




FOUNDATION EQUIPMENT



EK160

ON CAT330F



The mast is made of special steel called "Weldox" that has a yield strength 2.8 times higher than regular ASTM A36 steel. It means that with less weight the EK160 can have better stability and displacements on the job site and easier transport handlings

EK160

Mounted on a
CAT330F L TIER IV FINAL ”



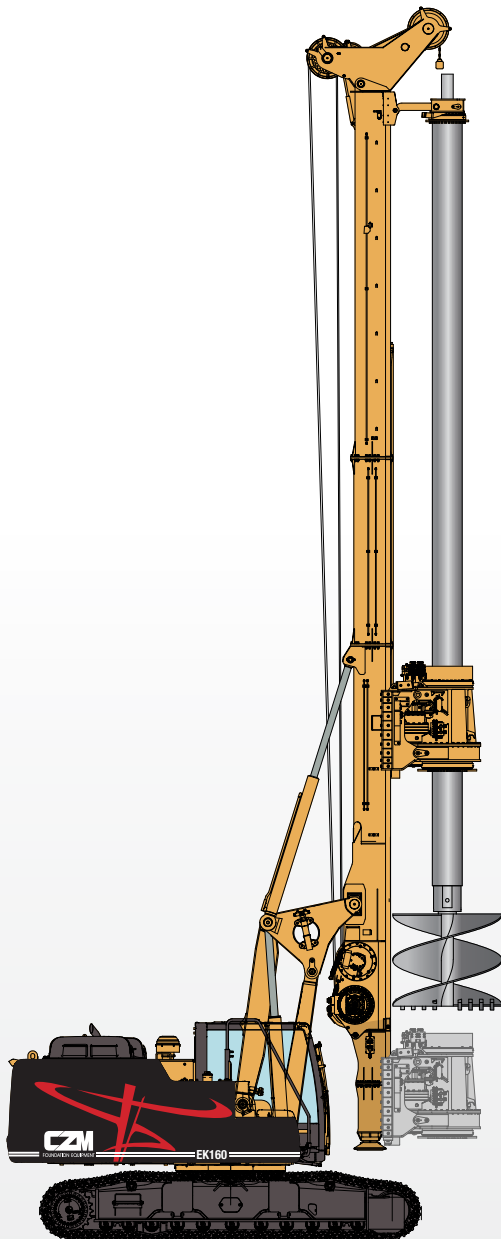
APPLICATION

The EK160 from CZM has been designed for high performance and to have the fastest and easiest setup for operation and transport mode. It is a reliable drilling rig mounted on a CAT base, keeping the operation and maintenance extremely friendly and efficient.

This model is a very compact drill rig and the hydraulic functions in the cabin also allow the Kelly bar to follow the raising and lowering of the mast due to positioning hydraulic cylinders for rotary head and A frame. Therefore the Kelly bar travels with the machine in a fast, easy and economic way.

The EK160 also has the versatility to be easily converted from standard to short mast by simply replacing the top mast assembly, crowd cylinder and Kelly bar.

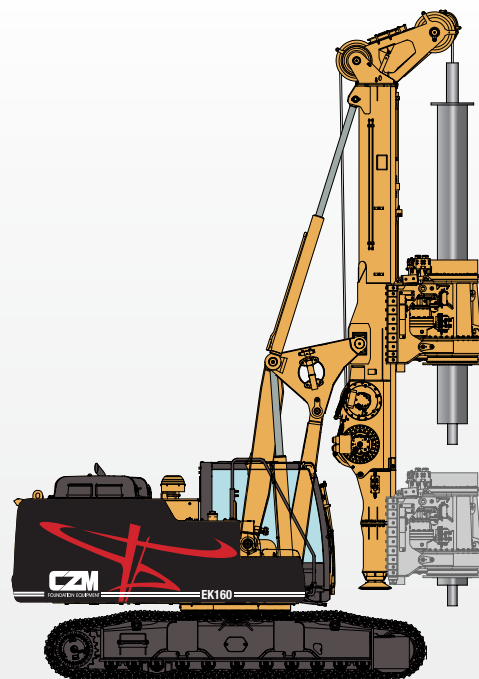
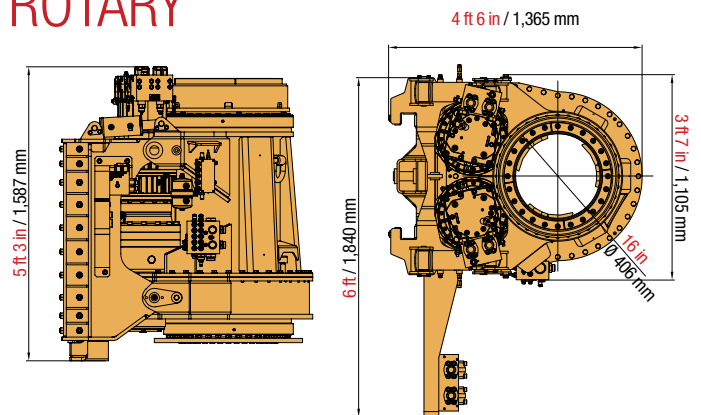
Hydraulic extendable crawlers, additional counterweight and a mast manufactured in "Weldox" steel (light weight – high yield strength) give the EK160 excellent stability.



DRILLED SHAFT PILE (STANDARD VERSION)

Depth: 80ft (24.5m) / 120ft (37m) / 140ft (42.7m) / friction 180ft (55m)
Diameter (max.): with lower mast: 5ft (1,500mm)
Diameter (max.): without lower mast: 10ft (3,050mm)

ROTARY



DRILLED SHAFT PILE (SHORT MAST VERSION)

Depth: 45ft (13.7m) / friction 65ft (20m)
Diameter (max.): with lower mast: 5ft (1,500mm)
Diameter (max.): without lower mast: 10ft (3,050mm)

Depth with special rotary: 72ft (22m)
Diameter up the mast with special Rotary: 10ft (3,050mm)

TECHNICAL SPECIFICATIONS

KELLY BAR STANDARD MAST APPLICATION

Drilling Depth (standard - 4 elements; interlock kelly bar)	120 ft	37 m
Drilling Depth (3 elements; interlock kelly bar)	80 ft	24.5 m
Drilling Depth (5 elements; interlock kelly bar)	140 ft	42.7 m
Drilling Depth (6 elements; friction kelly bar)	180 ft	55 m
Drilling Diameter with lower mast (max.)	5 ft	1,500 mm
Drilling Diameter without lower mast (max.)	10 ft	3,050 mm

KELLY BAR SHORT MAST APPLICATION

Drilling Depth (standard - 4 elements; interlock kelly bar)	45 ft	13.7 m
Drilling Depth (6 elements; interlock kelly bar)*	72 ft	22 m
Drilling Diameter with lower mast (max.)	5 ft	1,500 mm
Drilling Diameter without lower mast (max.)	10 ft	3,050 mm
Drilling Diameter up mast with special rotary	10 ft	3,050 mm

*With special rotary

ROTARY HEAD - RT 460 - 12 (STANDARD)

Max. torque (nominal)	151,000 lbf.ft	21,140 kgf.m
Working speed of rotation	9-32 rpm	9-32 rpm
Spin-off rotation	60-120 rpm	60-120 rpm

ROTARY HEAD - RT 460 - 14 (OPTIONAL. FOR 3 AND 4 ELEMENTS KELLY ONLY)

Max. torque (nominal)	155,100 lbf.ft	21,500 kgf.m
Working speed of rotation	8-30 rpm	8-30 rpm
Spin-off rotation	60-120 rpm	60-120 rpm

CROWD SYSTEM

Cylinder stroke - standard mast	16 ft 5 in	5,000 mm
Cylinder stroke - short mast	9 ft	2,750 mm
Cylinder push force	44,220 lbf	20,100 kgf
Cylinder push speed	56 ft/min	17 m/min
Cylinder pull force	63,580 lbf	28,900 kgf
Cylinder pull speed	39 ft/min	12 m/min

MAIN WINCH

Max. pull-force - 1st Layer (effective)	41,000 lbf	18,600 kgf
Max. pull-force - 1st Layer - 2nd Speed (effective)	33,600 lbf	15,300 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	9° / 9°	9° / 9°

DIESEL ENGINE CAT330F L TIER IV (CAT® C7.1 ACERT™)

Net Power – SAE J1349	242 hp	178 kW
Displacement	428 in3	7.01 L
Fuel Tank	137.4 gal	520 L

HYDRAULIC SYSTEM (CAT320E L TIER IV)

Hydraulic pressure	5,076 psi	350 bar
Flow rate (main circuit)	2x65 gal/min	2x246.5 L/min
Flow rate (auxiliary circuit)	28.5 gal/min	108 L/min
Pilot circuit pressure	595 psi	41 bar
Pilot circuit flow	6.1 gal/min	23 L/min
Hydraulic oil tank capacity	46.2 gal	175 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	31.5 in	800 mm
Max. drawbar pull (both tracks)	90,200 lbf	41,000 kgf
Max. travel speed	1.30 mph	2.0 km/h

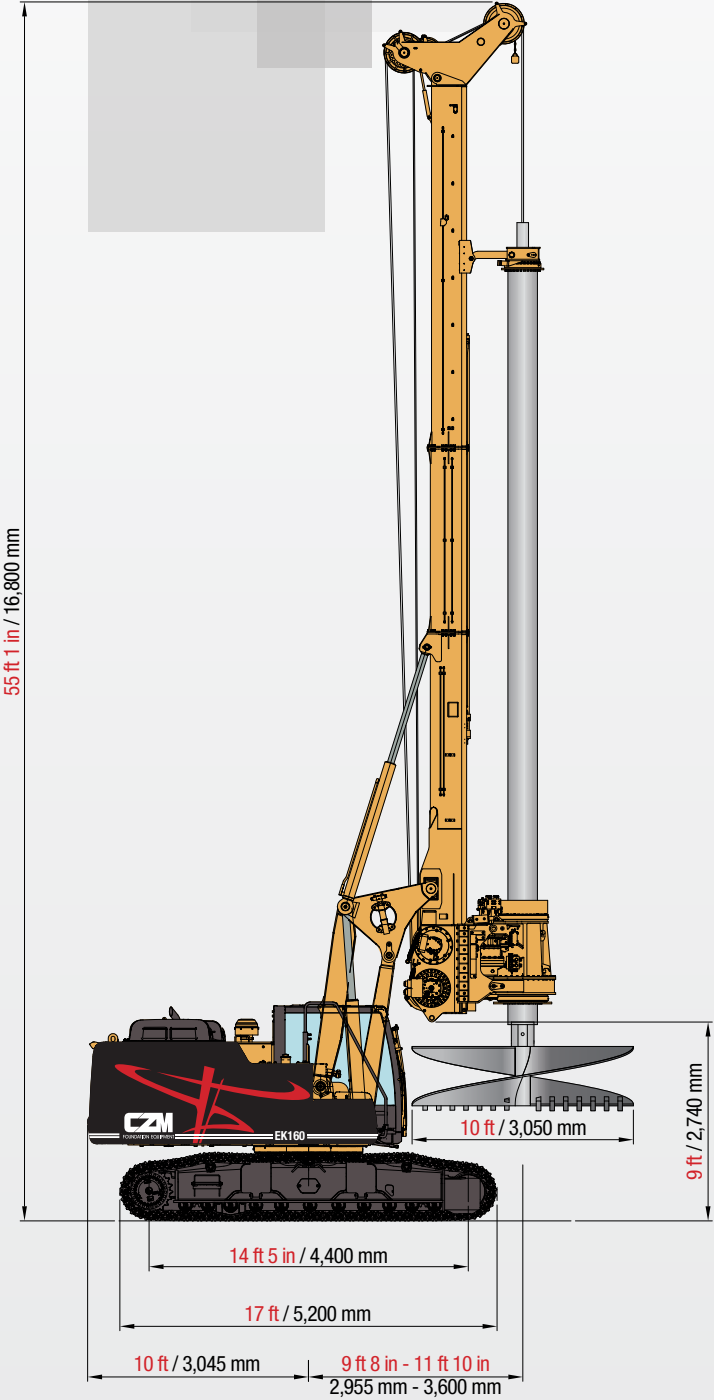
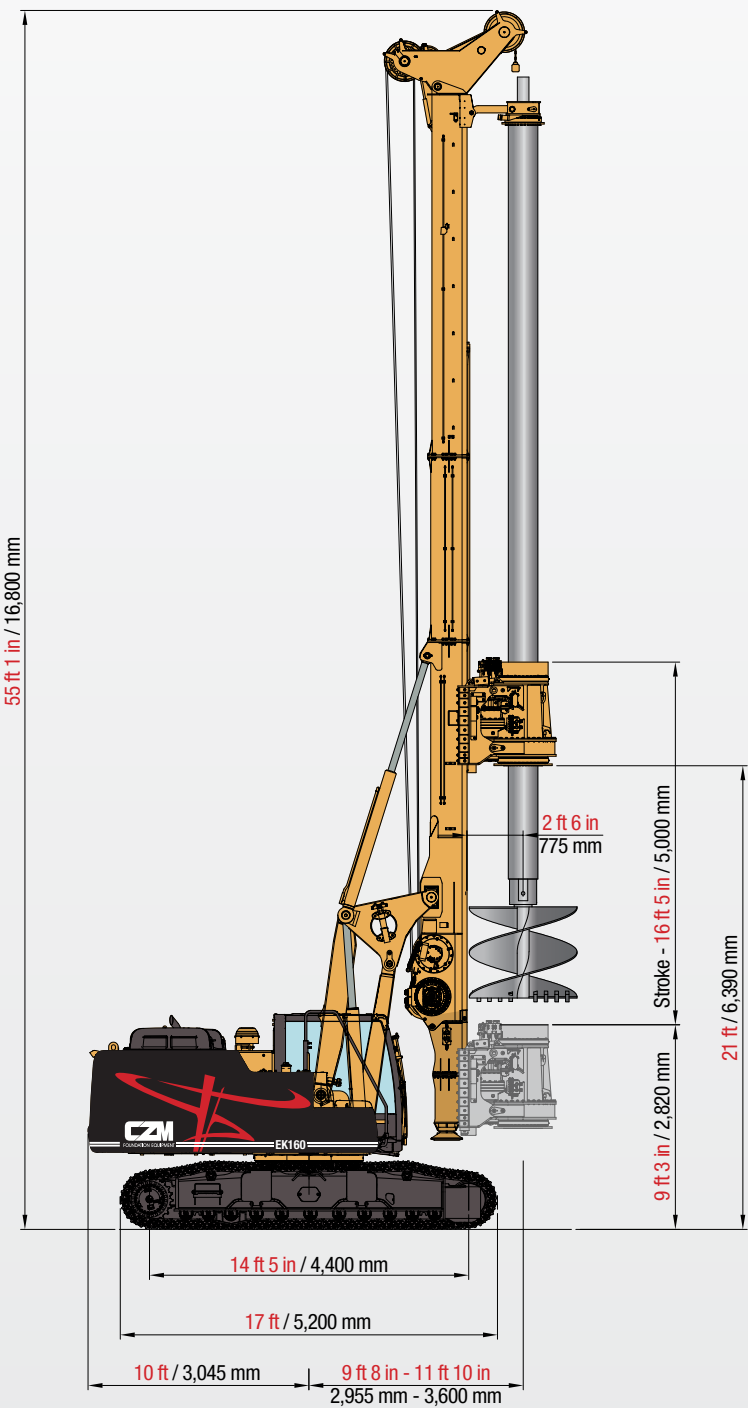
TRANSPORT

Transport height	11 ft 9 in	3,600 mm
Length	62 ft 4 in	19,200 mm
Transport width	9 ft 11 in	3,000 mm
Transport weight (standard kelly 3 / 80 ft)	100,000 lb	45,500 kg
Transport weight (without kelly)	91,000 lb	41,400 kg
Transport weight (short mast-kelly 5 / 53 ft)	91,000 lb	41,400 kg

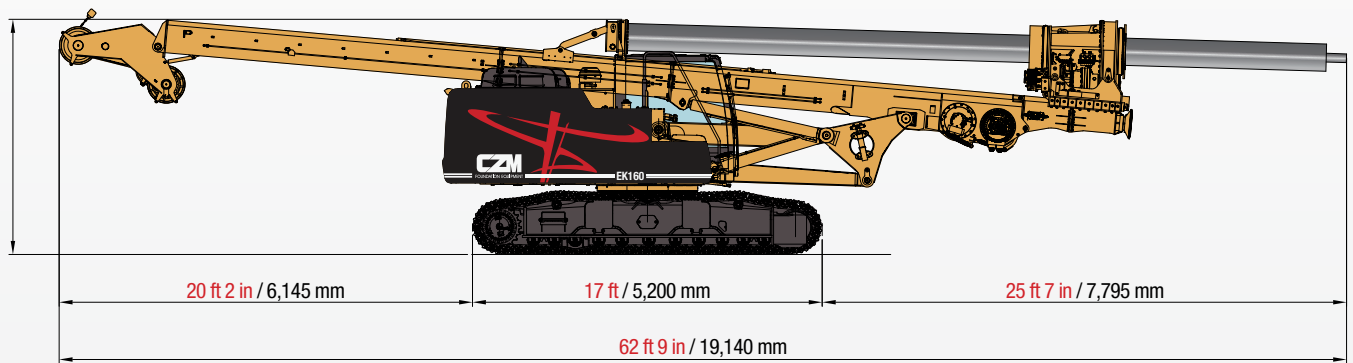
GENERAL DATA

Overall height (standard mast)	55 ft	16,800 mm
Overall height (short mast application)	29 ft 11 in	9,120 mm
Operation weight (standard mast)	102,000 lb	46,266 kg
Operation weight (short mast application)	91,000 lb	41,400 kg

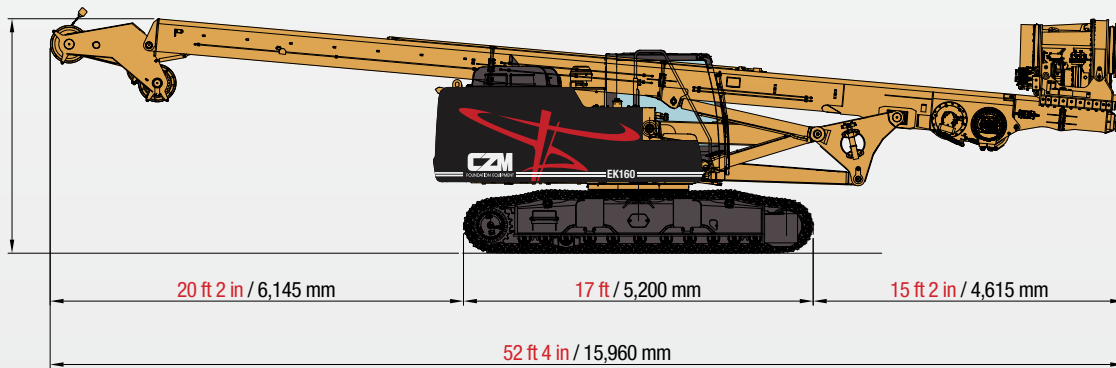
GENERAL DIMENSIONS



TRANSPORT POSITION



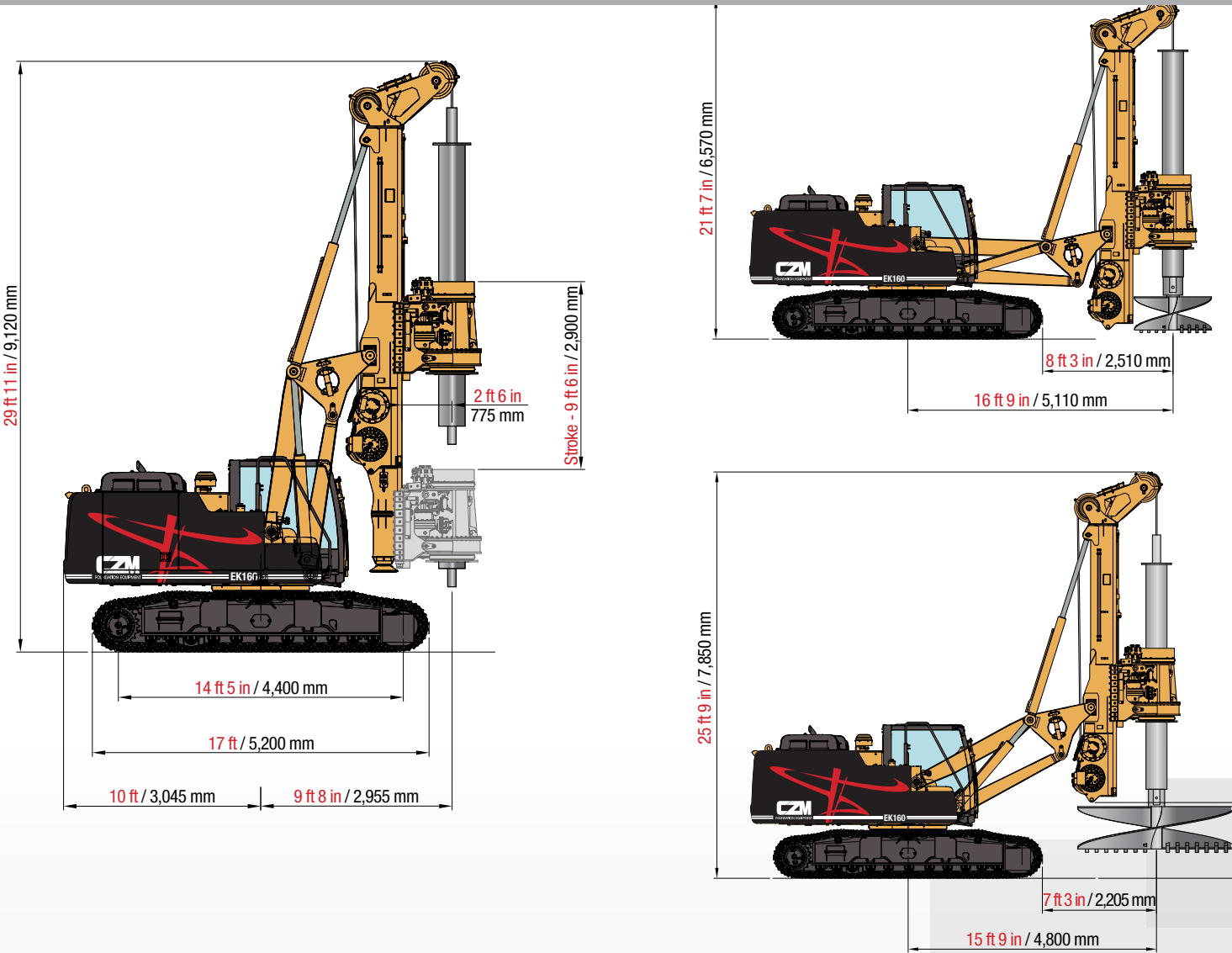
Weight: 100,000 lbs / 45,500 kg



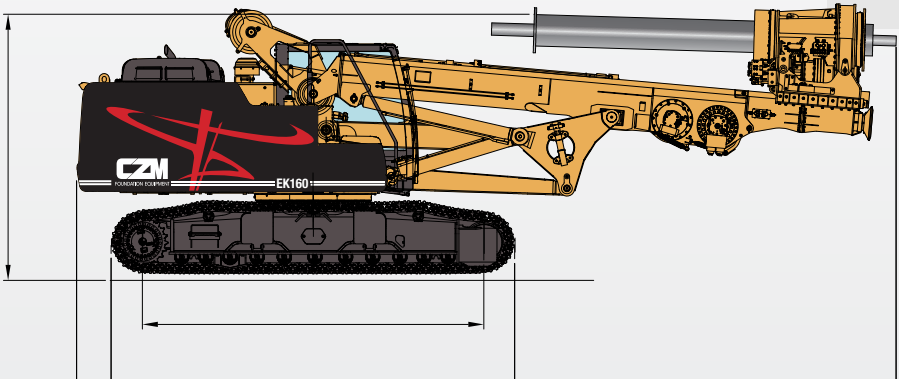
Weight: 91,000 lbs / 41,350 kg



GENERAL DIMENSIONS SHORT MAST



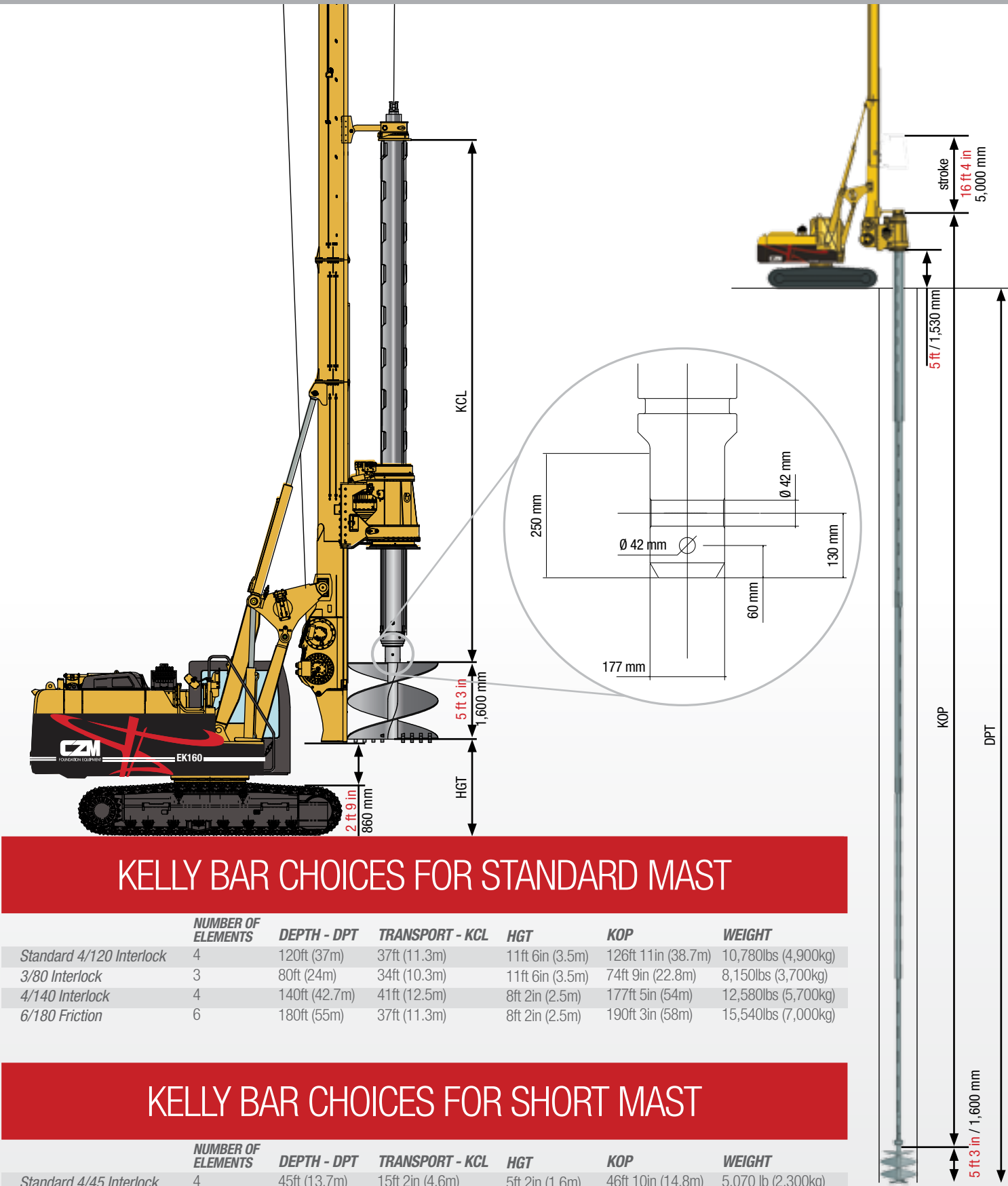
TRANSPORT POSITION SHORT MAST



Weight: 91,000 lb / 41,350 kg



KELLY BAR



KELLY BAR CHOICES FOR STANDARD MAST

	NUMBER OF ELEMENTS	DEPTH - DPT	TRANSPORT - KCL	HGT	KOP	WEIGHT
Standard 4/120 Interlock	4	120ft (37m)	37ft (11.3m)	11ft 6in (3.5m)	126ft 11in (38.7m)	10,780lbs (4,900kg)
3/80 Interlock	3	80ft (24m)	34ft (10.3m)	11ft 6in (3.5m)	74ft 9in (22.8m)	8,150lbs (3,700kg)
4/140 Interlock	4	140ft (42.7m)	41ft (12.5m)	8ft 2in (2.5m)	177ft 5in (54m)	12,580lbs (5,700kg)
6/180 Friction	6	180ft (55m)	37ft (11.3m)	8ft 2in (2.5m)	190ft 3in (58m)	15,540lbs (7,000kg)

KELLY BAR CHOICES FOR SHORT MAST

	NUMBER OF ELEMENTS	DEPTH - DPT	TRANSPORT - KCL	HGT	KOP	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)
7/72 Friction	6	72ft (22m)	18ft (5.6m)	5ft 2in (1.6m)	84ft (25.6m)	11,500lb (5,230kg)

*With special rotary





FOUNDATION EQUIPMENT

THE COMPANY

- CZM is headquartered in USA.
- CZM is a specialized foundation equipment manufacturer with over 40 years experience on its design.
- CZM designs and customizes models for many different applications including:
 - Drill Shafts
 - CFA / Cased CFA
 - Micropile and anchoring
 - Pile drive with hydraulic hammers
 - Soil improvements
- CZM is a CAT O&M supplier aiming to enable our customer to access the nationally established Caterpillar Network.

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Specifications are subject to change without notice.