



FOUNDATION EQUIPMENT



LR65

LONG REACH

Cat® 323 NG

ABOUT THE LONG REACH SERIES

APPLICATIONS:

- **Long Reach**, the longest reach drill rig of its class in the market.
- Conversion to **Long Mast** and **Short Mast** options available.

BASE:

- The new **Cat® 323 Next Gen** is a purpose-built machine powered by a fuel-efficient U.S. EPA **Tier 4 Final** C7.1 ACERT engine.
- Equipped with **CAT Vision Link** that allows management to monitor machine operations and maintenance data online and wireless, providing information such as location, hours, fuel usage, idle time, event codes and maintenance schedule.

UNDERCARRIAGE:

- Caterpillar **variable undercarriage** VH3830/3675/600. Reinforced frame H style variable undercarriage.

MAST:

- Reinforced mast, with high resistance steel **Weldox 700**.
- Dual tilt up cylinders add mast rigidity

ROTARY:

- **Robust design**, with 2 slewing bearings on top and bottom, robust pinion and main gear.
- Anti-cavitation and anti-shock system for longer hydraulic motor life.
- **1 group of Hydraulic Motor / Planetary Gear** for high torque, high speeds and long life.
- Cooling system for hydraulic motors and gearboxes.
- Power-shift for **High spin-off speed (135rpm)** for quick discharge of soil.
- **3 operation speeds** and 3 spinoff speeds. For high torque and high speeds.
- **Automatic gear shifting**, for seamless operation, high production.
- **Exchangeable keys**, bolted. No need to rebuild keys by welding inside the rotary.
- Hydraulic measurement of torque displayed in the cabin for the operator.

MAIN WINCH:

- **Special groove** for better cable winding and longer cable life.
- Press-roller included.
- **2 gears** allows for both **high speed** and **high pulling force**.
- **Automatic gear shifting**, for seamless operation, high production.
- Automatic down the hole winch stop. When Kelly bar reaches the bottom of the hole, winch automatically stops.
- Freewheeling winch during crowd operation.
- Hydraulic and mechanical brake.
- Hydraulic measurement of pulling force displayed in the cabin for operator.

KELLY BAR:

- Large inner passage on rotary allows for **large diameter pipes** (16in) and **thicker keys**.
- Thick Keys made of Wear resistant materials – **Hardox 450**.



CAB:

- AM/FM Radio, Air conditioning/Heating
- ROPS cab
- Top protection
- LCD monitor for Engine and Hydraulics computer, with diagnostic system

CONTROL SYSTEM:

- Touch Screen Display
- Measurements:
 - Torque and rotary speeds
 - Drilling depth
 - Mast inclination X/Y axis
 - Main Winch pulling force
 - Crowd force
- Automatic functions:
 - Auto-level of mast
 - Rotary automatic gear shifting
 - Main Winch automatic gear shifting
 - Drill Lock
 - Auto Crowd
 - Return to Center
- Maintenance and data logging

ACCESSORIES:

- Lighting package
- Refueling pump
- Cold weather start up package
- Fine filtration system
- Tool & O'ring kits

TECHNICAL SPECIFICATIONS

KELLY BAR SHORT MAST APPLICATION

Drilling Depth (5 elements; interlock kelly bar)*	55 ft	16,760 mm
Maximum Drilling Depth (Interlocking bars)	80 ft	24,380 mm
Maximum Drilling Depth (Friction bars)	100 ft	30,480 mm
Drilling Diameter	9 ft	2,750 mm

*For longer bars, mast extension is required.

ROTARY HEAD - RT 406-9

Max. torque (nominal)	77,000 ft.lbs	10,646 kg.m
Working speed of rotation	23 – 36 rpm	
Spin-off rotation	100 – 135 rpm	

CROWD SYSTEM

Cylinder stroke - short mast	6 ft 3 in	1,920 mm
Cylinder push force	27,000 lbf	12,300 kgf
Cylinder push speed	128 ft/min	33 m/min
Cylinder pull force	39,600 lbf	18,000 kgf
Cylinder pull speed	118 ft/min	36 m/min

MAIN WINCH

Max. pull-force - 1st Layer (effective)	27,120 lbf	12,330 kgf
Line speed - 1st Layer	310 ft/min	94 m/min
Cable diameter	3/4 in	20 mm
Drum diameter - 1st Layer	15.75 in	400 mm

AUXILIARY WINCH

Max. pull-force - 1st Layer (effective)	14,300 lbf	6,500 kgf
Cable diameter	5/8 in	16 mm
Drum diameter - 1st Layer	10.2 in	260 mm

MAST INCLINATION

Backward	15°	15°
Forward	10°	10°
Sideways	12° / 12°	12° / 12°

DIESEL ENGINE CAT323 NEXT GEN (CAT® C7.1 ACERT™)

Exhaust Emission Standard	EPA Tier 4 Final	
Net Power – Standard ISO 9249	172 hp	128 kW
Displacement	428 in3	7.1 L
Fuel Tank	86.6 gal	345 L



HYDRAULIC SYSTEM

Hydraulic pressure	5,076 psi	350 bar
Flow rate (main circuit)	2x56.5 gal/min	2x214.5 L/min
Hydraulic oil tank capacity	30.4 gal	115 L
Flow rate (auxiliary circuit)	26.5 gal/min	100 L/min

UNDERCARRIAGE

Track length	15 ft 4 in	4,650 mm
Length to center of rollers	12 ft 7 in	3,830 mm
Working position width (extended)	12 ft 1 in	3,675 mm
Shoes width	23.6 in	600 mm
Max. drawbar pull (both tracks)	46,085 lbf	20,500 kgf
Max. travel speed	1.93 mph	3.1 km/h

TRANSPORT

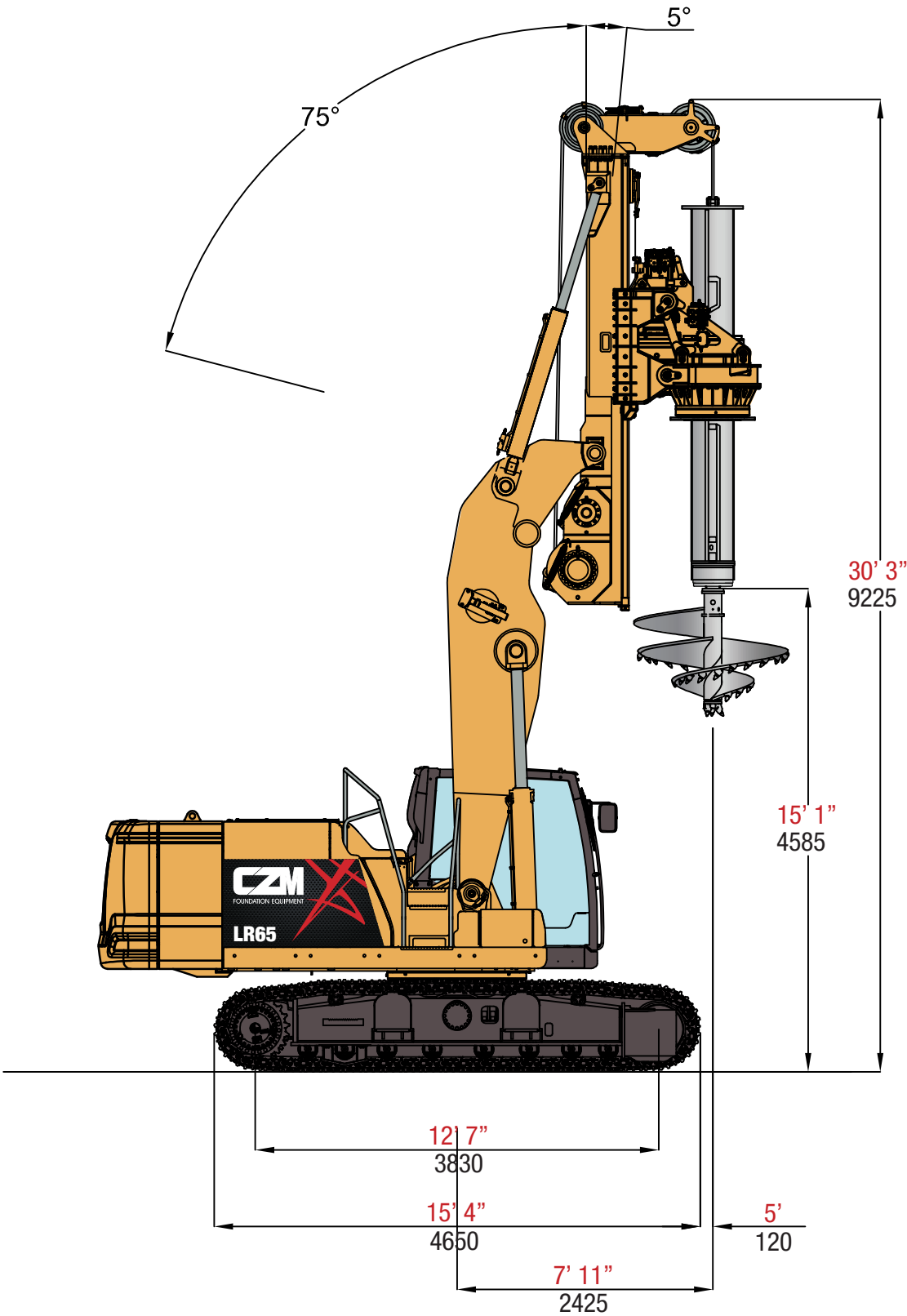
Transport height	9 ft 6 in	2,890 mm
Length (Short Mast)	37 ft 2 in	11,330 mm
Length (Long Mast)	44 ft 11 in	13,690 mm
Transport width	9 ft	2,745 mm
Transport weight (standard kelly 5 / 55 ft)	80,000 lb	36,300 kg

GENERAL DATA

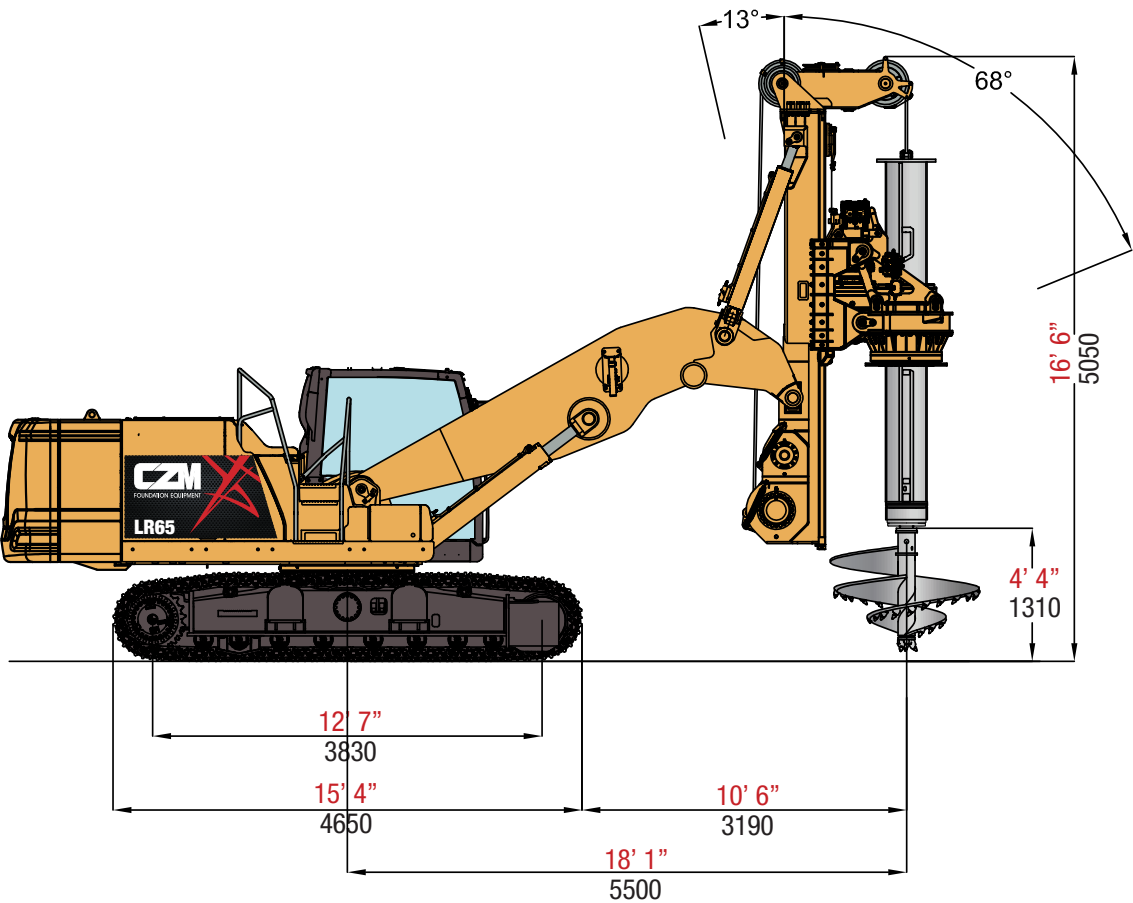
Overall height (boom in)	30 ft 3 in	9,225 mm
Overall height (boom out)	16 ft 6 in	5,050 mm
Operating weight	80,000 lb	36,300 kg



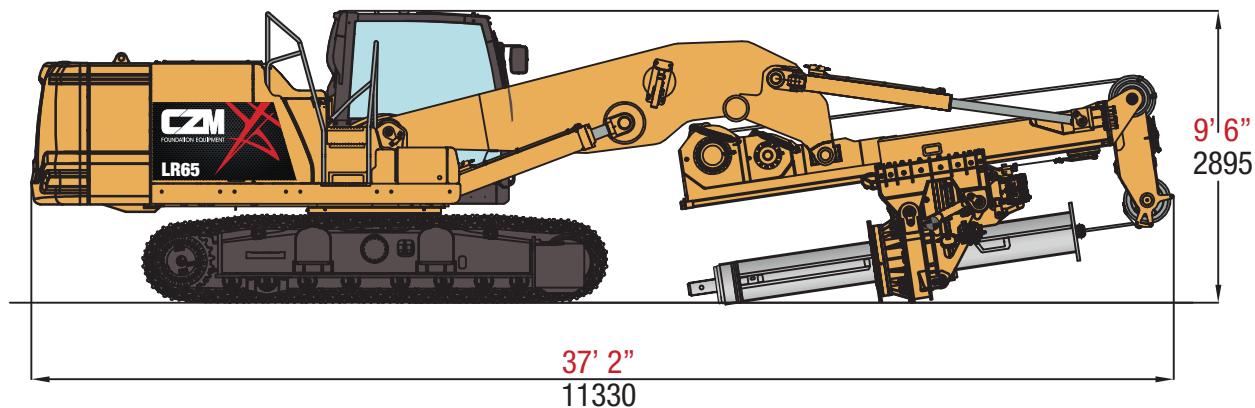
GENERAL DIMENSIONS SHORT MAST



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TRANSPORT POSITION GENERAL DIMENSIONS



KELLY BAR OPTIONS FOR LR65

	NUMBER OF ELEMENTS	DEPTH - DPT	CLOSED LENGTH	WEIGHT
5/40 Interlock	5	40' / 12.2m	12' 9" / 3.89m	4,740 lbs (2,150 kg)
5/55 Interlock	5	55' / 16.8m	15' 8" / 4.78m	5,840 lbs (2,650 kg)
5/65 Interlock	5	65' / 19.8m	17' 10" / 5.43m	6,610 lbs (3,000 kg)
5/80 Interlock	5	80' / 24.4m	21' 11" / 6.68m	7,385 lbs (3,350 kg)
5/65 Friction	5	65' / 19.8m	17' 10" / 5.43m	6,610 lbs (3,000 kg)
5/80 Friction	5	80' / 24.4m	21' 11" / 6.68m	7,385 lbs (3,350 kg)

LR65

Mounted on
Cat® 323
(NEXT GEN)



**SCAN
QR CODE**

To view a video
of the LR65.





FOUNDATION EQUIPMENT

▲ THE COMPANY

CZM is headquartered in Savannah, Georgia, USA. For over 40 years, we have specialized in manufacturing foundation equipment. We design and customize models for many different drilling applications including Drill shafts, CFA/cased CFA, Micropile and anchoring, driven pile and hydraulic hammers and soil improvements. We are a Caterpillar OEM (Original Equipment Manufacturer).

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