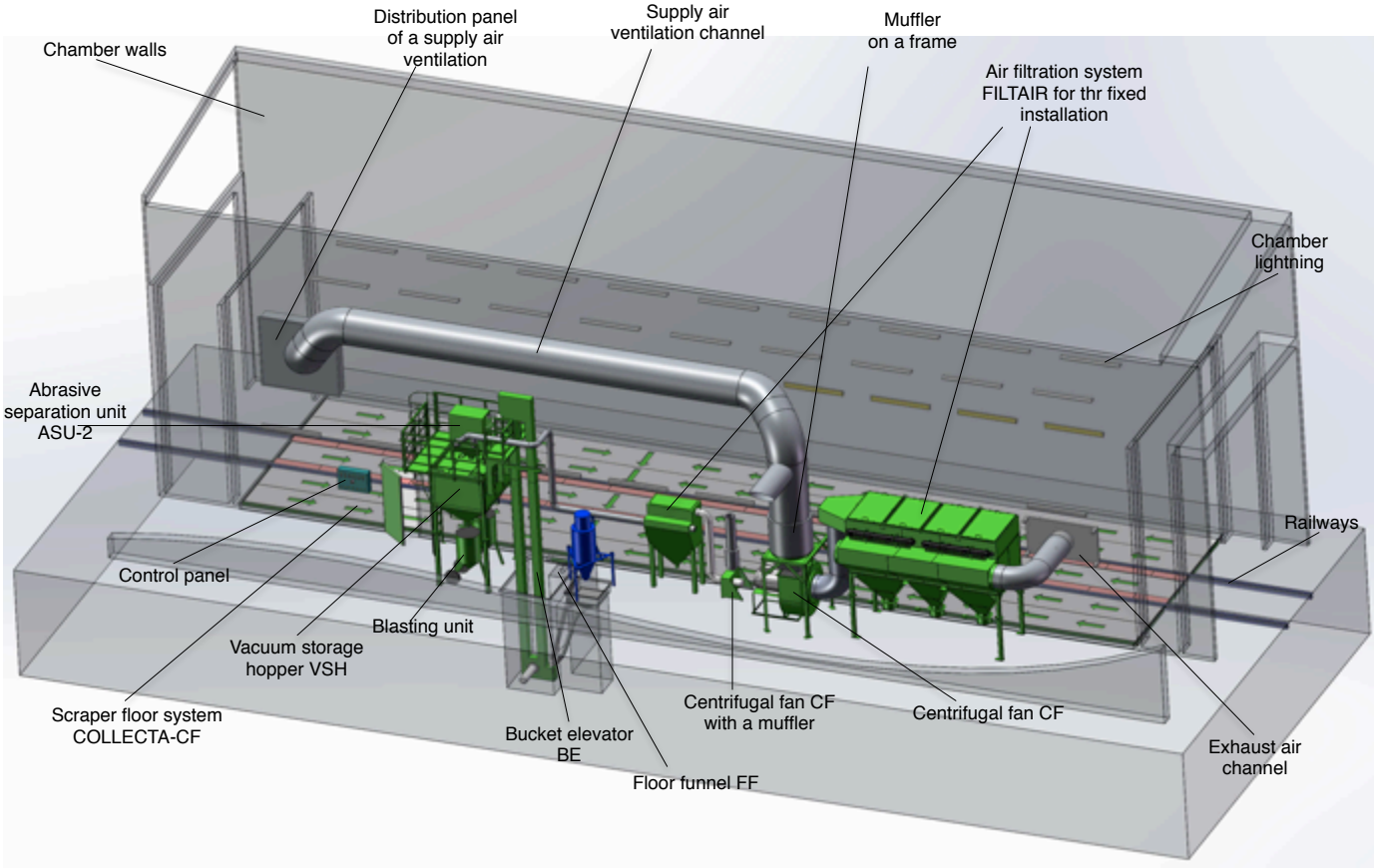
BLASTVENT OÜ blasting chambers

When it is necessary to clean any type of metal constructions or other surfaces in the stationary (factory) conditions, the most reasonable and cost-effective solution is to use a blasting chamber.

We manufacture chambers either by using an existing customer's premises (with some internal modernization) or on the "turnkey" basis, as a quickly mounted sandwich panel building. Chamber size is determined according to the maximum size of worked details, it is equipped with the necessary set of abrasive blasting equipment (taking into account the required capacity and compliance with the labor protection rules) and a special air filtration system.

To ensure the reliability, long time service and safe operation conditions, it is important to select the optimal equipment set for the blasting chamber. At the same time, it is necessarily to observe the required safety standards and requirements for environmental protection.

The general view of a blasting chamber with its basic components, based on automatic abrasive collection and regeneration conditions, is presented in the figure below.



The given technology of metal constructions preparation and protection consists of shot blasting of worked surfaces, followed by the process of collection and regeneration of used abrasive media. Throughout the whole period of this process the certain climatic environment conditions are maintained in the blasting chamber.

The walls and ceiling of the blasting chamber are made of sandwich panels and are protected against abrasive wear with wear-resistant material, which absorbs the kinetic energy of a flying abrasive media. Ceiling, covered with sheets of tin-plate, assumes the wear.

Gates are set at the end faces of blasting chamber, made of wear-resistant material and provide a sufficient chamber sealing during the blasting process. Gates are folding structure, consisting of durable fabric with PVC coating, assembly units, steel parts and aluminum profile. Opening-closing (folding-unfolding) is performed manually.

The gates are specially designed for working in heavy conditions (high humidity, low temperatures, high wind loads, high dust) and thus have sufficiently large dimensions. In case the gates are opened or being opened – the shot blasting machines will stop working automatically. The inner surface of the doors and gates of the blasting chamber is protected from the direct exposure of abrasive ricochet with a special curtain stretched around the inside perimeter. The material of the curtains is a long-term wear-resistant fabric.

Lighting of a blasting chamber is carried out by a set of lamps made in a dust-and-wear-resistant performance. Lamps provide sufficient lighting to perform blasting operations in the working area of the chamber. Lamps have powder coated steel housings with nickel-plated diffuse reflectors installed inside. Foamed rubber gasket, installed along the contour between the body and the lid of the lamp, does not allow the penetration of dust and grit inside the lamp. Wear-resistant lamp cover, made of polycarbonate, can be easily replaced with a new one within 1-2 minutes.

Lamps are mounted on the bearing surface of the wall and/or ceiling panel. Lighting system includes emergency batteries, capable for supporting four lamps lighting for 10-15 minutes after the total failure or emergency shutdown of the main power supply.

FF floor funnel is mounted into the blasting chamber floor near one of the side walls. Used abrasive is gathered into the funnel by means of of the scraper floor system. Floor funnel has a special grid, which holds large debris that is mixed with the abrasive media during the process of blasting.

At the bottom of the floor funnel there is an outlet which is connected to the **abrasive transport system**. By means of abrasive transport system (vacuum COMPLEXA-V or mechanical MECHTRANS), the working media rises up to the **abrasive separation unit ASU**, where it is separated from debris and dust. The separated clean abrasive media flows by gravity to the blasting machines through a **storage hopper** (vacuum VSH or mechanical MSH). The separated dust is sucked from the abrasive separation unit, through the ventilation channels, into the **air filtration system FILTAIR**, where it settles on the filters. Filters are cleaned with the compressed air jets. The filter unit has a conical bottom, which collects the separated dust until its further disposal into the collection bags.

The closed type ventilation of a blasting chamber is carried out by a medium pressure **centrifugal fan CF,** which draws out an air, polluted with the blasting dust, from the chamber, through an exhaust ventilation shield. The shield prevents direct abrasive ricochet to hit the air ducting. Air ducting connects the ventilation shield and filter unit. Centrifugal fan is equipped with a valve, that allows to provide low pressure inside the blasting chamber, which prevents the dust leakage from the working area.

Since the standard equipment set does not meet the individual requirements of all customers, we offer a modular system giving an endless equipment combination possibilities.

The result of a well planned abrasive transport and regeneration system is a higher blasting works quality along with lower dust concentration in the working area, that leads to the blasting operator increased productivity.