

## Instruction manual

Self – contained industrial pretreatment device for the full process of preparing garments including pretreatment, drying and pre-pressing



**7 – 4**  
**11 – 6**

# **1. Introduction**

## **1.1 Content**

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## 1.2 Construction of the machine



- |   |  |
|---|--|
| 1. Press 1                              | 17. Switch for proximity sensor                |
| 2. Barcode scanner                      | 18. START switch                               |
| 3. Press 2                              | 19. Control box                                |
| 4. Moveable control panel               | 20. Main switch                                |
| 5. Aircirculation ventilator            | 21. Compressed air filter with water separator |
| 6. Signal tower                         | 22. Exhaust ventilator                         |
| 7. Drip tray                            | 23. Exhaust ventilator                         |
| 8. Exhaust ventilator                   | 24. Safety frame                               |
| 9. Separator                            | 25. Sensor for starting the precoating         |
| 10. Switch for separator                | 26. Emergency stop switch                      |
| 11. Plug                                | 27. Rolling system with a break                |
| 12. Legs                                | 28. Pressure gauge                             |
| 13. Switching valves                    | 29. Heating plate plug                         |
| 14. Protective barrier                  | 30. Pressure adjustment                        |
| 15. Base plate                          | 31. Protective cover                           |
| 16. Proximity sensor (START activation) | 32. Cooling fan for stepper motor              |

### 1.3 Technical data

Technical data	PRETREATmaker LINE 7-4	PRETREATmaker LINE 11-6
Dimension	360 x 200 x 180 cm	516 x 200 x 180 cm
Weight	1067 kg	1460 kg
Operation voltage	3 x 400 VAC	
Rated power	15 kW	33 kW
Power consumption	25 A	45 A
Air consumption	15 L / machine cycle	
ECO mode	yes	
Main fuse	C32 A	B50 A
Noise	The machine generates noise less than 70 dB (A)	
Print size	40 x 54,5 cm	
Warm-up time	25 min.	
<b>Drying tunnel</b>		
Max. height of the used material	30 mm	
Max. air flow temperature	250 °C	
Max. IR temperature	350 °C	
Heating time	100 - 120 seconds	
Fans	1	2
Zones	1	2
<b>Heat press</b>		
Max. pressing force	6 bar	
Max temperature	220 C (optimal 180 C)	
Plate size	45 x 56 cm	
Heating time	1 – 25 seconds	

### 1.4 Protection of the device

The PRETREATmaker LINE is equipped with different safety arrangements to make a safe usage possible.

#### Main fuse

Main fuse is situated in the back part of the machine, in the control box. In case of overcharge the main fuse prevents the machine from getting damaged. If the main fuse has been switched off, it has to be switched on again.

#### Fuse 6A (Pretreatment station)

The fuse 6A is located in the back part of the pretreatment station. In case of overcharge the main fuse prevents the machine from getting damaged. If the main fuse has been activated, it has to be replaced. Instructions for replacement of the fuse are given in chapter 4.6.

#### Thermal fuse

PRETREATmaker LINE has been equipped with two thermal fuses. One of them is situated in the drying tunnel and the other one in the heat press. The thermal fuse in the press is situated on the heat plate and cuts off the power supply if the temperature exceeds ~260°C. If the fuse is activated the temperature sinks down to 90°C. After that the power supply gets activated again and the temperature of the heating plate rises and it's possible to continue the work with the press. Over time the thermal fuse may wear out and cut off the power supply by lower temperature, for example by 180°C. In such case it's needed to replace the thermal fuse as soon as possible.

The thermal fuse in the drying tunnel is located inside of the machine, on the same side as control box. When the temperature of the thermal fuse gets ~260°C, it cuts off the power supply of the whole machine, until the drying tunnel cools down to the safe temperature. Then the machine will continue to work. If the machine doesn't continue to work after it reached the safe temperature, the thermal fuse in the drying tunnel has to be replaced.

#### Automatic ECO mode

If the START switch will not be activated within 15 minutes, the machine mode will change automatically to the ECO mode. The temperature will sink down by 50°C, all covers will open and the plates will move slowly to the right side.

**Emergency stop switch**

Has been used to eliminate the residual risk. In case of emergency push the emergency stop switch which is situated on the heat press. The heating elements of the press and of the drying tunnel will switch off, the covers will open and the movement of the plates will stop. The compressed air will be disconnected. The control panel and the electronic device will be still working. In order to continue the work with the machine, the emergency stop switch has to be pulled out.

**Safety frame (Pretreatment station)**

The safety frame is located on the left side of the pretreatment station, by the side cover. If it gets activated, the movement of the machine will stop. It protects the operators' hands and fingers from getting crushed by the movement of the cover to the top position.

**Stepper motor**

The main drive of the machine has been equipped with a stepper motor and its power has been adjusted, so that the movement of the plates can be stopped using just one hand. In such case the electronic device will report an error and stop the movement of the plates.

**Covers**

There are covers which protect the area of the plate movement. Some of the covers are movable. The covers have to be connected to the machine with the plugs. Otherwise the machine will not start.

**Safety valve 6 bar**

Pneumatic installation has been equipped with a safety valve, which protects the machine from excessive pressure from the pneumatic installation.

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## 1.5 Safety arrangements at the workplace

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**Set-up and installation**

Set-up and installation of the device has to be done under supervision of an authorised person by the company owner. The installation has to be done by 2 or more persons. The machine should be situated on the flat, non-inflammable surface, in a room with constant temperature and moisture. Keep the machine away from dusty rooms because dust could have a negative influence on some parts of the machine. Very important! The machine may be connected only to an installation provided with a protection against electric shock (RCD/RCCB device). The machine is destined for industrial use only.

**Testing the machine**

After the correct installation of the machine, it is important to ensure that the machine works properly, is not damaged after the transportation and has no safety defects. The testing can only be done by the employer or other authorised persons. It is mandatory to guarantee correct installation and a safe usage of the machine. The testing should be protocolled. If any irregularities regarding functionality or safety are found during the testing, it has to be noted and reported to Walter Schulze GmbH in written form within 7 days. Until the clarification it is not allowed to use the machine.

**Information and education**

According to §81 of the industrial law, §14 of the employment protection law (German law) and the general safety arrangements at the workplace, the employer or an authorised person is obligated to give all information about the safety, functions and the range of application about the machine to the user. In particular the user needs to be acquainted with the complete manual personally and be explicitly informed about the dangers of using and working with the machine. The details have to be explained in a coherent form and language. Every user is obligated to a safe usage of the machine and to read the instruction manual before starting work with the machine. Using the machine means that the operator has read the instruction and is aware of the possible risks of working with the machine.

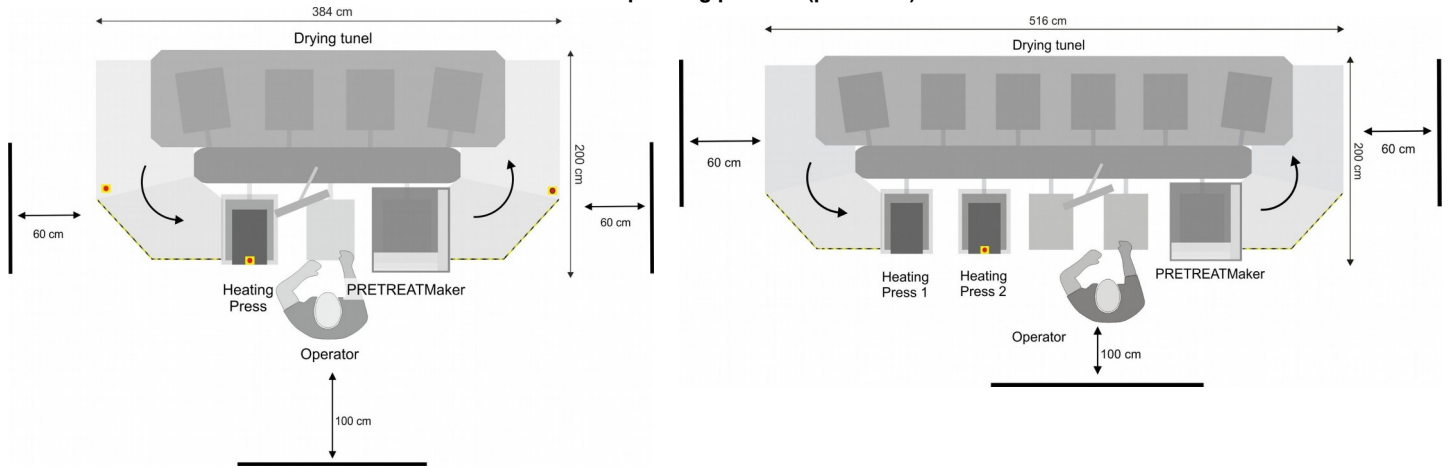
**Safety arrangements**

In order to ensure optimized safety please read the instruction manual precisely. Only one person is allowed to work with the machine at the time. The machine has to be under supervision the whole time, when it is working. Supervise the machine till it is switched off and the power plug is pulled out. There should be no unauthorised persons near the machine while it's working. In case of emergency push the red emergency button, situated on the heat press. After the problem is solved, the machine can be restart by turning the emergency switch to the left. The device is equipped with a power plug. Special attention should be paid to the socket and presence of the connected safety circuit inside. Very important! The machine may be connected only to an installation provided with a protection against electric shock. Pressure adjustment has to be done when the press is open. There should be no unauthorised persons near the machine while it's working. Beware of the heating plate – risk of burns. Attention! The press opens automatically – keep the safety clearance. Using the machine with certain materials may create a strong smell. That's why the user should evaluate the need for a ventilation system at the workplace. The type of ventilation should be used as needed and depends of the size of the room and used inks. The machine has to be installed at a place with enough space around the machine. The space in front of the machine has to be wide enough. Nothing can disturb the operator at work. Do not install the machine in doors, floors or busy places. By using different kind of technologies, the operator may use personal protective equipment (protective gloves). The power plug has to be pulled out of the power supply while maintenance. All wires should be placed in a safe way, to make sure they will not pose a threat for the person working at the machine or passing it. In case of damages or untypical signals from the machine, please disconnect the machine from the power supply, contact the service and do not work with the machine, till the problem is solved. All repairs should be performed after consulting the service. Do not remove machine covers while the machine is working.

**Starting the working procedure**

The operator needs enough space and free distance to all switches and buttons to work with the machine. Safe position of the operator allows him to activate the emergency stop switch in every moment. The operator is obligated to work with the machine as recommended by the manufacturer in order to avoid risks.


### Correct operating position (plan view)



#### Other risks and dangers

There are some moveable elements on the machine, which can cause injuries of hands or fingers. For reasons of workability, these elements cannot be eliminated. They can cause injuries / mash fingers or hands. It is important to work with the machine with great care and be alert to avoid other dangerous situations. The machine should be operated in accordance with the manufacturers recommendations to avoid risks. The machine complies with the essential requirements laid down in regulation for machines. Above information has been worked out in accordance with the standards PN-EN 12100:2012. The machine is constantly upgraded in order to improve its safety. All comments regarding the contents of this manual can be addressed to the distributor or manufacturer.

## 1.6 Environmental protection

The packaging of the device must be disposed of in accordance with the applicable rules. Do not dispose of the equipment marked with an  together with your household waste. No longer needed machines may be returned to the manufacturer or disposed of in an environmentally friendly manner by means of appropriate disposal systems.

## 2. Initiation

### 2.1 Notes regarding transportation

Because of the large dimensions of the machine, the PRETREATmaker LINE is delivered, installed and assembled by the manufacturer (service).

### 2.2 Warranty terms and conditions

The machine has to be operated with a precoating liquid for fabrics, to prepare them for DTG printing. Cleaning must be done with distilled water only. Other liquids may damage pumps or other components of the machine. Damages caused by unauthorized liquids are excluded from the warranty. The PRETREATmaker Line comes with a 12 months warranty. This warranty includes the whole construction of the machine, mechanical parts, electronics, drawer with rails, casing, pumps electronic valve and pipes. Consumption items such as brass/stainless steel nozzles, silicon foam, safety covers, seals and filters are excluded from the warranty. Thermo fuses, temperature sensors, switches and buttons and all springs in the machines have a warranty of 6 months.

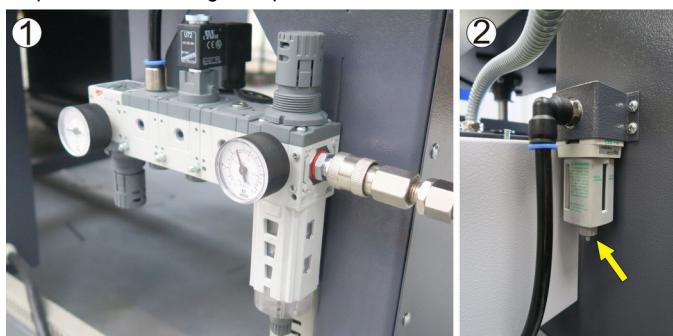
### 2.3 Power supply voltage

The PRETREATmaker LINE has to be connected to a voltage of 400VAC/50Hz. The machine is equipped with a power plug. Make sure that the power outlet is in the right condition and that the grounding is connected to the power outlet.

Caution: please do not connect this press to any other outlet (socket) than those equipped with ground-fault protection ELCB (earth leakage circuit breaker). In case of doubt ask your licensed electrician to check the wiring. Connecting the machine to a socket that is not earthed or where the earthing does not work properly, is hazardous to health and dangerous for the machine. Any damages arising from an improper plugging invalidated the warranty.

### 2.4 Connecting the machine to the compressor

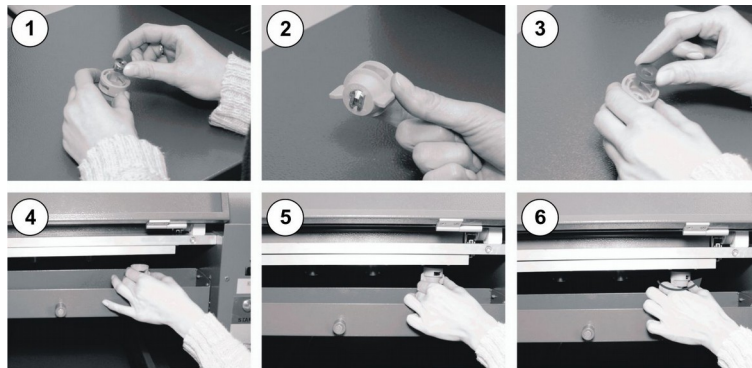
PRETREATmaker Line is a pneumatic device, which needs to be connected to a compressed air system. Optimal pressure for correct work shouldn't exceed 6 bar. The air supplied to the machine needs to be dry and without oil. If needed use an additional filter and dessicator. The air compressor is connected with a connector type 26 eurostandard (**picture 1**). After finishing work disconnect the compressed air and drain the filter. If the compressed air system has no additional dessicator, the container needs to be checked every 4 hours during operating sequence. If needed it can be emptied by twisting the little valve off (**picture 2**). If there is oil in the container besides water, the air compressor is working faultily. In this case the machine has to be shut down and the compressor needs to be repaired. The oil from the compressor can damage the pneumatic valves in the machine. If needed, contact the service for help.



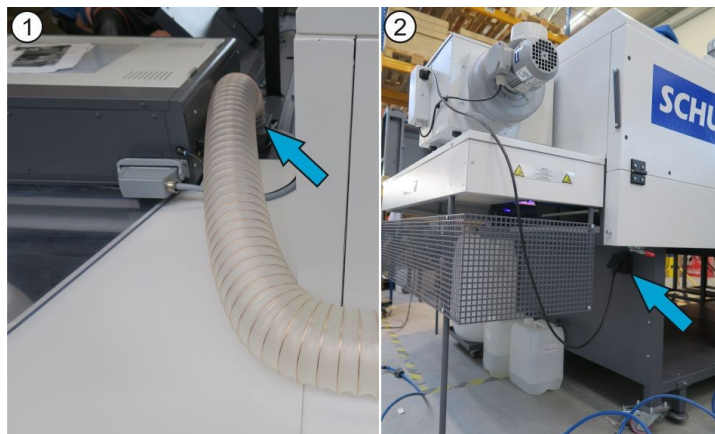


## 2.5 Preparation the machine for operation

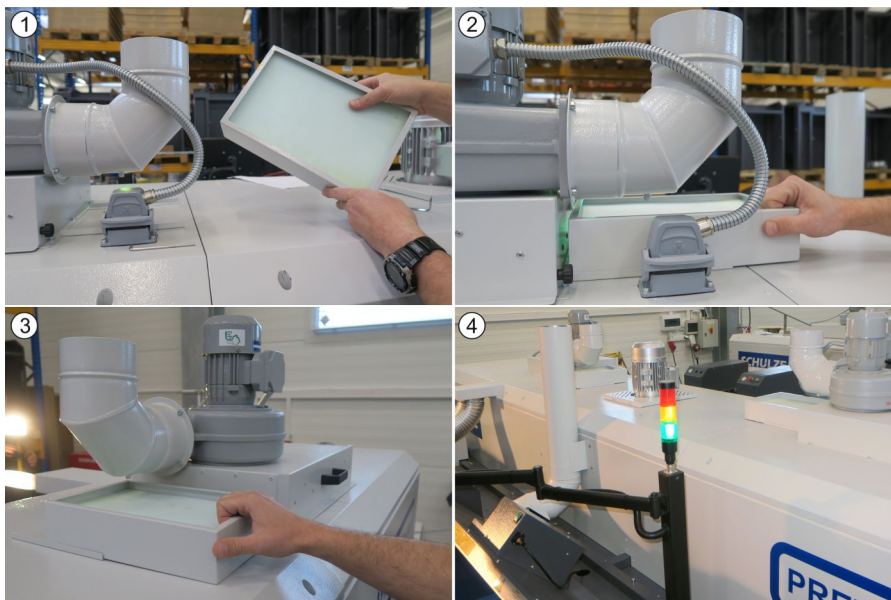
Before start to work with the machine, make sure that all the covers are assembled and connected to the machine. The device may be operated by a person trained and acquainted with the service manual. After removing the unit from the pallet and remove the protective film should be mounted nozzles. The nozzles are attached to the machine with the power cord, filter and washer. The nozzles must be put together and installed into the machine (pictures below).



Fumes escaping from the pretreatment machine will condense and discharge to the separator. The separator needs to be connected to the machine (pictures 1-2).



Before starting to work with the machine the drip trays have to be placed in the designated spaces.

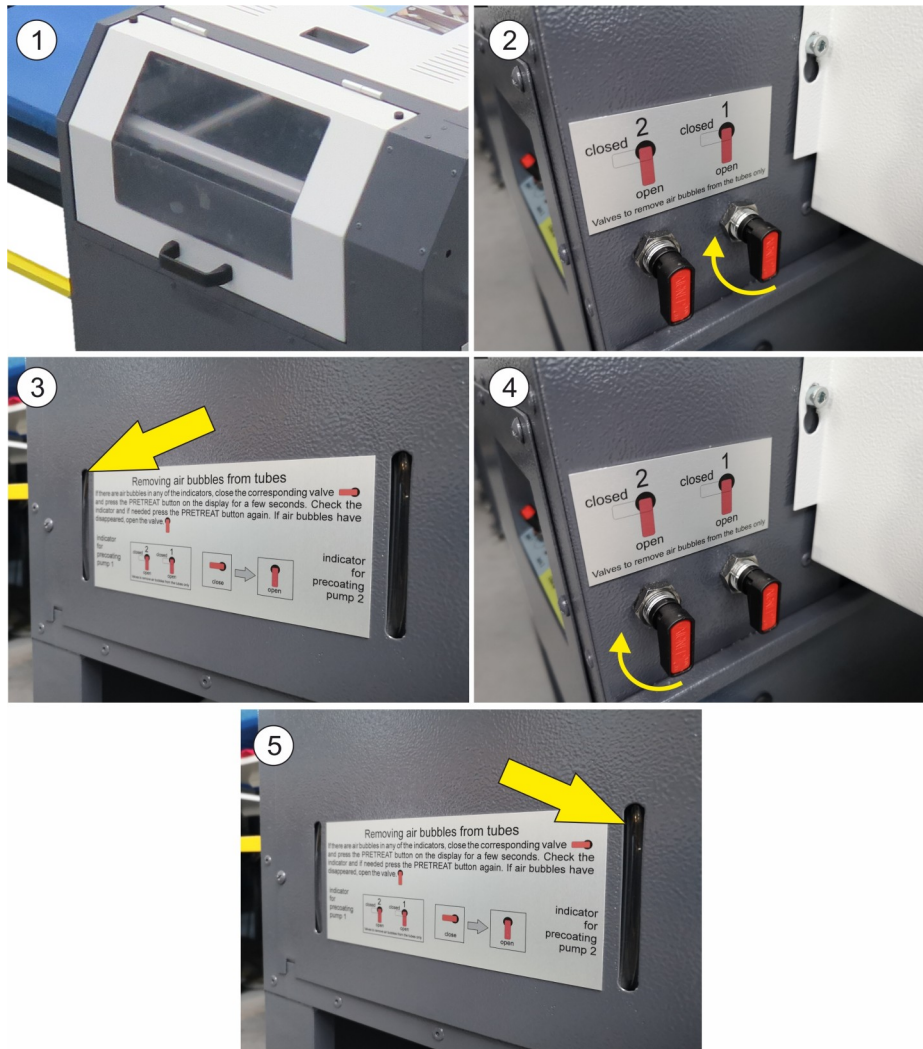


Before switching the machine on, check whether the protective cable is correctly connected. All containers should be controlled before starting operations. The container with precoating liquid should be shaken everyday. Make sure that the deposit tank is empty and properly connected.

### Filling the tubes for the first time

1. Fill the water container with distilled water and precoating containers with the liquid.
2. Press the WATER button on the display multiple times
3. Open the front cover of the pretreatment station (picture 1)
4. Check if the tubes are filled with water
5. Close the valve 1 (picture 2)
6. Press the PRETREAT button on the display multiple times
7. Check on indicator 1 if the tubes are filled with precoating liquid (picture 3)
8. Open the valve 1
9. Close the valve 2 (picture 4)

10. Press the PRETREAT button on the display multiple times and check on indicator 2 if the tubes are filled with precoating liquid (picture 5)
11. Open the valve 2
12. Press the PRETREAT button on the display and check if there are no air bubbles in the tubes.
13. If there are still air bubbles in the tubes, repeat steps 5 - 12



#### Daily preparation of the machine for operation:

1. Fill the water container with distilled water.
2. Fill the precoat containers up with the liquid. The containers must be shaken every day.
3. Make sure the waste-water container is empty
4. Take the nozzles off.
5. Turn the machine on.
6. Turn the precoating button on the touch screen display and hold it until the precoating liquid starts flowing from the nozzles.
7. Turn the first nozzle on the left on and press the precoating button on the touch screen display again.
8. Turn the first nozzle off and the second one – on. Press the precoating button on the touch screen display again.
9. Proceed with the nozzles 3,4, and 5 in similar way. This process removes air bubbles from the ducts.
10. If all nozzles don't work identically, press the water button on the touch screen display (picture 5) and hold it until the water starts flowing from the nozzles and next repeat the procedure given in points 7-9. The procedure given in points 7-9 must also be repeated if the precoating container has been empty, so the pump must fill in the ducts again.

### 3. Working with the machine

#### 3.1 Usage of the machine

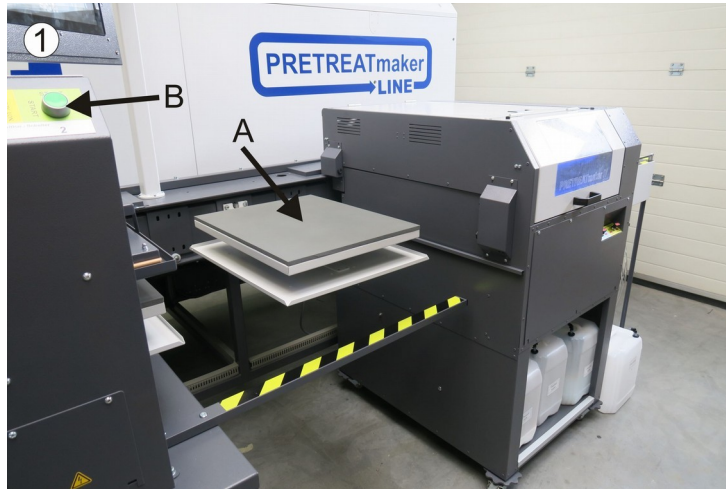
PRETREAT maker LINE is self- contained industrial pretreatment device for the full process of preparing garments including pretreatment, drying and pre-pressing. It is destined for automatic application of precoat for white ink in printers directly printing on fabrics. The device is equipped with 5 nozzles. Application of the precoat is executed directly over the fabric. The containers may not be filled with other liquids.

#### 3.2 Starting the working procedure

T-shirt has to be placed on the base plate, which is situated in the operators' area (picture 1A). After pushing the START button the movement of the plates will start (picture 1B). The plate with the t-shirt moves to the pretreatment station. While it gets covered automatically with the precoat, the operator is placing another t-shirt on the base plate that arrives to his work station. After pushing the start button again the first plate with t-shirt moves automatically to the drying tunnel. Every time after pushing the START button the plates will move by one station to the right. Depending on model, there are 6 or 4 stations in the drying tunnel. After the drying process, the first base plate with the t-shirt arrives to the heat press station and gets pressed. After pushing the START button again the first base plate



with the t-shirt arrives to the operators' station and the process is finished. The t-shirt is covered with the precoating, dried and pressed. There can be 11 t-shirts in a machine at a time in 11-6 Version or 7 t-shirts in 7-4 Version.



### 3.3 Programming and functions of the machine



1. **Setting the temperature of the air flow**  
After touching the field, the keyboard will appear on the display. Max. temperature of the air flow is 250°C. Recommended temperature is 185°C.
2. **Current power consumption of the air flow**  
Power consumption level, expressed as percentage. While warming up the drying tunnel, the power consumption reaches 100%. After the programmed temperature is reached, the power consumption is reduced till around 70%. Power consumption level depends on the external conditions and on the number of t-shirts that are currently in the drying tunnel.
3. **Current temperature of the air flow**  
Current temperature of the hot air is shown on the display.
4. **Setting the temperature of the IR**  
After touching the field, the keyboard will appear on the display. Max. temperature of the IR is 350°C. Recommended temperature is 300°C.
5. **Current power consumption of the IR**  
Power consumption level, expressed as percentage. While warming up the drying tunnel, the power consumption reaches 100%. After the programmed temperature is reached, the power consumption is reduced till around 80%. Power consumption level depends on the external conditions and on the number of t-shirts that are currently in the drying tunnel.
6. **Current temperature of the IR**  
Current temperature of the heat elements is shown on the display.
7. **Switching on the heating of the machine**  
After touching the icon, the drying tunnel warms up till the programmed temperature (base plates are moving slowly). After the programmed temperature is reached, the machine goes into standby mode (ready).
8. **Switching off the heating of the machine**  
After touching the icon, the heat elements in the drying tunnel switch off.
9. **ECO mode**  
After touching the icon, the ECO mode gets activated. The temperature of the drying tunnel sinks down by 50°C, and the base plates are moving slowly (like when the machine is warming up). To switch off the ECO mode touch the ON icon on the display (7) Then the machine will warm up again to the programmed temperature. If the machine stays in standby mode longer than 15 minutes, it goes automatically to the ECO mode.

- 10. Current condition of the machine**  
 OFF - heat elements are switched off  
 WARMING - the machine warms up  
 READY - the machine is ready to work  
 ECO - ECO mode is activated
- 11. Manual closing / opening the press**  
 When the automatic mode is switched off, it is possible to close the press manually. After pressing the icon press will close. It will open after the adjusted time runs out. In order to open the press earlier, the icon needs to be pressed again.
- 12. Setting the temperature of the heat press**  
 After touching the field, the keyboard will appear on the display. Max. temperature of the heat plate is 220°C. Recommended temperature is 180°C
- 13. Setting the presstime of the heat press**  
 After touching the field, the keyboard will appear on the display. Time of the pressing can be adjusted between 1 – 25 seconds. It is recommended to set it on 8 seconds.
- 14. Current temperature of the heat press**  
 The current temperature of the heat plate is shown on the display.
- 15. Current power consumption of the heat press**  
 Power consumption level expressed as percentage.
- 16. Setting of the exhaust ventilator**  
 After touching the field, the keyboard will appear on the display. The speed of the exhaust ventilator can be settled between 1 and 10.
- 17. Daily counter**  
 Number of cycles performed during one run.
- 18. Preview**  
 It can be checked, which plates are covered with t-shirt, and what times of pressing are adjusted for each of them. If the plate without t-shirt will arrive to the pressing or pretreatment station, the station will not activate.
- 19. Switching the nozzles on/off (print width)**  
 After touching the right field, the nozzle will switch on or off.
- 20. Printing range (print length)**  
 Quick adjustment of the printing range (every 10 cm).
- 21. Setting preview of the pretreatment station**
- 22. Settings selection**  
 This function allows to choose between previously saved settings. To save settings touch and hold for some seconds one of the icons (F1-F6). Information „settings saved” will show up on the screen.
- 23. Reset the counter**
- 24. Cycle counter**  
 Number of the performed cycles since last reset will show up on the screen.
- 25. Automatic mode ON / OFF**  
 This function allows to switch on or off the automatic mode. When the automatic mode is activated, the first cycle has to be switched on with the START button, which is situated in front part of the press. Next cycles will switch on automatically after the programmed time runs out. When the automatic mode is switched off, each cycle has to be preceded by pushing the START switch. Next cycle will begin after the adjusted time of the cycle runs out.
- 26. Current cycle time**  
 It shows the current time of the cycle. After it runs out the machine will start another cycle automatically (in the automatic mode).
- 27. Setting the time of the cycle (+/-)**  
 With the icons + i – time of the cycle can be adjusted. Max. time which can be adjusted is 99 seconds. Min. time is moveable but it cannot be shorter than the time adjusted on the press.
- 28. Print beginning**  
 Setting the beginning of the printing. After touching the field, the keyboard will appear on the display. It is possible to set the beginning of the printing between 0 and 48 cm.
- 29. Print length**  
 After touching the field, the keyboard will appear on the display. It is possible to set the printing range between 2 and 50 cm.
- 30. Carriage speed**  
 Carriage speed expressed as percentage. After touching the field, the keyboard will appear on the display. The carriage speed can be adjusted between 50% and 150%.
- 31. Pressure of the nozzles**  
 After touching the field, the keyboard will appear on the display. The pressure of the nozzles can be adjusted between 50% and 150%.
- 32. Rotating the t-shirt**  
 There is a possibility to set the position of the t-shirt on the display (beginning of printing on top of the plate or beginning of printing on bottom of the plate). Touch the icon to change the position of the t-shirt.
- 33. Single/ double precoat**  
 After touching the icon single or dual application of the precoating can be selected.
- 34. Water**  
 After touching the icon, the nozzles get rinsed with water from the container.
- 35. Precoating**  
 In order to fill the tubes with the precoating push and hold several times precoating icon.
- 36. Settings**  
 After touching the icon the settings menu will show up on the screen.
- 37. PRETREATmaker ON / OFF**

Touch the icon to switch on or off the pretreatment station.

**38. Movement (left)**

After touching the icon, the base plates will move by one position to the left.

**39. Movement (right)**

After touching the icon, the base plates will move by one position to the right.

**40. Current status of the machine**

Depending on the status of the machine the field changes colour.

greens – machine is ready

yellow – machine is working

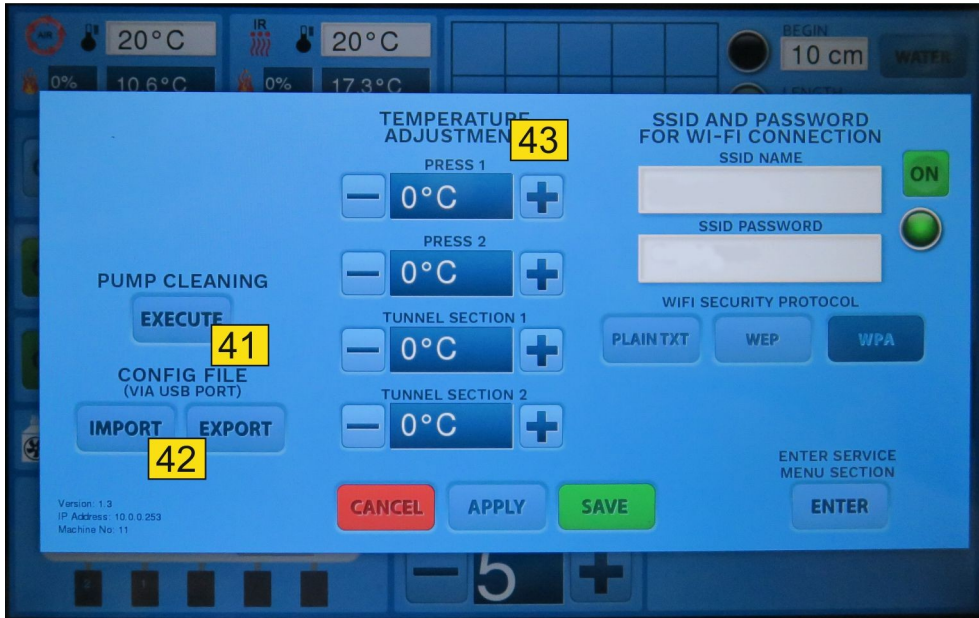
red – malfunction of the machine

**Starting the machine**

Check the working plates (stations), if they are free of items. They can get damaged or cause damages of the machine if the device start working (melt, burn). The compressed air has to be connected to the device. Check if all covers are in the right place, connected to the machine and if the switches of the press and pretreatment machine are switched on.

After turning the main switch on and setting up all configurations (time, temperature, modus, etc.), touch the ON icon on the control panel to activate the machine.

**SETTINGS MENU**



**41. Pump cleaning**

After touching the icon follow the instructions showed on the screen.

**42. Config file via USB port**

In order to import the settings to an external device or export the previous saved setting to the machine press the right icon.

**43. Temperature adjustment**

In the PRETREATmaker LINE it is possible to adjust the temperature of the heating plates and the heating elements to its original settings from -15°C to +15°C.

### 3.4 Changing the precoating liquid during operation

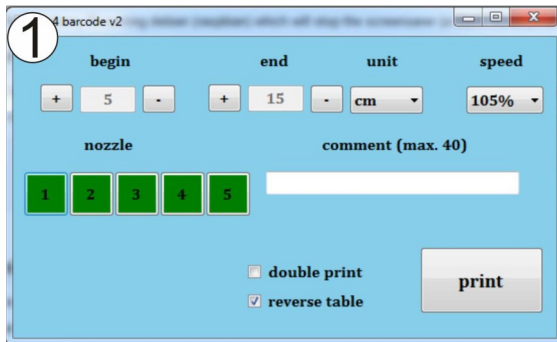
In order to switch from precoating tank 1 to precoating tank 2 move the switch "tank change" from tank 1 to tank 2. Always flush the pump afterwards for at least 20 seconds with the new precoating in order to properly fill the pump. To do this press the precoating button for at least 10 times.



### 3.5 Barcode printing

PRETREATmaker LINE can be equipped with an input interface and a barcode scanner. With this option job parameters can be transferred directly into the machine without doing any manual parameter adjustments. With the Program „Pre4 barcode v 2” (Foto 1) work parameters can be set up and printed with a barcode printer (CODE 39). Work parameters can also be generated with another system and transferred to the machine. Job parameter setup needs to follow these rules: (read from left to right)

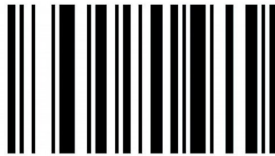
- The first 2 numbers represent the code version (20)
- Next 2 numbers are for binary number (nozzle off or on) (0b00xxxxx)
- Next 2 numbers are for spray start (in cm)
- Next 2 numbers are for spray stop (in cm)
- Next 3 numbers are for carriage speed (050 - 150%)
- Next number is for setting um cm or inch (1 = inch / 0 = cm)
- Next number is for setting up double spray option (1 = on / 0 = off)
- Next number is for table setting (1 = on / 0 = off)



### 3.6 Configuration of the barcode scanner

If the scanner does not work properly the codes below should be scanned in order to configure the scanner. Then switch off the machine, wait around 10 seconds and switch it on again.

BACK TO THE FACTORY SETTINGS



CONFIGURATION OF THE BARCODE SCANNER





## 4. Maintenance and replacement of parts

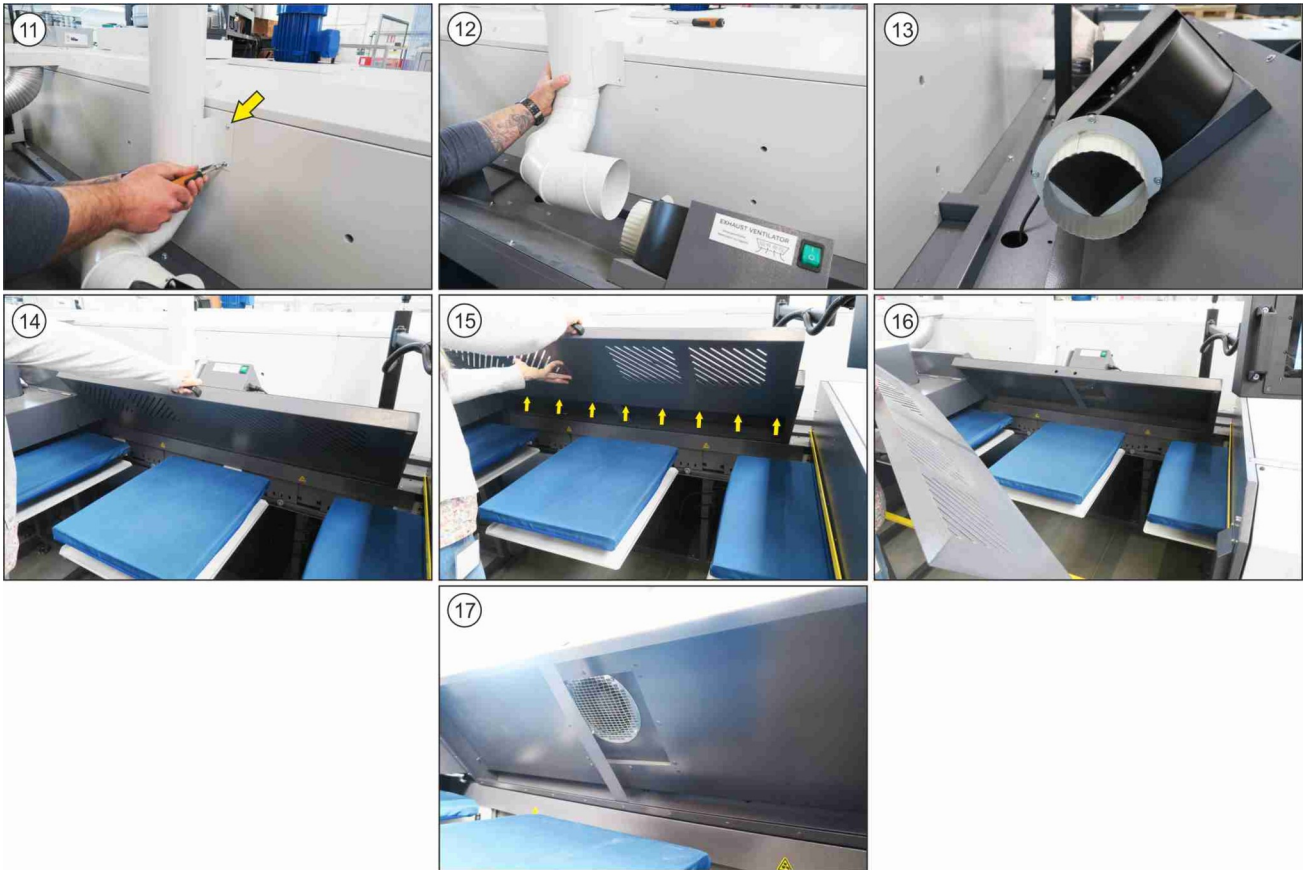
### 4.1 Daily maintenance

The device should be cleaned with a dry cotton cloth every day (pictures 1 – 2). Dry the inside walls of the machine. Always remove all precoating residues. The containers must be controlled many times during operation of the machine. At least once a day the drip trays have to be controlled and emptied if needed (pictures 3-4). The surface of the base plates and heat plate need to be clean all the time. The heat plate has to be cleaned with a clean and dry cloth (picture 5). Do not touch the heat plate – danger of burns. Following the completion of work the bottom parts of protective covers have to be cleaned (picture 6). Clean the arms of the base plates and the surface of the drip trays several times a day (pictures 7 – 8). It must be remembered that the guide rails of the cover should always be greased (picture 9). Those guides have to be greased with water resistant grease using a brush (picture 10). It prevents rusting the rails and protects the rails against precoating liquid.





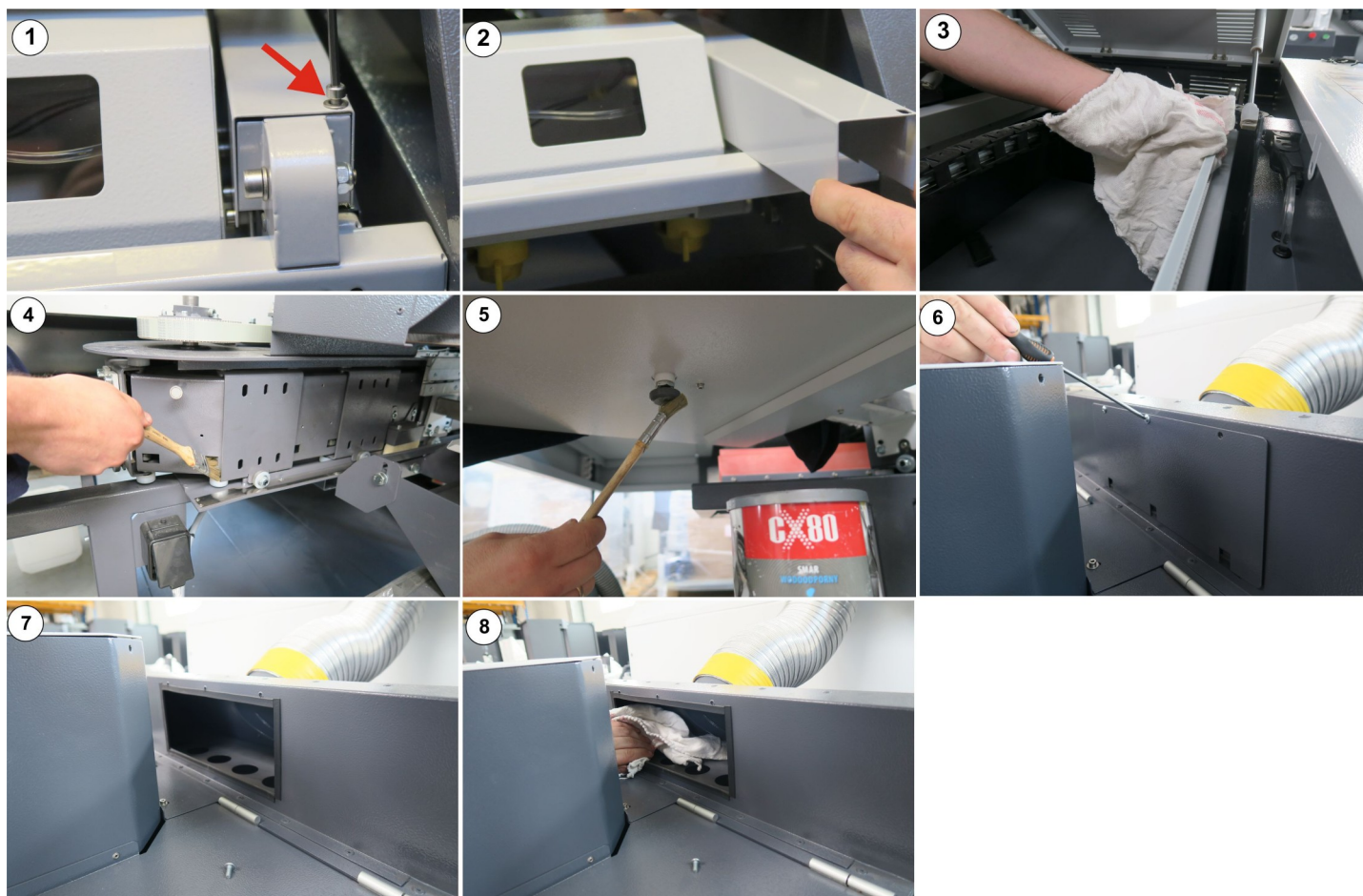
Once a week, the exhaust fan pipe and the hood should be cleaned. The dirt that collects there resembles dust balls, therefore the exhaust fan pipe, the hood and the drawer can be successfully cleaned with a Hoover. In order to start cleaning, unscrew the pipe (**picture 11**), disconnect it from the fan (**pictures 12-13**), clean it and screw it back to the machine. To clean the hood, pull out the drawer pull the handle towards you, securing the drawer with your other hand (**pictures 14-15**). Then clean the hood and the drawer (**pictures 16-17**). Slide the drawer back into the hood.



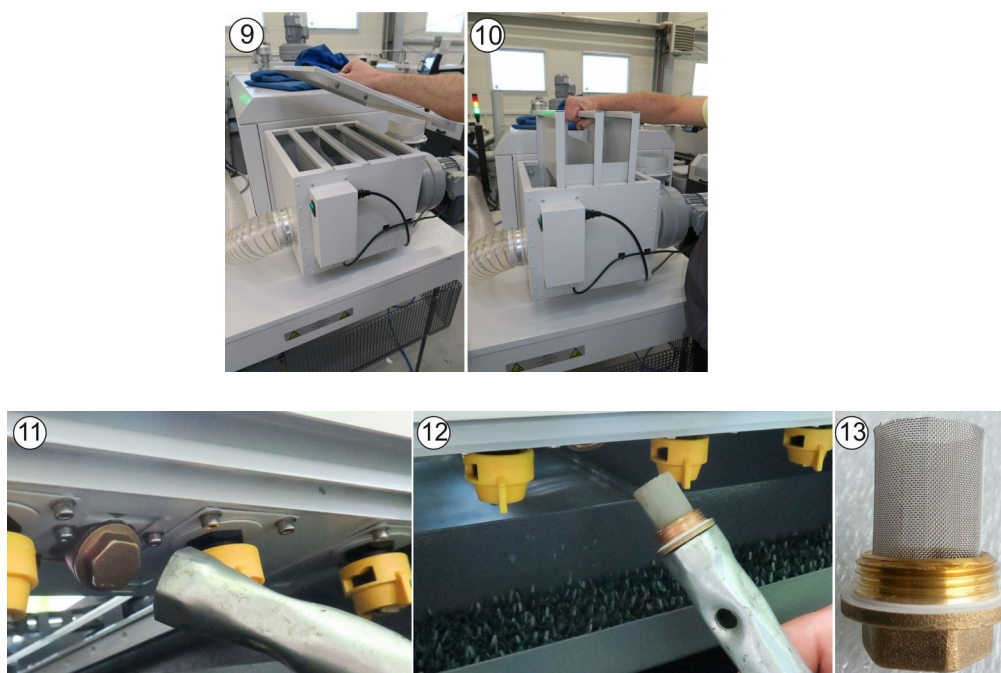
1. Don't let the liquid flow over the waste-water container. The container should be emptied if the need arises.
2. The containers with pre-coating liquid should be shaken every day and filter in the container must always be immersed in the liquid.
3. Check the container with distilled water every day.
4. The nozzles must be kept clean. Instructions for cleaning of the nozzles are given in chapter 4.3.
5. Every day after completion of work, press the water button 3 x 1 sec. on the touch screen display. This shall rinse the valves and nozzles with water.
6. After rinsing, disassemble the nozzles. Instruction - in chapter 4.3.
7. Before starting to work with the machine, install the nozzles.
8. Press the precoating button 3 x 1 sec. Long on the touch screen display until the nozzles start working at a uniform rate.
9. Definitely, after completion of work, dry the interior of the machine. Make sure there are no effluents in the chamber with the containers.
- 10. Once a week all the tubes and precoating pumps should be cleaned with water. Make sure before that the water container is filled with water**

## 4.2 Periodic maintenance

Before performing any maintenance work, turn off the machine, disconnect it from the electricity and wait till it gets cold. Clean the carriage rails and the teflon holder once a month using WD40. To clean the carriage and teflon holder/slider, unscrew the fixing screw of the covering rail and remove it (pictures 1 – 2). After cleaning of the carriage rails, the teflon holder and the belt (zdjęcie 3) put the covering rail back and screw the fixing screw on. It is recommended to grease the main driver once a month using a brush and a waterproof grease, for example CX-80 (picture 4). It is also recommended to grease the contact screws which are situated under the base plates (picture 5). The chamber of the exhaust ventilator should be controlled once a month (pictures 6 – 7) and cleaned when necessary (picture 8).

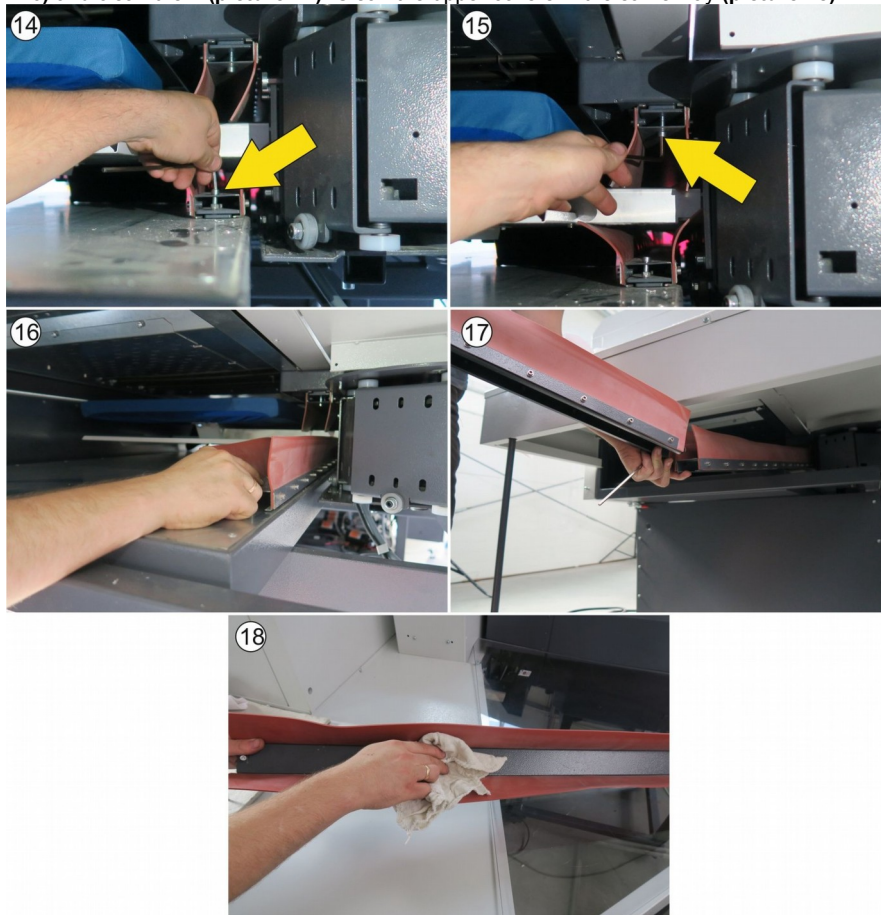


Once a month the separator has to be controlled and emptied when needed (pictures 9 – 10). The carriage's filter should be cleaned at least once a month (pictures 11 – 13).

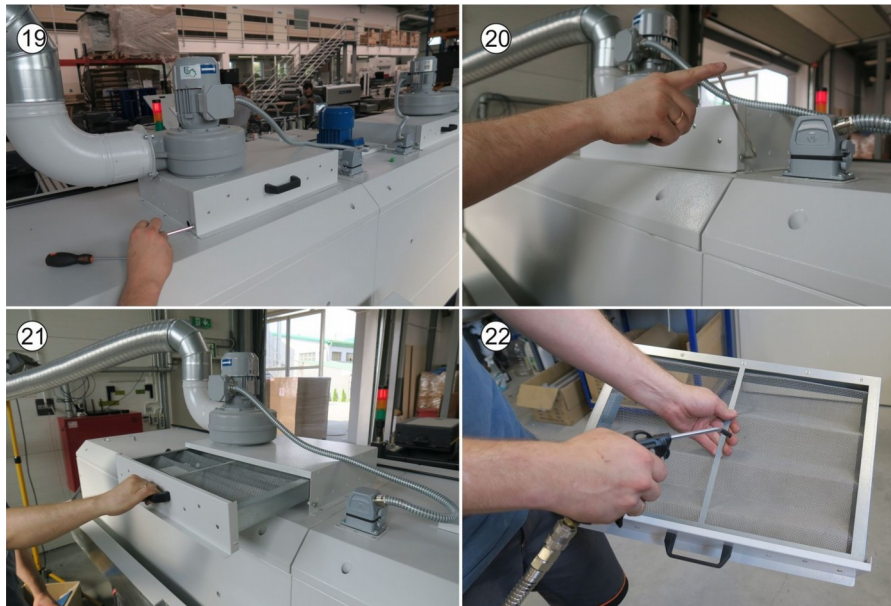




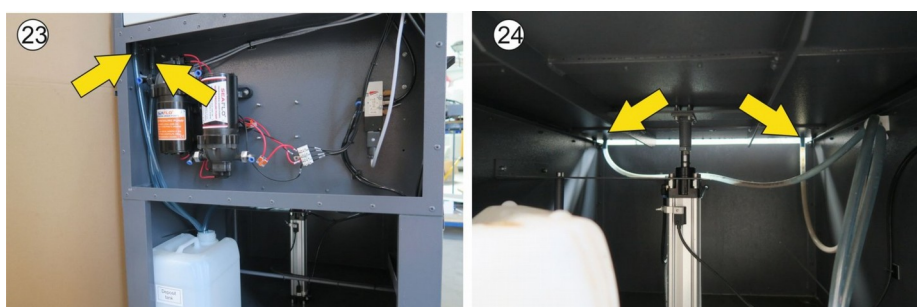
At least once a month (or more often, if dirty stains on the base plate's arms will appear) it is recommended to clean the silicone protective covers which are situated in the drying tunnel. Unscrew the fixation screw (picture 14) and take out the panels with silicone covers (pictures 15 – 16) and clean them (picture 17). Clean the upper covers in the same way (picture 18).



It is recommended to clean the Fan's filter every 6 months. Unscrew the mounting screws (pictures 19 – 20), remove the filter (picture 21) and clean with the compressed air (picture 22).

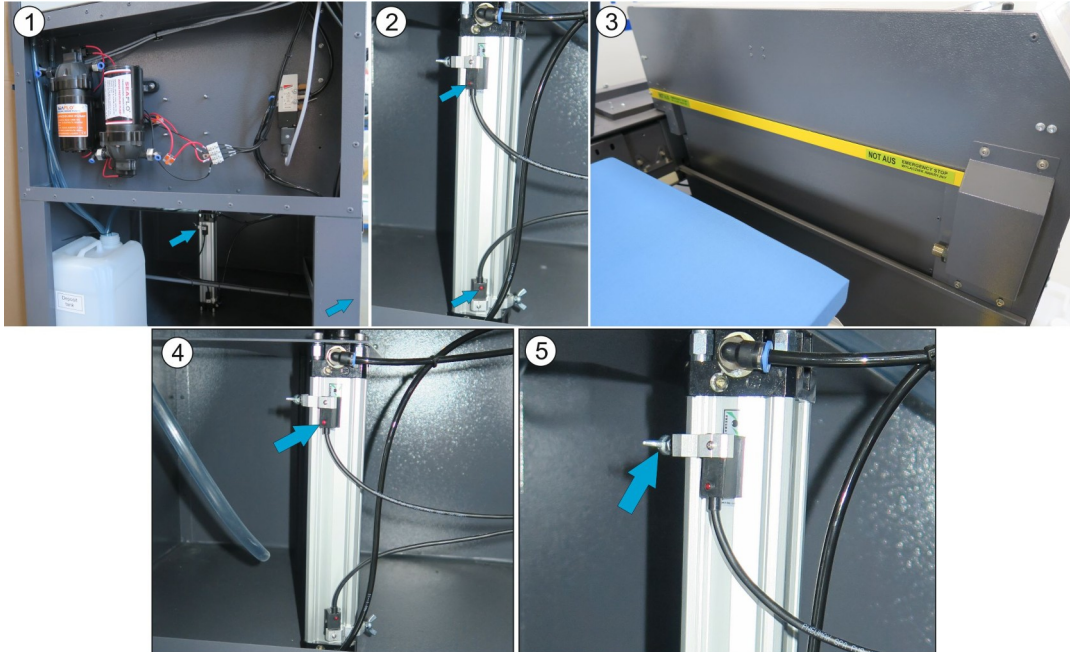


It is recommended to replace the tubes in the pretreatment station at least once a year (pictures 23-24).

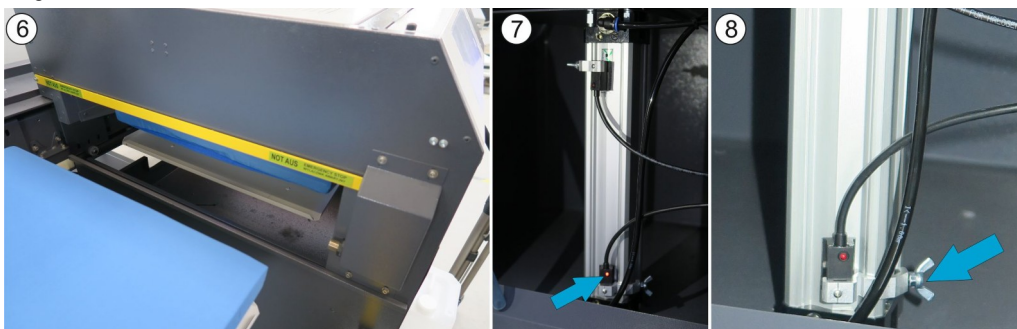


### 4.3 Side cover's sensors adjustment (pretreatment station)

The side cover's sensors are situated on the pneumatic cylinder in the lower part of the pretreatment station (**picture 1**). They are equipped with a diodes (**picture 2**). During normal operation, the upper diode should glow when the side cover is closed (**pictures 3-4**). When the base plate with a t-shirt will move to the pretreatment station, the application of precoatng will start automatically. If the side cover will not close, or the sensor will be moved or damaged, the application of precoatng will not start. If the side cover is closed, but the cycle does not start, the position of the upper sensor has to be adjusted. In order to do this, the fastening screw has to be loosen (**picture 5**). Move the sensor down, to the middle of the cylinder length and then move it up till the diode will glow. Then move the sensor for another 5 mm up and fasten it with a screw.



The lower diode should glow when the side cover is open (**pictures 6-7**). When the side cover will open, the base plates will move to the right. If the plates will not move after the side cover will open, the signal tower will light red and an error message will appear on the touchscreen (PRE 4 4-covers up time err – READY Move Tab), it has to be checked if the diode on the lower sensor glows. If not, the position of lower sensor has to be adjusted. In order to do this, the fastening screw has to be loosen (**picture 8**). Move the sensor down and then up till the diode glows. Then fasten the sensor with a screw.



### 4.4 Electronic RE72 settings

AIR	IR	PRASY
inP → intY - tY = K	inP → intY - Pt10 = Pt1000	inP → intY - Pt1 = Pt100
outP → t01 - 0,5	outP → t01 - 0,5	outP → t01 - 0,5
Pid → Pid1 - Pb - 8,0	Pid → Pid1 - Pb - 8,0	Pid → Pid1 - Pb - 8,0
t1 - 100	t1 - 100	t1 - 130
t2 - 0,2	t2 - 0,2	t2 - 7
intE → Addr - 10	intE → Addr - 11	intE → Addr - 12 13
bAud - 19,2	bAud - 19,2	bAud - 19,2
Prot - r8n1	Prot - r8n1	Prot - r8n1



## 4.5 Instructions for replacement, cleaning and storage of the nozzles

### Replacement:

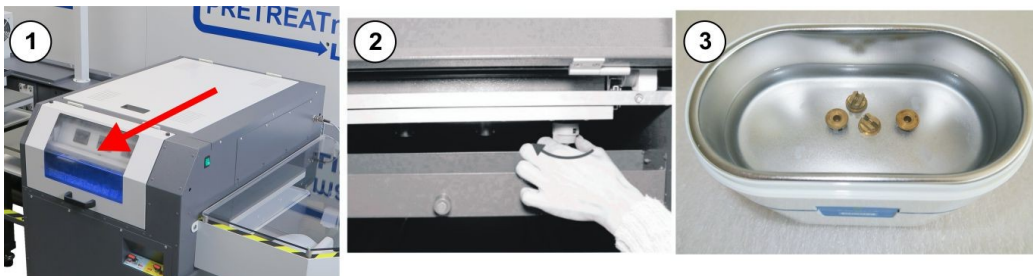
1. Open the front cover (picture 1).
2. Turn the nozzle left and then pull it out down (picture 2)
3. Place a new nozzle and fix it in the machine.

### Cleaning:

1. The nozzle may be cleaned in an ultrasonic cleaner (picture 3).
2. To clean the nozzles please use distilled water or jewelry cleaner.
3. Fill the cleaner with some water.
4. Put the nozzles into the cleaner
5. Turn it on for 7 minutes (max. 15 minutes).
6. After that please take them out to dry.

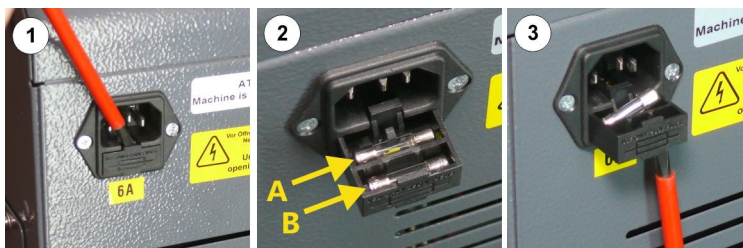
### Storage:

To storage the nozzles please use clean distilled water. Never leave the nozzles exposed to air when there are remains of precoating on the nozzles. Store the nozzles in clean, distilled water and clean them at least once a week.



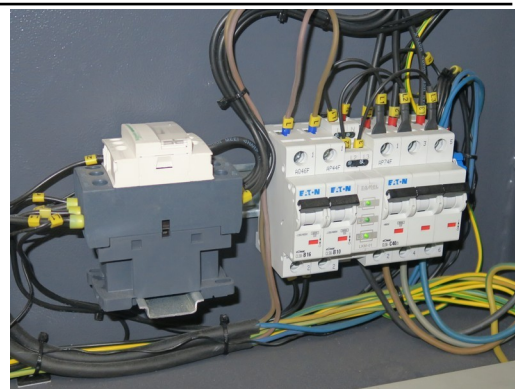
## 4.6 Instructions for replacement of the fuse in the pretreatment station

In case the machine is not working after it has been switched on, check the safety fuse. The safety fuse (6A) is located in the back side of the pretreatment station. In order to replace it, turn off the machine and pull out the power plug. Now open the holder with the fuses (picture 1). There are 2 fuses: fuse A and fuse B. Fuse A is connected to the machine – fuse B is a spare fuse. Remove both fuses from the holder (picture 3). Now insert fuse B in a place of the fuse A and close the fuse holder.



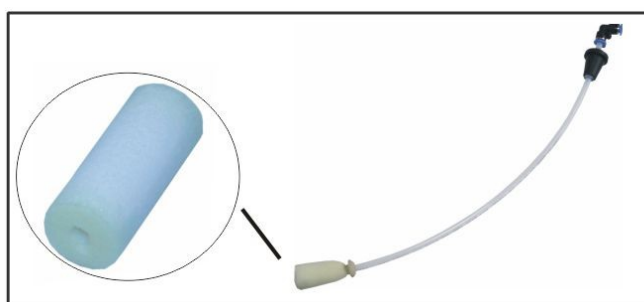
## 4.7 Activation of the main fuse

If the machine is not working after it has been switched on check the main fuse of the machine. The main fuse is situated in the control box. Open the cover of the control box and if needed switch the main fuse on (picture).



## 4.8 Instructions for replacement of the filter

If the precoating dosage is not smoothly carried out check the filter and if necessary – replace it. Open the side cover. The filters are in the containers with precoating. Remove the tube from the container and replace the filter.

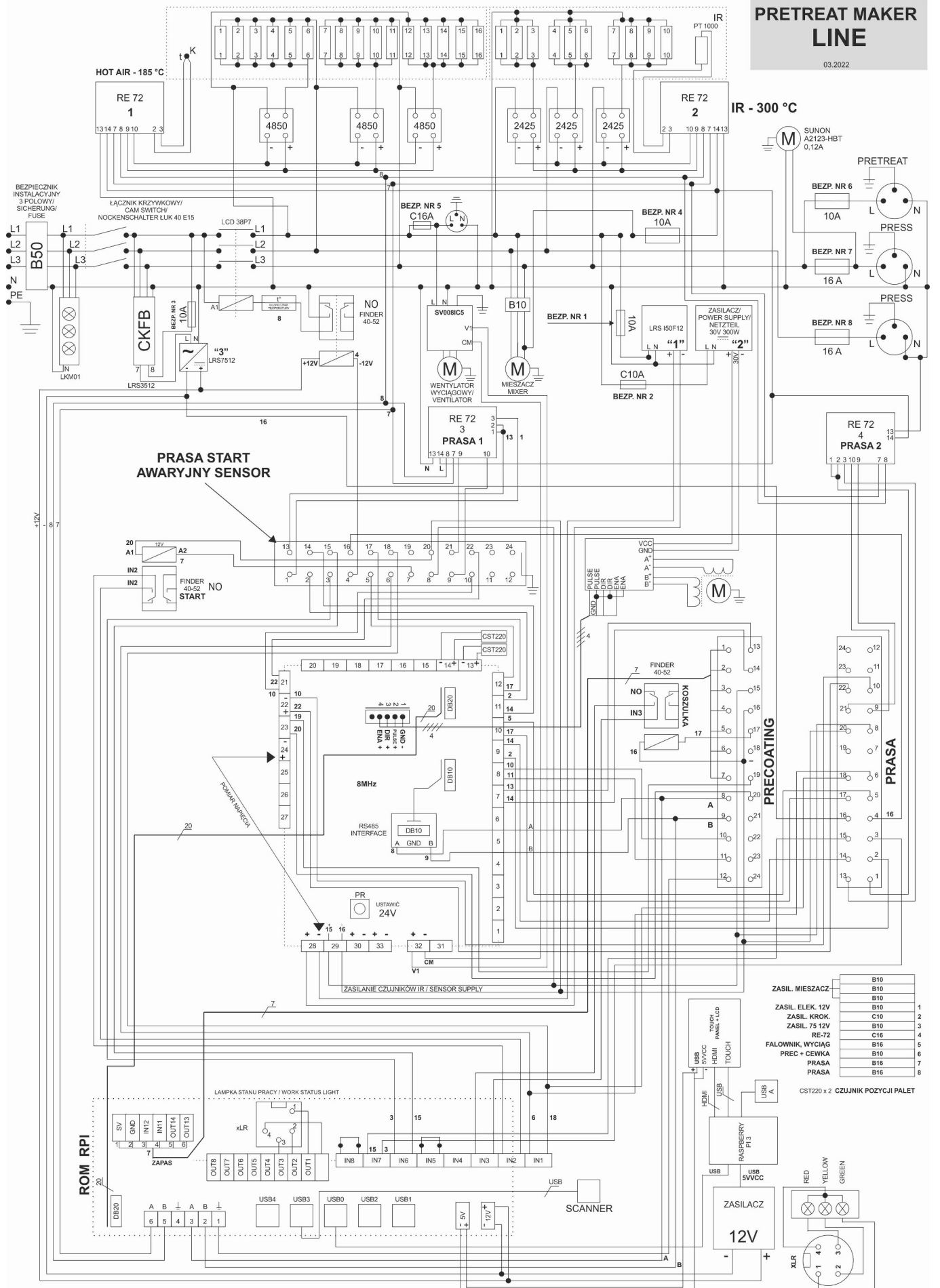




## 4.9 Troubleshooting

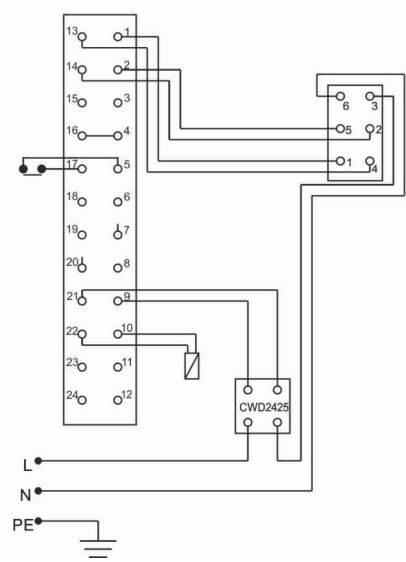
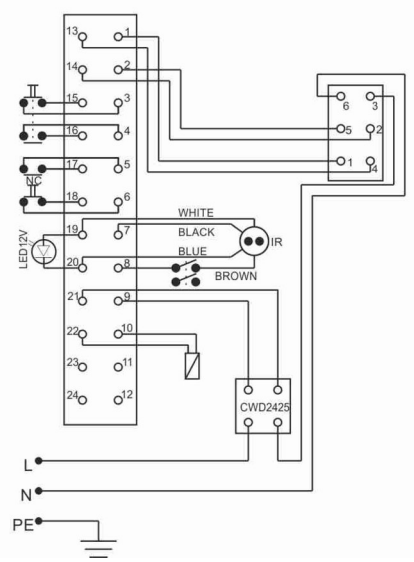
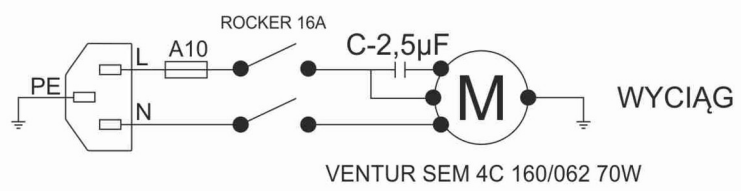
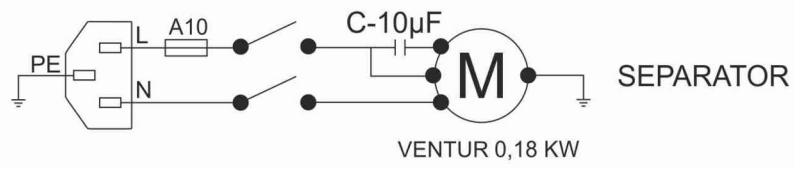
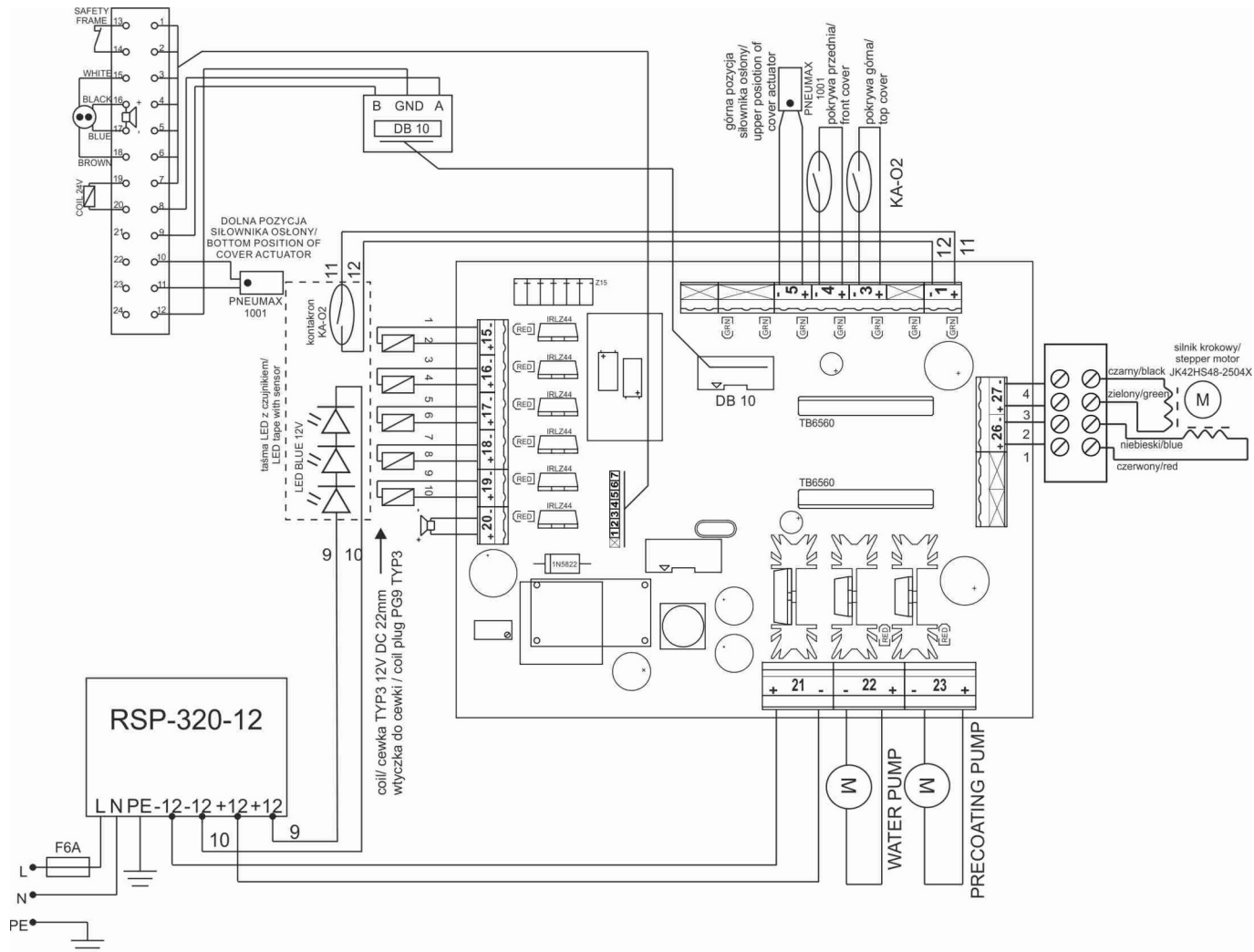
Problem	Possible reason	Solution
After pushing START button, machine does not continue to work. The signal lamp lights red. An error message „PRE4 4-covers up time err. - READY Move Tab” appears on the display.	Lower sensor of the pneumatic cylinder in the pretreatment station is moved or damaged.	Check if the diode on the sensor which is situated in the lower part of the pneumatic cylinder glows when the side cover of the pretreatment station is open. If it doesn't glow, the position of the lower sensor has to be adjusted (chapter 4.3 Side cover's sensors adjustment (pretreatment station))
After pushing START button, machine does not continue to work. The signal lamp lights red and there are no error messages on the display.	1. The upper or front cover of the pretreatment station is not closed properly.	Check if the machine's covers are closed properly.
	2. Upper sensor of the pneumatic cylinder in the pretreatment station is moved or damaged.	Check if the diode on the sensor which is situated in the upper part of the pneumatic cylinder glows when the side cover of the pretreatment station is closed. If it doesn't glow, the position of the upper sensor has to be adjusted (chapter 4.3 Side cover's sensors adjustment (pretreatment station))
	3. There is no pressure, or the pressure is too low	Change the pressure on the manometer, if it's too low – increase it, if it's appropriate – contact the service.
The movement of the machine is stopped. The power is cut. Signal lamp lights red. An error message: „LUM 0,1,2,3, ERROR Emergency input 3 active” appears on the display	Emergency stop switch is pushed.	Pull out the emergency stop switch and then start the cycle again by touching „ON” on the display and pushing the START button.
The movement of the machine is stopped. Signal lamp lights red. An error message „PRE4 13 safety circuit break – OFF Idle” appears on the display	Safety frame is activated	Reset the error codes by pushing the icon „OFF” and then „ON” on the display. Then push the START button.

# 4.10 Wiring diagram



- ZASIL. MIĘSZACZ: B10
- ZASIL. ELEK. 12V: B10
- ZASIL. KROK: B10
- ZASIL. 75 12V: C10
- FALOWNIK, WYCIĄG: B10
- PREC - CEWKIA: C16
- PRASA: B16
- PRASA: B16
- PRASA: B16

CST220 x 2 CZUJNIK POZYCJI PALET



## 4.11 Conformance declaration

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### CONFORMANCE DECLARATION

nr PRELINE/03/22/01

Manufacturer ROMANIK Andrzej Romanik ul. Przemysłowa 10 84-240 Reda, Poland hereby declares that the following machine:

PRETREATmaker Line 11-6  
PRETREATmaker Line 7-4



is compliant with the specifications of the followings EC directives:

Machinery (2006/42/EC)  
Low Voltage (2014/35/EU)  
EMC (2014/30/EU)  
Directive (2011/65/EU) and Directive (2015/863)

used norms and technical specifications:

PN-EN ISO 12100:2012  
PN-EN 60204-1:2018-12  
PN-EN 61000-6-1:2019-03  
PN-EN 61000-6-3:2008/A1:2012  
PN-EN ISO 13850:2016-03  
PN-EN IEC 6300:2019-01

Applied quality system: testing report / 2022

Reda, 21.03.2022

A handwritten signature in blue ink, appearing to read 'Andrzej Romanik', is placed over a faint circular stamp.

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Andrzej Romanik

Manufacturer:  
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84-240 Reda  
**Polen**

Distributor and representative:  
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Haberstraße 15 - 19  
12057 Berlin  
**Deutschland**  
**[www.schulzeshop.com](http://www.schulzeshop.com)**

Entity authorized to prepare technical documentation and declaration of conformity: ROMANIK Andrzej Romanik  
ul. Przemysłowa 10, 84-240 Reda, tel. 58 6780-700, e-mail: [sprzedaz@romanik.pl](mailto:sprzedaz@romanik.pl)

The technical construction file (TCF) for this product is retained at the above manufacturer's location.

The manufacturer reserves the right to make constructional and technological changes.