

CZM

FOUNDATION EQUIPMENT



EK240



SAVANNAH • GEORGIA • USA

THE COMPANY

- CZM has over 40 years of foundation equipment manufacturing experience with a wide range of models for multiple applications: drilled shafts, CFA, driven piles with hydraulic hammers, secant piles, micro piles, and anchoring, among others.
- CZM Foundation Equipment's USA manufacturing facility is located in Savannah, Georgia.
- CZM Foundation Equipment has designed their models with the after sales being priority. Quality and service are the main ingredients to a quality machine, this is one of the direct reasons CZM uses Caterpillar as a base, the Caterpillar bases are not only operator and maintenance friendly but by using Caterpillar it enables the customer access to the large and already nationally established Caterpillar Network.
- CZM is the world's largest manufacturer of CFA drilling rigs, featuring the revolutionary torque mechanism "Bottom Drive CFA", an internationally recognized CZM patent.



EK240

Mounted on
CAT336HHP TIER IV.

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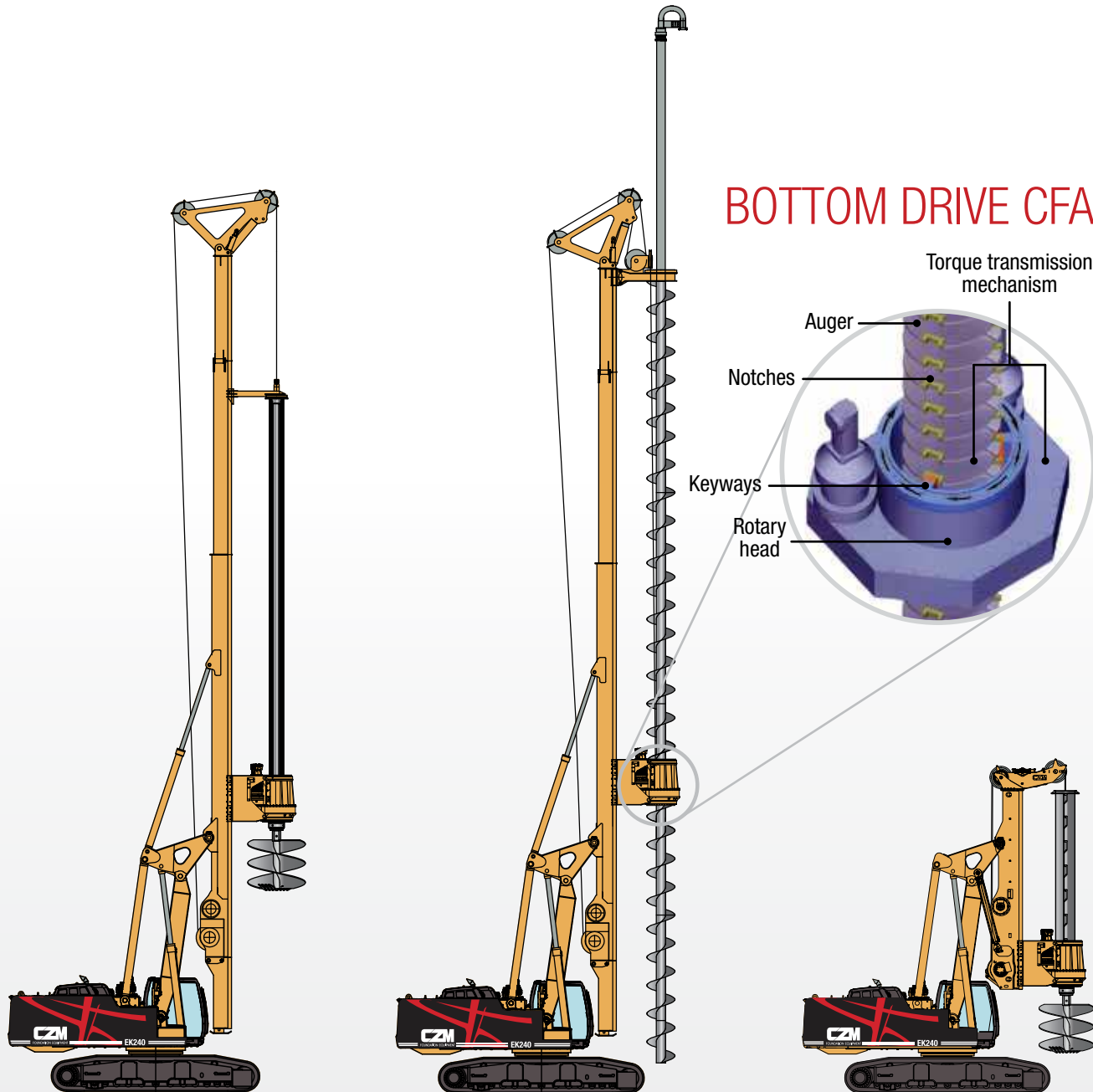
APPLICATION

The EK240 from CZM has been designed for high performance and versatility. It is a reliable drilling rig mounted on a CAT336HHP TIER IV base, keeping the operation and maintenance extremely friendly and efficient.

The robust design of the EK240 rotary, is due to the largest inner passage diameter of its class. This allows this model to deliver higher drilling torque, the use of stronger Kelly bars and longer life time of main components. The big inner passage is a main

feature of the unique CZM's patented mechanism "Bottom Drive CFA" which allows this drilling rig the versatility of fast, easy and economic conversion for different applications such as drilled shafts, CFA and displacement pile.

The combination of hydraulic extended crawlers, centralized parallelogram and the mast made of a light weight / high yield strength "weldox" steel enable this model the safest stability.



DRILL SHAFT PILE

Depth (max.): 246 ft / 75 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 (max.): 96 ft / 29 m
Diameter (max.): 13 ft / 4,000 mm

TECHNICAL SPECIFICATIONS

KELLY BAR STANDARD MAST APPLICATION

Max. Drilling Depth (standard version - interlocking kelly bar)	130 ft	39 m
Max. Drilling Depth (friction kelly bar)	246 ft	75 m
Max. Drilling Diameter	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)	78 ft	24 m
Max. Drilling Diameter	156 in	4,000 mm

ROTARY HEAD

Max. torque (nominal)	209,800 lbf.ft	29,000 kgf.m
Working speed	10-26 rpm	10-26 rpm
Spin off speed	50-120 rpm	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	7,5° / 7,5°	7,5° / 7,5°

DIESEL ENGINE CAT336HHP TIER IV (CAT® C9.3 ACERT™)*

Exhaust Emission Standard	EPA Tier 4 (Interim)	EPA Tier 4 (Interim)
Gross Power – SAE J1995	323 hp	241 kW
Displacement	568 in³	9.3 L
Fuel tank	164 gal	620 L

HYDRAULIC SYSTEM

Main circuit pressure (max.)	5,500 psi	380 bar
Main circuit Flow rate (max.)	127 gal/min	480 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.)	29 gal/min	108 L/min

UNDERCARRIAGE

Track length	19 ft 3 in	5,880 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	31 1/2 in	800 mm
Max. drawbar pull	51,930 lbf	23,100 kgf
Max. travel speed	3.1 mph	5 km/h

TRANSPORT

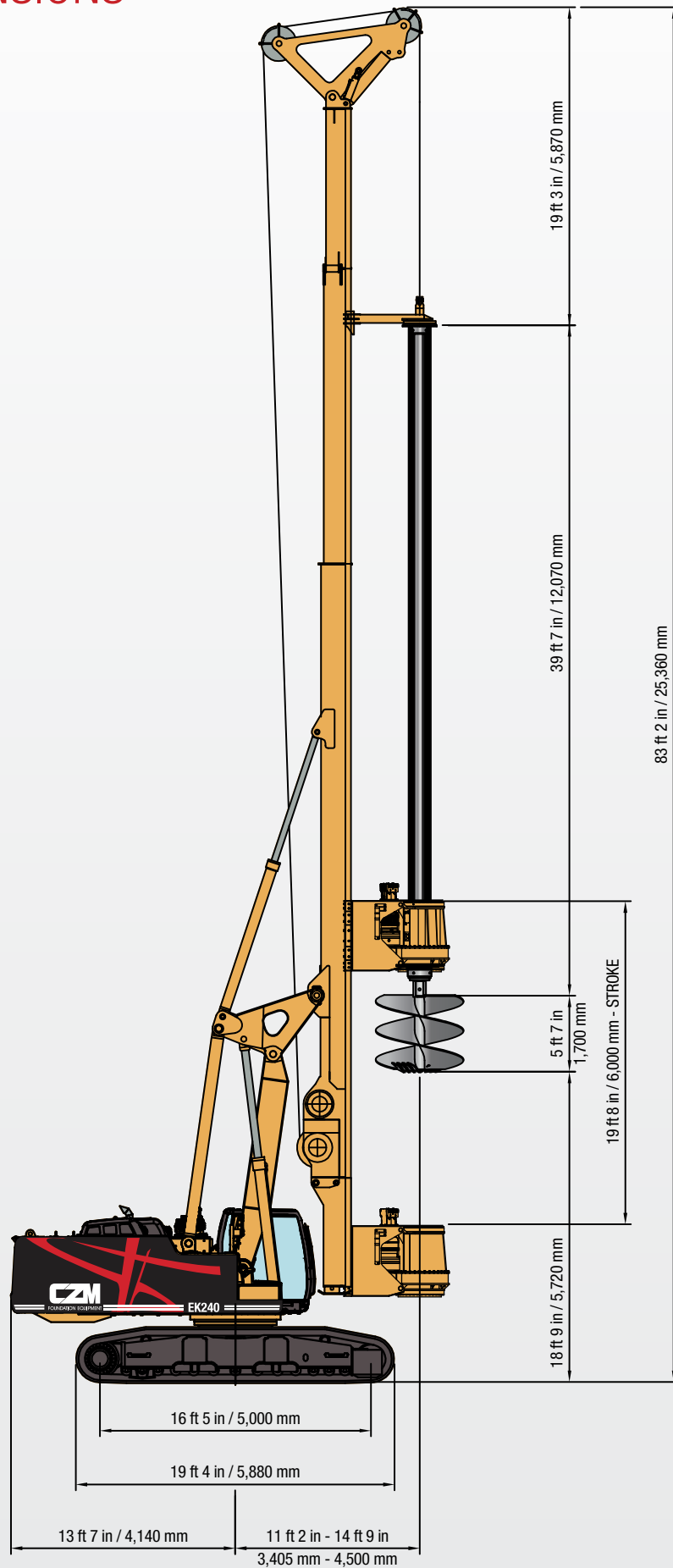
Overall Height (Standard Mast)	10 ft 10 in	3,295 mm
Overall Height (Short Mast)	11 ft 9 in	3,570 mm
Transport Length (Standard Mast)	64 ft 6 in	19,670 mm
Transport Length (Short Mast)	44 ft 2 in	13,470 mm
Transport Width (Standard Mast / Short Mast)	9 ft 10 in	3,000 mm
Max. transport Weight (Standard Mast)	132,000 lb	60,000 kg
Min. transport Weight (Standard Mast)	102,000 lb	46,500 kg
Max. transport Weight (Short Mast)	127,000 lb	57,750 kg
Min. transport Weight (Short Mast)	97,000 lb	44,100 kg

GENERAL DATA

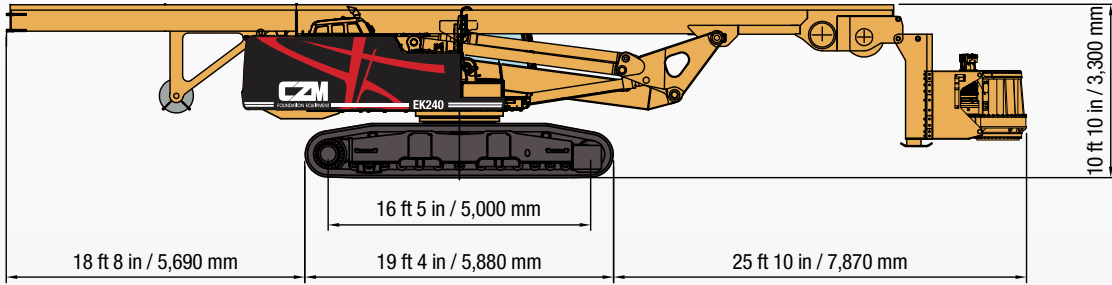
Overall height (Working position; Standard mast)	83 ft 2 in	25,360 mm
Overall height (Working position; Short mast)	31 ft 5 in	9,560 mm
Operation weight (Standard mast)	150,000 lb	68,000 kg
Operation weight (Short mast)	146,500 lb	66,500 kg

Specifications are subject to change without notice.

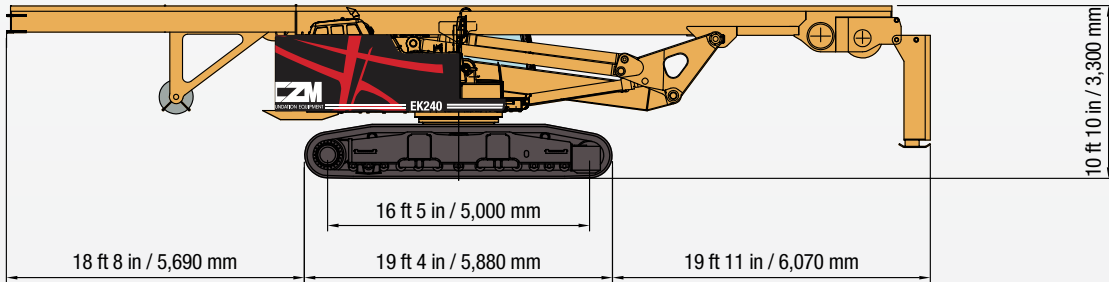
GENERAL DIMENSIONS



TRANSPORT POSITION



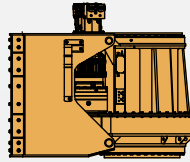
Weight: 132,000 lb / 60,000 kg



Weight: 102,000 lb / 46,500 kg (removing Rotary, Lower Mast and Counterweights)



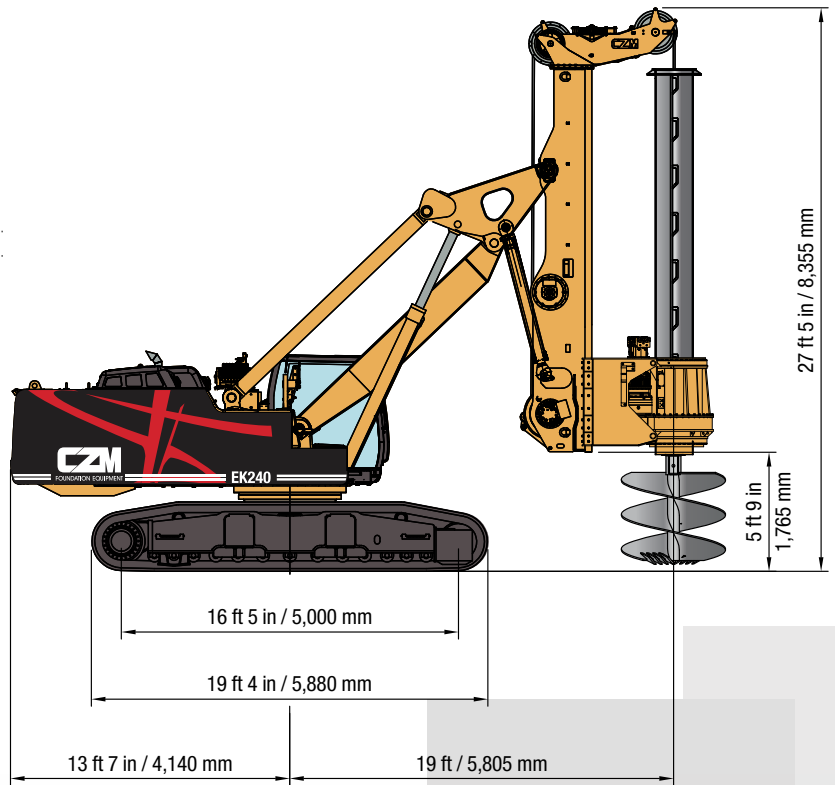
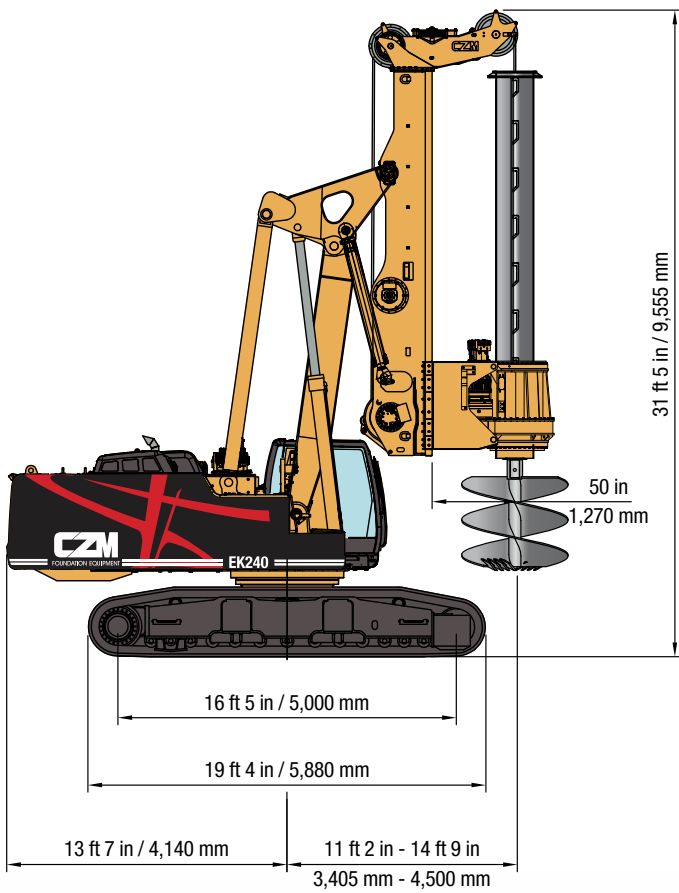
Weight: 19,000 lbs
8,600 kg



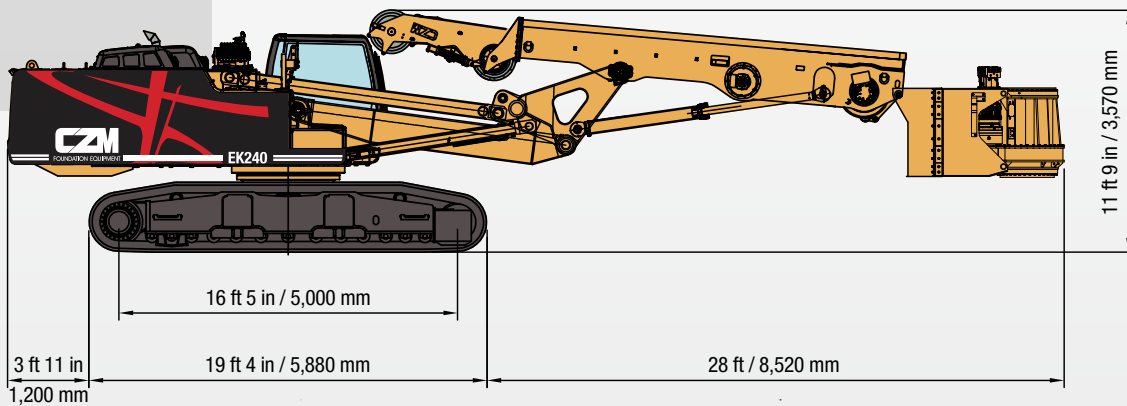
Weight: 11,000 lbs
5,000 kg



GENERAL DIMENSIONS SHORT MAST

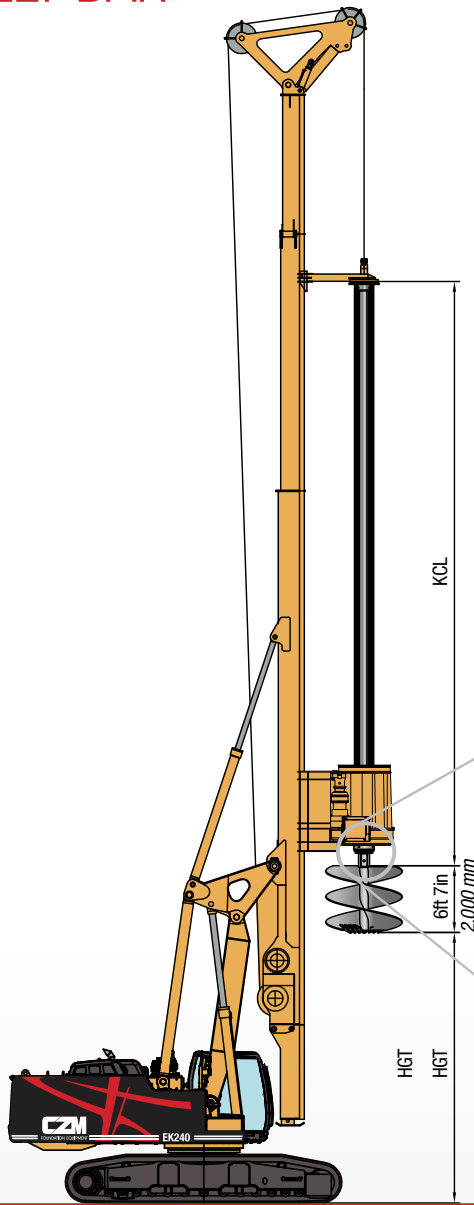


TRANSPORT POSITION SHORT MAST



Weight: 127,000 lbs / 57,750 kg

KELLY BAR



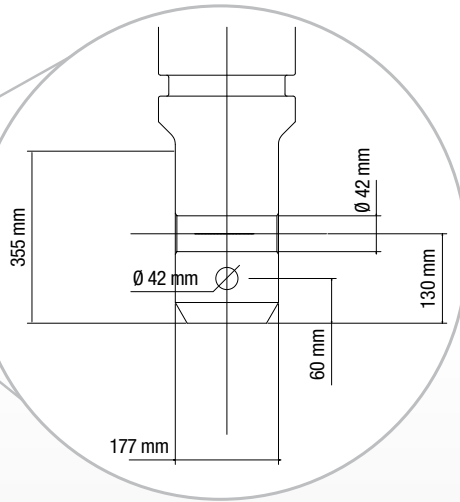
CASED DRILLED SHAFT PILES

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

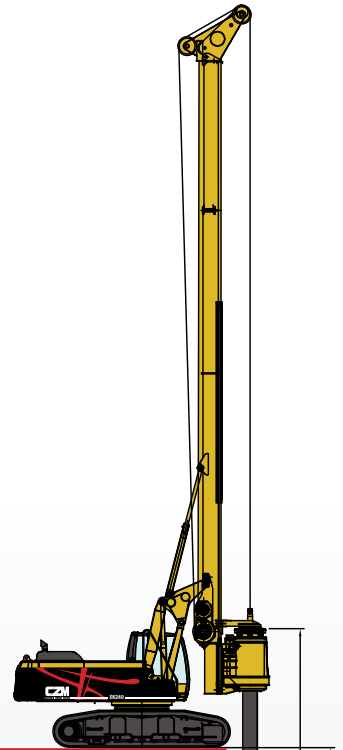
CASING DIAMETER	MAXIMUM DEPTH
60 in / 1,500 mm	60 ft / 18 m
50 in / 1,300 mm	72 ft / 22 m
40 in / 1,000 mm	90 ft / 27 m

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

STANDARD



*Stub can be manufactured needs by according to customer.



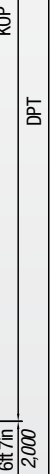
KELLY BAR CHOICES FOR STANDARD MAST

	NUMBER OF ELEMENTS	DEPTH - DPT	TRANSPORT - KCL	HGT	KOP	WEIGHT
Standard 4/130 Interlock	4	130ft (39m)	39ft (11.9m)	18ft (5.5m)	132ft 3in (40.3m)	13,000lb (5,900kg)
3/90 Interlock	3	90ft (29m)	39ft 4in (12m)	18ft (5.5m)	100ft 5in (30.6m)	11,900lb (5,400kg)
Long 4/175 Interlock	4	175ft (53m)	50ft 7in (15.4m)	18ft (5.5m)	178ft (54.3m)	17,000lb (7,750kg)
Long 3/120 Interlock	3	120ft (36m)	50ft 7in (15.4m)	18ft (5.5m)	123ft (37.5m)	15,000lb (6,800kg)
4/130 Friction	4	130ft (39m)	39ft (11.9m)	18ft (5.5m)	134ft 10in (41m)	13,000lb (5,900kg)
5/160 Friction	5	160ft (49m)	39ft 4in (12m)	18ft (5.5m)	167ft (50.9m)	17,000lb (7,750kg)
5/200 Friction	5	200ft (60m)	47ft 3in (14.4m)	18ft (5.5m)	206ft (62.9m)	20,000lb (9,100kg)

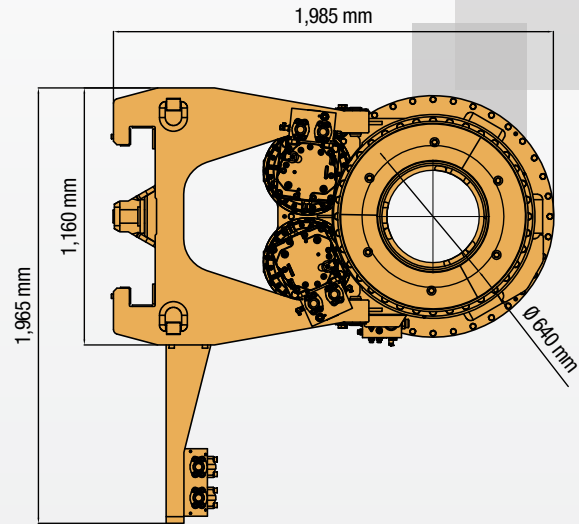
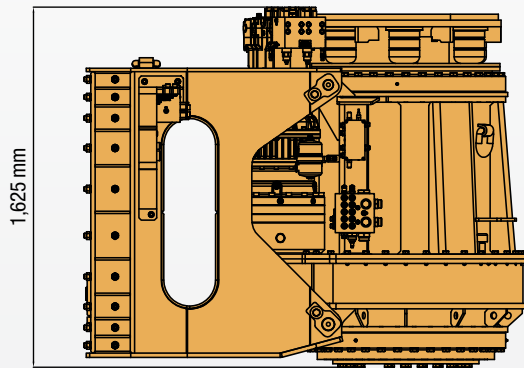
The standard kelly has 4 interlocking elements and reaches 130 ft (39 m) depth.

KELLY BAR FOR LOW CLEARANCE

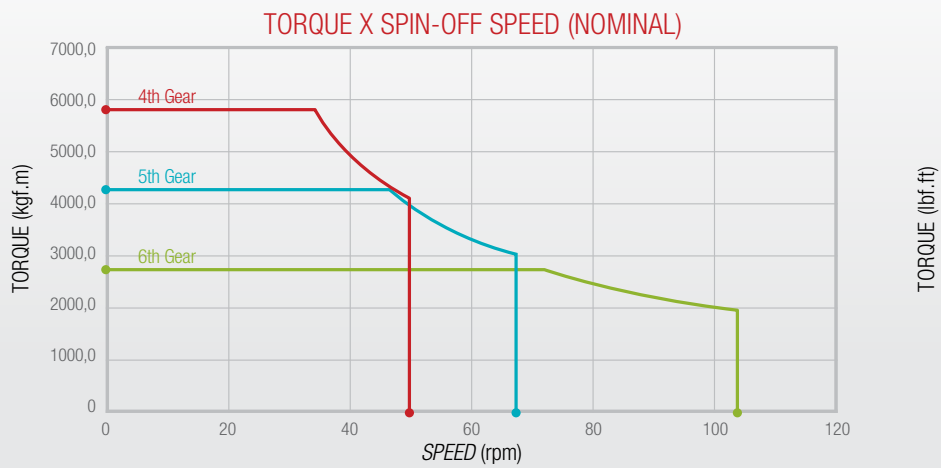
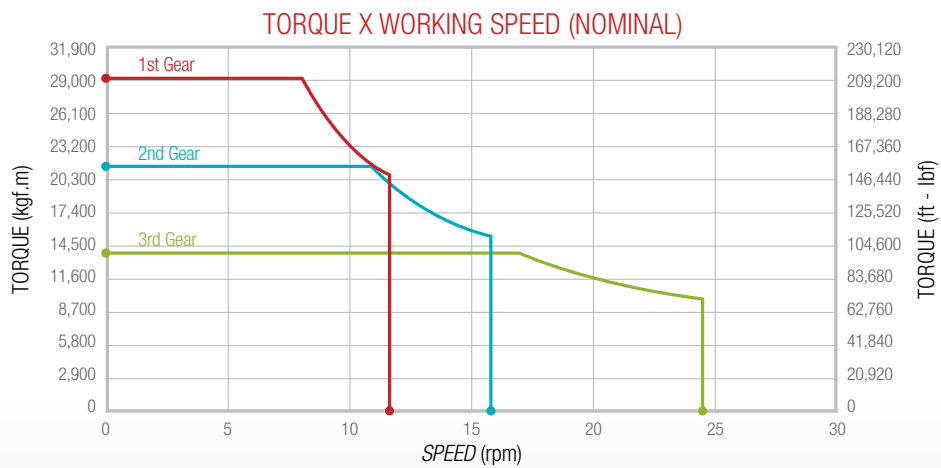
	NUMBER OF ELEMENTS	DEPTH - DPT	TRANSPORT - KCL	HGT	KOP	WEIGHT
Long 6/95 Interlock	6	95ft (29m)	21ft (6.4m)	2ft 9in (0.9m)	101ft 5in (30.9m)	13,000lb (5,900kg)
Standard 6/78 Interlock	6	78ft (24m)	18ft (5.6m)	2ft 9in (0.9m)	84ft (25.6m)	11,500lb (5,230kg)



ROTARY



TORQUE DIAGRAM



The mast is made of special steel called "Weldox" that has a yield strength 2.8 times higher than regular ASTM A36 steel. It means that with less weight the EK240SM can have better stability and displacements on the job site and easier transport handlings





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