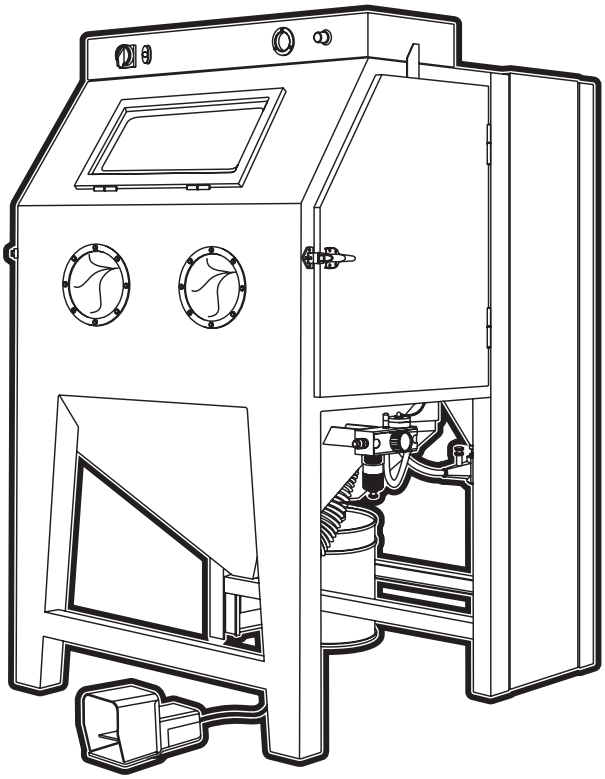
Abraclean

Surface Finishing
Equipment Group

CAB-110S/CAB-135S

OPERATING AND MAINTENANCE MANUAL
Version 4.2



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EN

⚠ 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;

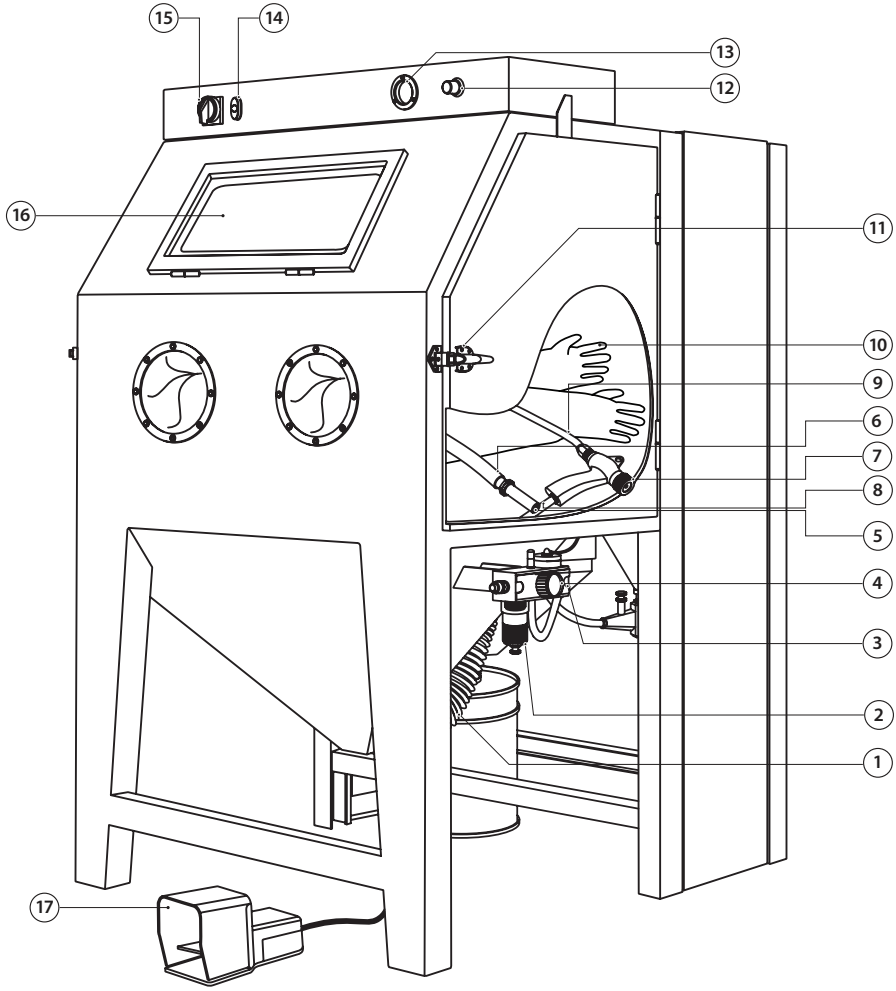
- Ensure that the cabinet is grounded;

6. During blasting process all doors on the cabinet, reclaimer or dust collector must be closed.

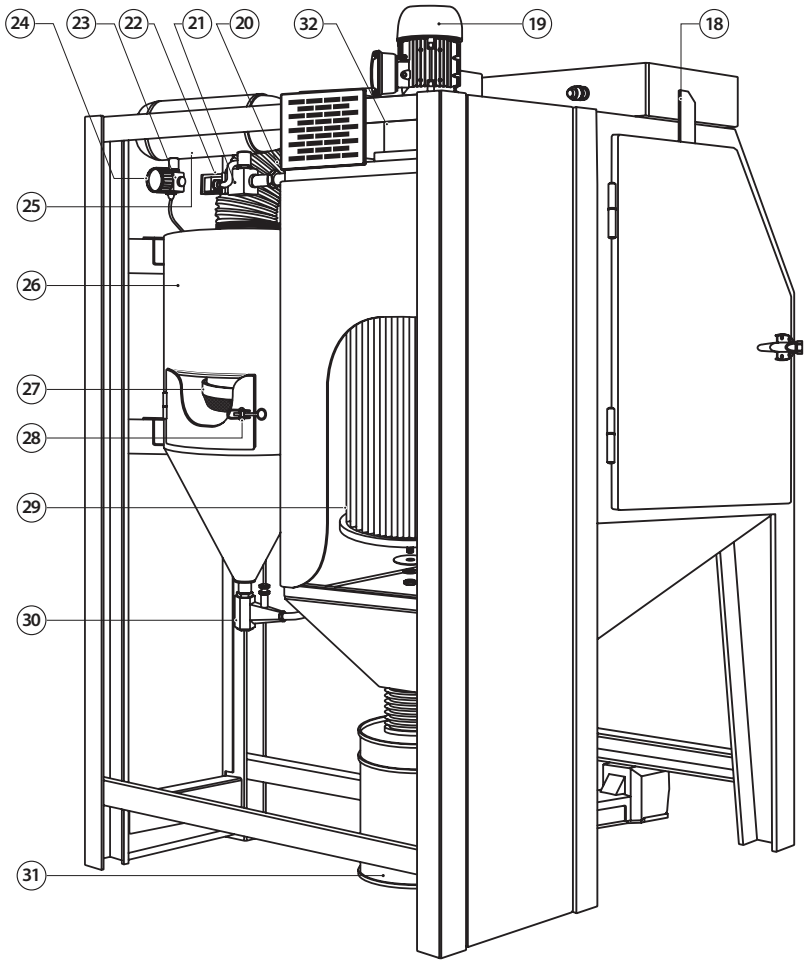
7. After blasting, before the doors are opened and exhauster is switched off, use the blow nozzle to blow media from the blasted parts.

8. Do not open the doors or switch off exhauster before the cabinet is clear of abrasive dust.

2. Package and description



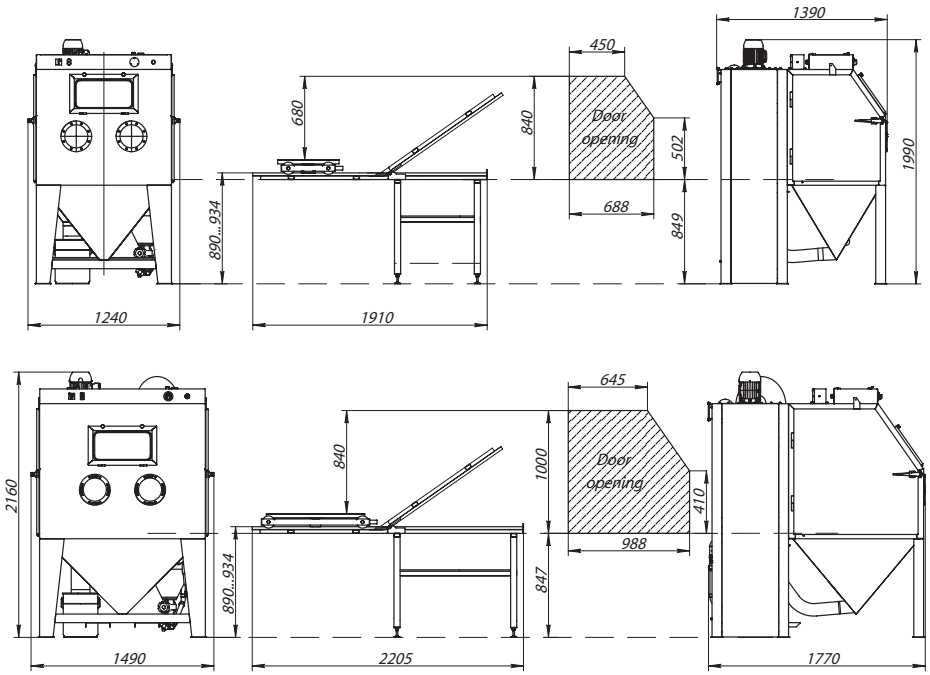
Picture 2.0.1. Cabinet componets overview CAB-110S/135S (Front view)



Picture 2.0.2. Cabinet componets overview CAB-110S/135S (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	GX Manual blast gun
8	Blast media hose, transparent
9	Rubber air hose
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	Metering valve, blast media
31	Dust container
32	Impeller for DC-1100 / 1500



Picture 2.0.3. Blast cabinet overall dimensions CAB-110S/135S

2.1 Package

Table 2.1

Order code	Model	Description, package
15105	CAB-110S	BLAST CABINET, COMPLETE SYSTEM, CONSIST - Cabinet Enclosure - Cyclone reclaimer R-350 - Cartridge Dust Collector DC-1100 (see. Table 2.2.) STANDARD DELIVERY: - Quality 800 mm blast gloves with inner fabric lining - Manual suction blast gun GX - GXT-8,0 tungsten carbide gun nozzle Ø 8mm - Reclaimer metering valve - Main airline filer with 5µ filtration grade - Pilot regulated blast pressure - Door safety interlocks - Pulse cleaned cartridge filter Electrical connection 1,10 kW, 380V, 3 phase, 50Hz Working chamber size (W x D x H) 1100 x 800 x 840 Weight, 350 kg Noise level, 80 .. 120 dB (2000/14EC) Standard load capacity, 350 kg
15106	CAB-135S	BLAST CABINET, COMPLETE SYSTEM, CONSIST - Cabinet Enclosure - Cyclone reclaimer R-400 - Cartridge Dust Collector DC-1500 (see. Table 2.2.) STANDARD DELIVERY: - Quality 800 mm blast gloves with inner fabric lining - Manual suction blast gun GX - GXT-8,0 tungsten carbide gun nozzle Ø 8mm - Reclaimer metering valve - Main airline filer with 5µ filtration grade - Pilot regulated blast pressure - Door safety interlocks - Pulse cleaned cartridge filter Electrical connection 1,50 kW, 380V, 3 phase, 50Hz Working chamber size (W x D x H) 1350 x 1100 x 1070 Weight, 450 kg Noise level, 80 .. 120 dB (2000/14EC) Standard load capacity, 350 kg

Table 2.2

	Filtering media	Filtering surface, m2	Fan power, kW	Fan capacity, m3/h	Fan pressure, Pa
CAB-110	Polyester	7,5	1,1	1050	1950
CAB-135	Polyester	11	1,5	1150	2250

3. General information

3.1. General information.

Contracor abrasive blast cabinet encloses the blasting environment to provide efficient blast cleaning while maintaining a clean surrounding work area.

Production rates of the blast cabinets are dependent on size of nozzle, compressor capacity, working pressure, type and size of abrasive media and distance between the nozzle and the cleaning surface.

Contracor suction type blast cabinets consist three modules:

1. Ruggedly built welded steel cabinet enclosure.

2. Cyclone reclaimer for maximum efficiency in controlling media recycling.

3. Dust collector with high 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. Fully depressing the foot pedal causes air to flow through the blast gun. Air moving through the gun draws media into the blast gun mixing chamber. The media mixes with the air and is propelled out 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 screen 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. When the foot pedal is released, the blasting stops.

The dust collector filter cartridge is cleaned by a pulse of high velocity compressed air expanding against the inner surface of the cartridge. An electronic timer controls the time intervals between the pulses. The expanding air momentarily reverses airflow through the

cartridge to release dust accumulated on the outer surface. The dust particles fall away from the cartridge and into the hopper for removal.

3.3 Air jet diameter and required compressed air volume.

A wide assortment of air jet sizes and nozzle orifices are available for exact calibration of maximum performance.

The size of the compressor required to operate the cabinet depends on the size of the air jet and blasting pressure. See table 3.1 Compressed air requirements.

In standard delivery cabinets are shipped with the suction blast gun GX equipped with Ø4mm air jet and Ø8mm blast nozzle.

Table 3.1 Compressed air requirements

Ø Air jet (mm)	Ø Blast nozzle (mm)	REQUIRED AIR VOLUME (m^3/min.) at working pressure, bar								
		2	3	4	5	6	7	8	10	12
3,2	6,0	0,245	0,326	0,406	0,487	0,568	0,649	0,730	0,891	1,050
4,0	8,0	0,436	0,579	0,723	0,865	1,010	1,150	1,300	1,585	1,870
5,0	10,0	0,681	0,905	1,130	1,350	1,580	1,800	2,030	2,480	2,930

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-110S and CAB-135S cabinets (max. mesh size ca. 0,80 mm). 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

The air filter at the air inlet connection reduces condensed water from the compressed air. Its use is especially important in areas of high humidity, or when fine-mesh media are used. Moisture causes media to clot and inhibits free flow through the feed assembly. If moisture problems persist, an air dryer may be required.

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. = ½". 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 reclaimer exhauster 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 reclaimer 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 reclaimer hopper through the reclaimer door. Do not fill past the cone on the reclaimer.

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 Media unloading

To empty the cabinet of old media turn off the exhauster and place an empty container under the metering valve. Unscrew the lower plug from the metering valve. Media will flow into container. If media doesn't flow, it has caked. Open the fill door and stir media until it starts to flow.

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.

Open the compressed air supply to the blast cabinet. On the initial start up check for air leaks. Adjust the pulse pressure regulator to 4,5 bar (see Picture 2 for location).

Turn on/of switch to the position “I” to switch on the lights and filter pulse cleaning. Push button ON to switch on the exhauster. Insert hands into rubber gloves. Firmly grasp the blast gun and step on the foot pedal. Blasting will begin immediately. Adjust blast pressure using pilot regulator located on the control panel. Pressure gauge on the control panel shows actual blast pressure value.

Most effective blasting techniques are smooth continuous strokes. The distance from the part affects size of blast pattern. Normal practice places the nozzle 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.

During the blast cabinet operation, dust collector is pulsed automatically according to the timer settings. Prolonged periods of blasting or duty conditions may require 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.

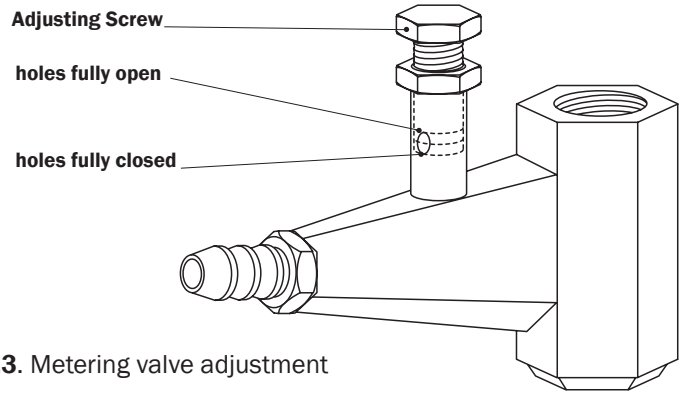
Adjust air pressure by turning the knob on the pilot regulator located on the front of the control panel. Pull the knob out, and turn clockwise to increase pressure or counter-clockwise to decrease. Once operating pressure is set, push the knob in to lock.

4.3.2 Air jet adjustment

The air jet should be screwed 4.5 to 5 full turns into the rear of the GX gun body. Doing so will leave 3.5 to 4 threads exposed past the lock nut. Tighten the lock nut to hold the orifice in place.

4.3.3 Media/Air Mixture

Observe media flow through the clear media hose. Media should flow smoothly and evenly through the hose.



Picture 4.3.3. Metering valve adjustment

Observe media flow through the clear media hose. Media should flow smoothly and evenly through the hose. If the air exiting the nozzle pulses or if media does not flow smoothly, the metering valve requires adjusting.

To adjust loosen the locking nut, and adjust the metering screw until the hole in the metering stem is half-closed.

If pulsation occurs in the media hose, either media is damp and caked, or not enough air is entering the media stream. While blasting, loosen the locking nut and slowly turn the adjusting screw out (counter clockwise when viewed from the top) until the media flows smoothly. Tighten the locking nut to maintain the setting. If media flow is too light, decrease air in the mixture by turning the metering screw in (clockwise when viewed from the top) covering more of the hole so less air enters the media hose. Tighten the locking nut to maintain the setting.

4.3.4 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.

4.3.5 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.

4.3.6 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.

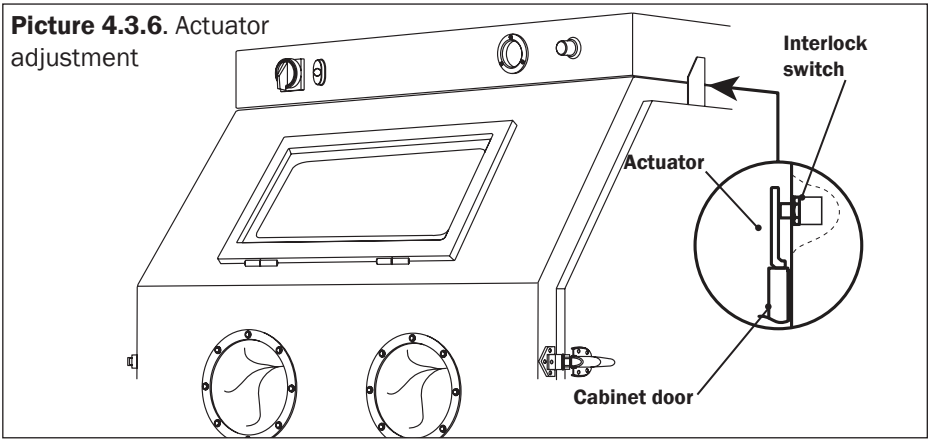
⚠ ATTENTION!

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 4.3.6. 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.

4.3.7 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

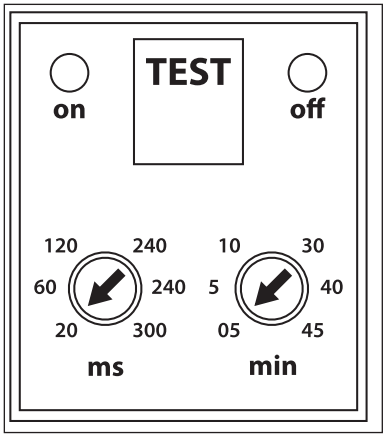
Adjust pulse time and cycling on the timer (see Picture 2 for location).

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



Picture 4.3.8.Pulse time and cycling adjustment

5. Maintenance

5.1. Preventive maintenance.

5.1.1 GX manual blast gun

Inspect the GX manual blast gun for wear. Replacing the air jet cover before it wears through will prolong the life of the jet.

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.

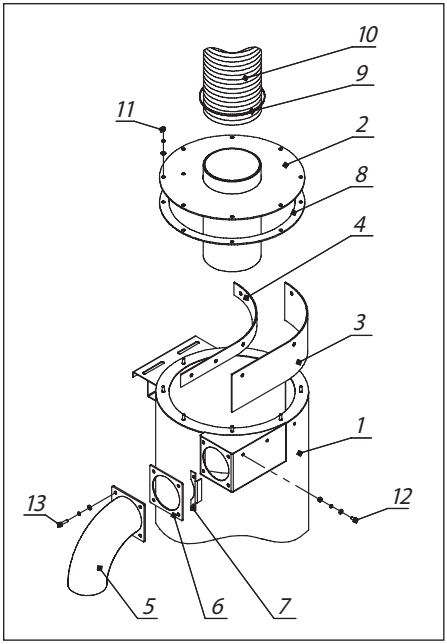
Moist air inhibits the flow of media. If moisture continues to be present, a refrigerated air dryer may be required.

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 Changing the rubber shield of the reclaimer

A rubber shield (3) is installed to prevent damage to the walls of the reclaimer (1), caused by abrasive particles when the abrasive-air mixture enters the reclaimer. It should be regularly inspected for wear and damage. Loosening the clamp (9), unscrew the hose



Picture 5.1.6. Changing the rubber shield of the reclaimer

(10) from the flange (2), loosen the nuts (11) and remove the flange (2) from the reclaimer (1). Inspect the condition of the rubber shield (3). To change the shield, unscrew the bolts (12)(13), and remove the shield (3), the strip (4), the tightening piece (7) and the pipe bend (5). Reassemble the reclaimer in the reverse order, replacing the gaskets (8)(6) if required.

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

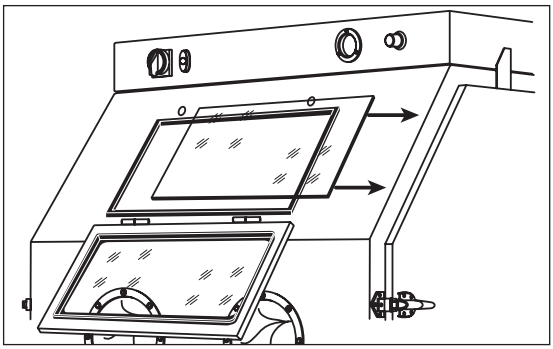
Replace the nozzle when its diameter has increased by max. 2mm or sooner if pressure diminishes noticeably.

To change the nozzle, unscrew the holding nut from the gun end. Pull the nozzle from the gun and replace with a new nozzle, placing the tapered end toward the jet. Screw the holding nut back onto the gun.

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 5.2.3. Disposable window replacement

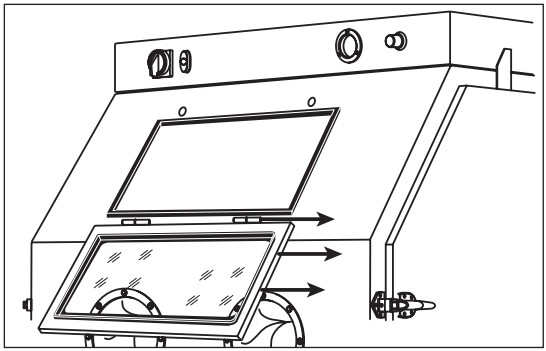
5.2.4 Viewing window replacement

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).

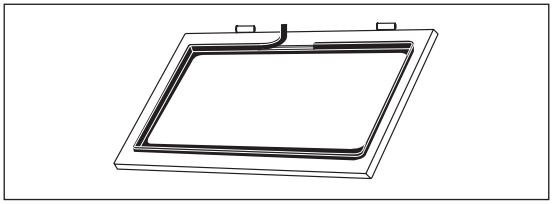


Picture 5.2.4.1. Windows frame removal

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.

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.

Picture 5.2.4.1. Viewing window replacement



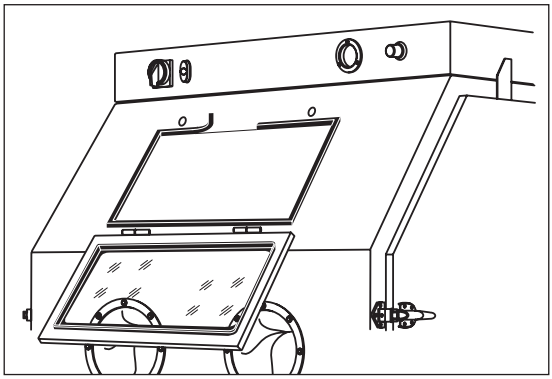
5.2.5 Window gasket replacement

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 comer, pressing it tightly to bond. Trim the gasket to fit and compress the ends to seal.

Picture 5.2.5. Window gasket replacement



5.2.6 Filter cartridge replacement

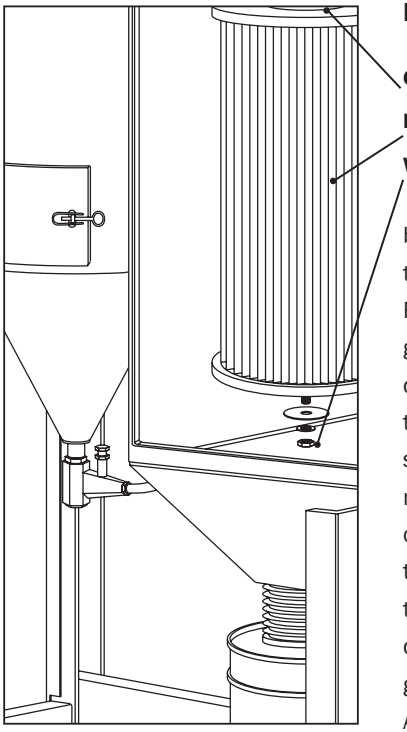
⚠ ATTENTION!

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.



Picture 5.2.6. Filter cartridge replacement

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. 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, which ever comes first. At that point turn the pulse regulator to 4,5 bar, to start the pulsing cycle.

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 4.3.5.

6.1.5 Inlet damper requires opening. Restrictions at the inlet damper reduces air movement in the cabinet. Open damper per Section 4.3.5.

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 4.3.5.

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 reducing media flow. Check and fill if low.

6.3.2 Incorrect metering valve adjustment. Adjust per Section 4.3.3.

6.3.3 Reduced air pressure. This may be caused by a malfunctioning regulator, a dirty filter element in air filter, partially closed air valve, leaking airline, or other air tools in use.

6.3.4 Blockage in media line or gun. Blockage may occur as a result of a missing debris screen, or incorrect metering valve adjustment permitting heavy media flow. Check media valve adjustment per Section 4.3.3.

6.3.5 Worn gun parts such as nozzle or air jet. Inspect and replace all worn parts.

6.3.6 Worn media hose. Check hose for leaks and soft spots. Replace when worn or damaged.

6.3.7 Air jet in gun out of adjustment. Check adjustment per Section 4.3.2..

6.3.8 Moist blast media. Frequent bridges or blockage in the area of the metering valve can be caused by moisture. See Section 6.5.

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 4.3.3.

6.5. Media bridging

6.5.1 Frequent bridging or blockage in the metering valve can be caused by damp media. Media becomes damp by blasting parts that are slightly oily, from moisture in the compressed air line, or from absorption.

6.5.2 To avoid contaminating media from the work piece, all parts put into the cabinet should be clean and dry. If parts are oily or greasy I degrease and dry them prior to blasting.

6.5.3 Moist compressed air may be due to a faulty compressor that overheats, or pumps oil or moisture into the air line, too long an air line permitting moisture to condense on the inside, and from high humidity. Drain filters and receiver tank regularly. If the problem persists, it may be necessary to change media more often, or install a refrigerated air dryer.

6.5.4 Absorption: Some media tends to absorb moisture from the air, especially fine-mesh media in high humidity areas. Empty the media and store it in an airtight container when cabinet is not in use.

6.6 Neither media nor air comes out the nozzle when the foot pedal is pressed

6.6.1 Door interlocks not engaging. Check adjustment per Section 4.3.6.

6.6.2 Blocked or leaking control lines. Check all fittings and urethane tubing for blockage or leaks.

6.6.3 Foot pedal 3-way valve defective or not engaging. Check foot pedal alignment, and inlet and outlet lines for pressure.

6.6.4 Check that lines are not reversed on the foot pedal or pilot regulator.

6.6.5 Check that the pressure regulator is not turned too low. Minimum pressure is 3 bar.

6.6.6 Check that the compressor is on and air supplied to the cabinet.

6.6.7 Nozzle plugged. See Section 6.4.

6.7 Blasting does not stop when the foot pedal is released.

6.7.1 Make sure that the 3-way valve in the foot pedal exhausts air when the pedal is released. If it does not, check the line for blockage, and check the switch for defect.

6.8 Blockage in media hose

6.8.1 Media obstructions. Usually caused when the media mixture is too rich. Adjust media/air mixture per. Section 4.3.3.

6.8.2 Wet or damp media. See Section 3.5.

6.9 Media surge

6.9.1 Heavy media flow. Adjust per Section 6.3.

6.10 Poor suction in media hose

6.10.1 Inadequate air supply. Check the table 3.1.

6.10.2 Air jet needs adjustment. Check adjustment per Section 4.3.2.

6.10.3 Nozzle worn. Replace if worn 2mm or more.

6.10.4 Blockage in media hose or nozzle. See Section 4.3**.**

6.10.5 Wrong size combination of air jet and nozzle. See table 3.1.

6.10.6 Air jet sleeve extends past end of air jet. Cut the sleeve to align with the air jet.

6.11 Blow-back through media hose

6.11.1 Blockage in nozzle. Remove the nozzle and check blockage.

6.11.2 Air jet may be too large for nozzle. See table 3.1.

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

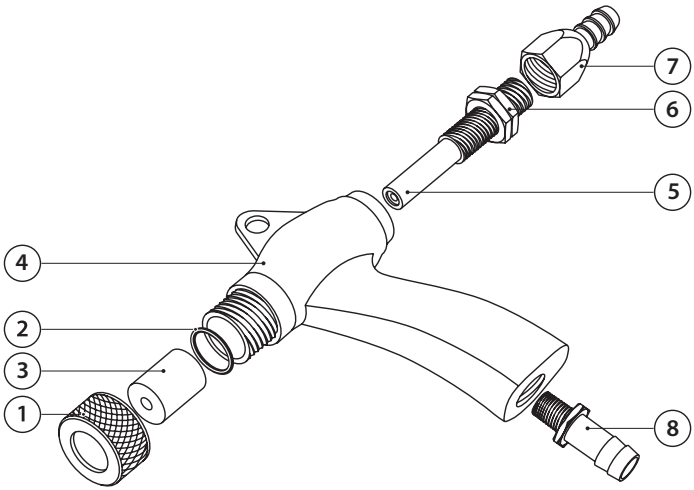
6.13.1 Damaged or loose cartridge. Inspect filter cartridge.

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

7. Replacement parts

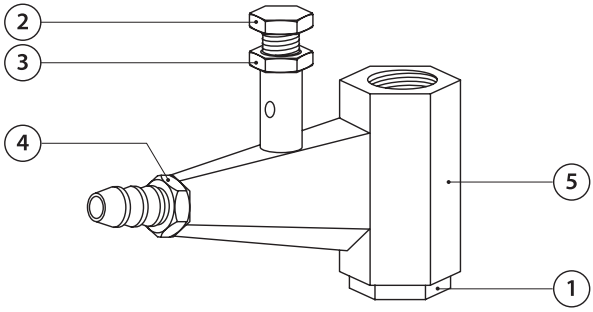
7.1. GX gun and feed assembly.

Picture 7.1. Blast cabinet gun GX,
assembly drawing



Pos. No	Order code	Description	Amount
	10115300	Suction blast gun, without nozzle	
1	10115313	Nozzle holding nut	1
2	10115312	Rubber O-ring	1
3	10115508	Tungsten carbide nozzle for GX blast gun, Ø 8 mm (standard)	1
4	10115304	Gun body	1
5	10115307	Air jet Ø 4,0 мм (standard)	1
6	10115309	Lock nut	1
7	10115310	Swivel hose fitting, compressed air hose	1
8	10115311	Hose fitting, blast media hose	1

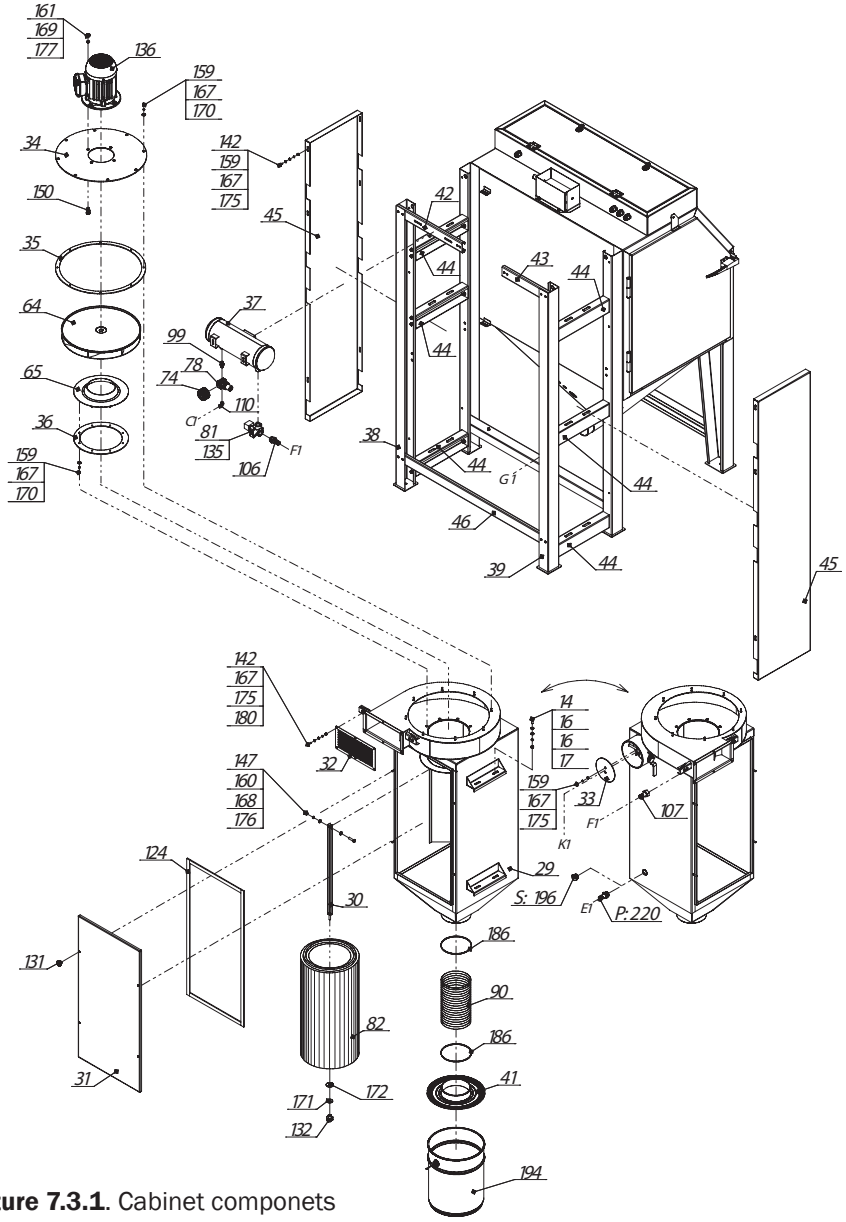
7.2. Metering valve assembly.



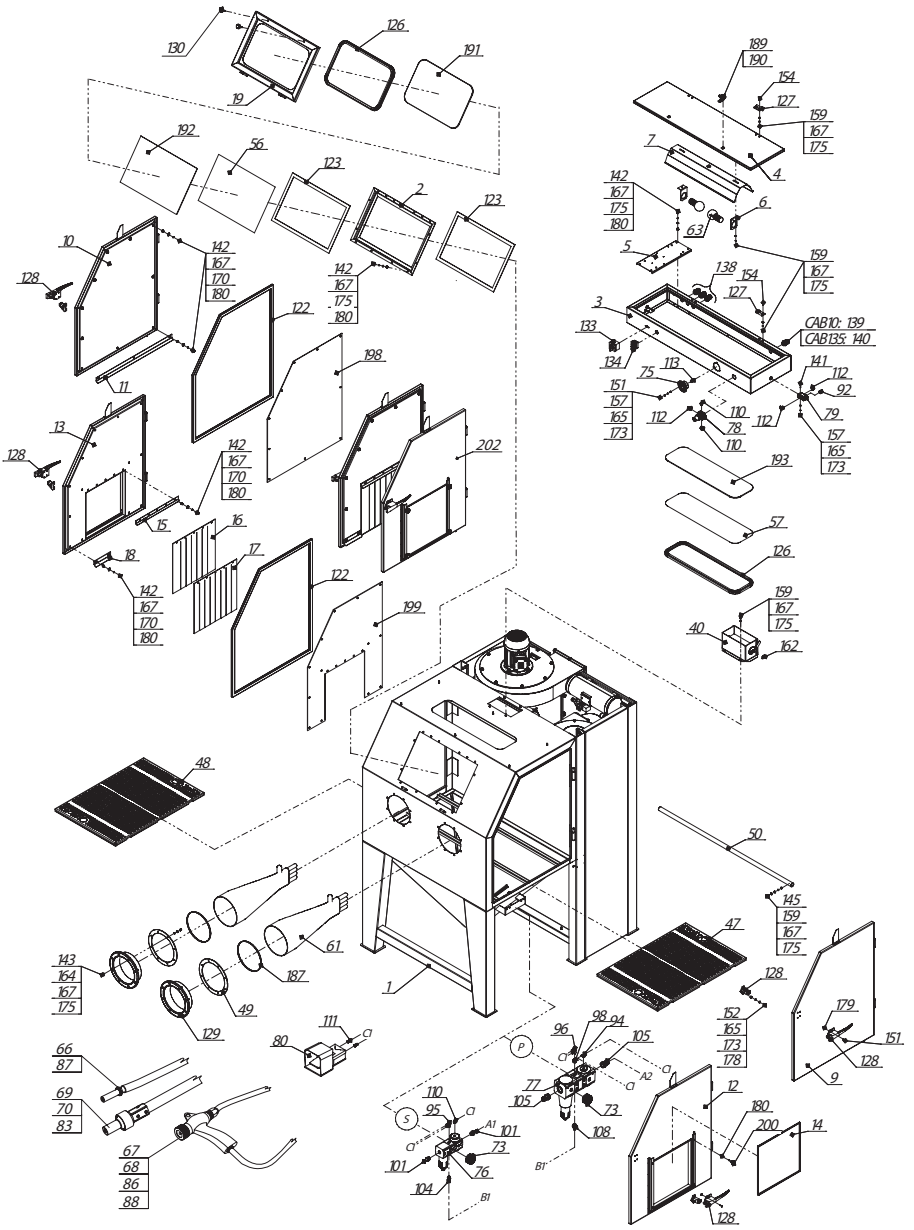
Picture 7.2. Metering valve, blast media

Pos. No	Order code	Description	Amount
	10115920	Metering valve, blast media	
1	10115921	Drain Plug	1
2	10115922	Adjusting screw	1
3	10115923	Lock nut	1
4	10115924	Hose fitting, blast media hose	1
5	10115925	Valve body	1

7.3. Cabinet assembly.



Picture 7.3.1. Cabinet componets overview CAB-110S/135S


130
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142 167 170 180
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142 167 175 180
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CAB10: 139
CAB135: 140
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151 157 165 173
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110 78 110
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157 165 173
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67 68 86 88
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105
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152 165 173 178
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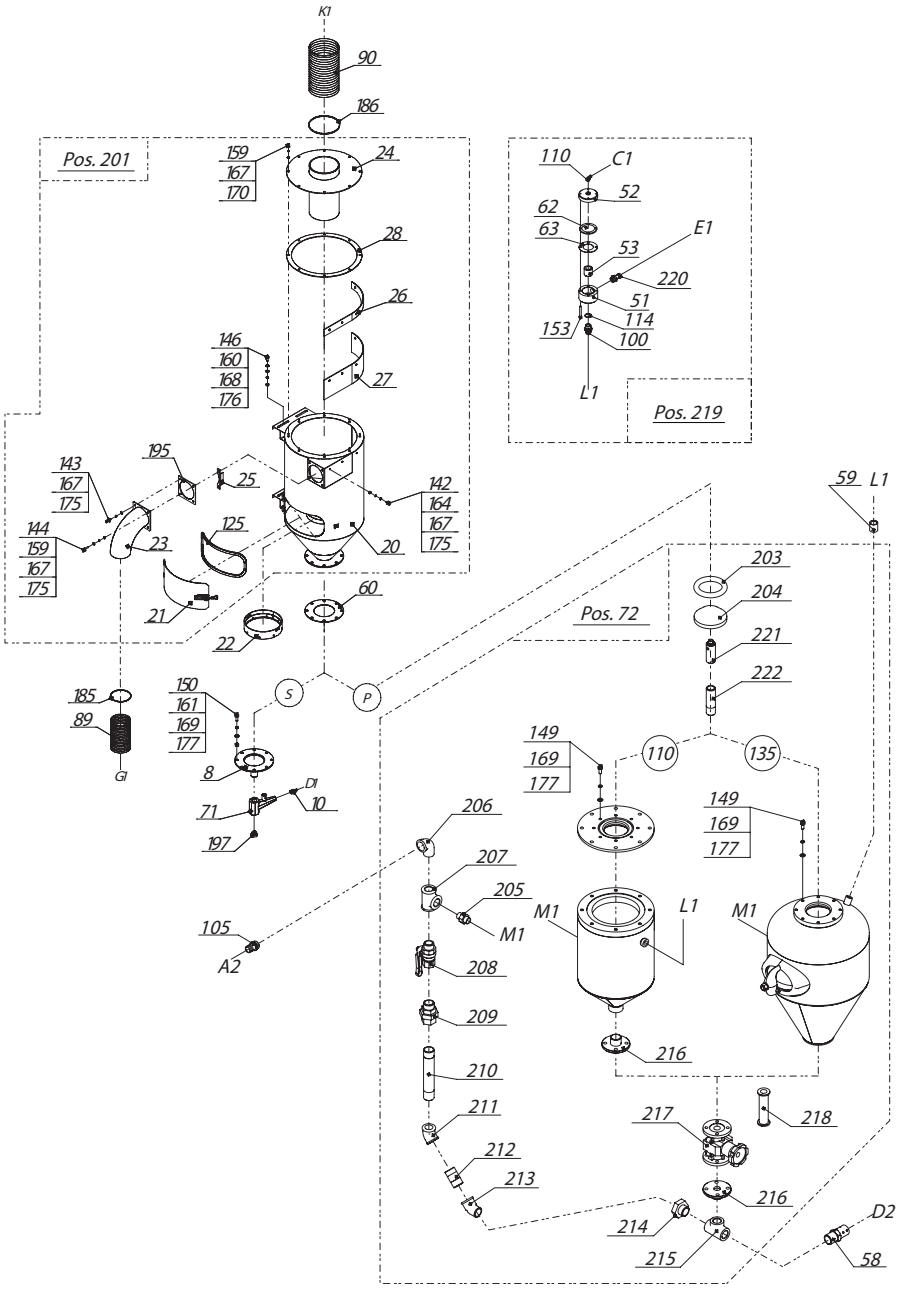
K1
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Pos. 201
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G1
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161
169
177
S
P
8
DI
71
10
197
105
A2
110
C1
52
62
63
53
E1
220
51
114
153
100
L1
Pos. 219
59
L1
Pos. 72
203
204
221
222
149
169
177
110
135
206
207
205
M1
208
209
210
211
212
213
M1
L1
M1
216
217
218
216
214
215
D2
58

HOSES		
Position	**Hose**	**Bracket**
A1	88	183
A2	85	184
B1	87	182
C1	91	-
D1	86	183
D2	83	184
E1	84	184
F1	83	184
G1	89	185
K1	90	186

Pos. No.	Order code	Description	110S	110SD	135S	135SD
1	88000001	Cabinet body	1	1		
	88000002	Cabinet body			1	1
2	83900020	Frame	1	1	1	1
3	83400012	El. Cabinet	1	1		
	83400015	El. Cabinet			1	1
4	83100024	E. cabinet door	1	1		
	83100031	E. cabinet door			1	1
5	86900008	Panel	1	1	1	1
6	80600030	Bracket	2	2	2	2
7	82600003	Reflector	1	1	1	1
8	88700002	Cone	1	1	1	1
9	83100025	Cabinet door right	1			
	83100033	Cabinet door right			1	
10	83100044	Cabinet door left	1			
	83100032	Cabinet door left			1	
11	82400036	Frame	2			
	82400022	Frame			2	
12	83100027	Cabinet Pass-Through door right		1		
	83100035	Cabinet Pass-Through door right				1
13	83100028	Cabinet Pass-Through door left		1		
	83100034	Cabinet Pass-Through door left				1
14	88100001	Dumper plate		2		2
15	82600002	Reflector		2		2
16	84000002	Rubber shield		2		2
17	84000003	Rubber shield		2		2

Pos. No.	Order code	Description	110S	110SD	135S	135SD
18	82400021	Frame		4		
	82400037	Frame				4
19	83100026	Door	1	1	1	1
20	83400013	Reclaimer body	1	1		
	83400016	Reclaimer body			1	1
21	83100029	Reclaimer door	1	1		
	83100036	Reclaimer door			1	1
22	88200001	Cribble	1	1	1	1
23	89900003	Intake bend	1	1	1	1
24	80500023	Reclaimer flange	1	1		
	80500026	Reclaimer flange			1	1
25	81050001	Clamp	1	1	1	1
26	82400029	Clamp frame	1	1		
	82400030	Clamp frame			1	1
27	84000007	Rubber shield	1	1		
	84000008	Rubber shield			1	1
28	88500009	Rubber gasket	1	1		
	88500010	Rubber gasket			1	1
29	83400014	Diffusion housing	1	1		
	83400017	Diffusion housing			1	1
30	88300001	Diffusion shaft	1	1	1	1
31	83100030	Diffusion door	1	1		
	83100038	Diffusion door			1	1
32	86400004	Bars	1	1		
	86400005	Bars			1	1
33	88400001	Dumper plate	1	1	1	1
34	80500015	Electric motor flange	1	1		
	80500016	Electric motor flange			1	1
35	88500001	Rubber gasket	1	1		
	88500004	Rubber gasket			1	1
36	88500002	Rubber gasket	1	1		
	88500005	Rubber gasket			1	1
37	88600001	Pulse-jet cleaning manifold	1	1		
	88600002	Pulse-jet cleaning manifold			1	1
38	80300050	Support left	1	1		
	80300053	Support left			1	1
39	80300051	Support right	1	1		
	80300052	Support right			1	1

Pos. No.	Order code	Description	110S	110SD	135S	135SD
40	88100002	Dumper	1	1	1	1
41	81600019	Nozzle	1	1	1	1
42	81800004	Traverse	1	1		
	81800009	Traverse			1	1
43	81800005	Traverse	1	1		
	81800010	Traverse			1	1
44	81800006	Traverse	6	6		
	81800008	Traverse			6	6
45	81000109	Panel	2	2		
	81000110	Panel			2	2
46	81800007	Traverse	1	1		
	81800011	Traverse			1	1
47	88800001	Floor plate	1	1		
	88800003	Floor plate			1	1
48	88800002	Floor plate	1	1		
	88800004	Floor plate			1	1
49	88500003	Rubber gasket	2	2	2	2
50	88300002	Shaft			1	1
	88300014	Shaft	1	1		
51	83400025	Blow-out valve body				
52	81100054	Blow-out valve top				
53	10100001	Blow-out valve socket				
55	22020001	Pin-wrench				
56	87100014	Grid	1	1	1	1
57	87100015	Grid	1	1	1	1
58	85800002	Screw connection				
59	81230001	Socket				
60	88500007	Rubber gasket	1	1	1	1
61	10115605	Blast cabinet gloves	1	1	1	1
62	29000028	Diaphragm				
63	33140003	Lamp	2	2	2	2
64	22010102	Impeller	1	1		
	22010202	Impeller			1	1
65	81220003	Diffusion cell	1	1		
	81220004	Diffusion cell			1	1
66	10115901	Air blow-off nozzle	1	1	1	1
67	10115300	Blast cabinet gun	1	1	1	1

Pos. No.	Order code	Description	110S	110SD	135S	135SD
68	10115508	Nozzle	1	1	1	1
69	10112571	Nozzle				
70	10112200	Nozzle holder				
71	10115920	Metering valve	1	1	1	1
72	22040002	Blast machine assembly				
	22040003	Blast machine assembly				
73	51202008	Pressure gauge	1	1	1	1
74	10130404	Pressure gauge	1	1	1	1
75	51202010	Pressure gauge	1	1	1	1
76	51203002	Pneumatic filtration and control unit	1	1	1	1
77	51203001	Pneumatic filtration and control unit				
78	51201001	Pressure regulator	2	2	2	2
79	51203007	Door interlock	2	2	2	2
80	51203003	Pneumatic foot pedal	1	1	1	1
81	51203004	Diaphragm pulse-jet valve	1	1	1	1
82	22070103	Filter cartridge	1	1		
	22070104	Filter cartridge			1	1
83	10112100	Blast hose, 1m				
84	10151002	Rubber hose, 1m	0,15	0,15	0,15	0,15
85	10151003	Rubber hose, 1m				
86	41102004	Rubber hose, 1m	1,9	1,9	2,7	2,7
87	10130900	Rubber hose, 1m	2	2	2,4	2,4
88	41200001	Rubber hose, 1m	2,2	2,2	2,8	2,8
89	41101002	Hose, 1m	1,6	1,6	2,1	2,1
90	41101003	Hose, 1m	0,9	0,9	1	1
91	41101001	Rubber hose, 1m	10	10	13	13
92	51204001	Silencer	2	2	2	2
93	51205003	Plug	1	1	1	1
94	51100015	Screw connection				
95	51100002	Screw connection	1	1	1	1
96	51100001	Screw connection				
97	52130003	Adapter				
98	52130001	Adapter				
99	51600001	Straight adapter	1	1	1	1
100	51400011	Straight adapter				
101	51300002	Screw connection	2	2	2	2
102	51300010	Screw connection	1	1	1	1

Pos. No.	Order code	Description	110S	110SD	135S	135SD
103	51300007	Screw connection	1	1	1	1
104	51300008	Screw connection	1	1	1	1
105	51300001	Screw connection				
106	51300006	Screw connection	2	2	2	2
107	51300005	Screw connection	1	1	1	1
108	51300004	Screw connection				
109	51300009	Screw connection	1	1	1	1
110	51100004	Screw connection	4	4	4	4
111	51100003	Screw connection	2	2	2	2
112	51100005	Screw connection	5	5	5	5
113	51100006	Screw connection	1	1	1	1
114	67000008	Gasket				
115	90852088	Rubber gland	2	2	2	2
116	90855146	Rubber gland	2	2	2	2
117	90855156	Rubber gland	4	4	4	4
118	90855166	Rubber gland				
119	90855176	Rubber gland				
120	90855155	Rubber plug				
121	90855175	Rubber plug	1	1	1	1
122	90407002	Gasket	5,1	5,1	8	8
123	90407004	Gasket	7	7	5,38	5,38
124	90407005	Gasket	3	3	12,4	12,4
125	90401001	Gasket	0,9	0,9	1	1
126	90406001	Gasket	3,2	3,2	3,2	3,2
127	90202006	Hinge	2	2	2	2
128	90204011	Cabinet door latch	2	2	2	2
129	22140004	Glove flange	2	2	2	2
130	90204005	Knob	2	6	2	6
131	90204006	Knob	4	4	4	4
132	90204007	Knob	1	1	1	1
133	32060001	Main switch 0-I	1	1	1	1
134	33070001	Double pushbuttons ON / OFF	1	1	1	1
135	32040001	Electronic timer for pulse-jet valve	1	1	1	1
136	31120004	Electric motor	1	1		
	31120005	Electric motor			1	1
137	33270005	Plug	1	1	1	1
138	33030002	Glang	3	3	3	3
139	33030012	Glang	1	1		

Pos. No.	Order code	Description	110S	110SD	135S	135SD
140	33030006	Glang			1	1
141	61110430	Hexagon Screw	6	6	6	6
142	61110616	Hexagon Screw	18	18	18	18
143	61110620	Hexagon Screw	76	76	76	76
144	61110630	Hexagon Screw	11	11	11	11
145	61110640	Hexagon Screw	2	2	2	2
146	61110820	Hexagon Screw	60	60	60	60
147	61110835	Hexagon Screw	7	7	7	7
148	61110855	Hexagon Screw	1	1	1	1
149	61111025	Hexagon Screw	0	0	0	0
150	61111030	Hexagon Screw	12	12	12	12
151	62310416	Screw	8	8	8	8
152	62310420	Screw	6	6	6	6
153	62110860	Screw				
154	62310616	Screw	8	8	8	8
155	62510420	Screw	3	3	3	3
156	62804213	Screw				
157	63110004	Nut	25	25	25	25
158	63110005	Nut	7	7	7	7
159	63110006	Nut	65	65	65	65
160	63110008	Nut	50	50	50	50
161	63110010	Nut	8	8	16	16
162	63210006	Nut	2	2	2	2
163	63210008	Nut	1	1	1	1
164	63300006	Nut	23	23	23	23
165	10115316	Spring Washer	12	12	12	12
166	64310005	Spring Washer	2	2	2	2
167	64310006	Spring Washer	56	56	56	56
168	64310008	Spring Washer	50	50	50	50
169	64310010	Spring Washer	8	8	12	12
170	64210006	Washer	39	39	39	39
171	64210008	Washer	2	2	2	2
172	64210012	Washer	1	1	1	1
173	64110004	Washer	12	12	12	12
174	64110005	Washer	7	7	7	7
175	64110006	Washer	78	78	78	78
176	64110008	Washer	111	111	111	111
177	64110010	Washer	19	19	24	24
178	64400005	Washer	6	6	6	6
179	66010001	Rivet	8	8	8	8

Pos. No.	Order code	Description	110S	110SD	135S	135SD
180	66010002	Rivet	52	52	52	52
181	66010003	Rivet	6	6	6	6
182	90100005	Clamp for hose	2	2	2	2
183	90100006	Clamp for hose	4	4	4	4
184	90100007	Clamp for hose	2	2	2	2
185	90100002	Clamp for hose	2	2	2	2
186	90100001	Clamp for hose	4	4	4	4
187	90100003	Clamp for hose	2	2	2	2
188	90402001	Soundproofing, 1m ²	0,76	0,76	1,8	1,8
189	90201003	Lock	2	2	2	2
190	90204001	Knob	2	2	2	2
191	22030001	Safety glas window	1	1	1	1
192	22030002	Disposable window	1	1	1	1
193	22030003	Light glass window	1	1	1	1
194	81240001	Dust container	1	1	1	1
195	88500008	Rubber gasket	1	1	1	1
196	52030001	Plug	1	1	1	1
197	52030002	Plug	1	1	1	1
198	10115810	Rubber curtain set	1			
	10115811	Rubber curtain set			1	
199	10115808	Rubber curtain set		1		
	10115809	Rubber curtain set				1
200	90204004	Knob		8		8
201	10115817	Reclaimer ASSEMBLY	1	1		
	10115818	Reclaimer ASSEMBLY			1	1
202	10115801	Door ASSEMBLY (through-pass)		1		
	10115802	Door ASSEMBLY (through-pass)				1
203	10110950	Ring				
204	10110960	Pressurizing valve				
205	10110939	Nipple				
206	10110941	Elbow				
207	10115319	T-piece				
208	10110938	Ball valve				
209	10115320	Union				
210	10115321	Pipe				
211	10115322	Elbow				
212	10115323	Pipe				
213	10115324	Elbow				
214	10115325	Reducing				
215	10110948	T-piece				

Pos. No.	Order code	Description	110S	110SD	135S	135SD
216	10110949	Threaded flange				
217	10110860	Metering valve				
218	10110947	Rubber pipe				
219	10115917	Blow-out valve				
220	85800006	Screw connection				
221	10110955	Guide				
222	73025120	Pipe				