



# EK160LS

CAT330  
(NEXT GEN)





## SCAN QR CODE

To view a video  
of the EK160LS.



# EK160LS

Mounted on a  
CAT330  
(NEXT GEN)

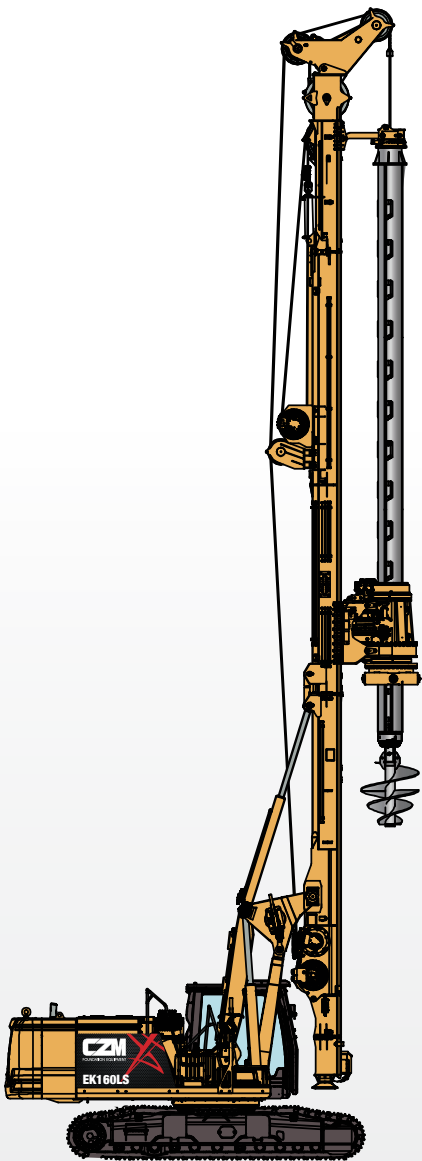
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# APPLICATIONS

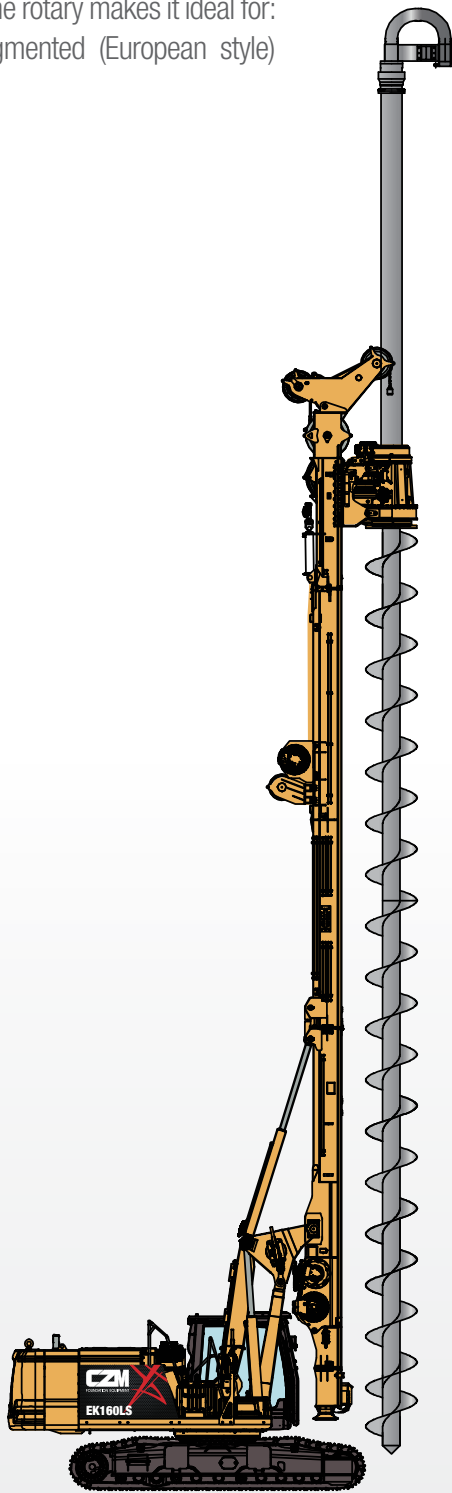
The EK160LS is a full cable crowd drilling rig mounted on a CAT330 Next Gen. The long stroke of the rotary makes it ideal for:

- Cased kelly bar drilling with segmented (European style) casing, specially for Secant walls.
- Large Diameter CFA.
- Displacement Piles



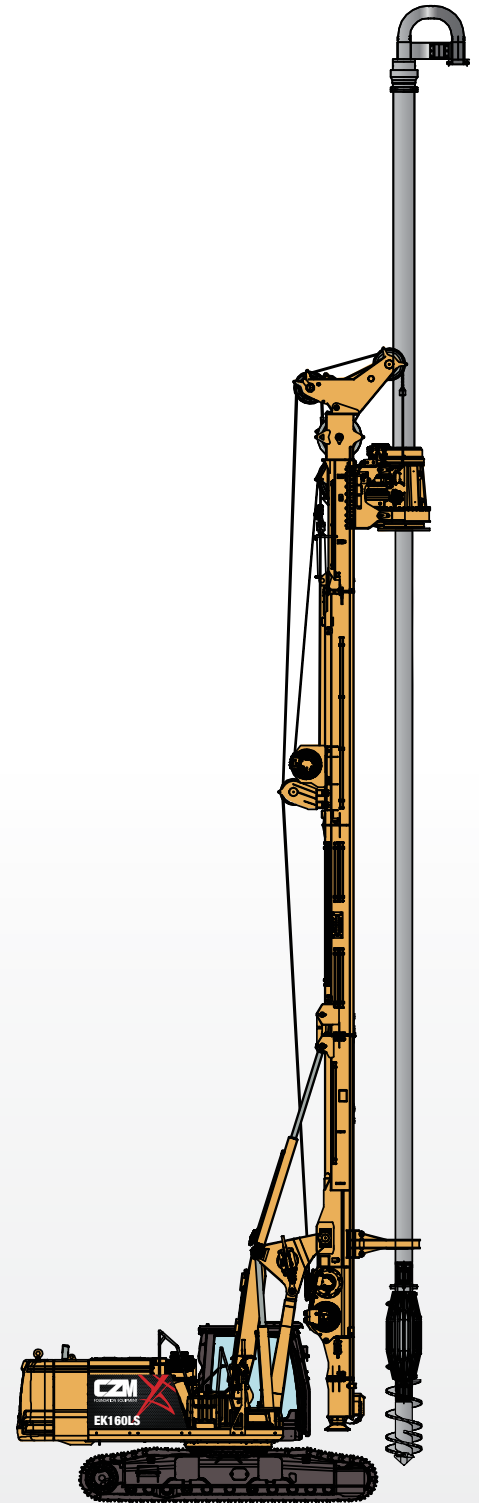
## I KELLY BAR

Max Depth (Std.): 1260 ft / 36.6 m  
Diameter (without lower mast): 8 ft / 2,440 mm  
Diameter (with lower mast): 4 ft / 1,300 mm



## I CONTINUOUS FLIGHT AUGER PILE

Depth (max.): 67 ft / 20.3 m  
Diameter (max.): 36in / 900 mm



## I DISPLACEMENT PILE

Depth (max.): 67 ft / 20.3 m  
Diameter (max.): 20in / 510 mm

# TECHNICAL SPECIFICATIONS

## ROTARY HEAD

Maximum torque (nominal)	134,000lbf.ft	18,620kgf.m
Working Speed	9 - 34rpm	9 - 34rpm
Spin-off Speed	60 - 120rpm	60 - 120rpm

## CROWD SYSTEM

Pull down/Pull up force (nominal)	53,900lbf	24,500kgf
Pull down/Pull up force (effective)	44,000lbf	20,000kgf
Standard Rotary Stroke	48ft 9in	14,850mm
Cable Diameter	3/4in	19mm
Speed (down/up)	53ft/min	16m/min
Fast Speed (down/up)	114ft/min	35m/min

## MAIN WINCH (PULL-UP)

Max. Pull-force effective (1st layer)	41,000lbf	18,600kgf
Max. Pull-force effective (1st layer - 2nd speed)	33,600lbf	15,300kgf
Line speed (1st layer)	200ft/min	63m/min
Max. Line speed (2nd speed)	258ft/min	78m/min
Cable diameter	-	24mm
Drum pitch diameter (1st Layer)	18.5in	473mm

## AUXILIARY WINCH

Max. Pull-force effective (1st layer)	22,000lbf	10,000kgf
Cable diameter	3/4 in	19mm
Drum pitch diameter (1st Layer)	16.7in	442mm

## MAST INCLINATION

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

## DIESEL ENGINE CAT330 NEXT GEN (CAT C7.1 ACCERT)\*

Exhaust Emission Standard	EPA Tier 4 Final	EPA Tier 4 Final
Gross Power - SAE J1995	273hp	201kW
Displacement	428in³	7.01L
Fuel tank	125gal	474L

## MAIN HYDRAULIC SYSTEM

Main circuit pressure (max.)	5,076psi	350bar
Main circuit Flow rate (max.)	2 x 74gpm	2 x 280lpm
Hydraulic Oil Tank (CAT + Additional)	38.8gal	147L

## AUXILIARY HYDRAULIC SYSTEM

Pump Displacement	4.27in³	75cc³
Auxiliary circuit flow rate (max.)	33.7gpm	147lpm

## UNDERCARRIAGE

Track length	17ft	5,200mm
Length to center of rollers	14ft 5in	4,400mm
Transport position width (retracted)	9ft 11in	3,000mm
Operation position width (extended)	14ft 1in	4,300mm
Track shoes width	28in	700mm

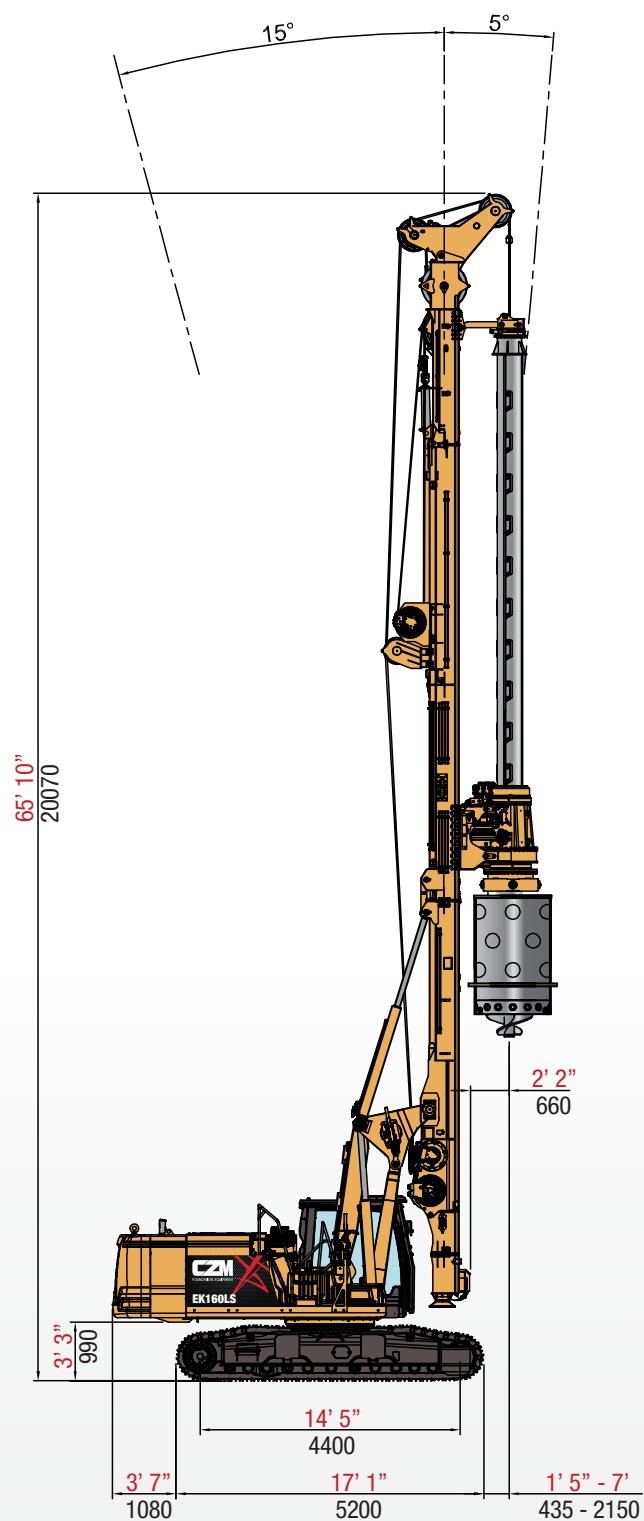
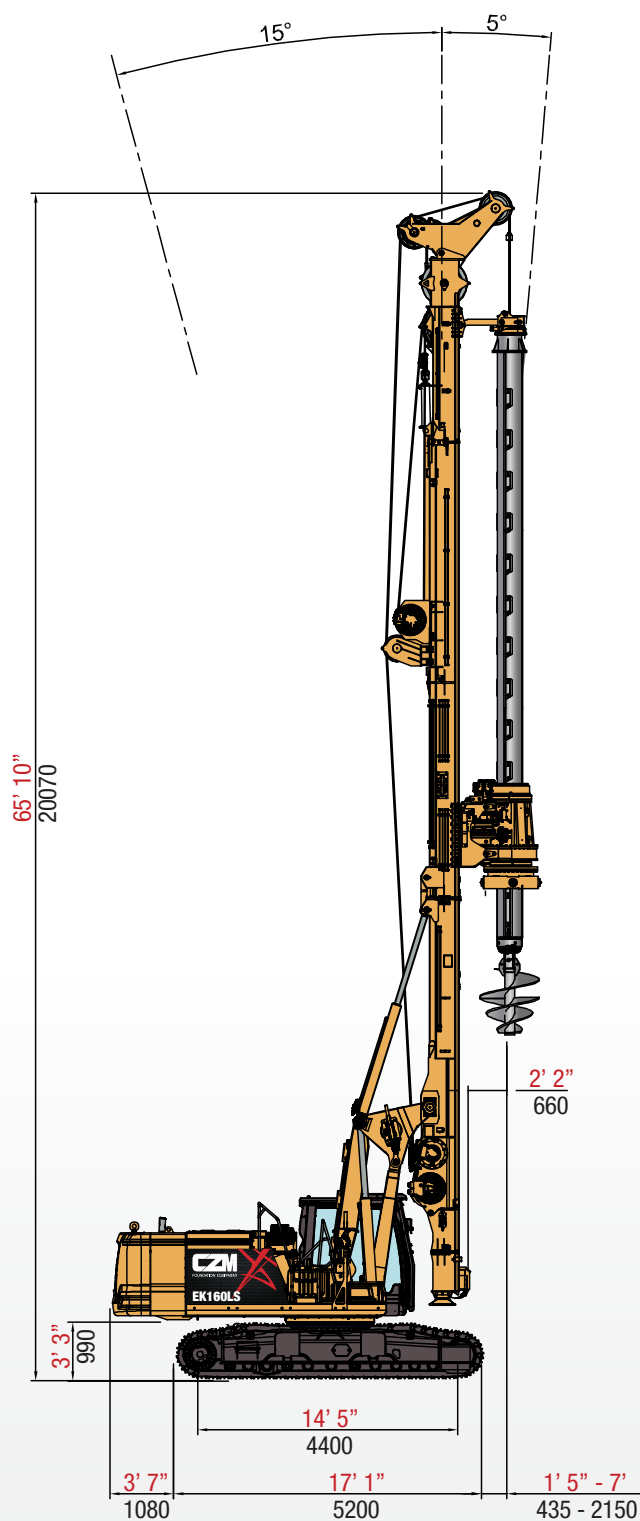
## GENERAL DATA STANDARD MAST APPLICATION

Overall Height (Working position)	65ft 10in	20,070mm
Operation Weight	118,000lb	52,520kg
Minimum Transport Weight*	95,000lb	43,091kg

\*Kelly bar and counterweight removed.

Specifications are subject to change without notice.

# KELLY BAR GENERAL DIMENSIONS

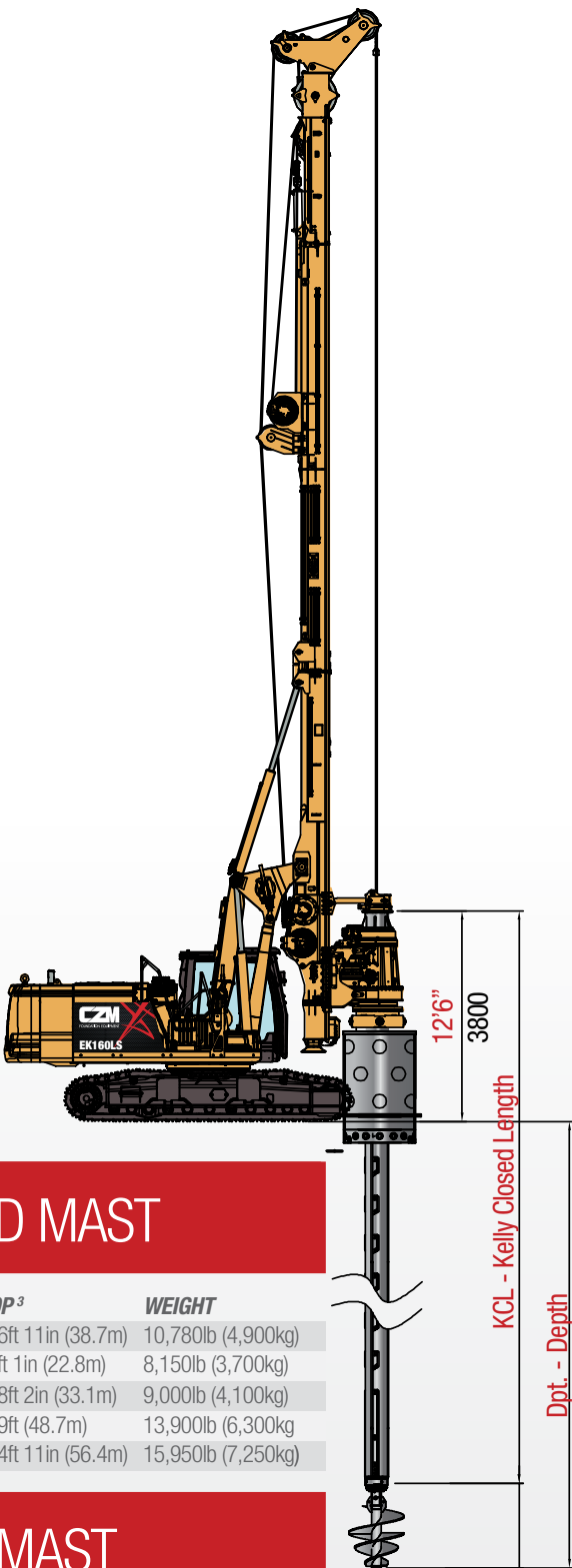
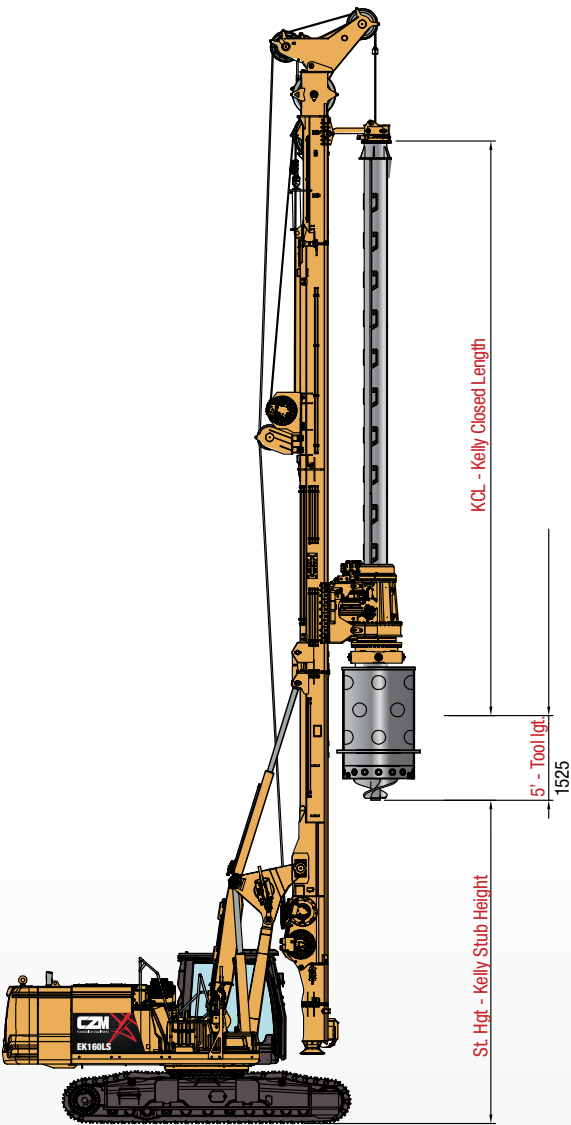


## KELLY BAR STANDARD MAST APPLICATION SPECS

Std. drilling depth (interlocking kelly bar)	120 ft	36,600 mm
Max. drilling depth (interlocking kelly bar)	175 ft	53,300 mm
Max. drilling diameter (without lower mast)	8 ft	2,440 mm
Max. drilling diameter (with lower mast)	4 ft	1,300 mm



# KELLY BAR GENERAL DIMENSIONS



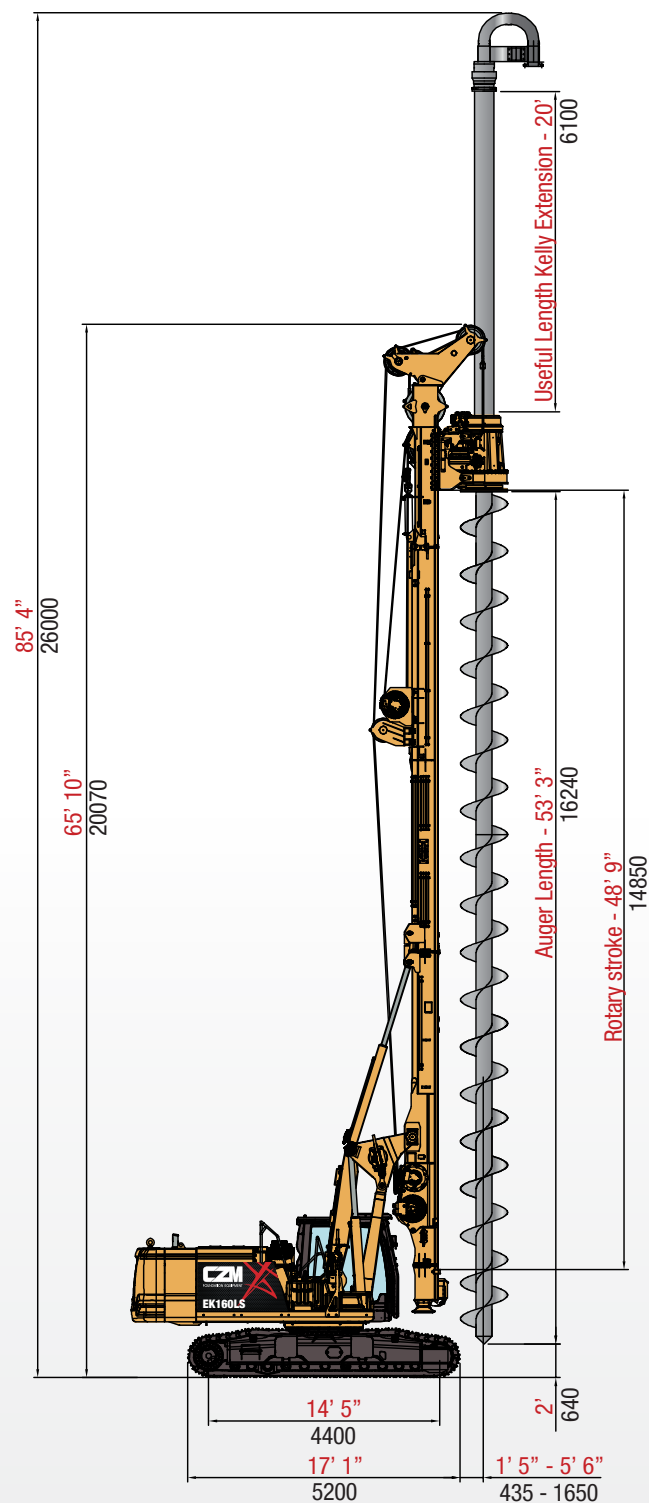
## KELLY BAR OPTIONS FOR STANDARD MAST

	NUMBER OF ELEMENTS	DEPTH - DPT <sup>4</sup>	TRANSPORT - KCL <sup>1</sup>	HGT <sup>2</sup>	KOP <sup>3</sup>	WEIGHT
Standard 4/120 Interlock	4	120ft (37m)	37ft (11.3m)	18ft (5.5m)	126ft 11in (38.7m)	10,780lb (4,900kg)
3/90 Interlock	3	90ft (27m)	37ft 8in (11.4m)	18ft (5.5m)	97ft 1in (22.8m)	8,150lb (3,700kg)
4/100 Interlock	4	100ft (30.5m)	32ft 10in (10m)	23ft (7m)	108ft 2in (33.1m)	9,000lb (4,100kg)
4/150 Interlock	4	150ft (45.7m)	43ft (13.1m)	10ft 6in (3.2m)	159ft (48.7m)	13,900lb (6,300kg)
5/175 Interlock	5	175ft (53.3m)	42ft 10in (13.1m)	10ft 6in (3.2m)	184ft 11in (56.4m)	15,950lb (7,250kg)

## KELLY BAR OPTIONS FOR SHORT MAST

	NUMBER OF ELEMENTS	DEPTH - DPT <sup>4</sup>	TRANSPORT - KCL <sup>1</sup>	HGT <sup>2</sup>	KOP <sup>3</sup>	WEIGHT
Standard 4/45 Interlock	4	45ft (13.7m)	15ft 2in (4.6m)	5ft 2in (1.6m)	46ft 10in (14.8m)	5,070 lb (2,300kg)
4/53 Interlock	4	53ft (16.1m)	17ft 2in (5.2m)	3ft 2in (1m)	54ft 10in (17.2m)	6,070lb (2,800kg)

# CONTINUOUS FLIGHT AUGER

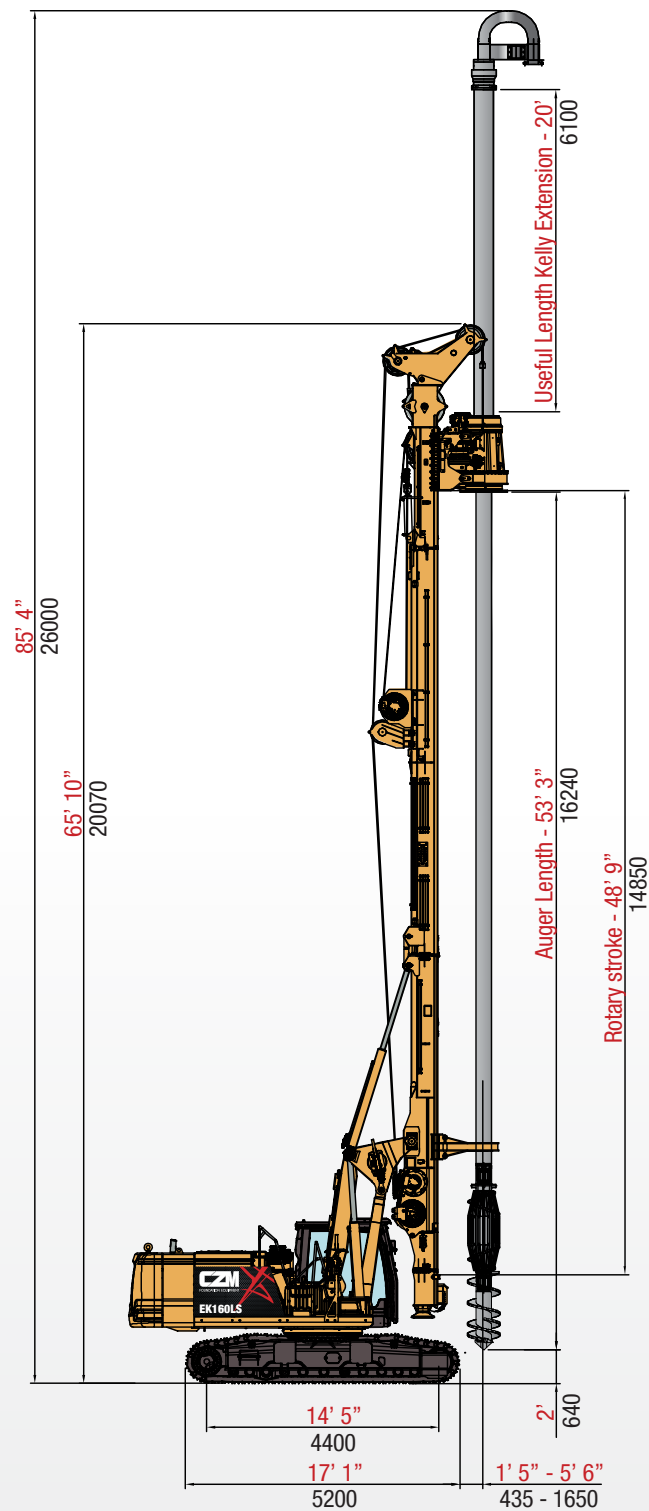


## CFA APPLICATION SPECS

Max. drilling diameter	36 in	900 mm
Max. drilling depth (Standard Mast)	67 ft	20,300 mm
Max. extraction force (Main + Crowd winch)	125,840 lbs	57,200 kgf



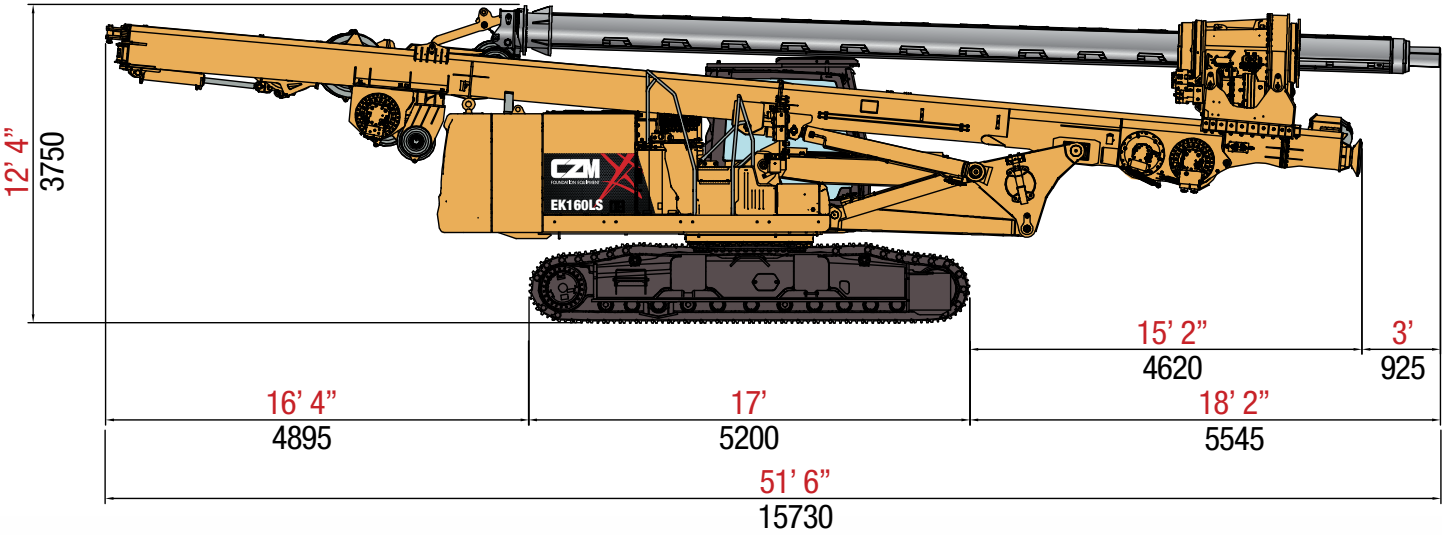
# DISPLACEMENT PILE



## DISPLACEMENT PILE APPLICATION SPECS

Max. drilling diameter	20 in	510 mm
Max. drilling depth (Standard Mast)	67 ft	20,300 mm
Max. extraction force (Main + Crowd winch)	125,840 lbs	52,250 kgf

# TRANSPORT POSITION GENERAL DIMENSIONS



Weight: 115,000 lbs / 57.5 ton

## MAJOR COMPONENT WEIGHTS

Standard Kelly Bar	10,790 lbs	4,900 kg
Rotary	6,820 lbs	3,100 kg
Counterweight	12,790 lbs	5,800 kg

# EK160LS FEATURES

## BASE:

- The new **Cat 330 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 allows management to monitor machine operations and maintenance data online and wireless, providing information such as location, hours, fuel usage, idle time, event codes and maintenance schedule.

## UNDERCARRIAGE:

- Caterpillar **variable undercarriage** VH4400/4300/700. Reinforced frame H style variable undercarriage. Length between wheels 4400mm, Transport width 3300mm, Operation width 4300mm, Shoe width 700mm.

## MAST:

- Reinforced mast, with high resistance steel **Weldox 700**.

## ROTARY:

- **Robust design**, with 2 slewing bearings on top and bottom, robust pinion and main gear.
- **2 groups of Hydraulic Motor / Planetary Gears for high torque and long life.**
- 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 (120rpm)** 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. No need to rebuild keys by welding inside the rotary.
- Hydraulic measurement of torque displayed in the cabin for the operator.

## MAIN WINCH:

- **Special groove** for better cable winding and longer cable life.
- Press-roller included
- **2 gears** allows for both **high speed** and **high pulling force**.
- **Automatic gear shifting**, for seamless operation, high production.
- Automatic down the hole winch stop. When Kelly bar reaches the bottom of the hole, winch automatic stops.
- Free willing winch during crowd operation.
- Hydraulic and mechanic brake.
- Hydraulic measurement of pulling force displayed in the cabin for operator.
- Swivel and Limit switch.

## CAB:

- AM/FM Radio, Air conditioning/Heating
- ROPS cab
- 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
  - Main Winch automatic gear shifting
- Maintenance and data logging



## ACCESSORIES:

- Lighting package
- Refueling pump
- Cold weather start up package
- Fine filtration system
- Tool & O'ring kits





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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