As technology continues to improve, we are unable to inform you of the change of our products in time. We apologize for any inconvenience caused!

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XR160E

Rotary Drilling Rig

XCMG FOUNDATION CONSTRUCTION MACHINERY BUSINESS DIVISION

Highlights Introduction

XR160E rotary drilling rig is widely used in the hole-forming operations of cast-in-place concrete piles in the construction of roads, railways, bridges, large venues and other projects, and it is especially suitable for industrial as well as civil buildings. It adopts mechanical interlocking or friction Kelly bars to work with rotary buckets such as sand drilling bucket, tubular drill and short spiral drill, as well as CFA or dual rotary drive.

01

As a multi-function machine, XR160E can realize quick function switching such as crowd cylinder, crowd winch, CFA and dual rotary drive to meet more different construction needs.

02

With a maximum output torque of 160kNm and a maximum speed of 35r/min, the rotary drive can work more efficiently.

03

High-speed spin-off function is optional for rotary drive.

04

The double jib parallelogram luffing mechanism has a large support angle and a 24% increase in support range, which makes the operation more stable.

05

With a large diameter slewing bearing, the TDP series hydraulic crawler chassis dedicated for rotary drilling rigs can ensure better working stability.

06

The intelligent control system can achieve functions such as automatic adjustment and display of mast perpendicularity, automatic slew and spin-off, etc.

07

The main and auxiliary winches both adopt single-row rope technology. The service life of the wire rope is 2~4 times longer than that of the multi-row rope and the cost is lower.

08

The hydraulic system adopts negative flow control technology which has a fast response and good operation performance.

09

The high-power dual hydraulic oil cooler is suitable for construction in high-temperature areas.

10

Cummins electronically controlled turbocharged engine ensures strong power and convenient and efficient service.

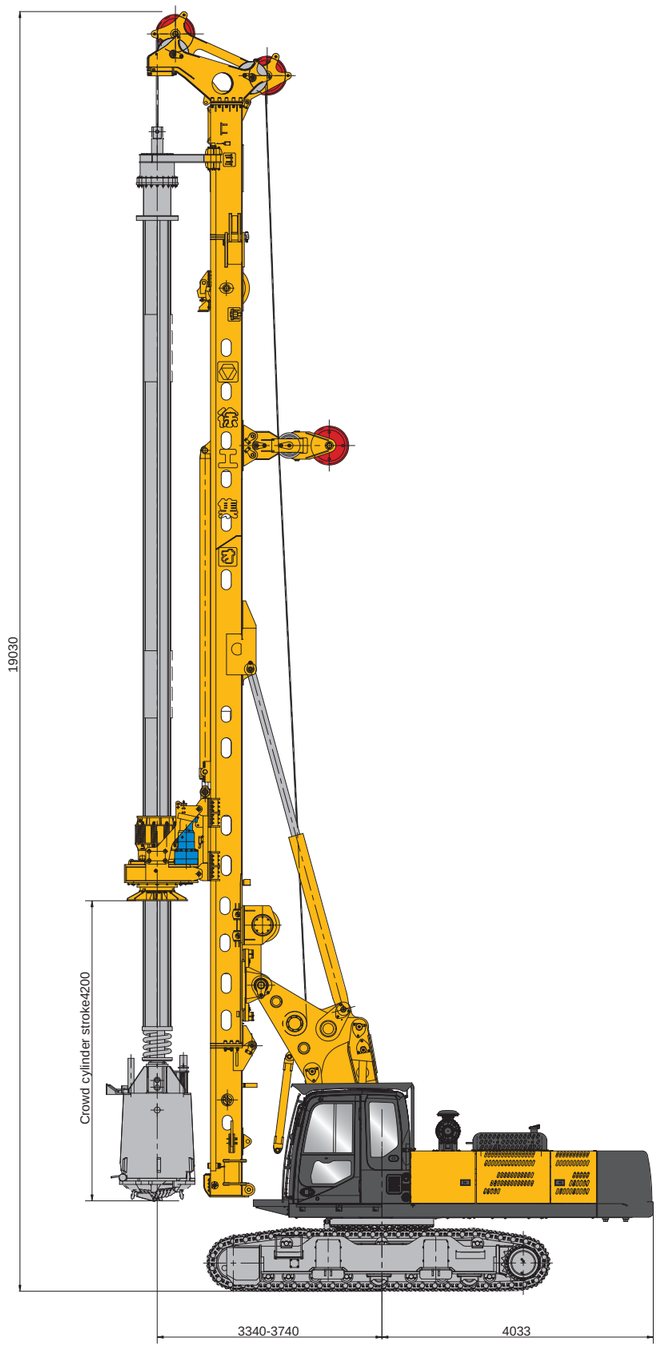
Dimension & Configuration

Standard

- ●Self-righting
- ●Rotation angle display
- ●Rotation sound-light alarm
- ●Security monitoring of the tail
- ●Luffing limit protection
- ●Mast limit (front and back, left and right)
- ●Manual/automatic adjustment of mast perpendicularity
- ●Mast perpendicularity detection
- ●Display of rotary drive speed
- ●Rock-entering mode of rotary drive
- ●Automatic forward & reverse spin-off
- ●Crowd cylinder
- ●Fuel self-priming pump
- ●Main winch floating
- ●Main winch height limit
- ●Main winch infrared monitoring
- ●Real-time detection of drilling depth
- ●Gradienter
- ●Radio
- ●Air conditioner
- ●Oil pressure detection
- ●Intelligent fault detection
- ●Filter clogging alarm
- ●Scram protection
- ●PLC intelligent control module
- ●Central lubrication

Optional

- ●High-speed spin-off
- ●Crowd winch
- ●CFA for rotary drilling rig
- ●Main winch bottom protection
- ●Main winch extraction force detection



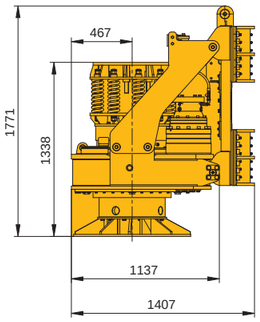
Main Technical Parameters

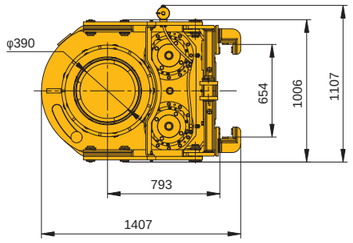
Working height	19.1 m	63 ft
Overall operating weight (standard)	53 t (without drilling tools)	58.4 ton (US)
Max. drilling diameter	φ1500 mm/φ1300 mm*	59 in/51in*
Max. drilling depth	56 m	184 ft
Dimensions		
Working condition	7862×4200×19030 mm	310×165×749 in
Transport condition	14053×2960×3295 mm	553×117×130 in
Engine	Cummins QSB7 SO30046	Cummins QSB7 SO30046
Rated power	150 kW/2050 r/min	201 hp/2050 rpm
Emission standard	CN Ⅲ & EU Ⅲ	CN Ⅲ & EU Ⅲ
Fuel tank capacity	390 L	103 US gal
Rotary drive		
Rated output torque	160 kNm	118010 lbf*ft
Rotary speed	5-35 r/min	5-35 rpm
Crowd cylinder		
Max. crowd force push/pull	160 kN/160 kN	35970 lbf/35970 lbf
Max. stroke	4.2 m	14 ft
Crowd winch (optional)		
Max. crowd force push/pull	160 kN/180 kN	35970 lbf/40466 lbf
Max. stroke	13 m	43 ft
Main winch		
Max. pulling force	160 kN	35970 lbf
Max. line speed	80 m/min	262 ft/min
Auxiliary winch		
Max. pulling force	60 kN	13489 lbf
Max. line speed	80 m/min	262 ft/min
Mast inclination		
Lateral/forward/backward	±4°/5°/15°	±4°/5°/15°
Undercarriage		
Max. travel speed of overall unit	2.1 km/h	1.3 mph
Min. ground clearance	384.5 mm	15 in
Width of triple grouser track shoes	700 mm	27.6 in
Width of crawlers retracted/extended	2960-4200 mm	117 -165 in
Max. climbable gradient of overall unit	40%	40%
Ground pressure	83 kPa	12 psi
Hydraulic system		
Hydraulic oil tank capacity	400 L	106 US gal
Working pressure	35 MPa	5076 psi

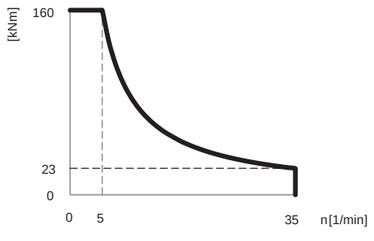
Note: Parameters with “*” refer to the ones of crowd winch configuration.

Rotary Drive

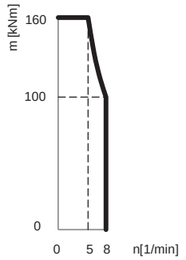
The rotary drive is equipped with standard crowd cylinder and optional crowd winch to realize quick and convenient control of pressurization and extraction. Driving sleeve suitable for friction and interlocking Kelly bars is adopted to prolong its service life.



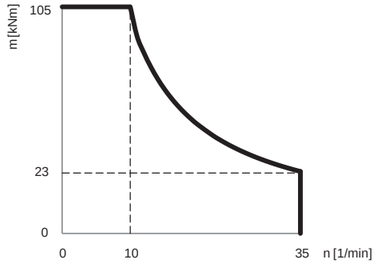




Working mode



Rock drilling mode

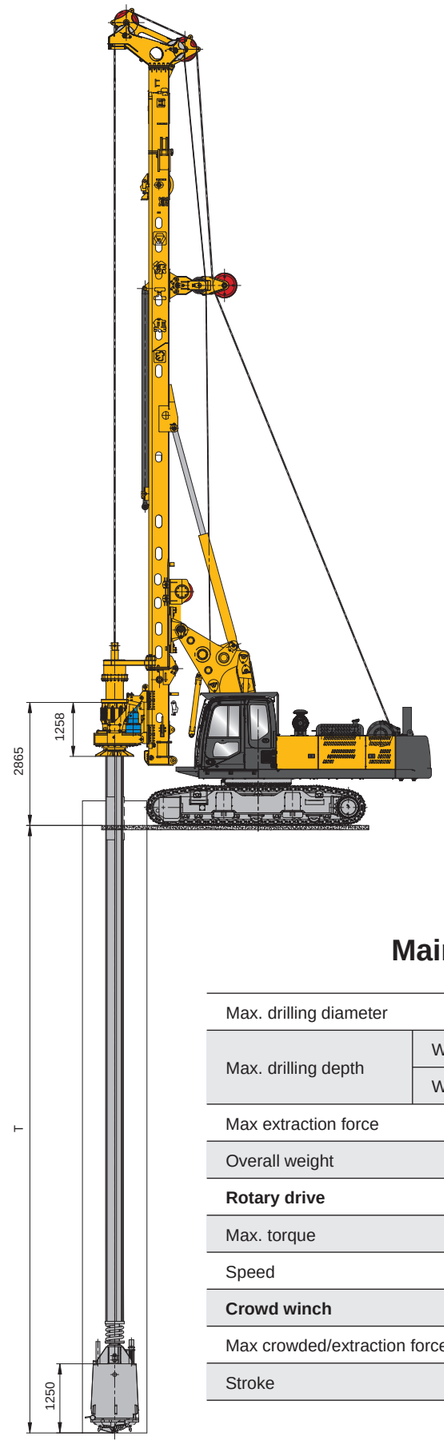


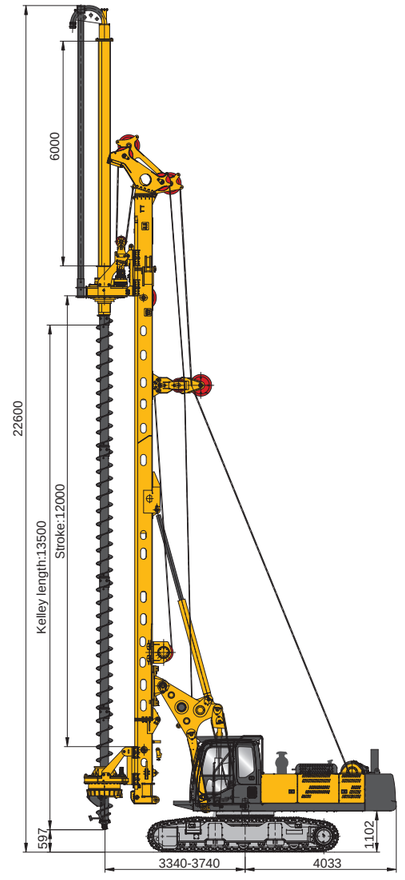
Efficiency mode

Kelly Bar

Interlocking Kelly bar	Weight		Drilling depth	
Φ377 mm-4×12.5 m	7350 kg	16204 lb	44 m	144 ft
Φ377 mm-4×12 m	7050 kg	15542 lb	42 m	138 ft
Φ377 mm-4×11 m	6650 kg	14660 lb	38 m	125 ft
Φ377 mm-4×10 m	6250 kg	13779 lb	34 m	112 ft
Φ377 mm-4×9 m	5850 kg	12897 lb	30 m	98 ft
Friction Kelly bar	**Weight**		**Drilling depth**	
Φ377 mm-5×12.5 m	7410 kg	16336 lb	56 m	184 ft
Φ377 mm-5×12 m	7210 kg	15895 lb	53.5 m	176 ft
Φ377 mm-5×11 m	6810 kg	15013 lb	48.5 m	159 ft
Φ377 mm-5×10 m	6410 kg	14131 lb	43.5 m	143 ft
Φ377 mm-5×9 m	6010 kg	13250 lb	38.5 m	126 ft

Kelly Drilling System/CFA Drilling System



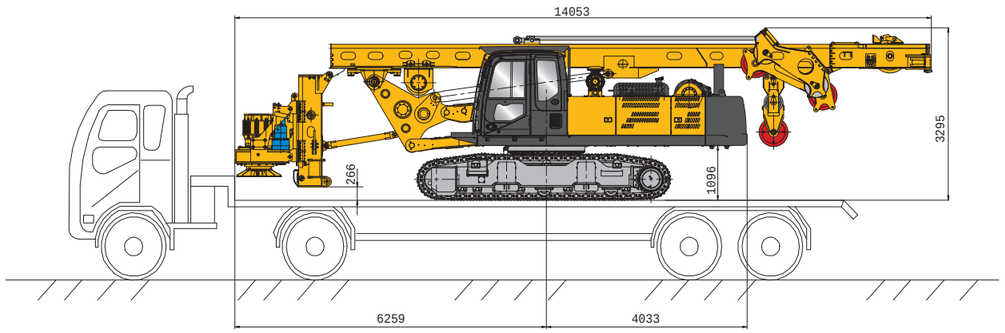


Main technical parameters of CFA

Max. drilling diameter		800 mm	31.5 in
Max. drilling depth	With auger cleaner	11+6=17 m	36+20=56 ft
	Without auger cleaner	12+6=18 m	39+20=59 ft
Max extraction force		160×2+180=500 kN	35905×2+40466=112267 lbf
Overall weight		49 t	54 ton (US)
Rotary drive			
Max. torque		160 kNm	35905 lbf
Speed		5~35 r/min	5-35 rpm
Crowd winch			
Max crowded/extraction force		160/180 kN	35905 lbf/40466 lbf
Stroke		13 m	43 ft

Transportation Plan

Whole Machine Transportation



Transport weight: 42 t (without Kelly bar or drilling tools)

Transport width: 2960 mm

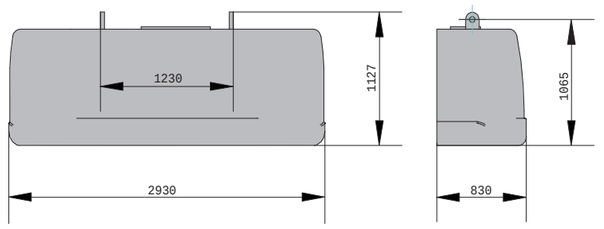
Disassembly Transportation

1.Detach the Kelly bar and drilling bit

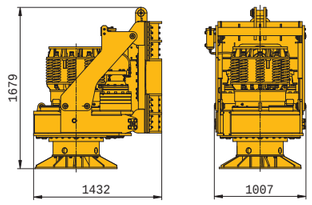
2.Detach the counterweight

3.Disassemble the rotary drive

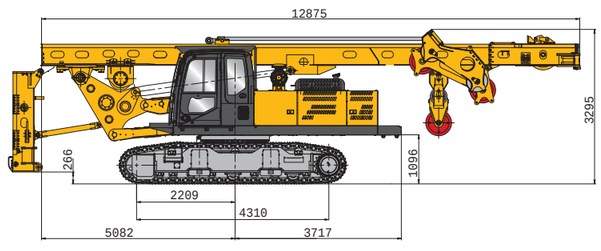
4.Mainframe after detaching the counterweight and rotary drive assembly



Weight of counterweight: 7 t



Weight of rotary drive assembly: 3 t



Weight: 32 t; Transport width: 2960 mm

Drilling Tools

Main application: gravel cobble and weathered rock

Double-bottom double-door bucket with cutting teeth

Double-bottom single-door bucket with cutting teeth

Double cut bucket with cutting teeth

Double cut single spiral auger with cutting teeth

Main application: soil, sand and ooze

Double-bottom single-door soil bucket

Double-bottom single-door soil bucket

Main application: hard bed rock and boulder formations

Core barrel with cutting teeth

Core barrel with cone bit

Main application: clay, soil, dry construction method

Split type drill bit

Double cut single spiral soil auger

Single-bottom double-door soil bucket

Main application: cleaning up the sediment at the bottom of the hole

Cleaning bucket

Main application: cobble, strong weathered rock, Tundra, broken rock

Single cut single spiral auger with cutting teeth

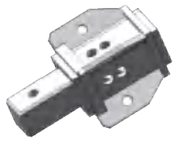
Double cut single spiral auger with cutting teeth

Main application: soil, sand, soft rock

Belling bucket for soil

Belling bucket for rock

Others



Kelly box adapter

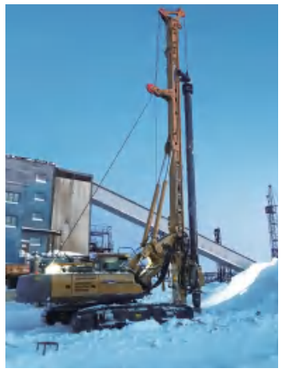
Extension rod

Casing

Betek tooth

Construction Cases

XR160E working in Cebu, Philippines



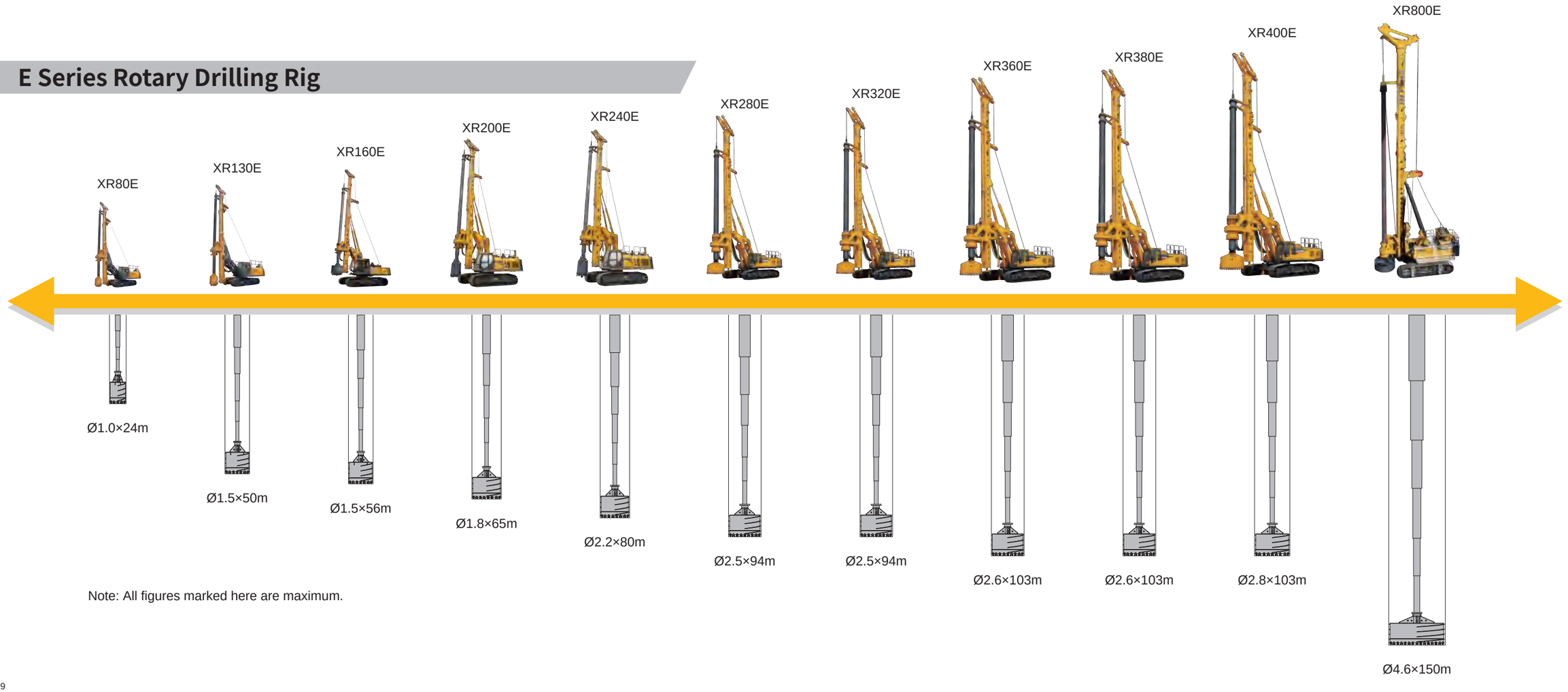
XR160E working in polar circle

XR160E working in Tajikistan

XR160E working in Xi'an, China

XR160E working in Zhengzhou, China

E Series Rotary Drilling Rig



Note: All figures marked here are maximum.