

Advantage:

- >> Hole range: 90-115mm
- >> Hole depth: 21m
- >> 162kW YUCHAI engine
- >> Dry type dust collector
- >> Eaton hydraulic motor(USA brand)

JC843

DTH ROCK INTEGRATED DRILLING RIG

潜孔钻机

INTRODUCTION 产品介绍

>> **JC843** is engineered for precision drilling in medium-depth projects, combining robust power with advanced feed technology to achieve stable and efficient hole formation. Designed for drilling depths of up to 21 meters and hole diameters between 90 and 115mm, it is ideal for applications requiring consistent performance in moderate rock conditions.

>> The rig's rotation system features an Eaton 2K series motor delivering up to 2200N·m torque and variable speeds from 0 to 100rpm, providing controlled drilling dynamics. Its feed system utilizes a motor-driven chain mechanism that ensures smooth, reliable feed motion with a 3400mm stroke and 1100mm extension, capable of applying a maximum feeding force of 12kN and a feed speed up to 1m/s.

>> Powered by a high-output 162kW Yuchai diesel engine, **JC843** integrates a two-stage compression air system delivering 15m³/min at 1.8MPa working pressure, optimizing pneumatic energy for down-the-hole hammer efficiency. The rig's high-strength steel feed beam and durable frame construction enhance operational stability and longevity under heavy workloads.

>> Weighing 9.5 tons and measuring 8400×2300×2400 mm, the rig balances substantial power with manageable transport size. With tramping speeds of 3km/h (fast) and 1.5km/h (slow), **JC843** adapts well to site mobility demands. The 12-core dry-type dust collector improves onsite air quality and maintenance convenience. Incorporating QIANGTIAN control valves and imported IP56-rated electrical components, **JC843** guarantees precise hydraulic control and robust environmental protection.

>> CHARACTERISTICS 产品特点

>> Powered by Yuchai 162kW water-cooled turbocharged diesel engine, featuring low fuel consumption and optimized engine compartment layout for easy maintenance.

>> The advanced Eaton 2K series rotary motor delivers high torque of 2200N·m and variable speed up to 100rpm, offering multi-speed options to adapt to different drilling conditions.

>> Motor-driven feed system with chain drive provides a feed stroke of 3400mm and extension of 1100mm, delivering a maximum feeding force of 12kN and feed speed up to 1m/s for efficient rod handling.

>> Equipped with a large-capacity 12-core dry dust collector with 8 filter units, ensuring high air volume filtration to meet stringent environmental standards.

>> Integrated intelligent instrument panel enables real-time data monitoring, fault diagnostics, and alert functions to enhance operational safety and efficiency.

>> Drill rods of 64mm and 3000mm length combined with a 3" DTH hammer and 90mm drill bit optimize drilling accuracy and stability.

>> Compact design with transport dimensions 8400×2300×2400mm and total weight of 9.5 tons supports flexible site mobilization. QIANGTIAN control valve system guarantees precise hydraulic control for smooth and reliable operation.

>> Imported IP56-rated electrical components provide excellent waterproof and dustproof protection, ensuring durability under harsh working environments.

>> Tramping speeds up to 3km/h (fast) and 1.5km/h (slow) allow efficient site repositioning while maintaining operational safety.



Characteristics 产品特点

- >> Control System: Rear-mounted console integrates drilling, tramming, and monitoring controls. Equipped with smart instrumentation for real-time diagnostics and fault alerts, enhancing safety and operational efficiency.
 - >> Power & Air System: Powered by a 162kW Yuchai turbocharged diesel engine with optimized fuel consumption. Combined with a two-stage compressor delivering 15m³/min at 1.8MPa for stable high-pressure drilling.
 - >> Rotation & Feeding Unit: Features an Eaton 2K series motor offering 2200N·m torque and 0-100 rpm speed. High-performance rotary head with multi-gear switching adapts to different strata. Chain-driven feed with 3400mm stroke ensures consistent and efficient thrust.
 - >> Drilling Structure: Utilizes 64×3000mm rods and 3" DTH hammer for drilling up to 21 m in 90-115 mm holes. Built with high-strength steel feed beam for enhanced durability and reduced vibration.
- Mobility & Dust Control: Crawler drive system offers dual-speed tramming (1.5/3km/h). Equipped with a 12-core dry dust collector delivering high air volume to meet environmental standards in urban or enclosed jobsites.

Specification 技术参数

Specifications	Unit	JC843
Drilling Specifications		
Hole Depth	m	21
Hole Diameter	mm	90- 115
Drilling Rod Diameter	mm	64
Drilling Rod Length	mm	3000
DTH Hammer Size	inches	3"
Drill Bit	mm	90
Rotation		
Rotary Torque	N·m	2200
Rotary Speed	rpm	0- 100
Lifting Force	kN	18
Rotation Motor		Eaton 2K series
Feed System		
Feed Type		Motor + Chain Drive
Feed Stroke	mm	3400
Feed Extension	mm	1100
Max. Feed Force	kN	12
Feed Beam		High-strength steel beams
Engine		
Engine Brand		Yuchai
Engine Type		Diesel Engine
Rated Horsepower	kW	162
Air Compressor Demand		
Working Pressure	MPa	1.8
Air Consumption	m ³ /min	15
Compressor Type		Two-stage compression
Weight & Dimensions		
Weight	t	9.5
Transport Dimensions (L×W×H)	mm	8400 × 2300 × 2400
General Specification		
Tramming Speed	km/h	Fast: 3 / Slow: 1.5
Dust Collector		12 Core Dry Type
Control Valve		QIANGTIAN
Electrical System		Imported components, IP56 waterproof/ dustproof

具体参数变化以实物为准 The specific parameter changes are subject to the actual object.

Main Structure 主要结构

Power System

162kW Yuchai turbo engine with low fuel consumption.



Air Compressor

Two-stage system, 15m³/min airflow at 1.8MPa.



Rotation Unit

Eaton 2K motor, 2200N·m torque, multi-speed rotary head.



Feed System

Chain-driven, 3400mm stroke for stable feeding.



Dust Control

12-core dry collector with high airflow for clean operation.



Control System

Smart panel with real-time monitoring and fault alarms.



DTH Drilling Know How

Down-the-hole drilling (DTH) essentially involves a drilling hammer at the bottom of a drill string. It relies on three elements for drilling holes: bit loading (weight), rotation and air. These active elements combine to be efficient at crushing rock. As the drill string slowly rotates, the drilling hammer is forced into the rock repeatedly. Striking power is provided by compressed air driving a piston inside the hammer.

Where is it used?

DTH drilling is often used in the mining industry (blast hole drilling), on construction sites, drilling water wells, and in the oil and gas industry.

DTH advantages

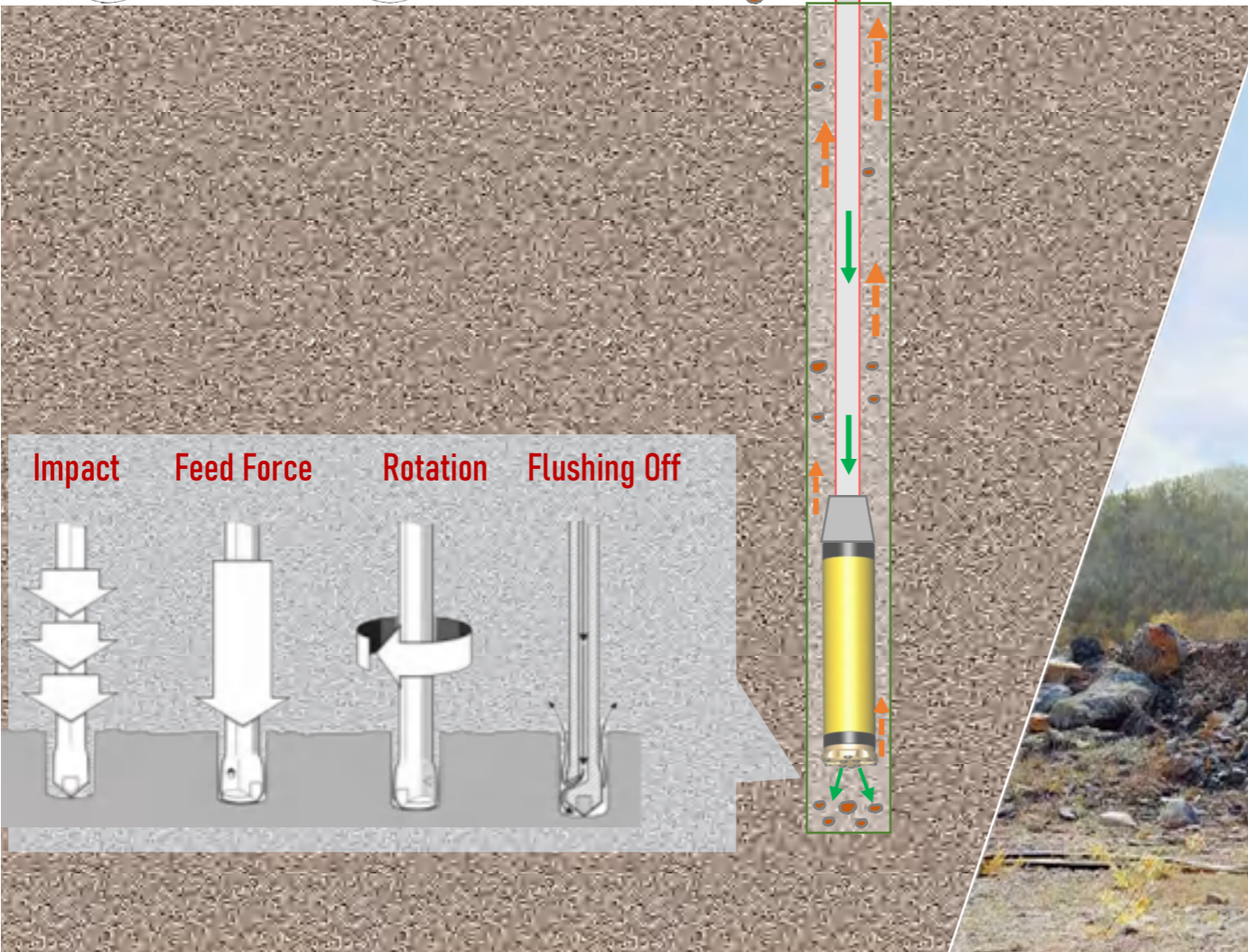
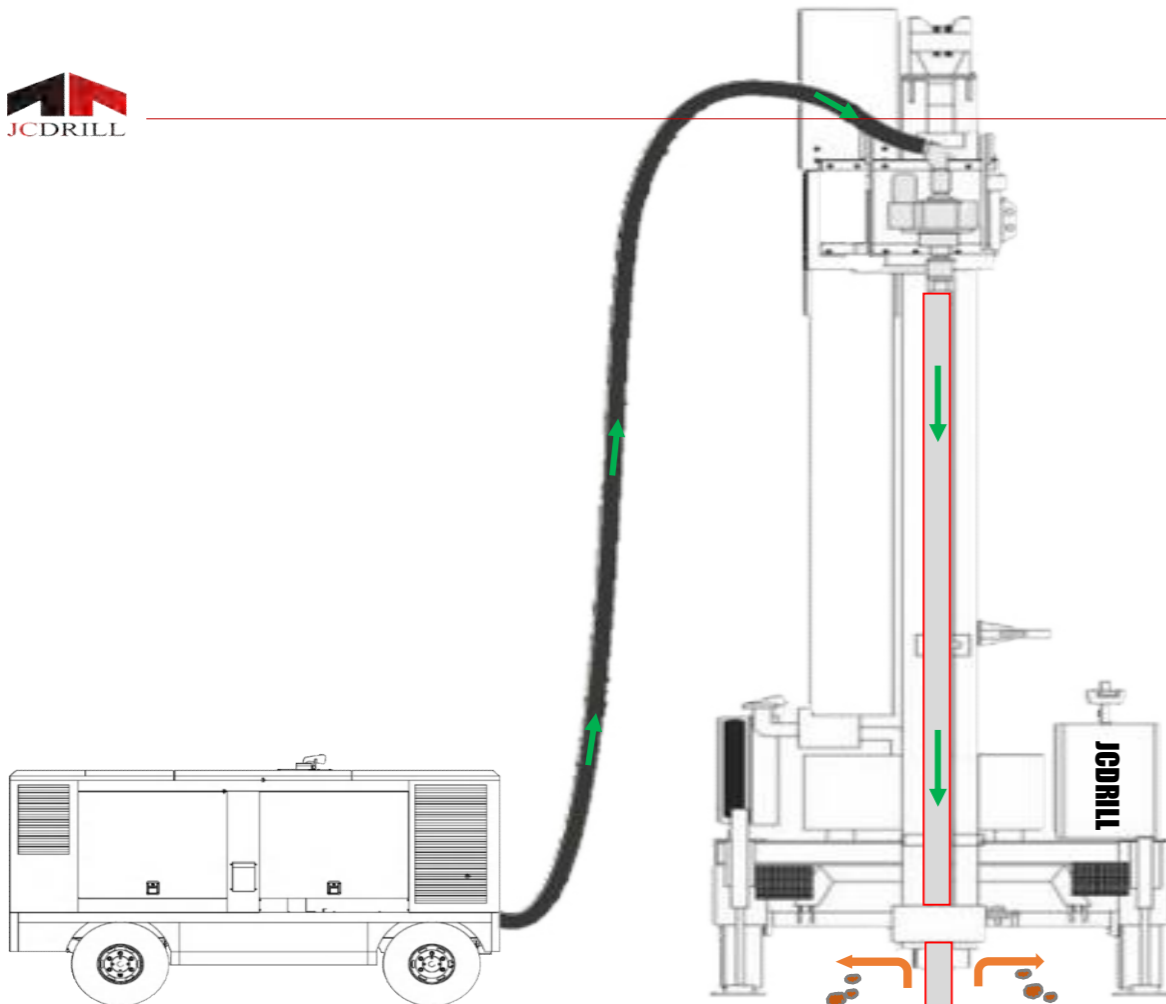
DTH drilling offers several advantages over top-hammer drilling for larger, deeper holes in medium-hard formations. Because the hammer is at the bottom of the hole, power loss is minimal as the hole deepens. That means energy is not lost in the drill string and penetration rates do not markedly decline with depth—provided that back pressure does not rise significantly in the borehole.

Compressed air power

The DTH hammer is pneumatically powered, with the compressed air propelling it forward to impact and fracture rock. Compressed air also travels through the drill bit into the hole (air exhaust), which blows the chips and dust out of the hole.

Quieter drilling

From environmental and social perspectives, DTH is a good option because it produces much less noise and vibration than many other drilling methods.





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