



EXPERTISE MAKES DIFFERENCE



FOUNDATION DRILLING EQUIPMENT

2022 VERSION



ABOUT FES

Since 2005, FES has been providing top-quality drilling equipment and tools for global clients. Each of our products is manufactured with precision and care, and strict quality control is applied to each process during manufacturing.

The history of FES can be traced back to the year 1998 when Mr. Robin Mao, the founder of FES and Ougan Group, started his career in the piling industry. For over 20 years, FES has been serving clients at home and abroad with comprehensive solutions and foundation equipment, tools and accessories.

As our slogan says, expertise makes difference. FES always serves its clients with dedication and a customer-oriented approach.

MAJOR EVENTS



2007
First shipment to The United Arab Emirates



2008
First shipment to Canada



2009
New client in San Diego, USA



2010
New client in Boston, USA



2011
Attended Conexpo 2011



2012
Attended ADSC EXPO 2012



2013
Shipment to Alaska, USA
Attended Bauma 2013



2014
Attended Conexpo 2014
New client in New York, USA



2015
Attended ADSC EXPO 2015



2017
Attended Conexpo 2017



2018
Attended IFCEE



2020
Attended Conexpo 2020

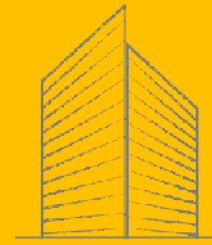


COMPANY TIMELINE



1990S

Began business in the piling industry.



2008-2013

Expand into Australia, New Zealand, Germany and other Asian Pacific countries and built cooperation with local leading companies.



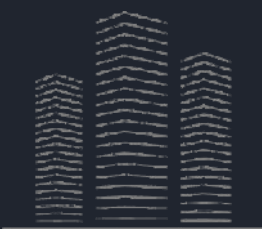
2020

Began engineering of the world's first hydraulic DTH rotary hammer, and the prototype was delivered in 2021.



2005

Established FES (China) limited, entering the North American market with competitive piling equipment, tools, parts & accessories.



2016

Started strategic partnership with XCMG, the world's largest manufacturer of rotary drill rigs.



2021-now

Built partnership with JUNTAN in 2021. Until now, FES has become one of the most promising suppliers in the piling industry.



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XCMG - GLOBAL TOP 3 YELLOW TABLE 2022

2022 Yellow Table

2022	2021	CHANGE	COUNTRY	COMPANY
1	1	-	China	Caterpillar
2	2	-	USA	John Deere
3	3	-	China	XCMG**
4	4	-	USA	Volvo Construction Equipment
5	5	-	USA	Case
6	6	-	USA	John Deere
7	7	-	USA	Volvo Construction Equipment
8	8	-	USA	Case
9	9	-	USA	John Deere
10	10	-	USA	Volvo Construction Equipment
11	11	-	USA	Case
12	12	-	USA	John Deere
13	13	-	USA	Volvo Construction Equipment
14	14	-	USA	Case
15	15	-	USA	John Deere
16	16	-	USA	Volvo Construction Equipment
17	17	-	USA	Case
18	18	-	USA	John Deere
19	19	-	USA	Volvo Construction Equipment
20	20	-	USA	Case

XCMG for Your Success



ABOUT XCMG

XCMG is the world's largest manufacturer of rotary drill rig, with sales volume of 1,722 sets in 2021, which is approx 40% in the industry. XCMG ranked among the top three original equipment manufacturers (OEMs) in the world in KHL Group's Yellow Table for two consecutive years. (2021-2022)

Range: XR60E-XR1600E (Torque: 44,200lbf-ft - 1,180,000lbf-ft)

STRATEGIC PARTNERSHIP:



MEMBERSHIP:



XRU313

ROTARY DRILL RIG

DESCRIPTION

PARAMETERS

MAX. TORQUE	130KNM (95,800lbf-ft)
MAX. DRILLING DEPTH (LOWER HEADROOM/REGULAR MAST)	13M (42.5FT) 36.5M (120FT)
MAX. DRILLING DIAMETER ALONG MAST/UNDER MAST	1700MM (67IN) 3,000MM (118IN)
ENGINE MODEL	CUMMINS B6.7
ENGINE POWER	160KW / 214HP
TRANSPORT DIMENSION (LOWER HEADROOM)	11.1×2.54×3.51M 36.4×8.3×11.5FT
TRANSPORT DIMENSION (REGULAR MAST)	114.13×2.54×3.62M 46.4×8.3×11.9FT
OPERATING WEIGHT (LOWER-HEADROOM/REGULAR MAST)	35T / 77,200LB 37T / 81,600LB



XR240E

ROTARY DRILL RIG

DESCRIPTION

PARAMETERS

MAX. TORQUE	240KNM (176,880lbf-ft)
MAX. DRILLING DEPTH	70M (230FT)
MAX. DRILLING DIAMETER	2000MM (79IN)
ENGINE MODEL	CUMMINS L9
ENGINE POWER	252KW / 338HP
EMISSION STANDARD	TIER 4 FINAL
GROSS WEIGHT	82T / 180,870LB



XR450

ROTARY DRILL RIG

DESCRIPTION

PARAMETERS

MAX. TORQUE	450KNM (331,650lbf-ft)
MAX. DRILLING DEPTH	114M (374FT)
MAX. DRILLING DIAMETER	2800MM (110IN)
ENGINE MODEL	CUMMINS QSX15
ENGINE POWER	399KW / 535HP
EMISSION STANDARD	TIER 4 FINAL
GROSS WEIGHT	150T / 330,600LB



XR800

ROTARY DRILL RIG

DESCRIPTION

PARAMETERS

MAX. TORQUE	800KNM (589,600lbf-ft)
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MAX. DRILLING DEPTH	150M (492FT)
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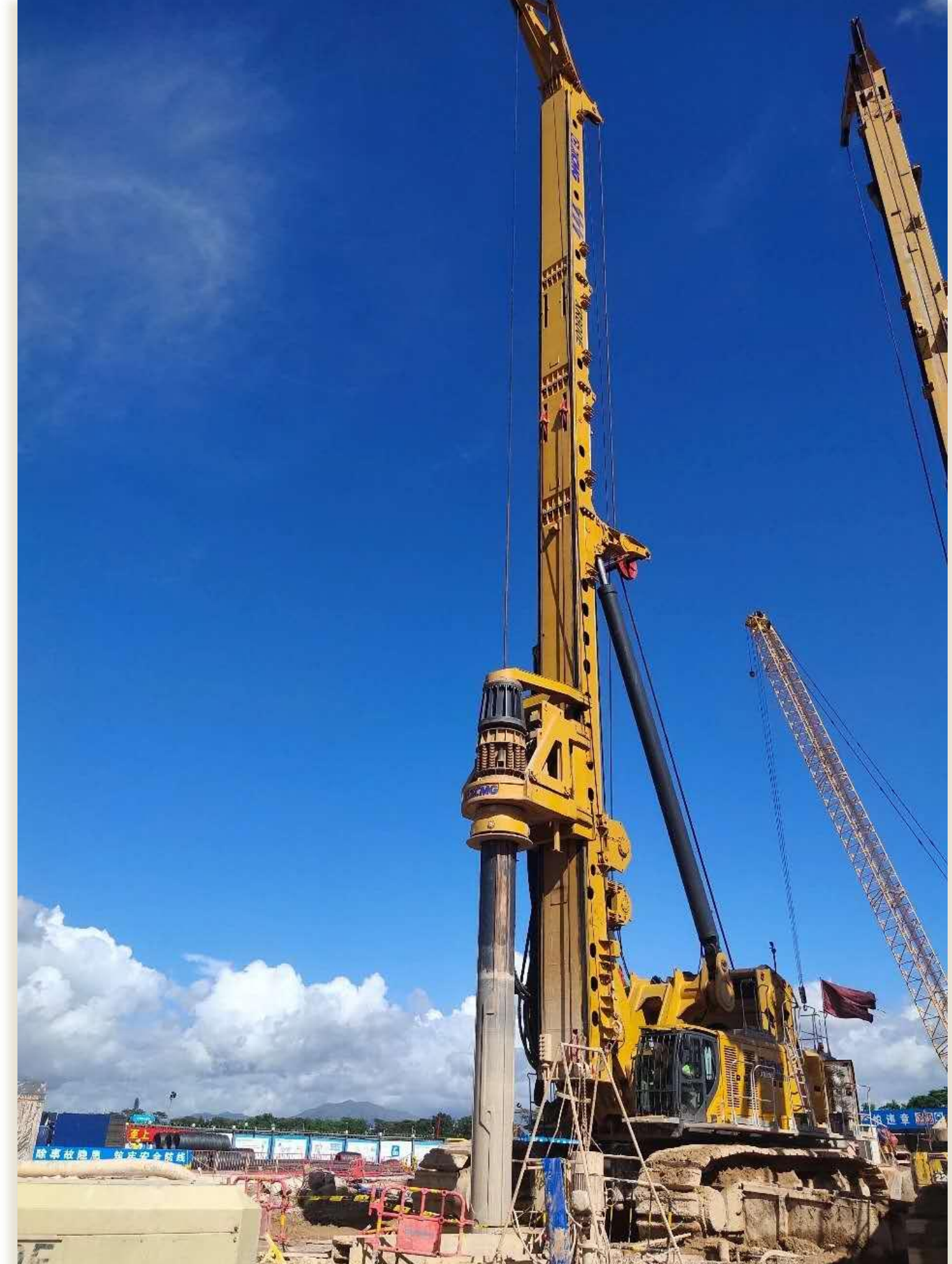
MAX. DRILLING DIAMETER	4800MM (15.8FT)
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ENGINE MODEL	CUMMINS QSK23
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ENGINE POWER	641KW / 859HP
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GROSS WEIGHT	310T / 683,400LB
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WORKING DIMENSION(LxWxH)	13.78x6.6x39.47M 12.4x21.6x129.5FT
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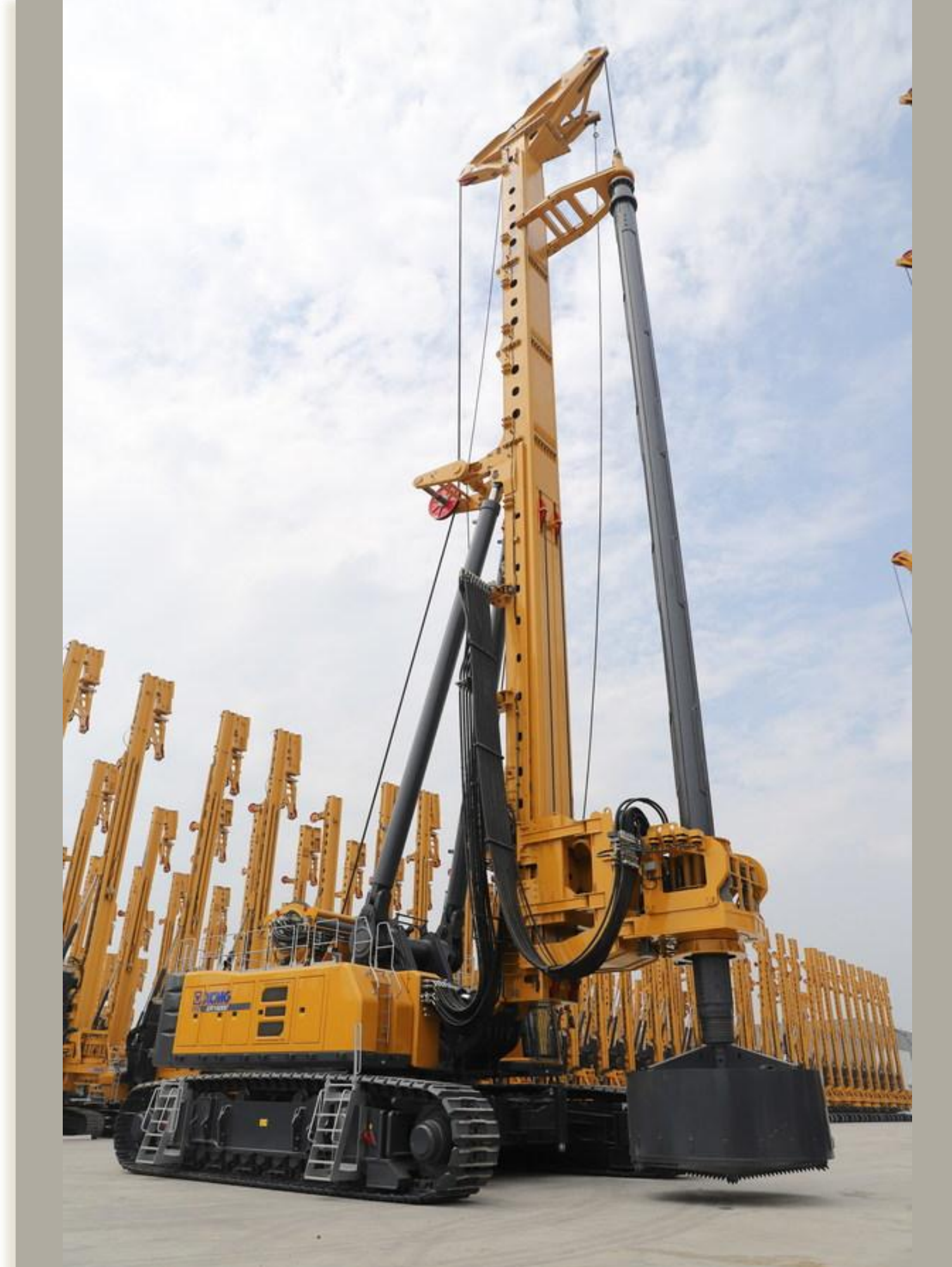
XR1600

ROTARY DRILL RIG

DESCRIPTION

PARAMETERS

MAX. TORQUE	1600KNM (1,180,000lbf-ft)
MAX. DRILLING DEPTH	190M (624FT)
MAX. DRILLING DIAMETER	7500MM (24.6FT)
WORKING SPEED OF ROTARY DRIVE	20R/MIN
ENGINE POWER	1130KW / 1514HP
MAIN WINCH MAX PULLING FORCE	1500KN
OPERATING WEIGHT	520T / 1,146,400LB



HYDRAULIC DTH SOLUTION

WORKING PRINCIPLE

The new Hydraulic DTH solution from FES is a ground-breaking solution to drill hard rocks in large-diameter shafts. Our customized hydraulic down-the-hole digging hammer (model: OG-100), can be easily hooked up to a rotary drill rig, and produce combined functions of hammering and rotary drilling.

In comparison with conventional DTH solution, this innovative solution can save the overall operation cost by at least 50%.

PRODUCT FEATURES

- ✓ **LOW ENERGY CONSUMPTION**
- ✓ **COST-SAVING**
- ✓ **ENVIRONMENT-FRIENDLY**
- ✓ **HIGH DRILLING EFFICIENCY**



CASE STUDY

During Henan highway construction, it achieved a record penetration rate of 3 meters per hour in 210MPa fine-grained rock.

HYDRAULIC DTH SOLUTION

DESCRIPTION

PARAMETERS

DRILLING DIAMETER $\Phi 1\text{ M}-\Phi 1.5\text{ M}$ ($\Phi 3\text{ FT}-\Phi 5\text{ FT}$)

DRILLING DEPTH 45 M (147 FT)

CENTRIFUGAL FORCE OF
HYDRAULIC VIBRATING HAMMER 100T / 220,570LB

DIMENSION OF PUMP STATION
(L*W*H) 3580×1700×1874MM
11.74×5.58×6.15FT

PUMP STATION WEIGHT 9.5T / 20,950LB

PUMPING STATION ENGINE
POWER 230KW / 307HP

TOTAL WEIGHT OF EQUIPMENT
(TUBING PULLEY RACK, DRILL
ROD, VIBRATING HAMMER, $\Phi 1\text{ M}$
SPECIAL DESIGNED CORE
BARREL) 19T / 41,900LB



REGULAR DTH SOLUTION

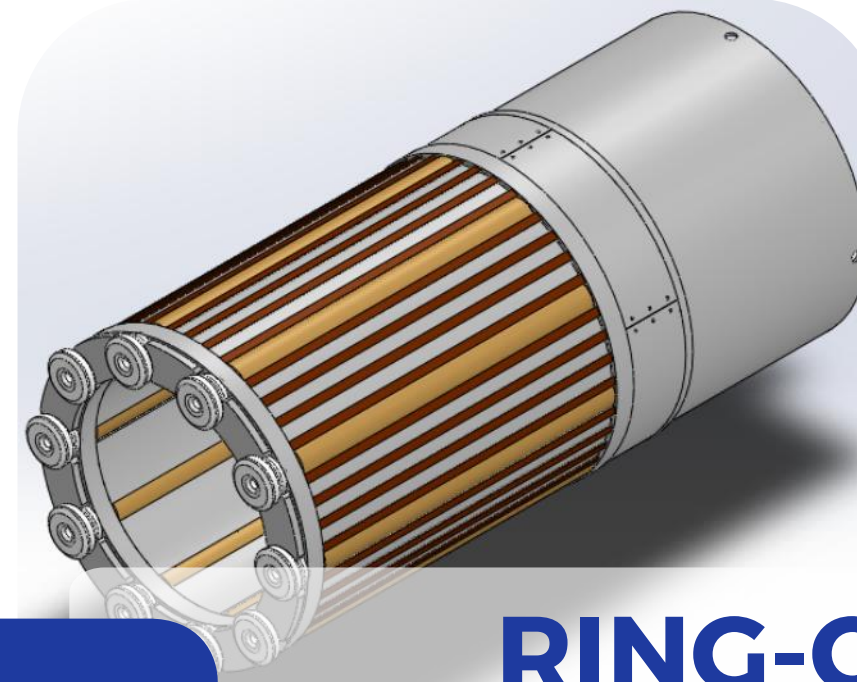
WORKING PRINCIPLE

DTH hammer drilling is a percussive drilling process powered by compressed air.

In comparison with traditional DTH hammer which strikes on the entire surface of the rock, our innovative Ring-Cutting DTH hammer only strikes on the edge of the rock surface, and then take out the entire rock core onto the ground.

System composition:

1. Rotary drill rig
2. Air compressor
3. Air supply system (including winch, air pipe, drill pipe, etc.)
4. Air storage tank and atomizer for lubrication
5. Casing
6. DTH hammer



RING-CUTTING DTH HAMMER

During Weifang-Yantai High-speed Railway Project, FES's innovative DTH hammer made significant contribution to meet the tight construction schedule.

Excellent drilling results:

Drilling diameter: 1m

Drilling depth: 20 ~ 27 m

Drilling efficiency: three to five meters per hour in hard rock up to 150MPa

In one 12-hour working shift, our rig could drill 3-6 boreholes with a depth varying from 20 to 27 meters, and an embedded rock depth from 2 to 7 meters.

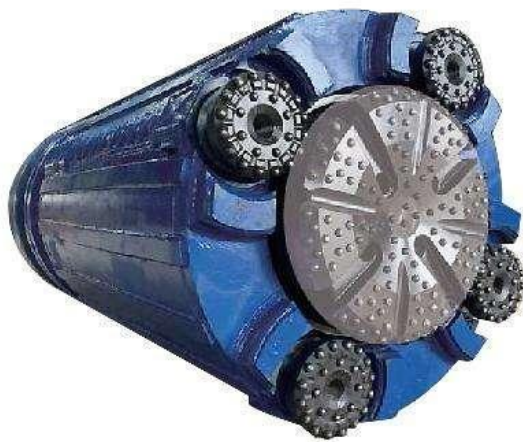


CASE
STUDY

REGULAR

DTH SOLUTION **HAMMERS**

1



3



2



4



FS650

SOLAR PILE DRIVER

DESCRIPTION

PARAMETERS

MAX. TORQUE	158KNM (116,450lbf-ft)
IMPACT FREQUENCY (BPM)	600 -- 1000
IMPACT (JOULE)	1350
STROKE	6,000MM (236IN)
BORE DIAMETER	SPIRAL DRILL 500MM (20IN)
WORK PRESSURE (BAR)	130 -- 150
AIR CONSUMPTION (M ³ /MIN)	8 --16
AIR PRESSURE (PSI - MPA)	100- 130 (0.7--1.6MPA)
HOST POWER	CUMMINS 55KW / 74HP
ENGINE EMISSION STANDARD	TIER 4
DIMENSION (L*W*H) MM	6240x2250x3000MM 20.5x7.38x9.84FT
WEIGHT (LBS/KG)	7.35T / 16,200LBS

HOT
SALE

FSP-650 SOLAR PILE DRIVER PRODUCT FEATURES

- ✓ EASY OPERATION
- ✓ HIGH EFFICIENCY
- ✓ CE CERTIFIED
- ✓ WORLD-FAMOUS COMPONENTS



Case study

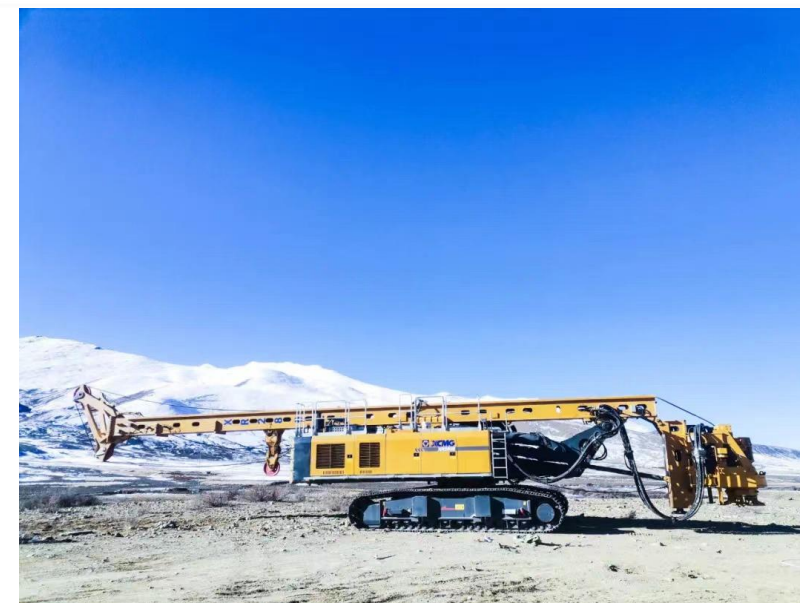
Sichuan-Tibet Railway Construction

During the Sichuan-Tibet railway construction, XCMG rigs overcame many difficulties.

Because of the complex geological and climate conditions in the regions, construction equipment needs to work at an altitude above 3,000 meters and a working temperature below minus ten Celsius.

As the picture shows, altogether seven XCMG rigs were working on the plateau simultaneously, with models XR280E and XR360. According to the onsite construction workers, these rigs have given an outstanding performance under extremely cold and snowy weather.

Thanks to the special hydraulic chassis design and powerful turbocharged engine, XCMG rotary drilling rigs can perform with super stability under harsh infrastructure conditions. Also, the load sensing technology and intelligent control system of the rigs have made construction work on the plateau more efficient, ensuring the successful progress of the project.



Case study

Huangjueping Yangtze River Bridge

XCMG's XR1200E rotary drilling rig successfully completed pile foundation work in the construction of the Huangjueping Yangtze River Bridge in Chongqing, China.

Pile diameter: 2.5m

Average pile depth: 42m

XCMG XR1200E rotary drilling rig has a super large drilling diameter, super deep drilling depth, and is equipped with super large diameter drill pipes, specifically for the special working conditions of super high hard layers.

The whole machine adopts XCMG's special pin-connected crawler chassis, equipped with large-diameter slewing bearings, and the chassis has swinging legs, which can assist the disassembly of the whole machine during transfer, ensuring super stability and convenient transportation.



Case study

Chongqing East Railway Station

Over thirty XCMG XR360E and XR400E drilling rigs were used to build China's largest transport hub in Chongqing.

With the concept of station-city integration, Chongqing East Railway Station will be the first and largest comprehensive transportation hub in China. Covering an area of 3.47 square kilometers, once finished, the station will be able to host up to 15,000 people at a time.

XCMG-XR360E

All-purpose drilling rig

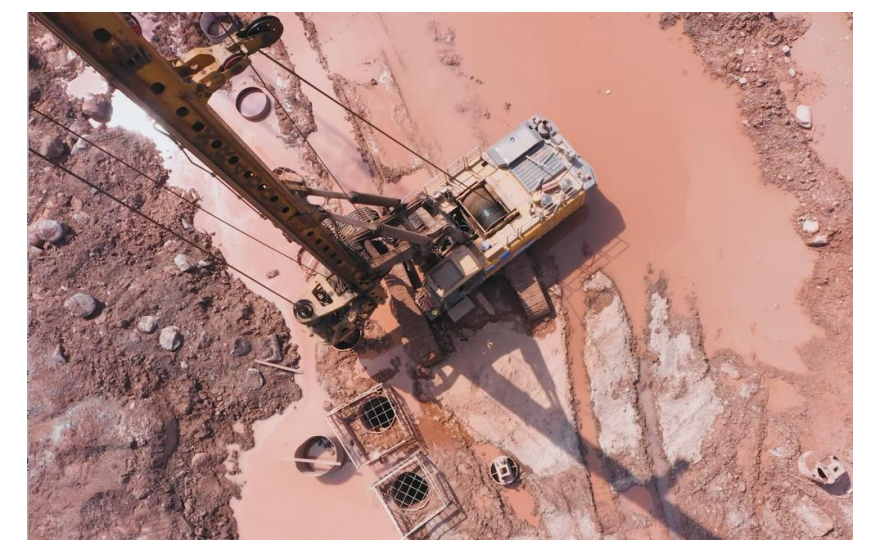
High drilling efficiency in complex geological conditions

Max. drilling depth: 103m

XCMG-XR400E

Especially suitable for hard-rock stratum

Max. drilling depth: 103m



Case study

Linhuai Pass Bridge Project

In the face of 36 piles in the main pier of Linhuai Pass Bridge in Fengyang, Anhui Province, six XCMG XR580HD rotary drilling rigs working together to meet the tight construction schedule.

As the picture shows, the big rock core was taken out by one XCMG-XR580HD rotary drill rig at one time.

Max. Drilling diameter: 2800mm/110in

Max. Drilling depth: 94m/308ft

Rock layer: medium-weathered gneiss

The excellent performance of the equipment won many applause from the construction workers.



CERTIFICATES



MORE PHOTOS



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