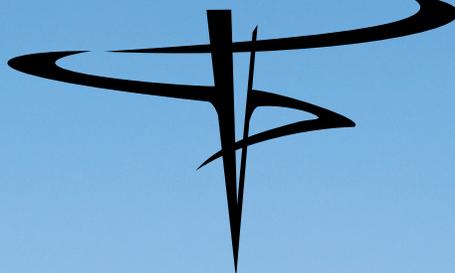


**CZM**

FOUNDATION EQUIPMENT



6.24

# LR50

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.

## MAST:

- Reinforced mast, with high resistance steel **Weldox 700**.

## 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 (120rpm)** 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 automatic stops.
- Free willing winch during crowd operation.
- Hydraulic and mechanic 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 (Optional)
- 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)	40 ft	12,200 mm
Maximum Drilling Depth (5 elements kelly)*	65 ft	19,800 mm
Maximum Drilling Depth (6 elements kelly)*	80 ft	24,400 mm
Maximum Drilling Diameter	98 in	2,500 mm

\*For longer bars, mast extension is required.

## ROTARY HEAD - RT 406-7.3

Max. torque (nominal)	53,200 ft.lbs	7,300 kg.m
Working speed of rotation	17 – 51 rpm	
Spin-off rotation	120 – 188 rpm	

## CROWD SYSTEM

Cylinder stroke - short mast	6 ft 4 in	1,920 mm
Cylinder push force	15,140 lbf	6,800 kgf
Cylinder push speed	128 ft/min	33 m/min
Cylinder pull force	27,000 lbf	12,200 kgf
Cylinder pull speed	118 ft/min	36 m/min

## MAIN WINCH

Max. pull-force - 1st Layer (effective)	27,200 lbf	12,330 kgf
Line speed - 1st Layer	330 ft/min	104 m/min
Cable diameter	.79 in	20 mm
Drum diameter - 1st Layer	15.7 in	400 mm

## AUXILIARY WINCH

Max. pull-force - 1st Layer (effective)	11,520 lbf	5,230 kgf
Cable diameter	5/8 in	16 mm
Drum diameter - 1st Layer	12 in	320 mm

## MAST INCLINATION

Backward	5° – 15°	5° – 15°
Forward	15°	15°
Sideways	15° / 15°	15° / 15°

## DIESEL ENGINE Cat® 323 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 L
Fuel Tank	86.6 gal	345 L

## HYDRAULIC SYSTEM

Hydraulic pressure	5,076 psi	350 bar
Flow rate (main circuit)	113 gal/min	429 L/min
Hydraulic oil tank capacity	30 gal	115 L
Flow rate (auxiliary circuit)	26.5 gal/min	100 L/min

## UNDERCARRIAGE

Track length	14 ft 7 in	4,450 mm
Length to Center of rollers	12 ft	3,650 mm
Width	10 ft 5 in	3,170 mm
Shoes width	31 in	790 mm

## TRANSPORT

Transport height	10 ft 5 in	3,170 mm
Transport length (Short Mast)	40 ft 6 in	12,340 mm
Transport length (Long Mast)	44 ft 3 in	13,490 mm
Transport width	10 ft 5 in	3,170 mm
Transport weight (Short Mast - Auger removed)	73,600 lb	33,400 kg
Transport weight (Long Mast - Auger removed)	74,000 lb	33,600 kg

## GENERAL DATA (SHORT MAST)

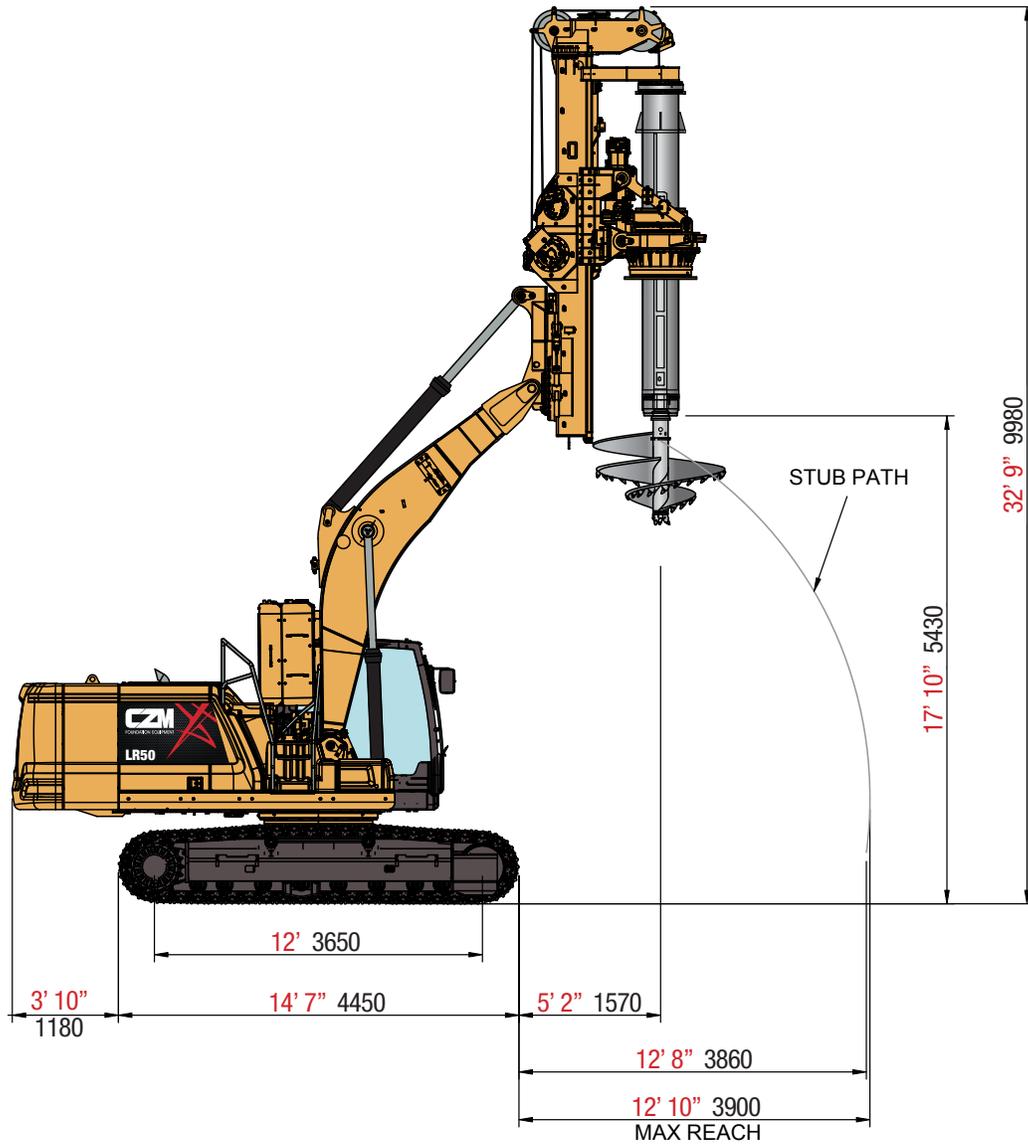
Overall height (boom in)	32 ft 9 in	9,980 mm
Overall height (boom out)	17 ft 9 in	5,400 mm
Operating weight	74,900 lb	34,000 kg
Ground pressure	11 psi	0.78 kg/cm <sup>2</sup>

## GENERAL DATA (LONG MAST)

Overall height (boom in)	36 ft 6 in	11,130 mm
Overall height (boom out)	21 ft 6 in	6,550 mm
Operating weight	75,400 lb	34,200 kg
Ground pressure	11 psi	0.78 kg/cm <sup>2</sup>

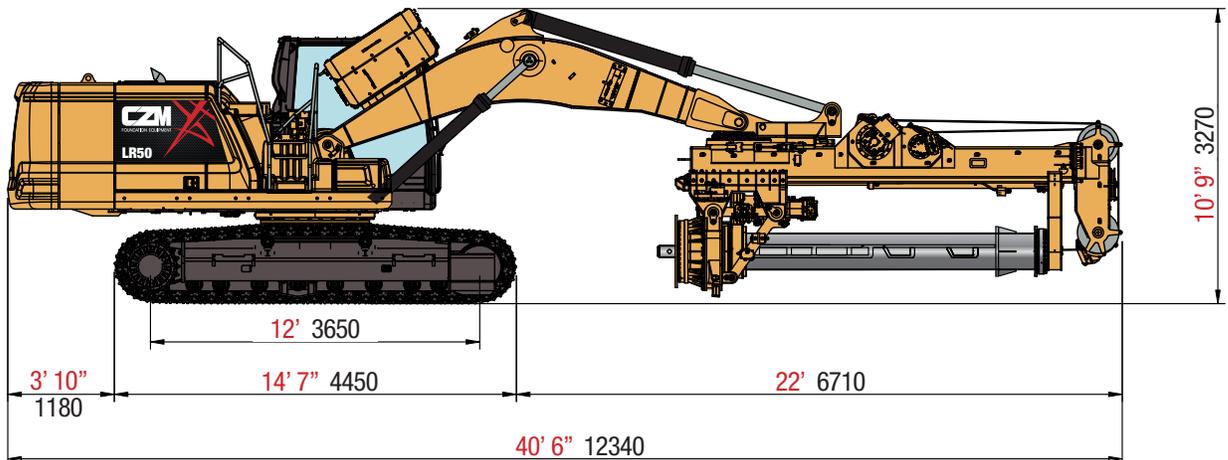
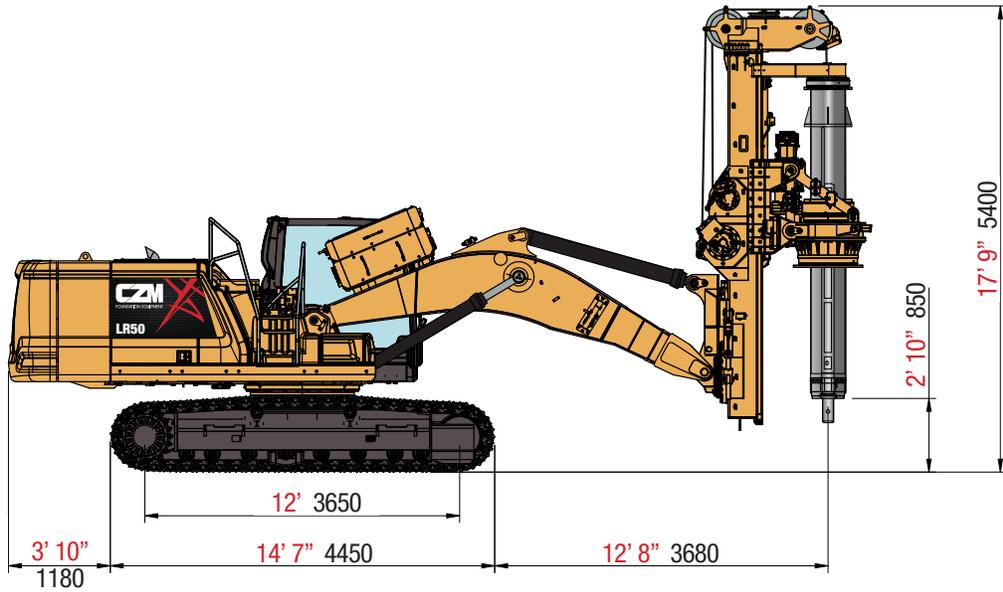


# GENERAL DIMENSIONS SHORT MAST



(With kelly bar 5/40 interlock)

# GENERAL DIMENSIONS SHORT MAST

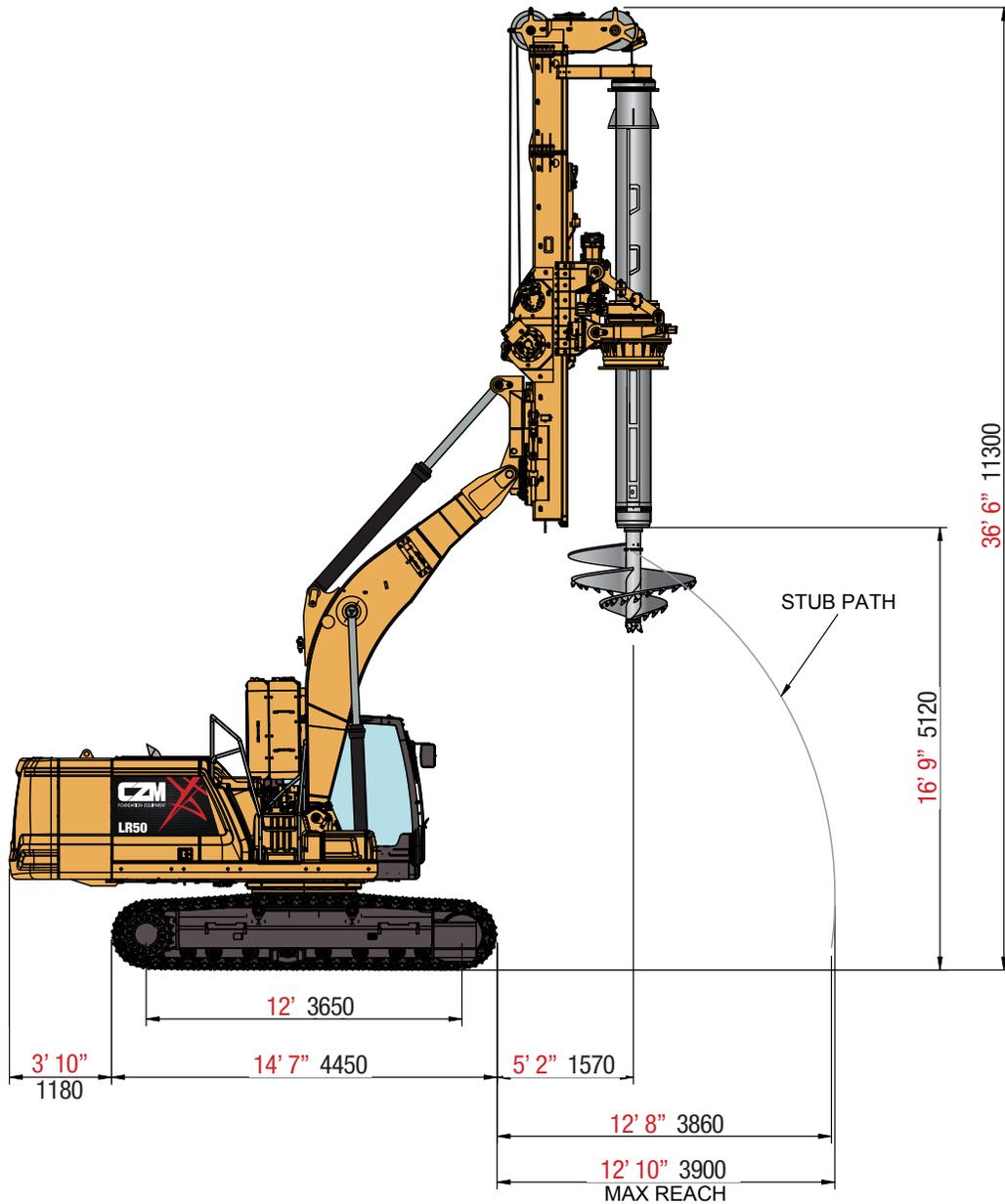


(With Kelly bar 5/40 interlock)



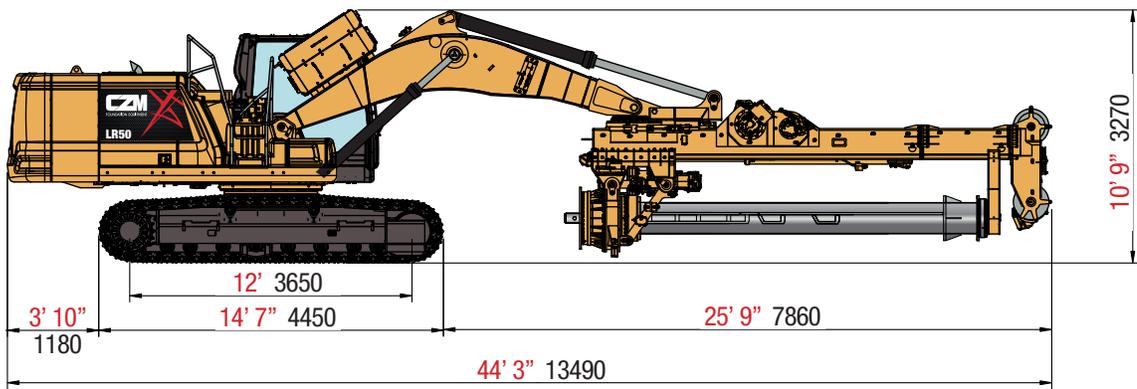
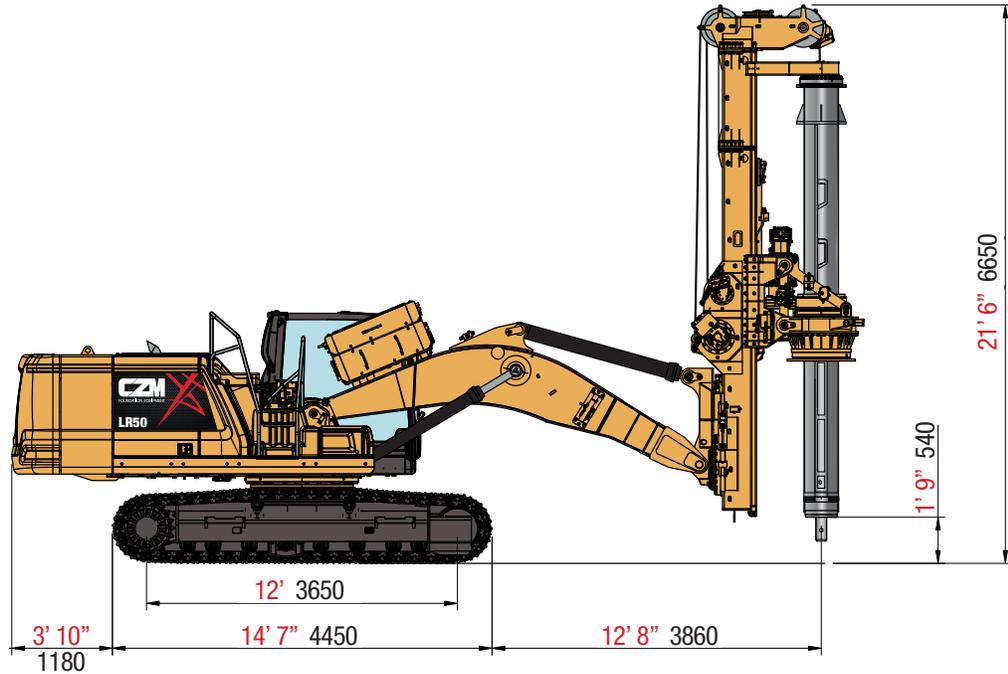
**SCAN  
QR CODE**  
To view a video  
of the LR50.

# GENERAL DIMENSIONS LONG MAST



(With kelly bar 5/65)

# GENERAL DIMENSIONS LONG MAST



## KELLY BAR OPTIONS FOR LR50

	<b>NUMBER OF ELEMENTS</b>	<b>DEPTH</b>	<b>CLOSED LENGTH</b>	<b>WEIGHT</b>
5/40 Interlock	5	40' / 12.2m	14' 2" / 4.3m	5,900lbs / 2,700kg
5/55 Interlock	5	55' / 16.8m	15' 2" / 4.6m	8,300lbs / 3,800kg
5/65 Interlock	5	65' / 19.8m	17' 2" / 5.2m	9,500lbs / 4,300kg
6/80 Interlock	6	80' / 24.4m	20' 2" / 6.1m	11,600lbs / 5,270kg
5/65 Zip Lock	5	65' / 19.8m	16' 5" / 5m	6000 lbs / 2,700kg
5/65 Friction	5	65' / 19.8m	17' 2" / 5.2m	9,300lbs / 4,220kg
6/80 Friction	6	80' / 24.4m	20' 2" / 6.1m	11,400lbs / 5,180kg



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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Specifications are subject to change without notice.