

# CONTRACOR®

Blast Cabinets

## CAB-110P/CAB-135P

INSTRUCTIONS

**Version 3.9**

Strahlkabinen

BEDIENUNGSANLEITUNG

**Version 3.9**

Seite 40

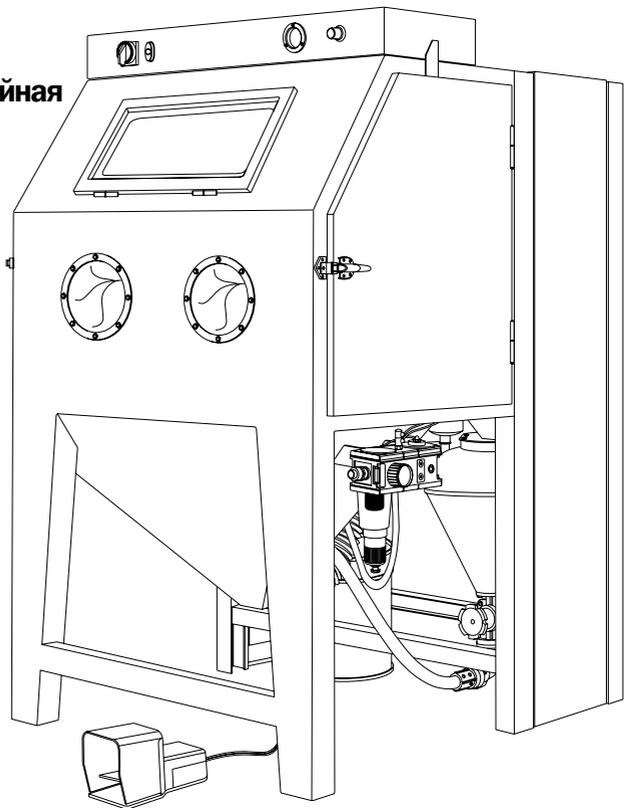
Кабина абразивоструйная

РУКОВОДСТВО

ПОЛЬЗОВАТЕЛЯ

**Версия 3.9**

стр. 79



ENGLISH

DEUTSCH

РУССКИЙ



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## **ATTENTION!**

**READ AND FULLY UNDERSTAND THIS MANUAL BEFORE STARTING WORK.**

**THE FOLLOWING INFORMATION IS IMPORTANT FOR SAFETY AND HEALTH OF OPERATOR AND PERSONNEL IN VICINITY.**



## **ATTENTION!**

**BUYING THE MACHINE, PLEASE, REQUEST TO FILL IN THE GUARANTEE CARD CORRECTLY!**

**FAILURE TO PRODUCE A FILLED-IN FORM WILL MAKE YOUR GUARANTEE INVALID.**

# 1. Safety

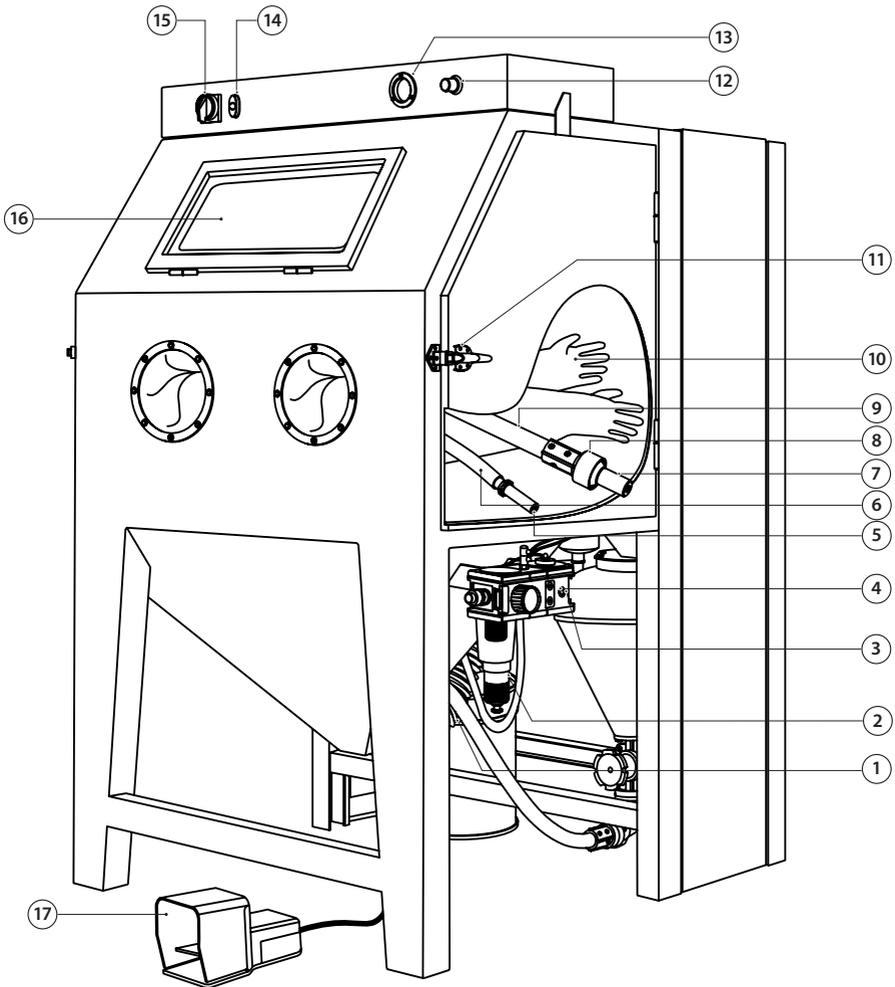


## ATTENTION!

### **SAFETY MEASURES FOR BLAST CABINET OPERATION.**

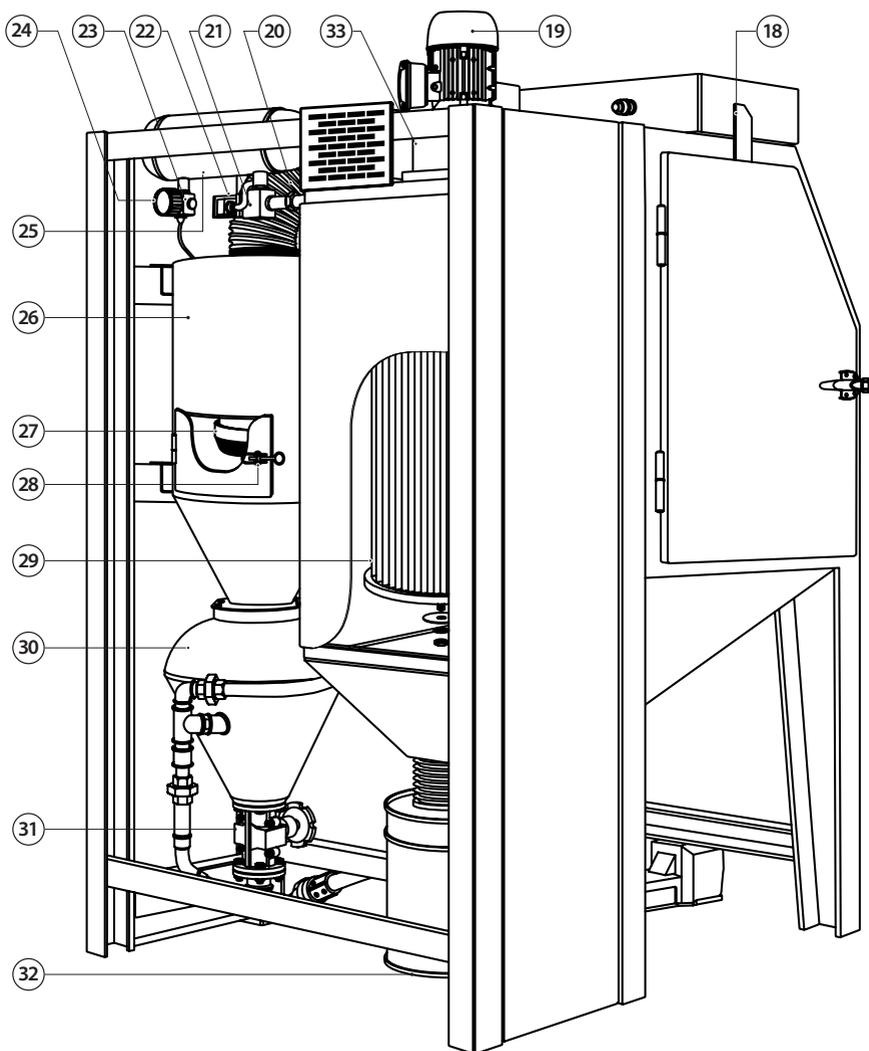
- 1. You must wear protective gloves during abrasive blasting.**
- 2. Do not use worn or damaged equipment during operation.**
- 3. Point the nozzle only at the area to be cleaned. Never point the nozzle toward the cabinet windows.**
- 4. Use only dry well-sieved abrasive materials, appropriate for abrasive blasting operations.**
- 5. Before starting of blast cabinet operation you must:**
  - Ensure that gloves, gaskets, hoses and fittings are not worn;**
  - Fix hose couplings with wire, if the couplings are used;**
  - Ensure that the cabinet is grounded;**
- 6. During blasting process all doors on the cabinet, reclaimers or dust collector must be closed.**
- 7. After blasting, before the doors are opened and exhausters are switched off, use the blow nozzle to blow media from the blasted parts.**
- 8. Do not open the doors or switch off exhausters before the cabinet is clear of abrasive dust.**

## 2. Package and description



ENGLISH

**Picture 1.** Cabinet components overview CAB-110P/135P (Front view)



**Picture 2.** Cabinet componets overview CAB-110P/135P (Back view)

Pos. No	Description
1	Conveying hose Ø 100
2	Airline Filter
3	Pressure regulator, pilot operated

4	Pressure gauge
5	Air blow-off nozzle, rubber
6	Rubber hose for air blow-off nozzle
7	Blast nozzle
8	Nozzle holder
9	Blast hose I.D. 19 mm
10	RGS Blast cabinet gloves
11	Cabinet door latch
12	Pressure regulator, working pressure
13	Panel mounting pressure gauge, working pressure
14	Double pushbuttons ON / OFF
15	Main switch 0-I
16	Viewing window (assembly)
17	Pneumatic foot pedal
18	Door interlock
19	Electric motor
20	Ventilation hose Ø 150
21	Diaphragm pulse-jet valve
22	Electronic timer for pulse-jet valve
23	Pressure regulator, pulse-jet cleaning
24	Pressure gauge
25	Pulse-jet cleaning manifold
26	Reclaimer assembly R-350 / R-400
27	Screen
28	Reclaimer door latch
29	Filter cartridge
30	Blast machine 25/50 liter
31	SGV metering valve
32	Dust container
33	Impeller for DC-1100 / 1500

## 2.1. Package

Table 2.1

Order code	Model	Description, package
15205	CAB-110P	<p>BLAST CABINET, COMPLETE SYSTEM, CONSIST</p> <ul style="list-style-type: none"> <li>- Cabinet Enclosure</li> <li>- Cyclone reclaiming R-350</li> <li>- 25 liter blast machine</li> <li>- Cartridge Dust Collector DC-1100</li> </ul> <p>STANDARD DELIVERY:</p> <ul style="list-style-type: none"> <li>- Quality 800 mm blast gloves with inner fabric lining</li> <li>- 19x33 mm blast hose with coupling/nozzle holder</li> <li>- Tungsten carbide venturi nozzle STC-6.5</li> <li>- SGV metering valve</li> <li>- Main airline filter with 5µ filtration grade</li> <li>- Pilot regulated blast pressure</li> <li>- Door safety interlocks</li> <li>- Pulse cleaned cartridge filter 15 m<sup>2</sup></li> </ul> <p>Electrical connection 1,10 kW, 380V, 3 phase, 50Hz            Overall Dimensions (W x D x H) 1340 x 1220 x 1990            Working chamber size (W x D x H) 1100 x 800 x 840            Window size (Safety glass) 476 x 296</p>
15206	CAB-135P	<p>BLAST CABINET, COMPLETE SYSTEM, CONSIST</p> <ul style="list-style-type: none"> <li>- Cabinet Enclosure</li> <li>- Cyclone reclaiming R-400</li> <li>- 50 liter blast machine</li> <li>- Cartridge Dust Collector DC-1500</li> </ul> <p>STANDARD DELIVERY:</p> <ul style="list-style-type: none"> <li>- Quality 800 mm blast gloves with inner fabric lining</li> <li>- 19x33 mm blast hose with coupling/nozzle holder</li> <li>- Tungsten carbide venturi nozzle STC-6.5</li> <li>- SGV metering valve</li> <li>- Main airline filter with 5µ filtration grade</li> <li>- Pilot regulated blast pressure</li> <li>- Door safety interlocks</li> <li>- Pulse cleaned cartridge filter 20 m<sup>2</sup></li> </ul> <p>Electrical connection 1,50 kW, 380V, 3 phase, 50Hz            Overall Dimensions (W x D x H) 1470 x 1700 x 2140            Working chamber size (W x D x H) 1350 x 1100 x 1070            Window size (Safety glass) 476 x 296</p>

# 3. General information

## 3.1. General information

Blast cabinet production rates depend upon the size of the nozzle, the capacity of the compressor, the working pressure, the type and size of abrasive media and the distance between the nozzle and the area to be cleaned.

Contracor pressure-type blast cabinets are made up of four main elements:

1. A robust, welded steel cabinet enclosure,
2. A cyclone reclaimer for best possible efficiency in controlling media recycling,
3. A 25 or 50 liter blast machine with a durable SGV metering valve,
4. A dust collector consisting of a highly efficient fan and pulse-cleaned cartridge filter.

## 3.2. Theory of operation

When the air supply is on, and the cabinet doors are closed, the blast machine is ready for operation by actuating the foot pedal. Only by fully depressing the pedal is the machine pressurized and blast media are propelled through the nozzle.

After striking the object being blasted, the blast media, along with fines, dust, and by-products generated by blasting, fall through the mesh work table into the cabinet hopper. These particles are drawn into the reclaimer for separation.

Dust and fines are first separated from the reusable blast media. Next, the media is screened of oversize particles, and held in the reclaimer hopper for reuse. At the same time, dust and fines are drawn through the reclaimer into the dry filter or dust collector, which traps the dust and discharges clean air. By releasing the foot pedal the machine is depressurized and blasting stops, allowing blast media to recollect in the machine.

The dust collector filter cartridge is cleaned by pulsation of high-velocity compressed air expanding against the inner surface of the cartridge. An electronic timer controls the intervals between the pulses. The expanding air momentarily reverses airflow through the cartridge to release dust which has gathered on the outer surface. The dust falls off of the cartridge and into the hopper for later disposal.

### 3.3. Air jet diameter and required compressed air volume

The blast machine pressure vessel is manufactured according to European CE regulations, as described in attached CE Certificate of conformity. The owner must ensure and maintain the integrity of the vessel, as may be required in some countries.



#### **ATTENTION!**

**Excessive air pressure could cause the media chamber to rupture. To prevent serious injury or death, do not exceed the rated pressure of the media chamber vessel.**

After having ensured that the air supply is activated and the cabinet doors are closed, the media chamber can be actuated by the foot pedal. By pressing the foot pedal, the inlet valve is opened and the outlet valve is closed, resulting in the chamber being pressurized and the blasting beginning. By releasing the foot pedal, the chamber is depressurized and blasting stops.

The standard nozzle delivered with the blast cabinet is a tungsten-carbide nozzle with a 6.5mm orifice. In addition, 5.0 and 8.0mm nozzles are available. The maximum diameter of the orifice under normal conditions is determined by the size of the reclaimer, as shown in Table 3.1 below. Normal condition are moderate part contamination, media breakdown, flow and size, and damper setting.

**Table 3.1** Max. nozzle size

Reclaimer type	Max. nozzle size, mm
R-350	6,5
R-400	8,0

### 3.4. Blast media

Contracor cabinets utilize most common media, 1,50 mm and coarser that is specifically manufactured for dry blasting.

The usable media mesh size and nozzle size are based on typical media flow. Rich media flow or low static pressure will reduce the mesh and nozzle size that may be used.

**Steel blast media:** Still grit or shot can be limited used with CAB-110P and CAB-135P cabinets (max. mesh size ca. 0,80 mm). Exact max. media mash is depended from materials specific weight and grains geometry and should be determined with practical tests run by users. Rubber curtains should be used to protect the cabinet walls from rapid wear .

**Sand and Slag:** Sand should never be used because of the respiratory hazards associated with the use of using media containing free silica.



## ATTENTION!

**Abrasive blasting with sands containing crystalline silica can cause serious or fatal respiratory disease.**

Slags are not recommended because they rapidly breakdown.

**Aluminum Oxide, Silicon Carbide, and Garnet:** Aggressive media such as these may be used but consideration should be given to accelerated wear on any part of the cabinet, reclaimer, nozzle and hoses which comes in contact with the media.

In case of using of an aggressive blast media a tungsten carbide nozzle have to be used. Service life of the tungsten carbide nozzle lasts 10 to 20 times longer than ceramic.

**Glass Beads:** Most beads have been treated to ensure free-flow operation even under moderately high humidity conditions. Glass beads subjected to excessive moisture may be reused after thorough drying and breaking up of any lumps.

### 3.5. Compressed air quality

Condensed water from the compressed air is reduced by the air filter at the air inlet connection. Use of the air filter is of particular importance in areas of high humidity or when fine-mesh media are being used. Dampness can cause media to clot, restricting free flow through the feed assembly. An air dryer may be necessary if moisture problems continue.

### 3.6. Compressed Air Requirements

The required air compressor capacity is determined by the blast nozzle size and pressure.

**Table 3.2** Air Consumption

Ø Blast nozzle (mm)	REQUIRED AIR VOLUME (m <sup>3</sup> /min.) at working pressure, bar			
	3	4	5	6
5,0	0,7	0,8	0,9	1,0
6,5	1,3	1,5	1,7	1,9
8,0	2,0	2,5	2,0	3,3

NOTE: the above table shows only the air required for the blast nozzle. Additional air is required for the air cartridge cleaning, which must be added to the above values.

The above values are valid for nozzles when new. As nozzle wear increases, so does the air consumption, up to 70% to 80% more than when new.

## 4. Set-up, operation and shut-down

### 4.1. Installation and Set-up

#### 4.1.1 Location

Select a location where compressed air, water and electrical service are available. Allow for full access to all doors and service areas and for efficient handling of large parts.

#### 4.1.2 Compressed air supply line

Connect compressed air supply line with min. I.D. =1". to the cabinet inlet. For connection use a flexible hose with same min. I.D. as the main airline. A smaller diameter air supply line or hose may reduce blasting efficiency.



### **ATTENTION!**

**Be certain that all pipe fittings and hose clamps are tight before using the blast cabinet. Hose disconnection while under pressure could cause serious injury.**

#### 4.1.3 Grounding

Ground the cabinet to prevent static electricity build up. For grounding attach an external grounded wire to the grounding lug on the cabinet skirt.

#### 4.1.4 Electrical power connection



### **ATTENTION!**

**All electrical work must be carried out by a qualified electrician according to the national and local standards.**

A wiring schematic is supplied with the cabinet. After wiring is completed, check the motor rotation by momentarily turn switch on and off. The motor will slowly turn. Check the rotation of the motor fan through the slots in the motor housing. The fan should rotate clockwise when viewed from the fan end to the motor.



### **ATTENTION!**

**Do not look into the reclaiming exhaust outlet while the exhauster is turning. Injury to the eye or face could occur from objects being ejected from the exhauster.**

#### 4.1.5 Cabinet static pressure

Cabinet static pressure must be set to match the cabinet dimensions and reclaiming sizes. Open the inlet damper further to decrease static pressure or close it further to increase pressure.

Use the gloves as an indicator of right cabinet static pressure. With the exhauster on, the gloves should be inflated, but not elevated off the grate.

#### 4.1.6 Foot pedal

Position the foot pedal on the floor at the front of the cabinet for easy accessibility. Blast cabinet is designed for one-person operation. Be sure you can quickly remove your foot from the pedal in an emergency.

## 4.2. Blasting operation

#### 4.2.1 Media loading

With the exhauster off, add clean dry media, by pouring it into the reclaiming hopper through the reclaiming door. Do not fill past the cone on the reclaiming.

Do not pour media directly into the cabinet hopper, as overfilling may occur.

Overfilling will result in media carryover to the dust collector and possibly blockage in the conveying hose. Refill only after all media has been recovered from the cabinet.

**Table 4.1** The minimum amount of media to charge the system is as follows

CAB-110P	CAB-135P
20 kg	40 kg

#### 4.2.2 Unloading Media

To empty media out of the blast cabinet, pressure must first be reduced to 3bar. Then place an empty container on the grate of the cabinet. Remove nozzle and washer from nozzle holder, close the door and choke valve, and depress the foot pedal.

Media flow is to be directed into the container until full. Repeat as often as necessary until the machine is empty. Whilst handling the container, local Operational Health and Safety regulations are to be observed. When the machine is empty, return the choke valve to the fully open position. Inspect and clean the threads on nozzle holder and nozzle before reinstalling nozzle washer and nozzle.

#### 4.2.3 Parts loading and unloading

Parts may be loaded and unloaded through either door. Blasted parts must be free of oil, water, grease, or other contaminants that will clog media or filters. By closing the door, be certain that the door is sealed securely or door interlock system will prevent blasting.

#### 4.2.4 Blasting operation



### **ATTENTION!**

**Always close cabinet, reclaimer and dust collector doors before blasting.  
Keep all doors closed during blasting.**

**Always wear blast gloves.**

**Avoid pointing the blast nozzle toward the view window.**

**Use the blow-off nozzle to blow media off parts before opening doors.**

**After blasting, keep doors closed and exhauster on until the cabinet is clear of all airborne dust.**

**Stop blasting immediately if dust leaks are detected.**

Turn on the compressed air supply to the blast cabinet. Inspect for air leaks during the initial start up

Set the pulse pressure regulator to 4,5 bar (see Picture 2 for location).

Turn the on/off switch to t “I” to activate the lights and filter pulse cleaning.

Push the “ON” button to turn on the exhauster.

Put on the rubber gloves.

Grasp the blast nozzle firmly and step on the pedal. Blasting will start immediately.

Set blast pressure using the pilot regulator located on the control panel.

The pressure gauge on the control panel indicates the actual blast pressure.

Smooth, continuous strokes are the most effective blasting technique. The size of the blast pattern is affected by the distance from the part. The nozzle is usually positioned approximately 70 to 150mm from the surface of the part.



## ATTENTION!

**Shut down the cabinet immediately if dust discharges from the collector. Check that filters are correctly seated and not worn or damaged. Prolonged breathing of any dust could result in serious lung disease or death. Short term ingestion of toxic dust such as lead, poses an immediate danger to health. Toxicity and health risk vary with dust generated by blasting. Identify all material being removed by blasting, and obtain a material safety data sheet for the media.**

The dust collector pulsates automatically according to the timer settings while the blast cabinet is in operation. Prolonged periods of blasting or dirty conditions may necessitate an adjustment of the timer settings.

### 4.2.5 Stop blasting operation and shut-down

To stop blasting, remove pressure on the foot pedal.

Use the Air blow-off nozzle to blow media off cleaned parts. Allow the exhauster to clean the cabinet of airborne dust before opening the door and unload the parts.

Push button OFF to switch off the exhauster.

Turn on/of switch to the position "0" to switch off the lights and filter pulse cleaning. Shut off the air supply to the blast cabinet and drain air filter.

## 4.3. Adjusting

### 4.3.1 Blasting pressure

The pilot pressure regulator, located on the control panel of the cabinet, enables the user to adjust the blasting pressure to suit the application.

The suitable pressure for most purposes is around 5-6 bar. Lower pressures may be required on delicate substrates, and will reduce media breakdown. Higher pressure may be required for difficult blasting jobs on durable substrates, but will increase media break down.

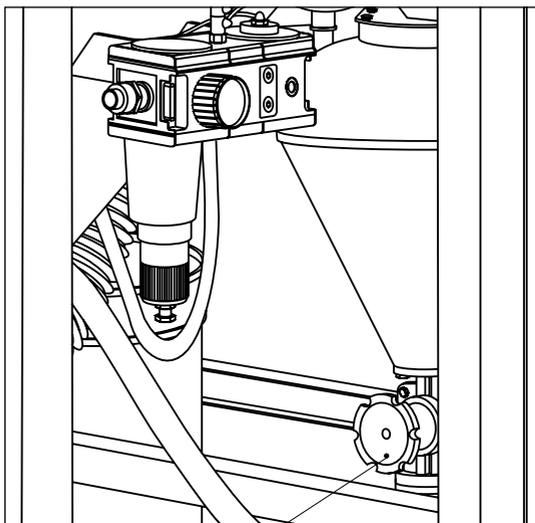
In all cases, highest production can only be achieved when pressure is carefully monitored.

Adjust air pressure by turning the knob on the pilot regulator located on the front of the control panel. Pull the knob out, and turn clockwise to increase pressure or counter-clockwise to decrease. Once operating pressure is set, push the knob in to lock.

### 4.3.2 Media metering

Media volume flow is adjusted by the metering valve at the foot of the blast machine. Close metering valve SGV by rotating the handle clockwise. To increase the flow of media, rotate the handle counterclockwise. Wait for the flow to stabilize before further regulation. The maximum flow rate is reached when the handle is in the full left position. Adjust flow rate according to type and size of blast media, blasting pressure, and the task at hand, ensuring to use as little media as possible whilst still maintaining a high cleaning

**Picture. 3.** Metering valve adjustment



**Adjusting handle**

pace. The correct mixture of air and abrasive can generally be distinguished by a slight discoloration at the exit of the nozzle.

#### **4.3.3 Reclaimer static pressure**

Correct static pressure varies with size of reclaimer and the size, weight and type of media. Adjust reclaimer static pressure by opening (handle horizontal) or closing (handle vertical) the damper on the dust collector inlet.

If the damper is not opened enough, the reclaimer will not remove fines, resulting in dusty media, poor visibility, and possible media blockage in the conveying hose. If the damper is opened too far, it may cause carryover (usable media carried into the dust collector) and result in excessive media consumption. Open only as far as necessary to obtain a balance of dust removal without media carryover.

#### **4.3.4 Cabinet static pressure**

Once the inlet is initially set per section 4.1.5, it seldom requires readjustment. The initial setting produces approximately 50% to 75% of static pressure in the cabinet enclosure. For adjustment open the inlet damper further to decrease static pressure or close it further to increase pressure.

Use the gloves as an indicator of right cabinet static pressure. With the exhauster on, the gloves should be inflated, but not elevated off the grate.

#### **4.3.5 Door Interlocks**

The door interlocks disable the blasting control circuit when the doors are open. To enable blasting, the door interlock switches must be engaged when the doors are closed. The interlocks are set at the factory and do not usually require field adjustment unless parts are replaced.

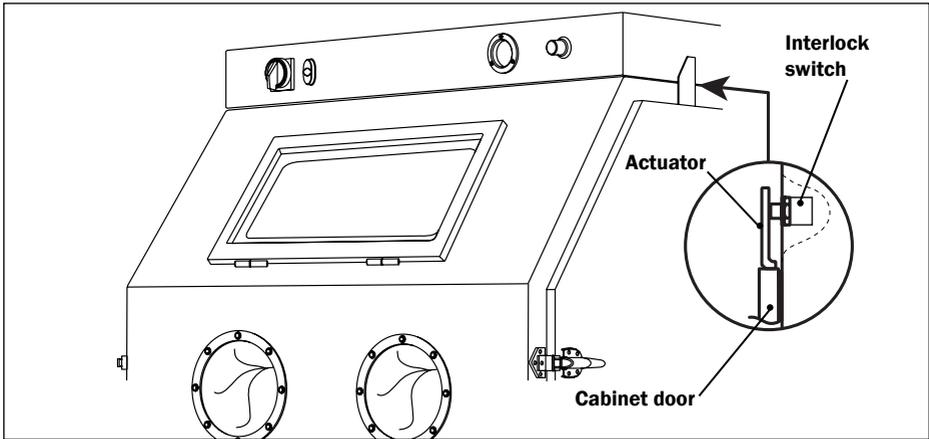


### **ATTENTION!**

**Never attempt to override the interlock system.**

**Doing so could result in injury from unexpected blasting.**

To adjust the actuator, bend it by hand as required for engaging the switch by full closed door.



**Picture 4.** Actuator adjustment

Test the operation with the doors both open and closed. Point the nozzle away from the door when it is tested, and only open the door enough to disengage the interlock switch. The interlocks should stop the blasting when the doors are opened, and permit blasting when the doors are closed.

**NOTE:** Negative pressure inside the cabinet may cause the doors to flex inward. Tests should be performed with the exhauster on.

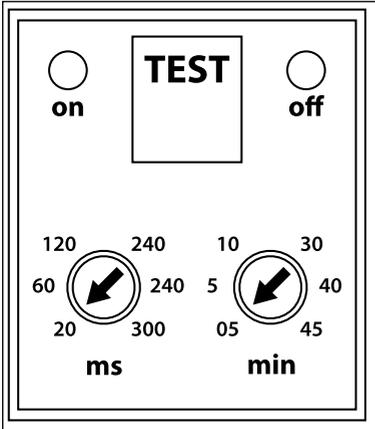
#### 4.3.6 Pulse pressure

Adjust pulse pressure using the regulator mounted on the pulse manifold. Begin pulse pressure setting at 4,5 bar.

When pulsing alone does not adequately clean the cartridge, increase pulse pressure by 0,5 bar increments up to max. 6,0 bar. Increasing pulse pressure over 6,0 bar may cause damaging of the cartridge filter.

If after pressure increasing, dust cakes on the cartridges and differential pressure increase, adjust cycling of the pulses.

### 4.3.8 Timer



**Picture 5.** Pulse time and cycling adjustment

Adjust pulse time and cycling on the timer (see Picture 2 for location).

Use ON scale to adjust the pulse length and OFF scale to adjust the time period between the pulses.

Begin setting is as follows:

**Pulse length** (ON scale) - 60 ms (by 4.5 bar pulse pressure)

**Time between pulses** (OFF scale) - 5 min

## 5. Maintenance

### 5.1. Preventive Maintenance

#### 5.1.1 SGV Metering Valve

The SGV metering valve must be regularly inspected for wear. To prolong the life of the valve, inspect the internal rubber lining regularly for wear and replace when necessary.

#### 5.1.2 Dust container

Empty the dust container regularly. Start by checking the container at least daily or when adding media, then adjust frequency based on usage, contamination and friability of the media.

### **5.1.3 Reclaimer debris screen**

The screen is accessible through the reclaimer door. With the exhauster off, remove the screen and empty it daily or when loading media. Empty the screen more often if parts being blasted causes excessive debris. Do not operate the machine without the screen in place.

### **5.1.4 Airline filter**

The cabinet is equipped with a manual drain airline filter.

Drain the airline filter at least once a day, more often if required, or if water mist is seen coming out the nozzle.

Moist air inhibits the flow of media. If moisture continues to be present, a refrigerated air dryer may be required.

### **5.1.5 Media Hose**

To avoid unscheduled down-time, inspect the media hose for thin spots, especially along an outside radius.

### **5.1.6 Blast Hose and Couplings**

Check blast hose for excessive wear, particularly on the outside radius, to prevent punctures. Check couplings and coupling gaskets for leakage and wear.

## **5.2. Service maintenance**

### **5.2.1 Gloves**

Special static-dissipating gloves have been provided for operator comfort. It will be necessary to change gloves periodically as they wear. The first sign of deterioration may be excessive static shocks. Gloves are held in place by metal clamps on the inside of the cabinet. To replace, loosen the clamps with a screwdriver, replace the gloves, and tighten the clamps.

### **5.2.2 Nozzle**

The nozzle should be replaced when its diameter has increased by a maximum of 2mm (or earlier if pressure diminishes significantly).

Make sure the nozzle gasket is in place before screwing the nozzle into the nozzle holder

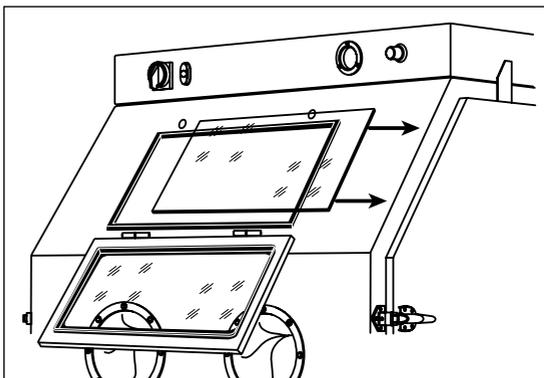
### 5.2.3 Disposable window replacement

Remove the two window frame nuts located on the upper edge of the window frame, and swing the window frame open.

Through the door opening, push the disposable window from the back to remove from the front.

Inspect the window frame gaskets, both on the window frame and on the cabinet. If either gasket is damaged, replace it per section 5.2.5.

**Picture 6.** Disposable window replacement



### 5.2.4 Viewing window replacement



## ATTENTION!

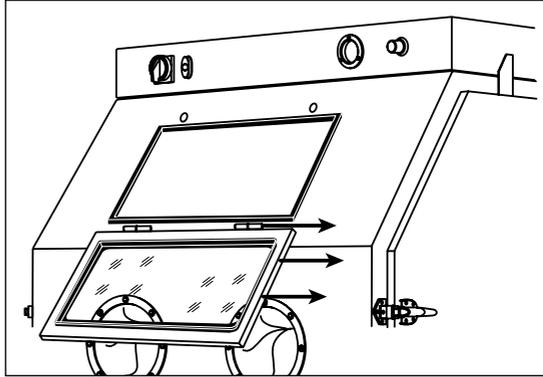
**Do not use plate glass for replacement view windows. It could shatter on impact and cause severe injury.**

**Use only original manufacturer approved laminated safety glass.**

Remove the two window frame nuts located on the upper edge of the window frame, and swing the window frame open.

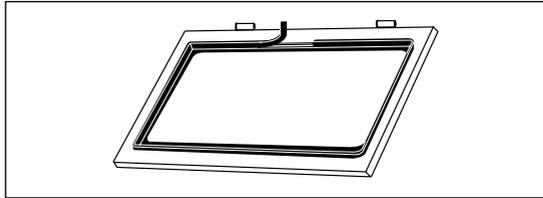
Remove the window to prevent breakage (Picture 7).

**Picture 7.** Windows frame removal



Remove the old window by pulling the window molding. Install the window molding in the window opening by fitting the narrow slit of the molding over the metal edge of the opening.

**Picture 8.** Viewing window replacement



The molding ends should meet in the middle of the straight section of the opening. Molding should be compressed so the ends are tightly sealed.

Working from the front, install the view window into the wide slit of the molding.

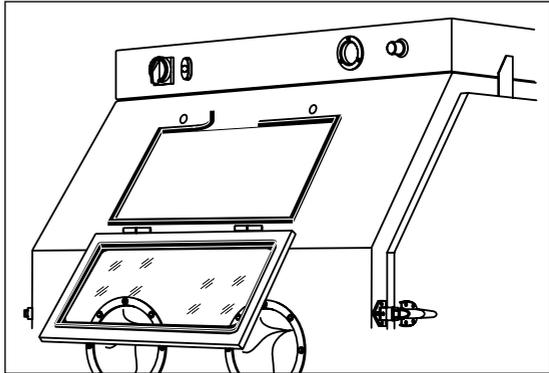
### **5.2.5 Window gasket replacement**

Replace the window frame gasket and cabinet window opening gasket at the first sign of media leakage around the view window, or if gaskets appear damaged.

Check the gaskets when changing the view window. Remove the viewing window and window frame per Section 5.2.4. Remove all the old gasket material and clean the surfaces of the cabinet and window frame.

Peel a short section of adhesive backing from the 3x15 mm strip gasket, and adhere the gasket to the center of the top edge of the window opening as shown in Picture 9. Peel additional backing as needed, and work the strip around the radius of each corner, pressing it tightly to bond. Trim the gasket to fit and compress the ends to seal.

**Picture 9.** Window gasket replacement



### 5.2.6 Filter cartridge replacement



## ATTENTION!

**Failure to wear approved respirators and eye protection when servicing dust-laden areas of the cabinet and dust collector, and when emptying the dust collector could result in serious eye irritation and lung disease or death.**

**Toxicity and health risk vary with type of media and dust generated by blasting.**

**The respirator must be approved for the type of dust generated.**

**Identify all material being removed by blasting, and obtain a material safety data sheet for the blast media.**

Close the air supply to the cabinets and bleed all air from the pulse manifold.

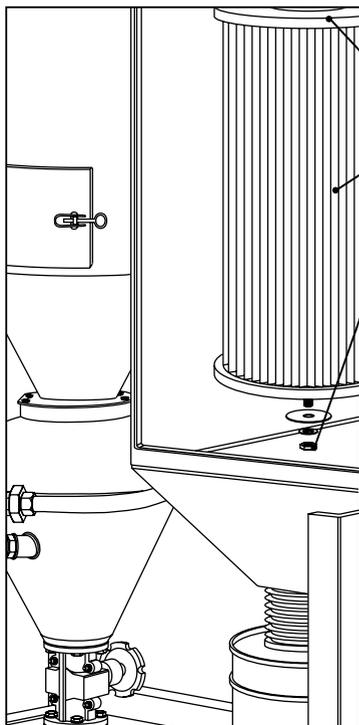
Unscrew the wing nuts and remove the dust collector door. Remove the cartridge retaining nut, washer, and gasket.

To remove the cartridge, slide it straight down until it clears the holding bar.

Clean all parts that will be reused, especially around the cartridge sealing area. Scrape off any residual gasket material from the sealing surface.

Install the new cartridge and gasket. Tighten the retaining nut until the cartridge cannot be moved by hand. Tighten the nut one additional full turn.

Check the collector door gasket for any condition that will prevent the gasket for sealing.



**Picture 10.** Filter cartridge replacement

**Cartridge sealing gasket**

**Filter cartridge**

**Wing nut**

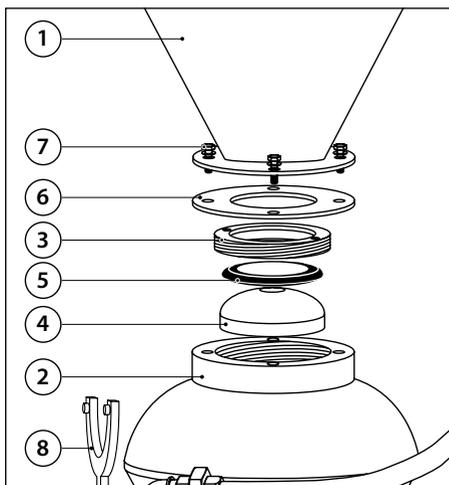
Replace the gasket if necessary. Attach the dust collector door in place. Season the cartridge per section 5.2.7.

### 5.2.7 Filter cartridge seasoning

New cartridges must be seasoned.

Cartridges are seasoned by letting a dust cake develop on the filter media before starting the pulsing cycles. To stop the pulse, turn the pulse regulator off (to 0 bar). Operate the cabinet without pulsing for about two hours, or until visibility decreases, whichever comes first. At that point turn the pulse regulator to 4,5 bar, to start the pulsing cycle.

### 5.2.8 Pop-up Valve and O-ring replacement



**Picture 11.** Pop-up Valve and O-ring Replacement

To replace the rubber pop-up valve (4) and O-ring (5), disconnect the blast vessel (2) from the reclaimer (1). First loosen the screws (7) on the flange securing the blast vessel to the reclaimer and carefully lift the blast vessel from the reclaimer. Check the sealing gasket (6) for wear or damage, and replace if necessary. Then loosen the ring-seat (3) with supplied pin-wrench (8). After having loosened the ring-seat, remove the old O-ring by using a finger, screwdriver, or similar object, to work the O-ring out of the retainer groove. Push the new O-ring all the way through the port and then fit it into the groove.

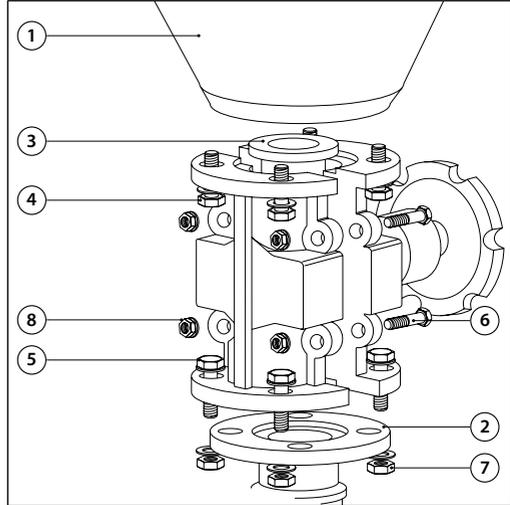
For the last few millimeters pull up on the rubber O-ring and allow it to “pop” into position. Finally,

reassemble the machine in reverse order.

### 5.2.9 SGV metering valve rubber pipe replacement

The rubber piping inside the SGV metering valve is subjected to abrasion and wear during blast cabinet operation, and must be replaced when worn. To replace the rubber piping, loosen cap screws on upper flange (4) and disconnect the SGV valve from the blast vessel (1). Loosen nuts (7) from cap screws (5) on bottom flange (2), and release the SGV valve from flange. Loosen nuts (8) from cap screws (6) and pull the valve open. Remove and replace the old rubber pipe. Reassemble SGV valve and blast machine in reverse order.

**Picture 12.** SGV valve rubber pipe replacement



## 6. Troubleshooting



### ATTENTION!

To avoid serious injury, observe the following when troubleshooting.

- . Turn off the air, and lock out and tag out the air supply.
- . If checking the controls requires air, always enlist the aid of another person to:
  - Hold the nozzle securely.
  - Operate the foot pedal.
- . Never bypass the foot pedal or wedge it in the operating position.
- . Never override the door interlock system.

### 6.1. Poor visibility

**6.1.1** Poor visibility may be due to dirty filter cartridge. Empty the dust container regularly. Inspect and replace the cartridge if necessary.

**6.1.2** Motor rotating backwards. The motor should rotate as indicated by the arrow on the housing. If it does not rotate in the proper direction, lockout and tag-out the power supply and switch the motor leads as shown on the motor plate.

**6.1.3** Using soft media that rapidly breaks down, or using media that is too fine or worn out can cause poor visibility.

**6.1.4** Outlet damper closed too far restricting air flow in cabinet. Adjust static pressure per Section 4.3.4.

**6.1.5** Inlet damper requires opening. Restrictions at the inlet damper reduces air movement in the cabinet. Open damper per Section 4.3.4.

**6.1.6** Hole worn in flex hose between cabinet hopper and reclaimer inlet, or reclaimer outlet and dust collector inlet. Replace hose and route it with as few bends as possible to prevent wear.

**6.1.7** Reclaimer door open. Reclaimer door have to be closed during the cabinet operating.

**6.1.8** Check for obstruction in flex hose between the cabinet hopper and reclaimer inlet.

## **6.2. Abnormally high media consumption**

**6.2.1** Reclaimer door open, not in place, improper fit or worn gasket. Air entering reclaimer at this point will cause media to be carried into the dust collector. DO NOT operate system unless the door is closed.

**6.2.2** Hole worn in reclaimer, or leak in reclaimer seams. Check entire reclaimer for negative-pressure leaks.

**6.2.3** Outlet damper open too far. Adjusting static pressure in Section 4.3.4.

**6.2.4** Using soft media that rapidly breaks down, or using media that is too fine or worn out.

**6.2.5** Nozzle pressure too high for media, causing media to break down.

## **6.3. Reduction in blast cleaning rate**

**6.3.1** Low media level can diminish media flow. Inspect and fill if level is too low.

**6.3.2** Improper metering valve adjustment. Regulate according to Section 4.3.2.

**6.3.3** Reduction in air pressure. A malfunctioning regulator, a dirty filter element in the air filter, a partially closed air valve, a leaking air line or other air tools being used could be causes.

**6.3.4** The blast hose or nozzle is blocked. Blockage can be the result of a missing debris screen or incorrect metering valve adjustment allowing heavy media flow. Examine

media valve adjustment according to Section 4.3.2.

**6.3.5** Worn out nozzle. Examine and replace if damaged or worn out.

**6.3.6** Worn out blast hose. Inspect the hose for leaks and soft spots. Replace if damaged or worn out.

**6.3.7** The blast media is damp. Frequent bridges or blockage near the metering valve can be caused by moisture. Refer to Section 5.1.4.

## **6.4. Plugged nozzle**

**6.4.1** A damaged or missing reclaimer screen will allow large particles to pass and block the nozzle. Replace or re-install as necessary.

**6.4.2** Media mixture too rich. Adjust media/air mixture per Section 4.3.2.

## **6.5. Air only (no media) comes out the nozzle**

**6.5.1** Ensure that media is in the machine.

**6.5.2** Check that the media metering valve is not in the fully right position.

**6.5.3** Check that the metering valve is not blocked by fully opening the metering valve and closing the choke. Depress foot pedal to exhaust any obstacles. Should the problem not be rectified by this procedure, release pressure in the machine and open metering valve and check for foreign objects.

**6.5.4** Ensure that the tubing leading to the diaphragm outlet valve is not blocked or leaking.

**6.5.5** Media metering valve requires service. Refer to metering valve operating manual.

## **6.6. Neither media nor air comes out the nozzle**

**6.6.1** Release pressure in the machine and check for obstruction in the nozzle.

**6.6.2** Check that that blast machine is pressurized by depressing the foot pedal. If this is not the case, refer to Section 6.8.

**6.6.3** Ensure that metering valve and choke are opened.

## **6.7. Blasting does not Stop when the Pedal is Released**

**6.7.1** Air should be exhausted by the 3-way valve in the pedal when released. Should this not be the case, inspect tubing for obstructions and inspect switches.

## 6.8. Blast Machine Will Not Pressurize

**6.8.1** Ensure that the air compressor is on and the air supply valve is in the open position.

**6.8.2** Check that the air pressure regulator is set above 3 bar.

**6.8.3** Door interlocks do not engage. To adjust door interlocks, refer to Section 4.3.5.

**6.8.4** Ensure diaphragm in outlet valve is not worn.

**6.8.5** Check wear and alignment on pop-up valve and O-ring.

**6.8.6** Blocked or leaking control lines. Verify integrity of all fittings and tubing.

**6.8.7** 3-way valve in foot pedal is faulty. Check alignment of pedal and pressure in inlet and outlet tubing.

**6.8.8** Ensure that lines are correctly mounted on foot pedal or pilot regulator. For correct installation, refer to Picture 14.

## 6.9. Blast Machine Will Not Depressurize Or Depressurizes Too Slowly

**6.9.1** Air should be exhausted by the 3-way valve in the pedal when released. Should this not be the case, inspect switch.

**6.9.2** Check the outlet rubber hose leading to the cabinet for blockage.

## 6.10. Heavy Media Flow

**6.10.1** Ensure the choke valve is opened.

**6.10.2** Media flow may be too high. Adjust media metering valve as per Section 4.3.2. If adjusting metering valve does not control media flow, empty machine of media, depressurize and shut off and disconnect from air supply. Disassemble and inspect the flow valve for wear.

## 6.11. Media Surge: A small amount of surge is normal at start-up

**6.11.1** Heavy media flow. Adjust per Section 6.10.

**6.11.2** Metering valve is defective. Disassemble metering valve and inspect parts for excessive wear.

## 6.12. Static shocks

**6.12.1** Cabinet and/or operator not grounded. Abrasive blasting creates static

electricity. The cabinet must be grounded to prevent static build-up. See Sections 4.1.

If shocks persist, the operator may be building up static. Attach a small ground wire (such as a wrist strap) from the operator to the cabinet.

**6.12.2** Avoid holding parts off the grating. Static will buildup in the part if not dissipated through the metal cabinet.

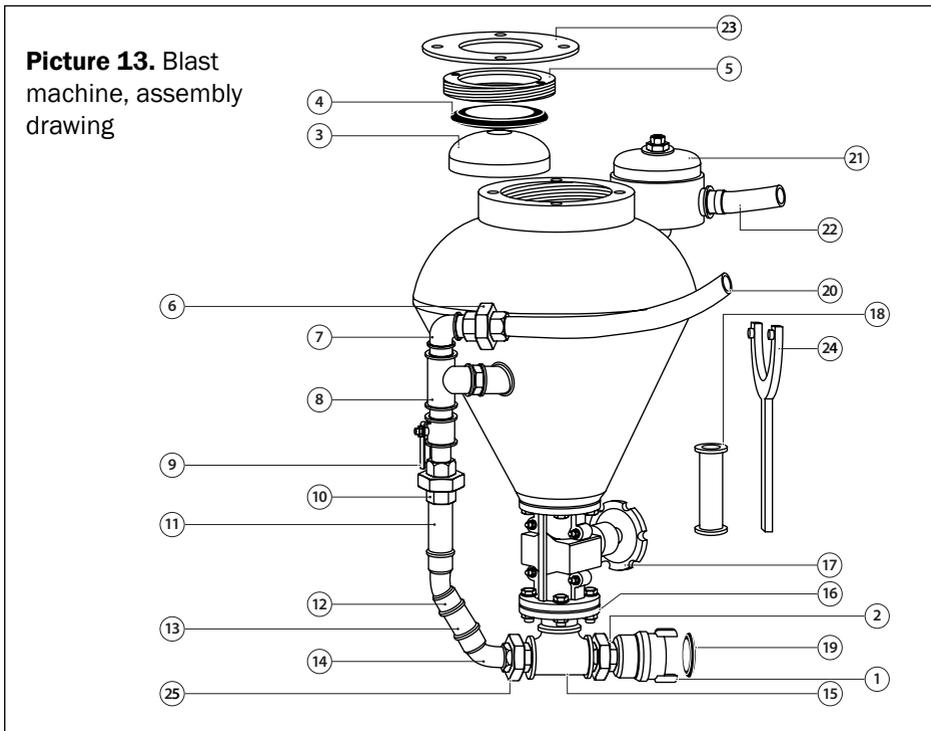
## 6.13. Dust leaking from dust collector

**6.13.1** Damaged or loose cartridge. Inspect filter cartridge.

**6.13.2** Faulty seal on the dust collector door. Inspect seal and replace if damaged.

# 7. Replacement parts

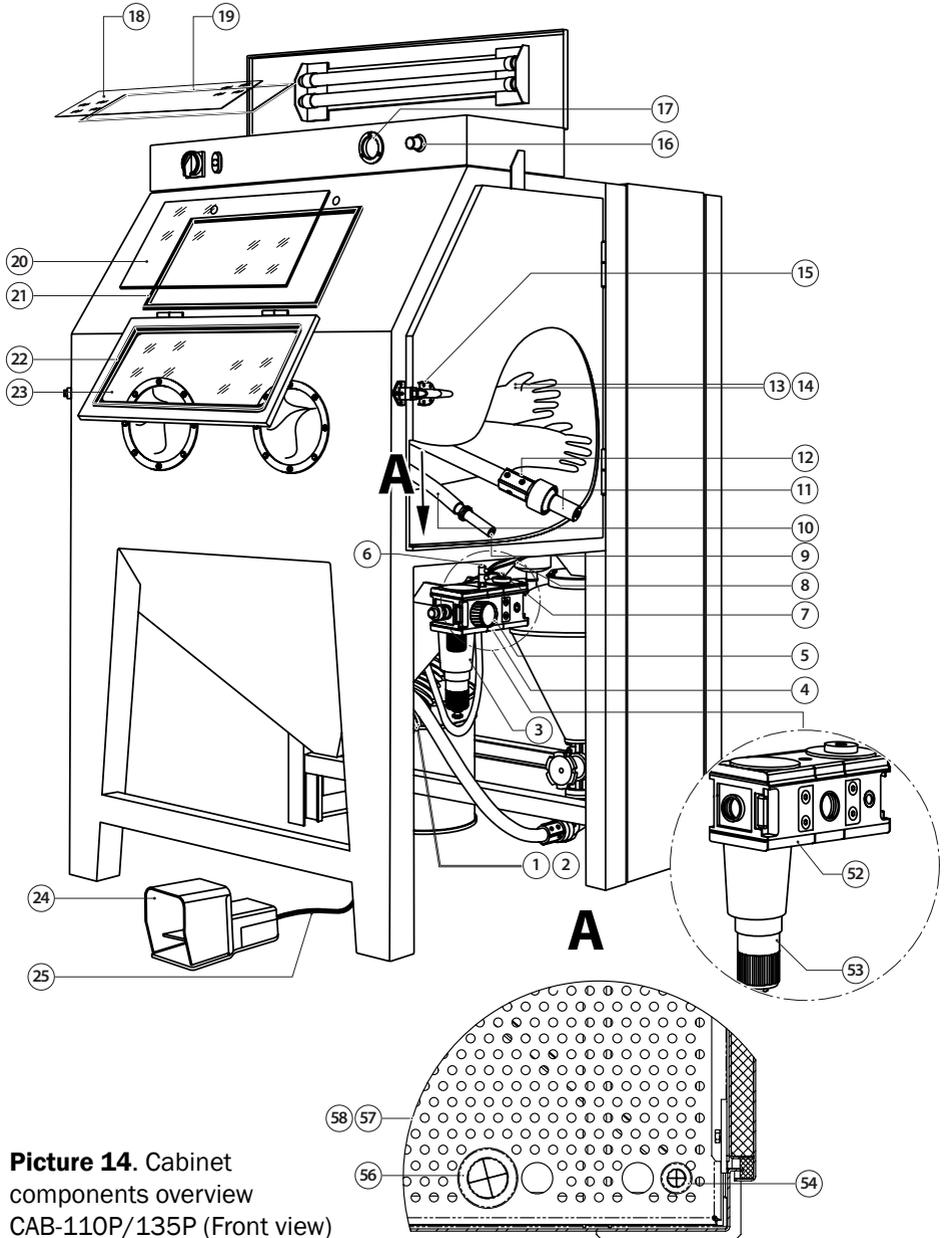
## 7.1. Blast machine assembly



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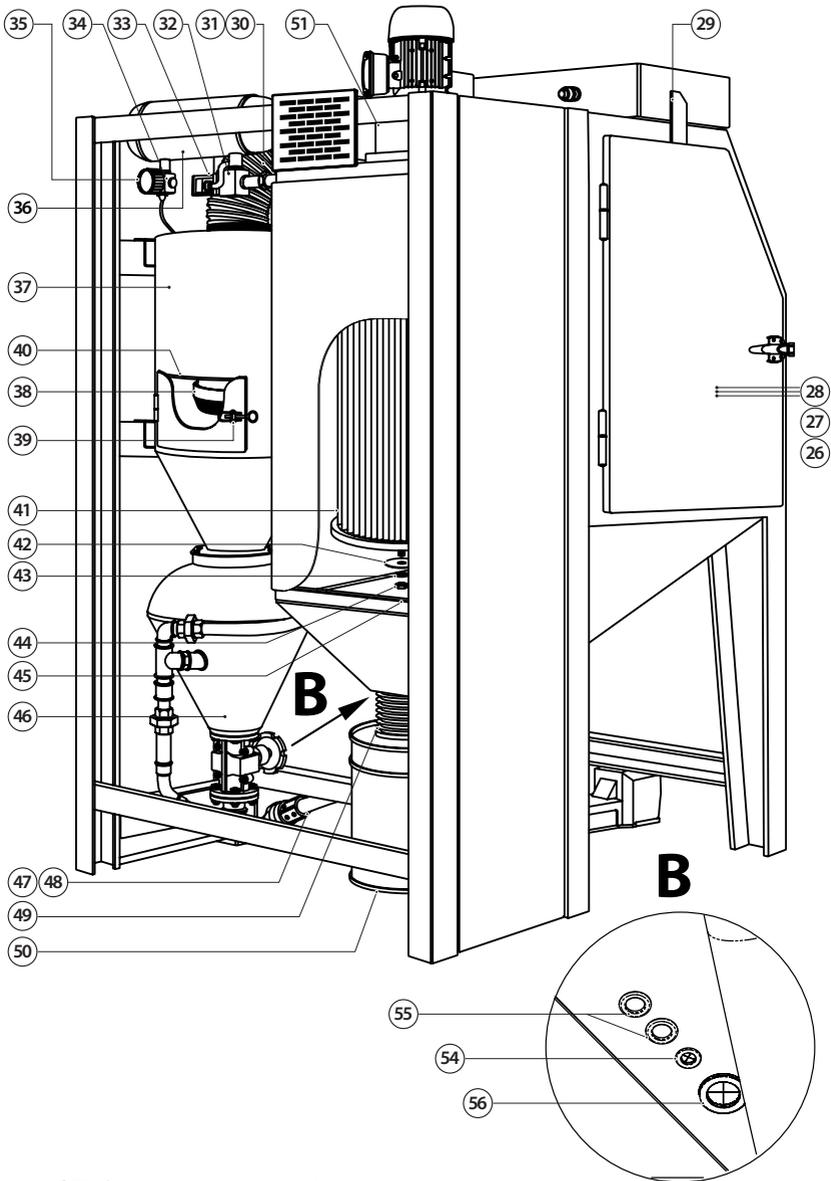
Pos. No	Order code	Description	Amount
1	10900	Sandblast coupling 1.¼, CFT-1	1
2	10911	Nipple 1.¼" (MM)	1
3	15315	Pop-up valve	1
4	15316	Ring	1
5	15317	Seat for pop-up ring	1
6	15318	Union with a cap nut, straight , 1", (FM)	1
7	10941	Elbow, 90°, 1" (FM)	1
8	15319	T-piece, 90°, 1", (FFF)	1
9	10938	Ball valve, 1", (MF)	1
10	15320	Union with a cap nut, straight , 1", (MF)	1
11	15321	Pipe 1"	1
12	15322	Elbow, 45°, 1" (FF)	1
13	15323	Pipe 1"	1
14	15324	Elbow, 45°, 1" (FM)	1
15	10948	T-piece, 90°, 1.¼" (FFF)	1
16	10949	Threaded flange 1.¼" for SGV valve	1
17	10946	SGV metering valve	1
18	10947	Rubber pipe for SGV valve	1
19	10980	Rubber gasket for CFT-1	1
20	15723	AirFlex-25, Compressed air hose 25x36mm, 1m	1 m
21	15917	Blow-out valve, assembly	1
22	15721	ExtraBlast-19 Blast media hose 19x33 mm, 1m	1 m
23	15327	Rubber gasket	1
24	15326	Pin wrench	1
25	15325	Reducing 1"x 1¼"	1

## 7.2. Cabinet assembly



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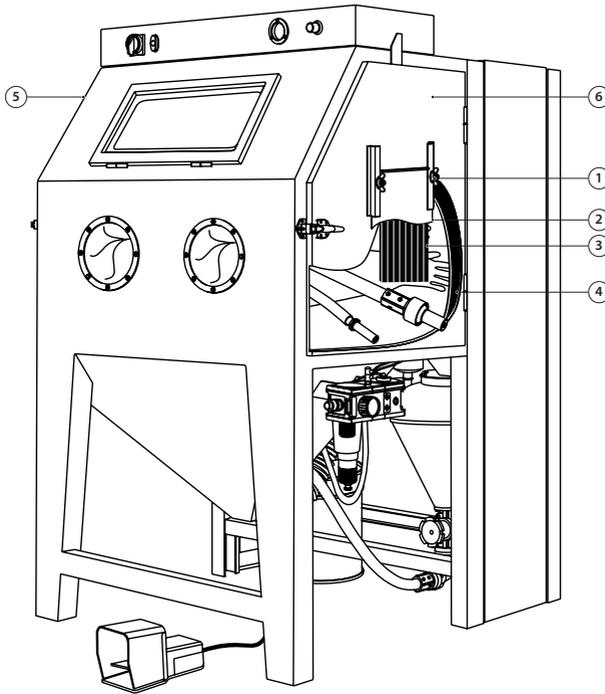
**Picture 14.** Cabinet components overview CAB-110P/135P (Front view)



**Picture 15.** Cabinet components overview  
CAB-110P/135P (Back view)

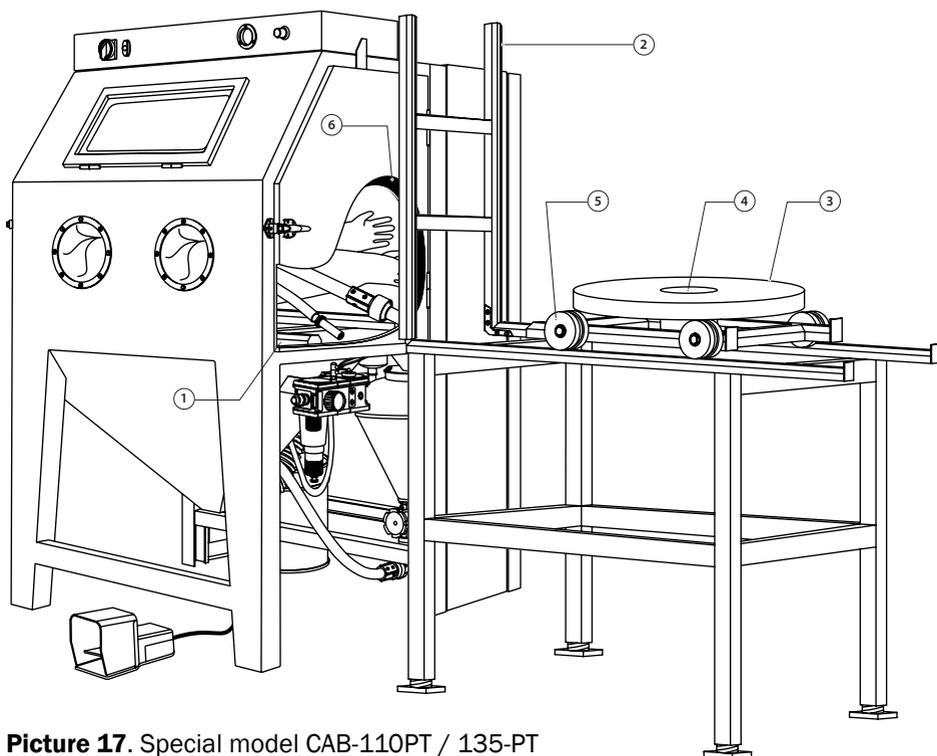
Pos. No	Order code	Description	Amount
1	15980	Conveying hose Ø 100, 1m	2 m
2	16045	Clamp for hose Ø 100	1
3	15908	Airline Filter 1", manual drain	1
4	15909	Pressure regulator 1", pilot operated	1
5	24407	Pressure gauge 1/4" (rubber cover)	1
6	16017	Pneumatic fitting 1/4" x 6mm, 2xOut	1
7	16025	Pneumatic fitting 1/4" x 6mm, angle	1
8	15990	Pneumatic tube 6 x 4 mm, 1m	1
9	15901	Air blow-off nozzle, rubber	1
10	15960	Rubber hose for air blow-off nozzle (BAH), 1m	2 m
11	12571	STC-6.5, Short Venturi nozzle, tungsten carbide, 6.5 x 80mm	1
12	12200	NHP-3/4, Nozzle holders for abrasive blasting hoses 19 x 33mm	1
13	15605	RGS 800 mm Blast cabinet gloves, pair	1
14	16047	Clamp for blast cabinet gloves	2
15	16069	Cabinet door latch, complete	2
16	15932	Pressure regulator, 1/4"	1
17	15934	Panel mounting pressure gauge 1/8"	1
18	16078	Light glas window, 646 x 186 mm	1
19	16064	Rubber profile, Safety glass window/ Light glass, 1m	3 m
20	16077	Disposable window for CAB-series, 500 x 320 mm	1
21	16049	Gasket 3x15, Disposable window / Electrical enclosure, 1m	2 m
22	16064	Rubber profile, Safety glass window/ Light glass, 1m	2 m
23	16076	Safety glas window, 476 x 296 mm	1
24	15931	Pneumatic foot pedal	1
25	16026	Pneumatic fitting M5 x 6mm	2
26	15812	Cabinet door CAB-110S/110P, left	1
	15813	Cabinet door CAB-135S/135P, left	1
27	15814	Cabinet door CAB-110S/110P, right	1
	15815	Cabinet door CAB-135S/135P, right	1
28	17540	Gasket, Cabinet door, 1m	5 m
29	15930	Door interlock 1/8"	2
30	15985	Ventilation hose Ø 150, 1m	1 m
31	16046	Clamp for hose Ø 150	1
32	15974	Diaphragm pulse-jet valve 3/4"	1

33	16106	Electronic timer for pulse-jet valve	1
34	15932	Pressure regulator, 1/4"	1
35	30404	Pressure gauge 1/8" (rubber cover)	1
36	15816	Pulse-jet cleaning manifold	1
37	15817	Reclaimer assembly R-350, without screen (for CAB-110P/S)	1
	15818	Reclaimer assembly R-400, without screen (for CAB-135P/S)	1
38	15819	Screen	1
39	16037	Dust collector latch, complete	1
40	17541	Gasket, Reclaimer door, 1m	2 m
41	15969	Cartridge filter 15 m <sup>2</sup> , for CAB/DC from type series 550	1
	15972	Cartridge filter 20 m <sup>2</sup> , for CAB/DC from type series 550	1
42	16217	Washer M8, large	1
43	16200	Washer M8	1
44	16207	Wing nut M8	1
45	16053	Gasket 5x20, dust collector door, 1m	4 m
46	15913	Blast machine assembly, 25 liter (for CAB-110P)	1
	15914	Blast machine assembly, 50 liter (for CAB-135P)	1
47	15721	ExtraBlast-19, Blast media hose 19x33 mm, 1m	3 m
48	12300	CQP-3/4, Hose couplings for abrasive blasting hoses 19 x 33mm (for CQP-3/4)	1
49	15985	Ventilation hose Ø 150, 1m	1 m
50	16079	Dust container, 20 liter	1
51	17547	Impeller for DC-1100 (CAB-110S / CAB-110P)	1
	17548	Impeller for DC-1500 (CAB-135S / CAB-135P)	1
52	15927	Pneumatic filtration and control unit 1"	1
53	15928	PC container with semi-automatic condensate drain	1
54	16390	Rubber gland, Air blow-off nozzle, for all ECO/CAB	2
55	16395	Rubber plug	2
56	16393	Rubber gland, Abrasive blast hose ExtraBlast-19, for all CAB-P	2
57	15840	Floor plate, left for CAB-110	1
	15842	Floor plate, left for CAB-135	1
58	15841	Floor plate, right for CAB-110	1
	15843	Floor plate, right for CAB-135	1



**Picture 16.** Special model CAB-110PD / 135-PD

Pos. No	Order code	Description	Amount
1	17549	Knob	2
2	17550	Dumper plate	1
3	17551	Rubber shield	1
4	15810	Rubber curtain set, black, for CAB-110	1
	15811	Rubber curtain set, black, for CAB-135	1
5	15835	Pass-through cabinet door CAB-110S/110P, left	1
	15837	Pass-through cabinet door CAB-135S/135P, left	1
6	15836	Pass-through cabinet door CAB-110S/110P, right	1
	15838	Pass-through cabinet door CAB-135S/135P, right	1

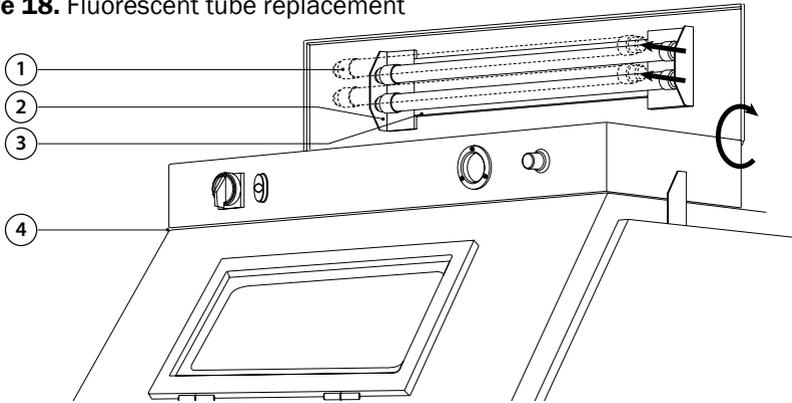


**Picture 17.** Special model CAB-110PT / 135-PT

Pos. No	Order code	Description	Amount
1	15705	Trucks inner part, for CAB-110	1
	15706	Trucks inner part, for CAB-135	1
2	15703	Trucks outer part, for turntables with Ø 500 mm	1
	15704	Trucks outer part, for turntables with Ø 800 mm	1
3	15707	Turntable Ø 500 mm, with cart, assembly	1
	15708	Turntable Ø 800 mm, with cart, assembly	1
4	15714	Bearing with housing, universal for turntable Ø 500 mm / Ø 800 mm	1
5	15713	Double flange wheel, universal for turntable Ø 500 mm / Ø 800 mm	1
6	15810	Rubber curtain set, black, for CAB-110	1
	15811	Rubber curtain set, black, for CAB-135	1

## 7.3. Light assembly

**Picture 18.** Fluorescent tube replacement

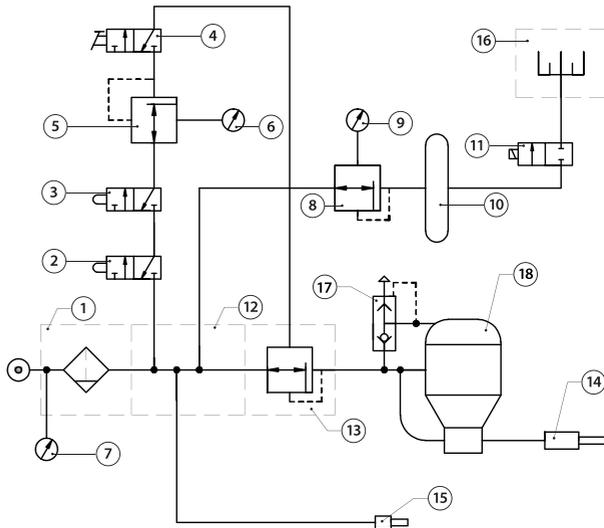


Pos. No	Order code	Description	Amount
1	16122	Tube fluorescent, 30 W	2
2	16121	Light assembly, 2x30 Watt	1
3	16123	Lamp reflector	1
4	16049	Gasket 3x15, Disposable window / Electrical enclosure, 1m	4 m

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## 7.4. Pneumatic circuit diagram

**Picture 19.** Pneumatic circuit diagram  
CAB-110P/ 135P



Pos. No	Order code	Description
1	15908	Airline Filter 1", manual drain
2	15930	Door interlock 1/8"
3	15930	Door interlock 1/8"
4	15931	Pneumatic foot pedal
5	15932	Pressure regulator, 1/4"
6	15934	Panel mounting pressure gauge 1/8"
7	30404	Pressure gauge 1/8" (rubber cover)
8	15932	Pressure regulator, 1/4"
9	24407	Pressure gauge 1/4" (rubber cover)
10	15816	Pulse-jet cleaning manifold
11	15974	Diaphragm pulse-jet valve 3/4"
12	16017	Pneumatic fitting 1/4" x 6mm, 2xOut
13	15909	Pressure regulator 1", pilot operated
14	12571	STC-6.5, Short Venturi nozzle, tungsten carbide, 6.5 mm x 80 mm
15	15901	Air blow-off nozzle, rubber
16	15969	Cartridge filter 15 m <sup>2</sup> , for CAB/DC from type series 550
	15972	Cartridge filter 20 m <sup>2</sup> , for CAB/DC from type series 550
17	15917	Blow-out valve, assembly
18	15913	Blast machine assembly, 25 liter (for CAB-110P)
	15914	Blast machine assembly, 50 liter (for CAB-135P)

