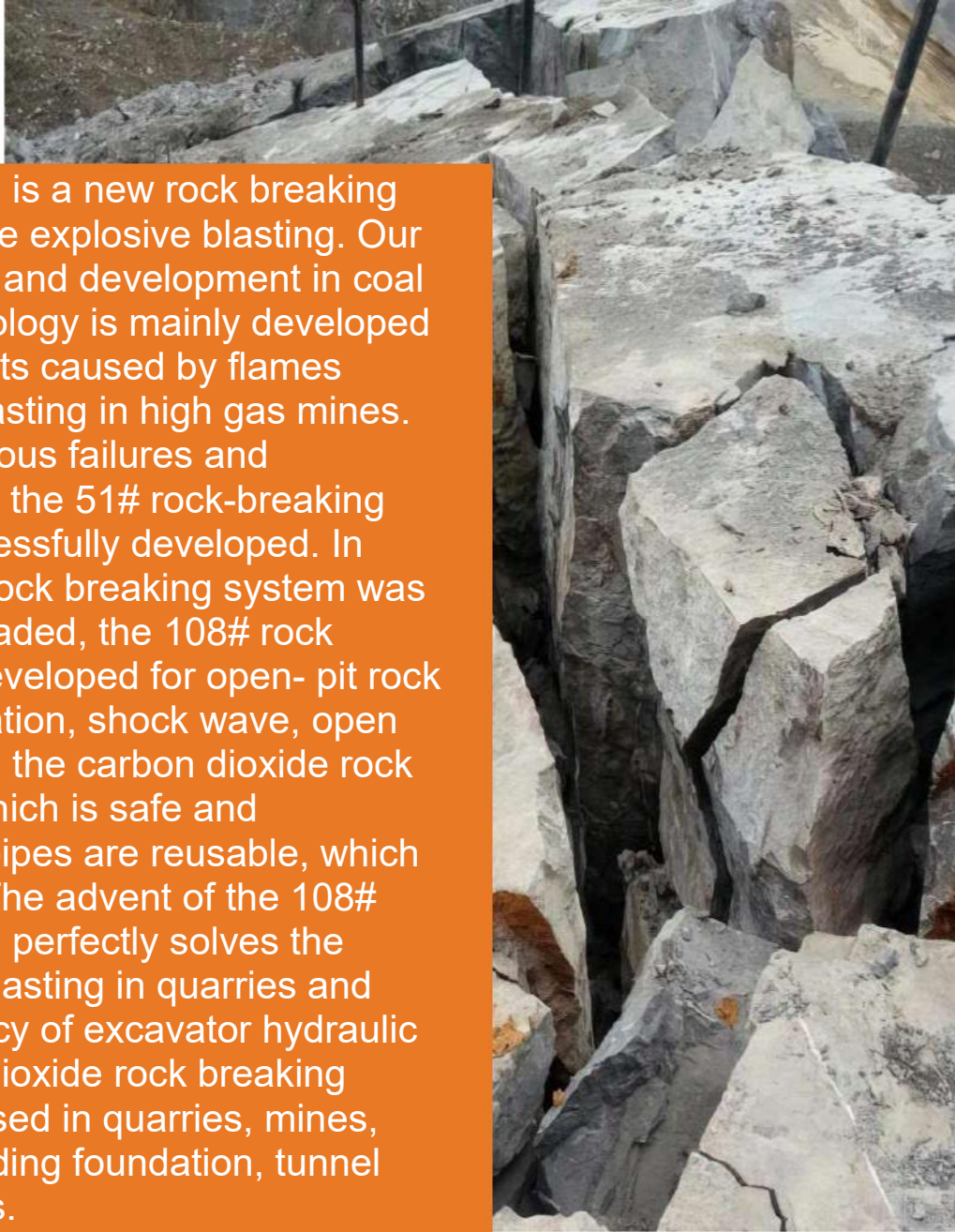




Dingli Co2 Rock breaking system

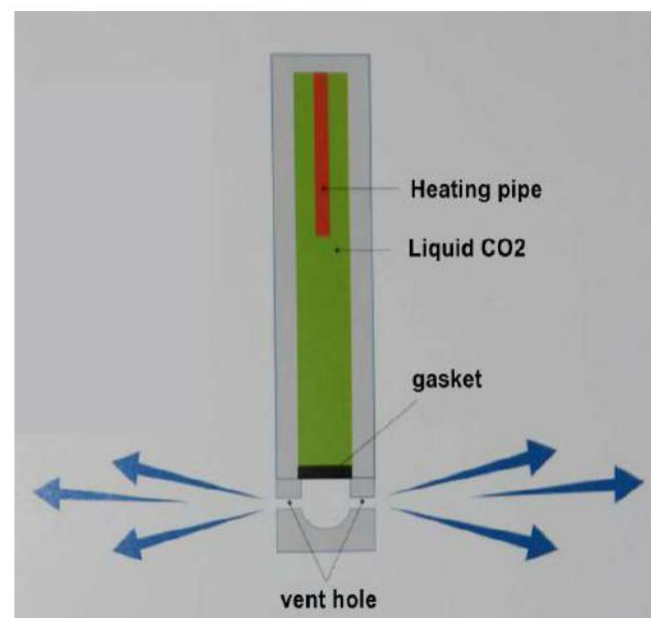
BRIEF INTRODUCTION

CO₂ rock breaking system is a new rock breaking technology that can replace explosive blasting. Our company started research and development in coal mines in 2003. This technology is mainly developed to avoid explosion accidents caused by flames generated by explosive blasting in high gas mines. After three years of numerous failures and thousands of experiments, the 51# rock-breaking steel pipe was finally successfully developed. In 2014, the carbon dioxide rock breaking system was further improved and upgraded, the 108# rock breaking steel pipe was developed for open-pit rock breaking. There is no vibration, shock wave, open flame or harmful gas when the carbon dioxide rock breaking system works, which is safe and environmental. The steel pipes are reusable, which helps to reduce the cost. The advent of the 108# CO₂ rock breaking system perfectly solves the problem of prohibition of blasting in quarries and mines and the low efficiency of excavator hydraulic breaker. Now the carbon dioxide rock breaking system has been widely used in quarries, mines, highway construction, building foundation, tunnel excavation and other fields.



WORKING PRINCIPLE

Liquid carbon dioxide is a liquid formed from highly compressed and cooled gaseous carbon dioxide. It does not form under atmospheric conditions. It exists only at pressures above 5.1 atm and temperatures below 31.1 °C (critical point temperature) and above -56.6 °C (triple point temperature). CO₂ rock breaking technology uses this feature to put the heating pipes into the rock-breaking steel pipes and fill the liquid carbon dioxide into the rock-breaking steel pipes. Insert the steel pipes into the pre-drilled holes on the rocks. When the start button on the initiator is pressed, the temperature of heating pipes will increase rapidly. The liquid carbon dioxide will vaporize and expand rapidly at high temperature. Consequently, the rocks will be broken and splitted.



COMPONENTS

The CO₂ rock breaking system mainly includes carbon dioxide filling equipment, rock breaking steel pipes and accessories.



Liquid CO₂ storage tank



Liquid CO₂ filling machine



Filling operating table



Rock breaking steel pipes



Steel Pipe Straightener



Air compressor & air wrench



Heating pipes



Initiator



Multimeter

ADVANTAGES

No explosive.

No vibration.

No hazardous chemicals.

Easy and quick to operate.

No pollution or emission of dust.

Rock-breaking steel pipes are reuseable.

No need bureaucratic procedure or license.

High output compared with conventional machinery.



ROCK-BREAKING STEEL PIPE SPECIFICATIONS



Model	Tube diameter	Length	Capacity	Weight	Drill hole diameter
51#	51mm	1.2m	0.4-0.5kg	12kg	50mm
108#	108mm	2.2m	0.6-0.8kg	98kg	130mm

WORK PROCESS

1. Drill the holes on the rocks.

2. Put heating pipes into steel pipes .

3. Fill up liquid carbon dioxide into the steel pipes.

4. Put the steel pipes into the holes.

5. Plug the holes with sand and aggregate.

6. Connect and launch.



CASE



ABOUT US



Dingli Group was established in 2000 and is an expert in the field of non-explosive blasting technology. It has been specialized in research and development and production of various technologically advanced rock breaking machinery, and is committed to providing safe and effective solutions for mines and construction projects where blasting is prohibited.

Our main products include piston rock splitter, hand-held hydraulic splitter, drilling and splitting integrated machine, carbon dioxide rock breaking system and related accessories. After 20 years of development in China, we have become China's leading rock-breaking machinery manufacturer. Our products have passed the tests of various domestic complex construction environments, and can solve various problems encountered in rock crushing construction for you.

We are proud of the quality of our customer service and ensure fast and on-time delivery to meet your urgent requirements. We are on standby to serve you at any time, and we promise to redouble our efforts to meet the current and future needs of customers.



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