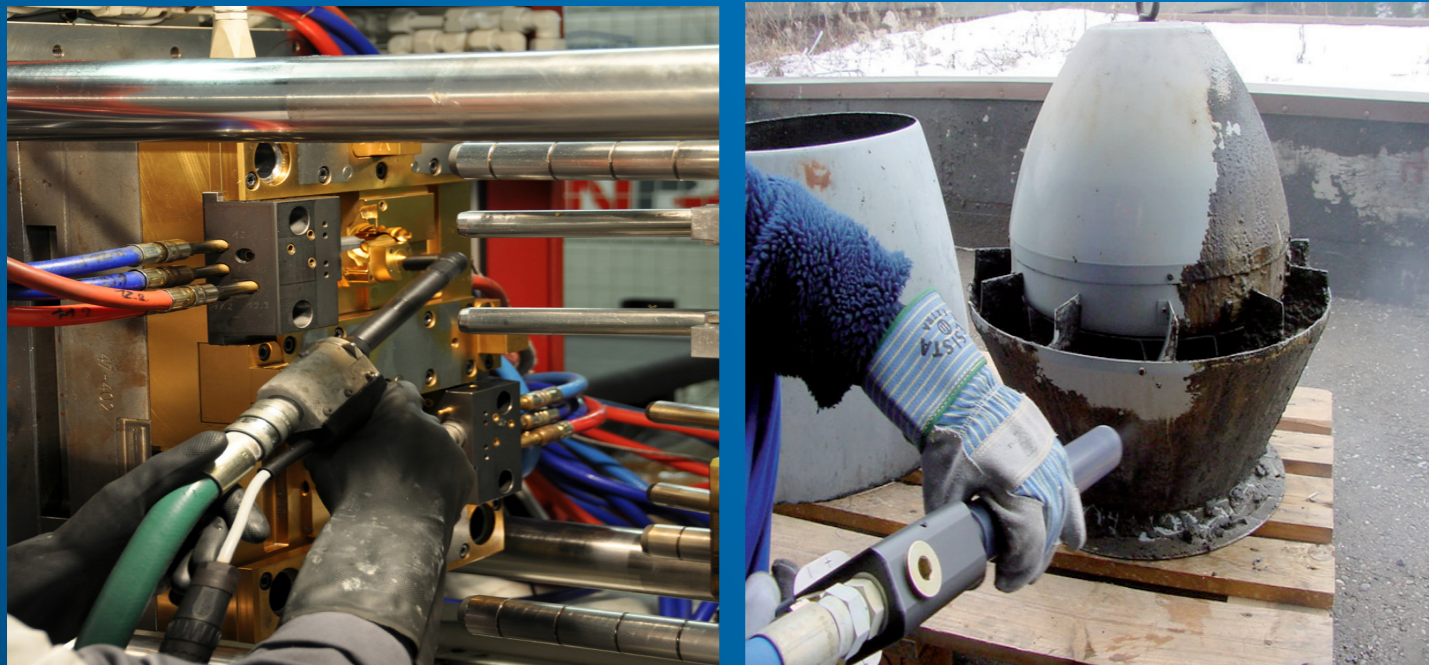


# Dry Ice Blasting in Industrial Cleaning

Cleaning of machines, surfaces and infrastructure

[ascoco2.com](http://ascoco2.com)



In the industrial cleaning of machines, surfaces and industrial plants quality is of utmost importance. Dry ice technology significantly increases efficiency and therefore improves productivity and optimizes costs.

ASCO has successfully developed an innovative cleaning process which is perfectly suited for the industrial cleaning industry.

**The ASCO dry ice blasting technology offers the following advantages:**



## POWERFUL & GENTLE

The hardness of dry ice pellets can be compared to the hardness of chalk. As a result, the surface structure of the cleaning surface is not damaged or changed in any way. Dry ice blasting is a gentle yet effective cleaning method. Unlike steel brushes or scrapers, dry ice blasting does not damage materials. ASCO'S unique nozzle technology with sophisticated aerodynamic flow behavior ensures optimum blasting result.



## COST SAVING

Downtime of the objects or machines to be cleaned, interruptions of production and expensive disposal of hazardous waste are eliminated.



## TIME SAVING

Cleaning of machines, surfaces, industrial plants etc. can be performed during the ongoing production process. Since this cleaning technology is dry and non-abrasive, it can be applied directly onto the object to be cleaned. This way, downtime can be reduced to a minimum. Cooling or, conversely, heating of tools is not necessary. This saves valuable time.



## ENVIRONMENT FRIENDLY

The pellets immediately change to a gaseous state on impact. Only the removed contamination remains. There is no need to dispose of the cleaning media. This reduces waste dramatically! No sewage - or cleaning and filtration of wastewater. No contamination by hazardous additives, chemicals etc. No remains of the cleaning media. Dry ice is basically non-toxic.



## SAFETY

Cleaning with dry ice is a dry and non-conductive cleaning process. By eliminating the use of solvents and hazardous chemicals the dry ice cleaning technology is safe for people and environment. The equipment is light, mobile, low in maintenance, reliable and easy to operate.



## OPTIMIZATION

**Advantages of combi-blasting:** After prolonged dry ice blasting when removing coating in the mould, microparticles of the coating are compressed into the surface of the moulds, which leads to a smooth surface. On this smooth surface, the coating no longer holds, which makes abrasive cleaning of the mould necessary. This can be achieved with the **ASCOJET 1708 Combi Blaster** and the **ASCOJET 2008 Combi Pro** by supporting dry ice blasting at the push of a button with minimal use of abrasive additive.

## Industrial Cleaning: How dry ice blasting is used

Many industrial cleaners use dry ice blasting as an alternative and supplement to conventional cleaning methods. In the course of the maintenance and repair of plant technology, the optimal cleaning process is becoming increasingly important.

It is necessary to cover the bandwidth between, e.g., strongly adhering contamination on solid metal parts and oil and dust deposits on sensitive electrical parts and sensors.

In addition to the corresponding know-how in application technology, the optimal dry ice blasting technology is the key to success.



Cleaning of lokomotive



Cleaning of gas turbines



Cleaning of a built-in, hot mould



Cleaning of industrial fan



With the **ASCO Dry Ice Blasting Process** the cleaning of machines, surfaces and industrial plants is easier and faster.

The cleaning time of several hours is reduced to a few minutes.

## Our competence - your advantage

- ASCO is one of the first suppliers of dry ice blasting technology in industrial cleaning. Decades of experience in the industrial sector have taught us that dry ice blasting can be used for all cleaning applications.
- Tough operating conditions require solid blasting technology. The modular and maintenance-friendly design of the **ASCOJET blasting units enables industrial cleaners** to carry out maintenance and wear repairs quickly and easily in industrial plants. This saves money and prevents unnecessary downtime.
- Industrial cleaners also provided the impetus for the development of a new line of blasting units that are unique on the market. Our **ASCOJET 1708 Combi Blaster** and **ASCOJET 2008 Combi Pro** mix a fine abrasive medium with the dry ice if required. The abrasive containers are integrated into the machines, no separate containers for the abrasive medium or hoppers that are temporarily attached to the machines are required. Thus, the full mobility of the blasting machines is maintained.
- **With the ASCOJET 2008 Combi Pro**, the user acquires a cleaning device with which he can cover all applications in industrial cleaning. **The ASCOJET 2008 Combi Pro** can cover all performance parameters of the **1708, 1701 and 1208**.



**Conclusion:** Are you looking for a competent partner for the optimal cleaning solution for industrial applications? Benefit from our decades of experience in industrial cleaning. We are happy to help you find the tailor-made solution for your application.



## The Process

Dry ice is produced from liquid CO<sub>2</sub>. Inside an ASCO dry ice pelletizer, the liquid carbon dioxide is expanded under controlled conditions to form dry ice snow (approx. -79 °C) is pressed into pellets by a corresponding extruder plate.

The dry ice pellets are filled into the ASCO dry ice blasting unit and conveyed to the blasting gun. Here the pellets are accelerated with compressed air to a speed of up to 300 m/s and hit the moulds to be cleaned. The impact of the pellets creates a punctual thermal shock and kinetic energy which removes the contamination. The pellets immediately change to a gaseous state on impact, leaving a clean and dry surface. Only the removed contamination remains, and no abrasive needs to be disposed of. Since the pellets only have a hardness of less than 2 Mohs, the surface quality is maintained. Likewise, thermal shock has no adverse effect on the surface structure of the moulds.



**NANOJET**  
The Plastics Expert

**ASCOJET 1208**  
The Small Industrial

**ASCOJET 1701**  
The Industrial Allrounder

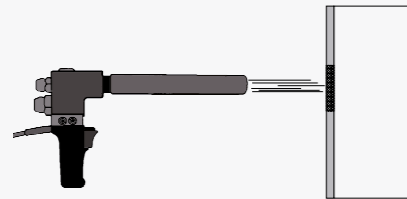
**ASCOJET 1708 Combi Blaster**  
The Flexible Abrasive

**ASCOJET 2008 Combi Pro**  
The High Performer

**Dry Ice Box AT126**  
Storage of Dry Ice Pellets

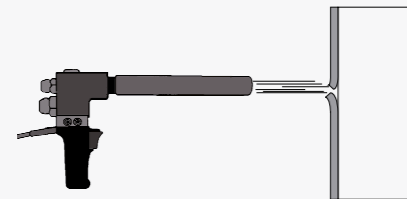
**Dry Ice Pelletizer P15i**  
Production Capacity  
150 kg/hr for 3 mm Pellets

## Cleaning Method



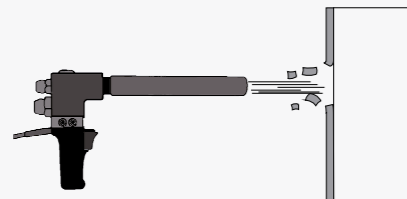
### The thermo shock

As a result of the sudden and intense temperature shock on the surface, the coating or impurity contracts.



### The cracking

As a result of the contraction the coating cracks and the material becomes brittle due to the cold.



### The cleaning

The dry ice pellets hit the surface with great speed and remove the detached coating and clean the surface material

## The complete solution

As leading provider of complete dry ice blasting solutions, ASCO's aim is to find tailor-made solutions for individual customer requirements. The extensive ASCO product and service range consists of:

- Dry ice blasting units
- Dry ice pelletizers
- Dry ice containers
- CO<sub>2</sub> gas detectors
- Wide range of accessories
- Specially developed guns or nozzles
- Automated cleaning solutions
- High quality dry ice
- Building up your in-house dry ice production

**ASCO not only introduces you to the ASCO dry ice blasting technology but helps also with integrating dry ice cleaning into the production process and continually optimizing it.**

In case of an increased demand for dry ice we will be pleased to offer you an economical calculation for your inhouse dry ice production to optimize on cost and quality. Our product range contains dry ice pelletizers with production capacities from 30 to 750 kg/hr.

The **ASCO CAREFREE rental solutions** enable you to have your own dry ice production **without investment costs!** Ask us!