

CZM

FOUNDATION EQUIPMENT



EK240LS

**CAT336
(NEXT GEN)**





EK240LS

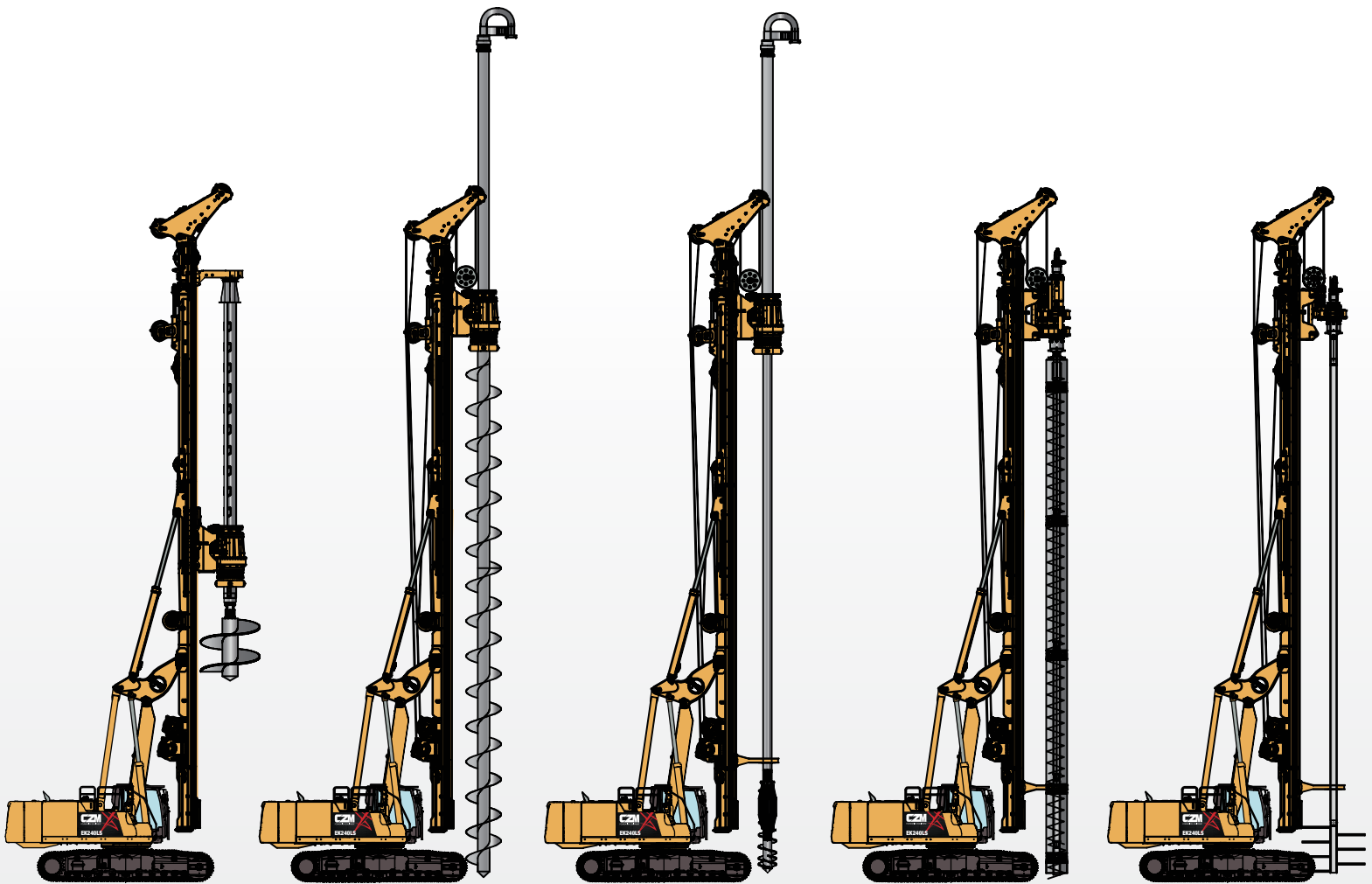
Mounted on a
CAT336
(NEXT GEN)



APPLICATIONS

The EK240LS is a full cable crowd drilling rig mounted on a CAT336. 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
- Cased CFA with a double rotary for Secant walls.
- Large diameter single column Soil Mixing.



| KELLY BAR

Standard Depth: 130 ft / 39.6 m
Diameter (without lower mast): 12 ft / 3,700 mm
Diameter (with lower mast): 6 ft 8 in / 2,050 mm

| CONTINUOUS FLIGHT AUGER PILE

Depth (max.): 93 ft / 28.5 m
Diameter (max.): 48 in / 1,200 mm

| DISPLACEMENT PILE

Depth (max.): 93 ft / 28.5 m
Diameter (max.): 24 in / 620 mm

| CASSED CFA

Depth (max.): 66 ft / 20.2 m
Diameter (max.): 36 in / 920 mm

| SOIL MIXING

Depth (max.): 66 ft / 20.2 m
Diameter (max.): 8 ft / 2,040 mm

TECHNICAL SPECIFICATIONS

ROTARY HEAD

Maximum torque (nominal)	193,200lbf.ft	26,200kgf.m
Working Speed	11 - 26rpm	11 - 26rpm
Spin-off Speed	55 - 100rpm	55 - 100rpm

CROWD SYSTEM

Pull down/Pull up force (nominal)	98,000lbf	44,700kgf
Pull down/Pull up force (effective)	83,725lbf	38,000kgf
Standard Rotary Stroke	61ft	18,600mm
Max. Rotary Stroke (w/2 Mast Extensions)	67.6ft	20,600mm
Cable Diameter	1in	26mm
Speed (down/up)	25ft/min	7.5m/min
Fast Speed (down/up)	85ft/min	26m/min

MAIN WINCH (PULL-UP)

Max. Pull-force effective (1st layer)	63,700lbf	28,955kgf
Max. Pull-force effective (1st layer - 2nd speed)	45,500lbf	20,680kgf
Line speed (1st layer)	175ft/min	53m/min
Max. Line speed (2nd speed)	245ft/min	74m/min
Cable diameter	1 1/8 in	28mm
Drum pitch diameter (1st Layer)	22in	560mm

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 CAT336 TIER IV (CAT C9.3 ACCERT)*

Exhaust Emission Standard	EPA Tier 4 Final	EPA Tier 4 Final
Gross Power - SAE J1995	323hp	242kW
Displacement	568in ³	9.3L
Fuel tank	158gal	600L

MAIN HYDRAULIC SYSTEM

Main circuit pressure (max.)	5,076psi	350bar
Main circuit Flow rate (max.)	148gpm	560lpm
Hydraulic Oil Tank (CAT + Additional)	67.4gal	255L

AUXILIARY HYDRAULIC SYSTEM

Pump Displacement	2.93in ³	75cc ³
Auxiliary circuit flow rate (max.)	31gpm	116lpm

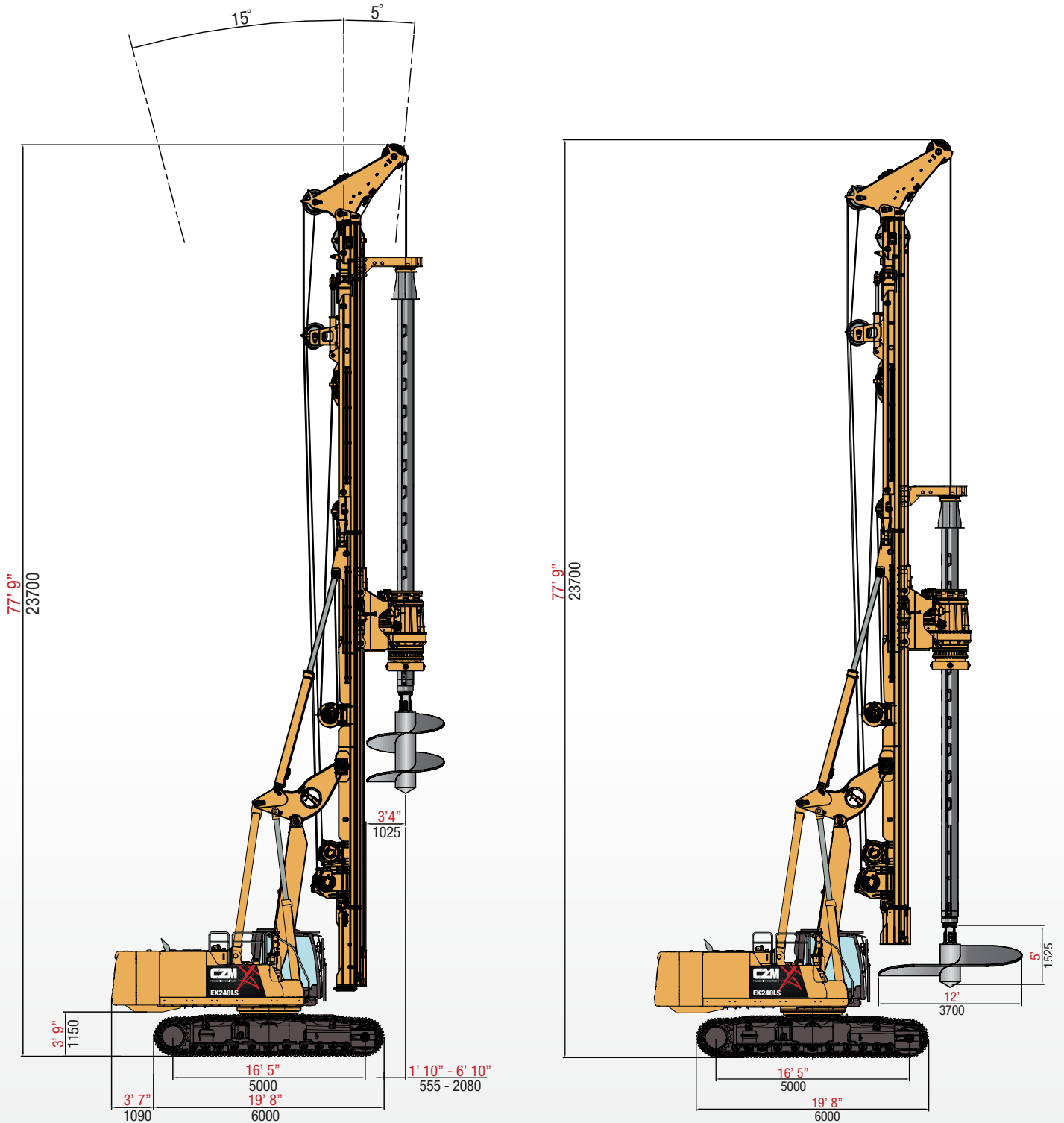
UNDERCARRIAGE

Track length	19ft 8in	6,000mm
Length to center of rollers	16ft 5in	5,000mm
Transport position width (retracted)	9ft 10in	3,000mm
Operation position width (extended)	14ft 1in	4,300mm
Track shoes width	32in	800mm

GENERAL DATA STANDARD MAST APPLICATION

Overall Height (Working position)	87ft 1in	26,800mm
Operation Weight	180,000lb	81,800kg

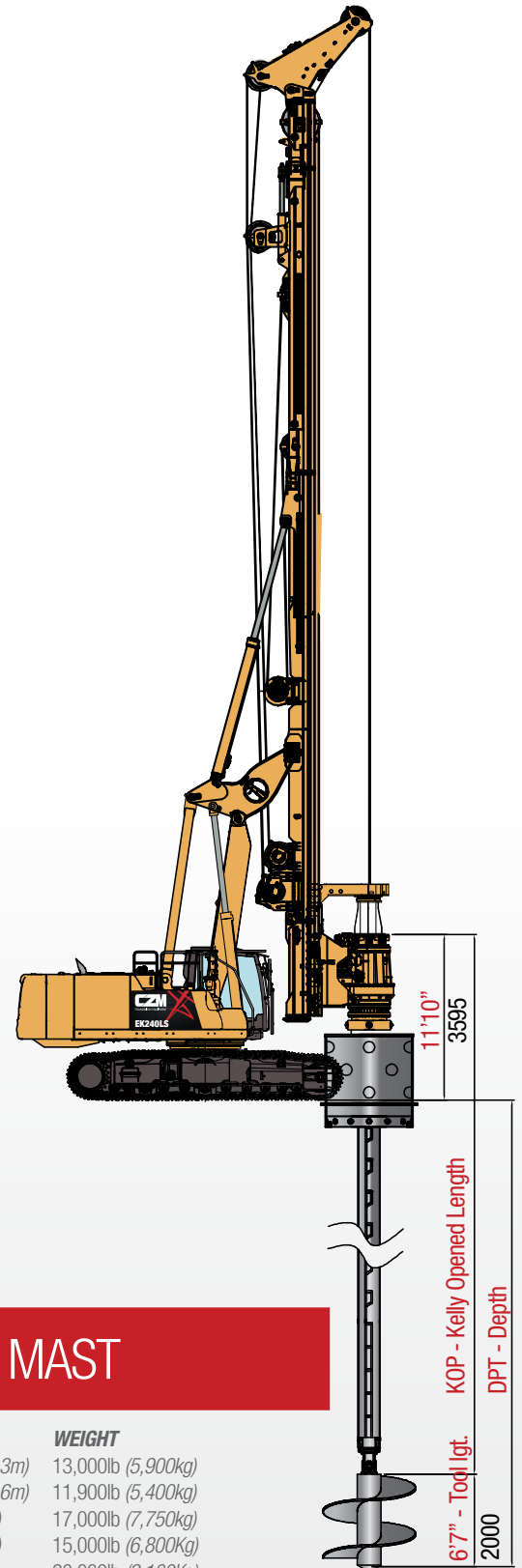
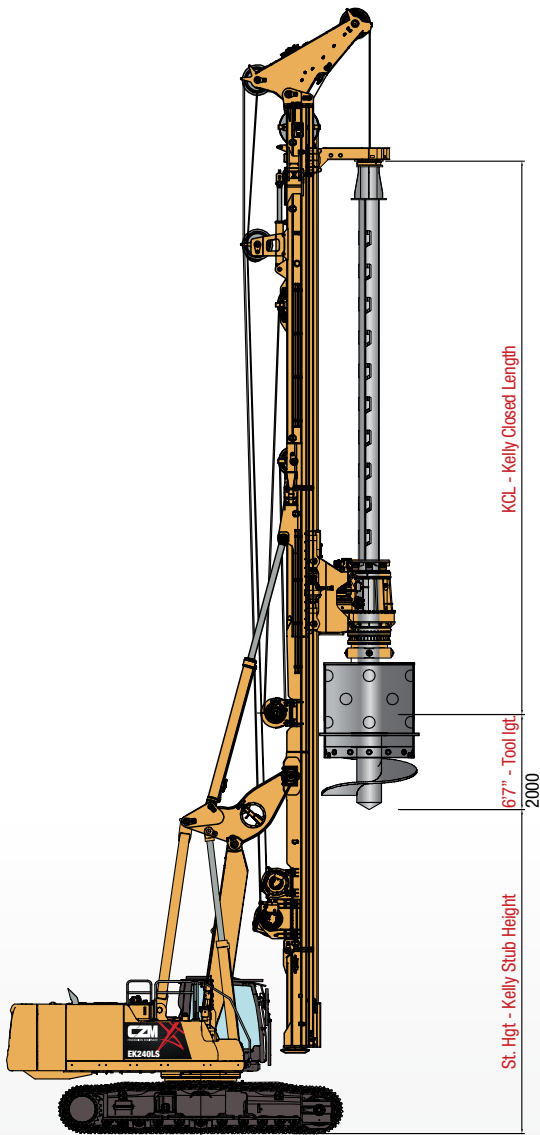
KELLY BAR GENERAL DIMENSIONS



KELLY BAR STANDARD MAST APPLICATION SPECS

Std. drilling depth (interlocking kelly bar)	130 ft	39,600 mm
Max. drilling depth (interlocking kelly bar)	175 ft	53,300 mm
Max. drilling diameter (without lower mast)	12 ft	3,700 mm
Max. drilling diameter (with lower mast)	6 ft 8 in	2,050 mm

KELLY BAR GENERAL DIMENSIONS



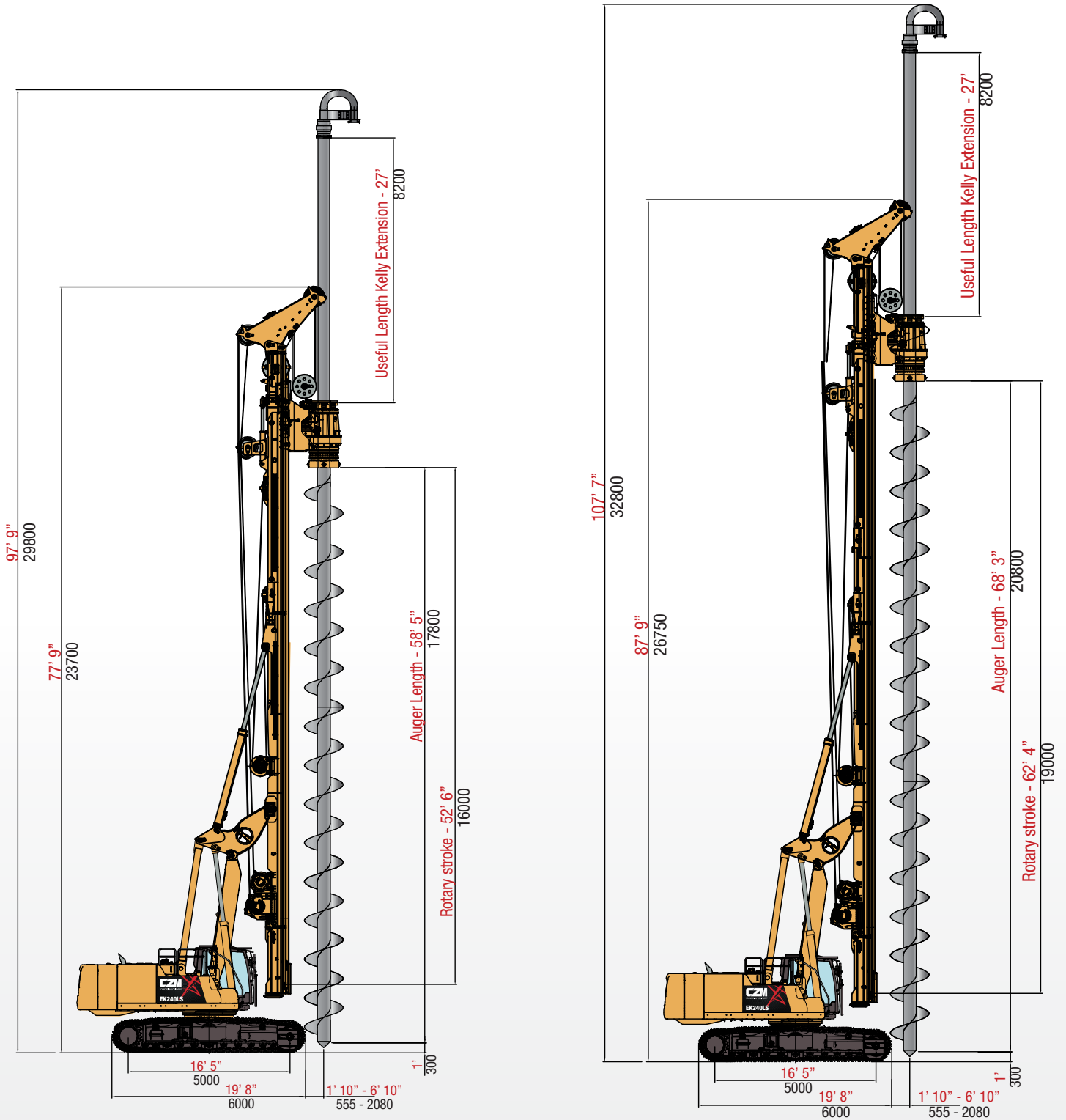
KELLY BAR OPTIONS FOR STANDARD MAST

	NUMBER OF ELEMENTS	DEPTH - DPT⁴	TRANSPORT - KCL¹	HGT³	KOP²	WEIGHT
Standard 4/130 Interlock	4	130ft (39m)	39ft (11.9m)	25ft (7.6m)	132ft 3in (40.3m)	13,000lb (5,900kg)
3/90 Interlock	3	90ft (29m)	39ft 4in (12m)	25ft (7.6m)	100ft 5in (30.6m)	11,900lb (5,400kg)
Long 4/175 Interlock	4	175ft (53m)	50ft 7in (15.4m)	13ft 6in (6.1m)	178ft (54.3m)	17,000lb (7,750kg)
Long 3/130 Interlock	3	130ft (39m)	50ft 7in (15.4m)	13ft 6in (6.1m)	133ft (40.5m)	15,000lb (6,800kg)
4/200 Interlock	4	200ft (60m)	60ft 8in (18.5m)	3ft 4in (1m)	206ft (6m)	20,000lb (9,100kg)
5/260 Interlock	5	260ft (79.3m)	59ft 9in (18.2m)	12ft 2in (3.7m)	264ft (80.6m)	32,500lb (14,700kg)

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

*3m (9ft 10 in) Mast Extension can be added to increase clearance.

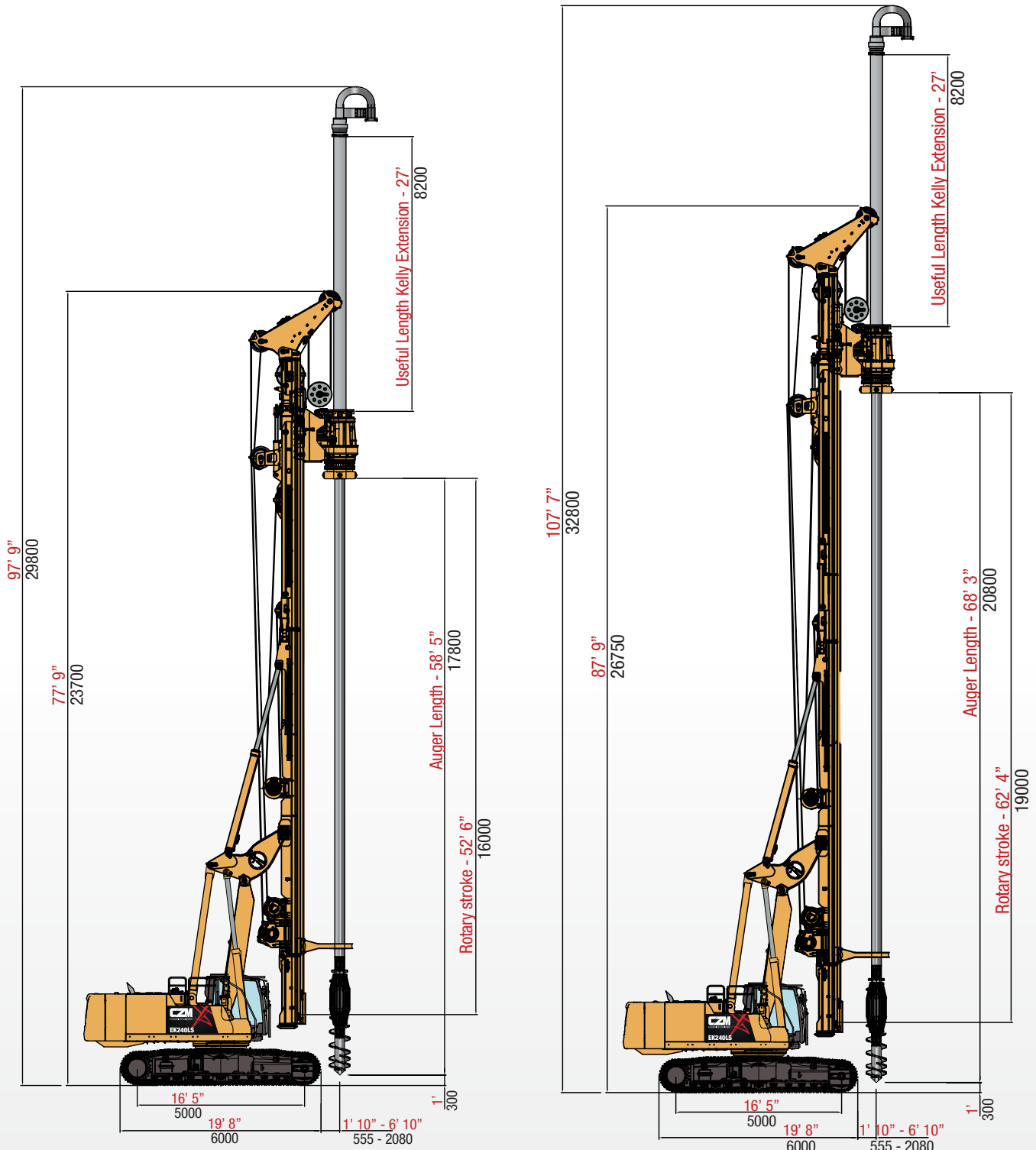
CONTINUOUS FLIGHT AUGER



CFA APPLICATION SPECS

Max. drilling diameter	48 in	1,200 mm
Max. drilling depth (Standard Mast)	87 ft	26,500 mm
Max. drilling depth (w/ 2mts Mast Extension)	93 ft	28,500 mm
Max. extraction force (Main + Crowd winch)	211,125 lbs	95,965 kgf

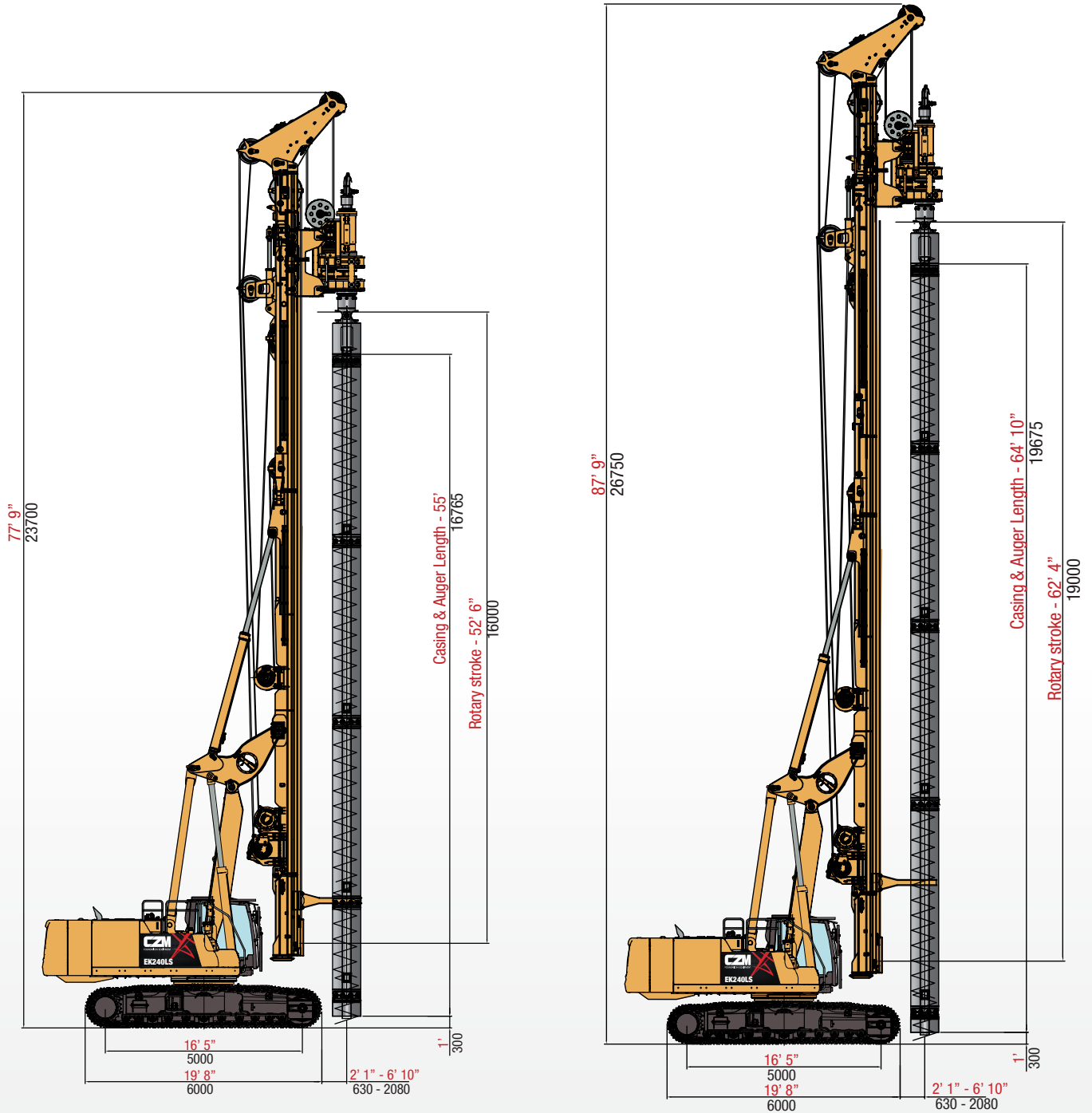
DISPLACEMENT PILE



DISPLACEMENT PILE APPLICATION SPECS

Max. drilling diameter	24 in	620 mm
Max. drilling depth (Standard Mast)	87 ft	26,500 mm
Max. drilling depth (w/ 2mts Mast Extension)	93 ft	28,500 mm
Max. extraction force (Main + Crowd winch)	211,125 lbs	95,965 kgf

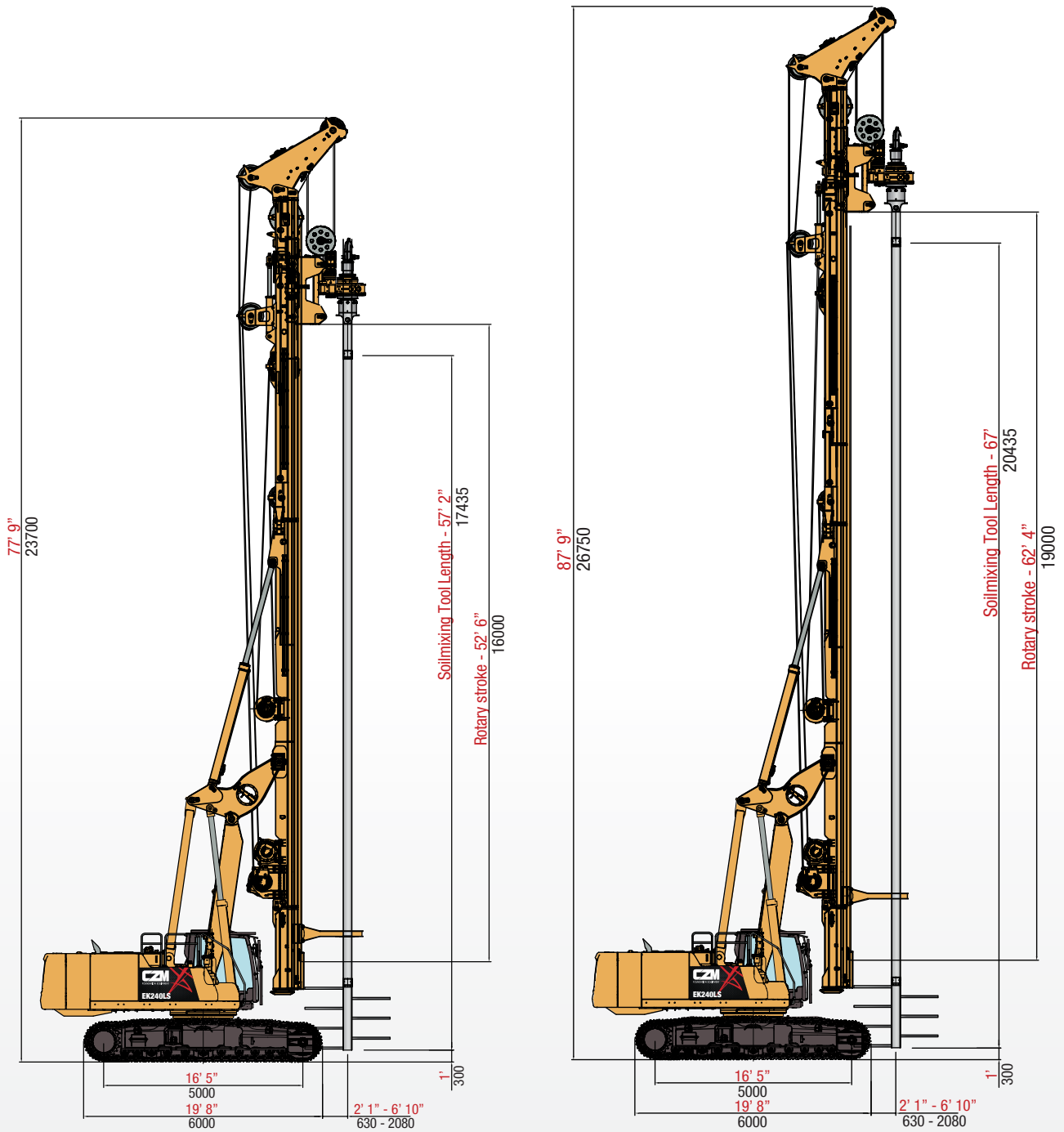
CASED CFA - DOUBLE ROTARY



CASED CFA APPLICATION SPECS

Casing Rotary head Max torque	155,080 ft.lbs	21,500 kg.m
Auger Rotary head Max torque	101,400 ft.lbs	14,000 kg.m
Max. drilling diameter	36 in	920 mm
Max. drilling depth (Standard Mast)	60 ft	18,200 mm
Max. drilling depth (w/ 2mts Mast Extension)	66 ft	20,200 mm
Max. extraction force (Main + Crowd winch)	211,125 lbs	95,965 kgf

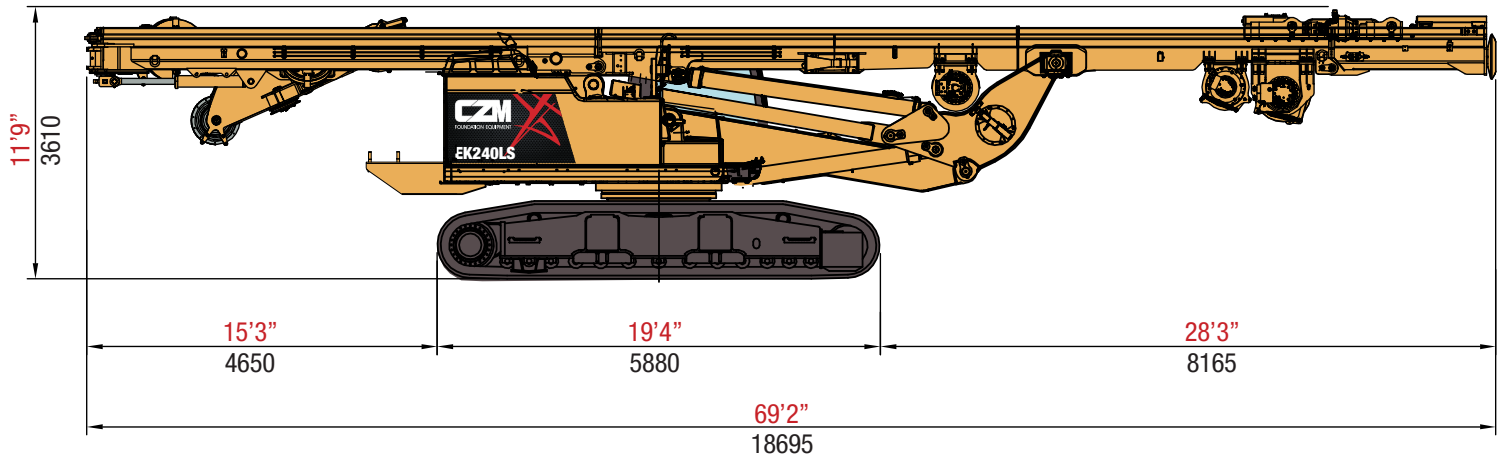
SOIL MIXING



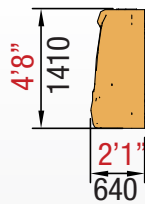
SINGLE COLUMN SOILMIXING APPLICATION SPECS

Soilmixing Rotary head Max torque	134,300 ft.lbs	18,620 kg.m
Soilmixing Rotary Head Speeds	16 – 40 rpms	16 – 40 rpms
Max. drilling diameter	8 ft	2,440 mm
Max. drilling depth (Standard Mast)	60 ft	18,200 mm
Max. drilling depth (w/ 2mts Mast Extension)	66 ft	20,200 mm
Max. extraction force (Main + Crowd winch)	211,125 lbs	95,965 kgf

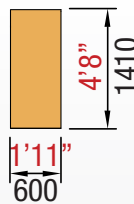
TRANSPORT POSITION GENERAL DIMENSIONS



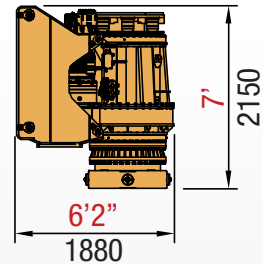
Weight: 125,000 lbs / 56.8 ton



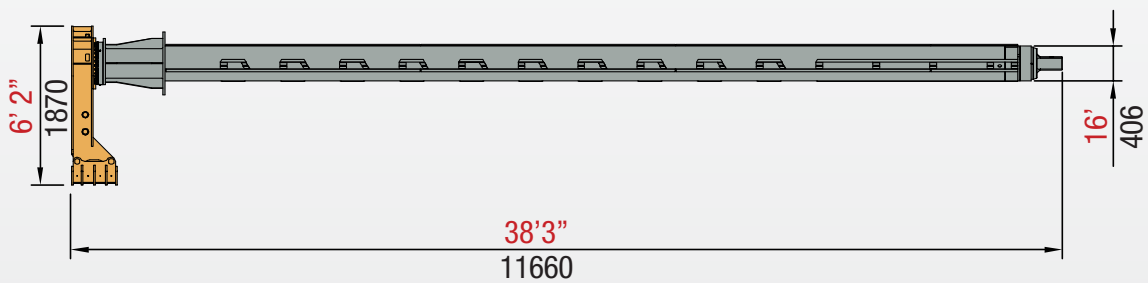
Width: 9' 10" / 3000
Weight: 18,700lb / 8.5 ton



Width: 9' 10" / 3000
Weight: 10,000lb / 4.5 ton



Width: 6' 4" / 1930
Weight: 12,000lb / 5.5 ton



Weight: 13,500lb / 6.2 ton



EK240LS FEATURES

BASE:

- The new **Cat 336** is a purpose-built machine powered by a fuel-efficient U.S. EPA **Tier 4 Final** C9.3 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** VH5000/4300/800. Reinforced frame H style variable undercarriage. Length between wheels 5000mm, Transport width 3000mm, Operation width 4300mm, Shoe width 800mm.

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 (100rpm)** 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



CEM
EQUIPMENT GROUP
EK240LS



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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Specifications are subject to change without notice.