Powerking

www.powerkingnrc.com

NRC

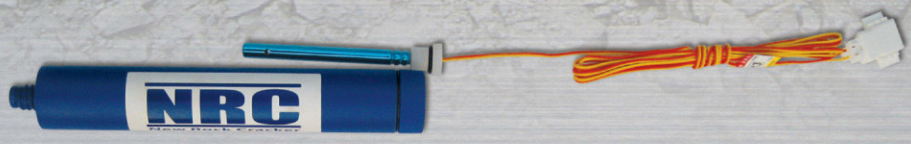
New Rock Cracker

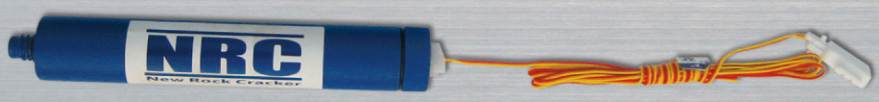
Non Explosive Material !!

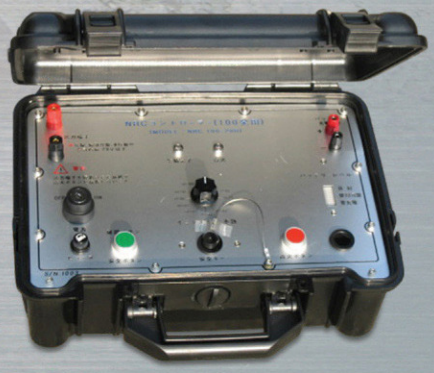
Very Low Vibration !!

Very Low Noise !!

Sequential Cracking !!







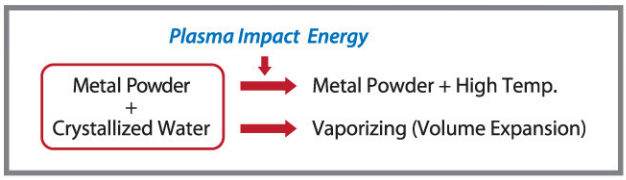
Powerking NRC corp.

NRC
New Rock Cracker

Rock Cracking by Plasma & Vapor pressure with delay time method.

Big step toward the Silent & Low Vibration Rock cracking by vapor pressure.

NRC (New Rock Cracker)



NRC is aiming to solve the Problems from the vibration, noise and environment protection matters at the downtown or sensitive area where the blasting is not allowed.

Merit point of NRC

1. Low Vibration & Noise

Using vapor pressure with delay time method, the vibration by NRC rock cracking is only 10% of the normal Emulsion Explosive blasting. Also the noise level is less than 65dB at 30m from the sound source according to the various field tests.



2. Minimize the impact to the surrounding.

By using the proper delay time method, it is possible to minimize impact to the surroundings. So, NRC can be used near the building or the sensitive area.

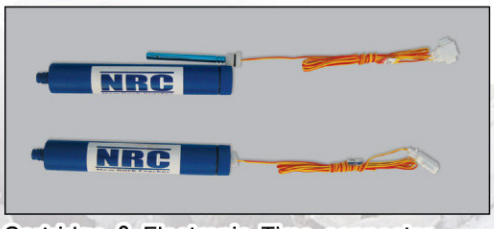


3. Convenient Handling

NRC is consists with only Non-Explosive materials and so, it is not required to get approval from police or related organization for use, transportation and storage.
The composition is metal powder, magnesium sulfate-hydrate mixture.

4. Easy & Simple to use.

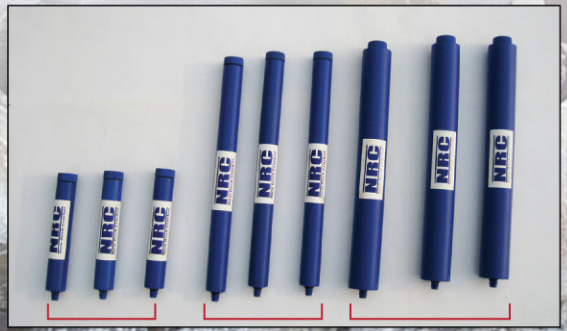
By the Electronic control system and granule in cartridge, it is easy to use at the jobsite.



Cartridge & Electronic Time connector



Electronic Discharge controller



200g 400g 1,000g



Combination

Specification of NRC

NRC Cartridge Specification

Usable Temp.	Specific Gravity	Chemical Reaction Velocity	Reaction Temp	Energy	Gas Quantity	Specific Energy
℃	g/cc	m/sec	°K	kcal/kg	ℓ/kg	kgf/㎠- ℓ/kg
-20~60	1.25~1.35	200~300	2502	409	351	3324

For reference, Specific Energy of Emulsion is 8,000 kgf/㎠– ℓ /kg

NRC Cartridge Packing

PRODUCT	Diameter	Length	Weight	Q'ty/box	Net weight /Box	Box Size (L x W x H)
	mm	mm	g/pc	pc/box	kg/box	mm
NRC 200	34	200	200	80	16	435×300×170
NRC 400	34	400	400	40	16	435×300×170
NRC 1000	50	410	1,000	14	14	455×265×155

NRC Cartridge Power Comparison

PRODUCT	chemical reaction	Comparative Specific gravity	Energy	Gas capacity	Comparative Energy	Power coefficiency
	m/sec	g/cc	kcal/kg	ℓ/kg	kgf/㎠- ℓ/kg	-
Emulsion	5700	1.1~1.2	880	826	8234	1.00kg
Black Powder	300	0.9~1.0	710	350	3673	1.74kg
NRC	200~300	1.25~1.35	409	351	3324	2.32kg

NRC standard consumption Q'ty

Unit : kg/m³

Method	Soft Rock	Normal Rock	Hard Rock
Cut in Tunnel	1.80	2.00	2.50
Open Cut	0.74	0.87	1.31
Bench	0.55	0.74	1.08

This data is based on Korea

NRC Working Process

Site Survey
↓
Drilling
↓
NRC Preparation
↓
Charging
↓
Wiring
↓
Resistance Check
↓
Protection
↓
Escaping
↓
Initiation
↓
Confirmation of Cracking



Where to use?



Bench Breaking



Near the Building



Boulder Cracking



Tunneling



Tunneling



Shaft Digging



Sensitive Area in Mine



Road construction



Road construction



HEAD OFFICE



NRC Factory

Powerking

Powerking NRC Corp.

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