



CARDOX

CARDOX Systems™

NON-EXPLOSIVES SOLUTION FOR ROCK & CONCRETE BREAKING

The CARDOX System is used extensively all over the world, for breaking rock, concrete and many other materials expeditiously, with complete safety and without any adverse effects especially in sensitive areas.

Rock Excavation

Use CARDOX for mass excavation of rock for foundations and footings as well as landscape reclamation. Excavation near a busy road can be done safely and efficiently.

Tunneling

Underground headings, tunnels and shaft sinking are no problem. CARDOX can also be used for excavation of shafts adjacent to gas, electricity, and water mains.

Trenching

Cardox helps you work safely in areas where conventional explosives are prohibited such as city centers, residential and other sensitive areas. The CARDOX System can also be used effectively in reservoir construction.

Concrete Demolition

CARDOX is used effectively for controlled breaking of reinforced and mass concrete, masonry and brickwork, controlled interior demolition, bridge demolition, trimming reinforced concrete piles and pile caps.

Underwater Excavation

Harbor deepening and widening, excavations of seabed for cable / pipeline installations, breaking concrete overfills, and deepening of riverbeds are handled without danger to marine life.



Advantages

- Fully approved by Health & Safety Executive (U.K.)
- Classified as Non-Explosives
- No permit required for usage, or transportation
- No license required for import
- No magazine required for storage
- Immediate return to work site
- Instantaneous results
- Indefinite shelf life
- No shock waves or damaging vibration
- Can be activated in series
- Vertical & horizontal loading
- Can be used underwater

CARDOX Tubes are manufactured to ISO9002 and also carry Rolls Royce Quality Assurance Approval.

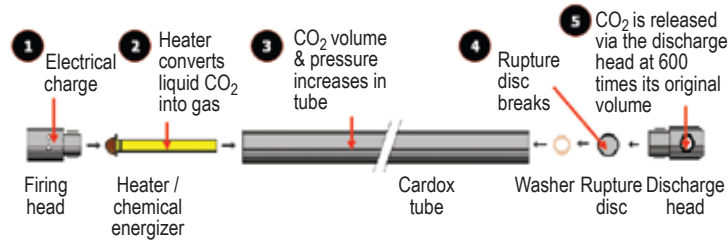


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How CARDOX works



CARDOX has a variety of different tubes for specific applications. Tubes are filled with liquid carbon dioxide (exactly the same as a fire extinguisher). When energized by the application of a small electrical charge, the chemical heater instantly converts the liquid carbon dioxide to a gas. This conversion expands the CO₂ volume and builds up pressure inside the tube until it causes the rupture disc at the end of the tube to burst. This releases the CO₂ - now 660 times the original volume - through a special discharge nozzle to create a powerful heaving force, at pressures up to 40,000 psi (3,000 bar). This all takes place in milliseconds.

This instantaneous build-up in pressure reaches the yielding pressure of the rupture (shear) disc which bursts releasing a heaving mass of carbon dioxide which breaks the surrounding material.

By selecting the thickness of the rupture disc, the power of the tube can be regulated to suit all conditions.



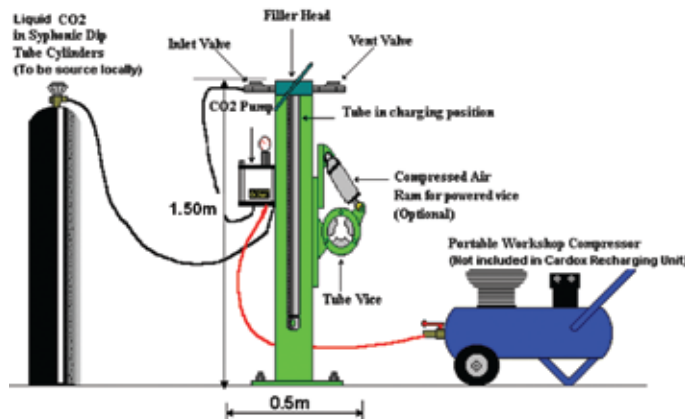
After recovery the tube, the heater, washer and rupture disc are replaced, the liquid carbon dioxide recharged and the tube is ready to be used again.

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The versatile CARDOX tube recharging unit:

- Can be located anywhere on site
- Takes less than one minute to fill CARDOX tubes
- Only needs to be used when required
- Needs minimum amount of maintenance



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CARDOX IS THE REAL ALTERNATIVE TO EXPLOSIVES!

Rock Excavation I



Rock Excavation II



CARDOX produces instantaneously a powerful heaving force, using carbon dioxide which cracks and breaks the material along natural and / or induced fracture plains whilst heaving it away from the mass of rock or concrete.

CARDOX yields for various applications:

APPLICATIONS	EXCAVATIONS / STRATA TYPE	AVERAGE YIELD PER CARDOX TUBE IN CUBIC METRES
Quarrying	General Dimensional Stone	3 to 6 5 to 20
General Open Cut Excavations	Hard / Medium Rock	1 to 3
Foundation Excavations	Hard Rock Medium Rock	0.75 to 1 1 to 1.5
Trench Excavations	Hard Rock Medium Rock	0.6 to 1 0.75 to 1.5
Tunnel Excavations	Hard Rock Medium Rock	0.5 to 0.75 0.75 to 1.5
Concrete Excavations	Mass Concrete Light Reinforced Concrete Heavily Reinforced Concrete	2 to 4 1 to 2 0.75 to 1

CARDOX has been used in more than 150 installations all over the world for over 30 years!



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..CONTACT US:

Talk to Us



A vital part of the service we provide is the ability to understand the customer and its services, ensuring our ability to meet and exceed every client's expectations and customer service levels, every single time.

We work closely with our customers to ensure the safe completion of the projects in which we participate. Since each project is unique, our highly-trained personnel carefully consider and design the safety procedures, equipment, technology and numerous other details required for the successful completion of the project.

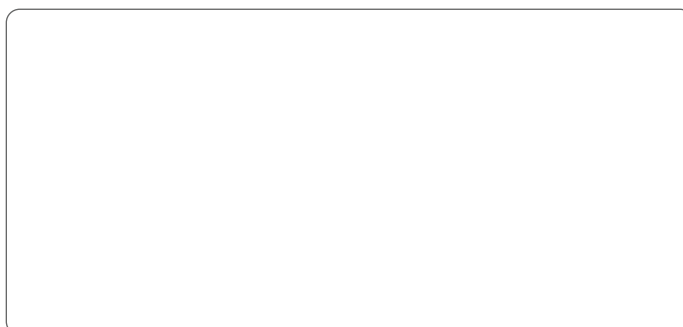
Our reputation for detail rests on the shoulders of our high quality personnel. These individuals are highly qualified; moreover, they have undergone rigorous academic and field training. When this is coupled with their years of field experience, the end result is quality you can count on. Whatever size or nature, you are assured that all projects can be carried out with the same professionalism and confidence.

Peace of heart, peace of mind.

Global Services:
CARDOX GLOBAL SERVICES PTE LTD
10 Bukit Batok Crescent
#04-03E, THE SPIRE
Singapore 658079
Singapore

Tel: (65) 6225 5339 ext 88
Fax: (65) 6225 6130

Email: info@cardox.net



SILO CLEANING
▪
**BUILD-UP &
BLOCKAGE CLEARING**
▪
ROCK EXCAVATION

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