



The Cool Way of Cleaning



Product Range:

The CRYONOMIC® cleaning technique is developed in Belgium and is used throughout the world. The product range consists of:

- Dry ice blasting equipment: 1- and 2-hose systems
- Guns and nozzles
- Dry ice containers
- Pelletisers

The development is done by our R&D department. Upon request we can provide customised cleaning solutions. The robotisation of dry ice cleaning is an example of a custom developed product.

CRYONOMIC® dry ice cleaning equipment, a unique concept:

- Compact equipment
- Reliable operation
- Efficient in pellet consumption
- Multifunctional



Why Dry Ice Cleaning?

Cleaning in industrial environments presents a number of problems when using existing traditional methods. Sand blasting, solvent cleaning, high pressure and manual cleaning are often too aggressive, leaving a damaged cleaned surface, or they are simply dangerous or polluting. CRYONOMIC® Dry ice cleaning has been developed as an efficient, fast and environmentally friendly alternative cleaning method for virtually any type of material in a wide range of environments.

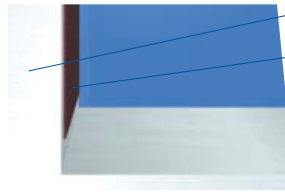
How does it work?

Dry ice cleaning is a blasting technique similar to sand blasting. The advantage of using solid CO₂ or dry ice pellets as blasting material is twofold.

Firstly the very low temperature of the dry ice pellets causes the contamination to freeze and contract resulting in the easy detachment of the contaminant from the substrate. Secondly the dry ice pellets vaporize to carbon dioxide gas which means that only the original contaminant is left for disposal. This natural evaporation of dry ice pellets is a major advantage of the dry ice cleaning method.

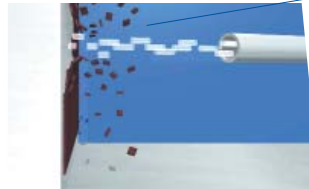
The diagrams on the right explain the mechanism in more detail.

Before cleaning



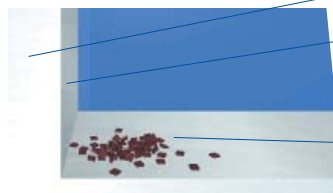
substrate
contamination layer

During cleaning



CO₂ pellets hit the surface, remove the contaminant and turn to gas

After cleaning



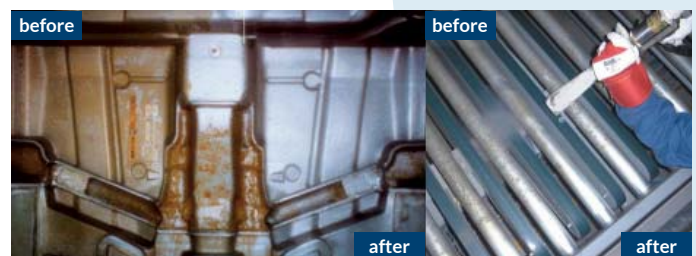
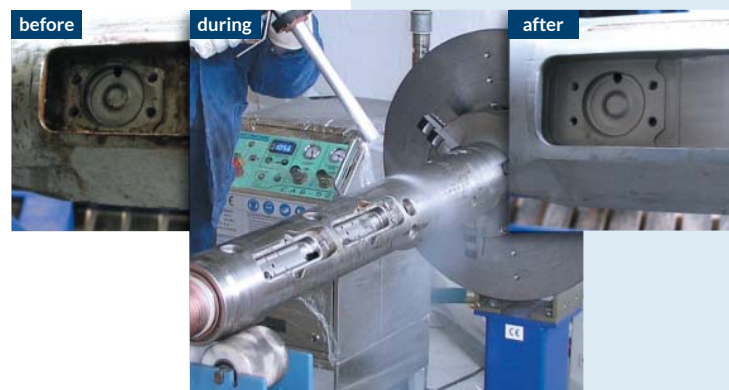
substrate not damaged
contamination layer removed
no additional waste

Who can use it?

Automotive and aerospace industry • metallurgy • plastic and rubber industry • printing industry • food industry • construction industry • petrochemical industry • power generation industry • ...

A wide range of applications:

- General maintenance of machines and production lines: welding robots, printing presses, chain and conveyor systems.
- Cleaning of injection, extrusion and casting moulds, tanks, ovens, ...
- Removal of glue, resin, grease, carbon deposits, asbestos, nuclear decontamination, ...



References:

- 3M • ABB • AIR LIQUIDE • ALSTOM • AUDI • BALL • BASF • CONTINENTAL • DANONE • DELPHI • DIW • EDF • FEHRER • FREUDENBERG • GM • GOODYEAR • HERAEUS • ISS • Kingspan • KRAFT • LEAR • LINDE • LOCKHEED • MICHELIN • ONET • P&G • PIRELLI • PORSCHE • PSA • RECTICEL • RENAULT • ROLLS ROYCE • SCA • SIEMENS • SOLVAY • SWISS MISS • TNT • TRW • UNILEVER • ...

Comparison between CRYONOMIC® dry ice cleaning and traditional cleaning methods:

	CRYONOMIC®	Sand blasting	Solvent cleaning	High pressure	Manual cleaning
• Time saving:					
Cleaning in the production environment	✓	○	⊙	○	⊙
No need to strip down the production machines	✓	○	○	○	○
Short or no production stop	✓	○	⊙	○	⊙
Fast cleaning method	✓	✓	○	✓	○
• Environmentally friendly:					
Generates no additional waste	✓	○	○	○	○
No use of aggressive or dangerous products	✓	○	○	○	⊙
No noise nuisance	○	○	✓	○	○
• Other advantages:					
Leaves the substrate intact	✓	○	⊙	⊙	○
Suitable in food industry	✓	○	○	✓	⊙
Pellets do not conduct electricity	✓	○	○	○	⊙

✓ Advantage applicable for this technique

⊙ Advantage sometimes applicable for this technique

○ Advantage not applicable for this technique

CRYONOMIC® is a registered trademark of ARTIMPEX N.V.

When ARTIMPEX N.V. began developing the CRYONOMIC® technology in 1992 it set out to produce dry ice cleaning systems and auxiliary products that would surpass all competitive products on the market. Today, we have attained a unique position in the world market with our technology and technical expertise.



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