NORBLAST

3D9B

Manual sandblasting/shot-peening machine

USE, MAINTENANCE AND SPARE PARTS MANUAL

SHOT-PEENING / SANDBLASTING MACHINES MANUFACTURING
via Carpigiani, 7 • z.i. Roveri • 40138 BOLOGNA - ITALY
tel.: +39 051/531037 (4 lines a.s.) • fax +39 051/530133
e-mail: norblast@norblast.it • web site: www.norblast.it

3D9B - 2020

Thanks for choosing a NORBLAST shot-peening/sandblasting machine. We congratulate on your purchase.

Remember to strictly follow the instructions provided in this "USER'S MANUAL AND SPARE PART LIST". Becoming fully familiar with the information provided in this manual is a prerequisite for proper installation, operation and maintenance of the machine.

Read this "MANUAL" in all its parts carefully before installing, operating or maintaining the machine.

This manual provides the full information and recommendations concerning the machine, as well as useful tips for optimal operation, that will help you to keep your machine in good condition so as to ensure long-term reliability and efficiency.

Closely follow the maintenance recommendations and operating instructions for proper machine operation in order to ensure long service life and avoid troublesome failures.

When you need to look up the "MANUAL", refer to the TABLE of CONTENTS and locate the SECTION and PARAGRAPH dealing with the topic you are interested in.

This manual forms an integral part of the machine. Preserve it intact and keep it in a safe place over the whole service life of the machine. In case the machine is re-sold, hand the manual over to the new user.

Where dismantling and assembling procedures, special maintenance, repair and installation instructions concerning any accessories, devices or safety items are not discussed in this manual, relevant operations may only be performed by suitably trained engineers or by Norblast authorised technical service staff.

TABLE OF CONTENTS

3D9B

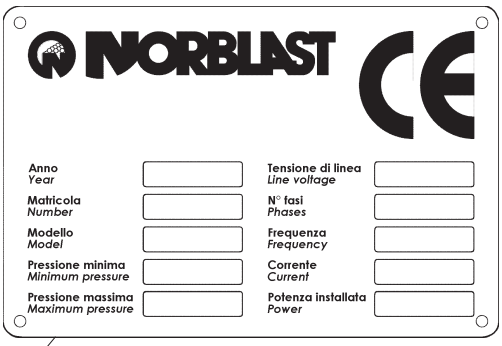
MANUAL SANDBLASTING - SHOT PEENING MACHINE

0.1 PLANT AND MANUFACTURER IDENTIFICATION

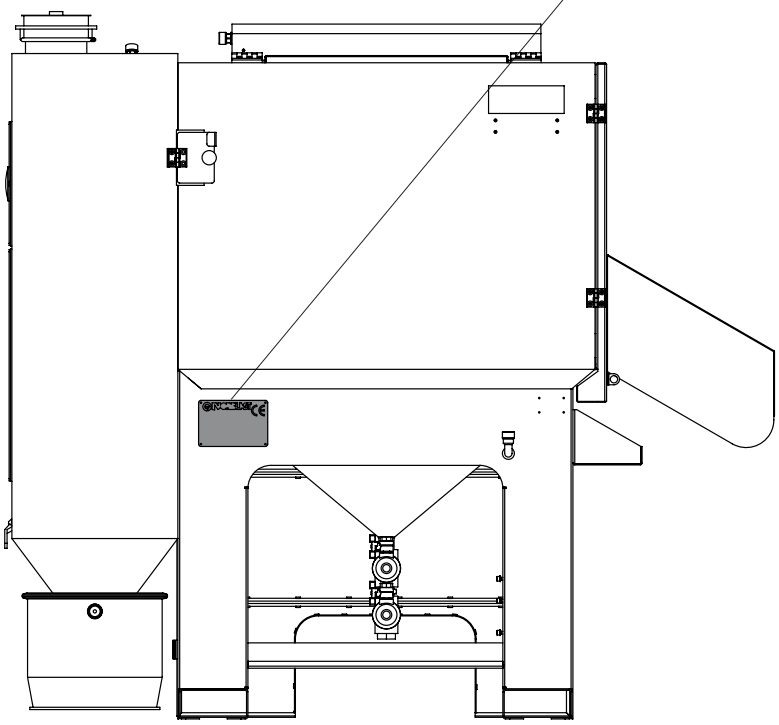
This shot-peening / sandblasting system has been designed and manufactured by NORBLAST. NORBLAST will assist its customers during the whole operating life of the system, also giving detailed information in case this manual is not clear enough. Manufacturer's data are indicated on manual cover page.

In case of problems, when contacting our technical service please always precisely communicate the information included on the machine's identification plate, shown on the side.

MANUFACTURER NORBLAST s.r.l.
REGISTERED – ADMINISTRATION OFFICE Via F.lli Carpigiani, 7 40138 Bologna - Italy
AFTER SALES/SPARE PARTS SERVICE Tel. +39 051.53.10.37
Fax +39 051.53.01.33
CONTACTS E-mail: norblast@norblast.it
http://www.norblast.it



EC PLATE



0.2 SYMBOLS USED

Warning:
The presence of this symbol may indicate:
mechanical servicing to be carried out for system proper operation;
- **general danger** for the operator and the system.

Warning:
The presence of this symbol may indicate:
- **electric** servicing to be carried out for system proper operation;
- **general electric danger** for the operator and the system.

This type of intervention must be carried out by qualified and duly trained operators.

Waste disposal:
The machine must be disposed of at suitable collection centres according to the safety standards in force.

0.3 ARRANGEMENTS TO BE MADE BY THE CUSTOMER

It is up to the customer to do what follows according to the time agreed with the manufacturer:
- arrange the premises, including possible masonry works and/or required canalisation;
- power on the machine in compliance with the safety standards in the country of use;
- pneumatically power on the machine in compliance with the safety standards in the country of use.

0.4 WARRANTY CONDITIONS

- The electric system must be connected by qualified personnel, complying with the prevailing standards
- The warranty is effective if the machine is correctly used and maintained as specified in the manual.

For any need regarding use, maintenance, general information or request of spare parts, the Customer is to apply directly to Norblast Srl.

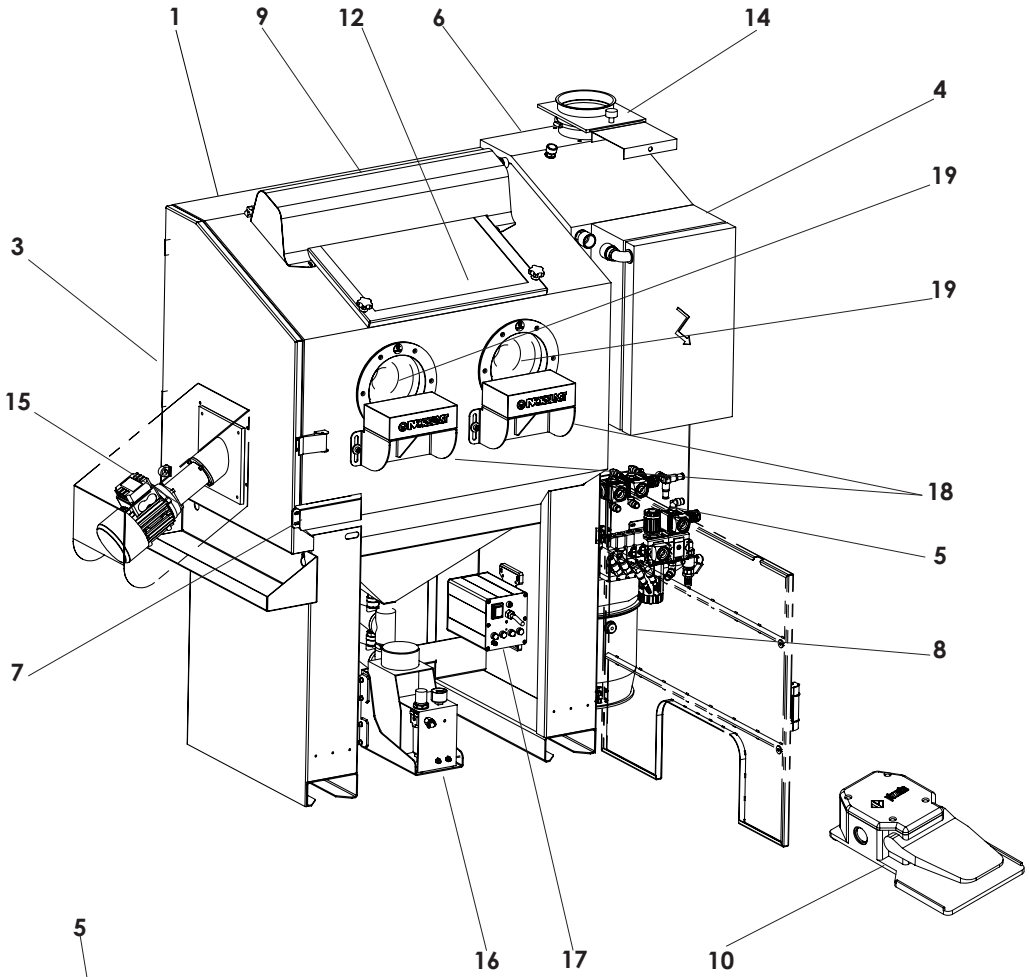
Norblast recommends using original spare parts.

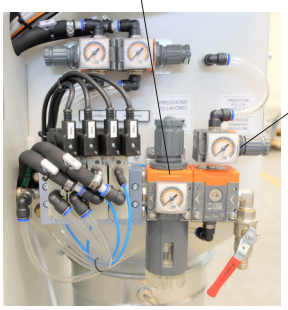
3D9B

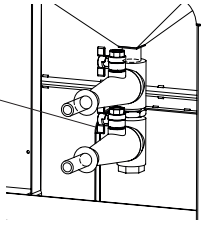
MANUAL SANDBLASTING - SHOT PEENING MACHINE

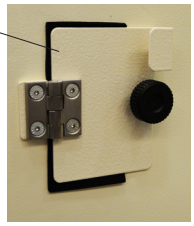
1.1 LIST OF MAIN UNITS

1 Working cabin
2 Rear cleaning door
3 Side door
4 Power control unit
5 Pneumatic system
6 Filtering cabinet
7 Door microswitch
8 Dust collection container
9 Cabin lighting lamp
10 Blasting device control pedal
11 Lug unit
12 Cabin sight glass
13 Filter cartridge cleaning pressure regulator
14 Filtering cabinet shutter
15 Tumbler (optional)
16 MICROBLAST sandblasting device (OPTIONAL)
17 Air blowing ionisation device (OPTIONAL)
18 Work station elbow support (OPTIONAL)
19 Gloves









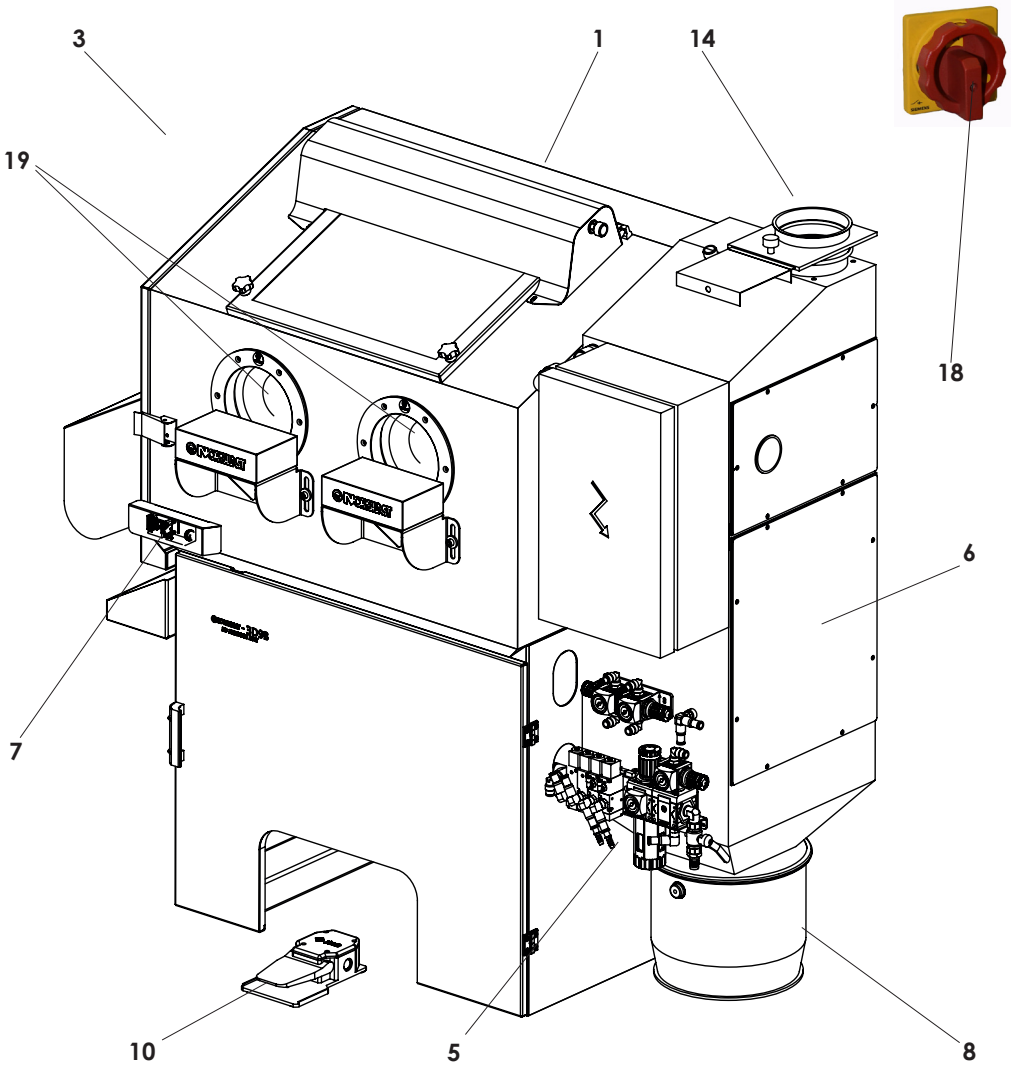
1.2 GENERAL DESCRIPTION

The shot-peening/sandblasting system consists of one working cabin **(1)** and one air filtering system **(6)**.

The working cabin fits one side access-door **(3)** for loading/unloading operations of the workpieces, and for the use of the rotary table (optional).
The door is sectioned by an electric safety microswitch **(7)** that stops the blasting job and blocks the pulse of the cleaning solenoid valve from the filtering cartridge in case the door is opened.
The front work station has a two-layer safety window in hardened glass and two flanges on which the gloves **(19)** are placed.
On the front side of the cabin is the machine power main switch **(18)** with the pneumatic unit under it **(5).**
The system features the grit direct recovery function. Press the control pedal **(10)** to switch the work valve that controls grit ejection from shot-peening gun nozzle.
The ejected grit rests on the bottom of the cabin and is ready to be shot again.
The exhauster inside the filtering system takes up the crushed grit that will be deposited inside the collection container **(8)**.

The filtering system **(6)** is of the type with cartridge with an automatic air blow contrary to the normal flow.

The contaminated air enters the lower part of the filtering cabinet **(6)** and exits filtered from the upper inlet **(14)**.



1.3 INTENDED USE

The system was designed and realised to carry out the manual shot-peening of workpieces that are not sharp or blunt and not flammable or explosive inside the working cabin.
These pieces must be free from liquid and/or oil polluting material.
Only qualified and duly trained staff is allowed to use the machine. Any use other than the described one and/or not authorised by the manufacturer is forbidden. This system is intended to operate indoor, in areas having favourable working conditions for the operator. It can not be installed in fire and/or explosion risk environments. The system cannot treat explosive and/or flammable components. Residues of specific processes must not be explosive and/or flammable.
We recommend installing this system in premises having a relative humidity under 80%. A high humidity rate might cause troubles as grit will stick.
Compressed air must be dry and oil-free.
As some grit might fall down onto the floor during grit loading/unloading, the floor should be of the corrugated type, otherwise position an anti-skid platform. Operators must wear anti-skid shoes.

1.4 WASTE DISPOSAL

The waste produced during the working cycle of the system should be disposed of in compliance with the prevailing rules of the country of use.
A dedicated analysis for each specific work is required.

1.5 NOISE LEVEL

The noise level of the system does not exceed the values of Leq < 80 dBA, Lpk < 135 dBC under standard working conditions. Depending on the processed workpiece, the noise level of the system could exceed the limit set by the prevailing rules. Should this be the case, all operators must be given suitable soundproof headsets.

1.6 ELECTROSTATIC CHARGES

During the processing, electrostatic charges can be generated.
This is due to the normal grit sliding.
To avoid possible discharges that could interfere with the operator job, we recommend to carry out the processing with the workpieces to be treated in contact with the metallic elements of the system including the rotary table, the grit surface and any required support.
The metal elements of the system are adequately connected to the electric circuit grounded by Norblast.

All the possible workpiece carriers must be grounded as well.
We recommend avoiding placing insulating materials between the workpieces and the metallic elements.

The use of the manual workstation is forbidden to people with peacemakers or similar appliances.

1.7 EMISSION INTO THE ATMOSPHERE

According to process in use, the user shall ensure that all prevailing rules concerning environment protection, health and safety of the workplace are complied with, in particular the local standards in force about emissions into the atmosphere.

1.8 RESIDUAL RISKS

During intended use, the work is carried out inside the cabin; it is necessary to pay particular attention to possible microball and/or machining dust, which can cause the risk of slipping. Therefore, it is advised to keep the area surrounding the system clean and clear, and if necessary use an anti-skid platform and wear anti-skid shoes.

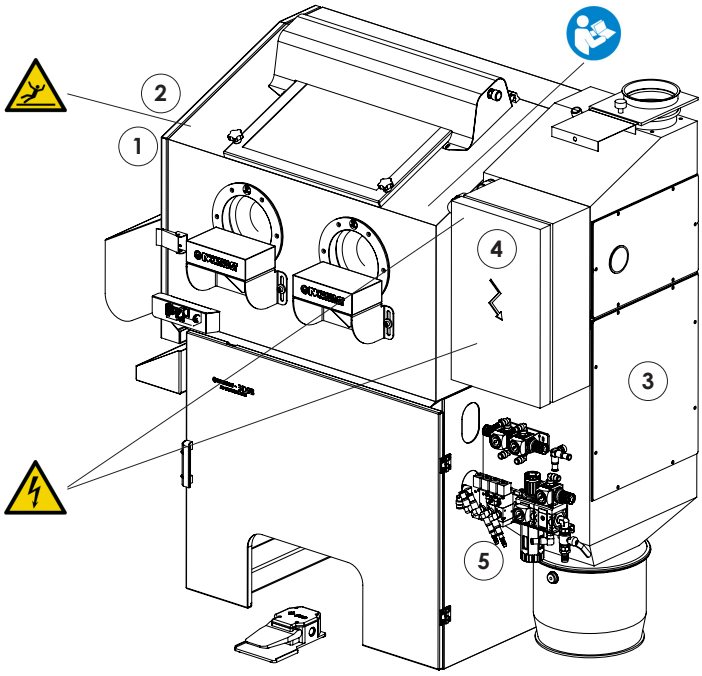
During routine maintenance please be careful of the risks posed by the opening of the power control unit.

RECOMMENDED PERSONAL PROTECTION EQUIPMENT

Standard operation
- safety shoes of the S1P type

Routine maintenance, grit refill and replacement
- safety shoes of the S1P type
- dust face mask with FFP2 filter
- general gloves against mechanical risks
- general goggles against mechanical risks

ID	POSITION	RESIDUAL RISK	PICTOGRAM	
1	WORKPIECE LOADING/ UNLOADING	CONTROL/ACCESS WORKSTATIONS SLIPPAGE		DANGER OF SLIPPERY SURFACES
				REFER TO THE INSTRUCTIONS MANUAL
2	MANUAL GRIT REFILL	SLIPPAGE AND DUST		DANGER OF SLIPPERY SURFACES
3	FILTERING CARTRIDGE REPLACEMENT AREA			
4	ELECTRIC CABINETS	LIVE PARTS		ELECTRIC DANGER
5	PNEUMATIC UNITS	PRESSURISED SYSTEM		



1.9 DE-COMMISSIONING

In compliance with the prevailing standards and in order to reduce the environmental impact, it is forbidden to dispose of the machine as municipal waste.
The machine must be disposed of at suitable selective waste collection centres, or returned to the distributor upon the purchase of a new machine.
Unauthorised and improper disposal of the machine and its components is subjected to a penalty, in compliance with the prevailing standards.

2.1 GENERAL SAFETY WARNINGS

On machine arrival, check for possible damage with the forwarder and inform the supervisor of all possible irregularities. In case of damage, immediately call NORBLAST technical service department.
Only qualified and duly trained operators wearing suitable personal protective equipment are allowed to handle the machine and its parts, either packed or unpacked, with suitable handling means. When handling the machine and its parts, ensure that nobody is within the working area of the handling equipment.
Handle with the maximum care, avoid jerks or sudden pulls, and be careful in case of narrow passageways, bumps or gradients.

2.2 PACKING OF THE MACHINE

The system parts can be shipped with the following packing types:

ON PALLET WITH PLASTIC COVER
The system disassembled parts are secured to the pallet by means of straps.

ON PALLET WITH PLASTIC PROTECTION AND CARDBOARD COVER.
In this case straps will be used to secure the disassembled parts to the pallet and to close the package.

2.3 TRANSPORT AND HANDLING OF THE PACKED

Ensure that all handling and transport means used have a capacity suitable for the total weight of the packed machine.

WEIGHT OF THE MACHINE SD9 WITH PACKAGE:	kg 210
WEIGHT OF THE MACHINE SD9B WITH PACKAGE:	kg 225

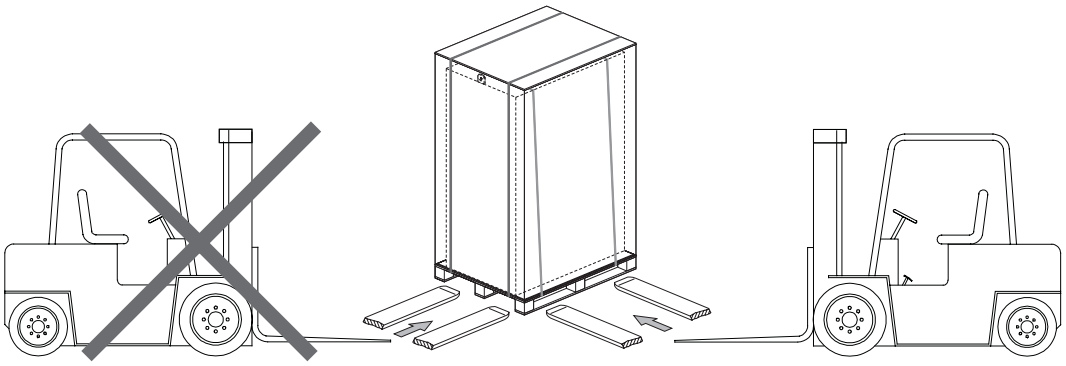
Packed machine must be lifted and handled only by qualified operators. If the load size does not allow full visibility, the operator will need the assistance of a second operator giving signals to him/her.
According to the type of packing proceed as follows:

ON PALLET WITH PLASTIC COVER;
ON PALLET WITH PLASTIC PROTECTION AND CARDBOARD COVER;

Use a forklift, place the forks in a suitable position and pay attention to possible tipping due to uneven weight distribution.

It is recommended to widen the forks as much as possible.

Before proceeding, ensure that there are no people nearby.



2.4 UNPACKING THE MACHINE

Position all packings as close as possible to the installation place.
According to the type of packing proceed as follows:

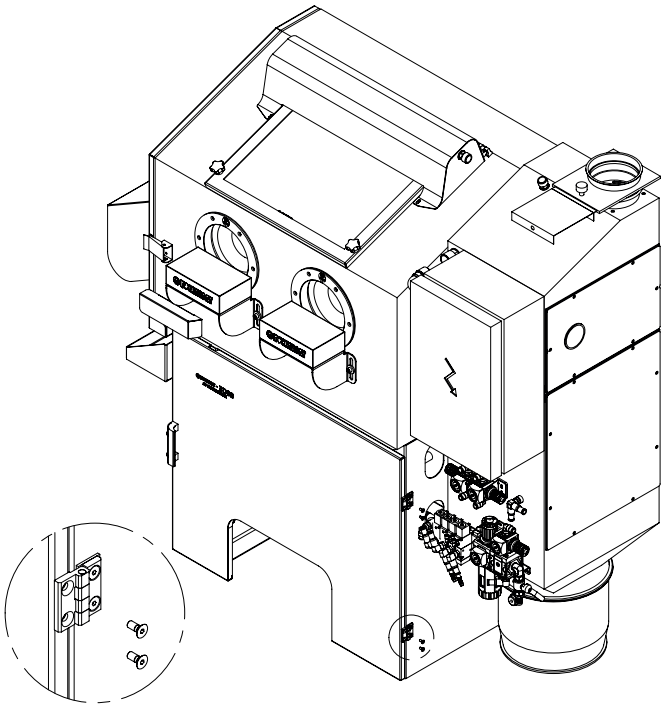
ON PALLET WITH PLASTIC COVER
Remove the material having care, in case you use scissors, cutters or any other similar tool, not to damage the system components.
With a suitable tool, cut the straps securing the parts to the pallet.

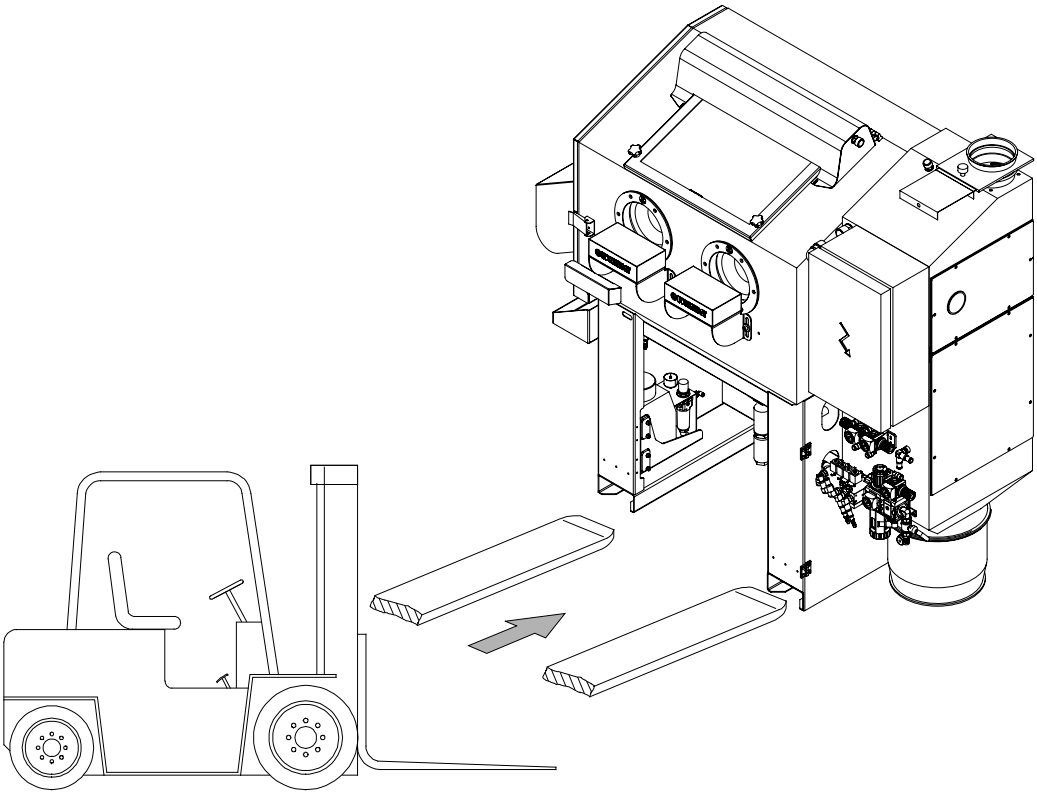
ON PALLET WITH PLASTIC PROTECTION AND CARDBOARD COVER;
With a suitable tool, cut the straps closing the packing.
Remove the material (plastic protection and cardboard cover) having care, in case you use scissors, cutters or any other similar tool, not to damage the system components.
With a suitable tool, cut the straps securing the parts to the platform.

The user must dispose of the packing material in compliance with the prevailing laws of the country of use.

2.5 HANDLING THE UNPACKED MACHINE

Use a forklift with a loading capacity suitable to lift the machine, place the forks in a suitable position and pay attention to possible tipping due to uneven weight distribution.
Before using the forklift truck, the lower door must be removed from the two fixing hinges by removing the four retaining screws so as to get free access to the cabin area.

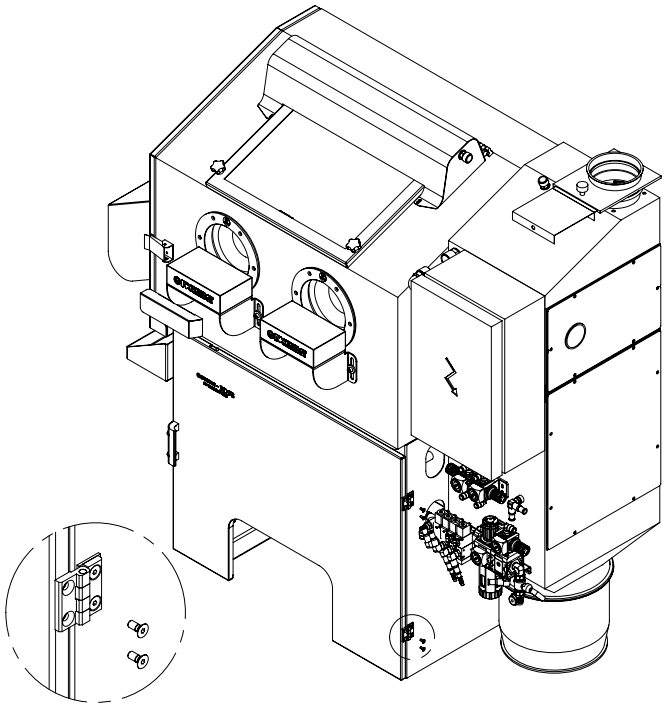




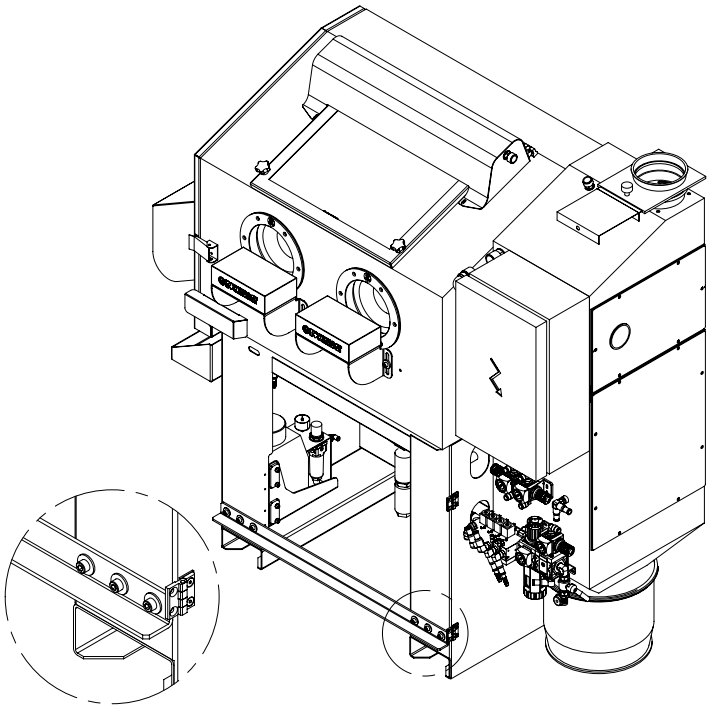
3D9B

MANUAL SANDBLASTING - SHOT PEENING MACHINE

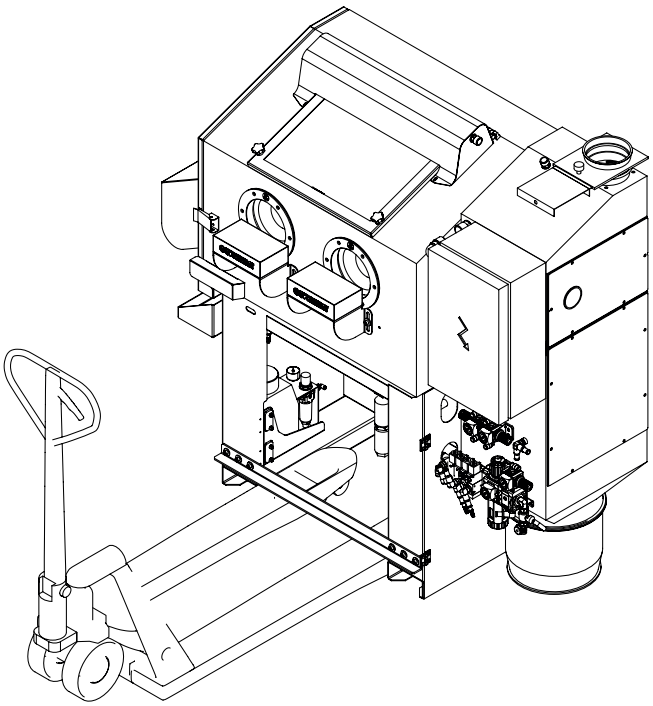
As an alternative to the forklift truck, the machine can be handled with a pallet truck. A special procedure is required to prepare the cabin for lifting with pallet trucks. The pallet truck must have an adequate loading capacity to lift the machine.
First of all, disassemble the lower door from the two fixing hinges by removing the four fixing screws in order to have free access to the cabin area.



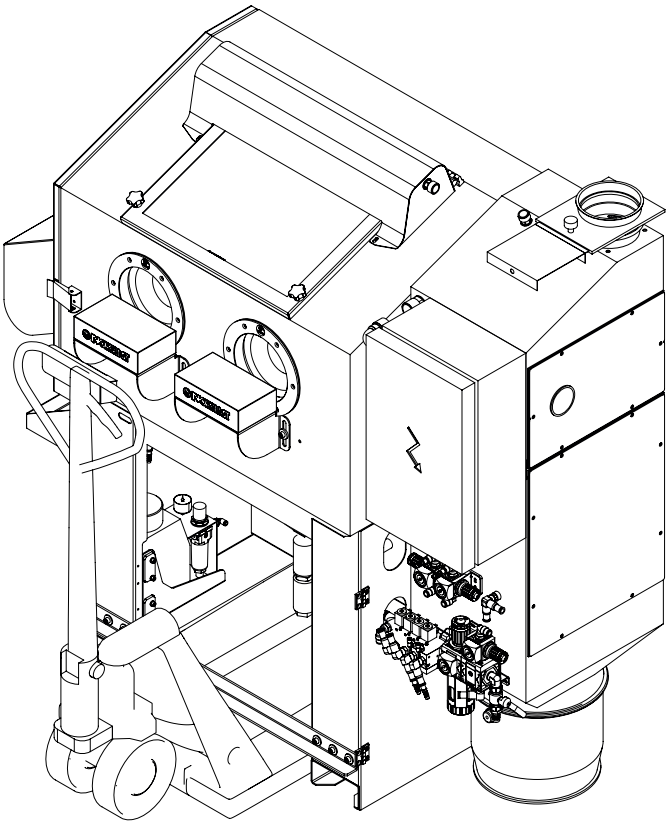
Then fit the bracket fixed to the cabin by assembling it with the relevant six washers and six fastening screws



Now the forks can be placed in a suitable position, paying attention to possible tipping due to uneven weight distribution.

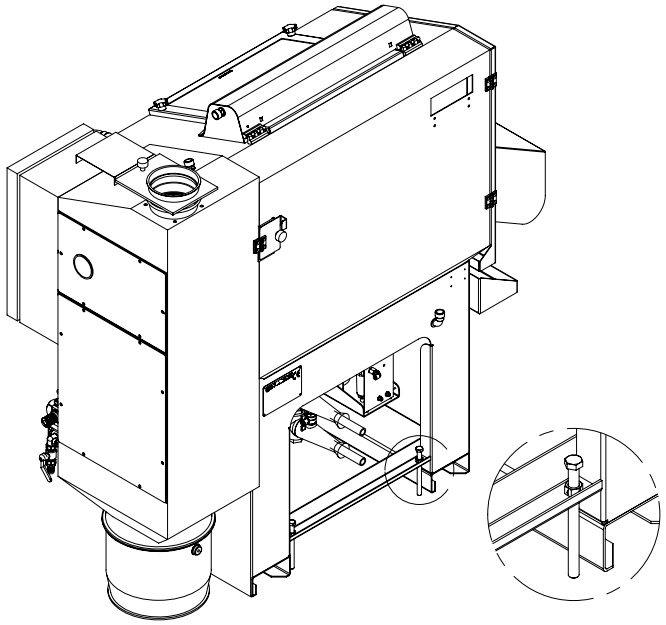


The pallet truck must be inserted allowing the forks to rest both on the cabin and on the just-assembled bracket.



2.6 PLACING AND LEVELLING

After having lifted the system, it must be perfectly placed.
Position a spirit level onto a horizontal surface of the machine and then level the machine by working on the two adjusting screws present on cabin back side until reaching the correct position.



2.7 MACHINE STORAGE

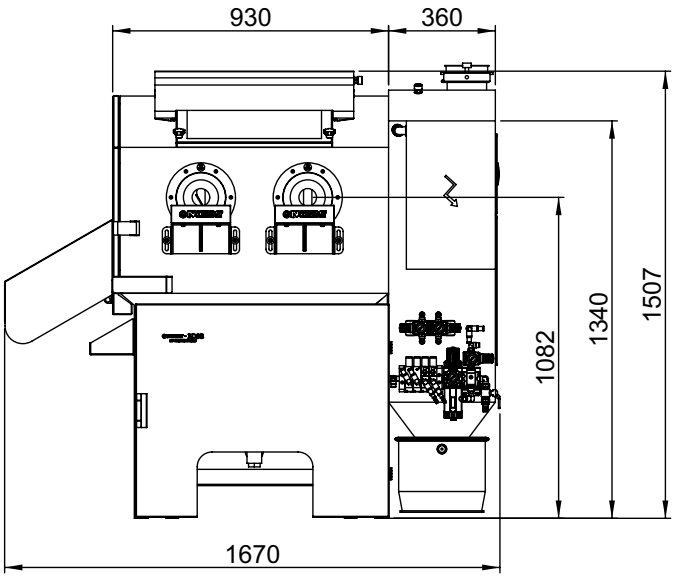
Under standard operating conditions, machines do not need to be anchored to the floor.
Should the sandblasting machine not be used for a certain period of time, please carry out the following operations:

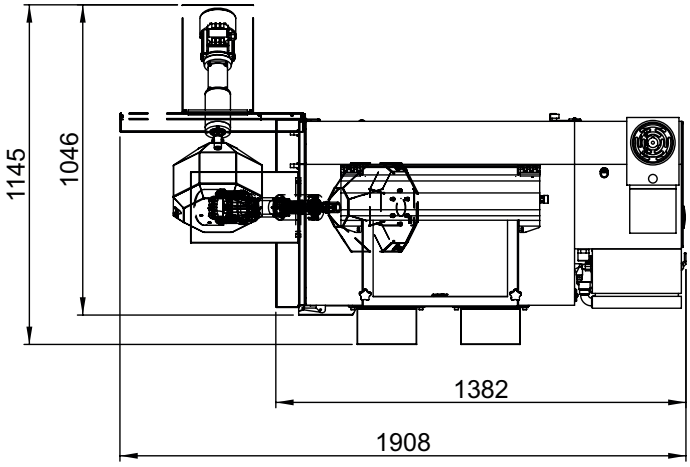
- empty tubes and cabin from grit;
- disconnect the unit from the power;
- thoroughly clean the whole unit including the accessories from any possible residual grit;
- store the unit in a covered and dry environment.

3.1 TECHNICAL SPECIFICATIONS OF THE SYSTEM

Operating pressure:	min. 2 bar , max 8 bar
Recommended blasting pressure:	min. 1 bar , max 6 bar
Min. cross-section of air line:	int.Ø 16 mm
Types of grit that can be used:	glass microballs, ceramic microballs, aluminium oxide (corundum), melamine granule, and metal grit
Grit size:	min. 40µ max. 500µ (with specific weight not over 4 Kg/cu. dm)
Max. weight which can be loaded onto working surface:	25 kg
Max. weight which can be loaded inside tumbler	kg 10
Weight of empty machine:	SD9-160 kg / SD9B-185 kg
Lighting	23 W
Filtering cartridge	5.35 SQ. M
Filtering cartridge material	Polyester
Useful working dimensions mm	SD9-800x550x530 / SD9B-750x550x530

3.2 OVERALL DIMENSIONS





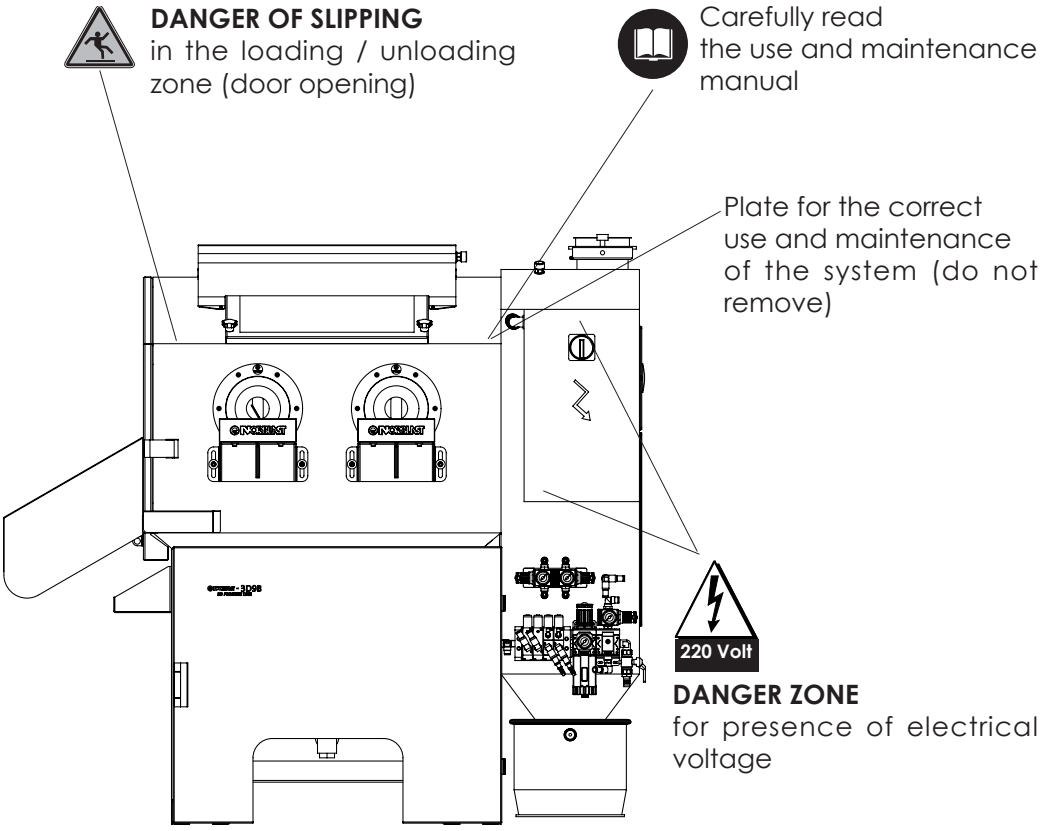
3.3 POWER SUPPLY

Voltage:	230 V
Frequency:	50/60 Hz
Number of phases:	1+N 16 amp
Minimum protection class of electric equipment:	IP54
Exhauster motor	0.14kW-230V-50/60Hz

3.4 PNEUMATIC SUPPLY

Dry air free from oil and/or grease	air quality level guaranteed in compliance with ISO 8573.1 class 2.4.2
A 6 bar gun with a Ø8 nozzle consumes:	585 Nl/min
A 6 bar gun with a Ø10 nozzle consumes:	1350 Nl/min
Air tube:	Ø16-23 with 1/2" hose barb
Intake	160 cu.m/h

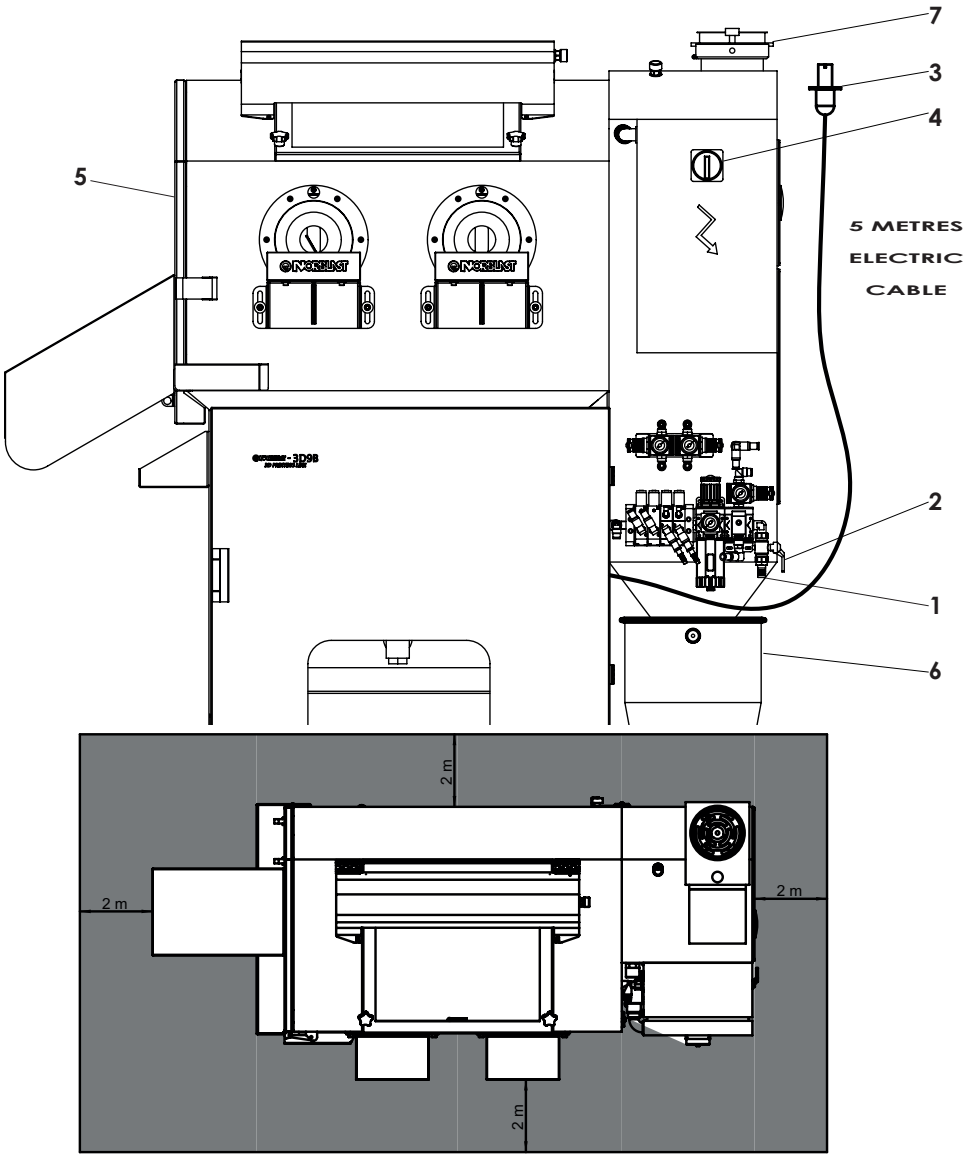
3.5 ARRANGEMENT OF THE IDENTIFICATION PLATES



Position the system on level ground, as indicated.
Connect the main air supply pipe to the air inlet cock hose barb **(1)** of the pneumatic group, having care to well tighten the clamp so that the pipe inserted fully home does not move.
Open the pneumatic group main cock **(2)** and ensure there are no air leaks.
Connect the machine to the power supply inserting the plug of the power cord **(3)** in the plant socket (complying with the standards).
Close the main switch **(4)** of the electric panel in position "1".
With this operation the cabin light and the exhauster are turned on.
Verify the correct connection of the tubes.
Put max 15 Kg grit inside the cabin.
Verify that the door **(5)** of the machine and the dust collecting bin **(6)** are correctly closed.
Check gate opening **(7)** on filter outlet inlet.

The system can work only with working exhauster and closed cabin door.

The working area around the machine must be cleared to enable, without any obstacles, the normal operations and the possible maintenance operations.



5.1 OPERATORS

This Manual is addressed to the Installer, Operator and Qualified Personnel in charge of the system maintenance.
With the term "OPERATOR" we mean the person or the persons in charge of the operation, adjustment, cleaning and ordinary maintenance of the system.
With the term "QUALIFIED PERSONNEL" or "QUALIFIED OPERATOR" we mean those people that have attended specialisation courses, training, etc.
and have experience in system installation, start-up, maintenance,
repair and transport.
With the term "EXPOSED PERSON" we mean any person that is in a dangerous area of the system, even partially.
The system is for industrial use, therefore only qualified personnel must use it, in particular:

- they must have reached the age of majority;
- they must be physically and psychologically fit to carry out jobs of particular technical
  difficulty;
- they must be adequately trained on how to use and maintain the system;
- they must be deemed fit by the employer for the task entrusted to them;
- they must be able to understand and interpret the operator's manual and safety indications;
- they must know the emergency procedures and their implementation;
- they should be able to activate the relevant equipment;
- they should be familiar with relevant standards;
- they must understand the operating procedures defined by the system manufacturer.

Moreover, maintenance technicians should also have a further accurate technical preparation.

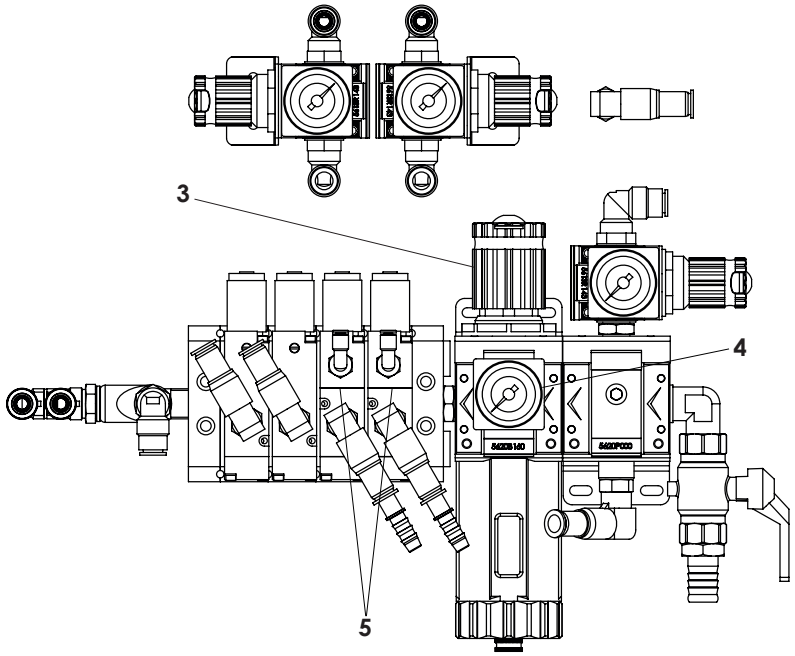
Carefully read the INSTRUCTIONS listed in this manual.

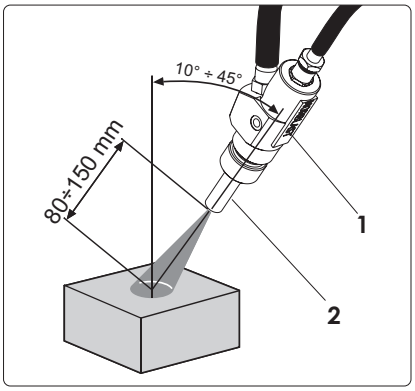
5.2 BLAST

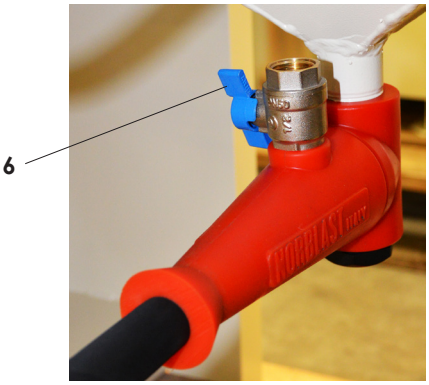
The blasting device is of the vacuum type and uses dry, oil-free compressed air.
Press the control pedal to open the operating solenoid valve **(5)** so that it conveys air inside the working gun **(1)**.
Air is made to flow through a special Venturi system that produces a vacuum inside the gun body so that grit is sucked from the bottom of the cabin.
Grit is then ejected through the nozzle **(2)** of working gun and hits the workpiece.
Ejection pressure may be adjusted by means of a pressure regulator **(3)**.
The blasting pressure value is displayed on the pressure gauge **(4)**.
We recommend keeping the nozzle at a distance of 80 to 150 mm from the workpiece surface. The grit jet must not be at a right angle to the workpiece surface and the impact angle must be between 10° and 45°.

To avoid undesired early wear, start the job at low pressure and move the gun to check its effect on the surface.

Do not keep the gun directly aimed at machine parts for too long to avoid early wear of the same.
Opening the cock **(6)** (lever in vertical position) a large quantity of air is mixed with a small quantity of grit for an aggressive action on the workpiece. On the contrary, by closing the cock (lever in horizontal position), a small quantity of air is mixed with a lot of grit for a more delicate action, but with the possibility of jamming the blasting circuit. Therefore it is suggested to operate with the cock lever in a middle position.

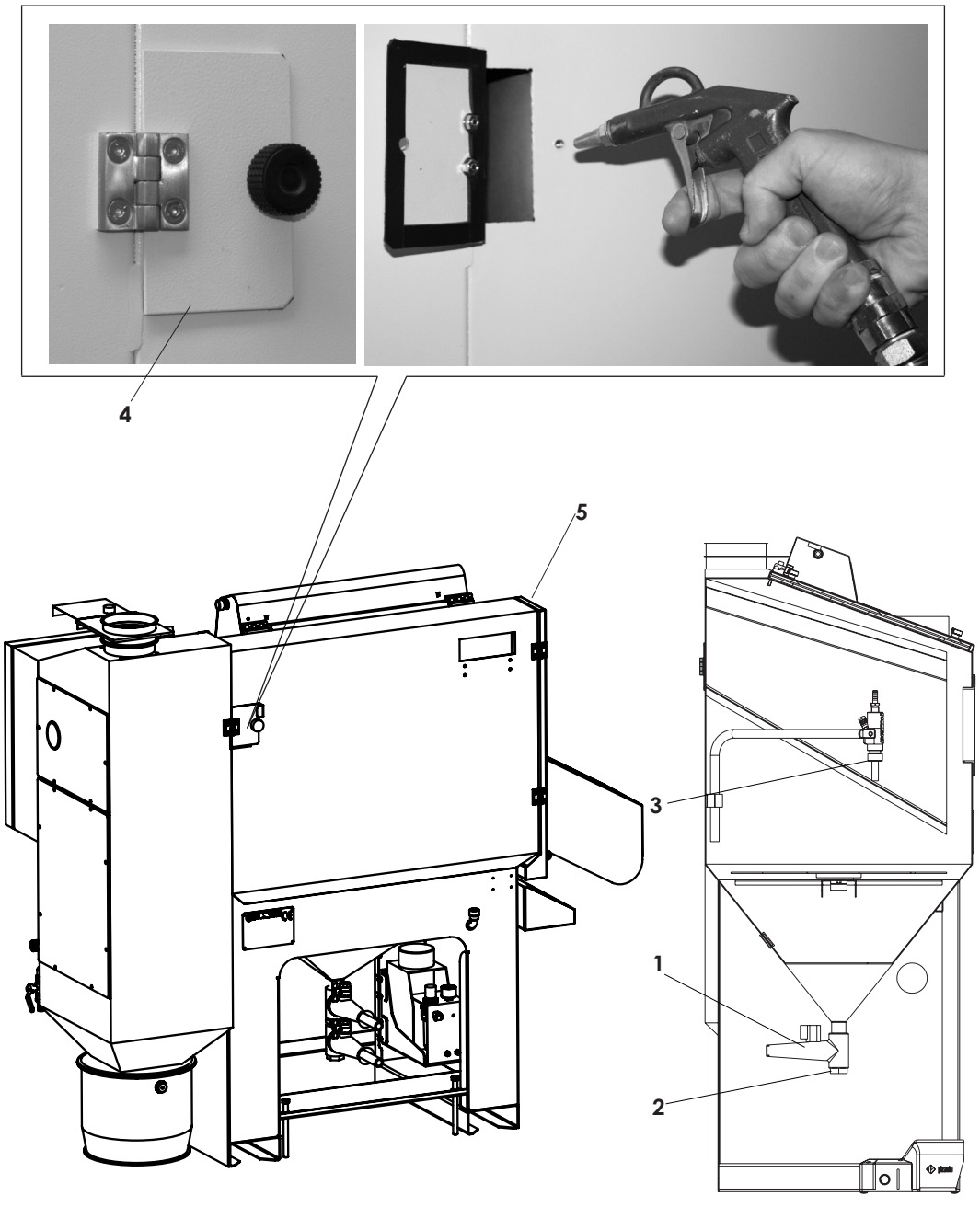






5.3 HOW TO CHANGE GRIT

Start the exhauster and thoroughly clean the cabin with a blowing gun so that the grit falls onto the hopper bottom.
Wait a few seconds until the dust is completely sucked from the cabin.
Switch off the machine using the main switch. Place a collection bin under the recycling lug **(1)** from the cabin front side and unscrew the plug **(2)** to collect the grit from the bottom of the cabin. Empty the grit pipe by blowing with the blowing gun inside the nozzle of the working gun **(3)** until grit is no longer coming out of the lug.
Open the rear door **(4)** and blast air into it to further clean the stack; close the door.
Tighten the plug **(2)**. Open the side door **(5)** and add the chosen grit inside the cabin (max. 15 Kg).
Close the door correctly.



5.4 FILTERING

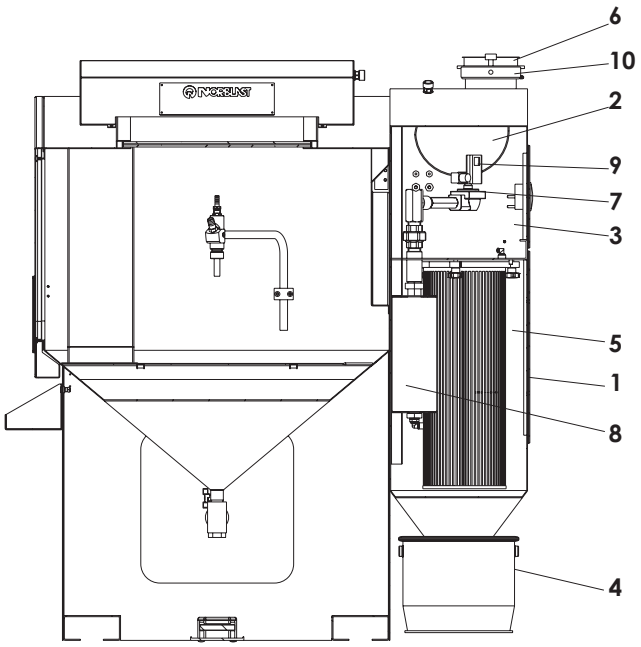
The filtering system is of the type with cartridge and automatic cleaning through back flush air jet.
The air mixed with dust enters the lower filtering chamber **(1)** thanks to the exhauster **(2)** placed inside the upper chamber **(3)** going through a first filtering of the heavier particles which will settle on the grit waste container **(4)**. The air flow goes through the filtering cartridge **(5)** and lets contaminating substances settle on cartridge outer walls, and exists through the catch **(6)**. The cartridge is "washed" with a blow of compressed air acting in the opposite direction to the normal flow. The air jet is controlled by a solenoid valve **(7)** mounted on a tube connected to the tank **(8)** under pressure with air charge.
The catch **(6)** adjusts the suction flow (opening it will increase cabin de-dusting and, in case, dust/grit waste).

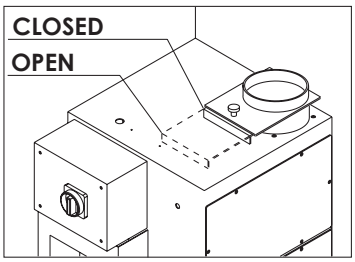
If the door is open the cleaning cycle of the cartridge will not be active.

An air pressure regulator **(9)** has been installed above the pneumatic unit, with pressure gauge for pressure reading (max. 4 bar).

A dust collection bin **(4)** has been purposely placed to collect and empty the same. Open the ring release lever **(12)** and empty the bin. Position the bin back into place and hook it again to the filter cabinet.

Before accessing the upper/lower filtering compartment make sure that there is no electric voltage and that the pneumatic group has no air.



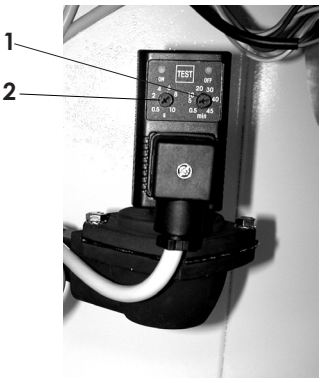


5.5 DIFFERENTIAL PRESSURE GAUGE

Differential pressure gauge
The differential pressure gauge detects the pressure difference between the upper and lower part of the filter cabinet.
When the pressure value exceeds 30 mm H_2O, it means that the filtering cartridge is clogged and must be replaced.

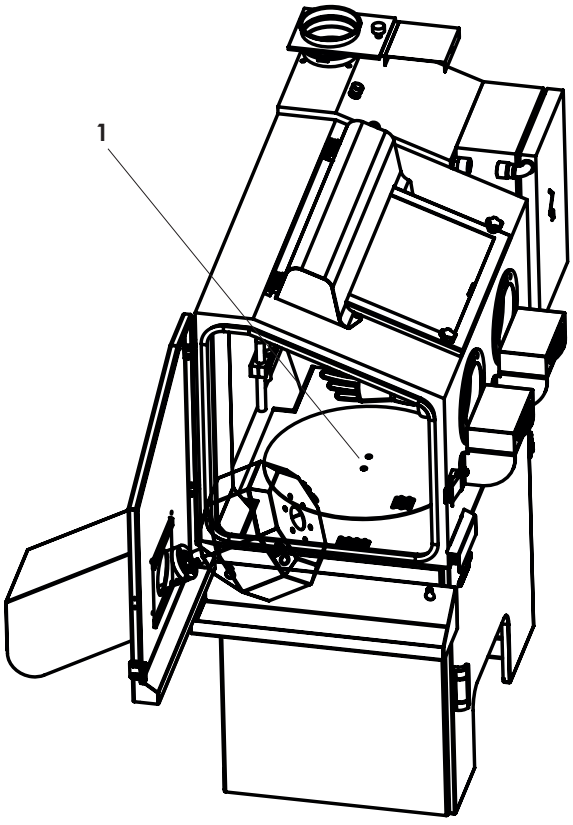
5.6 FILTER CLEANING TIMER REGULATION

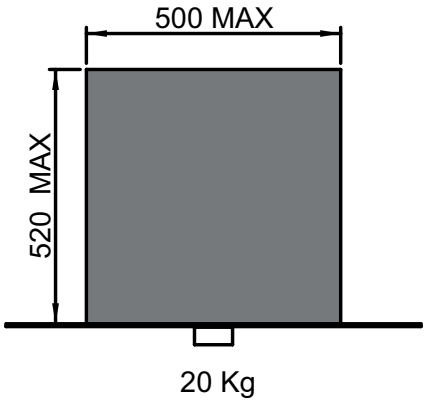
The cleaning of the filtering cartridge is automatically performed with an air blow contrary to the normal flow.
The "self-cleaning" operation time can be set based on the components to treat and the quantity of residual waste.
The time break is set through timer **(1)**.
Do not change the timer position (2).



5.7 MANUAL ROTARY TABLE (OPTIONAL)

The manual rotary table **(1)** can be present inside cabin.
During processing, the workpiece to be processed can be easily rotated by manually rotating the table **(1)**.

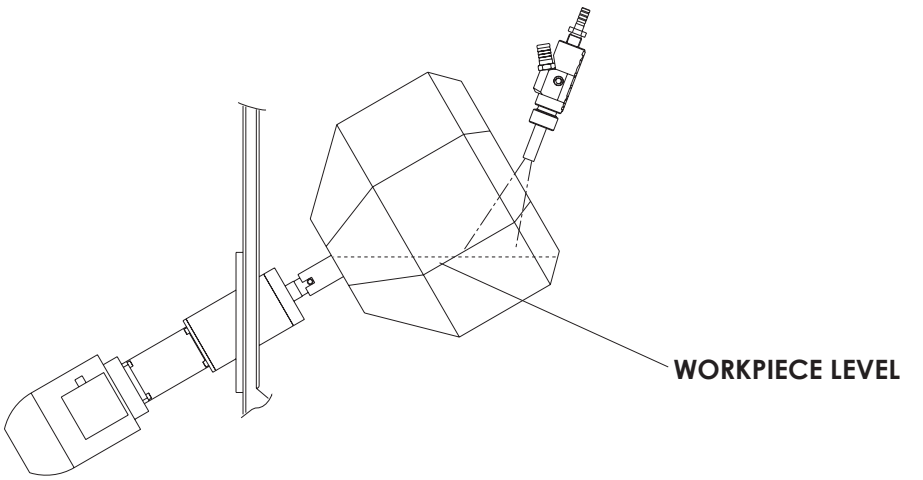




5.8 TUMBLER

Verify that the barrel is properly inserted in its seat.
Put the workpieces to be processed into the barrel, without exceeding the maximum level shown in the figure.
Barrels with cover are available upon request.
Close the side door.
Set barrel rotation speed and cycle time (blasting time for each barrel load) on the control panel.
Position the working guns at 150÷250 mm from the workpieces inside the barrel.
Press the **"CYCLE START"** button to start the processing cycle.
Once the set working time has been reached, the cycle automatically stops; in case cycle has to be stopped in advance, press the **"CYCLE STOP"** button.
Barrel rotation speed can be varied during processing by turning the potentiometer on the control panel.

WARNING - In some cases excessive barrel rotation speed can cause damage to the workpieces.



3D9B

MANUAL SANDBLASTING - SHOT PEENING MACHINE

5.9 MICROBLAST (OPTIONAL)

MICROBLAST is a single tank micro-sandblasting machine without cabin, which can contain aluminium oxide or microballs of different grain size, for the surface treatment of metal, ceramic, marble or similar materials. Both the tank distributors and the corresponding widia nozzles are sized according to the grain size chosen and indicated on tank closing cover. The sandblasting operation is controlled by a pneumatic pedal (or optionally by a valve) controlled by the operator.

The pressure at which sandblasting takes place varies according to the abrasive used and the material to be sandblasted. Normally pressure values between 3 and 6 bar are used. The adjustment is made by means of the pressure regulator allowing the value to be defined and then indicated by the corresponding pressure gauge. The pneumatic circuit is equipped with a safety valve calibrated at 9 bar.

TECHNICAL SPECIFICATIONS

- Powder coated steel sheet bodywork.
- Sandblasting controlled by pneumatic pedal
-Handpiece with 0.8-1.0 or 1.2 mm widia micro nozzle, as required.
-High-capacity aluminium oxide or microball container (approx. 1 litre)
-Operating pressure 3-6 bar with safety valve set at 9 bar
-Pressure regulator, pressure gauge, air filter.
-Dimensions (width x depth x height): 11 x 24 x 27 cm.
-Weight approx.: Kg 3

WARNING - IMPORTANT WARNINGS

- Always fill the tank with clean, dry abrasive.

- Always keep the tank threads free from sand grains that, when screwing the plug back on, could damage the threads. -Handpiece with 0.8-1.0 or 1.2 mm widia micro nozzle, as required.

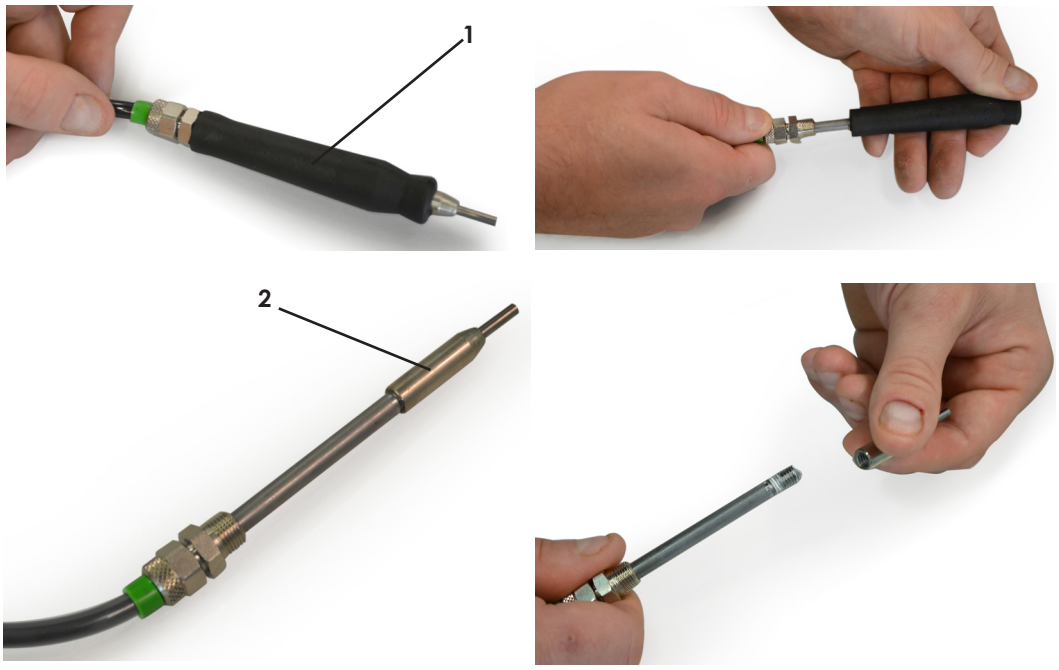
- Never clean the sand containers with solvents as the plastic material used (polycarbonate) would be irreversibly damaged.

Use the regulator (**1**) to adjust the tank pressure to 3-6 bar, as required. To adjust the pressure, lift regulator knob and turn it; once the required value has been set, press the knob to lock it. Take care not to force the knob to lock; if necessary, turn it slightly to facilitate tooth engagement.
Loosen plug (**2**) and fill the tank with the desired abrasive up to about 1-2 cm from the edge of the tube. Make sure that the grain size of the abrasive corresponds to the value indicated on the tank itself; then screw the plug back on.

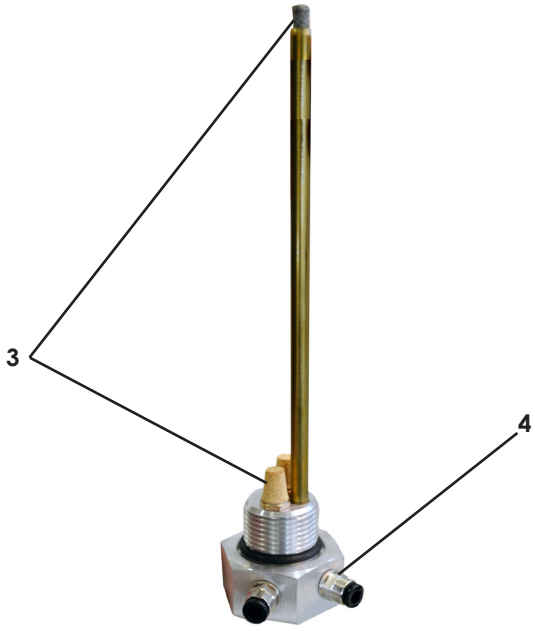
WARNING - Before screwing the pug again, thoroughly clean the threads from any sand that could damage them

MAINTENANCE

The nozzle is the part subject to the greatest wear. To replace it, simply remove the polyurethane foam cover (1) and loosen the nozzle (2), replacing it with an identical spare part.



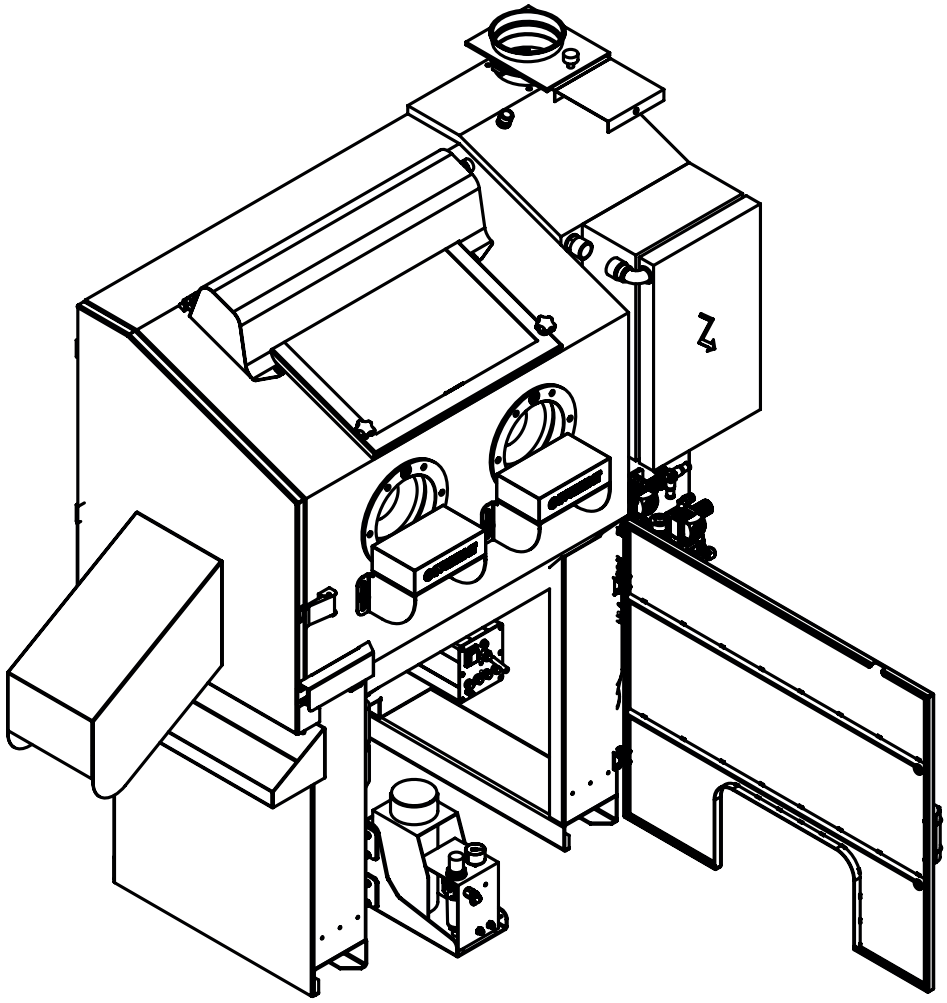
Over time, the filters (3) of the air-sand distributor (4) on the bottom of the tank may become clogged or worn. Should this be the case, loosen the distributor from the bottom of the tank and replace the filters shown in the exploded view. Warning: a special wrench is required to disassemble the distributor. We recommend contacting the manufacturer or NORBLAST authorised personnel.



The good operation of the sandblasting machine also depends on the absence of humidity in the compressed air coming from the compressor. Check and, if necessary, periodically empty the filter of the sandblasting machine as well as the compressor since an excess of humidity can cause the abrasive to compact in the tank, with consequent malfunction of the sandblasting machine.

WARNING - Do not sandblast at pressures exceeding 8 atmospheres and do not tamper for any reasons with the safety valve set at 9 bar.

WARNING - Never clean the sand containers with solvents as the plastic material used (polycarbonate) would be irreversibly damaged.



The sandblasting machine is delivered with three different blasting nozzle sizes (DIAMETERS Ø 0.8, Ø0.1 and Ø1.2), each nozzle is associated with a different distributor.
To ensure device correct operation, avoid configurations between nozzle and distributor other than those recommended.

Different nozzle sizes allow using different grain sizes of the shot particulate: the greater the diameter, the greater the size of the shot particulate.

BLASTING NOZZLE SIZE	PARTICULATE GRAIN SIZE
Ø0.8	50 to 80 µm
Ø1.0	90 to 125 µm
Ø1.2	150 to 250 µm

BLASTING NOZZLE REMOVAL PROCEDURE

In order to replace or maintain the blasting nozzle, you must first:

(0) Disable the device from both the power and air supplies.

(1) Remove the black foam rubber from the blasting lance, which you grasp to move the lance.

(2) Loosen the nozzle from the lance, taking care to clean the Teflon previously applied on the threads to ensure pneumatic sealing.

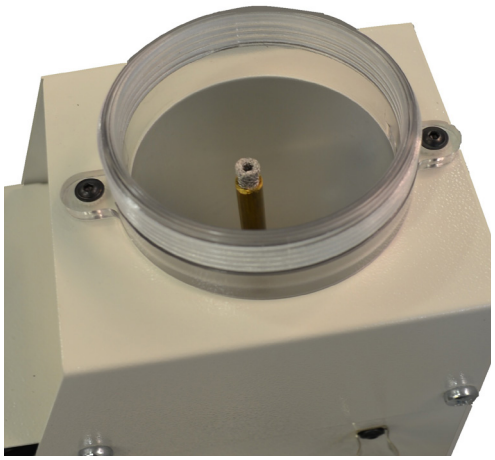
Before assembling the nozzle, clean the disassembled parts with a blowing gun and apply Teflon tape to ensure the pneumatic sealing between the two metal parts screwed together.

AIR DISTRIBUTOR REMOVAL PROCEDURE

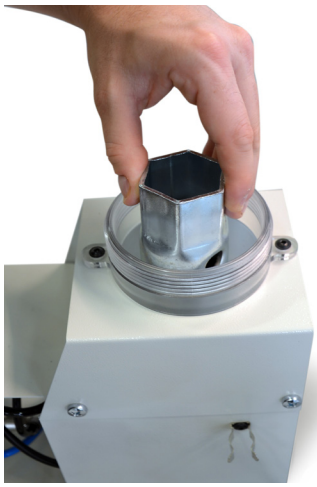
In order to replace or maintain the blasting nozzle, you must first:

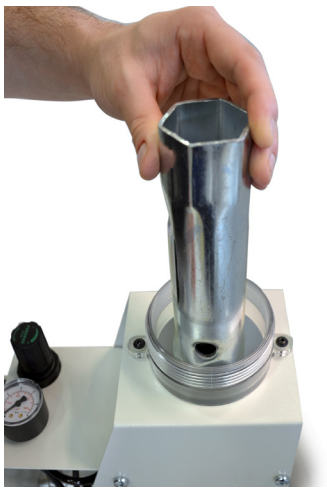
(0) Disable the device from both the power and air supplies.

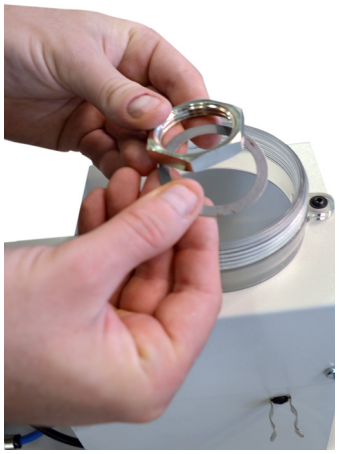
(1) Loosen the cap of the grit container and empty it from any contents



(2) With a pair of socket spanners used in series, loosen the ring nut securing the grit container to the air distributor. Once the ring nut has been removed, also remove the stop washer and the white seal present inside the tank.

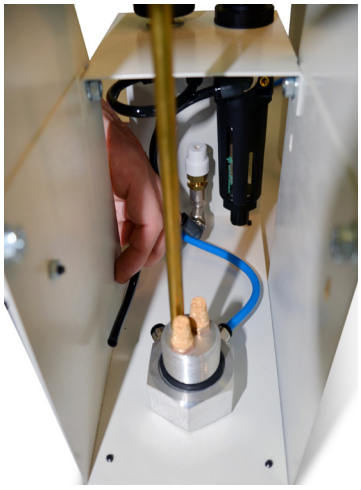




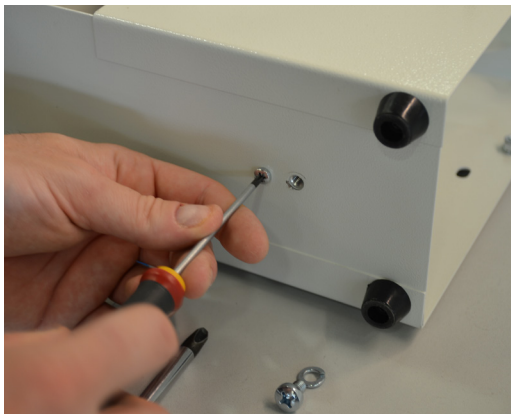


(3) Remove the grit tank from the frame by loosening the two hexagon socket head screws on the top of the sandblasting machine.

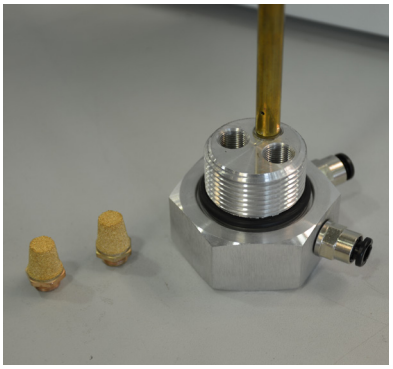
(4) Disconnect the two rilsan pneumatic supply pipes of the distributor from the relevant quick couplings.



(5) Turn the sandblasting machine upside down and loosen the two button cross-recessed head screws securing the air distributor to the frame of the sandblasting machine.



(6) Once the distributor has been removed, clean it from dust with a blowing gun, fit the two straight rilsan connection fittings and the two silencing devices, clean the just-disassembled pneumatic fittings with a blowing gun or replace them if too dirty or in poor condition.

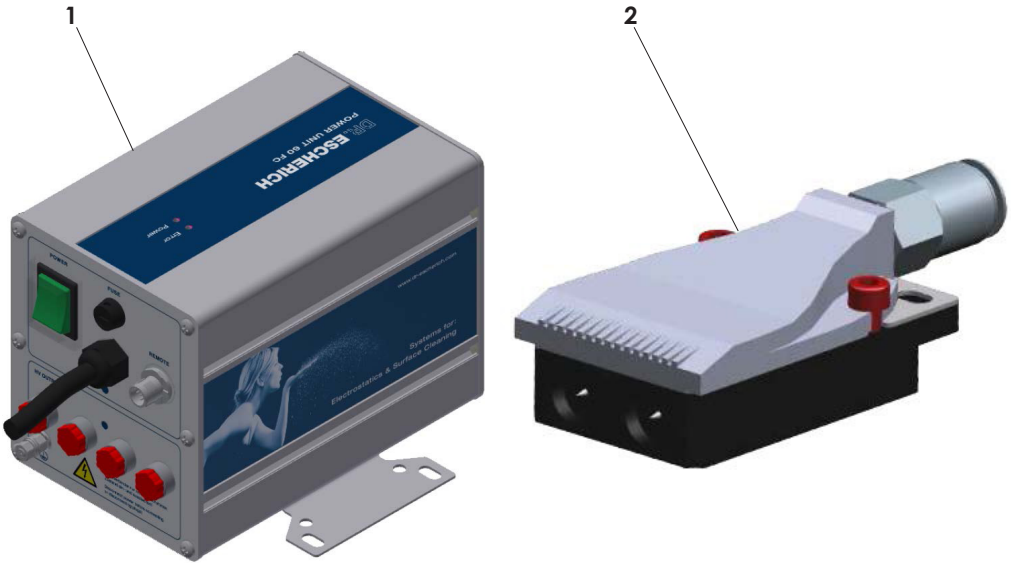


DURING MAINTENANCE IT IS GOOD PRACTICE TO CHECK THE CONDITION OF THE PNEUMATIC RILSAN PIPES FEEDING THE MICROBLAST.
THE PIPE IS SUBJECT TO A PROGRESSIVE DECAY OF ITS PROPERTIES BOTH IN TERMS OF PNEUMATIC AND ELASTIC SEALING; IN THE LONG RUN IT RUN COULD BE DAMAGED SHOWING BOTH AIR LEAKS AND PLASTIC BENDS WITH A BENDING RADIUS SO SMALL THAT IT PREVENTS AIR FROM FLOWING INSIDE

5.10 IONISING BLOWERS (OPTIONAL)

Should it be necessary to thoroughly clean the sandblasted parts, this machine model can be fitted with ionised air blowers instead of the standard blowers present in the system. The negative ions bind to the air particles, thus creating a flow of ionised air. The air charged with negative ions, once projected against the workpiece, allows the electrostatic discharge of the sandblasted part if it had been charged during blasting.
An electrostatically charged part attracts the elements suspended in the air surrounding it, making the cleaning procedure with blowing devices more difficult. Using an ionised air blower, the de-dusting procedure of the workpiece will be much more effective than the one carried out by blowing ambient air.

The ionising device consists of a power unit (**1**) and two blowing nozzles (**2**)



In case of visible damage or possible electrical failure, switch off the device immediately.

Danger to people with pacemakers. The high voltage applied to the ioniser generates an alternating electric field. This can impair the function of pacemakers. A negative influence on the proper operation of pacemakers can lead to ventricular fibrillation or cardiac arrest. Cardiac pacemaker patients must maintain a safe distance of 50 cm.

When in operation, the ionisation tips are under high voltage. By means of integrated HV resistors, the maximum current is limited to 50 µA per electrode.
The ionisation tips are sharp. Touching the tips can cause puncture and cutting injuries. The user will also feel a slight tingling sensation caused by high voltage. These factors can lead to alarming reactions and therefore cause secondary accidents.

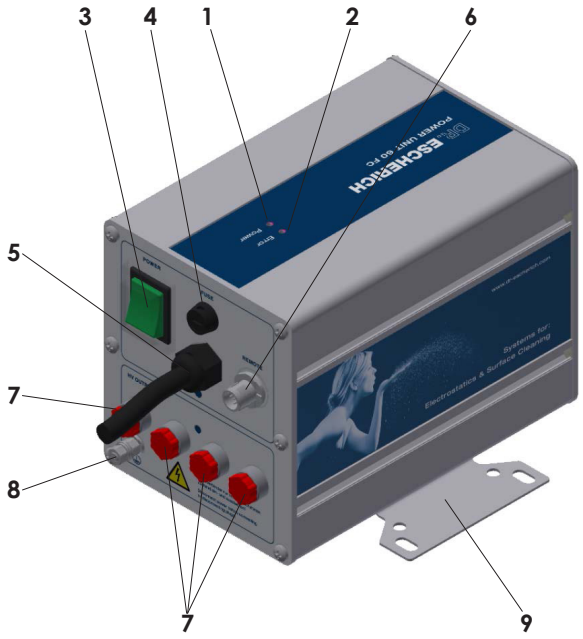
Touching the tips of the DC ioniser emitters during operation can lead to a charge induction. The human body can also become electrostatically charged, if a person gets too close to the DC ionisers during operation. Touching a grounded component can cause an unpleasant and possibly even painful static discharge which, however, will not cause injury. This discharge may damage other electronic components.

The good operation of the sandblasting machine also depends on the absence of humidity in the compressed air coming from the compressor. Check and, if necessary, periodically empty the filter of the sandblasting machine as well as the compressor since an excess of humidity can cause the abrasive to compact in the tank, with consequent malfunction of the sandblasting machine.

Be careful when touching the ionisation tips.
Maintain the minimum distance (see Technical Data) from the DC ionisers. Avoid touching the emitter tips during operation. The emitters of the ionisers are sharp. Touching the emitter tips can cause puncture wounds and cuts. Be careful when touching the emitter tips, even when they are switched off. Clean the ionisers only when they are de-energised. Do not restart until the ionisers are dry.

When in operation, the ionisers generate small amounts of ozone. When the ozone concentration is very high over a long continuous period of exposure, it may cause headaches, eye irritation, circulatory problems, etc.
To avoid exceeding the permitted ozone concentration in the workplace, the operator must provide sufficient ventilation.

The devices are not suitable for use in areas where there is a risk of explosion.
Ambient temperature must not exceed +45°C. The devices must not come into contact with moisture, humidity, oil or aggressive fluids.



(1) Appliance in standard operation indicator
(2) Error indicator
(3) Mains switch
(4) Fuse
(5) Power cord
(6) Contact for error signalling
(7) HV outputs for ioniser connection
(8) M5 ground connector
(9) Mounting brackets

The HV cables of the ionisers are connected to the HV power supply via screw connections. 4 HV outputs are available.

POWER UNIT START PROCEDURE:
1) Check that all the connecting cables are correctly in position.
2) Set the mains switch of the HV power supply to "I".
   - The mains switch warning light comes on
   - The mains POWER warning light comes on
   - The ERROR warning light is off
   - The signal switches
   - The connected devices work.

(1) Compressed air connection
(2) Ionisation electrical connection
(3) Compressed air nozzle
(4) Ioniser

WARNING
MINIMUM BLOWING PRESSURE 1 bar
MAXIMUM BLOWING PRESSURE 6 bar

COMPRESSED AIR CONSUMPTION Nl/min	BLOWING PRESSURE
200	1 bar
330	2 bar
580	4 bar
820	6 bar

PROCEDURE FOR IONISER CONNECTION TO THE POWER UNIT:

- Make sure that the HV power supply is switched off.
- Tighten the cap nut by hand (Maximum torque allowed: 1 Nm)

WARNING! When screwing in the cap nut, make sure that the cable does not turn with it

- Close unused sockets with plugs to avoid dust and humidity.
- The grounding of the ionisers is provided through the HV cable and the existing plug

No additional grounding is required.

Errors on DC ionisers are displayed either directly on the ioniser via specific LEDs and by a signal output transmitted to an external control unit (e.g.: PLC).
For troubleshooting, please refer to the operating instructions of the DC ionisers.

The red warning light on the HV power supply lights up when an ionisation ERROR is present in the system.

Possible causes:
- Have the installation checked by a qualified electrician.
- Are the ionisers connected to a suitable power supply?
- Is the supply voltage the same as defined in the manufacturer's specification?
- Is the power supply switched on?
- Is the power supply working correctly?
- Is the connection cable to the magnetic valve intact?
- Is the magnetic valve switched on?

The cleaning result is unsatisfactory, this can be due to several causes:

- The compressed air supply and therefore the air nozzles do not work properly.
- Ionisation does not work properly.
- The positioning of the component is not optimal for the cleaning device.
- Are the ionisers contaminated? Follow the cleaning instructions.

Are the ionisers contaminated?

- Are all connections made correctly?
- Is the compressed air supply switched on?
- Is the filter control valve open?
- Does the pressure gauge on the filter control valve indicate the correct pressure setting?
- Is the filter cartridge on the filter control valve contaminated? Is there dirt, water or oil in the filter cup?

MAINTENANCE PLAN

Clean the STATIK-AIR MULTIJET unit (in particular the compressed air nozzles) whenever they are contaminated, however, at least every 4 weeks. Check the operation of the ionisation system; if necessary, at least every 2 weeks.

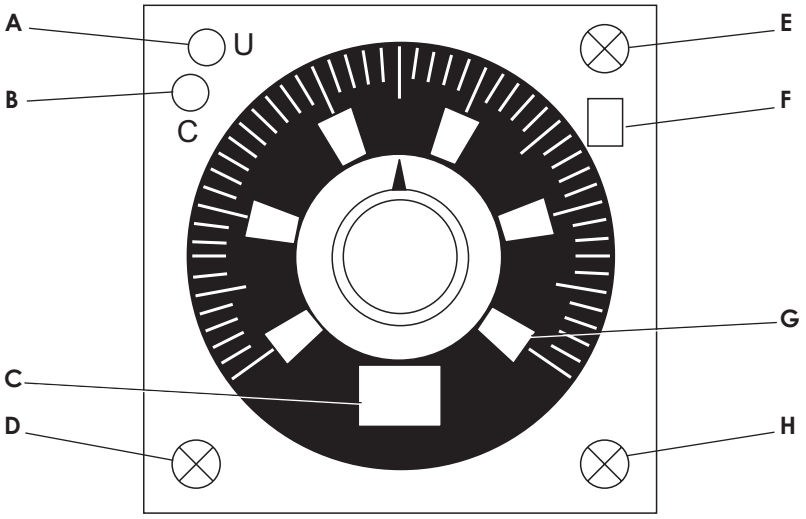
The use of a fine-tipped brush with soft bristles is necessary for the proper cleaning of the blowing nozzle. Clean the blowing area (**1**) and the air ionisation area (**2**), taking care to gently remove any dirt and foreign bodies.

5.11 TUMBLER TIMER PROGRAMMING

TIMING
From 0.5 sec. to 100 hours divided into 12 sub-ranges.

D / H	s	min	h	x10h
0.5	0.5 s	0.5 h	0.5 h	5 h
1	1 s	1 min	1 h	10 h
5	5 s	5 min	5 h	50 h
10	10 s	10 min	10 h	100 h

A: yellow LED - power on
B: red LED - timing in progress
C: unit of time selected
D: time scale selector (0.5, 1, 5, 10)
E: function selector (AE, AI, BE, DE, HI, SW)
F: selected function
G: selected time scale
H: unit of time selector (s, min, h, 10h)



5.12 SAFETY DEVICES

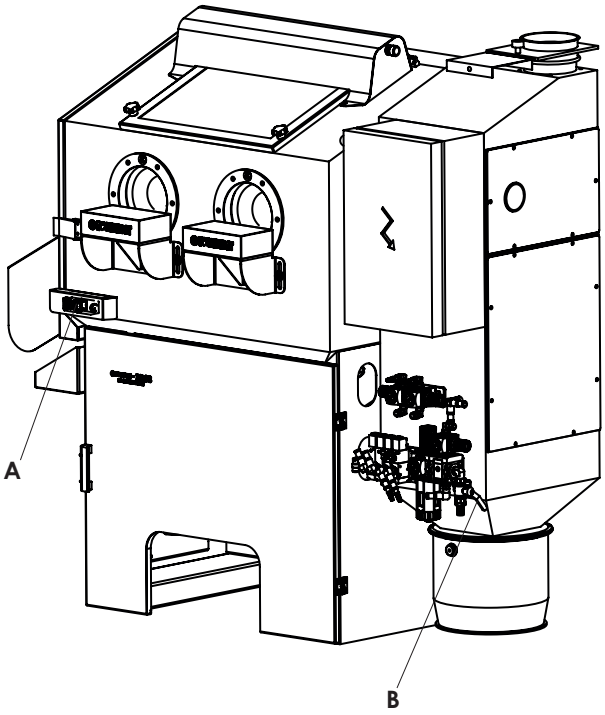
The machine is equipped with the following safety devices:

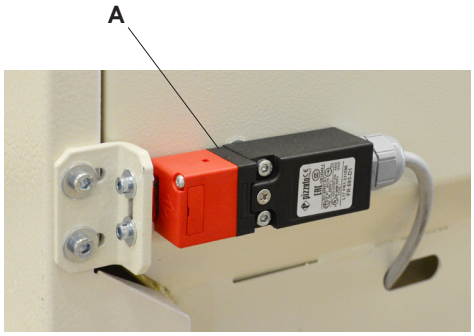
Electrical safety devices

- *Electromechanical microswitch* ***(A)***.
  Its function is to disable gun blasting and filter cartridge cleaning blow with the door open.

Auxiliary devices

- *Pneumatic system isolating valve* ***(B)***.
  It allows main air supply to the system and its bleeding.

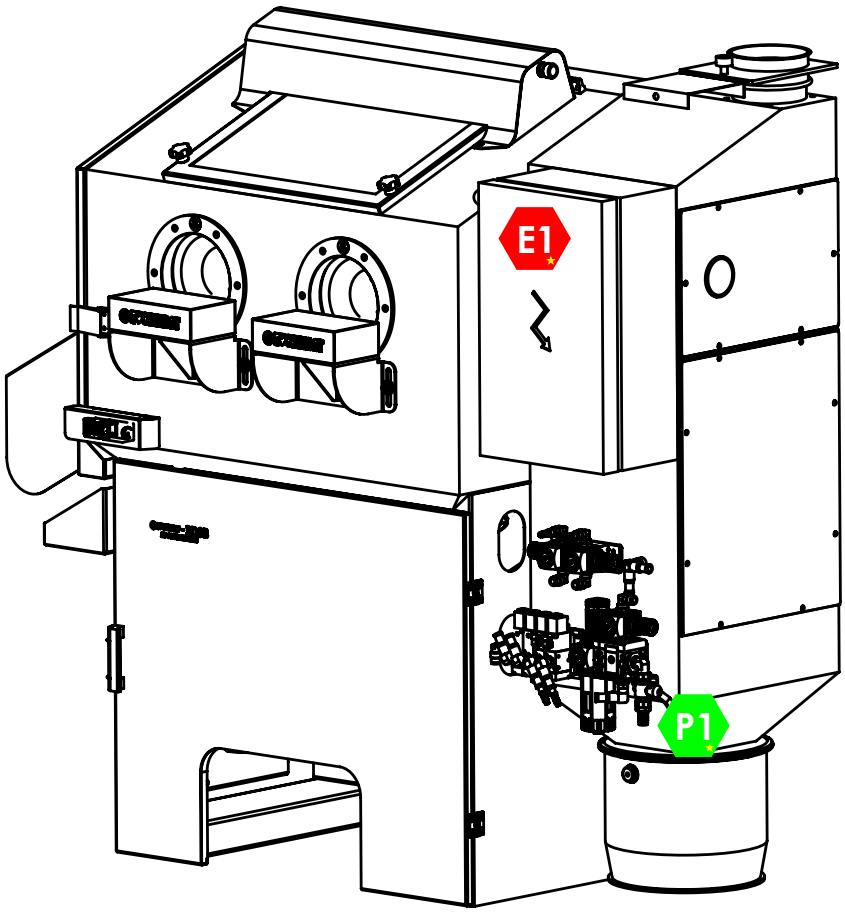




SAFETY DEVICE CHECK LIST					
ID	**DEVICE**	**POSITION**	**EFFECT**	**HOW TO ACTIVATE IT**	**HOW TO RESET IT**
A	Electromechanical microswitch	Cabin access door	Door opening/ closing control.	Door opening/ closing	Door closing
B	Pneumatic system isolating valve	Pneumatic unit	It allows the air to flow into the pneumatic system and its bleeding.	Rotate the valve to open the circuit.	Rotate the valve to close the circuit.

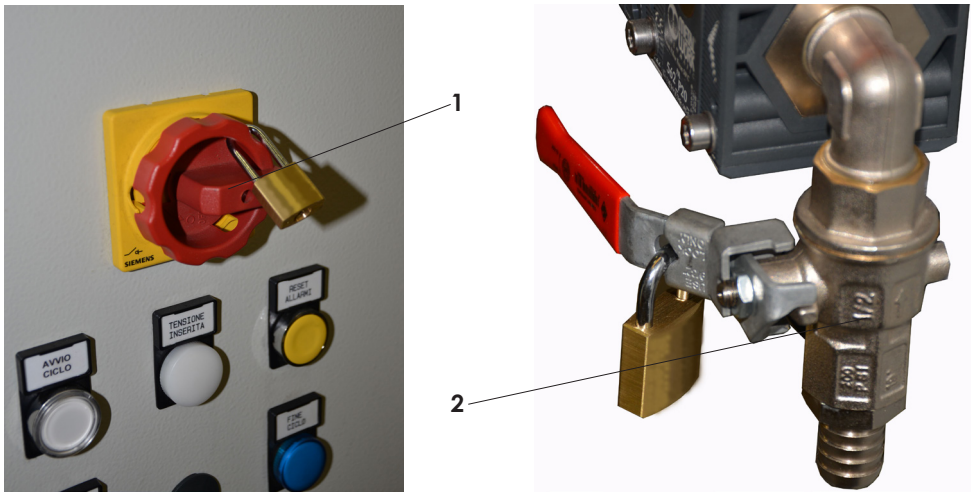
5.13 LIST AND ARRANGEMENT OF THE SAFETY DISCONNECTING SWITCHES

Switch		Description and type of energy	Position	Lockout procedure	Energy presence check
E1		Power: 230 V	On the cabin.	Place the handle to off position. Lock the switch with a lock. Place the safety plate.	Check with tester the presence of current; try to switch on the machine and check that it does not start.
P1		Pneumatic 8 bar	On the pneumatic panel.	Turn to close system pneumatic supply main valve. Place the safety plate.	Make sure that the valve is correctly closed and that the pressure gauge does not indicate any pressure.



5.14 MACHINE INSULATION AND LOCKOUT PROCEDURE

In order to ensure the safety of the operators during each maintenance operation, it is strongly recommended to isolate the energy sources necessary to ensure machine operation. The energy sources that supply the system are: **electricity** and **compressed air**.
The disconnecting devices provided in the system are: electric ON-OFF switch **(1)** and 3/2 manual valve **(2)**.
The two above mentioned devices are both locked by means of a lockable device in active disconnection position. The lock must be inserted before each maintenance operation and, if activated, has the task of preventing accidental or unexpected reactivation of dangerous energy sources, or reactivation depending on external causes that cannot be controlled.
The dimensions of the padlock applicable on the disconnecting switches must be compatible with the device in which it is inserted.
Once all maintenance activities have been completed, the energy disconnecting devices can be unlocked and the system can be reconnected.



SYSTEM INSULATION AND LOCKOUT PROCEDURE

1) DISCONNECT ALL SYSTEM SOURCES

POWER SUPPLY:
-position the switch in closing position (**red pointer in "0" position**)
COMPRESSED AIR:
-position the manual valve in closing position (**lever position at right angles with the valve**)

IT IS ADVISABLE TO PUT A SIGN ON THE MACHINE WITH THE INFORMATION THAT MAINTENANCE IS IN PROGRESS AND THAT IT IS FORBIDDEN TO ELECTRICALLY AND PNEUMATICALLY SUPPLY THE MACHINE

2) APPLY THE PADLOCKS TO THE DISCONNECTING SWITCHES

3) CHECK THE EFFECTIVE DISCONNECTION OF POWER SOURCES

ACTIVE ELECTRICAL DISCONNECTION:
-the light bulb in the work area is switched off
-the motor of the exhauster in the filter compartment is switched off

ACTIVE PNEUMATIC DISCONNECTION:
-failed operation of the manual blowing gun

4) CARRY OUT MAINTENANCE ACTIVITIES

5) ONCE MAINTENANCE HAS BEEN COMPLETED, CHECK THAT ALL SAFETY CONDITIONS ARE PRESENT TO RESTORE MACHINE OPERATION:
OPEN AND REMOVE THE PADLOCKS, SUPPLY THE MACHINE ELECTRICALLY AND PNEUMATICALLY

3D9B
MANUAL SANDBLASTING - SHOT PEENING MACHINE

NORBLAST

PNEUMATIC DISCONNECTING SWITCH 3/2 MANUAL VALVE	DESCRIPTION	PICTURE
0 - MACHINE ON	The closing knob of the 3/2 valve is parallel to the valve body itself, as shown in the picture	
1 - MACHINE OFF	The closing knob of the 3/2 valve is at right angles with the valve body itself, as shown in the picture	
2 - LOCKING BRACKET POSITIONING	Lever features a locking bracket, which slides along the lever, overcome the bracket towards lever pivot, until the end of stroke	
3 - PADLOCK INSERTION	Insert padlock head inside the hole freed by the movement of the locking bracket	
ELECTRIC DISCONNECTING SWITCH ON/OFF	**DESCRIPTION**	**PICTURE**
0 - MACHINE ON	The disconnecting switch red section is rotated in such a position that the arrow points to the number 1	
1 - MACHINE OFF	The disconnecting switch red section is rotated in such a position that the arrow points to the number 0	
2 - PADLOCK INSERTION	Insert the open padlock head into one of the 4 holes on the transparent section of the disconnecting switch.	

The electric disconnecting switch can admit the simultaneous presence of **3** padlocks fixed to the switch in series with each other, (the lock is ensured even with just one of the padlocks, the other ones are a further redundant locking of the disconnecting switch).

POSITION PADLOCK A	POSITION PADLOCK B	POSITION PADLOCK C
		

Closely follow the maintenance recommendations. This is the key to ensuring long service life and a high efficiency level as well as avoiding troublesome failures. It is recommended to have the maintenance operations carried out by trained and qualified personnel.
Any maintenance operation must be carried out with no pressure in the system, with the sandblasting machine power cut off and after having placed a suitable sign indicating that the machine is being serviced.
All maintenance operations should be carried out by qualified personnel, wearing the suitable safety equipment usually recommended for similar operations, and in compliance with the safety procedures indicated below.
In order to make the sandblasting machine last longer, ensure high safety levels to users and clearly identify the equipment, it is fundamental to keep clean the following parts:

- the sandblasting machine and its accessories;
- the EC identification plate;
- the floor in front of the sandblasting machine;
- the door closing seals.

6.1 SAFETY RULES DURING MAINTENANCE

The main precautions to be taken when servicing the machine are as follows:

- ***the operator must be equipped with the personal protection equipment indicated at paragraph 1.8;***
- ***disconnect power and pneumatic supply and discharge the air in the pneumatic circuit (blow it with a blasting gun or a blowing nozzle), before removing any of the unit parts, replacing any of the components or access the work cabin;***
- ***please pay attention when opening the power control unit;***
- ***do not use open flames;***
- ***do not wear rings, watches, necklaces, bracelets, etc.;***
- ***use only genuine spare parts only;***
- ***do not smoke, drink nor eat.***

6.2 CLEANING

Clean the outer and inner parts of the sandblasting machine at the end of every working day or in any case at the end of every job.
This will keep the system in good working conditions.
In particular, always check the following parts and clean, if necessary:

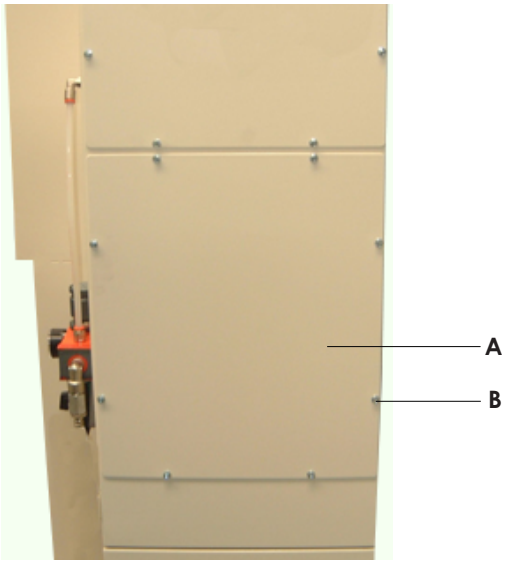
- the EC identification plate;
- the pressure gauge;
- the regulator filter;
- the pneumatic valve;
- the sight glass;
- the working grid or the rotary table (if fitted);
- the cabin hopper;
- the door closing seals.

To clean the outside of the machine, it is enough to use a soft cloth.
Suck possible grit residues on the working area.

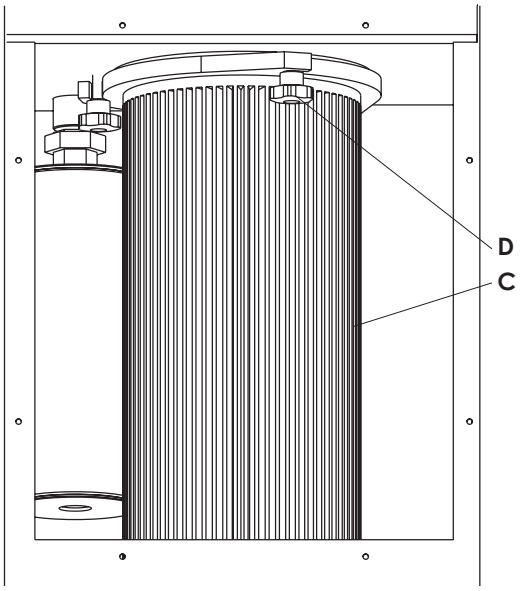
6.3 REPLACEMENT OF THE CARTRIDGE

Cut out the power of the machine.
Disconnect the machine from the pneumatic power.
Before proceeding with this operation wear all suitable protection equipment to protect the operator from dust.

1. Remove the cartridge compartment closing guard **(A)** by loosening the screws **(B)**.



2. Remove cartridge **(C)** by loosening the three knobs **(D)**.
3. Place the cartridge in a bag to avoid dispersing dust.
4. Carefully place the new cartridge without damaging it.
5. Tighten the three knobs **(D)**.
6. Close the cartridge compartment closing guard **(A)** by tightening the retaining screws **(B)**.



6.4 REPLACEMENT OF GLOVES

Loosen the clamps **(A)** and replace the damaged gloves.

6.5 REPLACING THE CABIN INTERIOR SIGHT GLASSES

Open the lamp holder guard **(A)** by loosening the two retaining screws.

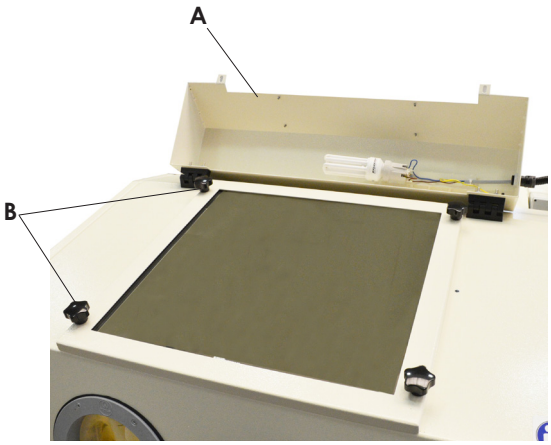
Fully loosen the 4 locking knobs **(B)** of the glass holder frame **(C)** and lift it.

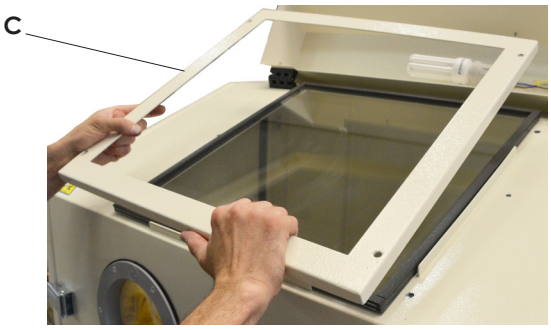
Lift the first glass and lay it in a handy and safe position since it will not have to be replaced.

Lift the second glass **(D)** and replace it with the new one.

Take special care not to damage the existing gaskets **(E)**, otherwise replace them.

Position the upper glass on the new one already resting against the cabin.
Lay the glass holder frame and secure it in place with knobs.
Close the lamp holder guard and lock it in place with the two retaining screws.

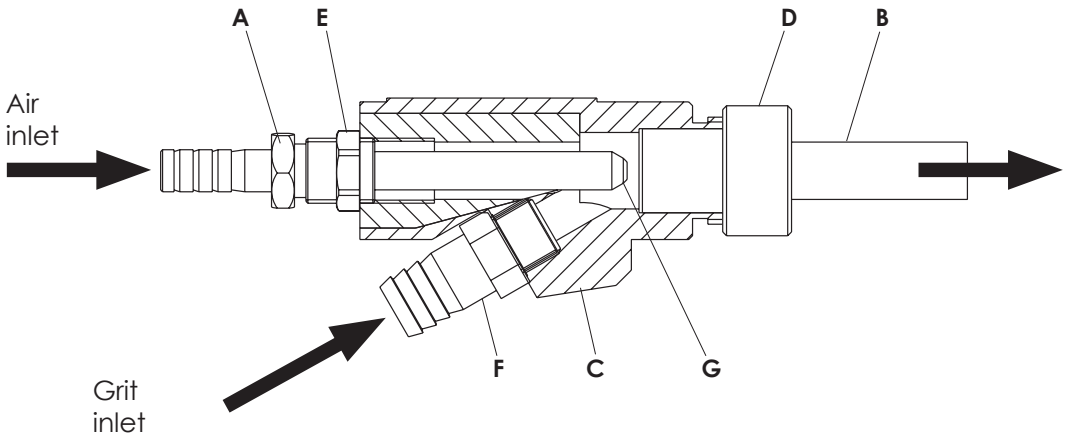




6.6 VENTURI GUN

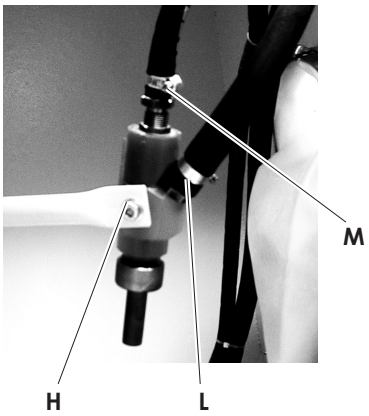
Carrying out a correct and periodical maintenance on gun components subject to wear proves useful to keep an optimal efficiency of the blasting device.

A Delivery jet
B Nozzle
C Gun body
D Nozzle ring nut
E Delivery jet locking nut
F Grit inlet hose barb
G Delivery jet wear point

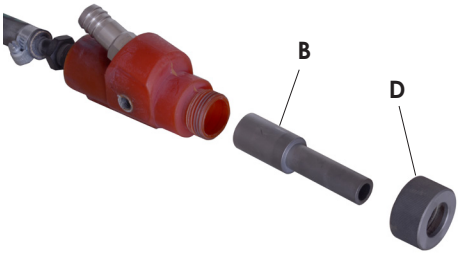


Gun bench maintenance procedure

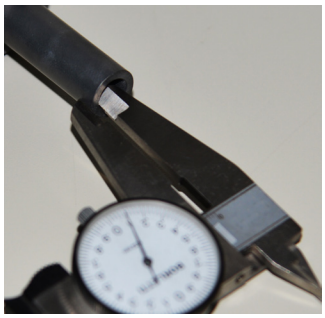
1 Loosen screw **(H)** on gun support (if any), disconnect the air inlet tube **(L)** and the grit inlet tube **(M)**.



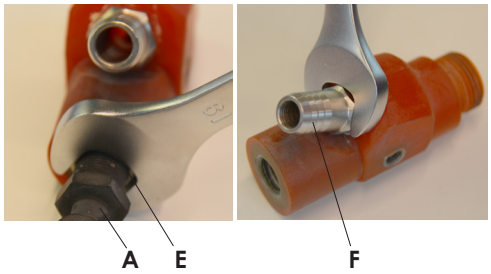
2 Take gun on bench, loosen ring nut **(D)** and take out nozzle **(B)**.



3 Check the integrity and wear status of shot-peening gun nozzle.
NOTE: The nozzle wall thickness must NOT be lower than 2 mm.

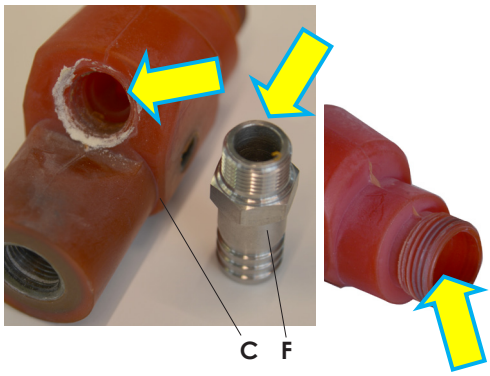


4 Loosen nut **(E)** and take out delivery jet **(A)**, loosen grit inlet hose barb **(F)** .



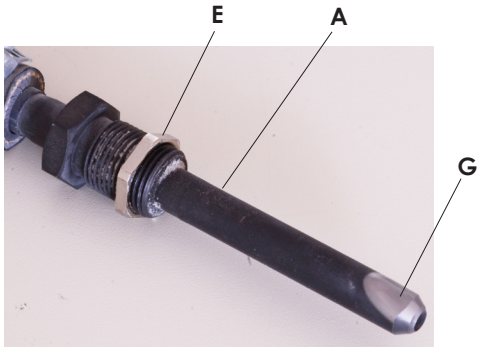
5 Visually inspect gun body **(C)** in nozzle and hose barb seats:
if it shows excessive signs of wear, r e - place it.

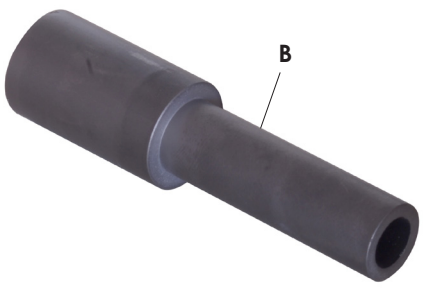
6 Visually inspect the hose barb **(F)**: replace it if worn out.



7 Check the integrity of the delivery jet:
the hole at the end of the delivery jet must be perfectly circular and must not feature side cuts **(G)**.

8 If delivery jet **(A)** and nozzle **(B)** are in good conditions, they can be refitted inside the gun body.
Refit both of them turned by 180° compared to the starting position to balance the wear points.
Upon refitting, screw the delivery jet **(A)** between the 4th and 5th thread, locking it then in place with nut **(E)**.

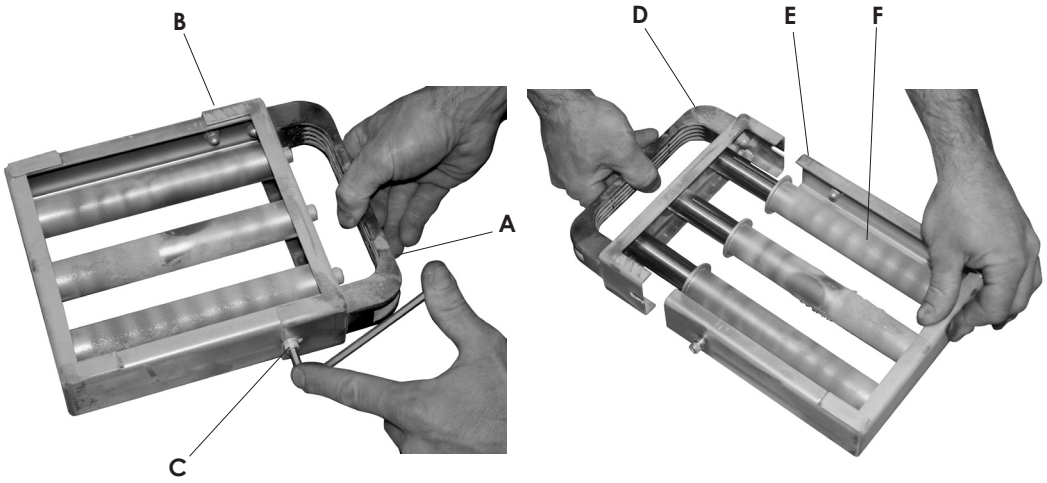




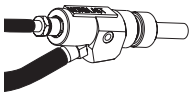
6.7 CLEANING THE MAGNETIC SEPARATOR

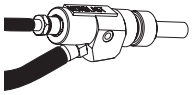
Warning! Handle magnet unit with extreme care, as their high magnetic power could cause sudden shifts and possible hand squashing. The use of working gloves is strongly recommended.

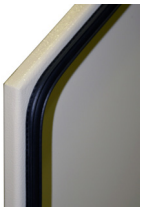
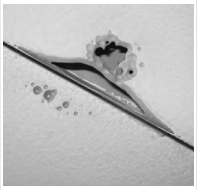
Grasp the handle **(E)** and extract the magnetic separator unit **(F)**.
Take components to the bench and slightly undo the two side screws **(C)** to release the magnet unit **(D)**.
Remove magnet unit **(D)** from its stainless steel seat **(E)**.
All metal scraps fall down; carefully clean tubes **(F)** from any dust residues with a cloth and reassemble the unit.



6.8 ROUTINE MAINTENANCE

Checks at work shift beginning / end	
	Check integrity of nozzle, check nozzle for wear. Replace if any damage is found
	Check for air leaks in the pneumatic system.
	Check for water and/or oil trapped inside filter-regulator sump. If water is in the sump, drain and check for proper operation of the drying and filtering system.
	Check the dust collector and empty it if necessary.
	Check that the rear door for cleaning is correctly closed

BLASTING DEVICE		40 h	160 h	1000 h
	Check the wear status of the shot-peening gun assembly: delivery jet, gun body, grit inlet hose barb, nozzle	•		
	Check grit delivery tubes for wear.		•	
	Clean the magnetic separator.	•		
	Visually inspect grit. Look for contamination from foreign particles. Most grit should have a size and shape similar to the original.		•	

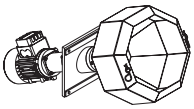
CABIN		40 h	160 h	1000 h
	Check condition of door seals		•	
	Check the status of the tempered glasses	•		
	Check for worn parts inside the cabin. Nozzle jet may have been directed at the same position repeatedly. If needed, apply a 4 - 8 mm thick rubber sheet over concerned area.		•	
	Check clamping force of door closures *Turn on cabin light and make sure that no light is filtering through.*			•

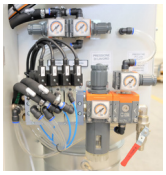
ROTARY TABLE		40 h	160 h	1000 h
	Check nozzle proper operation	•		
	Clean the nozzles		•	

SAFETY DEVICES		40 h	160 h	1000 h
	Check the safety devices for proper operation.	•		

3D9B
MANUAL SANDBLASTING - SHOT PEENING MACHINE

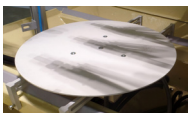
NORBLAST

TUMBLER		40 h	160 h	1000 h
	Check barrel for wear.		●	
	Make sure that the bearings for barrel rotation are clean and that the barrel can freely rotate.		●	

PNEUMATIC SYSTEM		40 h	160 h	1000 h
	Check for air leaks in the pneumatic system.		●	
	Check for water and/or oil trapped inside filter-regulator sump. If water is in the sump, drain and check for proper operation of the drying and filtering system.		●	

ELECTRIC SYSTEM		40 h	160 h	1000 h
	Check condition of power control unit door seals.		●	
	Ensure no grit is inside the power control unit.		●	

FILTERING CABINET		40 h	160 h	1000 h
	Check filtering cartridges for clogging, by looking at the differential pressure gauge reading.	●		
	Ensure that in the upper compartment of the filtering cabinet there is no grit.		●	
	Check door seal conditions			●
	Replace the filtering cartridges			●

ROTARY TABLE		40 h	160 h	1000 h
	Check table surface for wear.		●	
	Make sure that the bearings for table surface rotation are clean and that the table can freely rotate.		●	

PRESSING THE PEDAL THE SYSTEM DOES NOT WORK

PROBABLE CAUSE	SOLUTION
door open	close door and check catch clamping force
electrical microswitch malfunction	check locator proper operation and position
air connection cock closed	open the cock
blasting valve malfunction	replace it
blasting pedal malfunction	replace it

NO GRIT IS COMING OUT OF THE SHOT-PEENING-GUN

PROBABLE CAUSE	SOLUTION
no grit	open cabin door and add grit
not enough air or no air at all	check that there is air in line, that the valve is open and that pressure is equal to or above 1 bar
impurities in the lug, grit delivery tube, gun body	carefully clean
delivery jet wrong position	check that it is screwed by 5 mm
worn delivery jet	replace it
worn nozzle	replace it
pierced gun body	replace it
worn grit delivery tube	replace it

GRIT IS NOT SUCKED FROM HOPPER BOTTOM AND/OR THERE IS A LOT OF DUST INSIDE CABIN

PROBABLE CAUSE	SOLUTION
pierced mixing lug	replace it
hopper bottom obstructed	remove any debris / sticking from hopper bottom
clogged filter tissue of the cartridges	clean or change the cartridge

DUST COMES OUT OF THE FILTERING UNIT

PROBABLE CAUSE	SOLUTION
broken cartridge	replace
cartridge compartment closing door not correctly closed	close it
the dust collection bin is not correctly closed	close it
cartridge compartment closing door gasket is no longer tight	replace it
tank pressure too high	lower it

MICROBLAST MALFUNCTION

PROBABLE CAUSE	SOLUTION
dirty or worn nozzle	replace nozzle or disassemble it and free nozzle hole from dirt
sand accumulates in the nozzle feed pipe	disassemble micro-nozzle from pipe and give a light pedal stroke to free it from sand
dirty or damp grit	empty the microblast and replace the grit with new one
no air supply	check the opening and operation of the pressure regulator; if it does not work, replace it

IONISING BLOWING DEVICES MALFUNCTION

PROBABLE CAUSE	SOLUTION
the air flowing out of the nozzles is not ionised	check that the ioniser is switched on, check that nozzles are connected to the power unit
no air comes out of the nozzles	check that there is air in the line, that the valve is open and that the pressure regulation devices are open and working

3D9B

MANUAL SANDBLASTING - SHOT PEENING MACHINE

NORBLAST

APPLICATIONS	glass microball	ceramic microball	steel microball	aluminium oxide	plastic grit	steel grit	cast-iron grit
sticker removal				*	o		
anti-reflection finish	o	*					
preparation for better adhesion of chemical coating	o	*		*			
art work restoration	*				o		
preparation before gluing			o		o	o	
graphite deposits removal	o	*			*		
preparation for rubber to metal bonding				o		o	*
decorative finish	o	o		*			
burr removal	*			o			
plastic flash removal	*			*	o		
cleaning	o	o	*	o	*	*	*
glass decoration	o	*		o			
pickling	*	*	*	o		o	o
mould cleaning	o	*			o		
die cleaning	o	*			o		
paint stripping				o	*	o	o
preparation for painting	o			o		o	o
controlled shot-peening	o	o	o				
cleaning before/after welding	*			o		o	*
uniform surface finish	o	o	o	*			
satin finish	o	o					
wood pickling	*			o			
clean./high roughness				o		o	o
clean./low roughness	o	o		*		*	*
non-ferrous parts	o	o		*			
aluminium	o	o		o			
stainless steel	o	o		*			

O recommended
✻ possible

9.1 SHOT-PEENING GUN/ LANCE AIR CONSUMPTION FOR PRESSURE/ VACUUM SYSTEMS

NOZZLE DIAMETER (pressure vers.) DELIVERY JET DIAMETER (vacuum vers.)	WORKING PRESSURE (bar)						
	2	3	4	5	6	7	8
1	28	37	46.5	56	65	74	83.5
2	111	148	185	222	260	296	334
3	251	334	418	501	585	668	752
4	447	595	745	894	1040	1190	1340
5	695	927	1160	1390	1620	1860	2090
6	1000	1340	1670	2010	2340	2680	3010
8	1780	2380	2970	3570	4160	4760	5350

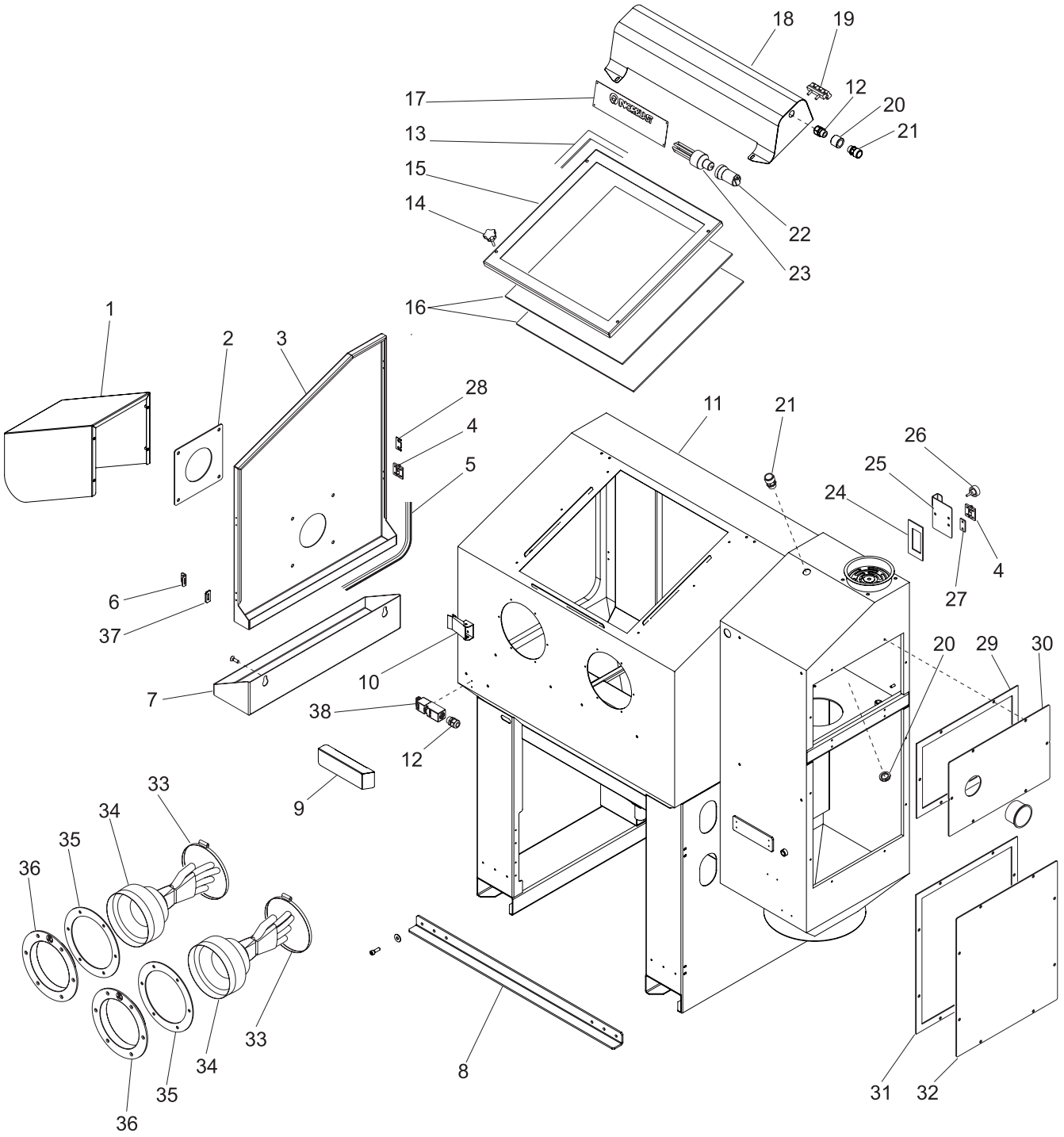
Air consumption values indicated in the table are expressed in Nl/min

Compressors operating at 7.5 bar will supply approximately 157 Nl/min per kW

Compressors operating at 10 bar will supply approximately 141 Nl/min per kW

3D9B

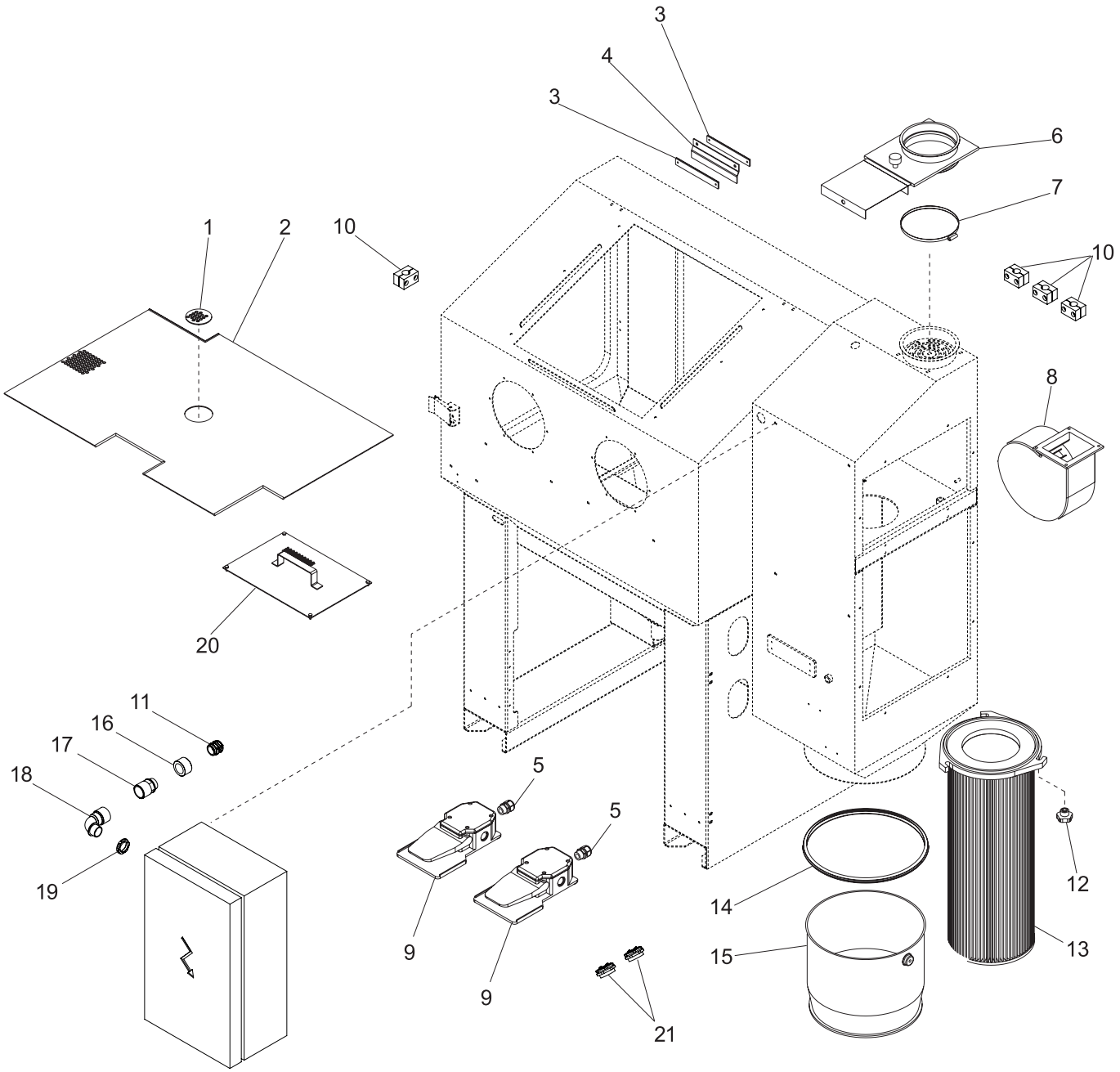
MANUAL SANDBLASTING - SHOT PEENING MACHINE



REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	027402	Tumbler motor cover guard	
2	1	020817	Tumbler hole plate seal	
3	1	025250	Door 3D9B	
4	3	006509	Hinge	EMKA 1056-U5-PH STAINLESS STEEL
5	2.5 m	005634	Reinforced drawn seal	
6	1	012872	Electric microswitch pusher device support	
7	1	016151	Dust collector	
8	1	028271	Bracket for cabin 3D9B handling with PALLET TRUCK	
9	1	027389	Door microswitch protection guard	
10	1	005720	Adjustable closing catch	2.18.00 ZINC-PLATED
11	1	028239	Structural work 3D9B	
12	2	E00554	Grey cable gland	RAL7035 PG13.5 - UL/CSA
13	6 m	000004	Seal	12x3
14	4	002464	Lobe hand wheel	VC192/40P-M6X30
15	1	005628	Glass frame	490x490 FN2000
16	2	P0084	Tempered glass	490x490 MM
17	1	000841	NORBLAST plate	
18	1	027386	Standard rounded ceiling lamp	
19	2	005633	Hinge	CFF.66 P-M6x16 ELESA
20	2	E04957	Jointing hose	PG13.5 GREY RAL 7035
21	2	E00750	Black sheath straight fitting	Ø 12 CORRUG.PG13,5
22	1	E00194	Lamp holder	VIMAR E27 °43mm PORC. F/90
23	1	E00835	Lamp	0035011 ML HOME 23W T3 E27
24	1	020442	Stack inspection seal in expanded EPDM	
25	1	011742	Stack inspection door	
26	1	002462	Ashlar-worked knob	MBT.30 P-M5x20
27	1	011743	Hinge spacer	
28	AS REQUIRED	028270	Hinge slotted shim	AS REQUIRED
29	1	020431	Filter upper guard seal in EPDM	
30	1	005625	Filter top cover	FN2000
31	1	020434	Filter lower guard seal in EPDM	
32	1	005642	Filter bottom cover	FN2000
33	2	000579	Clamp	No.14 168--188 ZINC-PLATED
34	1	000548	Pair of latex gloves	SIZE 11
35	2	005916	Glove holder flange gasket	
36	2	000577	Glove holder flange	
37	AS REQUIRED	022533	Microswitch adapter spacer	AS REQUIRED
38	1	E01582	Limit switch with safety device	PIZZATO FR693-D1
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

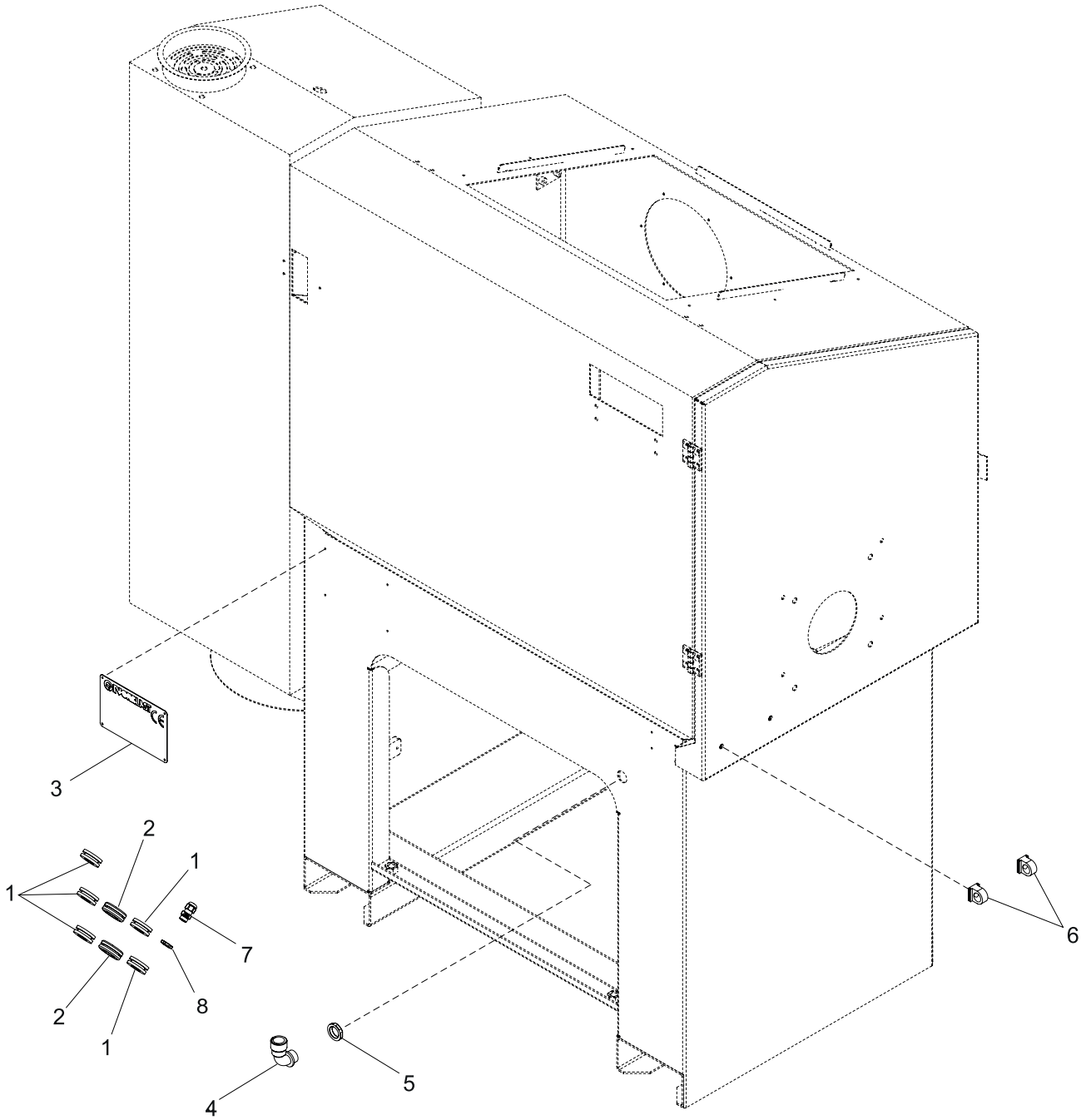
MANUAL SANDBLASTING - SHOT PEENING MACHINE



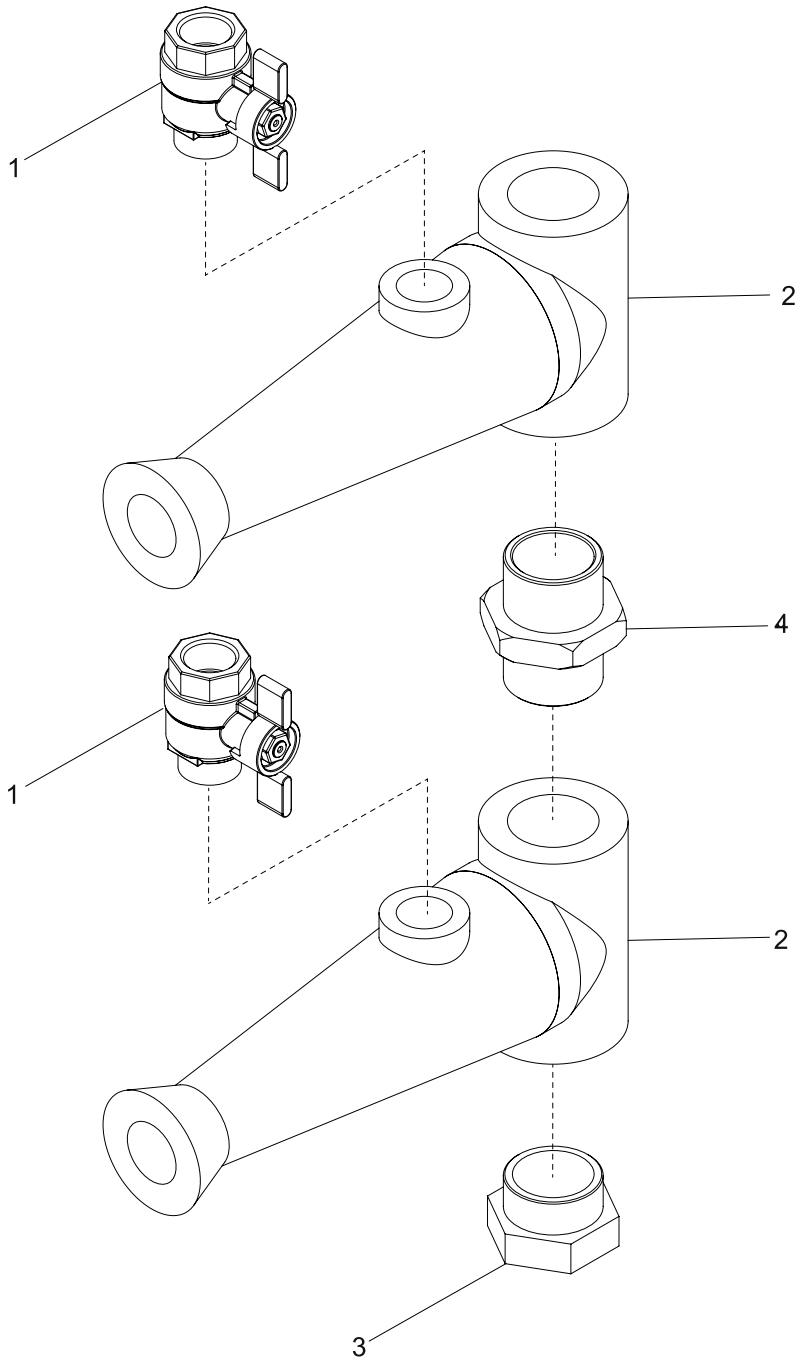
REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	005627	Table seat cap	
2	1	005626	Grid surface	
3	2	011744	Diaphragm trim	
4	1	011745	Intake stack closing diaphragm	
5	2	E00372	Plastic cable gland	M20X1.5 COLOUR RAL 7035
6	1	007171	Moulded gate valve shutter	ITEM NO.169 Ø140
7	1	007172	Single ring	ITEM NO.218 Ø140
8	1	005636	Exhauster	G2E 140 AE77 01
9	2	E01874	Electric pedal without cover	PA 10100
10	4	005800	Tube collar Ø20	320-PPH STAUFF
11	1	E00706	Grey cable gland	PG21 - UL/CSA
12	3	005637	Knob	Ø40 M10 THROUGH HOLE
13	1	005635	Filtering cartridge	Ø218x600 P 5.35 MQ Polyester
14	1	006441	Zinc-plated ring	Ø292
15	1	016478	Dust collecting bin	Ø292xh250 SD7/9/12
16	1	E04956	Jointing hose	PG21 GREY 7035
17	2	E03391	Sheath straight fitting Ø23	PG21 GREY RAL 7035
18	6	E03392	Sheath 90° fitting Ø23	PG 21 BLACK
19	6	E00551	Polyamide check nut	PG21 GREY RAL 7035
20	1	020910	Hopper drilled cover	
21	2	E01537	Cable panel mount	ROXTC RS T 31
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

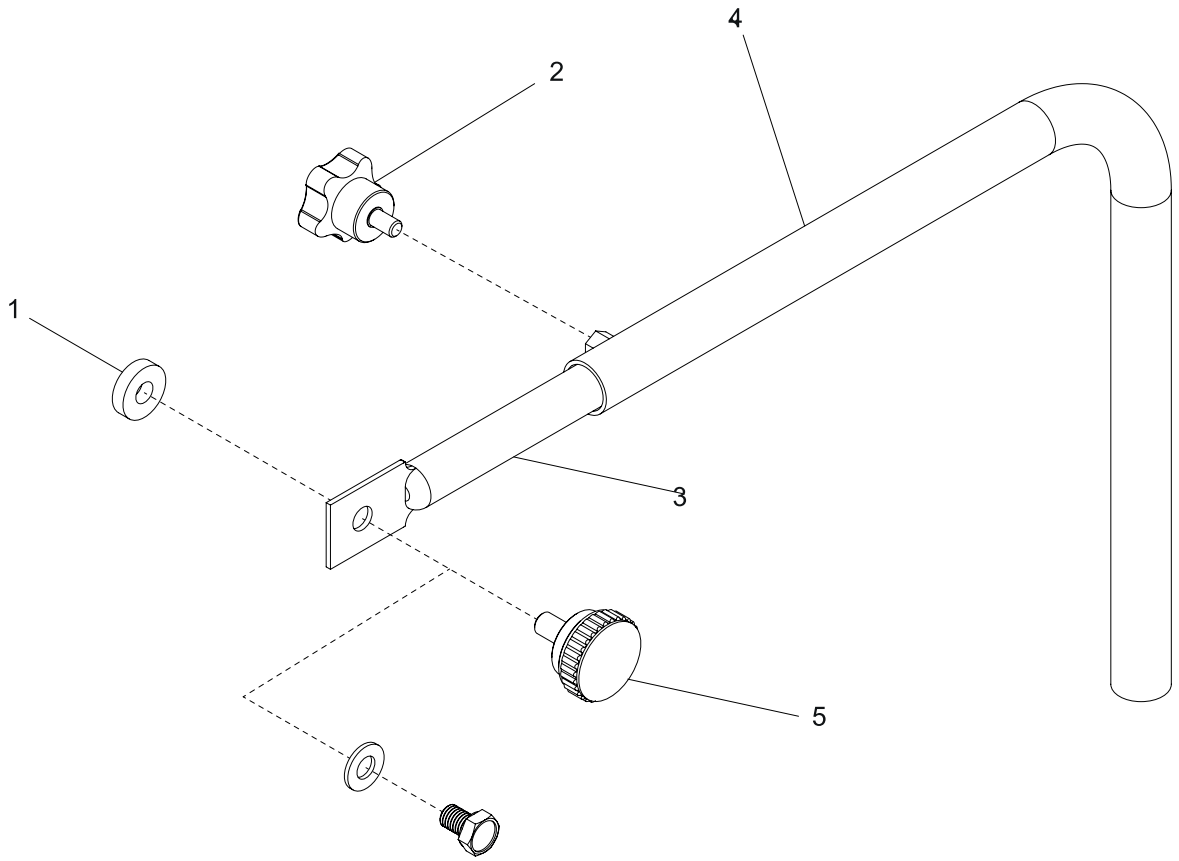
MANUAL SANDBLASTING - SHOT PEENING MACHINE



REF.	QTY	CODE	DESCRIPTION	TYPE
1	5	002219	Rubber cable grommet Ø17	CODE 2090
2	2	002220	Rubber cable grommet Ø23	CODE 2090
3	1	P0001	EC plate	
4	1	E02553	90° fitting Ø12	PG 13.5 6BBN12P13
5	1	E00549	Polyamide check nut	PG13.5 GREY RAL 7035
6	2	E03726	Sheath retainer with integrated safety clip Ø12	
7	1	E00666	Cable gland type SKINTOP	PG7 GREY RAL 7035
8	1	E00667	Polyamide check nut	PG7 GREY RAL 7035
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

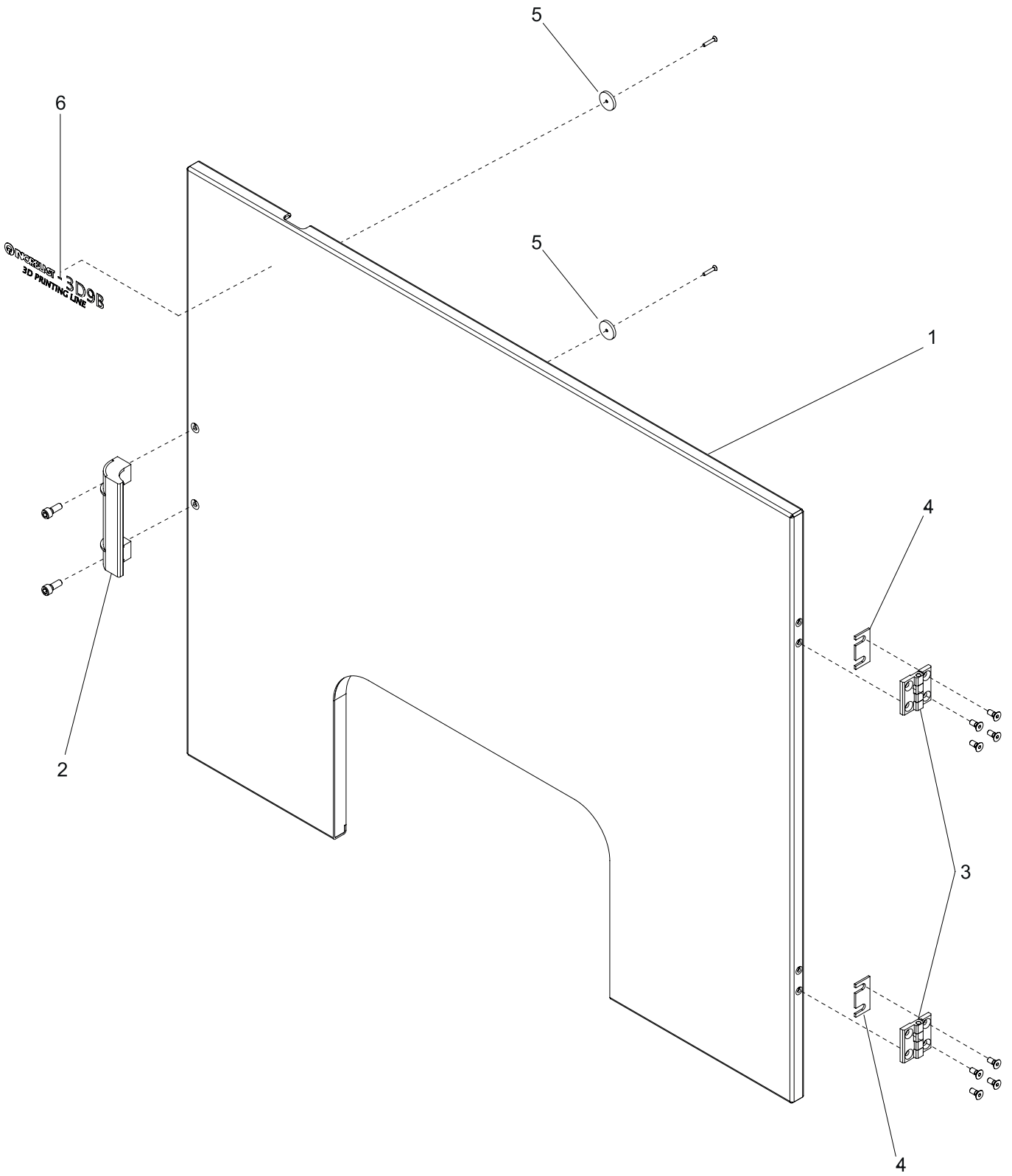

1
2
4
1
2
3

REF.	QTY	CODE	DESCRIPTION	TYPE
1	2	016310	Ball Valve	G 1/2" M7F CODE 9250TR12
2	2	013423	Polyurethane recirculation composite lug	
3	1	012635	Plug	1"M TN. 1 ELESA Code 58299
4	1	000198	Nipple fitting	1" M/M
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				


4
2
1
3
5

REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	020943	Shimmed washers	Ø8x20 thickness 5
2	1	028273	Lobe hand wheel	VCT. 25 P-M6X10-C9
3	1	007022	Shot-peening gun support extension	
4	1	007021	Shot-peening gun support bent pipe	
5	1	028311	Knurled handle	B 193/30-p M6-16
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

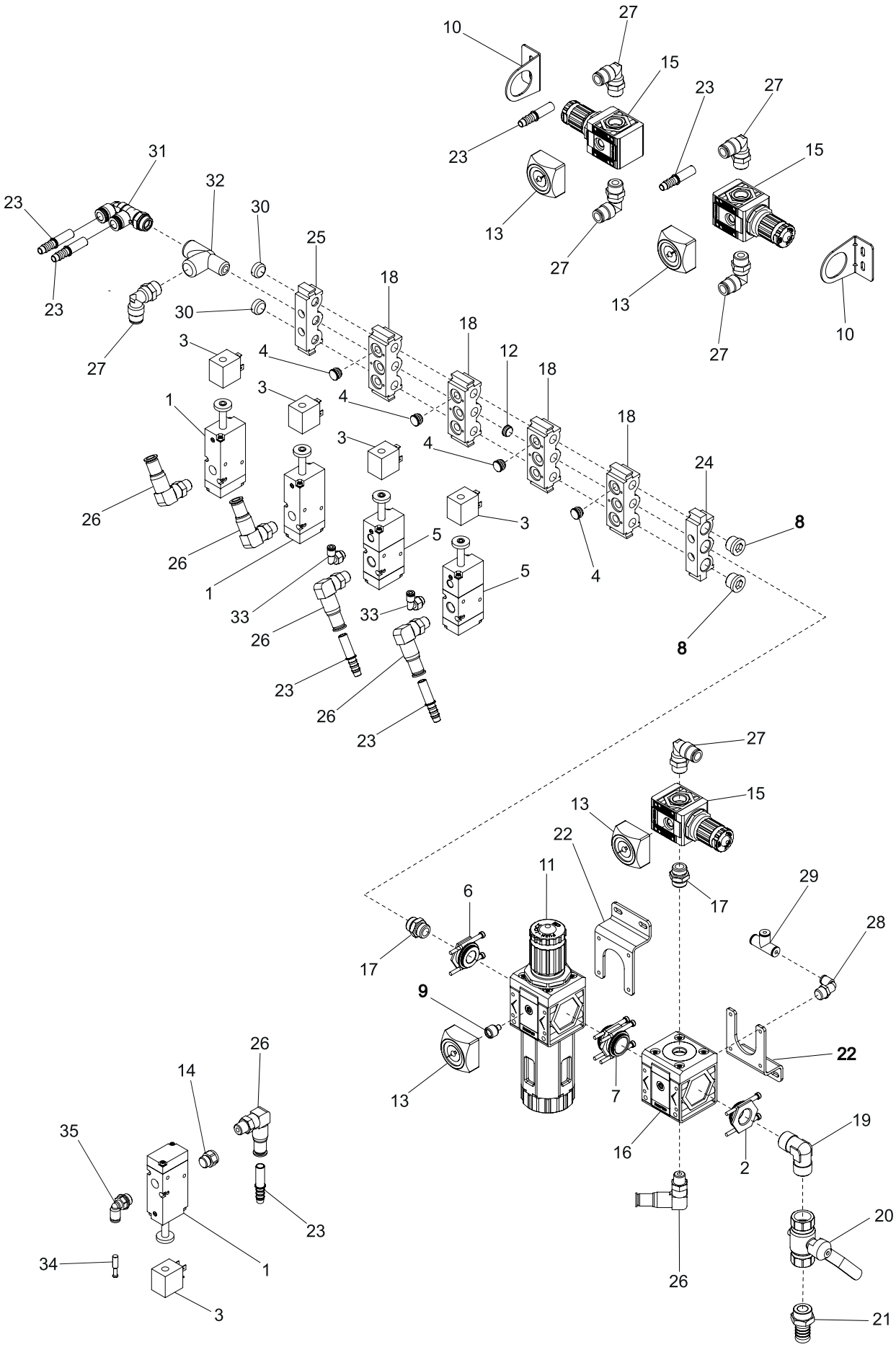
3D9B
MANUAL SANDBLASTING - SHOT PEENING MACHINE



REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	027387	Lower door SD9	
2	1	028291	Safety handle with green cover	
3	1	006509	Hinge	EMKA 1056-U5-PH STAINLESS STEEL
4	AS REQUIRED	028270	Hinge slotted shim	AS REQUIRED
5	2	011966	Neodymium magnet Ø20	
6	1	028486	Lower door stickers 3D9B	
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

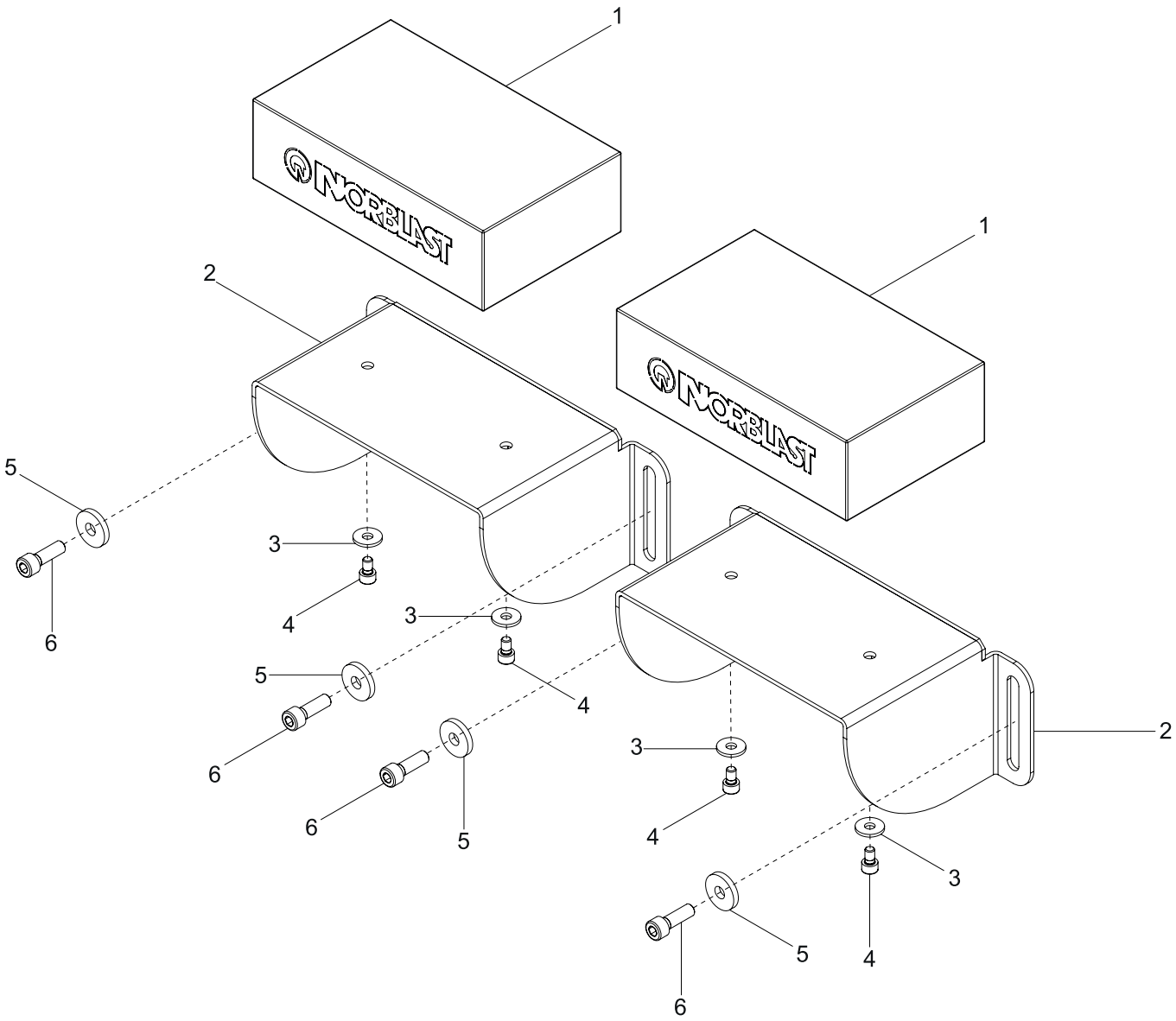
MANUAL SANDBLASTING - SHOT PEENING MACHINE



REF.	QTY	CODE	DESCRIPTION	TYPE
1	3	006820	Solenoid valve SOV 33 SOS NC	METAL WORK Code 7020020200
2	1	028256	Accessory KIT IN OUT 1/2 SY2	9210012
3	5	007704	Coil 24 VDC	METAL WORK W0215000101
4	4	028260	Modular base blanking cap 70 1/4	0226005001
5	2	008716	Solenoid valve SOV 33 SES NC	METAL WORK 7020020500
6	1	028257	Accessory KIT IN OUT 3/8 SY2	9210011
7	1	028258	Accessory KIT connection element SY2	9210010
8	1	000045	Plug 3/8"M Bosch	1149TR38
9	1	028266	Adapter 1/4 Pressure gauge 1/8 SY2	9210005
10	2	027040	Fixing bracket Regulator-Regulator filter	METAL WORK 9200701
11	1	028254	Regulator filter w/out bushings	FR SY2 5 012 RMSA 5620B160
12	1	028259	Modular base intermediate diaphragm 70 1/4	0226005000
13	4	028265	Pressure gauge 40X40 1/8 0-12 Bar	
14	1	000084	Silencing device SFE 1/4"	METAL WORK W0970530053
15	3	027833	Pressure regulator 3/8"	5613R143 SY1 Metalwork
16	1	028255	4-way air outlet SY2 w/out bushings	5620P200
17	2	000993	Nipple Fitting	3/8" M/M
18	4	028261	modular base 1/4 manifold 70	0226005150
19	1	020825	90° fitting 1/2" M/M	
20	1	016811	Ball Valve	3/2 1/2" F/F/M5
21	1	000086	Hose Barb Ø16 1/2"	
22	2	028264	Fastening bracket SY2	9200717X
23	7	011610	Rubber Hose Connection Insert Ø10	Bosch R412005370
24	1	028263	Modular base terminal with O-ring 70 1/4	0226005200
25	1	028262	Modular base terminal without O-ring 70 1/4	0226005201
26	6	005640	90° fitting Rotary 1/4"M-Ø10	
27	6	000142	90° fitting 3/8"M-D.10 Quick-release	
28	1	001269	90° fitting	1/4"M-D.4 Quick-release
29	1	003247	Intermediate "T"-fitting	D.4 Quick-release
30	2	000150	Air Exhaust Silencing device 3/8" Concealed Plate	
31	1	023934	Double-"L" fitting 3/8" Rilsan Ø10 Rotary	
32	1	000204	T-fitting 3/8"	M/F/F
33	2	000111	90° fitting	1/8"M-D.4 Quick-release
34	1	023998	Quick-release plug Ø6	Pp06N
35	1	001347	90° fitting	1/4"M-D.6 Quick-release
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

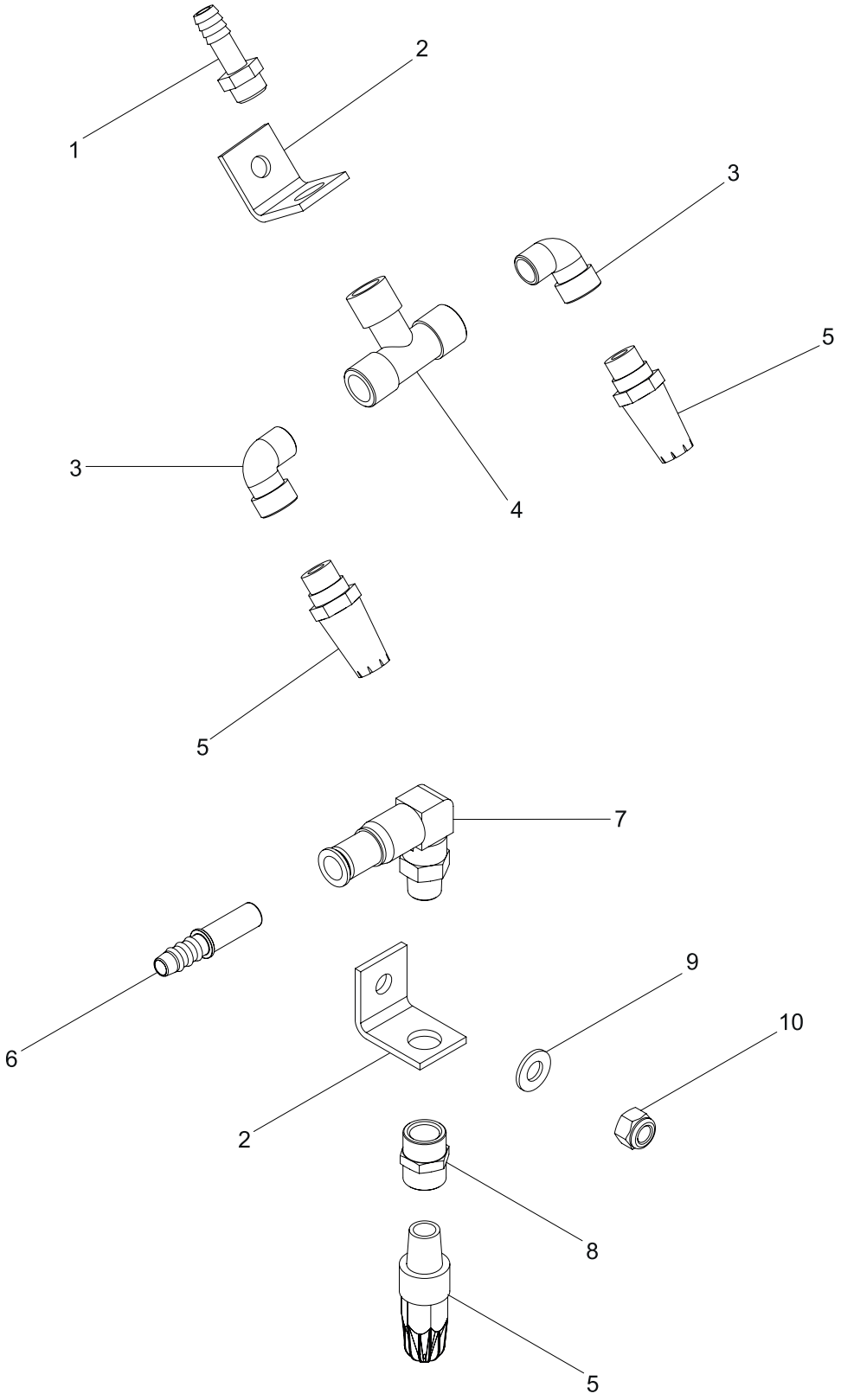
MANUAL SANDBLASTING - SHOT PEENING MACHINE



REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	027827	Pair of elbow supporting cushions	
2	2	028516	Operator's arm support 2020	PAINTED RAL 9011
3	4	005070	Flat washer with wide band	Ø6x18 UNI-6593
4	4	000007	TCEI screw	M6x10 UNI-5931
5	4	021621	Thick washer	Ø8x24 4mm THICK
6	4	000061	TCEI screw	M8x25 UNI-5931 GALVANISED
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

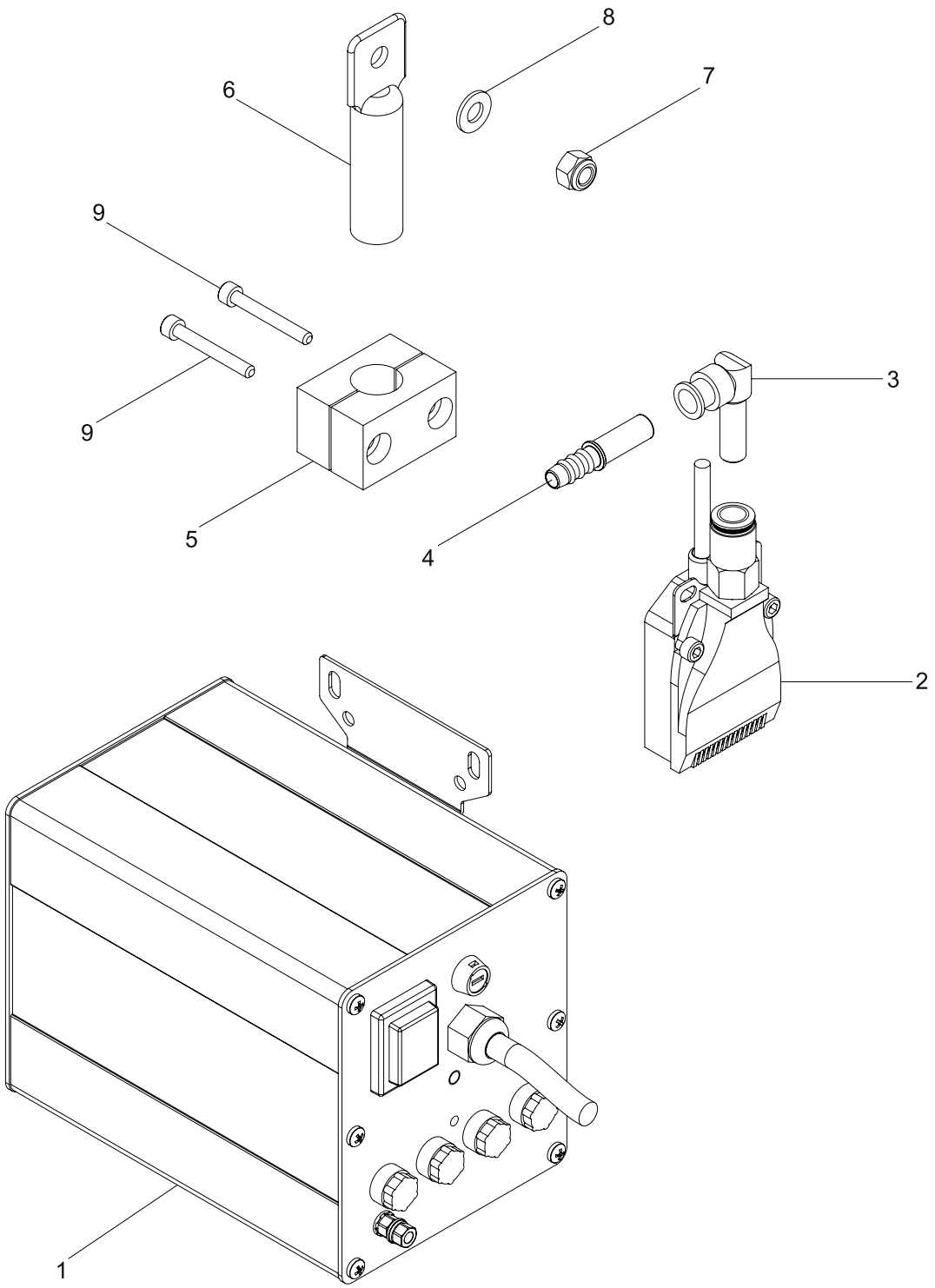
MANUAL SANDBLASTING - SHOT PEENING MACHINE



REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	000121	Hose barb	1/4" M Ø10
2	2	000950	Hose barb support Ø10 1/4"	
3	2	000122	90° fitting	1/4" M/F
4	1	002432	T-fitting	1/4" F/F/F
5	3	002468	Air blowing nozzle 1/4"M	SILENT
6	1	011610	Rubber Hose Connection Insert Ø10	Bosch R412005370
7	1	005640	90° fitting	1/4" M Ø10
8	1	000930	Hose fitting 1/4"	
9	1	000168	Flat washer Ø8.4	UNI-6592
10	1	004282	Self-locking nut	M8 UNI-7473
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

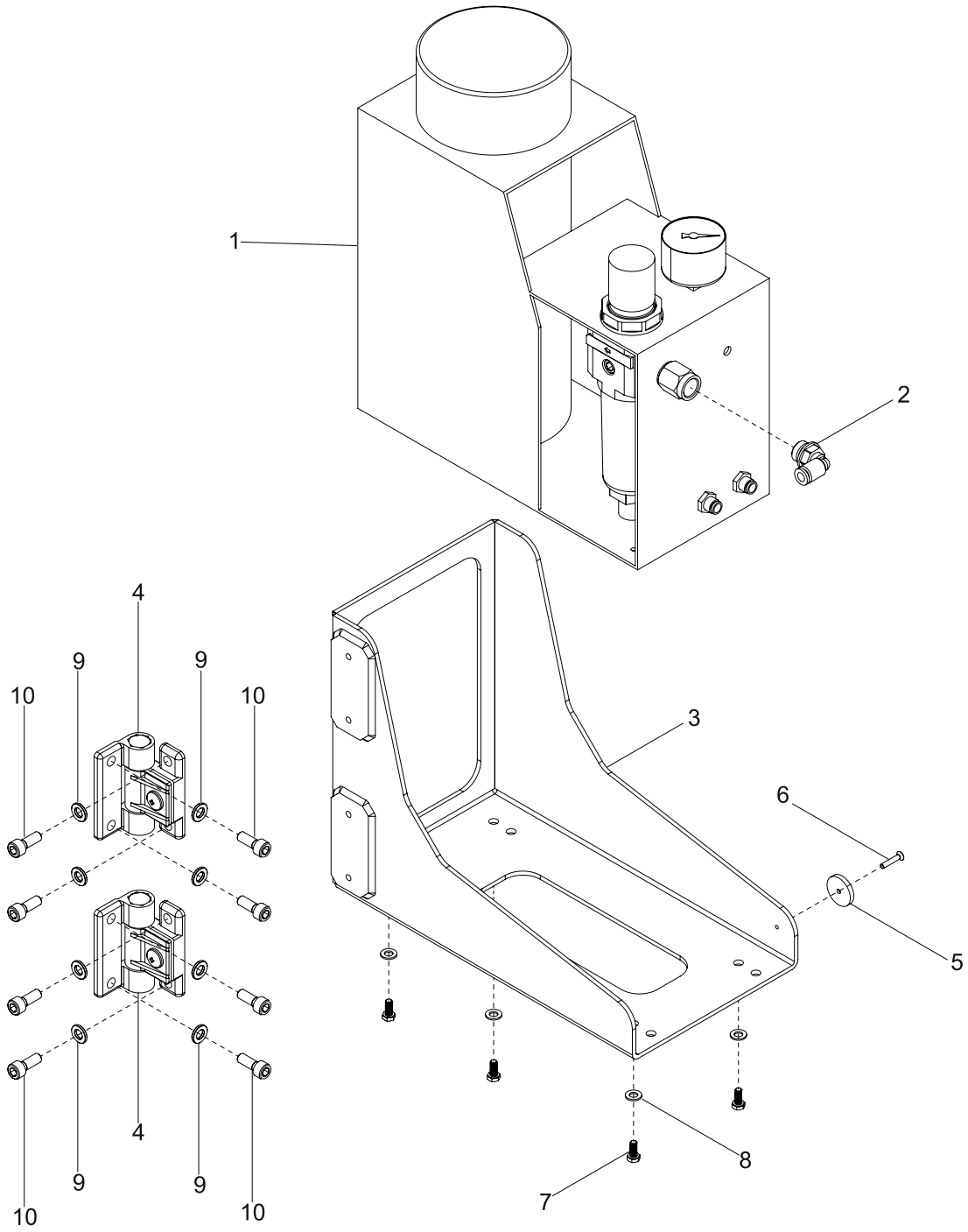
MANUAL SANDBLASTING - SHOT PEENING MACHINE

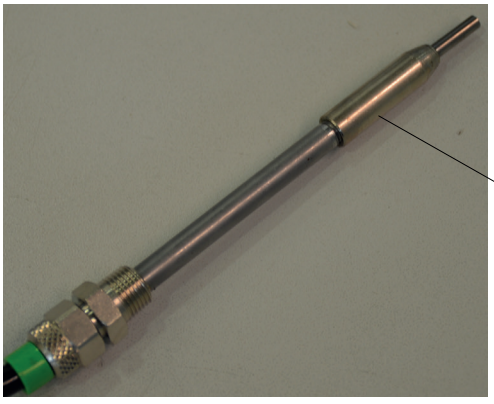


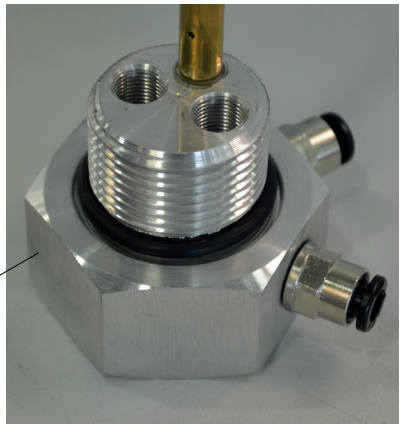
REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	027242	Power unit 60 LED 230V 50 Hz	101349 DR. ESCHERICH
2	2	026663	STATIK AIR MULTIJET	100224 DR.ESHERICH
3	2	018665	90° quick-release fitting	Ø10/Ø10 PLJ 1000PN TIERRE
4	2	011610	Rubber Hose Connection Insert Ø10	Bosch R412005370
5	2	005800	Tube collar Ø20	320-PPH STAUFF
6	2	026666	Shot-peening gun support extension	L=95mm
7	2	004282	Self-locking nut	M8 UNI-7473
8	2	000168	Flat washer Ø8.4	UNI-6592
9	4	000066	TCEI screw	M5x40 UNI-5931
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

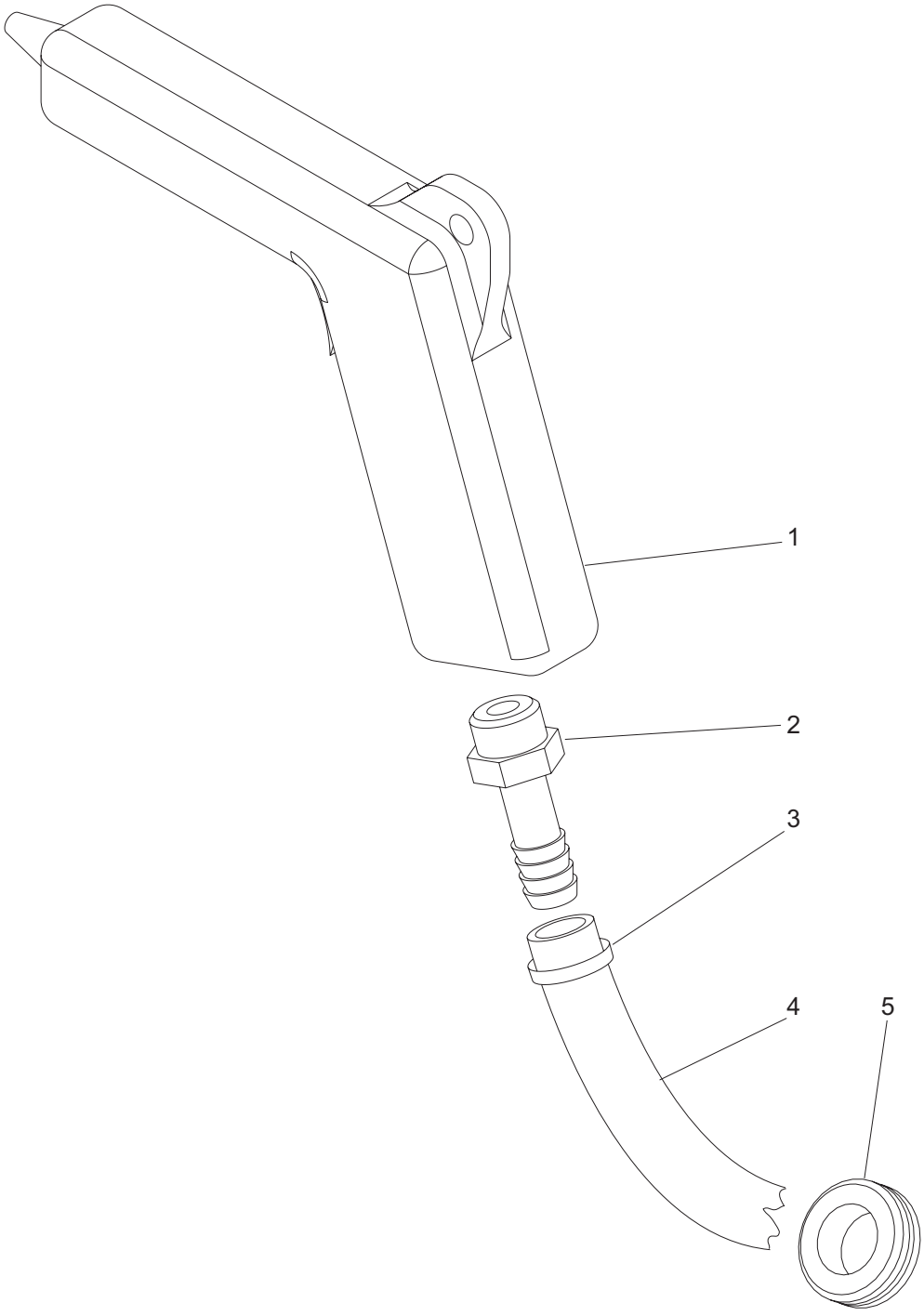
MANUAL SANDBLASTING - SHOT PEENING MACHINE







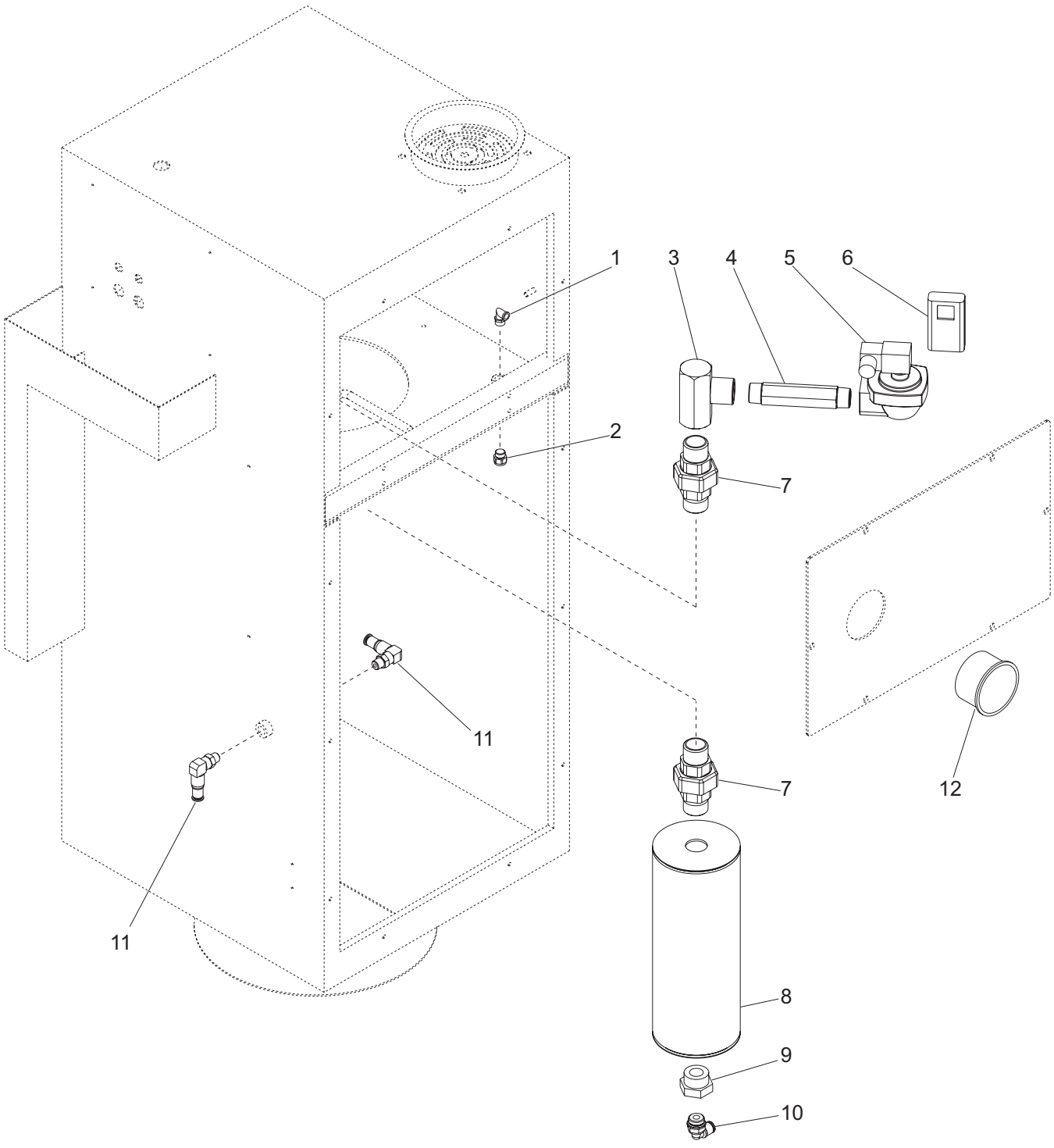
REF.	QTY	CODE	DESCRIPTION	TYPE
1A	1	017368	Microblast mini sandblasting machine with Nozzle Ø 0.8	
1B	1	024956	Microblast mini sandblasting machine with Nozzle Ø 1.0	
1C	1	025750	Microblast mini sandblasting machine with Nozzle Ø 1.2	
2	1	001347	90° quick-release fitting	1/4" M Ø6
3	1	028272	MICROBLAST 3D9B support bracket	
4	2	009277	Clutch hinge	E6-10-501-20 SOUTHCO
5	1	011966	Neodymium magnet ø20	NS01.2033 (ITALFIT)
6	1	020099	TSEI screw	M3X16 UNI-5933
7	4	001653	TE screw	M4X10 UNI-5739
8	4	000807	Flat washer Ø5.3	UNI-6592
9	8	000123	Flat washer Ø6.4	UNI-6592
10	8	000136	TCEI screw	M6X16 UNI-5931
11A	1	017369	Nozzle Ø0.8 MICROBLAST	
11B	1	017370	Nozzle Ø1.0 MICROBLAST	
11C	1	017371	Nozzle Ø1.2 MICROBLAST	
12A	1	024826	Distributor with filters and pads MICROBLAST NOZZLE Ø0.8	
12B	1	025889	Distributor with filters and pads MICROBLAST NOZZLE Ø1.0	
12C	1	025890	Distributor with filters and pads MICROBLAST NOZZLE Ø1.2	
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				


1
2
3
4
5

REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	000896	Blowing gun	04-115/1 04-115/1.SR
2	1	000121	Hose barb	DIAM.10 1/4"
3	2	000580	Clamp	No. 2 10-18 ZINC-PLATED PIPE 10x17
4	2.5 m	000018	Tube	ø10x17
5	1	002219	Rubber wiring grommet	ø17.5
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

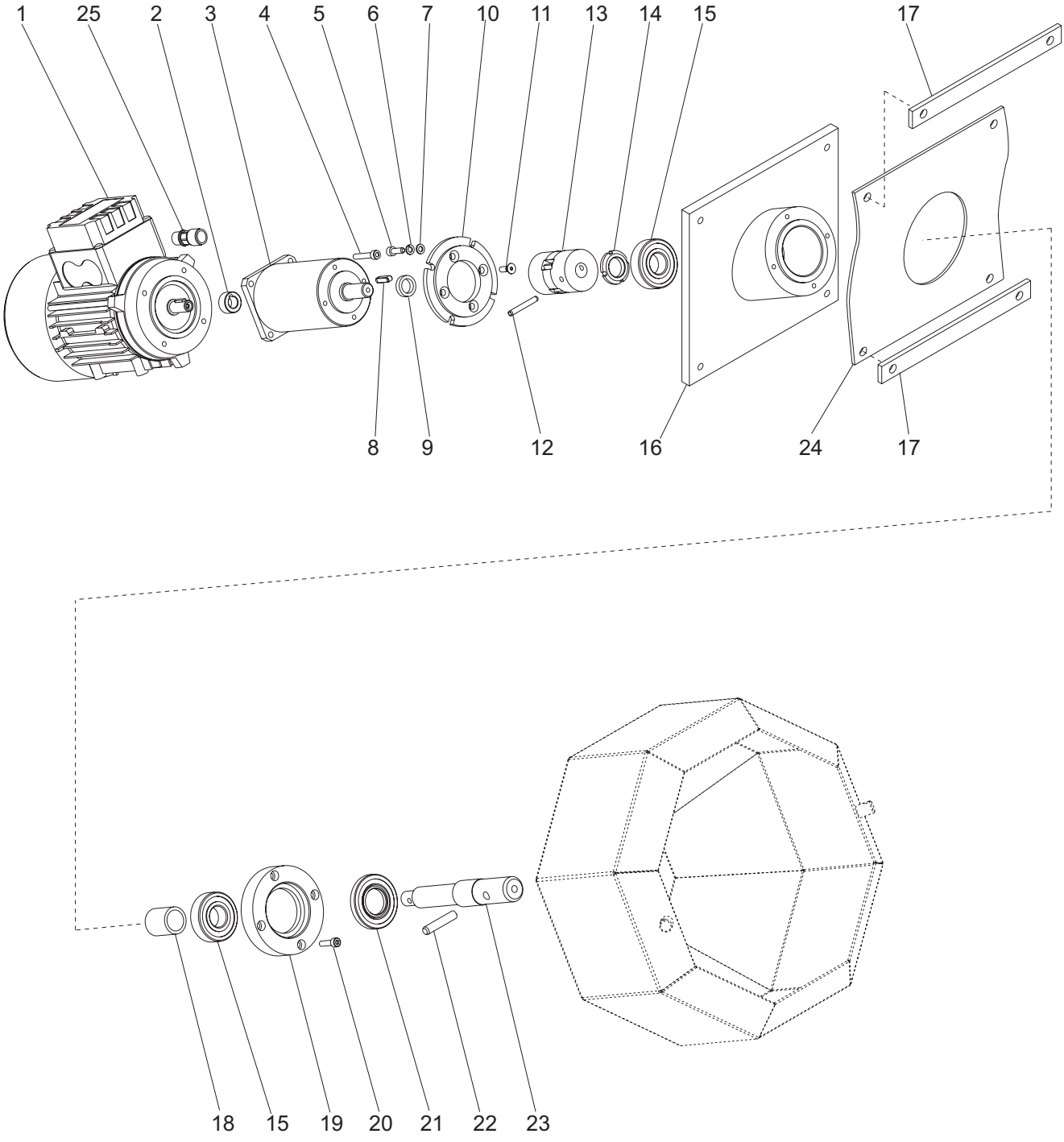
MANUAL SANDBLASTING - SHOT PEENING MACHINE



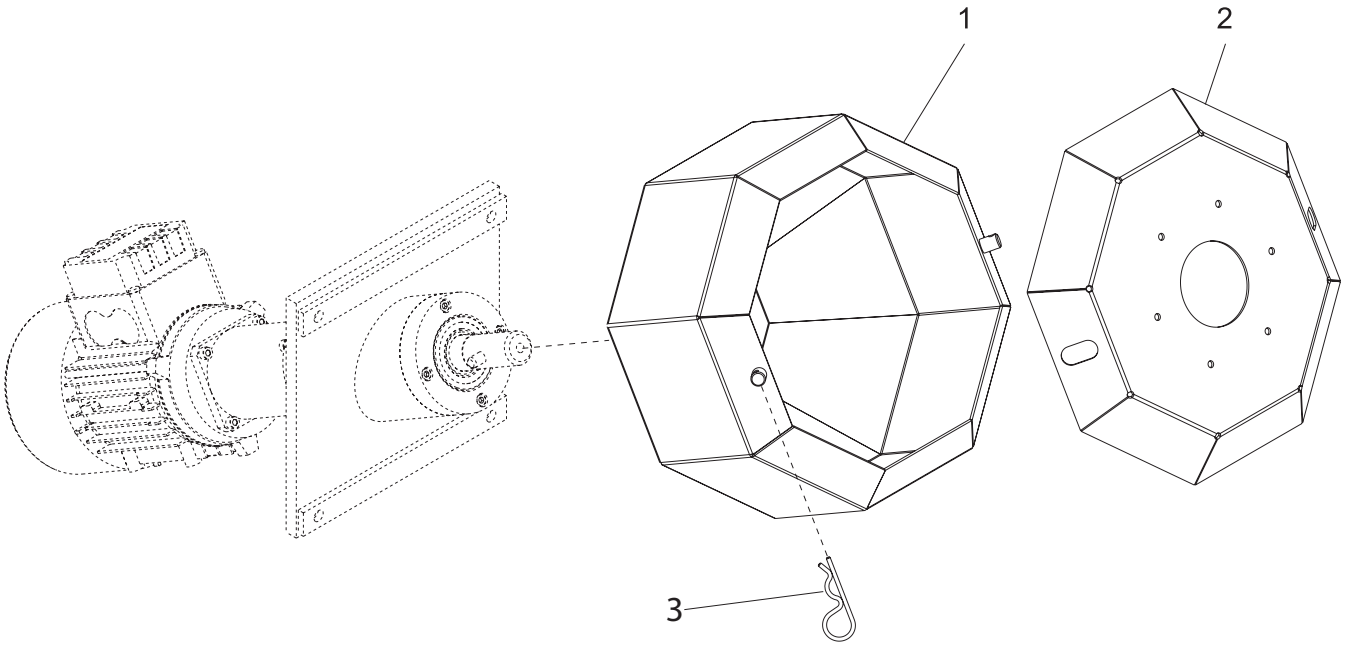
REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	002470	90° fitting	1/4"M-D.8 QUICK PLG0802
2	1	000084	Silencing device	SFE 1/4" W0970530053 K
3	1	021089	Filter air distributor ECO/9	
4	1	021060	Hose	L.135 3/4" NEW ASSY
5	1	005209	Solenoid valve	FP20 3/4"N.C.230V 50/60 Hz
6	1	E03854	Pause/pulse timer	MPM - 24-240V ac/dc RSP22
7	2	002496	Union fitting	1"M/M G.F- TAPERED
8	1	005450	CLEANING tank 4"	
9	1	000199	Reducing fitting	1"-1/2" M/F
10	1	001083	90°-Fitting	1/2"M-D.10 QUICK-RELEASE PLG1004
11	2	005640	90° rotating quick-release fitting	1/4"M-Ø10
12	1	020424	Analogue differential pressure gauge	Mini Helic 5000 0-50 mm
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

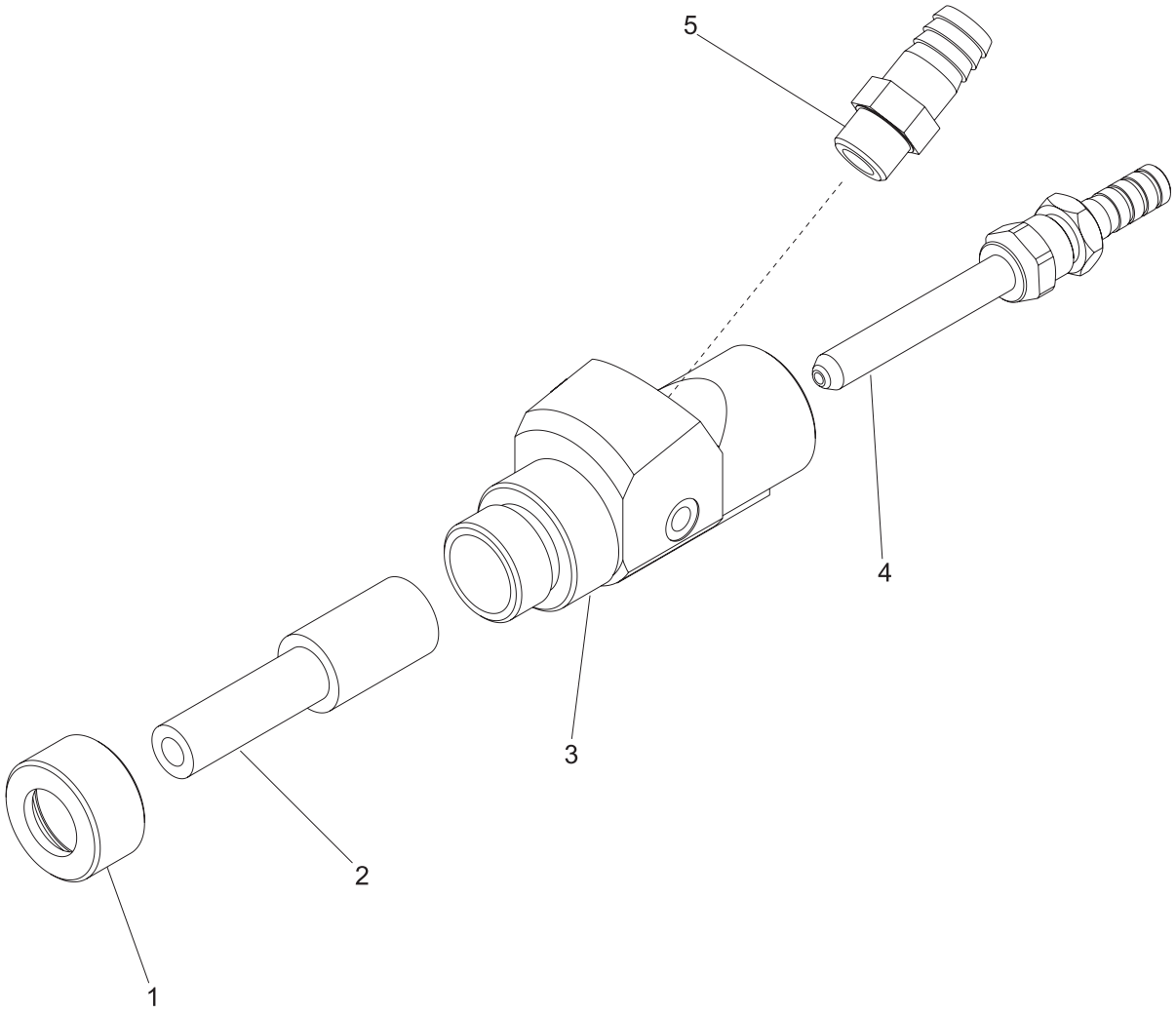
MANUAL SANDBLASTING - SHOT PEENING MACHINE



REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	001323	Motor	H63B/4 63B14 180 W
2	1	014530	Reduction unit spacer	
3	1	007016	Reduction unit	RID60-3-120-SK1123 63B14
4	4	006725	TCEI screw	M5x30 UNI 5931
5	4	004467	TCEI screw	M5x16 UNI 5931 GALVANISED
6	4	006898	Spring washer	Ø5.1 UNI 1751
7	4	000807	Flat washer	Ø5.3 UNI 6592
8	1	001365	Key	5X5X20 UNI 6604-69
9	1	006863	Flexible coupling spacer bushing	20x14x5
10	1	006864	Economic tumbler adapting flange	
11	4	006865	TSEI screw	M5x16 UNI 5933 GALVANISED
12	1	006887	Spring pin	5X36 UNI 6874
13	1	006862	Joint	POGGI GH 24/24 Ø14
14	1	002908	Ring nut	KM4 M20X1
15	2	000495	Radial ball bearing	6204-2RS1 20x47x14 SKF
16	1	006877	Economic tumbler bearing holder hub	
17	2	016662	Tumbler gasket support	
18	1	006879	Bearing spacer	
19	1	006878	Seal seat cap	
20	4	000181	TCEI screw	M5x20 UNI 5931 GALVANISED
21	1	006880	Seal	AS 25527
22	1	001231	Cylindrical pin	Ø8x40 UNI 1707 (m6)
23	1	006881	Economic tumbler shaft with bearings	
24	1	021482	Seal	
25	1	E00754	Black straight fitting	Ø 12 M20X1.5
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				


1
2
3

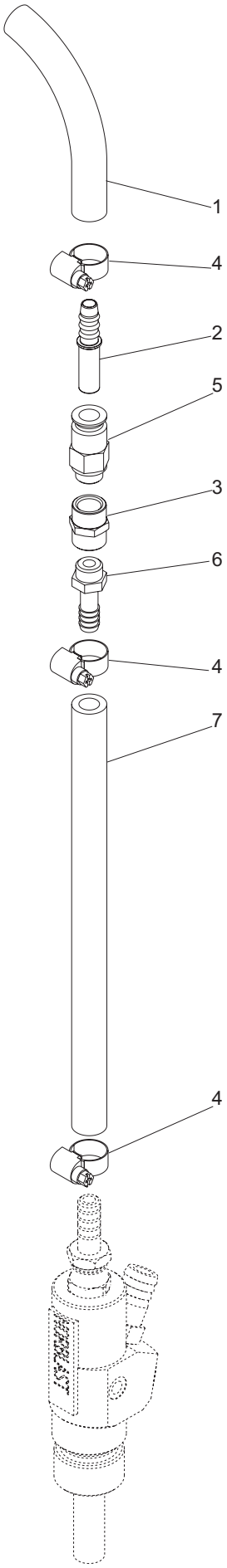
REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	015506	Barrel	Ø300 HOLE Ø3 new
2	1	015505	Barrel cover	Ø300 new
3	2	017781	Stainless steel R pin	A2 3X61 CODE 705RI03
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				


5
4
3
2
1

REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	P0055	Vacuum nozzle ring nut	
2	1	P0056	Vacuum nozzle	22x85 Ø8 CARB.TUNGS.
3	1	004854	Complete gun body in polyurethane with connections	
4	1	000561	Delivery jet with nut	DOS. D.3.2
5	1	016744	Stainless steel hose barb	3/8"-17 CODE 4GA11G03
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

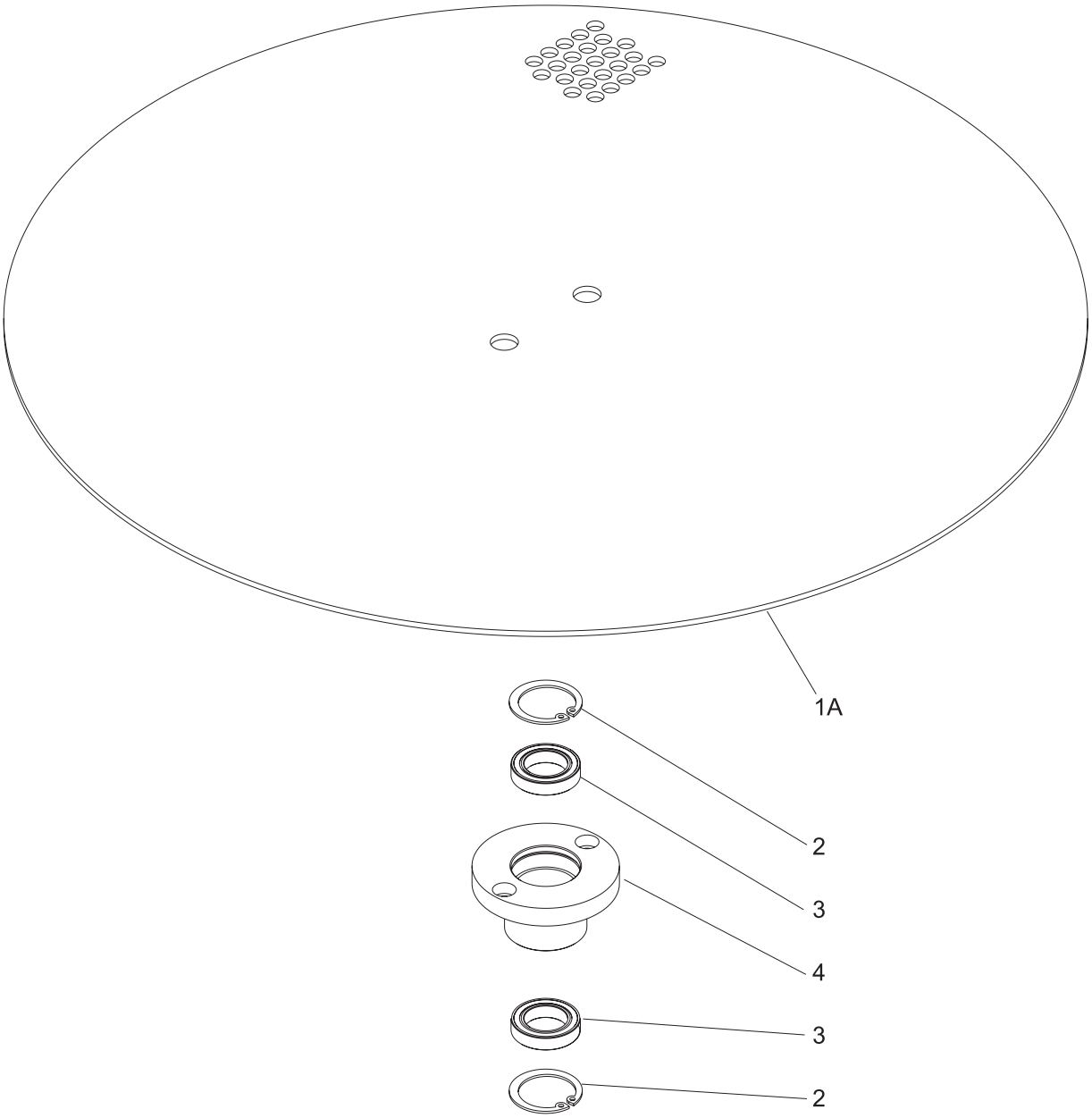
MANUAL SANDBLASTING - SHOT PEENING MACHINE



REF.	QTY	CODE	DESCRIPTION	TYPE
1	1 m	000018	Hose	10X17 BLACK RUBBER
2	1	011610	Rubber hose connection insert	Ø10 BOSCH R412005370
3	1	000930	Hose fitting	1/4"
4	3	000580	Clamp	No.2 10-18 ZINC-PLATED PIPE 10x17
5	1	004963	Straight quick-release fitting	Ø10-1/4"M
6	1	000121	Hose barb	Ø10 1/4"
7	1	026290	Tube	8
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

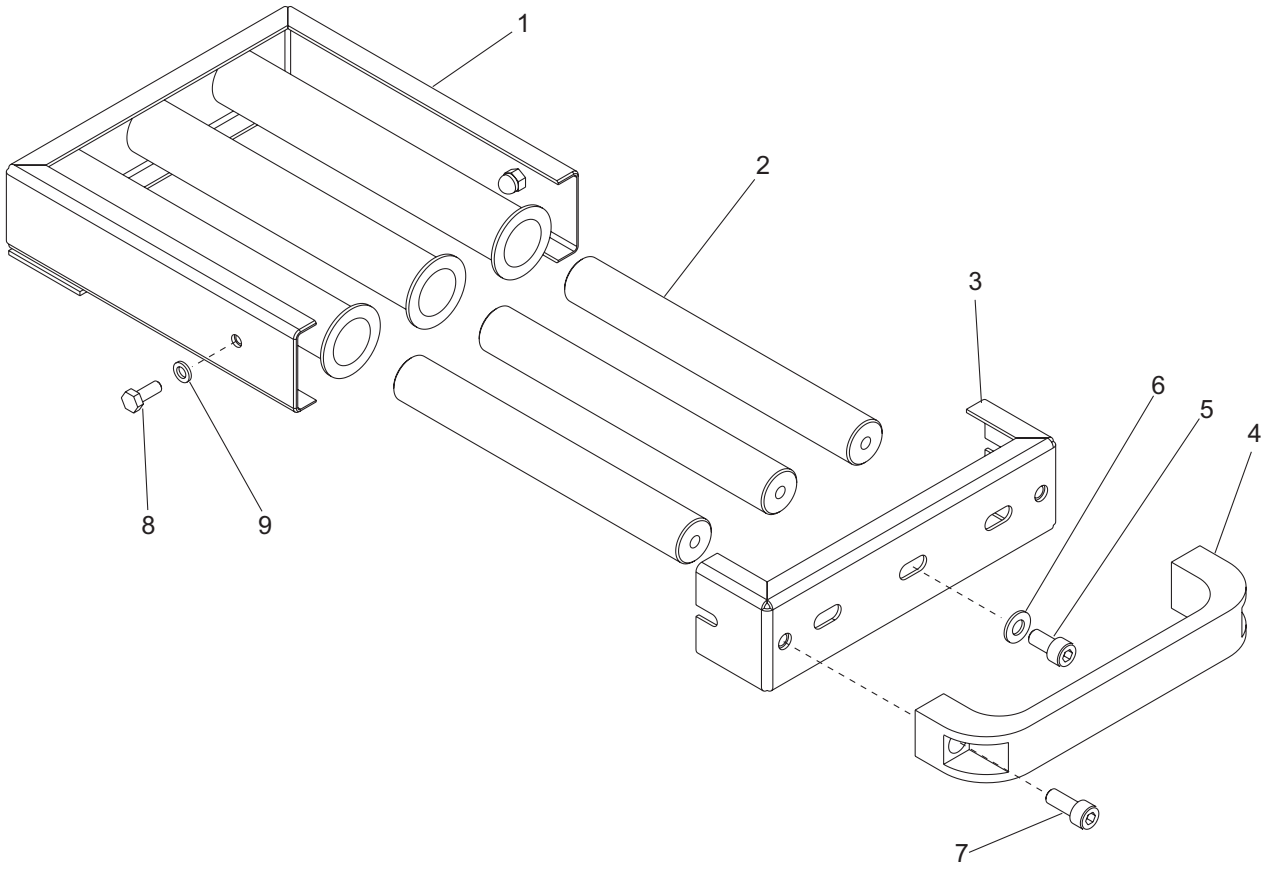
MANUAL SANDBLASTING - SHOT PEENING MACHINE



REF.	QTY	CODE	DESCRIPTION	TYPE
1A	1	005792	Plate	Ø500 TGM FN2000
2	2	001700	Circlip	Ø32 FOR INT. UNI 7437
3	2	005793	Radial ball bearing	61804-2RS1 20x32x7 SKF
4	1	005791	Bearing hub	TGM S9
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49 50				

3D9B

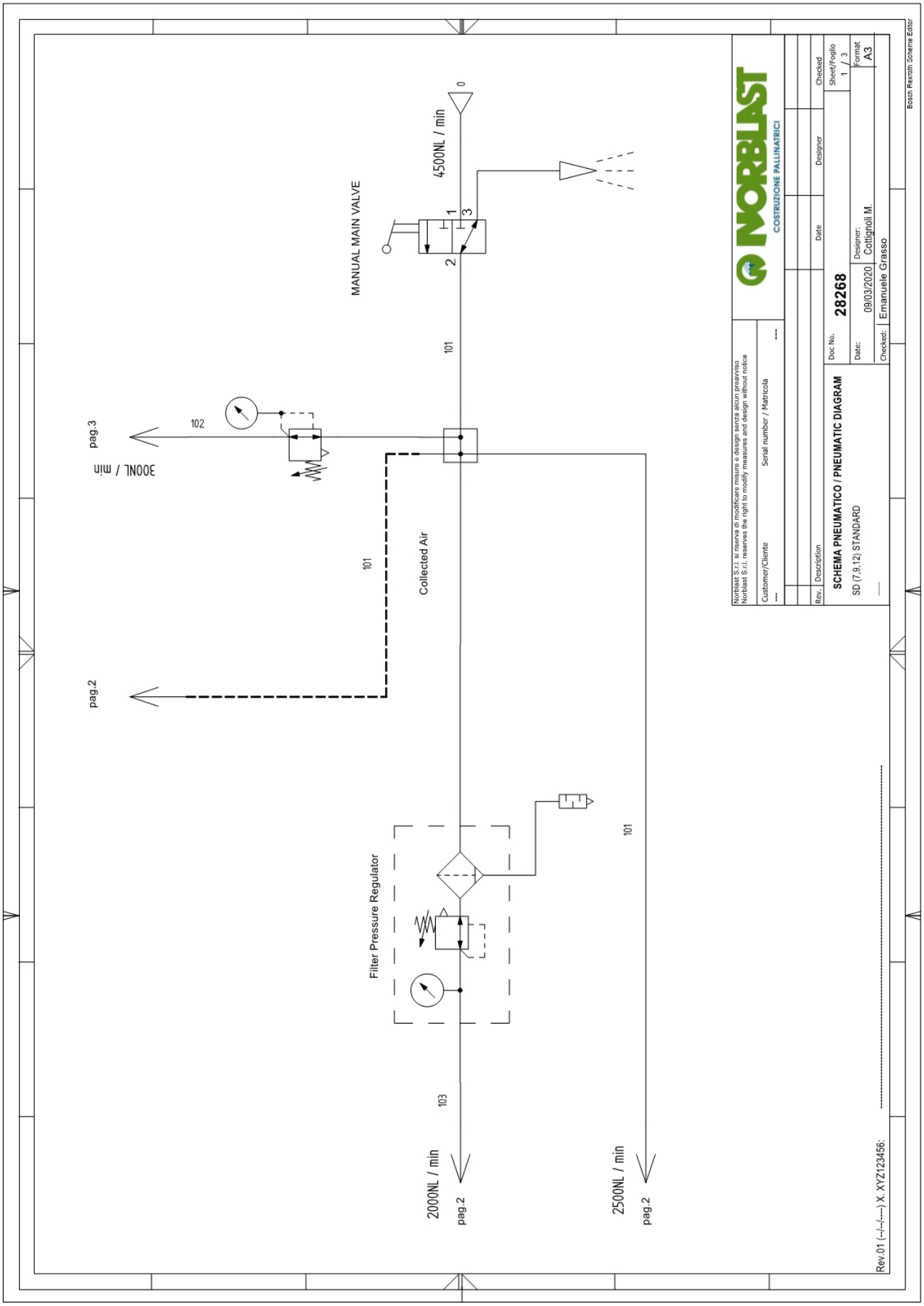
MANUAL SANDBLASTING - SHOT PEENING MACHINE



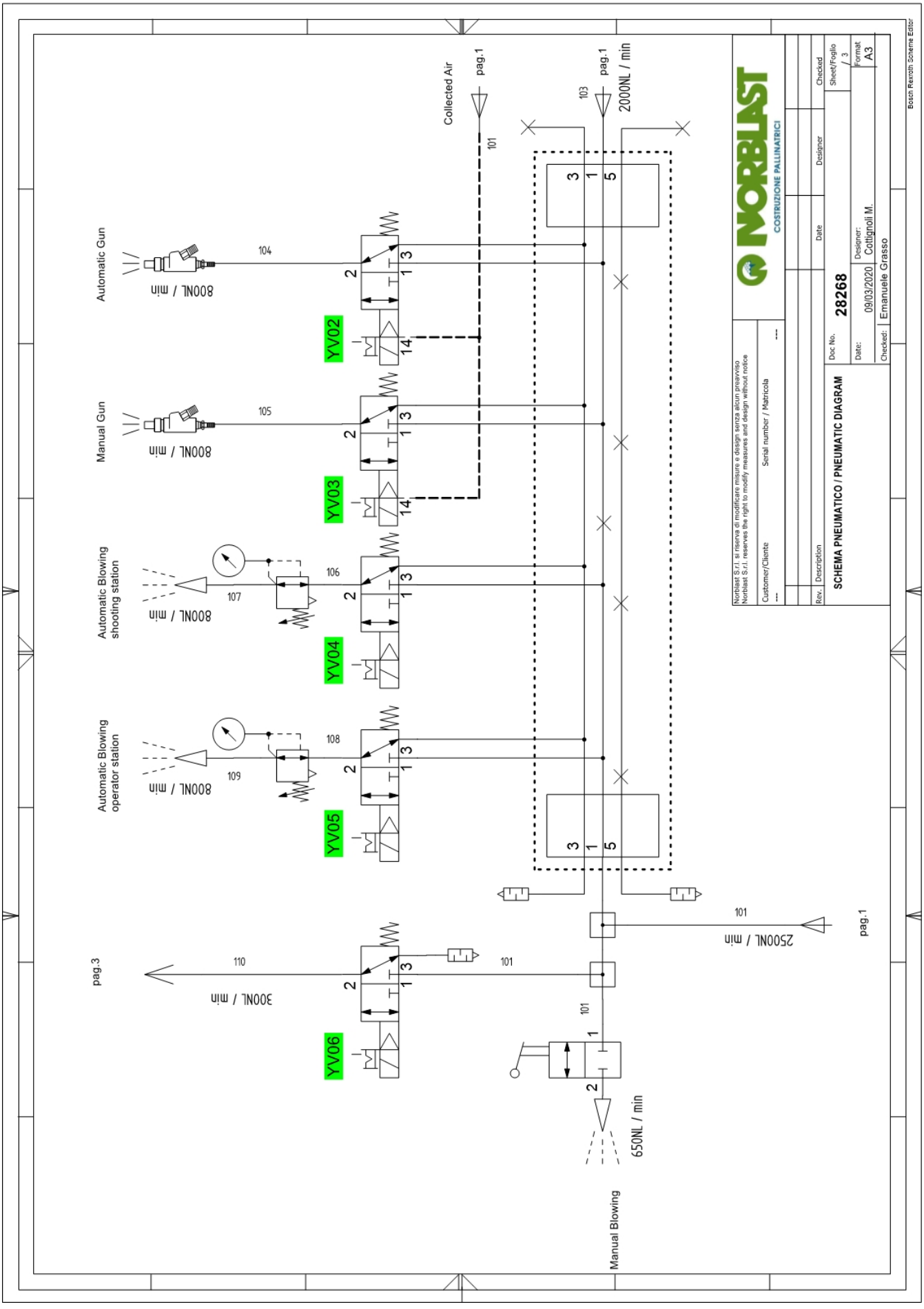
REF.	QTY	CODE	DESCRIPTION	TYPE
1	1	012724	Housing for stainless steel magnet	
2	3	001463	Magnet	ø25x200
3	1	012725	Stainless steel demagnetiser closure cap	
4	1	003886	Fixed handle	224-200 Boteco
5	3	021020	TCEI screw	M8x16 UNI 5931
6	3	021059	Washer	d.8.4 UNI 6593
7	2	021021	TCEI screw	M8x20 UNI 5931
8	2	021013	TCEI screw	M6x10 UNI 5931
9	2	021058	Washer	d.6.4 UNI 6593
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

3D9B

MANUAL SANDBLASTING - SHOT PEENING MACHINE



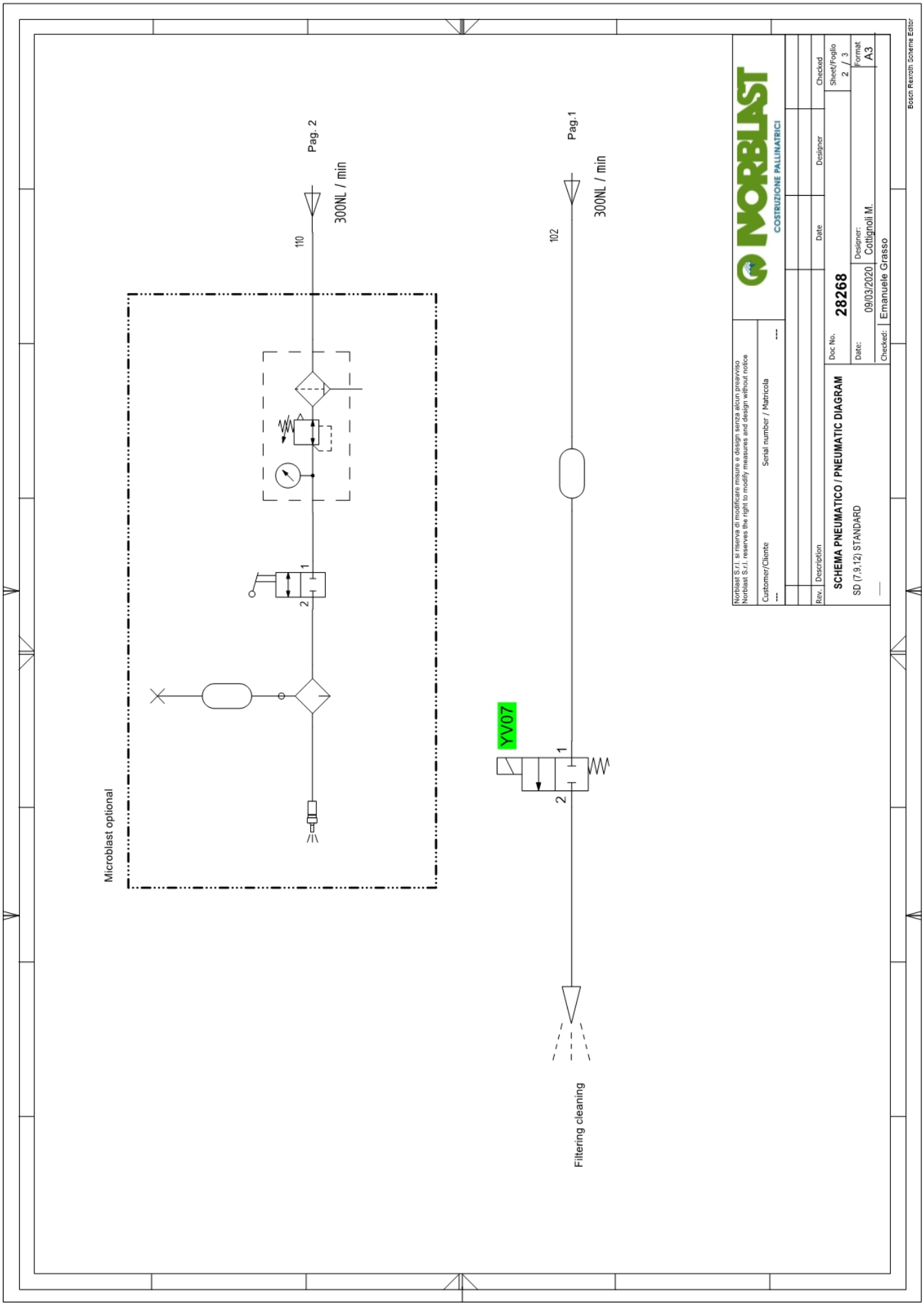
28268.GTA SY2

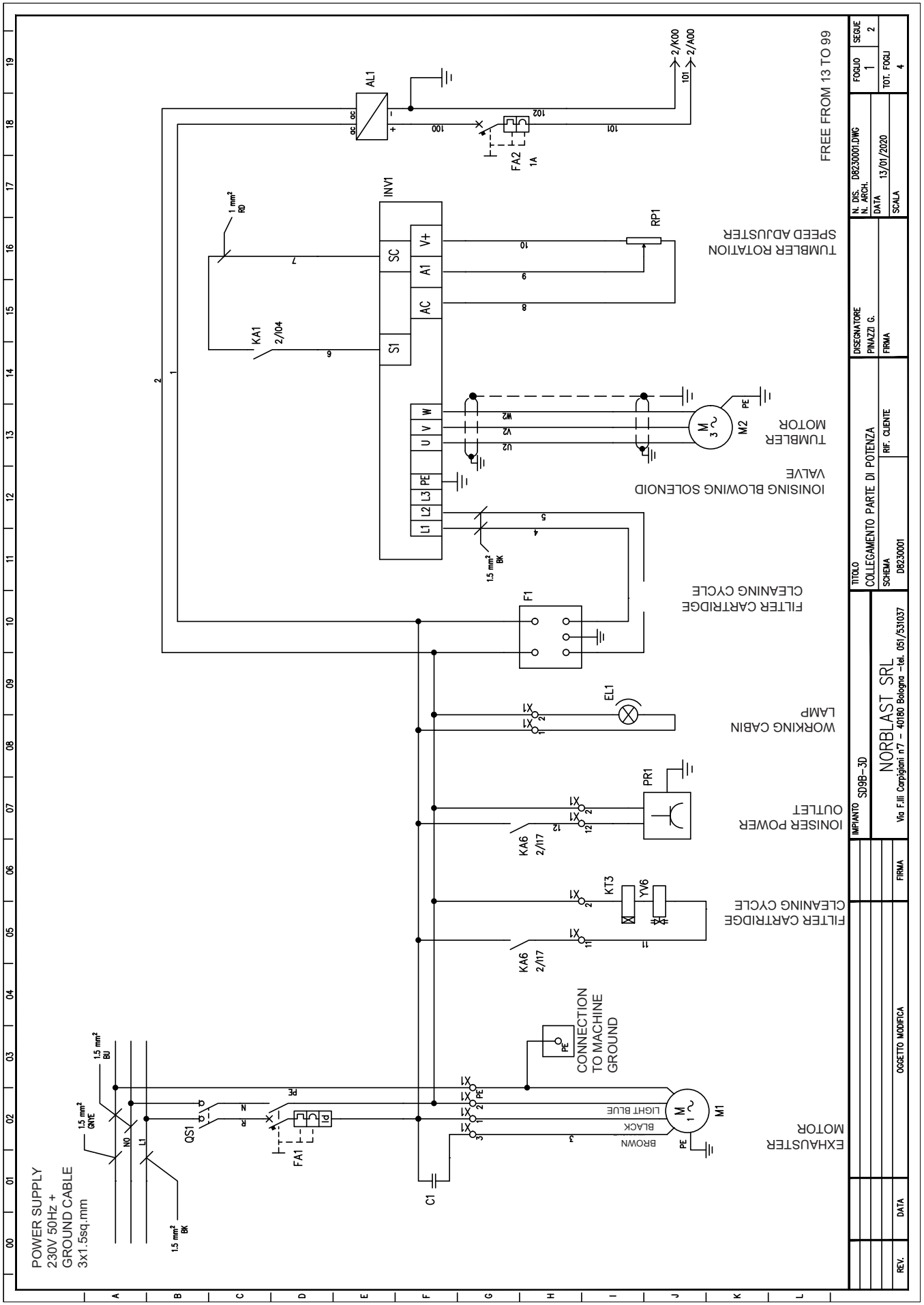


28268.ELETTROVALVOLE

3D9B

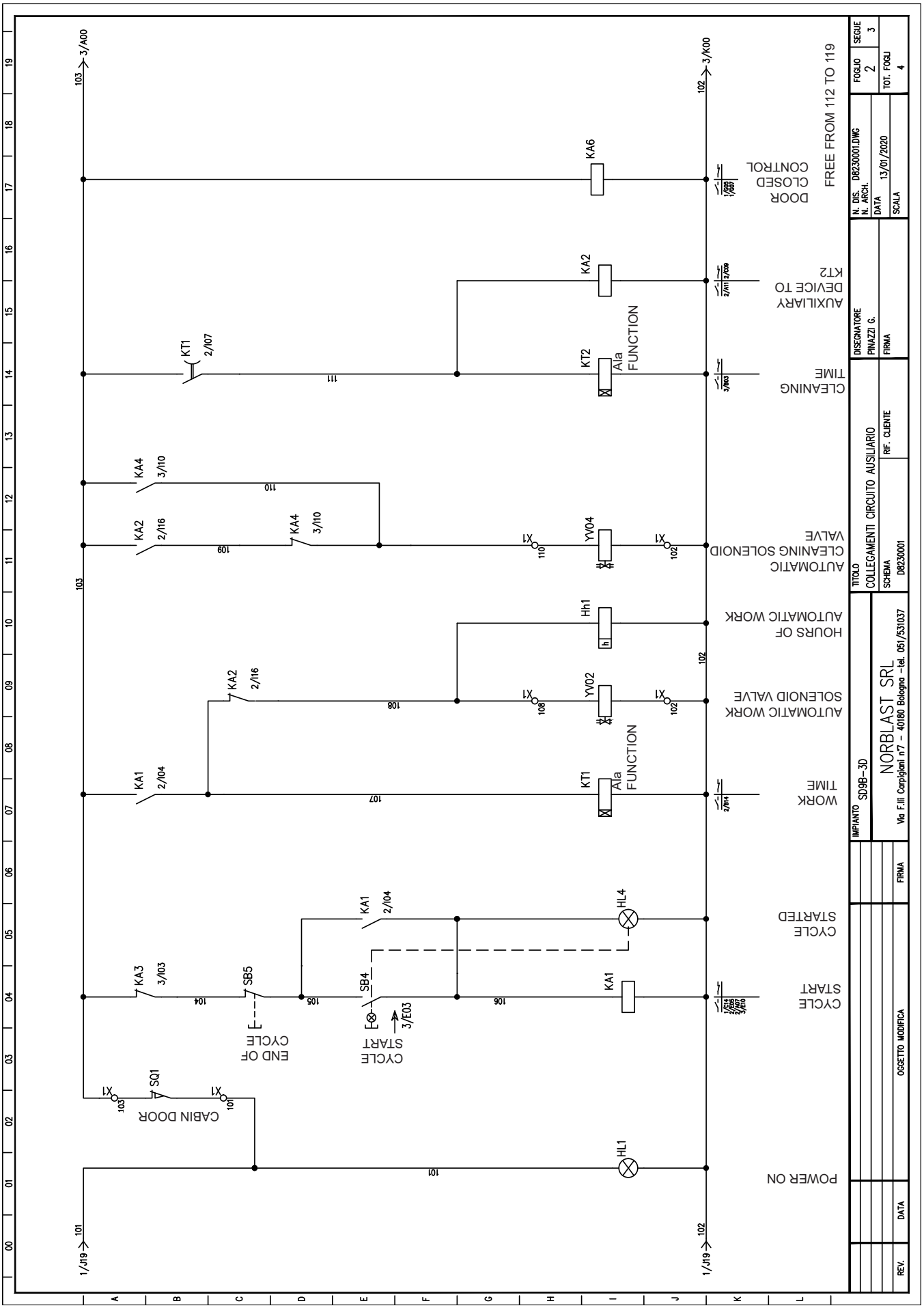
MANUAL SANDBLASTING - SHOT PEENING MACHINE

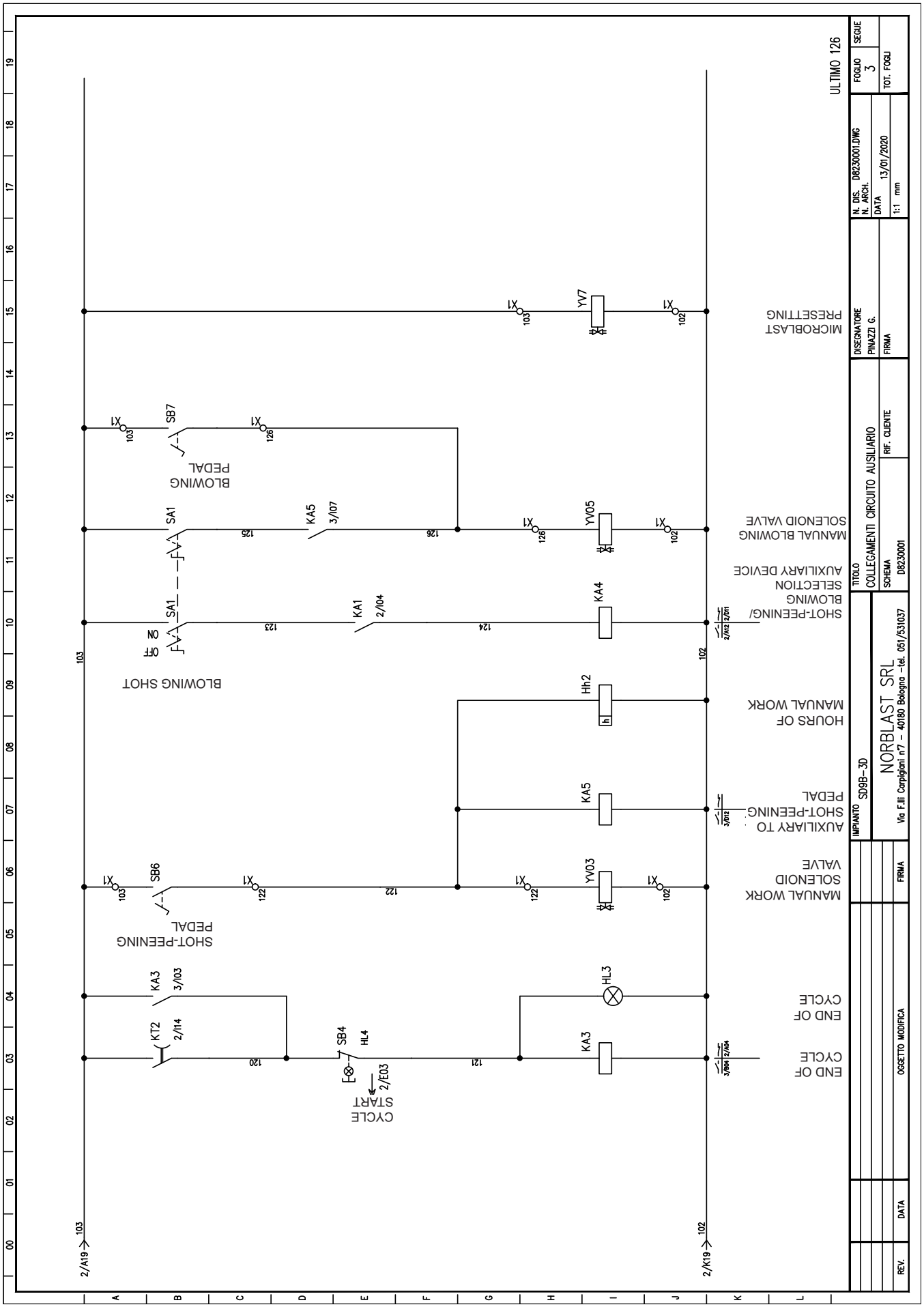



FREE FROM 13 TO 99
TUMBLER ROTATION SPEED ADJUSTER
TUMBLER MOTOR
IONISING BLOWING SOLENOID VALVE
FILTER CARTRIDGE CLEANING CYCLE
WORKING CABIN LAMP
IONISER POWER OUTLET
FILTER CARTRIDGE CLEANING CYCLE
EXHAUSTER MOTOR
CONNECTION TO MACHINE GROUND
POWER SUPPLY 230V 50Hz + GROUND CABLE 3x1.5sq.mm
INV1
AL1
RP1
M1
M2
PR1
EL1
F1
FA1
FA2
QS1
C1
KA1
KA6
KT3
YV6
NORBLAST SRL
Via F.lli Carpigiani n°7 – 40180 Bologna - tel. 051/531037
TITOLO
COLLEGAMENTO PARTE DI POTENZA
SCHEMA D8230001
DISEGNATORE PINAZZI G.
N. DIS. D8230001.DWG
DATA 13/01/2020
SCALA
FOGLIO 1
SEGUE 2
TOT. FOGLI 4
IMPIANTO SD9B–3D
REV.
DATA
OGGETTO MODIFICA
FIRMA

3D9B

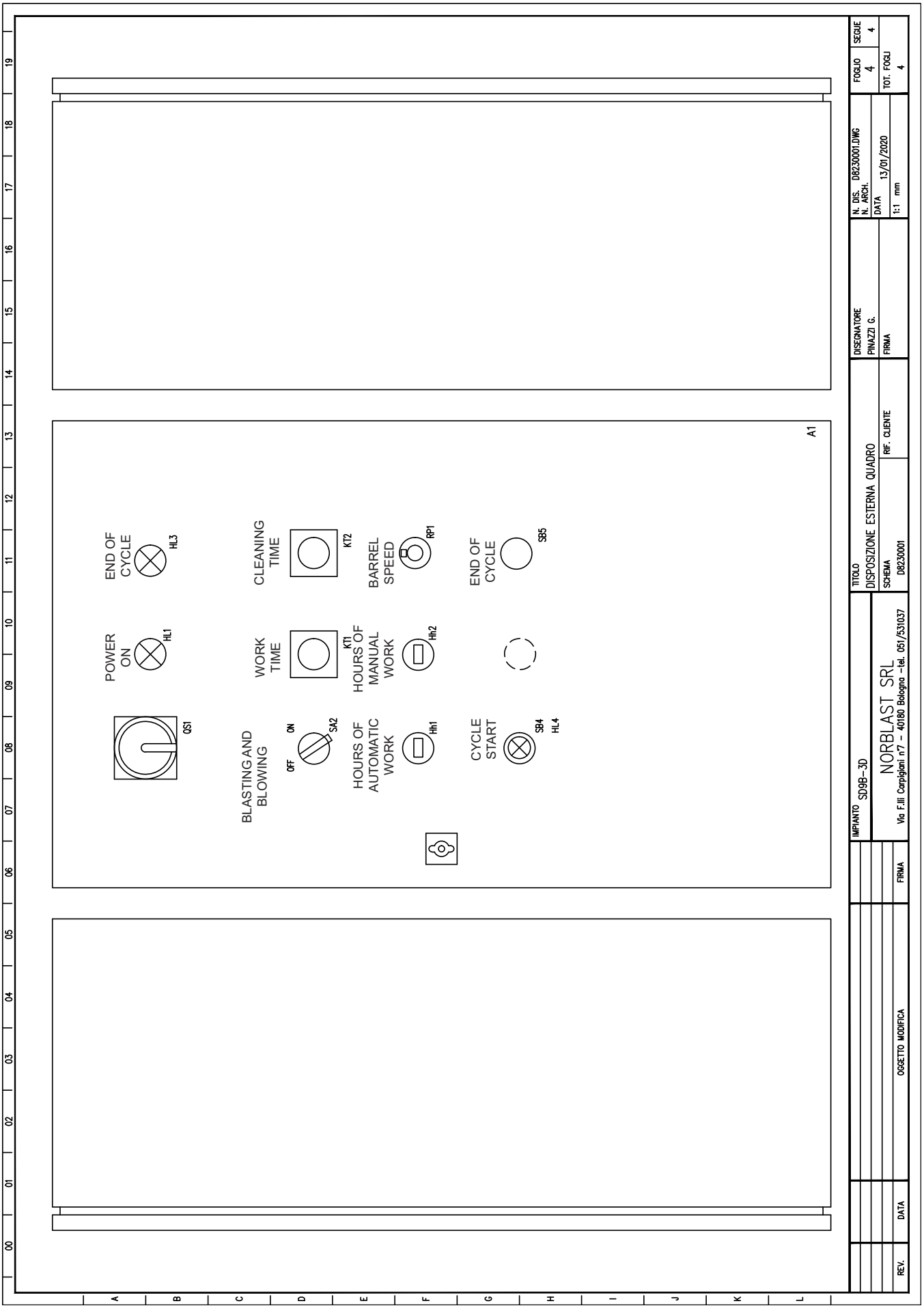
MANUAL SANDBLASTING - SHOT PEENING MACHINE

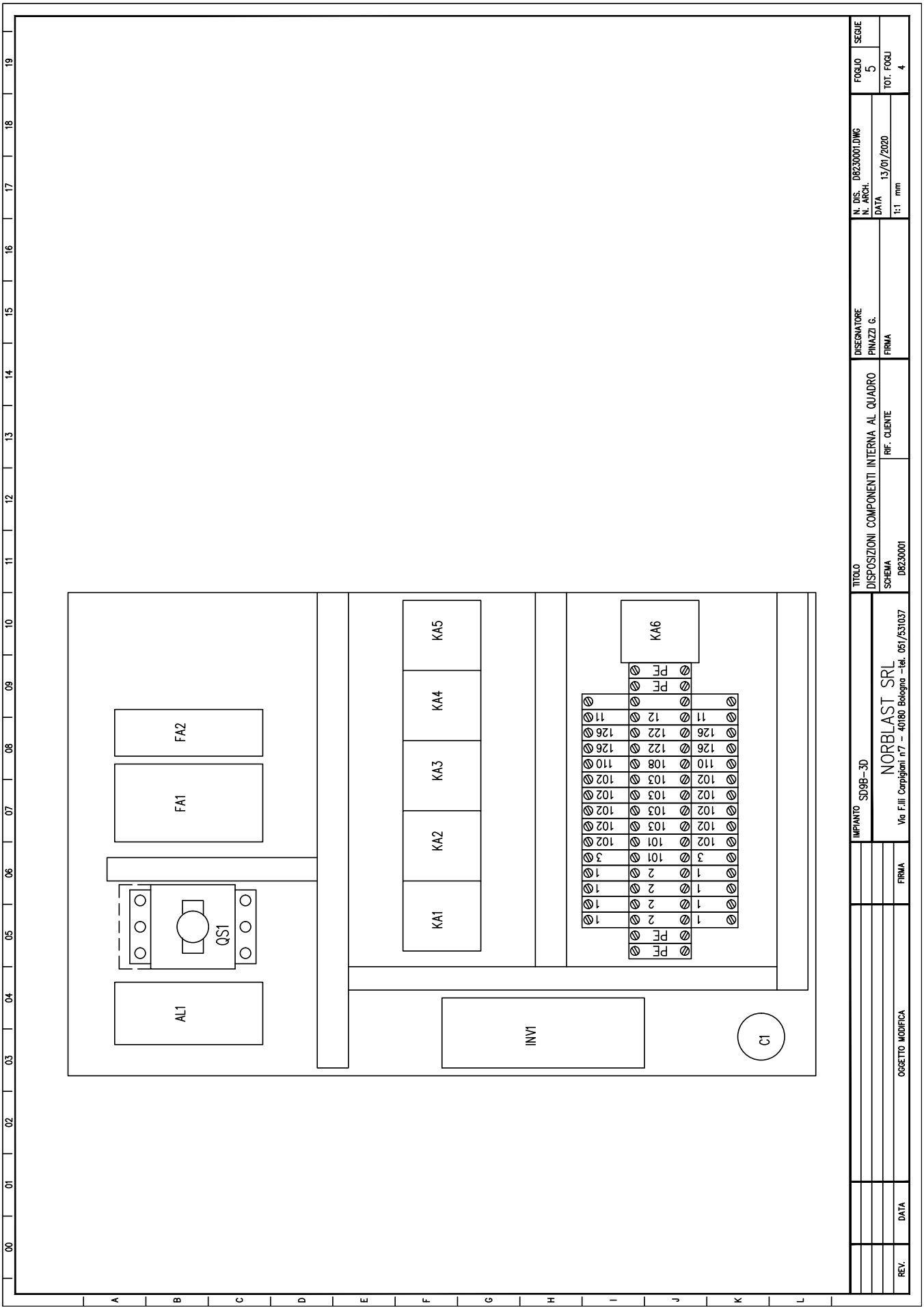



ULTIMO 126
MICROBLAST PRESETTING
YV7
MANUAL BLOWING SOLENOID VALVE
YV05
SHOT-PEENING/ BLOWING SELECTION AUXILIARY DEVICE
KA4
HOURS OF MANUAL WORK
Hh2
AUXILIARY TO SHOT-PEENING PEDAL
KA5
MANUAL WORK SOLENOID VALVE
YV03
END OF CYCLE
HL3
KA3
END OF CYCLE
KA3
BLOWING PEDAL
SB7
SHOT-PEENING PEDAL
SB6
BLOWING SHOT
SA1
KA5 3/07
KA1 2/104
KT2 2/114
SB4
HL4
CYCLE START
2/E03
2/A19
2/K19
TITOLO
COLLEGAMENTI CIRCUITO AUSILIARIO
SCHEMA D8230001
DISEGNATORE PINAZZI G.
FOGLIO 3
TOT. FOGLI
N. DIS. D8230001.DWG
DATA 13/01/2020
1:1 mm
IMPIANTO SD9B-3D
NORBLAST SRL
Via F.lli Carpigiani n°7 – 40100 Bologna – tel. 051/531037
REV. DATA OGGETTO MODIFICA FIRMA

3D9B

MANUAL SANDBLASTING - SHOT PEENING MACHINE




FA2
FA1
QS1
AL1
KA5
KA4
KA3
KA2
KA1
KA6
INV1
C1
SEGUE
FOGLIO 5
TOT. FOGLI 4
N. DIS. D8230001.DWG
N. ARCH.
DATA 13/01/2020
1:1 mm
DISEGNATORE PINAZZI G.
FIRMA
TITOLO DISPOSIZIONI COMPONENTI INTERNA AL QUADRO
SCHEMA D8230001
RIF. CLIENTE
IMPIANTO SD9B-3D
NORBLAST SRL
Via F.lli Carpigiani n°7 – 40180 Bologna – tel. 051/531037
REV.
DATA
OGGETTO MODIFICA
FIRMA

Bill of materials

Item description	Abbreviation	Code	Manufacturer	Alternative code	Position	Q.ty	Location
METAL SHEET BOX 300x500x200	A1	ST3 520	E.T.A.	E02556	4/A00	1	Control unit
SWITCHING POWER SUPPLY UNIT 230VAC/24VDC-1A	AL1	MDR-20-24	MEAN WELL	E03755	1/E18	1	Control unit
CAPACITOR 450V 3.15uF SCREW M8 25x57 FS	C1	MKA 450-3.15	COMAR CAPACITORS	E02114	1/F01	1	Control unit
LAMP HOLDER VIMAR E27 °43mm PORC. F/90 INSULATION	EL1	02174.SQ	VIMAR	E00194	1/I09	1	On board
0035011 ML HOME 23W T3 E27 850		22W/840	OSRAM	E00835	1/I09	1	On board
NOISE FILTER FOR INVERTER	F1	A1000-FIV1010-RE	OMRON	E01979	1/G10	1	Control unit
MAGNETO THERMAL SWITCH 1P+N 4.5KA 30mA C6	FA1	PKN4.6.1N.C.003	EATON	E04966	1/C02	1	Control unit
UNIPOLAR MAGNETO THERMAL SWITCH 1A	FA2	5SJ4101-7HG41	SIEMENS	E03966	1/G18	1	Control unit
HOUR COUNTER D22 24 Vac/dc	Hh1	XB5 DSB	SCHNEIDER	E02927	2/I10	1	Control unit
HOUR COUNTER D22 24 Vac/dc	Hh2	XB5 DSB	SCHNEIDER	E02927	3/I09	1	Control unit
WHITE COMPLETE LED LIGHT 24V	HL1	XB4 BVB1	SCHNEIDER	E02210	2/I01	1	Control unit
BLUE COMPLETE LIGHT LED 24V	HL3	XB4 BVB6	SCHNEIDER	E02214	3/I04	1	Control unit
INVERTER 230V SINGLE-PHASE CIMR-JC2A0004BAA	INV1	JZA20P4BAA	OMRON	E04801	1/F12	1	Control unit
SOCKET FOR RELAY SERIES 55 4 EXCHANGE CONTACTS	KA1	94.04	FINDER	E04863	2/I04	1	Control unit
RELAY WITH SOCKET 4 EXCHANGE CONTACTS 7A 24VDC		55,34,9,024,0040	FINDER	E04410	2/I04	1	Control unit
SOCKET FOR RELAY SERIES 55 3 EXCHANGE CONTACTS	KA2	94.03	FINDER	E04141	2/I16	1	Control unit
INDUSTRIAL RELAY 7-10A 24Vdc 3 EXCHANGE CONTACTS		55,33,9,024,0040	FINDER	E04140	2/I16	1	Control unit
SOCKET FOR RELAY SERIES 55 3 EXCHANGE CONTACTS	KA3	94.03	FINDER	E04141	3/I03	1	Control unit
INDUSTRIAL RELAY 7-10A 24Vdc 3 EXCHANGE CONTACTS		55,33,9,024,0040	FINDER	E04140	3/I03	1	Control unit
SOCKET FOR RELAY SERIES 55 3 EXCHANGE CONTACTS	KA4	94.03	FINDER	E04141	3/I10	1	Control unit
INDUSTRIAL RELAY 7-10A 24Vdc 3 EXCHANGE CONTACTS		55,33,9,024,0040	FINDER	E04140	3/I10	1	Control unit
SOCKET FOR RELAY SERIES 55 3 EXCHANGE CONTACTS	KA5	94.03	FINDER	E04141	3/I07	1	Control unit
INDUSTRIAL RELAY 7-10A 24Vdc 3 EXCHANGE CONTACTS		55,33,9,024,0040	FINDER	E04140	3/I07	1	Control unit
RAIL SOCKET 4 EXCHANGE CONTACTS	KA6	94.74	FINDER	E02848	2/I17	1	Control unit
PLUG-IN RELAY - 4 EXCHANGE CONTACTS 24Vdc - 7A		55.34.9.024.0094	FINDER	E04975	2/I17	1	Control unit
PLUG-IN TIMER 24/230Vac - 24/48Vdc	KT1	88,12,0,230,0002	FINDER	E01731	2/I07	1	Control unit

Bill of materials

Item description	Abbreviation	Code	Manufacturer	Alternative code	Position	Q.ty	Location
OCTAL FLYING SOCKET REAR SCREW CONNECTION		P3G-08	OMRON	E00872	2/I07	1	Control unit
PLUG-IN TIMER 24/230Vac - 24/48Vdc	KT2	88,12,0,230,0002	FINDER	E01731	2/I14	1	Control unit
OCTAL FLYING SOCKET REAR SCREW CONNECTION		P3G-08	OMRON	E00872	2/I14	1	Control unit
PAUSE/PULSE TIMER MPM - 24-240V ac/dc	KT3	RSP22	MPM	E03854	1/I06	1	On board
CONTAINER 2 PLACES IP55	PR1	GW27042	GEWISS	E04967	1/I07	1	On board
STANDARD ITALIAN/GERMAN SOCKET 16A 250V		GW20246	GEWISS	E04236	1/I07	1	On board
THREE-POLE DISCONNECTOR 32A DOOR LOCK -HANDLE G/R	QS1	VCCF1	SCHNEIDER	E04150	1/B02	1	Control unit
POTENTIOMETER 4.7K D.22	RP1	M22-R4K7	MOELLER ELECTRIC	E01710	1/I16	1	Control unit
COMPLETE WHITE LIGHT BUTTON 1NO+1NC D.22	SB4	XB4 BW31B5	SCHNEIDER	E02559	2/E04	1	Control unit
BLACK FLUSH BUTTON, HEAD ONLY	SB5	ZB4 BA2	SCHNEIDER	E02189	2/C04	1	Control unit
NC CONTACT WITH FIXING BASE		ZB4 BZ102	SCHNEIDER	E02202	2/C04	1	Control unit
ELECTRIC PEDAL WITHOUT COVER	SB6	PA 10100	PIZZATO	E01874	3/B06	1	On board
ELECTRIC PEDAL WITHOUT COVER	SB7	PA 10100	PIZZATO	E01874	3/B13	1	On board
LIMIT SWITCH WITH SAFETY DRIVE	SQ1	FR693-D1	PIZZATO	E01582	2/B02	1	On board

NORBLAST - Shot-peening/sandblasting machines manufacturing
Via F.lli Carpigiani, 7 (z.i. Roveri) - 40138 Bologna - Italy
Tel.: +39 051.5310/37 (4 lines a.s.) - Fax: +39 051.53.01.33
E-mail: norblast@norblast.it - http://www.norblast.it