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OWNER'S MANUAL

Suction Blast Cabinet

Type series Pulsar (III, VI, VI+, VIII and VIII+)

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1 Abbreviations, definitions, symbols and pictograms

	Risk of injury! Connect electric circuit points only by authorized electrician.		Electrostatic stroke! Ground!
	Noise > 85dB(A) Wear ear protection!		Explosion hazard caused by dust! Ground!
	Explosion hazard! Connect only max. admitted pressure.		Risk of injury! Discharge pressure completely during maintenance jobs.

2 Product description

2.1 Conventional utilization and restrictions

	Pulsar III	Pulsar VI	Pulsar VIII	Pulsar VI+	Pulsar VIII+
Max. load-bearing capacity of steel grating	1000 N	1000 N	1000 N	1000 N	1000 N
Max. load-bearing capacity with wrack.	2000 N	2000 N	2000 N	2000 N	2000 N
Operating time	< 4h / day			Continuous operation	
Basic parameters	See Section "0.5 – Applications and restrictions" – "Parameters" from the yellow cover of this manual				

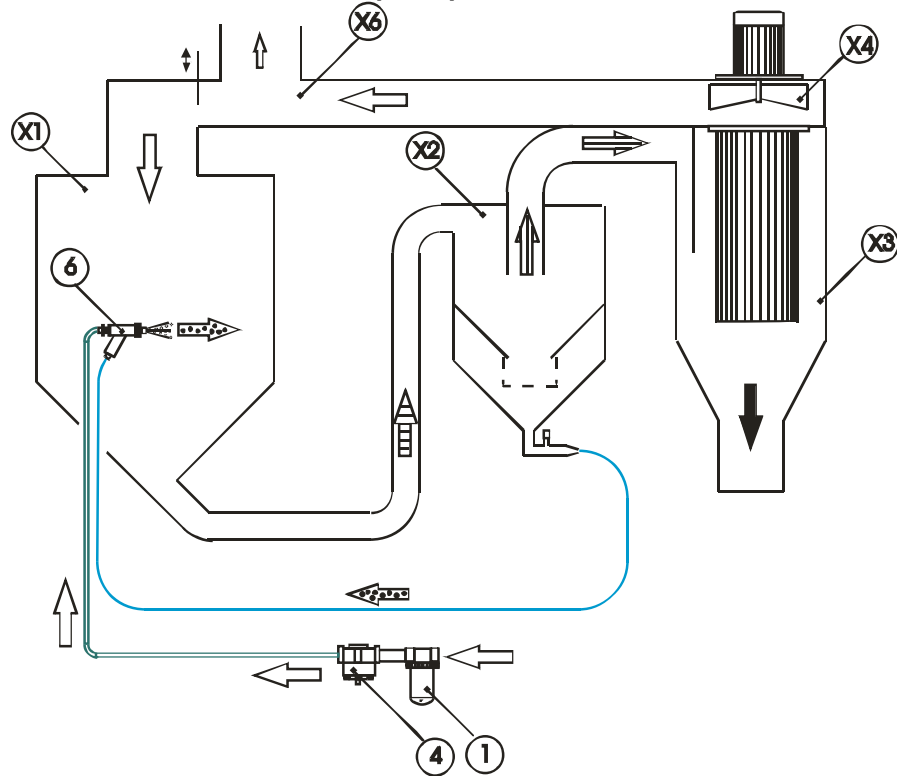
2.2 No conventional utilization – Warnings against misuse

Prohibited:

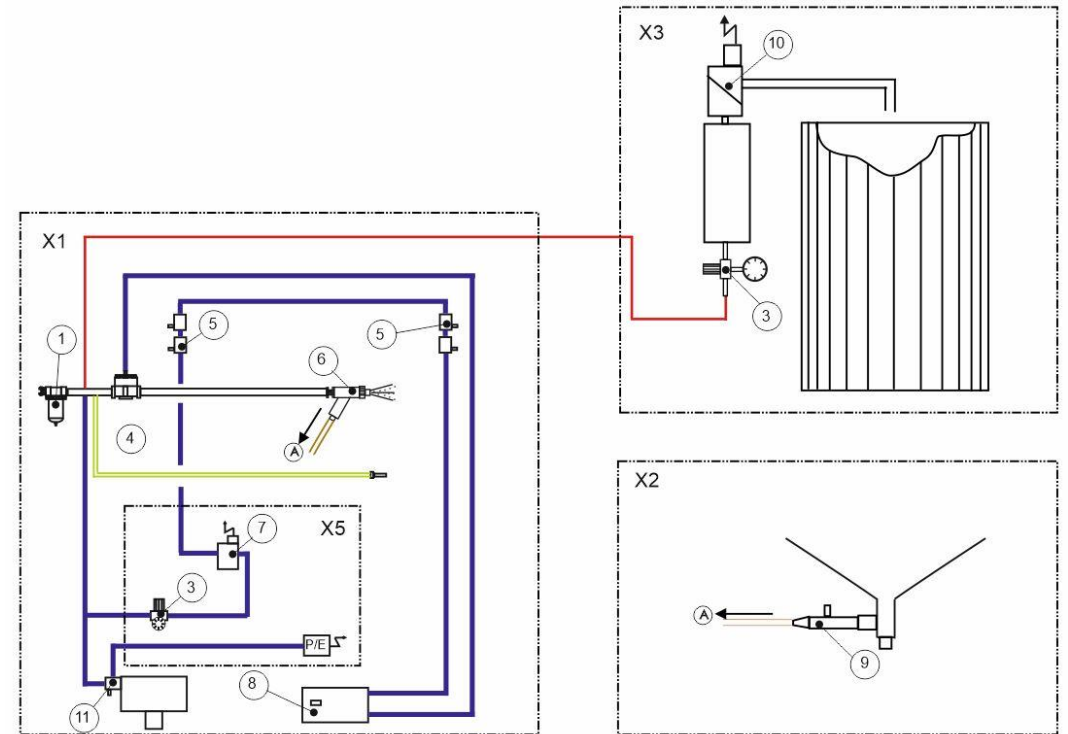
- Operating in an explosive atmosphere
- Not to be used for case 3 from the exploded view drawing (see yellow cover, Section 06), apart from the following exceptions:
 - o only permitted if the risk of explosion can be adequately restricted by implementing special measures and proof of this is provided
 - o this proof must be provided in writing as part of a case-by-case assessment
- Not to be used as a blast cleaning cabinet that relies on explosive solvents and/or solvents that are hazardous to health
- Not to be used for blasting parts that could release substances:
 - o that pose a risk of explosion
 - o that cannot be sufficiently restrained by the filter
 - o that could be hazardous to health in the event of a filter defect

2.3 Operating mode of the complete system

Abrasive circuit flow – basic principle



Pneumatic flow scheme – the colours of the pneumatic hoses may vary



	Pure air	7	3/2-way solenoid valve
	Abrasive, dust and air	8	Foot pedal 3/2-way solenoid valve
	Abrasive and air	9	Abrasive metering valve
	Dust and air	10	Diaphragm valve / cleaning
	Dust	11	3/2 directional control valve – pneumatic dust container contact
1	Moisture separator, dust collector	X1	Blast cabinet
2	Ball valve	X2	Cyclone
3	Pilot regulator	X3	Cartridge dust collector
4	Pressure regulator	X4	Fan
5	Pneumatic door interlock - 3/2-way solenoid valve	X5	E-box
6	Nozzle	X6	Connection channel between fan and blast cabinet *1)

2.4 Description

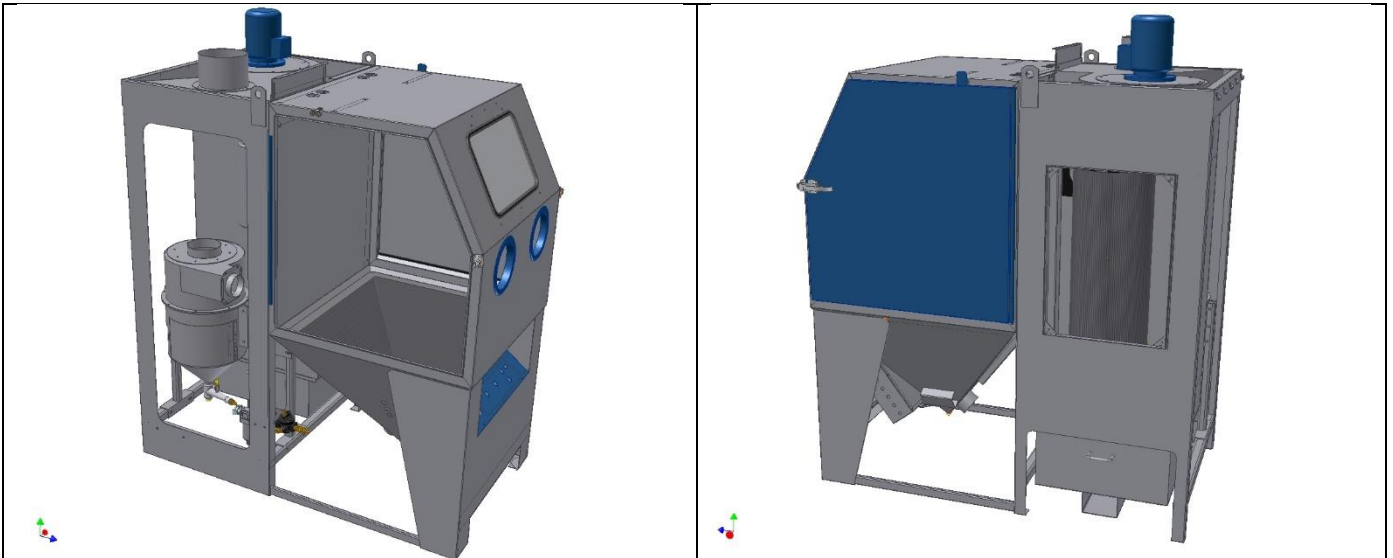


Figure 1: Pulsar III & VI injection blast cabinet

2.4.1 Blast media recovery system (cyclone)

- Cyclone principle
- Separation of:
 - o dust in the filter
 - o blast media in the circuit that is still usable
 - o coarse soiling in the sieve

2.4.2 Dust collector cartridge

- ⇒ Automatically follow-up cleaning trough air pulse
- ⇒ Pulse interval: ca. 40..60 s
- ⇒ Pulse duration: ca. 500 ms
- ⇒ Follow-up cleaning: ca. 5min
- ⇒ Exchangeable cartridge
- ⇒ Dust container.

2.4.3 Operating elements

	where	Notes / features
Pressure regulation blasting	Electric panel	2 to 7 bar
Dedusting filter cartridge	Pressure regulator on compressed air buffer – rear section of cabinet	Preference pressure: 5 bar
ON/OFF	Electric panel	Activating: -Control circuit -Fan -Light -Filter cartridge dedusting function (OFF does not deactivate the follow-up cleaning)
Emergency STOP	Electric panel	- Interrupts power supply and filter clean-down function
Pneumatic dust container contact	Dust container	- Interrupts power supply and filter cleaning

2.5 Air requirement / Nozzle combinations

See yellow cover.

2.6 Energy consumption

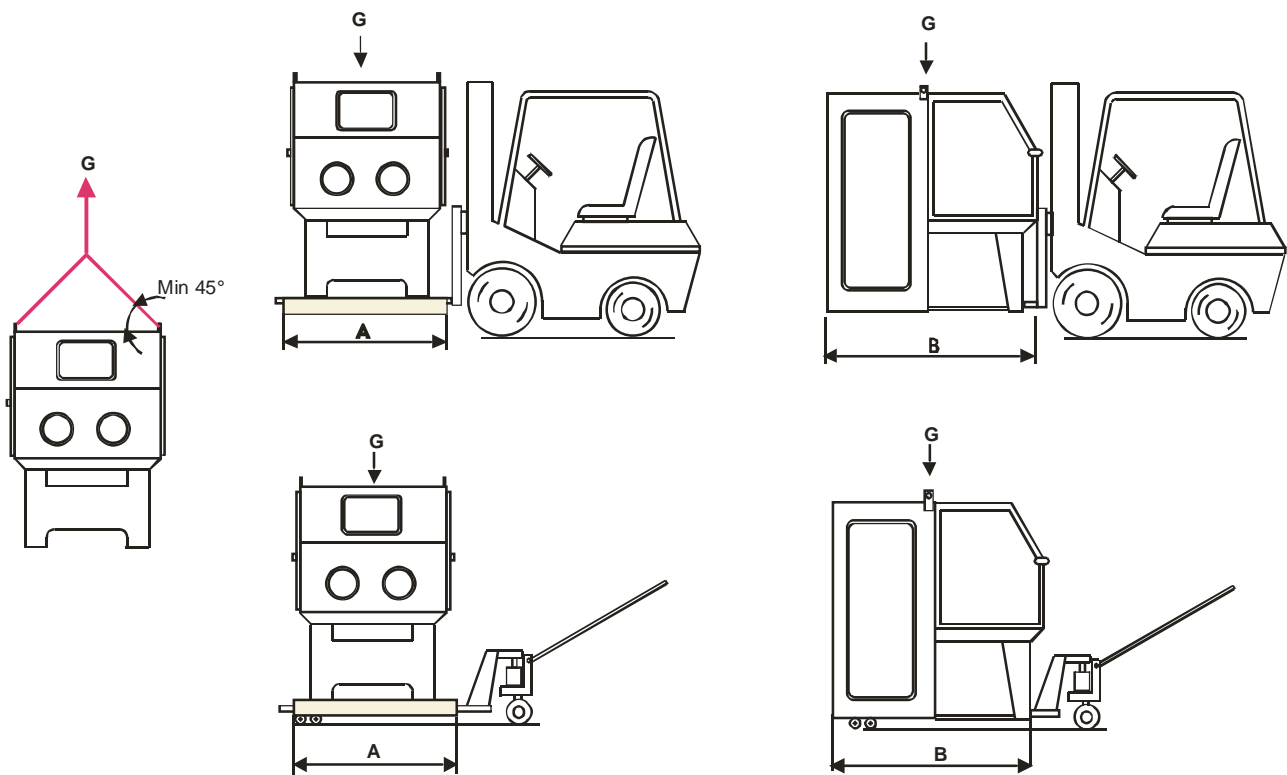
- Compressed air consumption: see yellow cover
- Electrical connection: see identification plate on machine

2.7 Emissions

See yellow cover.

3 Set-up for initial installation

3.1 Transport / Handling of cargo



	G(N)	A (mm)	B(mm)
Pulsar III injection	3600	1100	1700
Pulsar VI injection	4000	1450	1900
Pulsar VIII injection	4200	1450	2200

3.2 Unpacking and disposing the packing material

- Pallet: wooden pallets – no special measures required
- Plastic film: plastic waste

3.3 Requirements for installing a cabinet

3.3.1 Basic requirements

See yellow cover.

3.3.2 Space required

Dimensions (± 10 mm)	Type				
	Pulsar III	Pulsar VI	Pulsar VI+	Pulsar VIII	Pulsar VIII+
a	2010	2090	2090	2090	2090
c	1640	1855	1970	2115	2230
d during working	2490	2705	2820	2965	3080
d during repairs	3040	3255	3370	3515	3630
e	2200	2570	2570	2570	2570
f	3050	3520	3520	3520	3520

Table 1: Dimensions

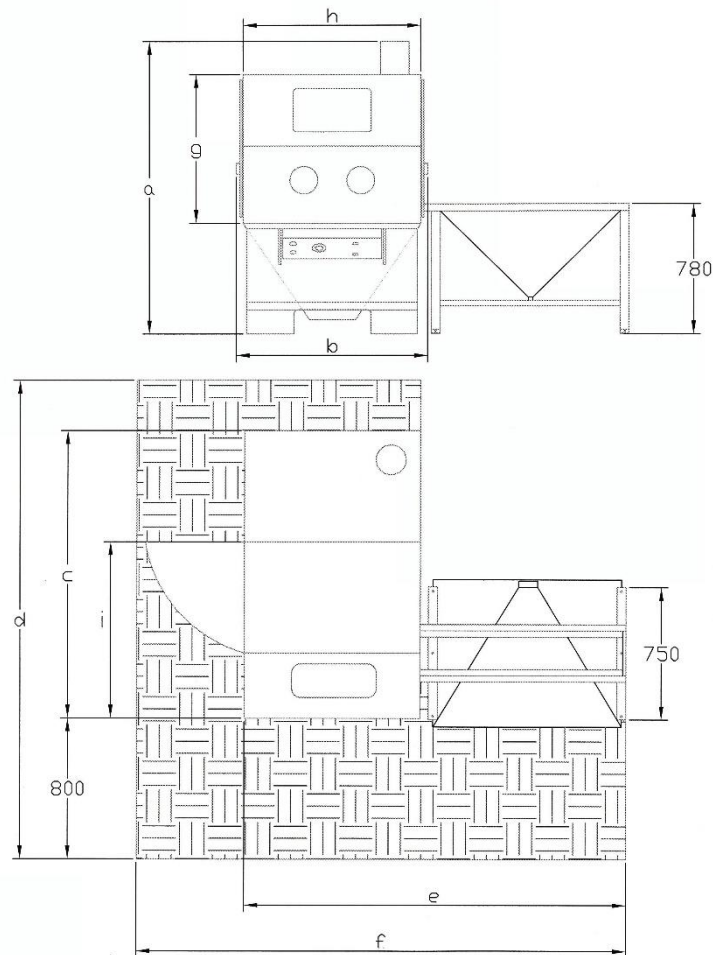












Figure 2: Required space for cabinet

3.4 Installation, assembly and function test

Cabinet set up.	<ul style="list-style-type: none"> - Requirements: see yellow cover - Anchoring to the floor: not required
	
Compressed air supply	<p>If pressure is >7 bar, install an additional pressure regulator and safety valve between the cabinet and compressed air supply.</p> <p>Connect air line between supply and cabinet.</p> <ul style="list-style-type: none"> - Min. internal diameter: 19mm; max. length: 10m
Filter cartridge cleaning	Adjust pressure regulator to 5 bar for cleaning
	
	
	
Electrical connection and grounding	<ul style="list-style-type: none"> -- 16A Europlug connection - Ground cabinet <ul style="list-style-type: none"> - min. 10 mm² - Earthing screw provided, but earthing cable (etc.) not included - Special nut on filter door to ensure proper grounding
Function test without media	<p>Close the doors.</p> <p>Switch on the electrics (green button). Check the following:</p> <ul style="list-style-type: none"> - Lighting on? - Does the fan motor start? Motor rotating in direction of arrow? If necessary, reverse the polarity. - Cleaning pulse for filter active? (Interval: approx. 40s) - Take the nozzle in your hand and step on the foot pedal. Does the blast process start? - Step on the foot pedal and open the door on the left or right (with assistance from a 2nd person). Does the blast process stop? - Dust container monitoring: Release the dust bucket clamp – Does filter cleaning stop along with the motor in the same way as for an emergency stop? <p>Test cabinet with media, if no irregularities can be detected. Otherwise remedy errors. Therefore see section 6.</p>
Media loading.	<p>Slowly pour blast media into the funnel while the fan is running.</p> <ul style="list-style-type: none"> - Fill quantities for initial filling:


	+ Pulsar III: 5l +Pulsar VI und VIII suction: 10 l	
		Caution! Noise > 80 dB (A) Wear ear protectors!
<i>Function test with media</i>	--Close the doors. -Set blasting pressure. -Grask firmly nozzle and hold it in direction grate. Point the gun towards the perforated plate. Press down the foot pedal → The blast process begins. -Check if dust passes of (with assistance from a 2 nd person) The following points are critical: <ul style="list-style-type: none"> - Doors - Suction hose connections - Connections between dust collector and dust container. You can only tell whether the machine is leak-proof during cleaning down.	

4 Operating instructions


4.1 Set-up and operation, shutdown after finishing work

1	<i>Open air supply</i>	
2	<i>Adjust blasting pressure</i>	
3	<i>Switch on electrics</i>	Press green "ON" button
4	<i>Place parts inside cabinet</i>	Close doors
5	<i>Blasting</i>	Grask firmly blast gun/nozzle and press down foot pedal
6	<i>Removal of dust</i>	From parts with blow-off gun
7	<i>Switch off electrics</i>	Press red "OFF" button Follw-up cleaning continues running for approx. 5min
8	<i>Close air supply</i>	

4.2 Emergency STOP function

<i>Push EMERGENCY STOP button</i>	-Interrupts power supply and filter cleaning function (follow-up cleaning)	
<i>Valve contact on dust container inactive</i>	- Interrupts power supply and filter cleaning function (follow-up cleaning)	
<i>Close the external compressed air supply</i>		Evacuate air via moisture separator adjusting screw.

4.3 Shutdown by longer interruption of work or moving the cabinet

Remove blast media	see 4.4.4.
Disconnect electric	to be completed by an approved specialist only
Close the external compressed air supply	 <p>Evacuate air via moisture separator adjusting screw.</p>

4.4 Special procedures

4.4.1 Adjusting the air- blast media mixture

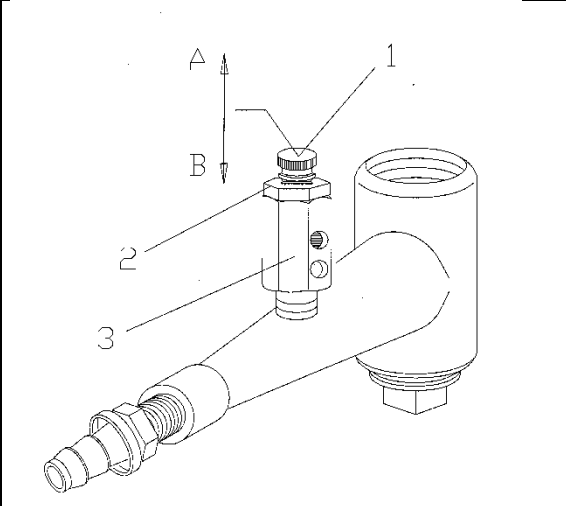
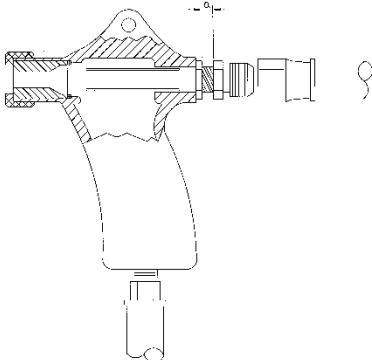
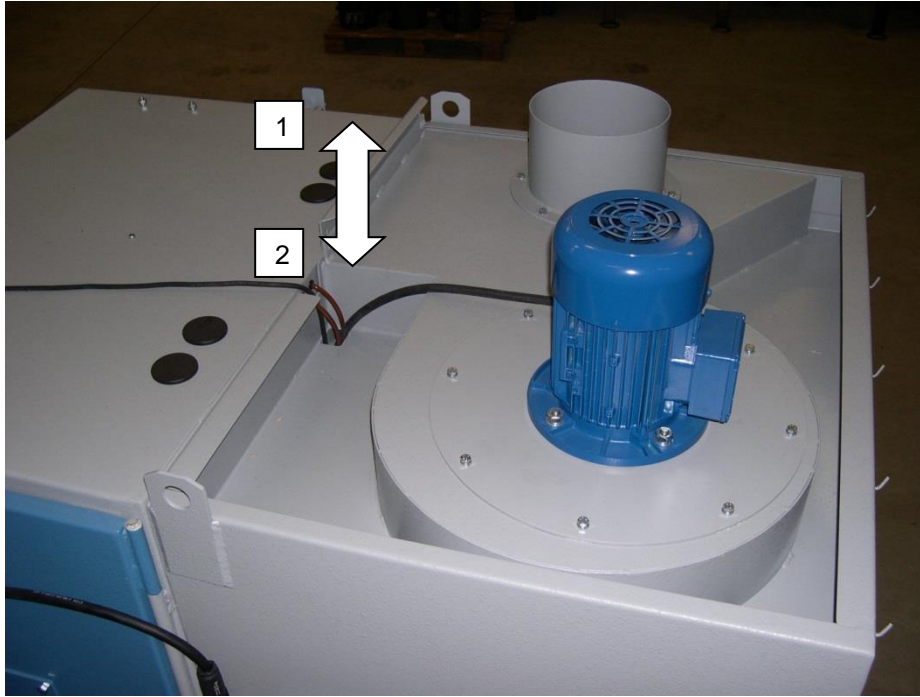
	Pos.No.:	Description
	1	Adjusting screw for ZERO regulating valve
	2	Lock nut for regulating valve
	3	Regulating valve housing
<p>Direction A → less blast media Direction B → more blast media</p>		

Figure 1: Metering valve for setting the air-blast media mixture

4.4.2 Adjusting BNP gun

Pay careful attention to the air/blasting nozzle combination	<ul style="list-style-type: none"> - See "Air consumption" table on yellow cover - Worn out blasting nozzles will interfere with the correct ratio
Screw air nozzle into gun	 <p>Behind the lock nut, you should be able to see 3.5 to 4 full turns of the thread (distance "a")</p>

4.4.3 Visibility and blast media consumption



	Visibility	Blast media separation/consumption
1	Better	Higher
2	Worse	Lower

4.4.4 Adjusting the negative pressure in the system

The negative pressure is controlled by adjusting the throttle flap. This is either located between the cyclone and the filter, or on the clean gas side of the filter.

- Close the flap → to reduce the negative pressure
- Open the flap → to increase the negative pressure

Effect of the negative pressure:

- If the negative pressure is too low, the blast media will become contaminated (higher proportion of dust)
- If the negative pressure is too high, perfectly good grain will be swept away → high level of blast media consumption

Attention! A high level of blast media consumption can also be caused by leaky areas, such as a leaky door seal in the cyclone.

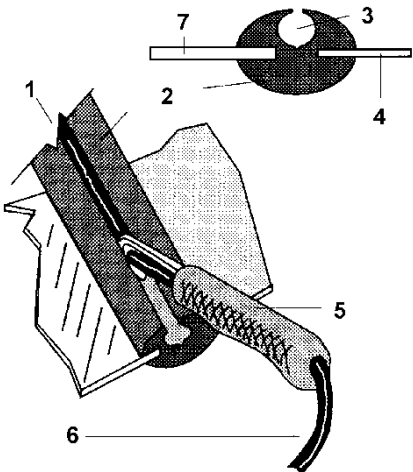
4.4.5 Media unloading

Switch on cabinet	Press green button
Blow out cabinet (with blow-off gun)	- Keep doors closed - With fan running
Remove blast media from cyclone	- Stop fan - Place container under cyclone - Unscrew plastic stopper (with size 22 spanner) - Allow blast media to flow out; tap the cyclone gently with your hand towards the end so that the remainder flows out

4.4.6 Cleaning dust collector / replace cartridge / disposal of residues

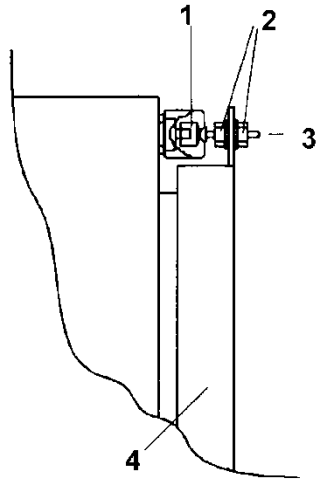
Replace cartridges	<ul style="list-style-type: none"> - Clean the filter cartridges once or twice (pulse) - Switch off cabinet (red button) - Close air supply -depressurize the system - Unscrew dust collector cover - Slide a plastic bag ($\geq 120\text{l}$) over the filter cartridge - Undo nuts on flange and remove cartridge together with the plastic bag - Screw in new cartridge, making sure that seal is seated correctly - Lock filter cover in place
Empty dust container	<ul style="list-style-type: none"> - Loos tightener and empty the container <p>WARNING! If the waste is hazardous to health, dispose of the dust as hazardous waste!</p>

4.4.7 Window replacement

 <p>The diagram shows a cross-section of a window replacement. Part 1 is a filter strip being pulled out. Part 2 is a gasket. Part 3 is a groove for the filler strip. Part 4 is a narrow slot in the cabinet wall. Part 5 is an insertion tool. Part 6 is a filler strip. Part 7 is a window that fits into the expanded slot.</p>	No.:	Description
	1	Filter strip
	2	Gasket
	3	Groove for filler strip
	4	Cabinet wall (narrow slot)
	5	Insertion tool
	6	Filler strip
	7	Window (fits into expanded slot)
Figure 4: Thread filler strip		

<i>Pull filler strip out of window molding</i>	
<i>Remove window</i>	Push it out from the inside
<i>Insert new gasket</i>	Groove facing the front of the cabinet
<i>Insert window</i>	Press into the groove
<i>Pull in filler strip</i>	Use the insertion tool

4.4.8 Adjust door safety interlock



No.:	Description
1	Door safety interlock
2	Nuts for adjusting screw
3	Actuating screw for safety interlock
4	Cabinet door

Figure 5: Door safety interlock connection

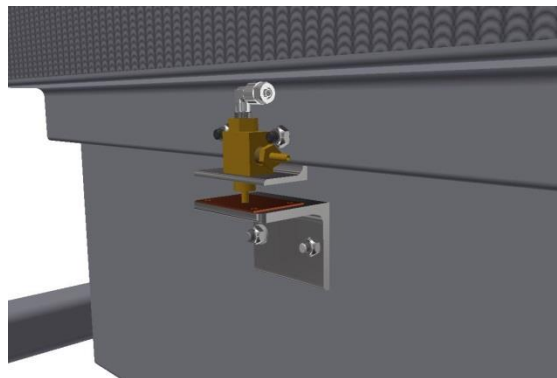
5 Maintenance and cleaning

5.1 Preface

During operation the cabinets are exposed to wear. Regular maintenance is the only way to ensure high levels of safety and efficiency.

		<p>Warning! Risk of injury! Dicharge completely pressure during maintenance jobs.</p>
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5.2 Dust container

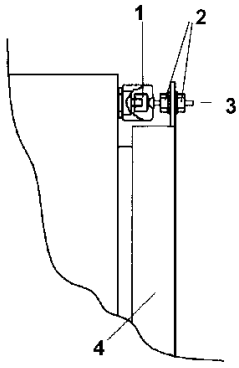


Check	Replace/clean if necessary
<i>Pneumatic dust container contact</i>	- Open fastener - Press pin, which should spring back of its own accord
<i>Empty dust container regularly</i>	- May be necessary after just 1h – but never leave it longer than 4h

5.3 If required

Check	Replace/clean if necessary
View window	- Cover lenses - If necessary window glass – see 4.4.6
Gloves	

5.4 After max. 8 h of blasting

Check	Replace/clean if necessary
<p>Door interlock</p> 	<ul style="list-style-type: none"> - Open doors - Press pin (1). It must return from alone.
Media recovery system (cyclone)	<ul style="list-style-type: none"> - Empty screen → Turn off exhauster. This may be necessary more often. - Clean any residues off the solenoid in the screen - Check that the swirl brake in the screen is seated securely

5.5 After max. 50h of blasting

Check	Replace/clean if necessary
(1) Blast gun and nozzle.	Nozzle gasket
(2) Moisture separator.	Always use a mild detergent for cleaning (e.g. soapsuds)
(3) Air- and blast hoses.	<ul style="list-style-type: none"> - Hose couplings and gaskets - Blast hoses (with a squeeze of the hand)

5.6 After max.150h of blasting

Check	Replace/clean if necessary
(1) Gasket on cabinet doors.	Clean and, if necessary replace
(2) Filter cartridge	- See Section 4.4.5

5.7 After other periods of time

Replace (even without wear)	After max.
Blast hoses	6 years
Remote control hoses	6 years
Air hoses-external air supply	6 years
O-rings	5 years
Gaskets	5 years

6 Troubleshooting

Symptom	Possible cause	Remedy
(1) Cabinet not working	Dust container not fixed in position	Check fixing
	Valve on dust container is defective or has not been adjusted correctly	Check and replace if necessary
(2) Poor visibility	Fan motor not working	
	Damper slided in wrong position	See 4.4.3
	Filter cartridge dirty	Blow off filter cartridge Replace it (see 4.4.5)
	Fan motor rotating backwards	Get an approved specialist to reverse the polarity
	Blast media breaks down rapidly and develops dust	- Reduce blast pressure - Use another type of blast media
	Hose between cabinet and cyclone is blocked	Check the hose and, if necessary, detach it. Remove the dust and blast media. Blockage is not the real cause.
	Air leakage in the suction cycle	Check the following components: - Cyclone door is open or leaky - Check the connections of hose for leaks - Check suction hoses for wear - Check if dust container is sealed proper
(3) Abnormally high blast media consumption	Cyclone door is open or leaky	Replace gasket
	Blast media is too fine or too light	Install and adjust a supplementary Vortex tube
	Negative pressure too high	See 4.4.3
(4) Poor cleaning rate	Insufficient blast media in circuit	Check and refill if necessary
	Media metering set incorrectly	Readjust metering (see 4.4.1)
	Air pressure too low	- Check that the external compressed air supply is OK. - If the pressure decreases during blasting, check the following parts for soiling, defects or wear: + moisture separator + pressure regulator + connection lines
	Suction hose or gun/nozzle blocked	- Push nozzle against a flexible object (e.g. rubber pad) and press down foot pedal - Detach and clean hose or gun - Search for cause of blockage: ⇒ Missing or overfilled screen in the cyclone ⇒ Incorrectly adjusted metering valve ⇒ too heavy blast media
	Worn blast gun parts	- Blast nozzle - Air nozzle

	Wet blast media	<ul style="list-style-type: none"> - Frequent bridging or blockage in the media metering valve is a sign that the blast media is wet. Possible causes: ⇒ blast media was filled moist → remove it ⇒ air supply contains humid air → interconnect a dehumidifier ⇒ condensate caused by big temperature differences → Make sure, that there is not too much temperature fluctuation
	BNP-gun not adjusted correctly	Readjust gun – see 4.4.2
	Worn blast hose	
(5) <i>Dust escaping from blower</i>	Dust filter gasket defective	- Replace gasket – see 4.4.5
	Defective cartridge	- Replace cartridge – see 4.4.5
(6) <i>Electrostatic shocks</i>		<ul style="list-style-type: none"> - Check cabinet grounding; if necessary, make improvements to the grounding - In exceptional cases, use supplementary ground wire between blast gun and cabinet wall
(7) <i>No air or blast media comes out of the gun</i>	Door interlocks are not actuated	Readjust pin or door fixing – see 4.4.7
	Moisture separator dirty (blocked)	Clean moisture separator
(8) <i>Air comes out of the gun but no blast media</i>	No blast media left in the circuit	Refill
	Pneumatic hoses not connected pedal correctly to foot → permanent air blow off	Connect properly
	Moist blast media	<ul style="list-style-type: none"> - Remove moist blast media - Remove cause for humid air supply
(9) <i>Blast process is not interrupted when foot pedal is released</i>	Foot pedal valve is blocked	Replace foot pedal valve
(10) <i>Irregular flow or too much blast media comes out the nozzle</i>	Media metering has been set incorrectly	Readjust (see 4.4.1)
	Air nozzle has been screwed too deep into gun	See 4.4.2

7 Admitted modifications for users

Only with the authorization of the producer; otherwise, the equipment will lose warranty and CE conformity.

8 Replacement parts

8.1 Piping and pneumatic connections

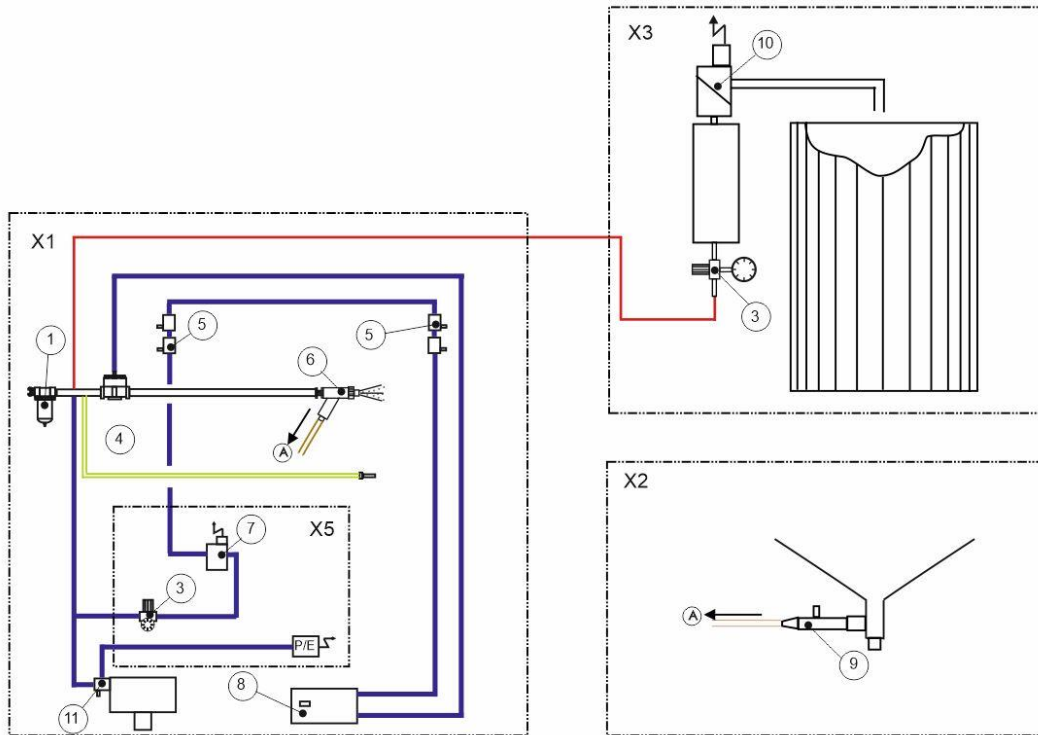


Figure 6: Pneumatic plan

Pos. No	Description	Pulsar III	Pulsar VI and VI +	Pulsar VIII and VIII+
1 + 4	Filter and regulator unit assy ZERO	12763Z	12763Z	12763Z
3	Pressure regulator 1/4" (pilot controller) Pressure gauge (front installation)	100061 11831Z	100061 11831Z	100061 11831Z
5 + 11	Pneumatic 3/2 ways valve (door interlock)	12202Z	12202Z	12202Z
none	Sleeve for door locking valve	15042Z	15042Z	15042Z
6	BNP-gun, blast- and air hoses	See Section 8.4		
7	Solenoid valve 1/8"	100741	100741	100741
8	Foot pedal Pulsar	06266Z	06266Z	06266Z
9	Media metering valve	See Section 8.6		
10	Pulsar diaphragm valve ASCO (dedusting)	90804Z	90804Z	90804Z
none	Air hose 1/8" (sold per metre)	12475Z	12475Z	12475Z

8.2 Cabinet assembly

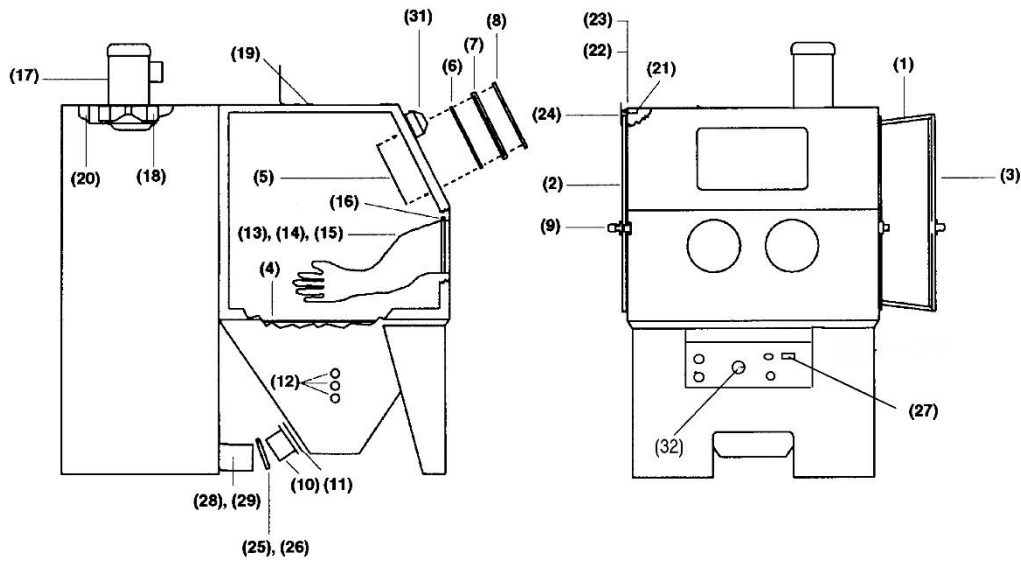


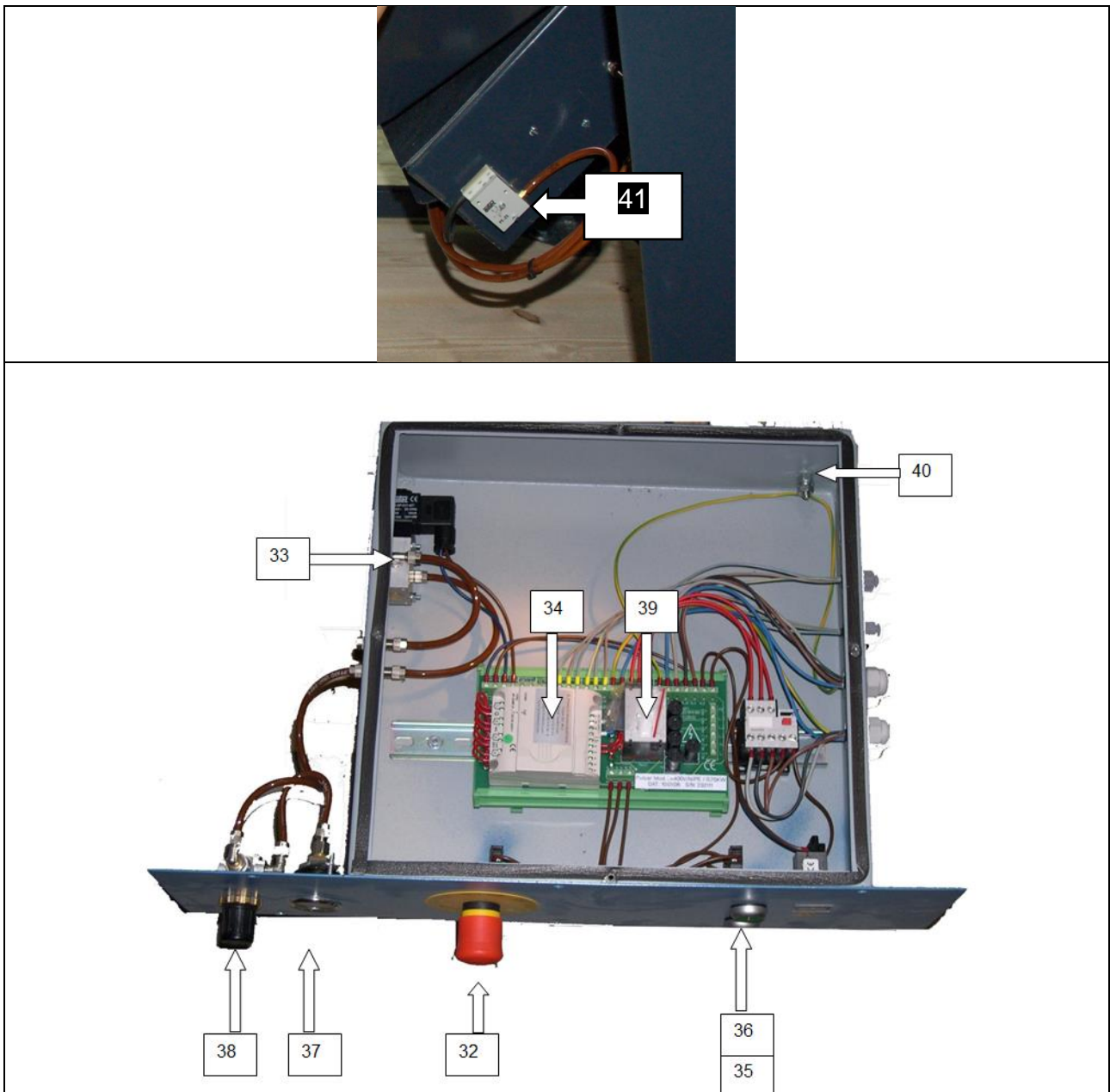
Figure 11: Single components cabinet

Pos. No.:	Description	Pulsar III	Pulsar VI and VI +	Pulsar VIII and VIII+
(1)	Door gasket (sold per m)	12434Z	12434Z	12434Z
(2)	Left door complete (blue)	100326	100328	100328
(3)	Right door complete (blue)	100327	100329	100329
(4)	Grate	11811Z	11810Z	ohne
(5)	Mylar lens cabinet (contains 5 pcs.)	06190Z	06190Z	06190Z
(6)	Window glass - small (security glass)	12212Z	12212Z	12212Z
(7)	Gasket-small window (pcs.)	12435Z	12435Z	12435Z
(8)	Filler strip small window (pcs.)	12436Z	12436Z	12436Z
(9)	Cabinet door latch, complete	99585Z	99585Z	99585Z
(10)	Adapter Ø 100 mm / 4"	12376Z	-	-
	Adaptor Ø 125 mm / 5"	-	12377Z	12377Z
(11)	Gasket Ø 100 mm / 4" for adapter	11776Z	-	-
	Gasket Ø 125 mm / 5" for adapter	-	11777Z	11777Z
(12)	Grommet for air hose	11798Z	11798Z	11798Z
(13)	Rubber gloves-pair	99159Z	99159Z	99159Z
(14)	Rubber glove-left hand	12710Z	12710Z	12710Z
(15)	Rubber glove-right hand	12711Z	12711Z	12711Z
(16)	Clamp (for gloves)	11576Z	11576Z	11576Z
(17)	E-Motor,230/415V, 0,75KW,B5,2800rpm	19026Z	19026Z	19026Z
(18)	Paddle	19235Z	19235Z	19235Z
(19)	Grommet (for hose 6mm)	12762Z	12762Z	12762Z

(21)	Pneumatic valve safety door	12202Z	12202Z	12202Z
(23)	Bushing safety door valve	15042Z	15042Z	15042Z
(26)	Clamp f. Ø 100 mm / 4"	90241Z	-	-
	Clamp f. Ø 125 mm / 5"		90260Z	90260Z
(29)	Suction hose PU Ø 100 mm / 4" per m	12447Z	-	-
	Suction hose PU Ø 125 mm / 5" per m	-	12449Z	12449Z
(31)	Lamp complete	19574Z	19574Z	19574Z
(-)	Fluorescent tube holder	11843Z	11843Z	11843Z
(-)	Fluorescent tubes	11872Z	11872Z	11872Z

8.3 Electric panel

Wiring diagram (see appendix)



Pos. No.:	Description	Pulsar III	Pulsar VI and VI +	Pulsar VIII and VIII+
(32)	Emergency STOP button	100742	100742	100742
(33)	Solenoid valve 1/8"	100741	100741	100741
(34)	Module - Pulsar	100735	100735	100735
(35)	Green button	100736	100736	100736
(36)	Red button	100737	100737	100737
(37)	Pressure gauge	11831Z	11831Z	11831Z
(38)	Pressure regulator	100061	100061	100061
(39)	Fuses F1 to F5 (sold individually)	100743	100743	100743
(40)	Earth screw M8	100732	100732	100732
(41)	Signal converter- pneumatic-electric (pressure control device)	100835	100835	100835

8.4 Suction guns and support

8.4.1 BNP gun

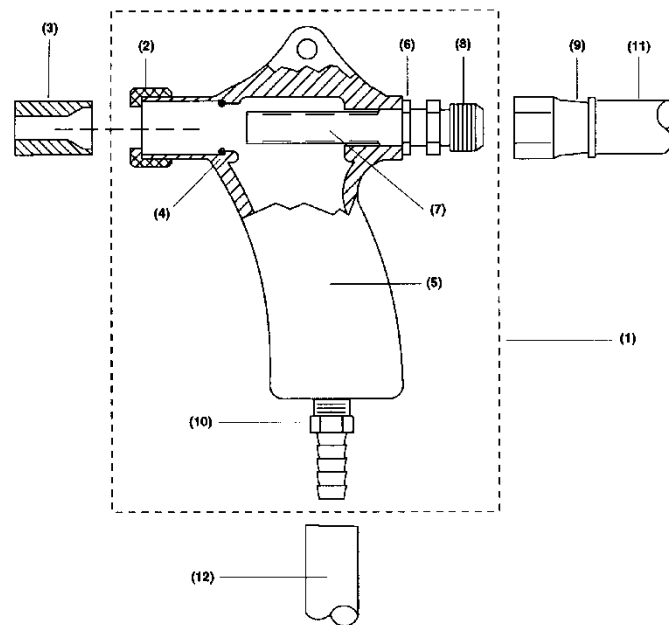


Figure 8: Spare parts BNP gun

Pos.	Description	Part no.:
	Suction gun with 6 mm Boron Carbide nozzle	100766
	Suction gun with 8 mm Boron Carbide nozzle	100534
	Suction gun with 9.5 mm Boron Carbide nozzle	100908
	Suction gun with 8 mm Boron Carbide nozzle-flat jet	100703
	Gun complete with boron carbide nozzle 9.5 mm (wide nozzle)	11934Z

(2)	Nut for short nozzles (brass)	11914Z
(2)	Nut for long nozzles (brass)	11916Z
(2)	Nut for short nozzles (stainless steel)	24229Z
(2)	Nut for long nozzles (stainless steel)	100704
(3)	Boron carbide nozzle No. 4 (6 mm) straight	99643Z
(3)	Boron carbide nozzle No 5 (8 mm) straight	11935Z
(3)	Boron carbide nozzle No 6 (9.5 mm) straight	11936Z
(3)	Boron carbide nozzle No 7 (11.0 mm) straight	11937Z
(3)	Angle nozzle 6", 8 mm option	12374Z
(3)	Angle nozzle 9", 8 mm option	12373Z
(3)	Nozzle (long) 3", 8 mm option	11921Z
(3)	Nozzle (long) 3", 9.5 mm option	11922Z
(3)	Nozzle (long) 3", 11 mm option	11923Z
(3)	Nozzle (long) 6", 8 mm option	11927Z
(3)	Nozzle (long) 6", 9.5 mm option	11928Z
(3)	Nozzle (long) 6", 11 mm option	11929Z
(3)	Nozzle (long) 9", 8 mm option	11924Z
(3)	Nozzle (long) 9", 9.5 mm option	11925Z
(3)	Nozzle (long) 9", 11 mm option	11926Z
(4)	O-ring	12031Z
(5)	Gun housing	11802Z
(6)	Nut	11918Z
(7)	Rubber bushing	12097Z
(8)	Orifice no.: 4 (3.2 mm) for blast nozzle 6 mm	12342Z
	Orifice no.: 5 (4.0 mm) for blast nozzle 8 mm	12343Z
	Orifice no.: 6 (4.8 mm) for blast nozzle 9,5 mm	12344Z
	Orifice no.: 7 (5.6 mm) for blast nozzle 11 mm	12345Z
	Orifice no.: 8 for blast nozzle 11 mm (special case)	12346Z
(9)	Union 0219-030	11723Z
(10)	Fitting 3/8" 0219-034 (brass)	11724Z
(10)	Fitting autom. gun (stainless steel)	100756
(11)	Air hose 1/2" per m	12472Z
(12)	Blast hose PU 1/2" per m	12476Z
	Clamp collar for long nozzles	

*with thread for fixing on rack ; O= without ; M=centric ; R= right; L=left

8.4.2 Automatic-gun

Available only with support (see 8.5.2)

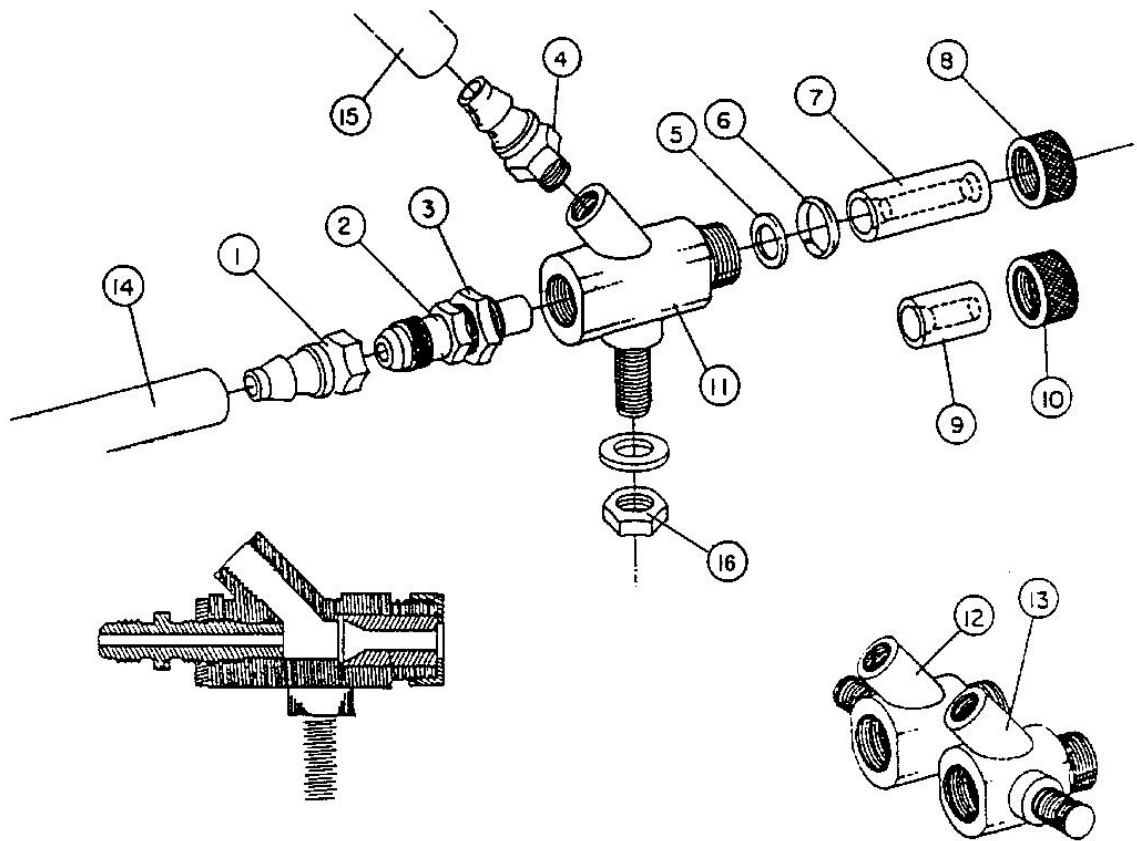


Figure 13: Automatic gun

Pos.	Description	Option Automatic gun
	Autom. gun assy with 6 mm nozzle	90807Z M*
	Autom. gun assy with 8 mm nozzle	100099 M*
	Autom. gun assy with 9.5 mm nozzle	-
	Autom. gun assy with 9.5 mm nozzle	99551Z L*
	Autom. gun assy with 9.5 mm nozzle	99552Z M*
	Autom. gun assy with 9.5 mm nozzle	99553Z R*
(2)	Nut for short nozzles (brass)	11914Z
(2)	Nut for long nozzles (brass)	11916Z
(2)	Nut for short nozzles (stainless steel)	24229Z
(2)	Nut for long nozzles (stainless steel)	100704
(3)	Nozzle no. 4 (6 mm) straight (boron carbide)	99643Z
(3)	Nozzle no. 5 (8 mm) straight (boron carbide)	11935Z
(3)	Nozzle no. (9.5 mm) straight (boron carbide)	11936Z
(3)	Nozzle no. 7 (11.0 mm) straight (boron carbide)	11937Z
(3)	Angle nozzle 6", 8 mm Option	12374Z

(3)	Angle nozzle 9", 8 mm Option	12373Z
(3)	Angle nozzle 3", 8 mm Option	11921Z
(3)	Angle nozzle 3", 9.5 mm Option	11922Z
(3)	Angle nozzle 3", 11 mm Option	11923Z
(3)	Angle nozzle 6", 8 mm Option	11927Z
(3)	Angle nozzle 6", 9.5 mm Option	11928Z
(3)	Long nozzle 6", 11 mm Option	11929Z
(3)	Angle nozzle", 8 mm Option	11924Z
(3)	Angle nozzle", 9.5 mm Option	11925Z
(3)	Angle nozzle 9", 11 mm Option	11926Z
(4)	O-ring	12031Z
(5)	Gun housing	11844Z O* 12276Z M* 12275Z L* 12277Z R*
(6)	Adjustment nut for orifice	11918Z
(7)	Rubber bushing	Ohne
(8)	Orifice no. 4 (3.2 mm) for blast nozzle 6 mm	11959Z
	Orifice no. 5 (4.0 mm) for blast nozzle 8 mm	11960Z
	Orifice no. 6 (4.8 mm) for blast nozzle 9,5 mm	11961Z
	Orifice no. 7 (5.6 mm) for blast nozzle 11 mm	11962Z
	Orifice no. 8 for blast nozzle 11 mm (special case)	11963Z
(9)	Union 0219-030	11723Z
(10)	Fitting 3/8" 0219-034 (brass)	11724Z
(10)	Fitting autom. gun (stainless steel)	100756
(11)	Air hose 1/2" per m	12472Z
(12)	Blast hose PU 1/2" per m	12476Z
	Clamp collar for long nozzles	12038Z

*with thread for fixing on rack; O= without; M=centric; R= right; L=left

8.4.3 Adjusting the air-blast media mixture

(1) Use the correct air nozzle/blast nozzle combination	<ul style="list-style-type: none"> – See Section 2.5 – table – Worn out blast nozzles will interfere with the correct ratio
(2) Screw air nozzle into gun See Figure	<p>5,5 to 6 turns</p> <p>Behind the lock nut, you should be able to see 3,5 to 4 full turns of the thread.</p>
(3) Adjust metering valve	See Figure 15

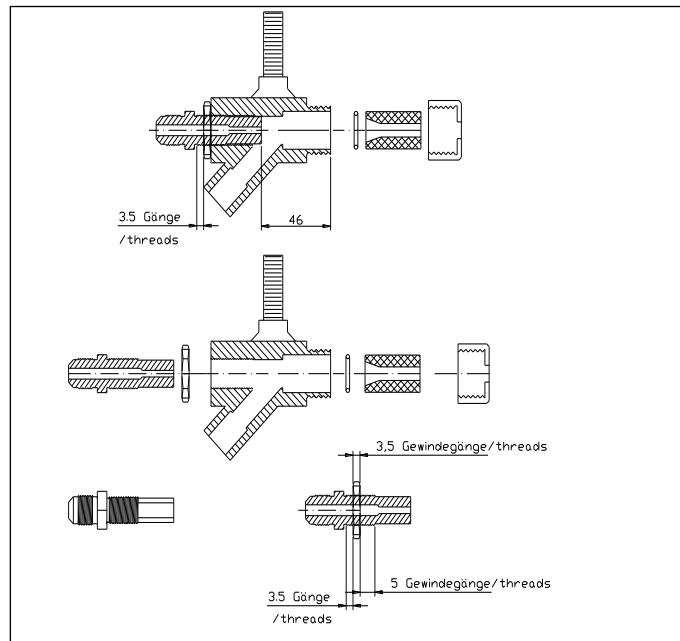


Figure 8a: Adjusting the air nozzle on the automatic gun

8.4.4 Nozzle holder /Option

Pos.	Description	for BNP-gun	For autom. gun
	Nozzle holder base frame	100559	100559
	Clamp ZERO 12 mm	99868Z	99868Z
	Nozzle holder	100569	ohne

8.5 Cyclone

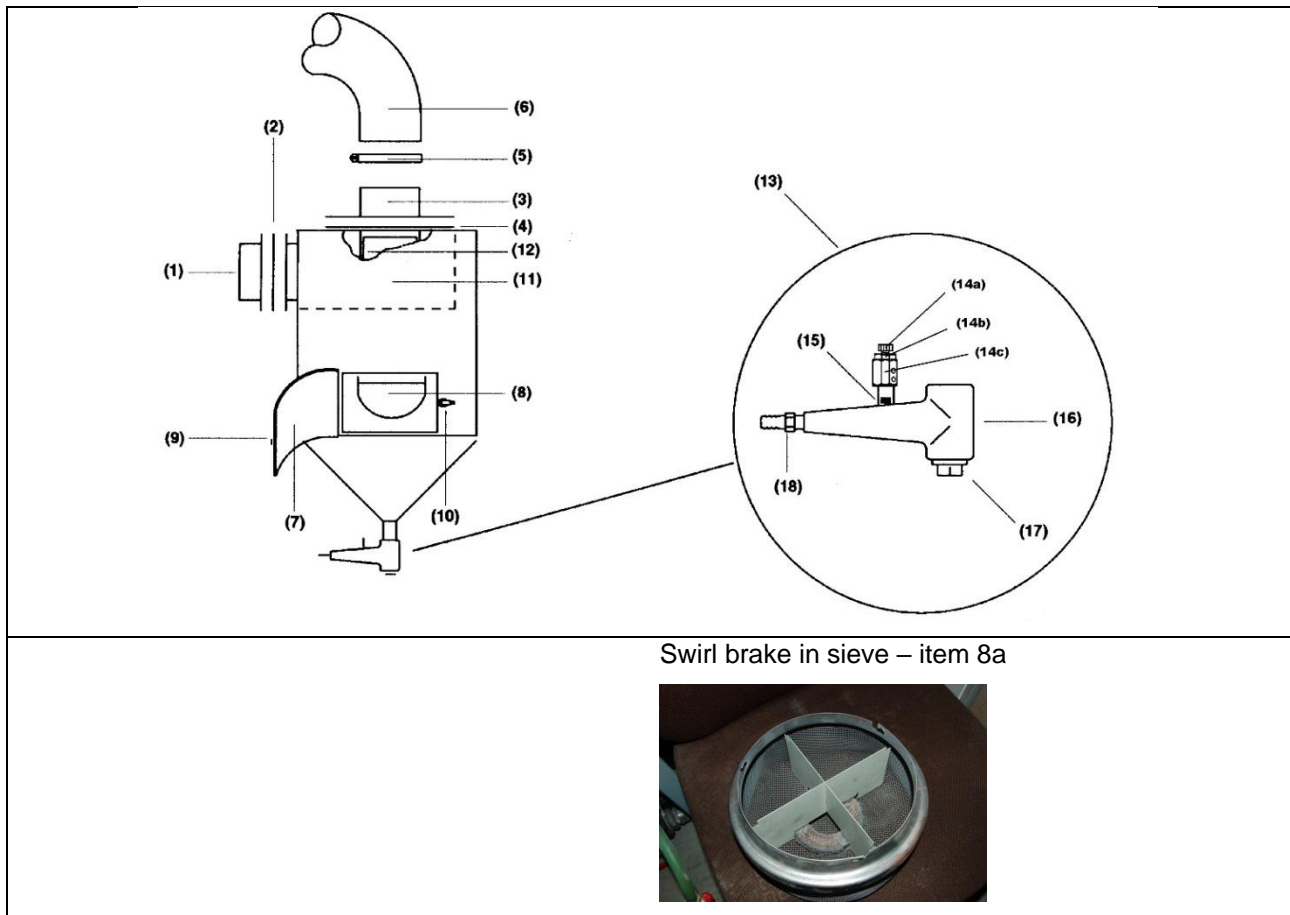


Figure 14: Single components cyclone

Pos.	Description	Pulsar III	Pulsar VI & VI+	Pulsar VIII & VIII +
(-)	Cyclone Pulsar suction	20340Z	100989	100989
(1)	Adaptor Ø 100 mm / 4" cyclone inlet	12365Z	-	-
	Adaptor Ø 125 mm / 5" cyclone outlet		12361Z	12361Z
(2)	Gasket for Ø 100 mm / 4" adapter	11746Z		
	Gasket for Ø 125 mm / 5" adapter		11779Z	11779Z
(3)	Adapter Ø 150 mm / 6" cyclone outlet	20343Z	20343Z	20343Z
(4)	Gasket for outlet adapter pro m	99751Z	99751Z	99751Z
(5)	Clamp for Ø 150 mm / 6"	90261Z		
(6)	Suction hose Ø 125 mm / 5"	12449Z		
	Suction hose Ø 150 mm / 6"		12452Z	12452Z
(7)	Gasket 0235 0113 cyclone door	11745Z	11745Z	11745Z
(8)	Screen new reclaimer	21265Z	21265Z	21265Z
(8a)	Swirl brake	None (on request)	None (on request)	None (on request)
(9)	Door	14271Z	14271Z	14271Z
(10)	Hook Assy 0654-0006	12263Z	12263Z	12263Z

(11)	Rubber lined plate	11984Z	11985Z	11985Z
(13)	Metering valve Assy	12417Z	12417Z	12417Z
	Metering valve for Sputnik	See Section 8.6		
(14a)	Screw adjusting ZERO	100790	100790	100790
(14b)	Nut adjusting stem lock	100791	100791	100791
(14c)	Stem metering adjusting	100789	100789	100789
(15)	Nipple	12148Z	12148Z	12418Z
(16)	Housing	11532Z	11532Z	11532Z
(17)	Pipe plug 1" NPT 0371-006	12011Z	12011Z	12011Z
Option	Sputnik	Not possible	12322Z ^{*1)}	12322Z ^{*1)}

*1) Only Pulsar VI + and VIII +

8.6 Metering valve for Sputnik

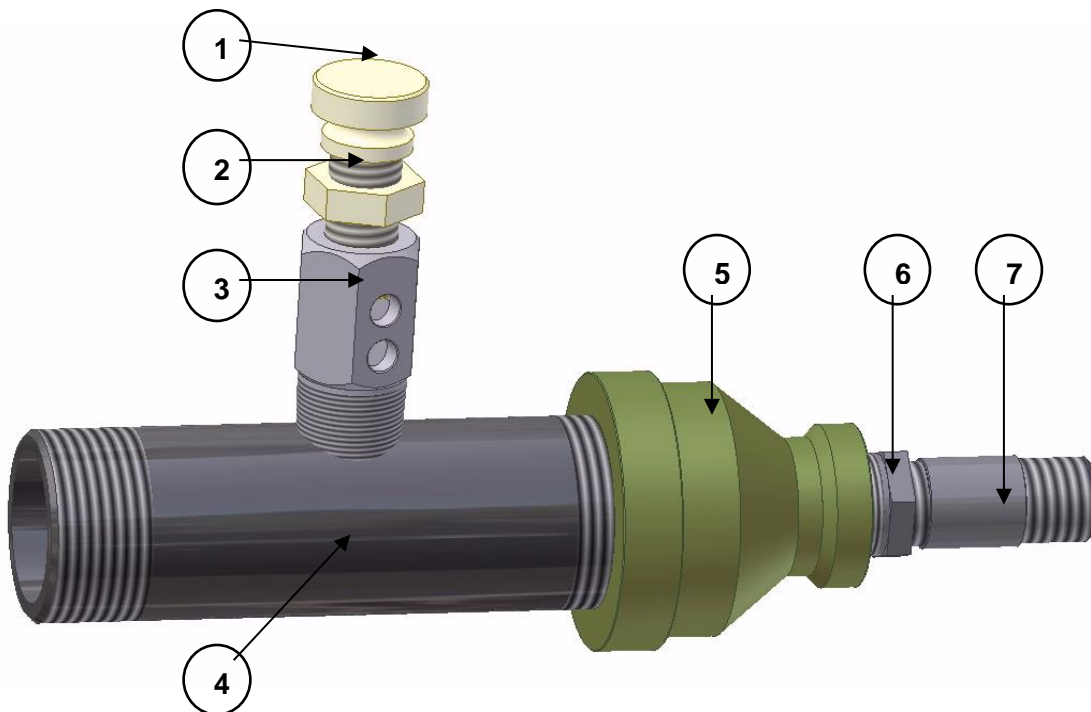
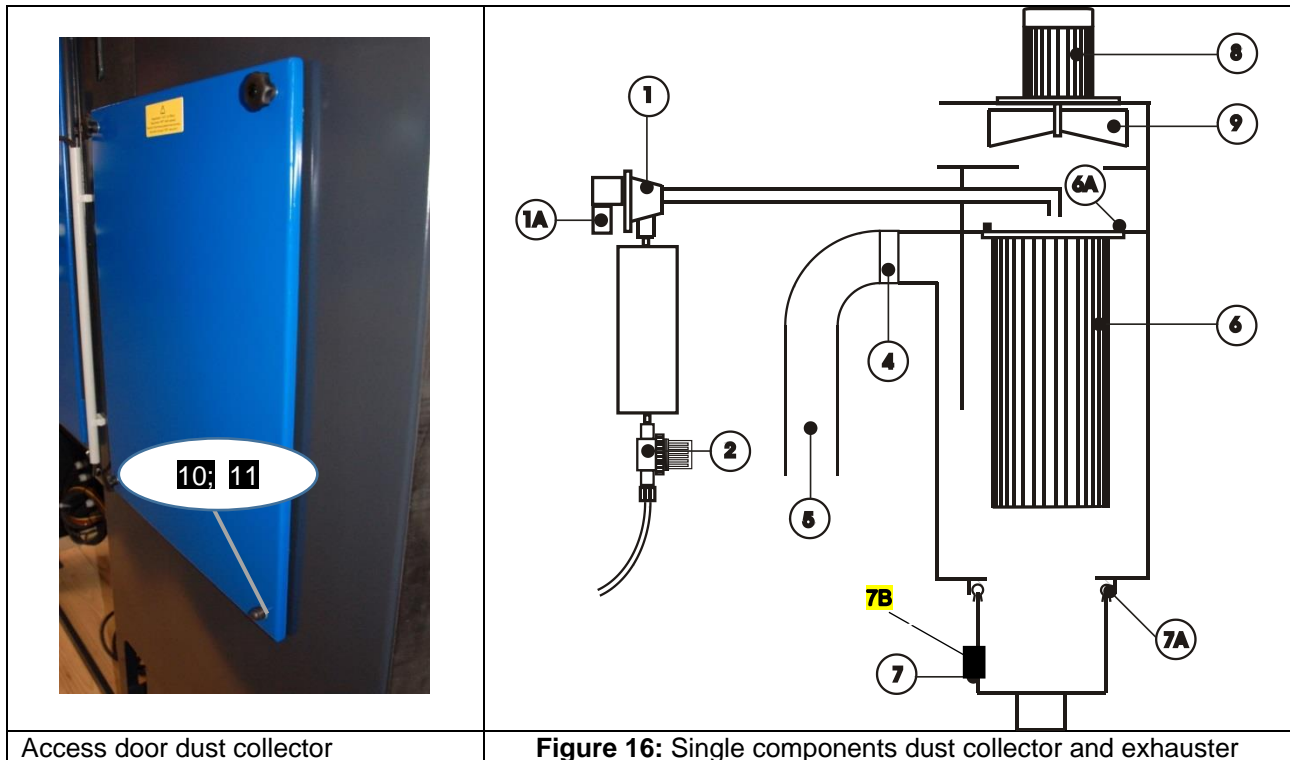


Figure 15: Metering valve for Sputnik

Pos.-no.:	Part no.	Description
1	100790	Screw adjusting
2	100791	Nut, adjusting stem lock
3	100789	Stem, metering adjusting
4	11534Z	Body, metering valve
5	12024Z	Bell reducer
6	12818Z	Pipe bushing
7	11912Z	Pipe nipple
1-7	12420Z	Complete assembly

8.7 Dust collector and exhauster



Access door dust collector

Figure 16: Single components dust collector and exhauster

Pos.	Description	Pulsar III	Pulsar VI a. VI+	Pulsar VIII a. VIII+
(1)	Valve ASCO Pulsar		90804Z	*1)
(1A)	E-Magnetic 220V		100039	
(2)	Regulator (pilot) 1/4" with gauge		100061	
(4)	Clamp for Ø 150 mm / 6"		90761Z	
	Clamp for Ø 125 mm / 5"		90260Z	
	Clamp for Ø 100 mm		90241Z	
(5)	Suction hose Ø 150 mm / 6" per m		12452Z	
	Suction hose Ø 100 mm / 4" per m		12477Z	
(6)	Filter cartridge		100537	
(6A)	Screw per pcs. M10 x 45		99081D	
(7)	Dust container	*1)	*1)	*1)
(7A)	Gasket dust container		100832 → 2 m	
(7B)	Pneumatic dust container contact (3/2 directional control valve, pneumatic)		12202Z	
(8)	Motor		19026Z	
(9)	Paddle		19235Z	
(10)	M8 earthing nut with shim		27241Z	
(11)	M8 protective cap for earthing nut		90831Z	

*1) no part no. available

8.8 Control box – for 3 x 400 V, 0.75 kW

Wiring diagram: see attachment

8.9 Options

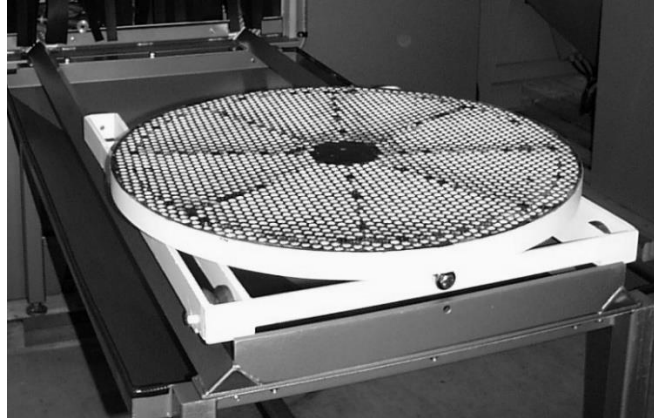


Figure 17: Track assembly: truck, hopper, work car with turntable

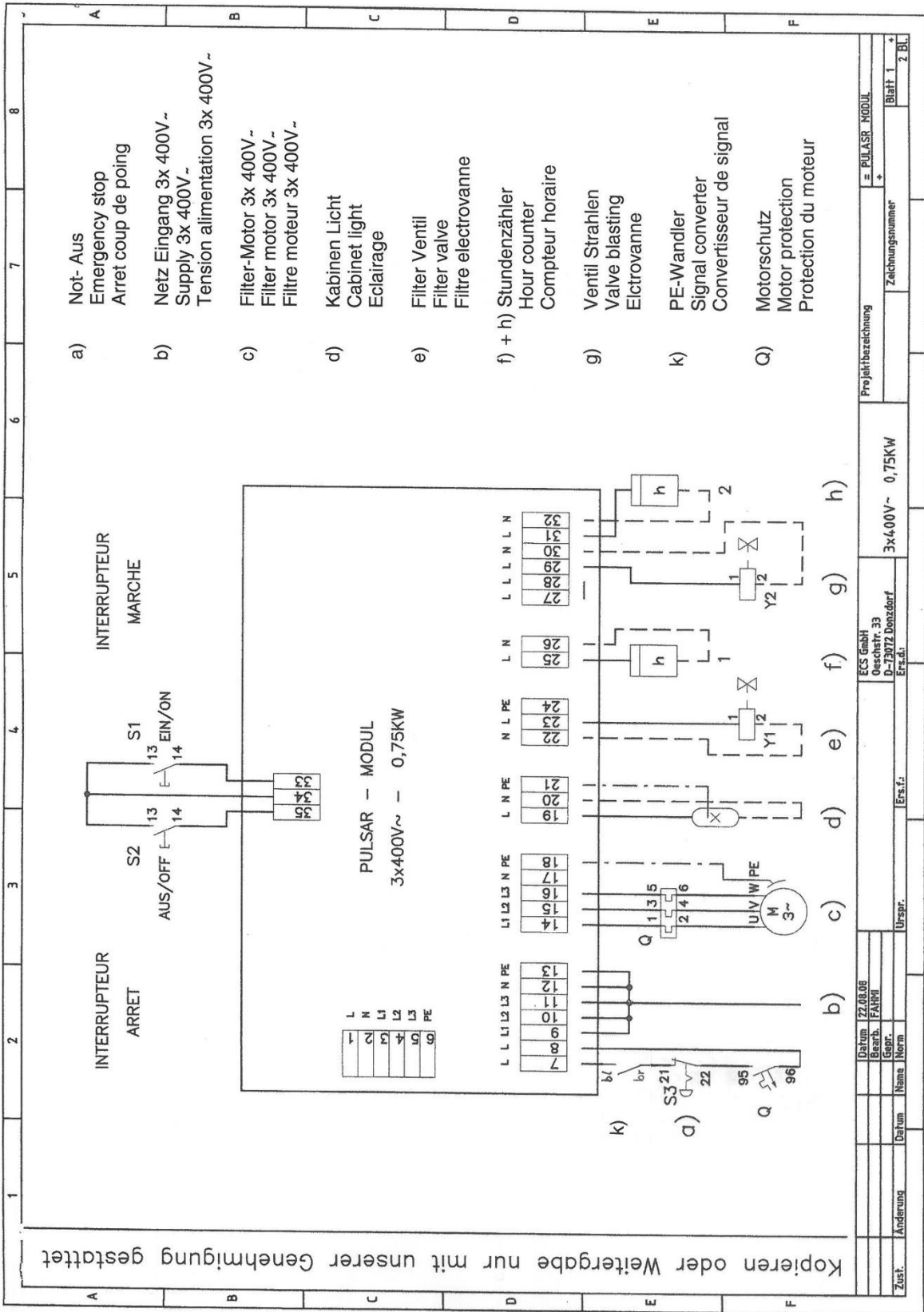
Pos	Description	Pulsar III	Pulsar VI and VI+	Pulsar VIII and VIII+	Re-fitting requirements
(-)	Turntable, truck, hopper + work car	13530Z	12835Z	12835Z	Opening for rails
(-)	turntable Ø 760 mm only	90881Z	90881Z	90881Z	
(-)	wheel for work car without bearing	90987Z	90987Z	90987Z	
(-)	Stationary turntable Ø 760 mm complete	99840Z	99840Z	99840Z	None
(-)	Gate 300 x 300 mm (per pcs.)	100282	100282	100282	Openings in door
(-)	Gate 400 x 400 mm (per pcs.)	*1)	100283	100283	Openings in door
(-)	Port 300 x 300 mm including mounting	90681Z	90681Z	90681Z	Openings in door
(-)	Port 400 x 400 mm including mounting	*1)	100302	100302	Openings in door
(-)	Tumble 4.5 l complete with E-motor 230V (door mounting possible)	100549	100549	100549	Openings in door Setting electrical connections
	Tumble 30 l complete with E-Motor 230V (door mounting possible)	Not recommended	100548	100548	Openings in door Setting electrical connections
(-)	Tool for window installation	12176Z	12176Z	12176Z	

*1) not possible

8.9.1 Further options

	Re-fittings possible by customer?
Reinforcements for loadings till 5000 N	Conditional
Reinforcements for loadings till 20000 N	No
Oscillator horizontal, vertical	No
Rubber coating	Yes
Grounding the nozzle	Yes

9 Attachment: Wiring diagram



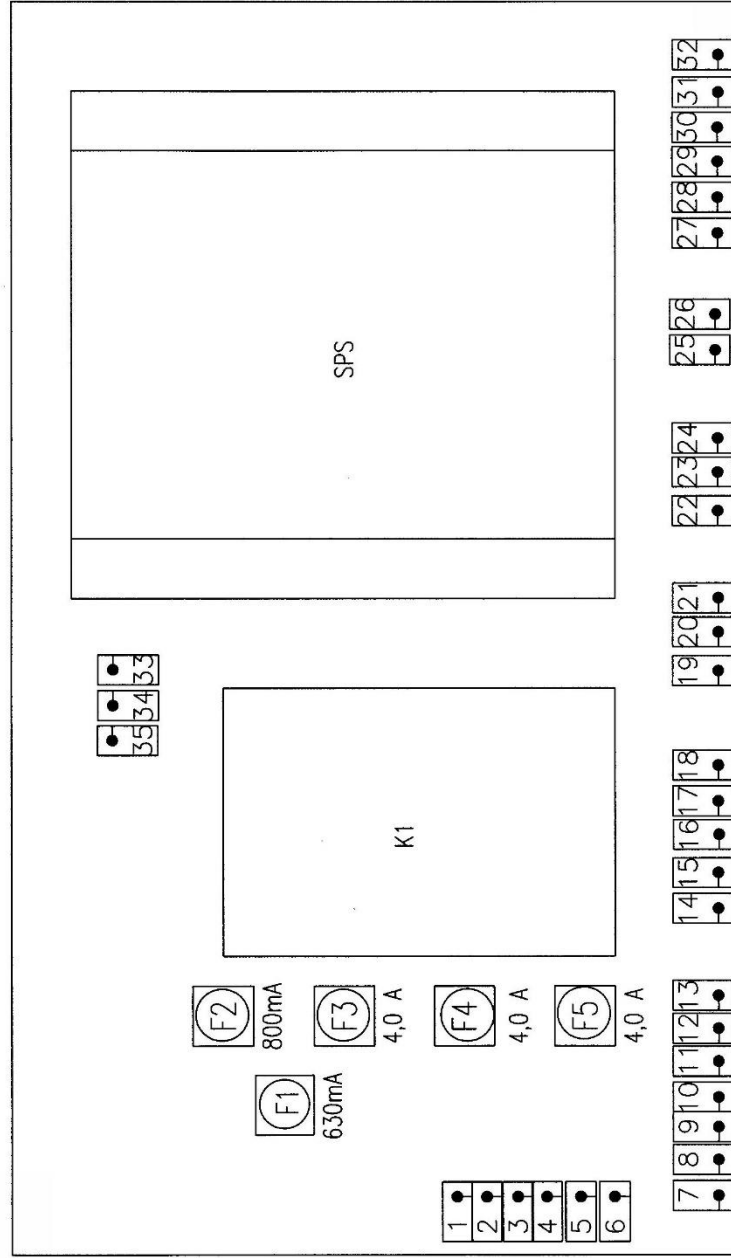
- a) Not- Aus
Emergency stop
Arret coup de poing
- b) Netz Eingang 3x 400V ~
Supply 3x 400V ~
Tension alimentation 3x 400V ~
- c) Filter-Motor 3x 400V ~
Filter motor 3x 400V ~
Filtre moteur 3x 400V ~
- d) Kabinen Licht
Cabinet light
Eclairage
- e) Filter Ventil
Filter valve
Filtre electrovanne
- f) + h) Stundenzähler
Hour counter
Compteur horaire
- g) Ventil Strahlen
Valve blasting
Electrovanne
- k) PE-Wandler
Signal converter
Convertisseur de signal
- Q) Motorschutz
Motor protection
Protection du moteur

Datum 22.08.08		ECS GmbH		Projektbezeichnung = PULSAR - MODUL	
Bearb. FAH/II		Geschr. 33		Blatt 1	
Gepr.		D-73072 Donzdorf		Blatt 2	
Name		Erstf.		Zeichnungsnummer	
Datum		Urspr.		3x400V~ 0,75KW	

1 2 3 4 5 6 7 8 9 10 11

WERKSEINSTELLUNG FÜR FILTERVENTIL: KLEMME 22-24

- PAUSE - 40 sec
- PULS - 0.5 sec



- F3-F5 Motor Sicherung
- F3-F5 Fuses For The Motor
- F3-F5 Fusibles Pour Le Moteur
- F2 Beleuchtung
- F2 Light
- F2 Eclairage
- F1 Steuerisierung
- F1 Control Fuse
- F1 Fusible de Commande

Kopieren oder Weitergabe nur mit unserer Genehmigung gestattet

gez.	Datum	Name	Projektbez.	
gepr.	08.05.06	K.Morina	Modul-Pulsar Standard	TAUFKIRCHEN
		Clemco International	Auftragsnr. Zeichnungsnr.	
		3x 400V 0,75KW		Blatt 2
				2
				B.