



FOUNDATION EQUIPMENT



EK300LS

ON CAT352 TIER IV





EK300

Mounted on CAT352
TIER IV ”

APPLICATIONS

The EK300LS is a full cable crowd drilling rig mounted on a CAT352. 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

Max Depth (Std.): 160 ft / 48.6 m
Diameter (without lower mast): 12 ft / 3,700 mm
Diameter (with lower mast): 8 ft / 2,400 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

| CASED 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.): 10 ft / 3,050 mm
Diameter (with lower mast): 91 in / 2,300 mm

TECHNICAL SPECIFICATIONS

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/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/ 2mts Mast Extension)	67.6ft	20,600mm
Cable Diameter	1in	26mm
Speed (down/up)	25ft/min	7.5m/min
Fast Speed (down/up)	115ft/min	35m/min

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 1/4 in	32mm
Drum pitch diameter (1st Layer)	24.6in	624mm

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 CAT352 TIER IV (CAT C13 ACCERT)*

Exhaust Emission Standard	EPA Tier 4 Interim	EPA Tier 4 Interim
Gross Power - SAE J1995	432hp	322kW
Displacement	763in ³	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	3,66in ³	60cc ³
Auxiliary circuit flow rate (max.)	29gpm	108lpm

UNDERCARRIAGE

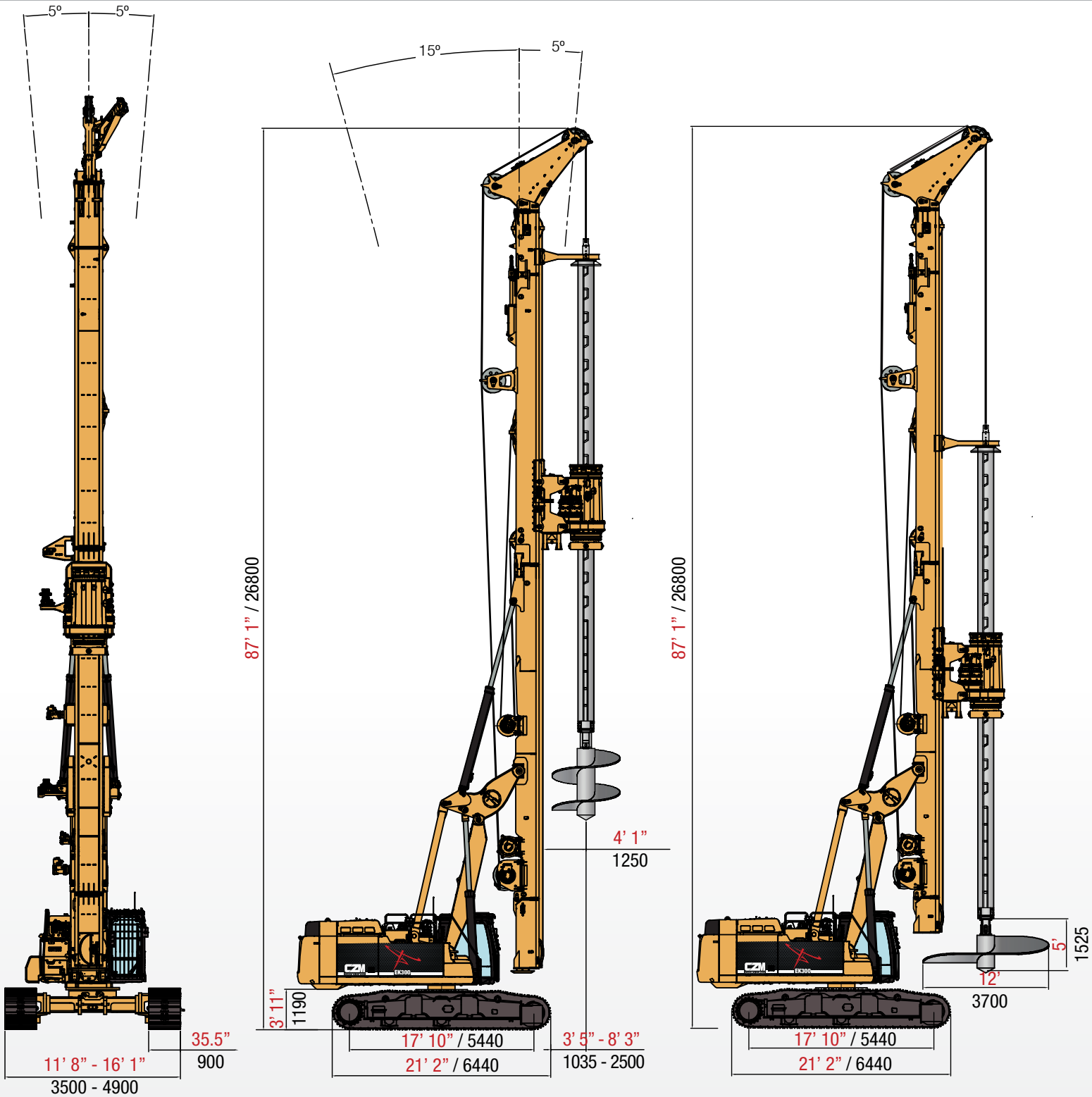
Track length	21ft 2in	6,440mm
Length to center of rollers	17ft 10in	5,440mm
Transport position width (retracted)	11ft 6in	3,500mm
Operation position width (extended)	16ft 5in	5,000mm
Track shoes width	35in	900mm

GENERAL DATA STANDARD MAST APPLICATION

Overall Height (Working position)	87ft 1in	26,800mm
Operation Weight	230,000lb	104,500kg



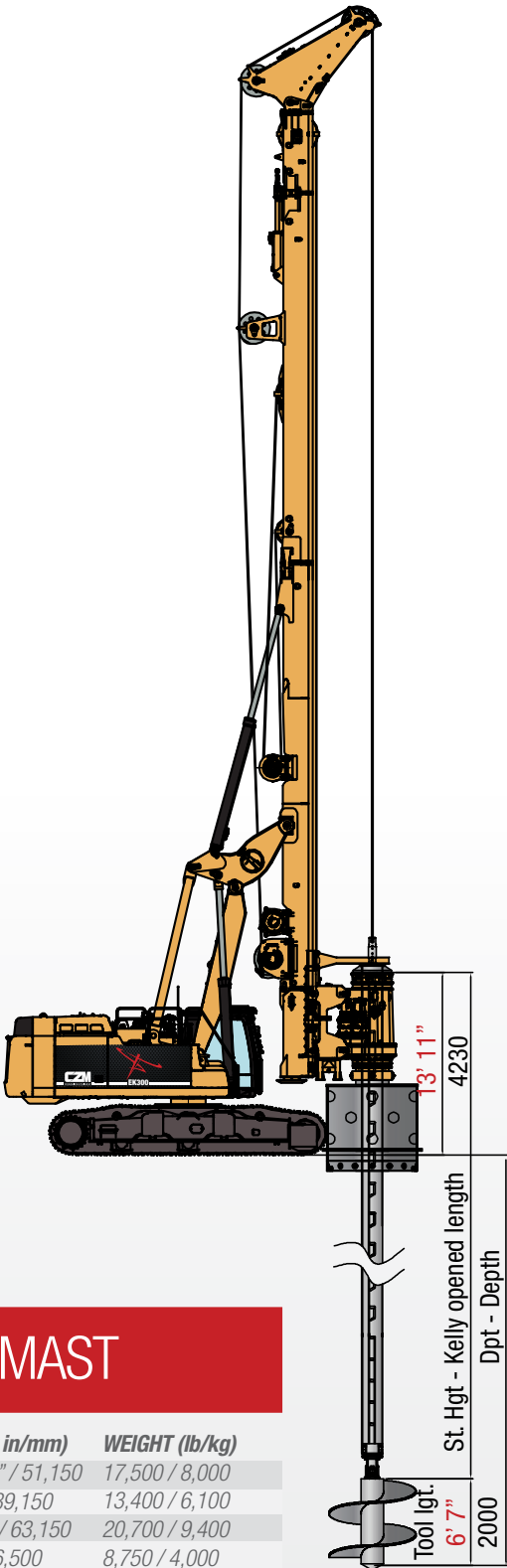
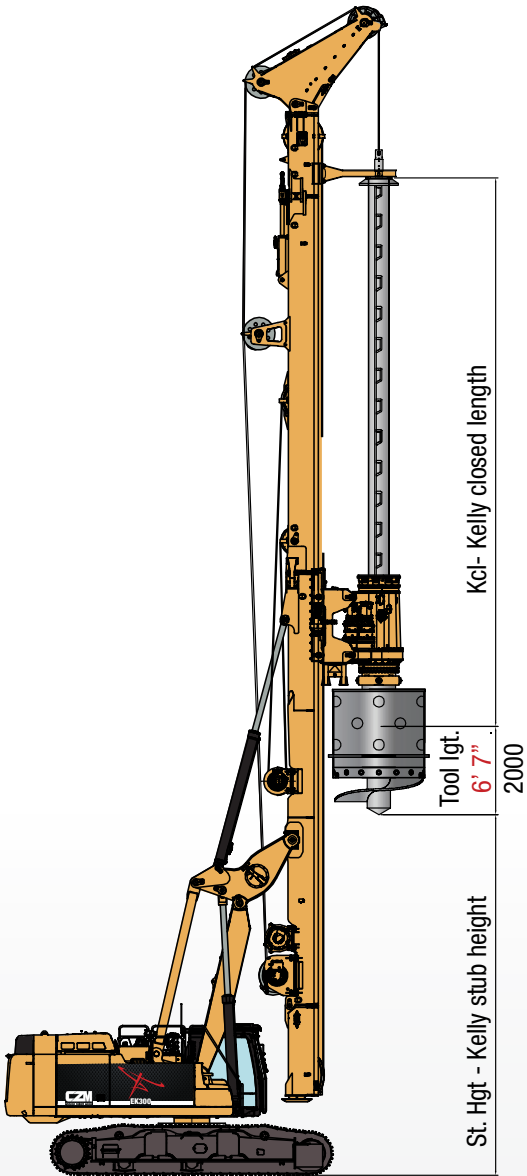
KELLY BAR GENERAL DIMENSIONS



KELLY BAR STANDARD MAST APPLICATION SPECS

Std. drilling depth (interlocking kelly bar)	160 ft	48,650 mm
Max. drilling depth (interlocking kelly bar)	250 ft	75,000 mm
Max. drilling diameter (without lower mast)	12 ft	3,700 mm
Max. drilling diameter (with lower mast)	8 ft	2,400 mm

KELLY BAR GENERAL DIMENSIONS

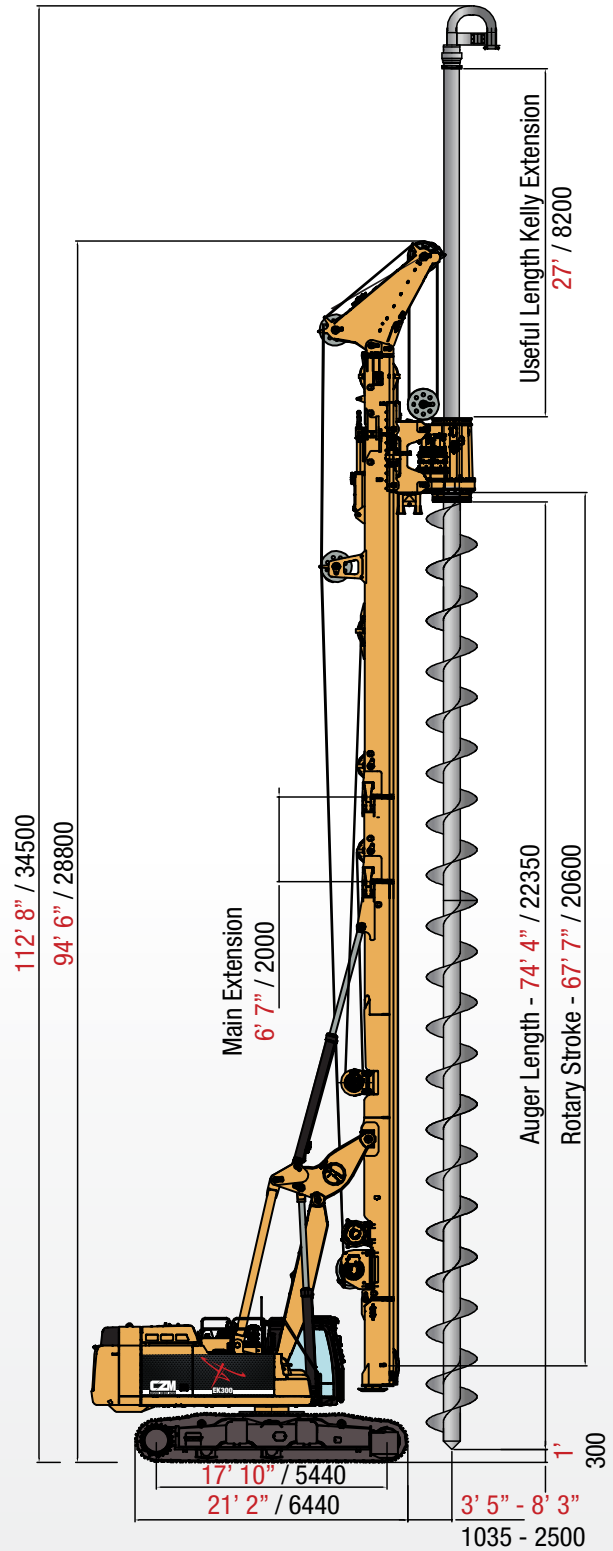
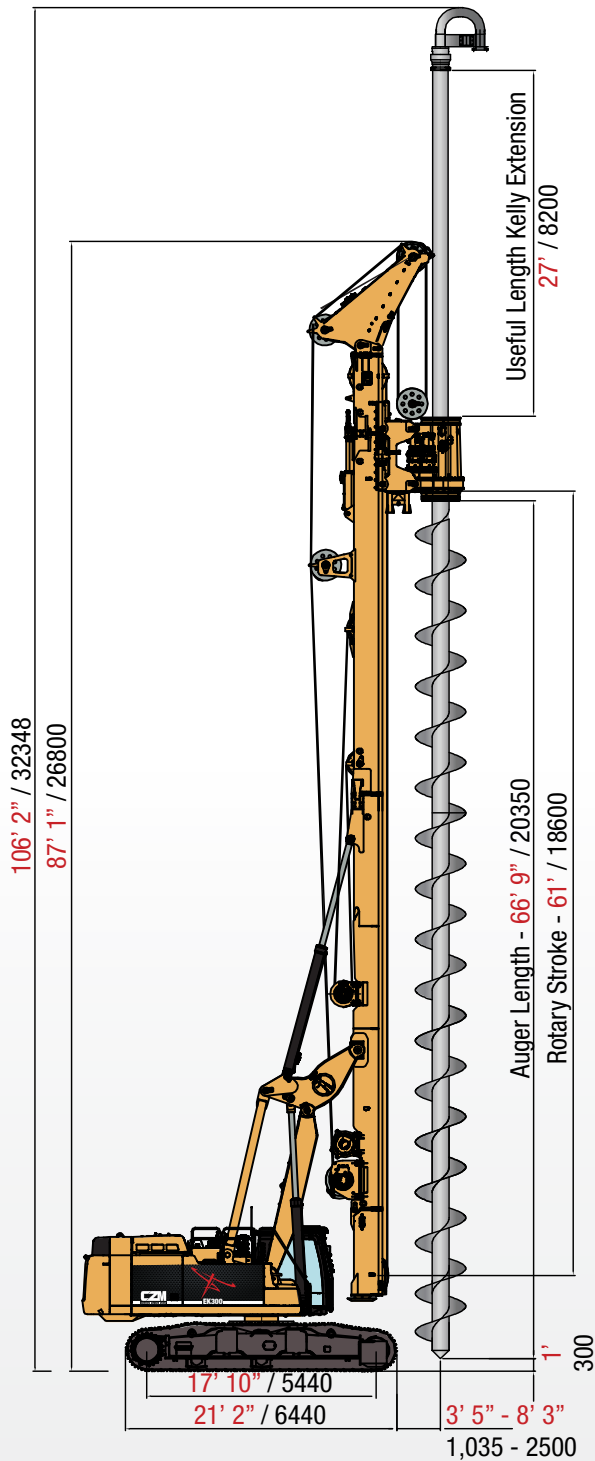


KELLY BAR OPTIONS FOR STANDARD MAST

	NUMBER OF ELEMENTS	DEPTH - DPT	TRANSPORT - KCL (ft in/mm)	HGT (ft in/mm)	KOP (ft in/mm)	WEIGHT (lb/kg)
Standard 4/160 Interlock	4	160' / 48.65	49'2" / 14,980	20'2" / 6,150	167'10" / 51,150	17,500 / 8,000
Short 4/120 Interlock	4	120' / 36.58m	39'4" / 11,985	30' / 9,150	127' / 39,150	13,400 / 6,100
Long 4/200 Interlock	4	200' / 61m	59'6" / 17,980	10' / 3,150	207'1" / 63,150	20,700 / 9,400
Short 3/80 Interlock	3	80' / 24.4m	39'4" / 11,985	30' / 9,150	87' / 26,500	8,750 / 4,000
Long 3/120 Interlock	3	120' / 36.58m	49'2" / 14,980	20'2" / 6,150	127' / 39,150	17,000 / 7,700

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

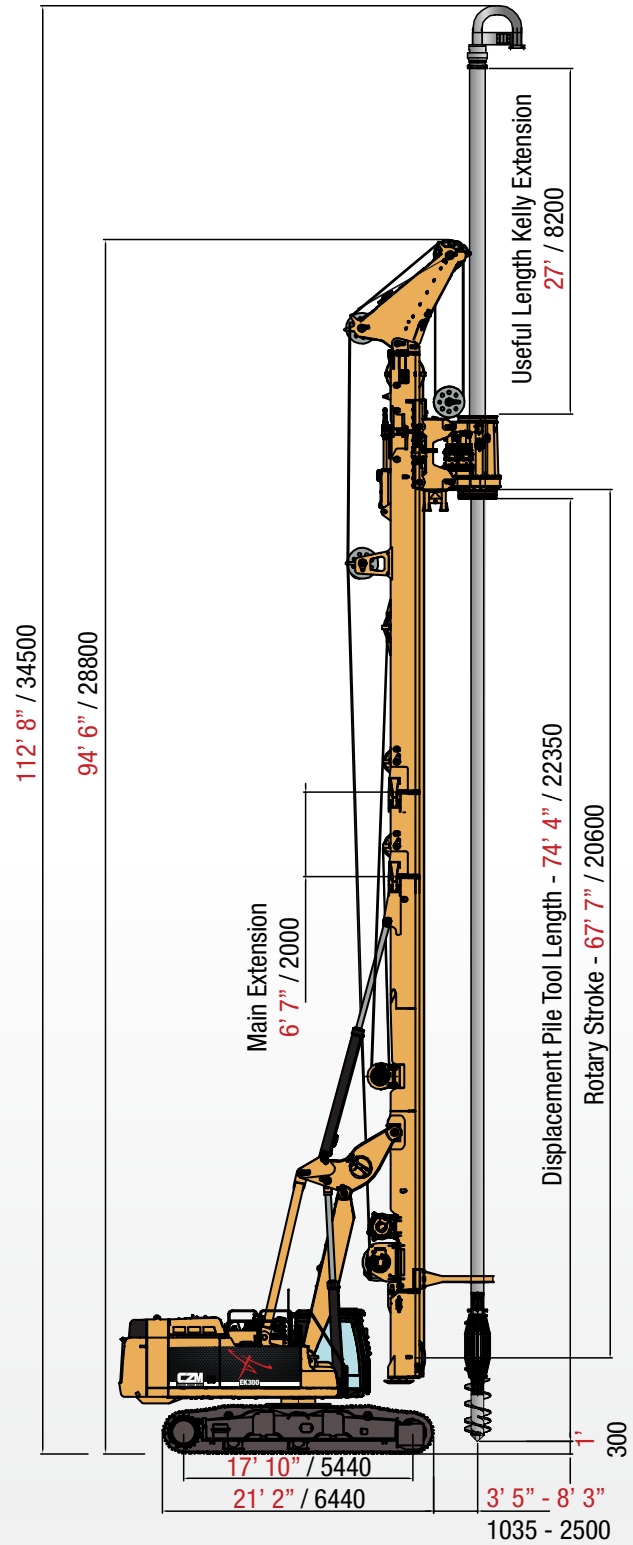
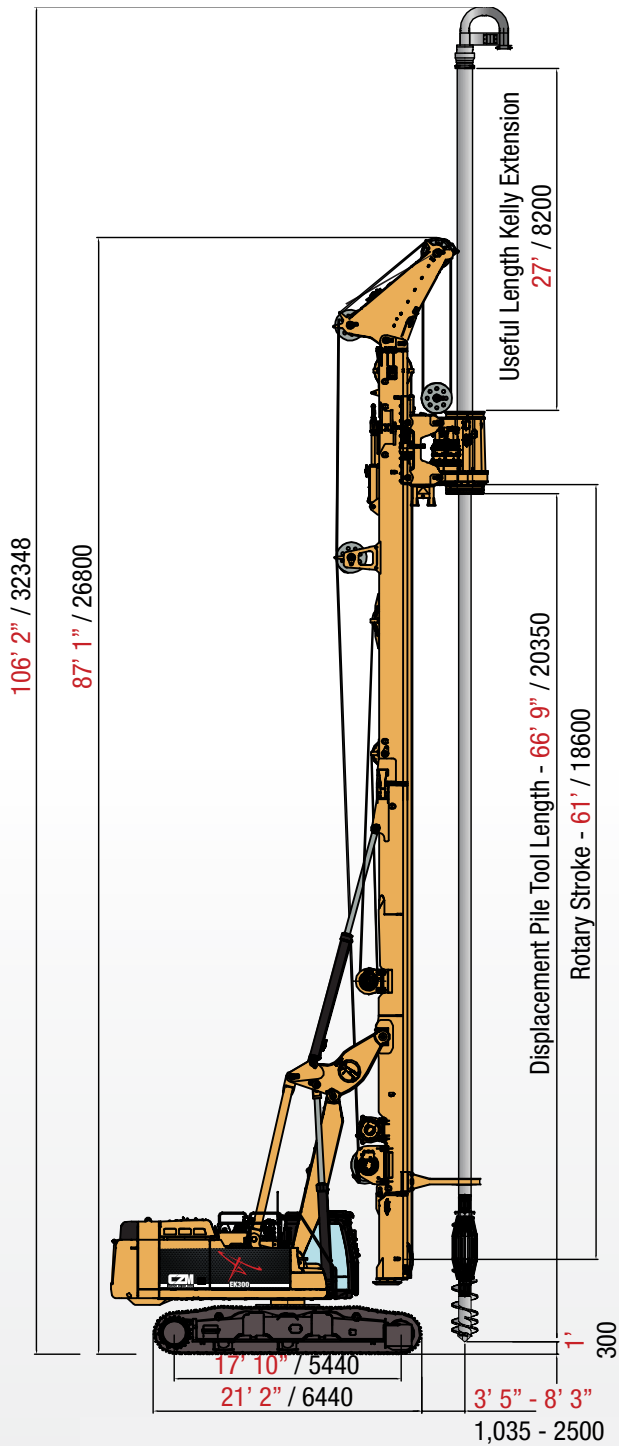
CONTINUOUS FLIGHT AUGER



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)	225,380 lbs	102,400 kgf

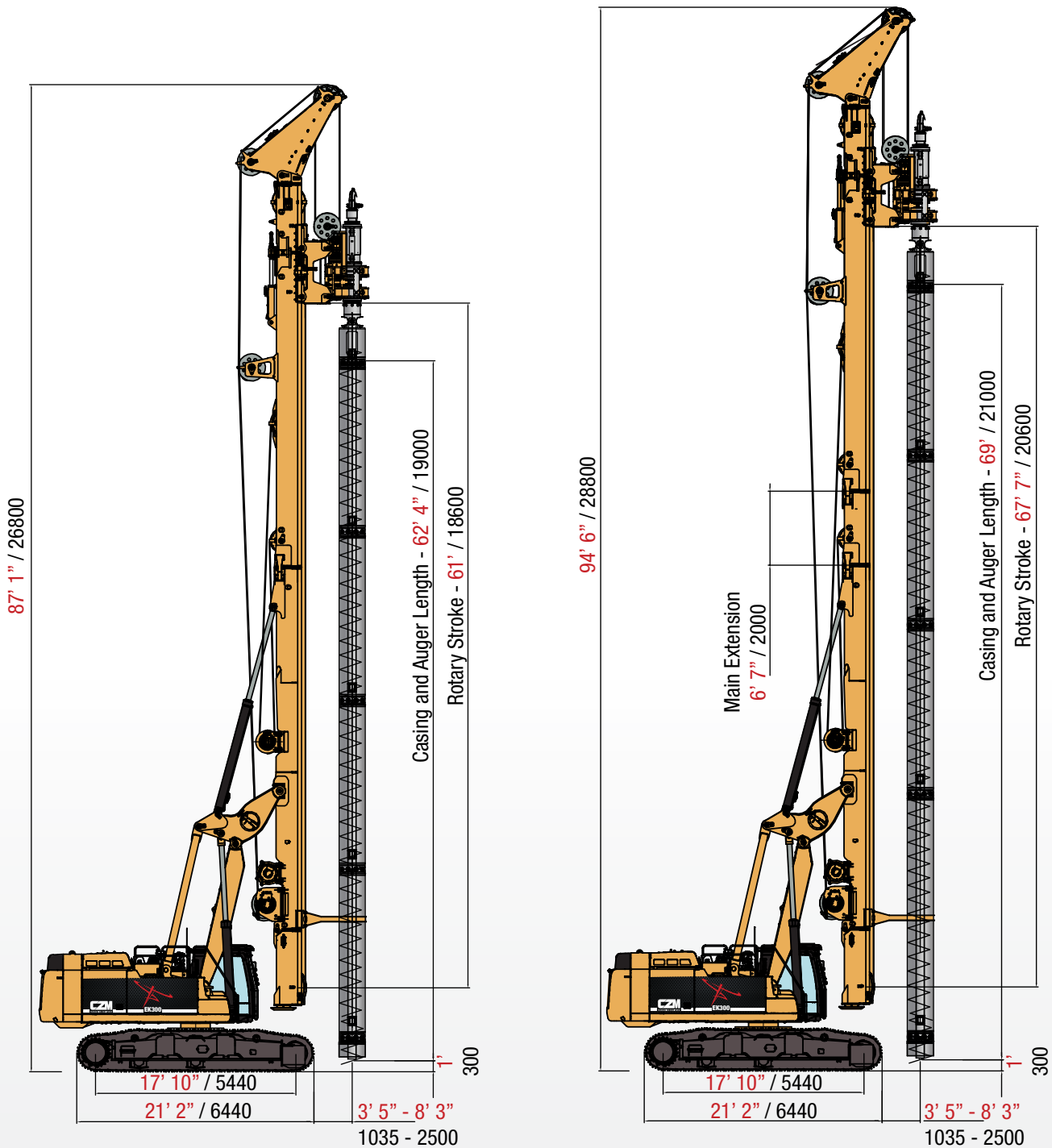
DISPLACEMENT PILE



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)	225,380 lbs	102,400 kgf

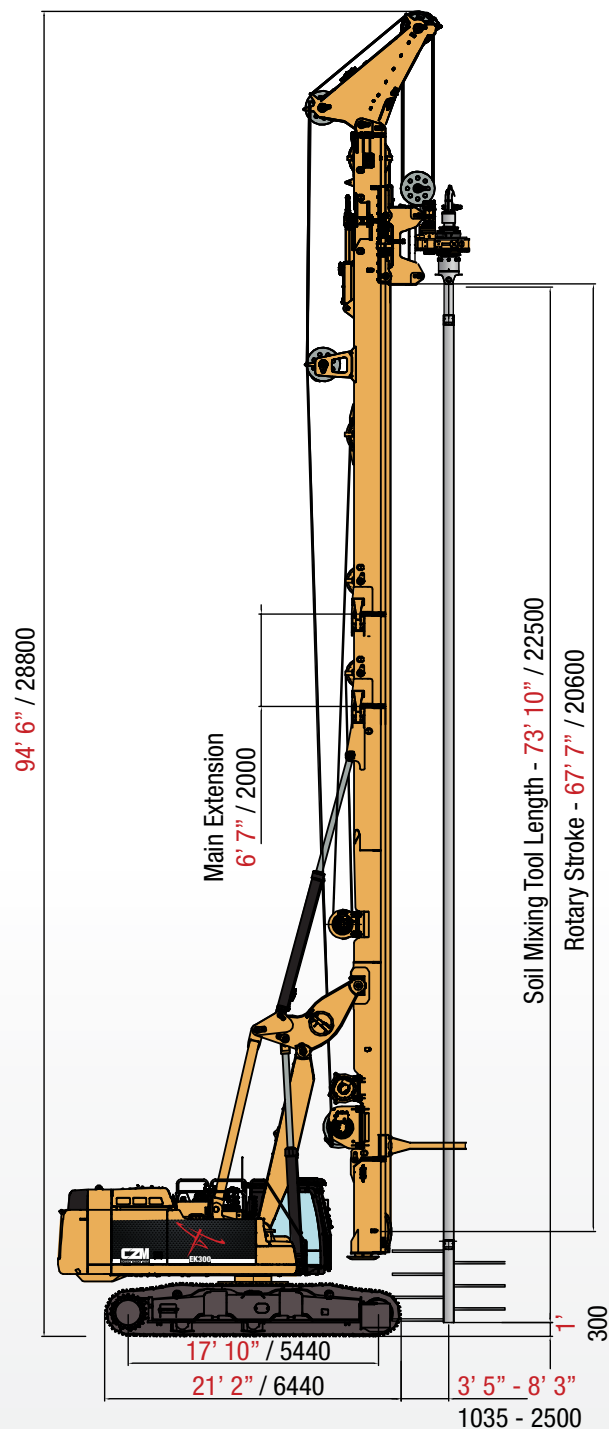
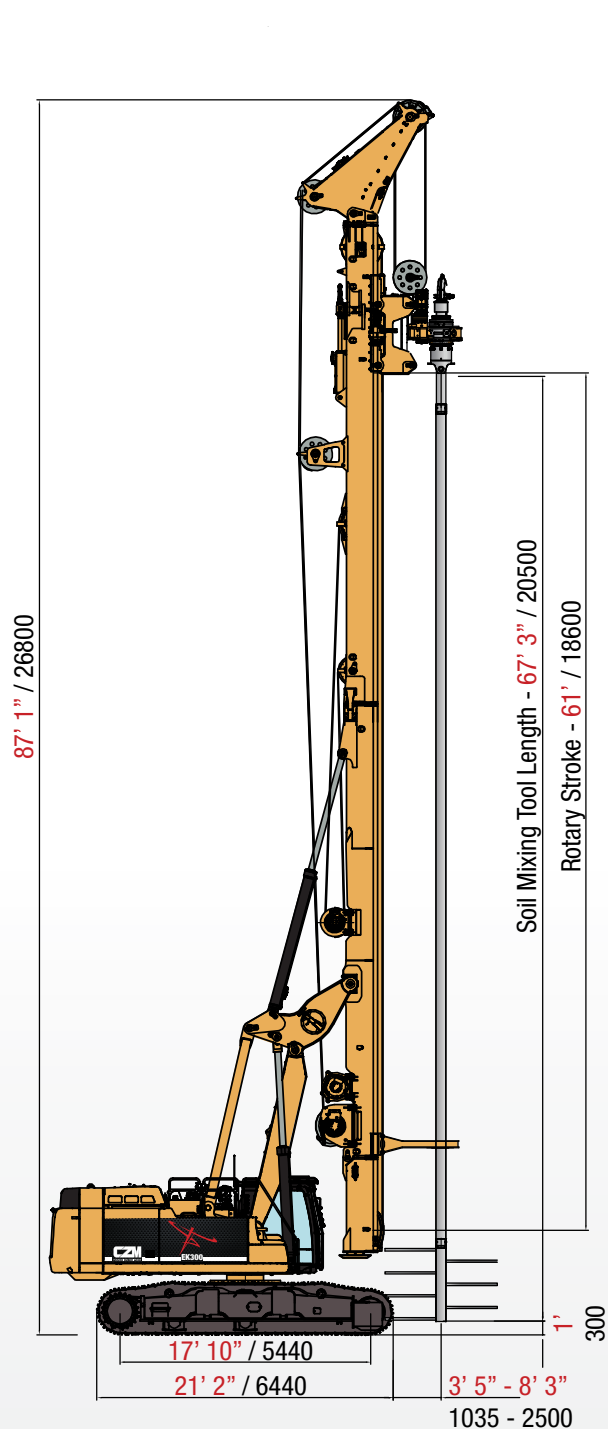
CASED CFA - DOUBLE ROTARY



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)	225,380 lbs	102,400 kgf

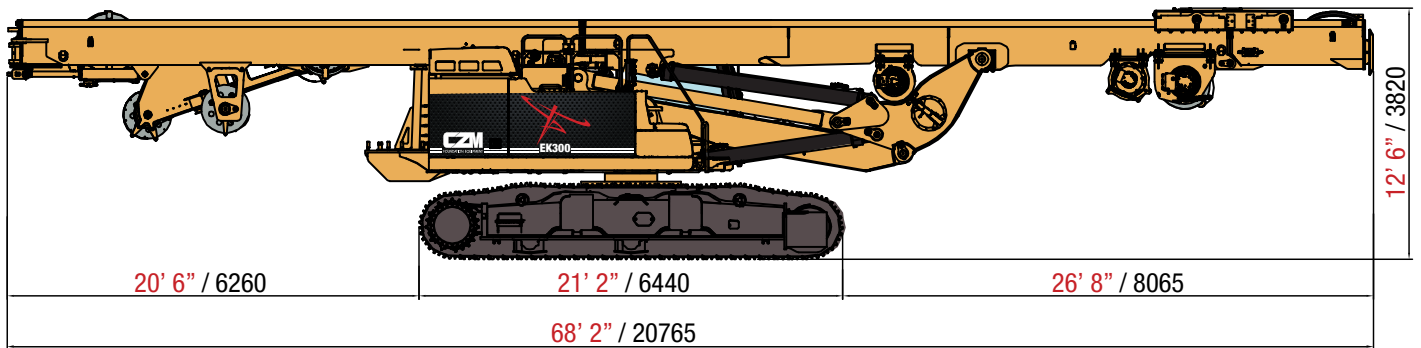
SOIL MIXING



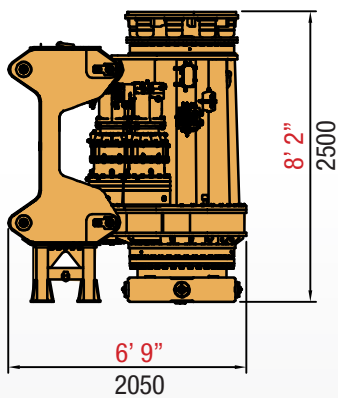
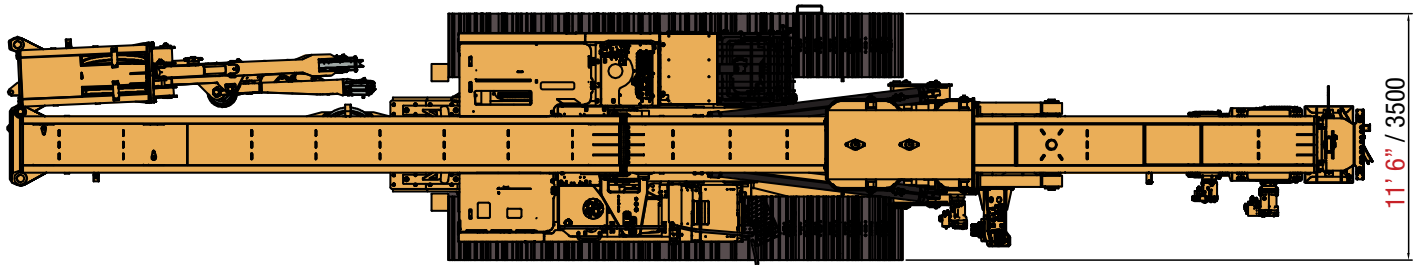
SINGLE COLUMN SOILMIXING APPLICATION SPECS

Soilmixing Rotary head Max torque	155,080 ft.lbs	21,500 kg.m
Soilmixing Rotary Head Speeds	20 – 40 rpms	20 – 40 rpms
Max. drilling diameter	10 ft	3,050 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)	225,380 lbs	102,400 kgf

TRANSPORT POSITION GENERAL DIMENSIONS

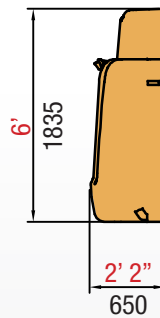


Weight: 140,000 lbs / 63.5 ton



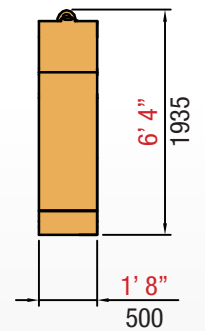
Width: 5 ft 9 in / 1,450 mm

Weight: 17,600lbs / 8 ton



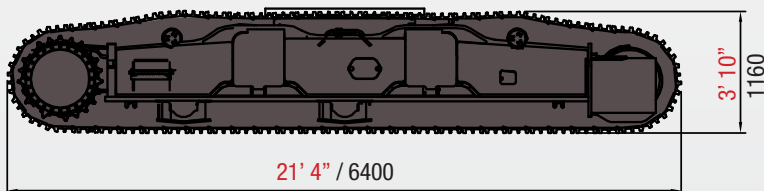
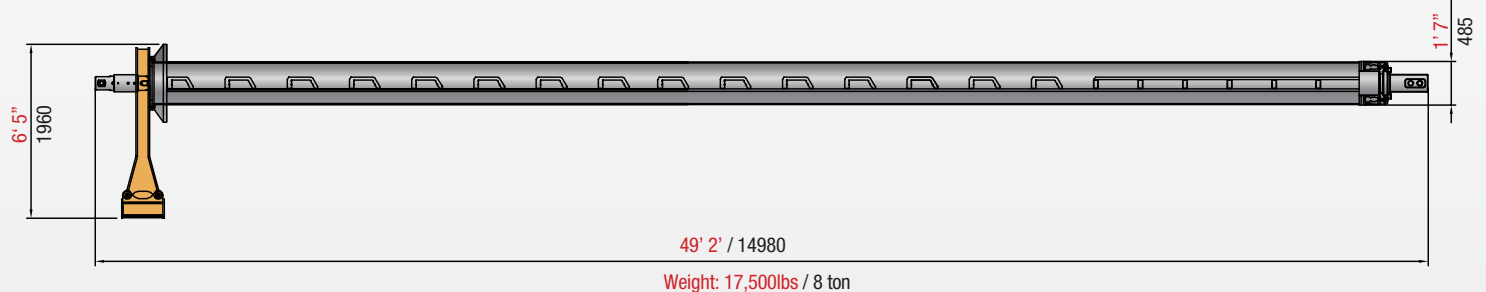
Width: 9 ft 10 in / 3,000 mm

Weight: 40,700lbs / 18.5 ton



Width: 9 ft 10 in / 3,000 mm

Weight: 13,200lbs / 6 ton



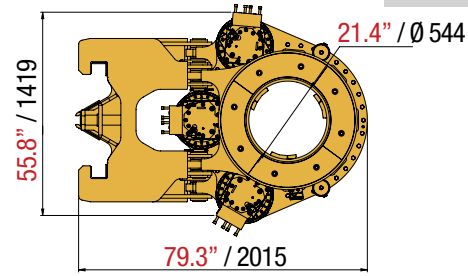
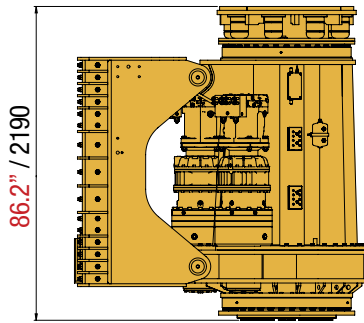
Width: 3 ft / 900 mm

Weight: 20,000lbs / 9.1 ton

TRANSPORT STANDARD MAST APPLICATION

Overall Height	12ft 6in	3,820mm
Transport Length	68ft 2in	20,765mm
Transport Width	11ft 6in	3,500mm
Transport Weight	140,000lb	63,500kg

EK300 FEATURES



BASE:

- The new **Cat 352** is a purpose-built machine powered by a fuel-efficient U.S. EPA **Tier 4 Final** C13 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** VH5440/4900/900. Reinforced frame H style variable undercarriage. Length between wheels 5440mm, Transport width 3500mm, Operation width 4900mm, Shoe width 900mm.

MAST:

- Reinforced mast, with high resistance steel **Weldox 900**.

ROTARY:

- **Robust design**, with 2 slewing bearings on top and bottom, robust pinion and main gear.
- **3 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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