



EK160LS

CAT330
(NEXT GEN)



SCAN QR CODE

To view a video
of the EK160LS.

EK160LS

Mounted on a
CAT330F
(NEXT GEN)

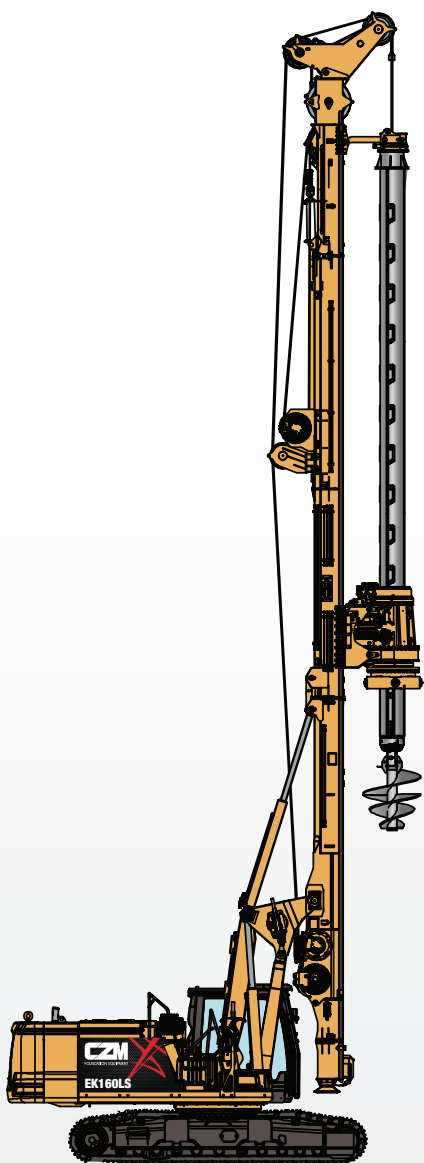
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APPLICATIONS

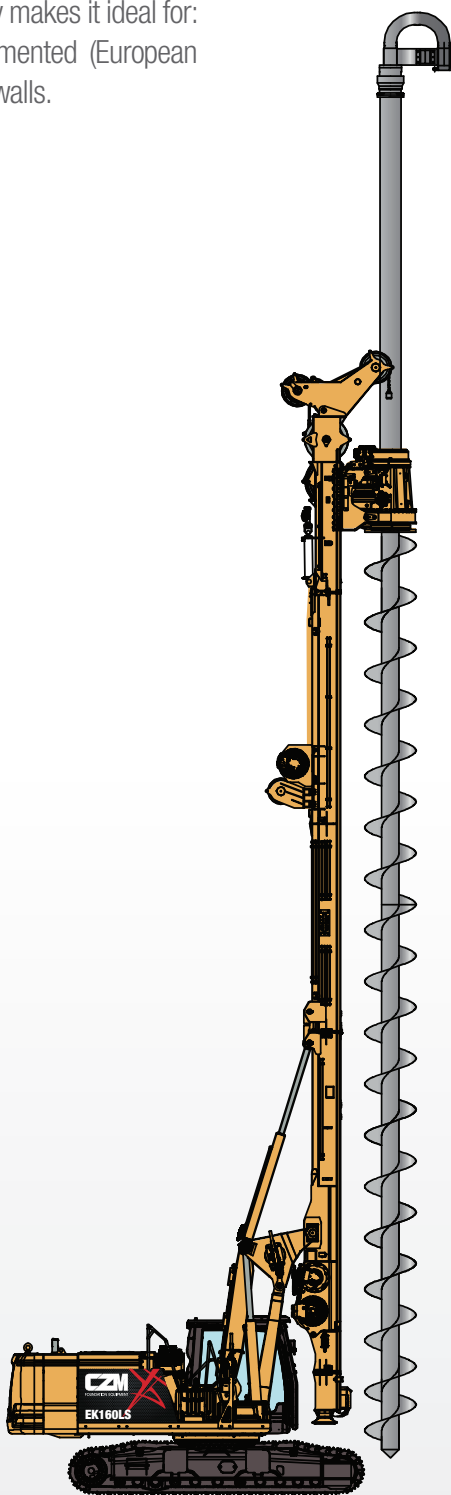
The EK160LS is a full cable crowd drilling rig mounted on a CAT330. The long stroke of the rotary makes it ideal for:

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



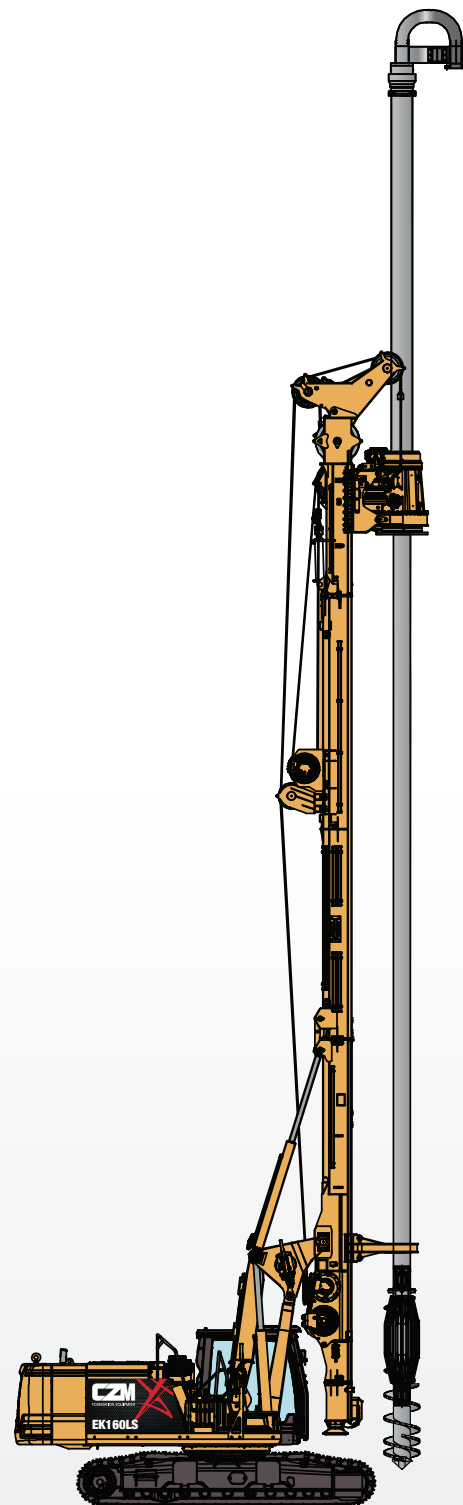
I KELLY BAR

Max Depth (Std.): 120 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 TIER IV (CAT C7.1 ACCERT)*

Exhaust Emission Standard	EPA Tier 4 Final	EPA Tier 4 Final
Gross Power - SAE J1995	275hp	205kW
Displacement	428in³	7.01L
Fuel tank	125gal	474L

MAIN HYDRAULIC SYSTEM

Main circuit pressure (max.)	5,076psi	350bar
Main circuit Flow rate (max.)	138gpm	520lpm
Hydraulic Oil Tank (CAT + Additional)	46.2gal	175L

AUXILIARY HYDRAULIC SYSTEM

Pump Displacement	4.27in³	75cc³
Auxiliary circuit flow rate (max.)	31gpm	116lpm

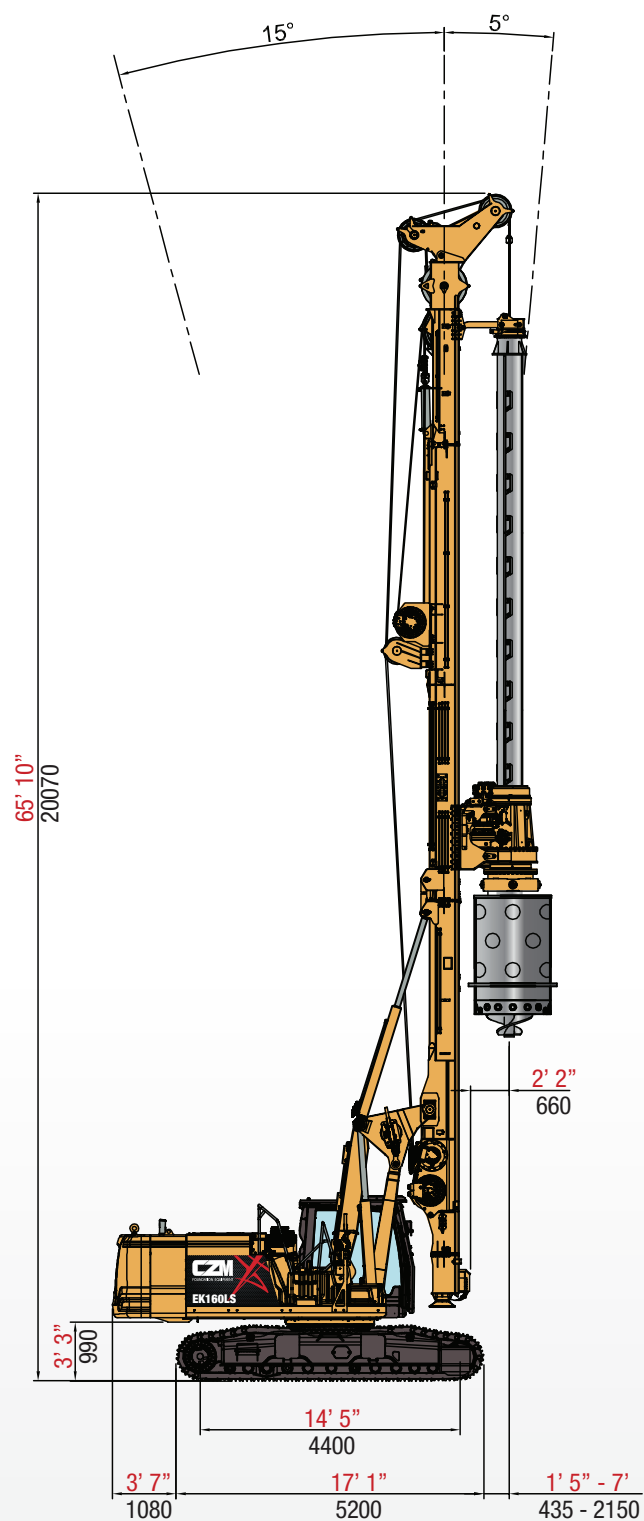
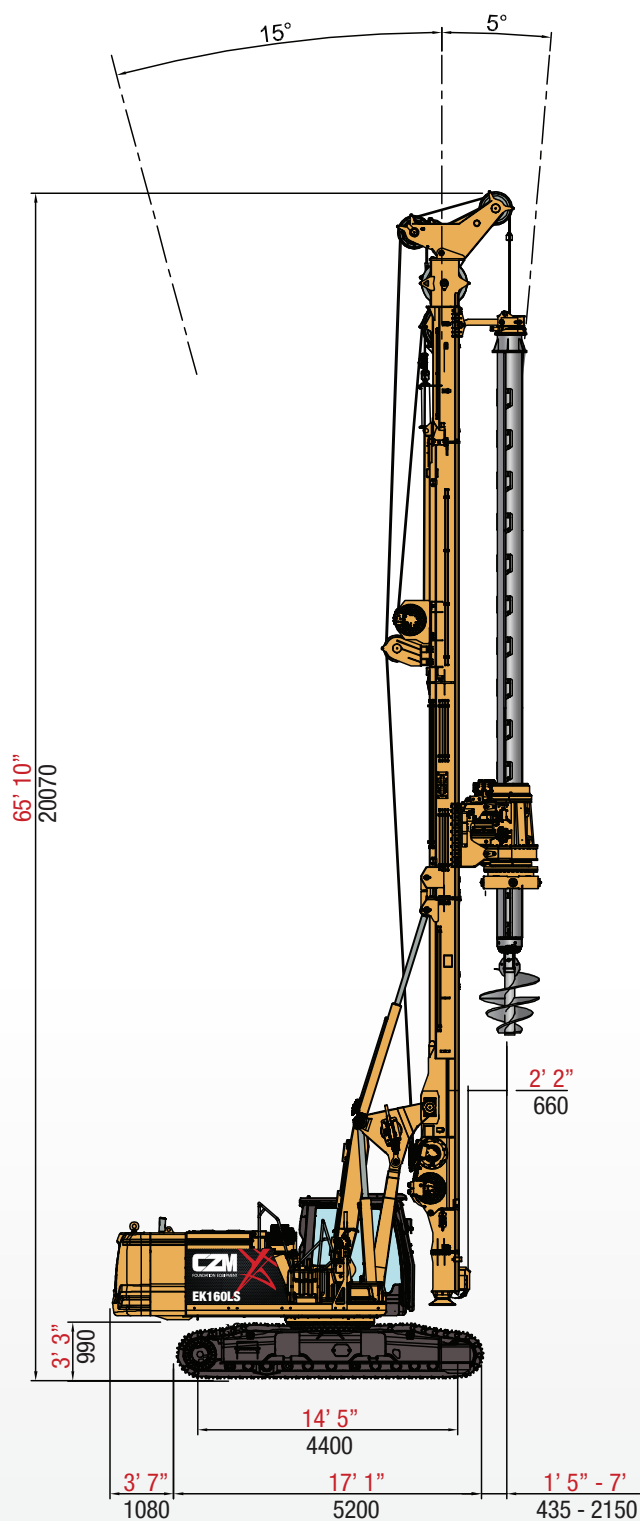
UNDERCARRIAGE

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	115,000lb	52,250kg

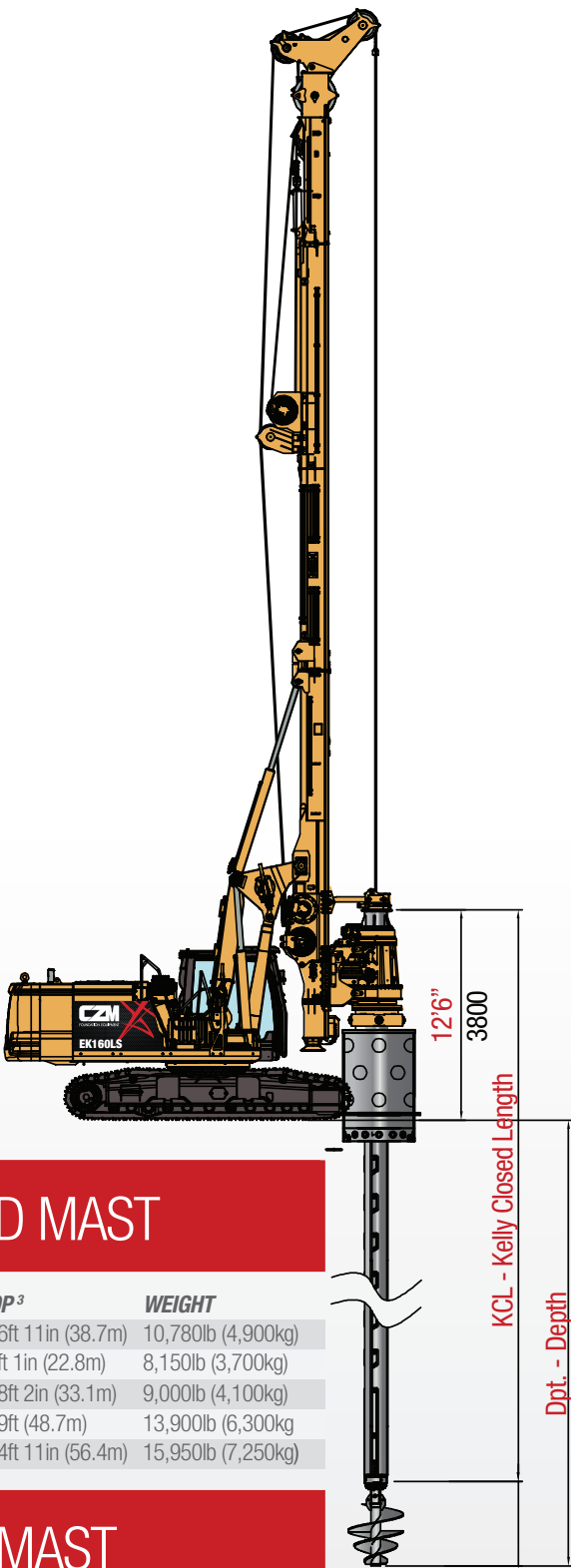
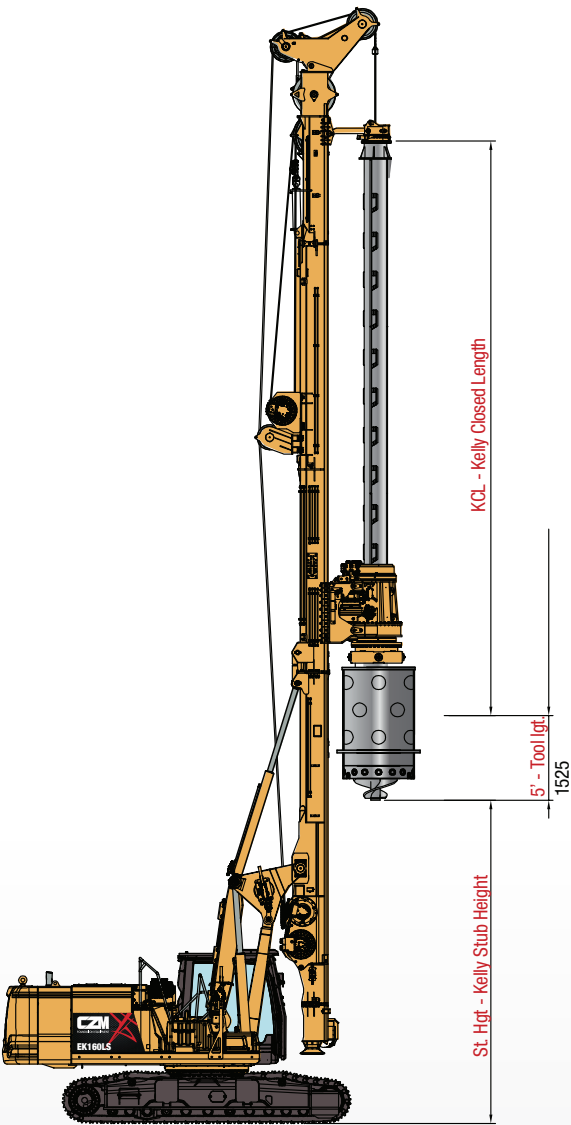
KELLY BAR GENERAL DIMENSIONS



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



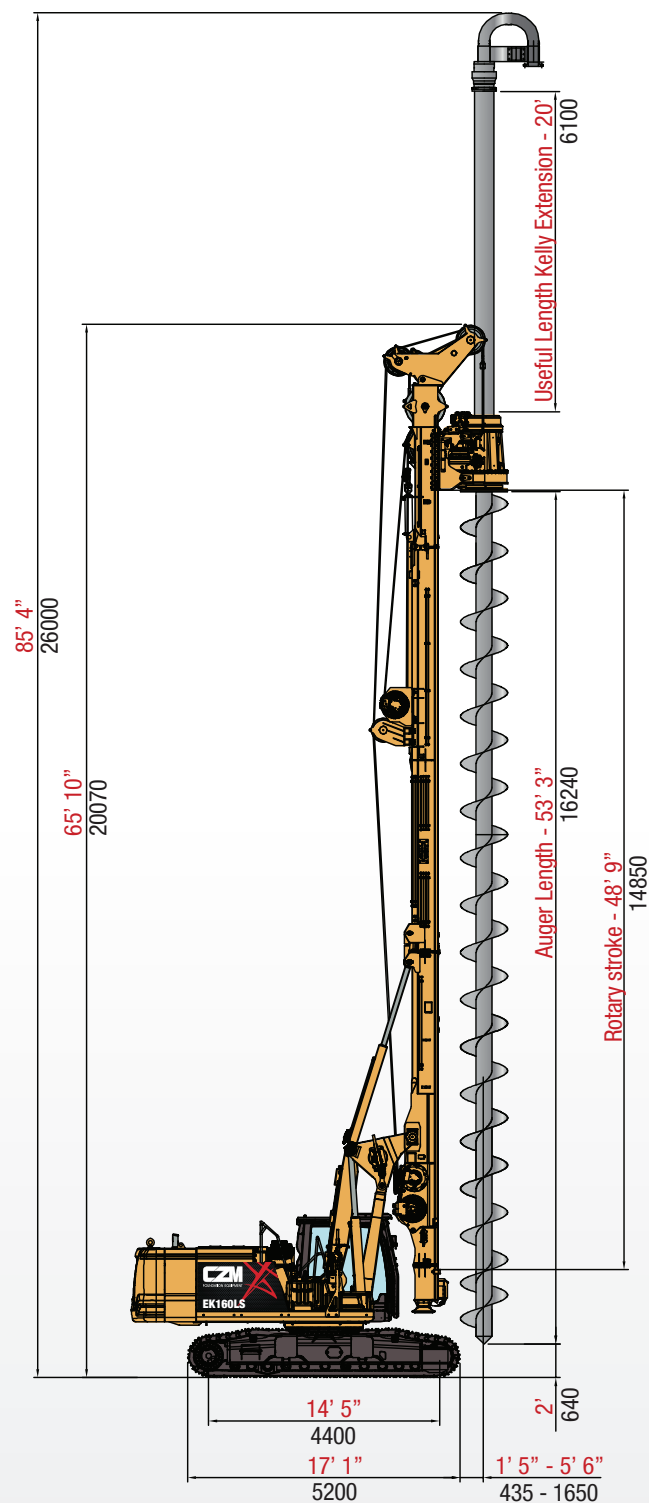
KELLY BAR OPTIONS FOR STANDARD MAST

	NUMBER OF ELEMENTS	DEPTH - DPT ⁴	TRANSPORT - KCL ¹	HGT ²	KOP ³	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 ⁴	TRANSPORT - KCL ¹	HGT ²	KOP ³	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)

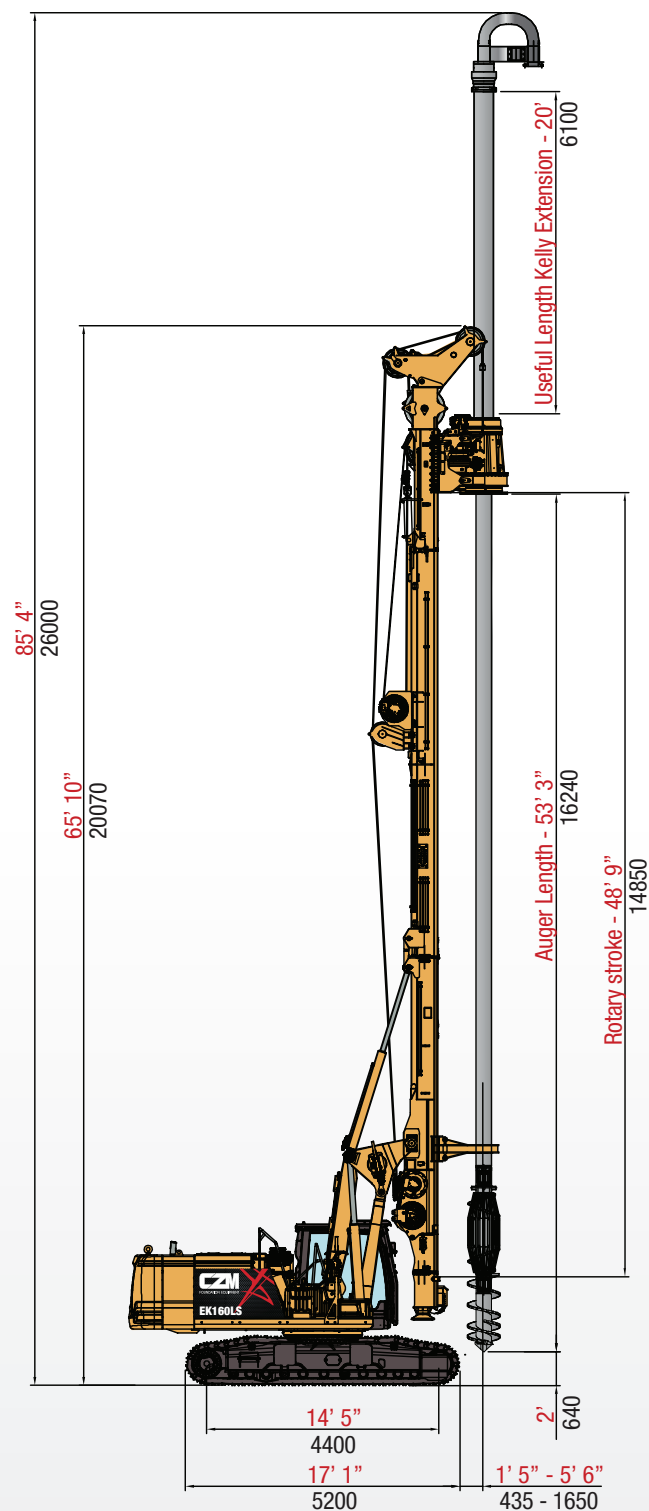
CONTINUOUS FLIGHT AUGER



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

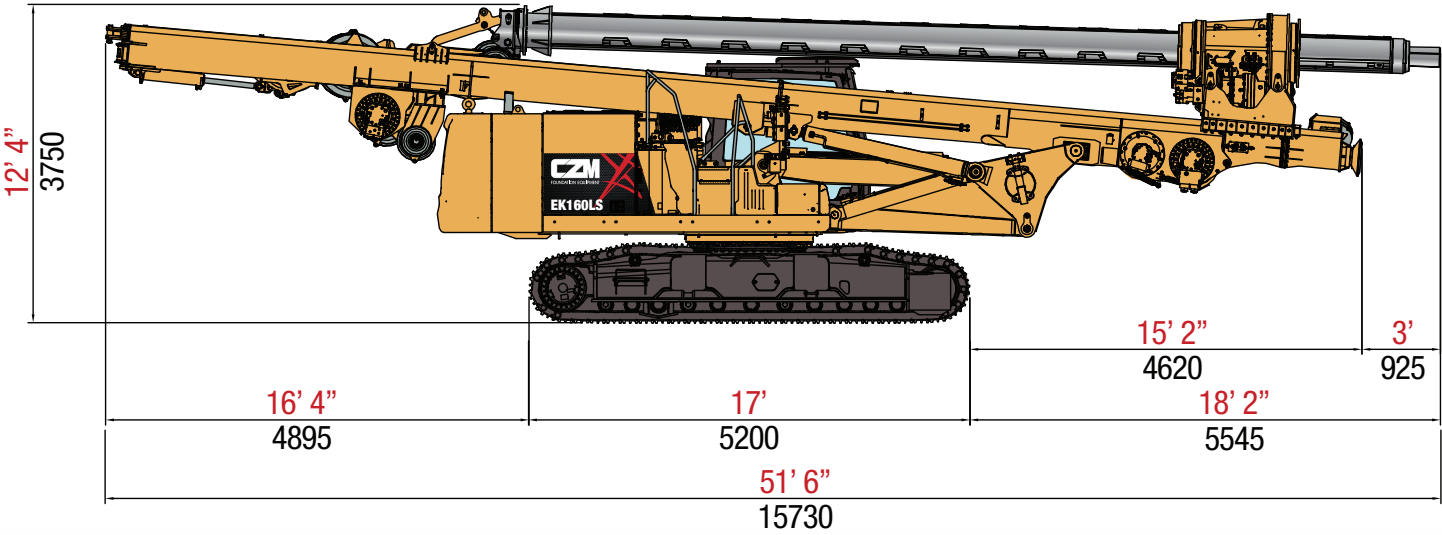
DISPLACEMENT PILE



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** 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



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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