

SURFACE CORE DRILLING RIG

CORE SERIES

WS 16 PRO



Specially designed for mid-to-deep hole exploration scenarios

CORE SERIES

3000M DEPTH CAPACITY
DURABLE · STABLE · POWERFUL

This model has a drilling depth capacity of 0–1600 meters, integrating advanced international design concepts and craftsmanship. Specifically engineered for mid-to-deep hole exploration, it features outstanding reliability and robust design, maintaining continuous operation under extreme environments, ensuring high efficiency and long-term value.



WHITE
STAR
PUMP

PRODUCT FEATURES



RIG CHASSIS

The crawler chassis integrates perfectly with the wireless remote control system, allowing the operator to control the rig precisely from a safe distance, ensuring efficient, stable, and safe operation.



POWER UNIT

The Cummins turbocharged diesel engine (plateau version optional) provides excellent adaptability and high reliability. Even under complex plateau drilling conditions, it delivers strong power output, fuel efficiency, and stable long-term performance.



MAIN HOIST

The powerful main hoist is equipped with a hydraulic motor and a dual braking system to achieve precise speed control. This braking system simultaneously meets the dynamic and static braking requirements, ensuring the safety and efficiency of operations.



ROD HOLDER

The gripper is opened by the hydraulic system and has a nitrogen spring clamping function. If the system loses pressure, the gripper will close quickly, effectively preventing the drill tool from falling off and ensuring the safety of the operation.



OPERATING SYSTEM

Through an intuitive and simple control panel, the operator can monitor key rig components in real time, enabling quick and accurate control. The intelligent integrated control console reduces operator workload, ensuring greater efficiency and focus.



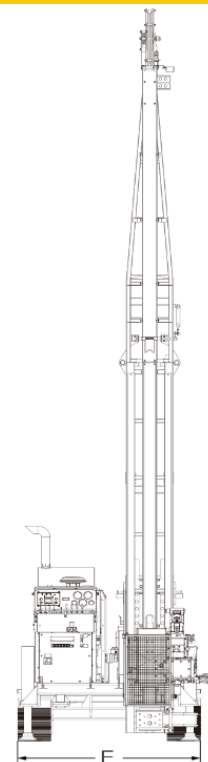
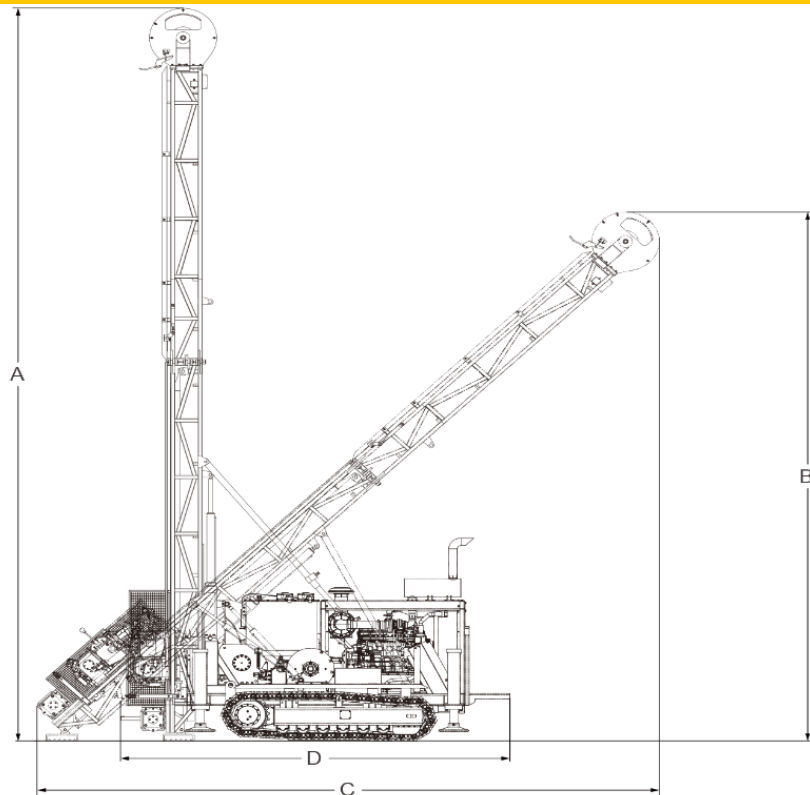
MAST AND FEED SYSTEM

The powerful mast and precise feed system ensure that the borehole is straight and has minimal vibration. The drill rod alignment device enables quick and efficient unloading operations, and the folding two-stage mast design significantly enhances transportation flexibility.



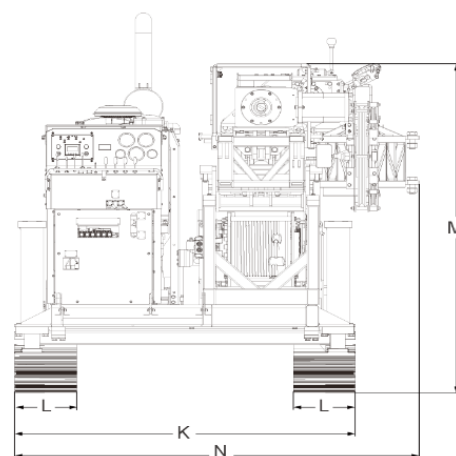
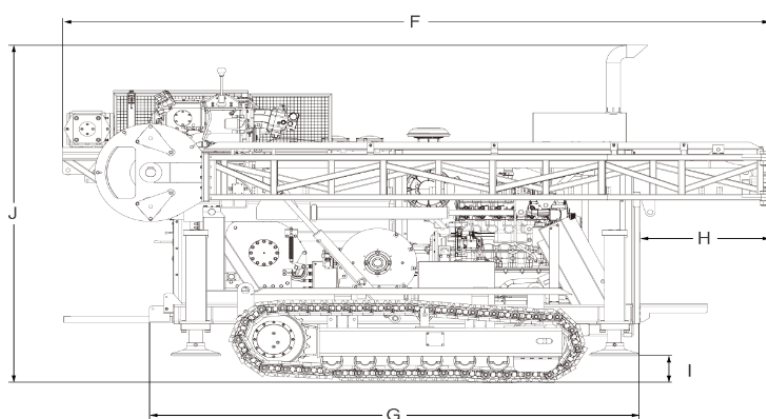
ROTATION UNIT

The four-speed (rotation unit) provides a wide torque and speed range to meet core drilling needs. Equipped with optimized chuck and slips, it is suitable for 45°–90° drilling. The rod handling process can be precisely controlled via the operator console.



Working dimensions

	Metric system	Imperial system
Dimension	mm	in
A	10086	397
B	7277	286
C	7488	295
D	4685	184
E	2200	87



Transportation dimensions

	Metric system	Imperial system
Dimension	mm	in
F	5145	203
G	3570	141
H	945	37
I	221	9
J	2900	114
K	2200	87
L	350	14
M	2515	99
N	2610	103

MAIN PARAMETERS



WS 16 Pro

Depth Capacity

Based on Vertical Borehole

BQ	1600m
NQ	1300m
HQ	800m
PQ	500m

Mast / Feed System

Feed travel	3.5m
Feed speeds	Fast and slow, adjustable
Thrust	65kN
Pull	150kN
Drilling angle	45°~90°
Drill rod pull-up length	6m

Hydraulic System

Main pump	35Mpa 145ml/r
Secondary pump	28Mpa 71ml/r
Auxiliary pump	28Mpa 28ml/r
Hydraulic oil cooling	Air-cooling

Rod Holder

Type	Hydraulic open, nitrogen spring close
Max inner diameter	210mm
Clamping capacity	15000kg

Crawler

Control	Wireless remote control walking
Type	Heavy duty, track plate width 350mm
Max travel speed	3.0km/h
Gradient	20°

Chuck Assembly

Type	Hydraulic open, Spring close
Max inner diameter	117mm
Clamping capacity	178kN

Rotation Unit Spindle Parameters

Gear 1	120-200r/min	Torque:5780-3000N·m
Gear 2	230-450r/min	Torque:2600-1600N·m
Gear 3	460-760r/min	Torque:1400-800N·m
Gear 4	800-1300r/min	Torque:780-460N·m

Wireline Hoist

Capacity	1600m×6mm
Pull	18kN
Average speed	215m/min

Power Unit

Engine model	Cummins QSB6.7-C215/B6.7CS4 diesel engine
Volume	6.7L/6cylinders
Power	158kW/162kW
Speed	2000rpm/2200rpm
Engine type	Turbocharged
Max torque	962N·m@1300rpm/1000N·m@1500rpm

Rotation Unit

Type	Variable speed / Forward-reverse hydraulic motor
Spindle (inner diameter)	117mm
Spindle speed	120-1300rpm
Max torque	5780N·m
Rotation unit	Side shift (optional)

Rig Chassis

Hydraulic legs	4pcs, Ø100
Cylinder stroke	550mm

Main Hoist

Single line capacity (Bare drum)	110kN
Line speed (Bare drum)	44m/min
Wireline size	30m×18mm

Mud Pump

Max flow	250L/min
Max pressure	9MPa

Weight

Total weight :10000kg(±100kg)

Note: The actual drilling depth may vary depending on formation, environment, altitude, supporting tools, and operator skill.

DEEP EXPLORATION

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