

CZM

FOUNDATION EQUIPMENT



EK160USM

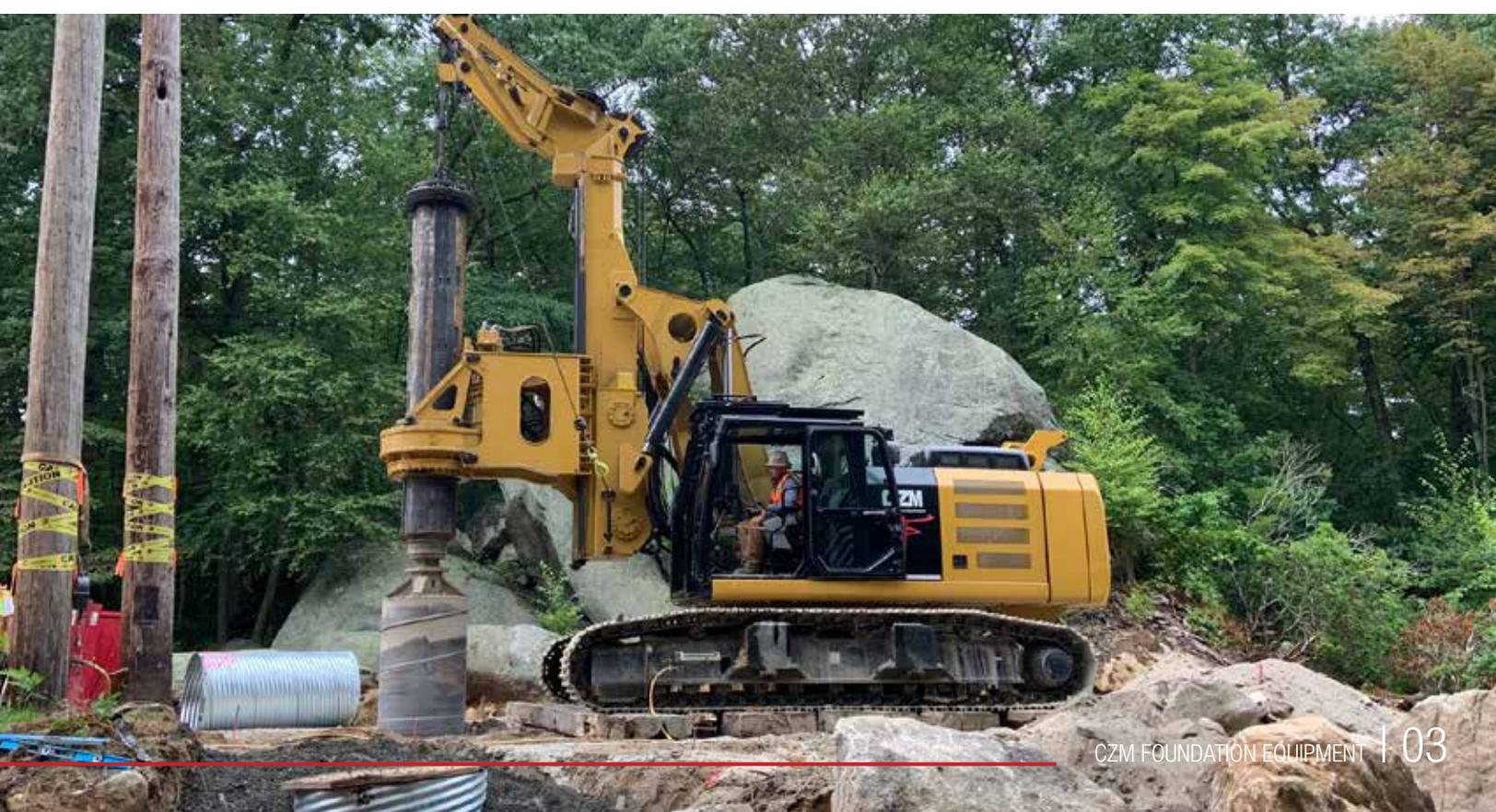
EK160 CAT330F NG



**SCAN
QR CODE**
To view a video
of the EK160USM.



EK160USM
Mounted on a
CAT330F NG ”



TECHNICAL SPECIFICATIONS

KELLY BAR SHORT MAST APPLICATION

Std. Drilling Depth (6 elements; interlock kelly bar)*	60 ft	18.3 m
Drilling Depth (6 elements; interlock kelly bar)*	40 ft	12.2 m
Drilling Diameter (up the mast)	10 ft	3,050 mm

ROTARY HEAD - RT 640

Max. torque (nominal)	167,340 lbf.ft	23,200 kgf.m
Working speed of rotation	12-30 rpm	
Spin-off rotation	50-120 rpm	

CROWD SYSTEM

Cylinder stroke - short mast	6 ft 6 in	1,930 mm
Cylinder push force	55,000 lbf	25,000 kgf
Cylinder push speed	41 ft/min	12 m/min
Cylinder pull force	69,000 lbf	31,400 kgf
Cylinder pull speed	32 ft/min	10 m/min

MAIN WINCH

Max. pull-force - 1st Layer (effective)	51,400 lbf	23,380 kgf
Max. pull-force - 1st Layer - 2nd Speed (effective)	41,000 lbf	18,000 kgf
Line speed - 1st Layer	258 ft/min	78 m/min
Cable diameter	-	24 mm
Drum diameter - 1st Layer	18.5 in	473 mm

AUXILIARY WINCH

Max. pull-force - 1st Layer (effective)	22,000 lbf	10,000 kgf
Line speed - 1st Layer	180 ft/min	55 m/min
Cable diameter	3/4 in	19 mm
Drum diameter - 1st Layer	16.5 in	420 mm

MAST INCLINATION

Backward	15°	15°
Forward	9°	9°
Sideways	7° / 7°	7° / 7°

DIESEL ENGINE CAT330F NEXT GEN (CAT® C7.1 ACERT™)

Net Power – SAE J1349	275 hp	205 kW
Displacement	428 in ³	7.01 L
Fuel Tank	125 gal	474 L

HYDRAULIC SYSTEM (CAT320E L TIER IV)

Hydraulic pressure	5,076 psi	350 bar
Flow rate (main circuit)	2x74 gal/min	2x280 L/min
Flow rate (auxiliary circuit)	33.7 gal/min	128 L/min
Pilot circuit pressure	595 psi	41 bar
Pilot circuit flow	6.1 gal/min	23 L/min
Hydraulic oil tank capacity	38.8 gal	147 L

UNDERCARRIAGE

Track length	17 ft	5,200 mm
Length to Center of rollers	14 ft 5 in	4,400 mm
Transport position width (retracted)	9 ft 11 in	3,000 mm
Working position width (extended)	14 ft 1 in	4,300 mm
Shoes width	28 in	700 mm
Max. drawbar pull (both tracks)	90,200 lbf	41,000 kgf
Max. travel speed	1.30 mph	2.0 km/h

TRANSPORT

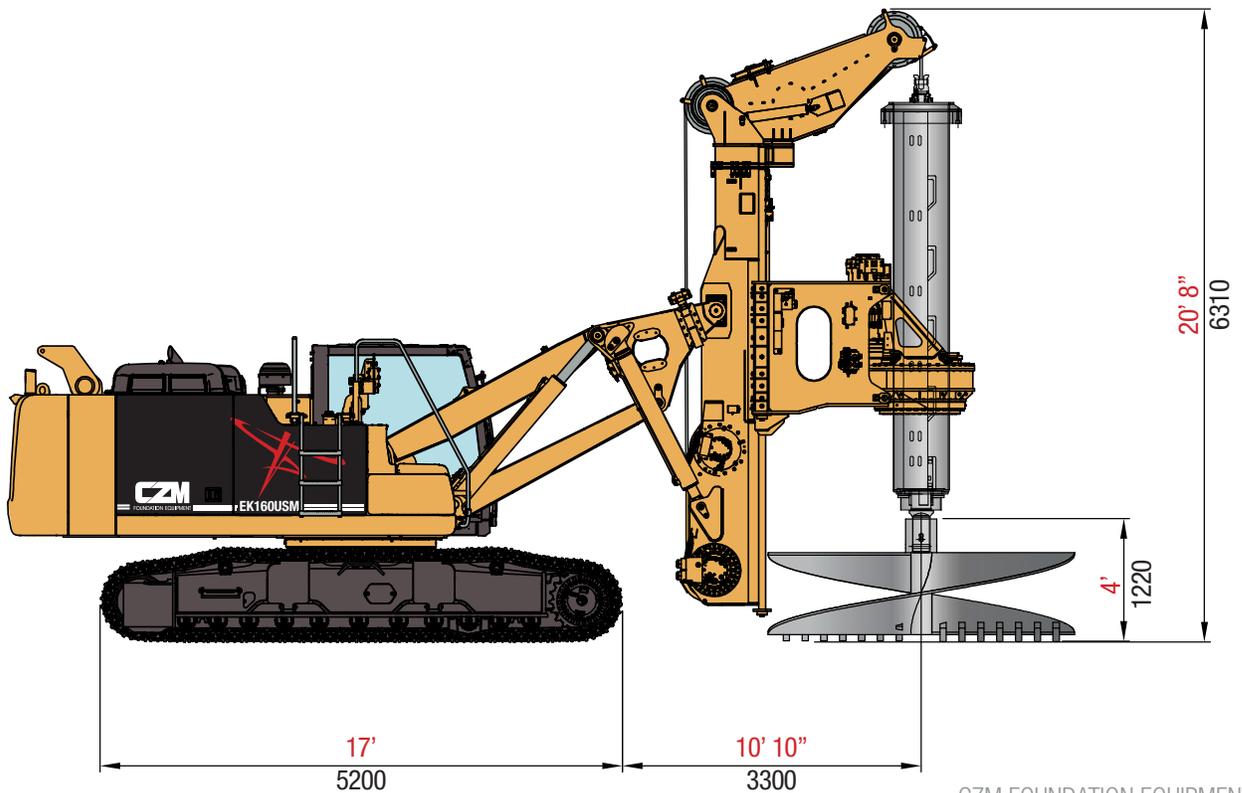
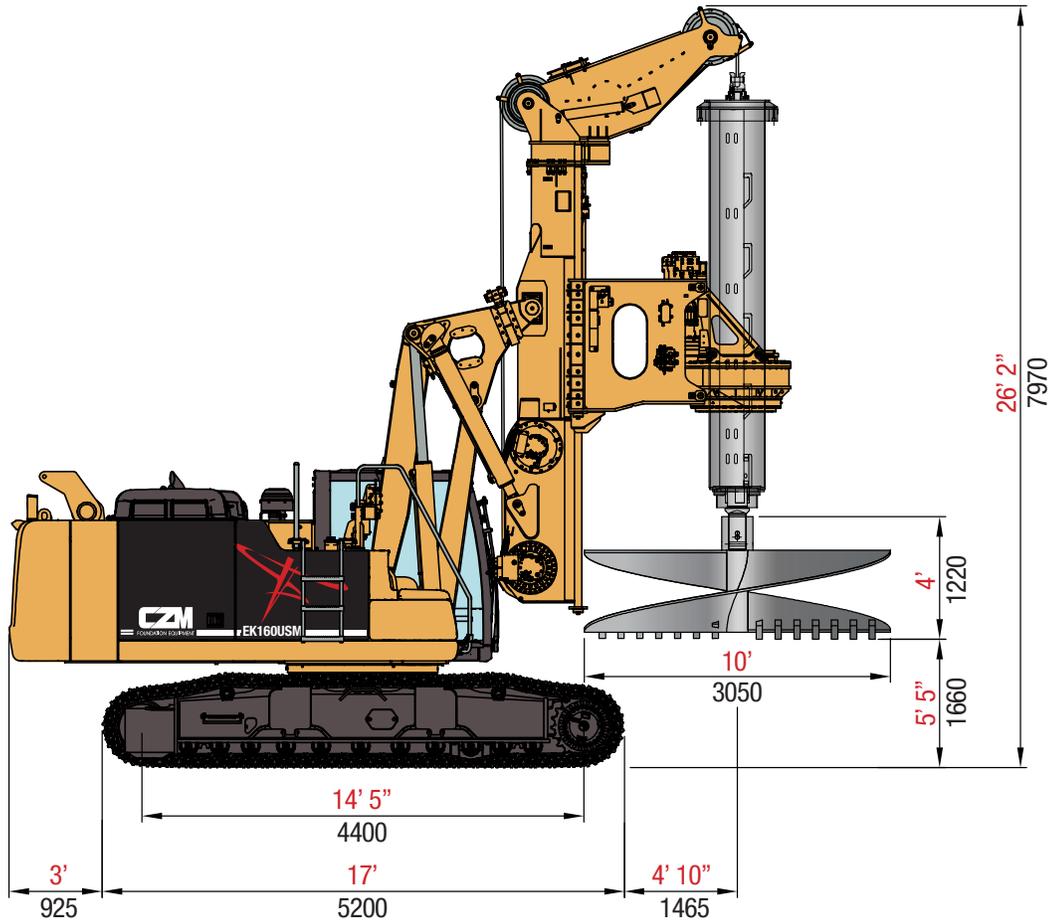
Transport height	11 ft 8 in	3,560 mm
Length	37 ft 5 in	11,410 mm
Transport width	9 ft 11 in	3,000 mm
Transport weight (standard kelly 6 / 60 ft)	103,500 lb	46,950 kg
Transport weight (without kelly)	96,000 lb	43,500 kg
Transport weight (without kelly & counterweight)	83,000 lb	37,650 kg

GENERAL DATA

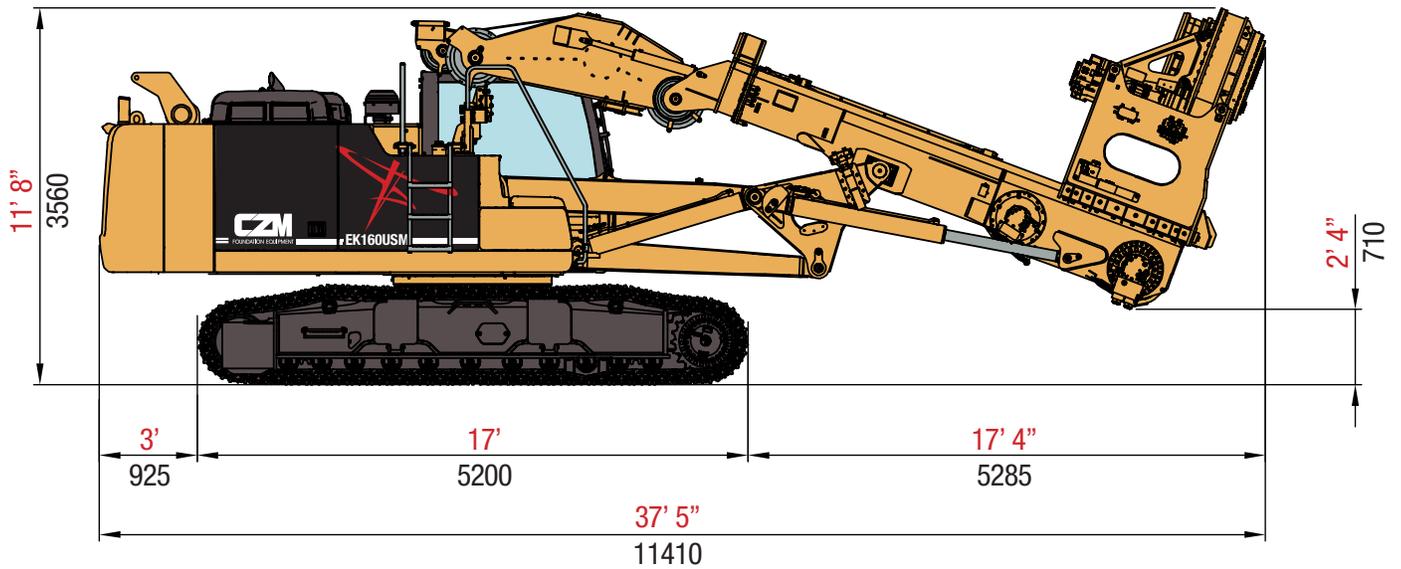
Overall height (boom in)	26 ft 2 in	7,970 mm
Overall height (boom out)	19 ft 10 in	6,040 mm
Operating weight	103,500 lb	46,950 kg



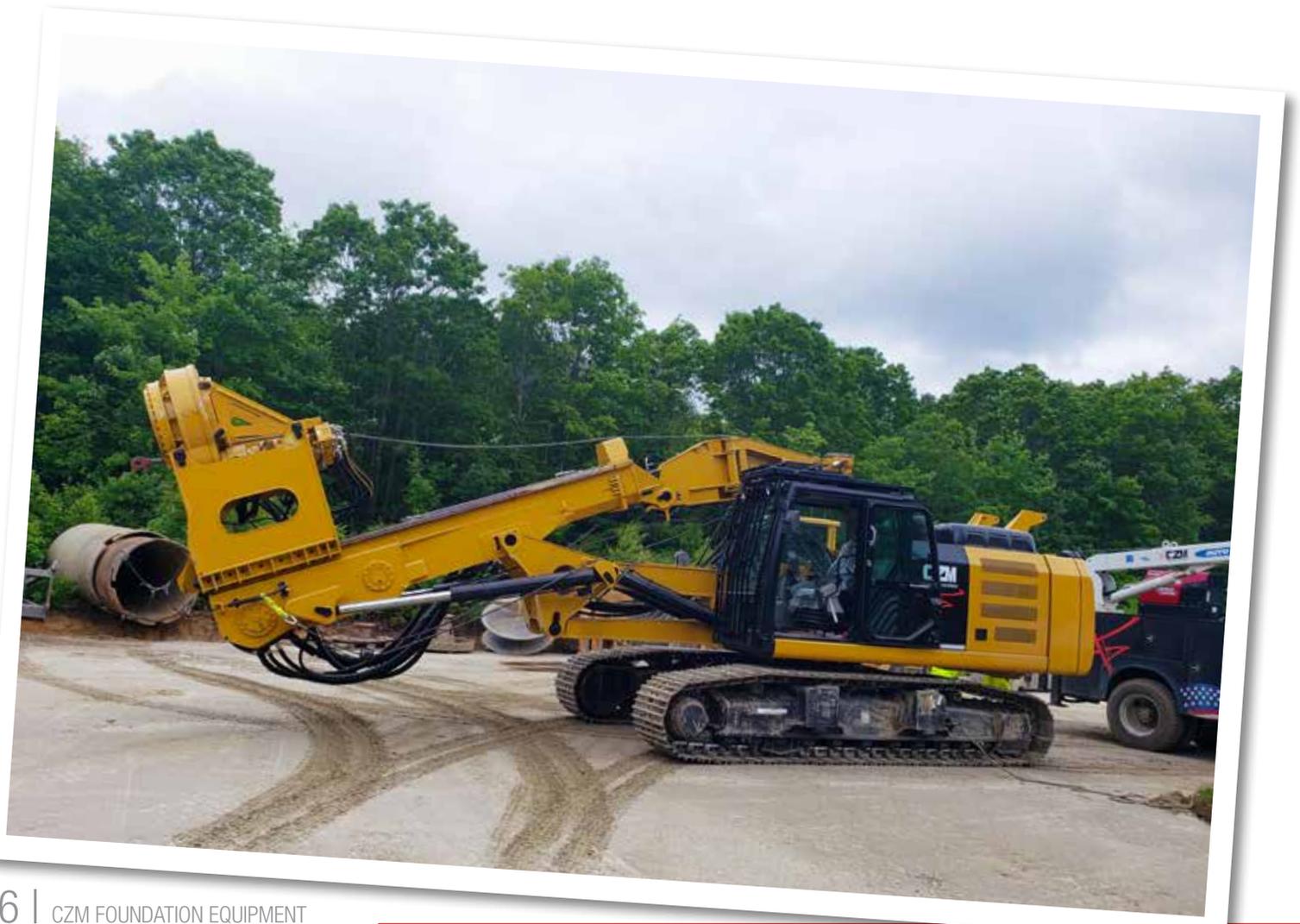
GENERAL DIMENSIONS



TRANSPORT POSITION GENERAL DIMENSIONS



Weight: 96,000 lbs / 43,500 kg



EK160USM FEATURES

ROTARY:

- **Robust design**, with 2 slewing bearings on top and bottom, robust pinion and main gear.
- **2 Groups of Hydraulic Motors / 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.

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.
- Swivel and Limit switch.

KELLY BAR:

- **Large inner passage** on rotary allows for **large diameter pipes** (22in) and **thicker keys**.
- Keys made of Wear resistant materials – **Hardox 450**.
- Thick keys
- Reinforced canister with special material – **Weldox 700**.

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.

MAST:

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

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
 - Drill Lock
 - Auto Crowd
 - Return to center
- Maintenance and data logging



ACCESSORIES:

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

OPTIONAL:

- Self erecting counter weight



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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