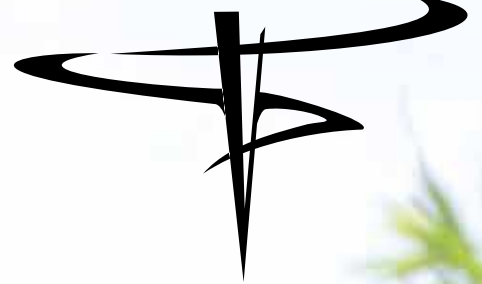


**CZM**

FOUNDATION EQUIPMENT



**EK300**

*Courtesy of Crane.Market*



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.



# EK300

Mounted on CAT349  
TIER IV



# APPLICATION

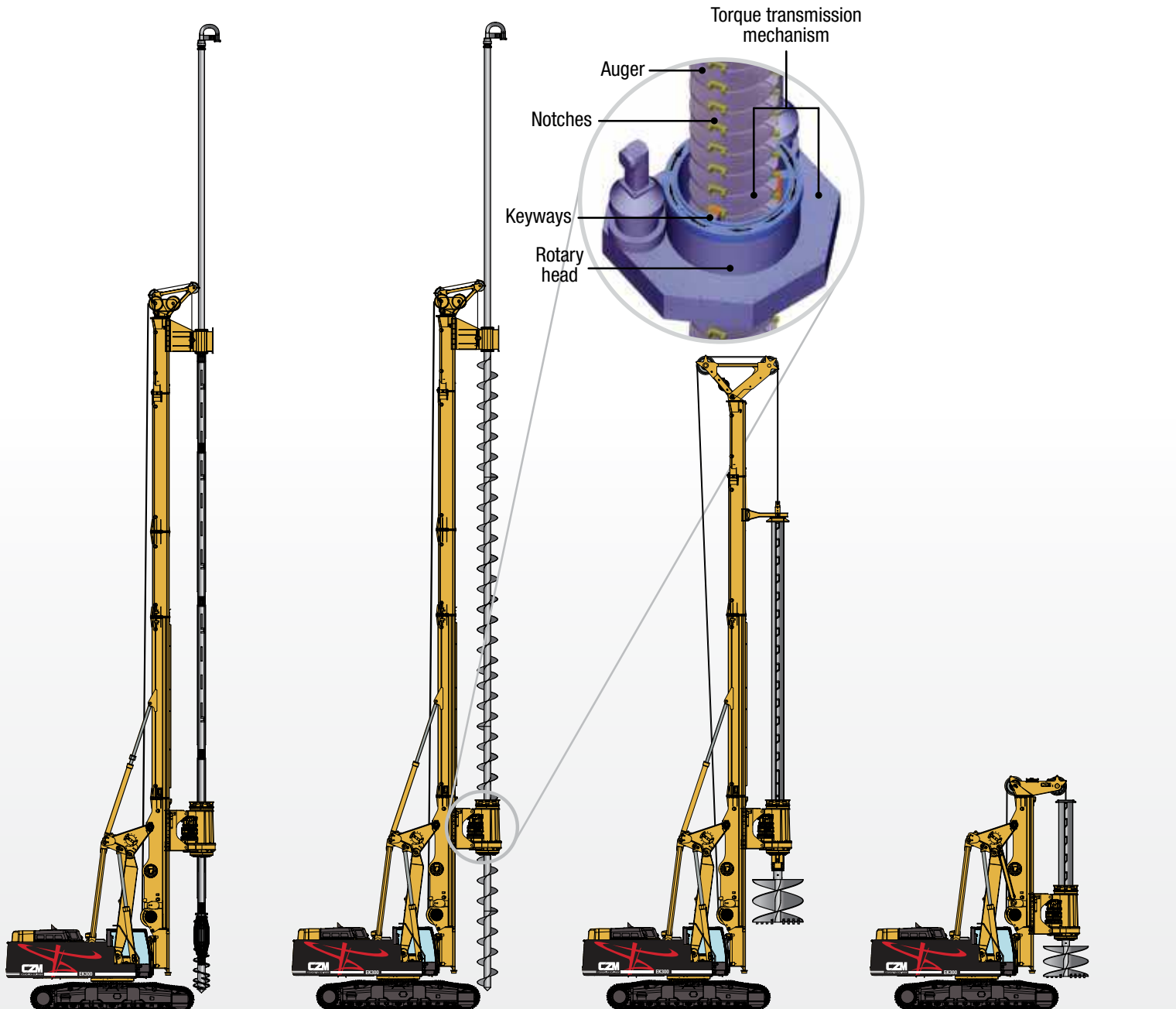
The largest, most powerful model we've produced to date, the EK300 is manufactured to meet customer demands which exceed the already powerful capabilities of the EK250.

The new EK300 incorporates a CAT 349 base with a fully integrated undercarriage, and delivers greater maximum torque and increased main winch pull force. In keeping with our customer-focused philosophy, each machine is supported by the extensive Caterpillar®

service network – the largest in the nation.

The EK300 was built using the same concept we use for all our machines – to help ensure the success of every project that uses one of our machines, to minimize downtime on the job site, and to maximize each contractor's return on investment. Massive, and more powerful than its predecessors, the EK300 is designed for ease-of-use, and simple conversion for numerous applications.

## BOTTOM DRIVE CFA



**DISPLACEMENT PILE**  
 Depth (max.): 110 ft / 33.5 m  
 Diameter (max.): 24 in / 600 mm

**CONTINUOUS FLIGHT AUGER PILE**  
 Depth (max.): 110 ft / 33.5 m  
 Diameter (max.): 32 in / 600 mm

**KELLY BAR**  
 Depth (max.): 246 ft / 75 m  
 Diameter (without lower mast): 181 in / 4,600 mm  
 Diameter (with lower mast): 91 in / 2,300 mm

**SHORT MAST VERSION**  
 Depth (max.): 60 ft / 18.3 m  
 Diameter (without lower mast): 181 in / 4,600 mm  
 Diameter (with lower mast): 91 in / 2,300 mm

# TECHNICAL SPECIFICATIONS

## KELLY BAR STANDARD MAST APPLICATION

Max. Drilling Depth (standard version - interlocking kelly bar)	157ft	48,000mm
Max. Drilling Depth (friction kelly bar)	250ft	76,200mm
Max. Drilling Diameter (without lower mast)	180in	4,600mm
Max. Drilling Diameter (with lower mast)	100in	2,540mm

## KELLY BAR SHORT MAST APPLICATION

Max. Drilling Depth (interlocking kelly bar)	60ft	18.3m
Max. Drilling Depth (friction kelly bar)	80ft	25m
Max. Drilling Diameter	15ft	4,600mm

## ROTARY HEAD

Maximum torque (nominal)	252,000lbf.ft	35,000kgf.m
Working Speed	8 - 30rpm	8-30rpm
Spin-off Speed	47-111rpm	47-111rpm

## CROWD SYSTEM

Pull down force (nominal)	82,650lbf	37,500kgf
Pull up force (nominal)	87,600lbf	39,700kgf
Cylinder stroke	21ft 4in	6,500mm

## MAIN WINCH (PULL-UP)

Max. Pull-force effective (1st layer)	71,000lbf	32,200kgf
Max. Pull-force effective (1st layer - 2nd speed)	57,000lbf	25,860kgf
Line speed (1st layer)	200ft/min	63m/min
Max. Line speed (2nd speed)	250ft/min	78m/min
Cable diameter	1.25 in	32mm
Drum pitch diameter (1st Layer)	24.6in	624mm

## AUXILIARY WINCH

Max. Pull-force effective (1 st layer)	22,000lbf	10,000kgf
Cable diameter	.75 in	19mm
Drum pitch diameter (1st Layer)	16.7in	442mm

## MAST INCLINATION

Backward	15°	15°
Forward	5°	5°
Sideways	8 / 8°	8 / 8°

## DIESEL ENGINE CAT349 TIER IV (CAT C13 ACCERT)\*

Exhaust Emission Standard	EPA Tier 4 Interim	
Gross Power - SAE J1995	432hp	322kW
Displacement	763in³	12.5L
Fuel tank	190gal	720L

## MAIN HYDRAULIC SYSTEM

Main circuit pressure (max.)	5,076psi	350bar
Main circuit Flow rate (max.)	180gpm	680lpm
Hydraulic Oil Tank (CAT + Additional)	177gal	670L

## AUXILIARY HYDRAULIC SYSTEM

Pump Displacement	3,66in³	60cc³
Auxiliary circuit flow rate (max.)	29gpm	108lpm

## UNDERCARRIAGE

Track length	21ft 2in	6,443mm
Length to center of rollers	17ft 10in	5,440mm
Transport position width (retracted)	11ft 6in	3,500mm
Operation position width (extended)	16ft 5in	5,000mm
Track shoes width	35in	900mm

## TRANSPORT STANDARD MAST APPLICATION

Overall Height	12ft 1in	3,680mm
Transport Length	66ft 9in	20,355mm
Transport Width	11ft 6in	3,500mm
Transport Weight	136,500lb	61,920kg

## TRANSPORT SHORT MAST APPLICATION

Overall Height	12ft 1in	3,680mm
Transport Length	44ft 2in	13,470mm
Transport Width	11ft 6in	3,500mm
Transport Weight	107,300lb	48,800kg

## GENERAL DATA STANDARD MAST APPLICATION

Overall Height (Working position)	84ft 5in	25,725mm
Operation Weight	217,600lb	98,700kg

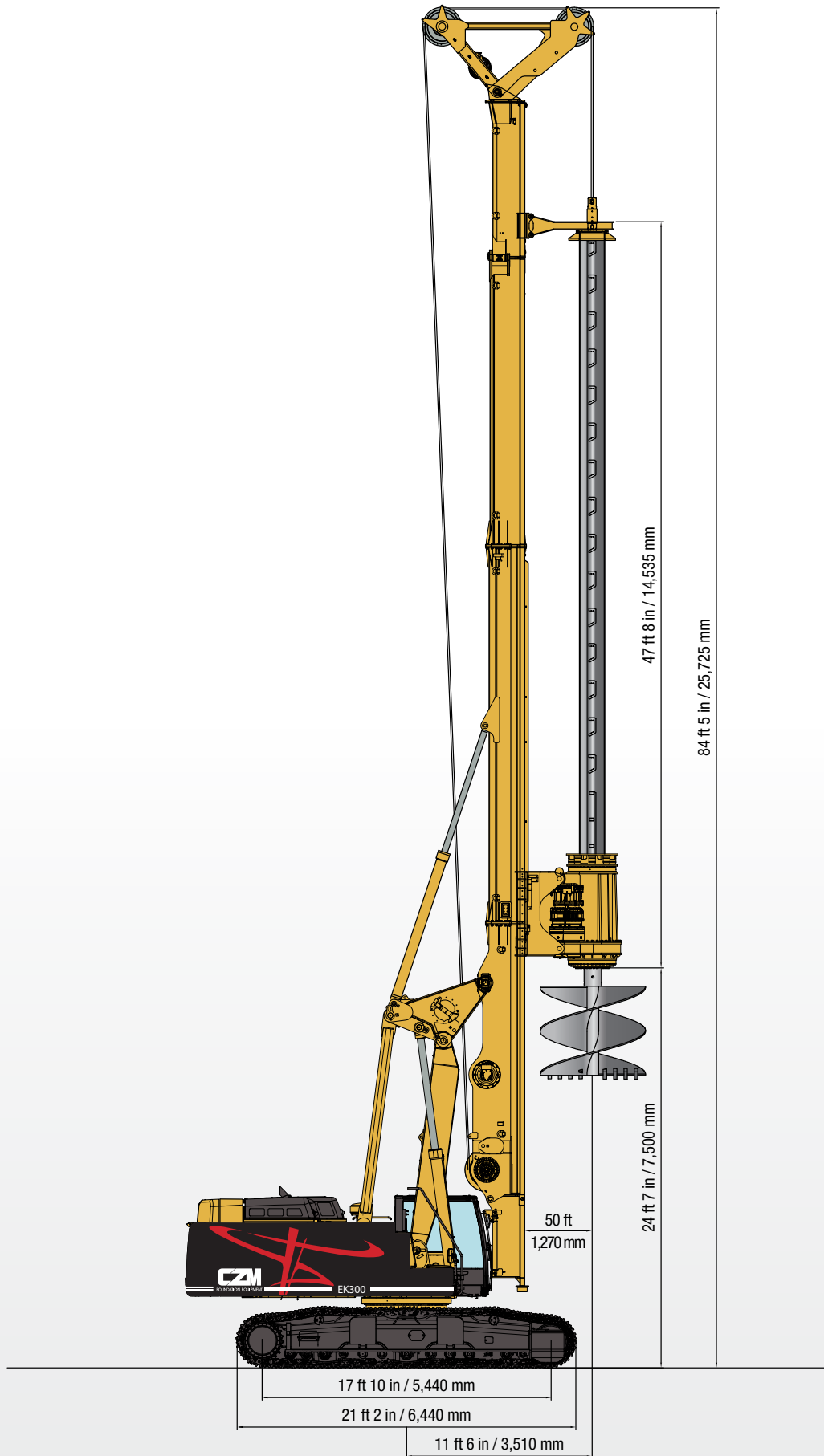
## GENERAL DATA SHORT MAST APPLICATION

Overall Height (Working position)	30ft 3in	9,200mm
Operation Weight	199,900lb	90,700kg

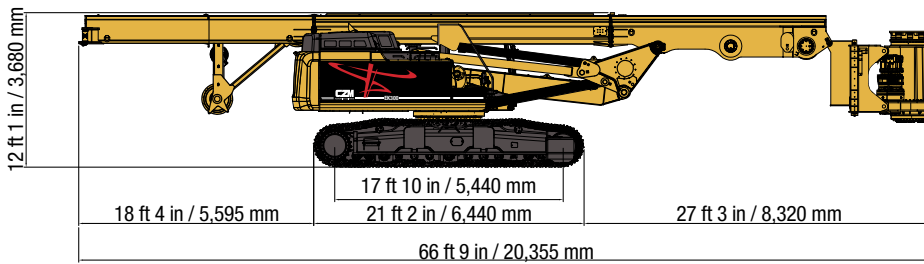
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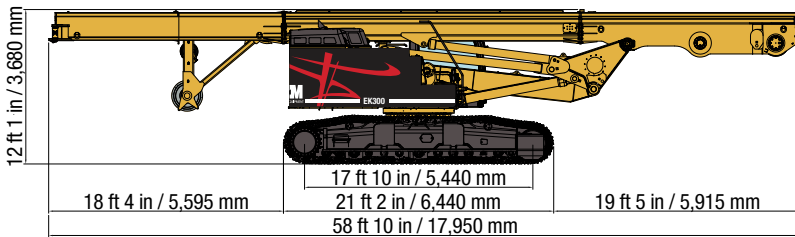
# GENERAL DIMENSIONS KELLY BAR



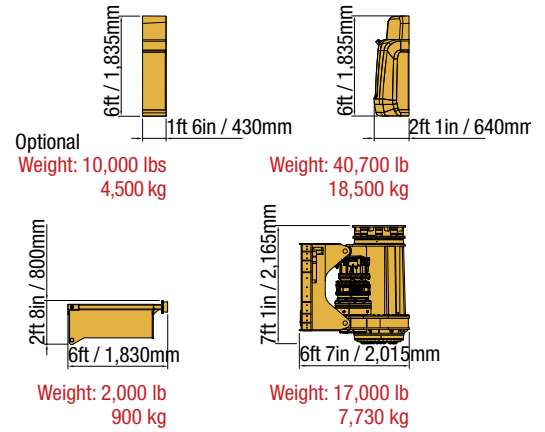
# TRANSPORT POSITION



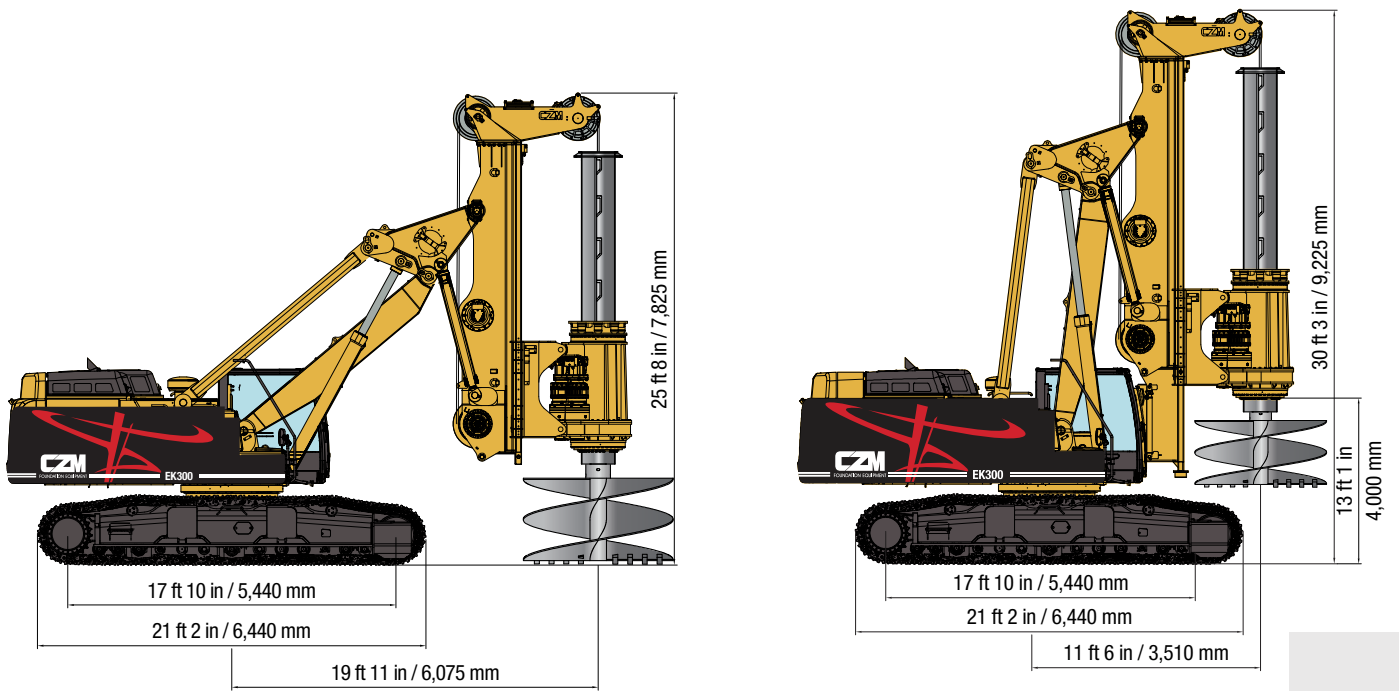
Weight: 190,000 lbs / 86,500 kg



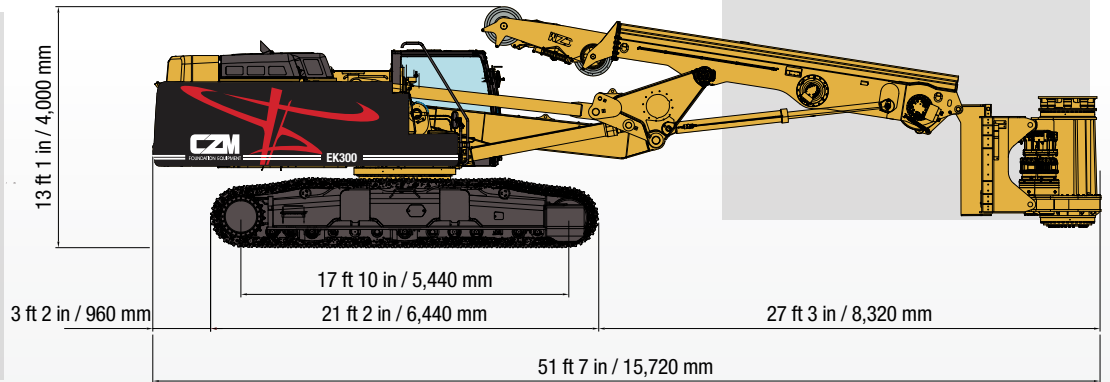
Weight: 136,500 lb / 62,000 kg (removing Rotary, Lower Mast and Counterweights)



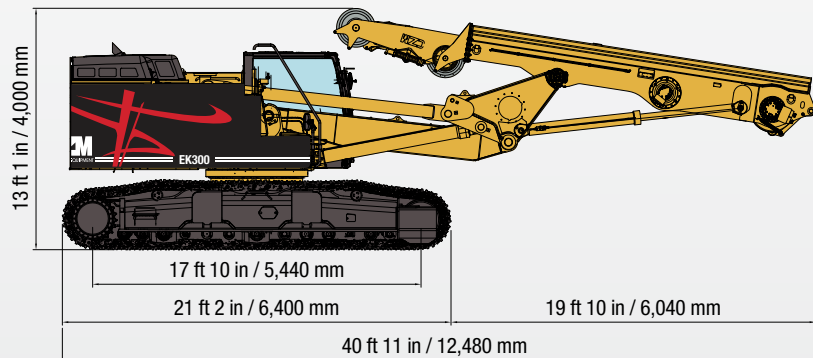
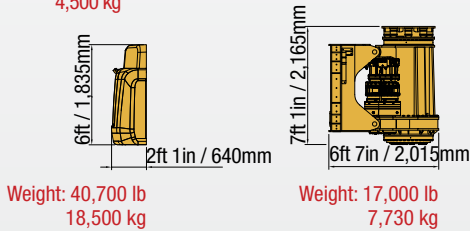
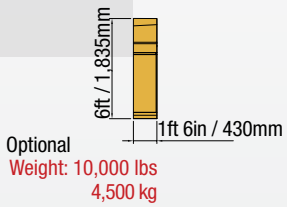
# GENERAL DIMENSIONS SHORT MAST



# TRANSPORT POSITION SHORT MAST



Weight: 175,000 lb / 79,500 kg



Weight: 107,300 lb / 48,800 kg (removing Rotary, Lower Mast and Counterweights)



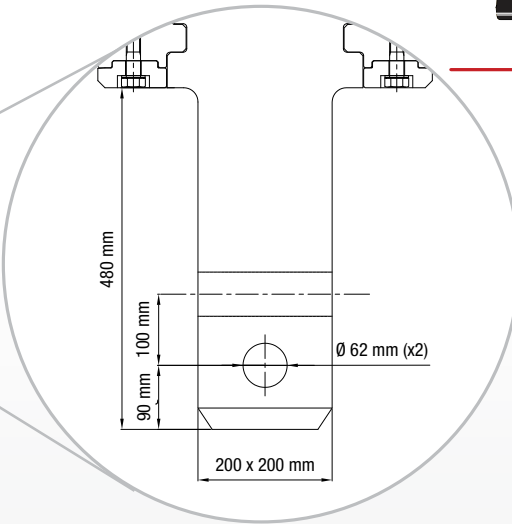
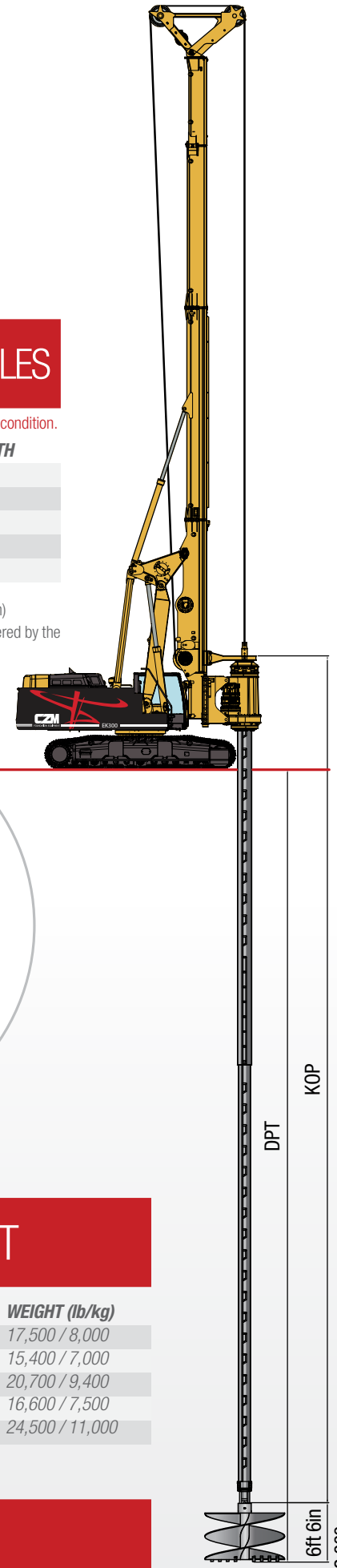
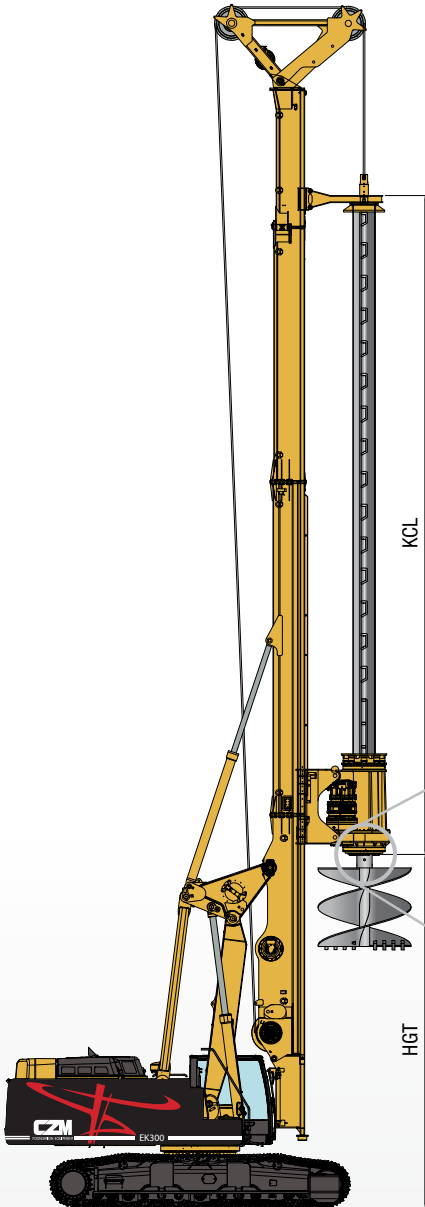
# KELLY BAR

## 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.



## KELLY BAR CHOICES FOR STANDARD MAST

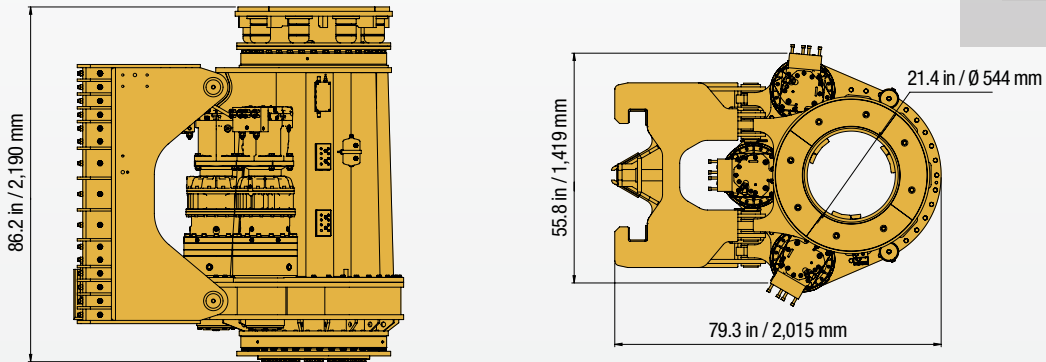
	NUMBER OF ELEMENTS	DEPTH - DPT	TRANSPORT - KCL (ft in/mm)	HGT (ft in/mm)	KOP (ft in/mm)	WEIGHT (lb/kg)
Standard 4/160 (48) Interlock	4	160' / 48,650	47'8" / 14,535	18'7" / 5,670	167'10" / 51,150	17,500 / 8,000
Short 4/127 (38) Interlock	4	127' / 38,650	39'4" / 11,985	18'7" / 5,670	135' / 41,150	15,400 / 7,000
Long 4/199 (60) Interlock	4	199' / 60,650	57'6" / 17,535	10' / 3,048	207'1" / 63,150	20,700 / 9,400
Short 5/159 (48) Friction	5	159'7" / 48,650	39'4" / 11,985	18'7" / 5,670	167'10" / 51,150	16,600 / 7,500
Long 5/246 (75) Friction	5	246' / 75,000	59'11" / 18,255	7'8" / 2,330	254'3" / 77,500	24,500 / 11,000

The standard kelly has 4 interlocking elements and reaches 160 ft (48 m) depth.

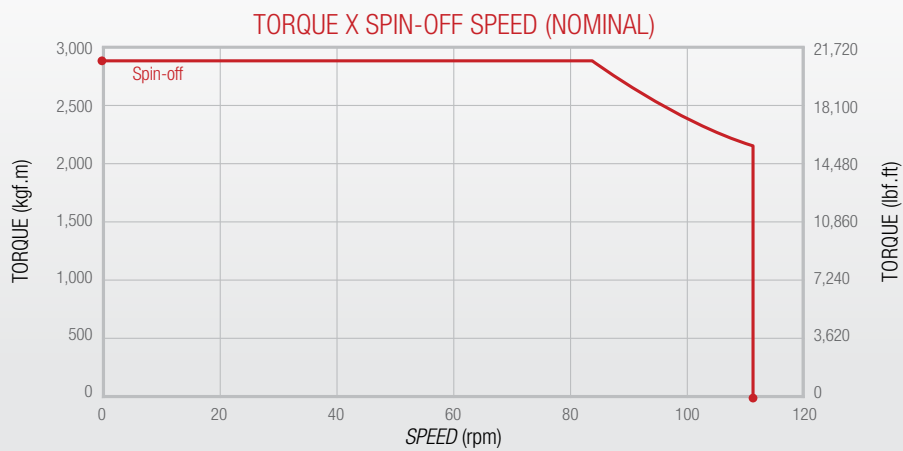
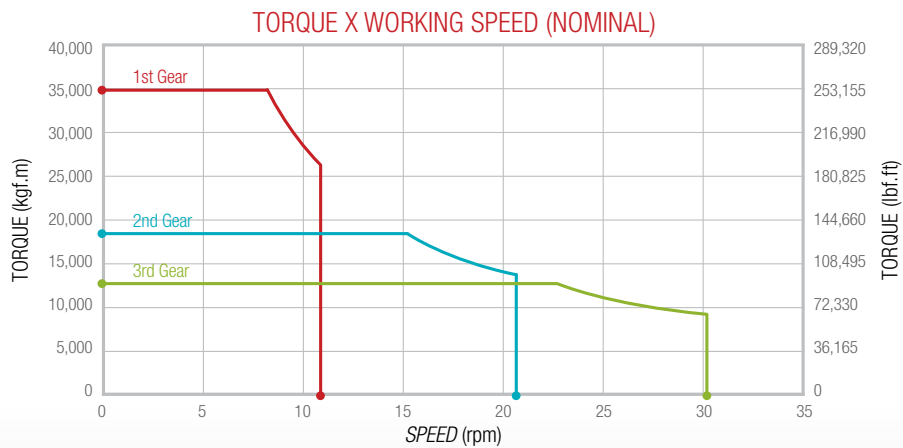
## KELLY BAR CHOICES FOR SHORT MAST

	NUMBER OF ELEMENTS	DEPTH - DPT	TRANSPORT - KCL	HGT (ft in/mm)	KOP (ft in/mm)	WEIGHT (lb/kg)
Standard 5/55 Interlock	5	55' / 16,800	15' 2" / 4,600	3' 2" / 980	75' 5" / 23,000	13,000 / 5,860
7/80 Friction	7	80' / 25,000	15' 2" / 4,600	3' 2" / 980	84' / 26,000	14,500 / 6,500

# ROTARY

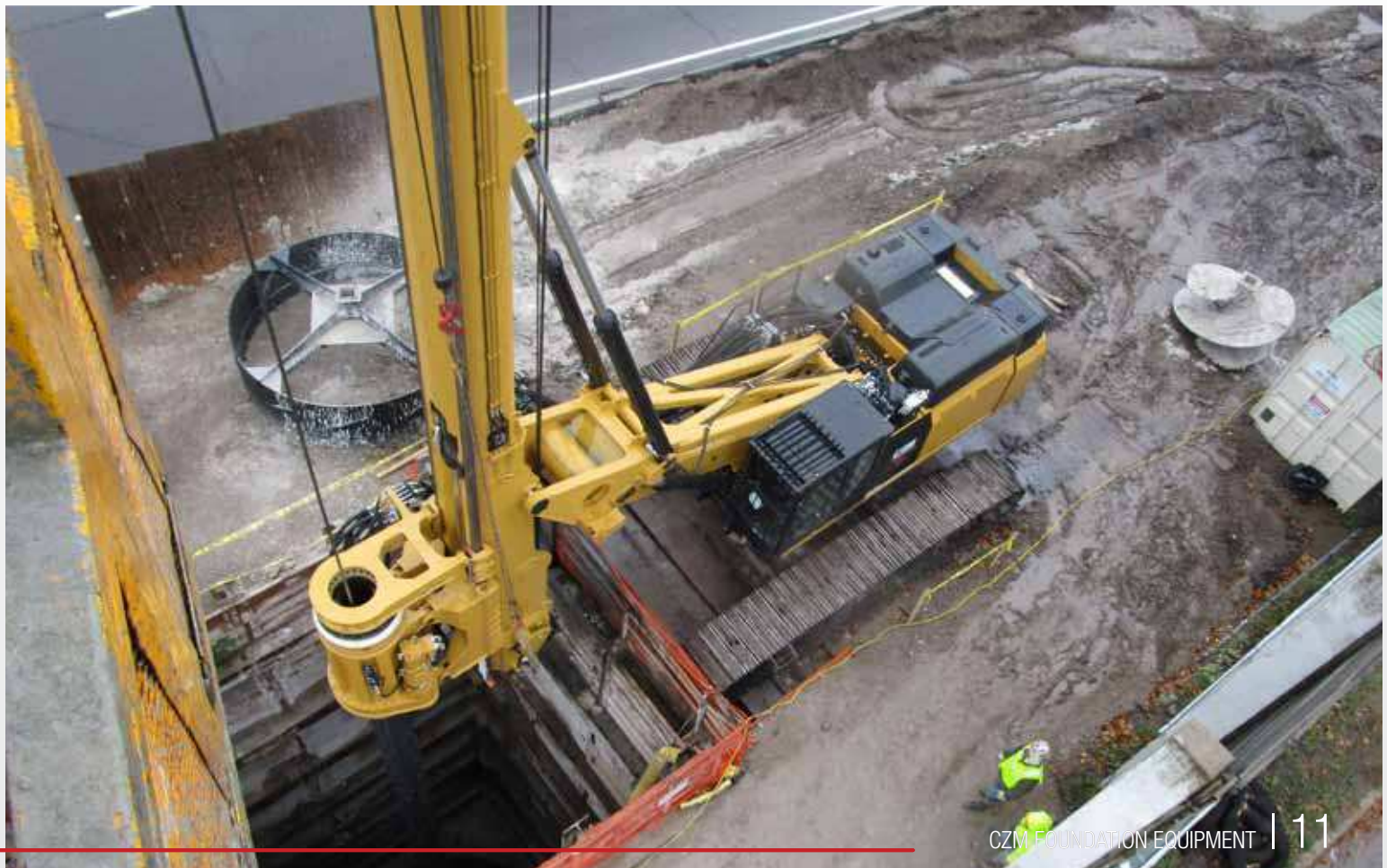


# TORQUE DIAGRAM



# EK300

Drilling 13ft diameter





**USA**  
**SAVANNAH**

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*Courtesy of Crane.Market*