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# ***OWNER'S MANUAL***

## ***Suction Blast Cabinet***

### ***Pulsar II***

***with automatic pulse cleaning  
of the dust collector cartridge***

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# 1 Scope of manual

This manual covers set-up, operation and maintenance of the Suction Blast Cabinets Pulsar II.

## 2 Application and restrictions

Pulsar Suction Cabinets are designed to utilize most blast media < 0,8mm. There are additional requirements as stated below:

– STEEL:

Metallic media may require additional modifications, which must be reconfirmed with the manufacturer

– ALUMINIUM OXIDE:

Aluminium oxide, silicon carbide and garnet are extremely aggressive blast media that may accelerate wear. When using these blast media the most exposed parts of the cabinet should be equipped with wear resistant materials and boron carbide nozzles. (See optional accessories in chapter 7.1).

– GLASS BEADS:

Most beads are treated to ensure free flow operation even under moderate to high humidity. Glass beads subjected to excessive moisture may clump and therefore the compressed air must be dry (the use of an after cooler is recommended). They may be reused after thorough drying and breaking up of the clumps.

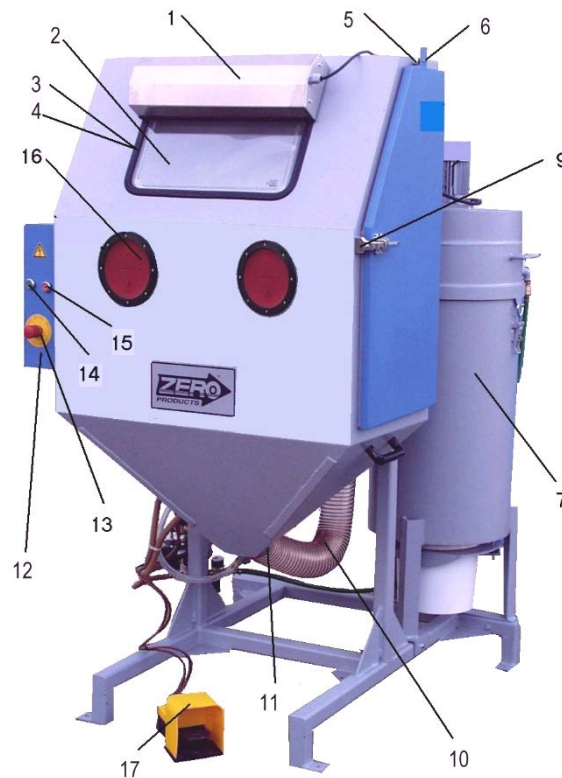
– FINE MESH MEDIA:

When using media finer than 60µm (240 mesh) a special cyclonee is recommended, so that an extreme loss of media can be avoided. The same is valid when using light weight media like plastic or other organic abrasives (nut-shells, starch).

The cabinets and controls are designed for a **maximum working pressure of 7bars**. Higher working pressures only for special designs. Pulsar II cabinets are designed for discontinuous blasting activities (because of cartridge filter size). A trouble-free operation can only be guaranteed if:

- ⇒ original parts from Clemco / Zero are used.
- ⇒ the equipment is compatible and designed according to the operating conditions
- ⇒ the blast cabinet is operated and maintained according to our instructions.

### 3 General description



**Picture 1: Pulsar II Injection blast cabinet**

No.:	Description
-	Cabinet Pulsar II
1	Lamp
2	Glass window
3	Window gasket
4	Filler strip
5	Valve (door interlock)
6	Valve ( door interlock )
7	Filter with dust container
9	Door opener
10	Suction hose Ø 100mm / 4"
11	Clamp Ø 100mm / 4"
12	E-box Pulsar II
13	Safety stop
14	Push button (green)
15	Push button (rot)
16	Handholerubber
17	Foot pedal

#### 3.1 Dimensions

- Complete unit (cabinet, cyclonee and filter): ca. 960 x 1100 x 1750mm
- Working chamber size (width x depth x height): ca. 910 x 500 x 540/950mm

## **3.2 Components**

"Pulsar II" – Cabinets consists of following parts:

- Cabinet Pulsar II
- Cyclonee
- Cartridge dust collector
- Control units, air lines and control box assembly

## **3.3 Cabinet**

- Dust insulated cabinet
- Stable metal sheet construction
- White, reflecting colouring inside
- Height adjustable → operator can sit or stand during blasting
- Viewing glass (safety glass), 320 x 500mm, inside with Mylar lens

### **3.3.1 Cabinet lighting**

Mounted outside, wear free, 2 x 20 Watt, 230V.

### **3.3.2 Door**

- Door on the right side, dust insulated enclosed
- Measurement: width x height: ca. 450 x 500/900
- Door safety interlock that interrupt blasting if door is opened

### **3.3.3 Gloves**

- Star loop rubber for simply engage in the cabinet
- Special gloves, abrasion resistant, antistatic, coated inside with material

## **3.4 Cyclone**

- Blast media, dust and debris from the cabinet are drawn into the cyclone for separation. Dust and fines are first separated from the reusable blast media, which is screened of oversize particles and later held in the storage hopper for reuse. Dust and debris are then carried into the dust collector which traps the dust.
- Magnet in the cyclone screen
- Advantage : High blasting performance , continuous result on surface, low media consumption, dust closed system

## **3.5 Dust collector cartridge**

- With detachable blower top for quick replacing of the cartridges.
- Automatic jet cleaning with caster
- 0,55kW-motor → ca. 8m<sup>3</sup>/min fan capacity
- Filter cartridge:

- Filter area 7m<sup>2</sup>
- Compound 80% Cellulose – 20% Polyester
- Application category after BIA USGC Test certificate 199823811 / 6210
- Very simple removal of dust from the dust container.

### **3.6 Operation facilities**

- ON/OFF pushbutton for working chamber lighting and cartridge filter / cyclone
- Foot pedal for starting and interrupting the blast process.
- Pilot regulator for adjusting working pressure from 1,5 to 7bar.

### **3.7 Blow-off nozzle – solid rubber**

Nozzle for cleaning blasted parts of dust.

### **3.8 Control unit and safety devices**

- On/Off switch for cabinet lighting and motor
- Safety stop button
- Foot pedal for starting and interrupting the blast process
- Pilot regulator with gauge to adjust working pressure
- Door safety interlock that interrupt blasting if either door is opened
- Timer (J Control Switch) for triggering the automatic cleaning pulse for the dust collector cartridge

### **3.9 How the system works**

When air supply is on, air enters the system through a moisture separator and is guided to the main pressure regulator. The working pressure can be adjusted with a pilot regulator.

After pushing start button:

- light will switch on
- magnet valve in e-box starts
- impulse for jet cleaning of filter cartridge is activated

Each time the foot pedal is depressed the compressed air will be supplied through the pressure regulator to the suction gun and blast media is sucked from the hopper section of the cyclone

Blast media, debris and dust drop into the cabinet hopper and are drawn into the cyclone. Reusable heavy blast media is separated through centrifugal force and drops into the cyclone hopper. Dust and fines are exhausted into the dust collector cartridge. Bigger dust particles drop into the dust container and fines are caught up by the filter cartridge. The filter cartridge is cleaned through a pulse of compressed air.

When the foot pedal is released, the blast process stops.

Therefore the circuit is closed. Door interlocks interrupt the blast process when the cabinet doors are opened.

## 4 Installation

### 4.1 Requirements

- ⇒ Closed room with normal working conditions (temperature > 15°C, relative humidity < 85%).
- ⇒ Solid level site.
- ⇒ Sufficient space for loading parts
  - Behind the cabinet minimum **80cm** are necessary for emptying the dust container.
  - In front of the cabinet minimum **80cm** for the operator.
- ⇒ Ensure sufficient illumination, even behind the cabinet.
- ⇒ Electrical service:
  - **400V 3-phase, capacity 0,55kW**
  - **16 socket** (CEE socket)
- ⇒ Air requirements see table 1.

orifice [mm]		Nozzle Nr.	Air requirement [m <sup>3</sup> /min.] at Working pressure [bar]		
Air jet	Blast nozzle		<u>3</u>	<u>5,5</u>	<u>7</u>
3,2	6,0	4	0,4	0,6	0,75
4,0	8,0	5	0,6	0,9	1,25

**Table 1** Air requirements versus nozzle size and pressure.

### 4.2 Set-up for initial installation or reinstallation

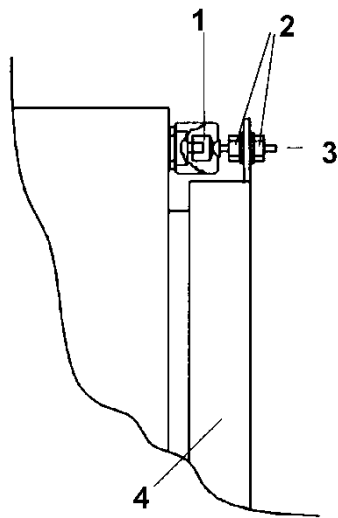
When shipped, standard cabinets are ready for operation, thus only the following has to be done.

(1) Place the cabinet.	See also section 4.1 Requirements.
(2) Install an air supply.	<ul style="list-style-type: none"> <li>– Check pressure at compressed air supply. If pressure is &gt; 7 bar, install both an additional pressure regulator and a pressure relief valve (adapted to air supply) between cabinet and air supply as the standard cabinet is designed for a <b>maximum pressure of 7 bars</b>.</li> <li>– Attach an air hose with corresponding length and diameter on air supply.</li> <li>– Carefully open the air supply (hold hose tight) to blow debris and moisture out of the attached hose.</li> <li>– Close air-supply.</li> <li>– Attach air hose on cabinet (coupling on the rear side of the cabinet)</li> <li>– Adjust pressure regulator (rear side) for the dust collector cartridge cleaning pulse at 5 bars.</li> </ul>
(3) Install electrical connection and earth screw.	If the plug is not used for the electrical connection or there is no plug, then the work must be performed by a qualified licensed electrician.



	<p><i>On the back-side of the cabinet is an earth screw. The connections have to be done depending on the local conditions.</i></p> <p>Ground wire, possible ground plates etc, are not part of the delivery.</p>
<p>(4) <i>Test without blast media (for transport damages).</i></p>	<ul style="list-style-type: none"> <li>– Close the doors.</li> <li>– Press the green switch on the black box. The light must switch on and the motor start.</li> <li>– Check if motor rotates in direction of the arrow. If not, reverse polarity of the electrical connection by a qualified electrician.</li> <li>– When the light and the motor are switched on (green button), the cleaning pulse for the dust collector cartridge can be heard in regular intervals (of 40s).</li> <li>– Pick up nozzle (gloves) and depress the foot pedal. The blast process must start (air comes out the nozzle).</li> <li>– While the foot pedal is depressed, a second person opens first the right and then the left door. At the same time the blast process should automatically be interrupted (see door interlock adjustment in figure 3).</li> <li>– The blast process has to be interrupted by pushing the emergency stop button.</li> <li>– If no troubles occur, the cabinet can be tested with blast media. Otherwise go to section 6 for trouble-shooting.</li> </ul>
<p>(5) <i>Fill in blast media.</i></p>	<ul style="list-style-type: none"> <li>– When using clean blast media fill through cyclone access door.</li> <li>– If it is not sure that blast media is really clean, turn on motor (green switch) and slowly fill blast media into the cabinet hopper.</li> <li>– Blast media will be cleaned during suction process.</li> <li>– To ensure a continuous operation and to prevent agglomeration of usable blast media in dust collector during suction, the following minimum quantities are required: <ul style="list-style-type: none"> <li>⇒ <b>Pulsar II 5 litre</b></li> </ul> </li> </ul>
<p>(6) <i>Test with blast media</i></p>	<ul style="list-style-type: none"> <li>– Close the doors.</li> <li>– Adjust desired blast pressure.</li> <li>– Pick up gun (gloves) and start blasting by depressing the foot pedal. Direct nozzle to grating.</li> <li>– During the blast process a second person checks for leaks (dust).</li> </ul> <p>⇒ Doors.</p>

	<p>⇒ Suction hose connections between cabinet hopper and cyclone, and between cyclone and dust collector.</p> <p>⇒ Hose connections between filter and dust container. Tightness can only be checked during cleaning process.</p> <p>⇒ Check of safety stop button</p> <p>If no troubles occur, regular work can begin. /See chapter 4.4)</p>
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**Picture 2:** Door Safety Interlocks.

No:	Description
1	Door safety interlock
2	Nut for screw adjusting
3	Actuating screw for safety interlock
4	Door of cabinet

### 4.3 Daily set-up

Not necessary if an initial installation or reinstallation was performed.

<p>(1) Daily check-up.</p>	<ul style="list-style-type: none"> <li>- Cabinet view window.</li> <li>- Cyclone.</li> <li>- Dust container.</li> <li>- BNP gun parts ( nozzle , gaskets )</li> </ul> <p>(see section 5.2 Daily check list).</p>
<p>(2) Open air supply.</p>	
<p>(3) Turn on lights and motor (green button).</p>	

#### 4.4 Operation

(1) Load parts to be blasted into the cabinet.	
(2) Close the doors.	
(3) Adjust the desired blast pressure.	
(4) Take blast gun in your hands (wear gloves) and step on the foot pedal. The blast process will be started.	<ul style="list-style-type: none"> <li>– Smooth continuous blasting is more effective than abrupt movements with the nozzle.</li> <li>– The rule: „Higher pressure equals higher productivity and lower costs“ is not valid in every situation. Exceptions are: <ul style="list-style-type: none"> <li>⇒ High pressure (&gt; 7 bar for special designs) leads to operator fatigue (more breaks are necessary).</li> <li>⇒ High pressure could lead to premature wear of blast media and consequently to higher costs or even to damages of the parts.</li> </ul> </li> <li>– Distance between the nozzle and the part depends on a couple of factors. In many cases a distance of 100 to 200 mm is the most effective.</li> <li>– The correct relation between air and blast media is very important for efficient blasting (see section 4.7.1 Air / blast media mixture).</li> <li>– Adjust static pressure (see section 4.7.3).</li> </ul>
(5) When finished clean parts with blow-off nozzle and remove it from the cabinet.	
(6) Regularly empty dust container.	<ul style="list-style-type: none"> <li>– Turn off motor and lights (red switch).</li> <li>– Carefully open cover of the dust container, take out the dust bag and dump contents into a suitable disposal container.</li> </ul> <p><b>WARNING ! If hazardous or toxic materials have been blasted, the debris must be specially treated!</b></p>

#### 4.5 Shut-down

(1) Turn off motor and lights (red switch) and close air supply.

#### 4.6 Shut down when moving the cabinet

(1) If work is interrupted for a longer period of time or the cabinet is transported at higher air humidity or at temperatures below 10 °C, blast media should be removed completely (see section 4.7.4).

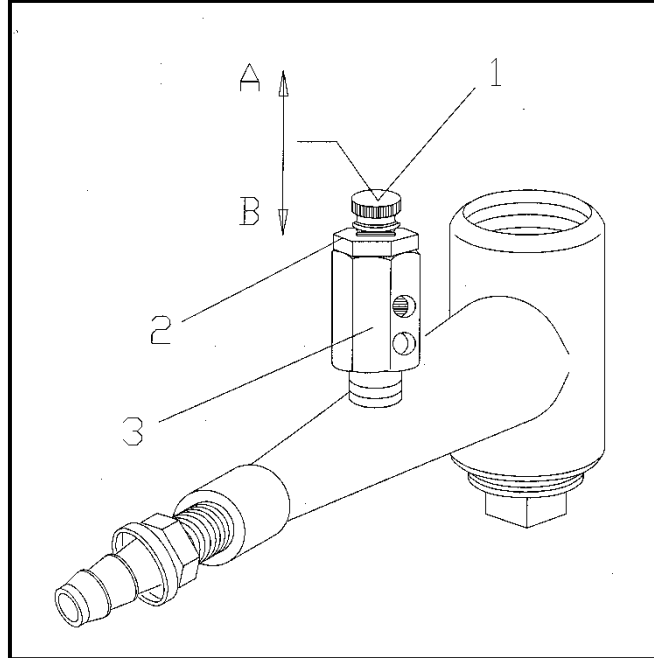
(2) Disconnect plug.

(3) Disconnect air supply line.

## 4.7 Special procedures

### 4.7.1 Adjust media and air mixture

We recommend doing the adjustment with 2 people.

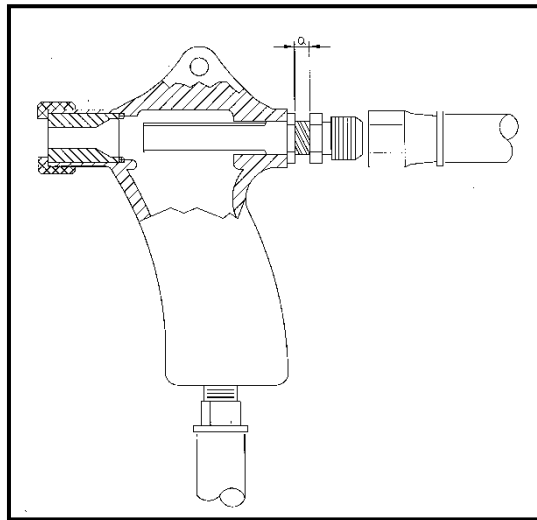


Picture 3: metering valve for media – air - mixture

<b>Pos. Nr.:</b>	<b>Art. Nr.</b>	<b>description</b>
1	100790	Adjustment knob for metering valve ZERO
2	100791	Counter nut for metering valve
3	100789	body

### 4.7.2 Adjustment of air jet for BNP-gun

(1) mount correct combination of air jet and blast nozzle	<ul style="list-style-type: none"> <li>– see Table.</li> <li>– A worn blast nozzle influences the correct setting.</li> </ul>
(2) screw air jet into the gun body.	<ul style="list-style-type: none"> <li>– Behind the counter nut about 3,5 to 4 full thread-turn should be seen (distance „a“ on „picture 4 adjustment of air jet“).</li> </ul>



picture 4: adjustment of air jet

<i>orifice [mm]</i>	
Air jet	Blast nozzle
3,2	6,0
4,0	8,0

#### 4.7.3 Static pressure adjustment

If the static pressure in the cabinet is too low, visibility during blasting is poor and media cleaning ineffective. If it is too high, there is good visibility, but also high media consumption because a lot of usable media is carried into the dust collector. Proper pressure depends on type and size of media. Coarser media needs higher, finer media needs lower static pressure.

If there is no experience in static pressure adjustment, the standard settings should be modified only after some hours of blasting. Therefore adjust sliding damper backside the cabinet as follows:

<i>(1) Poor visibility.</i>	Open the sliding damper 5 mm (increase static pressure, difference to external pressure will decrease).
<i>(2) Usable media in the dust container.</i>	Close the sliding damper 5 mm (static pressure decreases, under pressure increases, which leads to difficulties in opening the door).

#### 4.7.4 Removing media

(1) Switch motor and lights on (green switch).
(2) Use blow off nozzle at closed doors and blow all media and dust out of all corners in cabinet
(3) Put a drum below the cyclone and open the plastic nut with a 22- flat wrench.
(4) Media flows out of the cyclone, in case of blockage open the man door in the cyclone and push media out
Closed cyclone door

#### 4.7.5 Dust collector cartridge cleaning / replacement of cartridge

(1) Empty the dust <i>container</i>	<ul style="list-style-type: none"> <li>- Disconnect electrical (red switch) supply und pull the plug, in order to interrupt the backlash pulse</li> <li>- Unscrew the dust container and empty the content in the special disposal container</li> <li>- <b>Attention! If there were blasted hazardous or insalubrious materials, the dust should be disposed as hazardous waste!</b></li> </ul>
(2) <i>Dismounting the filter cartridge</i>	<ul style="list-style-type: none"> <li>- Disconnect air supply</li> <li>- Take off the fan housing</li> <li>- Unscrew the screw on the flange of the filter cartridge and take out the filter cartridge.</li> </ul>
(3) <i>Mounting the filter cartridge</i>	<ul style="list-style-type: none"> <li>- Clean all reusable parts</li> <li>- Put in a new filter cartridge and fasten</li> <li>- Put on filter housing and fix with clamps</li> <li>- Clean dust drum</li> </ul>

#### 4.7.6 Window Replacement

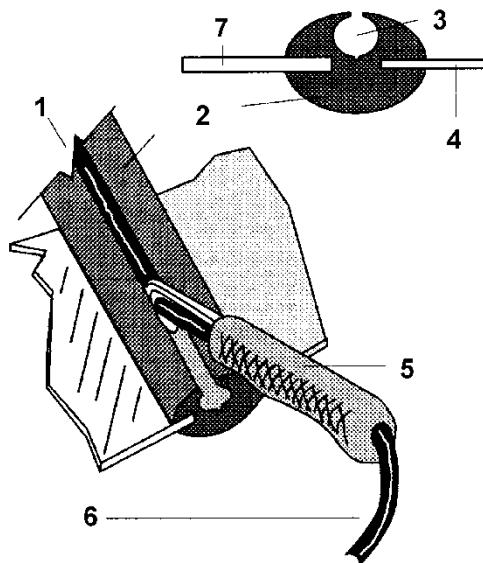


Figure 7 Filler strip

Nr.	Description
1	Filler strip
2	Molding
3	Place for filler strip
4	Cabinet wall (fits into narrow slit)
5	Window tool
6	Filler strip
7	Window (fits into the expanded slit)

(1) Pull the filler strip from the window moulding.
(2) Push the window (from the cabinet inside) through the door opening from the back to remove from the front.
(3) Install a new window moulding in the window opening. This must be done with the filler strip channel facing the front of the cabinet.
(4) Install the view window into the slit of the moulding from the front side.
(5) Thread the strip into the installation tool and pull it. At the same time pay attention that the end of the strip and the end of the moulding are not overlapped.

#### **4.7.7 Back fitting rubber curtain in case of using abrasive blasting media**

(1) Position the rubber curtains to mark the holes in the cabinet wall.
(2) Bore 4,5 mm holes.
(3) Fix the hooks into the holes and hang up rubber curtain.

#### **4.7.8 Back fitting cyclone wear plate in case of using abrasive blast media**

(1) Remove cyclone from cabinet.
(2) Remove cyclone inlet plate and pipe.
(3) Angle the wear plate into the cyclone inlet until it is in position with the straight end at the cyclone inlet.
(4) Pry the wear plate against the inner wall of the cyclone by using a board.
(5) Install screws into the previously bored holes to fix the wear plate.

#### **4.7.9 Cartridge Pulsing Timing and Pressure**

Pressure = 5 bar

Pulsing can also be performed at a pressure > 5 bar, but this results in more wear.

## 5 Maintenance

### 5.1 General

During operation the cabinets are exposed to wear. In order to ensure safe operation and high efficiency the blast machines should be maintained according to the following check lists. The following check list was made for a 6 hour full operation. **Prior to maintenance, make sure that the air valve of the compressor is closed and the whole system is depressurized!**

### 5.2 Daily Check List

(1) <i>View Window.</i>	<ul style="list-style-type: none"> <li>- Check cover lenses for frosting.</li> <li>- Replace window glass if it is damaged.</li> </ul>
(2) <i>Cyclone.</i>	<ul style="list-style-type: none"> <li>- Clean screen when motor is switched off (several times a day for huge amounts of debris).</li> <li>- Clean screen magnet.</li> </ul>
(3) <i>Dust container.</i>	Empty dust container (several times a day for huge amounts of dust).

### 5.3 Weekly Check List

(1) <i>blast gun and nozzle</i>	Check nozzle gasket and replace if needed
(2) <i>Moisture separator.</i>	<p>Remove and check the filter element. If necessary clean filter and sight glass with soap and warm water and dry it with compressed air. (Important - Use only smooth detergent)</p> <p><b>A dirty filter causes loss of pressure in the system!</b></p>
(2) <i>Air hoses and blast hoses.</i>	<ul style="list-style-type: none"> <li>- Check all couplings and screws for wear or breakage and replace them if necessary.</li> <li>- Check the blast hose by hand for soft spots (reduced wall thickness) and replace it <b>immediately</b> when soft spots are detected.</li> <li>- Check air line (air supply) and replace it when it is worn.</li> <li>- Check gaskets of couplings for wear and replace them if necessary.</li> </ul>

### 5.4 Monthly Check List

(1) <i>Cabinet door gasket.</i>	Check for leaks and wear. Replace if necessary
(2) <i>Gloves.</i>	Check gloves for wear. When using aggressive blast media usually more checks are necessary.
(3) <i>Cartridge.</i>	The cartridge should be checked or replaced every three months.



## 6 Trouble-shooting

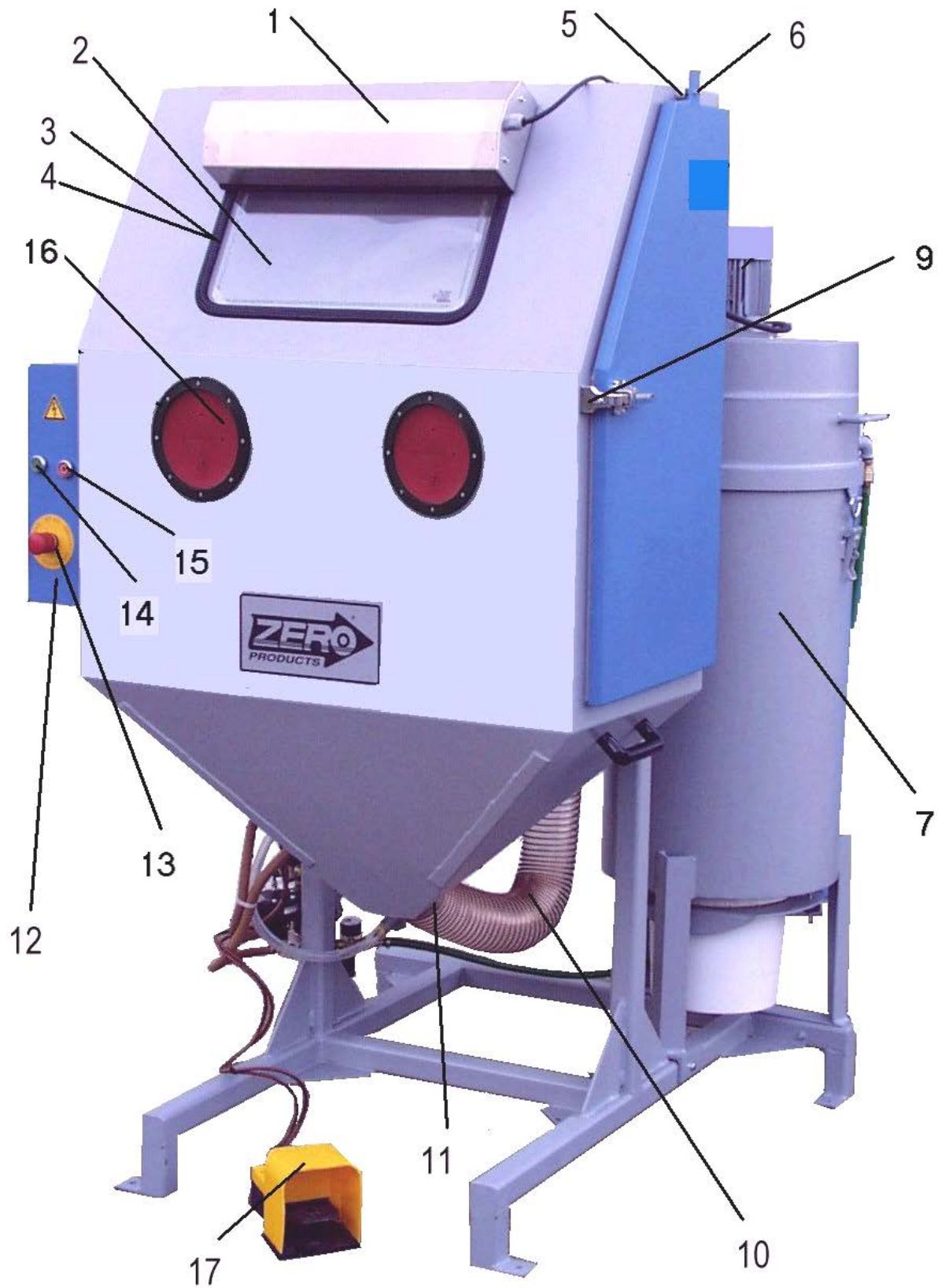
<i>Problem</i>	<i>Probable cause</i>	<i>Remedy</i>
<i>(1) Poor visibility.</i>	The motor does not rotate.	Check and repair it.
	Clocked cartridge.	<ul style="list-style-type: none"> <li>– Clean cartridge.</li> <li>– Replace cartridge (see section 4.7.4).</li> </ul>
	The motor rotates in the wrong direction.	Check if it rotates in the direction of the arrow. If not reverse polarity of the electrical connection (only through licensed electrician).
	Blast media breaks down rapidly and develops dust.	<ul style="list-style-type: none"> <li>– Check for different blast media more suitable.</li> <li>– Check for lower working pressure.</li> </ul>
	Blocked suction hose between cabinet and cyclone.	Check and if necessary disconnect hose and remove debris and media.  <b>Warning! The blockage is not the real cause.</b>
	Negative pressure.	The following components should be checked for leaks or wear: <ul style="list-style-type: none"> <li>– Cyclone door.</li> <li>– Suction hose connections between cabinet hopper and cyclone and between cyclone and dust collector.</li> <li>– Suction hoses for wear.</li> <li>– Gasket on filter door.</li> </ul>
<i>(2) Abnormally high media consumption.</i>	Incorrectly adjusted static pressure in the cabinet.	Increase static pressure with damper on top of cabinet (see section 4.7.2).
	Cyclone door open or leaking	Check and replace gasket if necessary
	Dust drum at filter leaks	<ul style="list-style-type: none"> <li>- Check gasket and replace if necessary</li> <li>- check hose between dust drum and filter for leakage and replace gasket in case</li> </ul>
	Use of too fine or light media	Assembly an optional vortex cylinder
<i>(3) Poor cleaning rate.</i>	Incorrectly adjusted metering valve.	Improve metering (see section 4.7.1).
	Blockage in air hose or gun	– Press nozzle against an elastic item e.g.

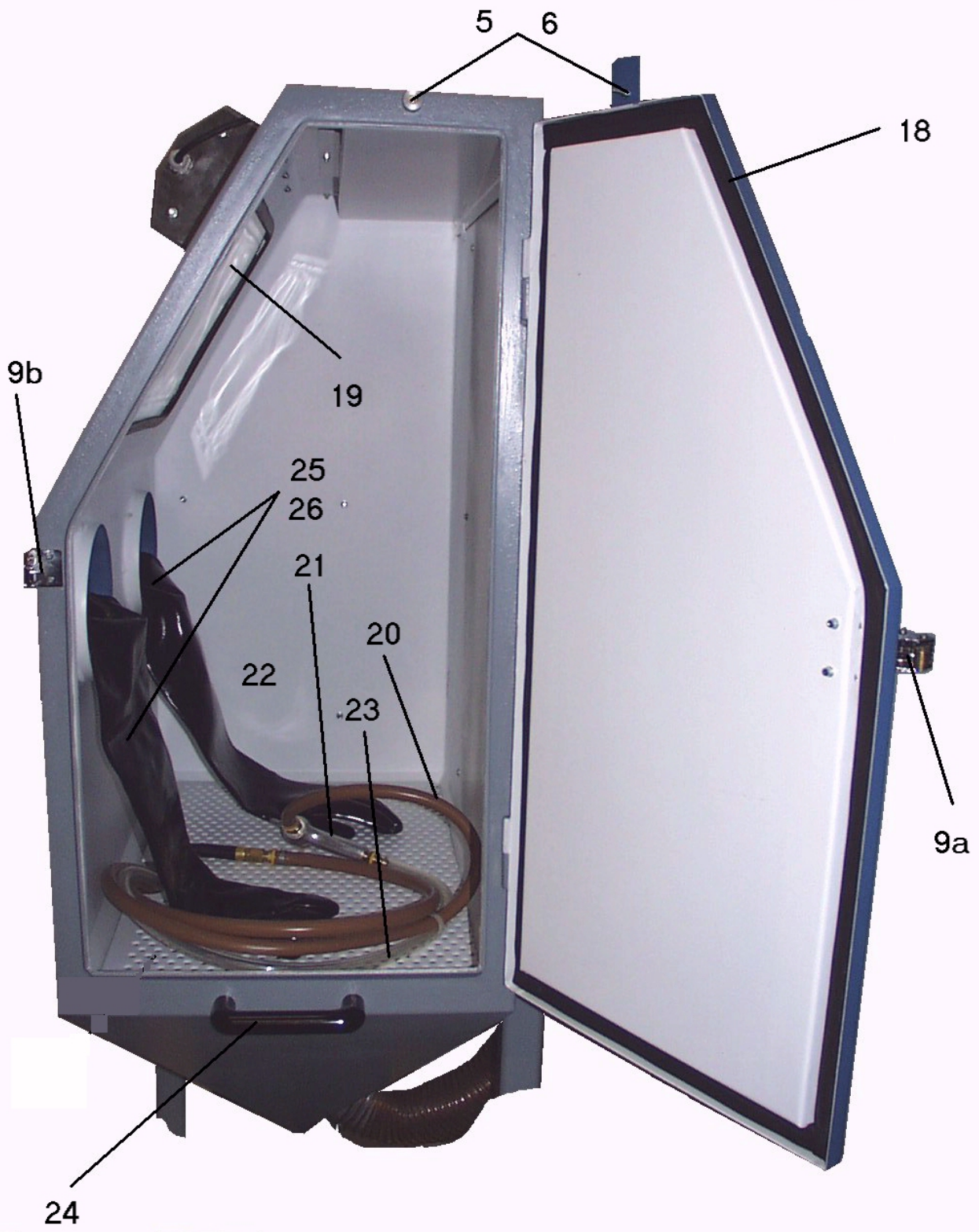
		<p>rubber plate and press foot pedal</p> <ul style="list-style-type: none"> <li>- Dismantle hose and gun and clean</li> <li>- Check for reason of blockage</li> <li>- Missing or filled screen in cyclone</li> <li>- Wrongly adjusted metering valve</li> <li>- Too heavy media</li> </ul>
	Reduced air pressure.	<ul style="list-style-type: none"> <li>- Check air supply.</li> <li>- If the pressure indicated on the gauge (black box) decreases during blasting, the following components should be checked for wear, malfunction or contamination: <ul style="list-style-type: none"> <li>⇒ Moisture separator.</li> <li>⇒ Pressure regulator.</li> <li>⇒ Air lines</li> </ul> </li> </ul>
	Worn nozzle.	Check for wear and replace if necessary.
	Moist blast media.	<p>Frequent bridging in the metering valve can be caused by moist blast media. The reasons can be:</p> <ul style="list-style-type: none"> <li>⇒ Cabinet was filled with moist blast media.</li> <li>⇒ Humidity from air supply.</li> <li>⇒ Perspiration water through sharp drop in room temperature.</li> </ul> <p>Depending on cause, the following measures are necessary:</p> <ul style="list-style-type: none"> <li>⇒ Remove moist media.</li> <li>⇒ Remove cause for humid air supply.</li> <li>⇒ Make sure, that there is not too much temperature fluctuation.</li> </ul>
	Gun is not correct adjusted	- Re-adjust gun
(4) Dust comes out the blower.	Dust filter gasket defective.	<ul style="list-style-type: none"> <li>- Remove cartridge (see section 4.7.4).</li> <li>- Check gasket and replace if necessary.</li> </ul>
	Defective cartridge.	- Remove cartridge (see section 4.7.4).

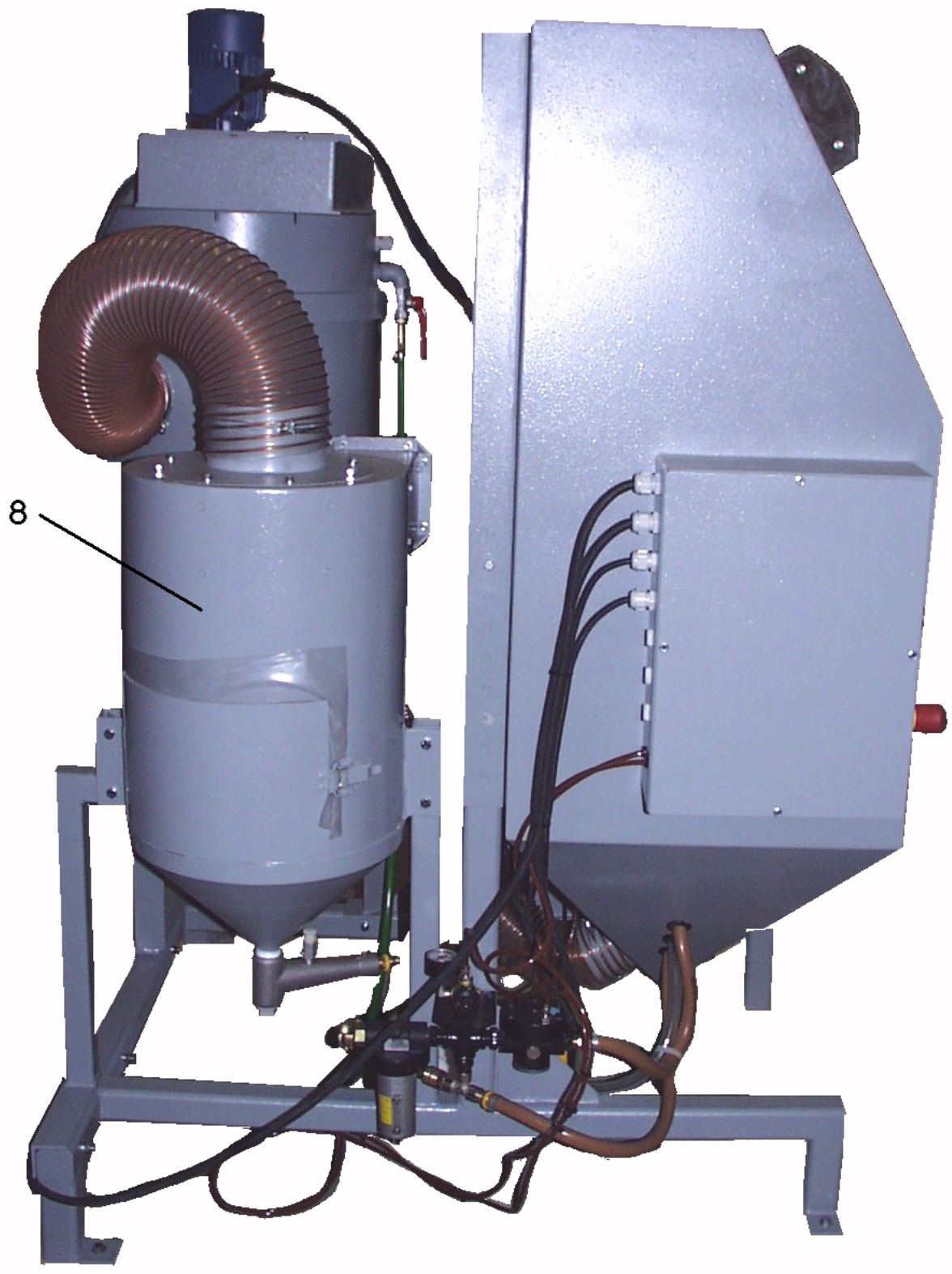
		<ul style="list-style-type: none"> <li>- Check cartridge for cracks or similar damages and replace if necessary.</li> </ul>
<i>(5) Static shocks.</i>	Cabinet not grounded.	Ground cabinet.
<i>(6) No air and no media come out the gun</i>	Door interlocks are not actuated.	Adjust over-travel stop and screw of the door interlocks (see figure 4).
	Blocked blast hose.	<ul style="list-style-type: none"> <li>- Turn out nozzle and check for blockage.</li> <li>- Check blast hose for blockage. .</li> </ul> <p><b>Warning! The blockage is not the cause.</b></p> <p>The cause could be:</p> <ul style="list-style-type: none"> <li>⇒ Missing or overfilled screen in the cyclone.</li> <li>⇒ Incorrectly adjusted metering valve.</li> <li>⇒ Too heavy blast media.</li> </ul>
	Blocked moisture separator.	Clean moisture separator (see section 5.3).
<i>(7) Air only (no media) comes out the nozzle.</i>	No blast media in the blast system	- refill
	Moist media prevents flow.	<ul style="list-style-type: none"> <li>- Remove moist media.</li> <li>- Remove cause for humid air supply.</li> </ul>
<i>(8) Irregular flow or too much blast media comes out of nozzle.</i>	Incorrectly adjusted metering valve.	Adjust new (see section 4.7.1).
	Choke valve not completely opened.	Open choke valve completely.
<i>(9) No interruption of blast process when foot pedal is released.</i>	Foot pedal valve blocked.	Replace valve.
	Incorrectly connected air hoses on the foot pedal.	Connect air hoses correctly (see cabinet plumbing).

## 7 Replacement parts

### 7.1 Individual replacement parts for cabinet



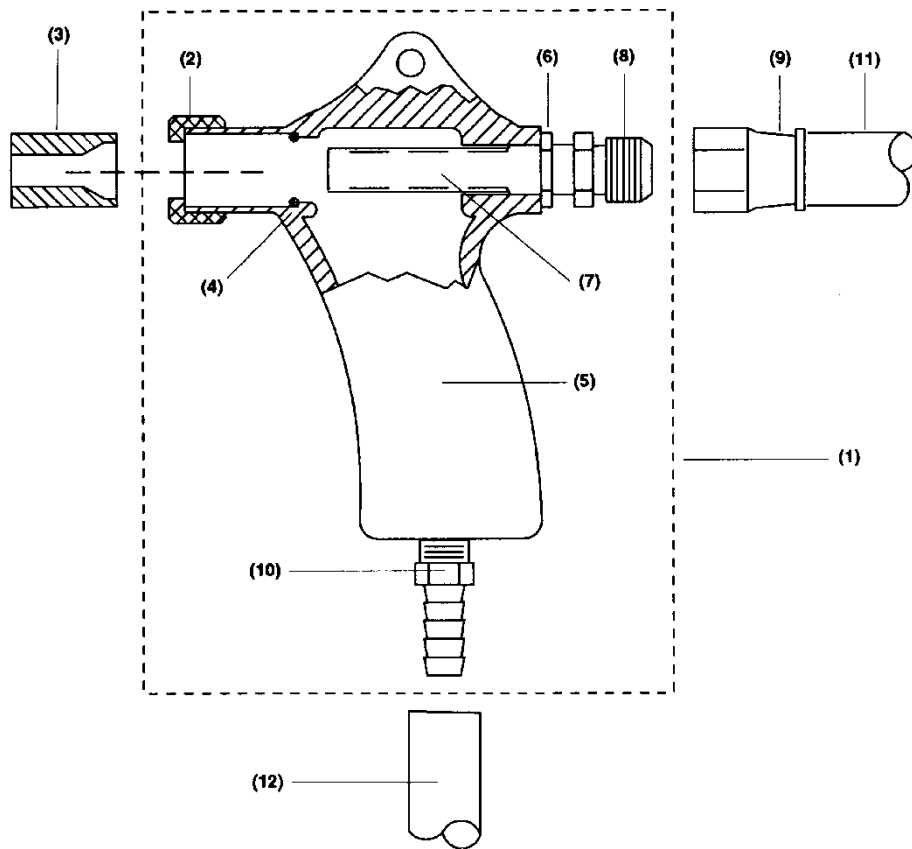




Picture 5: Individual parts cabinet

<b>Pos.</b>	<b>Part no..</b>	<b>Description</b>
(1)	19574Z	Lamp less regulator
	11872Z	Lamp 0312-0004
(2)	12212Z	Glass window 0583-001
(3)	12435Z	Gasket 0827-019
(4)	12436Z	Filler strip – 0827-011
(5)	15042Z	Bushing safety door valve
(6)	12202Z	Valve 0569-0395
(7)	100973	Filter Pulsar II
(8)	100978	Cyclone Pulsar II suction
(9)	99585Z	Door opener special for BNP cabinets (consisting of 9a and 9b)
(9a)	19728Z	Chrome plated latch
(9b)	19730Z	Chrome plated strike nose - stop w/screws
(10)	12447Z	Suction hose 4" Ø 100 mm / pro m
(11)	90241Z	Clamp 4" wire. Ø 100 mm
(12)	100977	E-box Pulsar II with following main components
	-	100741 Solenoid valve 1/8"
	-	100743 Fuse F1 bis F5
	-	100735 Modul - Pulsar
	-	12434Z Gasket 0827-006
(13)	100742	Safety stop
(14)	100736	Push button green
(15)	100737	Push button red
(16)	100691	Handholerubber
(17)	06266A	Foot pedal
(18)	12434Z	Gasket 0827-006
(19)	06190Z	Mylar lens cabinet (5 pcs)
(20)	12472Z	Air hose 0830-049 ½" per m
(21)	12302Z	BNP gun with ceramic nozzle
(22)	13116Z	Blow-off nozzle 0348-0022
(23)	12476Z	Blast hose PUR ½" per meter
	11799Z	Grommet 0236 0026 for blast hose
(24)	100980	Handle Pulsar II
(25)	12710Z	Glove left
(26)	12711Z	Glove right
	100667	Blower wheel KITCAB
	100378	Adaptor 4" (Ø 100 mm)
	11776Z	Gasket 0235-0297

## 7.2 BNP-Injection gun

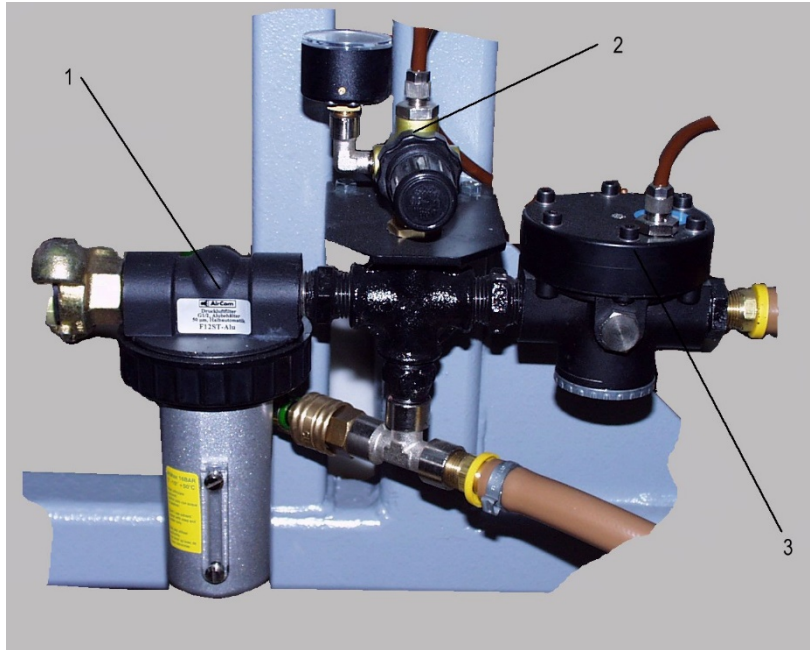


Picture 6: spare parts BNP- suction gun

Pos.	Art. Nr.	description
(1)	12302Z	Gun including ceramic nozzleNr.5 (8 mm)
(2)	11914Z	nut
(3)	11930Z	Ceramic nozzle Nr. 5 (8,0 mm)
	99643Z	Boron carbide nozzle Nr. 4 (6,0 mm)
	11935Z	Boron carbide nozzle Nr. 5 (8,0 mm)
(4)	12031Z	O-Ring
(5)	11802Z	Gun body
(6)	11913Z	Nut for fixing of air jet
(7)	12097Z	Rubber grommet
(8)	12342Z	Air jet Nr. 4 (3,2 mm) for blast nozzle 6 mm
	12343Z	Air jet Nr. 5 (4,0 mm) for blast nozzle 8 mm
(9)	11723Z	Union for air hose
(10)	11724Z	Union for blast hose
(11)	12472Z	Air hose 1/2" per m
(12)	12476Z	Media hose PUR 1/2" pro m



### 7.3 Air distribution



Picture 7: Air distribution

Pos.	Art. Nr.	Description
(1)	100688	Moisture separator 1/2"
(2)	100061	Pressure regulator 1/4" with gauge
(3)	10709D	Pilot regulator 1/2"
-	90002D	KAG -12 air coupling

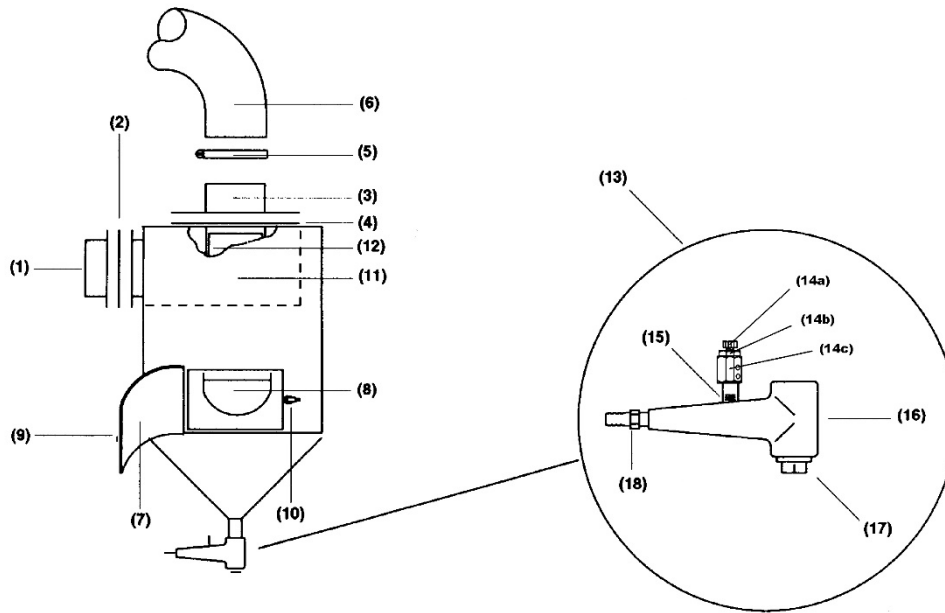
### 7.4 Foot pedal



Picture 8: Foot pedal.

No.	Stock No.	Description
(-)	06266A	Valve 3-way rough
(-)	90941D	0-9418 silencer 1/4"
(-)	01950D	Pipe plug 1/4"

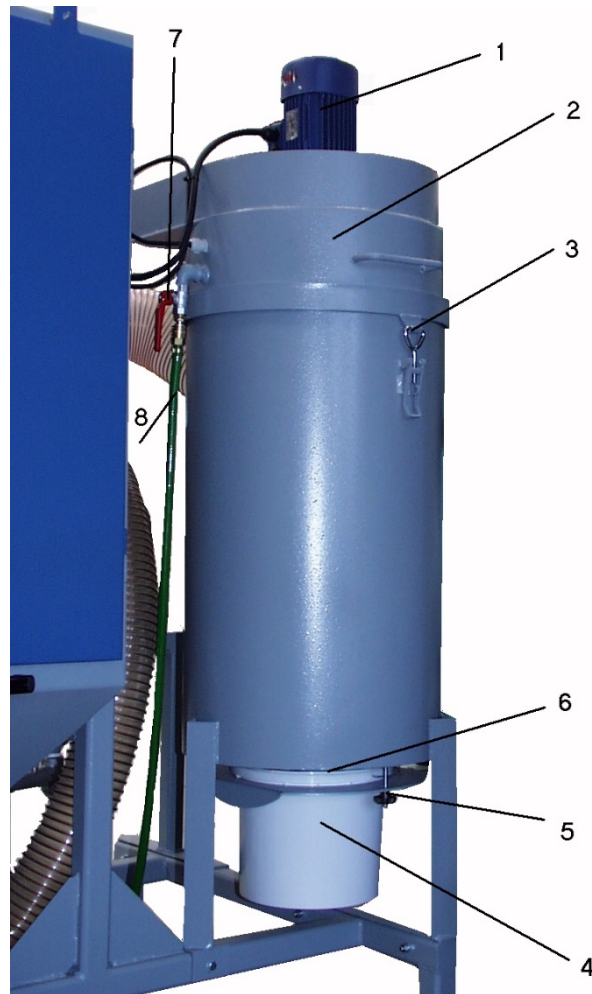
## 7.5 Cyclone



Picture 9: Individual parts cyclone

No.	Stock No.	Description
(-)	100978	Cyclone 8,4m <sup>3</sup> /min. PA II suction
(1)	12365Z	Adaptor 0702-0635 - 4" (Ø 100mm) cyclone outlet Pulsar III
(2)	11746Z	Gasket 0235-0114 - 4" (Ø 100mm)
(3)	20343Z	Pipe cyclone PA II - outlet
(4)	99751Z	Gasket for cleaner
(5)	90261Z	Clamp 6" wire (Ø 150mm)
(6)	12449Z	Suction hose 6" (Ø 150mm)
(7)	11745Z	Gasket 0235-0113
(8)	21265Z	Screen new reclaimer
(9)	14271Z	Door for reclaimer
(10)	12263Z	Hook assy 0654 - 0006
(11)	11984Z	Rubber lined plate
(13)	12417Z	Valve assy.
(14a)	100790	Adjustment screw
(14b)	100791	Counter nut
(14c)	100789	Metering valve housing
(15)	12148Z	Bolt for valve
(16)	11532Z	Valve housing
(17)	12011Z	Blind plug
(18)	11724Z	Fitting 3/8" x 1/2"

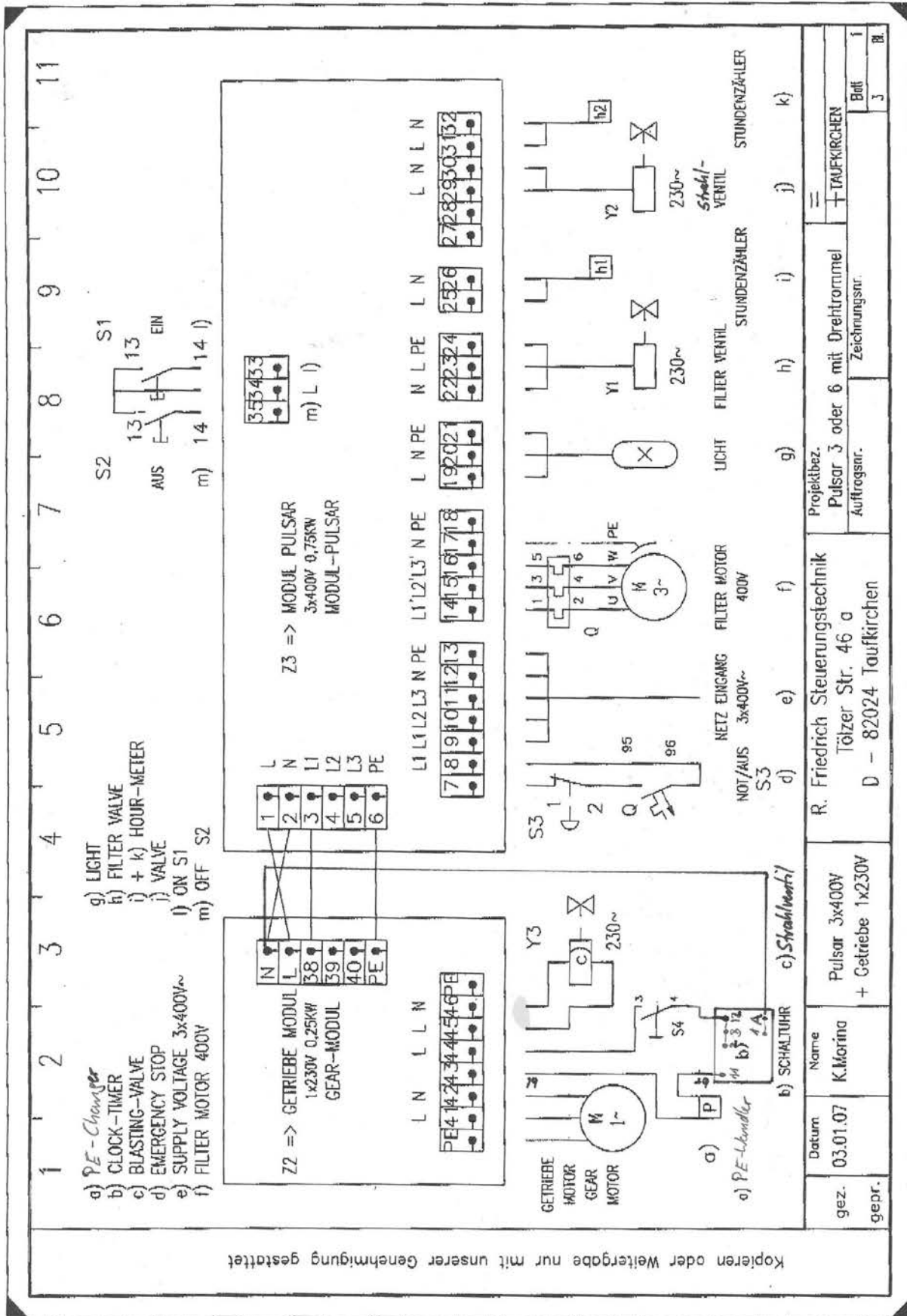
## 7.6 Cartridge filter part no.100974 – Pulsar II



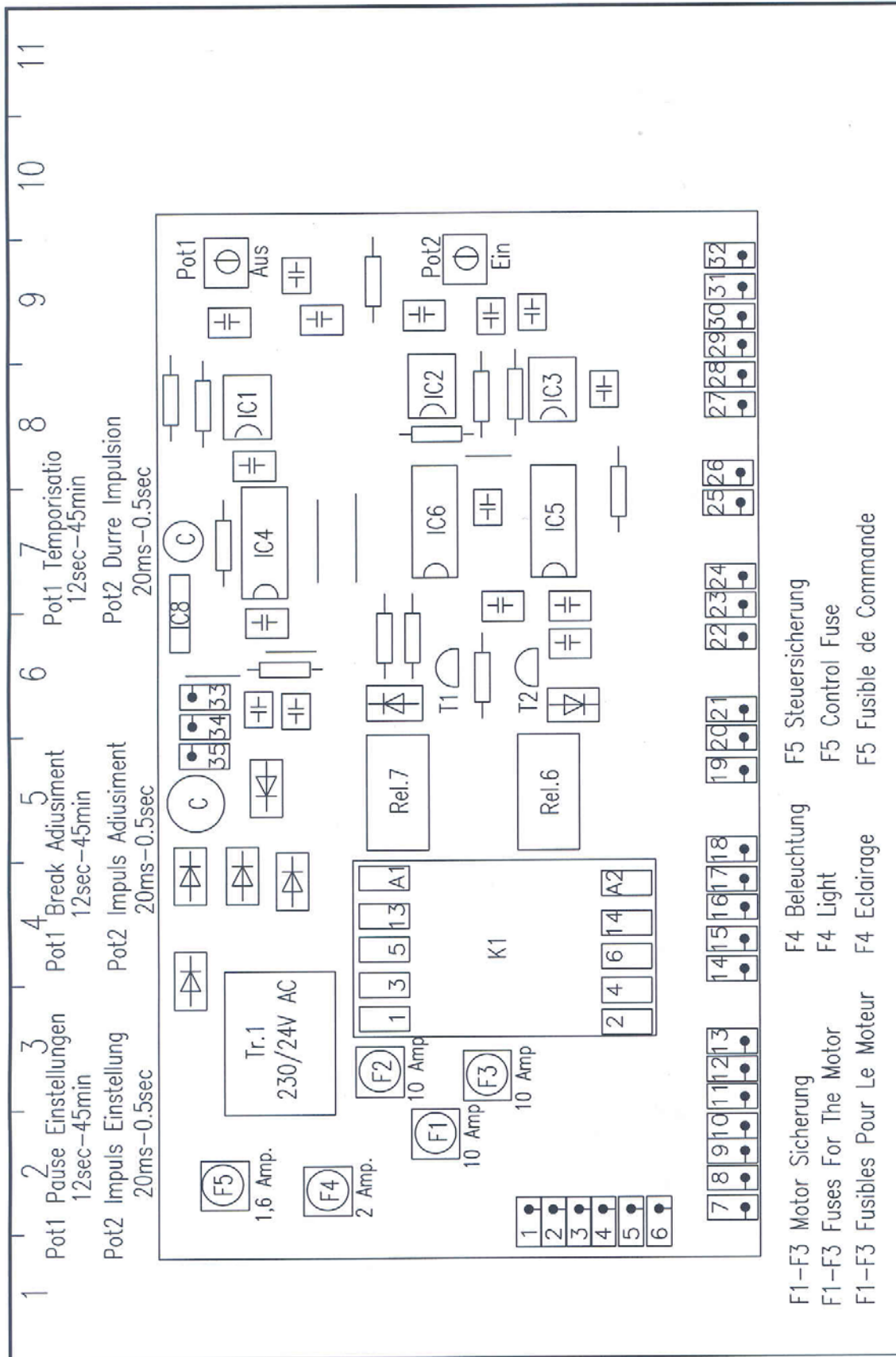
Picture 10: Individual parts filter

Pos.	Part no.:	Description
(-)	90804Z	Valve ASCO Pulsar
(-)	100669	Filter cartridge KIT CAB
(1)	19025Z	Motor, 230/380V 0,55 kW
(2)	100667	Blower wheel KIT CAB
(3)	99455D	Fastener assy MB
(4)	100668	Dust box KIT CAB
(5)	100551	Star handle M8
(6)	12434Z	Gasket 0827-006
(-)	99751Z	Gasket for cleaner –( needed 1m)
(7)	01241D	Ball valve ½“
(8)	90341D	Air hose 9mm (needed 2m)
	90084D	Clamp 15-17
	90899D	Coupling 9mm

# 8 Cabinet wiring 400V, 0,55kW



Kopieren oder Weitergabe nur mit unserer Genehmigung gestattet



gez.	06.05.05	Name	K.Morina	TYP:	02-01	Projektbez.		Basis Modul	
gepr.				3x400V	0,75KW	Fa. Friedrich Steuerungstechnik Tölzerstr. 46a		Auftragsnr.	
						D 82024 Taufkirchen		Zeichnungsnr.	
								Blatt	1
								B.	3

## **9 Residual hazards and protective agents**

### **9.1 Noise level**

The sound level is dependent on blasting parameters.

If it is > 85 dB (A), ear protection has to be worn.

### **9.2 Dust exposure**

When cabinet is closed – dust exposure is < 5mg/m<sup>3</sup>. In this case, no supplementary requests have to be taken.

This statement is valid only if the cabinet is proper maintained. Following checks are to be done:

- Check door gasket and replace it when it's worn.
- Dump dust container in short intervals.
- Clean cartridge and replace it when it's worn.

For removing the dust from the blasted parts the cabinet door should be closed, so that no dust can move out. The doors should remain closed for other 10 sec. For diminishing dust during dumping the dust container please follow chapter 4.7.5.

### **9.3 Protection of unintended blasting**

The probability of unintended blasting was diminished by installing a double safety concept.

The blasting process will be interrupted by valves

- When emergency stop will be pushed
- when the foot – pedal will be released
- when a cabinet door will be opened

To minimize the risk that both of this safety equipping failure at the same time the air supply to the cabinet should be interrupted before mounting the foot pedal. Cabinet door should be opened only after the rest air is blown out.

### **9.4 Escape of accelerated blast medium from worn parts**

Blasting causes a high consumption witch can be dangerous.

Therefor the maintained measures from chapter 5 had to be strictly followed.

Especially the blasting hose has to be checked in order to diminish the danger.

## **10 Shipping / handling of goods**

- Cabinets are delivered on pallets which can be transported by fork lift trucks or by elevating platform trucks.
- Length of forks – 2m otherwise the cabinet has to be fixed supplementary (danger of dumping)
- For lifting the cabinet from the pallet there can be used a fork lift truck or an elevating platform.
- Weight of cabinets: Pulsar II suction ca. 220kg