amt

postprodpx

USER MANUAL

SUBJECT TO CHANGE

NOVEMBER 2024 // V3.0

DOCUMENT IS CONFIDENTIAL

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1 // CONTENTS

2 // INSTRUCTIONS FOR SAFE USE IN AN EXPLOSIVE ENVIRONMENT

This cabin has been designed for safe use in a zone 22 explosive dust atmosphere (according directive 2014/34/EC).

The following precautions must be taken:

- Follow the instructions for preventive maintenance as stated in this user manual.
- Only use original spare parts.
- Immediately remove spilled powder in the vicinity of the cabin!
- The pressurised air must be absolutely free from moisture.
- Take safety precautions when emptying the dust bin.
- When processing powders always follow the safety instructions of the applicable Material Safety Data Sheet.

The manufacturer is not liable for unsafe situations, accidents and damage resulting from the ignoring of warnings or instructions which are indicated on the machine or in this documentation.

The manufacturer is not liable for unsafe situations, accidents and damage resulting from unauthorized modifications of this machine.

3 // SUMMARY

IMPORTANT:

ANY CHANGE OR MODIFICATION TO THE MACHINE BY THE BUYER OR USER IMMEDIATELY INVALIDATES THE CERTIFICATE OF CONFORMITY.

- All changes or maintenance to the machine must be done with the machine fully turned off, by switching off the main switch, disconnecting the plug and closing the air supply – unless the manual explicitly states that it is permitted to perform the operation while the machine is connected.
- All part replacements and adjustments that are not outlined in this manual must be performed by a qualified technician, so as to prevent damage to the machine and/or personal injury to the user.
- Before use, carefully read this entire user manual.
- This user manual provides you with important information about how to safely install, use and maintain the machine.
- Non-compliance with the safety instructions may lead to serious personal injury and serious damage to the machine.
- The user manual must be stored in the document holder mounted on the machine and must always be available to be consulted.
- The machine must be operated and maintained in the proper fashion; the manufacturer is not liable for any personal injury or damage that results from not properly following the instructions in this manual.
- After removing the machine's packaging upon delivery, check whether the machine is complete and undamaged, and if in any doubt, contact your dealer instead of beginning to use the machine.
- The installing of the machine must be checked and assessed by a qualified technician. Before you connect the machine to the power supply, make sure that said supply corresponds to the requirements listed on the machine's type plate. The machine's electric safety is only ensured when it is connected to a suitable grounding system. If in any doubt, have your power supply checked by an authorised electrician.
- Any use of the blasting system other than its intended use as outlined in this manual is not permitted, and may involve risk of personal injury or damage.
- Disconnect the machine if it is not going to be used for an extended period of time.
- The warning labels on the machine must not be removed.

4 // GENERAL INFORMATION REGARDING THIS MANUAL

INTRODUCTION

This manual is the main legitimate aid to help you get to know and learn to correctly use your machine, which is why it is crucial for you to read it carefully before you begin using the machine.

This manual was produced by Leering Hengelo BV and is an integral part of your blasting system.

Every machine has its own manual. Users are responsible for keeping and storing this manual throughout the machine's entire lifespan and are required to arrange for its destruction when the machine is eventually decommissioned.

Leering Hengelo BV provides no guarantees in the event that you tamper with this manual or in the event that users make changes to the machine after its delivery that are not outlined as permissible by this document.

CE GUIDELINES REFERRED TO AND TERMINOLOGY USED

The following guidelines were used to create this manual:

- Directive 2006/42/EC - CE machine directive;
- Directive 2014/34/EU - Atex directive ;
- Directive 2014/29/EU - Making available on the market of simple pressure vessels;
- Directive 2014/30/EU - EMC directive;
- Directive 2014/35/EU - Low voltage directive;

The machine was built according to the following standards and regulations:

- NEN-EN ISO80079-36:2016 Explosive atmospheres - Part 36; Non-electrical equipment for explosive atmospheres - Basic method and requirements
- NEN-EN ISO80079-37:2016 Explosive atmospheres - Part 37; Non-electrical equipment intended for use in potentially explosive atmospheres;
- NEN-EN IEC 60079-31:2014 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
- NEN-EN IEC 60204-1:2016 Safety of machinery – Electrical equipment of machines - Part 1: General requirements;
- NEN-EN ISO 12100-1:2010 Safety of machinery;
- NEN-EN ISO 13849-1:2016 Safety of machinery – Safety-related parts of control systems – Part 1 : General principles for design;
- NEN-EN-ISO 4414:2010 Pneumatic fluid power – General rules and safety requirements for systems and their components.

OBJECTIVE

The objective of this manual is to provide the user with directions and information that needs to be followed exactly in order for the machine to function properly and in order to ensure the safety of the user operating it. That is why we ask that the user:

- Makes this document available at all work stations and both informs the operators of its presence and actually shows them the location thereof;
- Pass on this manual to any subsequent owners of the machine.

STAFF QUALIFICATIONS

The machine must only ever be used by trained staff with the following competency levels:

- Qualified employee: operators without specific skills requirements, capable of operating the machine and adjusting the basic settings.
- Qualified technical staff: operators who are able to operate the machine in standard circumstances and perform mechanic and electric operations in the event that repairs / part replacements and maintenance work need to be performed.

STORAGE OF THE MANUAL

This manual is intended for the user and the people responsible for placing, installing, using, maintaining and eventually decommissioning the machine.

The manual is intended to indicate the expected lifecycle of the machine and contains instructions for moving, and safely installing the machine, the applicable rules and the use thereof. It provides information to aid in maintaining the machine, simplify the process of ordering spare parts and inform users of any residual risks.

The manual must be available to be consulted at all times to access the following information:

- The accounted for working conditions for the machine;
- The operator's working area;
- Instructions regarding:
- Initial commissioning;
- Usage;
- Transport;
- Installation;
- Assembly and disassembly;
- Maintenance and repairs;
- Any training instructions.

Adherence to legislation

Apart from the guidelines in this manual, all other applicable legislation regarding the prevention of occupational accidents and environmental legislation must be adhered to.

Storage of the manual

The manual is an integral part of the machine and must be kept in good condition until the eventual definitive demolition of the machine.

The manual must be kept in a secure, dry environment, safe from direct sunlight, and must always be available near the machine so that it can be consulted whenever necessary. The machine is equipped with a bracket to hold the manual.

Information for the user

- This manual reflects the factual technical state of the machine and therefore cannot be considered to be inadequate or deficient merely because it has been updated based on new experiences.
- The manufacturer reserves the right to update the machine and the manual without then consequently being required to also update previous versions of the machine and the manual.
- The properties of the materials used may change at any time, due to technical advances, without any notice.
- In the event that the machine was supplied without the electrical parts for operating and protecting the machine (the electric control box on the machine), the manufacturer accepts no liability for potential safety issues that may occur as a result of electrical parts that do not satisfy the recommended or prescribed requirements. With regards to all applicable legislation and standards regarding electrical parts that the machine may be equipped with, the customer bears sole responsibility and is required to do the necessary work in accordance with the state of technology and in a way that is suitable for relative use.
- The manufacturer accepts no liability in the event of improper use such as (but not limited to) the following instances:
    - Use by untrained staff;
    - Use that deviates from the usage described in this manual;
    - Use that is not in accordance with local legislation;
    - Use while there are defects to the main power supply;
    - Use while there has been insufficient maintenance performed;
    - Use after a modification or intervention has been made without the prior written permission of the manufacturer;
    - Use with non-original spare parts or parts that are not specifically recommended for the particular model of machine;
    - Use that is wholly or partly not in accordance with the instructions in this manual.
- The general warranty lapses in the event that:
    - The machine is poorly maintained;
    - Issues occur as a result of improper use;
    - Use by inexperienced staff;
    - Overshooting the machine's performance tolerances;
    - Excessive mechanic, electric or pneumatic load;
    - Improper use as outlined above.

Any additional copies of this document can be obtained via your dealer or the manufacturer. Please ask about the terms and conditions of obtaining additional copies.

5 // SAFETY

Leering Hengelo BV produces blasting systems in which products are treated using blast media and pressurized air. By using the right mix of blast media and pressurized air, these machines are able to achieve optimal results for a range of applications.

In designing this blasting system, the manufacturer's aim was to limit its risks to people's safety and health as much as possible. Its mechanical dangers and ergonomic aspects were duly assessed. Provided that the user makes proper use of the machine, they are not at risk.

RESIDUAL RISKS

To be able to work in optimally safe conditions and prevent dangerous situations from arising, below is a list of focus points for the operator to keep in mind to prevent injury.

- If the machine needs to be stopped quickly for whatever reason, press the red emergency button on the front of the cabinet.
- It is strictly forbidden to remove the protective elements placed by the manufacturer to protect the user while the machine is running.
- Only qualified, skilled operators are permitted to operate the machine.
- Never leave the machine unattended.


You are required to wear work gloves while using the machine.


You are required to wear protective shoes while using the machine.


You are required to wear protective clothing while using the machine.


You are required to wear safety glasses while using the machine.


You are required to wear hearing protection while using the machine.


You are required to wear a mask while using the machine.

WARNING LABELS

The following residual risk labels are stuck on the machine:


While emptying the dust bin and changing out the filter cartridges, you are required to wear a P3 mask.


Warning: electric voltage


Warning: your hands may become entrapped


The warning labels on the machine must never be removed or covered for whatever reason!

SAFETY PROVISIONS AND COMPONENTS

The PostPro DPX blasting system have a number of standard safety provisions intended to guarantee the operator's safety, such as:

Emergency button

By switch off the red main switch, you interrupt the power current and thus automatically switch off the entire system.

Door protection

The front door is equipped with an switch, so that whenever the door is opened, the blasting process is automatically interrupted. These safety switches must never be overridden.

Electric / pneumatic lock

By turning off (position O) the main switch, the machine's electric and pneumatic systems are shut off and the pressure vessel of the cartridge cleaning is automatically vented by the breather valve.

Safety windows

The machine is equipped with safety windows to as to light the interior workspace and provide a visual.

Gloves cover

The machine comes with a set of blasting gloves to protect the operator's hands. The gloves are equipped with a cover with a sensor; when the cover is removed, only hand blasting is possible and the automatic functions are switched off.

The safety provisions on the machine are designed to protect the operate from injury while they work.

As such, these protections must never be removed for whatever reason while the machine is running.

Even expert operators must always comply with all of the instructions and warnings in this manual.

Daily check all of the safety provisions on the machine to make sure they are functioning properly.

RISKS AND DANGERS OF UNFORESEEN USE

Use of the machine in ways other than that envisaged by the manufacturer during the design may cause danger to the user.

- The machine was not designed to be operated in an environment in which there is a danger of explosions. As such, it is forbidden to place and use the machine in areas that may have an explosive atmosphere. The machine is suitable to be used with media and powders which can create an explosive dust.
- In the event of any type of unforeseen use, the operator must obtain information from the manufacturer about the potential side-effects or dangers that may result from improper use of the machine.
- In the event that you want to make any changes to the machine after it has left the factory, you are required to obtain information from the manufacturer about the risks that the intended change may entail and to check conformity with the applicable standards.
- While using the machine, the use of flammable products is STRICTLY FORBIDDEN.

WARNINGS

1. Only qualified, properly skilled operators are permitted to operate the machine.
2. Never leave the machine unintended during use.
3. Wear protective gloves whenever you operate the machine.
4. Wear protective shoes whenever you operate the machine.
5. Wear a protective mask while changing out media and filters.
6. Wear protective clothing whenever you operate the machine.
7. Wear safety glasses whenever you operate the machine.
8. The warning labels on the machine must never be removed or covered for whatever reason.
9. The safety provisions on the machine are intended to protect the operator from injury while they work.
10. Said safety provisions must not be removed for whatever reason while the machine is running.
11. Even expert operators must comply with the instructions and warnings in this manual at all times.
12. When transporting the machine, it must first be equipped with its tipping safeguard.
13. When transporting the machine, please take into account the fact that its centre of gravity is relatively high up.
14. When transporting the machine, make sure that no one enters the lifting area so as to prevent injury to the staff.
15. When lifting and moving the machine, sudden or abrupt movements are forbidden, so as to not cause damage or injury to any objects or persons in the surrounding area.
16. We recommend packaging the machine in a sturdy, sea-worthy crate, particularly for maritime transport.
17. If the machine is shipped in a crate or wooden cage, it must be lashed tightly so as to prevent it from moving around in the crate/cage.
18. Once the machine has been placed in the truck or other transporting vehicle, it must be secured using ropes, steel cables or lashing straps of a suitable size considering the dimensions and weight of the machine.
19. The area in which the machine is installed must be well ventilated and not contain any explosive gasses.
20. The temperature of the area in which the machine is installed must be between 10° C and 40° C.
21. All actions involved in connecting the machine to external power sources must be performed by qualified technical operators.
22. Check whether the voltage of the facility matches the voltage listed on the machine's type plate – if not, contact the manufacturer first.

23. The user is required to install short-circuiting and overloading safeguards in accordance with local regulations and protect the machine's power supply with circuit breakers and differential safety switches.
24. Consult the manufacturer or dealer regarding regulations and settings that are not included in this manual.
25. The machine only requires a single operator. While it is running, no one other than said operator must deal with or be in the immediate vicinity of the machine.
26. Dispose of any waste in accordance with the applicable local regulations regarding waste disposal.
27. Before you perform any maintenance work or replace a part, always:
    1. Turn the MAIN SWITCH to the OFF position (O);
    2. Disconnect the machine's plug from the socket;
    3. Close off the pressurized air supply.
28. All maintenance work, part replacements and repairs must be performed by qualified technicians who understand the relevant technology.
29. When performing maintenance work, always wear safety gear: gloves, shoes and glasses at minimum.
30. Consult the manufacturer or dealer regarding regulations and settings that are not included in this manual.

6 // GENERAL TECHNICAL SPECIFICATIONS

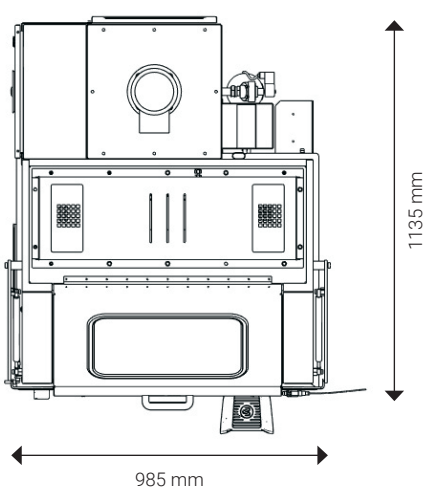
Description	EU	US
External dimensions (w x d x h):	985 x 1135 x 1890mm	39 x 44.5 x 74.5 in
Weight	370 kg	815 lbs
Blasting Room (w x d x h)	850 x 640 x 845 mm	33.5 x 25.5 x 33.5 in
Basket Size	Ø 450 x 210 mm	Ø 17.7 x 8.3 in
Basket Loading Weight	10 kg	22 lbs
Door Opening	645 x 705 mm	25 x 27.5 in
Silicon carbide blast nozzle:	Ø 6 mm	Ø 6 mm
Air injector:	Ø 3,0 mm	Ø 3,0 mm
Filter cartridges (polyester, M-grade):	1 cartridge of 4m²	1 cartridge of 4m²
Filter cleaning diaphragm valves:	1 piece 24V valve - ¾ inch	1 piece 24V valve - ¾ inch
Fan capacity:	600 m³/h (0,55 kW)	600 m³/h (0,55 kW)
Dust emission:	< 1.8 mg/ Nm³	< 1.8 mg/ Nm³
Lighting:	LED lamp, 20 Watt	LED lamp, 20 Watt
Electrical connection:	220 - 240V Single Phase 50/60 Hz	220 - 240V Single Phase 50/60 Hz
Total capacity:	0,85 kW	0,85 kW
Pneumatic connection:	½-inch air supply hose	½-inch air supply hose
Connection pressure:	6 bar	6 bar
Air usage:	700l/min at 4 bar	700l/min at 4 bar
Noise Level:	Low noise level due to the installed silencer (<79dB(A) at 3 bar).	

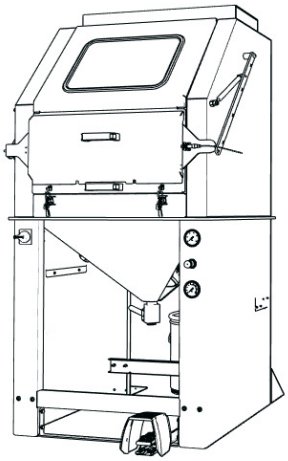
REQUESTED AIR VOLUME [m³/min] (760 mm Hg, 15°C)

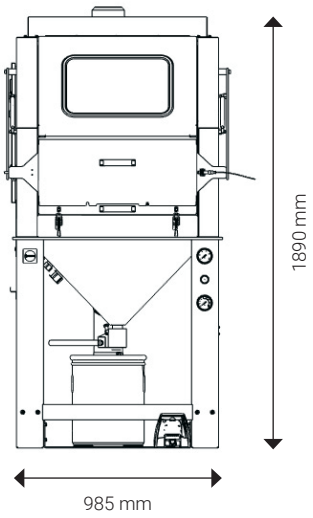
		Working pressure [bar]							
		2	3	4	5	6	7	8	10
Nozzle diameter (mm)	4.0	0.436	0.579	0.723	0.865	1.01	1.15	1.30	1.585
	5.0	0.681	0.905	1.13	1.35	1.58	1.80	2.03	2.48
	6.0	0.981	1.304	1.63	1.95	2.27	2.60	2.92	3.57
	8.0	1.75	2.32	2.89	3.46	4.04	4.62	5.19	6.34
	10.0	2.72	3.62	4.52	5.41	6.31	7.21	8.11	9.90
	12.0	3.92	5.22	6.50	7.78	9.09	10.4	11.68	14.3
	15.0	6.13	8.15	10.2	12.2	14.2	16.2	18.25	22.3

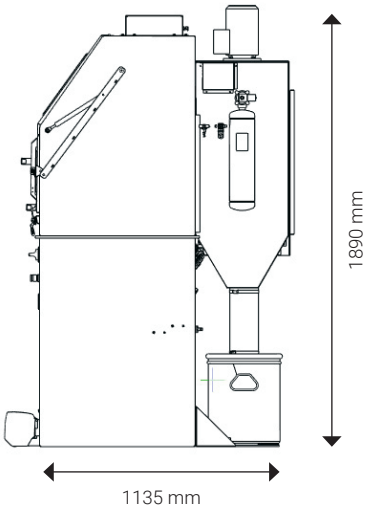
The air usage depends on the working pressure of the PostPro DPX and the nozzle air injector diameter, see the table above for reference. The table above shows the required air volume per blast nozzle. For example: one 6mm blast nozzle with an air injector of 3 mm diameter and a pressure of 4 bar, you need ~700L/min of air supply. Please note that these are indicative values, and the actual air usage may differ.

DIMENSIONS









NOISE LEVEL OF THE MACHINE

In the tests the manufacturer performed, the maximum level of acoustic pressure that occurred, measured at the operator's location, was < 79 dB (A) at a blasting pressure of 3 bar and with the proper dosage.

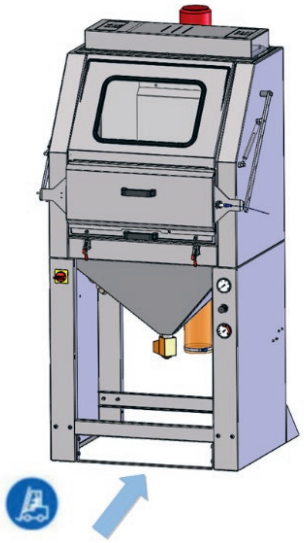
7 // TRANSPORT AND INSTALLATION

TRANSPORT

The undercarriage of the machine contains cross beams that can serve as a surface for lifting the machine using a hand truck or forklift. The machine must be loaded from the front, and should be lifted and transported very carefully. The machine has a relatively high centre of gravity that can make it somewhat unstable during transport.

Take into account that the machine's centre of gravity is not centralised, so always be careful when transporting the machine!

The front beam features a removable tipping safeguard. When the machine is transported using a hand truck or forklift, this tipping safeguard must be installed. If the safeguard has to be removed anyway, such as when using a lift truck, the machine must be secured against tipping over in some other way.



INSTALLATION

The machine must be installed in a location where the atmospheric conditions are controlled so as to safeguard the operator's well-being and allow them to work in a maximally safe environment.

The area in which the machine is set up must be well ventilated and not contain any explosive gasses.

The temperature of the area in which the machine is set up must be between 10° C and 40° C.

Delivery check:

- Immediately upon delivery, check whether the machine is complete according to your order;
- Check the machine for potential damage;
- Check the cables and hoses for potential damage;
- Check whether all of the safety provisions are included.

Place the blast cabinet in the intended position that satisfies all the requirements listed below. The machine does not require its own foundation, but does need to be placed on a level, industrial-grade floor. It does not need to be anchored to the wall or embedded in the floor. There should be enough space around the machine to ensure that all doors and panels can easily be opened and the user is able to easily access the necessary parts of the machine. See the dimension sketch for the relevant margins. It is also important that the access to the cyclone is not inhibited, so that the machine can easily be (re)filled.

After the blast cabinet has been placed, optional accessories such as a rail system can be connected to the Then, the machine needs to be connected to its power supply and pressurized air supply.

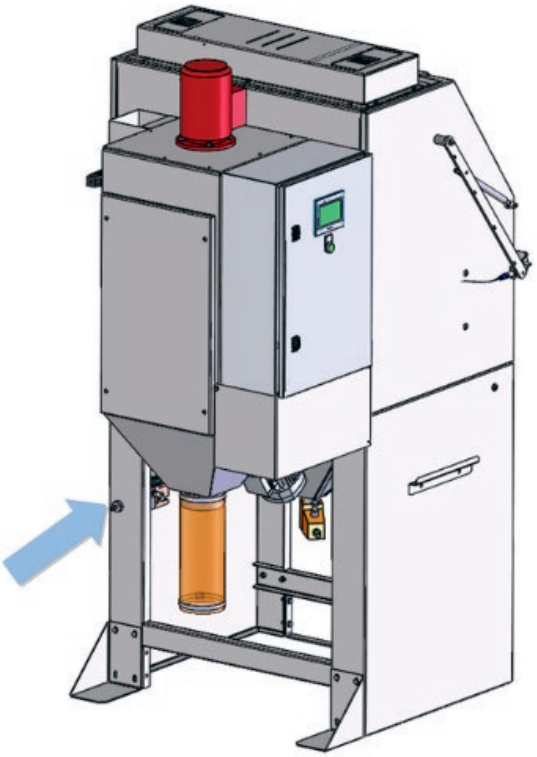
Power supply:

- Check whether the voltage matches that listed on the machine's type plate.
- The user is required to install short-circuiting and overloading safeguards in accordance with local regulations and protect the machine's power supply with circuit breakers.
- The machine comes with a connecting cable with plug suitable for West-European wall sockets.

Connecting the machine to its power supply should be done by a qualified electrician in accordance with the locally applicable regulations.

Pressurized air:

- The pressurized air must be clean and dry (workshop grade) and meet the ISO 8573.1 grade 4 standard.
- The air supply pipe must have a minimum diameter of ½ inch and must be attached to the filter reduction unit at the back of the cabinet.
- To ensure that the blast cabinet functions optimally, a connection pressure of max. 8 bar is required.
- The blast cabinet comes with a filter reduction unit with a semi-automatic condensate collector. This means that as soon as the air supply pipe to the machine is depressurized. the condensate collector empties itself out.



8 // GENERAL DESCRIPTION AND FUNCTIONING OF THE BLAST CABINET

APPLICATION OF THE POSTPRO DPX

PostPro DPX is especially intended for the de-powdering of printed products using a blasting media such as glass beads or ceramic beads. During the process, this blasting medium will mix with the powder, whereby a large part of the powder is sucked into the filter.

PROCESS DESCRIPTION

PostPro DPX blast cabinet is designed to treat various items via a blasting process. The blasting process consists of a product being cleaned/abraded/treated using blast media. This is done by mixing pressurized air with the blast media and pushing it from the blast nozzle at high velocity, causing it to bombard the surface to be treated.

The blast cabinet features various control elements to optimise the blasting process for the blast media used and the desired blasting result. It is crucial to comply with all safety regulations whenever you work with the blast cabinet.

PostPro DPX is equipped with a drum for blasting batches of small parts in a semi-automatic process. Therefore the parts are loaded in the drum, the angle of the drum is set and the gun is positioned above the drum. The timer is set for the blasting and the cleaning, and the rotation speed is also set in the HMI. After start the drum starts rotating with the set speed, the parts are blasted and when the blasting is ready the parts are blown off with compressed air. The remaining time is also shown in the display.

The load of the rotating basket is a maximum of 10 kg. Make sure the blasting nozzle is properly adjusted and blasting on the parts, not directly on the rotating basket as this will cause additional wear.

The system is equipped with an ionized air unit. This means that ionized air is blown into the blasting space during the blasting and turning of the rotating basket. This is also activated if you blast manually with the foot pedal.

Before you operate the blast cabinet, make sure that there are no people or obstacles inside and that there is no maintenance work currently being performed.

The machine only requires a single operator. While it is running, it is forbidden for anyone other than said operator to work on or be in the immediate vicinity of the machine.

Make sure the product to be sprayed is dry and grease free.

CONTROL BUTTONS

The machine features a number of control elements for controlling the blasting process, namely:

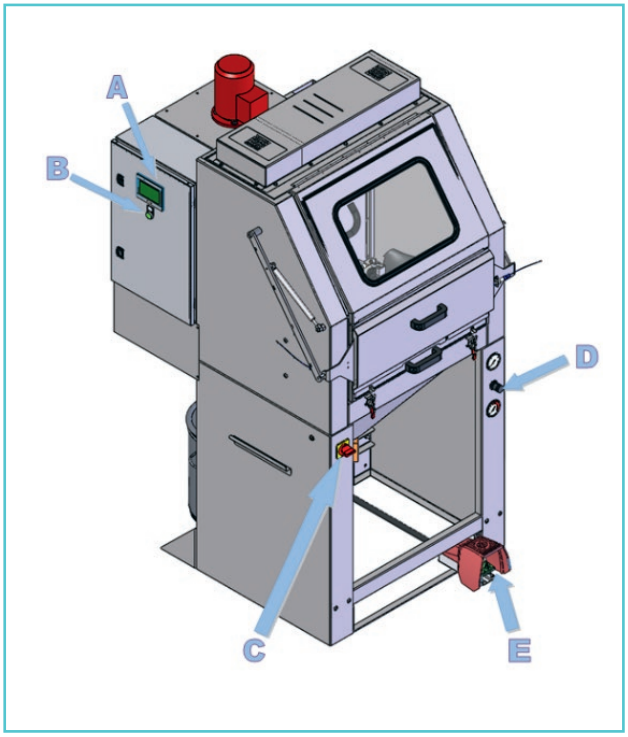
A. Touch-screen – for setting up the cabinet and the automatic process.

B. Start button – for starting the automatic process.

C. Main Switch/Emergency stop button – to abort the process immediately and Switch off all controls. Once the emergency button has been turned, it needs to be reset by twisting it.

D. The pressure regulator (middle) for setting the blasting pressure. Higher pressure results in a higher degree of abrasion / impact on the product, as well as more wear. Above the pressure regulator is a manometer that indicates the current blasting pressure. Below of the regulator is a manometer that indicates the input pressure.

E. Foot pedal – so that the process starts with the doors closed and the control switched on. If the pedal is released, the blasting process stops and the cleaning of the filter cartridges begins. Only works when the cover is removed.



When using the foot pedal, either hold on to the blast nozzle or place it in a holder. The counter pressure can cause the blast nozzle to move erratically and cause damage.

BLASTING PROCESS

The process starts when the main switch is set to “1”. So that the voltage, the control and the lighting are switched on. After a few seconds the control is ready for operation and the machine is ready for use.

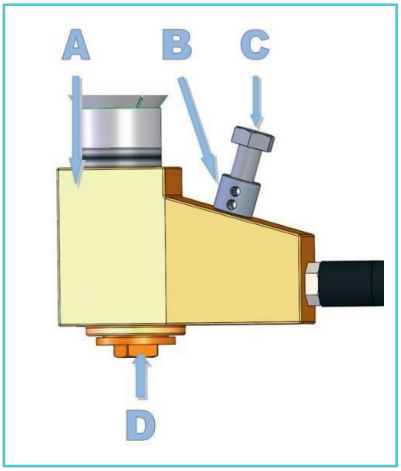
The dry, grease-free product is placed inside the machine or in the basket using the front door, after which the door is closed. The blasting pressure is then set by twisting the pressure knob and reading the current pressure from the manometer.

With the automatic process, the blasting time, blow-off time and the rotation speed are entered and the process is started using the start button. During the manual process, the cover of the gloves must be removed and then the blasting is started with the foot pedal.

When the process is started, the fan and filter cleaning are started. After a few seconds, the blasting process starts, opening the air supply and creating a vacuum in the gun. The blasting media is sucked in to the gun and mixed with compressed air, after which it is pressed into the blasting nozzle and exits here at high speed.

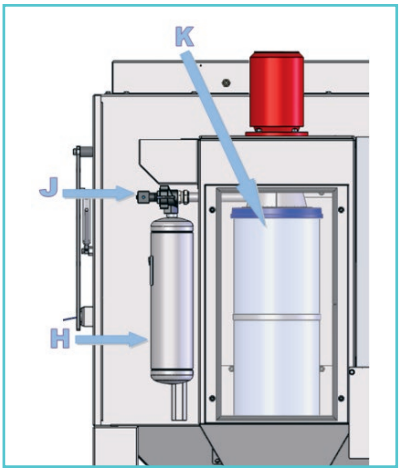
When the process is finished or the foot pedal is released, the air supply and with it the blasting stop. The control switches to the after-run process, whereby the fan and cleaning continue to run for the set duration (5 minutes by default). The fan then stops and the filter cartridges are cleaned during the set time (3 minutes by default). After this final cleaning has been completed, the machine is in standby for the restart. If the machine is restarted during this time, the overrun will be reset.

BLAST MEDIA DOSAGE



The blast gun works with the venture principle. By pushing air through the air injector an under pressure occurs in the blast gun. This under pressure makes that the blast media is sucked from the mixing chamber(A). There is an air setup screw (C) at the side of this mixing chamber which adjusts the amount of fresh air (B) and therewith the amount of blast media which is sucked to the blast gun. The amount is manually adjustable by turning the knob in or outside. The right amount depends on the type of blast media, the pressure and the wished blast result. The mixing chamber is equipped with a media discharge nut (D) for removing the blast media.

The blast media supply should not be so ample as to hamper the efficacy (speed) of the blasting process!



The cartridge filter at the back of the cabinet serves a dual purpose, namely:

1. Keep dust from entering the cabinet, ensuring good visibility within the cabinet.
2. Ensure sufficient negative pressure combined with sufficient air speed so as to enable the blast media to be transported in an efficient manner.

The filter cartridge (K) is automatically cleaned alternately through a pneumatic process, featuring pressurized air that is blown in a pulsating pattern on the inside of the cartridge via a diaphragm valve (J). This causes the dust on the outside of the cartridge to be blown off of the cartridge. The pause and pulse times are adjustable – see the relevant chapter. The pressure in the cleaning vessel is controlled using the pressure regulator behind the vessel (H) – the factory setting is 3 bar. The dust blown off from the cartridge falls through the funnel into the dust bin, which needs to be checked and emptied regularly.

The dust bin must be checked and emptied daily. The contents of the dust bin are dust particles from the blast media and the material that was sprayed, and need to be disposed of in accordance with all applicable guidelines and requirements. Be aware that the dust from the dust bin can create an explosive cloud!

ADDING BLAST MEDIA

(Re)filling the system with blast media can be done in the cabinet. Keep in mind the following aspects:

- Adding blast media to the cabinet should be done slowly with the fan running, to make sure that the blast media is extracted. If the blast media is added too quickly, the extraction hose can get clogged.
- We recommend adding small amounts of blast media regularly, ensuring an optimal mixture at all times.

CLEANING BLASTED ITEMS

The PostPro DPX cabinet come with a standard air gun that lets you clean blasted products with clean pressurized air before they exit the cabinet. By pushing the handle of the air gun, pressurized air issues forth from the nozzle. The air gun is also operational when the cabinet's doors are open.

9 // MACHINE CONTROLS

The process is controlled by a PLC that is connected to a touchscreen control panel. The HMI is used for interaction between the user and the PLC, where the program is executed in the PLC. The touchscreen has a menu structure in which settings can be made. This menu is password protected. It is recommended to write these settings down so that they do not have to be found again after an error. The operator has the option to set the jet time, blow-off time and rotation speed without a password.

After switching on the main switch, the PLC and the touchscreen start. The various screens will now be described. If there is an alarm, e.g. If there is an error it will be displayed at the top of the screen.

SCREENS

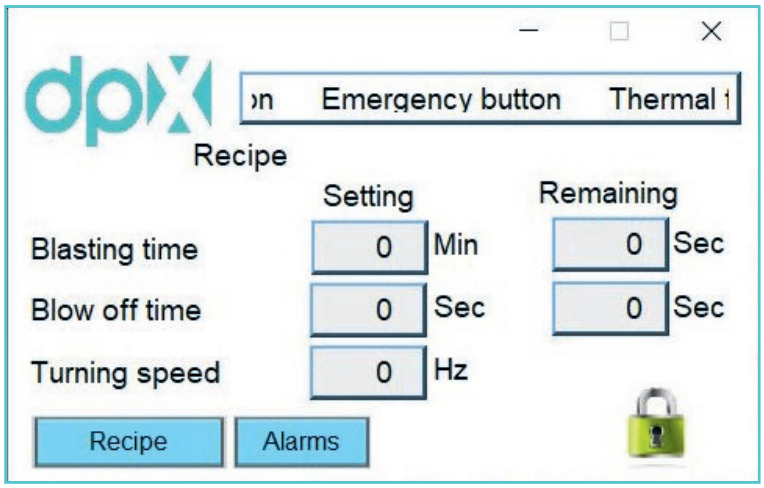
Start screen.

The first screen shows the logo of the DPX. By pushing this logo the main screen appears.

Main screen.

The settings for the process can be made on the main screen. The alarms are displayed in the top right field. Pressing this field opens the Alarms screen.

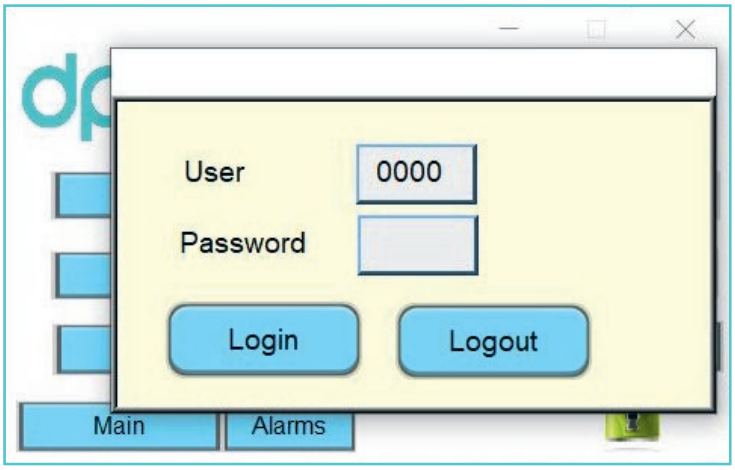
- Setting the blasting time in minutes (0-99). The second field shows the time remaining during the process in seconds.
- Set the blow-off time in seconds (0-999). The second field shows the time remaining during the process in seconds. .
- Setting the speed in Hz (30-60).
- Recipes, here the menu with the available recipes is displayed. It is not necessary to load recipes, the above parameters can also be entered separately.
- Alarms shows the alarms screen.
- Pressing the padlock displays the login screen



Login screen

- Setting the user name (0000)
- Setting the password (year of production, for example 2024)
- Press Login to access the settings.
- Press the logout button when you are logged in and want to exit the program.

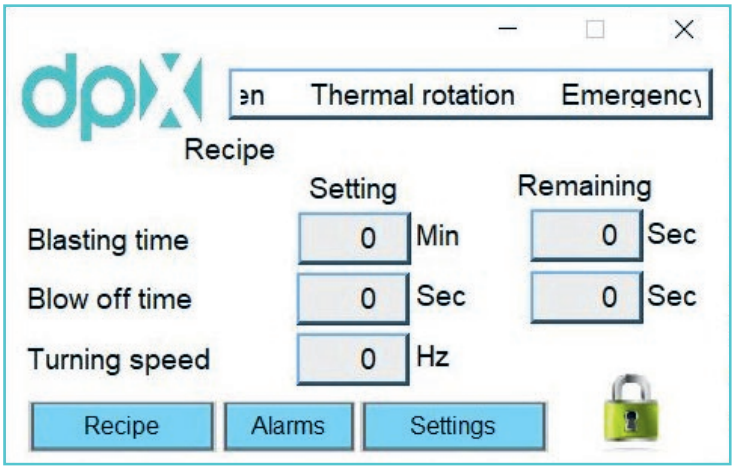
After logging in you will see an additional button on the "Settings" screen. Press this button to access the settings screen.



Recipes menu

This screen shows a list of recipes that are available.

- Setting the blasting time in minutes (0-99).
- Set the blow-off time in seconds (0-999).
- Setting the speed in Hz (30-60).
- Main, return to the main screen
- Load, the selected recipe is loaded with the corresponding parameter
- Save, changes to the recipe are saved

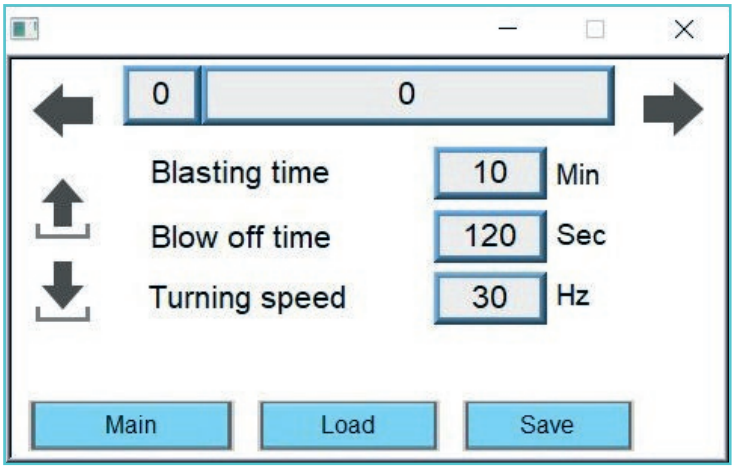


Select recipes, down

Select recipes, up

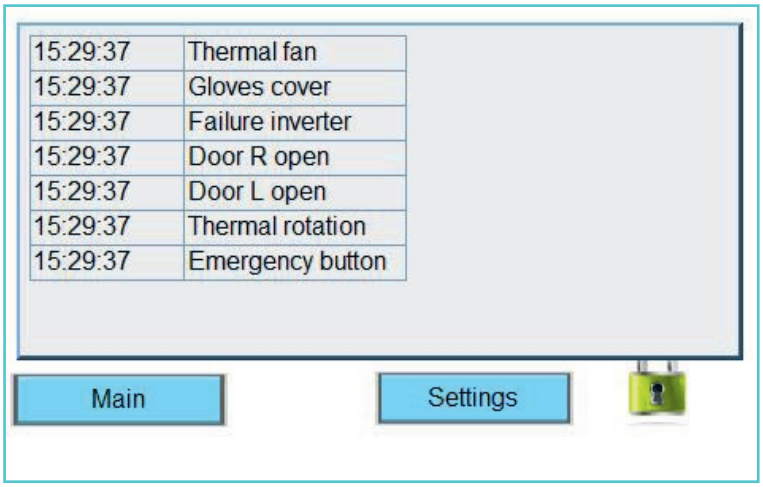
0 Recipe number (50 recipes available)

0 Recipe name



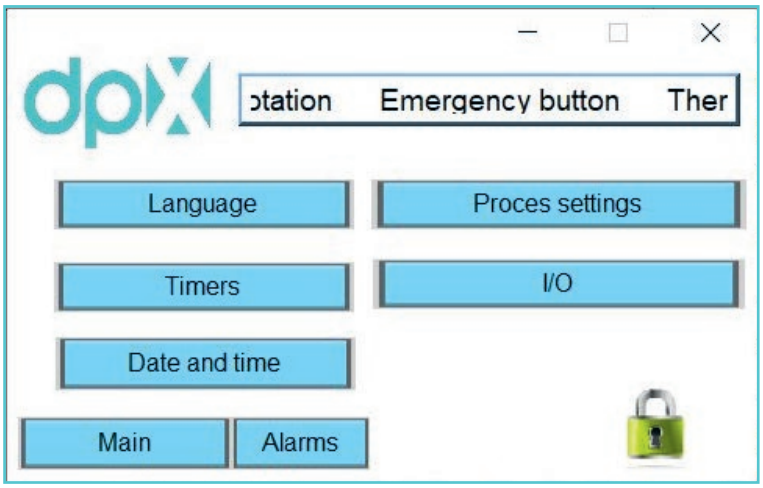
Alarms screen

This screen shows a list of actual alarms and the time they occurred. If you press the emergency stop button, all will be displayed.



Settings screen

Five options are displayed in the settings screen: Language to change the screen language, Hours to display the hour counters, Date and time to adjust the date and time to local, Process Settings for basic machine settings and I / O to display the actual inputs and outputs.



Language screen

To set the language. Choice in Dutch, English, German and French.

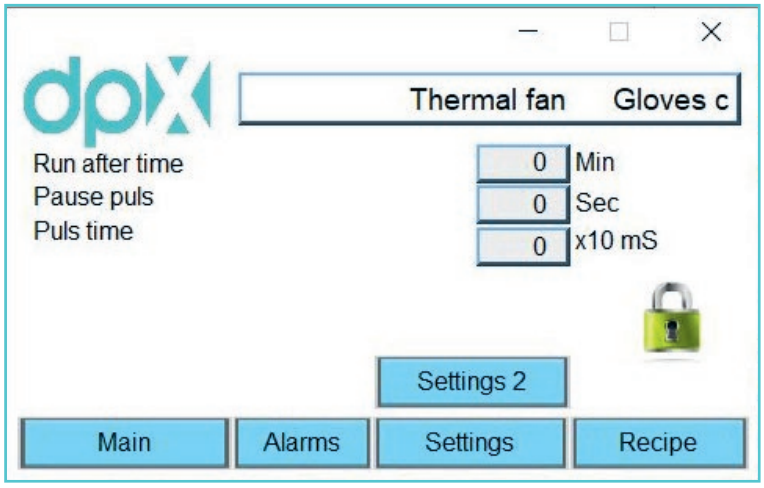
Timers screen

Shows the running time of the filter system (ventilator), the basket rotation (turning hours) and the blasting time (blast hours) in hours and minutes.

Process settings screen

This screen shows the basic settings for the blasting machine.

- The run after time is the time during which the filter system remains active after the blasting process has been completed. Can be set between 0 and 15 minutes. If you set the time short, the filter cartridge will be cleaned less. Standard 6 minutes.
- The cartridge cleaning is the time after the follow-up time that the cartridge cleaning continues without a fan. Can be set between 0 and 6 minutes. Standard 3 minutes.
- The pause between 2 pulses. The default is 45 seconds, this can be set (10 to 120) if there is very little or a lot of dust.
- Pulse time (60 results in a pulse of 600 ms or 0.6 s). Can be set between 30 and 90. A short time results in a less effective pulse.



Date and time screen

To set the local date and time.

I/O Screen

This screen shows which inputs and outputs of the PLC are active. Useful for service and maintenance.

10 // MAINTENANCE AND REPAIRS

All changes or maintenance to the machine must be done with the machine fully turned off, by switching off the main switch, disconnecting the plug and closing the air supply – unless the manual explicitly states that it is permitted to perform the operation while the machine is connected.

All maintenance and repairs must be performed by technically qualified staff who are familiar with the machine's technology, unless indicated otherwise in this manual.

When working on the machine, always wear protective gloves and safety glasses.


You are required to wear work gloves while using the machine.


You are required to wear safety glasses while using the machine.


You are required to wear a mask while using the machine.

PREVENTIVE AND PERIODICAL MAINTENANCE

Proper and regular maintenance is a determining factor in ensuring a long lifespan for this blast cabinet. It also ensures that the system performs optimally and safeguards its ability to satisfy the safety conditions indicated by the manufacturer.

		Maintenance interval			
Part	**Position**	**Day**	**Week**	**Month**	**½ Year**
Overall wear					•
Wear on pressure vessel					•
Check pressurized air quality		•			
Gloves	2-3	•			
Blasting hose D=13/23 mm, DI	1-6	•			
Blast nozzle Ø 6 Sisic	4-2		•		
Air injector ø 3 mm	4-6			•	
Filter cartridge	3-2			•	
Sealing rubber front	1-5			•	
Securit glass 240x190x5 mm (lighting)	5-11			•	
Splash glass 450x300x5 mm (viewing window)	1-3	•			
Sealing rubber on windows	1-2 & 5-10				•
Mixing chamber	1-6			•	
Dust bin levels		•			
Functioning of cartridge cleaning process				•	

• = Checking moment

The information in the above table is purely indicative and the actual required maintenance interval can vary widely depending on usage, products, quality of the pressurized air supply, etc.

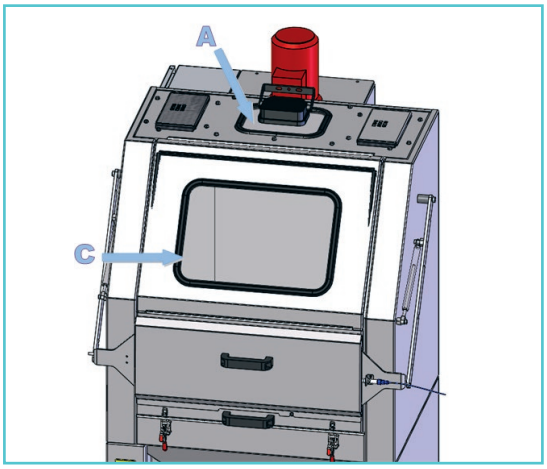
We recommend entering into a maintenance contract for the bi-annual checkpoints. Depending on the wear on your machine, the maintenance interval can always be adjusted.

REPLACING THE SECURITY WINDOWS

The cabinet is equipped with a security window in the viewing window (C) at the front of the cabinet. On the inside of the cabinet, this window is equipped with a splash window made of regular glass that is contained in an easy-to-open frame. Below the lighting unit is another security window (A) which is placed in the machine frame.

You are required to wear work gloves when replacing windows.

Replacing security windows:



- Switch off the system and remove the plug;
- Open the frame or remove the lamp.
- Upon delivery, security windows are mounted in a window rubber with a string. To remove the window, the string needs to be removed from the rubber, after which both the rubber and the window can then be removed;
- Place a new rubber in the frame and cut it to size, leaving a 20 mm overlap, and placing this overlap seam in the centre of one of the long edges of the window frame;
- Rub the rubber with soap;
- Place the window in the rubber, one of the long edges first, the one on the opposite side of the rubber seam;
- Then gradually mould the rubber around the window on both sides in the direction of the seam, using a screwdriver or the back of a special glazing tool if needed, but taking care not to damage the window! Make sure to press the window firmly into the rubber all around;
- Now install the string using a special string tool. The seam of the string should end up directly across from the seam in the rubber, on the opposite long edge of the window;

REPLACING FILTER CARTRIDGES

You are required to wear work gloves while using the machine.

You are required to wear safety glasses while using the machine.

When replacing filter cartridges, always wear a P3-grade dust mask to limit the amount of dust you breathe in.

- Unscrew and remove the bolts from the filter cabinet door and remove said door;
- Slide a suitable bag around the filter cartridge;
- Grab the filter cartridge from the bottom and wriggle it back and forth until it comes loose;
- Once the cartridge has come loose a little bit, pull it down while keeping it in an upright position;
- Remove the ground wire in the cartridge and remove the cartridge;
- Install a new cartridge by performing the actions listed above in reverse order;

- Firmly push the cartridge in place, pushing it past the mounting ring; an improperly placed filter can cause the cabinet to blast out dust;
- Close the door and screw the bolts back into place.

11 // MALFUNCTIONS

Malfunction	Cause	Solution
1. The machine does not start working when the foot pedal is pressed.	The doors are not closed	Close the doors.
	Fan is not running	Start the fan with the start button on the cabinet.
	The door sensors are indicating that the doors are not closed properly.	Check whether the doors are in fact closed, then check whether the alert has stopped. If not, adjust the door sensors.

Malfunction	Cause	Solution
2. Excessive dust in the blast cabinet.	The filter cartridges are full or have closed up.	Replace the filter cartridges. In the event of closed-up cartridges, check the pressurized air supply for moisture and/or grease. Also check whether the products being treated are dry and grease free.
	System is pulling in outside air.	Check whether the doors are closed properly, the cyclone is closed, all hoses are properly attached and not leaking anywhere, the filter cabinet door is closed and the dust bin is installed in a proper, airtight fashion. One of these various air supplies will be the cause of the disruption of the airflow in the cabinet.

Malfunction	Cause	Solution
3. Stammering or pulsating of the blast nozzle.	Wrong blast media / air mixture	Adjust the mixing chamber.
	Moist pressurized air - causing the blast media to clump up	Check the condensate collector and also check whether the products being treated are dry and grease free.
	Not enough available pressurized air (air pressure on manometer decreases during the blasting process).	- Lower the blasting pressure; - Use a smaller diameter of blast nozzle; - Switch off other users of the air supply; Use a larger compressor.

Malfunction	Cause	Solution
4. The blast nozzle is blasting only air, not blast media	There is not enough available blast media.	Add more blast media.
	The mixing chamber and/or blast hose are blocked.	Empty the cyclone and mixing chamber and check for blockages, also check the cyclone sieve on damage.
	Too big or heavy blast media.	Use smaller size / lighter media.

12 // EC DECLARATION OF CONFORMITY (MACHINERY DIRECTIVE)

EC DECLARATION OF CONFORMITY

LEERING HENGELO B.V.
BARNSTEENSTRAAT 1, 7554 TC HENGELO, NETHERLANDS

Hereby declare that:

PostPro DPX

· satisfy the relevant and mandatory provisions of the Machine Directive 2006/42/EC;
· satisfy the relevant and mandatory provisions of the following other EC directives:
Simple pressure vessels directive 2014/29/EU · EMC directive (2014/30/EU).

The machine has been designed and built in conforming with the European Standards:

NEN-EN-IEC 60204-1:2018 Safety of machinery - Electrical equipment of machines - Part 1: General requirements

NEN-EN-ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction

NEN-EN-ISO 13849-1:2023 Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design

NEN-EN-ISO 4414:2010 Pneumatic fluid power - General rules and safety requirements for systems and their components

NEN-EN-ISO 9606-1:2017 Qualification testing of welders - Fusion welding - Part 1: Steels

NEN-EN-ISO 15614-1:2017+A1:2021 Specification and qualification of welding procedures for metallic materials - Welding procedure test -
Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys

13 // EC DECLARATION OF CONFORMITY (ATEX DIRECTIVE)

EC DECLARATION OF CONFORMITY

LEERING HENGELO B.V.
BARNSTEENSTRAAT 1, 7554 TC HENGELO, NETHERLANDS

Hereby declare that:

PostPro DPX

satisfy the relevant and mandatory provisions of the Atex Directive 2014/34/EU, group II, category 3D;

The machine has been designed and built in conforming with the European Standards:

NEN-EN ISO 80079-36:2016
Explosive atmospheres - Part 36; Non-electrical equipment for explosive atmospheres - Basic method and requirements;

NEN-EN-ISO 80079-37:2016
Part 37: Non-electrical equipment for explosive atmospheres - Non-electrical type of protection constructional safety "c",
control of ignition sources "b", liquid immersion "k";

14 // CONTACT INFORMATION

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