



EK160LS

Cat® 330 NG



**SCAN
QR CODE**

To view a video
of the EK160LS.

EK160LS

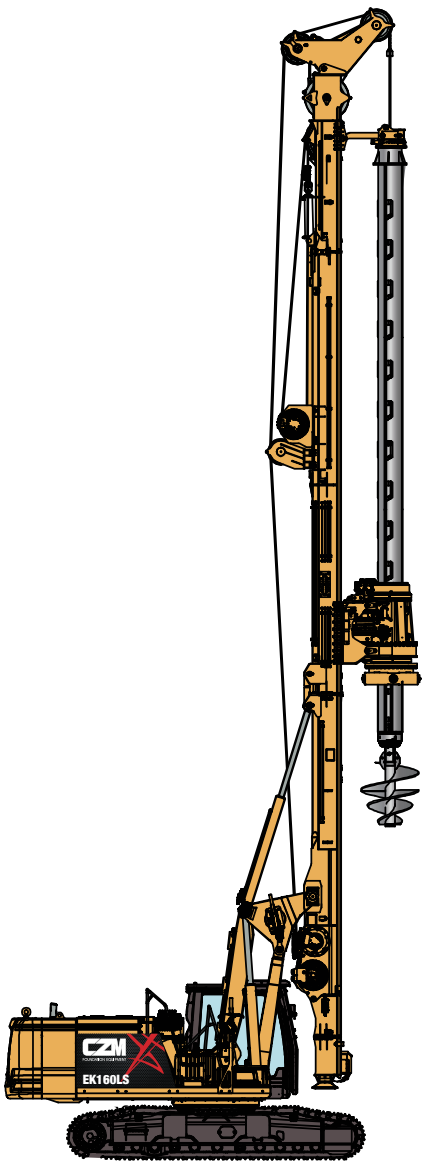
Mounted on a
Cat® 330
(NEXT GEN)



APPLICATIONS

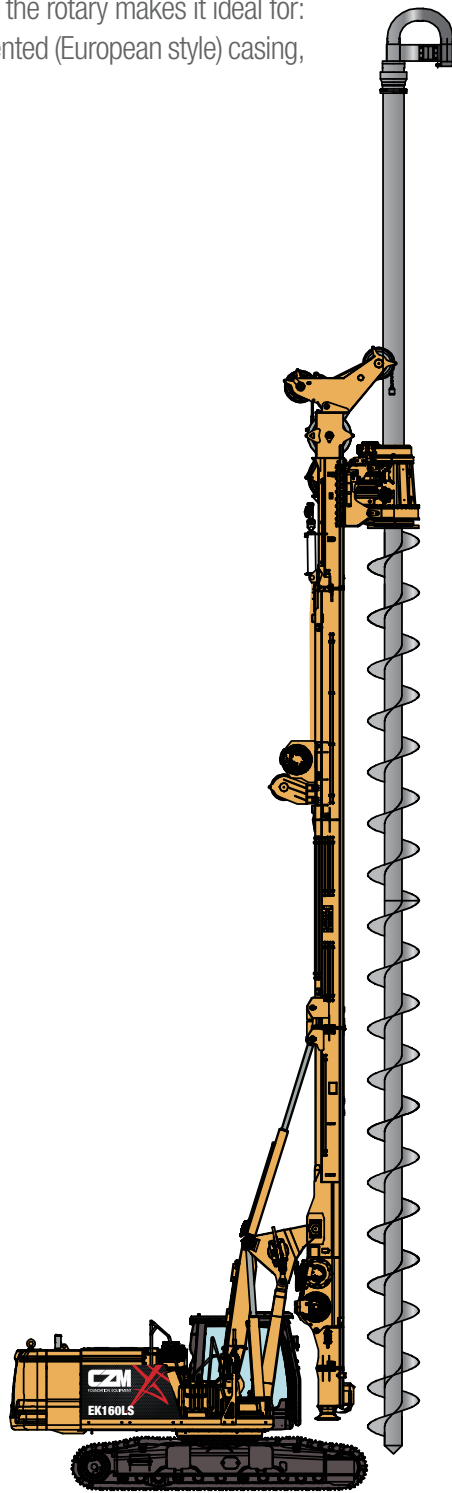
The EK160LS is a full cable crowd drilling rig mounted on a Cat® 330 Next Gen. The long stroke of the rotary makes it ideal for:

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



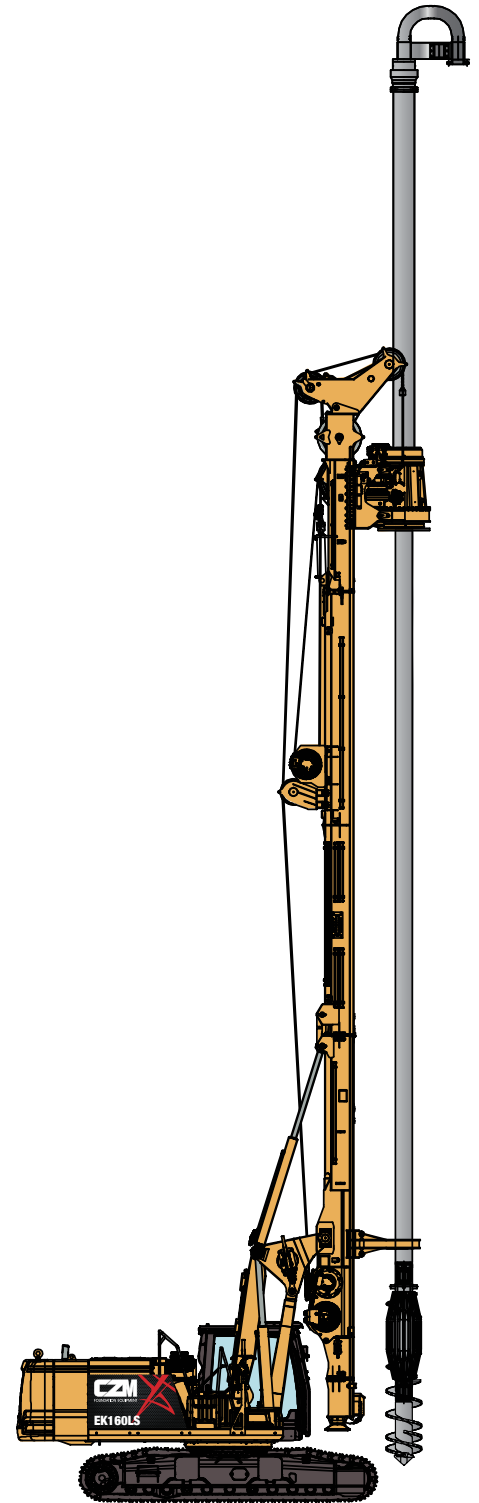
I KELLY BAR

Standard Depth: 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 | .94in | 24mm |
| Drum pitch diameter (1st Layer) | 18.9in | 480mm |

AUXILIARY WINCH

| | | |
|---------------------------------------|-----------|-----------|
| Max. Pull-force effective (1st layer) | 22,000lbf | 10,000kgf |
| Cable diameter | 3/4 in | 19mm |
| Drum pitch diameter (1st Layer) | 16.5in | 420mm |

MAST INCLINATION

| | | |
|----------|--------|--------|
| Backward | 15° | 15° |
| Forward | 5° | 5° |
| Sideways | 5 / 5° | 5 / 5° |

DIESEL ENGINE Cat® 330 NEXT GEN (CAT C7.1 ACCERT)*

| | | |
|-------------------------------|--------------------|------------------|
| Exhaust Emission Standard | EPA Tier 4 Final | EPA Tier 4 Final |
| Net Power - Standard ISO 9249 | 273hp | 204kW |
| Displacement | 428in ³ | 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 | 4.27in ³ | 75cc ³ |
| Auxiliary circuit flow rate (max.) | 33.7gpm | 128lpm |

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 |

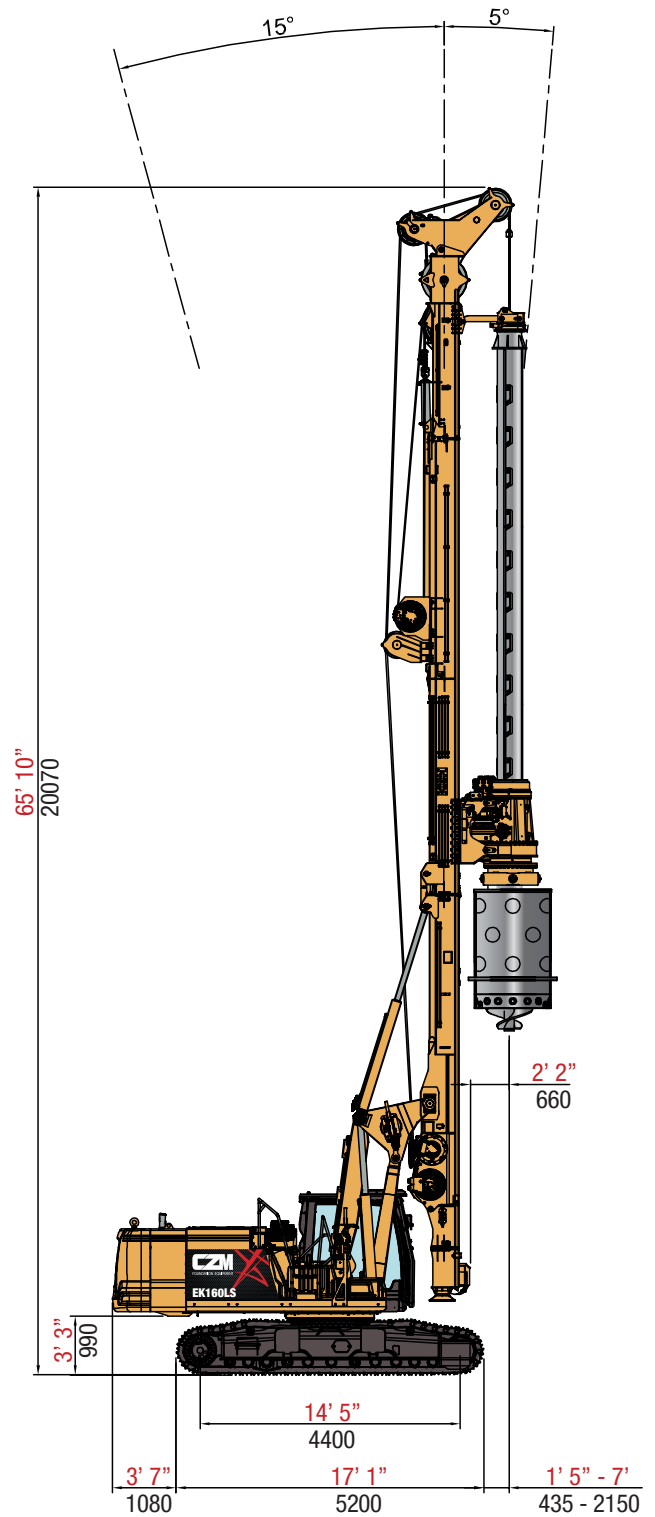
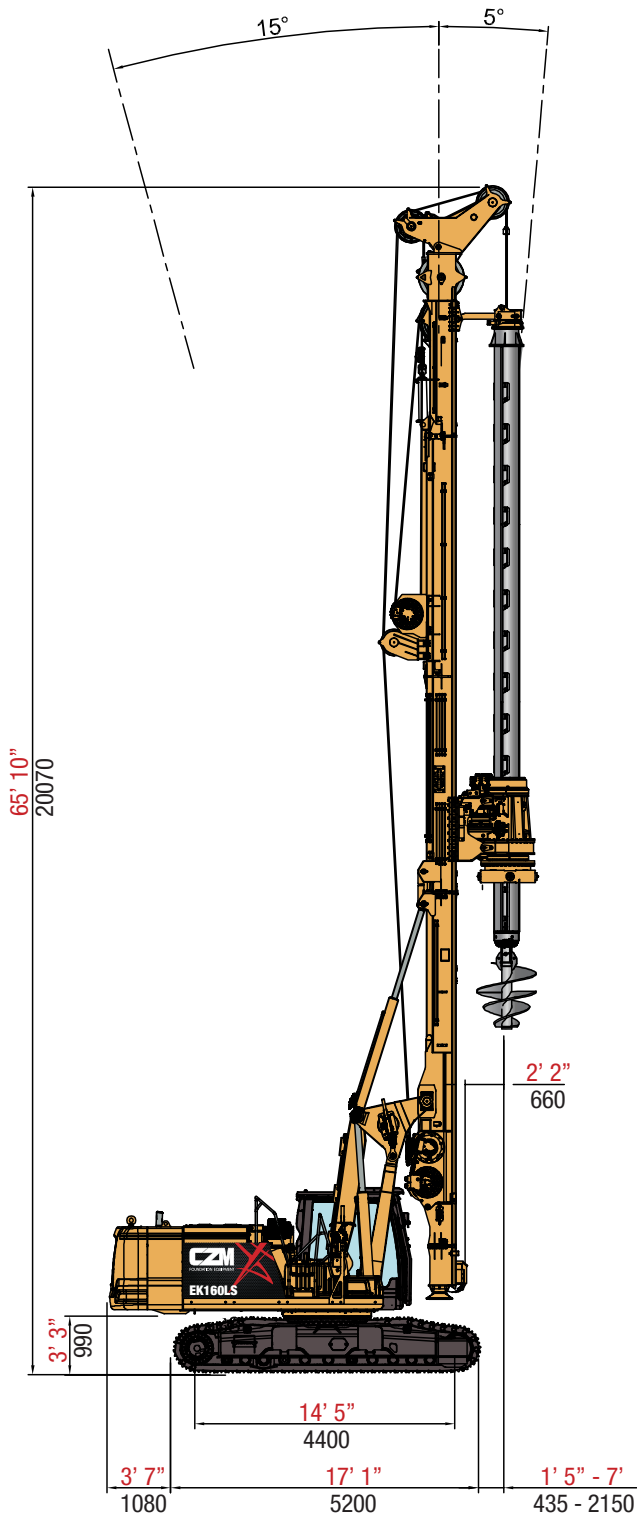
GENERAL DATA STANDARD MAST APPLICATION

| | | |
|-----------------------------------|-----------|----------|
| 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.

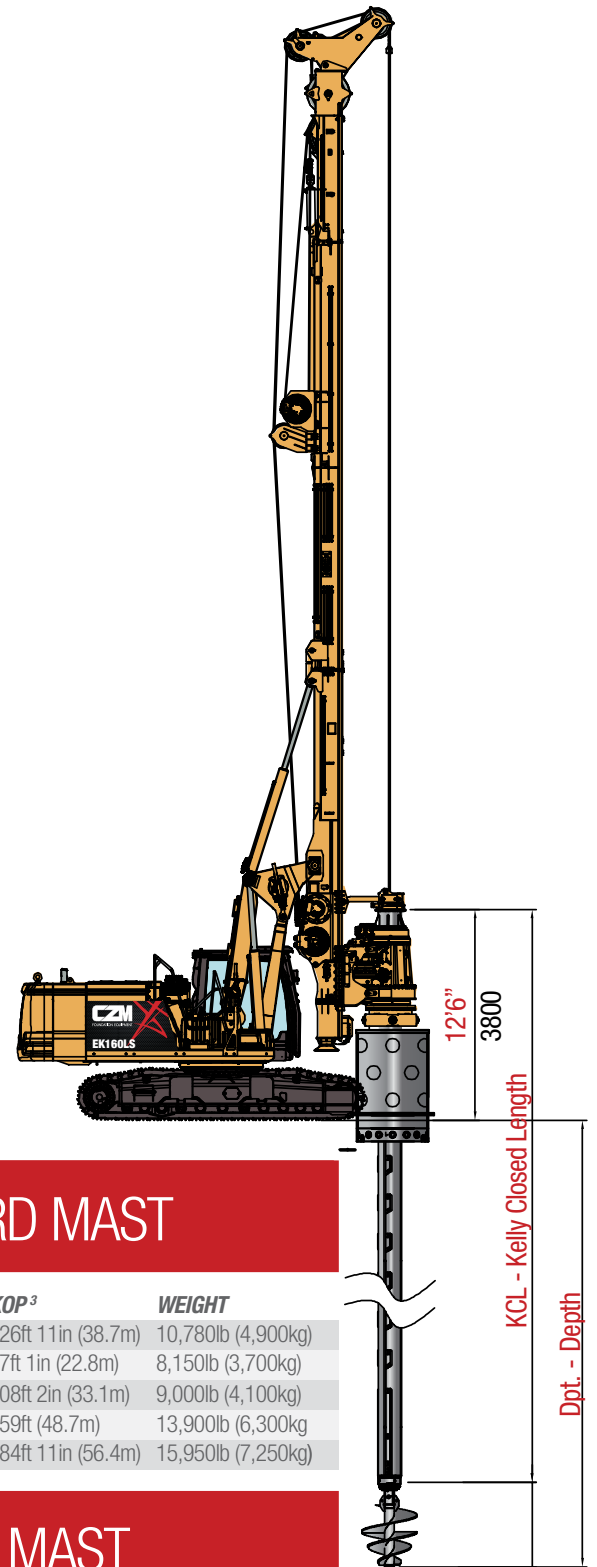
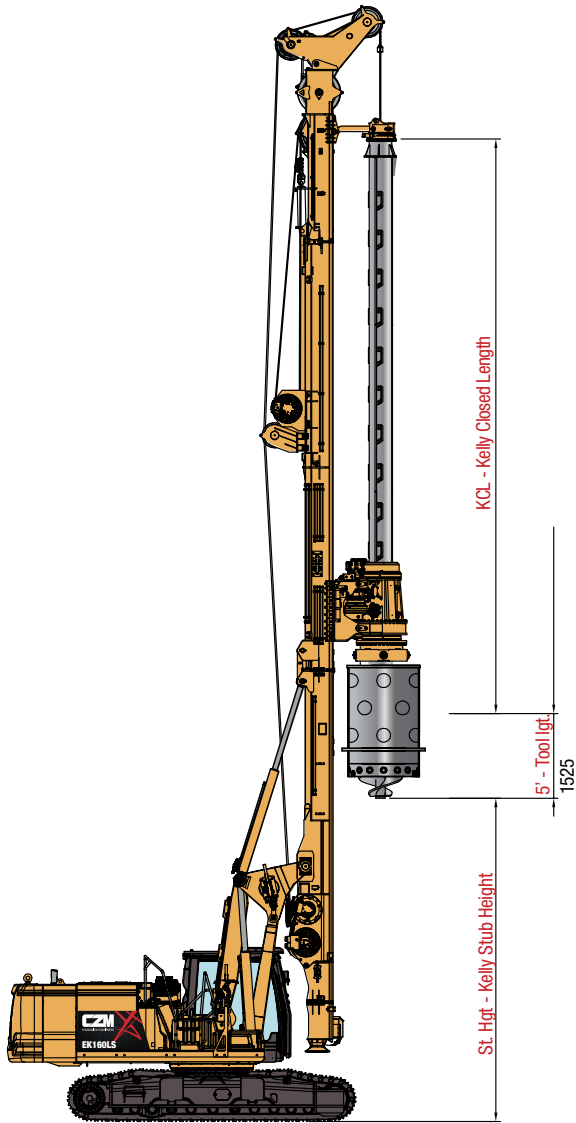
KELLY BAR GENERAL DIMENSIONS



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



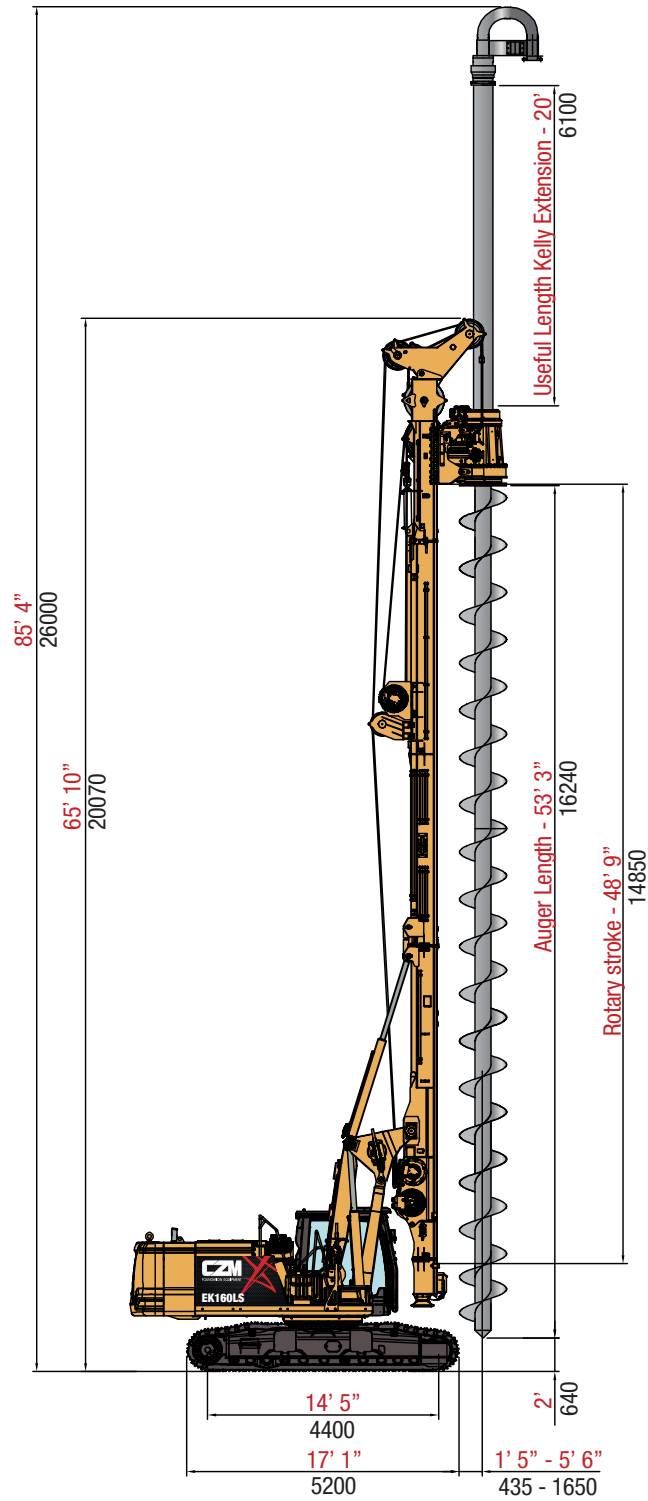
KELLY BAR OPTIONS FOR STANDARD MAST

| | NUMBER OF ELEMENTS | DEPTH - DPT 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) |

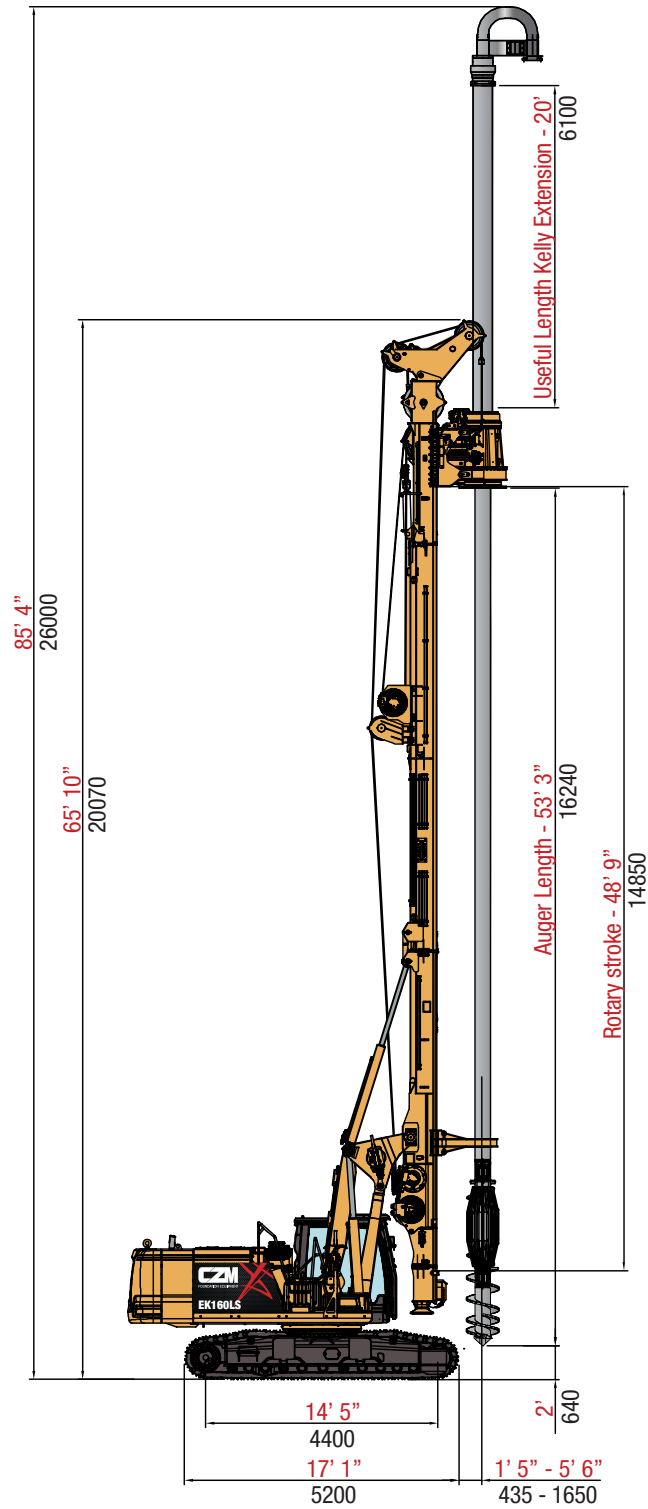
CONTINUOUS FLIGHT AUGER



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 |

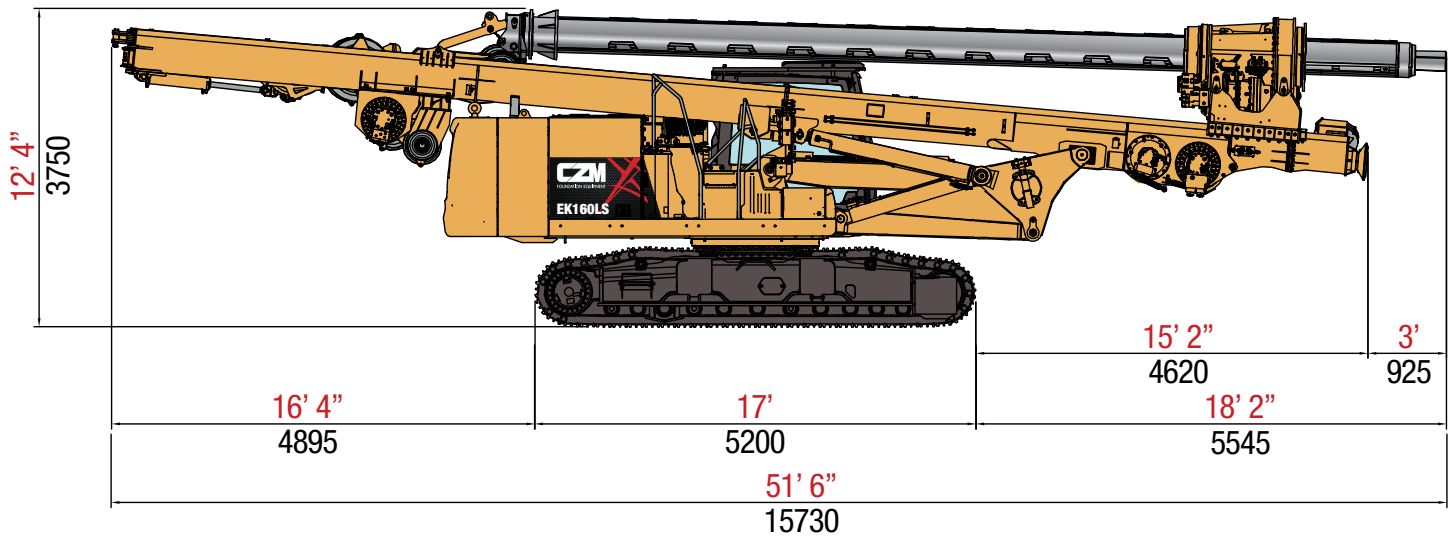
DISPLACEMENT PILE



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 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 automatically stops.
- Freewheeling winch during crowd operation.
- Hydraulic and mechanical 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, driven pile and hydraulic hammers and soil improvements. We are a Caterpillar OEM (Original Equipment Manufacturer).

HEADQUARTERS

962 Interstate Centre Boulevard
Ellabell • Georgia • 31308
United States • Phone: (912) 200-7654

AFTER SALES - CALIFORNIA

1720 N. Ventura Avenue
Ventura • California • 93001
United States • Phone: (805) 667-8416

AFTER SALES - GEORGIA

145 East Industrial Boulevard
Pembroke • Georgia • 31321
United States • Phone: (912) 200-7656

AFTER SALES - KENTUCKY

2001 West Hal Rogers Parkway
London • Kentucky • 40741
United States • Phone: (912) 320-2699

AFTER SALES - TEXAS

2501 Blue Mound Rd. W
Haslet • Texas • 76052
United States • Phone: (817) 232-8053

WWW.CZM-US.COM    

Specifications are subject to change without notice.