



OWNER'S MANUAL

Pressure Blast Cabinet

Pulsar II

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



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Date of issue: December 2005

Revised:

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1 Scope of manual

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

2 Application and restrictions

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

– STEEL:

Steel grit coarser than 400 µm (40 mesh) and steel shot coarser than S-170 (> 600 µm) are not recommended. The conveying hose on cabinets using steel should be thick-lined with a smooth bore, and reduced one size from standard. This can be specified at the time of the order.

– SAND AND SLAG

Most types of sand and similar media are not recommended because of their rapid breakdown rate.

– 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.

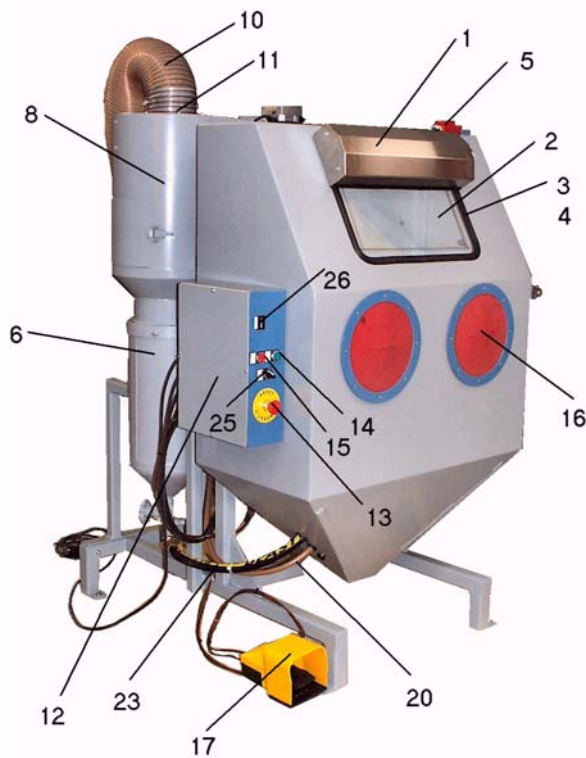
– FINE MESH MEDIA:

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

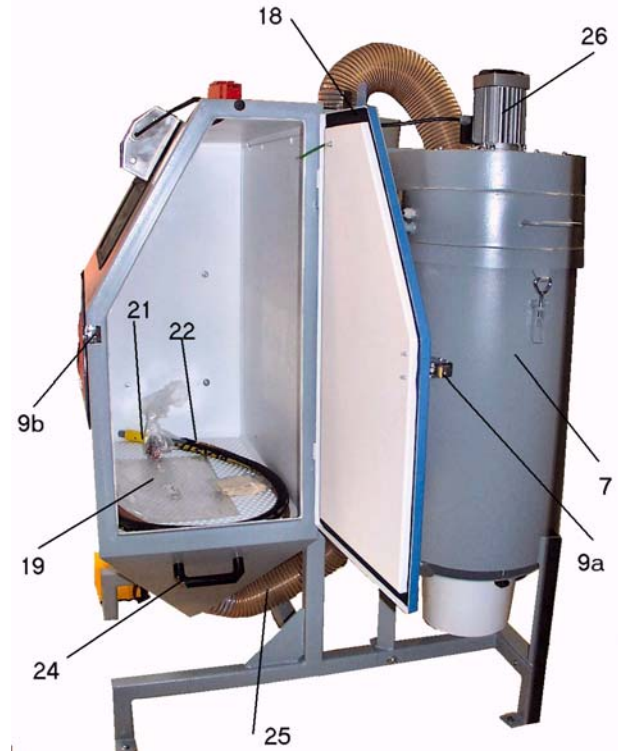
The cabinets and controls are designed for a **maximum** working **pressure** of **7 bars**. Higher working pressures only for special designs. Pulsar II cabinets are designed for discontinuous blasting activities (because of cartridge filter size). A trouble-free operation can only be guaranteed if:

- ⇒ 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 1A: Side view Pulsar



Picture 1B: Door view Pulsar

No.:	Description
-	Cabinet Pulsar II
1	Lamp
2	Glass window
3	Window gasket
4	Filler strip
5	Valve (door interlock)
6	Blast machine SC 1028
7	Filter with dust container
8	Cyclon
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
18	Door gasket / m
19	Mylar lens (5pcs)
20	Air hose ½" /m
21	Nozzle with nozzle holder
22	Blow off nozzle
23	Blast hose
24	Handle
25	Suction hose 100mm / 4"

3.1 Components

"Pulsar II" – Cabinets consists of following parts:

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

3.2 Dimensions

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

3.3 Cabinet

- Dust insulated cabinet
- Stable metal sheet construction
- White, reflecting coloring 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, wearfree, 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 eighter door is opened

3.3.3 Gloves

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

3.4 Cyclon

- Blast media, dust and debris from the cabinet are drawn into the cyclon for separation. Dust and fines are first separated from the reusable blast media, which is screened of oversize particled 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 cyclon screen

3.5 Blast machine

The blast machine for Pulsar II (SC 1028) has a **volume** of **20 litre** and a ½" standard piping.

3.6 Dust collector cartridge

- With detachable blower top for quick replacing of the cartridges.
- Automatical jet cleaning with caster
- 0,55kW-motor → ca. 8m³/min fan capacity
- Filter cartridge:
 - Filter area 7 m²
 - Compound 80% Cellulose – 20% Polyester
 - Application category after BIA USGC Test certificate 199823811 / 6210
 - Very simple removal of dust from the dust container.

3.7 Operation facilities

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

3.8 Blow-off nozzle – solid rubber

Nozzle for cleaning the blasted parts from dust.

3.9 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
- Magnet in the cyclon screen
- Timer (J Control Switch) for triggering the automatic cleaning pulse for the dust collector cartridge

3.10 How the system works

Arrangement of components is shown in figure 1, the overview in figure 2.

When the 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.

Each time the foot pedal is depressed the blast machine pressurizes and blast media propels through the blast hose out the nozzle where it hits the part to be blasted.

Blast media, debris and dust drop into the cabinet hopper and are drawn into the cyclon. Reusable heavy blast media is separated through centrifugal force and drops into the cyclon 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 machine depressurizes and the blast process stops.

When depressurizing the pop-up valve opens and blast media from the cyclon hopper drops into the blast machine. Therefore the circuit is closed. Door interlocks interrupt the blast process when the cabinet doors are opened.

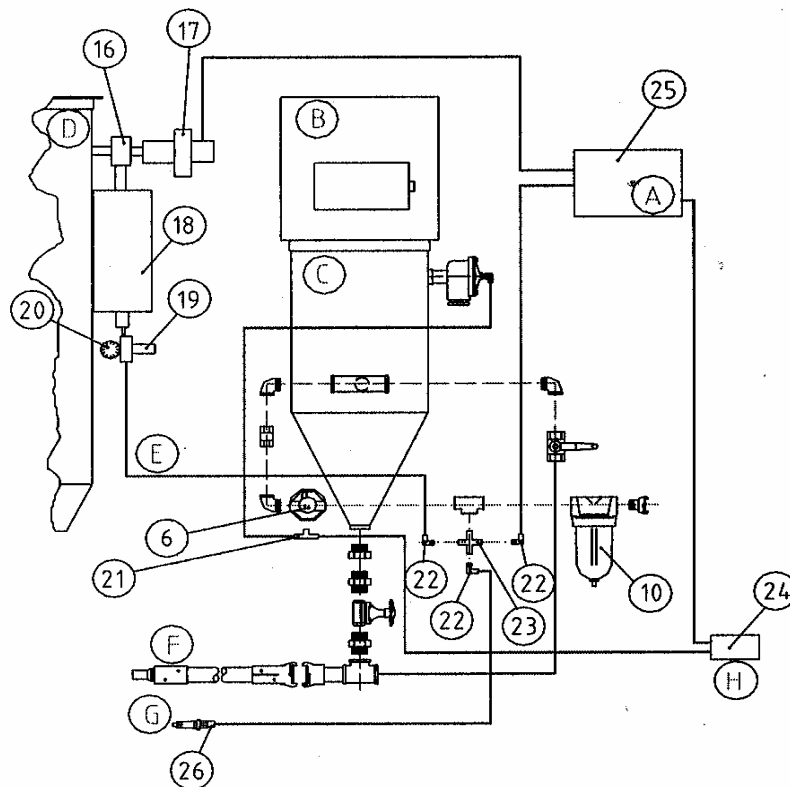


Bild 2: Übersichtsskizze

No:	Description
A	Switching unit
B	Cyclon
C	Blast machine
D	Filter
E	Twinline hose
F	Blast nozzle
G	Blow off nozzle
H	Foot pedal

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 **80 cm** are necessary for emptying the dust container.
 - In front of the cabinet minimum **80 cm** for the operator.
- ⇒ Ensure sufficient illumination, even behind the cabinet.
- ⇒ Electrical service:
 - **400 V 3-phase (or optionally 230V – 1 phase), capacity 0,55 kW**
 - **10 A socket** (CEE socket)
- ⇒ Air requirements see table 1.

Nozzle size [mm]	Nozzle No.	Air Requirements [m ³ /min.] at a pressure of [bar]		
		<u>2,6</u>	<u>4,9</u>	<u>7</u>
3,0	2	0,3	0,4	0,6
4,5	3	0,6	0,9	1,3
6,0	4	1,2	1,7	2,3

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) <i>Place the cabinet.</i>	See also section 4.1 Requirements.
(2) <i>Install an air supply.</i>	<ul style="list-style-type: none"> – Check pressure at compressed air supply. If pressure is > 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 maximum pressure of 7 bars. – Attach an air hose with corresponding length and diameter on air supply. – Carefully open the air supply (hold hose tight) to blow debris and moisture out of the attached hose. – Close air-supply. – Attach air hose on cabinet (coupling on the rear side of the cabinet) – Adjust pressure regulator (rear side) for the dust collector cartridge cleaning pulse at 5 bars.

<p>(3) <i>Install electrical connection and earth screw.</i></p>	<p>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> <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"> – Close the doors. – Press the green switch on the black box. The light must switch on and the motor start. – Check if motor rotates in direction of the arrow. If not, reverse polarity of the electrical connection by a qualified electrician. – 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). – Pick up nozzle (gloves) and depress the foot pedal. The blast process must start (air comes out the nozzle). – 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). – The blast process has to be interrupted by pushing the emergency stop button. – If no troubles occur, the cabinet can be tested with blast media. Otherwise go to section 6 for trouble-shooting.
<p>(5) <i>Fill in blast media.</i></p>	<ul style="list-style-type: none"> – When using clean blast media, fill through cyclon access door. – 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. – Blast media will be cleaned during suction process. – To ensure a continuous operation and to prevent agglomeration of usable blast media in dust collector during suction, the following minimum quantities are required: ⇒ Pulsar II 5 litre
<p>(6) <i>Test with blast media</i></p>	<ul style="list-style-type: none"> – Close the doors. – Adjust desired blast pressure. – Pick up nozzle (gloves) and start blasting by depressing the foot pedal. Direct nozzle to grating.

	<ul style="list-style-type: none"> - During the blast process a second person checks for leaks (dust). <ul style="list-style-type: none"> ⇒ Doors. ⇒ Suction hose connections between cabinet hopper and cyclon, and between cyclon and dust collector. ⇒ Hose connections between filter and dust container. Tightness can only be checked during cleaning process. ⇒ Check of safety stop button <p>If no troubles occur, regular work can begin. /See chapter 4.4)</p>
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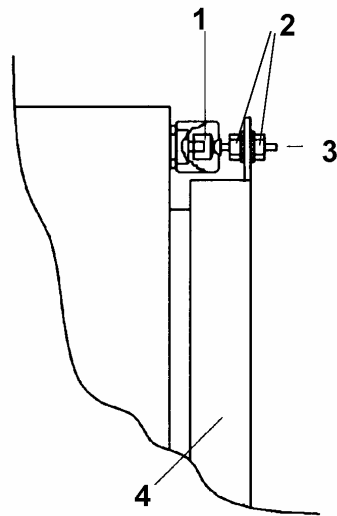


Figure 3 Door Safety Interlocks.

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) <i>Daily check-up.</i></p>	<ul style="list-style-type: none"> - Cabinet view window. - Cyclon. - Dust container. - Nozzle and nozzle holder. <p>(see section 5.2 Daily check list).</p>
<p>(2) <i>Open air supply.</i></p>	

(3) Turn on lights and motor (green button).

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 nozzle in your hands (wear gloves) and step on the foot pedal. Then the blast process will be started.

- Smooth continuous blasting is more effective than abrupt movements with the nozzle.
- The rule: „Higher pressure equals higher productivity and lower costs“ is not valid in every situation. Exceptions are:
 - ⇒ High pressure (> 7 bar for special designs) leads to operator fatigue (more breaks are necessary).
 - ⇒ High pressure could lead to premature wear of blast media and consequently to higher costs or even to damages of the parts.
- 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.
- The correct relation between air and blast media is very important for efficient blasting (see section 4.7.1 Air / blast media mixture).
- Adjust static pressure (see section 4.7.2).

(5) When finished clean parts with blow-off nozzle and remove it from the cabinet.

(6) Regularly empty dust container.

- Turn off motor and lights (red switch).
 - Carefully open cover of the dust container, take out the dust bag and dump contents into a suitable disposal container.
- WARNING ! If hazardous or toxic materials have been blasted, the debris must be specially treated!**

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 4.7.3).

(2) Disconnect plug.

(3) Disconnect air supply line.

4.7 Special procedures

4.7.1 Air-blast / media mixture (2 persons)

(1) Close media metering valve on the blast machine.

(2) Adjust desired working pressure.

(3) One person depresses the foot valve while the other slowly opens the metering valve. The adjustment is correct when the blast media comes out the nozzle as a light mist.

4.7.2 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:

(1) <i>Poor visibility.</i>	Open the sliding damper 5 mm (increase static pressure, difference to external pressure will decrease).
(2) <i>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).

4.7.3 Removing media

(1) Switch motor and lights on (green switch).

(2) Turn nozzle out of the nozzle holder, put a container (e.g. 15 l plastic container) into the cabinet and close the doors.

(3) Completely open the metering valve on blast machine and close the choke valve on blast machine.

(4) Adjust pilot regulator to „0 bar“.

(5) Direct hose into the container, depress foot pedal and slowly increase pressure (maximum 2 bars) so that media is carried slowly into the container.

(6) After emptying all blast media into the container, release foot pedal and remove container from cabinet.

(7) Remove media and debris from all corners of the cabinet with the blow-off nozzle (both doors are closed).

(8) Repeat (5) to (7) until there is no more debris and media in the cabinet and in the cyclon left.

(9) Close metering valve and open choke valve.

(10) Empty the dust container.

(11) During longer standstills or during transport of the equipment at longer distances the cartridge should be cleaned (see section 4.7.4), so that sticking of media on the cartridge is avoided.

4.7.4 Dust collector cartridge cleaning / replacement of cartridge

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

4.7.5 Window Replacement

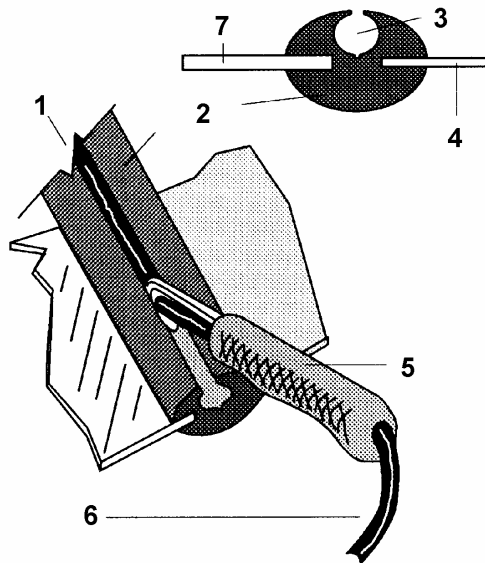


Figure 7 Filler strip

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 molding.
(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 molding 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 molding 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 molding are not overlapped.

4.7.6 Backfitting 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.

4.7.7 Backfitting cyclon wear plate in case of using abrasive blast media

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

4.7.8 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"> – Check cover lenses for frosting. – Replace window glass if it is damaged.
(2) <i>Cyclon.</i>	<ul style="list-style-type: none"> – Clean screen when motor is switched off (several times a day for huge amounts of debris). – Clean screen magnet.
(3) <i>Dust container.</i>	Empty dust container (several times a day for huge amounts of dust).
(4) <i>Nozzle and nozzle holder.</i>	Check gasket for wear and replace if it's necessary.

5.3 Weekly Check List

(1) <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>A dirty filter causes loss of pressure in the system!</p>
(2) <i>Air hoses and blast hoses.</i>	<ul style="list-style-type: none"> – Check all couplings and screws for wear or breakage and replace them if necessary. – Check the blast hose by hand for soft spots (reduced wall thickness) and replace it immediately when soft spots are detected. – Check air line (air supply) and replace it when it is worn. – Check gaskets of couplings for wear and replace them if necessary.
(3) <i>Blast machine.</i>	<ul style="list-style-type: none"> – Check the gasket of the filling port and replace it at the first sign of wear (replacement possible from the outside). – Check the pop-up valve and replace it at the first sign of wear.

5.4 Monthly Check List

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

6 Trouble-shooting

<i>Problem</i>	<i>Probable cause</i>	<i>Remedy</i>
(1) Poor visibility.	The motor does not rotate.	Check and repair it.
	Clocked cartridge.	<ul style="list-style-type: none"> – Clean cartridge. – Replace cartridge (see section 4.7.4).
	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"> – Check for different blast media more suitable. – Check for lower working pressure.
	Blocked suction hose between cabinet and cyclon.	Check and if necessary disconnect hose and remove debris and media. Warning! The blockage is not the real cause.
	Negative pressure.	The following components should be checked for leaks or wear: <ul style="list-style-type: none"> – Cyclon door. – Suction hose connections between cabinet hopper and cyclon and between cyclon and dust collector. – Suction hoses for wear. – Gasket on filter door.
	Cyclondoor open or leak.	Check and if necessary replace gasket.
(2) Abnormally high media consumption.	Incorrectly adjusted static pressure in the cabinet.	Increase static pressure with damper on top of cabinet (see section 4.7.2).

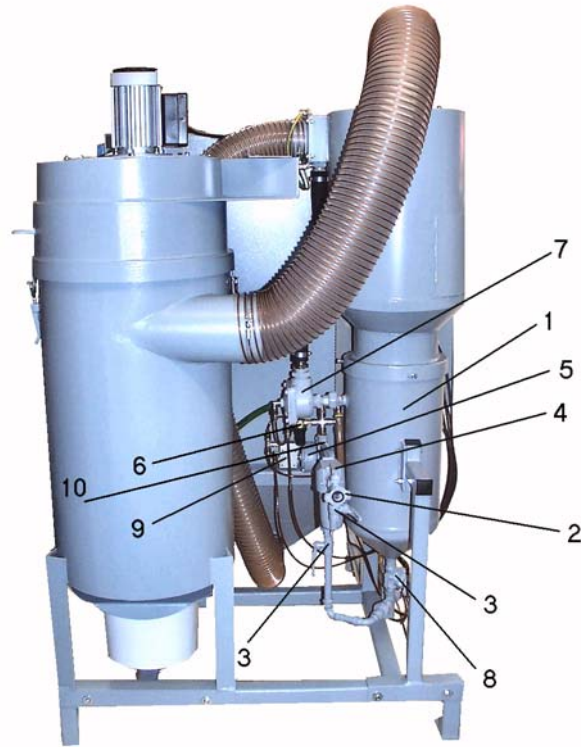
<i>(3) Poor cleaning rate.</i>	Incorrectly adjusted metering valve.	Improve metering (see section 4.7.1).
	Reduced air pressure.	<ul style="list-style-type: none"> – Check air supply. – If the pressure indicated on the gauge (black box) decreases during blasting, the following components should be checked for wear, malfunction or contamination: <ul style="list-style-type: none"> ⇒ Moisture separator. ⇒ Pressure regulator. ⇒ Air lines
	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"> ⇒ Blast machine was filled with moist blast media. ⇒ Humidity from air supply. ⇒ Perspiration water through sharp drop in room temperature. <p>Depending on cause, the following measures are necessary:</p> <ul style="list-style-type: none"> ⇒ Remove moist media. ⇒ Remove cause for humid air supply. ⇒ Make sure, that there is not too much temperature fluctuation.
<i>(4) Dust comes out the blower.</i>	Dust filter gasket defective.	<ul style="list-style-type: none"> – Remove cartridge (see section 4.7.4). – Check gasket and replace if necessary.
	Defective cartridge.	<ul style="list-style-type: none"> – Remove cartridge (see section 4.7.4). – Check cartridge for cracks or similar damages and replace if necessary.
<i>(5) Static shocks.</i>	Cabinet not grounded.	Ground cabinet.
<i>(6) No air and no media come out the nozzle.</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"> – Turn out nozzle and check for blockage. – Check blast hose for blockage. <ul style="list-style-type: none"> ⇒ Close metering valve. ⇒ Adjust pilot regulator to "0 bar". ⇒ Close cabinet doors. ⇒ Hold tight the blast hose (gloves), depress foot pedal and increase working pressure (maximum 2 bar) until all blast media is removed. <p>Warning! The blockage is not the cause.</p> <p>The cause could be:</p> <ul style="list-style-type: none"> ⇒ Missing or overfilled screen in the cyclon. ⇒ Incorrectly adjusted metering valve. ⇒ Too heavy blast media.
	Blocked moisture separator.	Clean moisture separator (see section 5.3).
(7) <i>Air only (no media) comes out the nozzle.</i>	No blast media in the blast machine.	Blast media can only drop from the cyclon hopper into the blast machine when the blast process is interrupted. In most cases a short interruption of the blast process is sufficient. Otherwise refill with blast media (cyclon).
	Moist media prevents flow.	<ul style="list-style-type: none"> – Remove moist media. – Remove cause for humid air supply.
(8) <i>Irregular flow or too much blast media comes out the nozzle.</i>	Incorrectly adjusted metering valve.	Adjust new (see section 4.7.1).
	Choke valve not completely opened.	Open choke valve completely.
(9) <i>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).
(10) <i>Pop-up valve does not close or does not remain closed.</i>	Not enough air volume.	Close metering valve and choke valve. If the pop-up valve doesn't close there is not enough air volume. The reasons could be:

- | | | |
|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <ul style="list-style-type: none">– Not enough air volume for the applied nozzle. Either use a higher rated compressor or a smaller sized nozzle.– Air supply hose diameter too small. Use a greater diameter.– Components are defective, blocked or leaking.<ul style="list-style-type: none">⇒ Blocked moisture separator.⇒ Defective pressure regulator.⇒ Leaking air lines. |
|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

7 Replacement parts

7.1 Replacement for blast machine Pulsar II with piping 1/2"

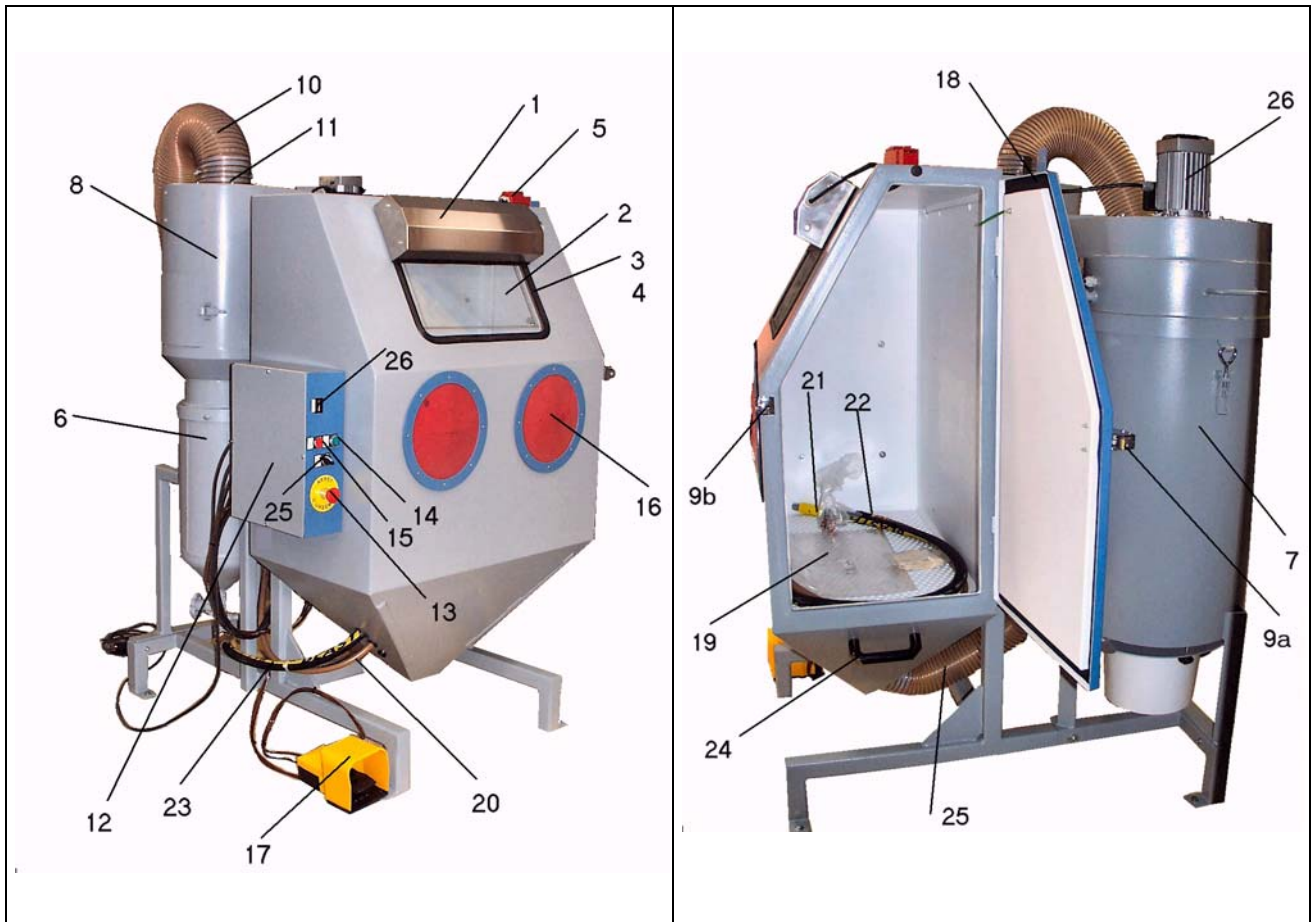


Picture 5 3: Individual parts blast machine piping

<i>Pos.</i>	<i>Part no.:</i>	<i>Pcs/ unit</i>	<i>Description</i>
1	90967D	1	SC 1028 unfinished part
2	90002D	1	Air coupling KAG 12
3	01241D	1 (Option +1)	Ball valve 1/2"
4	90256D	1	MM-HMS water separator 1/2"
5	10709D	1	Pilot regulator 1/2"
6	100061	1	Regulator 1/4" + gauge
7	03371I	1	Diaphragme outlet valve TLR
8	99555D	1	Abrasive valve SA 1/2"
9	99406D	1 (Option)	Magnetic valve PVR - door
10	90604D	1	Non return valve 1/2"
	90257D	1	CFB=0 Braas coupling
	01245D	1	MP-5 O-ring
	01243D	1	Pop up valve MP-2 only

	100747	1	Bushing for MP-2
--	--------	---	------------------

7.2 Individual replacement parts for cabinet



Picture 4: Individual parts cabinet

Pos.	Part no..	Description
(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)	12202Z	Valve 0569-0395
-	15042Z	Bushing safety door valve
	<i>Option</i>	<i>Electrical door interlock</i>
(6)	100983	Blast machine SC 1028 SA ½" 20l
(7)	100973	Filter Pulsar II
(8)	20340Z	Cyclon Pulsar III
(9)	99585Z	Door opener spezial 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
-	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
	11798Z	Grommet 0236 0025
(21)		Nozzle with nozzle holder (see 7.3)
(22)	13116Z	Blow-off nozzle 0348-0022
(23)		Blast hose (see 7.3)
	11799Z	Grommet 0236 0026
(24)	100980	Handle Pulsar II
-	99159Z	Rubber gloves pair for ZERO cabinets
-	12710Z	Rubber glove left
-	12711Z	Rubber globve right
(25)	12447Z	Suction hose 4" (Ø 100 mm) / pro m
	90241Z	Clamp 4" wire. Ø 100 mm
(26)	19025Z	Motor, 230/380V 0,55 kW
		Motor 230V
	100667	Blower wheel KITCAB
	100378	Adaptor 4" (Ø 100 mm)
	11776Z	Gasket 0235-0297
-	100732	Earth screw
	11776Z	Gasket 0235-0297
	12376Z	Adaptor 4" (Ø 100 mm)

7.3 Nozzles, nozzle holder and blast hoses for 1/2" piping Pulsar II

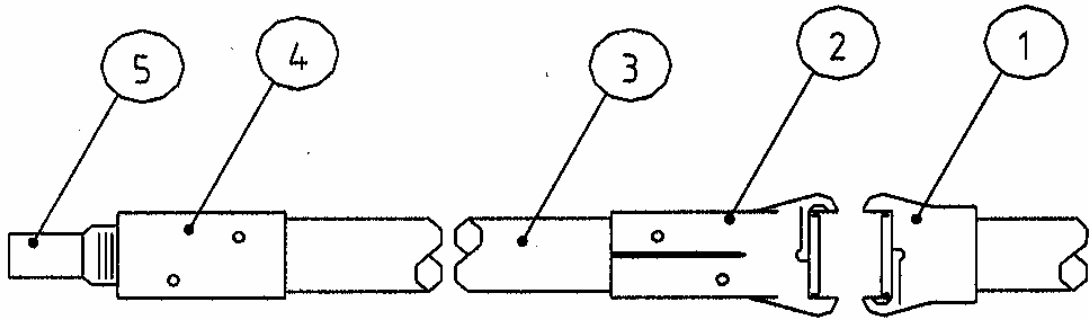


Figure 7

No.	Stock No.	Description
(1)	90257D	CFB-0 Brass Coupling
(2)	90258D	CQB-0 Brass Coupling
(3)	04257D	Blast hose 13 x 7,5 mm per m
(4)	90269D	Nozzle holder NHP-0
(5)	94212D	Nozzle boron carbide CB-4/25 6mm x 45 mm

7.4 Foot pedal



Figure 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 Cyclon

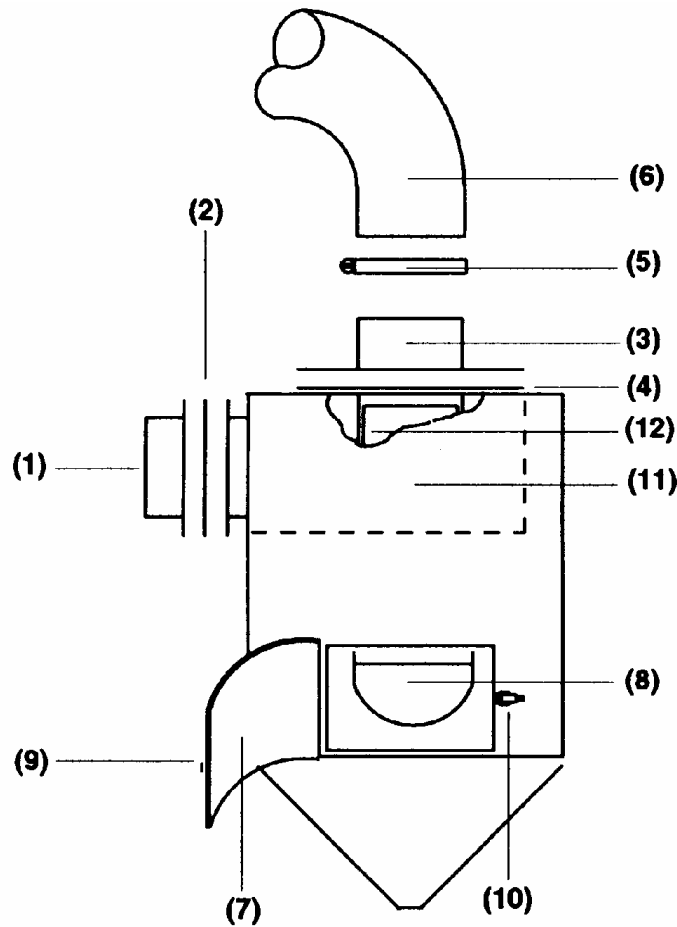


Bild 5: Individual parts cyclon

Pos.	Art. Nr.	Beschreibung
(-)	20340Z	Cyclon 8,4 m ³ /min. PA III
(1)	12365Z	Adaptor 0702-0635 - 4" (ø 100 mm) cyclon outlet Pulsar III
(2)	11746Z	Gasket 0235-0114 - 4" (ø 100 mm)
(3)	100193	Pipe cyclon PA III - outlet
(4)	99751Z	Gasket for cleaner
(5)	90261Z	Clamp 6" wire (ø 150 mm)
(6)	12449Z	Suction hose 6" (ø 150 mm)
(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

7.6 Cartridge filter part no.100974 – Pulsar II

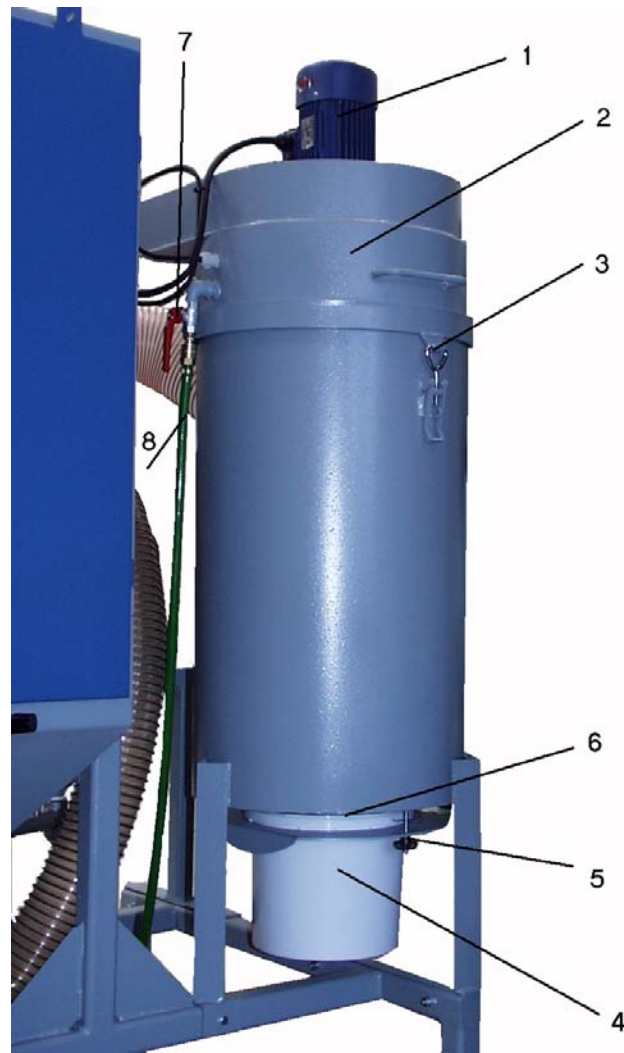
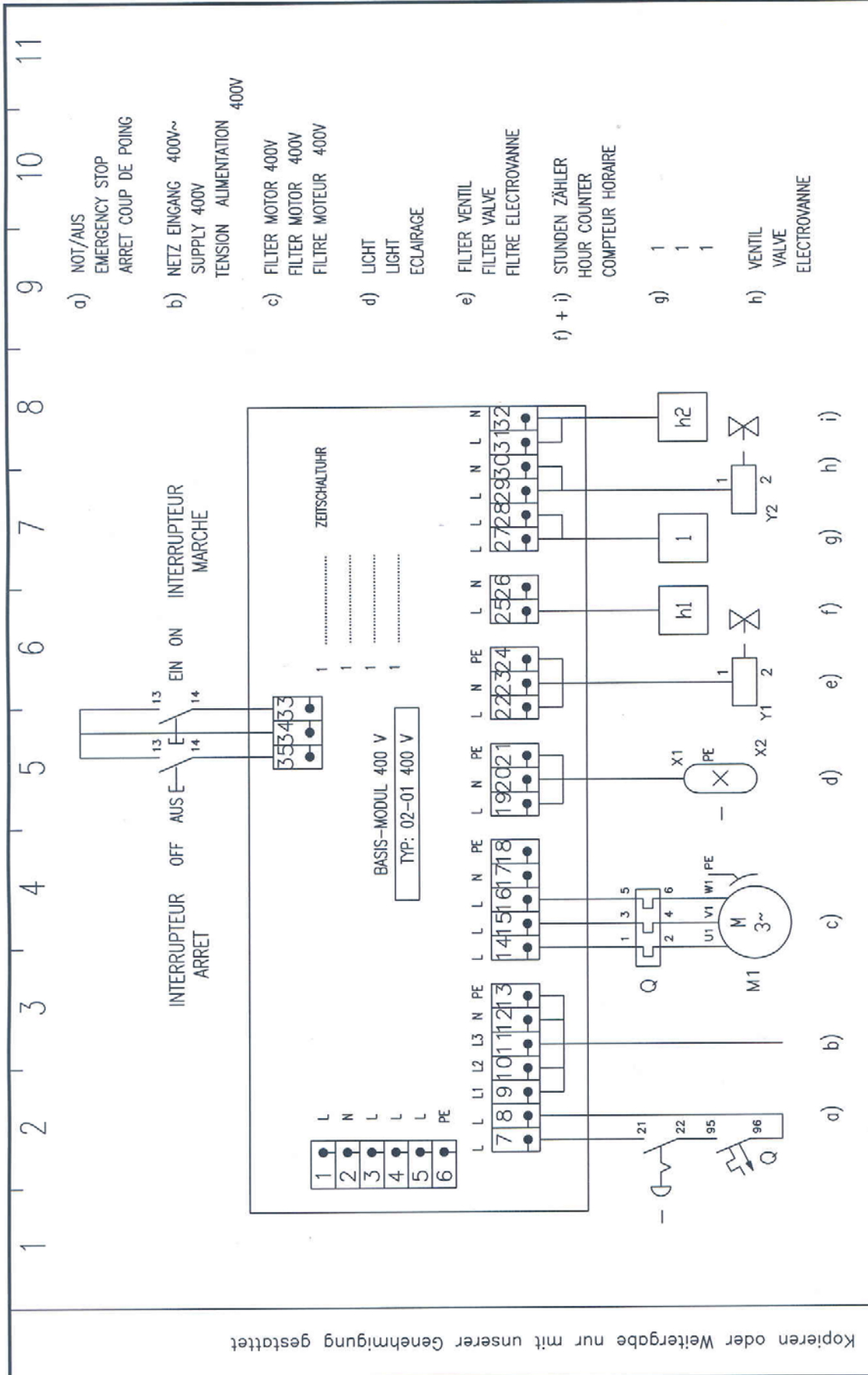


Figure 6: Individual parts filter

Pos.	Part no.:	Description
(-)	90804Z	Valve ASCO Pulsar
(-)	100669	Filtercartridge 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

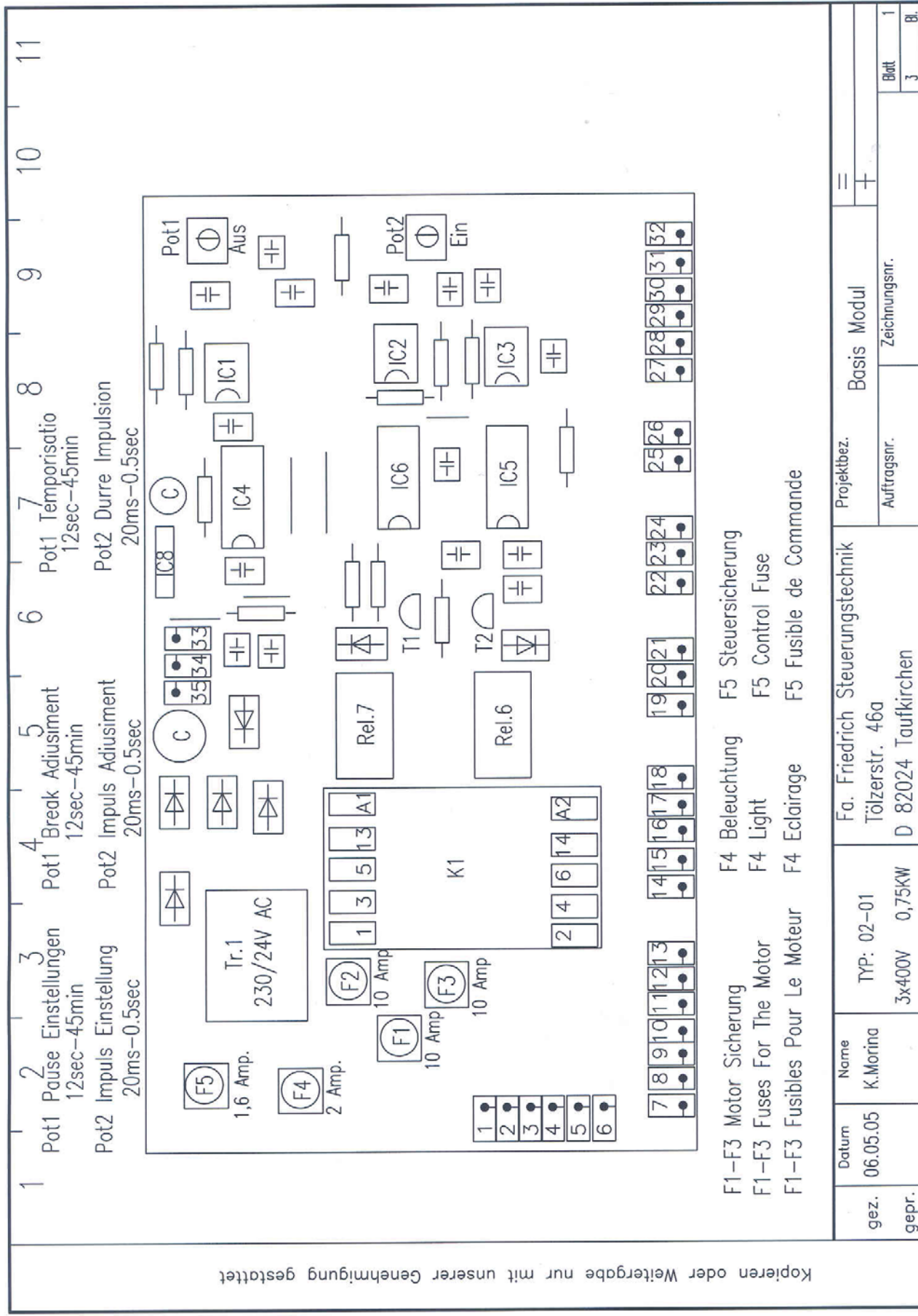
8 Cabinet wiring 400 V, 0,55 kW



- a) NOT/AUS
EMERGENCY STOP
ARRÊT COUP DE POING
- b) NETZ EINGANG 400V~
SUPPLY 400V
TENSION ALIMENTATION 400V
- c) FILTER MOTOR 400V
FILTER MOTOR 400V
FILTRE MOTEUR 400V
- d) LICHT
LIGHT
ECLAIRAGE
- e) FILTER VENTIL
FILTER VALVE
FILTRE ELECTROVANNE
- f) + i) STUNDEN ZÄHLER
HOUR COUNTER
COMPTEUR HORAIRE
- g) 1
1
1
- h) VENTIL
VALVE
ELECTROVANNE

Kopieren oder Weitergabe nur mit unserer Genehmigung gestattet

gez.	31.05.05	Name	K.Morina	TYP: 02-01 3x400V 0,75KW	FA. FRIEDRICH STEUERUNGSTECHNIK TÖLTZER STR. 46 a 82024 TAUFKIRCHEN	Projektbez.	BASIS-MODUL
gepr.						Auftragsnr.	Zeichnungsnr.
							Blatt 3
							Bl. 3



9 Suplimentary Informations

9.1 Noise level

9.1.1 Way of measurement

- Closed room, object in middle
- Sound level instrument corresponding to DIN 45633, IEC 123, BS 3489 and ANSI S1.4 Type 2
- 1m distance to blasting object
- Blast media BT 8

9.1.2 Results

The noise level is dependent of:

- higher blast pressure
- bigger nozzle diameter
- more distance between blast nozzle and blasting object
- incident angle
- geometrie of blast medium
- kind of blast medium

Attention:

There could appear differences till 15% by using other blast medium or different nozzle diameters.

9.1.3 Test results of Pulsar VI-cabinets

Blast pressure [bar]	Injector cabinets Sound level[dB (A)] Nozzle 8 mm	Pressure cabinets Sound level[dB (A)] Nozzle 6 mm	Sound insulation In- jector cabinets Nozzle 8 mm	Sound insulation pressure cabinets Nozzle 6 mm	Notes
0	< 75*	< 75*	< 75*	< 75*	No blasting – just motor of ventilator
3	80...85	80...88	< 75* bis 75	<75*....78	Blasting media: Glass BT-8
4	83...90	83...92	<75* ..79	75....83	
5	87...95	88...96	75 ..84	77.....88	
6	90...98	92...100	80 ...87	84....92	
7	93...102	95...105	83...90	88....93	

9.2 Residual hazards and protective agents

9.2.1 Noise pollution

The sound level is dependent on blasting parameters.

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

9.2.2 Dust exposure

When cabinet is closed – dust exposure is < 5mg/m³. In this case, no supplementary requests have to be taken.

This statement is valid only if the cabinet is properly 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 4.7.3.

9.2.3 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 and the cabinet door should be opened only after the restair blows out.

9.2.4 Escape of accelerated blast medium from worn parts

Blasting causes a high consumption which can be dangerous.

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

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

9.3 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 pressure ca330 kg