LF™ 90D Core Drill

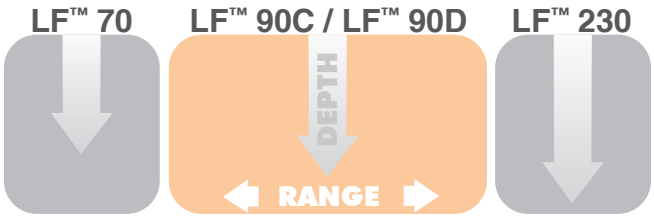
Technical Data Sheet

PRODUCT OVERVIEW

The current evolution of the LF™ 90 long stroke is the LF™ 90D hydraulic diamond core drill. It is considered to be one of the most productive deep hole drills in its class and is packed full of new features.

FEATURES:

- Dump mast — creates a stable working platform and lowers the working height dramatically.
- Patented Nitro-Chuck® — offers you performance and reliability (1 year warranty).
- Telescopic mast — compact transport size but still capable of 6 m (20 ft) rod pulls, easy onsite setup.
- Independent dual hydraulic mast raising cylinders.
- Side shifting head for improved rod handling.
- Mounting configuration — truck mounted for mobility.



DRILLING DEPTH GUIDELINES

The figures in these tables have been calculated, based on field experiences, and may be reasonably expected. Ratings arebased on a vertical, straight, clean down hole using a 7 258 kg (16,000 lb) hoist (single line pull). Actual drilling capacity will depend on in-hole tools, conditions, drilling techniques and equipment used.

	DRY HOLE		FLUID FILLED	
DRILL ROD / CORE BARREL	Hole Depth (meters)	Hole Depth (feet)	Hole Depth (meters)	Hole Depth (feet)
BRQ / BQ	1 210	3,968	1 385	4,543
BRQTK / BQTK	1 523	4,995	1 744	5,722
NRQ / NQ / NQ2	930	3,053	1 064	3,492
NRQ V-WALL™	1 052	3,451	1 193	3,915
HRQ / HQ	631	2,071	722	2,370
HRQ V-WALL™	795	2,607	898	2,947
PHD / PQ	417	1,368	476	1,562
PHD V-WALL™	568	1,865	637	2,089

* Always verify manufacturers rod depth ratings prior to use.

TECHNICAL SPECIFICATIONS

	METRIC SYSTEM	U.S. CUSTOMARY SYSTEM	
PRIME MOVER			
Standard Unit	Cummins QSB 6.7 L, liquid cooled, turbo charged, after cooled, diesel engine		
Displacement	6.7 L	409 in^3	
Power (maximum) at 2,200 RPM	153 kW	220 hp	
Emissions Certification	Stage III	Tier 3	
TORQUE AND RPM RATINGS			
(Hydraulic motor at maximum/minimum displacement, prime mover at 2,200 RPM)			
	Speed (no load)	**Torque (stall)**	
	RPM	**Nm**	**lbft**
1st Gear	122 - 199	5 322 - 3 254	3,925 - 2,400
2nd Gear	246 - 400	2 648 - 1 620	1,953 - 1,195
3rd Gear	439 - 714	1 486 - 908	1,096 - 670
4th Gear	769 - 1,250	849 - 519	626 - 383
NOTE: Head output speed and torque are infinitely variable in each gear range as indicated.			
Actual rotation speed is affected by engine RPM and hydraulic motor displacement setting.			
HYDRAULIC SYSTEM			
Primary Pump	Axial piston, variable displacement load sensing, pressure compensated with low pressure standby.		
Max Flow	165 L/m	43.5 gpm	
Maximum Pressure (factory setting)	31 MPa	4,500 psi	
Secondary Pump	Axial piston, variable displacement load sensing, pressure compensated with low pressure standby.		
Max Flow	64 L/m	17 gpm	
Maximum Pressure (factory setting)	21 MPa	3,000 psi	
Auxiliary Pump	Axial piston, variable displacement, pressure compensated with low pressure standby.		
Max Flow	42 L/m	11 gpm	
Maximum Pressure (factory setting)	14 MPa	2,000 psi	
Hydraulic Tank Capacity	231 L	61 Gal	
DRILL HEAD			
Rotation Motor	Rexroth hydraulic motor - variable/reversible		
Mechanical Transmission	Funk 4 speed		
Ratios	1st	6.27:1	
	2nd	3.12:1	
	3rd	1.75:1	
	4th	1.00:1	
Final Drive	Straight cut gears		
Ratio	2:1		
Head Opener	Side shift style — hydraulically actuated		
Hydraulic PQ Chuck	Patented Nitro-Chuck®		
	Hydraulically opened, nitrogen gas spring closed		
	Axial holding capacity of 222 400 N (50,000 lbf)		
Drill Head Lubrication	Force fed bearings, oil bath for gears		
Drill Head Lubricating Oil Filtration	25 micron suction oil filter - independent constant flow		

TECHNICAL SPECIFICATIONS

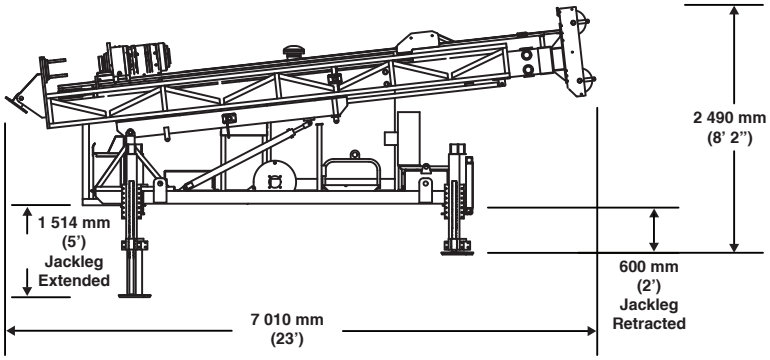
	METRIC SYSTEM	U.S. CUSTOMARY SYSTEM
DRILL MAST AND FEED SYSTEM		
Feed Stroke	3.35 m	11 ft
Feed Pull	111 797 N	25,133 lbf
Feed Thrust	58 957 N	13,254 lbf
Rod Pull	3 or 6 m	10 or 20 ft
Drilling Angle	45° off horizontal to 90° vertical down	
Mast Dump (Crowd)	2.34 m	7.7 ft
Mast Telescope	3.35 m	11 ft
DRAW WORKS		
Main Line Hoist	Single speed motor	
Hook Load (single part line)		
Bare Drum	7258 kg	16,000 lb
Hoisting Speed (single part line)		
Bare Drum	53 m/min	173 ft/min
Main Hoist Cable	15 mm	0.59 in
Minimum Breaking Strength	23 042 kg	50,800 lb
NOTE: Do not use multiple part lines with the main line hoist, use single part line ONLY.		
Foot Clamp Capacity	HWT	
Wireline Hoist		
Level Wind	N/A	
Line Pull		
Bare Drum	993 kg	2,190 lb
Full Drum	228 kg	502 lb
Line Speed		
Bare Drum	145 m/min	475 ft/min
Full Drum	433 m/min	1,422 ft/min
Drum Capacity (4.8 mm/3/16" swaged)	1 890 m	6,200 ft
Minimum Breaking Strength	2 268 kg	5,000 lb
NOTE: Wireline cable length to be specified at time of order.		
ADDITIONAL INFORMATION		
Fuel Tank Capacity	243 L	64 Gal

DIMENSIONS AND WEIGHTS*

WEIGHT	
Wet Weight = 8 392 kg (18,000 lb)	**Consisting of:** Power Unit Group Cummins QSB 6.7 L, Tier 3, 6 cylinder Hydraulic Module Draw Works Grp. c/w 16,000 lb Main Line Hoist with Cable, Wireline Hoist less Cable Hydraulic Mast Raising Hydraulic Mast Dump Telescopic Mast Assembly Rotation Unit Grp. c/w PQ Nitro-Chuck®/Head Guard Base Frame Fuel Tank (265 L/70 US gal) Battery - 12V Hydraulic Foot Clamp - HWT Capacity

OPTIONS	
Truck **Catwalk, Railing and Access Stairs** **Rod Rack Platform** **Hydraulic Leveling Jacks/Outriggers** **Truck Mounting Subframe** **Hot Weather Hydraulic Cooling Group** **CE Certification** **Decals available in multiple languages** **Fluid circulation pumps (diesel supply and pressure)** **Mud Mixer**	NOTE: The LF90D requires an additional sub frame for mounting onto a truck. **WARNING:** Do not operate this drill with rods racked in wind velocities in excess of 85 km/h.

DRILL TRANSPORT POSITION - BASIC DRILL

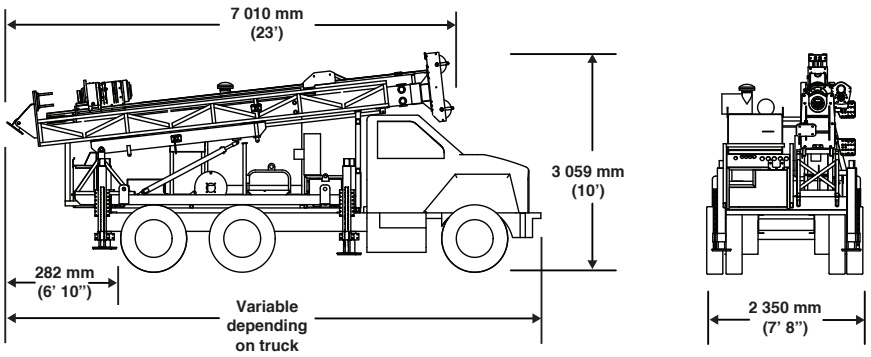


* Dimensions and weights may vary depending on options and should be checked before crating or lifting.

DIMENSIONS AND WEIGHTS*

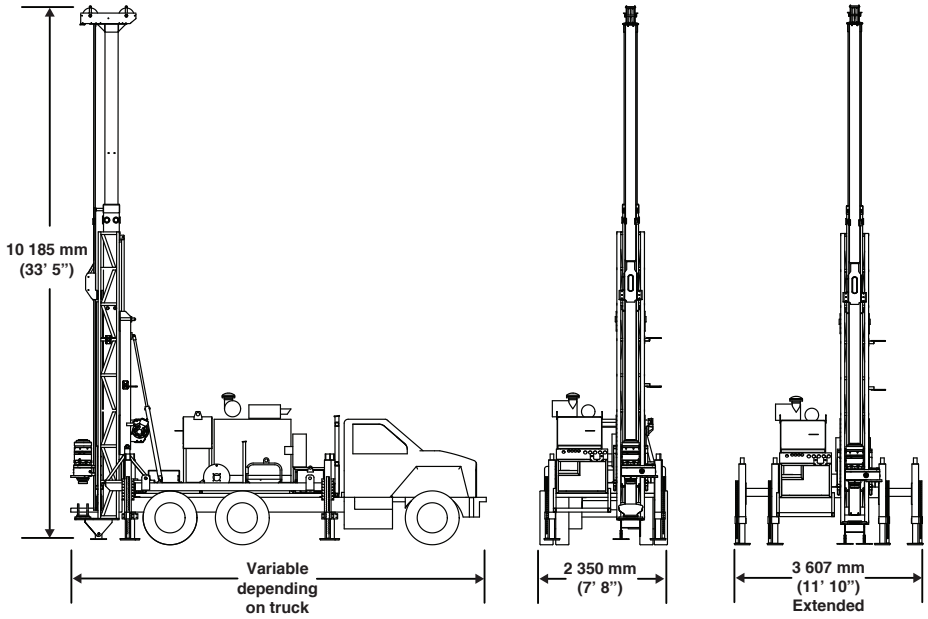
DRILL TRANSPORT POSITION C/W OPTIONAL TRUCK

(shown with optional truck)

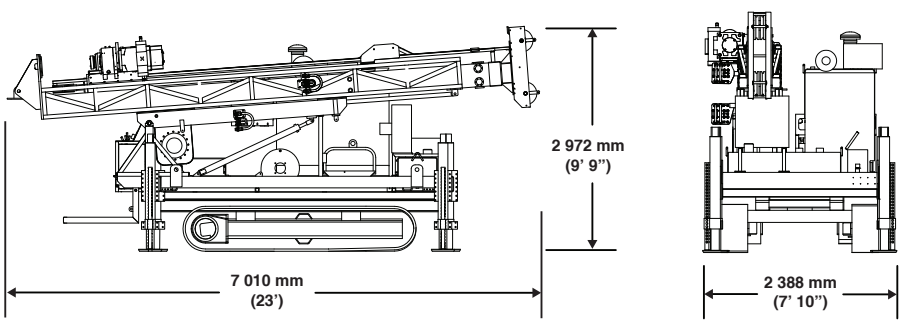


DRILL - MAST AT 90° C/W OPTIONAL TRUCK

NOTE: Dimensions are with optional truck and hydraulic leveling jacks extended to ground level. Leveling jack full stroke is 914 mm (3')



DRILL TRANSPORT POSITION C/W OPTIONAL TRACK PACKAGE



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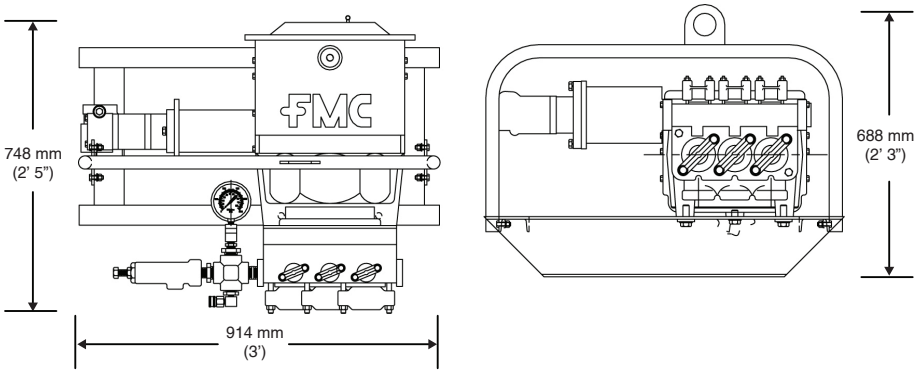
DIMENSIONS AND WEIGHTS*

(W11) FLUID CIRCULATION PUMP GROUP (OPTIONAL)

Wet Weight = 254 kg (560 lb)

The max. output of the standard 2-speed motor of the W11 is as follows:
High vol./low pres. 35 gpm @ 300 psi 6.2 hp
Low vol./high pres. 17 gpm @ 800 psi 7.9 hp

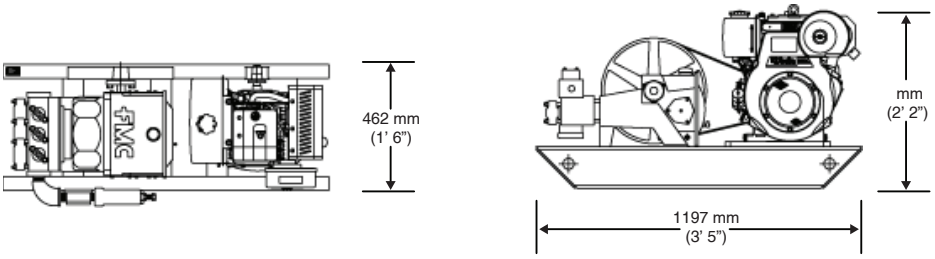
If a higher output pressure system is required an optional 2-speed motor can be supplied with the following max. output:
High vol./low pres. 23 gpm @ 950 psi 12.7 hp
Low vol./high pres. 11 gpm @ 1000 psi 6.4 hp



(L09) FLUID SUPPLY PUMP GROUP - DIESEL (OPTIONAL)

Wet Weight = 145 kg (320 lb)

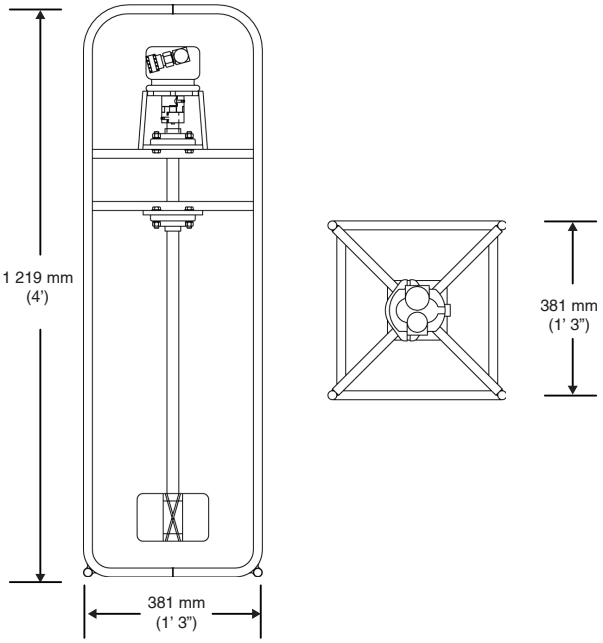
The max. output of the standard 2-speed motor of the L09 is as follows:
High vol./low pres. - 20 gpm @ 300 psi
Low vol./high pres. - 10 gpm @ 800 psi



MUD MIXER ASSEMBLY (OPTIONAL)

Wet Weight = 31 kg (68 lb)

NOTE: Maximum speed of the mud mixer shaft at full flow is 2300 rpm.



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