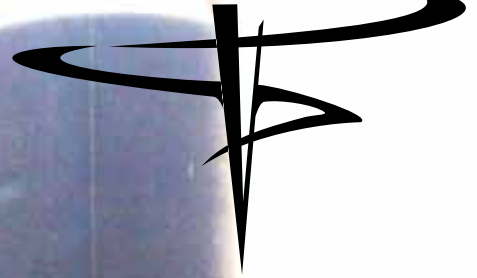




FOUNDATION EQUIPMENT



RPI
CONSTRUCTION
•EQUIPMENT•

RPI Equipment, LLC

(856) 456-0081

rpiequipment.com



EK250

Cat® 340 NG

ROTARY:

- **Robust design**, with 2 slewing bearings on top and bottom.
- 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.
- **Exchangeable keys**, bolted. No need to rebuild keys by welding inside the rotary.
- Quick disconnects for easy removal of rotary for transport.



EK250

Mounted on
Cat® 340 NG

CONTROL SYSTEM:

- Touch Screen Display
- Measurements:
 - Torque and rotary speeds / Main Winch pulling force / Crowd force
 - Drilling depth Mast inclination X/Y axis
- 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



APPLICATIONS

APPLICATIONS:

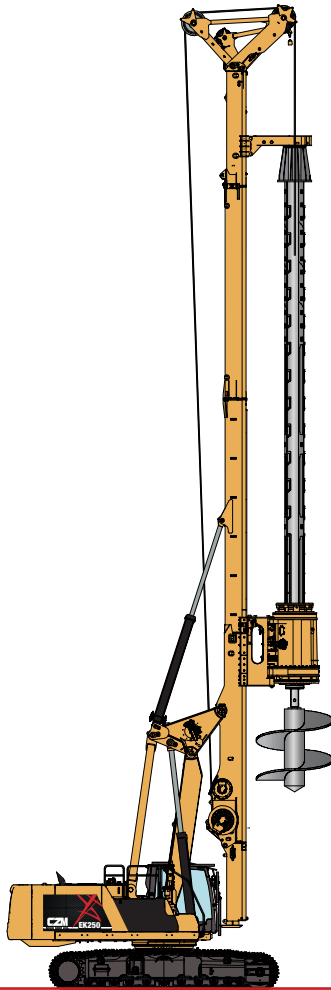
- Conversion to Short Mast and Mid Mast options available.

MAIN WINCH:

- **Special groove** for better cable winding and longer cable life.
- **2 gears** allows for both **high speed** and **high pulling force**.
- Automatic down the hole winch stop.
- Freewheeling winch during crowd operation.

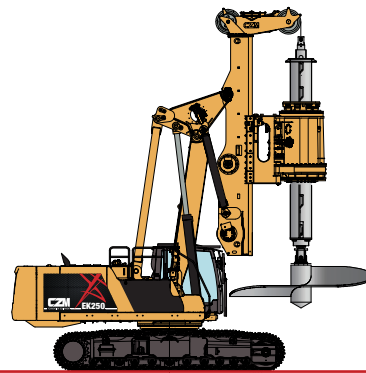
KELLY BAR:

- **Large inner passage** on rotary allows for **large diameter pipes** (19in) and **thicker keys**.
- Thick Keys made of Wear resistant materials – **Hardox 450**.



DRILL SHAFT PILE

Depth (std.): 158 ft / 48 m
Depth (max.): 200 ft / 61 m
Diameter (max.) without foot mast: 156 in / 4,000 mm



SHORT MAST VERSION

Depth (std.): 55 ft / 16.9 m
Depth (max.): 95 ft / 35 m
Diameter (max.) without foot mast shoe: 156 in / 4,000 mm

TECHNICAL SPECIFICATIONS

KELLY BAR STANDARD MAST APPLICATION

Drilling Depth (standard - 4 elements; interlock kelly bar)	158 ft	48 m
Drilling Depth (4 elements; interlock kelly bar)	105 ft	35 m
Drilling Depth (4 elements; interlock kelly bar*)	200 ft	61 m
Drilling Diameter with lower mast (max.)	8.2 ft	2,500 mm
Drilling Diameter without lower mast (max.)	13.1 ft	4,000 mm

*With reduced torque

KELLY BAR SHORT MAST APPLICATION

Drilling Depth (standard - 6 elements; interlock kelly bar)	55 ft	16.8 m
Drilling Depth (6 elements; interlock kelly bar)	72 ft	22 m
Drilling Depth (6 elements; interlock kelly bar)	95 ft	30 m
Drilling Diameter with lower mast (max.)	8.3 ft	2,540 mm
Drilling Diameter without lower mast (max.)	13.1 ft	4,000 mm

ROTARY HEAD - STANDARD

Max. torque (nominal)	234,561 lbf.ft	32,429 kgf.m
Working speed of rotation	10-21 rpm	10-21 rpm
Spin-off rotation	48-90 rpm	48-90 rpm

CROWD SYSTEM

Cylinder stroke - standard mast	19 ft 8 in	6,000 mm
Cylinder stroke - short mast	8 ft 3 in	2,520 mm
Cylinder push force	81,813 lbf	37,110 kgf
Cylinder push speed	44 ft/min	13 m/min
Cylinder pull force	76,276 lbf	34,598 kgf
Cylinder pull speed	39 ft/min	12 m/min

MAIN WINCH

Max. pull-force - 1st Layer (effective)	58,887 lbf	26,711 kgf
Max. pull-force - 1st Layer - 2nd Speed (effective)	54,239 lbf	24,603 kgf
Line speed - 1st Layer	208 ft/min	63 m/min
Cable diameter	1 1/8 in	28 mm
Drum diameter - 1st Layer	22 5/16 in	566 mm

AUXILIARY WINCH

Max. pull-force - 1st Layer (effective)	22,000 lbf	10,000 kgf
Line speed - 1st Layer	180 ft/min	55 m/min
Cable diameter	3/4 in	19 mm
Drum diameter - 1st Layer	16.5 in	420 mm

MAST INCLINATION

Backward	15°	15°
Forward	5°	5°
Sideways	7° / 7°	7° / 7°

**Weights are estimated

DIESEL ENGINE Cat® 340 NEXT GEN TIER IV (CAT® C9.3 B)

Net Power – Standard ISO 9249	346 hp	258 kW
Displacement	568 in ³	9.3 L
Fuel Tank	158 gal	600 L

HYDRAULIC SYSTEM

Hydraulic pressure	5,076 psi	350 bar
Flow rate (main circuit)	147.3 gal/min	558 L/min
Flow rate (auxiliary circuit)	28.5 gal/min	108 L/min
Hydraulic oil tank capacity	43 gal	161 L

UNDERCARRIAGE

Track length	19 ft 8 in	6,000 mm
Length to Center of rollers	16 ft 5 in	5,000 mm
Transport position width (retracted)	9 ft 11 in	3,000 mm
Working position width (extended)	14 ft 1 in	4,300 mm
Shoes width	32 in	800 mm
Max. drawbar pull (both tracks)	51,930 lbf	23,100 kgf
Max. travel speed	3.1 mph	5.0 km/h

TRANSPORT - STANDARD MAST

Transport height	11 ft 2 in	3,400 mm
Transport length	57 ft 9 in	17,605 mm
Transport width	9 ft 11 in	3,000 mm
Transport weight** (without kelly, rotary, & counterweights)	119,000 lb	54,000 kg

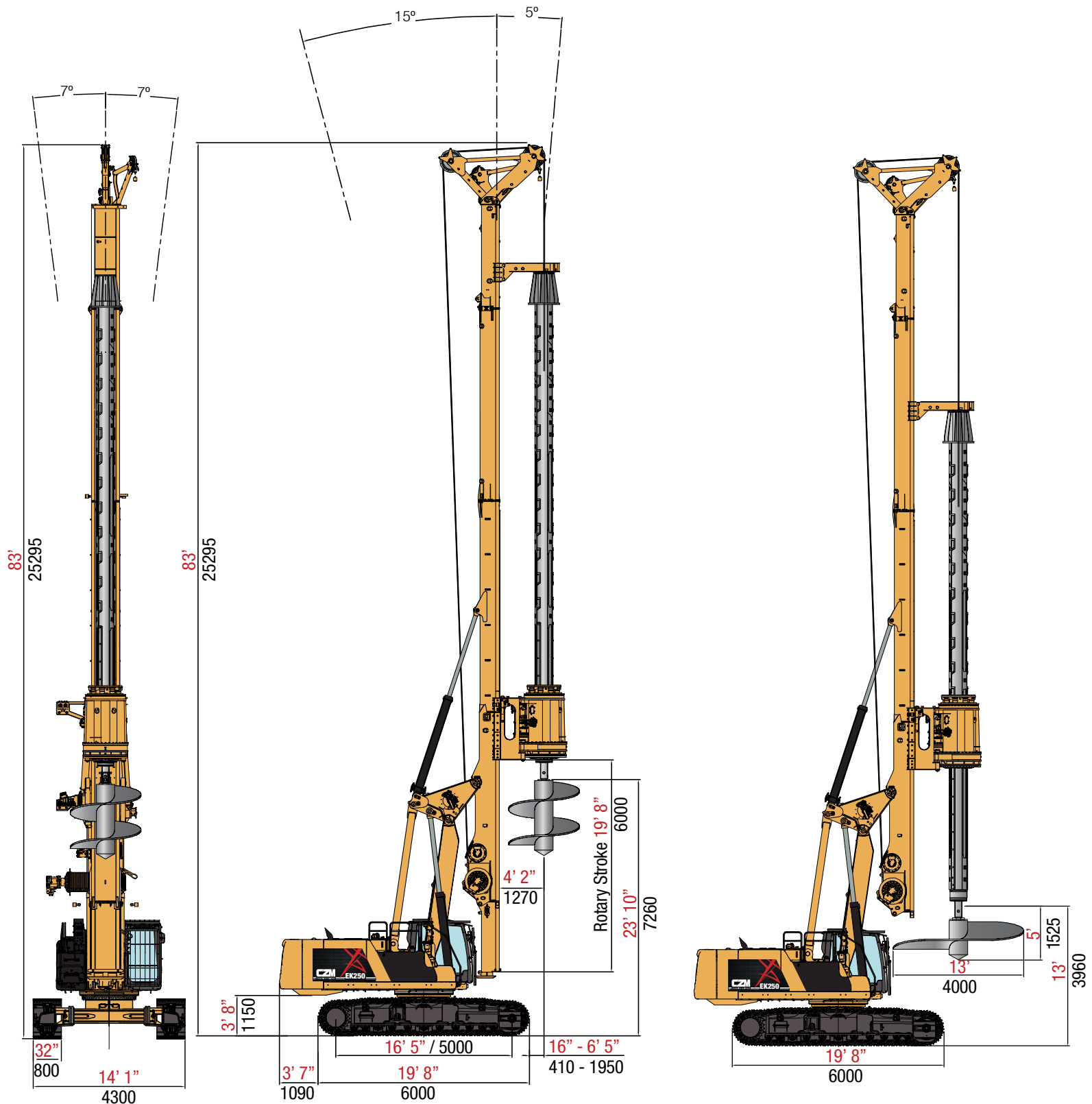
TRANSPORT - SHORT MAST

Transport height	12 ft	3,650 mm
Transport length	42 ft 11 in	13,090 mm
Transport width	9 ft 11 in	3,000 mm
Transport weight** (without kelly, rotary, & counterweights)	108,000 lb	49,000 kg

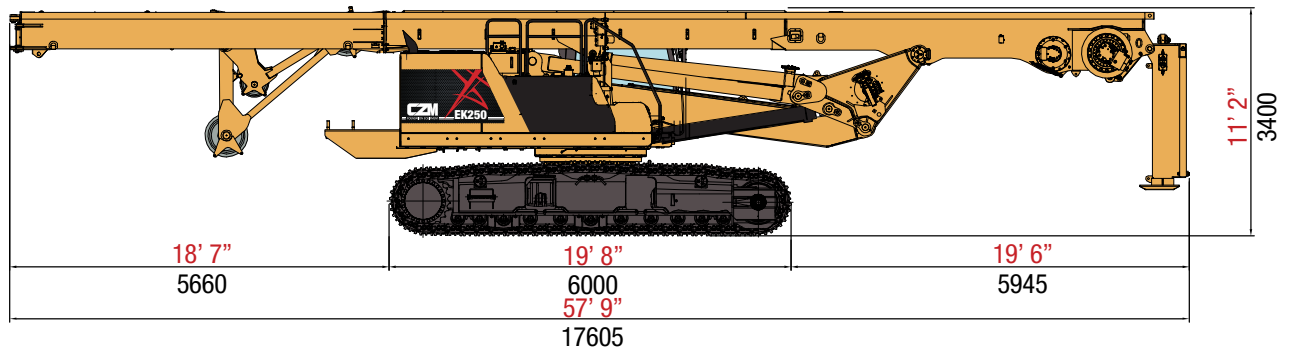
GENERAL DATA

Overall height (standard mast)	83 ft	25,295 mm
Overall height (short mast application)	31 ft 5 in	9,590 mm
Operation weight (standard mast)	187,750 lb	85,150 kg
Operation weight (short mast application)	158,750 lb	72,000 kg

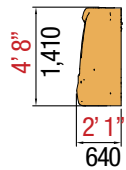
GENERAL DIMENSIONS



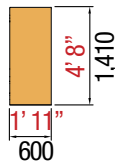
TRANSPORT POSITION GENERAL DIMENSIONS



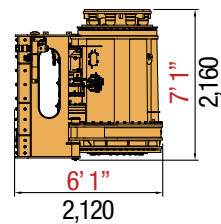
Weight: 119,000 lb / 54,000 kg (removing Rotary, Kelly and Counterweights)



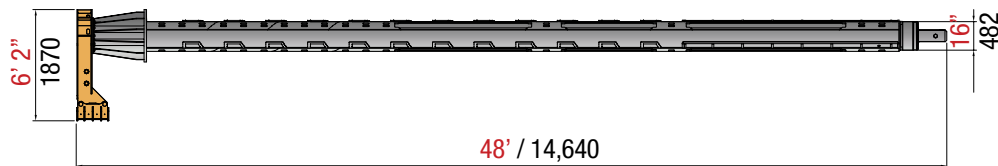
Width: 9 ft 10 in / 3,000 mm
Weight: 18,700 lb / 8,500 kg**



Width: 9 ft 10 in / 3,000 mm
Weight: 10,250 lb / 4,650 kg**



Width: 6 ft 8 in / 2,040 mm
Weight: 17,750 lb / 8,000 kg**

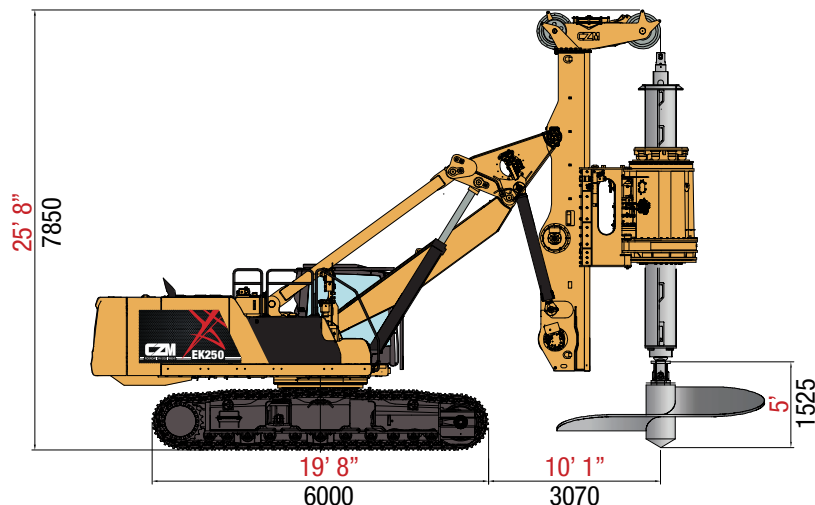
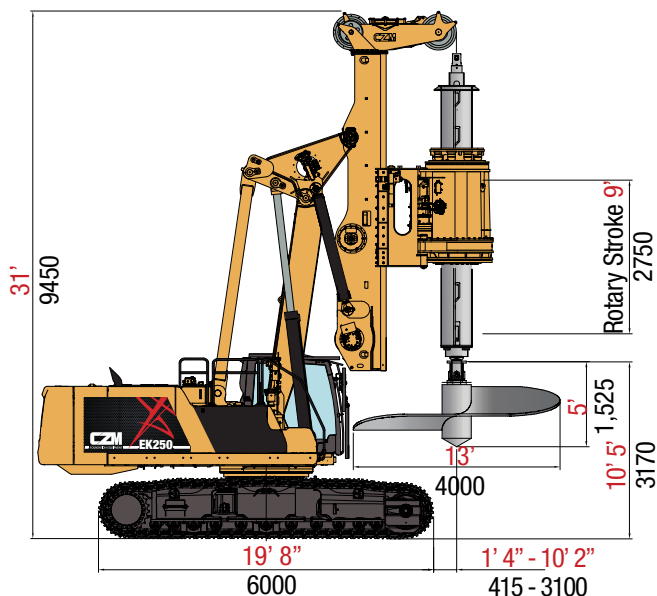


Standard 4/158 Weight: 12,750 lb / 9,800 kg**

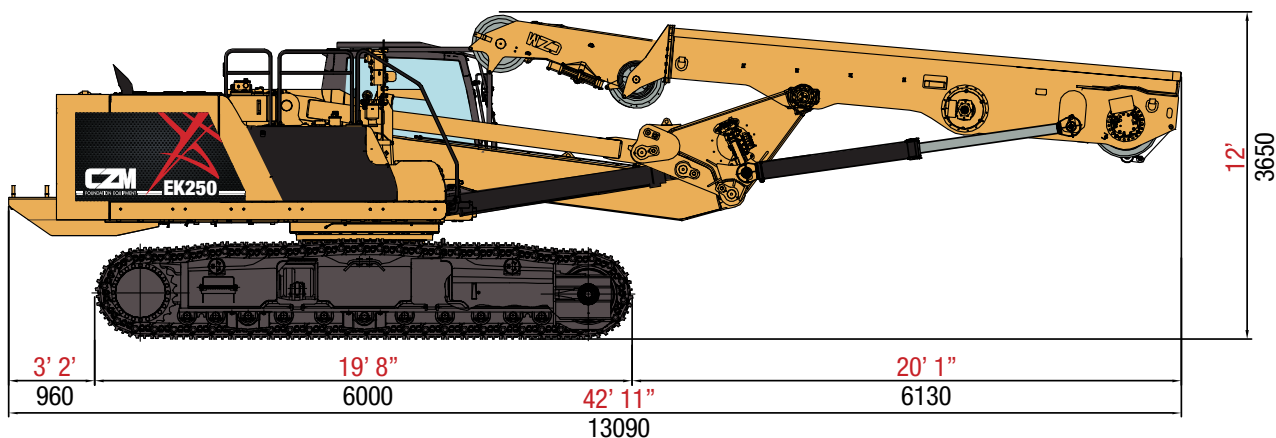


**Weights are estimated

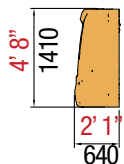
SHORT MAST GENERAL DIMENSIONS



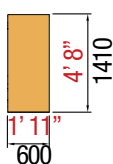
TRANSPORT POSITION SHORT MAST



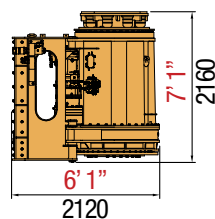
Weight: 108,000 lb / 49,000 kg** (removing Rotary, Kelly and Counterweights)



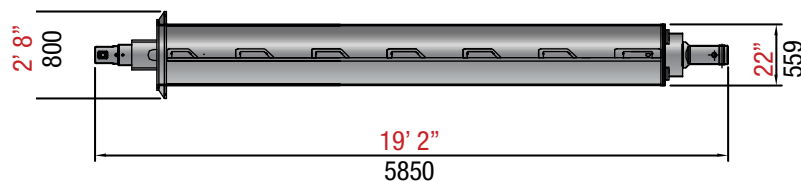
Width: 9 ft 10 in / 3,000 mm
Weight: 18,750 lb / 8,500 kg**



Width: 9 ft 10 in / 3,000 mm
Weight: 6,250 lb / 2,825 kg**



Width: 6 ft 8 in / 2,040 mm
Weight: 15,750 lb / 7,150 kg**



Short Mast 6/55 Weight: 10,250 lb / 4,650 kg**

**Weights are estimated

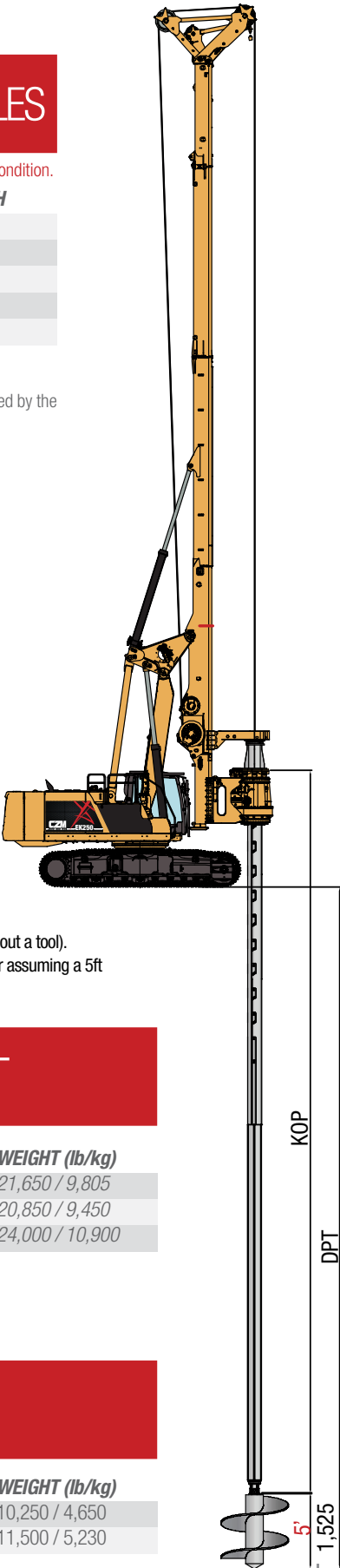
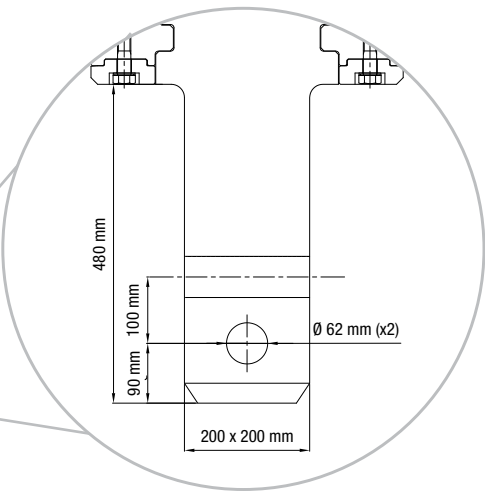
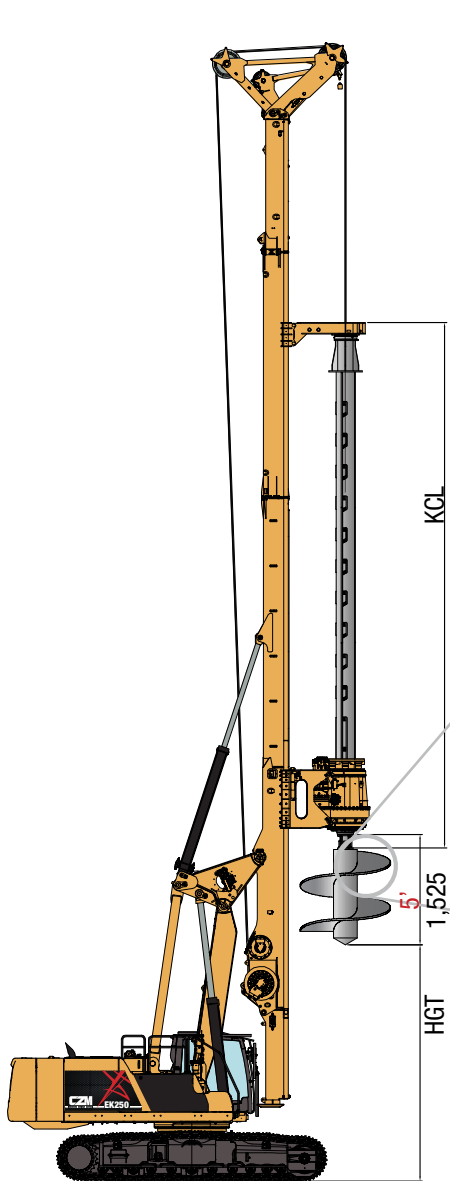
KELLY BAR GENERAL DIMENSIONS

CASED DRILLED SHAFT PILES

Reference only. Depth and diameter will depend on the soil condition.

CASING DIAMETER	MAXIMUM DEPTH
84 in / 2,130 mm	64 ft / 19 m
80 in / 2,000 mm	68 ft / 21 m
70 in / 1,800 mm	77 ft / 23 m
60 in / 1,500 mm	90 ft / 27 m
50 in / 1,300 mm	108 ft / 33 m

- Maximum length of each casing element 18 ft (5,500 mm)
- It can be optionally equipped with a casing oscillator, powered by the drilling rig, for greater diameters and depth of casing.



- ¹ KCL: Length measured from bottom of stub to top of swivel.
² KOP: Length measure from top of flange to bottom of stub (without a tool).
³ HGT: Length measure from bottom of ground to bottom of auger assuming a 5ft tall tool. More clearance can be reached with mast extension.
⁴ DPT: Total depth with 5ft tool boomed all the way back.

KELLY BAR OPTIONS FOR STANDARD MAST

	NUMBER OF ELEMENTS	DEPTH - DPT ⁴	TRANSPORT - KCL ¹ (ft in/mm)	HGT (ft in/mm) ³	KOP (ft in/mm) ²	WEIGHT (lb/kg)
Standard 4/158 (48) Interlock	4	158' / 48,158	49'6" / 15,100	19'2" / 6,100	167'10" / 51,150	21,650 / 9,805
Short 4/105 (32) Interlock	4	105' / 32,000	36'9" / 11,200	19'2" / 6,100	117' 9" / 35,900	20,850 / 9,450
Long 4/200 (61) Interlock	4	200' / 61,000	59'6" / 18,200	14' 1" / 4,300	207'1" / 63,150	24,000 / 10,900

The standard kelly has 4 interlocking elements and reaches 158 ft (48 m) depth.

KELLY BAR OPTIONS FOR SHORT MAST

	NUMBER OF ELEMENTS	DEPTH - DPT	TRANSPORT - KCL	HGT (ft in/mm)	KOP (ft in/mm)	WEIGHT (lb/kg)
Kelly Bar 6/55 Interlock	6	55' / 16,800	14' 9" / 4,500	5' 7" / 1,700	59' 6" / 18,150	10,250 / 4,650
Standard 6/72 Interlock	6	72' / 22,000	18' / 5,600	5' 3" / 1,600	79' 4" / 24,200	11,500 / 5,230





DISCLAIMER: EK250 can not be used as a crane.
Please refer to user manual for proper usage.





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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