



LF™ 130F SURFACE CORING DRILL (SC™ 11)

Technical Overview

LF™ 130F SURFACE CORE DRILL

Power and Versatility

The Boart Longyear LF™ 130F surface core drill is the only flyable rig in its class to offer large-diameter PQ drilling capabilities. Featuring enough power to surpass the 1300m NQ mark, the drill brings together some of Boart Longyear's most successful surface and underground drill technology.

Safety

Delivering superior safety performance, the LF130F includes the fail-safe Nitro Chuck® rod holder and an LM® series rod handler option which dramatically reduces manual rod handling and incorporates a laser safety system designed to prevent rod handler operation if the safe-operating zone is obstructed. As an added safety feature, the control module utilizes lift-to-shift control levers to prevent accidental actuation.

Heliportable

The rig is uniquely designed to be heliportable and consists of eleven easy-to-manage flyable modules – with the heaviest module weighing only 680 kg. Lifting points are easy to identify and strategically placed to provide a balanced load, while quick-connect hydraulic couplings ensure fast and reliable setup and breakdown.



For more information on the LF™ 130F scan with a QR code reader on your smart phone.



1

PROVEN PERFORMANCE & RELIABILITY

Based on our LM (underground) drill technology, the LF™ 130F utilizes hydraulic sequencing and brings unmatched operator control.

2

POWERFUL

PQ capacity with 5456 Nm of torque and 128 kN pull back.

3

ROD HANDLING

Load rods at the same comfortable height every time independent of drilling angle.

4

MODULAR DESIGN

Easily breaks-down into eleven modules. (max lift is 680 kg)

LF™ 130F TECHNICAL INFORMATION

Drilling Depth Guidelines				
Drill Rod / Core Barrel	Metric		U.S.	
	Dry hole (Meters)	Fluid Filled (Meters)	Dry hole (Feet)	Fluid Filled (Feet)
BRQ / BQ	1,875	2,150	6,152	7,054
BRQTK / BQTK	2,300	2,640	7,546	8,661
NRQ / NQ / NQ2	1,320	1,510	4,331	4,954
NRQ V-WALL®	1,490	1,690	4,888	5,545
HRQ / HQ	790	900	2,592	2,953
HRQ V-WALL®	990	1,130	3,248	3,707
PHD / PQ	380	430	1,247	1,411
PHD V-WALL®	510	570	1,673	1,870

Notes: The above depth capacities are based on a vertical, straight and clean down hole using theoretically calculated pull back of 120 kN. Core breaking strength has been included using rock strength of 10 MPa. Actual drilling capacity will depend on in-hole tool system used, ground conditions, drilling techniques and equipment used. Always verify manufacturers rod depth ratings prior to use.

Prime Mover		
	Metric	U.S.
Standard Unit	John Deere™ 4045HF485 liquid cooled, turbo charged, diesel engine	
Displacement	4.5 L	275 in ³
Power (maximum) at 2,450 RPM	128 kW	172 hp
Emissions Certification	EU Stage III A.	CARB EPA Tier 3

PQ Drill Head - Standard		
	Metric	U.S.
Standard PQ - Hollow Spindle		
Maximum Rod Diameter	114.3 mm	4.5 in
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
Hydraulic PQ Chuck	Patented Nitro-Chuck®	
	Hydraulically opened, nitrogen gas spring closed	
	Axial holding capacity of 222.4 kN	
Drill Head Lubrication	Force fed bearings, oil bath for gears	
Drill Head Lubrication Oil Filtration	25 Micron suction oil filter, independent constant flow	

Torque and RPM Ratings - PQ Head			
	Metric	U.S.	
(Hydraulic motor at maximum/minimum displacement, prime mover at 2,200 RPM)			
	Speed (no load)	Torque (stall)	
	RPM	Nm	lbft
1st Gear	119 - 196	5 456 - 3 304	4,024 - 2,437
2nd Gear	240 - 395	2 714 - 1 640	2,002 - 1,210
3rd Gear	427 - 703	1 527 - 922	1,126 - 680
4th Gear	747 - 1,230	874 - 529	645 - 390

Notes: 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. All data is based on continuous operation. Please contact sales for intermittent and peak operational data.

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

LF™ 130F TECHNICAL INFORMATION

Hydraulic System		
	Metric	U.S.
Primary Pump	Axial piston, variable displacement with pressure compensated load sense control.	
Max Flow	220 L/min	58.1 gal/min
Maximum Pressure (factory setting)	310 bar	4,500 psi
Recirculation Pump	Oil cooling and charge pump	
Type	44cc Fixed displacement gear pump	

Feed Frame / Mast		
	Metric	U.S.
Feed Frame		
Feed Stroke	1 800 mm	70.87 in
Mast dump stroke	1 270 mm	50 in
Max Push Force	63.5 kN @ 28 MPa	14,275 lbf @ 4,060 psi
Max Pull Force	127.6 kN @ 28 MPa	28,686 lbf @ 4,060 psi
Rated Carriage Speed	0.7 m/s per complete cycle	2.29ft/s per complete cycle
Drilling Angle	Drilling angle 45° off horizontal to 90° vertical down.	
Normal Rod Handling Speed	Approx. 15 m/min. Actual rod handling speed may vary with working conditions	Approx. 50 ft/min.

PQ Rod Holder		
	Metric	U.S.
Max Opening	125 mm	4.875 in
Max rated axial holding capacity	130 kN	33,750 lbf
Type	Closed mechanically, opened hydraulically, automatic synchronization with chuck, manual overdrive.	

Wireline Hoist		
	Metric	U.S.
Wireline Hoist	Proportional hydraulic control. Power up, power down, hydraulically locked in neutral. Free wheel override, chain driven spooling device.	
Level Wind Included		
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	1 400 m	4,600 ft

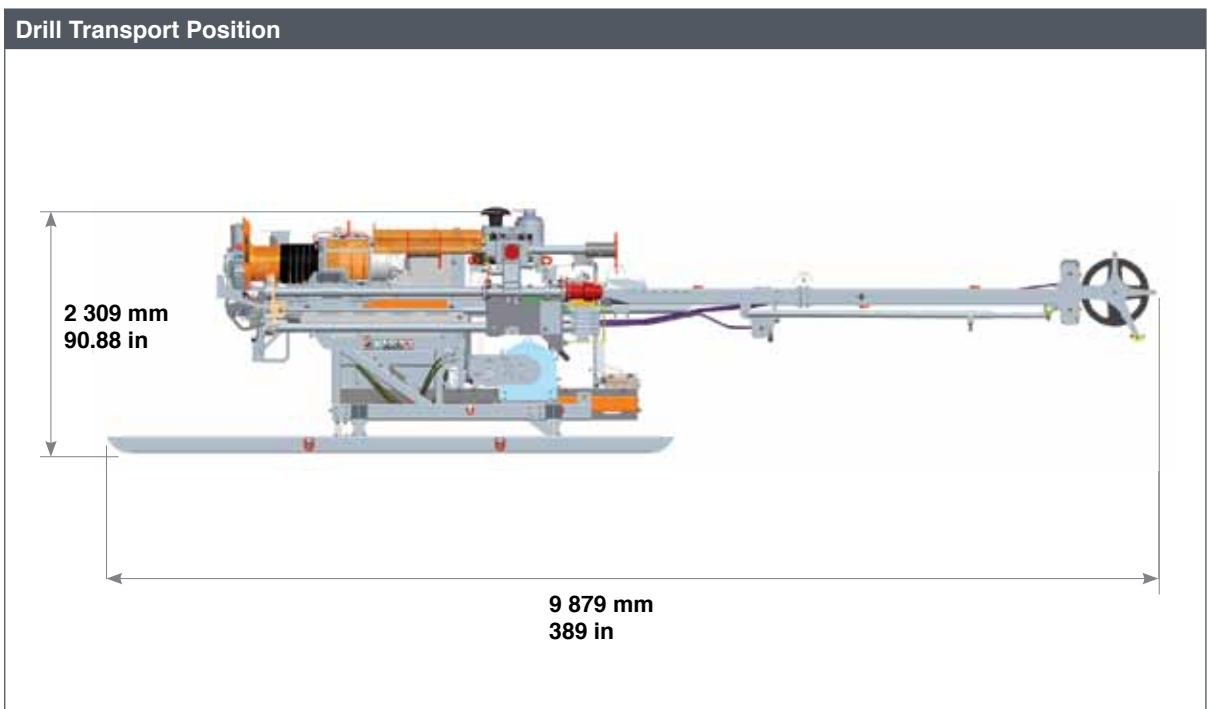
LM Rod Handler		
	Metric	U.S.
Capacity	Handles BQ - PQ 3m rods and core barrel.	

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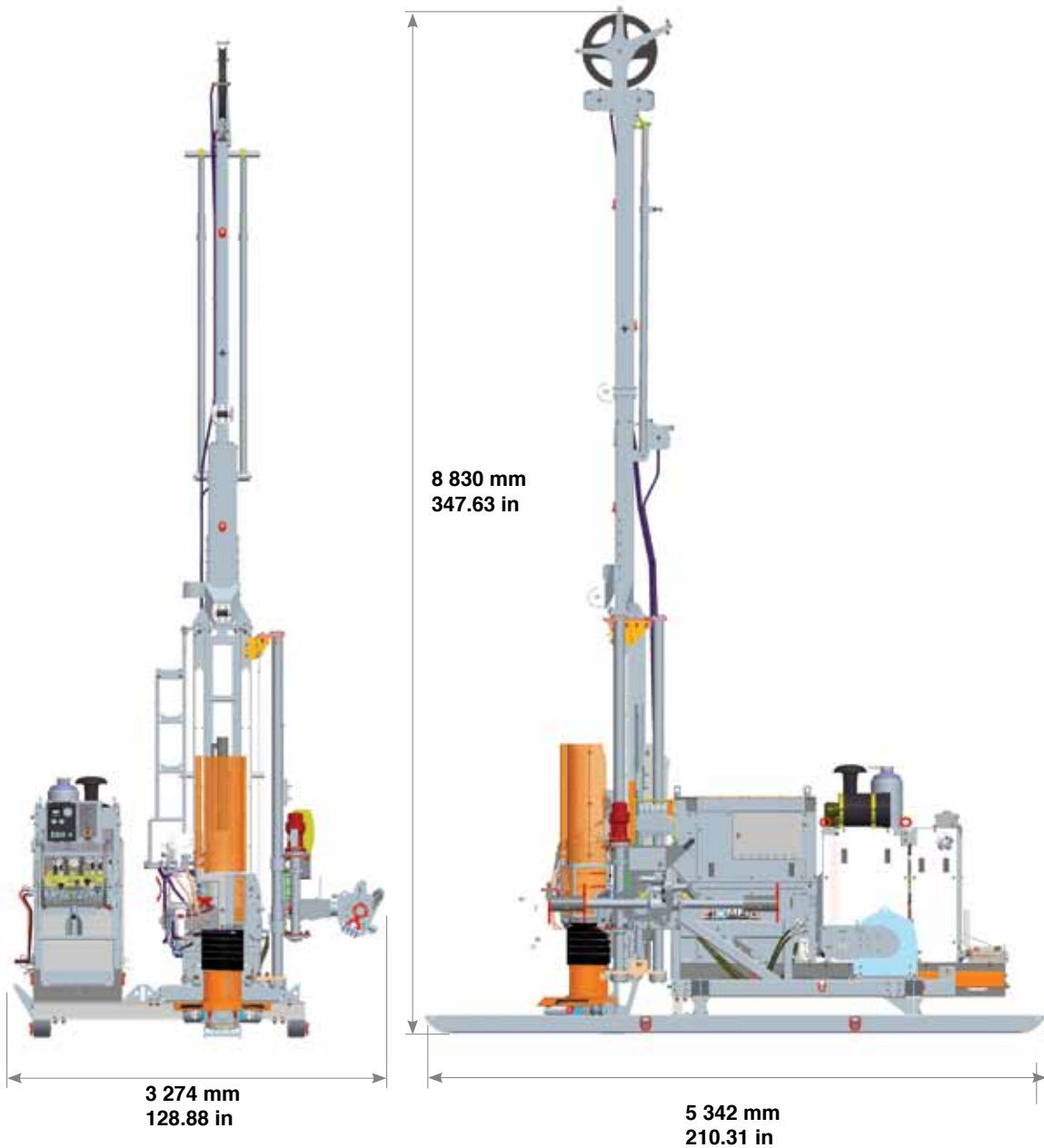
LF™ 130F DIMENSIONS AND WEIGHT

Standard Components
John Deere™ 4045HF485 liquid cooled, turbo charged, diesel engine
Hydraulic module
Positioner
Battery - 12V
Feed frame with wireline extension
PQ rotation unit including patented Nitro-Chuck®
PQ rod clamp

Options
Fuel tank (57 L/15 US gal)
Skid base
Rod handler
Wireline cable
Mud tank
Fluid circulation pumps (diesel supply and pressure)
Mud Mixer
Wireline winch with spooling device
Water pump
Choice of airblast or water cooling for hydraulic system



Rear View, Side View

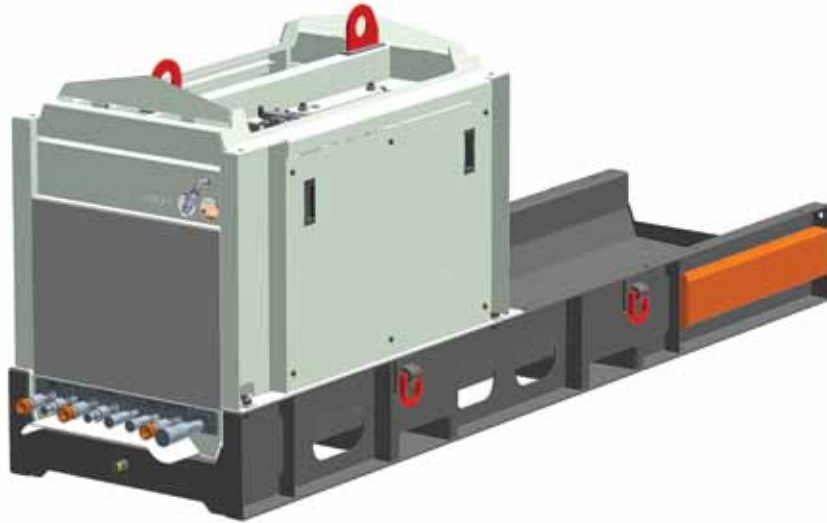


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LF™ 130F DIMENSIONS AND WEIGHT

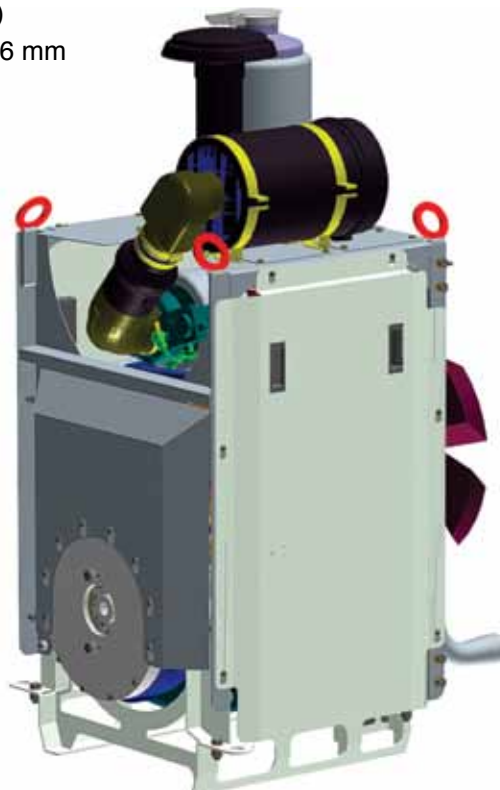
Lift 1: Pump Module

Weight = 635 kg (1,400 lb)
1149 mm x 782 mm x 2865 mm



Lift 2: Engine Module

Weight = 680 kg (1,500 lb)
1050 mm x 1844 mm x 926 mm



Boart Longyear is constantly striving to improve its products and must therefore, reserve the right to change designs, materials, specifications and price without notice.

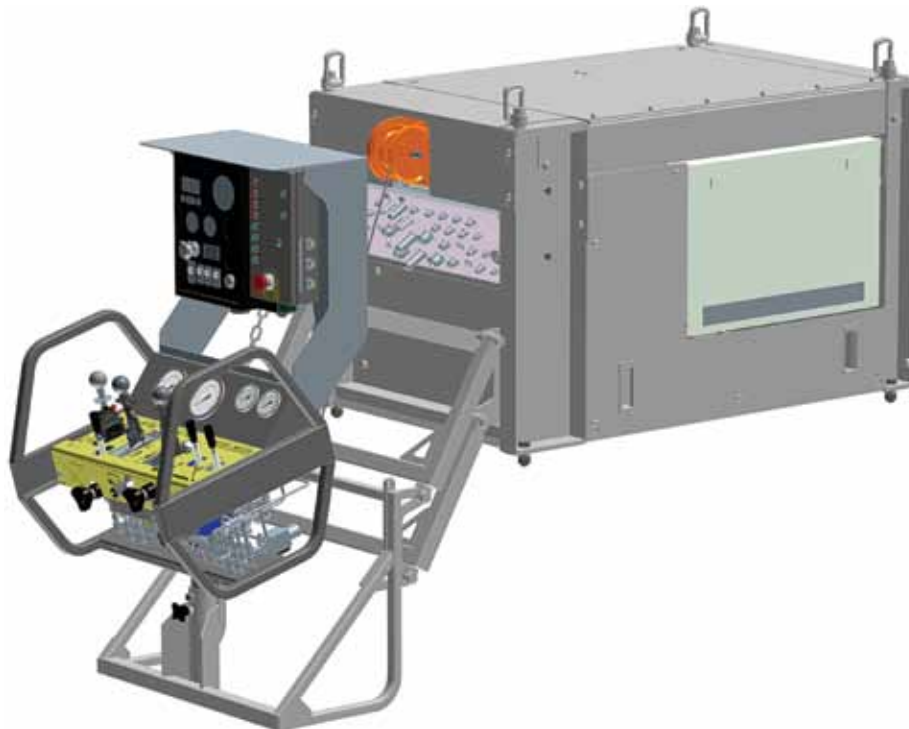
Lift 3: Radiator Module (including battery)

Weight = 270 kg (600 lb)
1447 mm x 851 mm x 885 mm



Lift 4: Control Module

Weight = 515 kg (1,135 lb)
2255 mm x 1233 mm x 750 mm

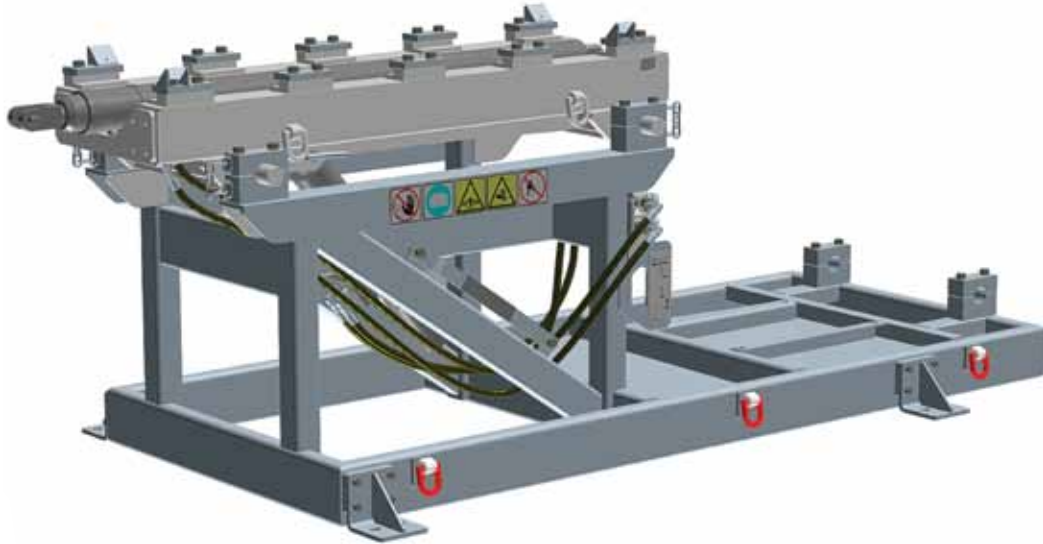


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LF™ 130F DIMENSIONS AND WEIGHT

Lift 5: Positioner

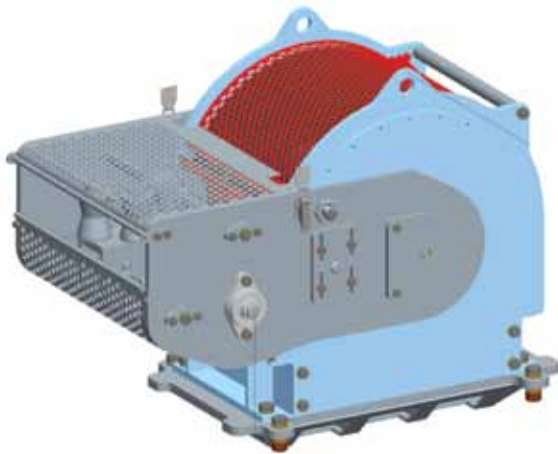
Weight = 678 kg (1,495 lb)
2976 mm x 1332 mm x 1082 mm



Lift 6: Wireline, Rod Holder

Wireline Weight = 415 kg (915 lb)
893 mm x 689 mm x 725 mm

Rod Holder Weight = 239 kg (530 lb)
604 mm x 865 mm x 940 mm



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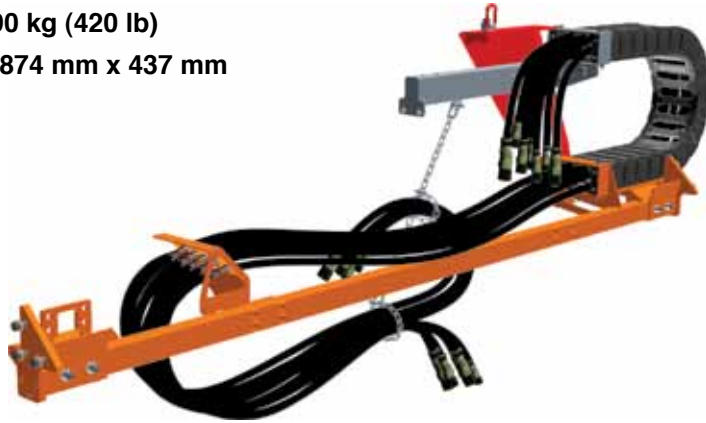
Lift 7: Feed Frame

Weight = 630 kg (1,390 lb)
3243 mm x 1134 mm x 499 mm



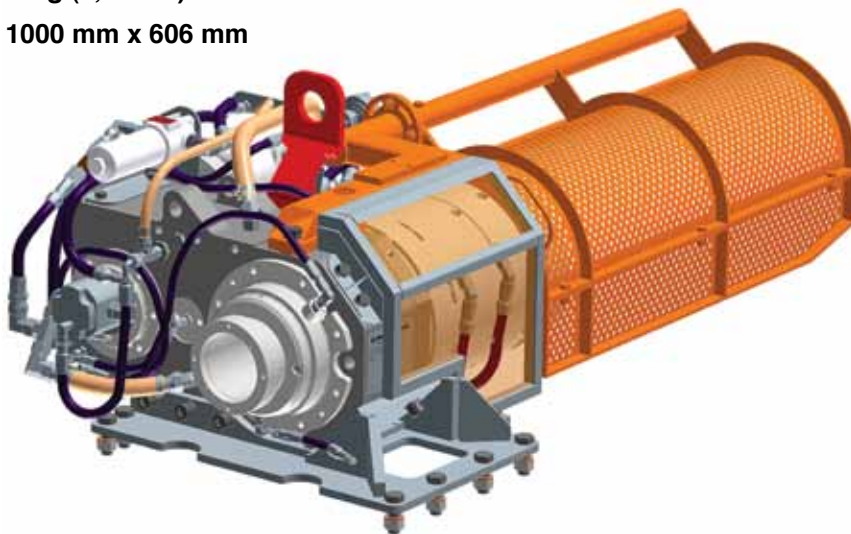
Lift 8: Hose Management

Weight = 190 kg (420 lb)
3461 mm x 874 mm x 437 mm



Lift 9: Rotation Unit

Weight = 680 kg (1,500 lb)*
1691 mm x 1000 mm x 606 mm



*Jaw set and guide bushes removed

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

LF™ 130F DIMENSIONS AND WEIGHT

Lift 10: Upper Mast Assembly

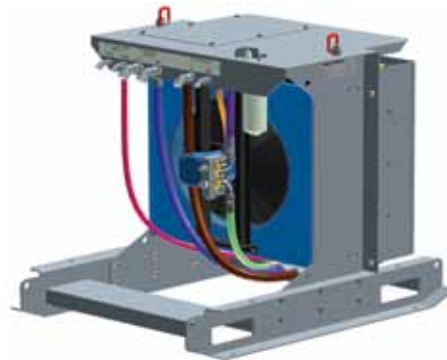
Weight = 440 kg (970 lb)
5207 mm x 600 mm x 830 mm



Lift 11: Water Pump, Oil Cooler Module (Water or Airblast)



Weight = 253 kg (558 lb)
992 mm x 676 mm x 926 mm



Weight = 425 kg (940 lb)
1400 mm x 1030 mm x 1321 mm



Weight = 80 kg (176 lb)
906 mm x 875 mm x 550 mm

Note: This lift is the water pump and airblast cooler together or water pump and water/oil cooler together

Option: Skid Base

Weight = 680 kg (1,500 lb)

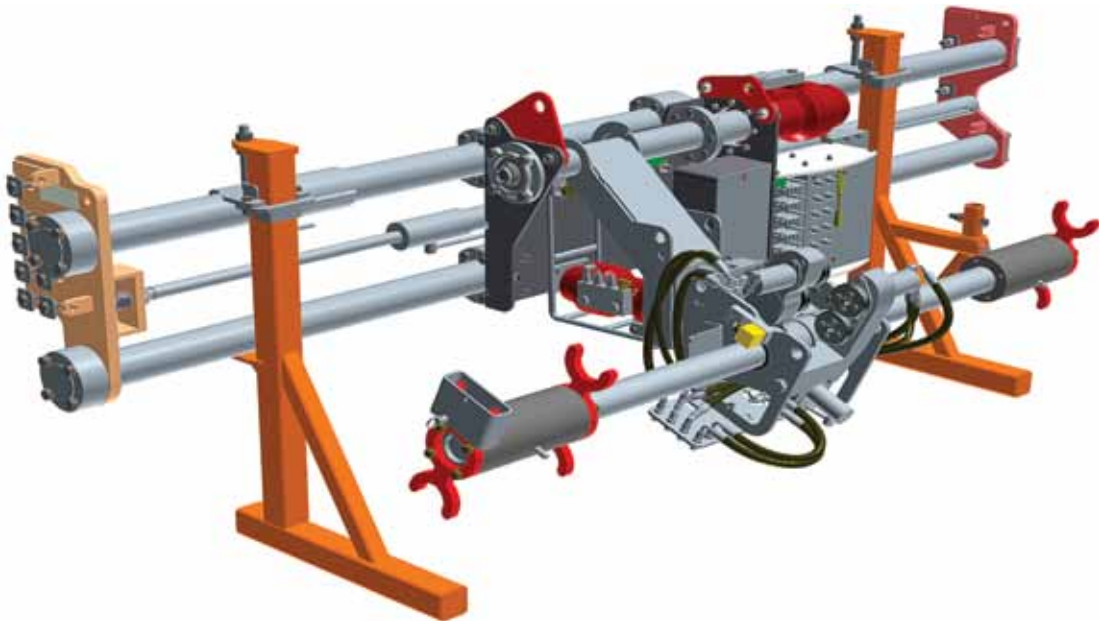
5331 mm x 2574 mm x 459 mm



Optional: Rod Handler

Weight = 660 kg (1,455 lb)

3154 mm x 1071 mm x 1139 mm



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



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