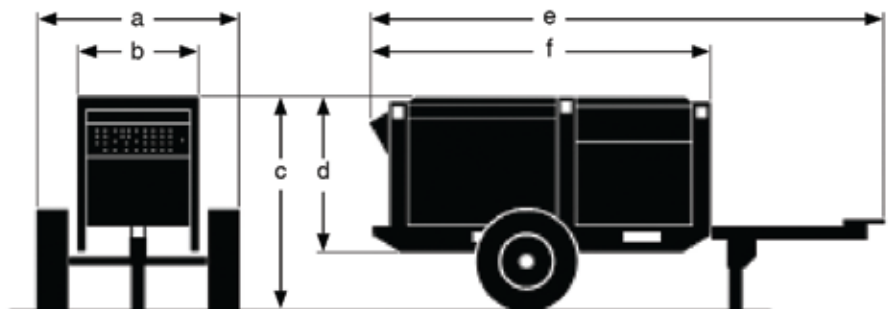
b = 730 mm (29.00 in)

c = 1,526 mm (60.00 in)

d = 1,033 mm (41.00 in)

e = 3,893 mm (153.25 in)

f = 2,230 mm (87.75 in)



\*Dimensions and weights may vary on options and should be checked before crating or lifting.