

FerroECOBlast EXAMPLE BLAST ROOMS



Blast operator work inside the room to roughen, smooth, or clean surfaces of an item depending on the needs of the finished product.

Blast rooms

- In-house: Lower costs and better control
- Could be installed inside or outside of factory
- Prevent blast abrasive to escape, avoiding contamination outside of blast room
- Recycling of abrasive, so it can be used again, removing contaminants, keeping very good quality of blasting
- Very good isolation outside of blast room, noise levels don't disturb other production processes



Special brochures available:

▶ DRY ICE CLEANING ROOM

▶ ULTRA HIGH PRESSURE DECONTAMINATION CELL

▶ SHOT PEENING CELL

BLAST ROOMS

- Manual, Semi & Full-automatic, Robotic
- Abrasive Blasting, Shot Peening, UHP Cleaning, Dry Ice Cleaning
- Outdoor & Indoor versions / installations
- Small to Giant sizes
- On-Key Project Design & Installation
- Modular & Custom Solutions



ADVANCED SURFACE TREATMENT TECHNOLOGY

ferroecoblast.com

BLAST ROOMS

EQUIPMENT for BLAST ROOMS

To reach law-conformant solutions for the cleaning of large objects, blasting in closed systems with recycling and filtration is obligatory – result: **ECOLOGICAL BLAST ROOMS**. For over four decades we have been trusted by respectful domestic and foreign companies. In our company we are specialised in the search of solutions in sand/shot blasting, shot peening, Dry Ice cleaning, UHP-cleaning etc.. Our main advantages are specialization, adjustment to the needs of the customers and reliability.

Prefabricated metal or in concrete

Blast rooms can be made in prefabricated metal buildings or in concrete buildings. Inner foundations must be executed (depending on the recovery system

to be used) following our foundation drawings. The walls of a metal building can be made of single metal plates or insulation panels, and must always be covered inside with abrasive protection

(rubber curtains). For vertical air flow direction, dust/air extraction outlets are positioned on the bottom of the sidewalls.



Lights



Bright, well positioned lights increase the productivity in a blast room. The amount of light needed depends on the type of work being done. The incandescent lighting is air-tight and dust-tight and can be mounted in the ceiling or on the walls. Most blast rooms have flush-mounted ceiling fixtures, but

a tall part can block the ceiling lights. Wall-mounted lights provide even, shadow - free illumination on vertical surfaces. Direction of the airflow is important and the best airflow direction is always vertical, where the air is going from top down to the floor, but in many cases

horizontal airflow is used (from main doors to the back wall), mainly because of lower cost, but it is very unpleasant to work in. Air intake diffusers are equipped with filtering material to ensure that the air entering the blast room is always clean.

Operators work access

Very important factors for optimal productivity are operator's work access and also type of the material handling. For operator work access and mobility around parts to be blasted, depending the size and shape of those, various equipments can be installed, like: fixed side platforms, mobile manual

platforms, electric or hydraulic driven man lifts, robotic arms,... As for the material handling, forklifts, chain hoists on overhead rails and railway carriers on rails are most common, but there are a lot of possibilities depending on the level of automation required.



Pressure blasting

Pressure blasting machines are the most important components of the blast room installation.

We produce and supply pressure pots in different sizes and capacities, depends of needs with one, two or multiple exits. A lot of blast room details depend on

the choice of the blasting system; i.e. the size of the silo in which the abrasive is stored above the pressure pot. Pressure pots TZP are A-tested. Every TZP has special professional dosage valve, which is suitable for every type and size of abrasive.

For the highest level of safety, the blasting machine is operated by a remote control - "deadman" switch.



Abrasive collecting floor

The choice of the recovery system depends mainly on the degree of automation requested in the abrasive collection and is the most important system in the blast room.

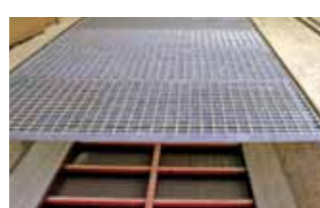
There are three ways to collect the abrasive:

- Manually by hand (shovel, broom, grate,...)
- Pneumatic (for light abrasives)
- Mechanical (for heavier abrasives)

Collection system could be installed in concrete pit or on floor level 0.0 with support of metal sub-construction (in this case blast room is lifted from 0.0 level).

Collection system is covered with metal gratings, which are delivered in three different loading capacities:

- Light (250 kg /m²)
- Medium (2000 kg/m²)
- Heavy (2000 kg/0,04m²)



As a leading supplier of sandblasting and painting equipment we are very self-confident in our work. It is not just constant improvement and innovation that is important for us. The primary aim of our company is to advise in present the technology, that our customer needs to solve a concrete problem.

With our knowledge and tradition since 1964 of constant development of technology and sandblasting equipment, we will help you find the best possible solution for surface treatment, considering all ecological demands.

Recovery system (ARC)

Following the scraper elements, abrasive recycling system is the second most important system of a blast room. It is assembled with the elevator that lifts the abrasive to a certain height where it is separated and cleaned, staying in a closed system. After that,

a mechanical cleaner separates dust from abrasive by blowing through an air curtain and with the built-in separation system we keep 100% of quality abrasive in circulation. Possibility to install Magnetic separator and Classifier of abrasive.



Dust collector

Size is the only variable for dust collectors. For standard blast rooms with longitudinal airflow, it is determined by the cross-sectional area of the enclosure, by the type of abrasive used, and by local air pollution control regulations.

Blast facilities conventionally utilize three types of dust collectors:

- Bag filters -percent of usage today is approximately 20% and is decreasing.
- Cartridge filters -percent of usage today is approximately 50% and is rising.
- Wet filters -percent of usage today is approximately 30%. These are used in heavy conditions and for blasting aluminum parts, aluminum dust being very explosive.
- ATEX Filter unit is projected, build and installed under rigorous EU Standards and assembled with all documentation, approved from the Switzerland ATEX Laboratory and European authority's permissions.



Electric control box

The electric control panel is an industrial, dust-proof version and can be standalone type or fixed on the wall with top or bottom cable inlet and outlet. It contains all safety, control and signalling switches necessary to operate all components of the blast equipment. The working state of all components can be displayed on a scheme with light indicators on the control panel front side, showing the function or the stoppage and any other malfunction for each component individually.



Vacuumover

The system is suitable for field working, where there is no electrical connections, because it is working with compressed air.

The system creates a high negative pressure, therefore it is suitable for suction on distant places - 50 or more metres. It is also suitable for suction of heavy blast media, such as steel grit, etc.



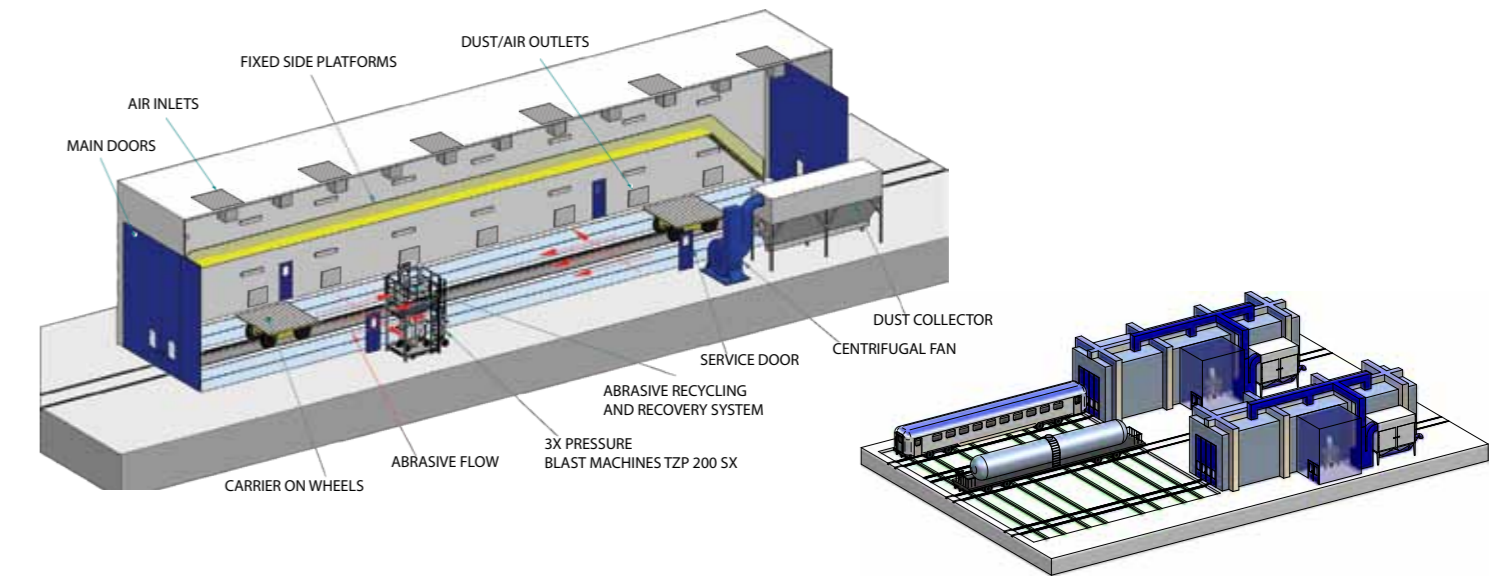
Personal protection

According to OSHA and NIOSH regulations, operator safety equipment (including air-fed respirator helmets, air filters, carbon monoxide monitors and alarms and abrasive resistant clothing, leather gloves, rugged, canvas-weave jacket, canvas pants) is required for all blast operators.



BLAST ROOMS

BLAST ROOM COMPOSITION



ABRASIVE COLLECTING SYSTEMS - All types of Abrasive, including Steel Shot/Grit

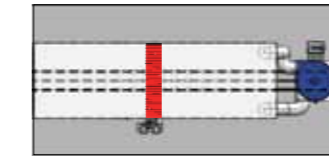
Collecting floor designs



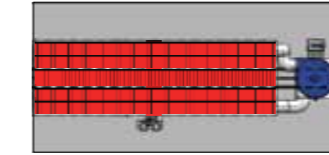
HOPPER COLLECTING
With this system, manual sweeping of the abrasive to the hopper is required.



H-COLLECTING
With this system, cca 50% of manual sweeping of the abrasive to the scraper is required.



I-COLLECTING
With this system, cca 70% of manual sweeping of the abrasive to the scraper is required.



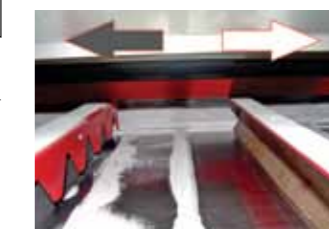
FULL FLOOR COLLECTING
With this system, recovery of the abrasive to the hopper is fully automatic.

PNEUMATIC RECOVERY - Light abrasives



Pneumatic recovery is appropriate for light abrasives, such as glass beads, corundum, ceramic and plastic abrasives. Used abrasive and dust are collected under the gratings and pneumatically transferred to recycling unit with a negative air pressure created by the main dust collector.

MECHANICAL RECOVERY - all types of abrasive



SCRAPER SYSTEM - Light and heavy abrasives

Scraper recovery system is most common in automated system and can be driven by pneumatic cylinders or electric motors. It is used for all types of abrasives (light and heavy). It requires very low basement pit.



HOPPER - Light and heavy abrasives

Hopper recovery system is the cheapest solution and is mostly used for smaller blast rooms, where blasting process is made occasionally. Operator manually sweep in abrasive media (ie. shovel). It can be used for all types of abrasives (light and heavy).



SCREW CONVEYOR - Light and heavy abrasives

Screw conveyors were mostly used in past and are still in use today for all types of abrasives, ie. bigger sizes of steel grits and steel shots. Comparing to other mechanical recovery systems, screw conveyor requires deeper basement pit and more maintenance.