Research content of hydraulic rock drill

The propulsion system of hydraulic rock drill is a device to drive the rock drill body forward and make it well contact with the rock, so the rock drill can achieve good crushing efficiency in the ...

When ? is in the range of 9-11, the impact piston"s design of a high-power rock drill can be satisfied. When ? is in the range of 3~5, it is mainly ...

Four actions for successful drilling Action 1: Percussive Impact Percussive drilling breaks the rock by hammering impacts transferred from the rock drill to the drill bit at the bottom of the hole.

As a technological innovation of high-power hydraulic rock drill, double damping system has a very important effect on impact performance. ...

In response to the issues of overheating of the shell and insufficient impact energy of the hydraulic rock drill, this paper focuses on the ...

This work describes the collection and properties of the publicly available rock drill fault classification data set rockdrill11, used for the 2022 PHM Conference Data Challenge. ...

Download scientific diagram | Impact and reversing mechanism principle. from publication: Impact System Dynamic Characteristics of Hydraulic Rock Drill Based on an Overlapped Reversing ...

As the core component of rock drill, the performance of percussion system decides the whole level of rock drill to a great extent. 8, 9 However, ...

Under the action of hydraulic pressure, the piston of the rock drill impacts the drill rod at a certain speed and breaks the rock through the drill rod and the drill bit. At the same time, the ...

The high-power hydraulic rock drill improves drilling speed. With the increase of impact power, the rebound energy increases during drilling. This phenomenon seriously ...

The rotary oil pressure of HYG550 hydraulic rock drill is kept consistent by the pressure reducing valve, and the impact oil pressure is set by the relief valve . Under the ...

As a technological innovation of high-power hydraulic rock drill, double damping system has a very important effect on impact performance. The double damping system is a ...

Data distributions also differ between different operators of hydraulic rock drills, which leads to difficulties in

the fault diagnosis of hydraulic rock drills [5,6].

Abstract Considering the insufficiency of numerical study on the percussion characteristic of hydraulic rock drill, which restricts the improvement of efficiency and reliability, a coupling ...

Market Overview The global hydraulic rock drills market was valued at approximately USD 2.8 billion in 2023 and is projected to reach USD 4.7 billion by 2033, growing at a compound ...

As a technological innovation of high-power hydraulic rock drill, double damping system has a very important effect on impact performance. The double ...

The stress wave produced by the piston impact, on the drill rod, is an important factor affecting impact performance. It is particularly important to control the stress waveform generated by ...

For the phenomenon of a hydraulic rock drill based on an underlapped reversing valve, the mechanical structure of the overlapped reversing form was ...

To optimize and improve the impact performance of a hydraulic rock drill, it is helpful to test the stress waves of the drill and analyze the impact energy, impact frequency, ...

1. Introduction In the previous article, we experimentally investigated the performance of a hydraulic rock drill, the most common type of hydraulic rock drill currently ...

In the drilling process of the rock drill, the impact piston impacts the shank to break the rock. e impact piston strikes the shank to produce the stress wave, and the stress wave is transmitted ...

In the production and manufacturing process of hydraulic rock drill, there are small impact energy and low impact frequency, and a fault diagnosis method based on the internal ...

The hydraulic rock drill is an efficient rock-breaking tool widely used in mining, tunnel excavation, and construction engineering. Powered by a hydraulic system, it achieves rock fragmentation ...

Considering the insufficiency of numerical study on the percussion characteristic of hydraulic rock drill, which restricts the improvement of efficiency and reliability, a coupling ...

In response to the complex multistable behavior observed in hydraulic rock drills during the drilling process, this study first establishes a four-degree-of-freedom physical model ...

The retraction has been agreed due to errors in the scientific content of the manuscript. Specifically, the authors identified that the inflation pressure of the accumulator ...

PDF | Hydraulic rock drills are widely used in drilling, mining, construction, and engineering applications. They typically operate in harsh... | Find, read and cite all the ...

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On the basics of the calculation formula before, the paper constructed compound driven propulsion system of hydraulic rock drill based on electro-hydraulic proportional ...

Article on Research on the Matching of Impact Performance and Collision Coefficient of Hydraulic Rock Drill, published in Shock and Vibration 2021 on 2021-03-06 by ...

Download scientific diagram | Mechanical model of the rock drill. from publication: Delayed feedback control and parameter continuation of multistability in a nonsmooth hydraulic rock ...

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