

## Facts

### Dry Ice Cleaning ...

- Manageable solution to improve and upgrade conditions.
- Non toxic
- Non abrasive
- Non corrosive
- No or less production down time
- For difficult to reach areas
- For in-process maintenance
- Easy to use
- Eco friendly

### Conventional Cleaning ...

- Dismantling of machinery
- Re-alignment of machine parts
- Malfunction of machinery
- Long production down time
- Skilled work force needed
- Labor intensive
- Expensive disposal of cleaning agent
- Unattractive appearance
- Fire hazard ( thinner / solvents )
- Health risk
- Eco hazard

## Machine

### Technical Parameters ...

- Fully pneumatic
- No electrical power supply needed.
- Dimension L60cm x W40cm x H45cm
- Net weight: 16 kg
- Air consumption: 700 - 1500 L/min
- Blasting pressure : 3.5 - 8.5 bar
- Pellet size: diameter 1.5 - 3mm
- Dry ice consumption: 6 - 12 kg/hrs
- **Ultra mobile : Can be hand carried !**
- Comes with 10m air supply hose.
- Ready to connect and use.



Your Distributor :

# DRY ICE CLEANING

SWISS ENGINEERED

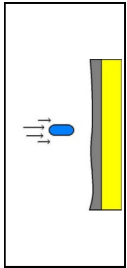
## Model : C2



- Functional
- Reliable
- Affordable

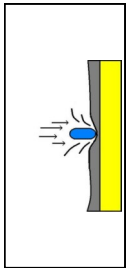
[bono-iceblast.com](http://bono-iceblast.com)

# Theory



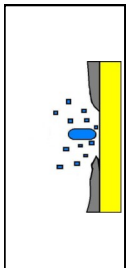
## 1. Velocity

The pre-formed dry ice pellets are accelerated through specially designed nozzles at extreme high Velocity towards the contaminated area



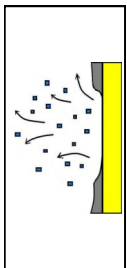
## 2. Kinetic Energy

The mass of dry ice pellets traveling at the set velocity creates high kinetic energy allowing the dry ice pellets to penetrate contaminated area.



## 3. Heat Absorption

The vast temperature difference between the dry ice pellets and the contaminated surface creates high shear stress's resulting in bond failure of the contaminant.



## 4. Expansion

The rapid heat absorption of dry ice pellets result in instantaneous sublimation causing the volume of the CO2 to increase by approx. 700 times creating an area of high pressure.

# Medium

## Dry Ice Pellets ( Solid CO<sub>2</sub> )



## Dry Ice Pellets are ...

- Odorless
- Non toxic
- Non flammable
- Non hazardous
- Soluble in water
- Natural component of air
- Colour : white
- Density : 1.56 gr/cm<sup>3</sup>
- Hardness : ~1.5 (Mohs Scale / Baby Powder ~ 1)
- Temperature of solid CO<sub>2</sub> : -78°C

# Application

## History ...

Dry ice cleaning was developed for a vast range of industries where production up-time is critical.

It is proven efficient in eliminating solid contamination from countless components.

Before



After



## Industries used ...

- Automotive
- Marine
- Public Sector
- Utility Maintenance
- Food & Beverage
- Contract Manufacturing
- Wood & Furniture
- Paper & Packaging
- Chemical
- Printing
- Plastic & Rubber

Many more ...