

JCDRILL

JC650

CRAWLER HYDRAULIC DTH DRILLING RIG



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RELIABLE COMPREHENSIVE DRILLING SOLUTIONS

SAFER, SMARTER, STRONGER, OPERATOR-FRIENDLY, MORE EFFICIENT

JC650

Crawler Hydraulic DTH Drilling Rig

The JC650 is a hydraulic down-the-hole (DTH) drilling rig, widely used for blasting hole drilling in open-pit mining operations in industries such as cement, metallurgy, coal mining, and quarries. It is also suitable for construction projects in railways, highways, hydropower, and national defense infrastructure.

Powered by a Yuchai diesel engine, the JC650 drives its hydraulic system to perform drilling, dust removal, and other operational functions. With a drilling diameter range of 115–178 mm, its design allows compatibility with multiple brands of air compressors for rock drilling and air flushing, ensuring high penetration rates and low energy consumption. Equipped with dry/wet dust collectors, an automatic rod handling system, and a comfortable operator cabin, the JC650 is ideal for long-duration operations in large-scale mining and major infrastructure projects.

► Key Features

- Enhances operator efficiency, comfort, and safety
- Advanced dust and air filtration system
- Exceptional power performance and fuel efficiency



▶ Trusted Comprehensive Drilling Solutions

The JC650 Crawler Hydraulic DTH Drilling Rig features a separate, automatic rod-handling design, combining high safety and reliability. Compared to conventional split-type rigs, it significantly reduces operating costs, labor expenses, and environmental impact. The JC650 is a powerful tool for optimizing rock excavation.

▶ Expected Benefits

- Optimizes your productivity and operational efficiency
- Achieves optimal drilling performance when paired with a high-pressure air compressor
- Excellent climbing capability
- Operator cabin provides a safe and comfortable working environment
- Stable and reliable engineering design
- Ensures faster and more cost-effective completion of drilling operations

Adjustable Dust Hood

The adjustable dust hood can move up and down, making it easy to remove rock cuttings around the hole during drilling and allowing clear observation of the drilling process.

Key Features

Feed Frame Designed with manganese steel guide rails, the feed frame effectively resists deformation and improves drilling accuracy. The slides are made of high-performance polymer wear-resistant material, perfectly matched with the frame, extending its service life by more than four times. The reinforced chain-type feed system offers high stability and is easy to maintain.

Rotary Gearbox and Shock Absorption

The straight-gear rotary gearbox offers high load capacity and adjustable rotation speed to match varying rock hardness. Paired with an Eaton hydraulic motor and reinforced shock absorbers, it reduces the impact reaction during drilling, enhancing the durability and service life of the gearbox.

Automatic Rod Handling System

The automatic rod handling system enhances drilling safety, reduces labor costs, and lowers operator fatigue. The rod magazine accommodates 5+1 drill rods, and with 3-meter rods, drilling depth can reach up to 18 meters.

Robust Mechanical Arm

The durable mechanical arm and cylinders are connected using locking-pin axles. The locking pins prevent rotation and axial movement of the pins, ensuring stable and secure component connections.

Engine Intake System

When the drill rig is powered off, the engine air filter automatically pulses to remove dust, reducing manual maintenance and ensuring the engine draws in clean air. This helps extend the engine's service life.



User-Friendly Operation

The operator cabin is equipped with a leather seat and a radio, providing a safe and comfortable working environment. Four-direction observation windows offer excellent visibility, while the ergonomically designed centralized control console ensures all controls are clearly arranged and easily accessible. Multiple actuators can be operated simultaneously, improving operational efficiency.

The hydraulic control system delivers smooth, responsive flow with excellent tactile feedback. Modular valve blocks are arranged in a suspended layout for easy maintenance. The system is rainproof, dustproof, and highly durable, ensuring long-lasting performance.

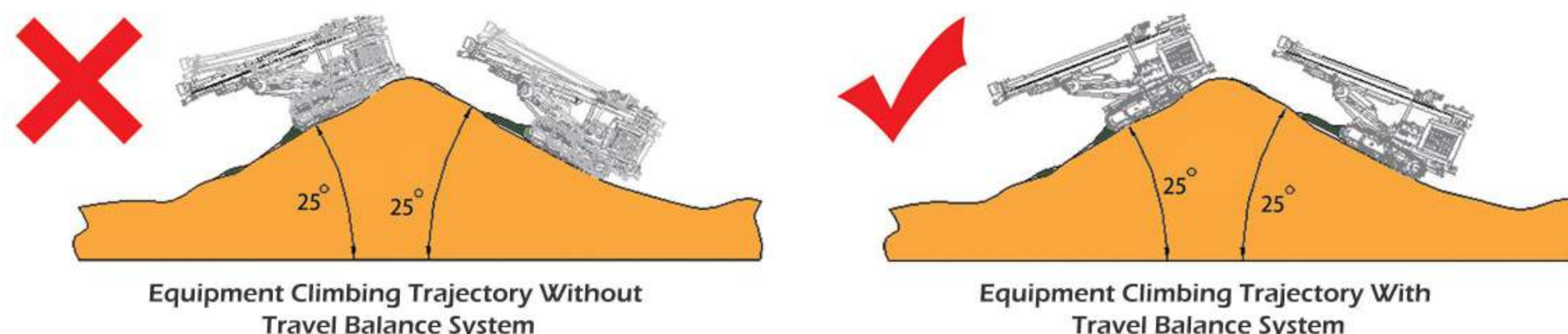


- | | | |
|--------------------------------------|-----------------------------------|---|
| 1. Feed / Lift | 13. Rotary Pressure Gauge | 26. Chassis Float |
| 2. Forward / Reverse Rotation | 14. Feed Pressure Adjustment | 27. Feed Frame Compensation |
| 3. Clamp Up / Clamp Down | 15. Push/Pull Switch | 28. Feed Frame Pitch |
| 4. Pulse Switch | 16. Impact Pressure Gauge | 29. Feed Frame Swing |
| 5. Rod Out / Rod In | 17. LCD Display | 30. Drill Boom Swing |
| Loosen / Tighten Rod | 18. USB Port | 31. Drill Boom Lift / Lower |
| 6. Grab Rod / Release Rod | 19. Stop / Power On / Start | 32. Front / Rear Lights |
| 7. Raise / Lower Dust Hood | 20. Drilling / Travel Mode Switch | 33. Air Conditioning Switch |
| 8. Feed Rod / Retract Rod | 21. Throttle Knob | 34. Front / Rear Wipers |
| 9. Oil Spray Switch | 22. Left/Right Track Lock Switch | 35. Front / Rear Washers |
| 10. Rod Connect / Rod Change Control | 23. Left Travel Handle | 36. Water Flow Control Valve |
| 11. Horn Switch | 24. Right Travel Handle | 37. Hydraulic System Pressure Test Port |
| 12. Feed Pressure Gauge | 25. Dust Collector Switch | |

High/Low Dual-Speed Travel System

The equipment is equipped with dual-speed travel, with fast and slow gears adjustable for travel speed. Fast travel saves displacement time.

Travel Balance System



Fuel Tank

The fuel tank (see image C) has a larger capacity of 360 L, reducing refueling frequency per shift. The integrated fuel level and temperature gauge allows real-time monitoring of operating conditions.

Lubrication System

During the automatic rod handling process, an automatic lubrication system (see image D) is added to ensure drilling efficiency and reduce manual labor.

Maintenance-Free Chassis / Travel System

Compared with an integrated drill rig, the JC650 drilling rig has higher flexibility and off-road climbing capability, with lower friction resistance, making it more agile under harsh conditions. Equipped with a reversing camera, road conditions are easier to control. The maintenance-free support roller design saves maintenance costs. The crawler plates have mud-clearing grooves, making them less prone to jamming. The crawler guards prevent track derailment. The climbing capability can reach up to 30°.

Dust Collection System

The dust collection system consists of an adjustable dust hood, cyclone, dust collector box, and suction pipe, significantly improving the working environment. The integrated box contains high-quality filter material to protect the operator's health (see image A) and ensures both dust collection efficiency and service life.



Feed / Lift

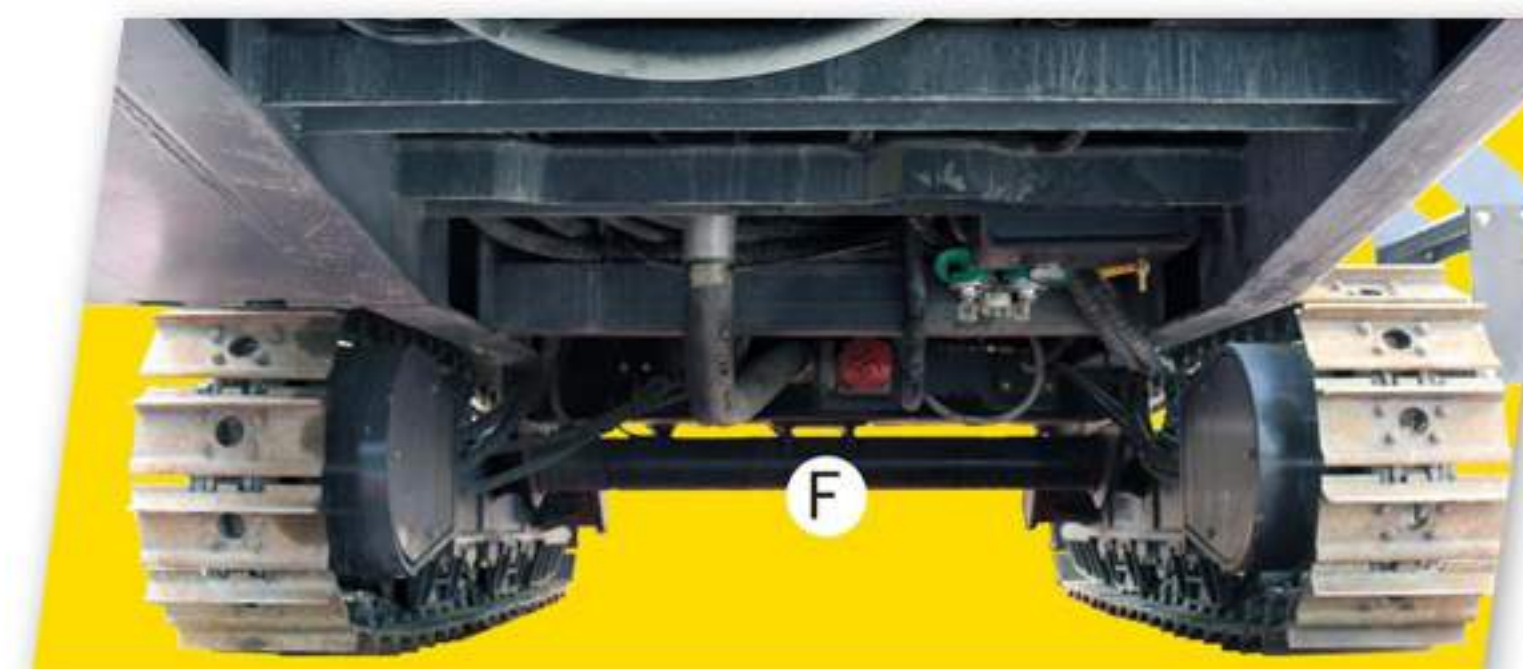
Equipped with an Eaton high-torque lift motor (see image B) matched with an 800 Nm brake, the feed and lift force can reach 18,000 N, ensuring reliable braking. The single-rod fastest lift speed can reach 4.3 seconds, reducing rod-changing time. The reinforced 1.5-inch (24A) feed frame lift chain is more durable.





► Engine / Intake System

The rig is equipped with a standard Yuchai YC4A125-T300 diesel engine meeting China Stage III emission standards, providing a powerful 92 kW at 2200 rpm. While meeting drilling operation requirements, it can maintain continuous operation at 1500 rpm for optimal fuel efficiency.



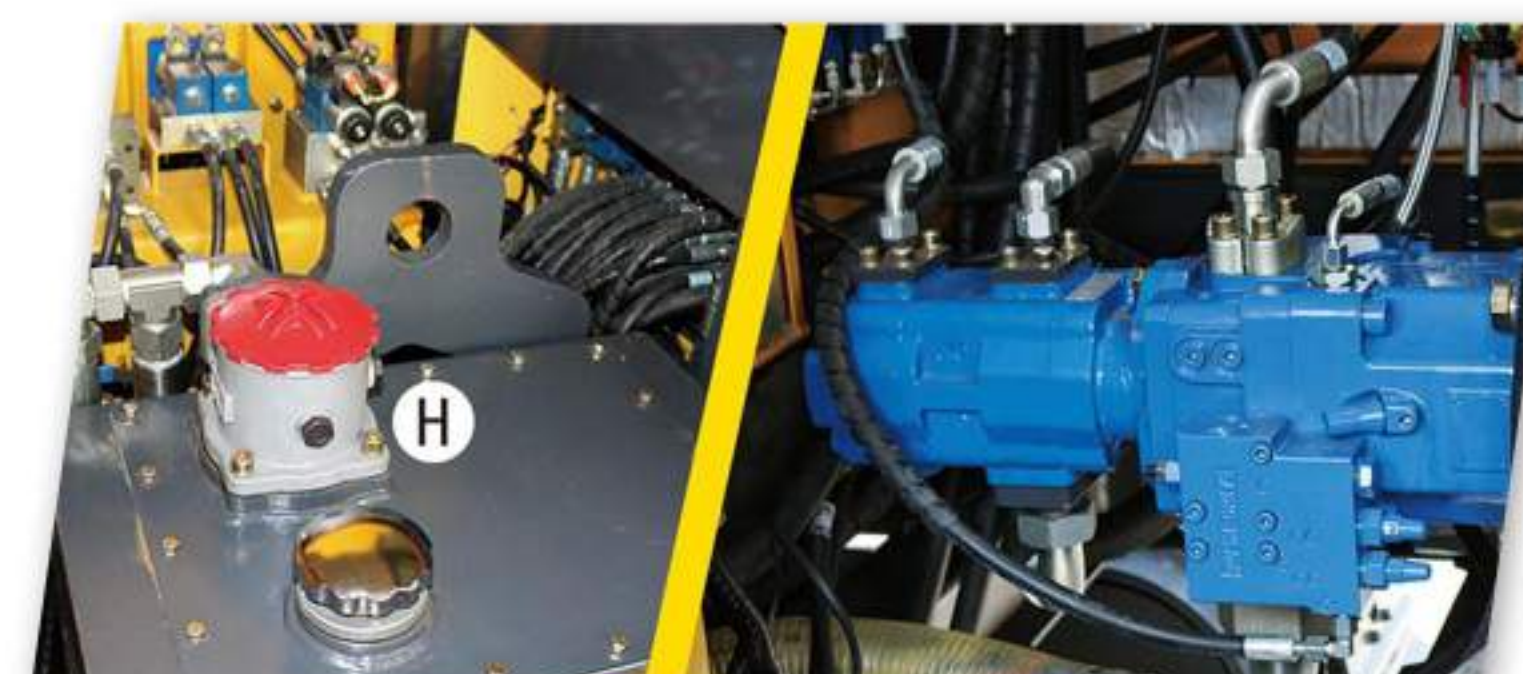
► Gravity Shaft

The chassis uses a straight-through gravity shaft (see image F), which improves the rig's stability during travel. It has a high load capacity and enhances the connection between the chassis and the tracks, making the drill rig's undercarriage durable and resistant to deformation.



► Travel Motor

Equipped with a high-torque first-stage hydraulic travel motor (see image G), it can freely tow an air compressor. The travel motor features an unlock function, making it easy to move the equipment without power.



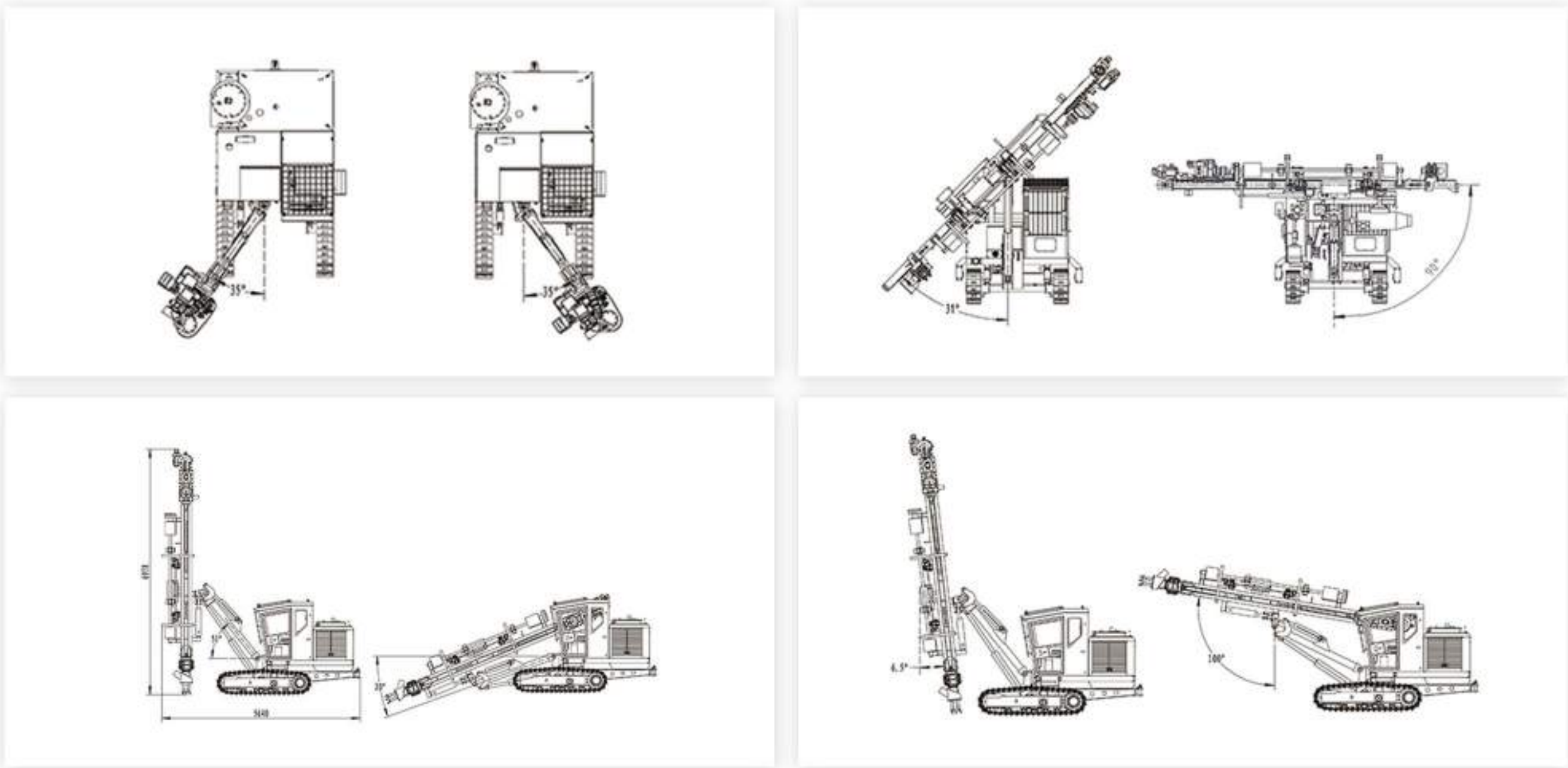
► Hydraulic System

The hydraulic oil circuit adopts dual filtration for supply and return oil. High-precision filter elements improve the cleanliness of the hydraulic system and extend the service life of hydraulic components. A direct-acting relief valve (see image H) makes it easier to accurately eliminate faults when the hydraulic system fails, protecting against overpressure loads generated by actuators during system operation.

► Partners



Drilling Angle



Specification	Unit	JC650
Rock Hardness		F=6-20
Hole Diameter	mm	115-178
Hole Depth	m	60
Drill pipe	mm	89×3000
Pipe Capacity	Pcs	5+1
Hammer Size		4" / 5" / 6"
Rotary Head		
Rotation Torque	N·m	3300
Rotation Speed	rpm	0-80
Feeding System		
Feed Stroke	mm	4115
Compensation Length	mm	1000
Feeding / Pull up Force	N	20000
Single Feed Length	mm	3000
Mast / Slide Frame		
Max Swing of Mast	°	Left 90° / Right 31°
Max Dump of Mast	°	147°
Drill Arm Tilt (Left & Right)	°	35° each side
Drill Arm Tilt (Front & Back)	°	Level 23° / 55°
Engine		
Manufacturer		YUCHAI
Rated Power	Kw/ rpm	92/ 1600
Fuel tank capacity	L	360
Air Compressor Demand		
Working Pressure	Mpa	1.7-2.5
General		
Traveling Speed (Slow/Fast)	km/h	1.5 / 3
Gradeability	°	30
Dust Collection Method		Dry or Optional Wet Dust Collection
Net Weight	kg	9700
Overall Dimensions (L×W×H)	mm	8610×2210×3410



+ RELIABLE SERVICE

JCDRILL provides customers with free installation guidance, on-site technical training, startup, and commissioning services.



+ EFFICIENT SERVICE

JCDRILL has established an after-sales service team with fast information communication channels with the technical, parts, and warehouse departments to ensure customer issues are promptly addressed and resolved.



+ CONTINUOUS

Even the best equipment requires regular maintenance to ensure optimal performance. JCDRILL provides service solutions to maintain productivity while achieving maximum returns, greater availability, and lower operating costs.



+ ENVIRONMENTAL PROTECTION

The protection of environmental resources is an issue that we are paying more and more attention to in the future. Both the government and machinery manufacturers are making relentless efforts to find a reasonable way for customers to balance re-source extraction and environmental maintenance. For example: optional water dust removal systems, installation of multi-layer filters, multi-stage hydraulic oil filtration, and wider dust collection hoods.



+ SAFETY

Production safety is of utmost importance. We are committed to eliminating all potential hazards to ensure the personal safety and health of operators and auxiliary workers.

