



FOUNDATION EQUIPMENT



RPI
CONSTRUCTION
• EQUIPMENT •

RPI Equipment, LLC

(856) 456-0081

rpiequipment.com

EK240

CAT340 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.



EK240

Mounted on
CAT340 NG

”

CONTROL SYSTEM:

- Touch Screen Display
- Measurements:
 - Torque and rotary speeds / Main Winch pulling force / Crowd force
 - Drilling depth Mast inclination XY 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.
- Easy Conversion to from kelly to "Bottom Drive CFA" up to 24in diam.

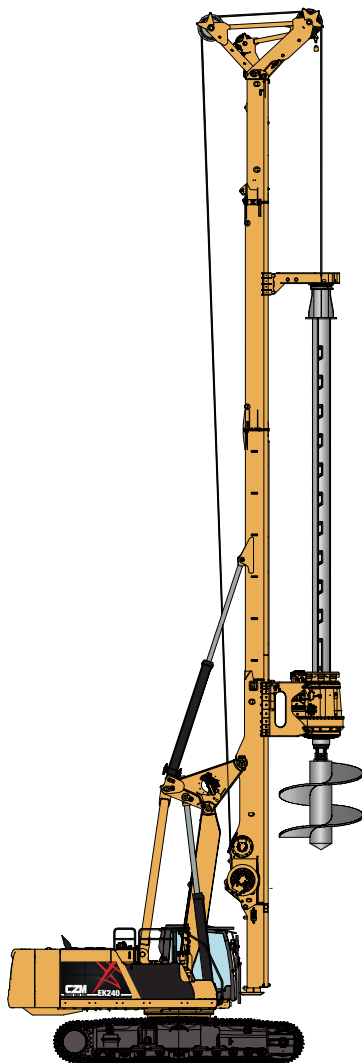
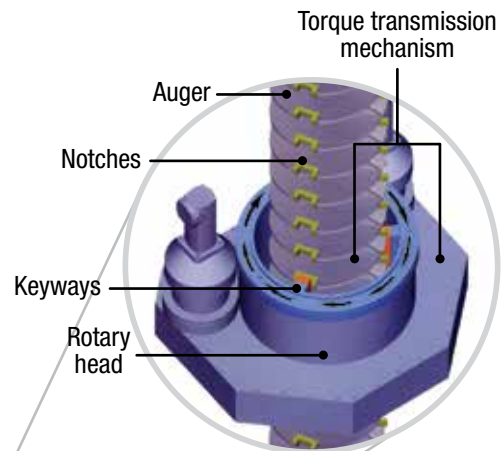
MAIN WINCH:

- **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.
- Free willing winch during crowd operation.

KELLY BAR:

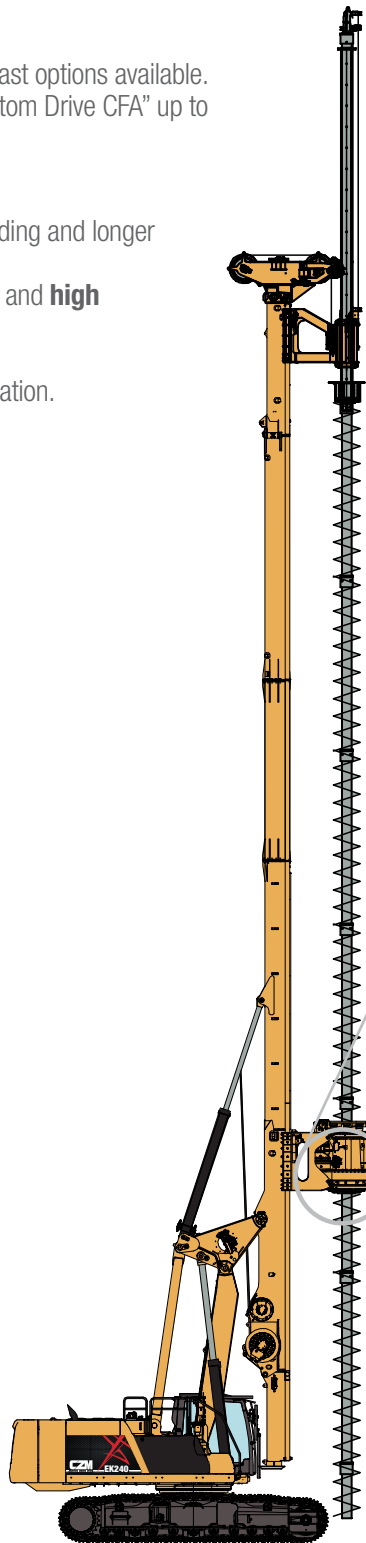
- **Large inner passage** on rotary allows for **large diameter pipes** (16in) and **thicker keys**.
- Thick Keys made of Wear resistant materials – **Hardox 450**.

BOTTOM DRIVE CFA



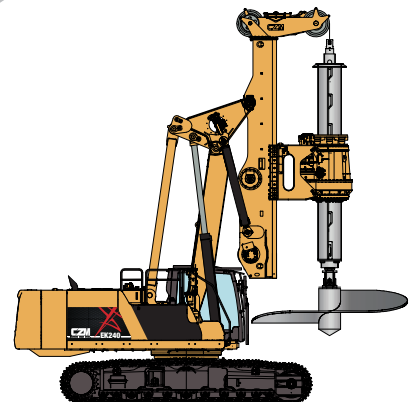
DRILL SHAFT PILE

Depth (std.): 130 ft / 39 m
Depth (max.): 260 ft / 79 m
Diameter (max.): 13 ft / 4,000 mm



CONTINUOUS FLIGHT AUGER PILE

Depth (max.): 102 ft / 31 m
Diameter (max.): 24 in / 600 mm



SHORT MAST VERSION

Depth (std.): 76 ft / 23.2 m
Depth (max.): 95 ft / 29 m
Diameter (max.): 13 ft / 4,000 mm

TECHNICAL SPECIFICATIONS

KELLY BAR STANDARD MAST APPLICATION

Standard Drilling Depth (standard version - interlocking kelly bar)	130 ft	39 m
Max. Drilling Depth (5 element kelly bar)	260 ft	79 m
Max. Drilling Diameter (with lower mast)	100 in	2,540 mm
Max. Drilling Diameter (without lower mast)	156 in	4,000 mm

KELLY BAR SHORT MAST APPLICATION

Max. Drilling Depth (interlocking kelly bar)	95 ft	29 m
Standard Drilling Depth (interlocking kelly bar)	76 ft	23.2 m
Max. Drilling Diameter (without lower mast)	156 in	4,000 mm

ROTARY HEAD

Max. torque (nominal)	209,800 lbf.ft	29,000 kgf.m
Working speed	10-26 rpm	
Spin off speed	50-120 rpm	

CROWD SYSTEM

Cylinder Pull-down force (nominal)	73,326 lbf	33,000 kgf
Cylinder Pull-up force (nominal)	81,814 lbf	37,000 kgf
Cylinder stroke	19 ft 8 in	6,000 mm

MAIN WINCH

Max. pull-force effective (1st layer)	58,700 lbf	26,500 kgf
Max. pull-force effective (1st layer - 2nd speed)	54,200 lbf	24,000 kgf
Line speed (1st layer)	175 ft/min	54 m/min
Max. line speed (2nd speed)	245 ft/min	75 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 effective (1st layer)	22,000 lbf	10,000 kgf
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°

DIESEL ENGINE CAT340 NEXT GEN (CAT® C9.3B)*

Exhaust Emission Standard	EPA Tier 4 Final	EPA Tier 4 Final
Gross Power – SAE J1995	346 hp	258 kW
Displacement	568 in³	9.3 L
Fuel tank	158 gal	600 L

HYDRAULIC SYSTEM

Main circuit pressure (max.)	5,500 psi	380 bar
Main circuit Flow rate (max.)	2x74 gal/min	2x280 L/min
Hydraulic oil tank (CAT + additional)	67.4 gal	255 L

AUXILIARY HYDRAULIC SYSTEM

Pump Displacement	3.66 in³	60 cc3
Auxiliary circuit flow rate (max.)	33.7 gal/min	128 L/min

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 10 in	3,000 mm
Operation position width (extended)	14 ft 1 in	4,300 mm
Track shoes width	32 in	800 mm
Max. drawbar pull	51,930 lbf	23,100 kgf
Max. travel speed	3.1 mph	5 km/h

TRANSPORT

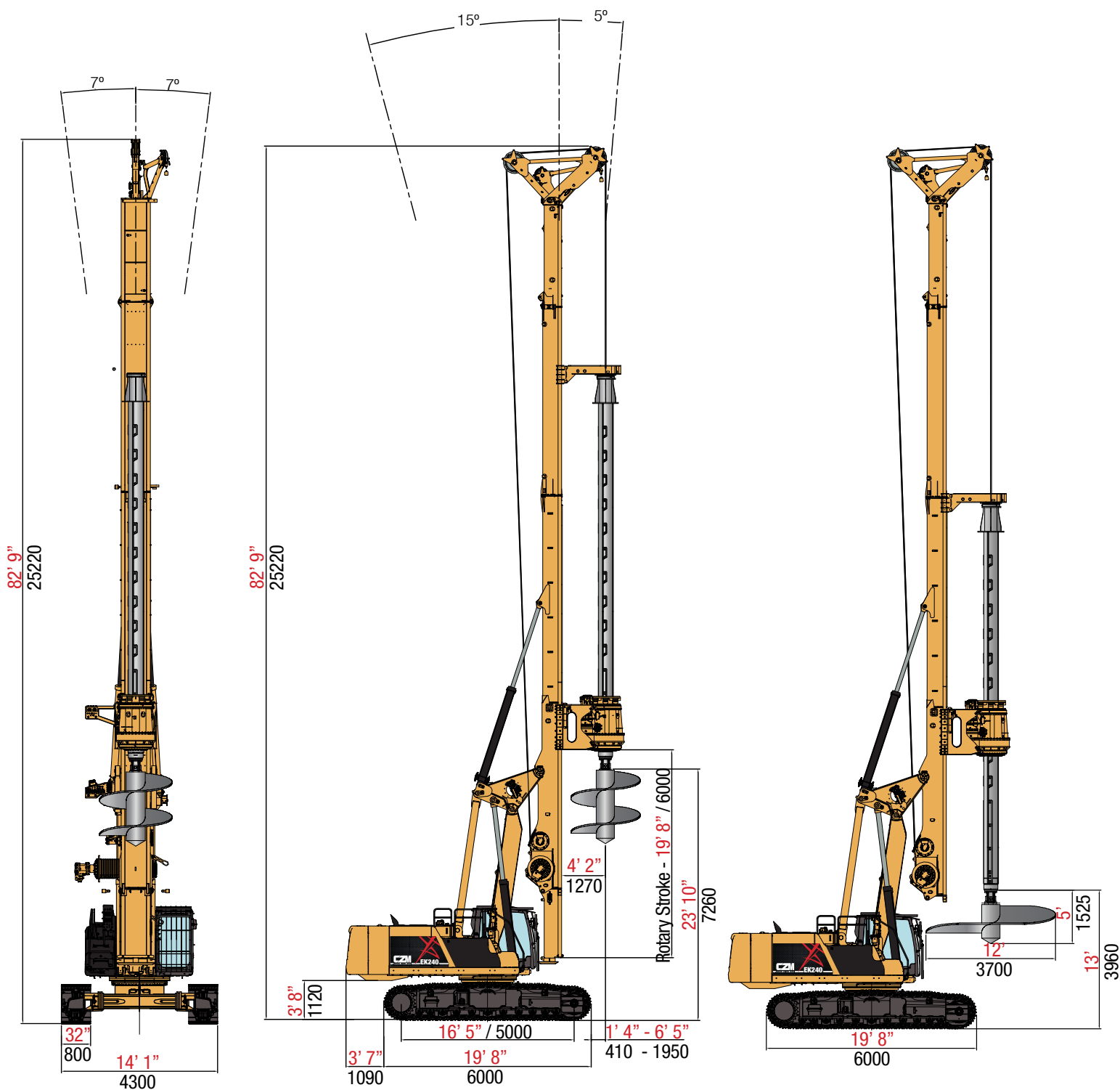
Overall Height (Standard Mast)	11 ft 2 in	3,400 mm
Overall Height (Short Mast)	12 ft	3,650 mm
Transport Length (Standard Mast)	57 ft 9 in	17,605 mm
Transport Length (Short Mast)	42 ft 11 in	13,090 mm
Transport Width (Standard Mast / Short Mast)	9 ft 10 in	3,000 mm
Max. Transport Weight (Standard Mast)	147,000 lb	66,800 kg
Min. Transport Weight (Standard Mast)	117,000 lb	53,200 kg
Max. Transport Weight (Short Mast)	137,000 lb	62,200 kg
Min. Transport Weight (Short Mast)	107,000 lb	48,600 kg

GENERAL DATA

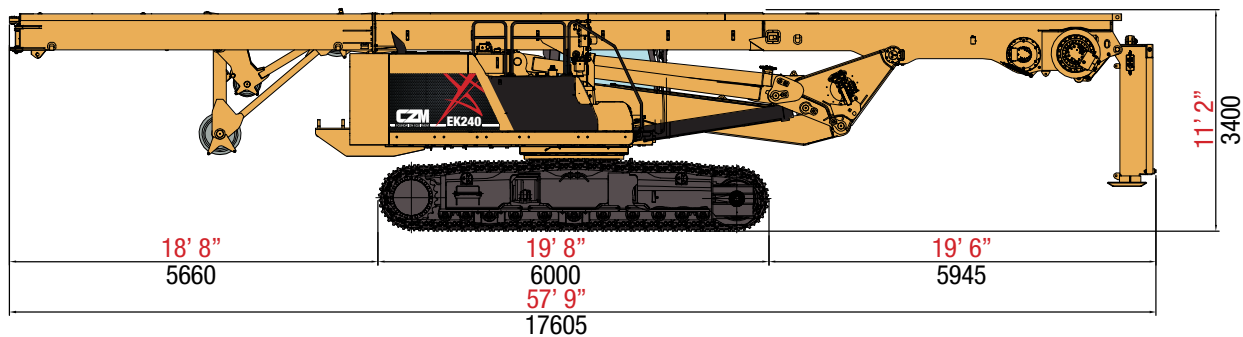
Overall Height (Working position; Standard Mast)	82 ft 9 in	25,220 mm
Overall Height (Working position; Short Mast)	31 ft	9,450 mm
Operation Weight (Standard Mast)	165,000 lb	75,000 kg
Operation Weight (Short Mast)	153,000 lb	69,550 kg

Specifications are subject to change without notice.

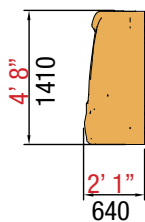
GENERAL DIMENSIONS



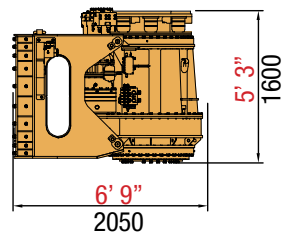
TRANSPORT POSITION GENERAL DIMENSIONS



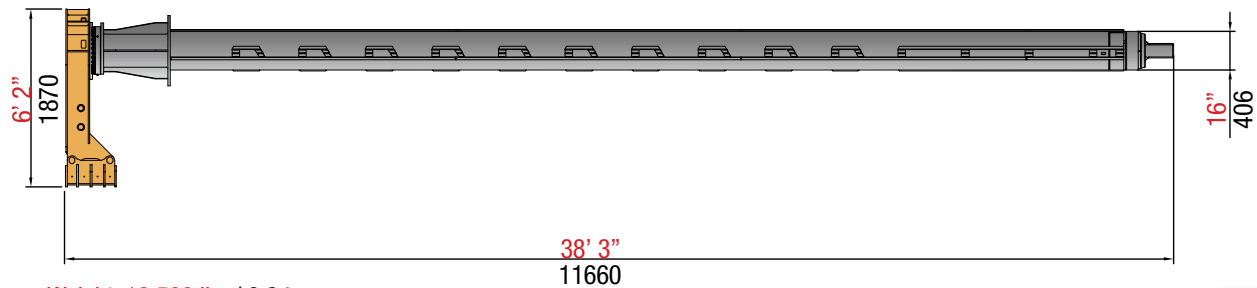
Weight: 117,000 lb / 53.2 ton



Width: 9 ft 10 in / 3,000
Weight: 18,700 lbs / 8.5 ton



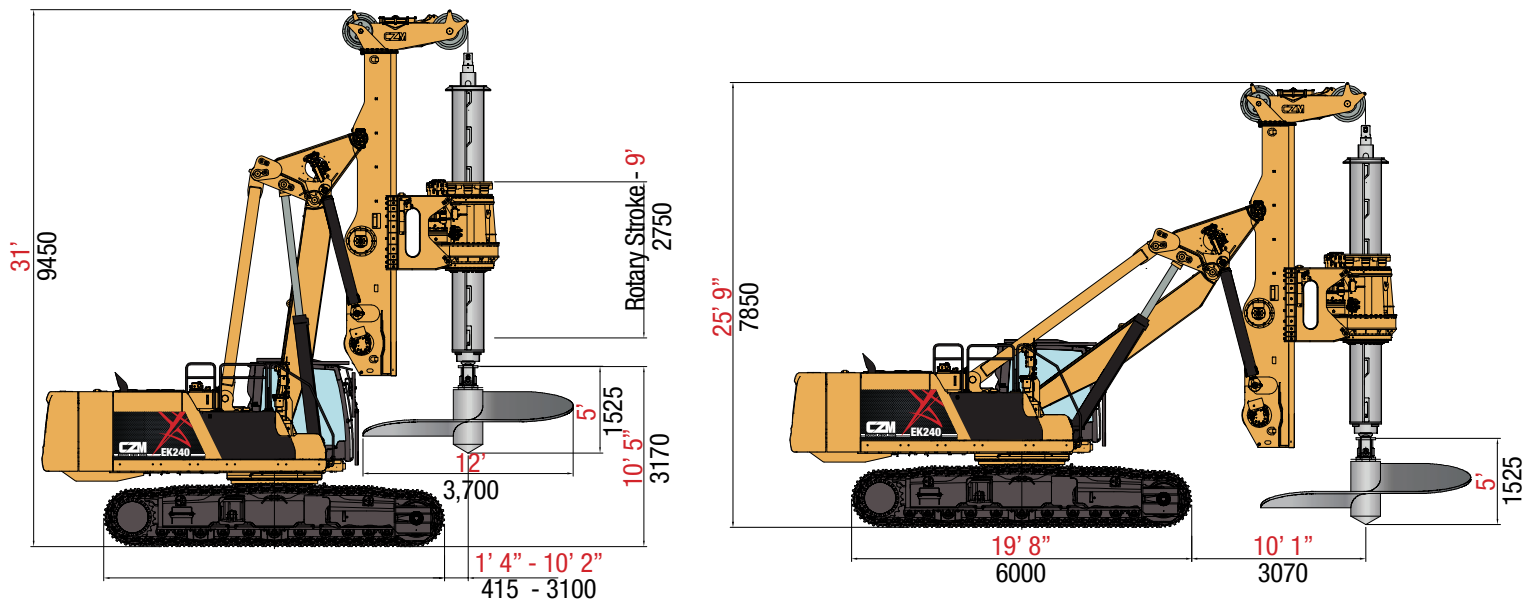
Width: 6 ft 4 in / 1,930
Weight: 11,000 lbs / 5 ton



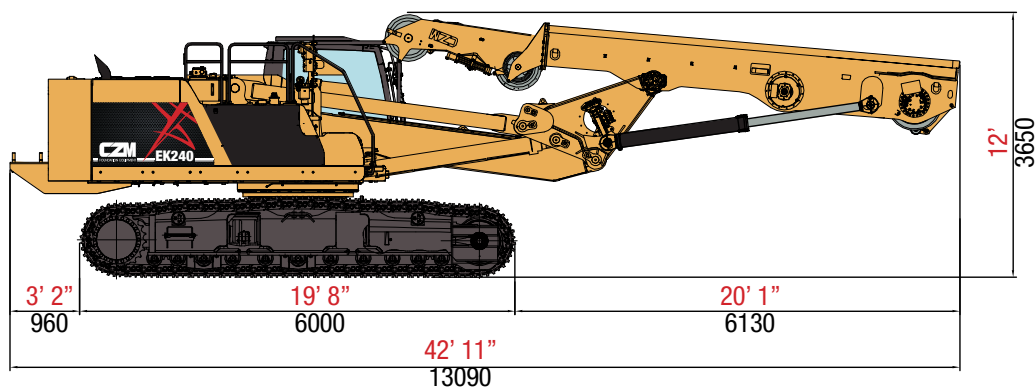
Weight: 13,500 lbs / 6.2 ton



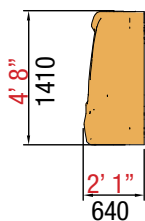
SHORT MAST GENERAL DIMENSIONS



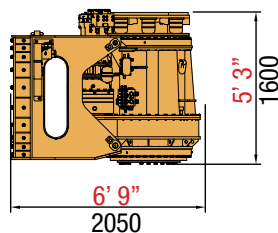
SHORT MAST TRANSPORT POSITION



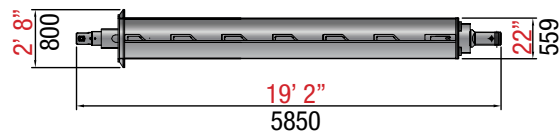
Weight: 107,000 lb / 48.6 ton



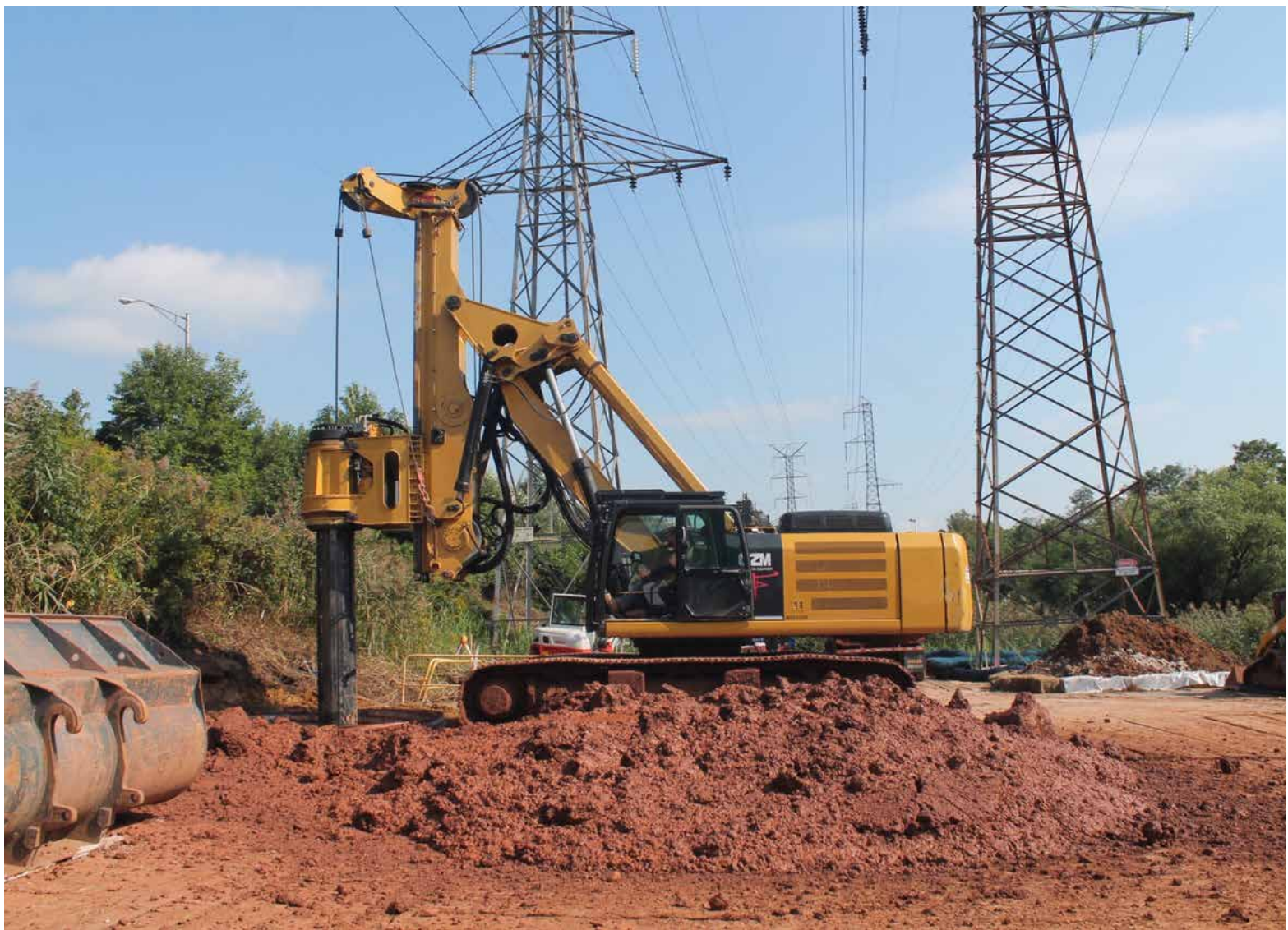
Width: 9 ft 10 in / 3,000 mm
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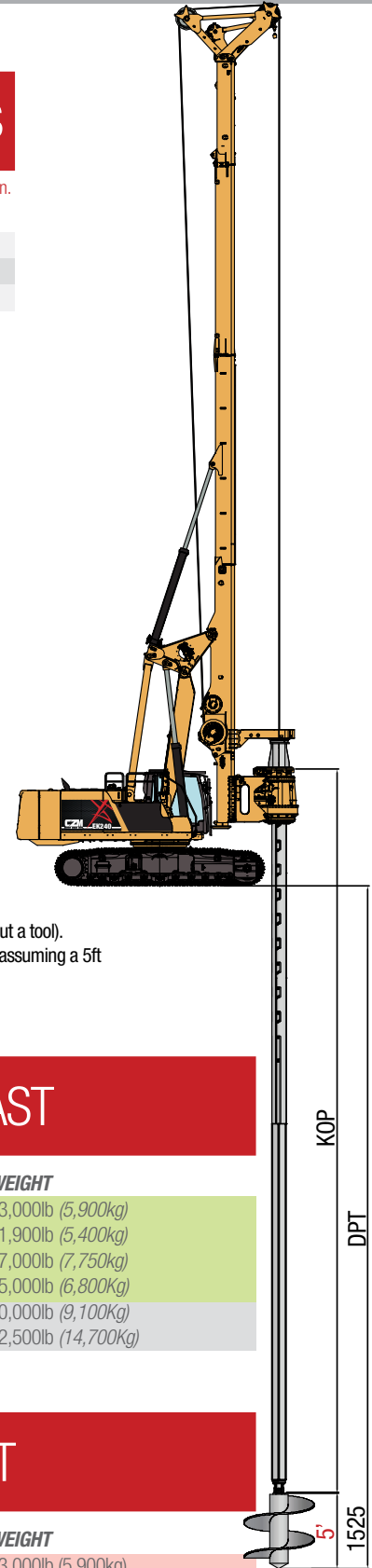
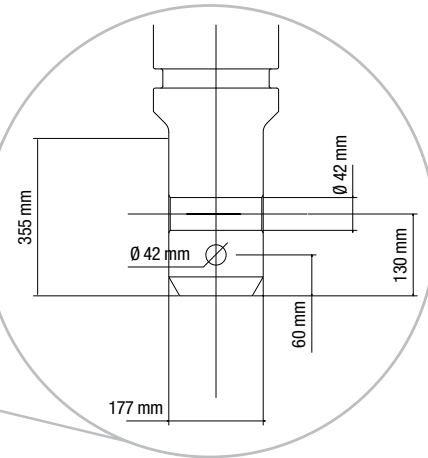
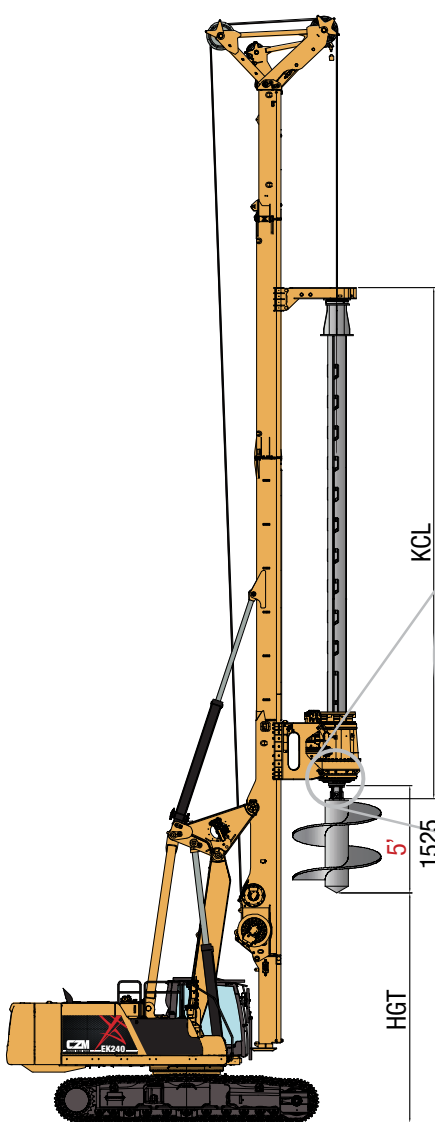
KELLY BAR GENERAL DIMENSIONS

CASED DRILLED SHAFT PILES

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

CASING DIAMETER	MAXIMUM DEPTH
60 in / 1,500 mm	60 ft / 18 m
50 in / 1,300 mm	72 ft / 22 m
40 in / 1,000 mm	90 ft / 27 m

- Maximum length of each casing element 15 ft (4.6 m).



- 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.

*Stub can be manufactured needs by according to customer.

KELLY BAR OPTIONS FOR STANDARD MAST

	NUMBER OF ELEMENTS	DEPTH - DPT ⁴	TRANSPORT - KCL ¹	HGT ³	KOP ²	WEIGHT
Standard 4/130 Interlock	4	130ft (39m)	39ft (11.9m)	19ft 2in (6.1m)	132ft 3in (40.3m)	13,000lb (5,900kg)
3/90 Interlock	3	90ft (29m)	39ft 4in (12m)	19ft 2in (6.1m)	100ft 5in (30.6m)	11,900lb (5,400kg)
Long 4/175 Interlock	4	175ft (53m)	50ft 7in (15.4m)	19ft 2in (6.1m)	178ft (54.3m)	17,000lb (7,750kg)
Long 3/130 Interlock	3	130ft (39m)	50ft 7in (15.4m)	19ft 2in (6.1m)	133ft (40.5m)	15,000lb (6,800Kg)
4/200 Interlock	4	200ft (60m)	60ft 8in (18.5m)	11ft 2in (3.4m)	206ft (62.9m)	20,000lb (9,100Kg)
5/260 Interlock	5	260ft (79.3m)	59ft 9in (18.2m)	12ft 2in (3.7m)	264ft (80.6m)	32,500lb (14,700Kg)

The standard kelly has 4 interlocking elements and reaches 130 ft (39 m) depth.

KELLY BAR OPTIONS FOR SHORT MAST

	NUMBER OF ELEMENTS	DEPTH - DPT	TRANSPORT - KCL	HGT	KOP	WEIGHT
Long 6/95 Interlock	6	95ft (29m)	21ft (6.4m)	2ft 3in (0.7m)	101ft 5in (30.9m)	13,000lb (5,900kg)
Standard 6/76 Interlock	6	76ft (23.2m)	18ft (5.6m)	5ft 3in (1.6m)	79ft 4in (24.2m)	11,500lb (5,230kg)





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, piledrive and hydraulic hammers and soil improvements. We are a Caterpillar OEM (Original Equipment Manufacturer).

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