# LR65

## CYLINDER CROWD DRILLING RIG



FOUNDATION EQUIPMENT

czm-us.com

# LR65
## FEATURES

The **LR65** is part of CZM's Long Reach series and is mounted on a Cat® 323 Next Gen with variable undercarriage for increased stability. It has a special designed boom with 2 lift cylinders which allows for a high torque and crowd force to be applied to the tool through an interlocking Kelly bar, making it very efficient on hard soil and rock drilling. The long reach configuration makes it ideal to applications such as sound bearing walls, transmission lines and utilities, drilling on steep slopes, and difficult to reach holes.

## CZM'S OPERATOR ASSIST TECHNOLOGY:

- Auto Gear shifting for Rotary
- Auto Gear shifting for Main winch
- Drill Lock
- Auto Crowd
- Auto Level
- Return to Center

**TELEMATICS:** The rig includes a CZM Telematics System for remote monitoring, diagnostics, and software updates, enabling CZM Support to assist with troubleshooting and performance optimization.

## 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 wirelessly allows monitoring of the machine for maintenance and operations data, providing information such as location, hours, fuel usage, idle time, event codes and maintenance schedule.

## ROTARY

Robust design, with 2 slewing bearings on top and bottom, and robust pinion and main gear.

Anti-cavitation and anti-shock system for longer hydraulic motor life.

Cooling system for hydraulic motors and gearboxes.

Power-shift for High spin-off speed (140 rpm) 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 and reversible. No need to rebuild keys by welding inside the rotary.

Hydraulic measurement of torque displayed in the cab for the operator.

# LR65 FEATURES

## UNDERCARRIAGE

Caterpillar variable undercarriage with a reinforced H-style frame provides increased stability and traction force. Its variable width design expands for maximum stability during drilling and retracts for easy transport.

## MAST

Reinforced mast, with high strength steel.

Multiple mast extensions available.

Quick/easy to convert.

## MAIN WINCH

Special groove for better cable winding and longer cable life.

Press roller to maintain cable alignment standard.

Automatic down the hole winch stop. When Kelly bar reaches the bottom of the hole, winch automatically stops.

## CAB

AM/FM Radio, Air conditioning/Heating

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

Maintenance and data logging

## SAFETY

Stability according to EN16228

Base, Mast and Boom Inclinometers

Working radius warning

Limit switches for Boom, Mast Tilt, Main Winch and Service Winch

Operator warnings for non recommended operations.

## ACCESSORIES

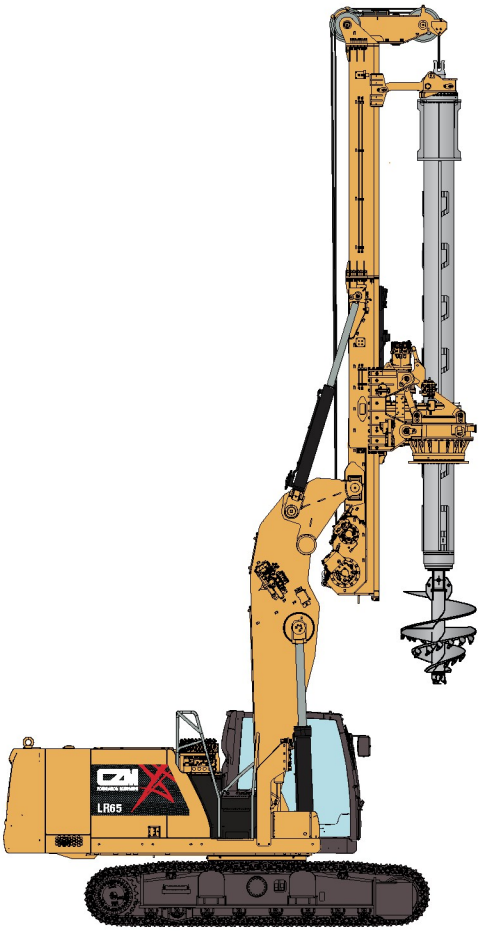
Lighting package

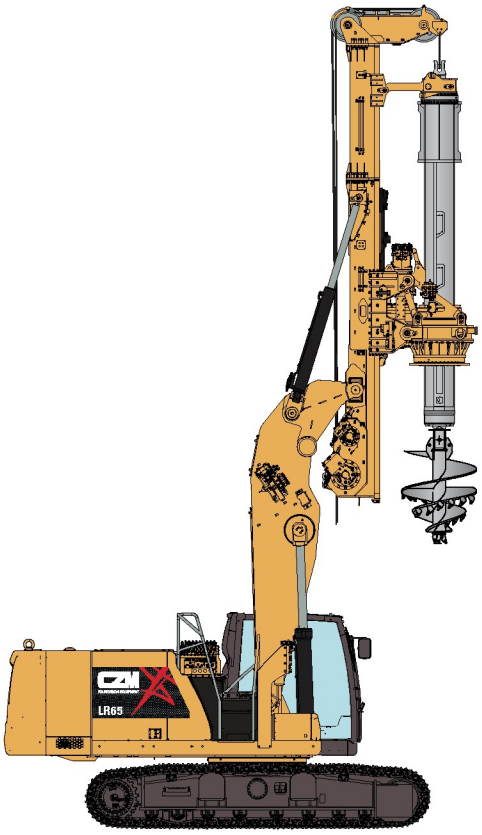
Refueling pump

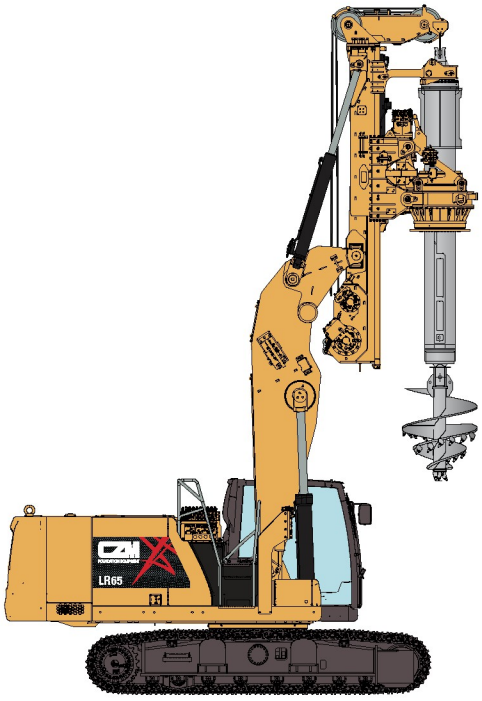
O-ring kits

Toolbox

# LR65
## APPLICATIONS




| STANDARD MAST | |
|---|---|
| Standard Drilling Depth | **84 ft** |
| Diameter (Max. above mast) | **5 ft** |
| Diameter (Max. below mast) | **9 ft** |
| Max. Torque | **77,500 ft.lbs** |
| Operating weight* | **86,900 lb** |

| MID MAST | |
|---|---|
| Standard Drilling Depth | **56 ft** |
| Diameter (Max. above mast) | **5 ft** |
| Diameter (Max. below mast) | **9 ft** |
| Max. Torque | **77,500 ft.lbs** |
| Operating weight* | **83,600 lb** |

| SHORT MAST | |
|---|---|
| Standard Drilling Depth | **42 ft** |
| Diameter (Max. above mast) | **5 ft** |
| Diameter (Max. below mast) | **9 ft** |
| Max. Torque | **77,500 ft.lbs** |
| Operating weight* | **82,500 lb** |

* Weight includes standard kelly bar, without tool.

# LR65
## TECHNICAL SPECIFICATIONS

### ROTARY HEAD

| | |
|---|---|
| Maximum torque (Nominal) | **77,500 ft.lbs** |
| Working speed of rotation | **19-30.5 rpm** |
| Spin-off rotation | **90-140 rpm** |

### CROWD SYSTEM

| | |
|---|---|
| Cylinder stroke | **6 ft 3 in** |
| Cylinder push force | **27,000 lbf** |
| Cylinder push speed | **65 ft/min** |
| Cylinder pull force | **39,600 lbf** |
| Cylinder pull speed | **54 ft/min** |

### MAIN WINCH

| | |
|---|---|
| Max. pull-force - 1st Layer (effective) | **27,100 lbf** |
| Line speed - 1st Layer | **305 ft/min** |
| Cable diameter | **3/4 in** |
| Drum diameter - 1st Layer | **15.8 in** |

### AUXILARY WINCH

| | |
|---|---|
| Max. pull-force - 1st Layer (effective) | **10,000 lbf** |
| Line speed - 1st Layer | **120 ft/min** |
| Cable diameter | **5/8 in** |
| Drum diameter - 1st Layer | **12.6 in** |

### MAST INCLINATION

| | |
|---|---|
| Backward | **15°** |
| Forward | **10°** |
| Sideways | **12° / 12°** |

### DIESEL ENGINE Cat® 323 - (Cat® C7.1 ACERT™)

| | |
|---|---|
| Net Power (ISO 14396) | **176 hp** |
| Displacement | **428 in³** |
| Fuel Tank | **86 gal** |

### HYDRAULIC SYSTEM - (Cat® 323)

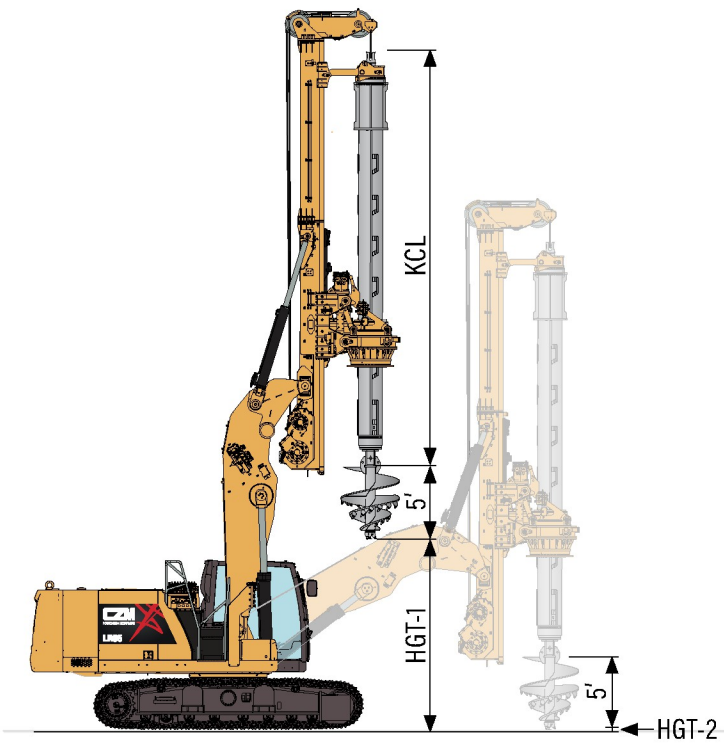
| | |
|---|---|
| Hydraulic pressure | **5,076 psi** |
| Flow rate (main circuit) | **2x56.5 gal/min** |
| Flow rate (auxiliary circuit) | **26.5 gal/min** |
| Hydraulic oil tank capacity | **30.4 gal** |

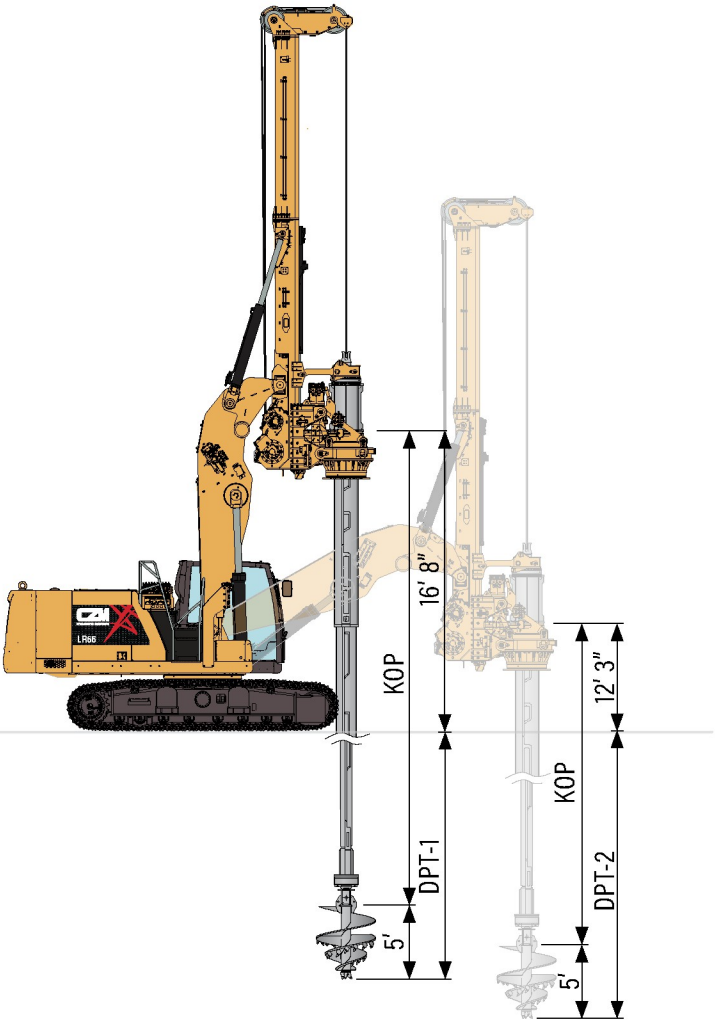
### UNDERCARRIAGE

| | |
|---|---|
| Track length | **15 ft 3 in** |
| Length to Center of rollers | **12 ft 8 in** |
| Closed position width (retracted) | **8 ft 4 in** |
| Working position width (extended) | **12 ft** |
| Shoes width | **23.6 in** |
| Max. drawbar pull | **86,000 lbf** |
| Max. travel speed | **1.15 mph*** |

*Second speed for traveling available on Short Mast machines as optional.

# STANDARD MAST
## GENERAL DIMENSIONS

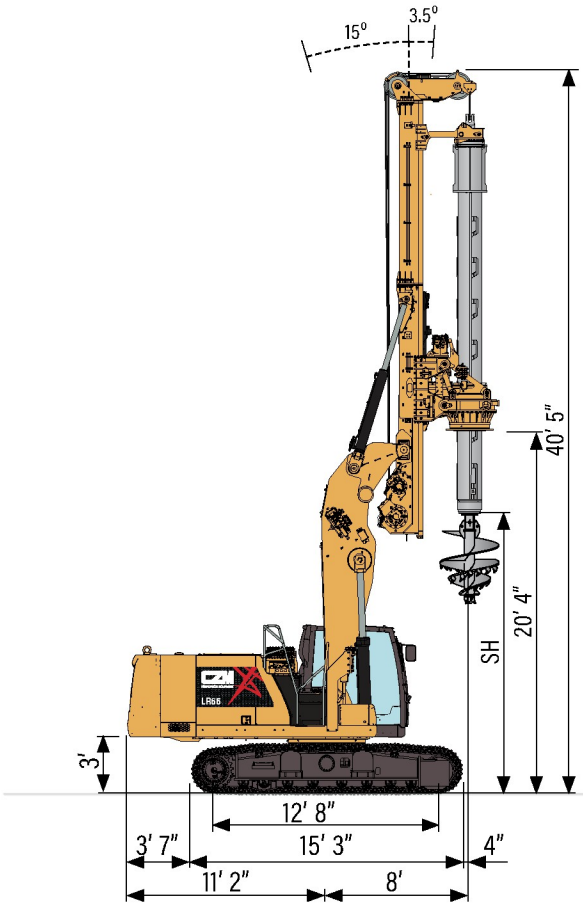


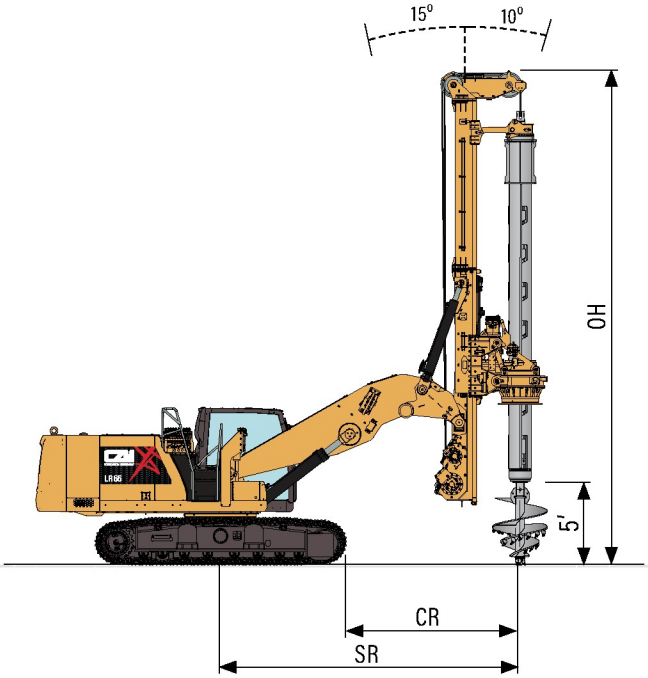




| KELLY BAR OPTIONS | PART # | # ELEMENTS | DEPTH - DPT-1[1] | DPT-2[2] | TRANSPORT - KCL[3] | HGT-1[4] | HGT-2[5] | KOP[6] | WEIGHT[7] |
|---|---|---|---|---|---|---|---|---|---|
| 5/80 Interlock | 20712.5080.000 | 5 | 74 ft 1 in | 84 ft 9 in | 23 ft 5 in | 10 ft 8 in | 0 ft | 86 ft 8 in | 9,100 lb |
| 5/80 Ziplock | 25506.5080.000 | 5 | 75 ft | 85 ft 6 in | 23 ft 1 in | 10 ft 6 in | 0 ft | 87 ft 7 in | 9,100 lb |
| 5/60 Ziplock | 25506.5060.000 | 5 | 54 ft 11 in | 68 ft 7 in | 18 ft 11 in | 14 ft 7 in | 11 in | 67 ft 5 in | 7,700 lb |
| 4/53 Interlock | 25712.4053.010 | 4 | 44 ft | 57 ft 8 in | 19 ft 6 in | 14 ft 4 in | 8 in | 55 ft 9 in | 7,400 lb |

[1] DPT-1: Total depth with 5 ft tool boomed all the way back.
[2] DPT-2: Total depth with 5 ft tool boomed all the way forward.
[3] KCL: Length measured from bottom of stub to top of swivel.
[4] HGT-1: Length measured from ground to bottom of auger, boomed all the way back.
[5] HGT-2: Length measured from ground to bottom of auger, boomed all the way forward.
[6] KOP: Length measured from top of flange to bottom of stub (without a tool).
[7] Weight includes A-frame and swivel.

Other kelly bars available upon request.



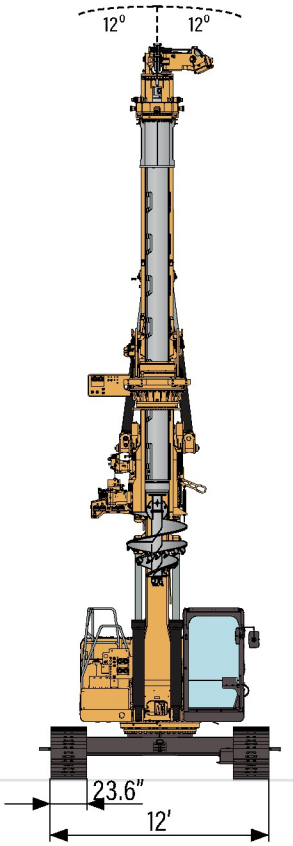

*Dimensions with standard Kelly bar 5/80

| KELLY BAR OPTIONS | PART # | SH[1] | SR[2] | CR[3] | OH[4] |
|---|---|---|---|---|---|
| 5/80 Interlock | 20712.5080.000 | **15 ft 8 in** | **18 ft** | **10 ft 4 in** | **29 ft 9 in** |
| 5/80 Ziplock | 25506.5080.000 | **15 ft 8 in** | **18 ft** | **10 ft 4 in** | **29 ft 9 in** |
| 5/60 Ziplock | 25506.5060.000 | **19 ft 7 in** | **18 ft 4 in** | **10 ft 8 in** | **26 ft 9 in** |
| 4/53 Interlock | 25712.4053.010 | **19 ft 4 in** | **18 ft 4 in** | **10 ft 8 in** | **26 ft 9 in** |

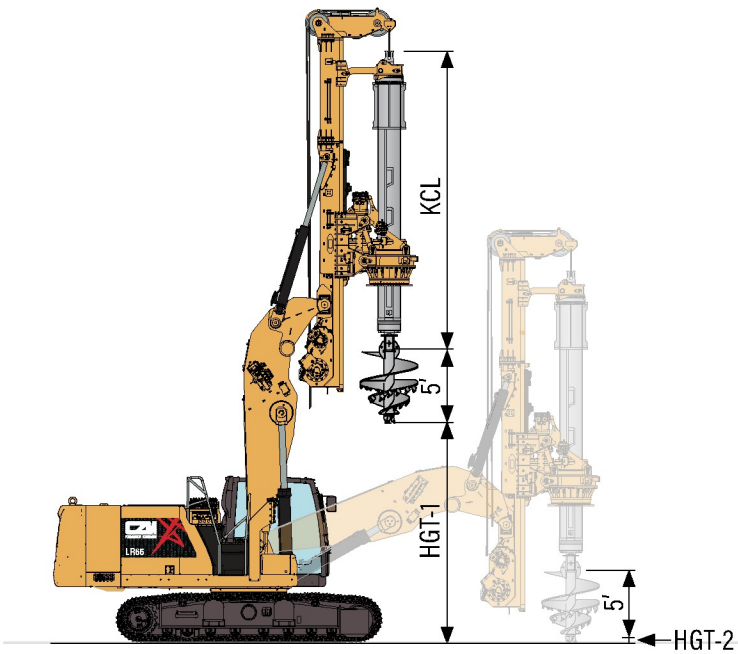
[1] SH: Length measured from ground to bottom of kelly.
[2] SR: Reach measured from center of swing to center of tool.
[3] CR: Reach measured from crawler to center of tool.
[4] OH: Overall height measured from ground to top of head mast.

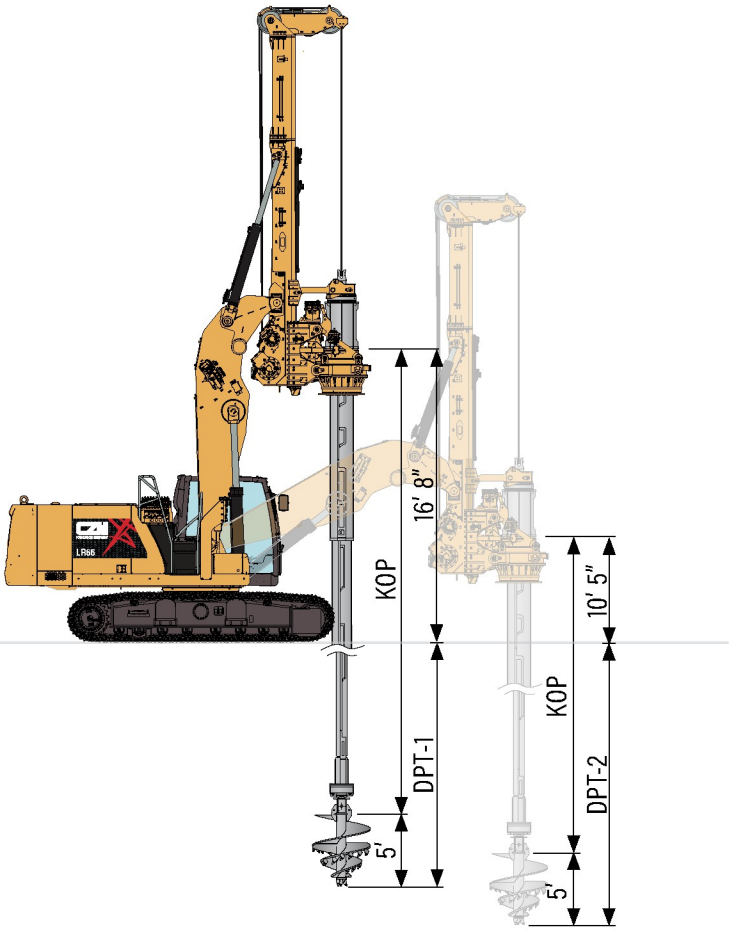
## GENERAL SPECIFICATIONS

| | |
|---|---|
| Maximum torque (Nominal) | **77,500 ft.lbs** |
| Crowd force | **27,000 lbf** |
| Main winch line pull | **27,100 lbf** |
| Cylinder stroke | **6 ft 3 in** |
| Operation height | **40 ft 5 in - 26 ft 9 in** |
| Operation weight | **86,900 lb** |



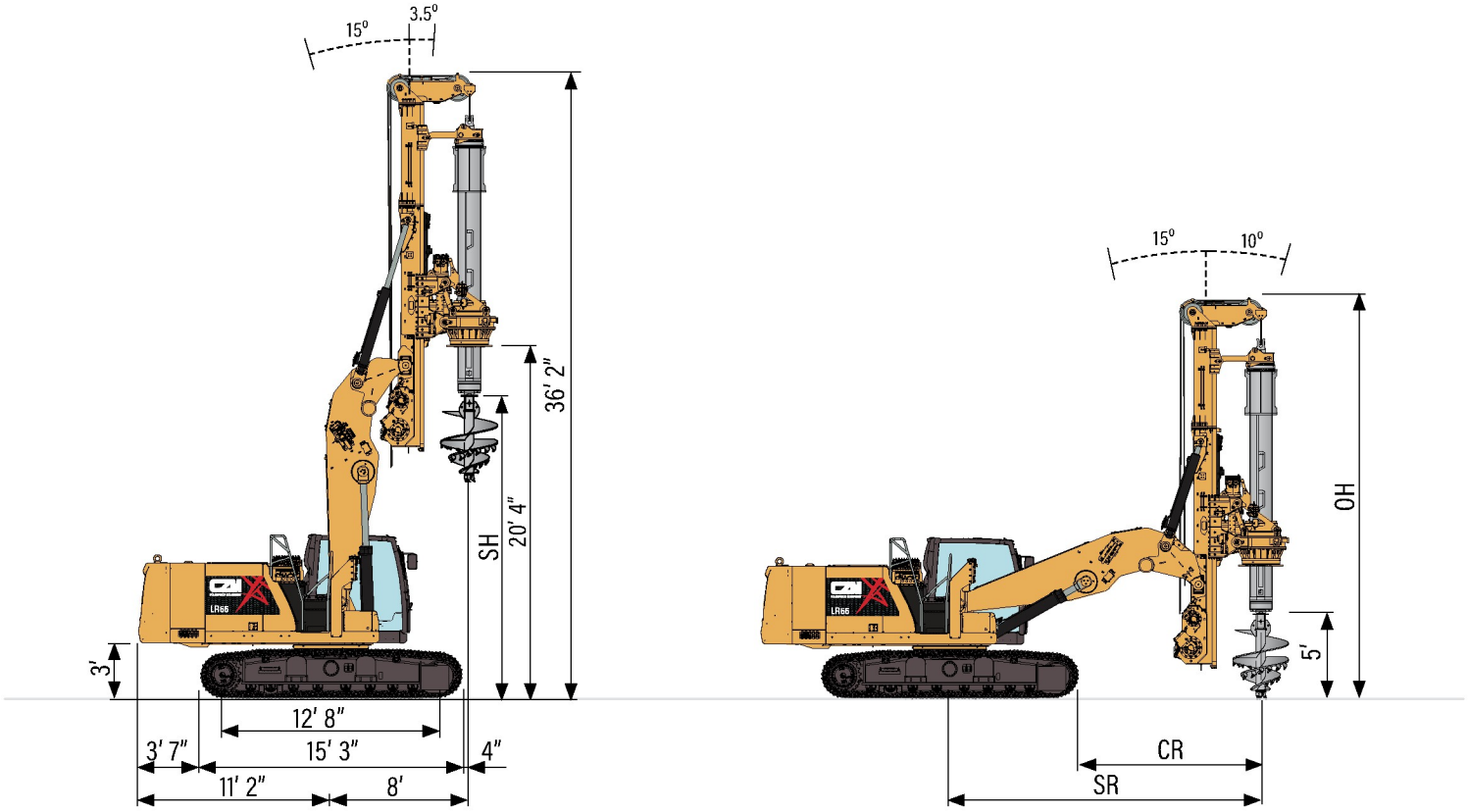
# MID MAST
## GENERAL DIMENSIONS




| KELLY BAR OPTIONS | PART # | # ELEMENTS | DEPTH - DPT-1[1] | DPT-2[2] | TRANSPORT - KCL[3] | HGT-1[4] | HGT-2[5] | KOP[6] | WEIGHT[7] |
|---|---|---|---|---|---|---|---|---|---|
| 5/60 Ziplock | 25506.5060.000 | 5 | 54 ft 11 in | 65 ft 1 in | 18 ft 11 in | 10 ft 2 in | 0 ft | 67 ft 5 in | 7,700 lb |
| 5/52 Interlock | 25862.5052.000 | 5 | 44 ft 3 in | 56 ft 10 in | 17 ft 1 in | 12 ft 6 in | 0 ft | 56 ft 8 in | 6,900 lb |
| 4/53 Interlock | 25712.4053.010 | 4 | 44 ft | 53 ft 11 in | 19 ft 6 in | 10 ft | 0 ft | 55 ft 9 in | 7,400 lb |
| 4/45 Interlock | 25506.4045.000 | 4 | 33 ft 2 in | 45 ft 5 in | 17 ft | 12 ft 3 in | 0 ft | 45 ft 9 in | 6,500 lb |

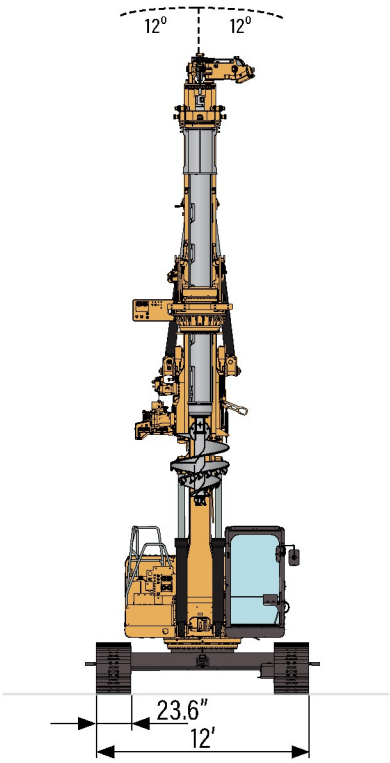
[1] DPT-1: Total depth with 5 ft tool boomed all the way back.
[2] DPT-2: Total depth with 5 ft tool boomed all the way forward.
[3] KCL: Length measured from bottom of stub to top of swivel.
[4] HGT-1: Length measured from ground to bottom of auger, boomed all the way back.
[5] HGT-2: Length measured from ground to bottom of auger, boomed all the way forward.
[6] KOP: Length measured from top of flange to bottom of stub (without a tool).
[7] Weight includes A-frame and swivel.




*Dimensions with standard Kelly bar 5/52

| KELLY BAR OPTIONS | PART # | SH[1] | SR[2] | CR[3] | OH[4] |
|---|---|---|---|---|---|
| 5/60 Ziplock | 25506.5060.000 | **15 ft** | **17 ft 11 in** | **10 ft 4 in** | **26 ft 2 in** |
| 5/52 Interlock | 25862.5052.000 | **17 ft 6 in** | **18 ft 4 in** | **10 ft 7 in** | **23 ft 7 in** |
| 4/53 Interlock | 25712.4053.010 | **15 ft** | **18 ft 3 in** | **10 ft 7 in** | **23 ft 10 in** |
| 4/45 Interlock | 25506.4045.000 | **17 ft 3 in** | **17 ft 11 in** | **10 ft 3 in** | **25 ft 11 in** |

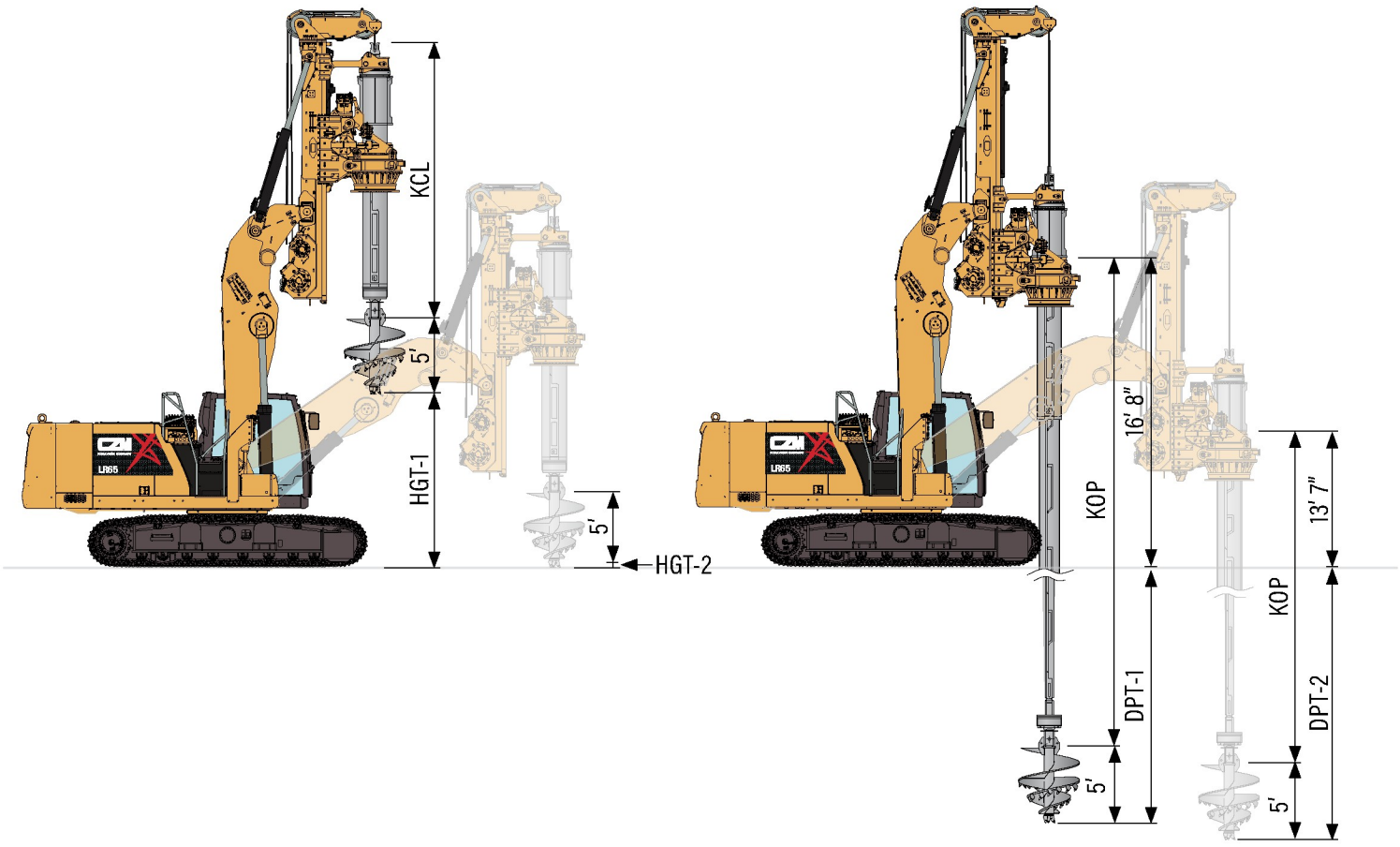
[1] SH: Length measured from ground to bottom of kelly.
[2] SR: Reach measured from center of swing to center of tool.
[3] CR: Reach measured from crawler to center of tool.
[4] OH: Overall height measured from ground to top of head mast.




## GENERAL SPECIFICATIONS

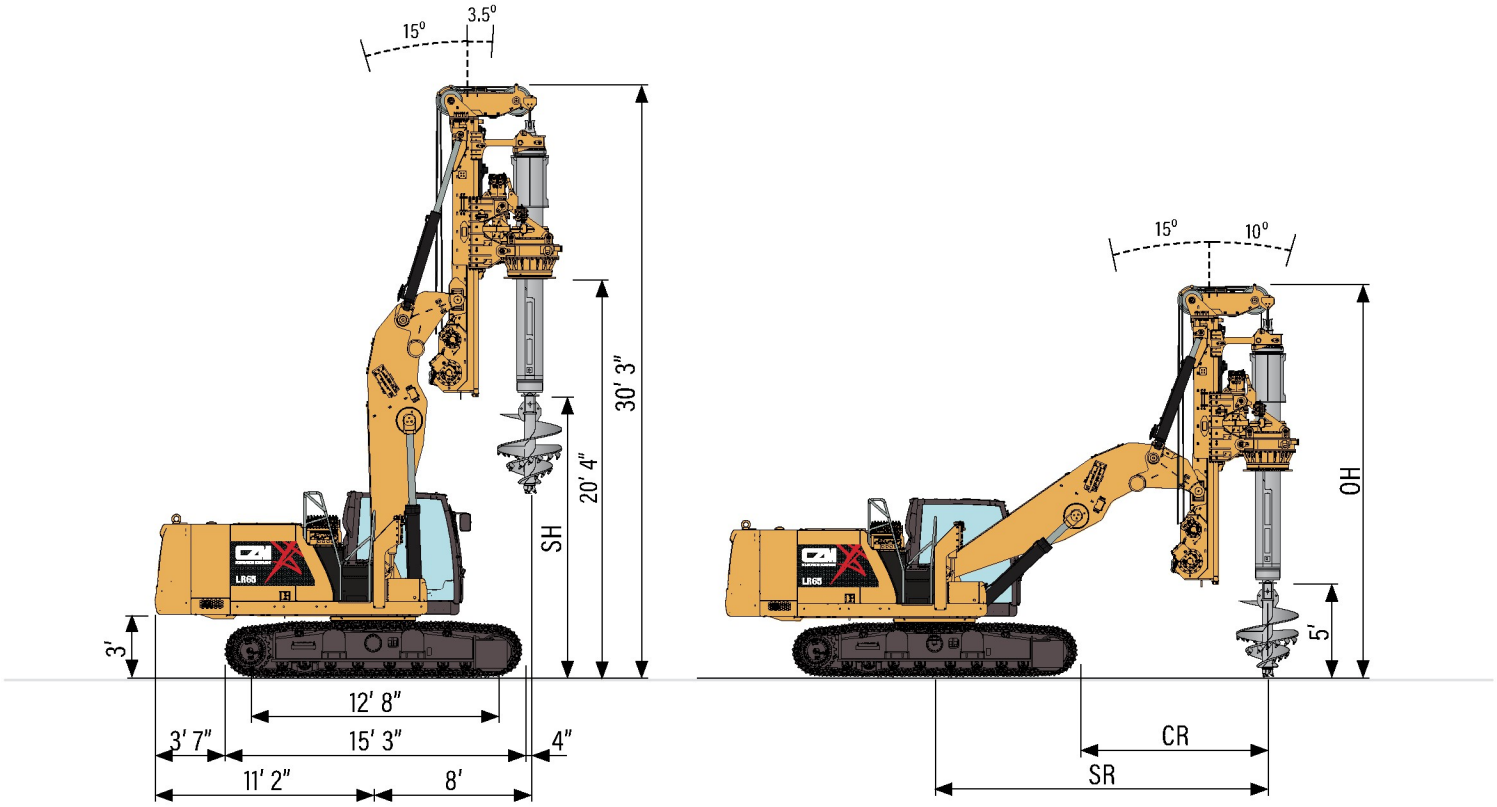
| | |
|---|---|
| Maximum torque (Nominal) | **77,500 ft.lbs** |
| Crowd force | **27,000 lbf** |
| Main winch line pull | **27,100 lbf** |
| Cylinder stroke | **6 ft 3 in** |
| Operation height | **36 ft 2 in - 23 ft 7 in** |
| Operation weight | **83,600 lb** |

# SHORT MAST
## GENERAL DIMENSIONS




| KELLY BAR OPTIONS | PART # | # ELEMENTS | DEPTH - DPT-1[1] | DPT-2[2] | TRANSPORT - KCL[3] | HGT-1[4] | HGT-2[5] | KOP[6] | WEIGHT[7] |
|---|---|---|---|---|---|---|---|---|---|
| 5/40 Interlock | 25506.5040.050 | 5 | 33 ft 1 in | 42 ft 6 in | 14 ft 10 in | 9 ft 5 in | 0 ft | 45 ft 8 in | 5,600 lb |
| 5/52 Interlock | 25862.5052.000 | 5 | 44 ft 3 in | 51 ft 6 in | 17 ft 1 in | 7 ft 3 in | 0 ft | 56 ft 8 in | 6,900 lb |
| 4/45 Interlock | 25506.4045.000 | 4 | 33 ft 2 in | 40 ft 2 in | 17 ft | 7 ft | 0 ft | 45 ft 9 in | 6,500 lb |

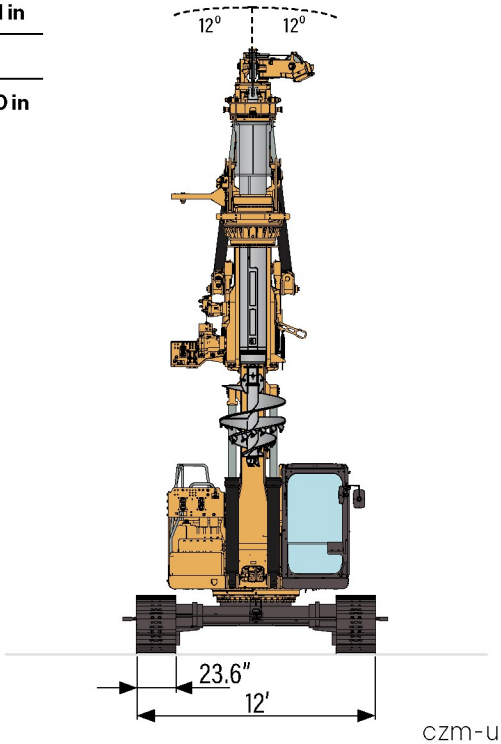
[1] DPT-1: Total depth with 5 ft tool boomed all the way back.
[2] DPT-2: Total depth with 5 ft tool boomed all the way forward.
[3] KCL: Length measured from bottom of stub to top of swivel.
[4] HGT-1: Length measured from ground to bottom of auger, boomed all the way back.
[5] HGT-2: Length measured from ground to bottom of auger, boomed all the way forward.
[6] KOP: Length measured from top of flange to bottom of stub (without a tool).
[7] Weight includes A-frame and swivel.




*Dimensions with standard Kelly bar 5/40

| KELLY BAR OPTIONS | PART # | SH[1] | SR[2] | CR[3] | OH[4] |
|---|---|---|---|---|---|
| 5/40 Interlock | 25506.5040.050 | **14 ft 5 in** | **17 ft 8 in** | **10 ft** | **20 ft 11 in** |
| 5/52 Interlock | 25862.5052.000 | **12 ft 3 in** | **16 ft 10 in** | **9 ft 1 in** | **23 ft** |
| 4/45 Interlock | 25506.4045.000 | **12 ft** | **16 ft 8 in** | **9 ft** | **23 ft 10 in** |

[1] SH: Length measured from ground to bottom of kelly.
[2] SR: Reach measured from center of swing to center of tool.
[3] CR: Reach measured from crawler to center of tool.
[4] OH: Overall height measured from ground to top of head mast.

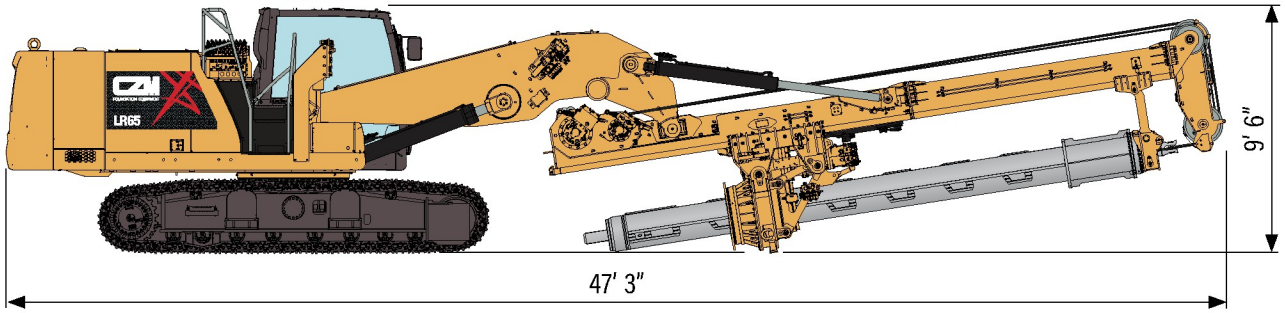



## GENERAL SPECIFICATIONS

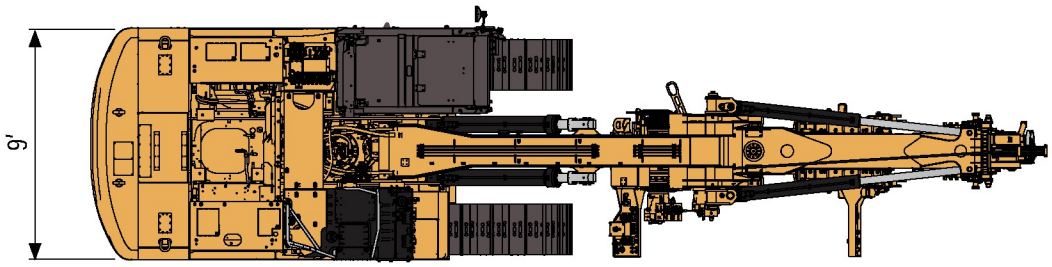
| | |
|---|---|
| Maximum torque (Nominal) | **77,500 ft.lbs** |
| Crowd force | **27,000 lbf** |
| Main winch line pull | **27,100 lbf** |
| Cylinder stroke | **6 ft 3 in** |
| Operation height | **30 ft 3 in - 20 ft 11 in** |
| Operation weight | **82,500 lb** |

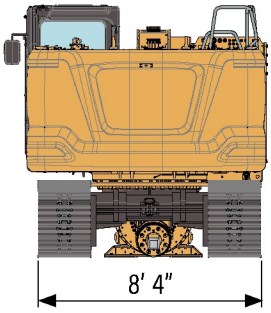
# TRANSPORT
## DIMENSIONS

### STANDARD MAST




| | | | |
|---|---|---|---|
| Height | **9 ft 6 in** | Width | **9 ft** |
| Length | **47 ft 3 in** | Weight | **86,900 lb** |

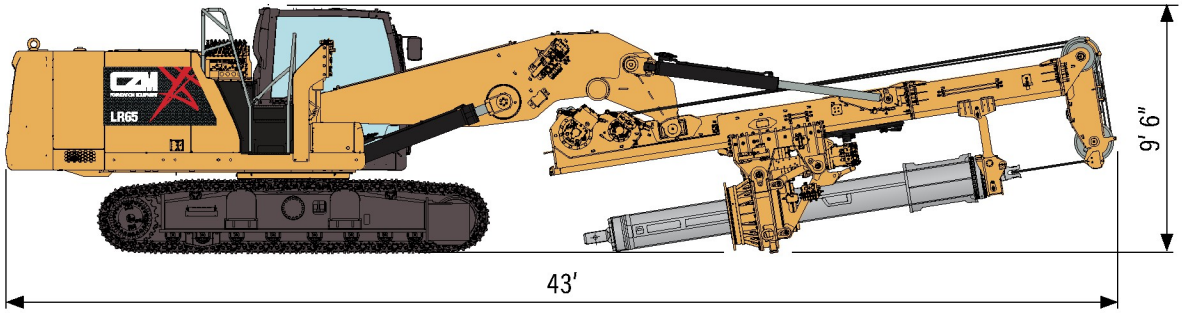



### COMPONENTS

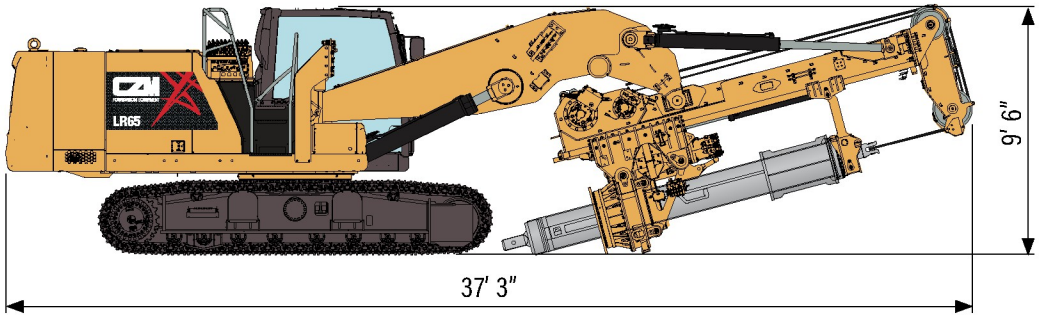
| | |
|---|---|
| Rotary | **5,420 lb** |
| Main Cat® Counterweight | **9,260 lb** |

## MID MAST




| | | | |
|---|---|---|---|
| Height | **9 ft 6 in** | Width | **9 ft** |
| Length | **43 ft** | Weight | **83,600 lb** |

## SHORT MAST




| | | | |
|---|---|---|---|
| Height | **9 ft 6 in** | Width | **9 ft** |
| Length | **37 ft 3 in** | Weight | **82,500 lb** |




CZM
LR65


CZM
LR65

CZM
FOUNDATION EQUIPMENT


› **HEADQUARTERS**
962 Interstate Centre Blvd.
Ellabell, Georgia 31308
**(912) 200-7654**

czm-us.com





50 YEARS
1976 CZM 2026

## AFTER SALES


› **CALIFORNIA**
1720 N. Ventura Avenue
Ventura, CA 93001
**(805) 667-8416**

› **GEORGIA**
145 East Industrial Blvd.
Pembroke, GA 31321
**(912) 200-7656**

› **KENTUCKY**
170 Budco Lane
Elizabethtown, KY 42701
**(912) 675-3059**

› **TEXAS**
2501 Blue Mound Rd. W.
Haslet, TX 76052
**(817) 232-8053**


## ABOUT CZM

CZM is headquartered in Savannah, Georgia, USA. For 50 years, we have specialized in manufacturing foundation equipment. We design and customize models for many different drilling applications including Drilled Shafts, CFA, Displacement piles, Soilmixing, Micropiles, Anchors, Driven piles and Soil improvement. We are a Caterpillar OEM (Original Equipment Manufacturer).

myCZM › portal.myczm-us.com

The myCZM Web Portal is the essential digital point of reference for all customers and dealers, providing instant access to everything you need.

- **Machine Documentation:** Consult manuals, warranties, stability charts, and technical schematics (electrical/hydraulic).
- **Spare Parts:** Navigate and identify needed parts, and submit direct quotation requests.
- **Support:** Directly submit information and general inquiries.

CZM CAPITAL

CZM provides flexible, affordable financing to get our machines working for you, get more than just a machine for your money. Ask us about RPO and lease options.

Contact us today at (877) 773-0333.

Specifications are subject to change without notice.