NORBLAST

# 3D7

## Manual sandblasting/shot-peening machine

# USE, MAINTENANCE AND SPARE PARTS MANUAL

**SHOT-PEENING / SANDBLASTING MACHINES MANUFACTURING**
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3D7 - 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.*

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## MANUAL SANDBLASTING - SHOT PEENING MACHINE

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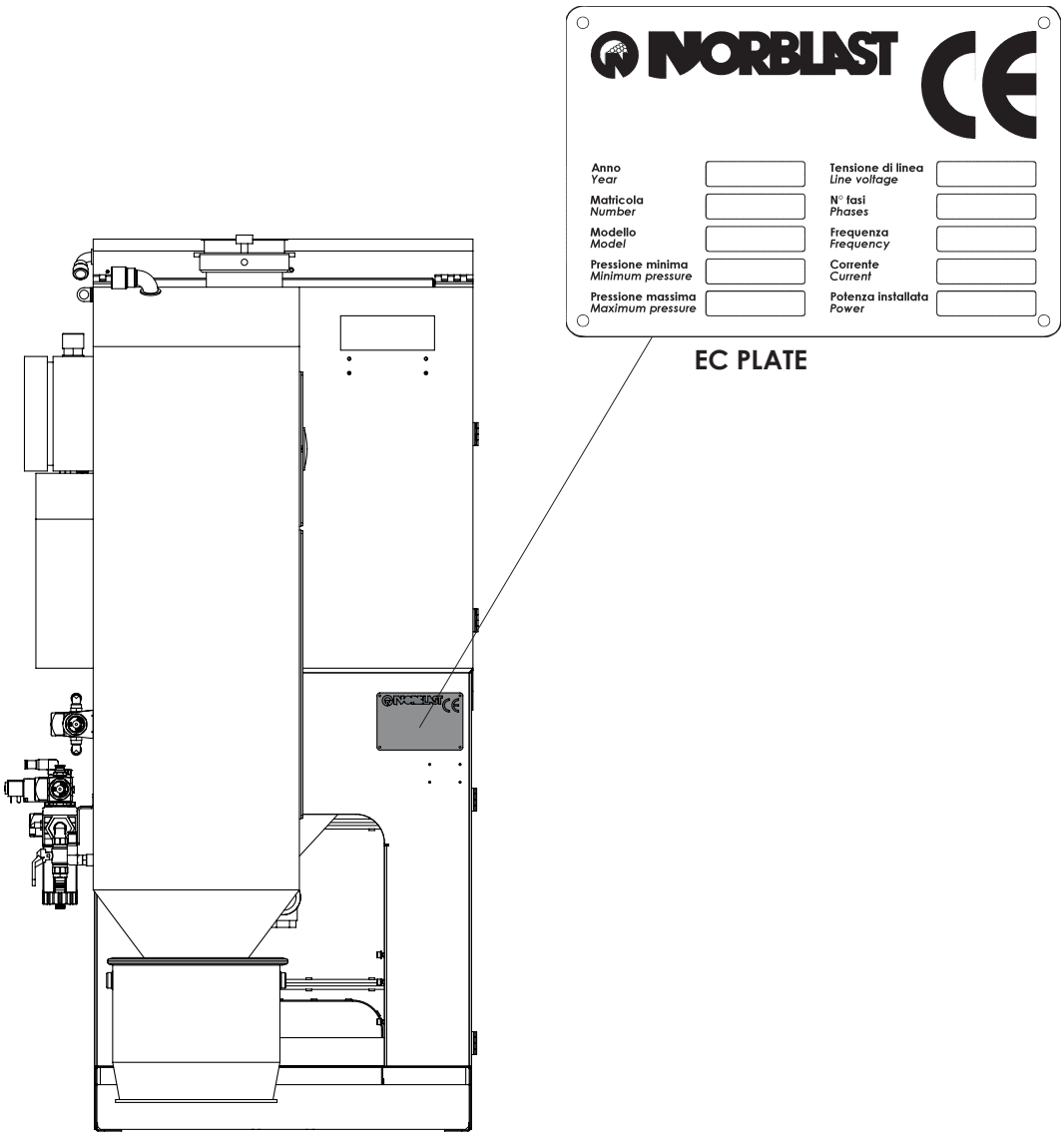
## 0.1 PLANT AND MANUFACTURER IDENTIFICATION

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 ma chine'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.**

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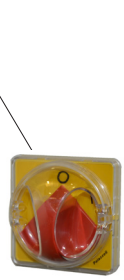
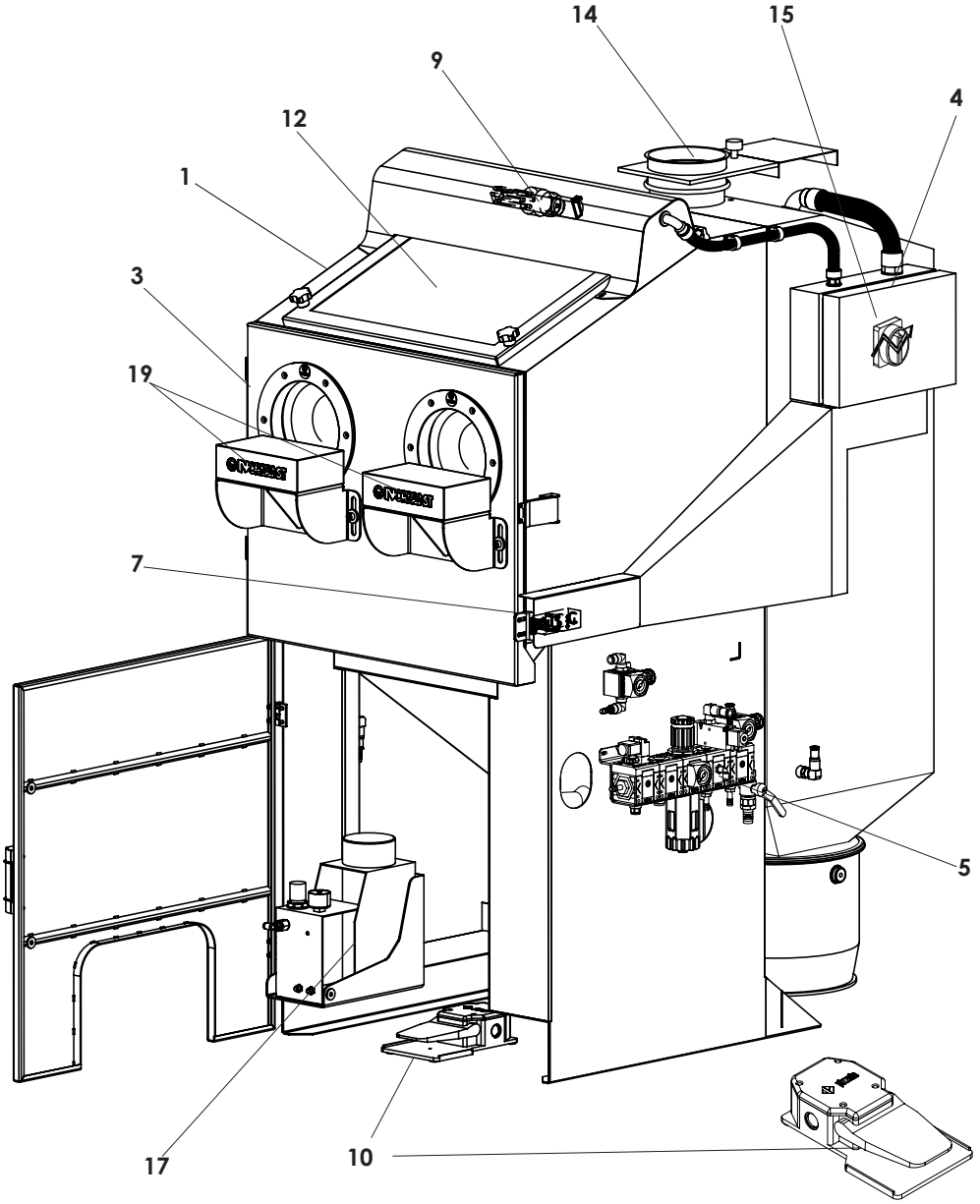
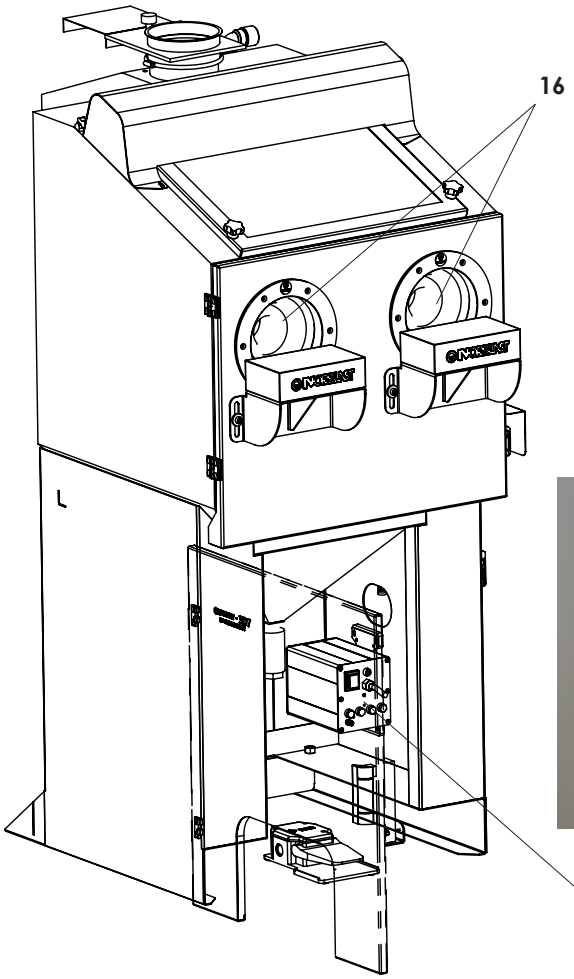
## MANUAL SANDBLASTING - SHOT PEENING MACHINE

### 1.1 LIST OF MAIN UNITS

**1** Working cabin
**2** Manual rotary table (optional)
**3** Front 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** Main switch
**16** Gloves
**17** MICROBLAST sandblasting device (OPTIONAL)
**18** Air blowing ionisation device (OPTIONAL)
**19** Work station elbow support (OPTIONAL)

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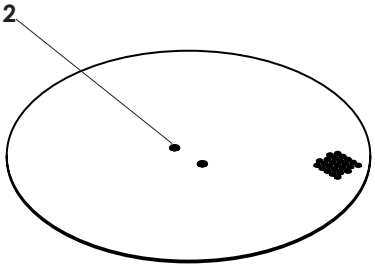
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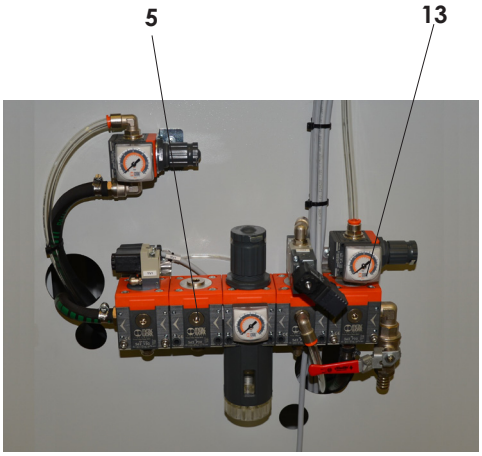
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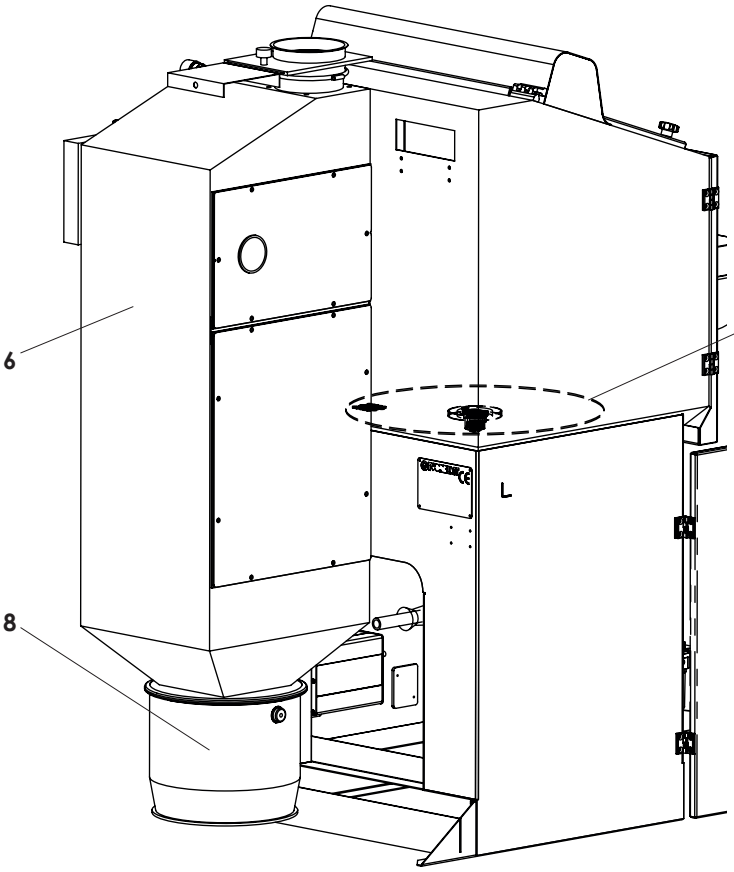
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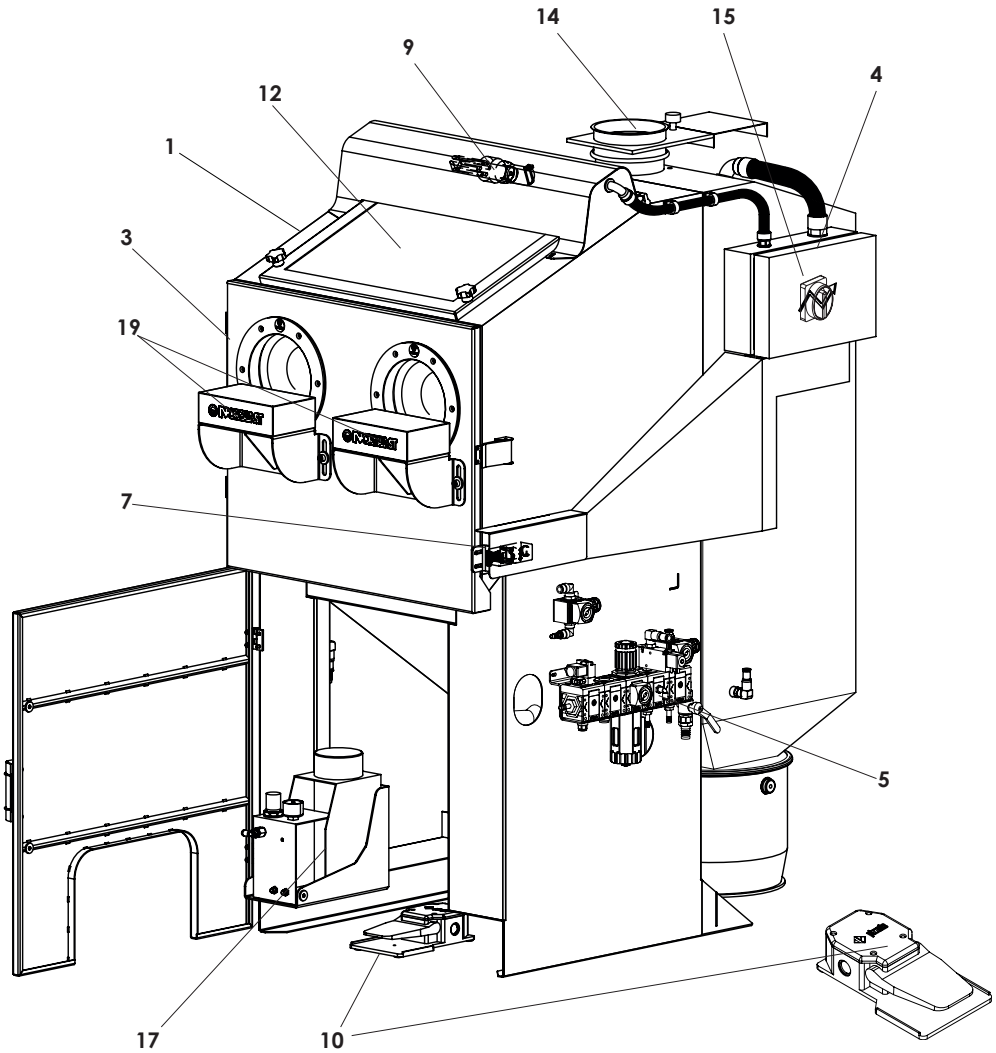
## 1.2 GENERAL DESCRIPTION

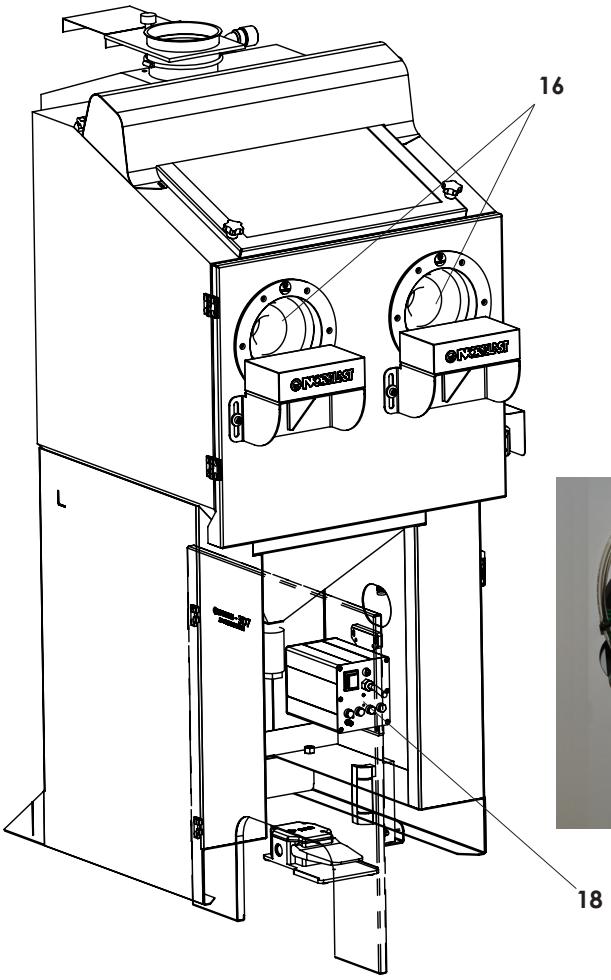
The shot-peening/sandblasting system consists of one working cabin **(1)** and one air filtering system **(6)**.

The working cabin fits one front 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 **(16)** on which the gloves are placed.
On the side of the cabin is the machine power main switch **(15)** 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 bin **(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)**.

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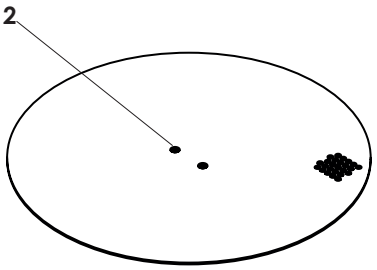
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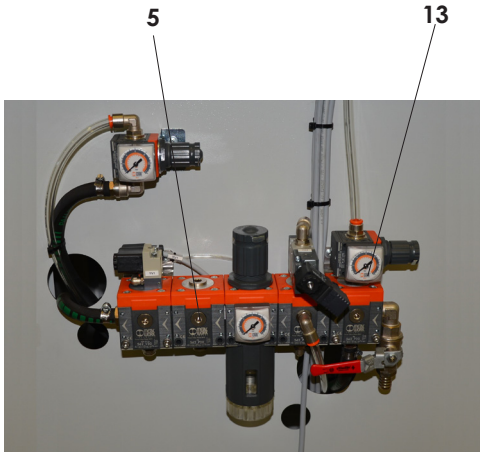
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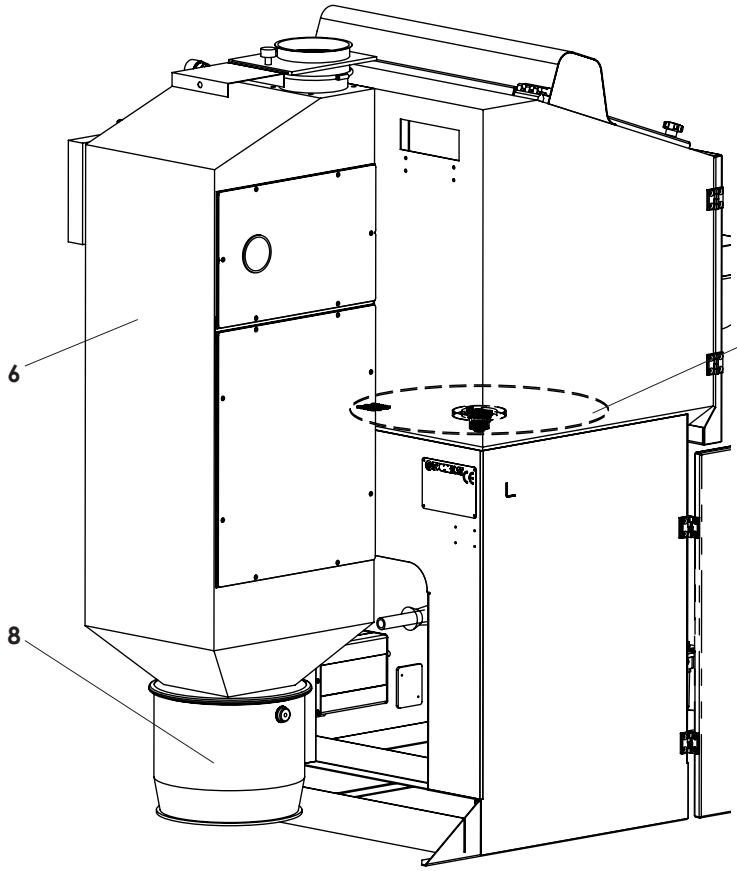
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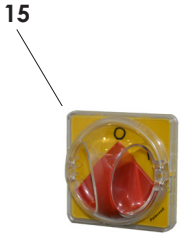
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## 1.3 INTENDED USE

The system was designed and realised to carry out the monitored 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.

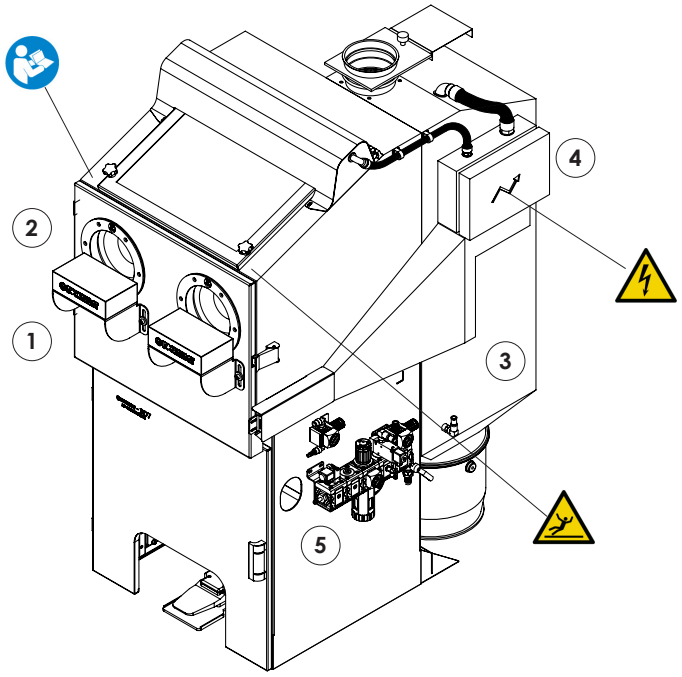
**During routine maintenance please be careful of the risks posed by the opening of the power control unit.**

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 |
| | | | | COMPULSORY PROTECTIVE GOGGLES |
| 3 | FILTERING CARTRIDGE REPLACEMENT AREA | | | PROTECTIVE GLOVES PROTECTIVE GOGGLES |
| | | | | MASK COMPULSORY |
| 4 | ELECTRIC CABINETS | LIVE PARTS | | ELECTRIC DANGER |
| 5 | PNEUMATIC UNITS | PRESSURISED SYSTEM | | |



## 1.9 DECOMMISSIONING

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 MACHINE

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

WEIGHT OF THE MACHINE WITH PACKAGE: kg 170

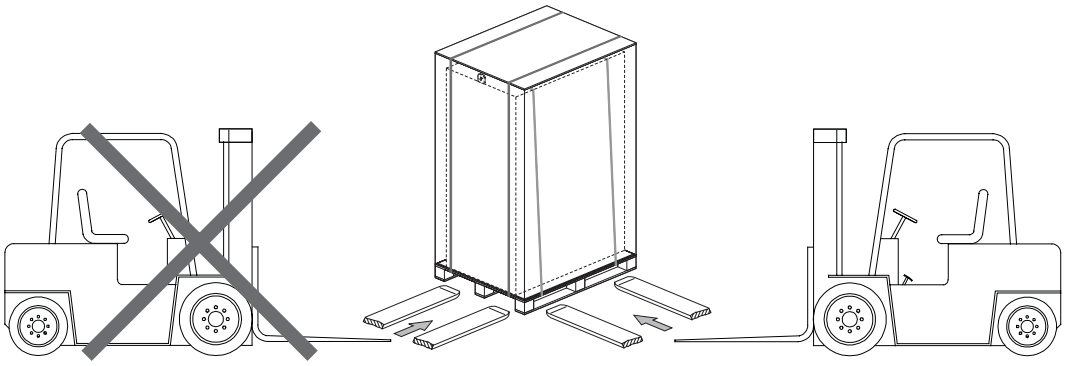
Packed machine must be lifted and handled only by qualified operators. If the load size does not allow full visibility, the operator will need the assistance of a second operator giving signals to him/her.
According to the type of packing proceed as follows:

**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:

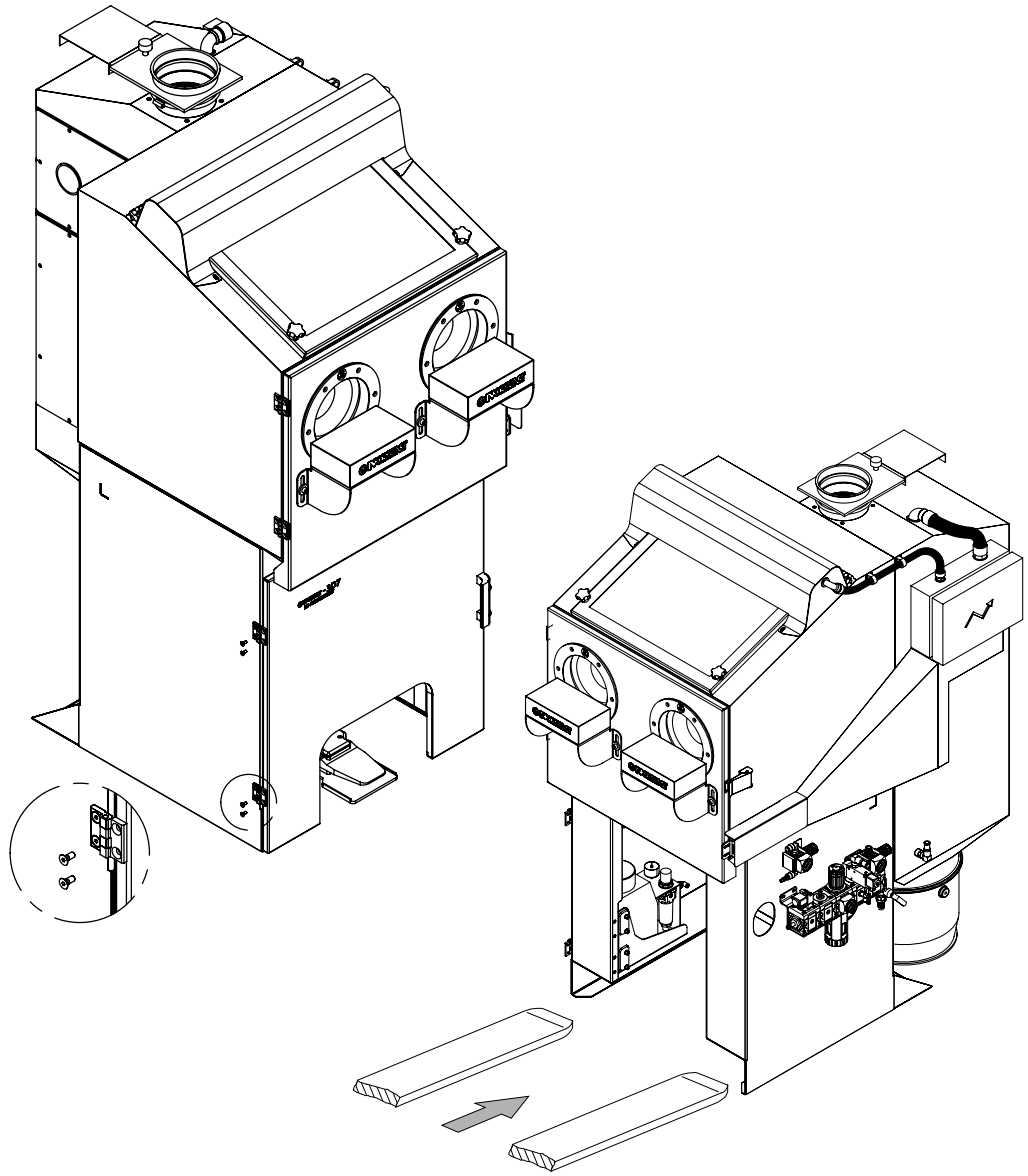
**ON PALLET WITH PLASTIC COVER**
Remove the material having care, in case you use scissors, cutters or any other similar tool, not to damage the system components.
With a suitable tool, cut the straps securing the parts to the pallet.

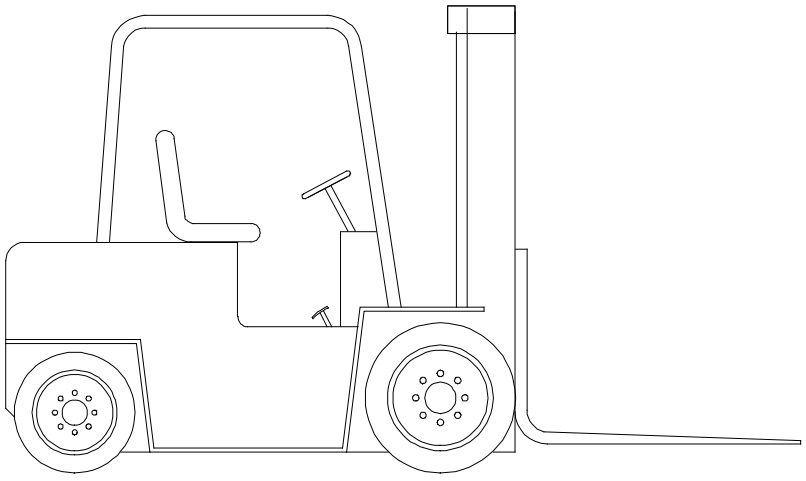
**ON PALLET WITH PLASTIC PROTECTION AND CARDBOARD COVER;**
With a suitable tool, cut the straps closing the packing.
Remove the material (plastic protection and cardboard cover) having care, in case you use scissors, cutters or any other similar tool, not to damage the system components.
With a suitable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





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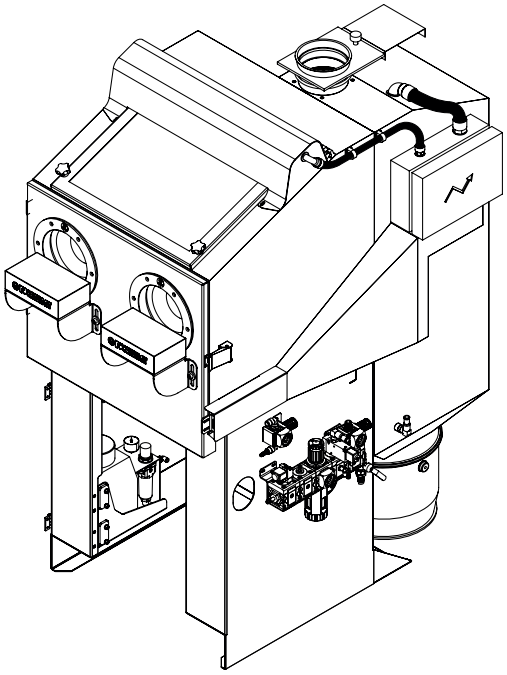
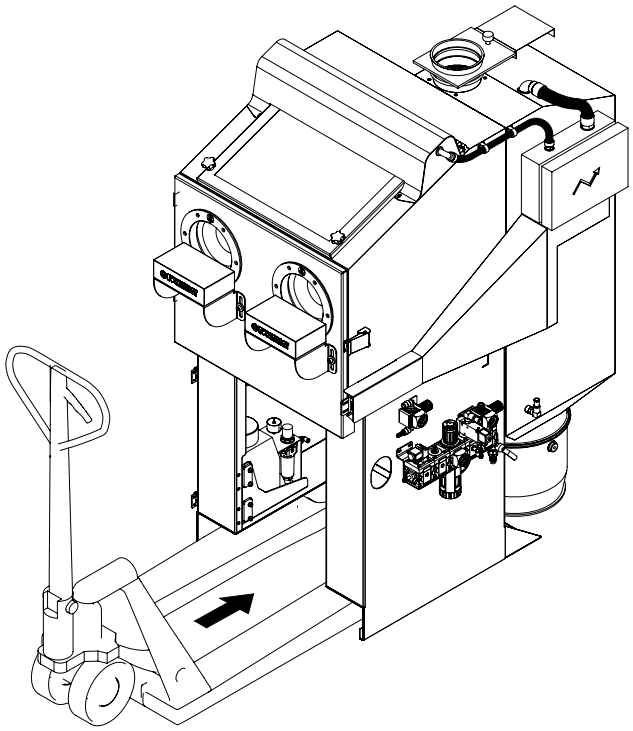
## MANUAL SANDBLASTING - SHOT PEENING MACHINE

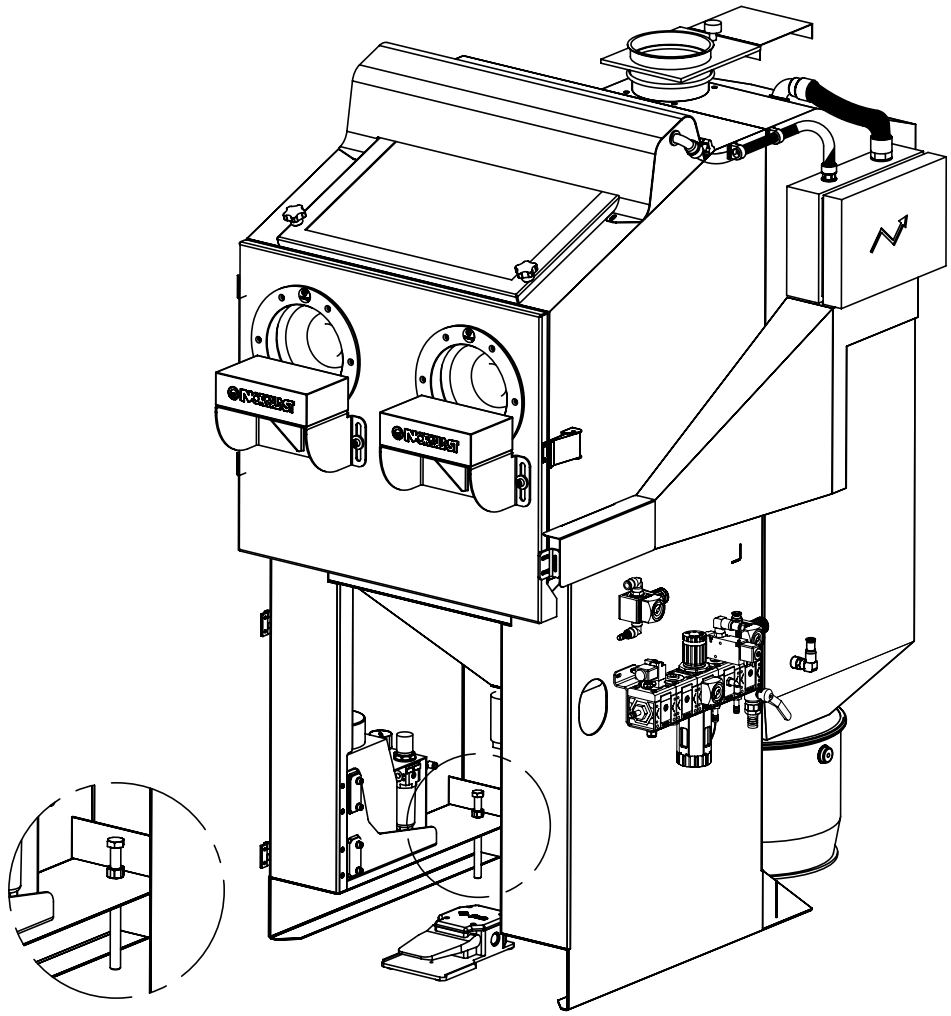
As an alternative to the forklift truck, the machine can be handled with a pallet truck. Take care to distribute the cabin load on the pallet truck so as to avoid unbalance. Position the pallet truck in such a way as to allow the cabin to rest on the lifting forks, ensuring a contact surface between the forks and the cabin, distributing the weight of the cabin on the forks as evenly as possible.
The pallet truck must have an adequate loading capacity to lift the machine.





## 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.

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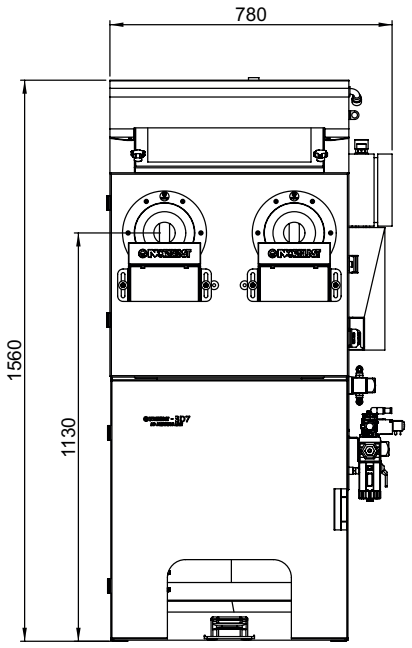
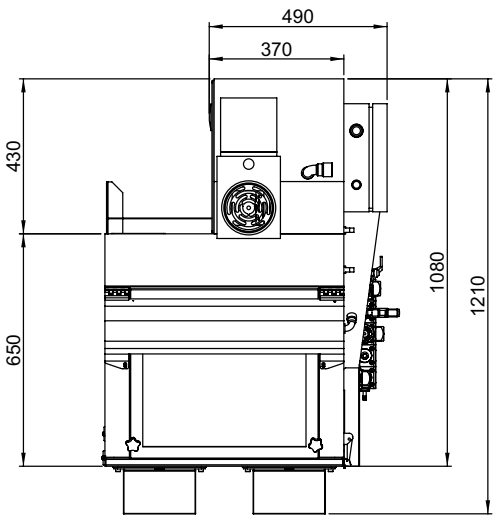
**MANUAL SANDBLASTING - SHOT PEENING MACHINE**

## 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), plastic 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 |
| Weight of empty machine: | 120 kg |
| Lighting | 23 W |
| Filtering cartridge | 5.35 SQ. M |
| Filtering cartridge material | Polyester |
| Useful working dimensions | 600 x 550 x 500 mm |

## 3.2 OVERALL DIMENSIONS



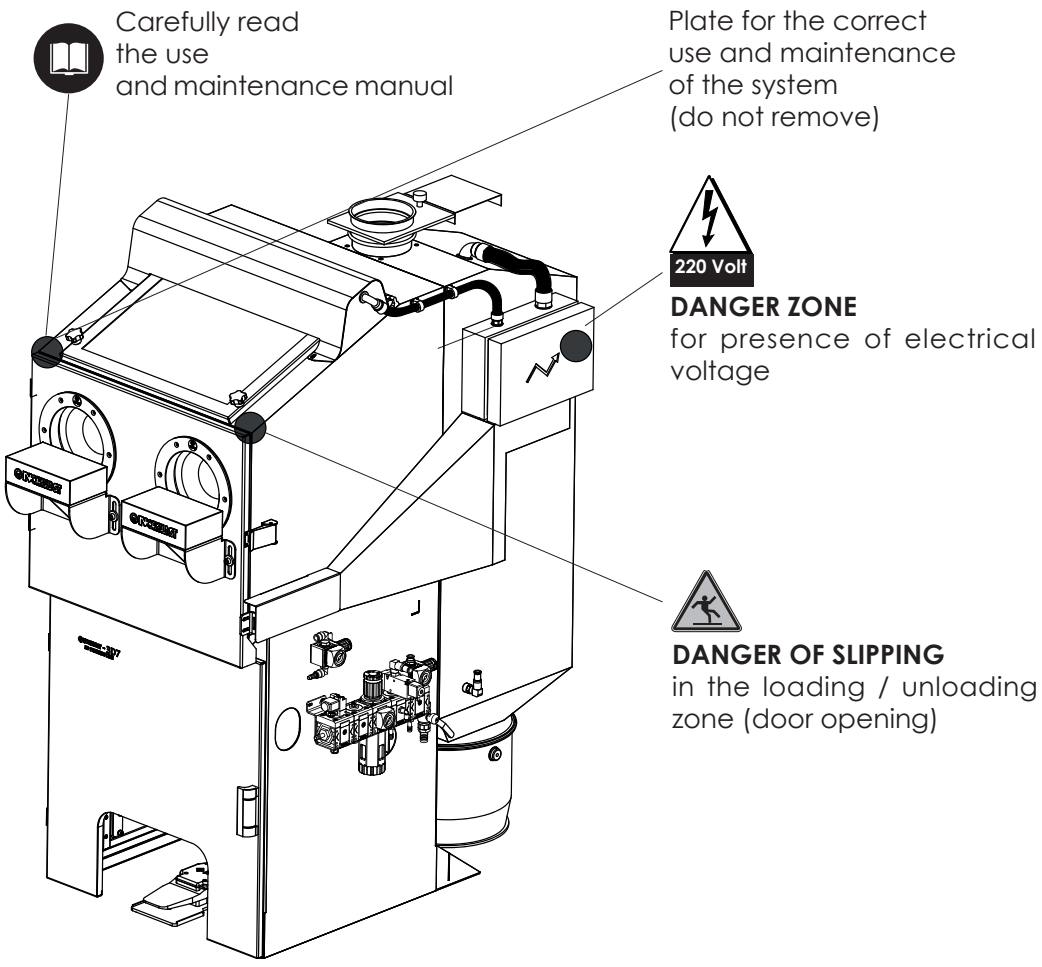
## 3.3 POWER SUPPLY

| | |
|---|---|
| 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 gun with ø 3.2 mm delivery jet, ø 8 mm nozzle at a blasting pressure of 6 bar consumes approx.: | 585 Nl/min |
| A gun with ø 4.5 mm delivery jet, ø 10 mm nozzle at a blasting pressure of 6 bar consumes approx.: | 1330 Nl/min |
| Air tube: | Ø16-23 with 1/2" hose barb |
| Filtering cabinet outlet air flow | 160 cu.m/h |

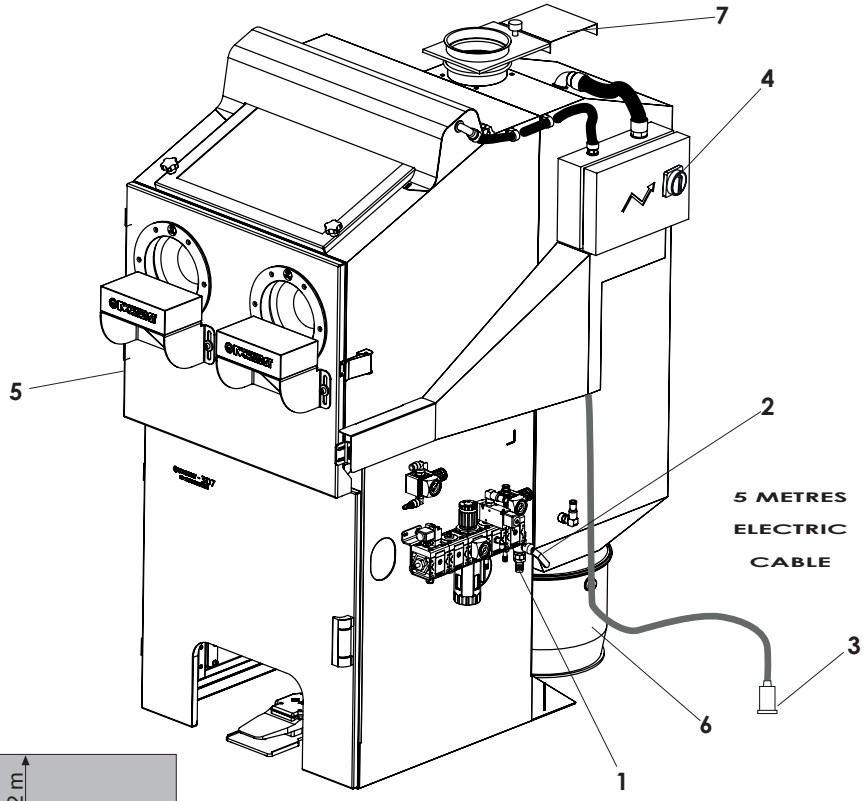
## 3.5 ARRANGEMENT OF THE IDENTIFICATION PLATES

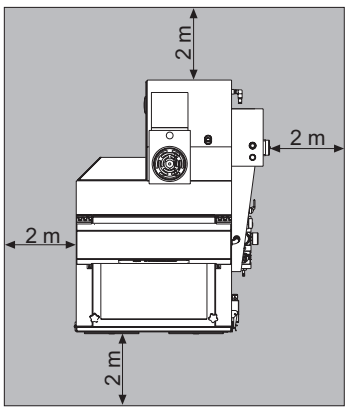


Position the system on level ground, as indicated.
Connect the main air supply pipe to the air inlet cock hose barb **(1)** of the pneumatic group, having care to well tighten the clamp so that the pipe inserted fully home does not move.
Open the pneumatic group main cock **(2)** and ensure there are 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 main tenance 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.

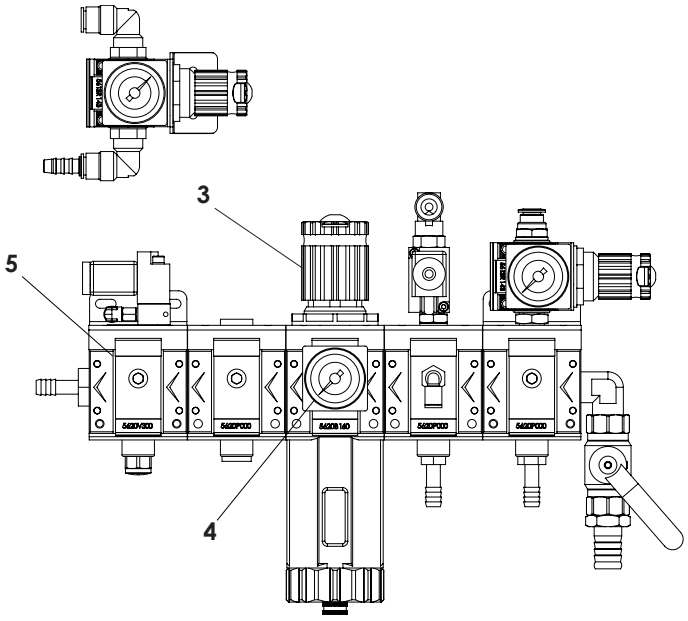
**Carefully read the INSTRUCTIONS listed in this manual.**

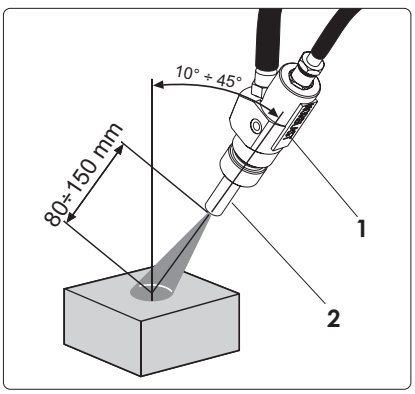
## 5.2 BLAST

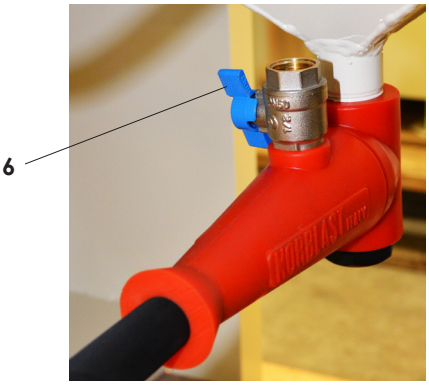
The blasting device is of the vacuum type and uses dry, oil-free compressed air.
Press the control pedal to open the operating solenoid valve **(5)** so that it conveys air inside the working gun **(1)**.
Air is made to flow through a special Venturi system that produces a vacuum inside the gun body 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.

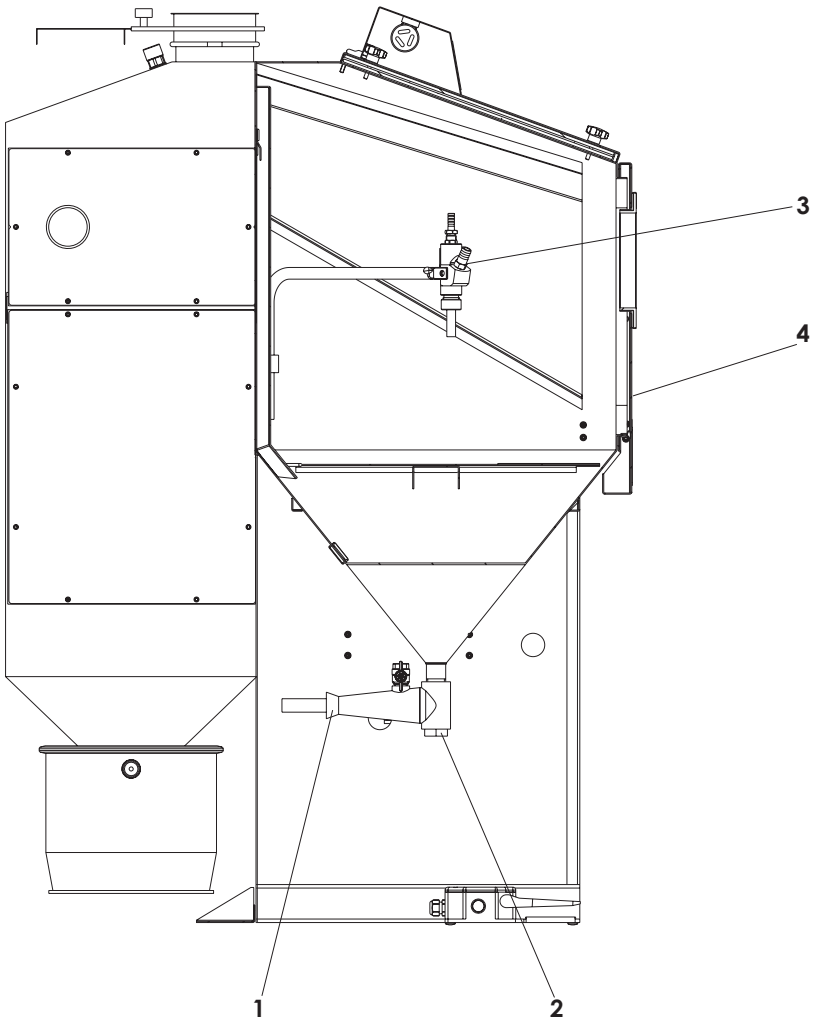


## 5.3 HOW TO CHANGE GRIT

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.
Tighten the plug **(2)**.
Open the front door **(4)** and add the chosen grit inside the cabin (max. 15 Kg).
Close the door correctly.



## 5.4 FILTERING

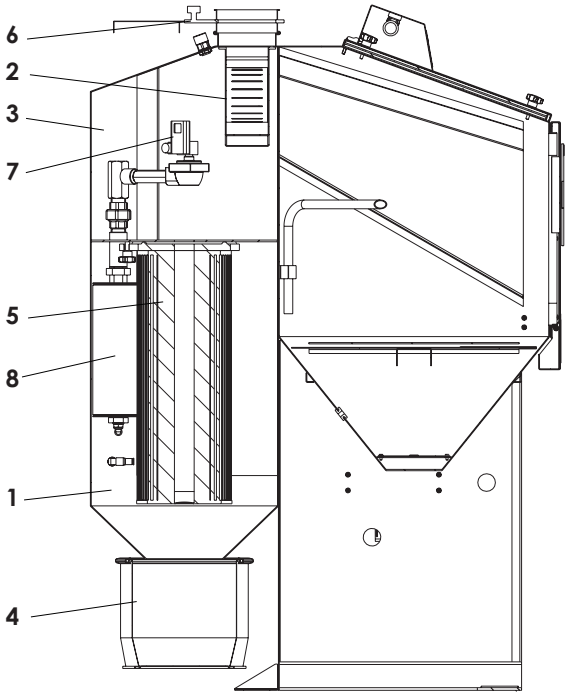
The filtering system is of the type with cartridge and automatic cleaning through back flush air jet.
The air mixed with dust enters the lower filtering chamber **(1)** thanks to the exhauster **(2)** placed inside the upper chamber **(3)** going through a first filtering of the heavier particles which 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).

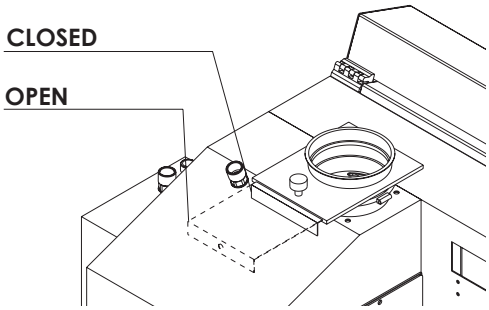
**If the door is open the cleaning cycle of the cartridge will not be active.**

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

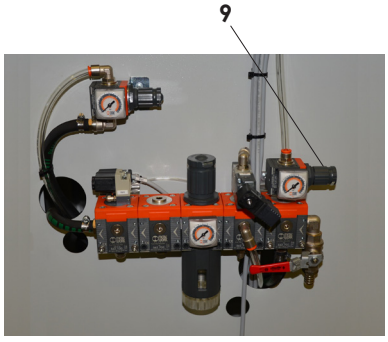
A dust collection bin **(4)** has been purposely placed to collect and empty the same. Open the ring release lever **(12)** and empty the bin. Position the bin back into place and hook it again to the filter cabinet.

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





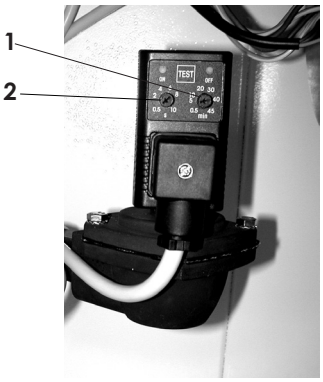


## 5.5 DIFFERENTIAL PRESSURE GAUGE

**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.

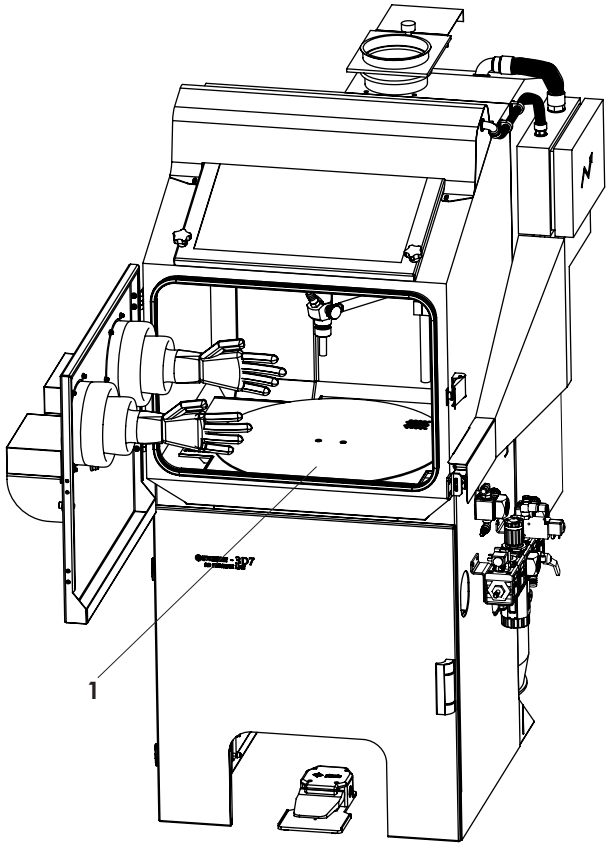

## 5.6 FILTER CLEANING TIMER REGULATION

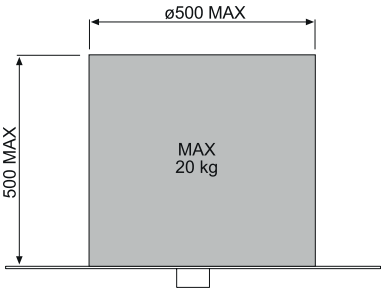
The cleaning of the filtering cartridge is automatically performed with an air blow contrary to the normal flow.
The "self-cleaning" operation time can be set based on the components to treat and the quantity of residual waste.
The time break is set through timer **(1)**.
**Do not change the timer position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



# 3D7
## MANUAL SANDBLASTING - SHOT PEENING MACHINE

### 5.8 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.

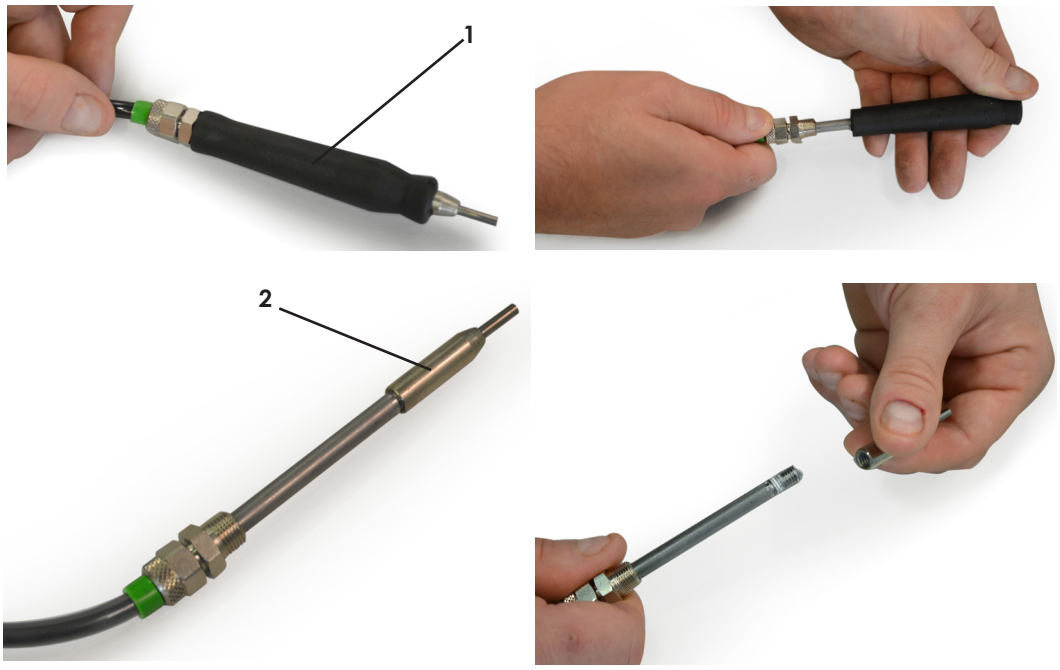
- Never clean the sand containers with solvents as the plastic material used (polycarbonate) would be irreversibly damaged.

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.

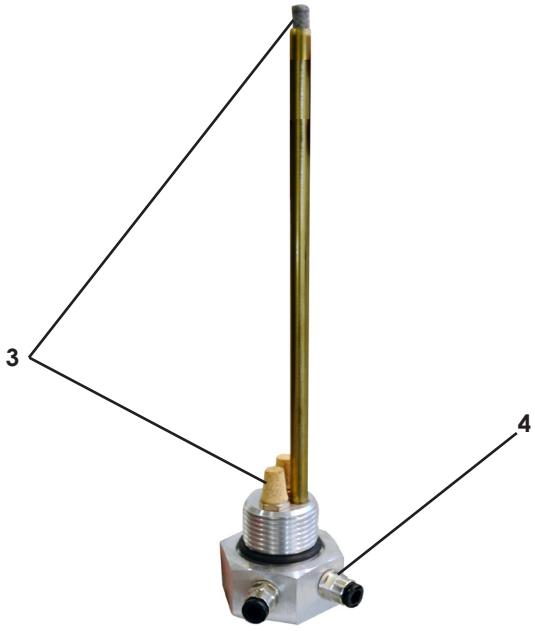

**WARNING - Before screwing the pug again, thoroughly clean the threads from any sand that could damage them**

**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.



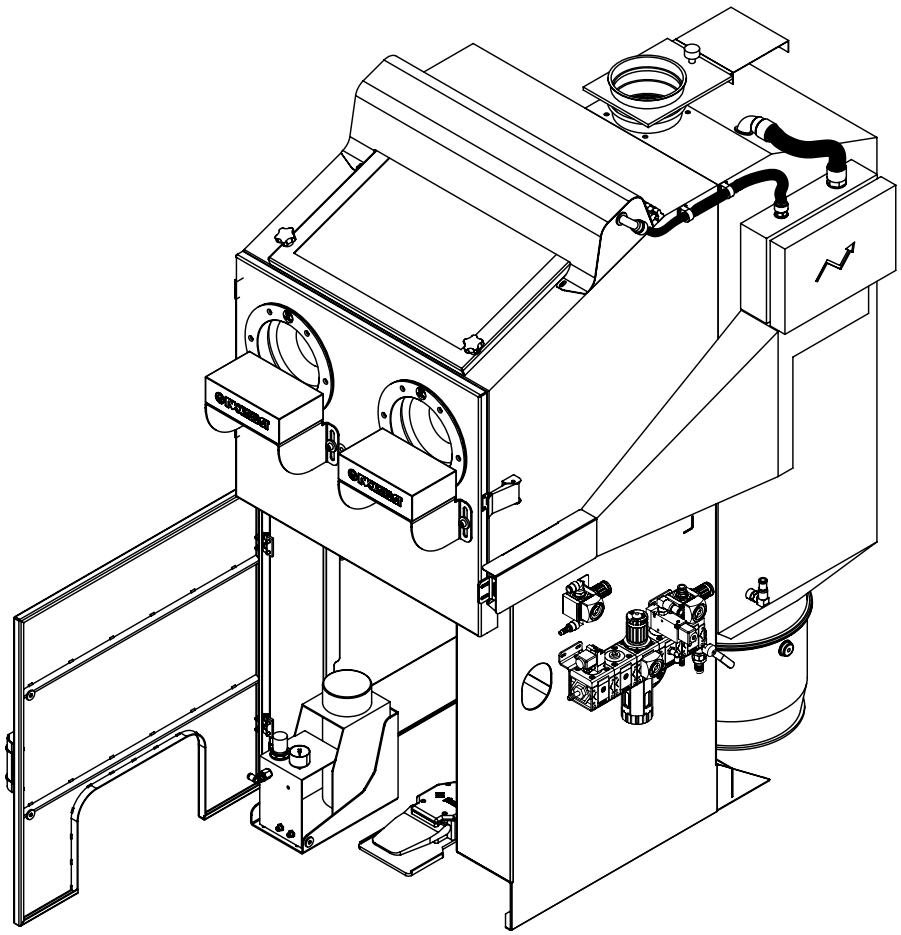

Over time, the filters (3) of the air-sand distributor (4) on the bottom of the tank may become clogged or worn. Should this be the case, loosen the distributor from the bottom of the tank and replace the filters shown in the exploded view. Warning: a special wrench is required to disassemble the distributor.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

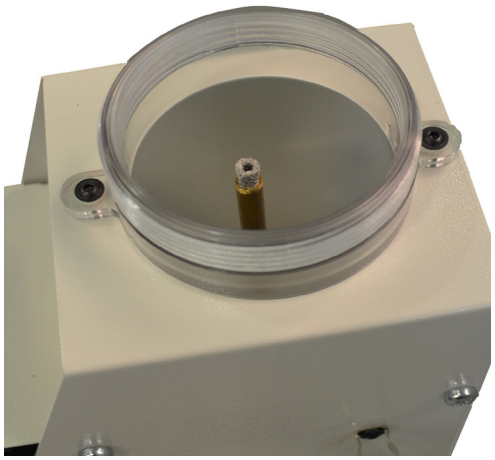
Before assembling the nozzle, clean the disassembled parts with a blowing gun and apply Teflon tape to ensure the pneumatic sealing between the two metal parts screwed together.

## AIR DISTRIBUTOR REMOVAL PROCEDURE

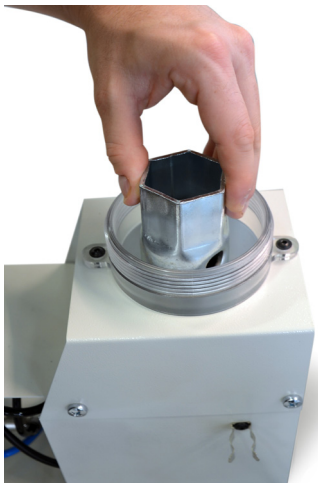
In order to replace or maintain the blasting nozzle, you must first:

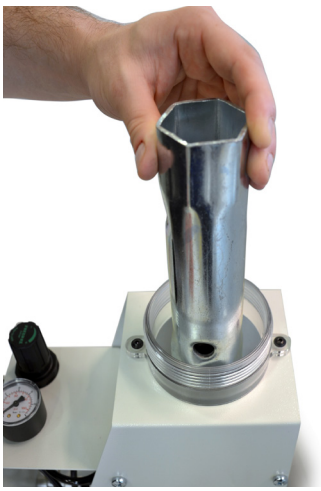
**(0)** Disable the device from both the power and air supplies.

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



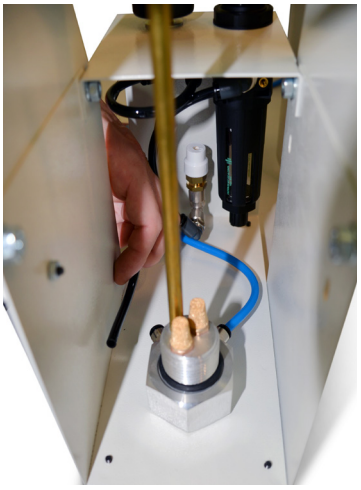
**(2)** With a pair of socket spanners used in series, loosen the ring nut securing the grit container to the air distributor. Once the ring nut has been removed, also remove the stop washer and the white seal present inside the tank.



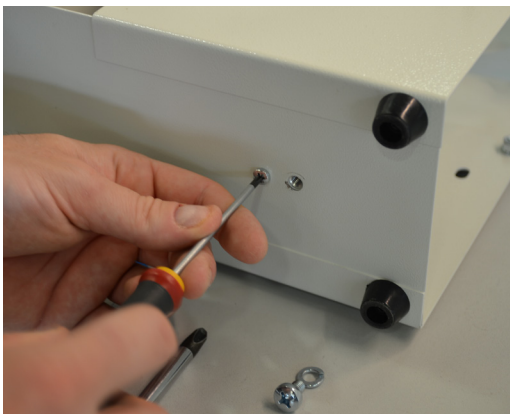


**(3)** Remove the grit tank from the frame by loosening the two hexagon socket head screws on the top of the sandblasting machine.

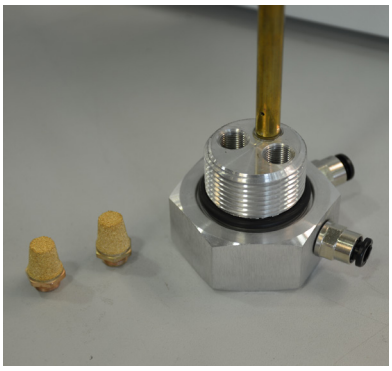
**(4)** Disconnect the two rilsan pneumatic supply pipes of the distributor from the relevant quick couplings.



**(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.

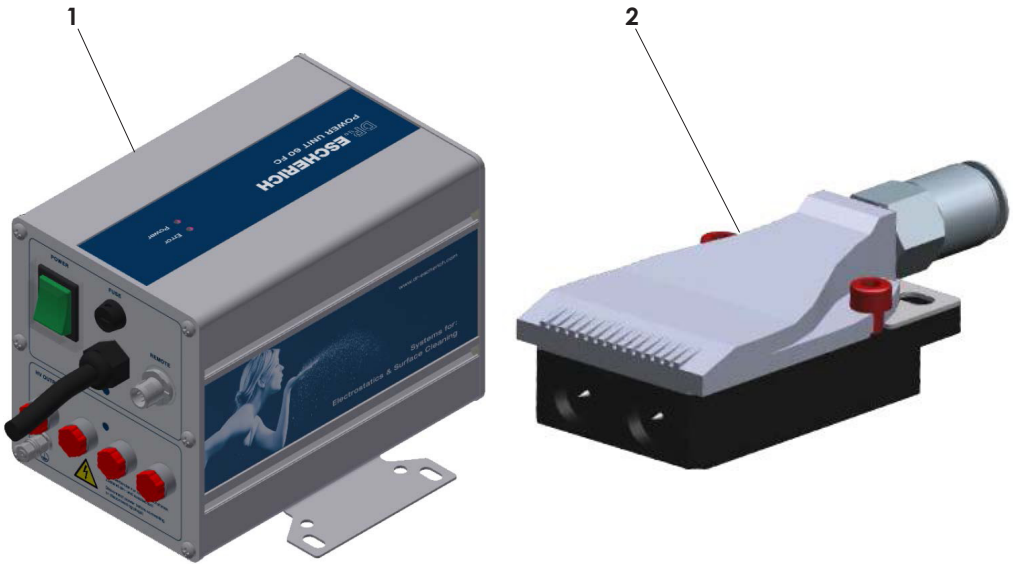


**DURING MAINTENANCE IT IS GOOD PRACTICE TO CHECK THE CONDITION OF THE PNEUMATIC RILSAN PIPES FEEDING THE MICROBLAST.**
**THE PIPE IS SUBJECT TO A PROGRESSIVE DECAY OF ITS PROPERTIES BOTH IN TERMS OF PNEUMATIC AND ELASTIC SEALING; IN THE LONG RUN IT COULD GET DAMAGED SHOWING BOTH AIR LEAKS AND PLASTIC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

## 5.9 IONISING BLOWING (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.

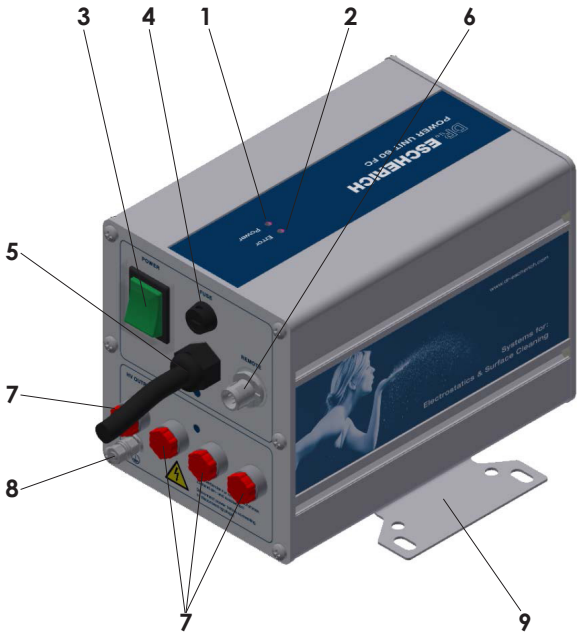
Touching the tips of the DC ioniser emitters during operation can lead to a charge induction. The human body can also become electrostatically charged, if a person gets too close to the DC ionisers during operation. Touching a grounded component can cause an unpleasant and possibly even painful static 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.
- Fit the connector of the ionising nozzle by tightening the connector retaining nut (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.

## 5.10 SAFETY DEVICES

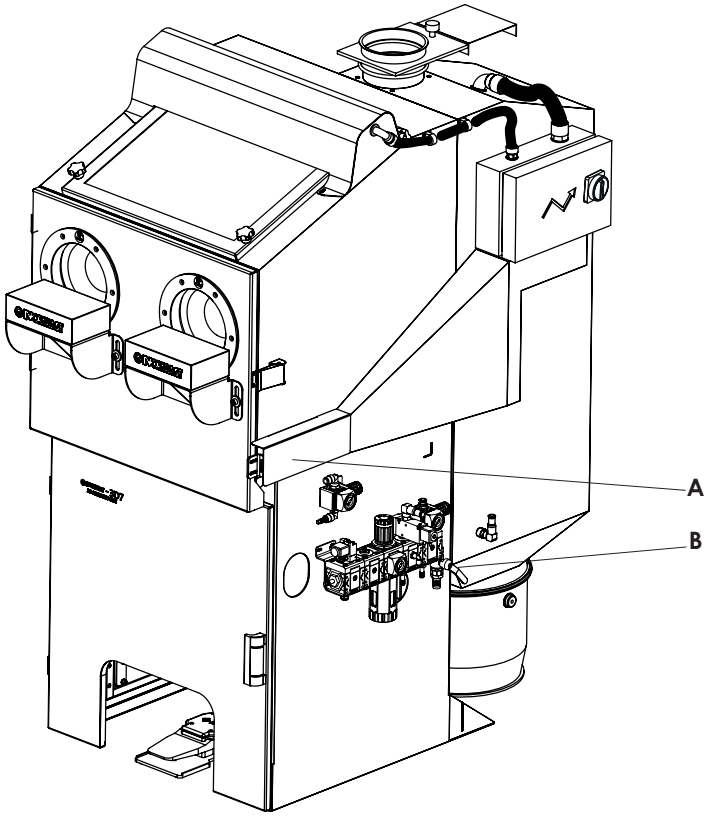
The machine is equipped with the following safety devices:

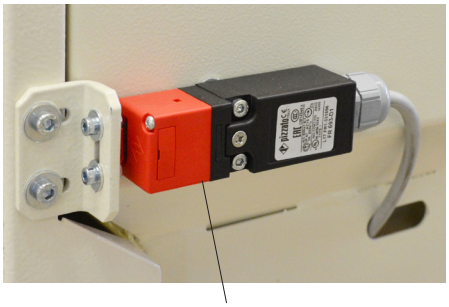
### Electrical safety devices

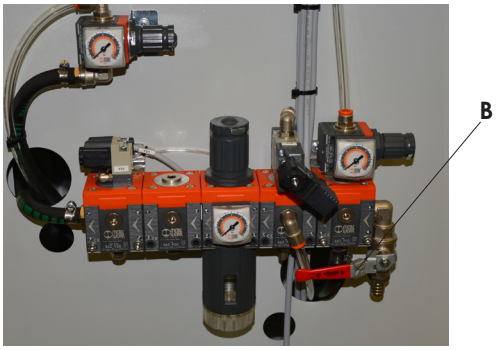
- *Electromechanical microswitch* ***(A)***.
  Its function is to disable gun blasting and filter cartridge cleaning blow with the door open.

### Auxiliary devices

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



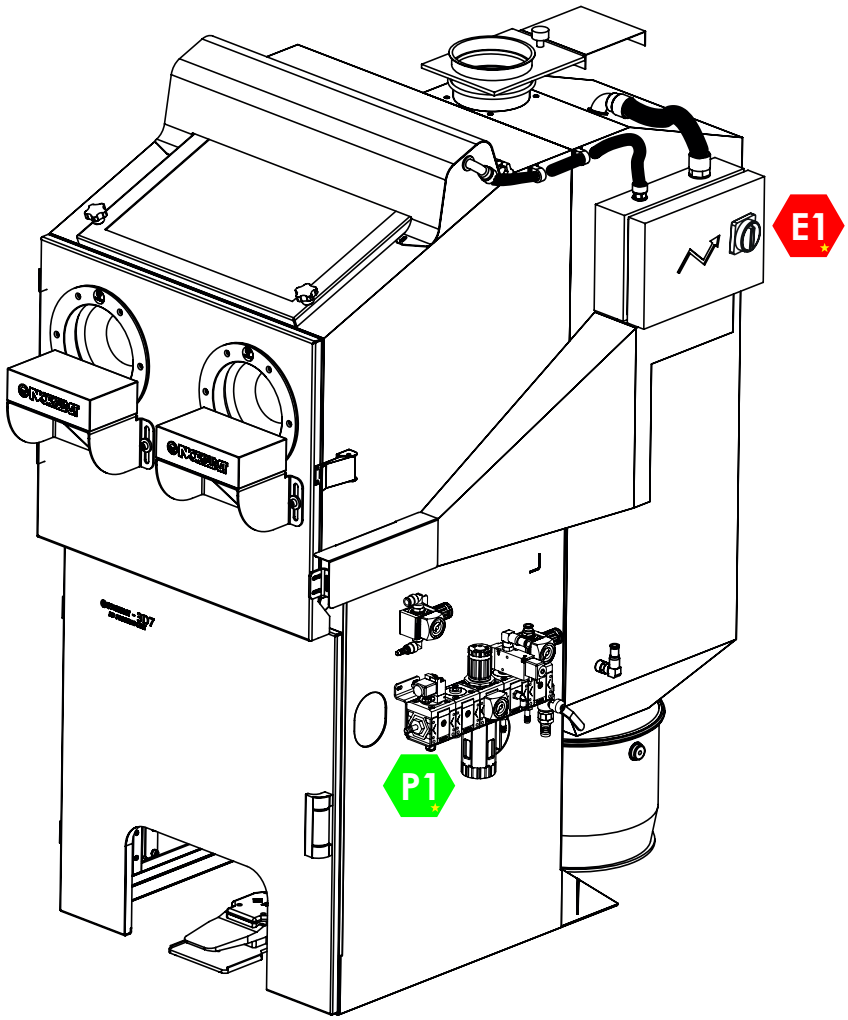




| SAFETY DEVICE CHECK LIST | | | | | |
|---|---|---|---|---|---|
| **ID** | **DEVICE** | **POSITION** | **EFFECT** | **HOW TO ACTIVATE IT** | **HOW TO RESET IT** |
| **A** | Electromechanical microswitch | Cabin access door | Door opening/ closing control. | Door opening/ closing | Door closing |
| **B** | 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. |

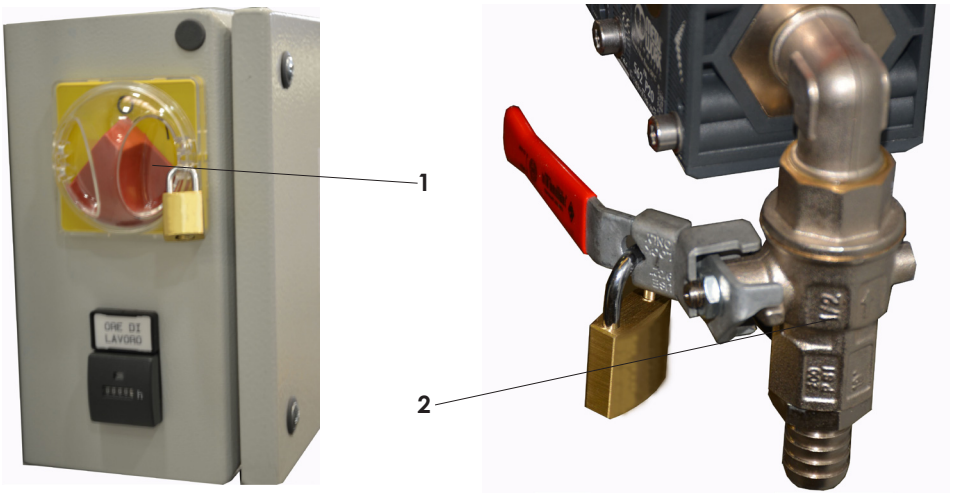
## 5.11 LIST AND ARRANGEMENT OF THE SAFETY DISCONNECTING SWITCHES

| 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.<br>Lock the switch with a lock.<br>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.<br>Place the safety plate. | Make sure that the valve is correctly closed and that the pressure gauge does not indicate any pressure. |



## 5.12 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

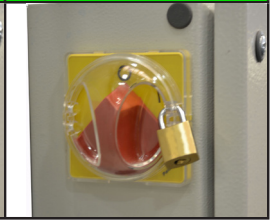
ACTIVE PNEUMATIC DISCONNECTION:
-failed operation of the manual blowing gun

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

| 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 **4** 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 | POSITION PADLOCK D |
|---|---|---|---|
|  |  |  |  |

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:

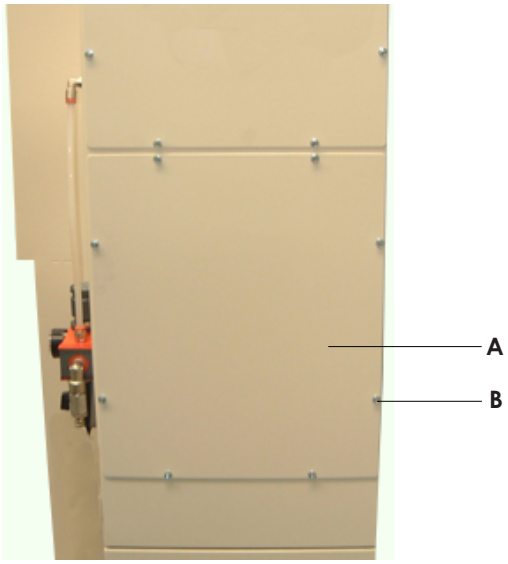
- the EC identification plate;
- the pressure gauge;
- the regulator filter;
- the pneumatic valve;
- the sight glass;
- the working grid or the rotary table (if fitted);
- the cabin hopper;
- the door closing seals.

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

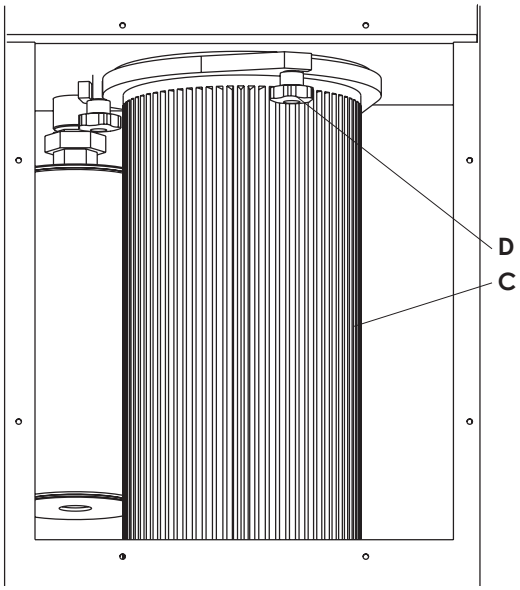
**Cut out the power of the machine.**
**Disconnect the machine from the pneumatic power.**
**Before proceeding with this operation wear all suitable protection equipment to protect the operator from dust.**

## 6.3 REPLACEMENT OF OF THE CARTRIDGE

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.

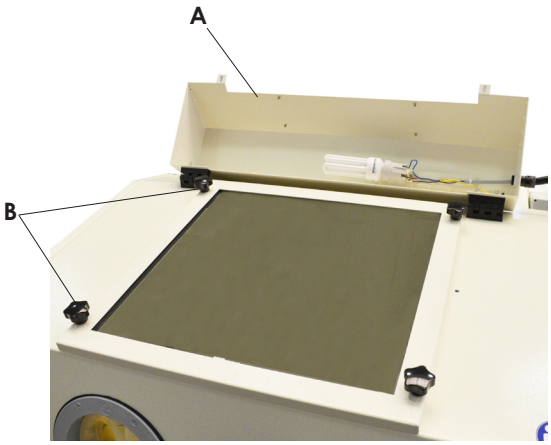
Fully loosen the 4 locking knobs **(B)** of the glass holder frame **(C)** and lift it.

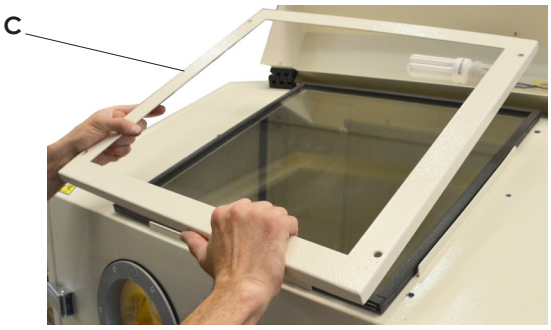
Lift the first glass and lay it in a handy and safe position since it will not have to be replaced.

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.

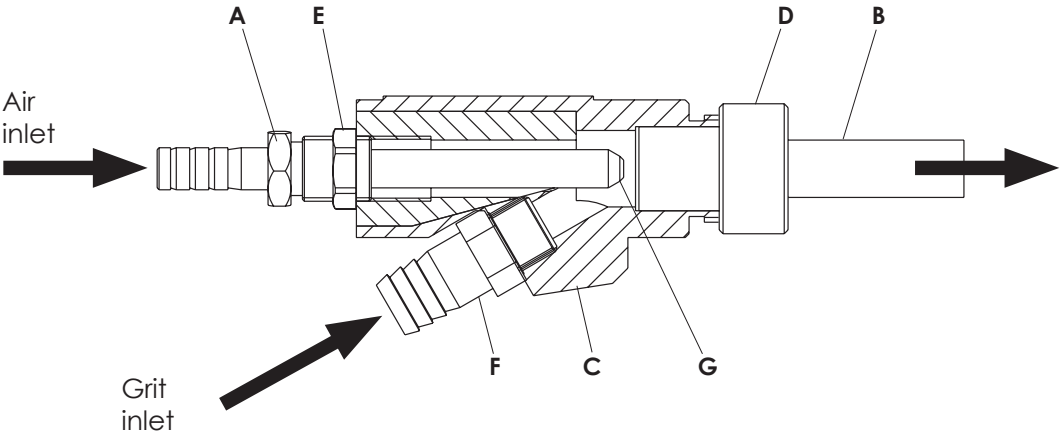



## 6.6 VENTURI GUN

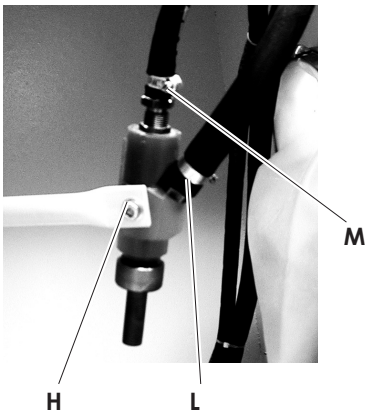
Carrying out a correct and periodical maintenance on gun components subject to wear proves useful to keep an optimal efficiency of the blasting device.

**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

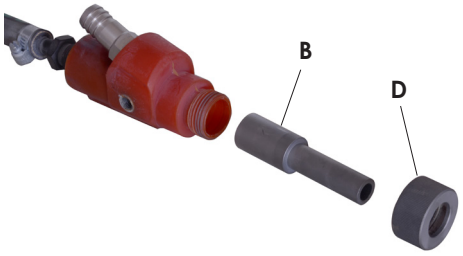



***Gun bench maintenance procedure***

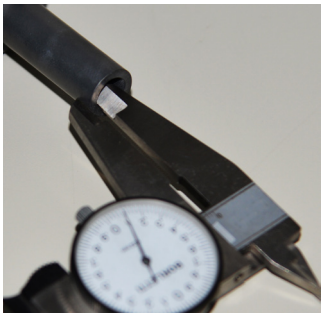
**1** Loosen screw **(H)** on gun support (if any), disconnect the air inlet tube **(L)** and the grit inlet tube **(M)**.



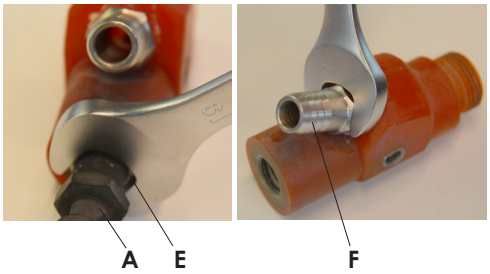

**2** Take gun on bench, loosen ring nut **(D)** and take out nozzle **(B)**.




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

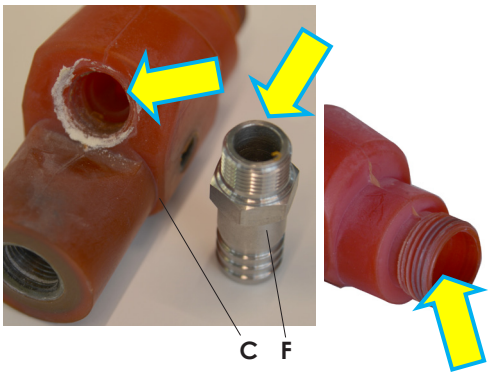


**4** Loosen nut **(E)** and take out delivery jet **(A)**, loosen grit inlet hose barb **(F)** .

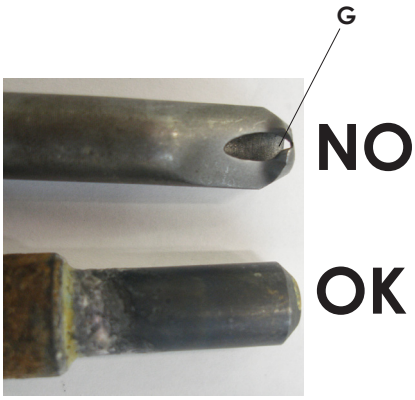



**5** Visually inspect gun body **(C)** in nozzle and hose barb seats: if it shows excessive signs of wear, replace it.

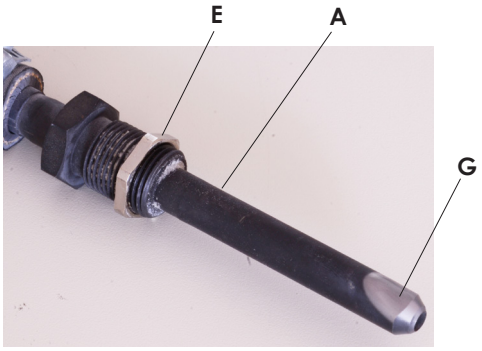
**6** Visually inspect the hose barb **(F)**: replace it if worn out.

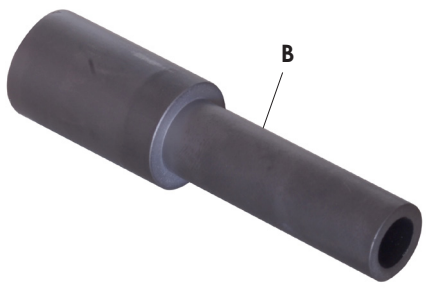



**7** Check the integrity of the delivery jet: the hole at the end of the delivery jet must be perfectly circular and must not feature side cuts **(G)**.




**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)**.

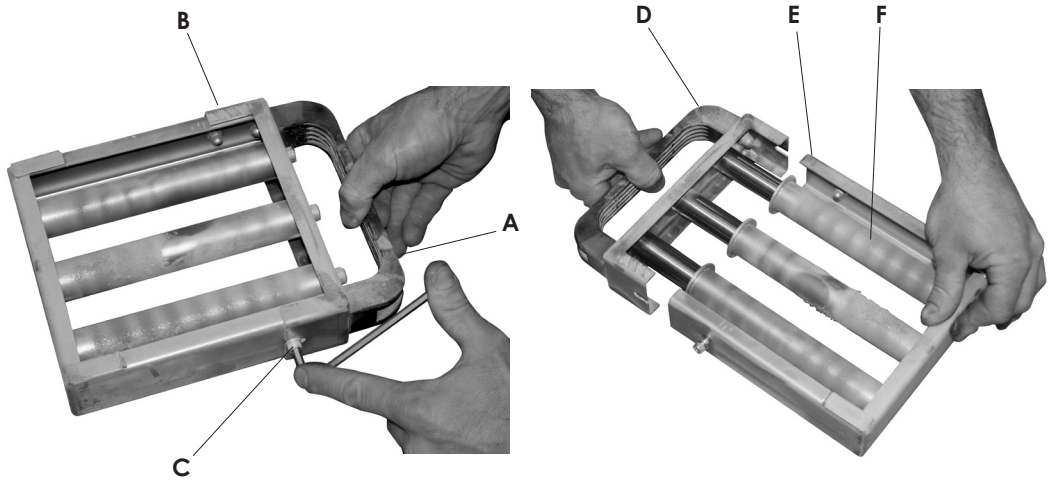


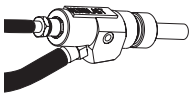
## 6.7 CLEANING THE MAGNETIC SEPARATOR

**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.

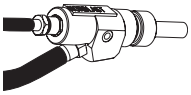


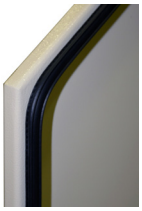
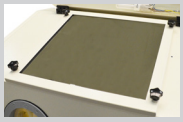
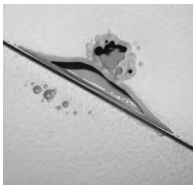

## 6.8 ROUTINE MAINTENANCE

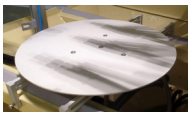
| Checks at work shift beginning / end | |
|---|---|
|  | Check integrity of nozzle, check nozzle for wear. Replace if any damage is found. |
|  | Check for air leaks in the pneumatic system. |
|  | Check for water and/or oil trapped inside filter-regulator sump. If water is in the sump, drain and check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

# 3D7
## MANUAL SANDBLASTING - SHOT PEENING MACHINE

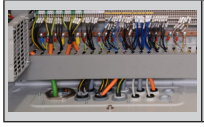
NORBLAST

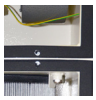
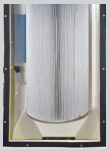
| MAINTENANCE | | 40 h | 160 h | 1000 h |
|---|---|---|---|---|
|  | Check the wear status of the shot-peening gun assembly: delivery jet, gun body, grit inlet hose barb, nozzle | ● | | |
|  | Check grit delivery tubes for wear. | | ● | |
|  | Clean the magnetic separator. | ● | | |
|  | Visually inspect 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 table surface for wear. | | ● | |
| | Make sure that the bearings for table surface rotation are clean and that the table 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.<br>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 | | | • |

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

| IONISING BLOWING | | 40 h | 160 h | 1000 h |
|---|---|---|---|---|
|  | Check nozzle proper operation | • | | |
| | Clean the nozzles | | • | |

## 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 |

| 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 |

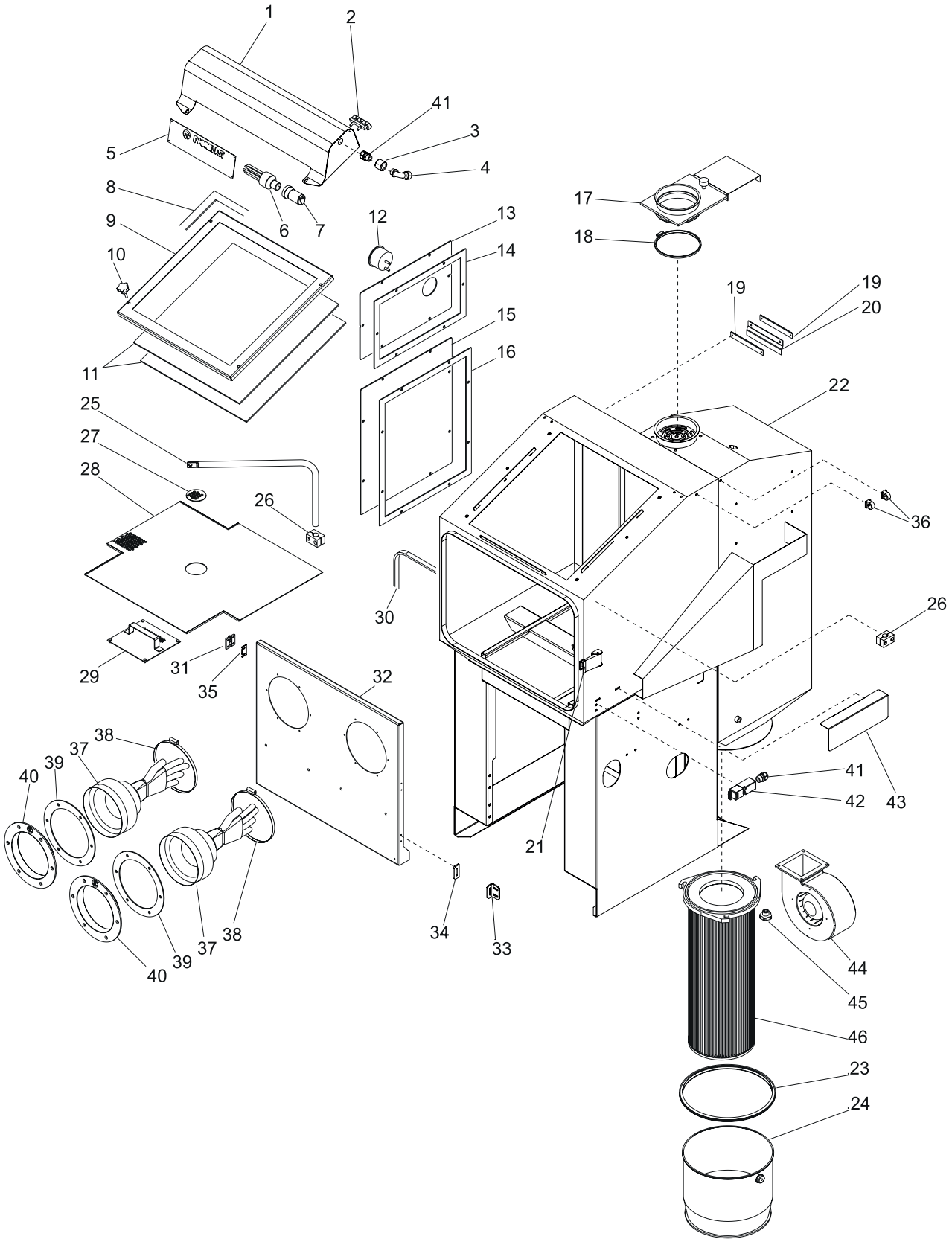
Air consumption values indicated in the table are expressed in Nl/min

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

# 3D7

## MANUAL SANDBLASTING - SHOT PEENING MACHINE



| REF. | QTY | CODE | DESCRIPTION | TYPE |
|---|---|---|---|---|
| 1 | 1 | 024514 | Rounded ceiling lamp | |
| 2 | 2 | 005633 | Hinge | CFF.66 P-M6x16 ELESA |
| 3 | 4 | E04957 | Jointing hose | PG13.5 GREY RAL 7035 |
| 4 | 1 | E02553 | Fitting | D.12 - 90° PG 13.5 |
| 5 | 1 | 000841 | NORBLAST plate | |
| 6 | 1 | E00835 | Lamp | 0035011 ML HOME 23W T3 |
| 7 | 1 | E00194 | Lamp holder | VIMAR E27 °43mm |
| 8 | 6 m | 000004 | Seal | 12x3 |
| 9 | 1 | 005628 | Glass frame | 490x490 FN2000 |
| 10 | 4 | 002464 | LOBE hand wheel | VC192/40P-M6X30 |
| 11 | 2 | P0084 | Tempered glass | 490x490 MM |
| 12 | 1 | 020424 | Analogue differential pressure gauge | Mini Helic 5000 0-50 mm |
| 13 | 1 | 005625 | Filter top cover | |
| 14 | 1 | 020431 | Filter upper guard seal in EPDM | |
| 15 | 1 | 005642 | Filter bottom cover | |
| 16 | 1 | 020434 | Filter lower guard seal in EPDM | |
| 17 | 1 | 007171 | Moulded gate valve shutter | ITEM NO.169 Ø140 |
| 18 | 1 | 007172 | Single ring | ITEM NO.218 Ø140 |
| 19 | 2 | 011744 | Diaphragm trim | |
| 20 | 1 | 011745 | Intake stack closing diaphragm | |
| 21 | 1 | 005720 | Adjustable closed catch | 2.18.00 ZINC-PLATED |
| 22 | 1 | 025851 | Metal elements | |
| 23 | 1 | 006441 | Zinc-plated ring | Ø292 FOR CONTAINER |
| 24 | 1 | 016478 | Dust collecting bin | Ø292xh250 SD7/9/12 |
| 25 | 1 | 005802 | Gun support | |
| 26 | 2 | 005800 | Tube collar | Ø20 320-PPH STAUFF |
| 27 | 1 | 005627 | Valve seat cap | |
| 28 | 1 | 012274 | Grid surface | |
| 29 | 1 | 022318 | Hopper drilled cover | |
| 30 | 2.5 m | 005634 | Reinforced drawn seal | |
| 31 | 2 | 006509 | Hinge | EMKA 1056-U5-PH STAINLESS STEEL |
| 32 | 1 | 028582 | Front door | |
| 33 | 1 | 012872 | Electric microswitch pusher device support | |
| 34 | AS REQUIRED | 022533 | Microswitch adapter spacer | AS REQUIRED |
| 35 | AS REQUIRED | 028270 | Hinge slotted spacer | AS REQUIRED |
| 36 | 2 | E03726 | Sheath retainer with safety clip | Ø12 |
| 37 | 1 | 000548 | Pair of latex gloves | SIZE 11 |
| 38 | 2 | 000579 | Clamp | No.14 168--188 ZINC-PLATED |
| 39 | 2 | 005916 | Glove holder flange gasket | |
| 40 | 2 | 000577 | Glove holder flange | |
| 41 | 1 | E00554 | Grey cable gland | RAL7035 PG13.5 - UL/CSA |
| 42 | 1 | E01582 | Limit switch with pizzato safety device | FR693-D1 |
| 43 | 1 | 027403 | Door microswitch protection guard | |
| 44 | 1 | 005636 | Exhauster | G2E 140 AE77 01 EBM |
| 45 | 3 | 005637 | Knob | Ø40 M10 THROUGH HOLE |
| 46 | 1 | 005635 | Filter cartridge | Ø218x600 P 5.35 MQ Polyester |
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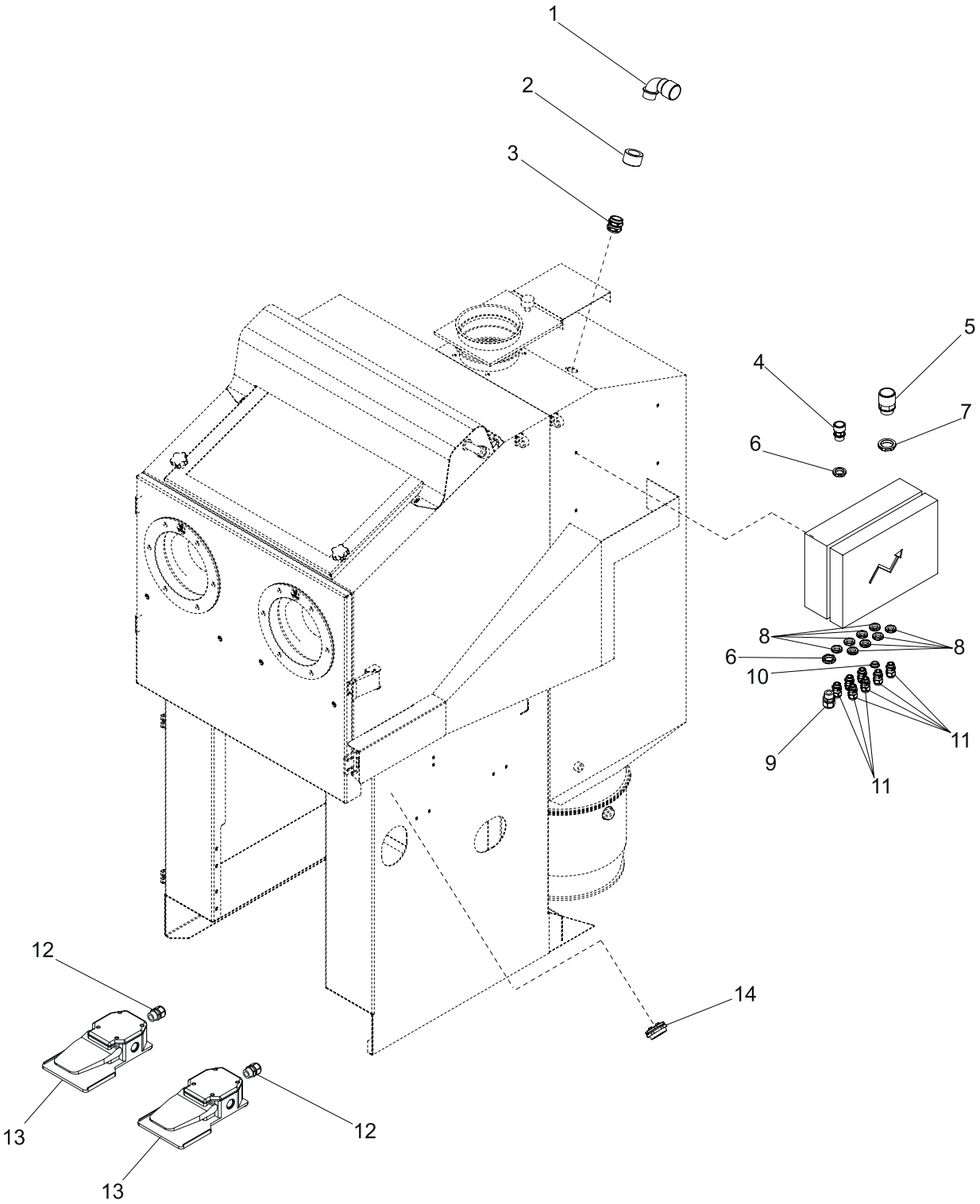
## MANUAL SANDBLASTING - SHOT PEENING MACHINE



| REF. | QTY | CODE | DESCRIPTION | TYPE |
|---|---|---|---|---|
| 1 | 1 | 024514 | Rounded ceiling lamp | |
| 2 | 2 | 005633 | Hinge | CFF.66 P-M6x16 ELESA |
| 3 | 4 | E04957 | Jointing hose | PG13.5 GREY RAL 7035 |
| 4 | 1 | E02553 | Fitting | D.12 - 90° PG 13.5 |
| 5 | 1 | 000841 | NORBLAST plate | |
| 6 | 1 | E00835 | Lamp | 0035011 ML HOME 23W T3 |
| 7 | 1 | E00194 | Lamp holder | VIMAR E27 °43mm |
| 8 | 6 m | 000004 | Seal | 12x3 |
| 9 | 1 | 005628 | Glass frame | 490x490 FN2000 |
| 10 | 4 | 002464 | LOBE hand wheel | VC192/40P-M6X30 |
| 11 | 2 | P0084 | Tempered glass | 490x490 MM |
| 12 | 1 | 020424 | Analogue differential pressure gauge | Mini Helic 5000 0-50 mm |
| 13 | 1 | 005625 | Filter top cover | |
| 14 | 1 | 020431 | Filter upper guard seal in EPDM | |
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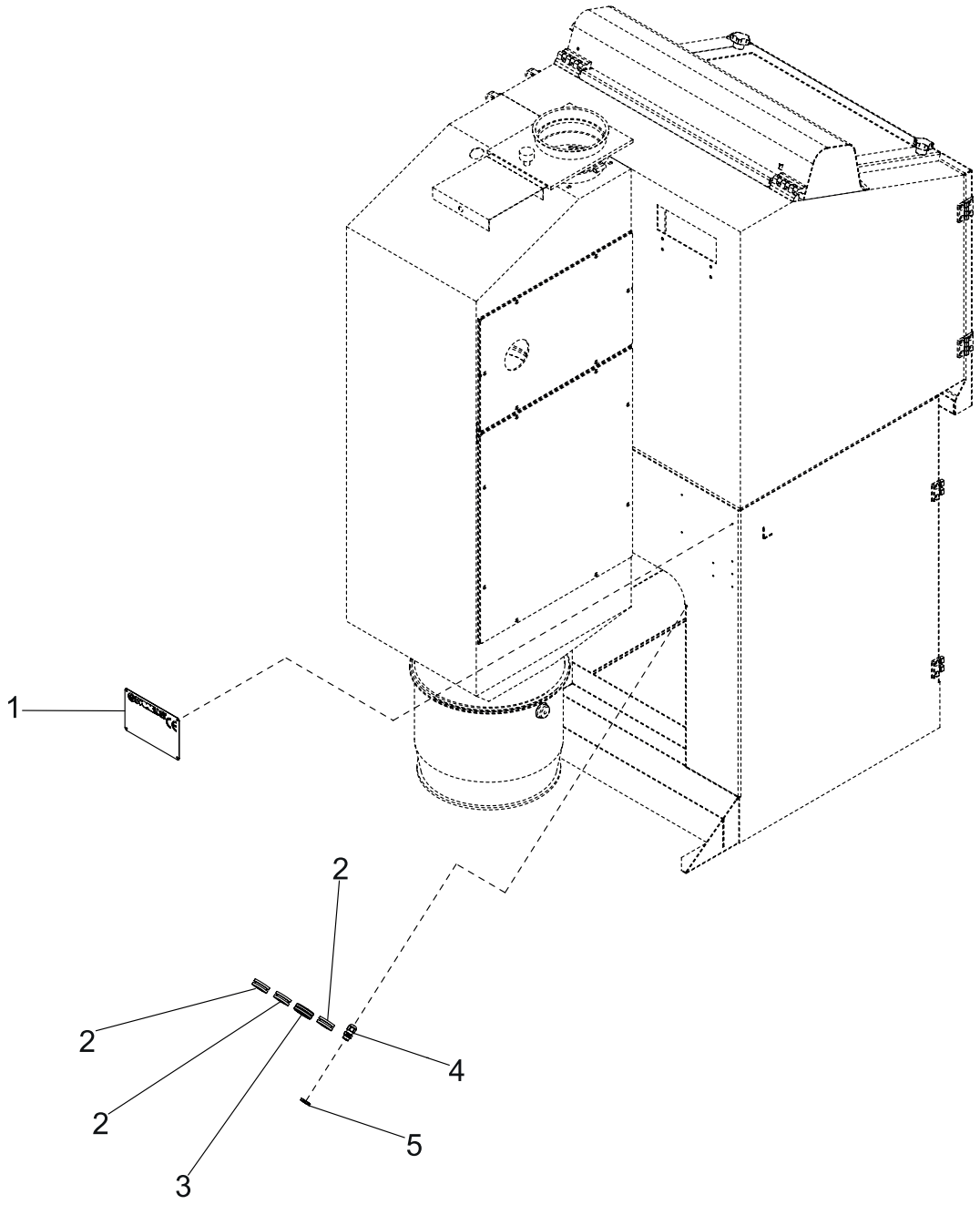
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
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| 1 | 1 | P0001 | EC plate | |
| 2 | 3 | 002219 | Rubber cable gland Ø17 | CODE 2090 |
| 3 | 1 | 002220 | Rubber cable gland Ø23 | CODE 2040 |
| 4 | 1 | E00666 | Cable gland | PG7 GREY RAL7035 |
| 5 | 1 | 000841 | Polyamide check nut | PG7 GREY RAL7035 |
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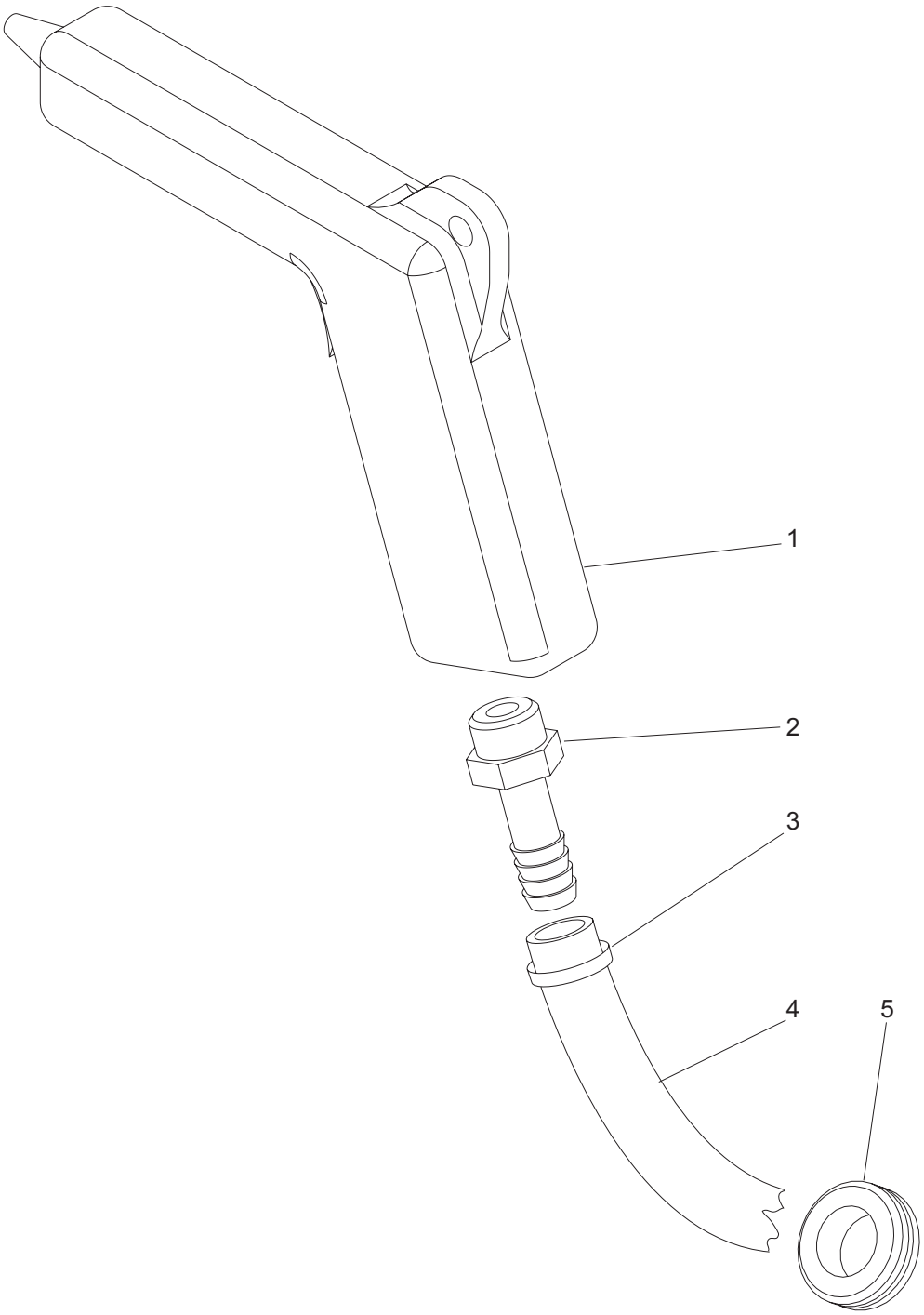
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
|---|---|---|---|---|
| 1 | 1 | 000896 | Blowing gun | 04-115/1 04-115/1.SR |
| 2 | 1 | 000121 | Hose barb | DIAM.10 1/4" |
| 3 | 2 | 000580 | Clamp | No. 2 10-18 ZINC-PLATED PIPE 10x17 |
| 4 | 2.5 m | 000018 | Tube | ø10x17 |
| 5 | 1 | 002219 | Rubber wiring grommet | Ø 17.5 code 20900017500 |
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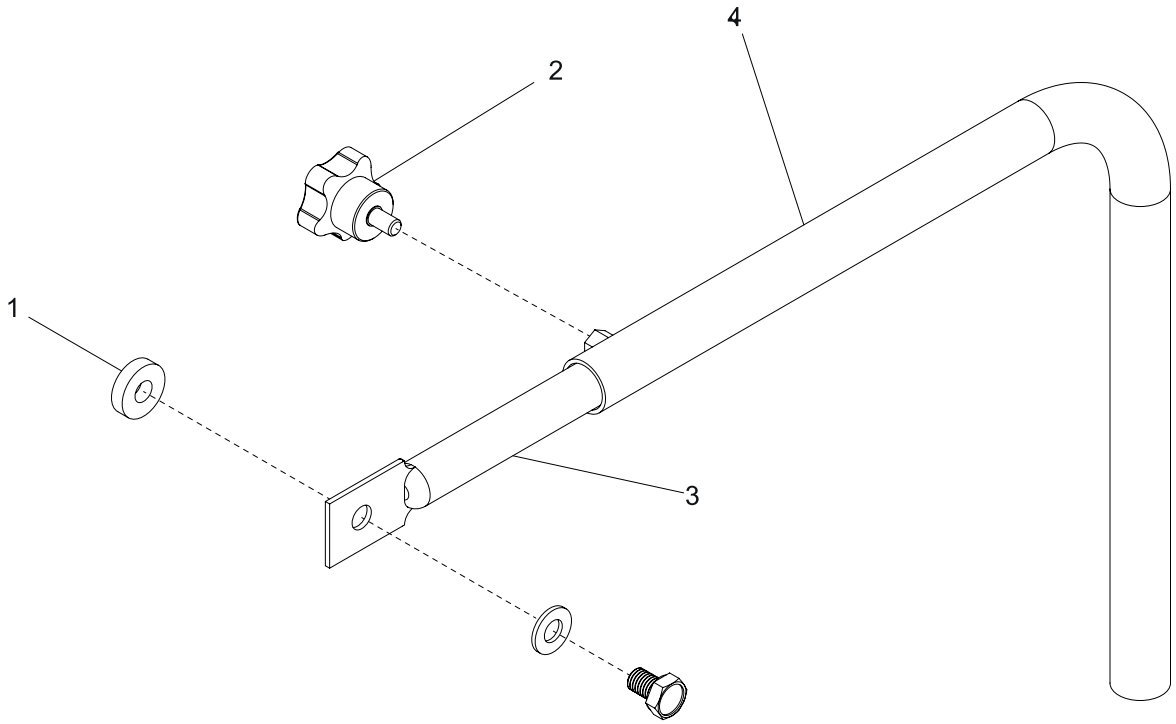
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
|---|---|---|---|---|
| 1 | 1 | 020943 | Shimmed washers | Ø8x20 thickness 5 |
| 2 | 1 | 028273 | Lobe hand wheel | VCT. 25 P-M6X10-C9 |
| 3 | 1 | 007022 | Shot-peening gun support extension | |
| 4 | 1 | 007021 | Shot-peening gun support bent pipe | |
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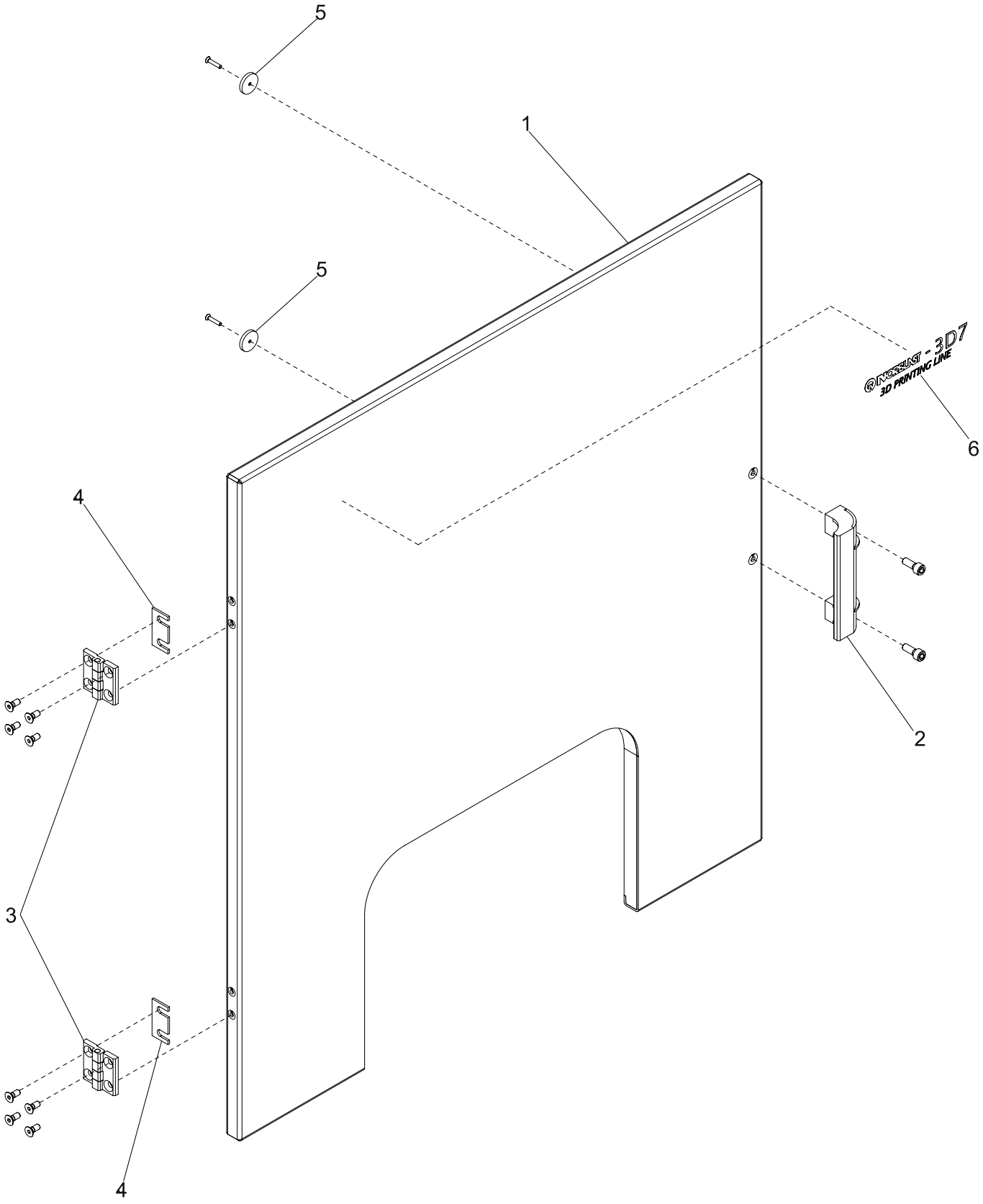
## MANUAL SANDBLASTING - SHOT PEENING MACHINE



| REF. | QTY | CODE | DESCRIPTION | TYPE |
|---|---|---|---|---|
| 1 | 1 | 027388 | Lower door SD7 | |
| 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 | 028520 | Lower door stickers 3D7 | |
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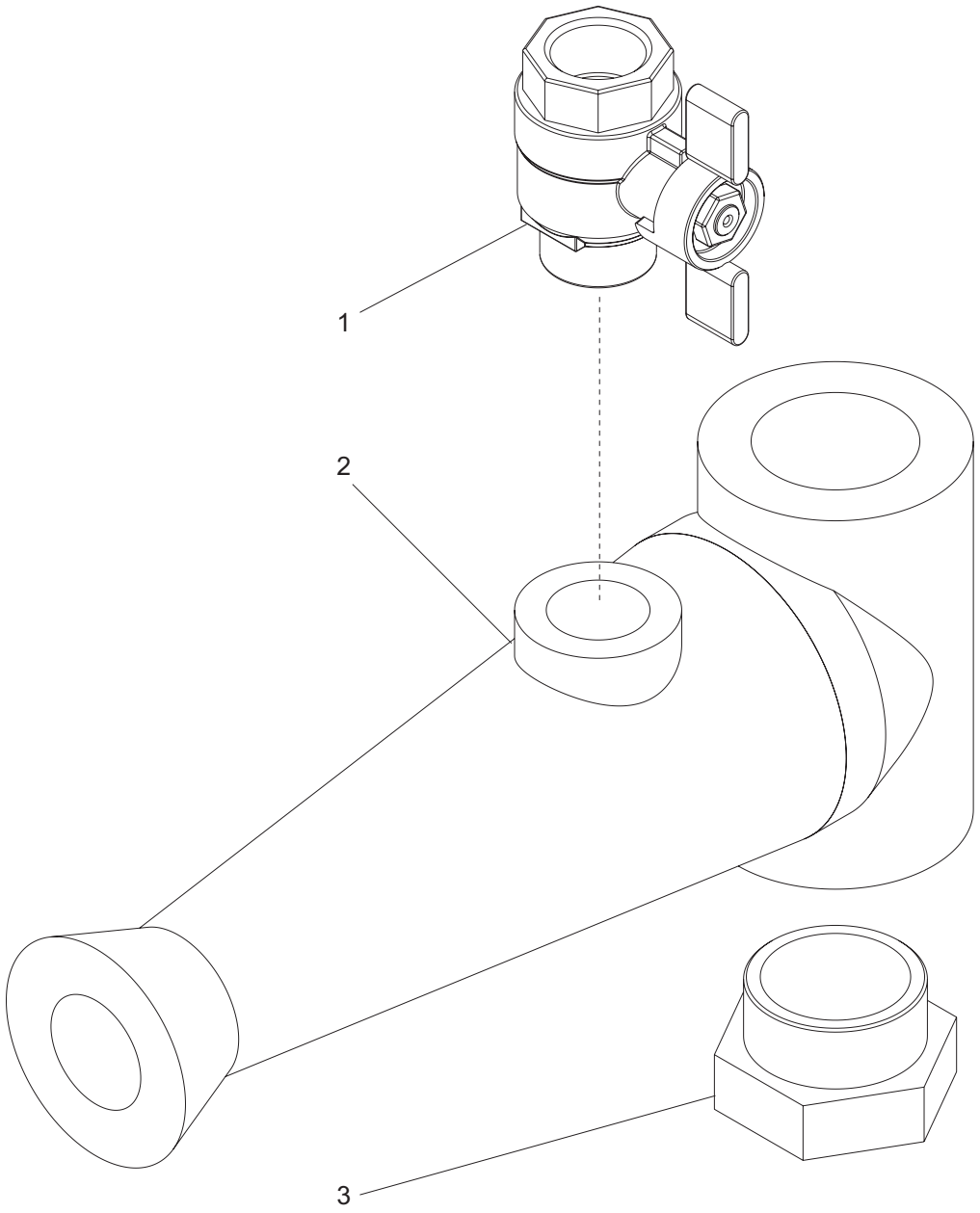
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
|---|---|---|---|---|
| 1 | 1 | 016310 | Ball valve | G1/2 M/F ITEM 9250TR12 TIERRE |
| 2 | 1 | 013423 | Fda polyurethane recirculation composite lug | |
| 3 | 1 | 012635 | Plug | 1"M TN.1 ELESA Code 58299 |
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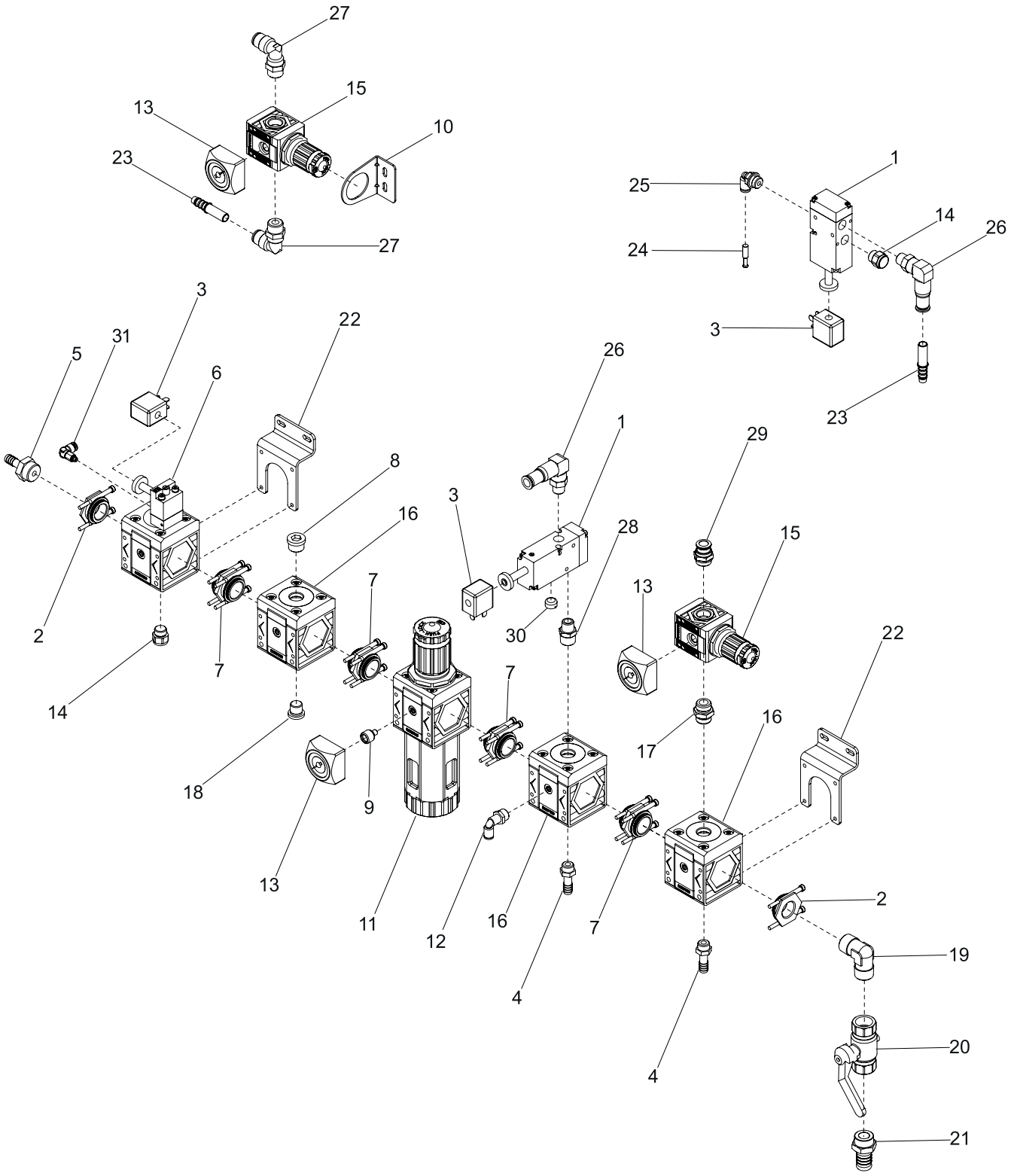
## MANUAL SANDBLASTING - SHOT PEENING MACHINE



| REF. | QTY | CODE | DESCRIPTION | TYPE |
|---|---|---|---|---|
| 1 | 2 | 006820 | Solenoid valve SOV 33 SOS NC | METAL WORK Code 7020020200 |
| 2 | 2 | 028256 | Accessory KIT IN OUT 1/2 SY2 | 9210012 |
| 3 | 3 | 007713 | Coil 220 VAC | METAL WORK W02150001311 |
| 4 | 4 | 000121 | Hose barb | Ø10 G 1/4" |
| 5 | 1 | 000087 | Hose barb | Ø10 G 1/2" |
| 6 | 1 | 028529 | Solenoid valve V3V SY2 | METAL WORK 5620V300 |
| 7 | 4 | 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 | 1 | 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 | 001269 | 90° fitting | Ø4 G 1/4" |
| 13 | 3 | 028265 | Pressure gauge 40X40 1/8 0-12 Bar | METAL WORK 9700110 |
| 14 | 2 | 000084 | Silencing device SFE 1/4" | METAL WORK W0970530053 |
| 15 | 2 | 027833 | Pressure regulator 3/8" | 5613R143 SY1 Metalwork |
| 16 | 3 | 028255 | 4-way air outlet SY2 w/out bushings | 5620P200 |
| 17 | 1 | 000993 | Nipple Fitting | 3/8" M/M |
| 18 | 1 | 028261 | Plug 1/4"M Bosch | 1149TR14 |
| 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 | 2 | 011610 | Rubber Hose Connection Insert Ø10 | Bosch R412005370 |
| 24 | 1 | 023998 | Quick-release plug | Ø6 PP06N |
| 25 | 1 | 001347 | 90° fitting | Ø6 G 1/4" |
| 26 | 2 | 005640 | 90° fitting Rotary 1/4"M-Ø10 | |
| 27 | 2 | 000142 | 90° fitting 3/8"M-D.10 Quick-release | |
| 28 | 1 | 002500 | Reducing fitting | 3/8"M-1/4"M |
| 29 | 1 | 003247 | Straight fitting | Ø10 G 3/8" |
| 30 | 1 | 001346 | Concealed flat silencing device | 1/4" |
| 31 | 1 | 009889 | 90° fitting | Ø5 M 5 |
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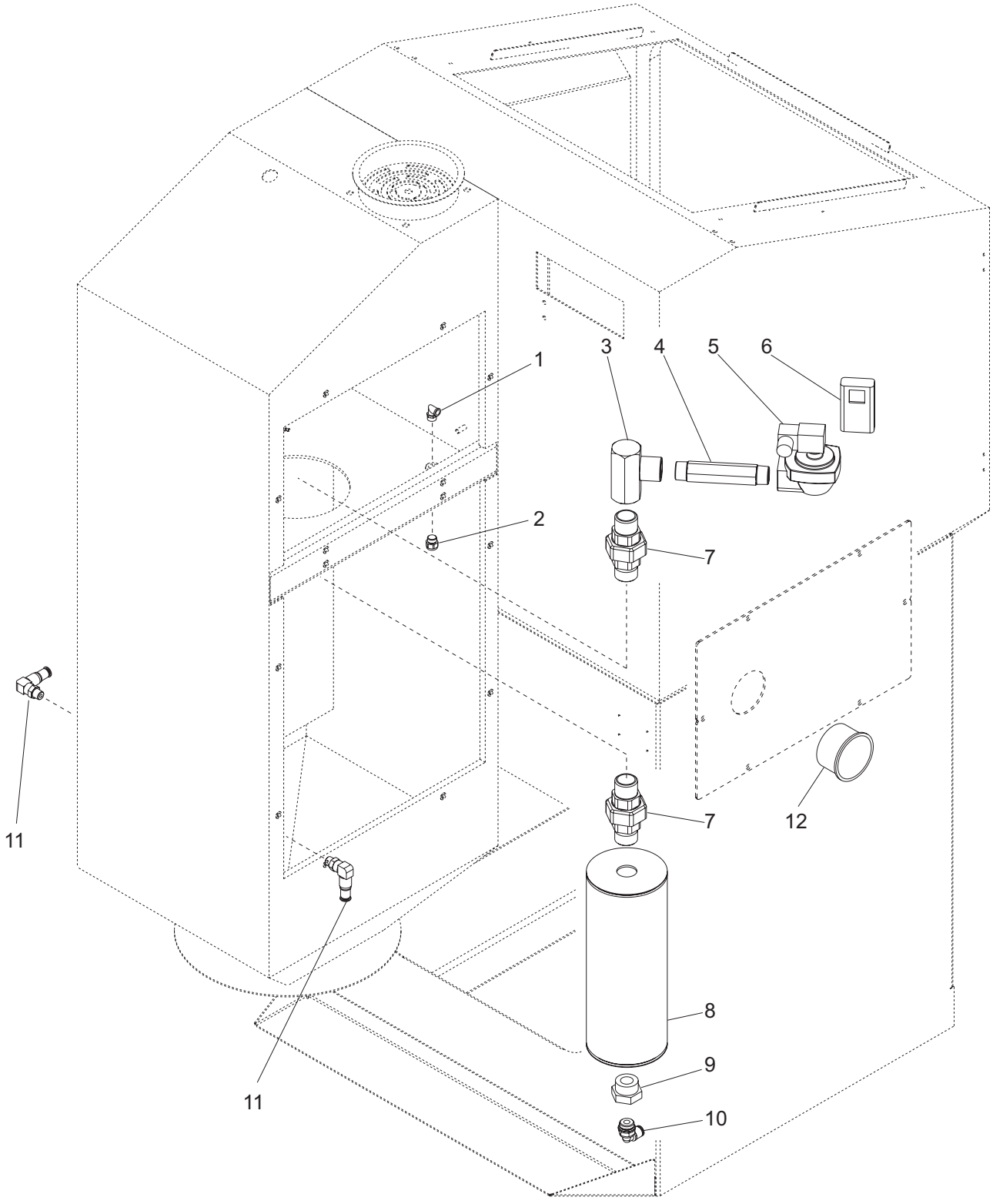
## MANUAL SANDBLASTING - SHOT PEENING MACHINE



| 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 |
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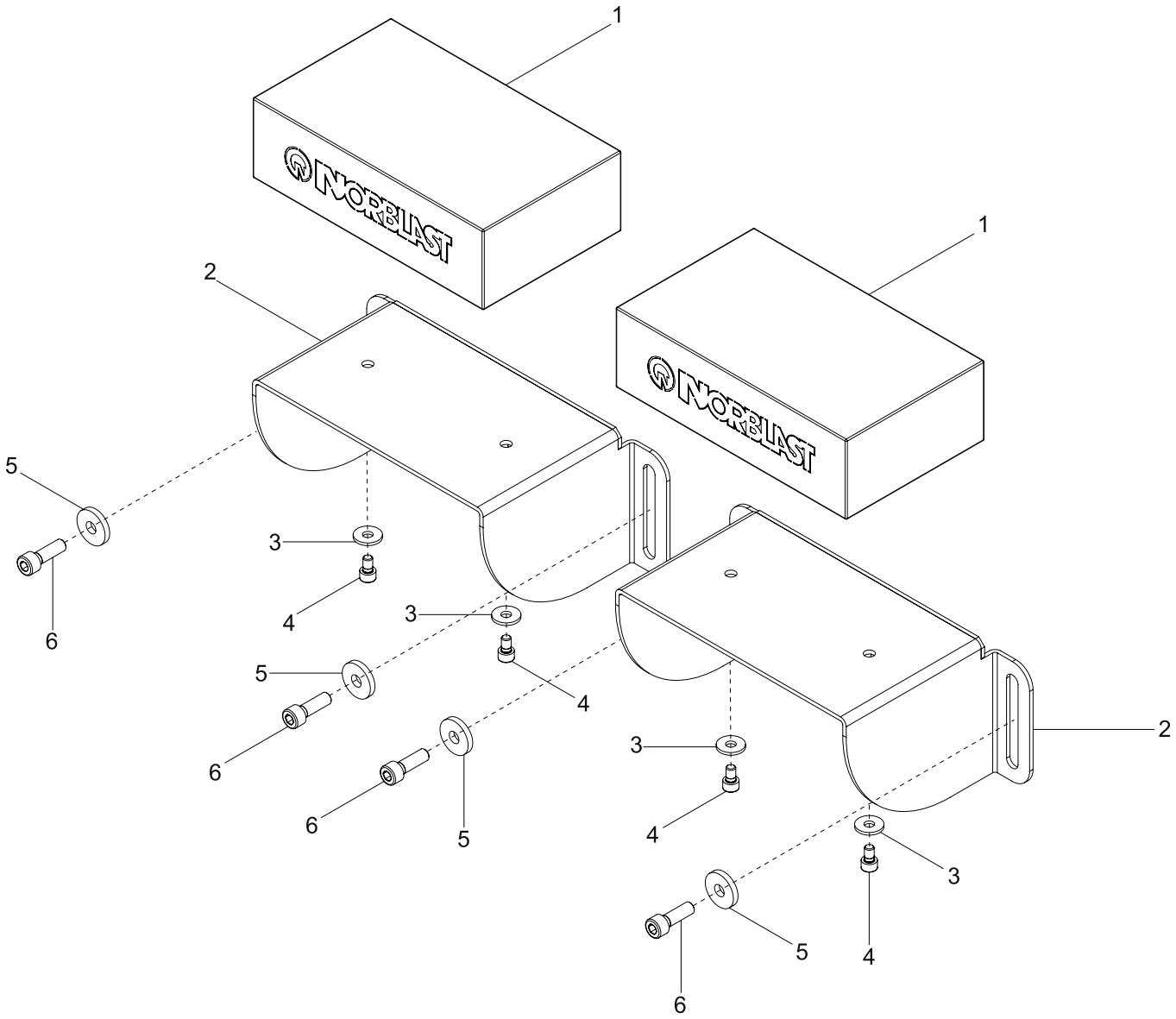
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
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| 1 | 1 | 027827 | Pair of elbow supporting cushions | |
| 2 | 2 | 028516 | Operator's arm support 2020 | PAINTED RAL 9011 |
| 3 | 4 | 005070 | Flat washer 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 |
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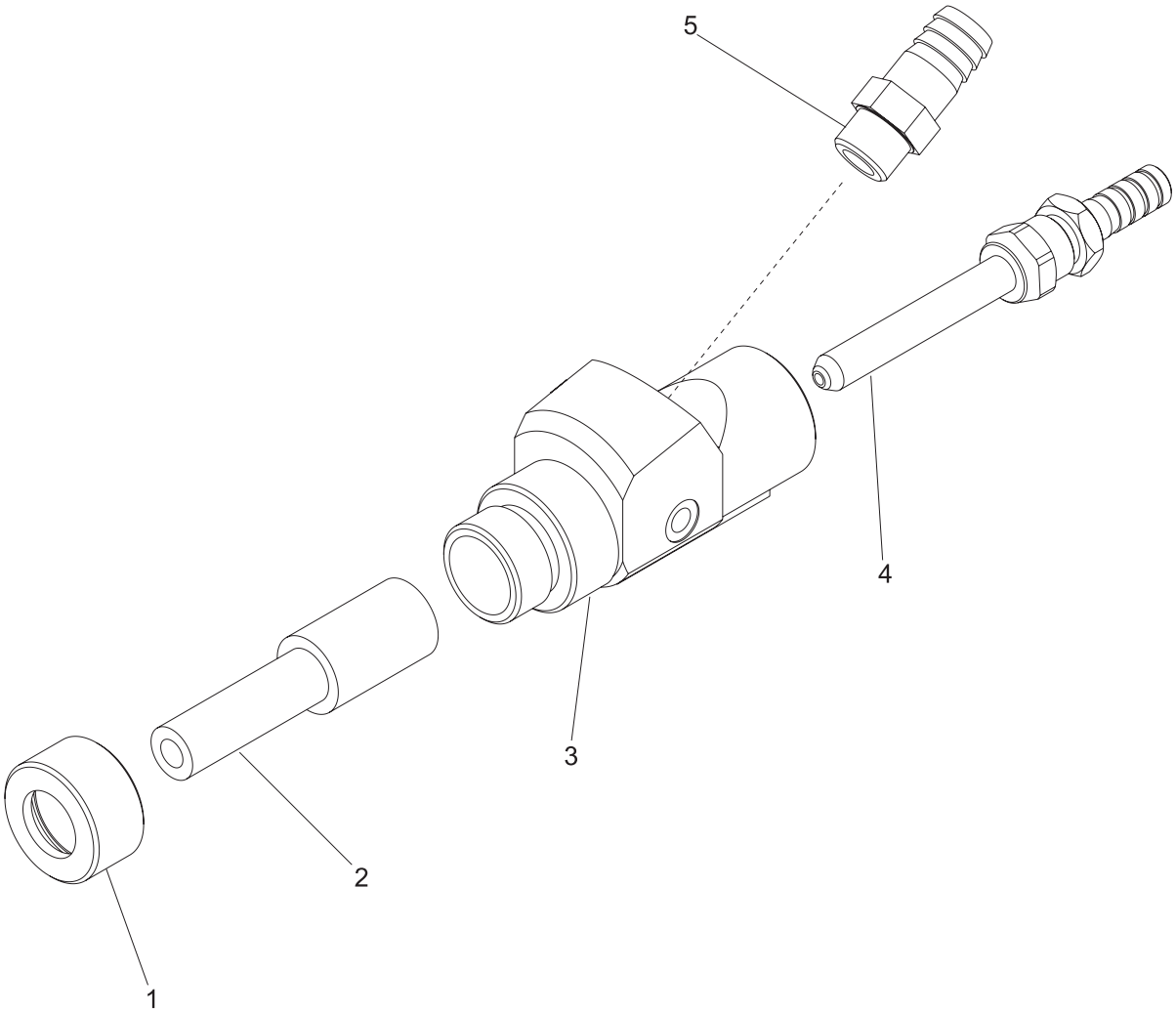
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
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| 1 | 1 | P0055 | Vacuum nozzle ring nut | |
| 2 | 1 | P0056 | Vacuum nozzle | 22x85 Ø8 CARB.TUNGS. |
| 3 | 1 | 004854 | Complete gun body in polyurethane 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 |
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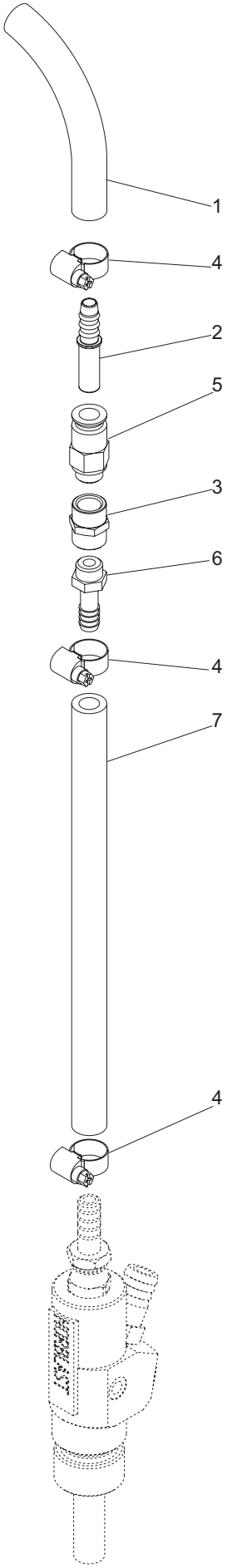
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
|---|---|---|---|---|
| 1 | 1 m | 000018 | Hose | 10X17 BLACK RUBBER |
| 2 | 1 | 011610 | Rubber hose connection insert | Ø10 BOSCH R412005370 |
| 3 | 1 | 000930 | Hose fitting | 1/4" |
| 4 | 3 | 000580 | 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 |
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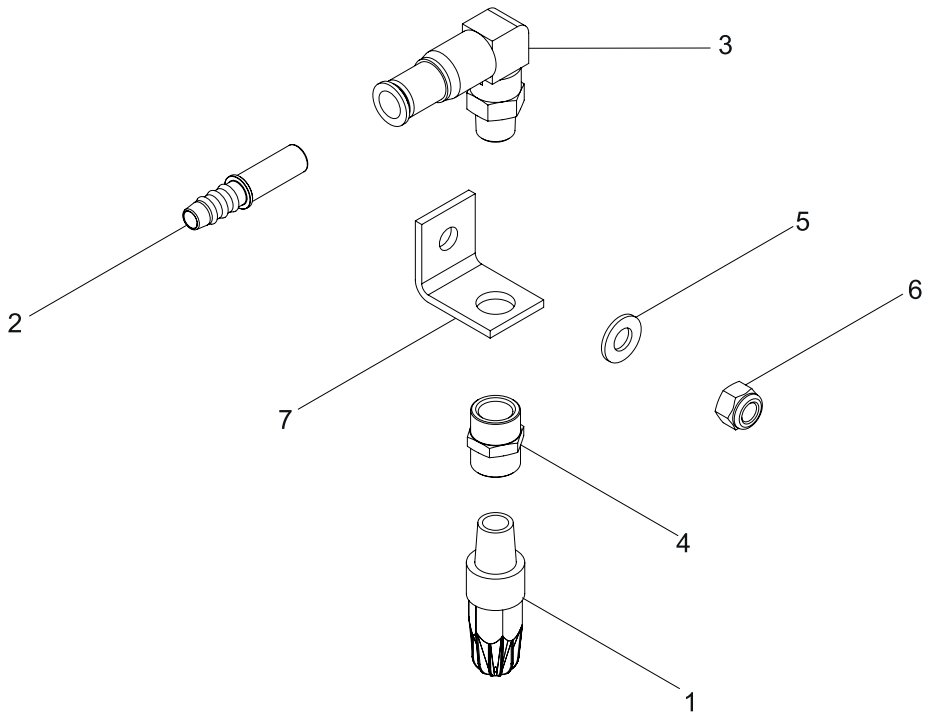
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
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| 1 | 1 | 002468 | Air blowing nozzle 1/4"M | S SILENT |
| 2 | 1 | 011610 | Rubber Hose Connection Insert Ø10 | Bosch R412005370 |
| 3 | 1 | 005640 | 90° fitting | 1/4" M Ø10 |
| 4 | 1 | 000930 | Hose fitting 1/4" | |
| 5 | 1 | 000168 | Flat washer Ø8.4 | UNI-6592 |
| 6 | 1 | 004282 | Self-locking nut | M8 UNI-7473 |
| 7 | 1 | 000950 | Hose barb support Ø10 1/4" | |
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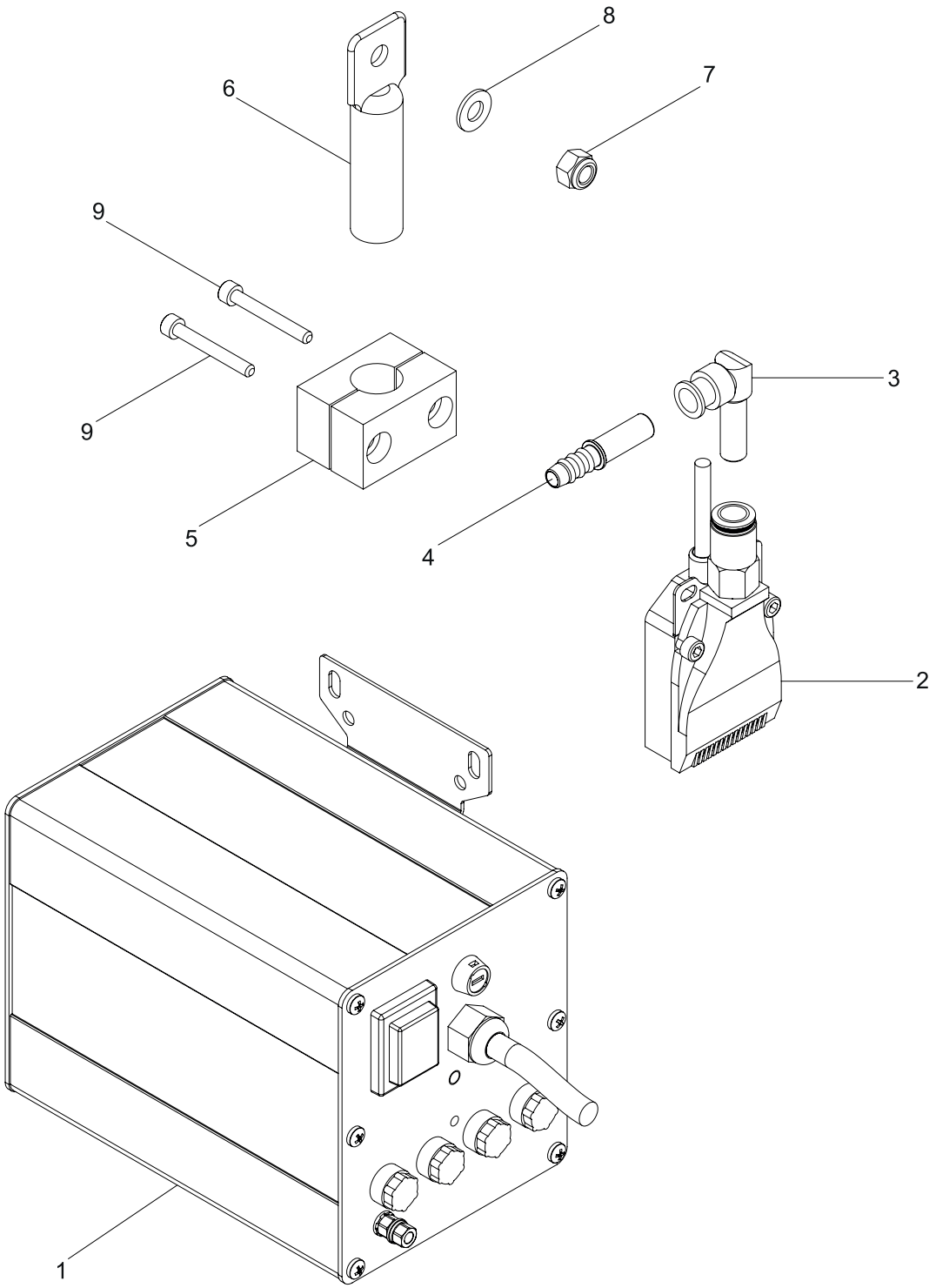
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
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| 1 | 1 | 027242 | Power unit 60 LED 230V 50 Hz | 101349 DR. ESCHERICH |
| 2 | 1 | 026663 | STATIK AIR MULTIJET | 100224 DR.ESHERICH |
| 3 | 1 | 018665 | 90° quick-release fitting | Ø10/Ø10 PLJ 1000PN TIERRE |
| 4 | 1 | 011610 | Rubber Hose Connection Insert Ø10 | Bosch R412005370 |
| 5 | 1 | 005800 | Tube collar Ø20 | 320-PPH STAUFF |
| 6 | 1 | 026666 | Shot-peening gun support extension | L=95mm |
| 7 | 1 | 004282 | Self-locking nut | M8 UNI-7473 |
| 8 | 1 | 000168 | Flat washer Ø8.4 | UNI-6592 |
| 9 | 2 | 000066 | TCEI screw | M5x40 UNI-5931 |
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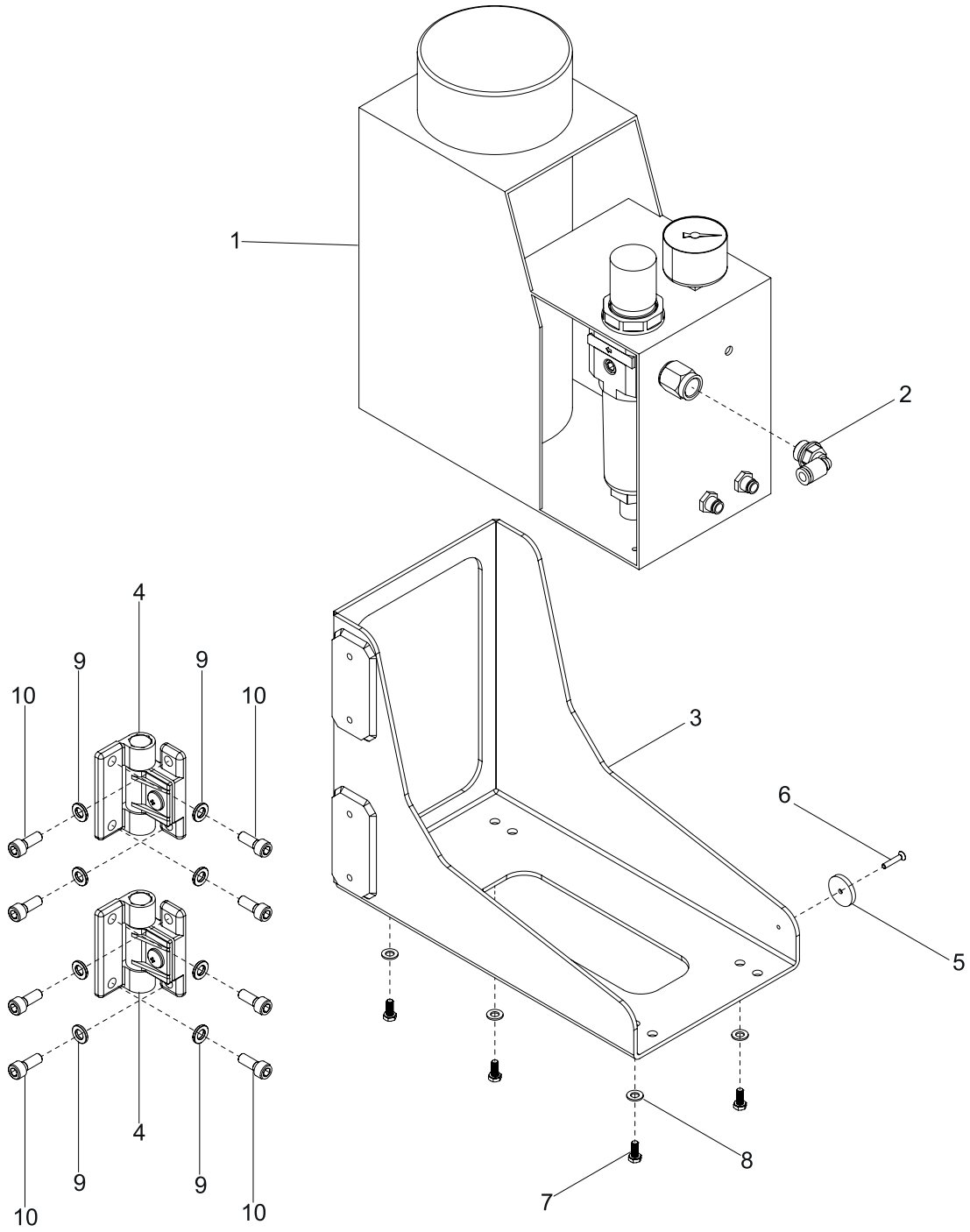
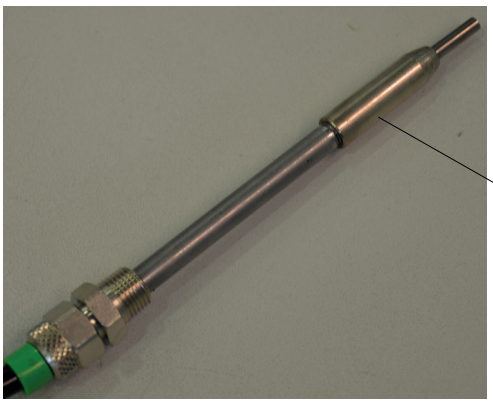
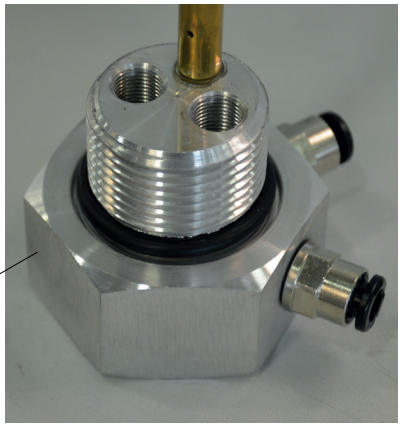
# 3D7
## MANUAL SANDBLASTING - SHOT PEENING MACHINE



| 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 | |
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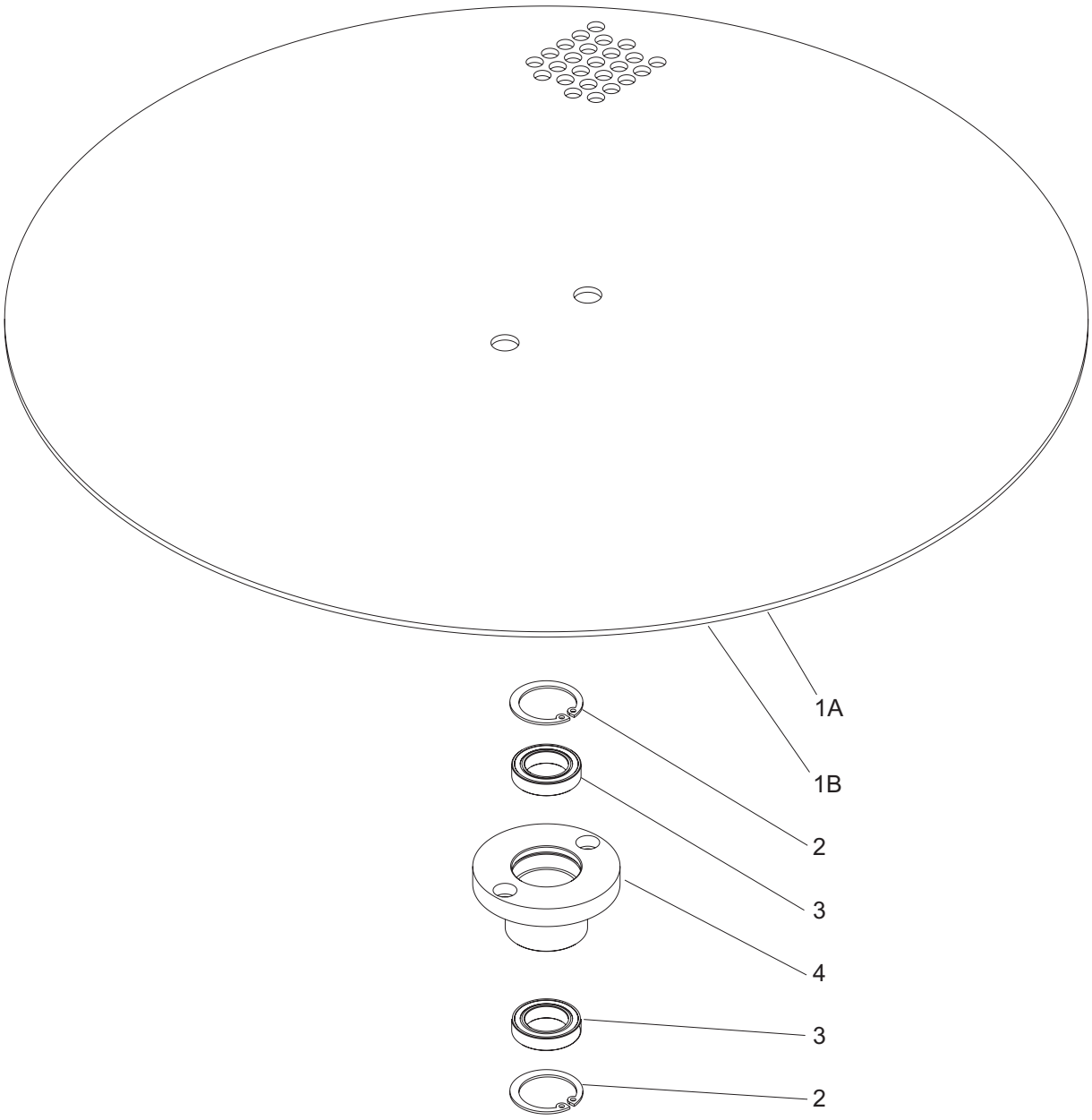
# 3D7
## MANUAL SANDBLASTING - SHOT PEENING MACHINE



| REF. | QTY | CODE | DESCRIPTION | TYPE |
|---|---|---|---|---|
| 1A | 1 | 005792 | Plate | Ø500 TGM FN2000 |
| 1B | 1 | 005792R | Coated 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 |
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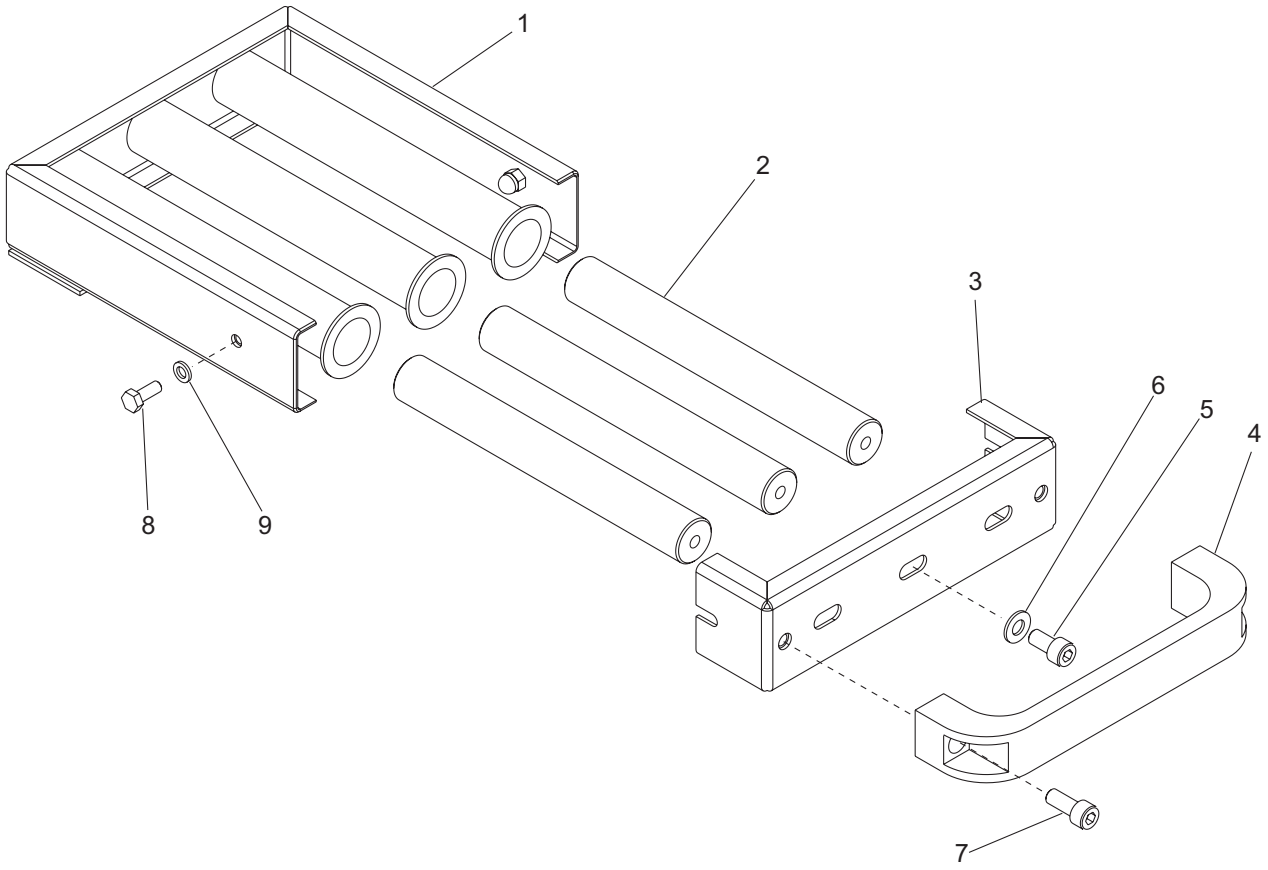
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| REF. | QTY | CODE | DESCRIPTION | TYPE |
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| 1 | 1 | 012724 | Housing for stainless steel magnet | |
| 2 | 3 | 001463 | Magnet | ø25x200 |
| 3 | 1 | 012725 | Stainless steel demagnetiser closure 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 |
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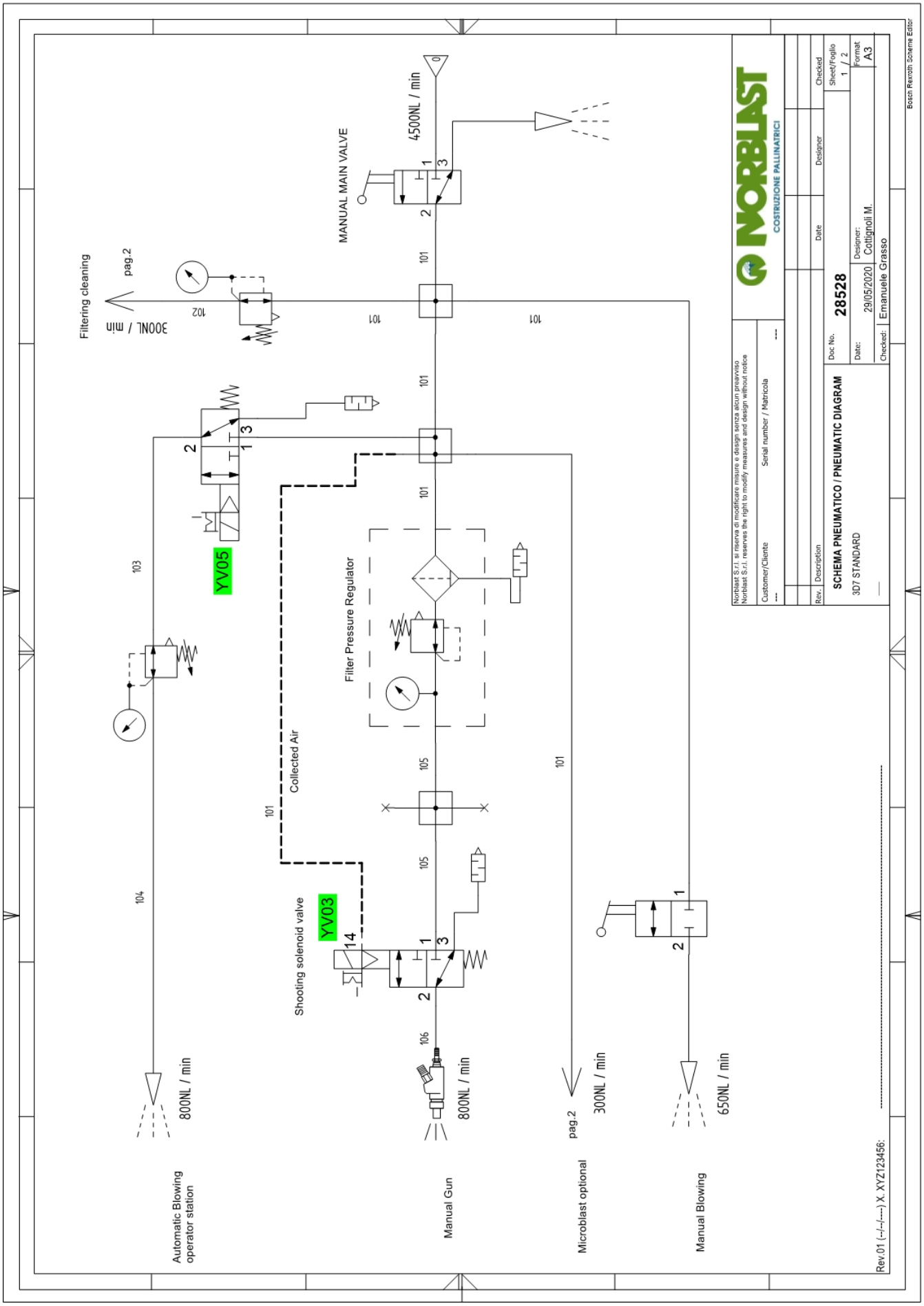
## MANUAL SANDBLASTING - SHOT PEENING MACHINE

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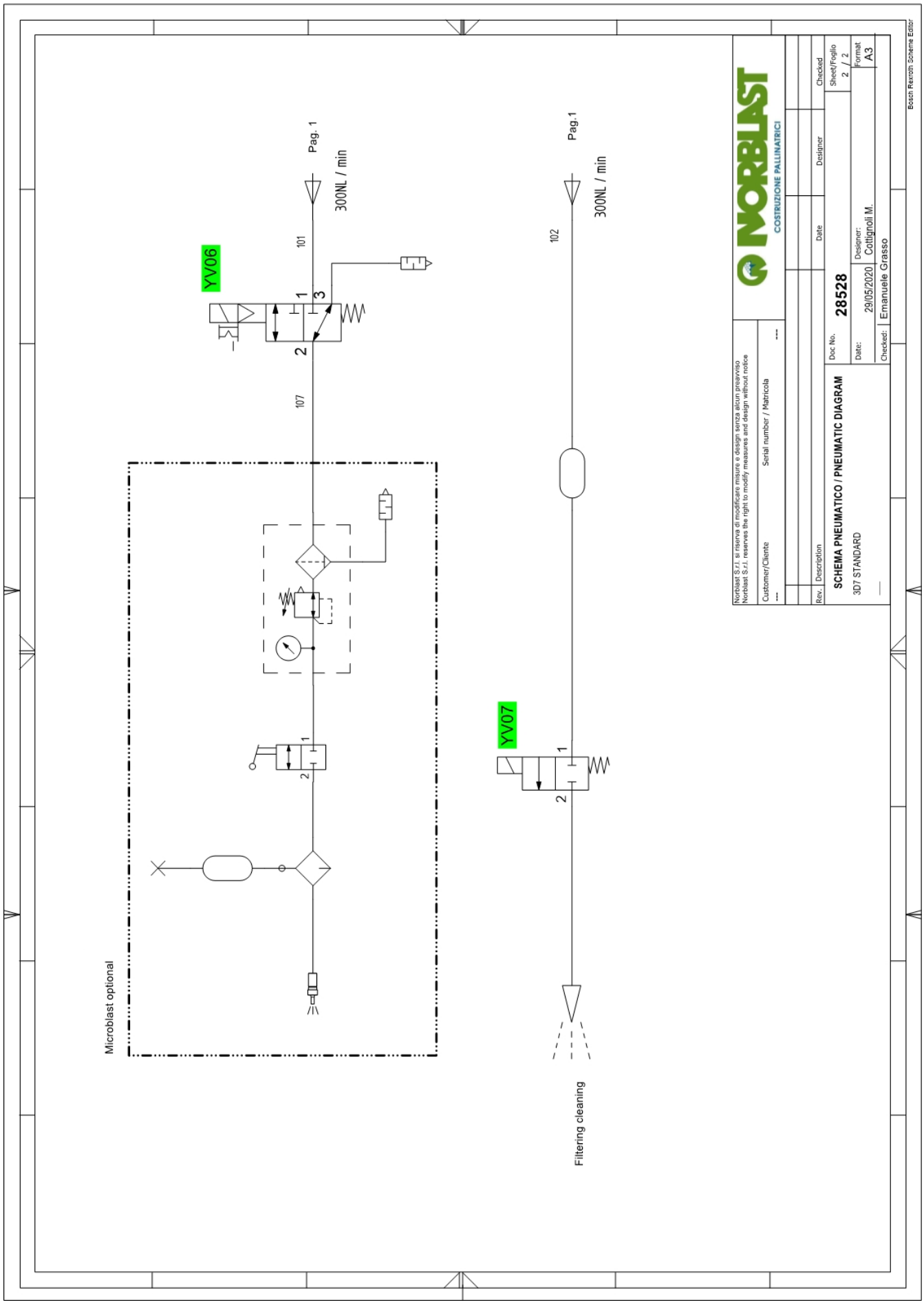
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300NL / min
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107
Microblast optional
Pag.1
300NL / min
102
YV07
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Filtering cleaning
NORBLAST
COSTRUZIONE PALLINATRICI
Norblast S.r.l. si riserva di modificare misure e design senza alcun preavviso
Norblast S.r.l. reserves the right to modify measures and design without notice
Customer/Cliente
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Serial number / Matricola
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Rev.
Description
Date
Designer
Checked
Doc No.
28528
Date:
29/05/2020
Designer:
Cottignoli M.
Checked:
Emanuele Grasso
Sheet/Foglio
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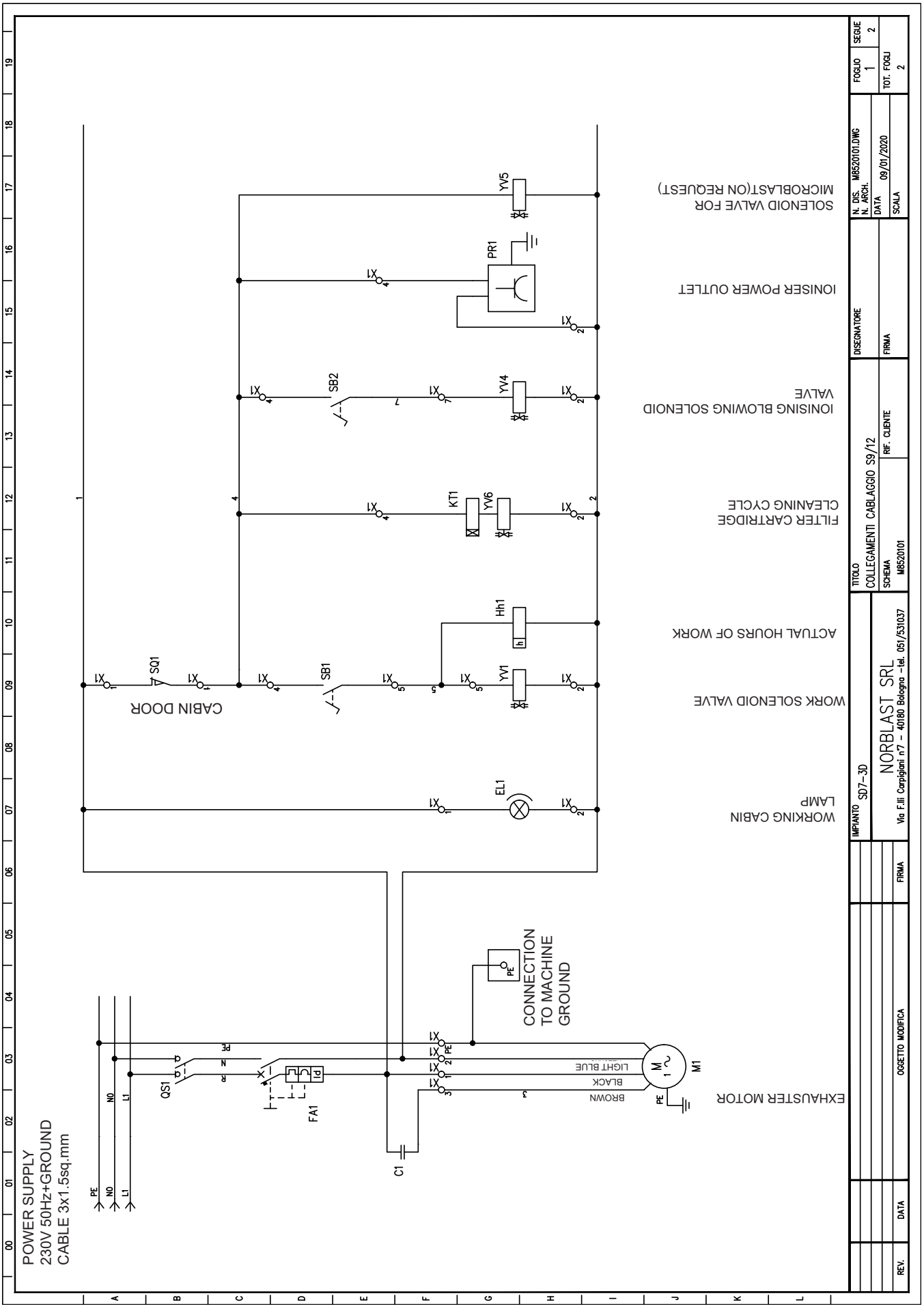
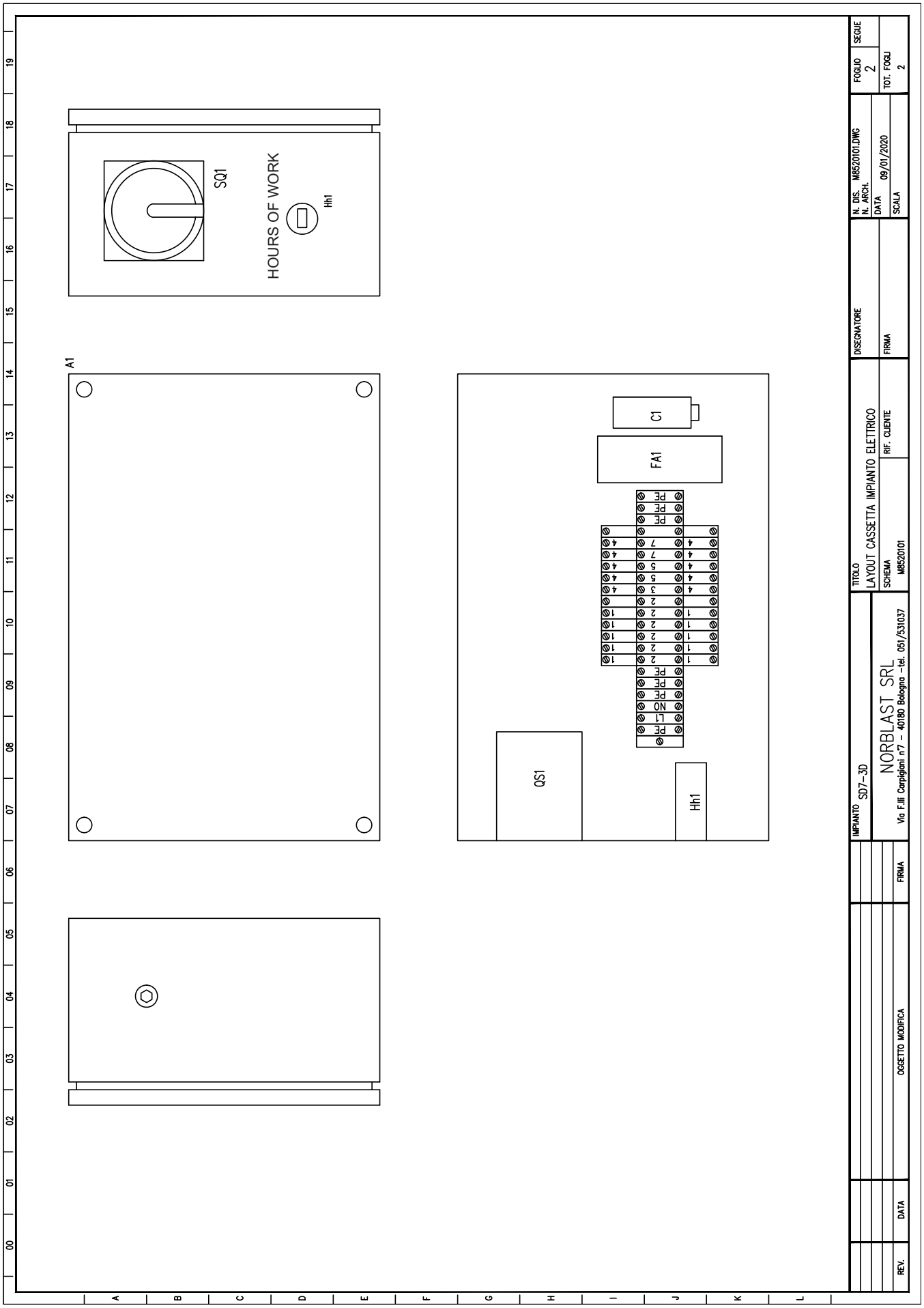
Format
A3
SCHEMA PNEUMATICO / PNEUMATIC DIAGRAM
3D7 STANDARD
Bosch Rexroth Scheme Editor

# 3D7

## MANUAL SANDBLASTING - SHOT PEENING MACHINE




SQ1
HOURS OF WORK
Hh1
A1
C1
FA1
QS1
Hh1
SEGUE
FOGLIO 2
TOT. FOGLI 2
N. DIS. M8520101.DWG
N. ARCH.
DATA 09/01/2020
SCALA
DISEGNATORE
FIRMA
TITOLO LAYOUT CASSETTA IMPIANTO ELETTRICO
SCHEMA M8520101
RIF. CLIENTE
IMPIANTO SD7-3D
NORBLAST SRL
Via F.lli Carpigiani n°7 – 40180 Bologna – tel. 051/531037
REV.
DATA
OGGETTO MODIFICA
FIRMA

# Bill of materials

Date: 17/06/2020

Person in charge:

| Item description | Abbreviation | Code | Manufacturer | Alternative code | Position | Q.ty | Location |
|---|---|---|---|---|---|---|---|
| JUNCTION BOX 300X200X120 | A1 | SDV3 212 | E.T.A. | E00253 | 2/A07 | 1 | Control unit |
| CAPACITOR 450V 3.15uF SCREW M8 25x57 FS | C1 | MKA 450-3.15 | COMAR CAPACITORS | E02114 | 1/E02 | 1 | Control unit |
| LAMP HOLDER VIMAR E27 °43mm PORC. F/90 INSULATION | EL1 | 02174.SQ | VIMAR | E00194 | 1/G07 | 1 | On board |
| 0035011 ML HOME 23W T3 E27 850 | | 22W/840 | OSRAM | E00835 | 1/G07 | 1 | On board |
| MAGNETO THERMAL SWITCH 1P+N 4.5KA 30mA C6 | FA1 | PKN4.6.1N.C.003 | EATON | E04966 | 1/C03 | 1 | Control unit |
| HOUR COUNTER D22 - 230Vac/dc | Hh1 | XB5 DSM | SCHNEIDER | E03754 | 1/G10 | 1 | Control unit |
| PAUSE/PULSE TIMER MPM - 24-240V ac/dc | KT1 | RSP22 | MPM | E03854 | 1/G12 | 1 | On board |
| EXHAUSTER + CAPACITOR | M1 | G2E 140 AE77 01 EBM | UTENTRA | 005636 | 1/I03 | 1 | On board |
| CONTAINER 2 PLACES IP55 | PR1 | GW27042 | GEWISS | E04967 | 1/G15 | 1 | On board |
| STANDARD ITALIAN/GERMAN SOCKET 16A 250V | | GW20246 | GEWISS | E04236 | 1/G15 | 1 | On board |
| SWITCH 2x16A PALAZZOLI BACK PANEL 67x67 | QS1 | CAM-ST CODE 267 162 | PALAZZOLI | E03756 | 1/B03 | 1 | Control unit |
| ELECTRIC PEDAL WITHOUT COVER | SB1 | PA 10100 | PIZZATO | E01874 | 1/D09 | 1 | On board |
| ELECTRIC PEDAL WITHOUT COVER | SB2 | PA 10100 | PIZZATO | E01874 | 1/D14 | 1 | On board |
| LIMIT SWITCH WITH SAFETY DRIVE | SQ1 | FR693-D1 | PIZZATO | E01582 | 1/B09 | 1 | On board |

V:\Tecnico\Elettrico\DISEGNI\M\M8520101\M8520101.tab


NORBLAST

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