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LC™ 6 REVERSE CIRCULATION DRILL (RC6)

Technical Datasheet

LC™6 REVERSE CIRCULATION DRILL

A POWERFUL AND COMPACT REVERSE CIRCULATION DRILL THAT DELIVERS INCREASED PRODUCTIVITY

Compact and Powerful

The LC™6 features a powerful Deutz air cooled diesel engine that produces 72 kW (96 hp) with a maximum breaking torque of 20.5 kNm (15,120 lb-ft) and 5.5 tons of pull back. The LC6 measures only 6.3 M (L) x 1.9 M (W) x 2.7 M (H) and weighs less than 8,000 kg resulting in a compact, light and powerful drill.

Versatility in Design

In addition to Reverse Circulation drilling, the LC6 can be optionally configured to perform small diameter rotary drilling, core drilling up to PQ™ size and DTH drilling providing a unique and versatile drilling platform. For RC drilling, an optional trailer-mounted cyclone and splitter can be towed behind the drill rig offering flexibility and ease of mobility on site.

Safety

The LC6 includes a wide range of safety features. The safety cage ensures drillers remain a safe distance from the drill string, while low speed and low torque rotation ensures safe rod management. The steel crawlers coupled with the LC6's upright stability make this machine extremely stable on uneven formations.



For more information on the LC™6 scan with a QR code reader on your smart phone.



1

CONVENIENCE

Hydraulic side shift for easy rod-pulling and clear access to center line

2

SAFETY

Standard safety features include a safety cage, low speed and low torque rotation for safe rod management

3

INNOVATION

The dual RC swivel eliminates the need for a separate lower inlet and top outlet swivel

4

DRILL ANYWHERE

Powerful steel crawlers ensure mobility on difficult terrain

5

MOBILITY

The optional cyclone & splitter is mounted on a 4-wheel trailer to save space and weight on the drill and provides additional storage space for the sample collection hose and tools

LC™ 6 TECHNICAL INFORMATION

Drilling Depth Guidelines		
	Hole Depth Meters	Hole Depth U.S.
Reverse circulation drilling		
RC 3.5"	160 m	525 ft
RC 4"	140 m	460 ft
RC 4.5"	115 m	377 ft

Prime Mover for Higher Ambient Temperature / Elevations - Optional Equipment		
	Metric	U.S.
Engine	DEUTZ BF4L914 air cooled engine, COM II, 4 cylinder turbocharged	
Fuel	Diesel	
Fuel Consumption	223 g/kWh	
Maximum Power	72,4 kW @ 2.300 rpm	96 hp @ 2,300 rpm
Electrical Circuit	12V	
Fuel Tank Capacity	60 l	16 gal

Rotary Head HY79 RC		
	Metric	U.S.
Low Gear	6,540 Nm / 39 rpm	4,824 lb-ft / 39 rpm
High Gear	320 Nm / 800 rpm	236 lb-ft / 800 rpm
Bore - Inside Diameter	62 mm	2.44 in
Rotation Motors	Parker V12-80 + Danfoss TMT 315	
Top Drive Flange	2 3/8" API Reg PIN	
Gear Ratio	4.047:1	
Distance From Drilling Line to Chain	435 mm	17.12 in
Rotary Head Carriage with Side Shift		

Hydraulic System		
	Metric	U.S.
Primary Pump	Parker bent axis, fixed displacement	
Maximum Flow	66 l/pm @ 2,200 rpm	17.5 gpm @ 2,200 rpm
Maximum Pressure	250 bar	3,626 psi
Secondary Pump	Cassappa gear pump	
Maximum Flow	59 l/pm @ 2,200 rpm	15.5 gpm @ 2,200 rpm
Maximum Flow (2nd)	48 l/pm @ 2,200 rpm	12.5 gpm @ 2,200 rpm
Maximum Pressure	175 bar	2,538 psi hp
Oil Tank Capacity	200 l	53 gal

Drill Mast and Feed System		
	Metric	U.S.
Feed Stroke	4000 mm	13.2 ft
Feed Speed - Up	12,5 m/min	41 ft/min
Feed Speed - Down	18 m/min	59 ft/min
Fast Feed Speed - Up	31 m/min	101 ft/min
Fast Feed Speed - Down	51 m/min	167 ft/min
Pull Down Force	34 kN	7,673 lbf
Pull Back Force	55 kN	12,364 lbf
Drilling Inclination	45° horizontal to 90° vertical down	
Mast Dump	1000 mm	3.3 ft
Max. Rod Length	3000 mm	10 ft

Main Winch		
	Metric	U.S.
Line Pull	30 kN	6,744 lbf
Line Speed - Bare Drum	29 m/min	95 ft/min
Line Speed - Full Drum	36 m/min	118 ft/min
Cable Length, 14 mm	35 m	114.8 ft

Rod Clamps		
	Metric	U.S.
Maximum Diameter	220 mm	8.6 in
Maximum Clamping Capacity	175 kN	4,500 lbf
Maximum Breaking Torque	20,5 kNm	15,120 lb ft

Centralizer - Rod Guide		
	Metric	U.S.
Exchangeable Inserts for Rods	56, 76, 89, 114, 127, 140, 168, 193, 220 mm (Choose required sizes)	

Undercarriage		
	Metric	U.S.
Type	Crawler-mounted triple grouser steel tracks	
Maximum Driving Speed	1,5 km/h	1 mph
Axis Distance	1715 mm	67.5 in
Maximum Ground Pressure	0,053 MPa	7.7 psi
Climbing Capacity (with winch support)	(Grade ability 60%) approximately 30°	
Optional Undercarriage	Trailer-mounted, skid-mounted	

LC™ 6 TECHNICAL INFORMATION

Standard Equipment		
	Metric	U.S.
Maximum Rod Pull	2 x 3 m (6 m)	20 ft
Fitted onto Standard Mast to Pull 6 m Rod		
Rod Storage	30 pieces of 76 mm (3 in) rods	
Towing Hook		
Air Connection on Rear of Rig for DTH Compressor with blow down function		
RC Drilling Tools mounted on rotary head (Dual swivel, safer sub, wear tube, knock-on system, Auto-blowdown system)		
Angle Kit 45° to 90°		

Air Lubricator for DTH		
	Metric	U.S.
Oil Tank Capacity	10 l	2.7 gal

Mist Pump (for dust suppression)		
	Metric	U.S.
Flow	30 l/min	8 gpm
Pressure	200 bar	2,900 psi

Wireline Winch		
	Metric	U.S.
Line Pull - Bare Drum	6,5 kN	1461 lbf
Line Pull - Full Drum	4,0 kN	90 lbf
Line Speed - Bare Drum	100 m/min	327 ft/min
Line Speed - Full Drum	200 m/min	656 ft/min
Cable Length 5 mm	350 m	1150 ft

Mud Pump DP100		
	Metric	U.S.
Continuous Flow	90 l/min	23.7 gpm
Pressure	30 bar	435 psi

Mud Pump W1122BCD		
	Metric	U.S.
Continuous Flow	130 l/min	34 gpm
Pressure	60 bar	870 psi

FMC Pump L0918		
	Metric	U.S.
Flow	100 l/min	26 gpm
Pressure	45 bar	652 psi

Standard Penetration Test (SPT) Auto Hammer		
	Metric	U.S.
Impact Rate	1-30 bpm	
Travel Length	762 mm	30 in
Hammer Weight Brazil	65 kg	143.3 lb

Cyclone/Splitter	
Trailer, Complete with cyclone 750 cfm, splitter tier3 and sampling hose 3" -20 m	
Cyclone 750 cfm/stand alone	
Splitter Tier3/stand alone	
Sampling Hose 3" 20 m/stand-alone	

Night Lights	
No. of Pieces	4 x 17 Watt LED

Jaw Body for Clamp and Break Out for Coring	
Jaw Plates For Coring	BQ™ / BW
(Choose Required Sizes)	NQ™ / NW
	HQ™ / HW
	PW

Rod Handling		
	Metric	U.S.
Rod Presenter	78 - 220 mm	3" - 8.6"
Cat Head: Hydraulically telescopic 400 mm (15.75 in) and rotation 45°		

LC™ 6 TECHNICAL INFORMATION

Accessories	
Auxiliary Work Vice	180 mm wide, 220 mm long, 120 mm deep clamp, rotating mounting base and separate rod support work bracket
Remote Control	Radio remote control for driving
Auxiliary Diesel Filling Pump	Electric powered diesel filling pump
Instrument Vandal Covers	Lockable covers for control panels and instruments
Rubber Crawler Pads	Full set (76 pcs)
Tool Box	With necessary set of tools for basic maintenance and lubrication
Environmental Oil In Hydraulic System	
Jaw plates with Tungsten-Carbide	

Weight	
Operational Weight = approx. 7,500 kg (16,530 lb) Dry Weight = 7,000 kg (15,430 lb)	Consisting of: Diesel power unit group Deutz BF4L914 4 cylinder Hydraulic module Main winch c/w cable Hydraulic mast raising (independent) Lower mast assembly Levelling jacks (hydraulic) Rotary head Crawler - triple grouser type 12V Battery Foot Clamp and breaking device
Max. pull on inner layer climbing capacity without support winch grade ability 37%, approx. 20°	

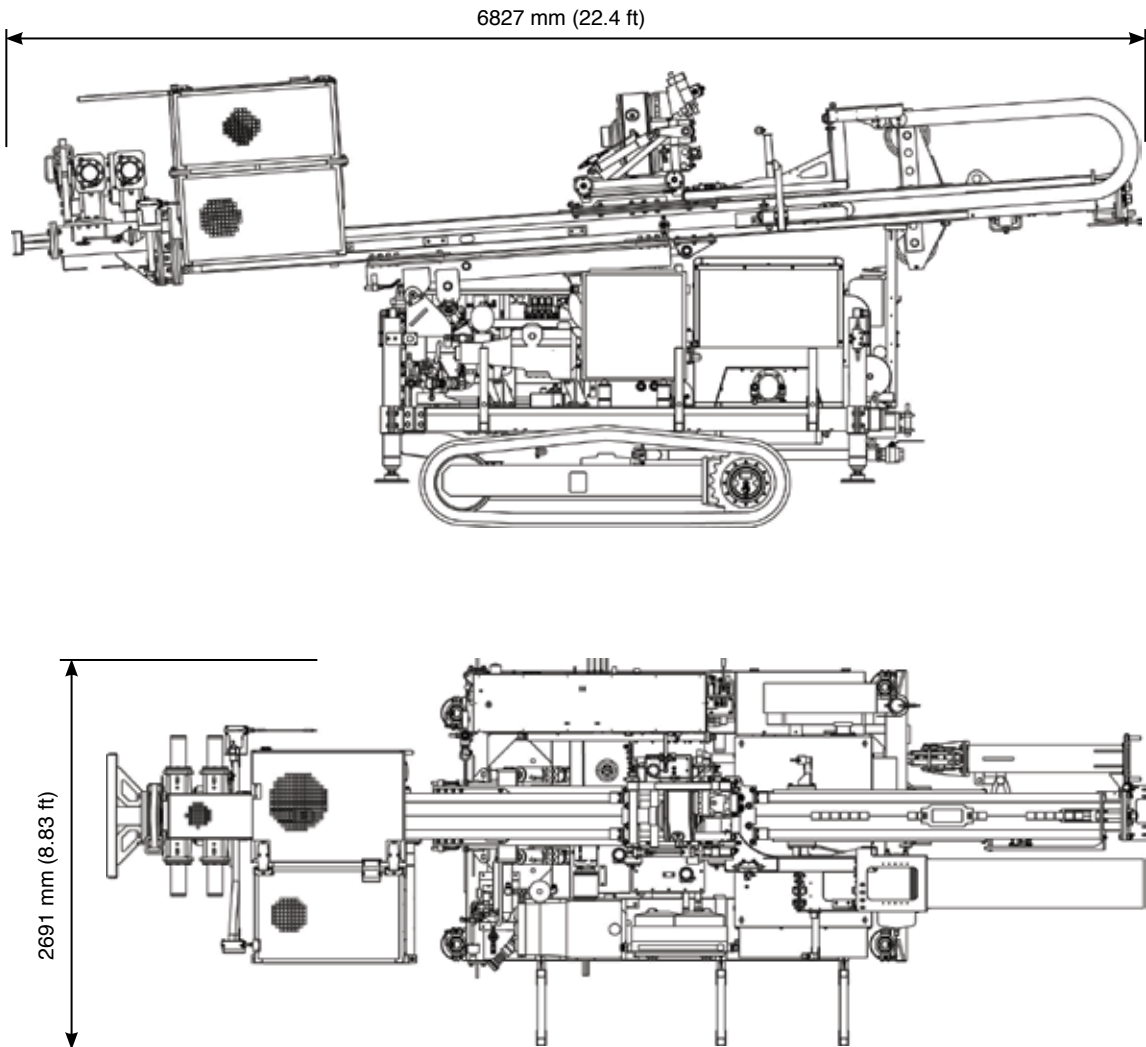
Measurements

Length:
6827 mm (22.4 ft)

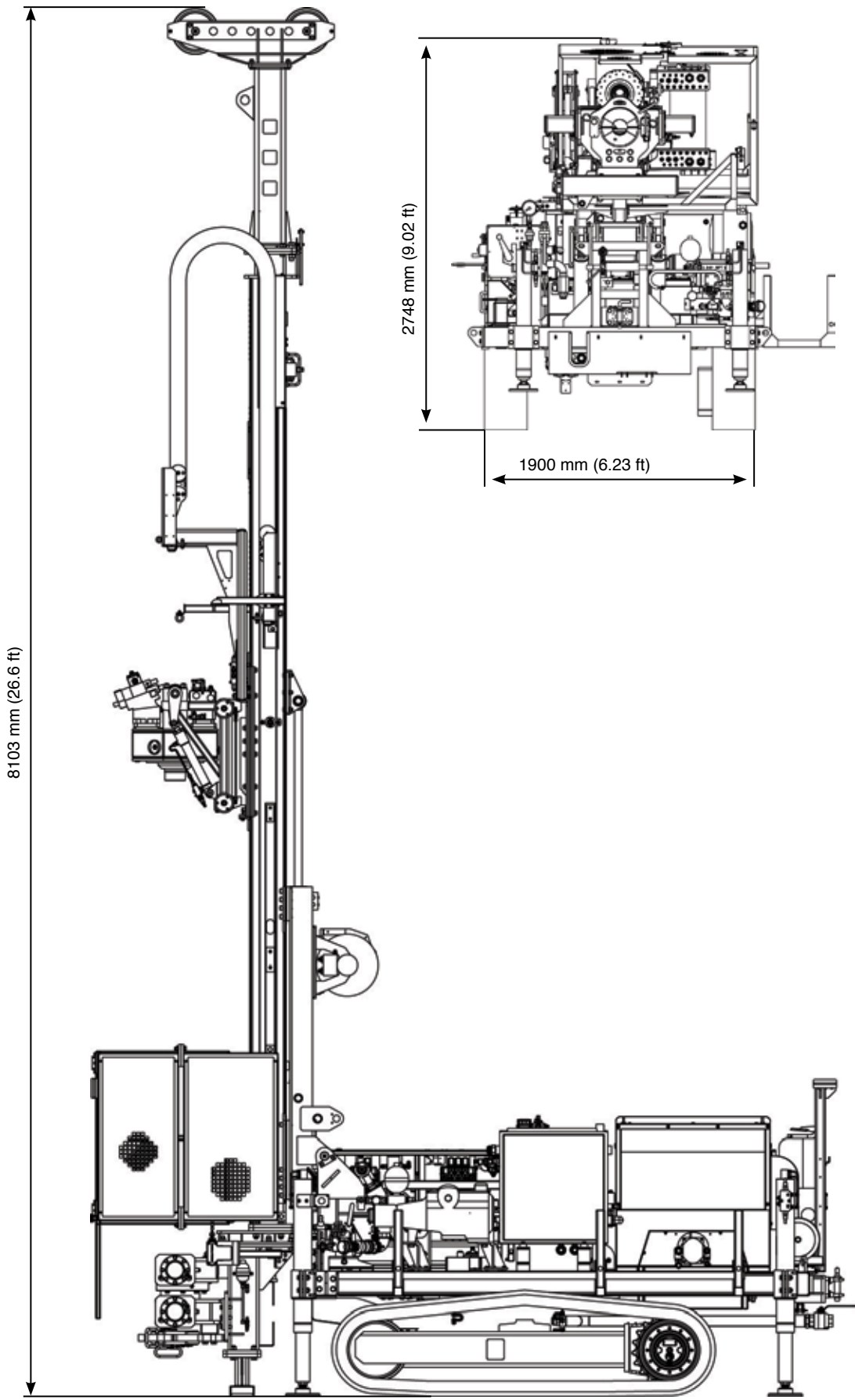
Height:
2748 mm (9.02 ft)

Height (with mast extended): 8103 mm (26.6 ft)

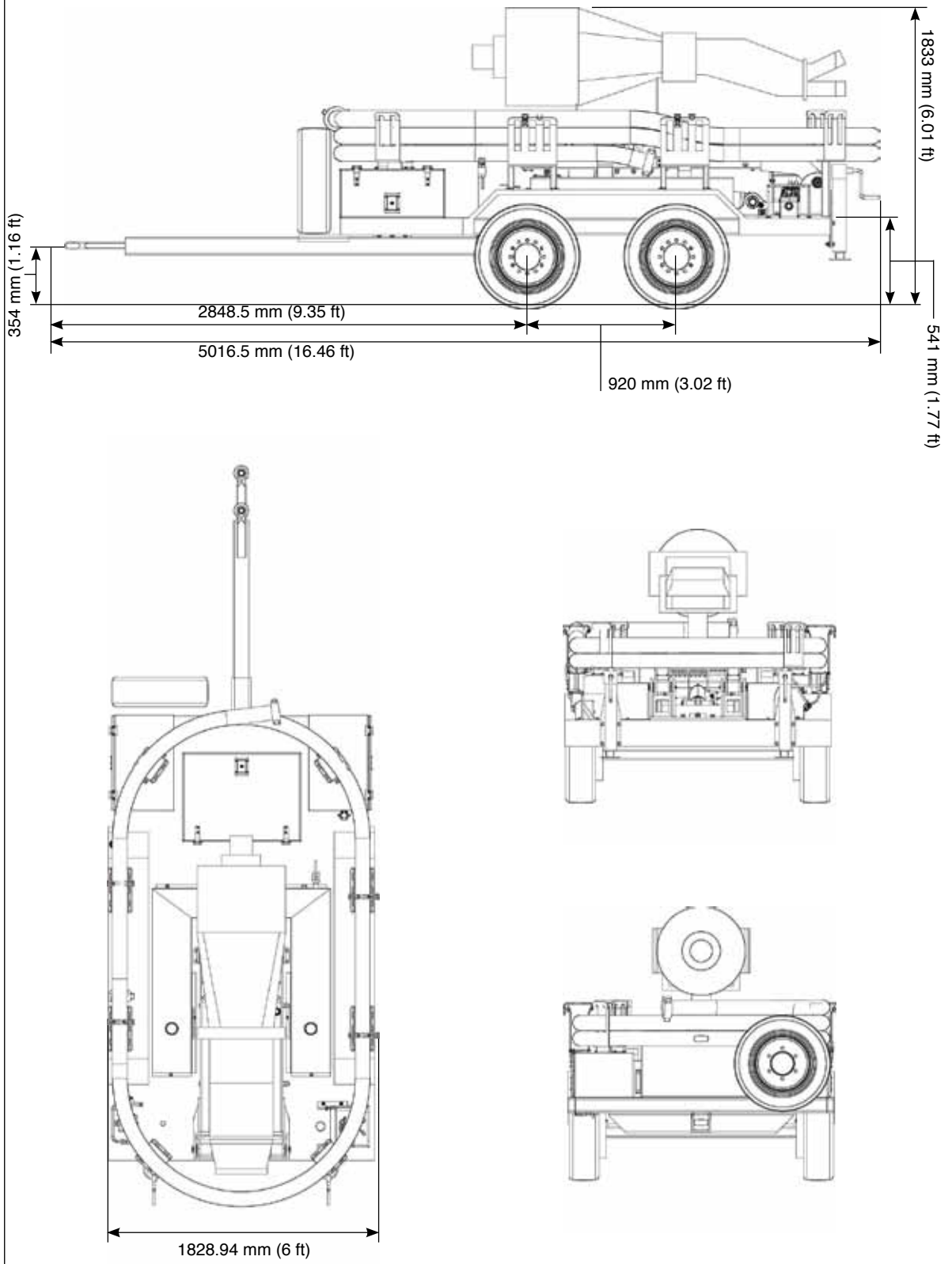
Width (without rod rack):
2000 mm (6.6 ft)



Measurements



Measurements





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