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# XR420E

## Rotary Drilling Rig



### XCMG FOUNDATION CONSTRUCTION MACHINERY BUSINESS DIVISION

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Xuzhou Construction Machinery Group Co., Ltd. (XCMG) was founded in 1943. Since then, XCMG has stood at the forefront of the Chinese construction machinery industry and developed into one of the domestic industry's largest, most influential, and most competitive enterprise groups with the most complete product varieties and series.

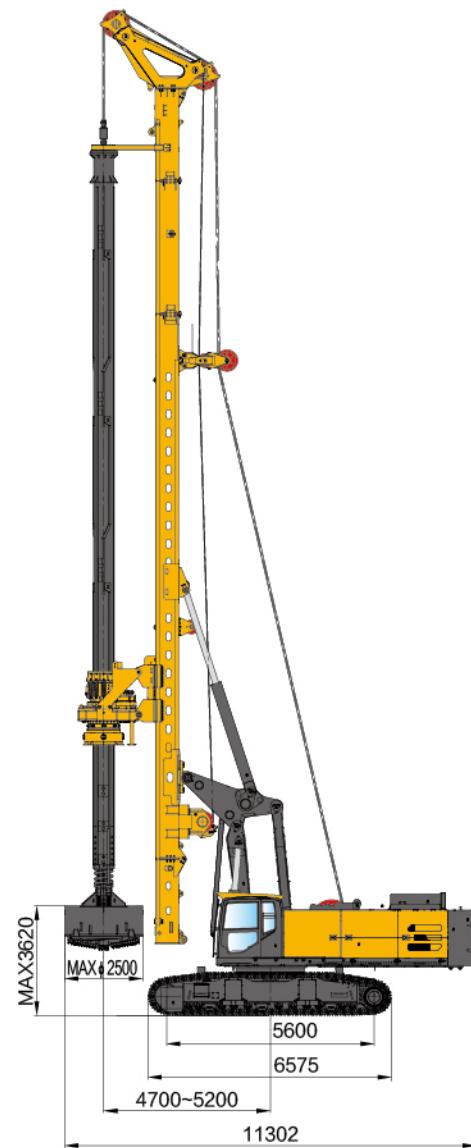
XCMG is the 3rd largest construction machinery company in the world. It is ranked 65th in the list of China's Top 500 Companies, 44th in the list of China's Top 100 Manufacturing Enterprises, and 2nd in the list of China's Top 100 Machinery Manufacturers. XCMG is dedicated to its core value of "Taking Great Responsibilities, Acting With Great Morals, and Making Great Achievements" and its corporate spirit of being "Rigorous, Practical Progressive, and Creative" in order to keep moving towards its ultimate goal of becoming a leading world-class enterprise capable of creating real value.

XCMG Foundation Construction Machinery Business Division is one of the five pillar sectors of XCMG focusing on the research, development, manufacturing and sales of piling machinery, trenchless machinery, underground mining machinery, tunneling machinery, and resource drilling machinery, providing customers with comprehensive solutions. It accelerates the intellectualized reconstruction and digital transformation, and has built a thousand-mu new base for intelligent manufacturing to form a world-class industry cluster of foundation construction machinery. At present, XCMG trenchless machinery ranks first in the world and XCMG piling machinery is in the first class. Its various types of products have been exported to more than 80 countries and regions.

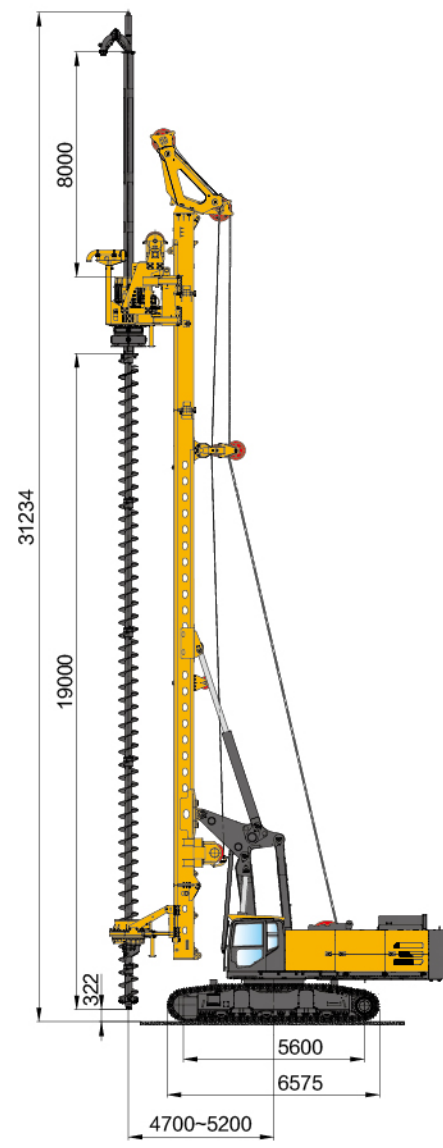


Items		Units	Values
Main data	Working height	m	27.3
	Overall operating weight (standard)	t	136
	Max. drilling diameter	mm	Φ2500
	Max. drilling depth	m	69
Dimensions	Working condition	mm	11302×4900×27300
	Transport condition	mm	20770×3700×4062
Engine	Model	/	X15
	Rated power	kW	399
	Emission standard	/	EU stage V
	Fuel tank capacity	L	930
Rotary drive	Rated output torque	kNm	430
	Rotary speed	rpm	6-27
Crowd winch	Max. crowd force push/pull	kN	400/400
	Max. stroke	m	13
Main winch	Max. pulling force	kN	400
	Max. line speed	m/min	80
Auxiliary winch	Max. pulling force	kN	110
	Max. line speed	m/min	50
Mast inclination	Lateral/forwards/backwards	°	±3/5/90
Undercarriage	Max. travel speed of overall unit	km/h	1.3
	Width of triple grouser track shoes	mm	800
	Width of crawlers retracted/extended	mm	3500-4900
	Max. climbable gradient of overall unit	%	35
	Ground pressure	kPa	125
Hydraulic system	Hydraulic oil tank capacity	L	900
	Working pressure	bar	330

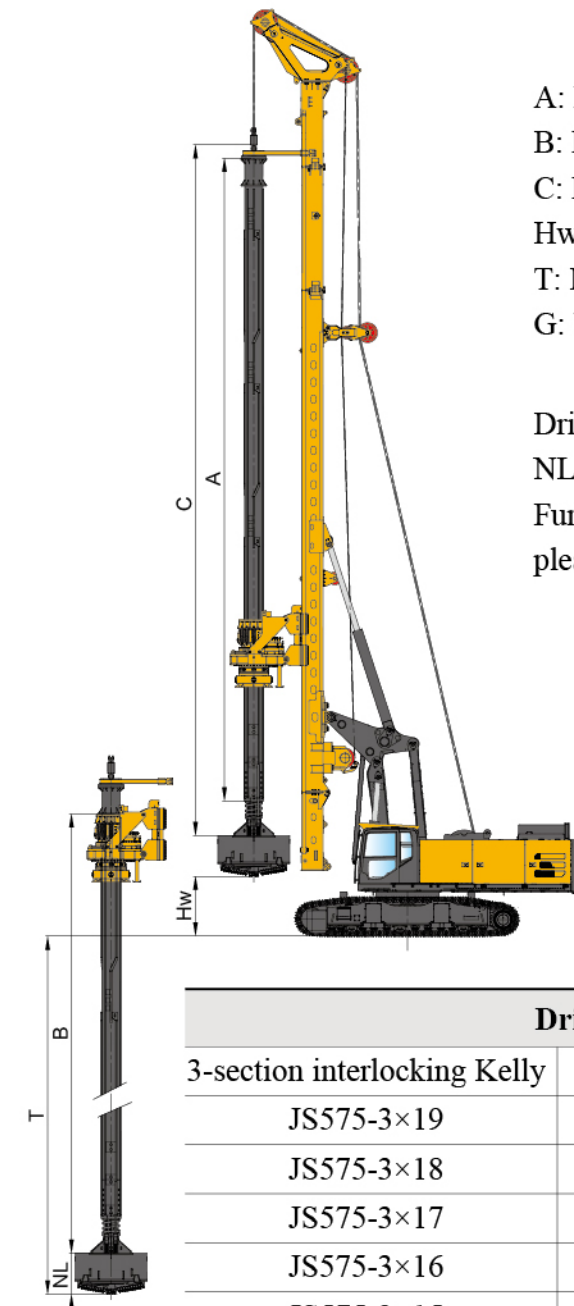




Kelly drilling	
Upper Kelly guide	Available
Max. drilling diameter	
Uncased	Φ2500 mm
Cased (without oscillator)	Φ2500 mm
Cased (with oscillator)	Φ2000 mm
Operating weight, approx.	136 t
With Kelly bar	JS575-4×19



CFA drilling	
Kelly extension	8 m
Max. drilling depth	
With auger cleaner	16+8=24m
Without auger cleaner	17+8=25 m
Max.drilling diameter with auger cleaner	Φ1200 mm
Max. extraction force with main winch	800kN

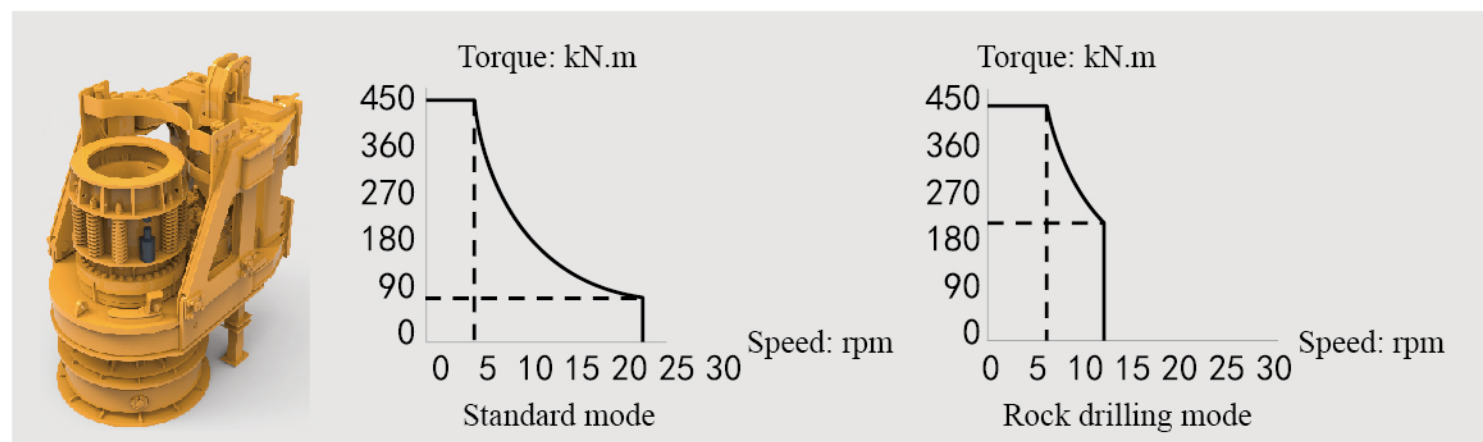


A: Length of single section Kelly bar  
B: Length of Kelly bar (extracted)  
C: Length of Kelly bar (retracted)  
Hw: Max. clearance to drilling tool  
T: Drilling depth  
G: Weight of Kelly bar

Drilling data have been determined with an effective tool length of NL = 1 m and with the mast at a minimum operating radius.  
Further drilling depths, diameters and other Kelly types on request, please contact us.

Drilling depth – kelly drilling with casing	
Max length of casing sections	
Without casing oscillator	Hw-1.1m
With casing oscillator	Hw-1.6m

Drilling depth – uncased Kelly drilling						
3-section interlocking Kelly	A (m)	B (m)	C (m)	G (t)	Hw (m)	T (m)
JS575-3×19	19	54.2	20.5	16.5	2.6	51
JS575-3×18	18	51.2	19.5	15.5	3.6	48
JS575-3×17	17	48.2	18.5	14.5	4.6	45
JS575-3×16	16	45.2	17.5	13.5	5.6	42
JS575-3×15	15	42.2	16.5	12.5	6.6	39
4-section interlocking Kelly	A (m)	B (m)	C (m)	G (t)	Hw (m)	T (m)
JS575-4×19	19	71.6	20.5	20	2.6	69
JS575-4×18	18	67.6	19.5	19	3.6	65
JS575-4×17	17	63.6	18.5	18	4.6	61
JS575-4×16	16	59.6	17.5	17	5.6	57
JS575-4×15	15	55.6	16.5	16	6.6	53



		Kelly drilling	CFA drilling
Chassis	Retractable crawler chassis	●	●
	Casing oscillator hydraulic interface	○	△
	Casing oscillator mechanical interface	○	△
	Chassis auxiliary disassembly and assembly outriggers	○	○
Upper structure	Wireless remote control walking	○	○
	Double boom luffing mechanism	●	●
	Luffing limit	●	●
	Braided electrical harness	●	●
	Automatic centralized lubrication system	●	●
	Sound-light alarm	●	●
	LED lighting system	●	●
	Tail safety monitoring	●	●
	Right side safety monitoring	●	●
	Double side foldable pedal	●	●
	Double side foldable ladder	●	●
	Fire extinguisher 2×6 kg	●	●
	Top safety fence	●	●
	Fuel self priming pump	●	●
	Fixed base of concrete pipe	△	●
	Concrete pipe	△	●
	Independent drilling mast support	●	●
	Split piece counterweight	○	○
	Automatic fire extinguishing system	○	○
Cab	FOPS	●	●
	Front protective grille	●	●
	Rear view mirror	●	●
	Electric double speed wiper	●	●
	Front sun blind	●	●

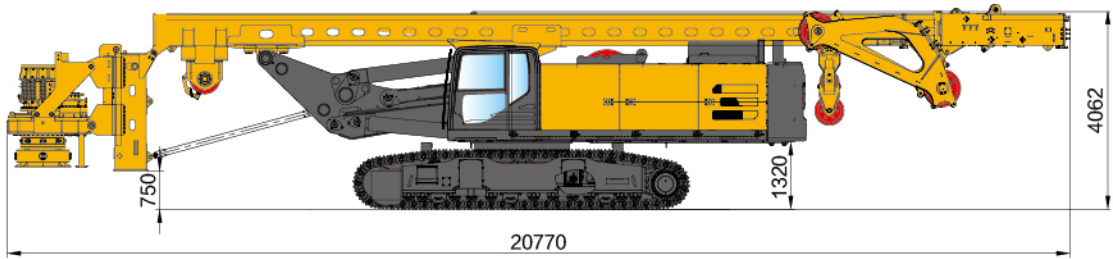
		Kelly drilling	CFA drilling
Cab	Top sun blind	●	●
	Cold and warm air conditioner	●	●
	Level meter	●	●
	Reading light	●	●
	Cigarette lighter	●	●
	Fire extinguisher	●	●
	Safety hammer	●	●
	Clothes hook	●	●
	Lap belt	●	●
	Air suspension seat	●	●
	Radio	●	●
	Cushion depth and inclination adjustment	○	○
	Seat electric heating function	○	○
	Seat mechanical lumbar support	○	○
	Seat massage function	○	○
Hydraulic and control system	Filter clogging alarm	●	●
	Hydraulic oil suction alarm	●	●
	Oil suction filter element	●	●
	Centralized pressure measuring valve block	●	●
	GPS	○	○
	PLC intelligent control	●	●
	12.1 inch touch screen display	●	●
	Infrared surveillance camera	●	●
	8 inch monitor	●	●
	Automatic rotary positioning	○	△
	Rotation angle display	●	●
	Real time display of drilling depth	●	●
	Sound-light alarm for rotation and walking	●	●
	Multi gear control of rotary drive	●	●
	Rotary drive standard mode	●	●
	Rotary drive rock drilling mode	●	●
	Rotary drive torque display	●	●
	Rotary drive speed display	●	●
	Rotary drive cruise control	●	●
	Automatic spin-off	●	△
	High-speed spin-off	△	△
	Rotary drive torque limit	○	○
	Rotary drive automatic pressure limit	○	○
	Stepless pressurization regulation	●	●
	Double speed control of pressurization	●	●
	Height limit of main winch	●	●
	Lifting force display of main winch	●	●



		Kelly drilling	CFA drilling
Hydraulic and control system	Lifting speed display of main winch	●	●
	Bottom contact protection of main winch	●	●
	Double floating control of main winch	●	●
	Automatic engine idling	●	●
	Manual/automatic adjustment of drilling mast verticality	●	●
	Mast verticality detection	●	●
	Switch of eight languages	●	●
	Mechanical limit of rotary drive height	●	●
	Electric limit of rotary drive height	●	●
	Monitoring technology of Kelly bar anti stuck	●	△
Drilling mast	Height limit of auxiliary winch	○	○
	Lifting force display of auxiliary winch	○	○
	Landing leg of drilling mast	△	●
	Cathead one key folding	●	●
Rotary drive	Drilling mast limit (left and right)	●	●
	φ419 assembled drive sleeve	△	●
	φ440 welded drive sleeve	○	△
	Anti suction technology of motor	●	●
	Bracket and box vertical pin structure	●	●
Other technologies	Casing drive device	○	○
	Dismantle the bottom drilling mast to meet large diameter drilling	○	△
	6 m stroke φ419 extension rod	△	●
	8 m stroke φ419 extension rod	△	○
	Mechanical guide cylinder	△	○
	Star type mechanical soil cleaner	△	●
	Hydraulic rotary soil cleaner	△	○
	Concrete pressure sensor	△	○
	Crowd cylinder system	●	△
	Crowd winch system	○	●

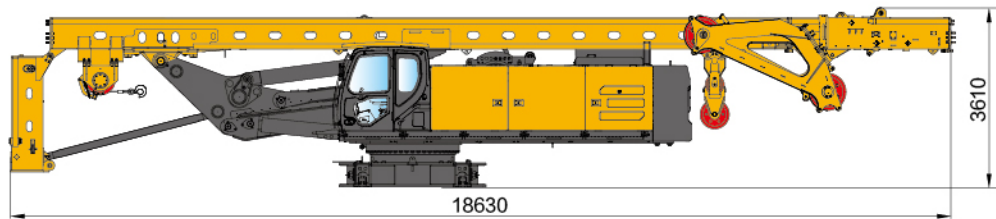
Standard: ● Optional: ○ Not available: △

Whole Machine Transport



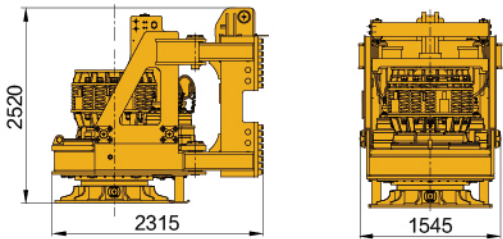
Weight of transport: 102 t (excluding Kelly bar and drilling bucket)

Disassembly Transport



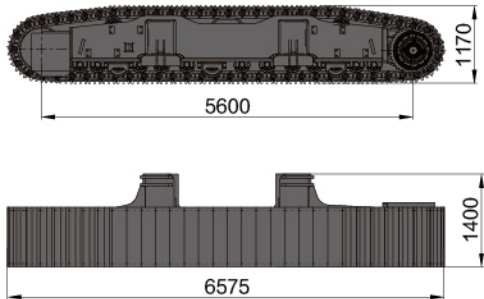
Weight of disassembly transport: 59 t

Rotary Drive



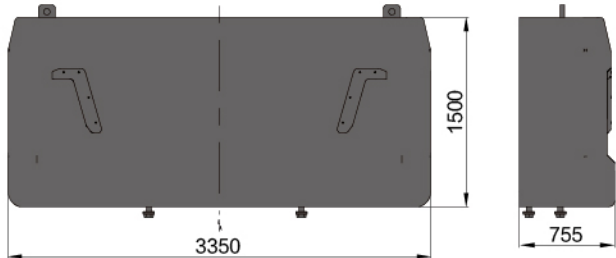
Weight of rotary drive: 10 t

Left & Right Crawlers



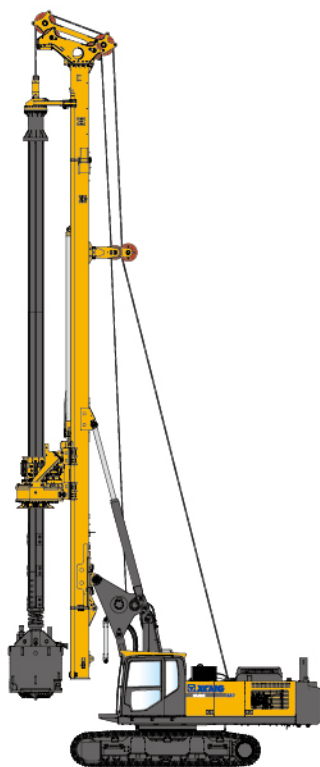
Weight of each crawler: 11 t

Counterweight

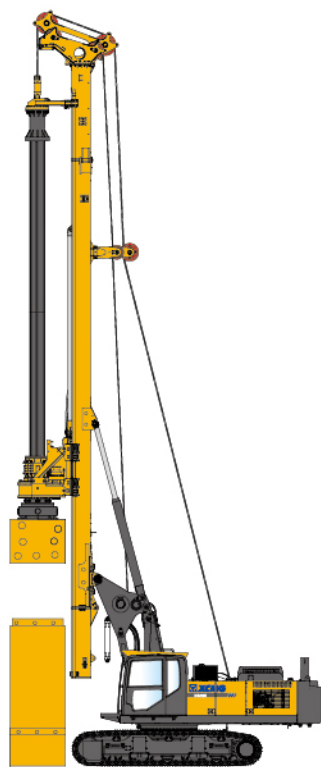


Weight of counterweight: 11 t

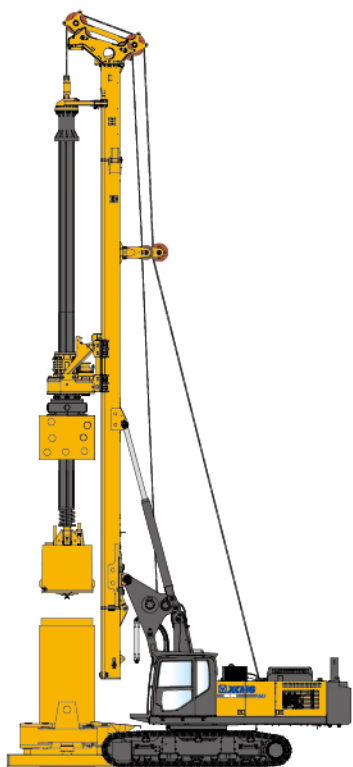




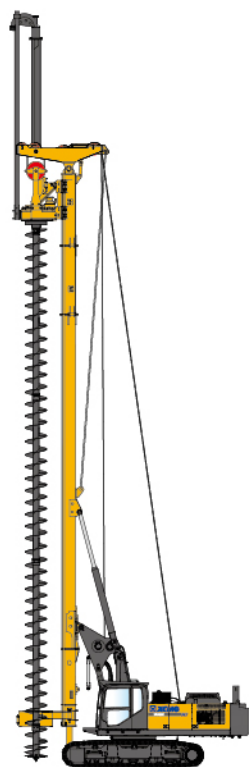
LDP



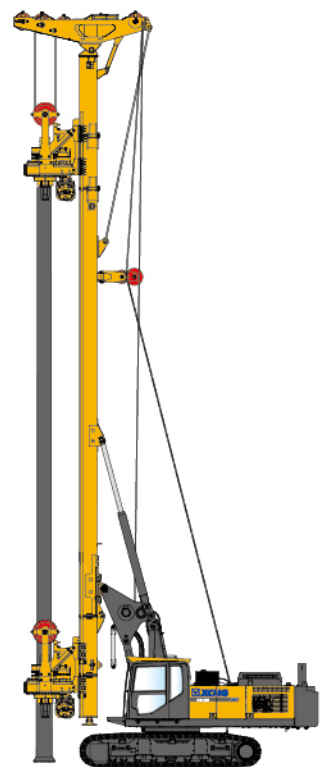
Casing



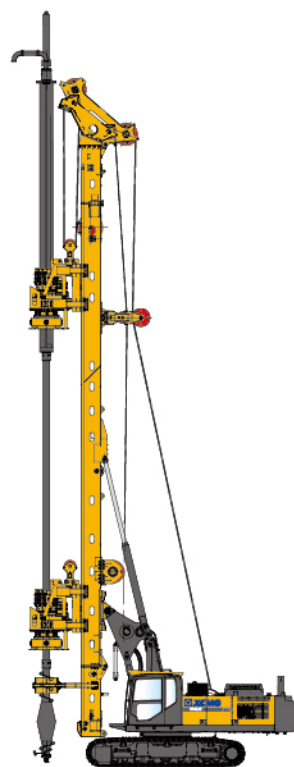
Casing and oscillator



CFA



DTH



FDD