

EK160

CYLINDER CROWD DRILLING RIG



FOUNDATION EQUIPMENT



czm-us.com

EK160

FEATURES

One load machine with fast and easy set-up.

Kelly bar is transported with the machine, no auxiliary equipment necessary for set up.

Easy conversion from standard to short mast by replacing:

- › Top mast assembly
- › Crowd cylinder
- › Kelly bar

CZM'S OPERATOR ASSIST TECHNOLOGY:

- › Auto Gear shifting for Rotary
- › Auto Gear shifting for Main winch
- › Drill Lock
- › Auto Crowd
- › Auto Level
- › Return to Center

TELEMATICS: The rig includes a CZM Telematics System for remote monitoring, diagnostics, and software updates, enabling CZM Support to assist with troubleshooting and performance optimization.

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.

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 and reversible. No need to rebuild keys by welding inside the rotary.

Hydraulic measurement of torque displayed in the cab for the operator.

UNDERCARRIAGE

Caterpillar variable undercarriage with a reinforced H-style frame provides increased stability and traction force. Its variable width design expands for maximum stability during drilling and retracts for easy transport.

MAST

Reinforced mast, with high strength steel.

MAIN WINCH

Special groove for better cable winding and longer cable life.

Press roller to maintain cable alignment standard.

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.

CAB

AM/FM Radio, Air conditioning/Heating

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



SAFETY

Stability according to EN16228

Base, Mast and Boom Inclinometers

Working radius warning

Limit switches for Boom, Mast Tilt, Main Winch and Service Winch

Operator warnings for non recommended operations.

ACCESSORIES

Lighting package

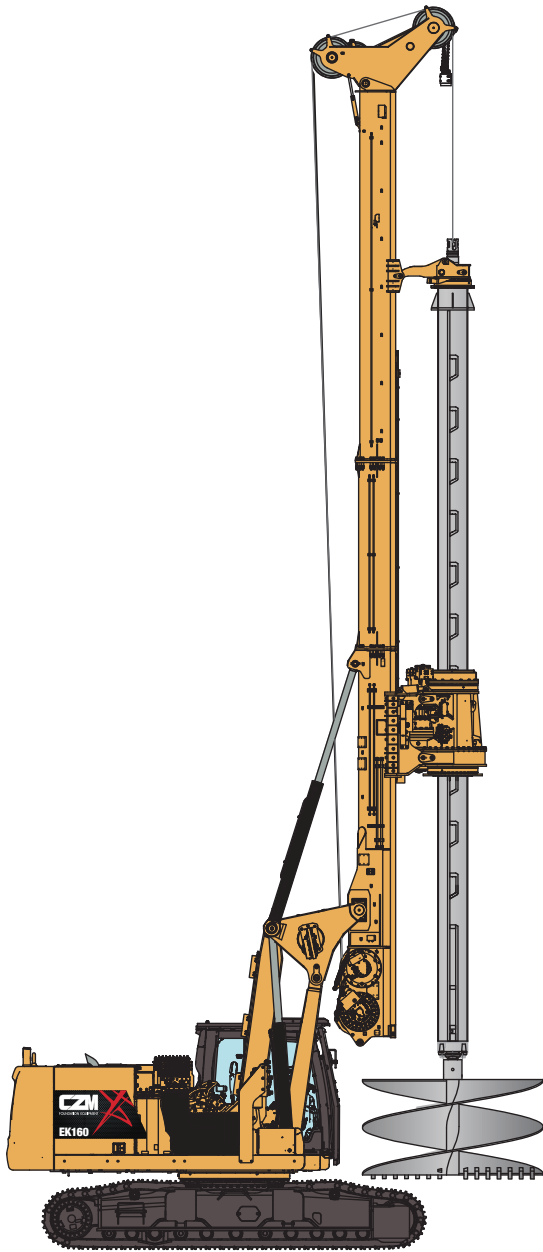
Refueling pump

O-ring kits

Toolbox

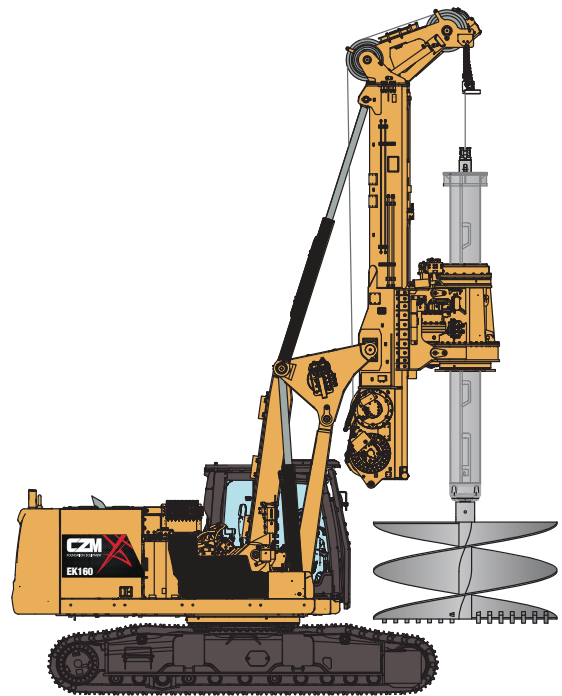
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APPLICATIONS



STANDARD MAST

Standard Drilling Depth	120 ft
Diameter (Max. w/ lower mast)	5 ft
Diameter (Max. w/o lower mast)	10 ft
Max. Torque	155,500 ft.lbs
Operating weight*	107,000 lb



SHORT MAST

Standard Drilling Depth	45 ft
Diameter (Max. w/ lower mast)	5 ft
Diameter (Max. w/o lower mast)	10 ft
Max. Torque	155,500 ft.lbs
Operating weight*	97,500 lb

*Weight includes standard Kelly, without tool.

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TECHNICAL SPECIFICATIONS

ROTARY HEAD - RT 460 - 14

Maximum torque (Nominal)	155,500 lbf.ft
Working speed of rotation	14-32 rpm
Spin-off rotation	70-120 rpm

CROWD SYSTEM

Cylinder stroke - standard mast	16 ft 5 in
Cylinder stroke - short mast	9 ft 6 in
Cylinder push force	43,000 lbf
Cylinder push speed	51 ft/min
Cylinder pull force	61,800 lbf
Cylinder pull speed	36 ft/min

MAIN WINCH

Max. pull-force - 1st Layer (effective)	40,800 lbf
Line speed - 1st Layer	290 ft/min
Cable diameter	24 mm
Drum diameter - 1st Layer	18.5 in

AUXILARY WINCH

Max. pull-force - 1st Layer (effective)	22,000 lbf
Line speed - 1st Layer	85 ft/min
Cable diameter	3/4 in
Drum diameter - 1st Layer	16.5 in

MAST INCLINATION

Backward	15°
Forward	5°
Sideways	6° / 6°

DIESEL ENGINE Cat® 330 - (Cat® C7.1 ACERT™)

Net Power (ISO 14396)	279 hp
Displacement	428 in³
Fuel Tank	125 gal

HYDRAULIC SYSTEM - (Cat® 330)

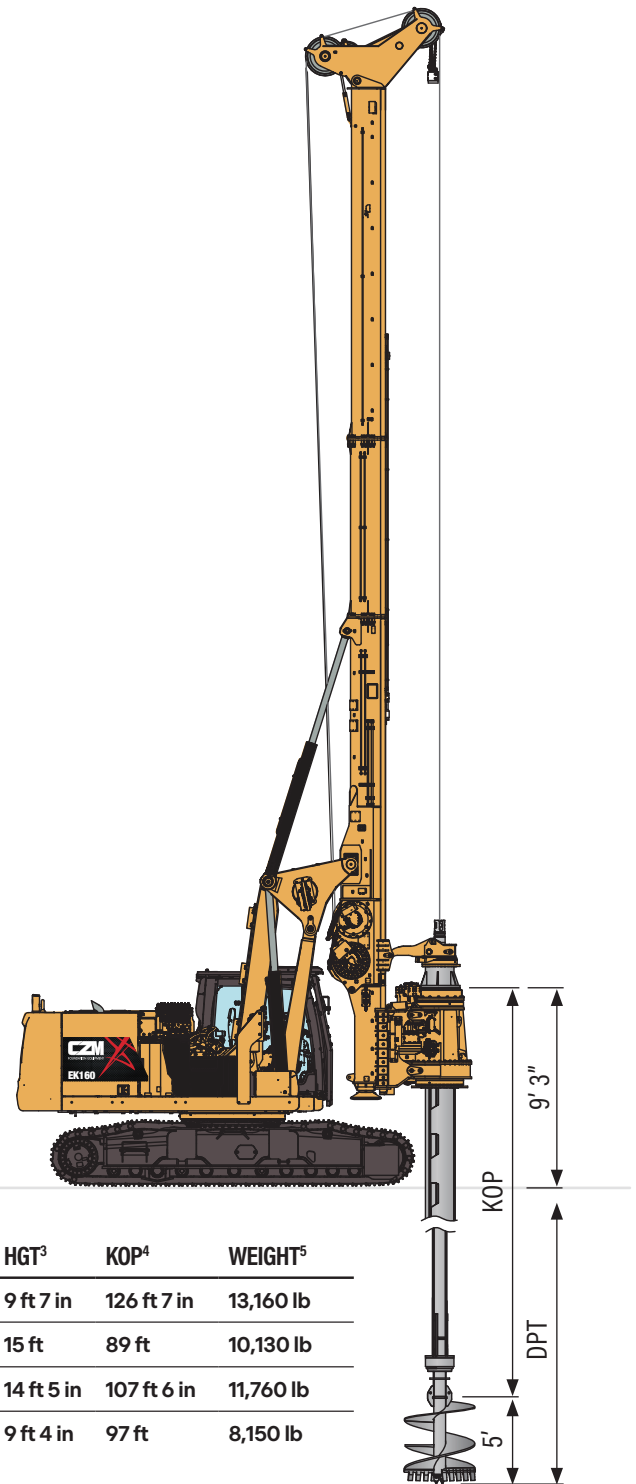
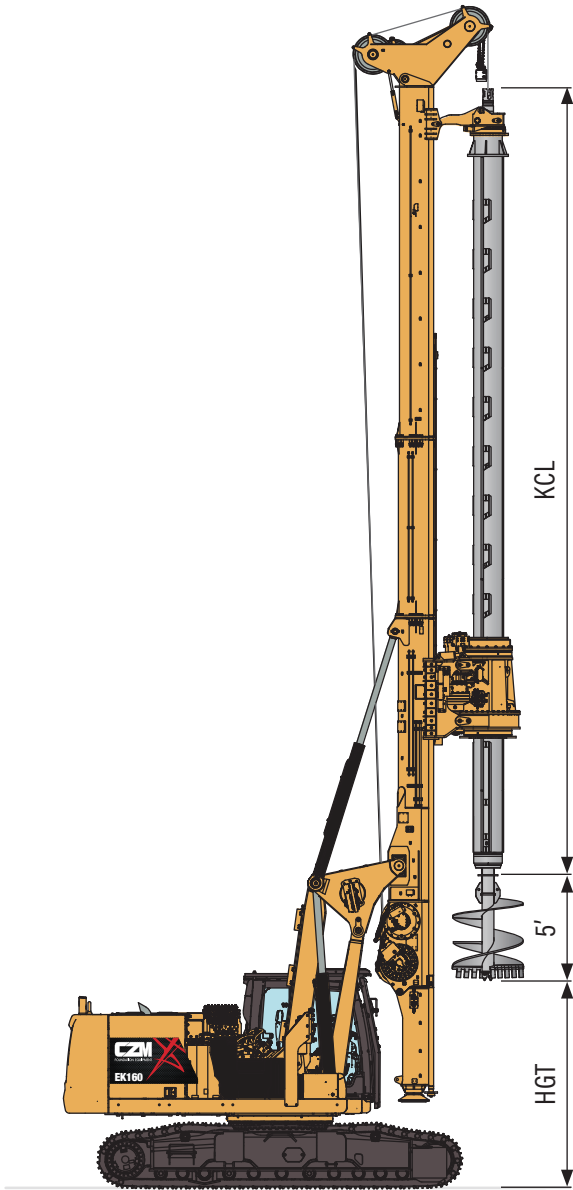
Hydraulic pressure	5,076 psi
Flow rate (main circuit)	2x74 gal/min
Flow rate (auxiliary circuit)	26.5 gal/min
Hydraulic oil tank capacity	38.8 gal

UNDERCARRIAGE

Track length	17 ft 1 in
Length to Center of rollers	14 ft 5 in
Closed position width (retracted)	9 ft 10 in
Working position width (extended)	14 ft
Shoes width	27.5 in
Max. drawbar pull	90,000 lbf
Max. travel speed	1.4 mph

STANDARD MAST

GENERAL DIMENSIONS



KELLY BAR OPTIONS	PART #	# ELEMENTS	DEPTH - DPT ¹	TRANSPORT - KCL ²	HGT ³	KOP ⁴	WEIGHT ⁵
4/120 Interlock	25867.4120.000	4	121 ft	37 ft 6 in	9 ft 7 in	126 ft 7 in	13,160 lb
4/80 Interlock	25867.4080.000	4	83 ft	28 ft	15 ft	89 ft	10,130 lb
4/100 Interlock	25867.4100.010	4	102 ft	32 ft 9 in	14 ft 5 in	107 ft 6 in	11,760 lb
3/90 Interlock ⁶	25862.3090.000	3	90 ft	37 ft 9 in	9 ft 4 in	97 ft	8,150 lb

¹ DPT: Total depth with 5 ft tool boomed all the way back. Additional 2 ft of depth if boomed forward.

² KCL: Length measured from bottom of stub to top of swivel.

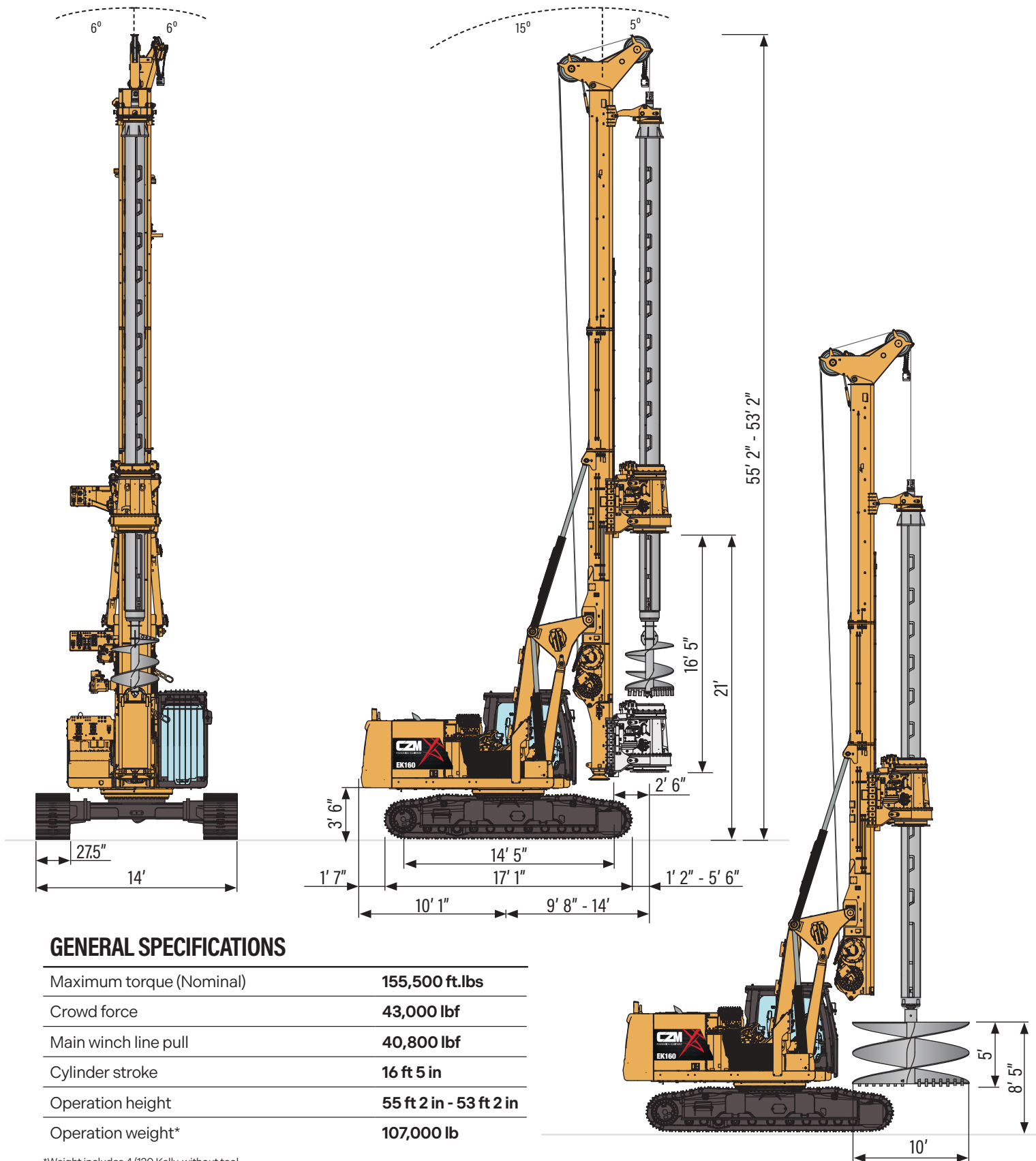
³ HGT: Length measure from ground to bottom of auger assuming a 5 ft tall tool.

⁴ KOP: Length measure from top of flange to bottom of stub (without a tool).

⁵ Weight includes A-frame and swivel.

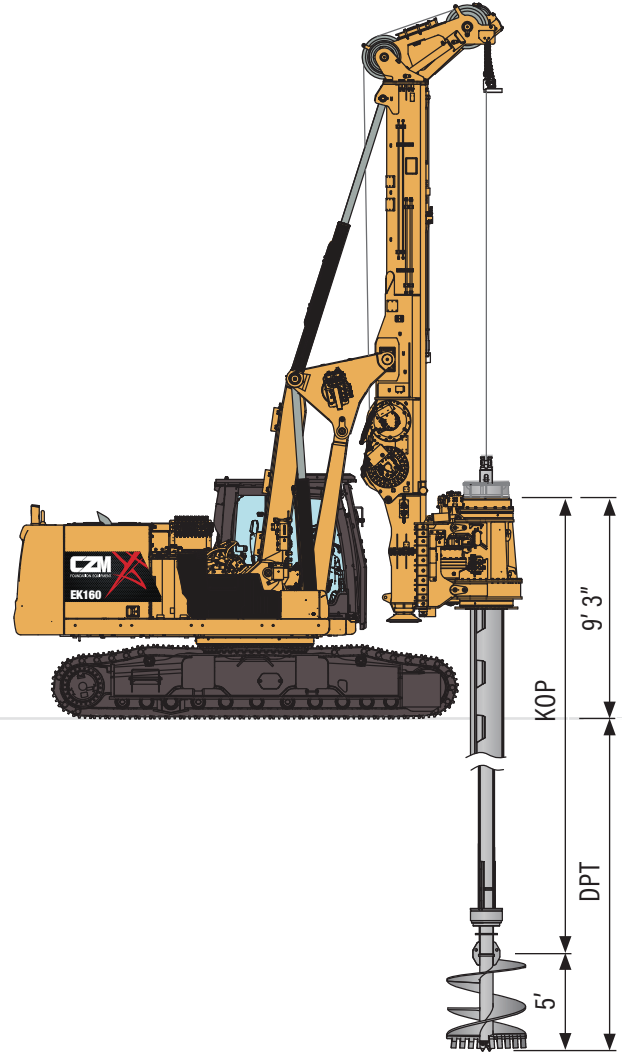
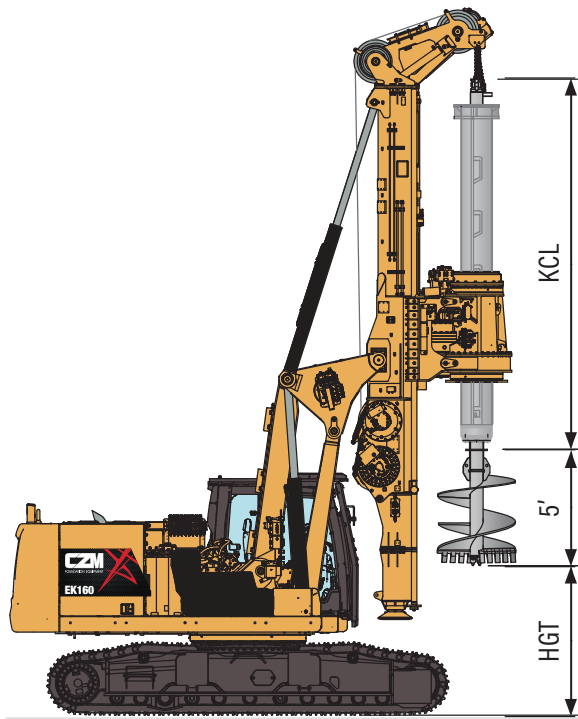
⁶ Special kelly bar, not in stock.

Other kelly bars available upon request.



SHORT MAST

GENERAL DIMENSIONS



KELLY BAR OPTIONS	PART #	# ELEMENTS	DEPTH - DPT ¹	TRANSPORT - KCL ²	HGT ³	KOP ⁴	WEIGHT ⁵
Standard 4/45 Interlock	25867.4045.000	4	42 ft 7 in	17 ft	5 ft 10 in	47 ft 9 in	6,185 lb
4/53 Interlock	25867.4053.000	4	53 ft	19 ft 5 in	3 ft 5 in	58 ft 2 in	6,720 lb

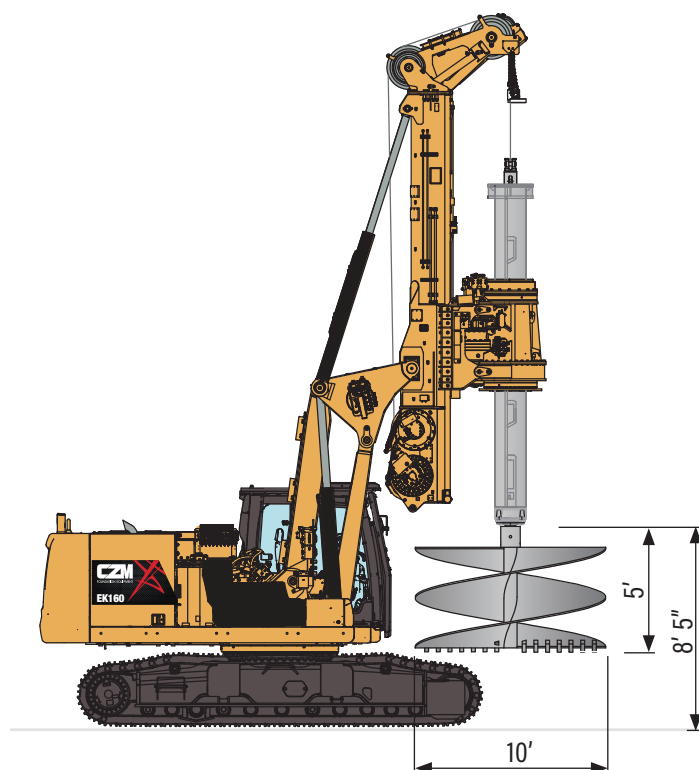
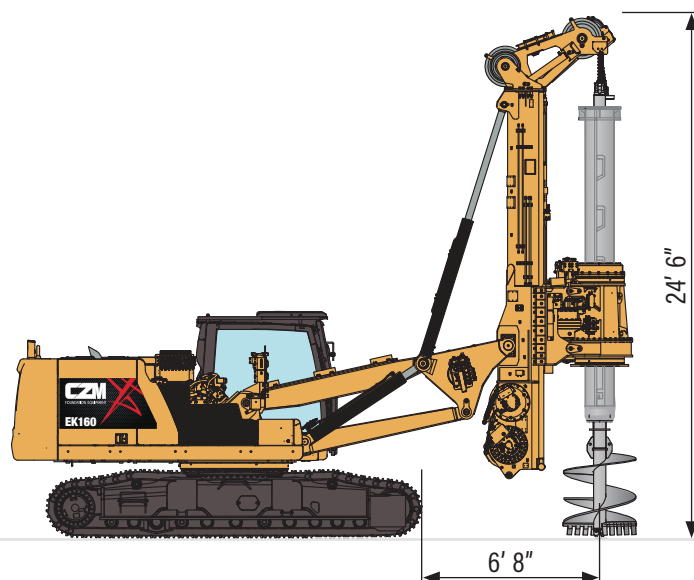
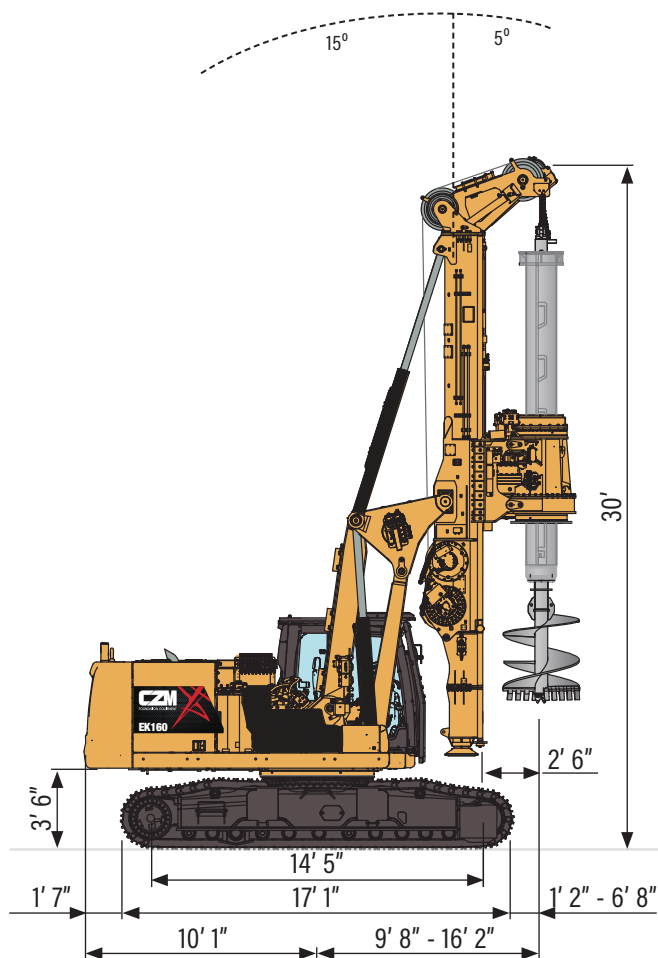
¹ DPT: Total depth with 5 ft tool boomed all the way back*. Additional 5 ft 6 in of depth if boomed forward.

² KCL: Length measured from bottom of stub to top of swivel.

³ HGT: Length measure from ground to bottom of auger assuming a 5 ft tall tool. More clearance can be reached with mast extension.

⁴ KOP: Length measure from top of flange to bottom of stub (without a tool).

⁵ Weight with swivel.



GENERAL SPECIFICATIONS

Maximum torque (Nominal)	155,500 ft.lbs
Crowd force	43,00 lbf
Main winch line pull	40,800 lbf
Cylinder stroke	9 ft 6 in
Operation height	30 ft - 24 ft 6 in
Operation weight*	97,500 lb

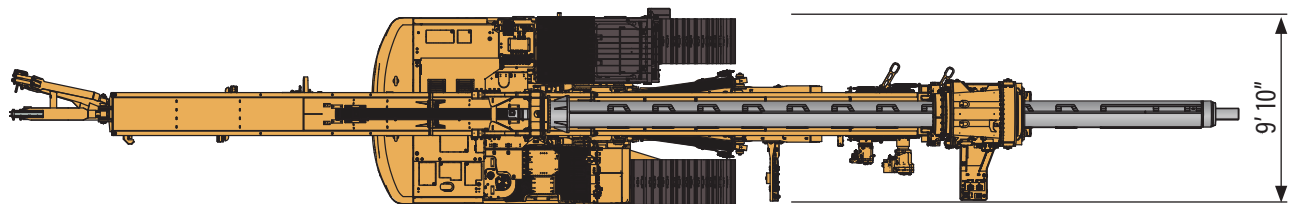
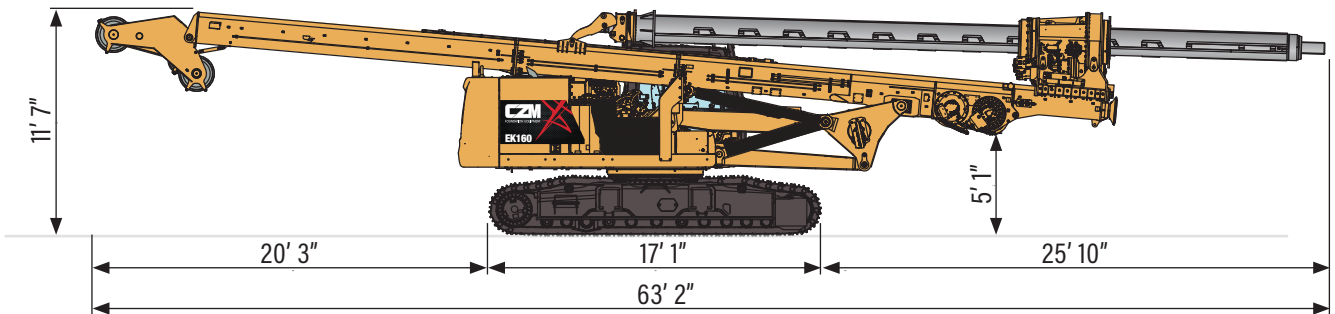
*Weight includes 4/45 Kelly, without tool.



TRANSPORT

DIMENSIONS

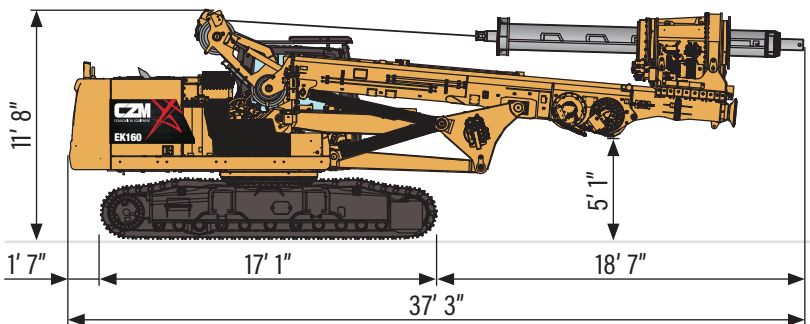
STANDARD MAST



Height	11 ft 7 in
Length	63 ft 2 in

Width	9 ft 10 in
Weight (standard kelly 4 / 120 ft)	107,000 lb

SHORT MAST



Height	11 ft 8 in
Length	37 ft 3 in
Width	9 ft 10 in
Weight (kelly 4 / 45 ft)	97,500 lb

COMPONENTS

Rotary	8,100 lb
Main Cat® Counterweight	14,780 lb



FOUNDATION EQUIPMENT

> HEADQUARTERS

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(912) 200-7654

czm-us.com



AFTER SALES

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Ventura, CA 93001
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> GEORGIA

145 East Industrial Blvd.
Pembroke, GA 31321
(912) 200-7656

> KENTUCKY

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Elizabethtown, KY 42701
(912) 675-3059

> TEXAS

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Haslet, TX 76052
(817) 232-8053



MADE IN
THE
USA



ABOUT CZM

CZM is headquartered in Savannah, Georgia, USA. For 50 years, we have specialized in manufacturing foundation equipment. We design and customize models for many different drilling applications including Drilled Shafts, CFA, Displacement piles, Soilmixing, Micropiles, Anchors, Driven piles and Soil improvement. We are a Caterpillar OEM (Original Equipment Manufacturer).

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The myCZM Web Portal is the essential digital point of reference for all customers and dealers, providing instant access to everything you need.

- > **Machine Documentation:** Consult manuals, warranties, stability charts, and technical schematics (electrical/hydraulic).
- > **Spare Parts:** Navigate and identify needed parts, and submit direct quotation requests.
- > **Support:** Directly submit information and general inquiries.

CZM CAPITAL

CZM provides flexible, affordable financing to get our machines working for you. Get more than just a machine for your money.

Contact us today at (877) 773-0333.

Specifications are subject to change without notice.