

### Advantage:

- >> Hole range: 90-100mm
- >> Hole depth: 30m
- >> 78kW YUCHAI engine
- >> Dry type dust collector
- >> Two hydraulic motor driven rotary head

# JC617

## DTH ROCK DRILLING RIG

### 潜孔钻机

#### INTRODUCTION 产品介绍

- >> Engineered for tough rock formations and high-efficiency down-the-hole drilling, **JC617** combines robust structural design with advanced hydraulic control to deliver exceptional drilling performance in challenging conditions. With its ability to handle rock hardness levels up to F=20 and drill diameters ranging from 90 to 100mm, **JC617** is especially suited for surface mining, quarry operations, and infrastructure foundation work.
- >> The rig adopts a reinforced feed and rotation system that ensures powerful penetration capacity. It delivers a maximum rotary torque of 2400N·m and operates at a rotary speed suitable for deep, precise drilling. The drill string features 64mm x 3000mm rods, optimized for both strength and adaptability in fragmented or abrasive formations.
- >> Powered by a high-output diesel engine, **JC617** is equipped with an efficient hydraulic system that controls feeding, lifting, rotation, and positioning functions through a centralized interface, enabling smooth operation and reduced manual effort. The integrated design enhances operational safety while improving energy efficiency across long drilling cycles.
- >> The heavy-duty chassis and stable tramming structure allow the rig to maintain reliable mobility across complex terrain. Dust suppression, sealed electrical components, and a user-focused maintenance layout minimize downtime and enhance the machine's durability in harsh outdoor environments. Whether used in mineral exploration or production drilling, **JC617** delivers consistent results with lower operating cost and longer service life.

#### >> CHARACTERISTICS 产品特点

- >> Humanized integrated operating platform is easy to operate, with centralized layout for convenient monitoring and control. Equipped with Yuchai 78kW engine (Model YCD4T22T-105A), offering stable power and low fuel consumption for long-time field operation.
- >> Twin-motor rotary system delivers high torque of 2400N·m and up to 150rpm speed, ensuring smooth drilling across various rock formations.
- >> 3340mm long feed stroke with 15kN feed force and 25kN lifting force meets deeper hole requirements and improves drilling efficiency.
- >> Oil cylinder feed system with 900mm feed extension enhances adaptability and ensures smooth rod handling. Wide range of working air pressure (0.8- 1.6MPa) and air consumption (9 – 15m<sup>3</sup>/min) provides compatibility with multiple air compressors.
- >> Robust tramming mechanism supports 25° climbing ability and can easily tow an air compressor during slope movement.
- >> Compact structure with only 4.1 tons total weight and dimensions of 5500x2050x2200mm, convenient for transportation and site maneuvering.
- >> Specially designed protective cover improves appearance, allows easy access for maintenance, and enhances machine durability.
- >> Optional winch available to assist with auxiliary lifting tasks on site.

## Characteristics 产品特点

- >> Operating System: Humanized integrated control platform at the rear ensures simple and intuitive operation, allowing the driller to easily manage both mechanical and pneumatic systems.
- >> Power and Air System: Powered by a 78 kW Yuchai diesel engine, matched with 9- 15 m<sup>3</sup>/min air consumption and 0.8- 1.6MPa working pressure for efficient DTH performance in medium rock conditions.
- >> Hydraulic and Rotation System: Dual-motor rotation system delivers up to 2400 N·m torque and 0- 150rpm speed, enhancing drilling efficiency and ensuring adaptability in complex geological formations.
- >> Feed System: Oil cylinder feed mechanism with 3340 mm stroke and 15 kN thrust ensures smooth and stable drilling. 25 kN lifting force provides reliable rod handling and deep hole drilling capability.
- >> Traveling System: Rugged crawler drive with 2 km/h max speed and 25° climbing capacity, capable of dragging an air compressor while climbing. 450 mm ground clearance supports all-terrain movement.

## Specification 技术参数

Specifications	Unit	JC617
<b>Drilling Specifications</b>		
Hole Depth	m	30
Hole Diameter	mm	90- 100
Drilling Rod Diameter	mm	64
Drilling Rod Length	mm	3000
DTH Hammer	inch	3"/4"
<b>Rotation</b>		
Maximum Rotary Torque	N·m	2400
Rotation Speed	rpm	0-150
Lifting Force	kN	25
<b>Feed System</b>		
Feed Type		Oil cylinder
Feed Stroke	mm	3340
Feed Extension	mm	900
Feed Force	kN	15
<b>Engine</b>		
Engine Brand		YUCHAI
Engine Model		YCD4T22T-105A
Rated Horsepower	kW	78
<b>Air Compressor Demand</b>		
Working Pressure	MPa	0.8- 1.6
Air Consumption	m <sup>3</sup> /min	9- 15
<b>Weight &amp; Dimensions</b>		
Weight	kg	4106
Transport Dimensions (L×W×H)	mm	5500 × 2050 × 2200
<b>General Specification</b>		
Tramming Speed	km/h	0- 2
Climbing Capacity	°	25
Ground Clearance	mm	450
Fuel Tank Capacity	L	70
Dust Collector		8 Core Dry type
Winch		Optional

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

78 kW Yuchai engine, supports 9 – 15 m<sup>3</sup>/min airflow at 0.8 – 1.6 MPa.



### Rotation System

Dual motors provide 2400 N·m torque and 0-150 rpm speed.



### Feed System

3340 mm stroke with 15 kN thrust and 25 kN lifting force.



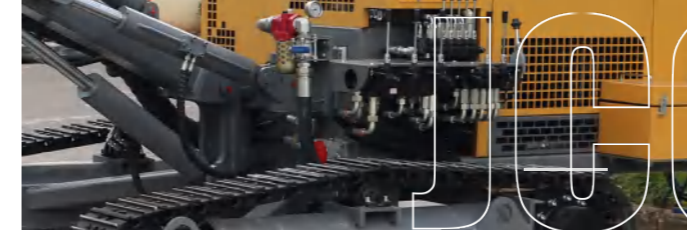
### Traveling System

Crawler drive, 2km/h speed, 25° climbing, 450mm ground clearance.



### Control Platform

Rear integrated panel for easy control of all systems.



### Protective Cover

Compact and aesthetic design, easy for maintenance access.



# 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

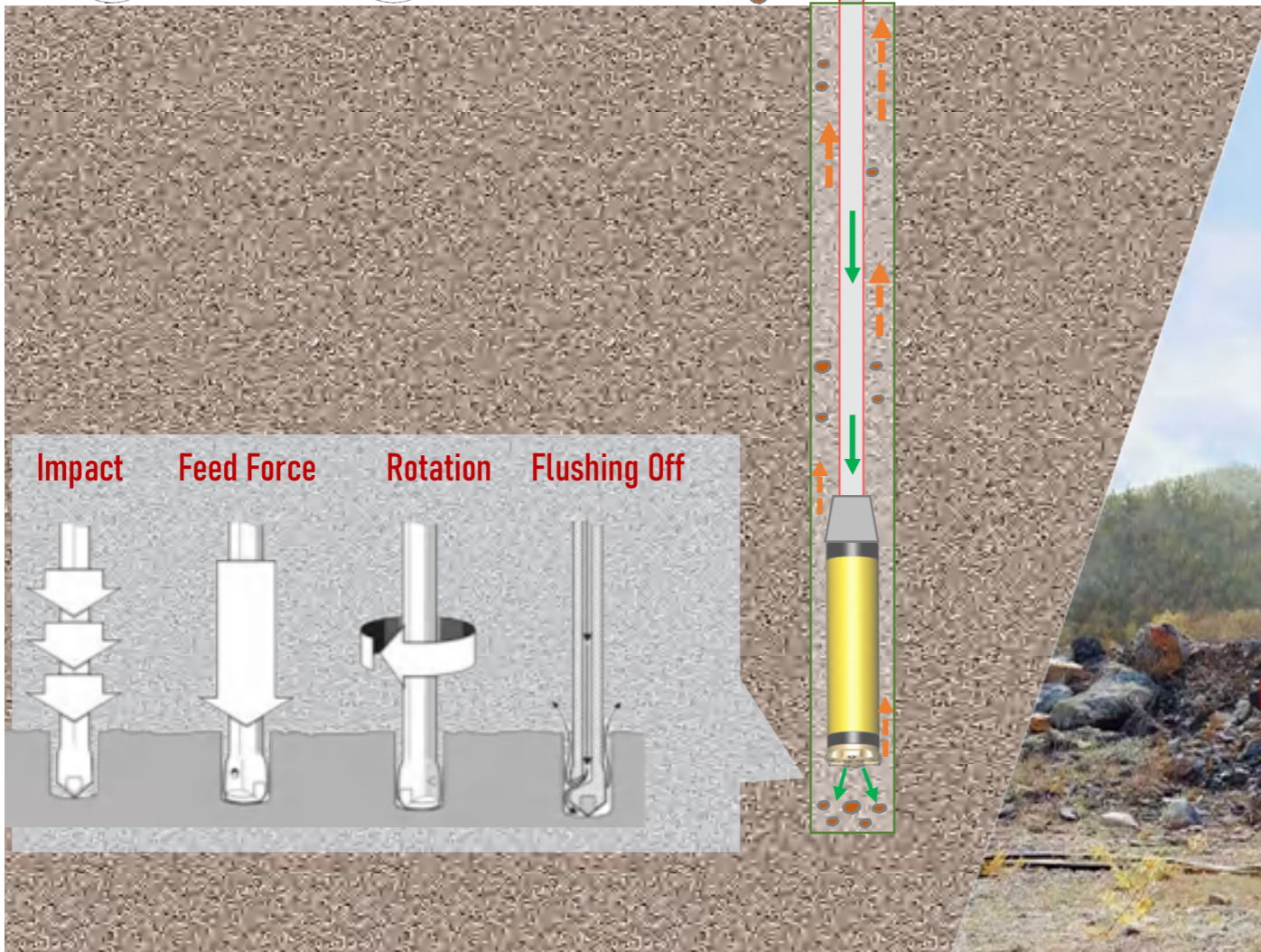
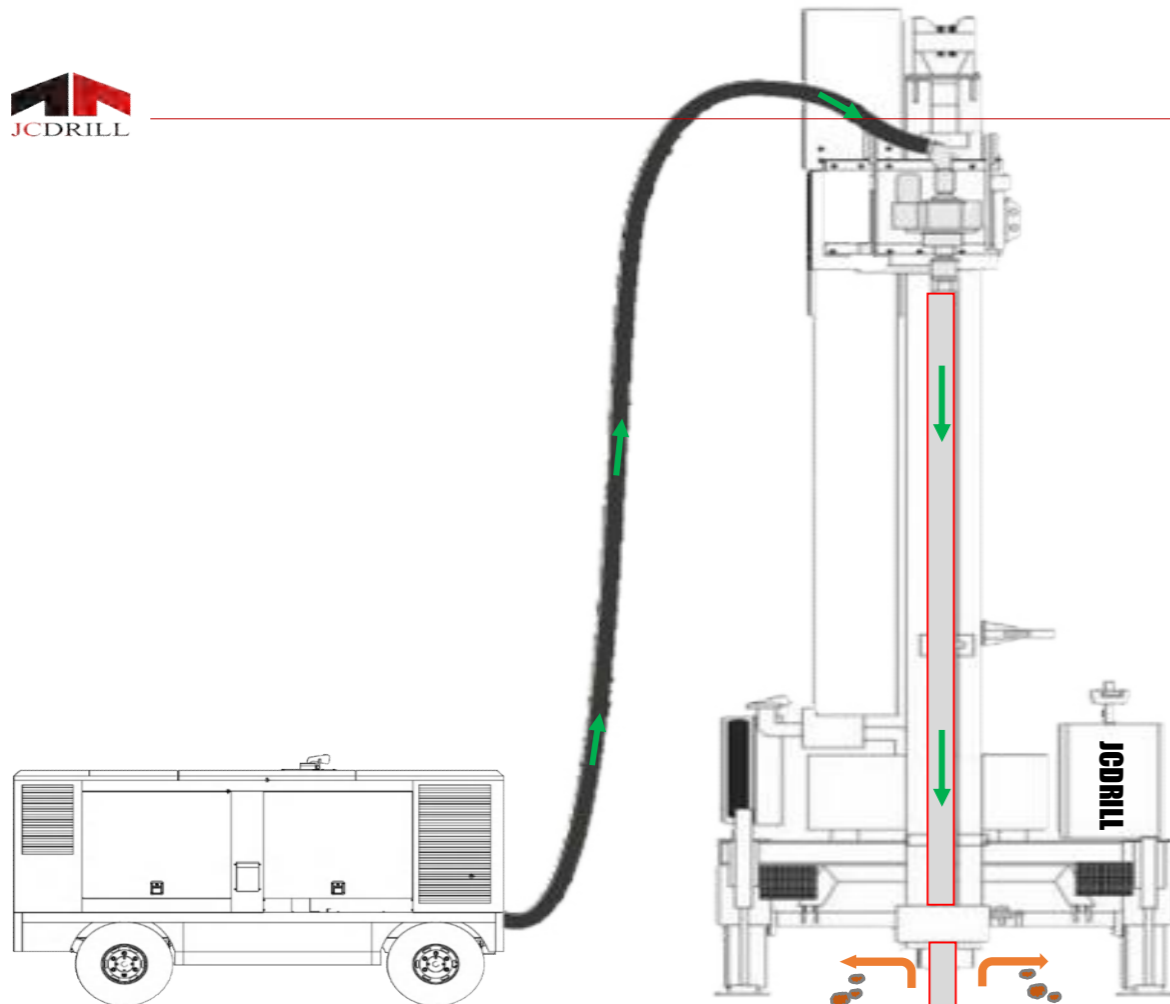
DTH drilling offers several advantages over top-hammer drilling for larger, deeper holes in medium-hard formations. Because the hammer is at the bottom of the hole, power loss is minimal as the hole deepens. That means energy is not lost in the drill string and penetration rates do not markedly decline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