SAFE *CLEANBOX*

SERVICE MANUAL

MODEL: STK 110

CE

DISCLAIMER

BICARjet S.r.l. does not accept any liability for injury to persons or damage to property resulting from the misuse of this product or from failure to follow the directions, warnings, instructions and precautions reported in this user manual.

This user manual is provided in hardcopy format only and should always accompany the SAFE CleanBox device.

SAFE CleanBox is manufactured by:

BICARjet S.r.l.
Registered office - Via Nona Strada, 2 - 35129 Padova, Italy
VAT NUMBER: 03735720280

CONTENTS

1 GENERAL INFORMATION

SAFE CleanBox is a medical device intended for sterilization centres/laboratories for the pre-treatment of RMDs (Reusable Medical Devices) and is used for pre-washing RMDs prior to washing, disinfection and sterilization processes.
The process is similar in outcome to highly effective and efficient mechanical brushing, and involves the use of a jet of compressed air and granular sodium bicarbonate to remove residues from the surfaces of the RMDs without causing structural damage. The sodium bicarbonate used (SAFEKLINIC brand) is totally soluble and is not classified as dangerous for the environment or for the operator.
The system consists of a cabin similar in design to a "glove box" equipped with gloves to manipulate the instruments without these coming into direct contact with the operator's hands, and the operations are confined in a closed environment for the benefit of the operator's safety and comfort.
Inside the cabin are two handpieces, one for bicarbonate treatment with compressed air and water and the other for rinsing with compressed air and water. The push-button panel, located inside the cabin, makes the work easier by allowing the operator to use the main controls, such as opening the doors to move the baskets in and out of the cabin, without having to leave the station or removing their hands from the gloves.
The flanges on the front part of the cabin have been ergonomically designed for operator comfort and ease of use. They allow a wide range of action and a quick release system allows them to be removed easily in order to change the gloves in the event of a fault. The two handpieces are operated via a two pedal control that allows each handpiece to be operated independently. The cabin can be equipped with a motorized system for automatically loading and unloading the DIN baskets in which the instruments to be cleaned are placed.
THE EFFECTIVENESS OF REMOVAL OF RESIDUES/CONTAMINANTS FROM RMDS IS GUARANTEED ONLY AND EXCLUSIVELY THROUGH THE USE OF SODIUM BICARBONATE, ACCORDING TO THE INSTRUCTIONS GIVEN IN CHAPTER 3.2.4.

1.1 INTENDED USE

The intended use is the preparation of the RMD for the washing process in the instrument washer. The action is carried out by bringing a jet of compressed air and bicarbonate in contact with the object to be treated, in order to remove any contaminant from the surface without damaging it and increase the effectiveness of the subsequent phases. This operation is conceptually similar to manual brushing of the RMDs, normally carried out prior to washing, disinfection and/or sterilization processes.

1.2 CLASSIFICATION

Classification according to Regulation (EU) 2017/745 Annex VIII rule 13 class I.

CAUTION!

THE DEVICE IS INTENDED TO BE USED BY SPECIALLY TRAINED OPERATORS IN RMD RECONDITIONING CENTRES WITHIN OR OUTSIDE HOSPITALS, AND IN LABORATORIES USED FOR THE NON-ROUTINE MAINTENANCE OF RMDS.

1.3 SYMBOLS

In order to make the reading of this manual simple and clear, the symbols used as important warnings for the correct and safe use of the device are shown below.

	**Requirement for correct use** This symbol precedes information for the correct use of the device.
	**Information requirement** This symbol precedes useful and general information, which guides the user in the informed use of the device and/or the performance of actions.
	It indicates that the product has been designed and manufactured in compliance with the safety requirements of Regulation (EU) 2017/745 (Medical device class I and in compliance with classification rule 13 as indicated in Annex VIII).

1.4 PRELIMINARY WARNINGS

Failure to observe the following warnings and the rules and precautions described in this user manual will immediately void any warranty on the SAFE CleanBox device.
BICARjet S.r.l. is not liable for any injury to persons or damage to property resulting from failure to comply with the rules or precautions listed below and set out in general in this user manual.

The instructions or warnings are not intended to replace the accident prevention safety regulations, but to supplement them and encourage compliance with them.

The employer must train the personnel in the risks of accidents, in the use of personal protective equipment, in the risks of noise emissions and in the general accident prevention regulations provided for by international directives and by the legislation of the country of destination of the machinery. The operating, maintenance, cleaning and control personnel, etc. must therefore strictly comply with the accident prevention regulations of the country of destination of the machinery.

1.5 GENERAL SAFETY RECOMMENDATIONS:

BICARjet® S.r.l. has made every effort to design the **SAFE CleanBox** machine and to make it as **INTRINSICALLY SAFE** as possible.

The manufacturer has also equipped the machine with all the protective and safety devices considered necessary. Finally, it has provided enough information for it to be used safely and correctly.

In each chapter, the following information is provided for all human-machine interaction whenever necessary:

- The operator's minimum qualification required;
- The number of operators needed;
- The status of the system;
- The residual risks;
- The Personal Protective Equipment required or recommended;
- The prevention of human error;
- The prohibitions/obligations regarding reasonably foreseeable non-intended use/behaviour.

The user can integrate the information provided by the manufacturer with additional instructions to increase safety in using the system. Clearly this should not include information that contradicts information given in this instruction manual.

For instance, it is important to pay attention to the clothing of any person operating on the system:

- Do not wear loose clothing that could get caught on parts of the system;
- Do not wear ties or other loose garments;
- Do not wear bulky rings or bracelets that could get caught on parts of the system.

Whenever necessary, further recommendations for use will be provided in the Manual with regard to preventive measures, personal protective equipment, the prevention of human error and any reasonably foreseeable prohibited behaviour.

It is, however, essential to follow the instructions below carefully:

- It is strictly forbidden to operate the single machines that make up the system automatically with the fixed and/or movable guards removed;
- It is strictly forbidden to inhibit the safety devices installed on the system;
- The low safety operations must be carried out strictly in accordance with the instructions given in the relevant descriptions;
- Any protective devices of the system removed for the purpose of low safety operations must be put back in place as soon as possible;
- The washing operations must be carried out with the electrical and compressed air separation devices disconnected;
- Do not alter parts of the system for any reason; in the event of malfunction due to non-compliance with the above, the manufacturer cannot be held liable for the consequences. We recommend that you contact the manufacturer directly to request any alterations;
- Clean the casing of the machines, the panels and the controls with soft cloths that are dry or have been dampened with a mild detergent solution; do not use any type of solvent, such as alcohol or petrol, as the surfaces may be damaged;
- Position the machines following the instructions given at the time of order and referring to the diagrams provided by the manufacturer; if this is not done, the manufacturer cannot be held liable for any issues.

The safety officer of the company that owns the machine is required to ensure that the following safety warnings are read and understood correctly. The warnings below are divided into:

Safety obligations concerning general and organizational safety indications.

Warnings that apply to and must be known **by all personnel**. Intended for operation with or near the installation;

Warnings for operators with instructions which the operators of the installation must observe to ensure use of the machine without endangering their own safety or that of other operators or of property.

Everyone who, for whatever reason, finds themselves working in the work area of the machine, must read and understand the safety warnings.

Unauthorized tampering/replacement of one or more parts or units of the machine, the use of accessories, tools, consumables other than the original ones or in any case those recommended by the manufacturer, may represent a risk of injury and relieve the manufacturer from civil and criminal liability. The machine has been designed in such a way that all safety devices do not pose any risk for the operator.

The operator is strictly forbidden to alter the technical or physical characteristics of the equipment or to use it for purposes other than those foreseen and documented.

The machine must always be used according to the standards of good practice and the law in force in each country, even if the country of use does not have specific regulations that apply to the specific sector.

The manufacturer **BICARjet® S.r.l.** may be consulted regarding the possibility of carrying out non-routine work cycles not expressly provided for; in which case, the manufacturer will make its resources and expertise available to the customer.

In the case of any use other than that envisaged in the order and tested during the acceptance test, to which the machine may be put during its operating life, the user and/or operator is held solely responsible for any failures, environmental damage and harm to persons and property.

Environmental conditions and careful routine maintenance play a particularly important role for the correct and reliable operation of the machine.

There must be no harmful or chemically aggressive and/or explosive vapours and/or gases in the environment, and no infiltration of dust the extent and quality of which could be harmful to the operator or to the machine.

Cleaning the area around the machine is crucial to safety.

Dust and fragments of the product being processed or other residues can make the floor slippery, creating dangerous conditions.

Both the worktops and the floor must be cleaned regularly, using suitable equipment to remove dust, fragments and residues and any kind of foreign bodies.

It should always be borne in mind that the use of any machine can pose an element of risk.

Always focus all your attention on what you are doing.

It is essential to always take all due care and be alert at all times.

A person who experiences any discomfort or physical malaise, even slight, which can reduce their degree of vigilance, must avoid starting the machine or using the aggregate or accessory equipment. The operator must avoid unsafe operations not foreseen by the work in progress, which could compromise their own balance.

The operator is advised to use clothing suitable for the work environment and the situation concerned.

If necessary, the operator is advised to use protective glasses and personal hearing protection.

The person in charge of the machine or maintenance must avoid wearing chains, bracelets and rings and use a net to hold back long hair.

With regard to personal protective equipment, the European Community has issued directives 89/686/EEC and 89/656/EEC.

Variations with respect to normal operation (increase in power absorption, temperature, vibrations, noise or signals from the safety system) are clear indications of incorrect operation.

To prevent malfunctions, which can directly or indirectly cause serious damage to people or property, the maintenance personnel must be informed as a matter of urgency. Any maintenance on the hydraulic and compressed air systems must be carried out only after having released the pressure inside the systems themselves.

To resolve any cause of failure or inconvenience inherent in any element of the machine, take all suitable precautions to prevent any possible damage to people and property.

1.6 RECOMMENDATIONS REGARDING LIGHTING AND VENTILATION OF THE PREMISES

The customer must ensure ambient lighting to avoid the presence of shaded areas and risk of annoying glare. The lighting must be adequate for the planned operations.

Lack of lighting could pose risks.

An optimal ventilation of the premises must also be guaranteed, with the possible use, if foreseen, of an appropriate suction system.

1.7 CONNECTIONS

1.7.1 ELECTRICAL CONNECTION

Electrical supply: **220** V **50** Hz **16**A

Power: **3.2** kW

Please observe the general rules for the preparation and installation of electrical systems: the earthing system must meet the specific characteristics defined by the CEI 64-8 standard.

Installation and electrical connections must only be carried out by qualified personnel.

The earth connection must also be made for low voltage systems located in normally wet or very humid places (if the voltage exceeds 25V to earth for alternating current and 50V to earth for direct current).

The earthing for protection of all parts of the system and all the earthing for operation of the circuits and appliances must be carried out by connecting the relevant parts to a single earthing system. Check that the materials used for the earthing system are sufficiently strong or have adequate mechanical protection.

Make the shortest possible connection to the main earth and ensure that the earth conductors are not subjected to mechanical stress or to the danger of corrosion.

1.7.2 COMPRESSED AIR CONNECTION

Air supply: 6 (min) to 10 (max) bar

Power line: DN 15 mm (1/2”)

The supply air must be dehydrated, de-dusted and free from lubricating oils.

1.7.3 WATER CONNECTION

Water supply: 3 (min) bar

Power line: DN 15 mm (1/2”)

1.7.4 DRAIN CONNECTION

Connection to the non-hazardous industrial waste water drainage system according to *Annex V part III of Legislative Decree no. 152/06*

Wall drainage line: Ø 40 mm

1.8 SAFETY DEVICES

	FAILURE OR NEGLIGENCE IN COMPLYING WITH THE FOLLOWING INSTRUCTIONS MAY CAUSE THE DEVICE TO MALFUNCTION, CAUSE DAMAGE OR INJURY TO THE USER
	IN ORDER TO PREVENT THE RISK OF ELECTRIC SHOCK, ONLY CONNECT THE DEVICE TO GROUNDED SOCKETS
	DO NOT USE THE DEVICE UNTIL YOU HAVE READ AND UNDERSTOOD THIS USER MANUAL IN ITS ENTIRETY
	DO NOT MODIFY THE DEVICE AND/OR ITS PARTS
	USE OF THE DEVICE FOR PURPOSES OTHER THAN THOSE INDICATED IN THIS USER MANUAL COULD EXPOSE THE USER TO DANGER

The **BICARjet® S.r.l.** lines have been designed and built to ensure safe and efficient operation. Despite this, some anomalous conditions of use (for example non-compliance with the technical parameters required for the use of the machine and/or non-compliance with the enclosed instructions) can cause danger for the operator and the machine itself.

The user and/or operator must carefully prepare the most suitable environmental structures to ensure the highest general operational safety for the operator, the machine and the environment.

All the normal precautions dictated by the rules of good practice and common sense must necessarily be considered and applied to protect the users themselves.

The machine is equipped with a series of safety devices designed to ensure the safety of the operator and of the system itself.

For the protection of operators, the following are envisaged:

1) work cabin to isolate the spray area from the work environment;

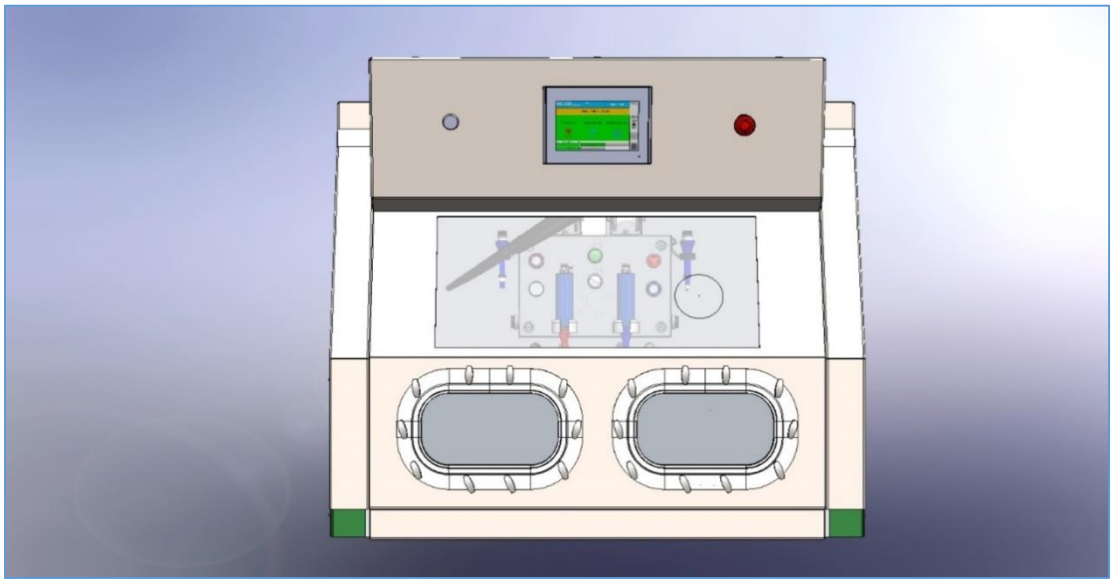


Fig. Work cabin

2) the mushroom-type emergency button, which is present both on the control panel inside the cabin and on the front of the cabin itself, which instantly interrupts the work cycle.

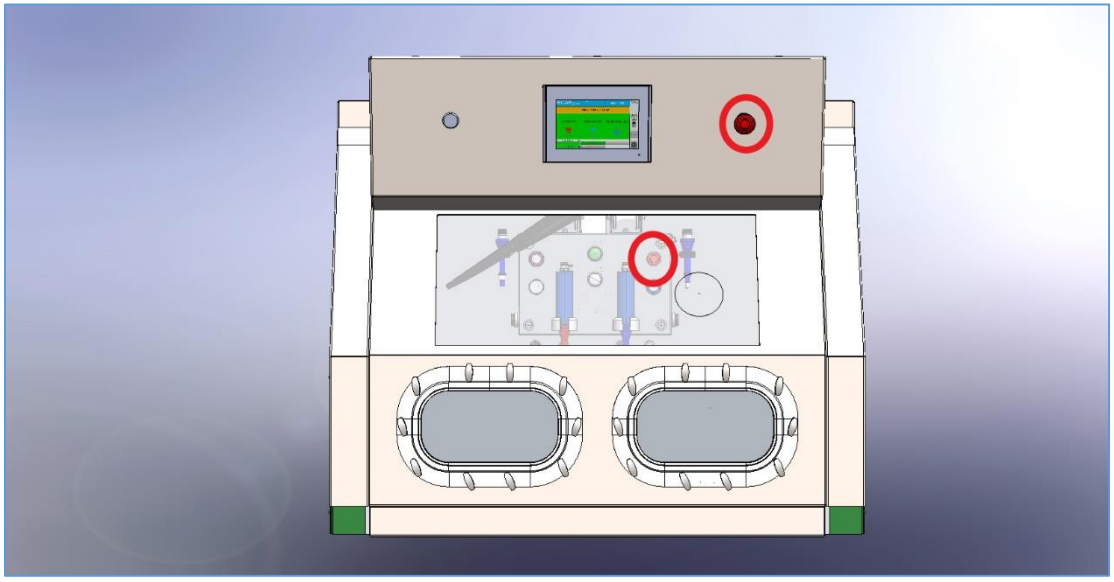


Fig. Emergency buttons

3) Sensitive edges stop movement of the doors instantly when closing if they encounter an obstacle. The slowness of movement also represents a source of safety as it allows the operator, who operates the doors, to stop them in time himself.

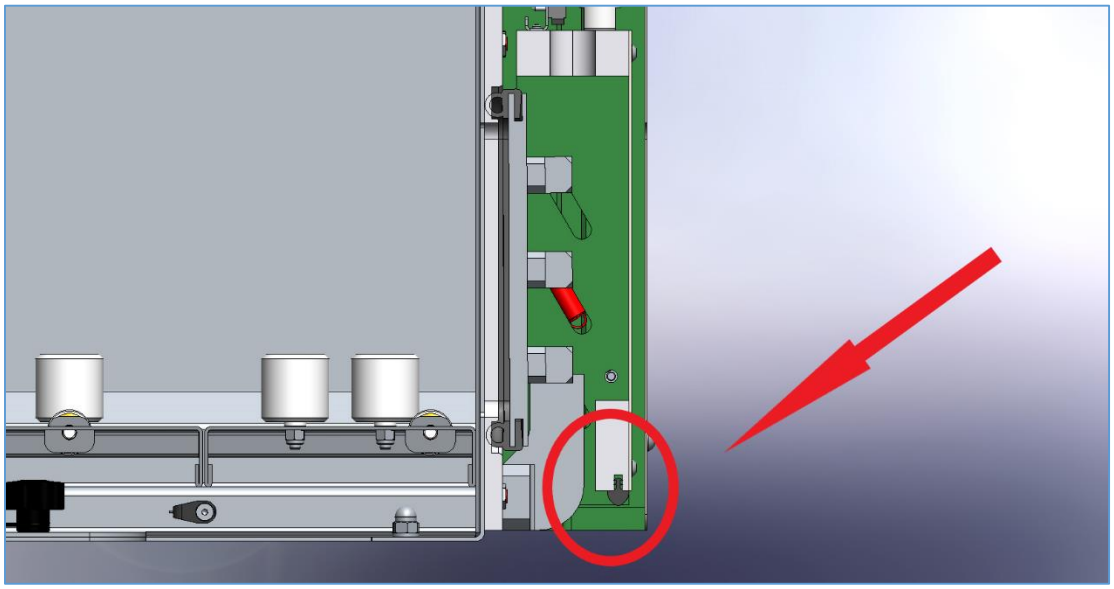


Fig. Sensitive edge

4) Visual indicators on the push-button panel inside the cabin with the following meaning:

- **FLASHING GREEN LIGHT (1), BLUE LIGHT (2) and BLUE BUTTON (3):** machine ready and waiting
- **RED BUTTON ON (4):** machine in lockout and alarm signal on the HMI panel

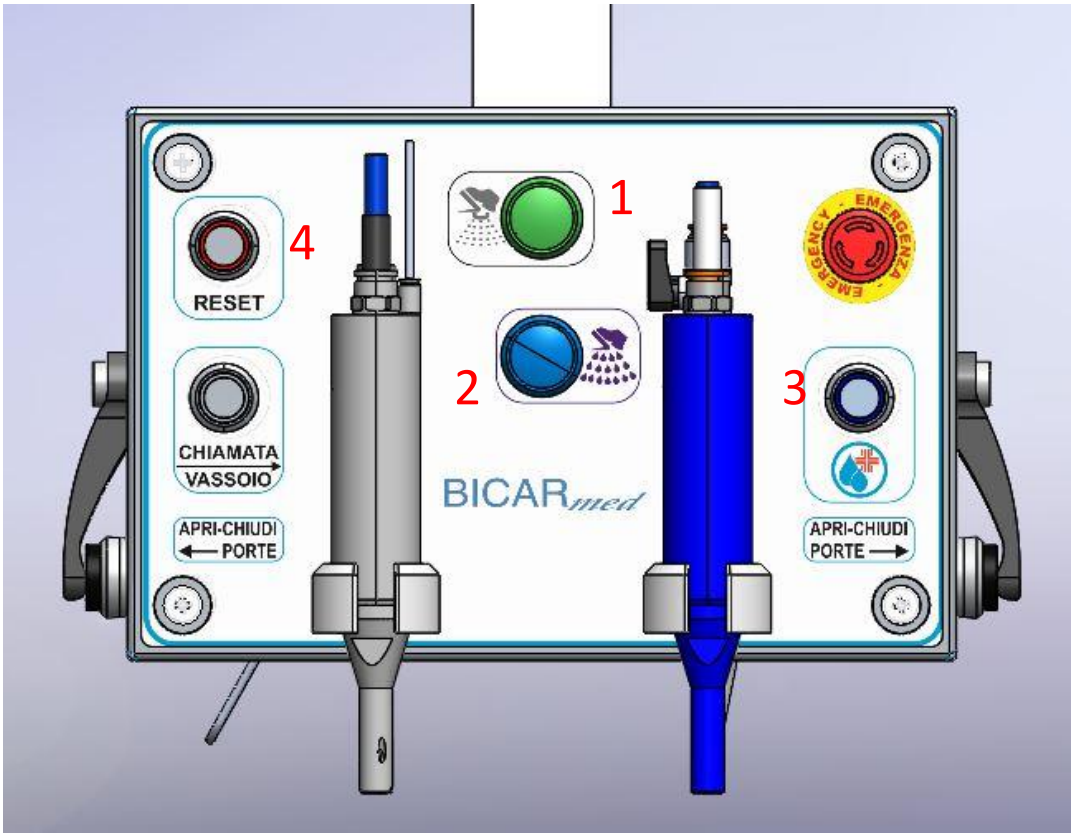


Fig. Visual indicators with alarm

5) the pedals that activate the functions of the device when pressed, but once released, instantly stop the spray in the cabin.

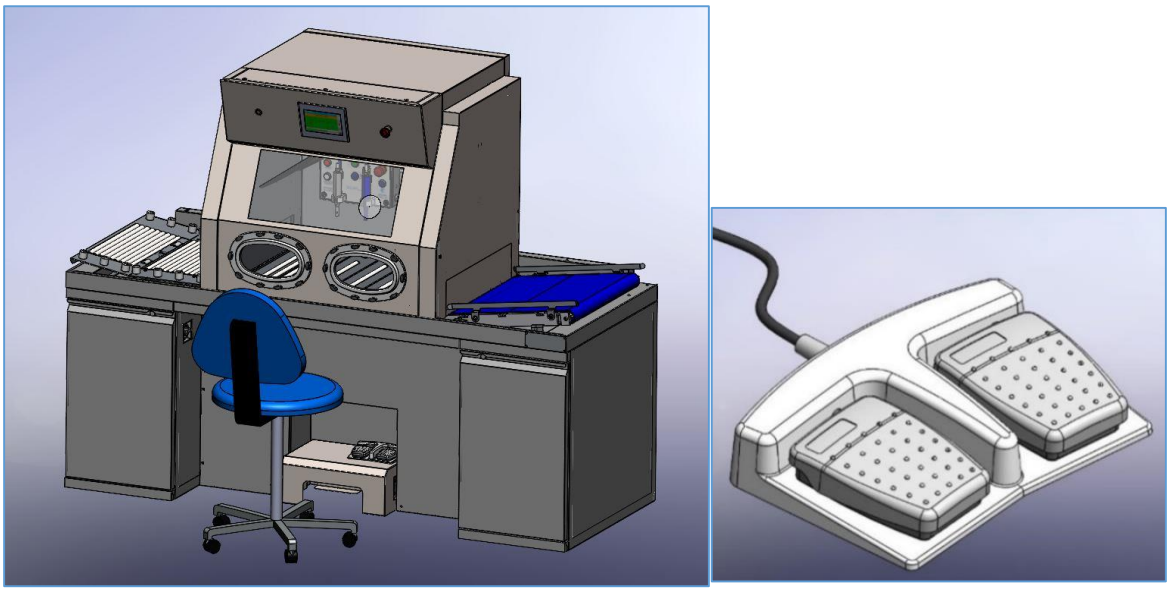


Fig. Pedal

6) the door sensors (integrated in the actuators that move the doors), which only allow the cabin to be used when the doors are closed, stop the operation of the cabin if the doors are opened and trigger an acoustic and visual warning signal on the HMI panel.

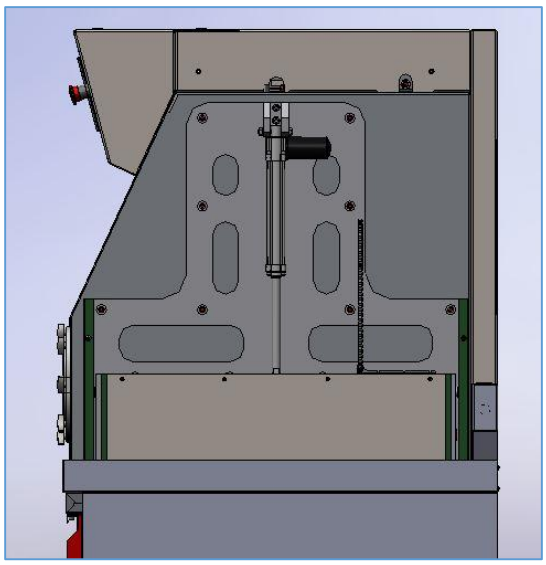


Fig. Door closing device

7) Safety signs on the machine

1.9 COMPOSITION OF THE DEVICE

	THE USE OF ITEMS THAT ARE NOT PART OF THE SYSTEM DESCRIBED ABOVE OR NOT SUPPLIED WITH THE DEVICE MAY JEOPARDIZE ITS SAFETY AND PERFORMANCE.
	If not all the items listed have been received, contact the manufacturer immediately

The **SAFE CleanBox** device for cleaning metal surgical instruments manufactured by BICARjet® S.r.l. and hereinafter referred to simply as the **SAFE CleanBox**, integrates a number of elements including:

- A washing cabin
- **SAFEKLINIC®** Bicarbonate System
- Drainage system
- Tray loaders (optional kit)

The **SAFE CleanBox** is designed for the specific cleaning of various types of **metal surgical instruments** by means of a mixture of air and pressurized water enriched with abrasive particles consisting of **SAFEKLINIC®** synthetic sodium bicarbonate.

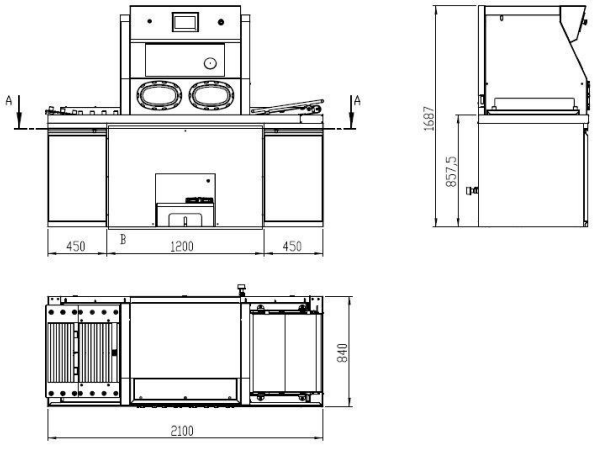
The **SAFE CleanBox** machine consists of a bicarbonate feed unit that uses pressurized air and water to supply a suitably mixed solution of **SAFEKLINIC®** synthetic sodium bicarbonate in suspension, via suction, for cleaning the instruments in the cabin.

This unit consists of a number of pneumatic components that allow the bicarbonate to be sprayed in an optimised and controlled manner.

The central element is the **SAFE CleanBox** washing cabin, which directs the flow of bicarbonate under pressure without contaminating the surrounding environment with bicarbonate dust and any residues that may have been removed. This unit is fitted with two vertically opening doors that can be opened to put in and take out the trays containing the instruments to be cleaned. The cabin is fitted with a glass panel that allows the operator to monitor the work in progress and two full-arm, sealed gloves that allow operators to insert their hands from the outside and carry out the operations necessary for cleaning the instruments. Inside the cabin, there is a special handpiece, from which the pressurised air-water-bicarbonate mixture comes out, and a second handpiece from which a jet of water comes out to facilitate cleaning and the removal of excess bicarbonate. The by-product from cleaning, consisting of bicarbonate and removed residues, is collected in a sealed tank under the cabin and is extracted directly. The third element of the line is the collection and drainage system for the collection and evacuation of dust and water mist present inside the cabin. Dust and mist are extracted from the cabin by the forced ventilation system and conveyed to this unit where the dust is slowed down and transferred to a collection container, and the air is filtered and expelled by the filter. The powder in the collection container is mixed with a jet of water and expelled automatically via an independent pump that conveys the processing residues directly into the sewer system.

The **SAFE CleanBox** machine is fitted with a control panel located in the lower compartment on the left of the machine. It is mounted on a series of guides for easier maintenance. The operating modes are controlled via a touch screen located above the cabin. Inside it, and therefore within direct reach of the operator with gloves on, some commands and signals are sent back to control the operating conditions, including the red mushroom-head emergency stop button. The two handpieces are operated by a double pedal unit on the floor under the cabin. There is also an emergency button outside the cabin near the touch-screen.

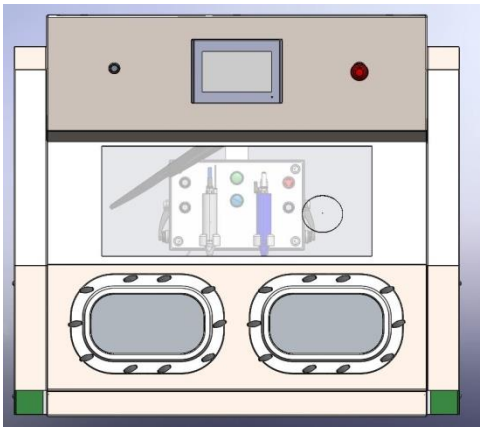
SAFE CleanBox STK110

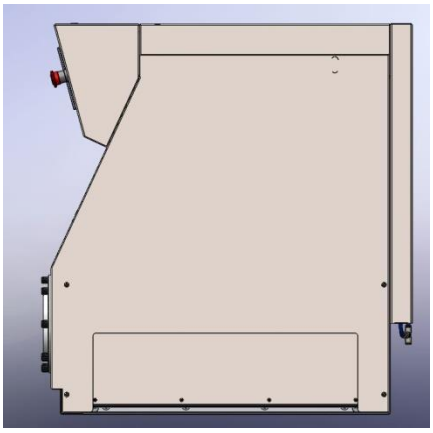


Dimensions: 2100x840 h=1772 mm

Weight: 600 kg

WASHING CABIN

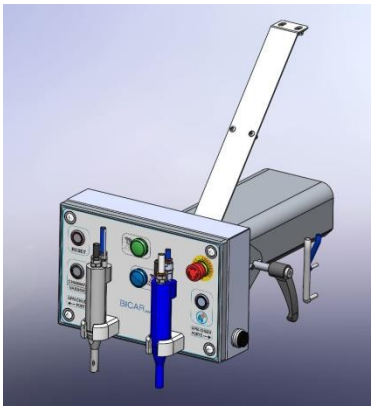


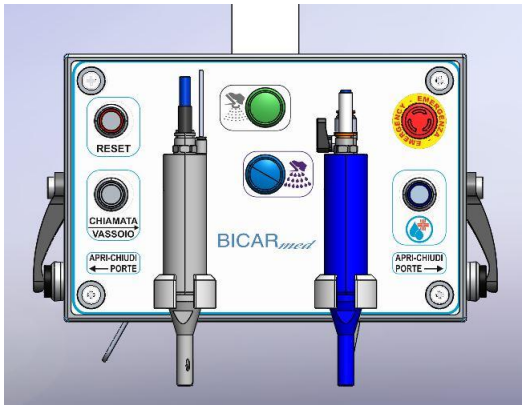


Dimensions: 988x832 h=890 mm

Weight: 100 Kg

INTERNAL PUSH-BUTTON PANEL

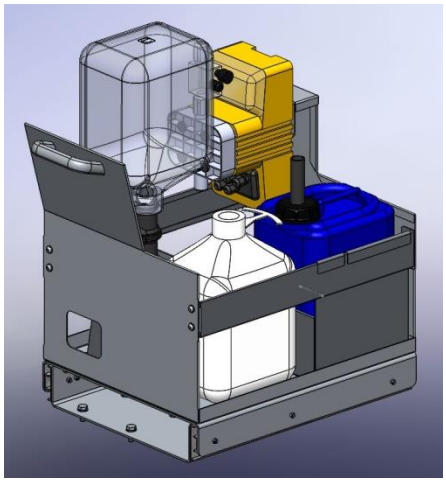


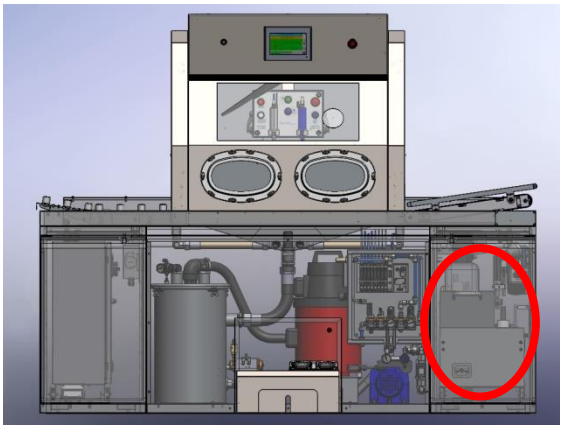


Dimensions: 396x97 h 316 mm

Weight: 5 kg

BICARBONATE SYSTEM

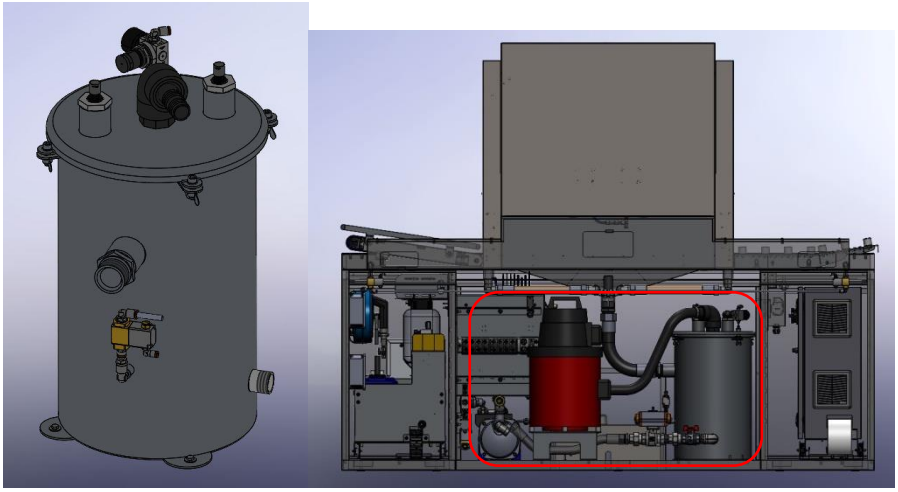




Dimensions: 353x212 h=541 mm

Weight: 20 kg

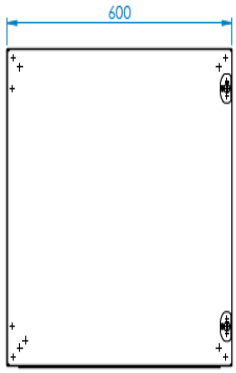
DRAINAGE SYSTEM

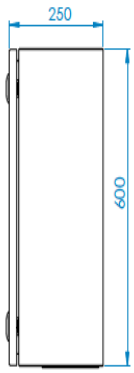


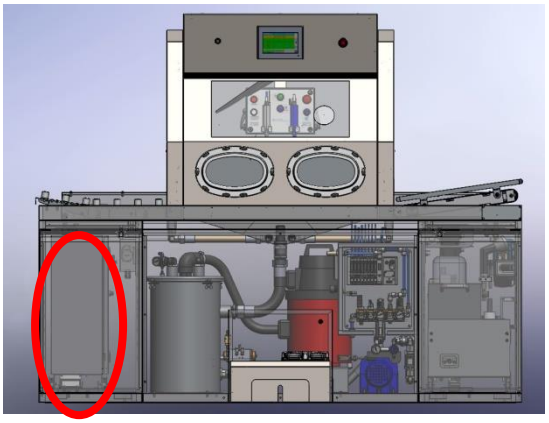
Dimensions: 435x605 mm

Weight: 10 kg

ELECTRICAL PANEL



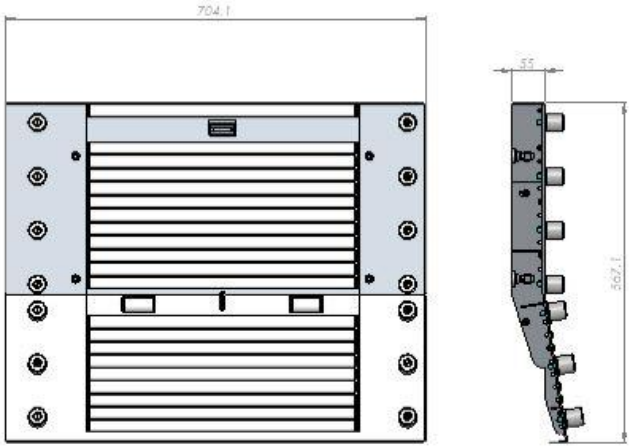


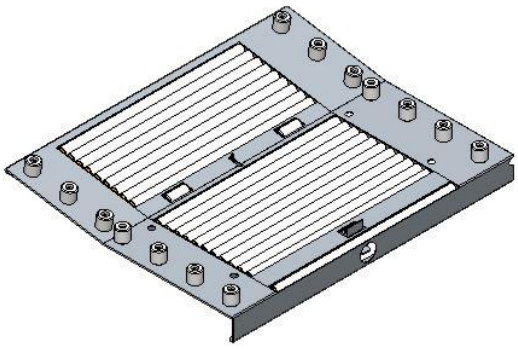


Dimensions: 600x250 mm

Weight: 35 kg

INFEED ROLLER CONVEYOR

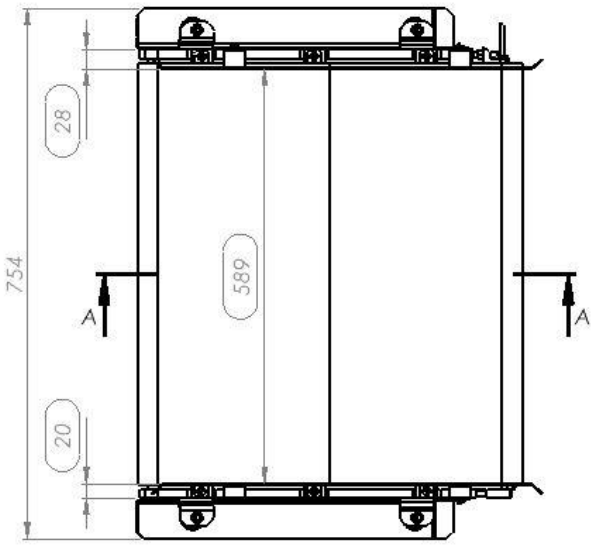


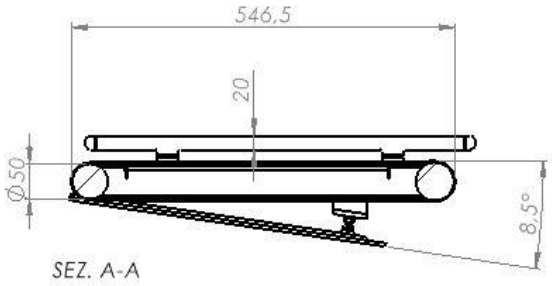


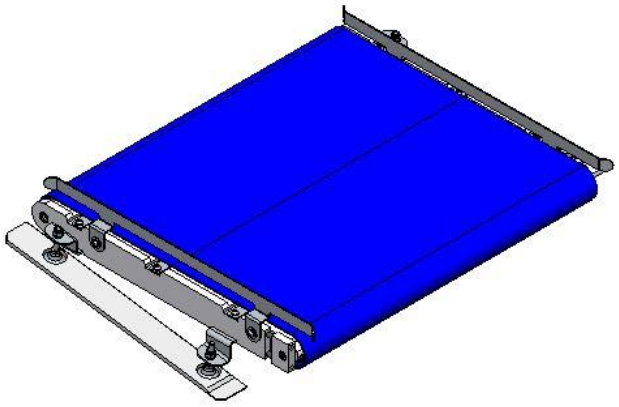
Dimensions: 704x567 h 94 mm

Weight: 6 kg (each)

CONVEYOR BELT







Dimensions: 754x550 h 157 mm

Weight: 29 kg (each)

SAFEKLINIC®
The inert product **SAFEKLINIC®** (bicarbonate) does not pose any danger to humans and the environment; it is advisable, however, to observe the following recommendations. During use and loading, unloading and cleaning of both the pieces to be cleaned and the aggregates and processing residues.

2 INSTALLATION

⚠	THE DEVICE MUST BE INSTALLED ONLY BY SPECIALIZED TECHNICAL PERSONNEL DULY TRAINED AND AUTHORIZED BY THE MANUFACTURER
⚠	DO NOT POSITION THE DEVICE IN SUCH A WAY THAT IT IS DIFFICULT TO UNPLUG FROM THE POWER SOCKET OR ACTIVATE THE CIRCUIT BREAKER
⚠	ENSURE THAT THE USE ENVIRONMENT MEETS THE REQUIREMENTS SET OUT IN THE "ELECTROMAGNETIC COMPATIBILITY" CHAPTER BELOW

Installation must be entrusted solely to qualified personnel:

those persons who have completed specialization courses, training courses, etc., and have experience in installing, commissioning and servicing, repairing and transporting machines produced by **BICARjet®**. Qualified technician: person able to operate the system under normal conditions and in charge of all electrical adjustments, maintenance and repairs. This technician can operate on live parts in electrical switchboards and junction boxes.

1) LAYING ON THE GROUND:

Place the machine on a flat and even surface according to the requirements at the workplace, to ensure correct horizontal positioning of the cabin.

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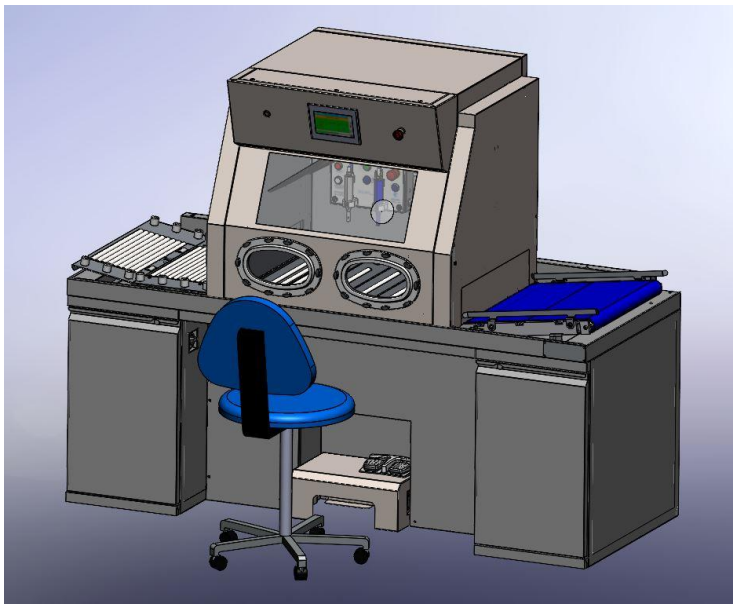
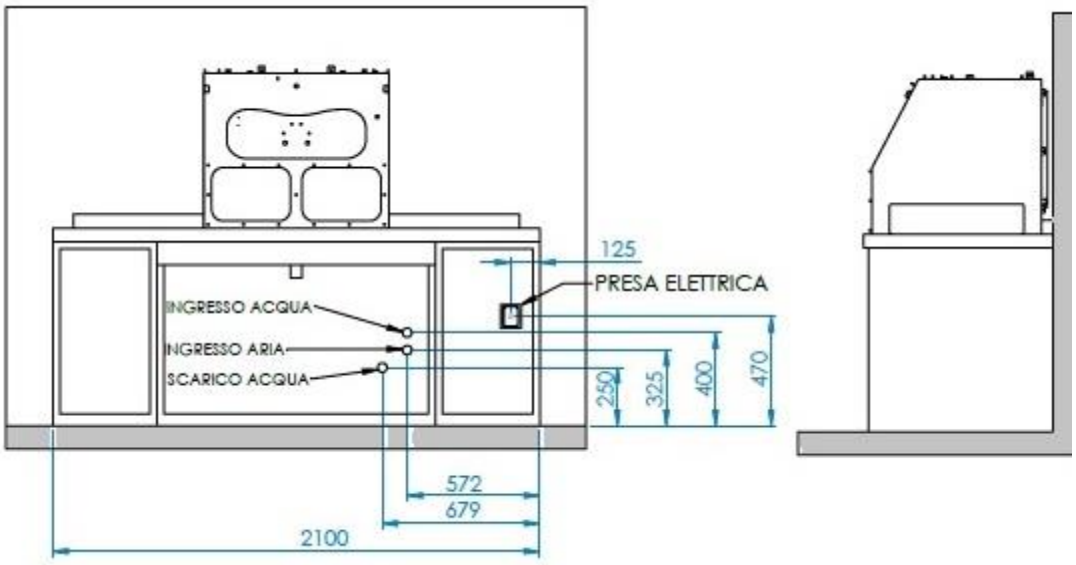


2) CONNECTIONS:



- **ELECTRICAL**

Connect the electrical socket to the **230** V **50** Hz **16** A mains panel.

- **AIR**

Connect the compressed air delivery hose to the mains supply unit with quick coupling. DN 15 mm (1/2”)

- **WATER**

Connect the water delivery hose to the mains supply unit with quick coupling. DN 15 mm (1/2”)

- **DRAIN**

Connect the Ø40 mm drain hose between the centrifugal pump and the drain line. It is essential to always ask the local health authorities for the current rules on drains at the place of use. The draining, retention and storage of part or all of the processing residues, whether liquid and/or solid, is at the complete care and responsibility of the user.

2.1 LIFTING AND TRANSPORT

The machine is packed inside a wooden crate.

Handling must be carried out with a forklift truck or transpallet.

Slings must NOT be used for lifting.

After opening the box, the machine must be lifted with special equipment designed for moving furniture.
Model FM 60 –FERPLAST- included.

The machine can therefore be moved using suitable lifting equipment or by placing two trolleys / sliding blocks under the bench, at the junctions between the central and side sections.

These devices must be returned to Bicarjet after installation.

2.2 SET-UP OF USE ENVIRONMENT

The following operations are the responsibility of the **user**:

1. identification of the work area of the system and preparation before installation in such a way as to optimise the ergonomics and safety of the workplace. In particular, it is recommended to leave enough space around the work and passage areas to allow easy loading/unloading, maintenance and adjustment operations. Furthermore, the following general requirements should be taken into account when identifying the work area:

- Place covered and protected from rain or bad weather.
- Protection from splashes, humidity and direct sunlight.
- Connected, smooth, flat and resistant floor.
- Ambient temperature between +5 and +40 °C.
- Ambient relative humidity between 20 and 80%.
- Well-ventilated room.
- Place away from electrical systems and free from objects that could be damaged, as well as free from other people.
- When choosing the place of installation, consider the type of lighting; this must be diffused and not reflect off the glass of the window of the cabin, causing glare.

2. Any ducts for the passage of:

- electrical cables;
- hoses for the supply of compressed air;
- any centralized drainage systems;
- near the power supply unit and the electrical panel of the machine.

3. Wiring for the supply of electrical power and compressed air, up to the control panel and with power rating matching that on the data plate provided by **BICARjet® S.r.l.**, including earth connection.
- Cordon off the work area to prevent unauthorized access.

2.3 PREPARATION FOR INSTALLATION

There must be sufficient space for manoeuvring the means of transport and for lifting of the device, in order to guarantee the safety of the operators entrusted with installation.

2.3.1 PREPARATION OF THE ELECTRICAL SYSTEM

The following are the responsibility of the **specialized technical staff**:

Electrical supply: **230** V **50** Hz **16** A

Power: **3.2** kW

The connection to the electrical supply network must be carried out by specialized and qualified personnel in accordance with the wiring diagram and the provisions of the Laws and/or Technical Standards in force pertaining to safety in the workplace and electrical systems. Appropriate safety devices must be provided for its operation in line with those required in the area of safety in the workplace.

To ensure a sufficient level of safety, please observe the general rules for the preparation and installation of electrical systems: the earthing system must meet the specific characteristics defined by the CEI 64-8 standard.

2.3.2 PREPARATION OF THE COMPRESSED AIR SYSTEM

Air supply: **6** (min) bar / **10** (max) bar

Power line: DN 15 mm (1/2”)

The supply air must be filtered to min. 50 microns, and must be dehydrated and free of dust and lubricating oils.

It should be possible to switch off the power supply socket by inserting a manual closing lever.

2.3.3 PREPARATION OF THE WATER SYSTEM

Water supply: 3 (min) bar

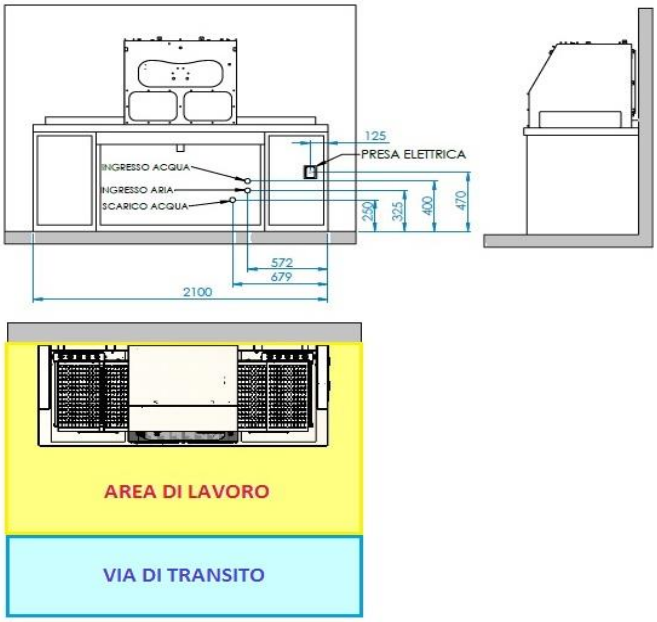
Power line: DN 15 mm (1/2”)

2.3.4 PREPARATION OF THE DRAINAGE SYSTEM

Connection to the non-hazardous industrial waste water drainage system according to *Annex V part III of Legislative Decree no. 152/06*

Wall drainage line: Ø40 mm

2.3.5 PREPARATION OF THE WORK AREA



In order to guarantee maximum safety, it is necessary to identify with horizontal signs the areas not to be accessed by exposed people, the loading and unloading areas, and the work area for the operator as indicated in the layout drawing.

2.4 COMMISSIONING REPORT

Extract from the "**COMMISSIONING REPORT**" form. Annex 1 of this manual.

No.	PRELIMINARY CHECKS	RESULT		
		POSITIVE	NEGATIVE	N/A
	before supplying electrical power to the system, check:			
1	the integrity and stability of the system			
2	the integrity of the electrical, compressed air, water and drain connections			
3	the mains air and water wall valves do not leak			
4	the safety systems are intact and have not been triggered			
5	the integrity of the hoses inside the cabin			
6	the integrity of the conveyor belt's electrical and mechanical connections			

No.	OPERATION CHECKS	RESULT		
		POSITIVE	NEGATIVE	N/A
	supply electrical power to the system and check:			
1	switching on of the touch panel and loading of the program			
2	switching on of the lights inside the cabin			
3	switching on of the indicator lights of the push-button panel inside the cabin			
4	the absence of alarms/signals at the panel			
5	the presence of air/water at the panel			
6	operation of the emergency buttons			
7	operation of the sensitive edges of the doors			
8	operation of the conveyor belt			
9	operation of the doors			
10	loading the SAFEKLINIC bottle			
11	loading the SANITIZER bottle			
12	operation of spray handpieces by pressing the pedals			
13	operation of the wiper/water by pressing the pedals			
14	Absence of leaks			
15	operation of aspirator			
16	operation of drain pump			
17	integrity and operation of the infeed roller conveyor			

2.4.1 COMMISSIONING ACTIVITIES

The preliminary checks are carried out to make sure that the system is safe before it is put into operation.

No.	PRELIMINARY CHECKS
	Before supplying electrical power to the system, check:
1	**The integrity and stability of the system:** that there is no visible damage to the structure
2	**The integrity of the electrical, compressed air, water and drain connections:** that there are no frayed electrical cables or loose connectors that the pneumatic and water hoses are intact and secured correctly that the discharge pipes from the hoppers to the bin and the wall drainage line are intact
3	**That when the air and water supply valves on the wall are opened:** the water and air connections do not leak
4	**the safety systems are intact and have not been triggered** that the sensitive edges are intact and in position, and that the emergency stop buttons are intact and

	operate correctly
5	**the integrity of the hoses inside the cabin** that the air and water hoses of the handpieces are intact and properly secured
6	**the integrity of the conveyor belt's electrical and mechanical connections** the power connector is correctly fitted, that the mechanical connection is tight, that the positioning on the centring spacers is correct, that the belt is correctly tensioned and that it can rotate freely without obstruction.
No.	**OPERATION CHECKS**
	Turn the electricity on to the system and check:
1	**switching on of the touch panel and loading of the program** check the loading of the program, check the touch function by pressing the settings button and check the operating parameters. See the chapter in SW manual – HMI PANEL; operating parameters screen
2	**switching on of the lights inside the cabin** visually check that all the LED lights on the cabin roof switch on.
3	**switching on of the indicator lights of the push-button panel inside the cabin** a flashing blue light, a flashing green light and a flashing blue button. When a function is activated, the relative light will remain on steadily and the others will turn off.
4	**the absence of alarms/signals at the panel** check that the alarm / notifications bell is present on the panel.
5	**the presence of air/water at the panel** check there is air, water and sanitizer present via the home screen of the panel. Green indicators = OK
6	**operation of the emergency buttons** - External emergency stop button - Internal emergency stop button Make sure that if it is pressed when the machine running, it effectively stops the machine, that its mechanisms are in good working order and that the machine is restored when it is rearmed. Check the message on the panel.
7	**operation of the sensitive edges of the doors** - Sensitive edges of the doors Visually inspect and touch the condition of the material of the SAFETY DEVICES: Sensitive edges on the lower edge of the doors. Check the message on the panel

8	**operation of the doors** simultaneously press and hold the black buttons on the sides of the push-button panel inside the cabin for the entire movement of the doors
9	**loading the SAFEKLINIC bottle** open the right compartment of the bench and pull out the drawer using the handle, close the blue valve and insert it from the part of the stainless steel wedge as far as it will go into the white cap of the bottle, breaking the seal. Then rotate the entire assembly and insert the valve with bottle into the seat in the drawer. Close the drawer, make sure that the green and orange lights on the RFID sensor come on and check the weight reading on the panel.
10	**loading the SANITIZER bottle** open the right compartment of the bench and pull out the drawer using the handle, place the tank of sanitizer in its seat and insert the probe with the float into it. Close the drawer and check the weight reading on the panel.
11	**operation of spray handpieces by pressing the pedals** with the doors closed: **SAFEKLINIC®** - Press the left pedal - The function is highlighted in orange on the HMI panel - Steady green light on the push-button panel inside the cabin - Air, water and bicarbonate come out from the grey handpiece Bottle weight decrease on the HMI panel (if **SAFEKLINIC®** blocks, it is indicated by an alarm on the panel); consumption per minute +/- 150 g. **PRESSURIZED WATER** - Press the right pedal - The function is highlighted in orange on the HMI panel - Steady blue light on the push-button panel inside the cabin - Water comes out from the blue handpiece
12	**operation of the wiper/ wiper water by pressing the pedals** pressing the pedals automatically activates the wiper and the water on the front window. Check operation
13	**Absence of leaks** Open the doors of the bench and the back of the machine, visually check that there is no water leaking from the connections between the hopper, collection bin and drain pump.
14	**Operation of aspirator** Listen to see if it is working by pressing a pedal with the doors closed.
15	**Operation of drain pump** Listen to see if it is working by keeping a pedal pressed (with the cabin door closed) until the level inside the waste bin is sufficient to activate the drain pump via the sensors on the lid. It will automatically switch

	off after about 20 seconds, discharging the contents of the bin.
16	**Integrity and operation of the conveyor belt** Press the tray call button to start the conveyor or open the cabin doors to start the conveyor automatically for the set time.
17	**Integrity and operation of the tray infeed roller conveyor** Test the tray stop system by placing a pair of trays on the roller conveyor and pulling one inside to check that the next tray stops.

The installation technician should indicate the outcome of each test in the boxes on the right of the "commissioning report" form, positive, negative or not applicable.

Once the operational checks have been completed, the technician will fill out the report indicating the status/condition of the system after commissioning and include any notes. He will also fill in the "replacements" table, if necessary.

2.5 POST-INSTALLATION CHECKS

To be carried out by:

qualified personnel: those persons who have completed specialization courses, training courses, etc., and have experience in installing, commissioning and servicing, repairing and transporting the machine produced by **BICARjet®**. Qualified technician: the person responsible for all electrical adjustments, maintenance and repairs. This technician can operate on live parts in electrical switchboards and junction boxes.

Adjustments:

The **STK 110** machine delivered by **BICARjet® S.r.l.** is already set up and ready for operation.

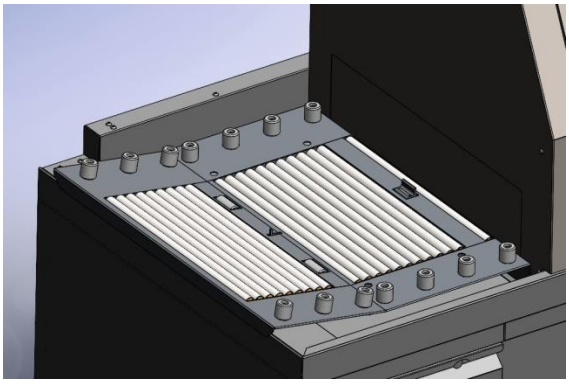
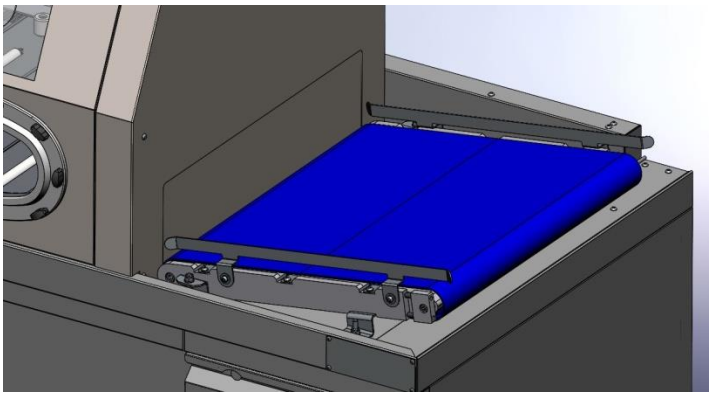
It is recommended that these operations be carried out only by qualified personnel, or by the Manufacturer's personnel.

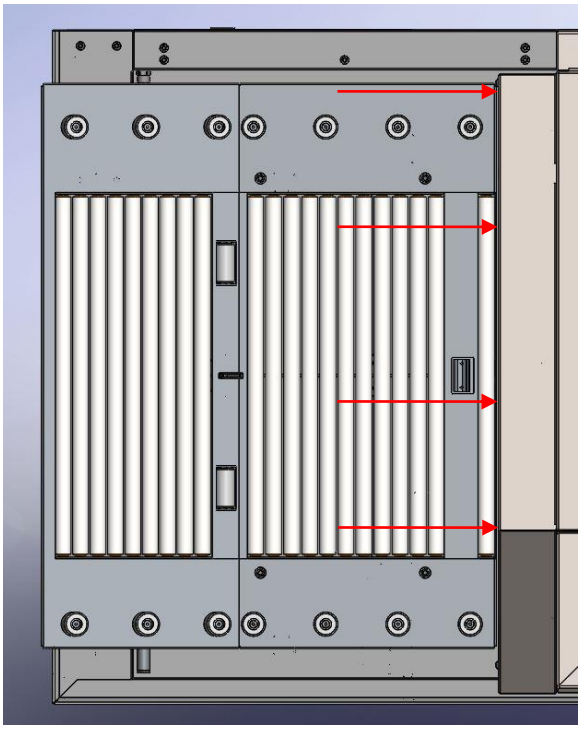
IMPORTANT:

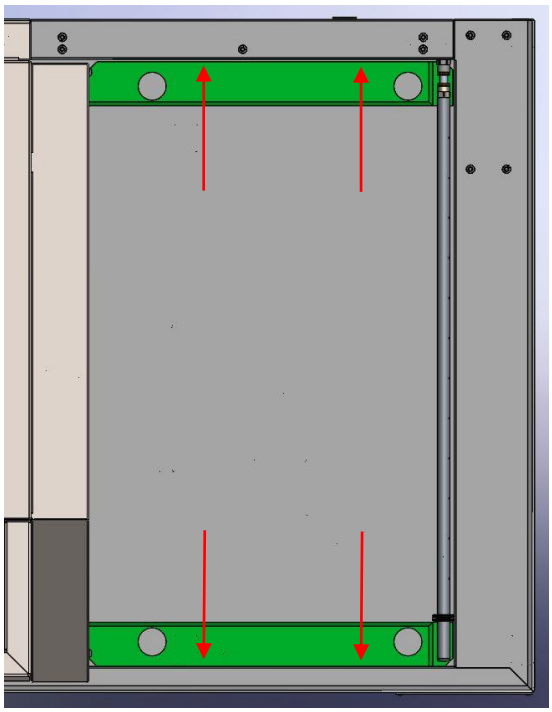
ONCE INSTALLATION HAS BEEN COMPLETED AND THE CHECKS HAVE BEEN CARRIED OUT, THE TECHNICIAN HAS TO REGISTER THE END OF COMMISSIONING USING THE FOLLOWING PROCEDURE:

use the card provided to access SETTINGS -> SYSTEM.	
At the commissioning date option, press SET. The system will automatically enter and record the date and time that commissioning was completed. The SET button will no longer be visible and it will not be possible to repeat the commissioning activity. The system will automatically start the timer for the next maintenance to be carried out on the machine.	
The technician can now log out by pressing the central icon on the vertical bar on the right of the panel.	

2.6 ROLLER CONVEYOR (TRAY INFEED) AND CONVEYOR BELT (TRAY OUTFEED) INSTALLATION

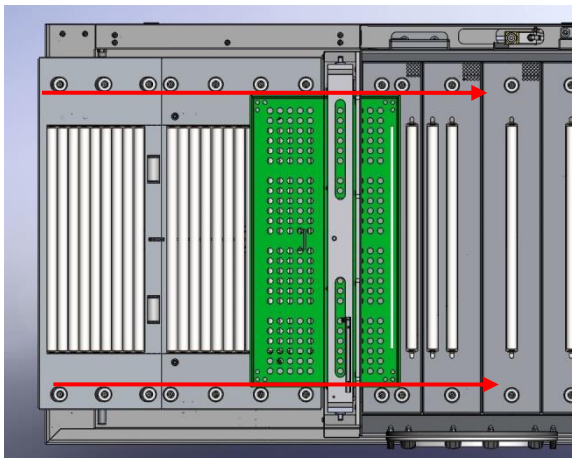
LEFT SIDE OF BENCH - LOAD	RIGHT SIDE OF BENCH - UNLOAD
	
Position the roller conveyor as shown in the figure, with the right side resting on the door casing.	Position the respective centring spacers of the conveyor belt on both sides with the thinnest flap on the right side under the rinsing groove of the table.

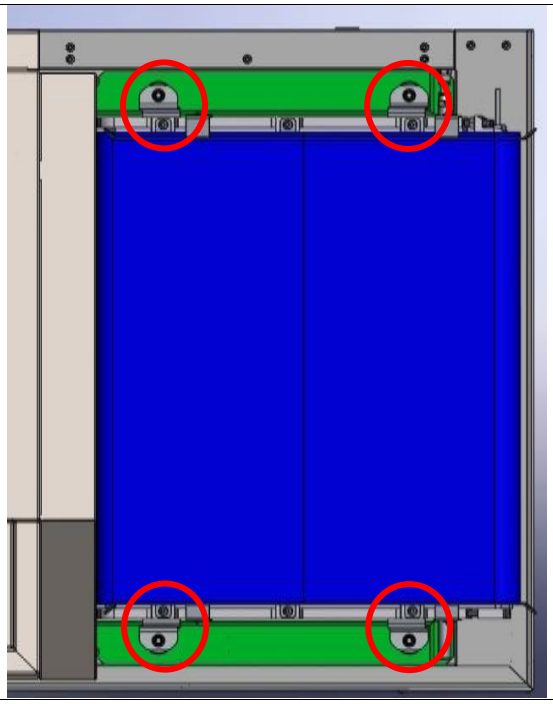


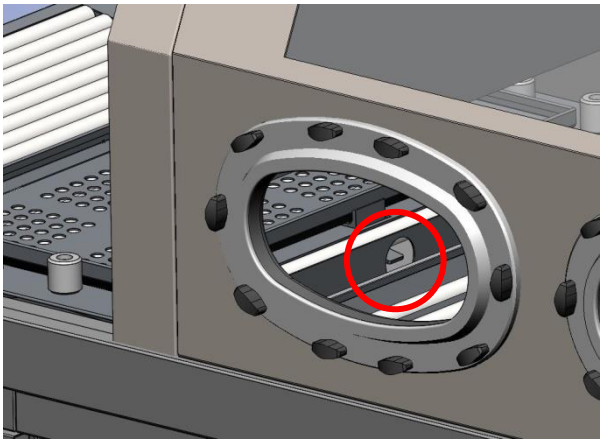
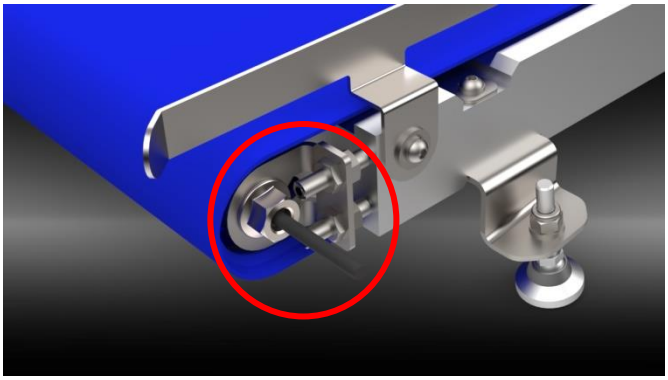


Open the doors of the cabin.
Centre the roller conveyor using a tray so that the internal vertical rollers of the conveyor are aligned with the vertical rollers of the conveyors inside the cabin.

Once the spacers are in position, place the body of the conveyor belt on the surface, aligning the feet with the circular seats of the spacer.





Close the doors of the cabin. Once positioning is complete, the trays can be pushed one after the other. Open the doors and slide in one tray at a time using the appropriate button.	Connect the cable fitted with the plug to the corresponding flying connector on the machine, which allows the easy and quick removal of the conveyor belt for cleaning.
	

3 MAINTENANCE

The purposes of maintenance are:

- To keep the device in good working order and ensure maximum production at the best quality, minimizing residual risks associated with use of the system;
- to prevent failures and faults and guarantee repairs in the shortest possible time;
- to increase the efficiency of the machines and avoid overly expensive faults and repairs.

The need to carry out this work is established by conducting routine checks and inspections, which simply involve measurements and physical tests to determine the conditions of the machine and main equipment most prone to wear.

The personnel is required to observe the system on the basis of the following sensory principles:

- sight, i.e. optical and visual observation;
- hearing, i.e. listening for noises;
- touch, i.e. sensory detection of temperature, vibrations etc.

These checks, inspections, adjustments or replacements must be carried out at the frequency indicated in the **PREVENTIVE MAINTENANCE SCHEDULE** prepared by the manufacturer.

The work involves routine maintenance as well as non-routine maintenance following faults or breakages.

The management of maintenance has been divided into:

- ROUTINE MAINTENANCE – daily, weekly and monthly
- PREVENTIVE MAINTENANCE - every 4 months
- NON-ROUTINE MAINTENANCE/FAULTS - at the request of the customer or on the manufacturer's recommendation

The useful life of the device if used and maintained properly is 10 years

3.1 ROUTINE MAINTENANCE

ROUTINE MAINTENANCE consists of daily and monthly inspections and checks aimed at obtaining the maximum operating efficiency of the machine.

Routine maintenance is divided into daily and monthly inspections/checks.

Only the prescribed materials (**SAFEKLINIC® and BICARjet® Original Spare Parts**) must be used and routine maintenance must be carried out in a regular and systematic manner in accordance with the indications given in the specific work schedule below.

Trained operators who use the machine and carry out routine daily maintenance must follow the instructions below:

- ***IMPORTANT:***

*In case of failure/anomaly of the **SAFE CleanBox** it is necessary to contact the assistance service.*

PERSONAL PROTECTIVE EQUIPMENT (PPE):
Nitrile gloves
Protective glasses or face shields
headwear
Body gowns or coveralls
Protective footwear

The manufacturer BICARjet S.r.l. is not liable for injury or damage due to non-compliance with this provision.

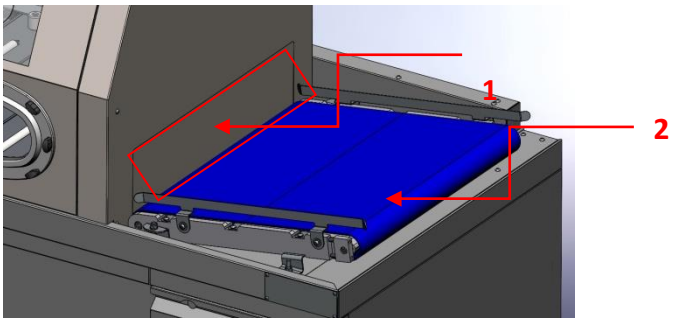
In turn, the employer should evaluate the risks for the operators deriving from the routine maintenance, cleaning and sanitization of the system, in order to define the PPE that it deems most appropriate to carry out these activities and to inform the personnel.

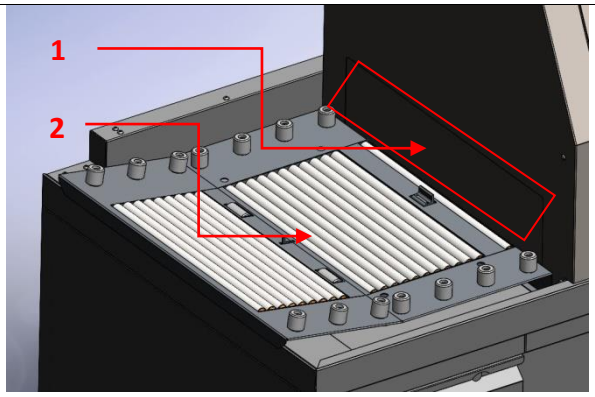
3.1.1 ROUTINE MAINTENANCE: DAILY

CHECKS AT THE START OF THE WORK SCHEDULE		
DESCRIPTION	**WHO**	**ACTIONS**
LEVEL OF SAFEKLINIC® BICARBONATE	TRAINED OPERATOR	Visually check the quantity of SAFEKLINIC® bicarbonate in the bottle located in the lower right compartment. The weight and level of the bottle are indicated on the HMI panel. If necessary, replace the bottle by extracting the whole unit, closing the valve and sliding the bottle upwards. Then insert the valve into the new container, turn the bottle upside down and place it in the appropriate space in the feed unit.
INSIDE LIGHTS	TRAINED OPERATOR	Visually check that the inside lights of the cabin switch on and that the LEDs of the internal push-button panel start flashing (green light, blue light and blue button)
GLOVES AND FLANGES	TRAINED OPERATOR	To avoid unnecessary accidents, it is recommended to visually check the state of wear of the gloves at the beginning of each work cycle, immediately reporting to the internal maintenance manager the presence of any abnormal cuts or abrasions that could affect tactile sensitivity and safe use of the same. It is also important to check closing of the glove flanges on the front of the

		cabin to avoid leaks.
NOZZLES	TRAINED OPERATOR	Before starting the work schedule, check by sight the proper functioning of the spray nozzles by checking that the mixture of air, water and SAFEKLINIC® flows freely and continuously from the grey handpiece, responding to the command of the left pedal, according to your practice and that the air and water mixture flows freely from the blue handpiece, responding to the command of the right pedal. In relation to the functions described, visually check the operation of the wiper. DO NOT OBSTRUCT OR PLUG THE NOZZLE OUTLET!
SEALS	TRAINED OPERATOR	It is advisable to check visually and by touch (if possible) the air-tightness and wear of the cabin seals. (example: glass panel and doors).

ACTIVITIES AT END OF WORK SCHEDULE		
DESCRIPTION	**WHO**	**ACTIONS**
RINSING INSIDE THE CABIN	TRAINED OPERATOR	After using the machine, all processing residues containing **SAFEKLINIC®** inside the cabin must be rinsed out (with the doors closed) through the blue handpiece. This must be done because the bicarbonate is hygroscopic and highly sensitive to the external environment, and humidity can cause the crystallization of the grains of bicarbonate in the conduits inside the cabin, obstructing them and compromising their durability. Visually check and make sure to also clean the area under the gloves and the entire surface of the ceiling of the cabin with the jet of water.
SANITIZATION OF THE CABIN	TRAINED OPERATOR	SANITIZATION is, to all intents and purposes, a form of maintenance of the machine to minimize as much as possible the risks of proliferation and stagnation of processing residues that could affect the safety of users. For this reason, sanitization is to be considered part of the MANDATORY daily maintenance before shutdown. After rinsing as described above, proceed with sanitization following the instructions in chapter 3.2.8 of the User Manual.

CLEANING, SANITIZATION OF THE EXTERNAL PARTS OF THE CABIN, ROLLER CONVEYOR AND CONVEYOR BELT	TRAINED OPERATOR	**STEP 1 - CLEANING THE EXTERNAL PARTS OF THE CABIN AND ROLLER CONVEYORS:** **PROCEDURE:** a) Open the doors of the cabin from inside the machine. b) Remove the hand shower from the compartment on the right of the bench (check the dispensing position, see image) and open the tap below it manually.  c) Use the jet of water to rinse the entire outer edge of the door hinges (detail 1 in the image), removing any contaminants or solid residue. Pay particular attention to the lower edge of the doors, always rinsing it with the hand shower or with a damp cloth.  d) Use the water jet to rinse the external conveyor belt on the right (in particular the entire surface of the belt, the side profiles and the plastic feet and centring profiles) and the external roller conveyor on the left of the cabin. (detail 2 in the image)



STEP 2 – SANITIZATION OF THE ROLLER CONVEYOR, CONVEYOR BELT AND THE EXTERNAL PARTS OF THE CABIN:

Sanitize by spraying all the surfaces described in points “c” and “d” of the STEP 1 procedure with a disinfectant spray. (follow the manufacturer's instructions) **NB: The rubber conveyor belt is not compatible with acids.**

Do not use a foaming spray.

The use of alcohol based disinfectants/cleansers is recommended.

STEP 3 – CONTACT TIME FOR THE ROLLER CONVEYOR, CONVEYOR BELT AND THE EXTERNAL PARTS OF THE CABIN:

Check the spray contact time according to the instructions for the product used.

STEP 4 – RINSING THE ROLLER CONVEYOR, CONVEYOR BELT AND THE EXTERNAL PARTS OF THE CABIN:

Once the contact time for the external roller conveyor, the conveyor belt and the outer closing edge of the doors has elapsed, rinse with plenty of water using the hand shower.

Make sure to close the tap below the hand shower before placing it in the compartment on the right of the bench.

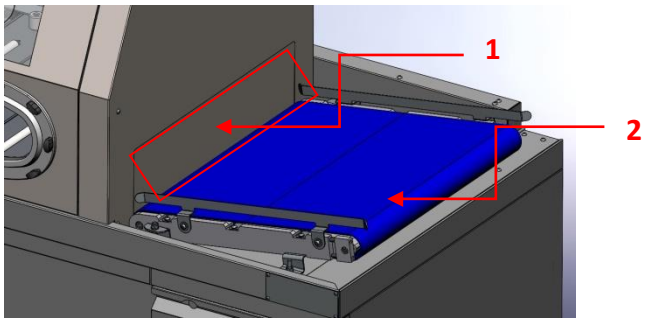
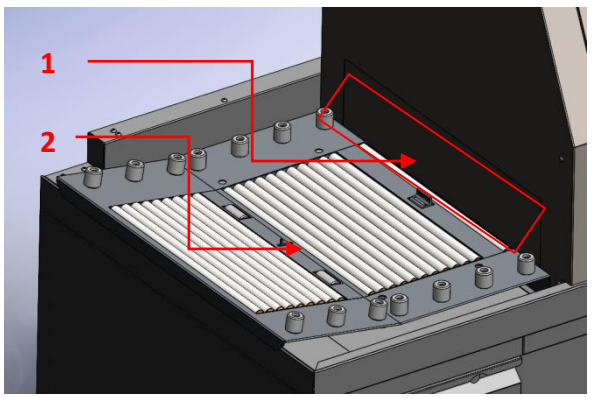
STEP 5 - DRYING:

Wipe the entire surface of the external roller conveyor with paper or a dry cloth to remove any residual water.

Repeat the same procedure for the conveyor belt, in particular the entire surface of the belt, the tray guide profiles and the plastic feet and profiles for centring the conveyor belt with the door.

3.1.2 ROUTINE MAINTENANCE: WEEKLY

ACTIVITIES AT END OF WORK SCHEDULE		
DESCRIPTION	**WHO**	**ACTIONS**
CLEANING IN CABIN WITH BICARBONATE	TRAINED OPERATOR	Clean the internal walls of the cabin thoroughly using the bicarbonate handpiece. This will permit complete mechanical removal of all solid residues deposited inside. Visually check that all residues have been removed, using the blue handpiece to rinse thoroughly with pressurized water.
SANITIZATION OF THE CABIN	TRAINED OPERATOR	Sanitize the inside of the cabin as described in chapter 3.2 of the user manual.
SANITIZATION OF THE ROLLER CONVEYORS INSIDE THE CABIN	TRAINED OPERATOR	Extract the roller conveyors in the cabin (7 roller conveyors plus 2 support surfaces to be unscrewed with the 4 black knobs) by lifting them upwards, and leave them immersed in a tank with a solution of water and disinfectant. Wait for the contact time declared by the product. The support roller conveyors outside the cabin can be subjected to a standard thermal disinfection washing cycle. Visually check that the tank under the roller conveyors and the drain are free from any solid residue or otherwise use the blue handpiece to rinse until the material is completely removed.
SANITIZATION OF THE GLOVES	TRAINED OPERATOR	Extract the gloves by removing the front flanges and leave them immersed in a tank with a solution of water and disinfectant. Wait for the contact time declared by the product.
CLEANING THE INSIDE OF THE GLASS PANEL	TRAINED OPERATOR	Introduce an anti-limescale spray in the cabin, cover all the glass internally, wait 2 minutes and rinse thoroughly using the blue handpiece.

SANITIZATION OF THE ROLLER CONVEYOR AND CONVEYOR BELT	TRAINED OPERATOR	**STEP 1 - CLEANING THE EXTERNAL PARTS OF THE CABIN AND ROLLER CONVEYORS:** **PROCEDURE:** a) Open the doors of the cabin from inside the machine. b) Remove the hand shower from the compartment on the right of the bench (check the dispensing position, see image) and open the tap below it manually.  c) Use the jet of water to rinse the entire outer edge of the door hinges (detail 1 in the image), removing any contaminants or solid residue. Pay particular attention to the lower edge of the doors, always rinsing it with the hand shower or with a damp cloth.  

		d) Use the water jet to rinse the external conveyor belt on the right (in particular the entire surface of the belt, the side profiles and the plastic feet and centring profiles) and the external roller conveyor on the left of the cabin. (detail 2 in the image) **STEP 2 – REMOVING THE ROLLER CONVEYOR AND CONVEYOR BELT:** Remove the roller and conveyor belt and place them on a bench where they can be cleaned separately. The conveyor belt is connected to the machine via an electrical cable with a double male-female connector, which can be easily disconnected by unscrewing the ring nut and pulling the connectors in opposite directions. **STEP 3 – SANITIZATION OF THE ROLLER CONVEYOR AND CONVEYOR BELT:** Sanitize by spraying all surfaces of the roller conveyor and conveyor belt with a disinfectant spray. **N.B. The rubber conveyor belt is not compatible with acidic substances.** Do not use a foaming spray. The use of alcohol based disinfectants/cleansers is recommended. **STEP 4 – CONTACT TIME FOR THE ROLLER CONVEYOR AND CONVEYOR BELT:** Check the spray contact time according to the instructions for the product used. **STEP 5 – RINSING THE ROLLER CONVEYOR AND CONVEYOR BELT:** Once the contact time for the external roller conveyor, the conveyor belt and the outer closing edge of the doors has elapsed, rinse with plenty of water using the hand shower. Make sure to close the tap below the hand shower before placing it in the compartment on the right of the bench. **STEP 6 - DRYING:** Wipe the entire surface of the external roller conveyor with paper or a dry cloth to remove any residual water. Repeat the same procedure for the surfaces outside the cabin on which the roller conveyor and conveyor belt rest. Repeat the same procedure for the conveyor belt, in

		particular the entire surface of the belt, the tray guide profiles and the plastic feet and profiles for centring the conveyor belt with the door. Reposition the roller conveyor and conveyor belt and reconnect the power connector. (See section 2.6 Roller conveyor and conveyor belt installation)

3.1.3 ROUTINE MAINTENANCE: MONTHLY

ACTIVITIES AT END OF WORK SCHEDULE		
DESCRIPTION	**WHO**	**ACTIONS**
CLEANING THE BICARBONATE FEED UNIT	TRAINED OPERATOR	Remove the bottle of SAFEKLINIC, closing the valve manually. Completely remove any excess bicarbonate that has accumulated in the injection port using the suction system. Replace the bottle of SAFEKLINIC with the valve closed. Now run the automatic cleaning cycle for the bicarbonate feed unit using the "UNBLOCK BICARBONATE" function on the settings/menu screen. Once the cycle has been completed, open the valve of the SAFEKLINIC bottle. Press the spray pedal and make sure that the weight of bicarbonate decreases.
BIN CLEANING CYCLE	TRAINED OPERATOR	Press settings on the HMI touch panel and then press the BIN CLEANING CYCLE button. The button will become blue (in operation) and will activate a cycle in which water jets will automatically clean the inside of the collection bin and then discharge the contents via the pump. All operations are repeated twice. The duration of the cycle varies from 3 to 5 minutes.

IMPORTANT:
Any damage due to wear, breakages or malfunctions encountered during the inspections/checks described above must be reported to the department manager and to the manufacturer (BICARjet S.r.l.). The customer, and therefore the trained operators who use the ***SAFE CleanBox*** *machine, are only authorized to replace the gloves.*

3.2 PREVENTIVE MAINTENANCE

PREVENTIVE MAINTENANCE means all the maintenance operations of inspection/control, adjustment and replacement of parts aimed at preventing fault, according to established criteria.

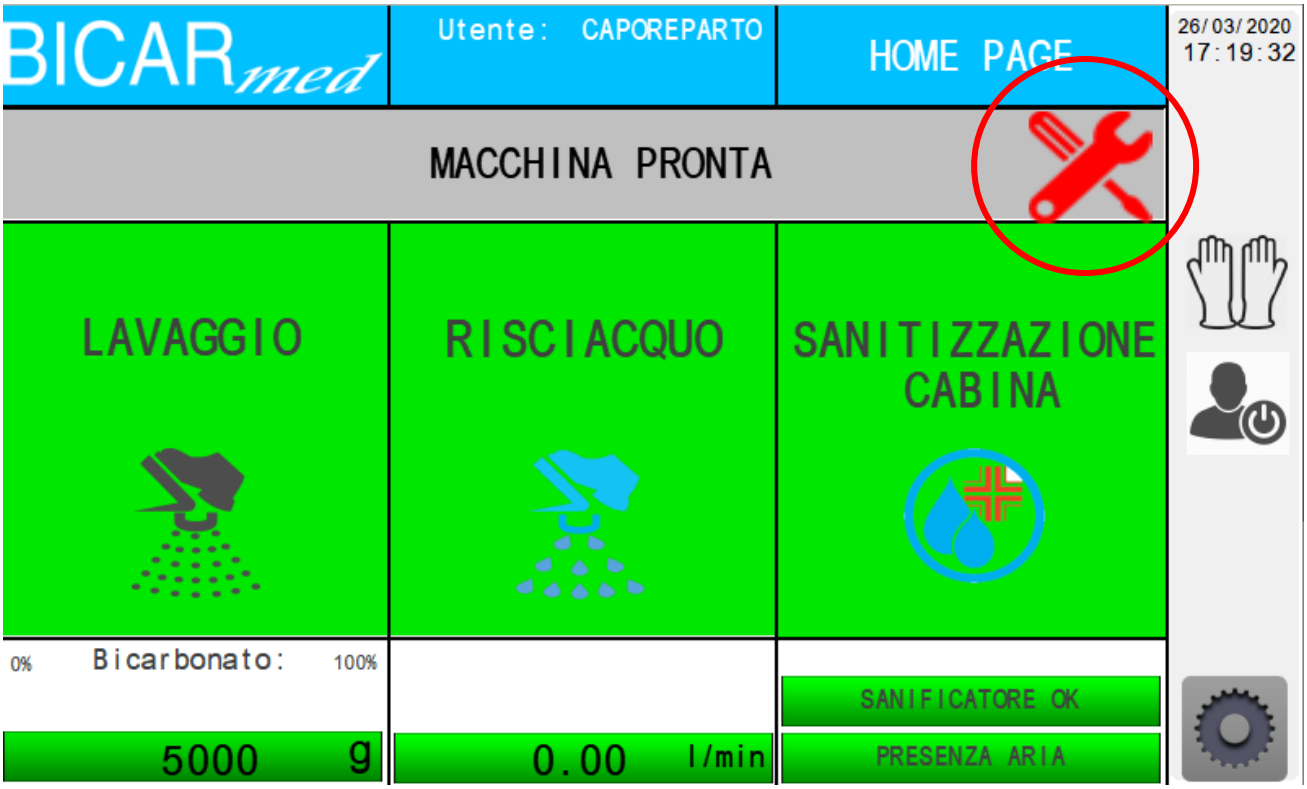
To be carried out by:

BICARjet® S.r.l. technician qualified technician provided by **BICARjet® S.r.l.** or specialized personnel trained by **BICARjet® S.r.l.** to carry out replacements / repairs and operational checks.

Frequency:

every four months.

An indicator light on the HMI touch panel of the SAFE CleanBox devices indicates if scheduled preventive maintenance has to be carried out:



PERSONAL PROTECTIVE EQUIPMENT (PPE):

Nitrile gloves
Protective glasses or face shields
Body gowns or coveralls
Safety shoes

3.2.1 PREVENTIVE MAINTENANCE REPORT

Extract from the "**MAINTENANCE REPORT**" form. Annex 2 of this manual

PRE-MAINTENANCE REPORT
SYSTEM STATUS/CONDITION

CHECKS TO CARRY OUT ON MODEL STK 110 (indicate N/A where the check cannot be carried out)				
No.	**PRE-MAINTENANCE ACTIVITIES**	**RESULT**		
		Pos.	**Neg.**	**N/A**
1	Visually inspect the integrity and stability of the system			
2	Sanitization of the inside of the cabin			
3	Sanitization of the outside of the cabin			
4	Sanitization of the mats inside the cabin and the gloves			
5	Sanitize the tray infeed roller conveyor and outfeed conveyor belt.			
No.	**OPERATIONS**	**RESULT**		
		Pos.	**Neg.**	**N/A**
1	General cleaning of the system			
2	Check the operation of the external touch panel			
3	Check the integrity and operation of the safety devices			
4	Check the integrity and tightness of the cabin window			
5	Check the integrity and operation of the LED lamps			
6	Check the integrity and operation of the doors and the tightness of their seals			
7	Check the integrity and the seal of the glove flanges and gloves			
8	Check the integrity of the internal push-button panel and the operation of the buttons			
9	Check the integrity of the hoses inside the cabin			
10	Check the integrity of the pedals, their connector and the operation of the handpieces inside the cabin			
11	Removal of the front casing of the bench			
12	Check the integrity and operation of the aspirator			
13	Check the integrity of the air/water/drain hoses, the air pressure gauges and the reading of the water flow switch			
14	Check the integrity of the collection bin under the bench			
15	Opening of the collection bin, sanitization of the lid and bin			
16	Cleaning of the bicarbonate compartment under the bench on the right side			
17	Check the integrity and operation of the bicarbonate feed unit			
18	Check the integrity and operation of the roller conveyor			
19	Check the integrity and operation of the conveyor belt			

MAINTENANCE REPORT
SYSTEM STATUS/CONDITION

N.	REPLACEMENTS			RESULT		
	Code	Component	Qty.	Pos.	Neg.	N/A
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

3.2.2 PREVENTIVE MAINTENANCE ACTIVITIES

The pre-maintenance activities are carried out to make sure that the system is safe before it is put into operation.

No.	PRE-MAINTENANCE ACTIVITIES
1	**Check by sight of the integrity and stability of the system** that there is no visible damage to the structure
2	**Sanitization of the inside of the cabin** Follow the procedure described on the panel and in the user manual for sanitizing the inside of the cabin
3	**Sanitization of the outside of the cabin** Use a sanitizing spray to sanitize the outside of the outer closing edge of the doors and the tanks at the side of the bench.
4	**Sanitization of the mats inside the cabin and the gloves** Remove the roller conveyors (7 roller conveyors plus 2 support surfaces, to be unscrewed using the 4 black knobs) from inside the cabin by lifting them upwards. Leave them to soak in a tank with a solution of water and disinfectant for 10 minutes. Visually check that the tank under the roller conveyors and the drain are free from any solid residue or otherwise use the blue handpiece to rinse until the material is completely removed. Remove the gloves by taking off the front flanges and leave them to soak in a tank containing a solution of water and disinfectant for

	10 minutes.
5	**Sanitization of the roller conveyor and conveyor belt** Spray the entire outer closing edge of the doors and the entire surface of the roller conveyor and conveyor belt with a sanitizer. Leave to act for 10 minutes and then rinse thoroughly with water using the hand shower in the right compartment of the bench.
No.	**OPERATIONS**
1	**General cleaning of the system**
2	**Operation of touch panel and operating parameters** check the loading of the program, check the touch function by pressing the settings button and check the operating parameters. See the chapter in SW manual – HMI PANEL; operating parameters screen
3	**integrity and operation of the safety devices** - External emergency stop button - Internal emergency stop button Make sure that if it is pressed when the machine running, it effectively stops the machine, that its mechanisms are in good working order and that the machine is restored when it is rearmed. Check the message on the panel. - Sensitive edges Visually inspect and touch the condition of the material of the SAFETY DEVICES: Sensitive edges on the lower edge of the doors. Check the message on the panel.
4	**Integrity and tightness of the cabin window** Visually inspect and touch the window and the adhesive seal to ensure they are intact and that there is no damage or leakage. Replace if necessary.
5	**Integrity and operation of the LED lamps** Check that the interior LED lights on the ceiling of the cabin are switched on and that the connectors are intact.
6	**Integrity and operation of the doors and tightness of the seals** Check that the doors move at the same time once both buttons on the sides of the internal push-button panel have been pressed. Check the condition of the door seal by touching to make sure that it is not worn or that it has come out if its seat. Then test the seal using a jet of rinse water.
7	**Integrity and seal of the gloves and glove flanges** - remove the flanges - check the seals remove the gloves - clean/sanitize the gloves if necessary, immerse the gloves and check for cuts.
8	**Integrity of the internal push-button panel and operation of the buttons** Replace if faulty.

9	**Integrity of the hoses inside the cabin** Check the condition of the points at which the hoses are connected to the handpieces. Make sure they are not worn or badly positioned.
10	**Integrity of the pedals, connector and the operation of the handpieces** Visually check the integrity of the connector, electrical cable and pedals: **SAFEKLINIC®** - Press the left pedal - The function is highlighted in orange on the HMI panel - Steady green light on the push-button panel inside the cabin - Air, water and bicarbonate come out from the grey handpiece - Bottle weight decrease on the HMI panel (if **SAFEKLINIC®** blocks, it is indicated by an alarm on the panel); consumption per minute +/-150 g. If consumption is lower, see point 18. **PRESSURIZED WATER** - Press the right pedal - The function is highlighted in orange on the HMI panel - Steady blue light on the push-button panel inside the cabin - Water comes out from the blue handpiece
11	**Removal of the front casing of the bench** Remove the visible screws. See “replacement guide” 2) bench unit
12	**Integrity and operation of the aspirator** Opening of bin, connection for cleaning and check for obstructions. Check the operation of the aspirator using the test cycle.
13	**Integrity of the air/water/drain hoses, operation of the air pressure gauges and the reading of the water flow switch** Visually check that there are no leaks and the condition of the connections.
14	**Integrity of the collection bin** Visually check that there are no leaks and the condition of the bin.
15	**Opening of the bin, sanitization of the lid and bin** See chapter 4, replacement guide, bench unit.
16	Cleaning of the **SAFEKLINIC®** compartment
17	**Integrity and operation of the SAFEKLINIC® feed unit** - Press the left pedal - The function is highlighted in orange on the HMI panel - Steady green light on the push-button panel inside the cabin - Air, water and bicarbonate come out from the grey handpiece - Bottle weight decrease on the HMI panel (if **SAFEKLINIC®** blocks, it is indicated by an alarm on the panel); consumption per minute +/-150 g. If consumption is lower, use the "unblock bicarbonate" function on the HMI panel described in the monthly maintenance chapter.

IMPORTANT:

ONCE THE SCHEDULED PREVENTIVE MAINTENANCE HAS BEEN COMPLETED AND THE TESTS HAVE BEEN CARRIED OUT, THE TECHNICIAN SHOULD REGISTER THE END OF MAINTENANCE USING THE FOLLOWING PROCEDURE:

LOGIN using the card provided and access SETTINGS -> SYSTEM. Press the MAINTENANCE option.	
Press SET. The system will automatically enter and record the date and time the maintenance ended. The system will automatically start the timer for the next maintenance to be carried out on the machine.	
The technician can now log out by pressing the central icon on the vertical bar on the right of the panel.	

3.3 NON-ROUTINE MAINTENANCE AND REPAIRS

NON-ROUTINE MAINTENANCE AND REPAIRS means all diagnostics, replacement and adjustment of parts, aimed at repairing a fault or resolving anomalies, according to established criteria.

To be carried out by:

BICARjet® S.r.l. technician qualified technician provided by **BICARjet® S.r.l.** or specialized personnel trained by **BICARjet® S.r.l.** to carry out replacements / repairs and operational checks.

DIAGNOSTICS AND TROUBLESHOOTING:

- **The device does not start:**
  Check that the emergency mushroom-shaped buttons on the cabin are not pressed, and if necessary release the buttons by turning them anticlockwise and repeating the start-up procedure.

- **Air or water alarm:**

Check the pressure and flow rate of the compressed air and/or water supply, which is too low. Check that the supply valve is completely open and check the inlet piping for any bottlenecks.

- **The electrical equipment does not work**:
  Check the electrical connection and, if the problem is not solved, check the fuses located inside the electrical panel.

- **Generic alarm does not reset:**
  first activate the emergency buttons and then rearm them, reset everything and see if the problem has been resolved, or turn the system off and on again.

- **Bicarbonate blocked or inconsistent:**
  follow the monthly maintenance procedure to unblock the bicarbonate, if blocked.
  If inconsistent, replace the bottle.

- **When operating the wiper, the blade does not move:**
  Check that the fixing screw of the arm has not come loose. If necessary, re-tighten the screw and make sure it is symmetrical in relation to the axis of the wiper itself.

3.3.1 PARTS REPLACEMENT REPORT

Extract from the "**SERVICE REPORT"** form. Annex 3 of this manual

The preliminary checks and pre-maintenance activities are carried out to make sure that the system is safe before it is put into operation.

MAINTENANCE REPORT
SYSTEM STATUS/CONDITION/CUSTOMER REQUEST FOR ACTION

CHECKS TO CARRY OUT ON MODELS STK 110 (indicate N/A where the check cannot be carried out)				
No.	**PRELIMINARY CHECKS**	**RESULT**		
	before supplying electrical power to the system, check:	**Pos.**	**Neg.**	**N/A**
1	the integrity and stability of the system			
2	the integrity of the electrical, compressed air, water and drain connections			
3	the mains air and water wall valves do not leak			
4	the safety systems are intact and have not been triggered			
5	the integrity of the hoses in the cabin			
6	the integrity of the conveyor belt's electrical connection			
No.	**PRE-MAINTENANCE ACTIVITIES**	**RESULT**		

		Pos.	Neg.	N/A
1	Visually inspect the integrity and stability of the system			
2	Sanitization of the inside of the cabin			
3	Sanitization of the outside of the cabin			
4	Sanitization of the mats inside the cabin and the gloves			

No.	MAINTENANCE DESCRIPTION
1	
2	
3	
4	
5	

N.	REPLACEMENTS			RESULT		
	Code	Component	Qty.	Pos.	Neg.	N/A
1						
2						
3						
4						
5						
6						
7						
8						

9						
10						

CHECKS TO CARRY OUT ON MODELS STK 110 (indicate N/A where the check cannot be carried out)				
No.	**OPERATION CHECKS**	**RESULT**		
	supply electrical power to the system and check:	**Pos.**	**Neg.**	**N/A**
1	switching on of the touch panel and loading of the program			
2	switching on of the lights inside the cabin			
3	switching on of the indicator lights of the push-button panel inside the cabin			
4	the absence of alarms/signals at the panel			
5	the presence of air/water at the panel			
6	operation of the emergency buttons			
7	operation of the sensitive edges of the doors			
8	operation of the sensitive edges of the loaders			
9	operation of the doors			
10	loading the SAFEKLINIC bottle			
11	loading the SANITIZER bottle			
12	operation of spray handpieces by pressing the pedals			
13	operation of the wiper/ wiper water by pressing the pedals			
14	the integrity and operation of the roller conveyor (tray infeed)			
15	the integrity and operation of the conveyor belt (tray outfeed)			

3.3.2 PARTS REPLACEMENT REPORT ACTIVITIES

No.	PRELIMINARY CHECKS
	Before supplying electrical power to the system, check:
1	**The integrity and stability of the system:** that there is no visible damage to the structure
2	**The integrity of the electrical, compressed air, water and drain connections:** that there are no frayed electrical cables or loose connectors that the pneumatic and water hoses are intact and secured correctly that the discharge pipes from the hoppers to the bin and the wall drainage line are intact
3	**That when the air and water supply valves on the wall are opened:** the water and air connections do not leak

4	**the safety systems are intact and have not been triggered** that the sensitive edges are intact and in position, and that the emergency stop buttons are intact and operate correctly
5	**the integrity of the hoses inside the cabin** that the air and water hoses of the handpieces are intact and properly secured
6	**the integrity of the conveyor belt's electrical connection** that the power connector is fixed correctly

No.	PRE-MAINTENANCE ACTIVITIES
1	**Check by sight of the integrity and stability of the system** that there is no visible damage to the structure
2	**Sanitization of the inside of the cabin** Follow the procedure described on the panel and in the user manual for sanitizing the inside of the cabin
3	**Sanitization of the outside of the cabin** Use a sanitizing spray to sanitize the outside of the outer closing edge of the doors and the tanks at the side of the bench.
4	**Sanitization of the mats inside the cabin and the gloves** Remove the roller conveyors (7 roller conveyors plus 2 support surfaces, to be unscrewed using the 4 black knobs) from inside the cabin by lifting them upwards. Leave them to soak in a tank with a solution of water and disinfectant for 10 minutes. Visually check that the tank under the roller conveyors and the drain are free from any solid residue or otherwise use the blue handpiece to rinse until the material is completely removed. Remove the gloves by taking off the front flanges and leave them to soak in a tank containing a solution of water and disinfectant for 10 minutes.
5	**Sanitization of the roller conveyor and conveyor belt** Spray the entire outer closing edge of the doors and the entire surface of the roller conveyor and conveyor belt with a sanitizer. Leave to act for 10 minutes and then rinse thoroughly with water using the hand shower in the right compartment of the bench.

No.	MAINTENANCE DESCRIPTION
1	BRIEF DESCRIPTION OF THE INTERVENTION AND SYSTEM CONDITIONS
2	

3	
4	
5	

N.	REPLACEMENTS			RESULT		
	Code	Component	Qty.	Pos.	Neg.	N/A
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

No.	OPERATION CHECKS
	Turn the electricity on to the system and check:
1	**switching on of the touch panel and loading of the program** check the loading of the program, check the touch function by pressing the settings button and check the operating parameters. See the chapter in SW manual – HMI PANEL; operating parameters screen
2	**switching on of the lights inside the cabin** 3 LEDs

3	**switching on of the indicator lights of the push-button panel inside the cabin** a flashing blue light, a flashing green light and a flashing blue button. When a function is activated, the relative light will remain on steadily and the others will turn off.
4	**the absence of alarms/signals at the panel** check that the alarm / notifications bell is present on the panel
5	**the presence of air/water at the panel** check there is air, water and sanitizer present via the home screen of the panel. Green indicators = OK
6	**operation of the emergency buttons** - External emergency stop button - Internal emergency stop button Make sure that if it is pressed when the machine running, it effectively stops the machine, that its mechanisms are in good working order and that the machine is restored when it is rearmed. Check the message on the panel.
7	**operation of the sensitive edges of the doors** - Sensitive edges of the doors Visually inspect and touch the condition of the material of the SAFETY DEVICES: Sensitive edges on the lower edge of the doors. Check the message on the panel
8	**operation of roller conveyor (tray infeed) and conveyor belt (tray outfeed)** Visually inspect the condition of the conveyor belt. Check its operation by opening the cabin doors and pressing the button on the push-button panel. Check the operation of the roller conveyor tray locking mechanism.
9	**operation of the doors** simultaneously press and hold the black buttons on the sides of the push-button panel inside the cabin for the entire movement
10	**loading the SAFEKLINIC bottle** open the right compartment of the bench and pull out the drawer using the handle, close the blue valve and insert it from the part of the stainless steel wedge as far as it will go into the white cap of the bottle, breaking the seal. Then rotate the entire assembly and insert the valve into the place provided in the drawer. Close the drawer and check the weight reading on the panel, then press the change bottle option.
11	**loading the SANITIZER bottle** open the right compartment of the bench and pull out the drawer using the handle, place the tank of sanitizer in its seat and insert the probe with the float into it. Close the drawer and check the weight reading on the panel.
12	**operation of spray handpieces by pressing the pedals** with the doors closed:

	SAFEKLINIC® - Press the left pedal - The function is highlighted in orange on the HMI panel - Steady green light on the push-button panel inside the cabin - Air, water and bicarbonate flow out from the red handpiece Bottle weight decrease on the HMI panel (if **SAFEKLINIC®** blocks, it is indicated by an alarm on the panel); consumption per minute +/- 150 g. **PRESSURIZED WATER** - Press the right pedal - The function is highlighted in orange on the HMI panel - Steady blue light on the push-button panel inside the cabin - Water comes out from the blue handpiece
13	**operation of the wiper/ wiper water by pressing the pedals** pressing the pedals automatically activates the wiper and the water on the front window. Check operation
14	**Checking the loader parameters on the touch panel** See the chapter in SW manual – HMI PANEL; loading and unloading parameters screens
15	**Integrity and operation of the loaders** Carry out 10 tray calls and 10 tray exits.

4 TECHNICAL ASSISTANCE

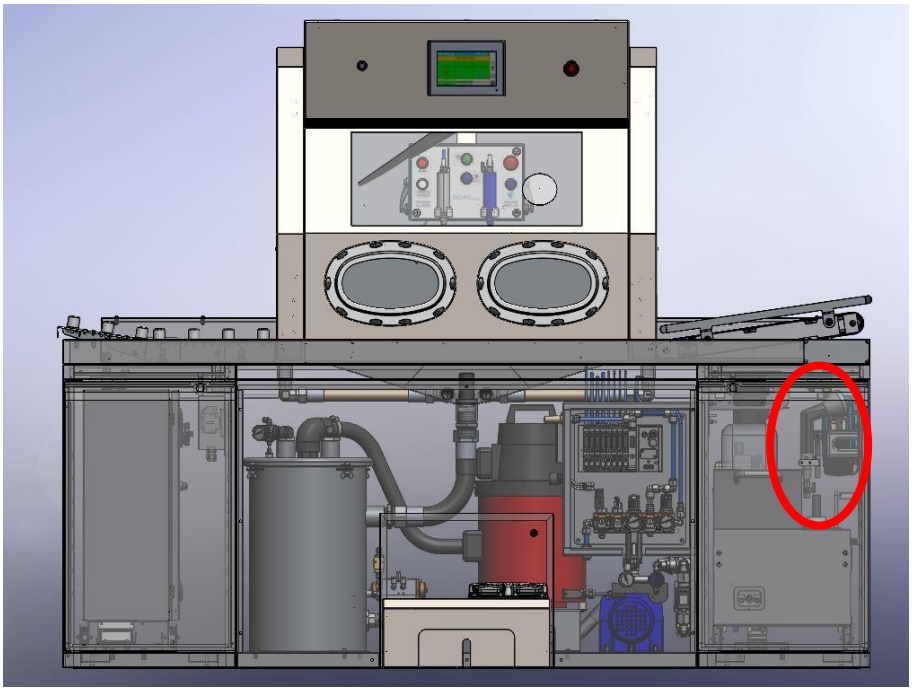
BICARjet S.r.l.
Registered office - Via Nona Strada, 4 - 35129 Padova, Italy
Tel. 049 7808036 / fax. 049 7927203
info@bicarmed.com

5 WARRANTY TERMS AND CONDITIONS

The terms and conditions of the warranty are:
- validity for 12 months from the date of testing and commissioning of the machine
(materials recognized by the manufacturer as defective, excluding consumables and normal wear and tear)

6 CLEANING

In addition to cleaning the interior of the cabin, which should always be carried out after use of the device according to the instructions given previously, it is also important to keep the external surfaces of the device clean.
Clean the casing of the device, the panels and the controls with soft cloths that are dry or that have been dampened with a mild detergent solution. **Do not use any type of solvent, such as alcohol or petrol, as they may damage the surfaces. Do not use substances that are abrasive or corrosive or contain chlorine.** This operation must be done at least once a week.
It is possible to rinse the loaders (if present) and/or the external shelves of the machine with the hand shower located in the bottom right corner of the compartment. (see image below)



NOTICE:

DO NOT USE WATER OR LIQUIDS FOR CLEANING THE SAFEKLINIC COMPARTMENT. THE INSTRUCTIONS IN THE TABLES OF CHAPTER 3 - ROUTINE MAINTENANCE - MUST BE FOLLOWED TO ENSURE CLEANING OF THE SYSTEM IN SAFETY.

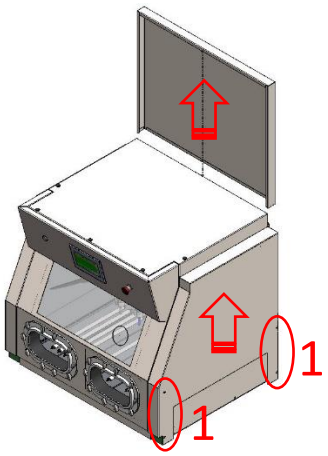
7 REPLACEMENT GUIDE

7.1 CABIN UNIT

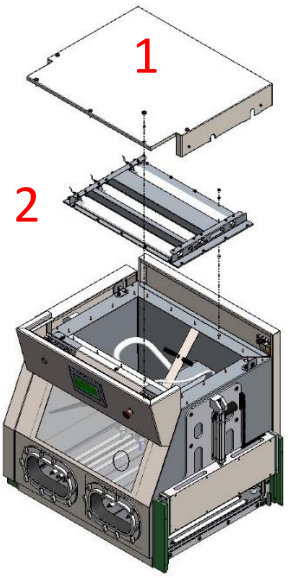
Remove the external casing of the cabin to access:

A) **Upper cabin zone**: roof lights, internal cabin roof, emergency stop button, HMI panel, stand-by button, internal push-button panel.
B) **Side doors**: actuators, sensitive edges, seals and glove flanges
C) **Rear cabin zone**: pneumatic valves, fittings and hoses

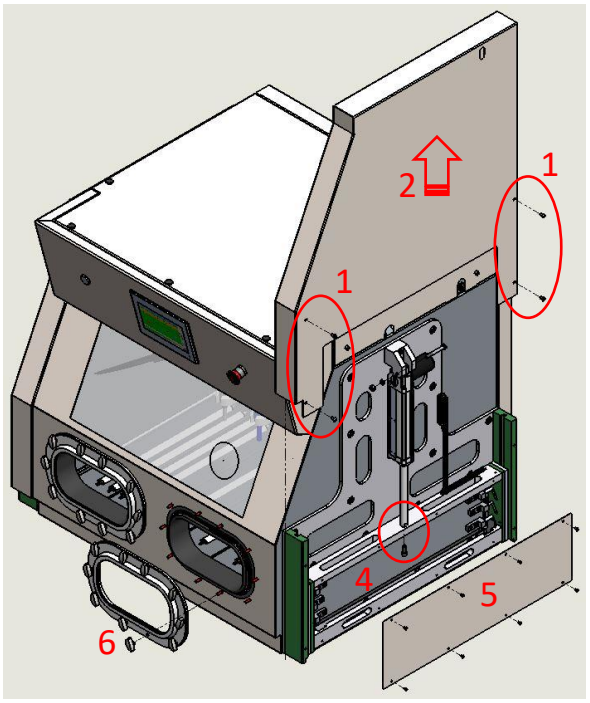
For electrical and/or pneumatic connections, see the wiring diagram and the pneumatic diagram.

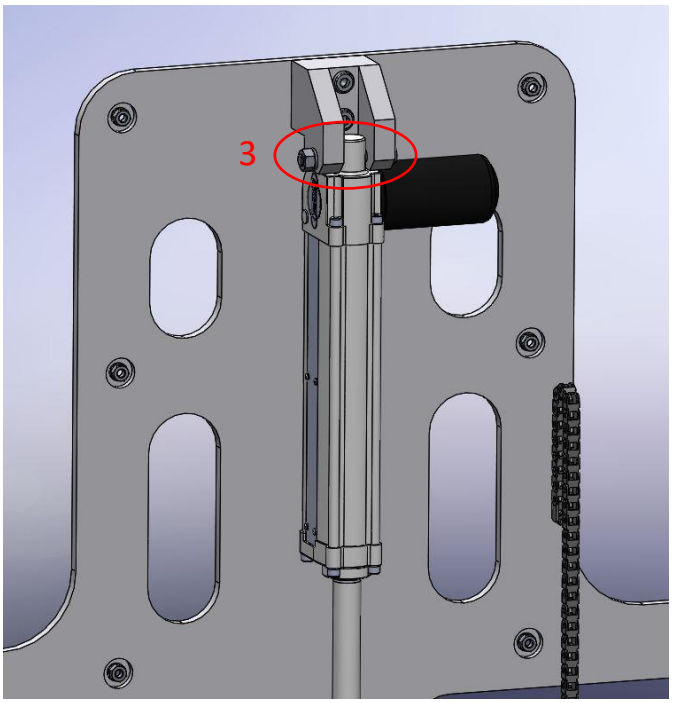
<table>
<tr><td colspan="2">A) Upper cabin zone: roof lights, internal cabin roof, emergency stop button, HMI panel, stand-by button, internal push-button panel.</td></tr>
<tr><td>Lift the back casing of the cabin as shown in the image. Remove the 4 screws (1) that secure the casing of the doors and then lift it upwards.</td><td> 
</td></tr>
<tr><td>Remove the rubber caps on the roof to access the screws, then lift the main cover plate (1).

It is now possible to carry out work on the lamps, the front buttons, the HMI panel or the network blocks.

To access the inside of the cabin to carry out work on the push-button panel, remove the fixing screws of the roof with lamps (2). Take care not to damage the cables of the lamps and door actuators.</td><td> 
</td></tr>
</table>

A) **Side doors**: actuators, sensitive edges, seals and glove flanges





Remove the screws (1) and lift the casing of the doors upwards (2).

REPLACING THE ELECTRIC DOOR ACTUATOR

To replace the actuator, remove the fork fixing screws (3).

REMOVING THE DOOR SEAL AND SENSITIVE EDGE

To replace the door seal, remove the screw that secures the actuator (4) to the door frame and lift the door upwards until it is completely removed from the guides. This will allow you to remove the old seal and install a new one.

To remove the sensitive safety edge, remove the casing by unscrewing the fixing screws (5), disconnect the connecting cable and carefully remove the sensitive edge from its seat on the aluminium profile.

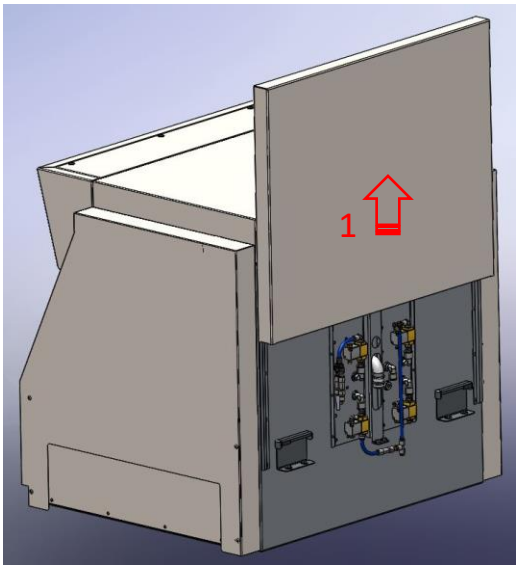
Install the new sensitive edge and use the diagnostics to make sure that it works correctly.

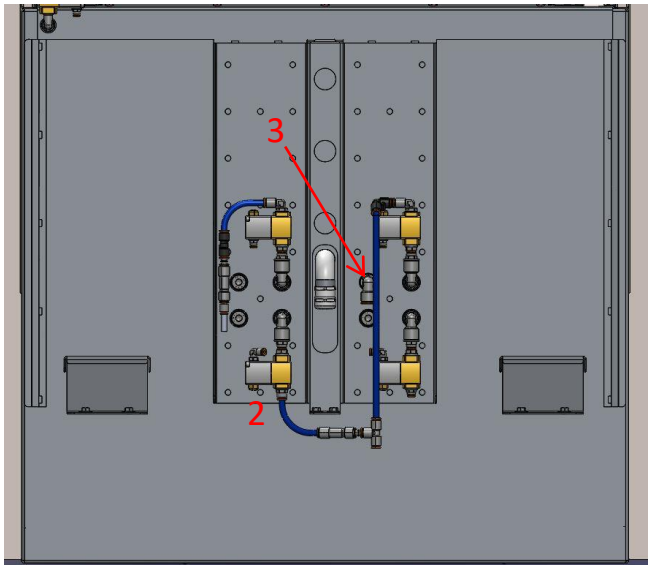
REMOVING THE GLOVE FLANGES

If a flange breaks, remove all 10 wing nuts (6) and remove it. If necessary, unscrew the sealing nuts on the flanges inside the cabin and remove it.

Check its integrity and operation.

A) **Rear cabin zone:** pneumatic valves, fittings and hoses





Lift the rear casing of the cabin upwards (1).

This will allow you to access the 4 pneumatic air and water control valves of the handpieces (2)

Bicarbonate inlet with central quick coupling (3)

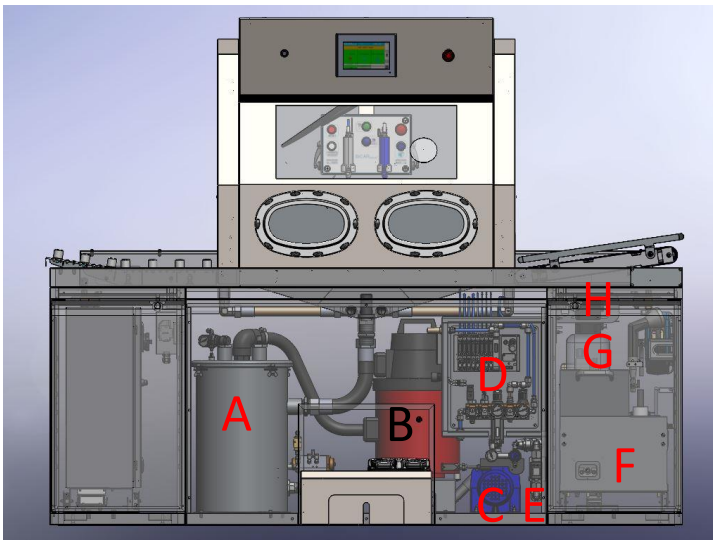
7.2 BENCH UNIT

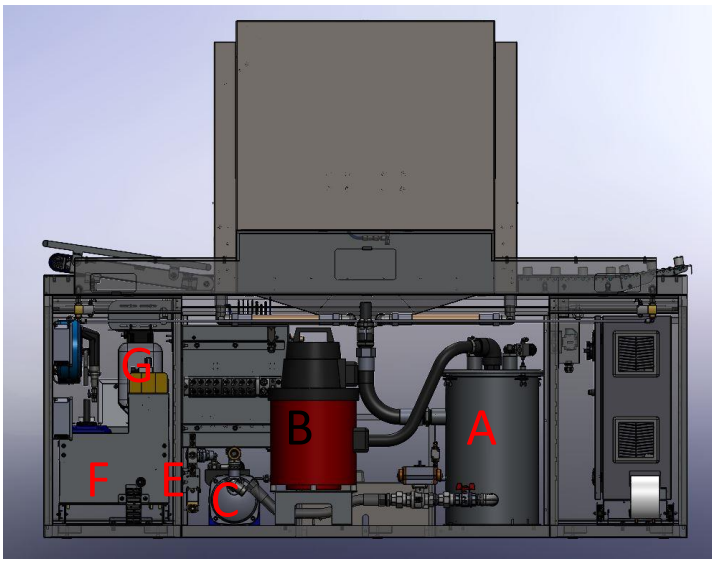
Remove the front casing of the bench to access:

A) Collection bin, level sensors, drains
B) Aspirator, filters
C) Drain pump, drain
D) Pneumatic unit, valve unit
E) Hydraulic unit

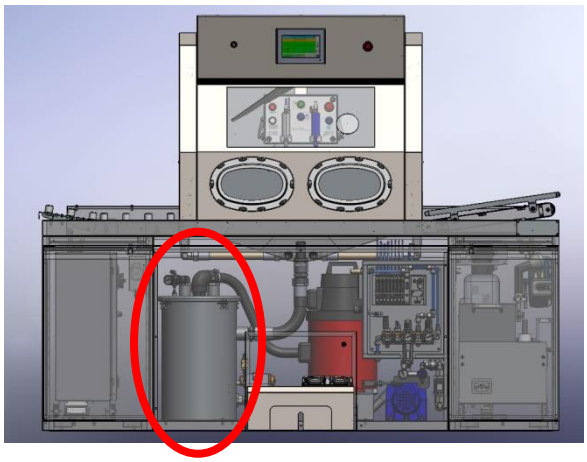
Right compartment:

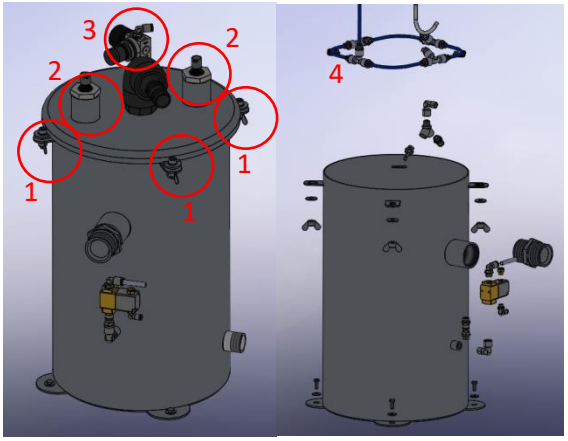
F) Bicarbonate feed unit, load cell
G) Peristaltic pump
H) RFID readers





A) COLLECTION BIN, LEVEL SENSORS, DRAINS





IMPORTANT:

BEFORE CARRYING OUT ANY WORK ON THE COLLECTION BIN, IT IS MANDATORY TO RUN A BIN CLEANING CYCLE, WHICH CAN BE STARTED VIA THE HMI PANEL. LOGIN AS A TECHNICIAN, ACCESS SETTINGS, PRESS THE SYSTEM OPTION AND START THE BIN CLEANING CYCLE. (SEE CHAPTER 10.15)

To remove the lid, unscrew the 4 fixing screws (1).

Use a sanitizing spray to sanitize the inside of the bin and the lid.

Check for solid residues. If necessary, use the hand shower in the compartment on the right of the bench to dissolve and rinse the residues.

There are 2 level sensors (2) on the lid, which can be removed by unscrewing the ring nut on the top of the lid. There is also a pressure regulator with a pressure gauge (3) to control the blowing of air inside the bin (4), which helps to dissolve the bicarbonate.

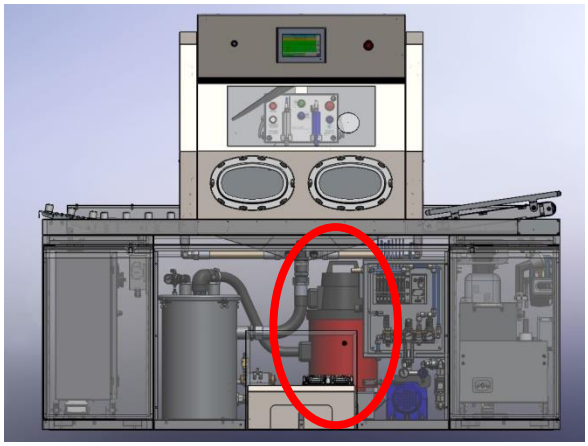
IMPORTANT: clean the tips of the sensors with water until all material has been completely removed and then dry. Make sure that the “Bin water level probe” light on page 1 of the diagnostics on the HMI panel is grey and not green.

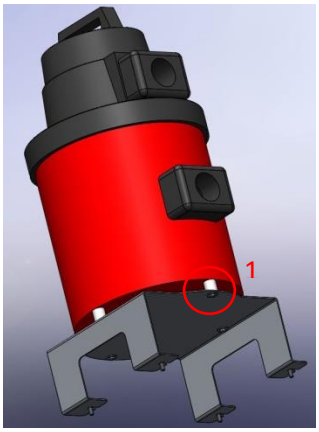
The connection of the aspirator hose, which can also be removed, is located at the centre.

Check for leaks and make sure that the drain hoses are securely connected to the bin.

At the bottom right of the bin, there is a pneumatic water inlet valve. Make sure there are no leaks.

B) ASPIRATOR, FILTERS





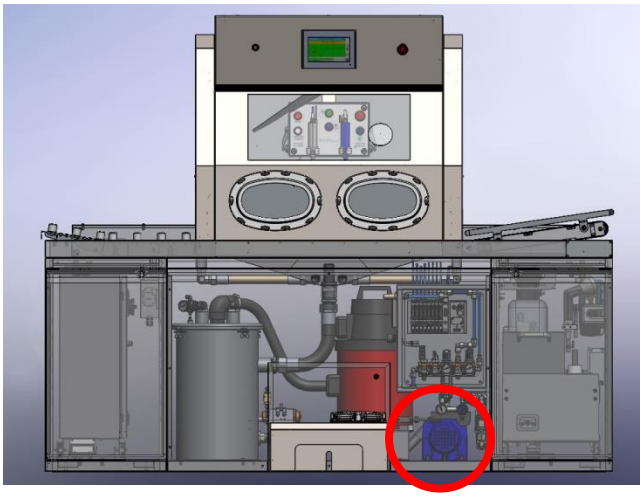
The aspirator is fixed to a metal support bracket on the bottom of the bench at the back.

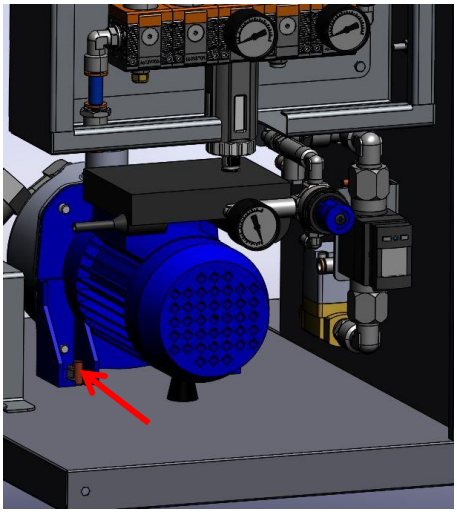
The aspirator is fitted with a HEPA 14 filter and is connected to the collection bin via a suction hose.

To replace it, unscrew the 4 fixing screws (1) on its support and disconnect the connector on the power cable.

A test cycle can be carried out on the aspirator (see chapter TEST CYCLE)

C) DRAIN PUMP, DRAIN





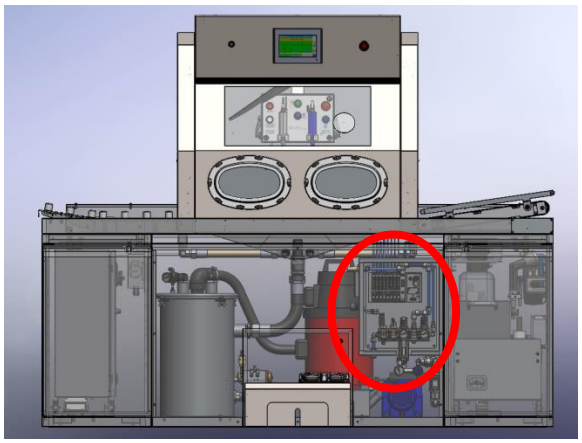
The drain pump is secured to the base of the bench by screws.

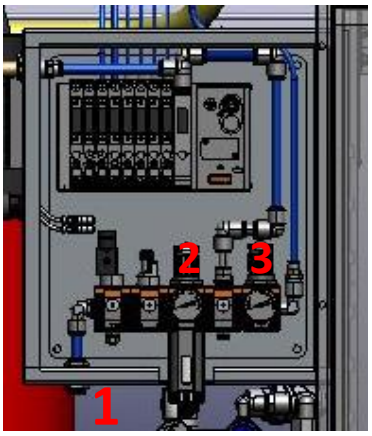
It is connected to the waste bin. Check for leaks and that the hose is properly secured.

To replace it, unscrew the fixing screws and disconnect the connector on the power cable. Disconnect the suction and delivery hose.

A test cycle can be carried out on the drain pump (see chapter TEST CYCLE)

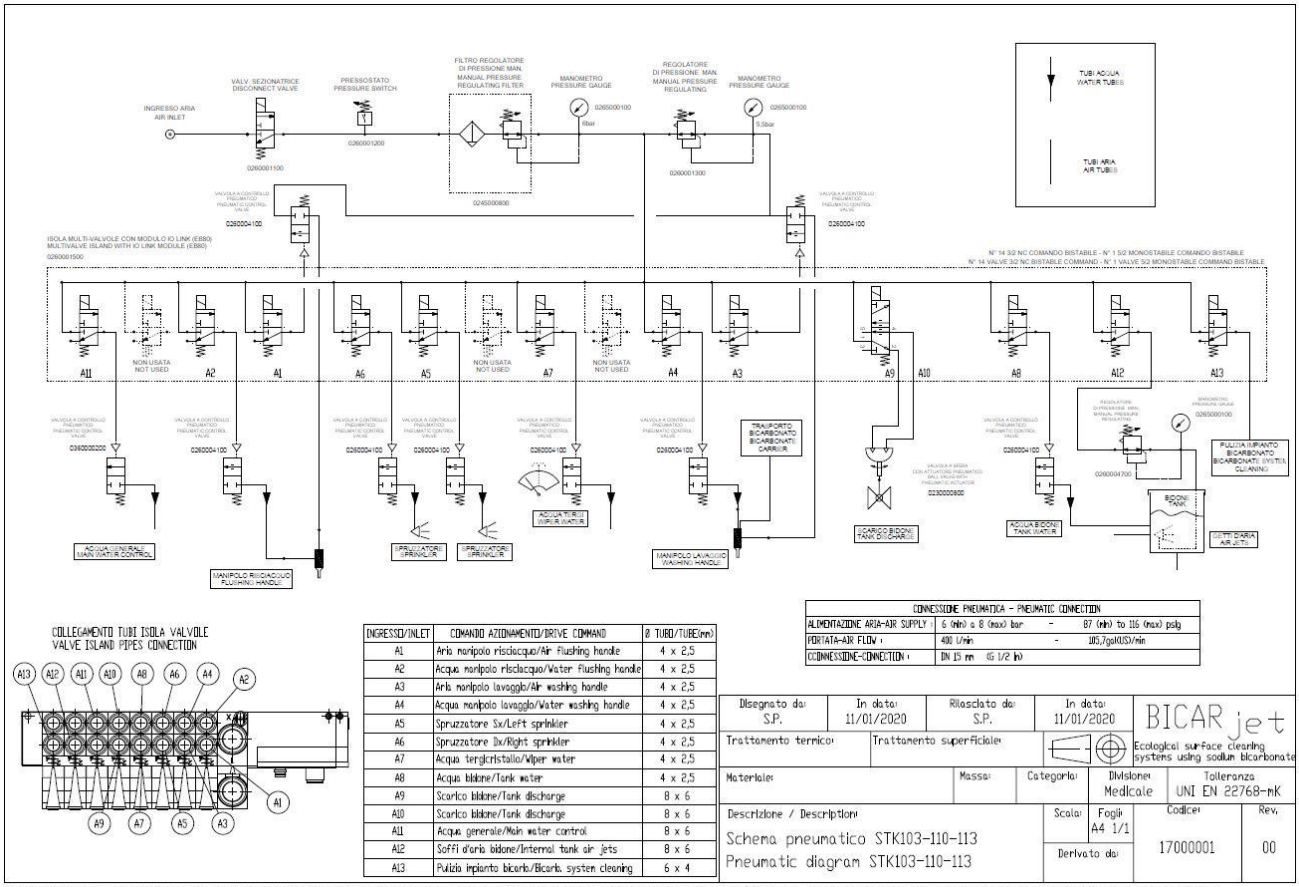
D) PNEUMATIC UNIT, VALVE UNIT



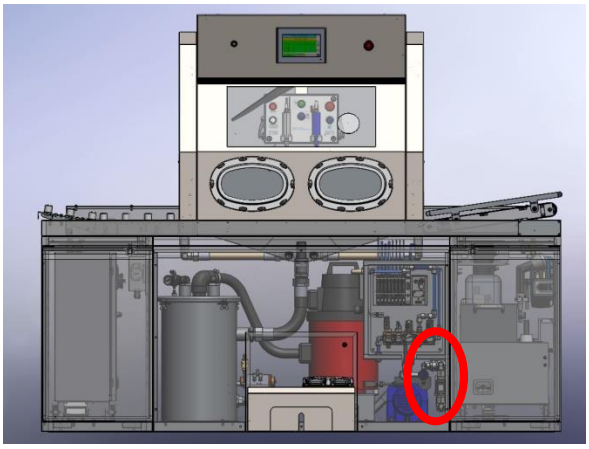


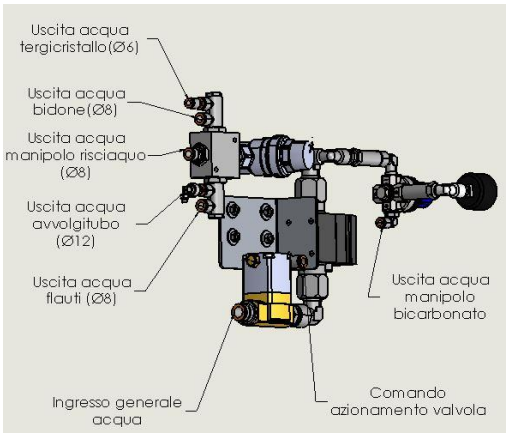
1. Air inlet to system
2. Air inlet pressure gauge – 6 bar
3. Handpiece air pressure gauge – 5.5 bar

For the pneumatic connections, see the diagram below.



E) HYDRAULIC UNIT

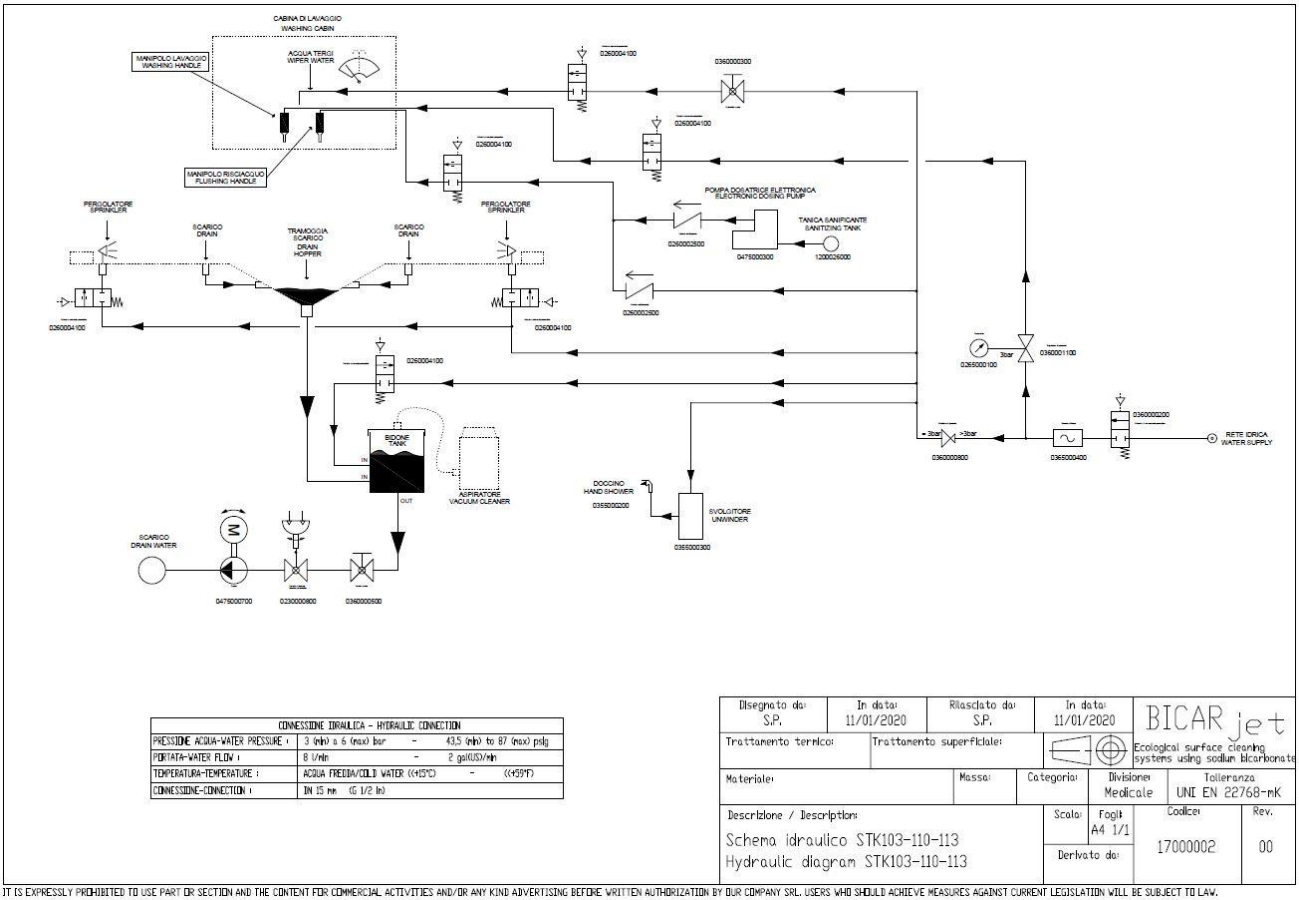




Hydraulic hose connections.

To gain access, remove the casing at the front of the bench by removing the visible screws. The hydraulic distribution unit is located under the pneumatic unit on the right of the bench.

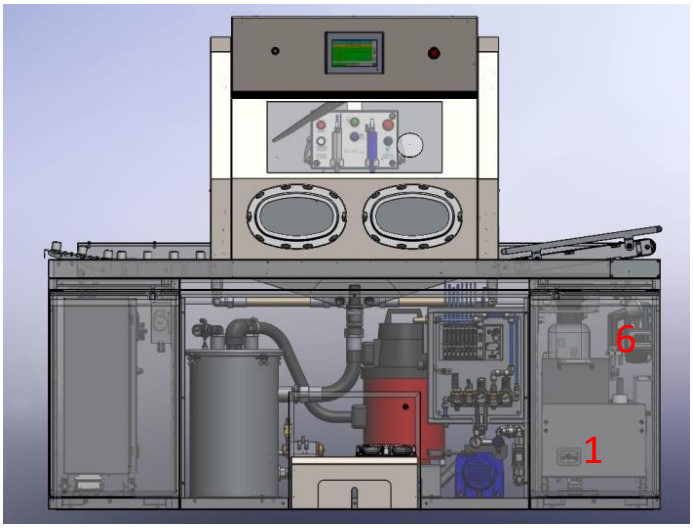
For the hydraulic connections, see the diagram below.

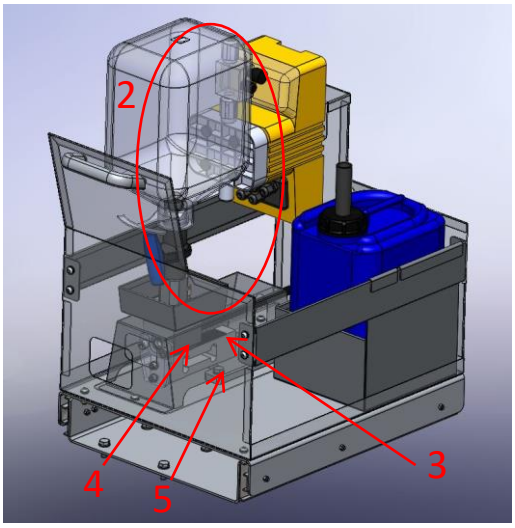


CONNESSIONE IDRAULICA - HYDRAULIC CONNECTION			
PRESSIONE ACQUA-WATER PRESSURE :	3 (min) a 6 (max) bar	-	43,5 (min) to 87 (max) psig
PORTATA-WATER FLOW :	8 l/min	-	2 gal(US)/min
TEMPERATURA-TEMPERATURE :	ACQUA FREDDA/COLD WATER (<+15°C)	-	(<+59°F)
CONNESSIONE-CONNECTION :	IN 15 mm (G 1/2 in)		

Disegnato da: S.P.	In data: 11/01/2020	Rilasciato da: S.P.	In data: 11/01/2020	BICAR jet
Trattamento termico:	Trattamento superficiale:			Ecological surface cleaning systems using sodium bicarbonate
Materiale:	Massa:	Categoria:	Divisione: Medicale	Tolleranza: UNI EN 22768-mK
Descrizione / Description: Schema idraulico STK103-110-113 Hydraulic diagram STK103-110-113		Scala:	Fogli: A4 1/1	Codice: 17000002
		Derivato da:		Rev.: 00

F) BICARBONATE FEED UNIT, LOAD CELL





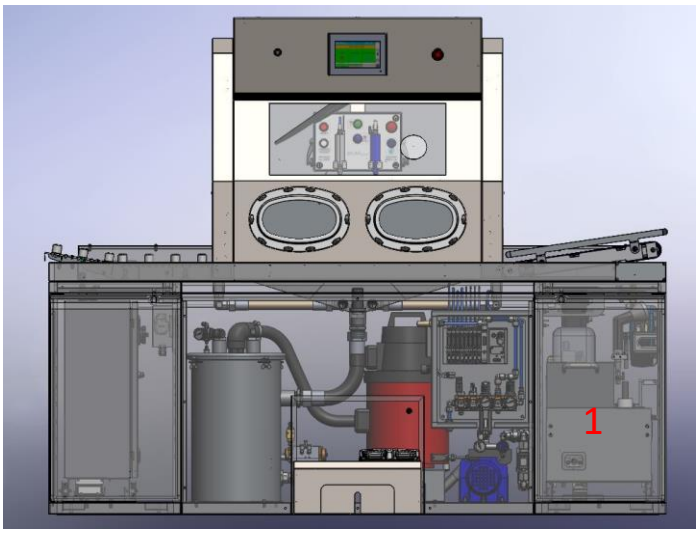
Open the right door of the bench. Remove the SAFEKLINIC (1) bicarbonate feed drawer and remove the bottle unit (2).

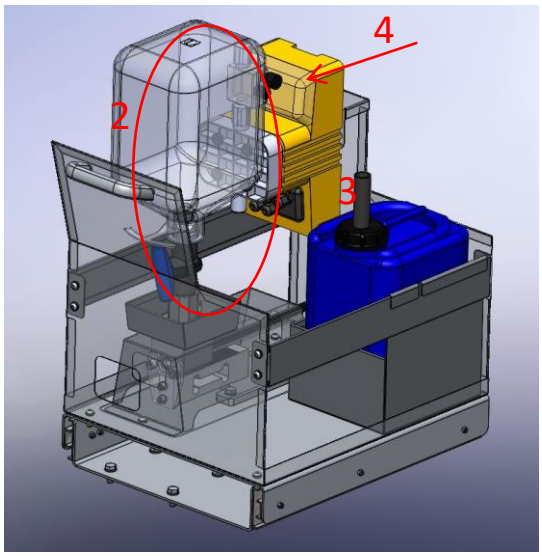
Vacuum or blow air to remove any residues of SAFEKLINIC from the work area.

Remove the casing and the containment tray by removing the visible fastening screws to access the bicarbonate feed unit (3) and check the patency/integrity of the injector (4) located on the top of the unit and the black feed hose connection.

The load cell is located directly below the unit (5). The control unit is located in a junction box on the right wall of the compartment (6).

G) PERISTALTIC PUMP





Open the compartment on the right of the bench. Remove the SAFEKLINIC bicarbonate feed drawer (1) and remove the bottle unit (2).

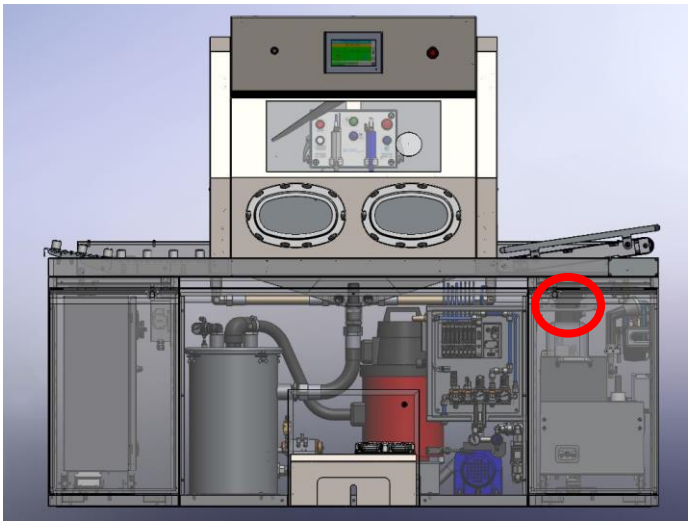
The peristaltic pump is located behind the bottle unit (3).

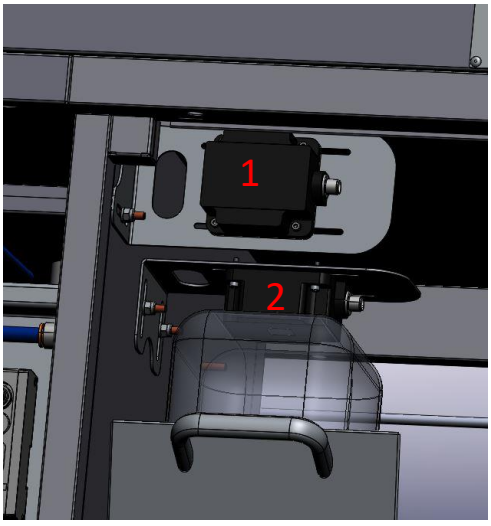
It can be removed from its bracket simply by pulling it upwards.

Be careful of the electrical and hydraulic connections and the flow sensor on the pump (4).

Prime the pump and carry out test cycles after it has been replaced. (see chapters 13.18.2 and 13.18.3)

H) RFID READERS





Open the right door of the bench. The RFID readers are located in the top left of the compartment.

The first vertical position is for reading the cards (1); the second horizontal position is for detecting SAFEKLINIC (2) bottles.

8 ALARMS

TYPES OF ALARM:

A = High probability of failure

B = Low probability of failure

C = No probability of failure

D = Normal (in most cases)

No.	MESSAGE	AUTO RESET	TYPE OF ALARM	CAUSE	SOLUTION
01	**EMERGENCY ON**	**NO**	**B-C**	1) Emergency button pressed	1) Release emergency button, press reset button.
02	**DOORS OPEN**	**NO**	**D**	1) Operating cycle started with doors open.	1) Close the doors.
03	**DRAIN WATER PUMP THERMAL**	**NO**	**A**	1) Thermal protection of the drain pump tripped. 3) Drain pump faulty or overheated.	1) Rearm the pump thermal magnetic circuit breaker. 3) Replace the drain pump. 3) Replace the thermal magnetic circuit breaker.
04	**INSUFFICIENT AIR PRESSURE**	**NO**	**B-C**	1) The inlet air pressure to the machine is too low. 2) Pneumatic circuit component failure.	1) Increase the inlet air pressure. 2) Make sure that all the pneumatic circuit components are working correctly.
05	**INSUFFICIENT WASH WATER**	**NO**	**B-C**	1) The inlet water flow rate is too low. 3) Hydraulic circuit component failure.	1) Increase the inlet water flow rate. 3) Make sure that all the hydraulic circuit components are working correctly.
06	**BICARBONATE CARTRIDGE NOT LOADED**	**NO**	**C-D**	1) The bottle of bicarbonate has not been placed in the housing. 2) Load cell failure.	1) Insert the bottle of bicarbonate. 2) Make sure that the load cell is working correctly. 2) Replace the load cell. (to be programmed)
07	**LOW BICARBONATE LEVEL**	**YES**	**C**	1) The bicarbonate in the bottle is running out.	1) Replace the empty bottle with a full one as soon as possible.
08	**INSUFFICIENT BICARBONATE LEVEL**	**NO**	**C**	1) The bicarbonate bottle is empty.	1) Replace the empty bottle with a full one.

09	**INCONSISTENT BICARBONATE LEVEL**	**NO**	**C**	1) The amount of bicarbonate left in the bottle is different from the amount in memory.	1) Replace the bottle of bicarbonate with a new one.
10	**BOTTLE RFID CODE NOT RECOGNIZED**	**NO**	**B-C**	1) The bicarbonate bottle is not positioned correctly.	1) Remove the bottle and insert it again. 1) Replace the bottle of bicarbonate with a new one.
11	**ASPIRATOR THERMAL**	**NO**	**A**	1) Thermal protection of the aspirator tripped. 2) Aspirator faulty or overheated.	1) Rearm the aspirator thermal magnetic circuit breaker. 2) Replace aspirator. 2) Replace the thermal magnetic circuit breaker.
12	-				
13	**MAXIMUM LEVEL OF DRAIN WATER**	**YES**	**B-C**	1) The bin is full and the pump cannot empty it. 2) Drain blocked.	1) Make sure that the drain pump is working correctly. 2) Check the drain hose connection and the bin-pump connection. 2) Check the tap between the bin and the pump; it must be open.
14	**WEIGHING DEVICE ERROR**	**NO**	**A**	1) Load cell connection problem. 2) Load cell damaged. 3) Load cell control unit damaged.	1) Check the load cell control unit. 1) Check the load cell wiring. 2) Replace the load cell. 3) Replace the load cell control unit. (to be programmed)
15	-				
16	**INSUFFICIENT SANITIZING LEVEL**	**NO**	**C-D**	1) The sanitizer has run out. 2) Sanitizer tank sensor faulty. 3) Sanitizer tank cap missing.	1) Top up sanitizer tank. 2) Replace tank sensor. 3) Replace the sanitizer tank cap.
17	**INSUFFICIENT SANITIZING FLOW**	**NO**	**A**	1) Sanitizer flow during the sanitizing cycle is too low. 2) Sanitizer circuit connection hose clogged. 3) Sanitizer filter clogged. 4) Sanitizer flow switch faulty or incorrectly adjusted.	1) Check the operation of the dosing pump. 2) Check the sanitizer circuit and check for obstructions or pinched hoses. 3) Clean the filter. 4) Check the operation of the flow switch and adjust if necessary.
18	**WATER LEVEL SENSOR**	**NO**	**A**	1) Maximum water level sensor activated but normal water level sensor not active.	1) Make sure that the maximum level sensor is not dirty.

					1) Replace normal water level sensor.
19	**WATER DRAINAGE**	**YES**	**C-D**	1) Normal level sensor does not de-energize after 100 seconds of drain pump running. 2) Normal water level sensor faulty.	1) Make sure that the drain pump is working. 1) Make sure that the water drain is not clogged. 1) Make sure that the normal water level sensor is not dirty. 2) Replace normal water level sensor.
20	**LOW SANITIZATION WATER FLOW**	**NO**	**B-C**	2) No water or low water pressure.	2) Make sure there is water and check its pressure.
21	**ALARM SANITIZING PUMP**	**NO**	**B**	1) Dosing pump alarm.	1) Reset the alarm by pressing the "start-stop" button on the dosing pump.
22	**COMMUNICATION WITH WEIGHING DEV.**	**YES**	**D**	1) Profinet communication problem between load cell control unit and PLC. 2) MASTER IO-LINK network block faulty. 3) Load cell control unit faulty.	1) Check network cable on load cell transmitter. 2) Make sure that the MASTER IO-LINK network block is switched on and communicating correctly with the PLC. 3) Check that the load cell control unit is switched on. 3) Replace load cell control unit. (to be programmed)
23	-				
24	**WEIGHING CELL ERROR**	**NO**	**A**	1) Load cell faulty.	1) Check the load cell wiring. 1) Replace the load cell. 1) Replace the load cell control unit.
25	-				
26	**MAXIMUM TIME FOR FILLING THE BIN**	**NO**	**A**	1) During the bin cleaning cycle, the normal water level sensor does not energize after 150 seconds. 2) Normal water level sensor faulty.	1) Use the diagnostics to check the activation of the solenoid valve on the bin and the relative water outlet. 2) Replace the normal water level sensor.
27	-				
28	-				
29	-				

30	-				
31	-				
32	-				
33	-				
34	-				
35	-				
36	-				
37	-				
38	-				
39	-				
40	-				
41	-				
42	-				
43	-				
44	-				
45	-				
46	-				
47	-				
48	-				
49	-				
50	**LOAD DOOR OPEN DURING CYCLE**	**NO**	**D**	1) Doors open during the machine operating cycle.	1) Close the doors. 1) Check door position sensors.
51	**UNLOAD DOOR OPEN DURING CYCLE**	**NO**	**D**	1) Doors open during the machine operating cycle.	1) Close the doors. 1) Check door position sensors.
52	-				
53	-				
54	-				

55	**DOOR OPENING-CLOSING TIMEOUT**	**NO**	**A**	1) The doors do not open / close within the set time.	1) Check the door opening / closing mechanism. 1) Restart the machine.
56	**OPERATOR RFID ERROR**	**NO**	**B**	1) Card not held in front of the reader for long enough. 2) RFID TAG read error.	1) Reset the alarm and try again. 1) Hold the card in front of the reader for longer. 2) Make sure that the operator card is not damaged. 2) Request a new operator card.
57	**BOTTLE RFID ERROR**	**NO**	**B**	1) Bicarbonate bottle RFID tag read/write error. 2) Non-certified bicarbonate bottle. 3) Bicarbonate bottle not in its housing or inserted incorrectly.	1) Check that there is a tag on the bottle and/or for any obstructions that could prevent it from being read. 2) Only use the bottles supplied and certified. 3) Insert the bottle correctly in the housing.
58	**LOAD DOOR EDGE PRESSED**	**NO**	**A**	1) The safety edge of the loading door is pressed. 2) Loading door safety edge fault. 3) Loading door safety edge control unit or wiring fault	1) Check for obstacles under the loading door. 2) Replace the loading door safety edge. 3) Check the wiring or replace the control unit.
59	**UNLOAD DOOR EDGE PRESSED**	**NO**	**A**	1) The safety edge of the unloading door is pressed. 2) Unloading door safety edge fault. 3) Unloading door safety edge control unit or wiring fault	1) Check for obstacles under the unloading door. 2) Replace the unloading door safety edge. 3) Check the wiring or replace the control unit.
60	**BICARBONATE BLOCKED**	**NO**	**A**	1) Lump of bicarbonate blocking the feed circuit or in the handpiece.	1) Clean the bicarbonate feed unit. See chapter Routine maintenance: monthly.
61	**MEDIUM LOW BICARBONATE FLOW**	**NO**	**C**	1) Flow rate of bicarbonate delivered by the handpiece not consistent with the machine parameter.	1) Check the bicarbonate feed circuit.
62	**LOG CREATION ERROR**	**NO**	**C-D**	1) Memory full	1) remove the SD card from the PLC and download the data (send data to the manufacturer)
63	**LOG WRITING ERROR**	**NO**	**C-D**	1) random interference with the PLC	1) reset

64	**LOG OPENING ERROR**	**NO**	**C-D**	1) random interference with the PLC	1) reset
65	**USER NOT RECOGNIZED**	**NO**	**C-D**	1) Card not coded	1) use already coded cards or create a new one
66	**CUMULATIVE ROLLER CONVEYOR MOTOR ERROR**	**NO**	**B**	1) Motor error	1) Restart the machine and see if the problem persists. If necessary, check the wiring and any alarm messages on the control unit.

9 DISPOSAL

Do not dispose of this product and its accessories as unseparated waste. Prepare the product for recycling or separate collection in accordance with Italian Legislative Decree no. 49 of 14 March 2014 entitled "Implementation of Directive 2012/19/EU, on waste electrical and electronic equipment (WEEE)".

When used in hospitals, follow their internal rules for the disposal of electrical and electronic waste.

10 TECHNICAL FEATURES

Model	SAFE CLEAN BOX
Code	STK110
Dimensions	2100 mm (w) x 834 mm (d) x 1705 mm (h)
Weight	550 kg
Power supply	220 V - 50 Hz - 16 A
Power consumption	3.2 kW

Environmental conditions	Temperature:	Use	+5 / +40°C
		Storage / transport	-20 / +70°C
	Humidity:	Use	20 / 80% Rh non-condensing
		Storage / transport	5 / 95% Rh non-condensing
	Atmospheric pressure:	Use	800 hPa
		Storage / transport	500 to 800 hPa (375 - 600 mm Hg)

11 LABELLING

11.1 RATING PLATE INFORMATION

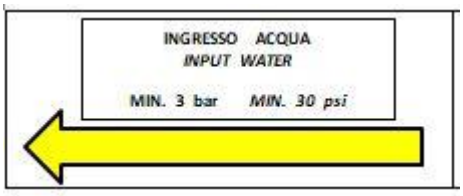
<table>
<tr><td colspan="2">BICARjet
Tel. +39 0497808036
E-mail: info@bicarjet.com</td><td>BICARjet S.r.l.
Via Nona Strada, 4 –
35129 Padova, Italia</td></tr>
<tr><td colspan="3">SAFE CLEANBOX</td></tr>
<tr><td>REF</td><td colspan="2">[codice del prodotto]</td></tr>
<tr><td>SN</td><td colspan="2">[numero di serie]</td></tr>
<tr><td colspan="3">[UDI]</td></tr>
<tr><td></td><td colspan="2">230 V, 50 Hz, xxx KW</td></tr>
<tr><td>IT
AAAA/MM/GG o
AAAA/MM</td><td>40°C
5°C</td><td></td></tr>
<tr><td></td><td>MD</td><td>CE</td></tr>
</table>

11.2 INTERNAL MARKINGS

All protective earth terminals have this marking.

11.3 WATER SUPPLY, COMPRESSED AIR AND DRAINAGE

The following marking will be located near the connection between the hydraulic circuits of the device and structure.



The following marking will be located near the connection between the compressed air circuit of the device and the distribution network of the structure.

The following marking will be located near the connection with the liquid drain.

11.4 WARNING MARKINGS

The following markings are located on the door of the electrical panel.

11.5 SAFETY SYMBOLS AND LABELLING

	Connection of the protective earth conductor
	Direction and characteristics of flow
	Direction of the discharge flow with the presence of potentially bio-contaminating residues
	Danger due to the presence of live parts
	Generic attention symbol
	Hand crushing hazard
	Compliant with Council Directive 93/42/EEC and subsequent amendments, MD Class I.
	Do not use water or liquids for washing/cleaning
	Sanitizer tank compartment
SAFEKlinic® CLEAN WITH CARE	**SAFEKLINIC®** bottle compartment

12 ELECTROMAGNETIC COMPATIBILITY

12.1 EMC WARNINGS

The appliance complies with the collateral standard CEI EN 61326-1 applicable to the product and relating to electromagnetic compatibility.

	THE APPLIANCE MUST BE INSTALLED AND COMMISSIONED ACCORDING TO THE EMC INFORMATION PROVIDED IN THIS SECTION.
	THE EQUIPMENT MAY BE AFFECTED BY COMMUNICATION EQUIPMENT AND MOBILE PHONES.
	THE EQUIPMENT MUST ONLY BE USED WITH THE CABLES SPECIFIED BY THE MANUFACTURER.
	THE DEVICE MUST NOT BE USED NEAR OR IN COMBINATION WITH OTHER EQUIPMENT IN ORDER TO AVOID INTERFERENCE DURING NORMAL USE.

The device falls into group 1 and class A, according to the definitions of the EN 55011 standard, as follows:

- Group 1: Group 1 includes all equipment covered by the EN 55011 standard which does not fall within the definition of group 2 equipment.
- Class A: equipment suitable for use in all places other than those in residential environments and those directly connected to a low voltage power supply network for buildings put to domestic uses.

13 SW MANUAL - HMI PANEL

13.1 INTRODUCTION

Guide to using the graphical control interface of the touch panel mounted on SAFE CLEANBOX model STK110 machines.

13.2 SYSTEM LOGIC

A special touch screen has been provided to enable the operator to interact easily with the machine. It contains software that controls the graphic and sound notification system that alerts the user of potential problems. It makes it easier for the user, both when using the machine normally and when troubleshooting problems. It also provides numerous functions and useful information during the routine use of the machine. This system was implemented to facilitate troubleshooting and the correct interpretation of alarms during factory testing, first installation, technical assistance and normal use.

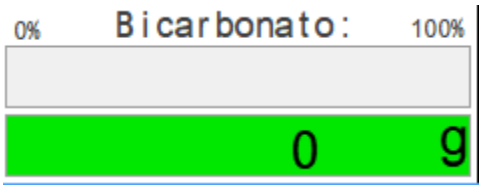
13.3 GRAPHICAL INTERFACE

On the HOME screen  , there are numerous types of indicators that allow the active functions and the main types of information to be displayed quickly. On the right of the screen, there are also softkeys for the most frequently used functions.

13.4 TYPES OF INDICATORS AND INFORMATION

-PERCENTAGE OF BICARBONATE IN THE BOTTLE

-REAL TIME BICARBONATE USAGE INDICATOR



-REAL-TIME WATER FLOW INDICATOR

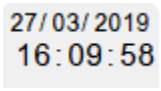
-NO CABIN SANITIZER INDICATOR

-NO COMPRESSED AIR INDICATOR

-LOGGED ON USER AND TAG No. INDICATOR

-MACHINE STATUS INDICATOR

-SYSTEM DATE AND TIME INDICATOR



-CABIN GLOVE INFLATION CYCLE SOFTKEY

-LOGOUT / LOGIN SOFTKEY

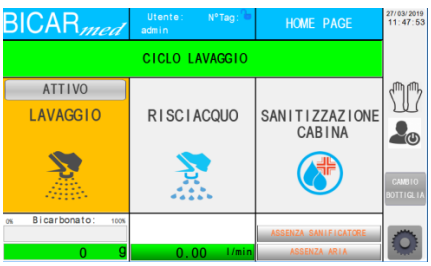
-SETTINGS SOFTKEY

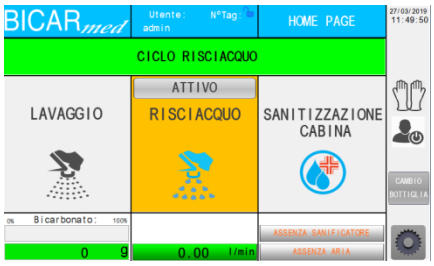
-CABIN SANITIZATION CYCLE SOFTKEY

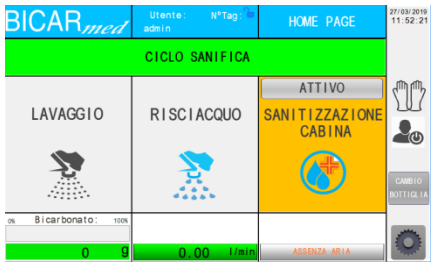
13.5 MAIN FUNCTION INDICATOR

The machine is fitted with 2 handpieces located in front of the control panel inside the washing cabin. These are used to clean the contaminated instruments and both are controlled by a double pedal on the floor. When the machine is ready, pressing the pedal on the left will cause air, water and bicarbonate to flow out from the left handpiece and the washing status will appear on the screen (fig. 1). Similarly, pressing the right pedal will deliver a jet of pressurized water from the right handpiece, i.e. from the handpiece used for rinsing the instruments (fig. 2). Touching the CABIN SANITIZATION softkey will activate the cabin sanitization cycle and a flow of water will be delivered from the right handpiece for approximately 60 seconds, which will quickly rinse the cabin before the sanitization cycle begins, in which a sanitizing product (fig. 3) will be mixed with the flow of water. For further information about the sanitization cycle, see chapter 14.

FIG.1 **FIG.2** **FIG.3**

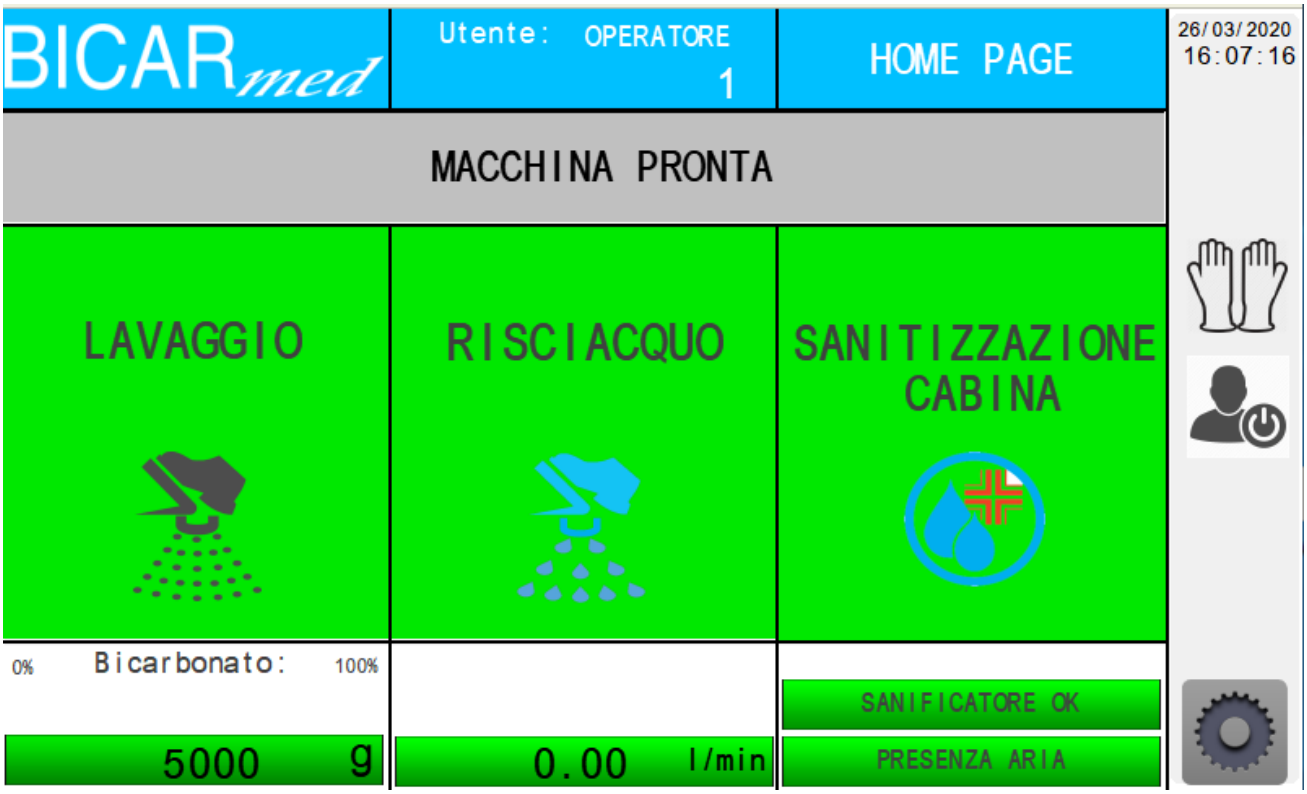






13.6 MACHINE STATUS

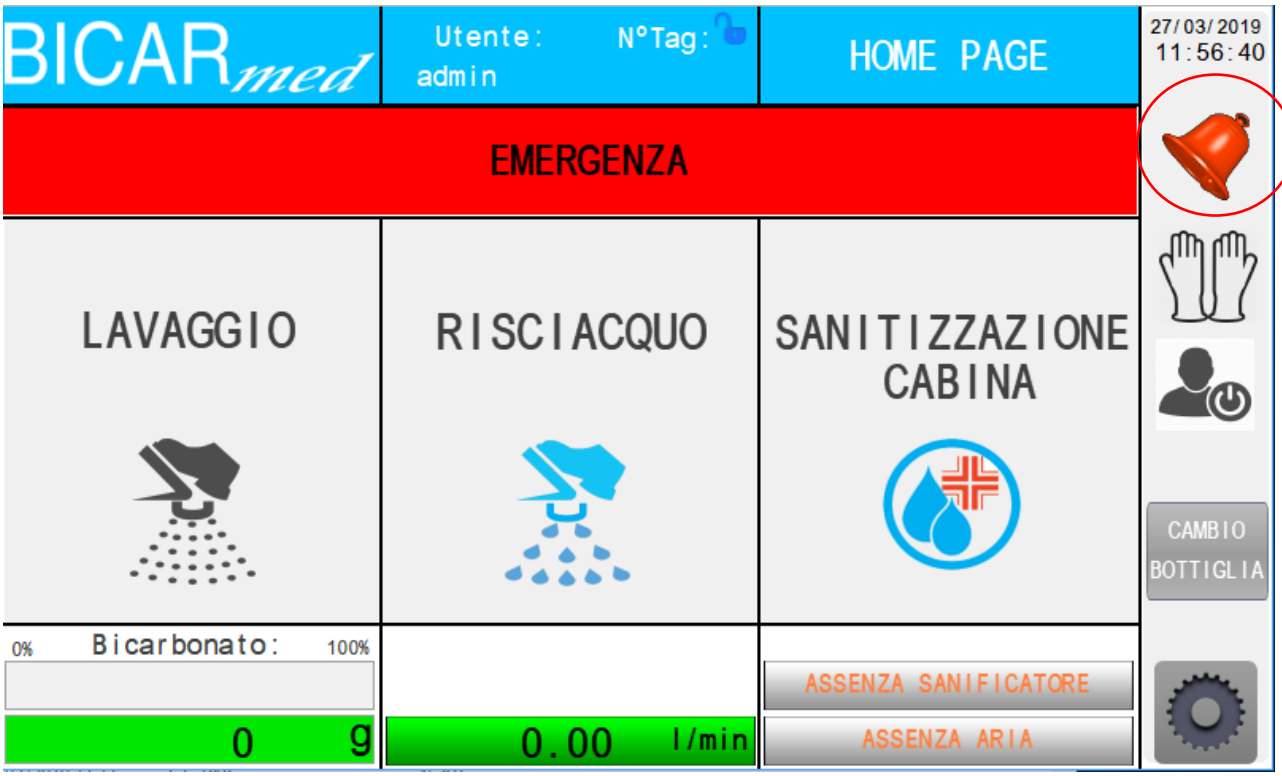
With the machine switched on and ready, the following appears on the HOME screen  :



STATUS: MACHINE READY

ALARMS ICON: ABSENT

If there is a fault or the notification of a problem, the HOME screen will appear like this:

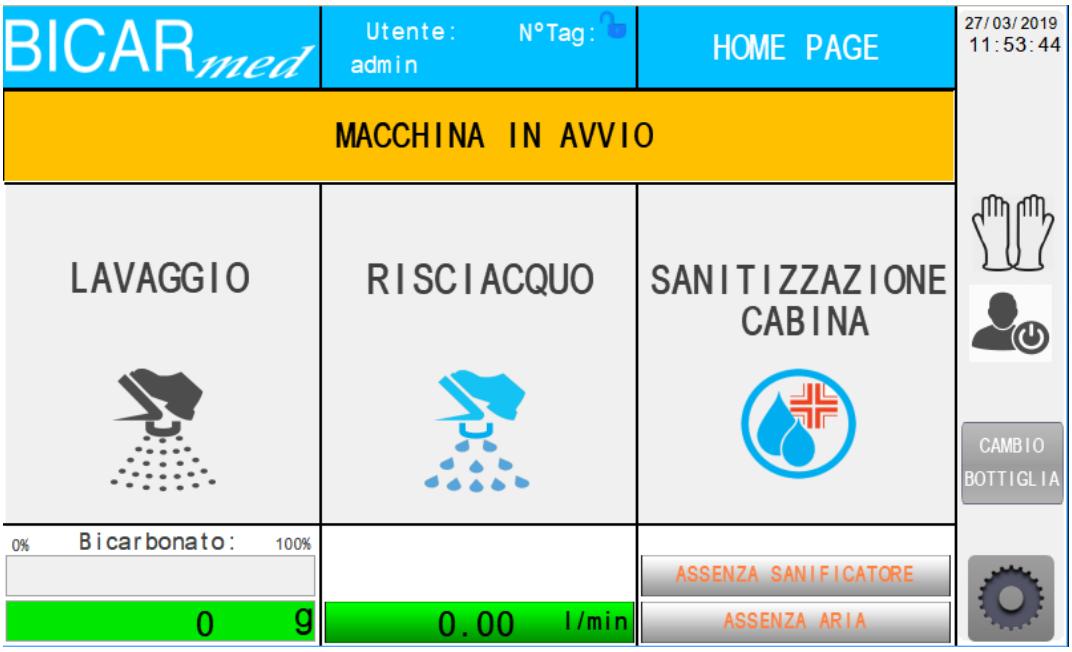


STATUS: MACHINE IN EMERGENCY MODE

ALARMS ICON: PRESENT

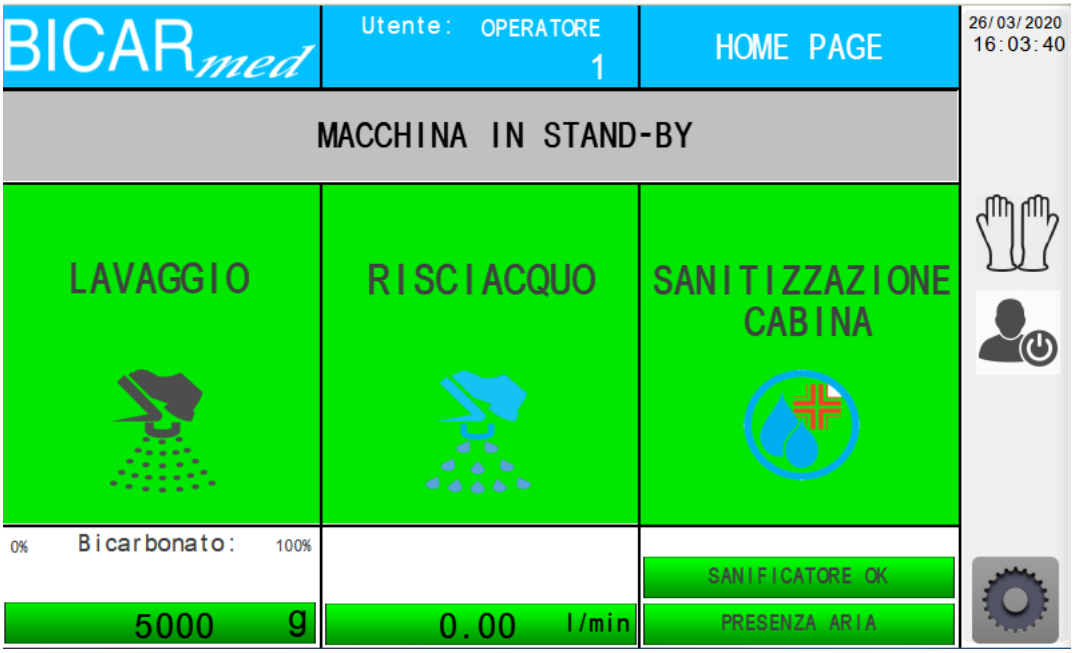
In this case, touch the ALARMS  softkey to display the active alarms window.

When the machine is starting up, the HOME screen will appear as follows:



After a certain period of inactivity, the system is programmed to go into Stand-by mode .

This mode minimizes energy consumption and machine noise.

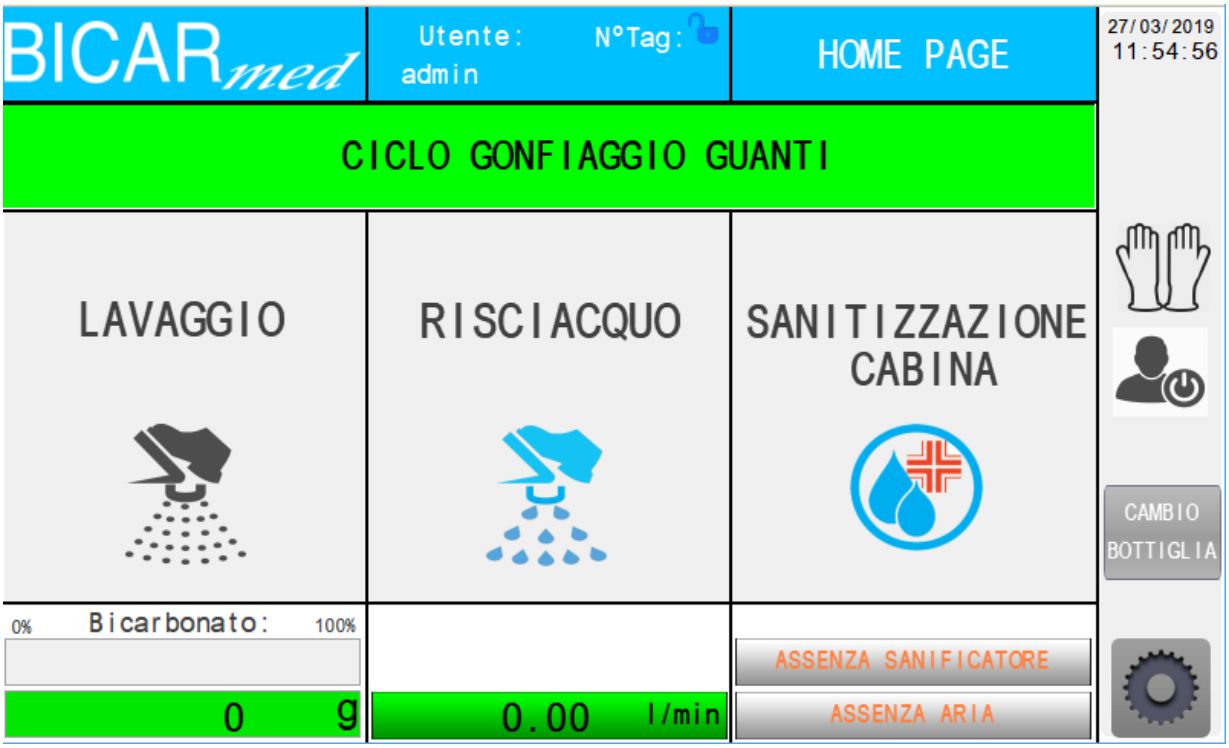


You can switch to Stand-by mode by simply pressing the touch button on the upper front casing.

13.7 GLOVE INFLATION CYCLE.

This function inflates both gloves, making it easier to put them on.

To activate the automatic glove inflation cycle, press the relative softkey  on the screen.



13.8 ACCESS LEVELS AND LOGIN.

Logging in allows the machine to "recognize" the type of operator, who may have a certain level of access to the machine.

ACCESS LEVELS:

-Machine operator (A)

-Head of department (B)

-Technician (C)

-Manufacturer (D)

MACHINE OPERATOR (A)

Anyone who is only authorized to operate the machine for cleaning medical instruments.

-HEAD OF DEPARTMENT (B)

The person who supervises and manages all the operators who can operate the machine.

TECHNICIAN (C)

Anyone authorized by the manufacturer to carry out maintenance on the machine.

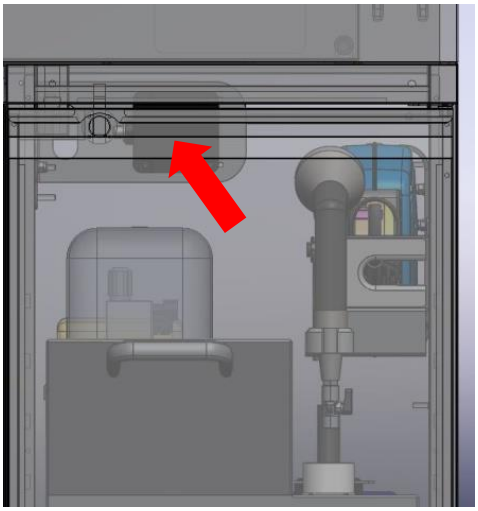
MANUFACTURER (D)

HOW TO LOG IN

- using an RFID card

LOGIN USING A BICARMED RFID CARD.

To login using an RFID card, place the card on the RFID reader inside the right compartment of the machine bench.



HOW TO LOG OUT.

The operator can LOGOUT when the machine operator changes or if technical assistance is requested.

In order to logout, the operator should press the softkey on the HOME screen  .

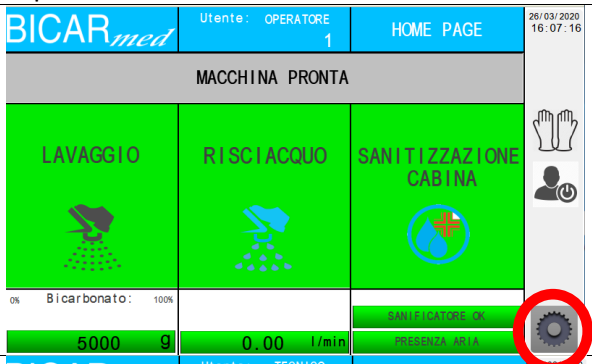
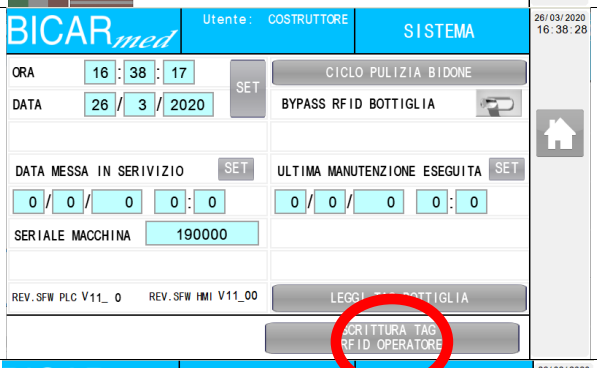
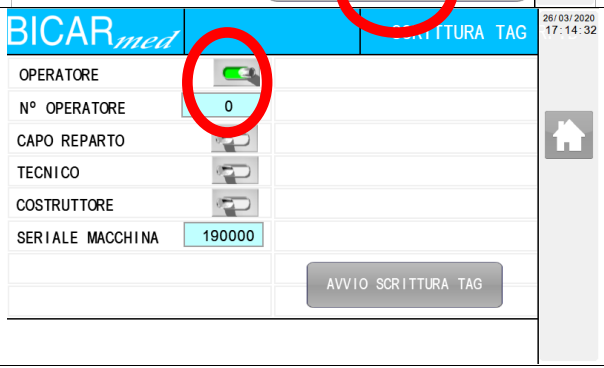
Once logged out, the same softkey will go back to being shown as the  icon.

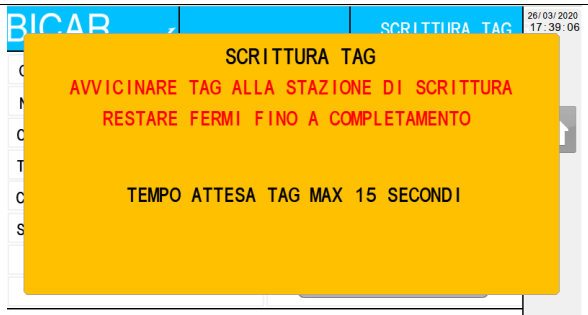
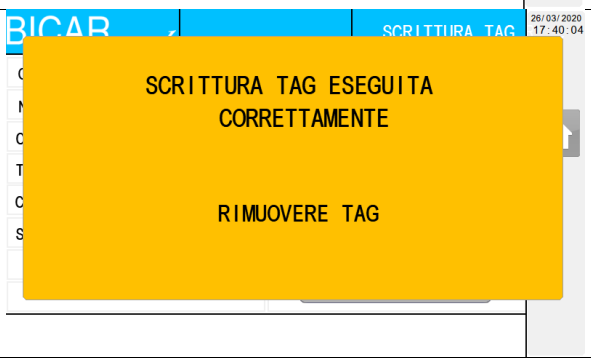
To go back to the previous screen, simply press the "HOME" softkey 

13.9 CREATING A NEW OPERATOR

CREATION OF NEW OPERATOR WITH CARD

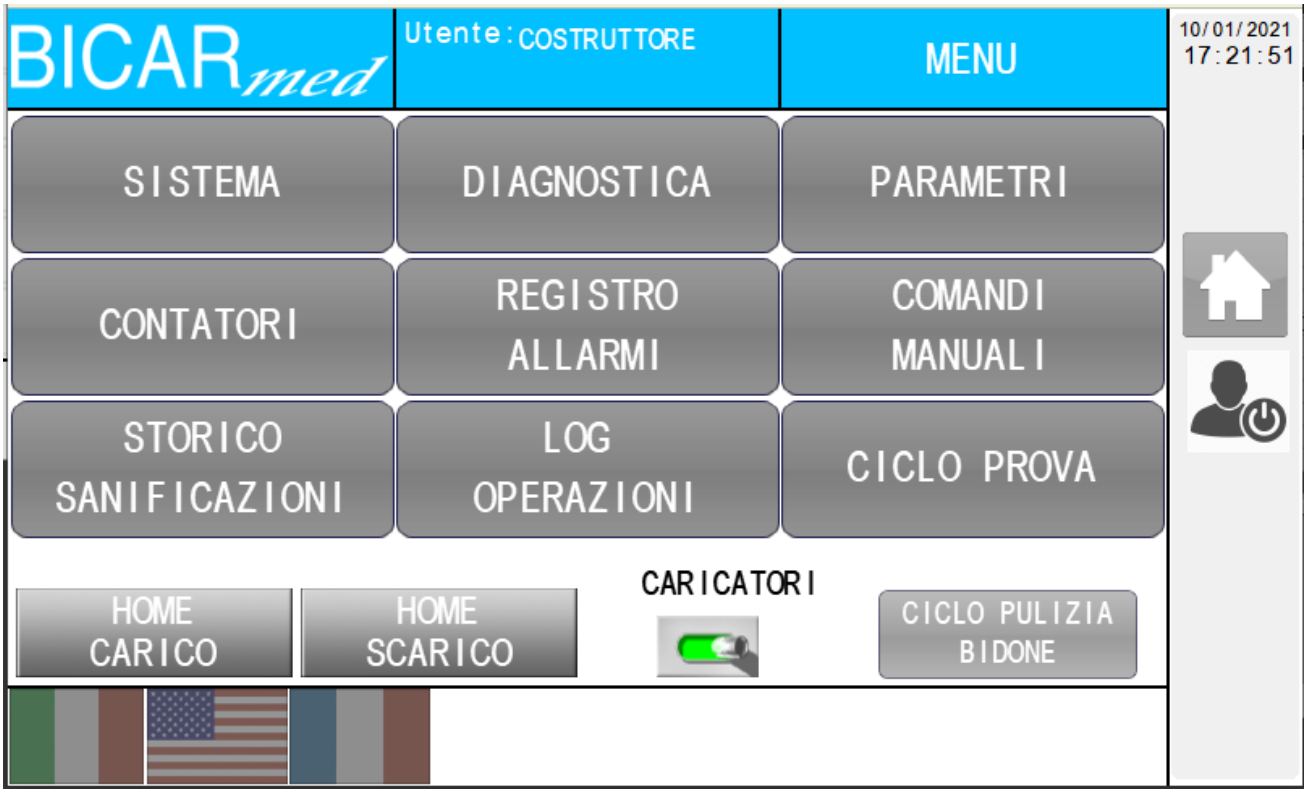
This operation can be carried out only by a Head of Department.

Log in as a head of department.	
Press the impostazioni (settings) icon.	
Press the sistema (system) key.	
Press the scrittura tag rfid operatore (write operator RFID tag) key.	
Select the operator level with the key and write the new identification number of the card.	

At this point, hold the new card up against the RFID reader located in the compartment on the right of the bench. Writing of the new card is instantaneous.	
Check the monitor for the following message:	
Creation of the new operator is completed.	

13.10 SETTINGS

Depending on the access level, additional machine menus can be accessed using the softkey button  on the HOME screen 



There are various main softkeys in the SETTINGS menu that are described individually in the following chapters.

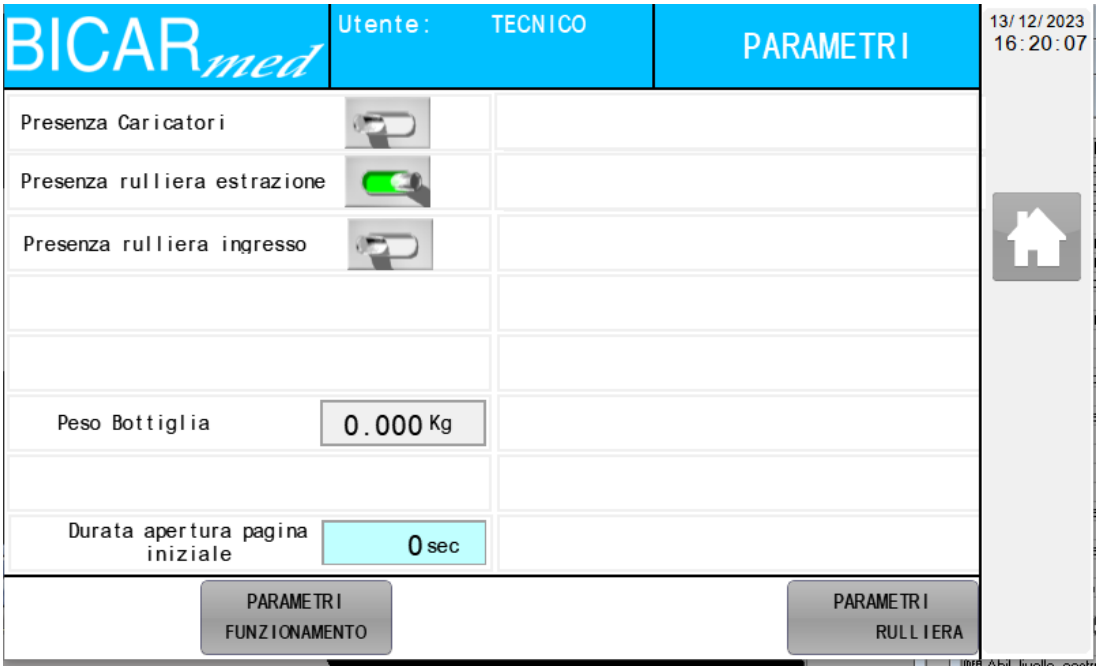
13.11 SETTING THE SYSTEM LANGUAGE

To set the system language to ITALIAN, press the softkey at the bottom left indicated by the Italian flag.

To set the system language to English, press the softkey at the bottom left indicated by the American flag.

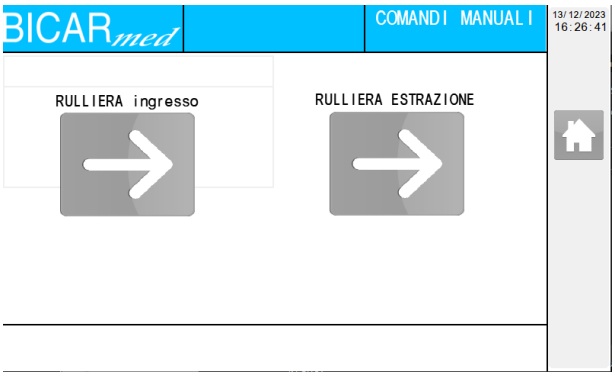
13.12 ENABLING THE CONVEYOR BELT

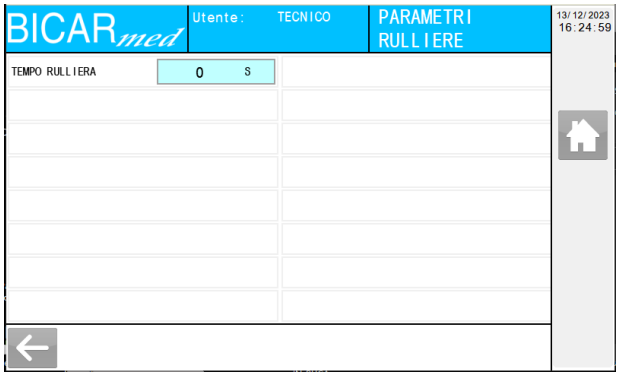
Go to the "PARAMETERS" menu to enable the conveyor belt.



Enable the softkey for the presence of the outfeed roller conveyor if the conveyor belt is installed in front of the tray outlet; enable the softkey for the presence of the infeed roller conveyor if it is installed in front of the tray infeed door. The "Loaders present" softkey must always be disabled.

At the bottom right of the "PARAMETERS" screen, there is a "ROLLER CONVEYOR PARAMETERS" softkey for setting the conveyor belt operating parameters. However, from the main menu, by pressing the "MANUAL CONTROLS" softkey, it is possible to access the conveyor manual control screen.





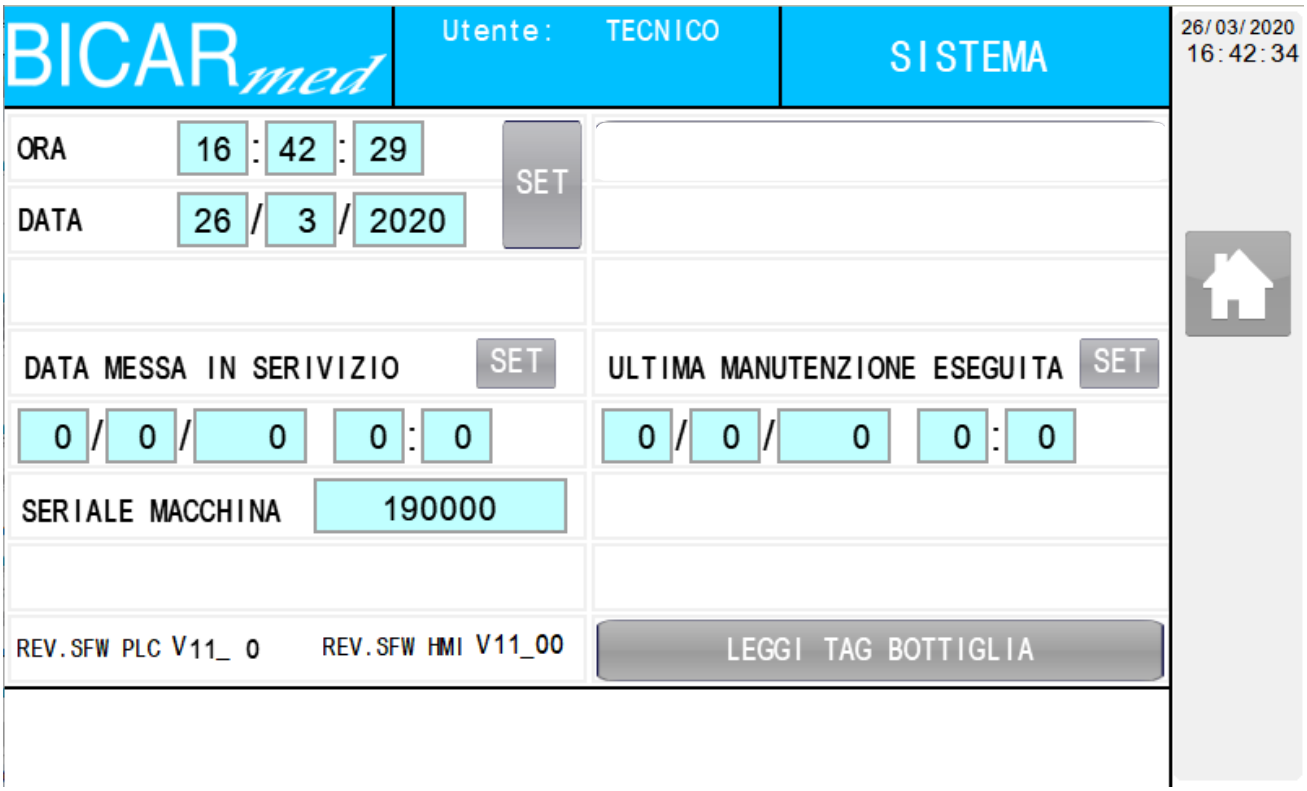
To go back to the previous screen, simply press the "HOME" softkey 

13.13 SYSTEM

The system screen is a main submenu used to enter some basic settings such as the time and date.

ACCESS LEVEL: HEAD OF DEPARTMENT (B) TECHNICIAN (C)

To access the system screen, press the "SETTINGS" softkey  on the HOME screen and then press "SYSTEM" on the next screen.



13.13.1 SETTING THE SYSTEM TIME AND DATE

To enter the date and time, touch the relative fields and enter the current date and time via the on-screen keyboard. Then press the “SET” button to set them.

13.13.2 AUTOMATIC BIN CLEANING CYCLE

The automatic bin cleaning cycle can be run from this screen by simply pressing the "BIN CLEANING CYCLE" softkey. The cleaning cycle will end automatically.

13.13.3 HMI AND PLC SOFTWARE VERSION

The version of the software installed is displayed in the lower left of the screen.

To go back to the previous screen, simply press the "HOME" softkey 

13.14 DIAGNOSTICS

The system is provided with a series of diagnostic screens that allow the operator to carry out an initial diagnosis with the assistance of CUSTOMER CARE.

ACCESS LEVEL: MACHINE OPERATOR (A) HEAD OF DEPARTMENT (B) TECHNICIAN (C)

To access the diagnostics screen, press “SETTINGS”  on the HOME screen and then press “DIAGNOSTICS” on the following screen.

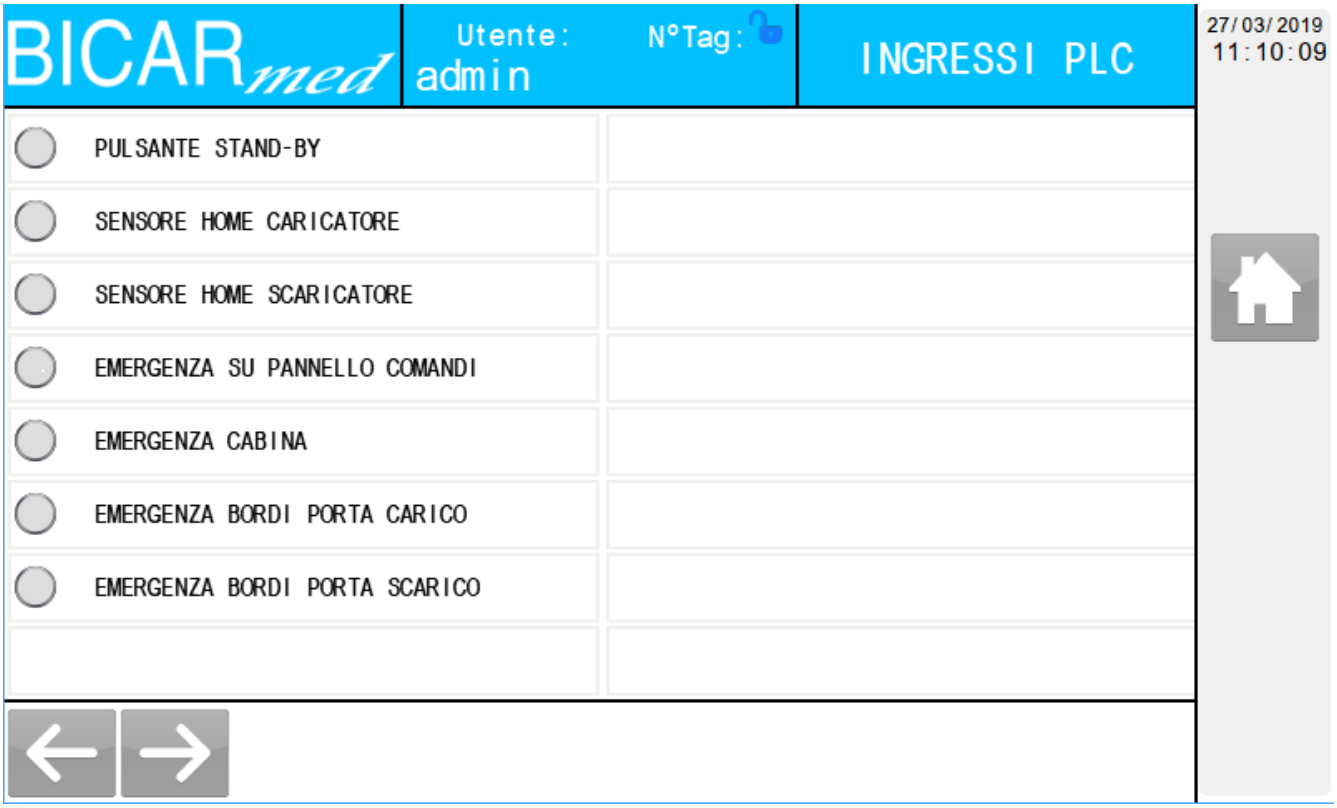
THE FOLLOWING DIAGNOSTICS SCREENS SHOW THE ACTIVATION STATES UNDER NORMAL USE.

THE MACHINE STATUS CAN BE CHECKED USING THE FOLLOWING IMAGES AND COMPARING THE VARIOUS ACTIVATIONS WITH THE ONES DISPLAYED ON THE MACHINE.

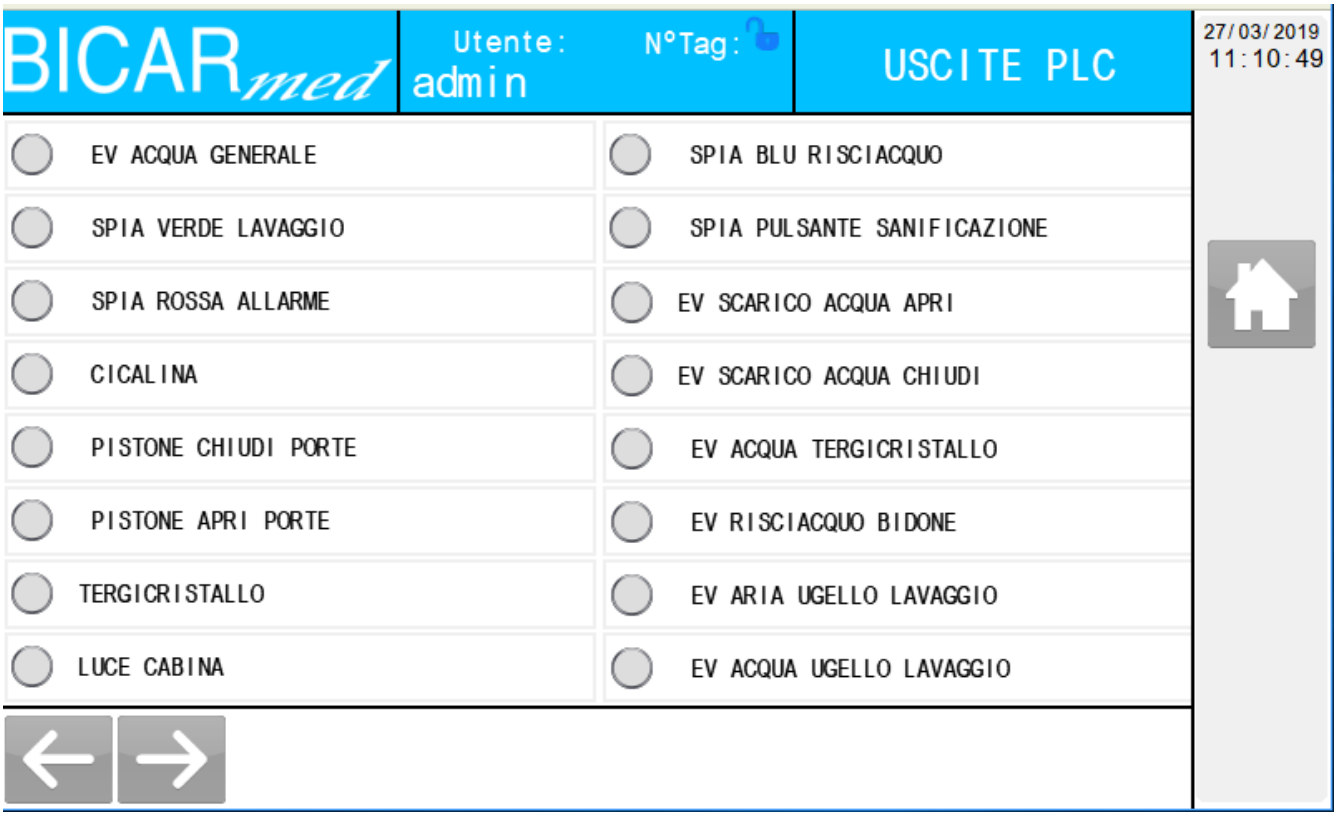
DIAGNOSTICS Screen 1

DIAGNOSTICS Screen 2

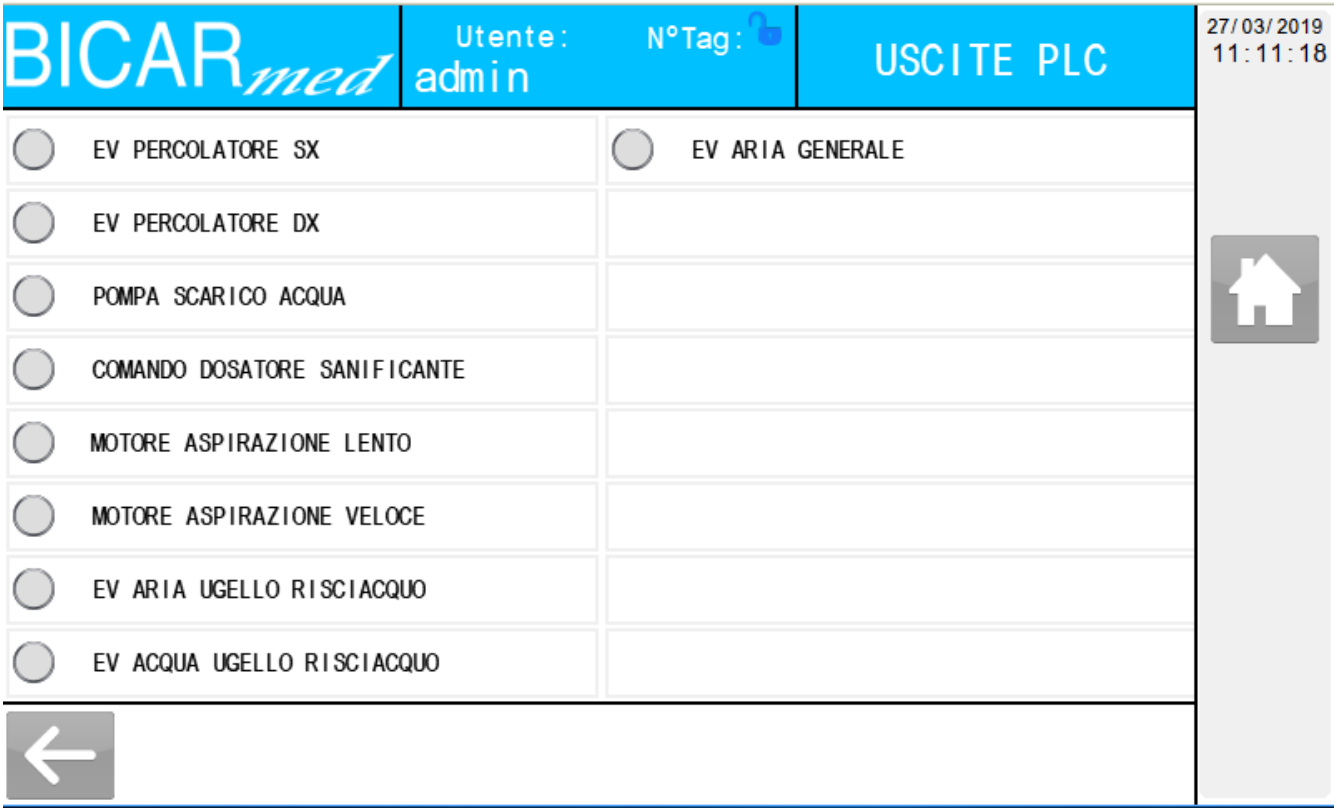
DIAGNOSTICS Screen 3



DIAGNOSTICS Screen 4



DIAGNOSTICS Screen 5



To go back to the previous screen, simply press the "HOME" softkey 

13.15 LOG WRITING AND RELATIVE LIST.

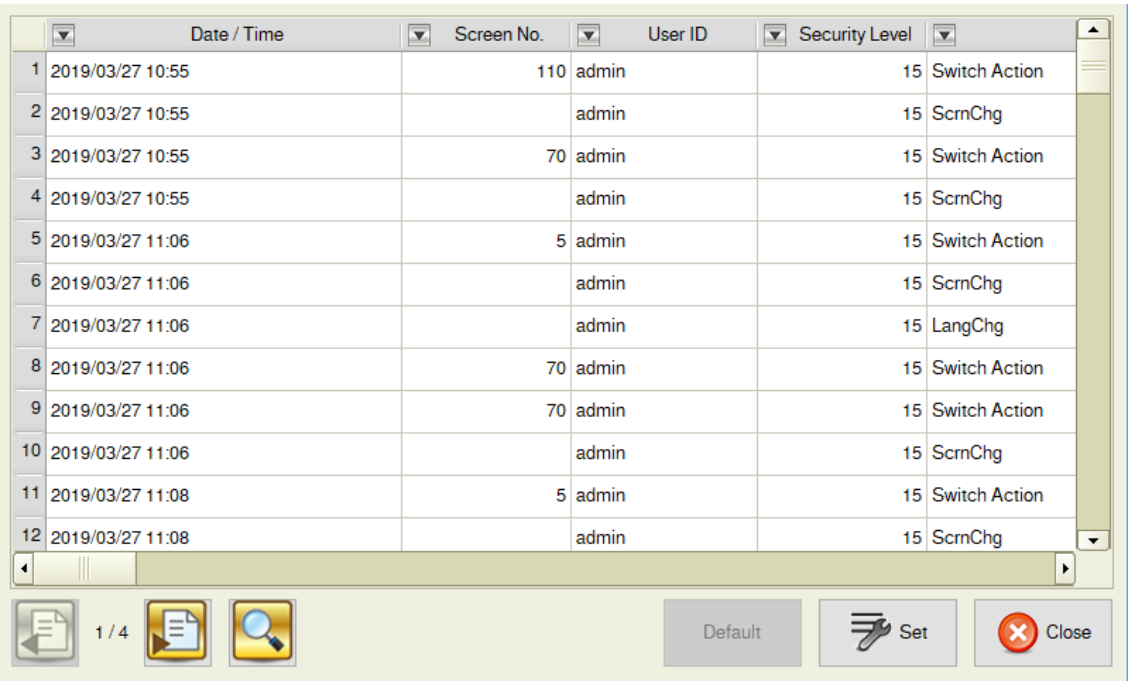
The LOGS provide very important information about the implicit and explicit activities of the system.

These records contain all the information regarding the normal operation of the machine and help to identify faults and problems, maintaining safety.

ACCESS LEVEL: TECHNICIAN (C) MANUFACTURER (D)

All events are recorded in a special register associated with the operator that is using the machine.

To access the log register screen, press the “SETTINGS” softkey  on the HOME screen followed by the “LOG OPERATIONS” softkey.



Use the softkeys at the bottom of the screen to go to the next screen or go back to the previous screen.

You can search by event and/or date using the ‘magnifying glass’ softkey.

The data display can also be modified by pressing the "Set" softkey.

Pressing the "Close" softkey closes the screen and takes you back automatically to the previous menu.

13.16 ALARMS REGISTER.

All alarms are recorded in a special register associated with the operator that is using the machine.

Depending on the type of alarm and whether an automatic cycle is in operation, the system will record the relative event logs.

ACCESS LEVEL: MACHINE OPERATOR (A) HEAD OF DEPARTMENT (B) TECHNICIAN (C) MANUFACTURER (D)

To access the alarm register, press the "SETTINGS" softkey  and then the "ALARMS REGISTER" softkey on the following screen.

Use the softkeys on the right of the screen to go to the next screen or go back to the previous screen.

Use the "File" softkey to search for a specific event by time.

Use the "Filter" softkey to filter the alarms display.

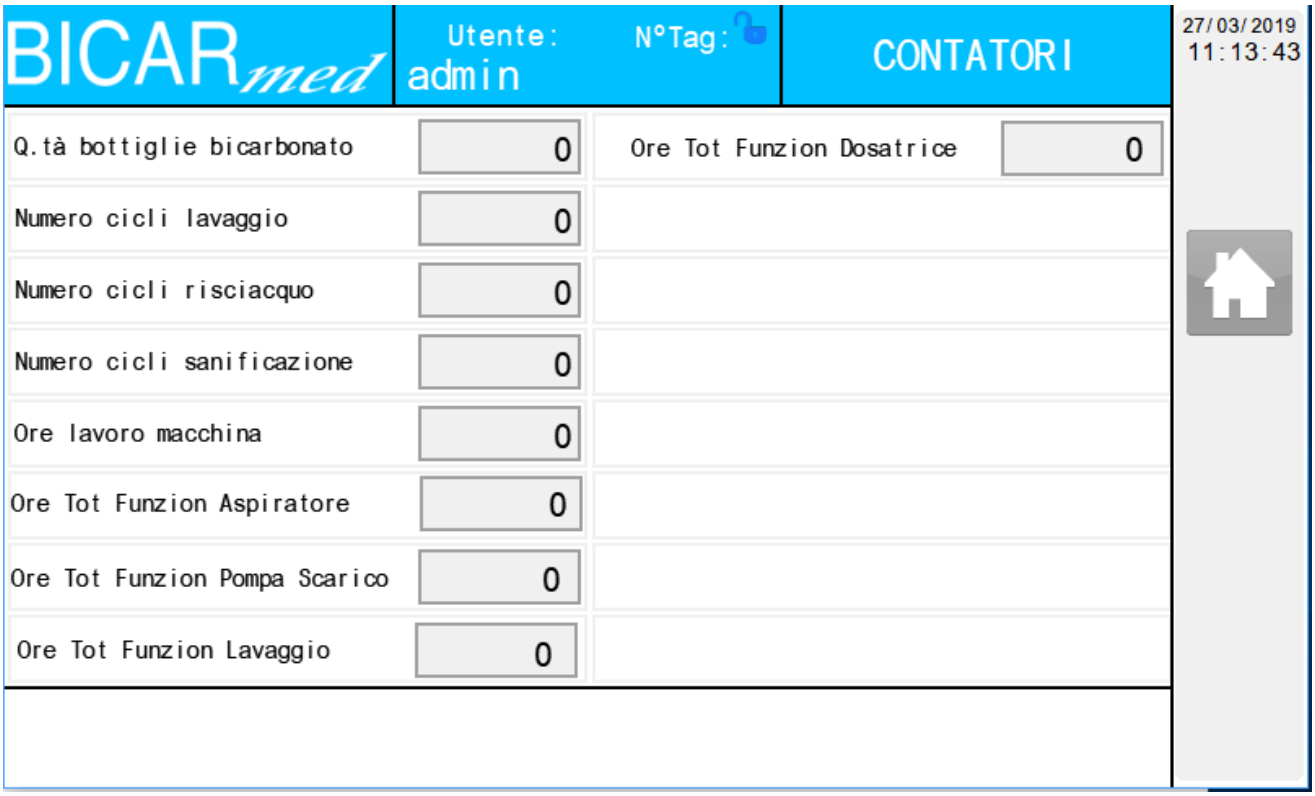
To go back to the previous screen, simply press the "HOME" softkey 

13.17 COUNTERS

The system has a COUNTERS screen in which the number of cycles, the hours of operation and the number of bicarbonate bottles used since the machine was put into operation are recorded.

ACCESS LEVEL: TECHNICIAN (C) MANUFACTURER (D)

To access the relative screen, press the "SETTINGS" softkey on the HOME screen and then the "COUNTERS" softkey on the following screen.



To go back to the previous screen, simply press the "HOME" softkey

13.18 TEST CYCLE

To allow the automatic operation of some of the machine functions, a special menu has been added to the interface. By setting the duration, it allows the main functions or routines to be activated that can be used by a technician to control the machine more easily. These routines have been created in order to make it easier to carry out the various functional checks that are used during factory testing, first installation, technical assistance etc.

13.18.1 DEVICES OR FUNCTIONS THAT CAN BE ACTIVATED IN TEST CYCLE MODE

ASPIRATOR

RINSE AIR

RINSE WATER

PERCOLATORS

AIR SPRAY

WATER SPRAY

DRAIN WATER

INJECT WATER IN BIN

SANITIZER

One of the items available is “SELF-PRIME SANITIZER” which is used exclusively to self-prime the dosing pump by disabling the alarm in the machine, which is issued by the pump.

The function is automatically disabled at the end of the cycle.

ACCESS LEVEL: TECHNICIAN (C) MANUFACTURER (D)

To access the relative screen, press the “SETTINGS” softkey  on the HOME screen and then the “TEST CYCLE” softkey on the following screen.

The start test cycle button will appear as soon as the utility you wish to activate has been selected.

13.18.2 SETTING UP A TEST CYCLE

Select the function(s) and set the cycle duration.

To start the cycle, press the "START CYCLE" softkey.

13.18.3 PRIMING THE SANITIZER PUMP WITH A TEST CYCLE

ENABLE: SANITIZER

ENABLE: SELF-PRIME SANITIZER

Set the duration of the test cycle to 60 sec.

PRESS: START CYCLE

Go to the dosing pump display and press the "START-STOP" button on the pump each time the red "ALARM" light above the pump display comes on in order to continue to suck in the liquid until the light comes on again and the hose is full.

CHECK: LAUNCH A NEW TEST CYCLE WITH "SANITIZER" ENABLED TO CHECK THAT THE SUCTION IN THE SANITIZER TANK IS CORRECT AND THAT THERE ARE NO ALARMS.

To go back to the previous screen, simply press the "HOME" softkey 

13.19 SANITIZATION CYCLE

Model STK110 of the Safe CleanBox® cleaning system for medical instruments has a cabin sanitization function that can be activated by pressing the corresponding button on the push-button panel inside the cabin or via the softkey on the touch panel on the front of the machine.

13.19.1 SANITIZATION OVERVIEW

Sanitization is a cleaning process carried out in order to reduce the bacterial load due to contamination.

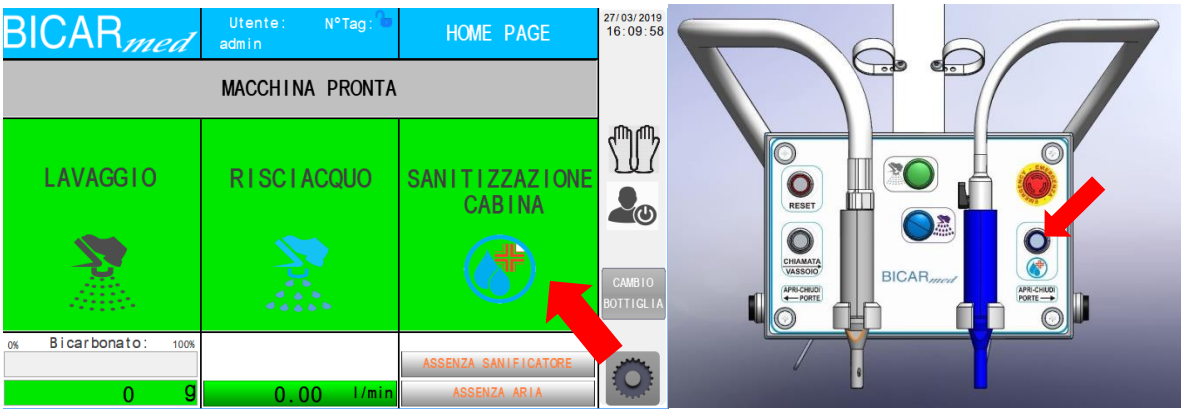
13.19.2 HOW SANITIZATION WORKS

When the sanitization cycle is started, the system first rinses the cabin with water. It then mixes disinfectant with the water as it is dispensed from the rinsing handpiece for a certain amount of time.

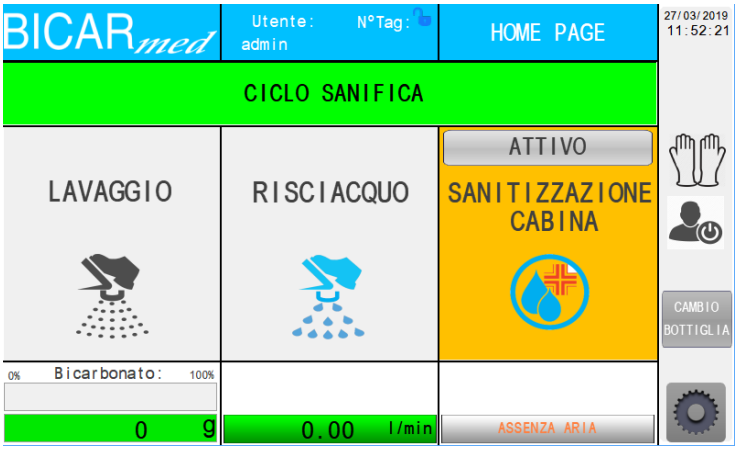
The sanitization cycle with the water mixed with disinfectant lasts for 60 seconds, during which the machine doses 2.5% per litre, at the normal water flow rate.

A series of sensors have been integrated into the system to monitor the exact dose of sanitizer throughout the cycle. The system has also been designed to detect possible faults during this phase and stop any cycle that may be running. It immediately notifies the machine operator and records any logs and alarms so that they can be viewed quickly and easily and diagnosed by the service technician.

To start the sanitization cycle, press the “CABIN SANITIZATION” softkey on the HOME screen or press the SANITIZATION button on the control panel inside the cabin.

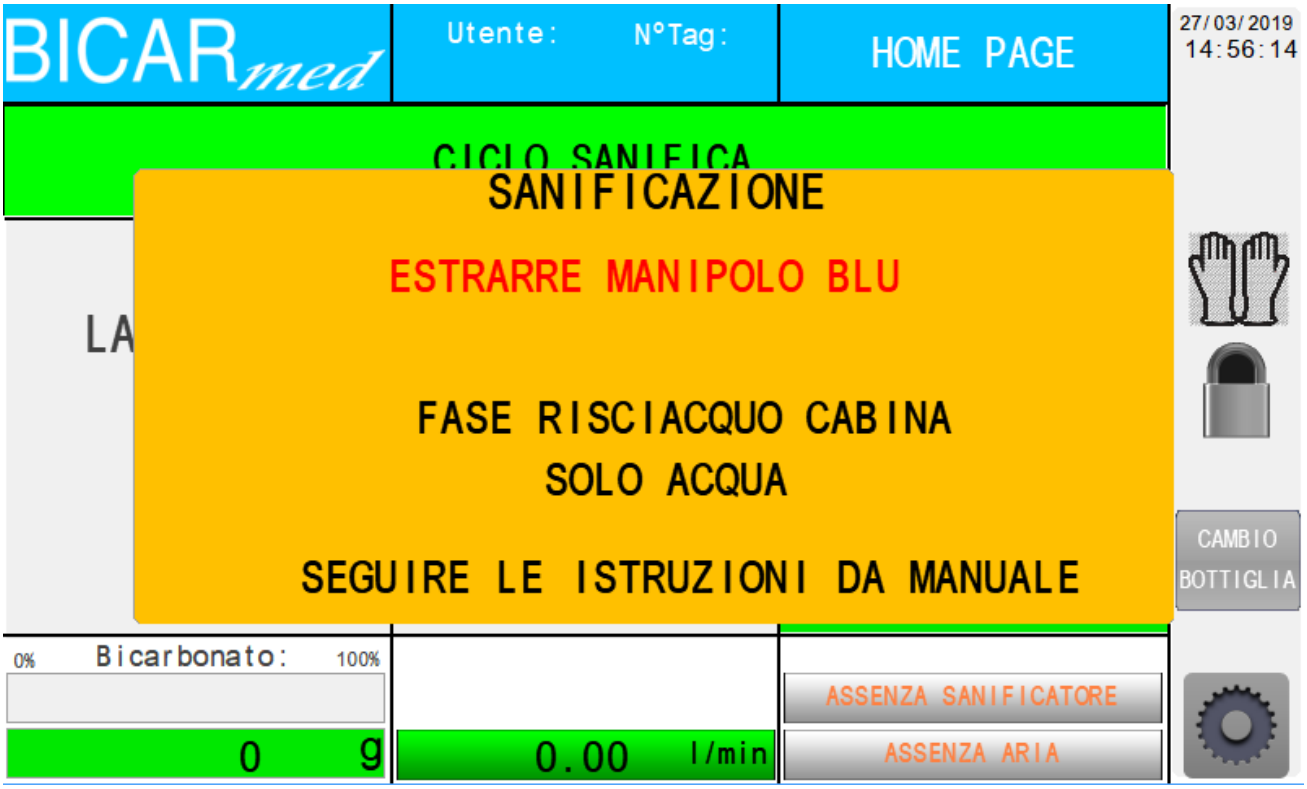


Once the sanitization cycle has started, the HOME screen will appear as follows:

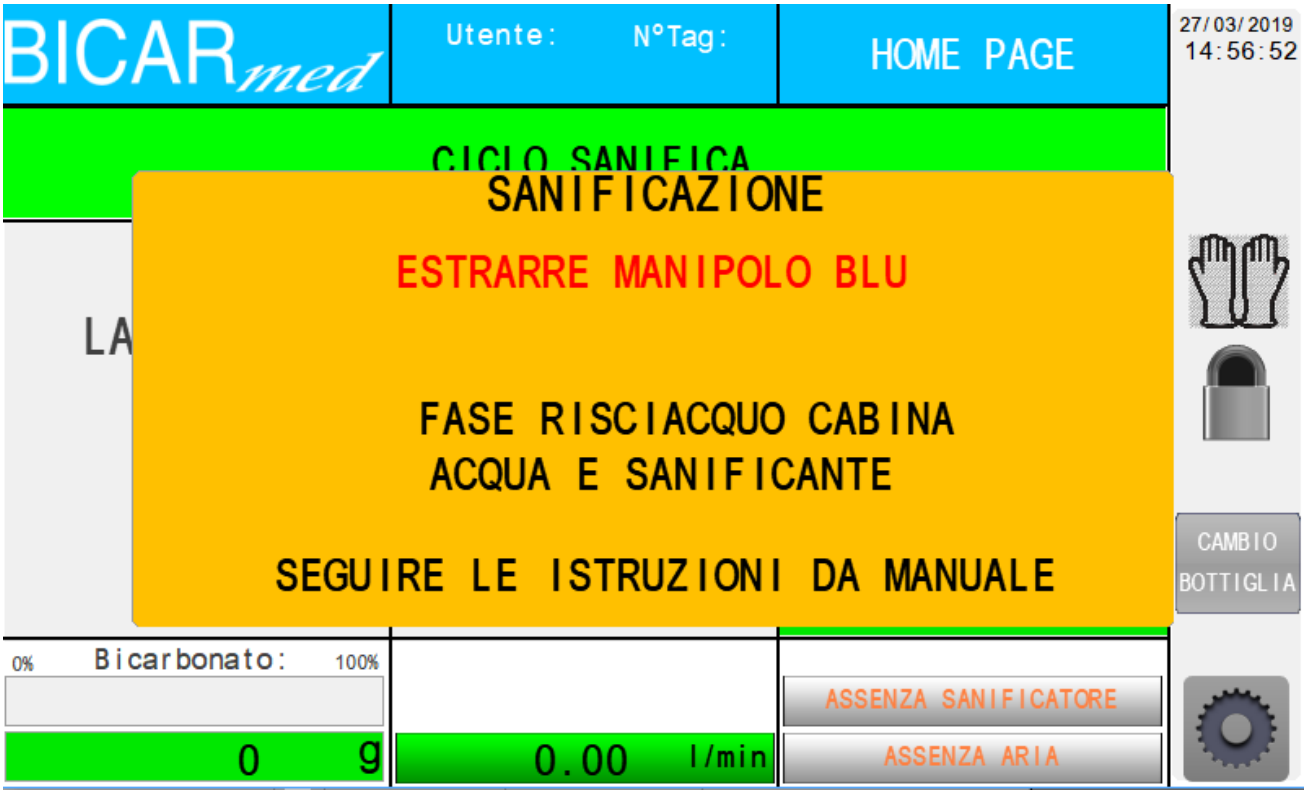


The following notifications window will also appear:

Press the SANITIZATION softkey or cancel the cycle by pressing the RESET softkey.



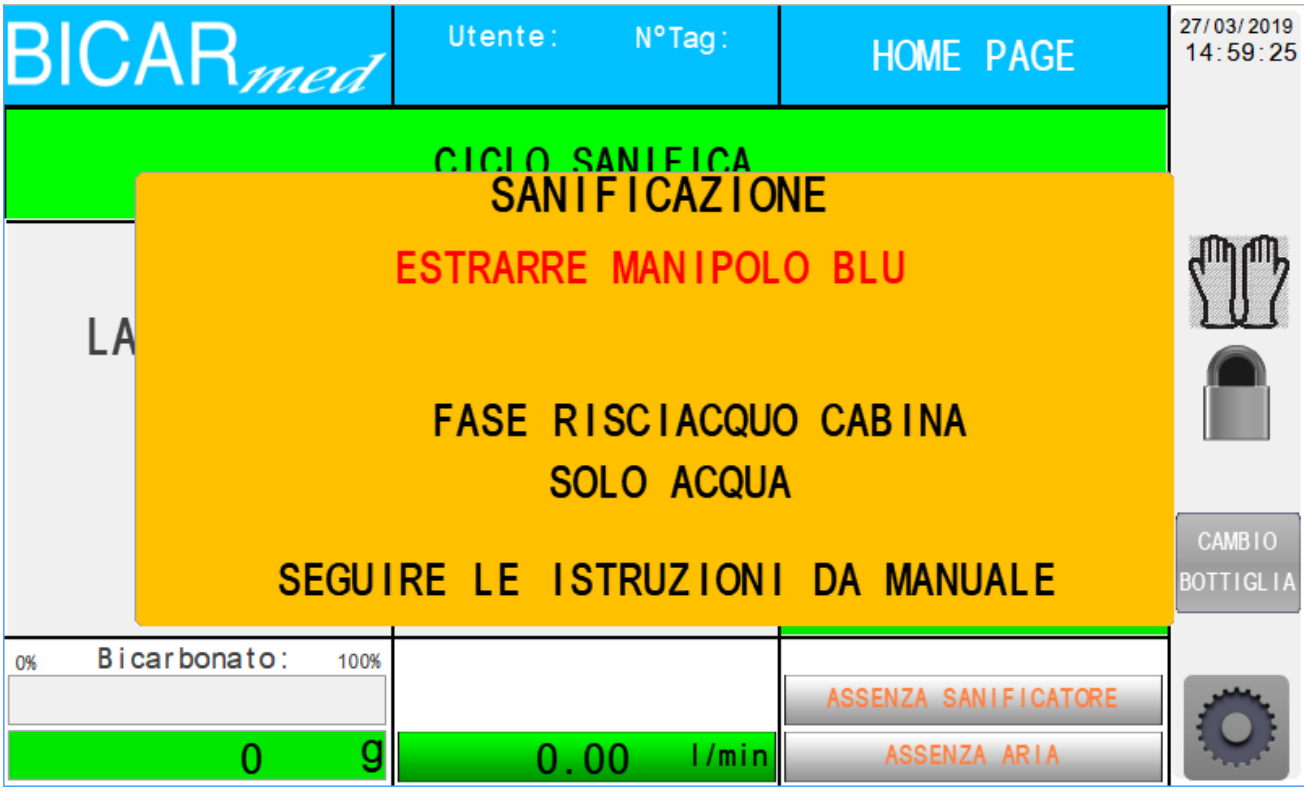
During this phase, only water will automatically come out of the blue handpiece to rinse the surfaces inside the cabin.



During this phase, only a water and sanitizer solution will automatically come out of the blue handpiece.

During this phase, the system will not allow any other operations to be carried out and the timer will be started so that the contact time for the sanitizer solution is complied with.

Once the contact time has elapsed, the system will emit an audible signal to indicate the end of the cabin sanitation cycle. You then have to press the sanitization button on the push-button panel in order to rinse the cabin.



During this phase, only water will automatically come out of the blue handpiece to rinse the surfaces of the cabin.

The cycle ends.

13.19.3 SANITIZATION LOG

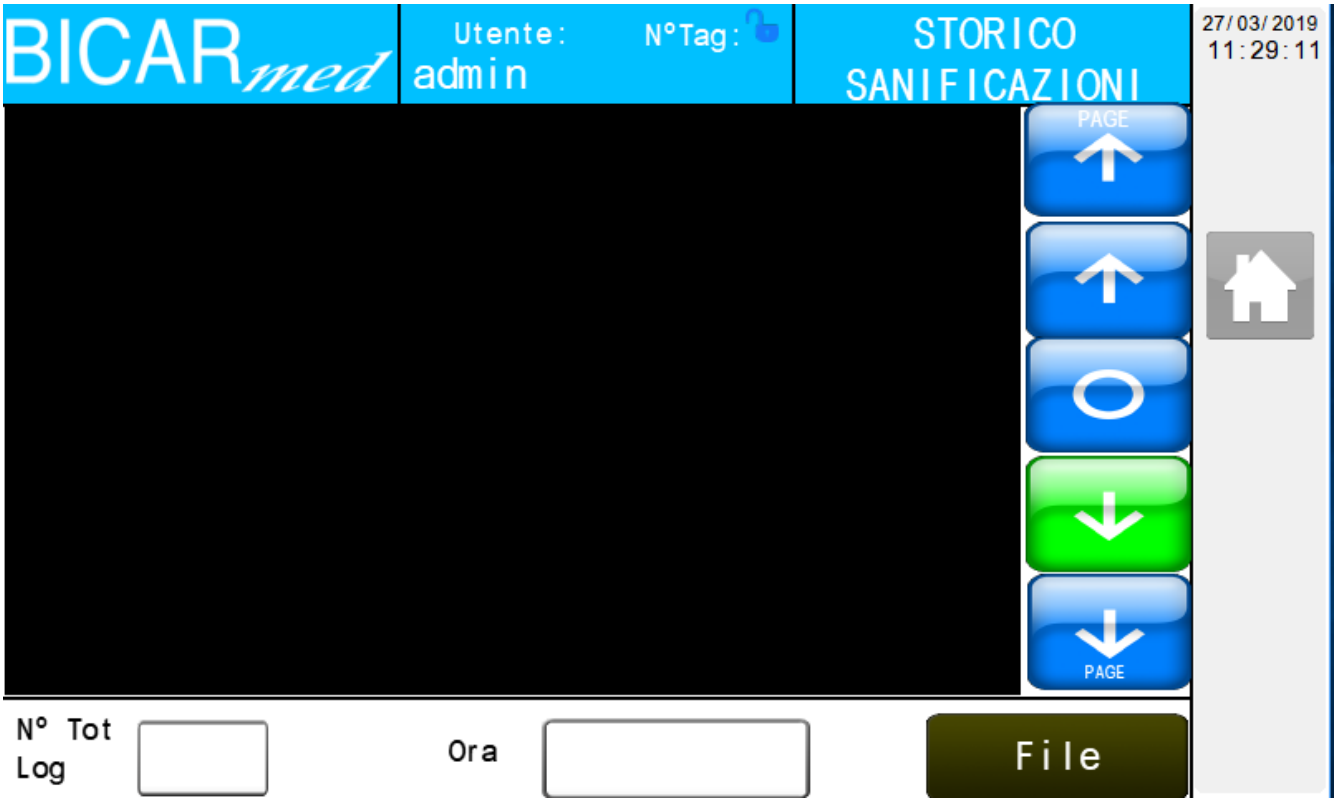
All events are recorded in a special register associated with the operator who is using the machine.

In addition to the list of sanitization cycles, the screen also contains indicators (in the lower part of the screen) of the number of the sanitization logs selected and the time at which the sanitization took place.

Softkeys on the right of the screen allow you to scroll through the various records and screens.

ACCESS LEVEL: MACHINE OPERATOR (A) HEAD OF DEPARTMENT (B) TECHNICIAN (C) MANUFACTURER (D)

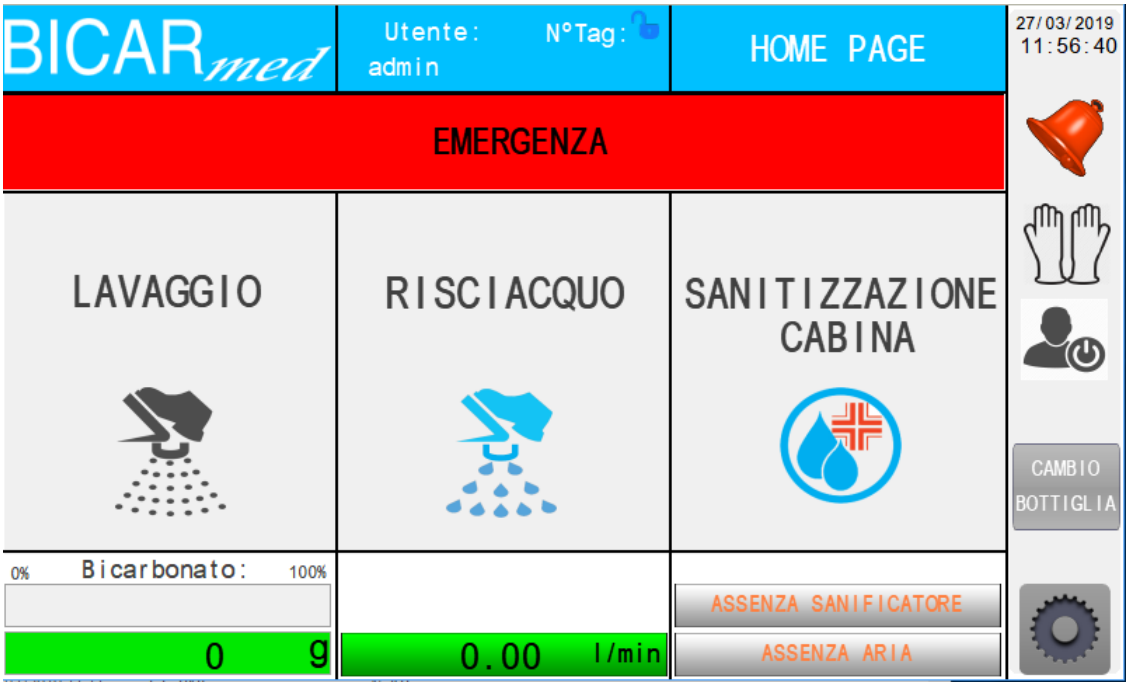
To access the relative screen, press the "SETTINGS" softkey  on the HOME screen and then the "PARAMETERS" softkey on the following screen.



13.20 MACHINE ALARMS

To manage faults or to simply provide the user with information about the status of the machine and its components, a software control logic and notification system has been implemented that uses a series of "alarms" that appear on the main HOME screen under "EMERGENCY" and a softkey to access the alarms window  .

If there is a fault or the notification of a problem, the HOME screen  will appear like this:



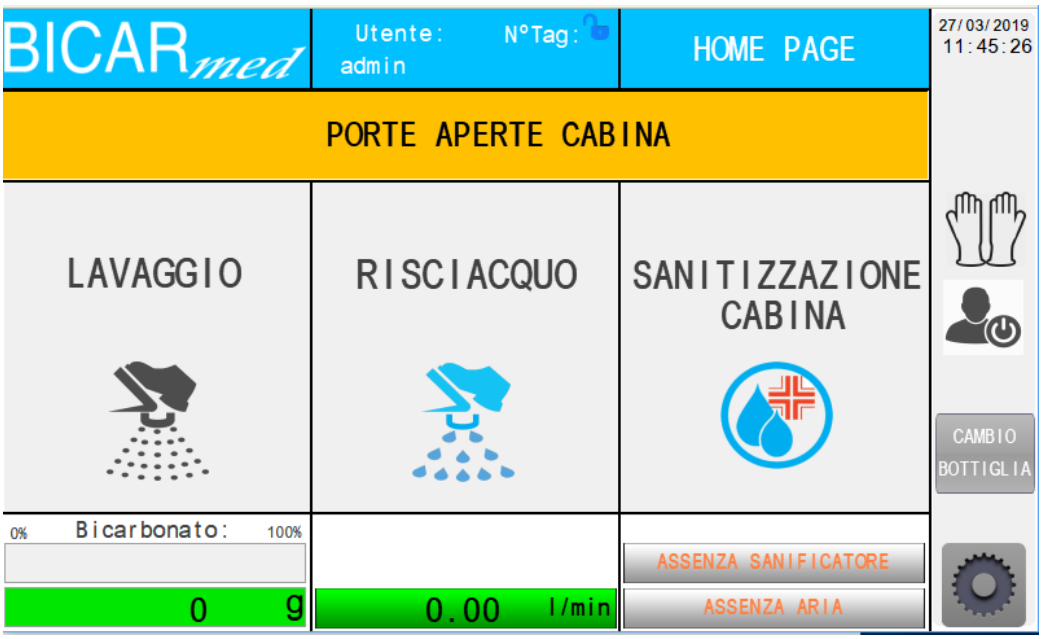
An example of the alarms window that can be accessed via the appropriate softkey is shown below  .

13.20.1 ALARMS LIST

See chapter 8 of this manual.

13.21 HOME SCREEN NOTIFICATIONS

As with an emergency status due to an alarm, notifications of a temporary machine condition that may require the intervention of the machine operator may appear on the HOME screen.



In this case, the machine notifies the operator that the cabin doors are open. Close the doors of the cabin using both hands while pressing both buttons on the sides of the push-button panel inside the cabin until the doors are completely closed and stationary. To re-open the doors, press and hold the buttons again until they open completely and stop moving.

N.B. Most of the machine's functions can only be activated when the doors are closed.

14 ANNEX 1

BICARmed®	COMMISSIONING REPORT	Doc. N.
		DATE

Customer	Machine Model	
Address	Serial N.	Prod. date
	Maintenance type	
Contact person	Maintenance frequency	
Telephone	Maintenance technician	

CHECKS TO CARRY OUT ON MODELS STK 110 (indicate N/A where the check cannot be carried out)

No.	PRELIMINARY CHECKS	RESULT		
	before supplying electrical power to the system, check:	**Pos.**	**Neg.**	**N/A**
1	the integrity and stability of the system			
2	the integrity of the electrical, compressed air, water and drain connections			
3	the mains air and water wall valves do not leak			
4	the safety systems are intact and have not been triggered			
5	the integrity of the hoses in the cabin			
6	the integrity of the conveyor belt's electrical connection			
No.	**OPERATION CHECKS**	**RESULT**		
	supply electrical power to the system and check:	**Pos.**	**Neg.**	**N/A**
1	switching on of the touch panel and loading of the program			
2	switching on of the lights inside the cabin			
3	switching on of the indicator lights of the push-button panel inside the cabin			
4	the absence of alarms/signals at the panel			
5	the presence of air/water at the panel			
6	operation of the emergency buttons			
7	operation of the sensitive edges of the doors			
8	operation of the sensitive edges of the loaders			
9	operation of the doors			
10	loading the SAFEKLINIC bottle			
11	loading the SANITIZER bottle			
12	operation of spray handpieces by pressing the pedals			
13	operation of the wiper/ wiper water by pressing the pedals			
14	integrity and operation of the conveyor belt			

CHECKS TO CARRY OUT ON MODEL STK 100				
No.	**PRELIMINARY CHECKS**	**RESULT**		
	before supplying electrical power to the system, check:	**Pos.**	**Neg.**	**N/A**
1	the integrity and stability of the system			
2	the integrity of the electrical, compressed air, water and drain connections			
3	that the air and water supply valves on the wall do not leak			
4	the safety systems are intact and have not been triggered			
5	the integrity of the hoses in the cabin			
No.	**OPERATION CHECKS**	**RESULT**		
	supply electrical power to the system and check:	**Pos.**	**Neg.**	**N/A**
1	switching on of the touch panel and loading of the program			
2	switching on of the lights inside the cabin			
3	the absence of alarms/signals at the panel			
4	the presence of air/water at the panel			
5	operation of the emergency buttons			
6	operation of the door and the capacity of the gas springs to support it			
7	loading the SAFEKLINIC bottle			
8	operation of spray handpieces by pressing the pedals			
9	operation of the wiper/ wiper water by pressing the pedals			
10	absence of leaks			
11	operation of aspirator			
12	operation of drain pump			

MAINTENANCE REPORT
SYSTEM STATUS/CONDITION

N.	REPLACEMENTS			RESULT		
	Code	Component	Qty.	Pos.	Neg.	N/A
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

NOTES

*it is mandatory to carry out post-repair electrical safety tests if the maintenance involves disconnecting electrical cables, earthing sockets etc.

- If the installation tests described above are passed, it means that the product is suitable for use in its place of commissioning and use, as well as being the formal act of delivery of the product.
- By signing this form, the Customer:

1. Confirms that the product and its operation are suitable for his specific needs, and the product is accepted;
2. Declares that he has received the use and maintenance instructions for this product, that he will read them and make them available to all those who will use the product;
3. Undertakes to ensure that the product is used correctly and is kept in good condition and good working order, especially the safety devices, in accordance with the use and maintenance instructions;
4. Confirms that he has received the EC Declaration of conformity regarding the current safety regulations and confirms its acceptance.

Technician's signature	Customer's stamp and signature

15 ANNEX 2

BICARmed	PRE-MAINTENANCE REPORT	Doc. N.	
		DATE	

Customer		Machine Model			
		UDI (UDI-DI and UDI-PI)			☐ N/A.
Address		Serial N.		Prod. date	
		Maintenance type			
Contact person		Maintenance frequency			
Telephone		Maintenance technician			

PRE-MAINTENANCE REPORT
SYSTEM STATUS/CONDITION

CHECKS TO CARRY OUT ON MODELS STK 110 (indicate N/A where the check cannot be carried out)

No.	PRE-MAINTENANCE ACTIVITIES	RESULT		
		Pos.	Neg.	N/A
1	Visually inspect the integrity and stability of the system			
2	Sanitization of the inside of the cabin			
3	Sanitization of the outside of the cabin			
4	Sanitization of the mats inside the cabin and the gloves			
5	Sanitization of the roller conveyor and conveyor belt			

No.	OPERATIONS	RESULT		
		Pos.	Neg.	N/A
1	General cleaning of the system			
2	Check the operation of the external touch panel			
3	Check the integrity and operation of the safety devices			
4	Check the integrity and tightness of the cabin window			
5	Check the integrity and operation of the LED lamps			
6	Check the integrity and operation of the doors and the tightness of their seals			
7	Check the integrity and the seal of the glove flanges and gloves			
8	Check the integrity of the internal push-button panel and the operation of the buttons			
9	Check the integrity of the hoses inside the cabin			
10	Check the integrity of the pedals, their connector and the operation of the handpieces			

	inside the cabin			
11	Removal of the front casing of the bench			
12	Check the integrity and operation of the aspirator			
13	Check the integrity of the air/water/drain hoses, the air pressure gauges and the reading of the water flow switch			
14	Check the integrity of the collection bin under the bench			
15	Opening of the collection bin, sanitization of the lid and bin			
16	Cleaning of the bicarbonate compartment under the bench on the right side			
17	Check the integrity and operation of the bicarbonate feed unit			
18	Check the integrity and operation of the roller conveyor and the conveyor belt			

CHECKS TO CARRY OUT ON MODEL STK 100				
No.	**PRE-MAINTENANCE ACTIVITIES**	**RESULT**		
		Pos.	**Neg.**	**N/A**
1	Visually inspect the integrity and stability of the system			
2	Sanitization of the inside of the cabin			
3	Sanitization of the outside of the cabin			
4	Sanitization of the mats inside the cabin and the gloves			
No.	**OPERATIONS**	**RESULT**		
		Pos.	**Neg.**	**N/A**
1	General cleaning of the system			
2	Check the operation of the external touch panel			
3	Check the integrity and operation of the safety devices			
4	Check the integrity of the glass and the tightness of the seal			
5	Check the integrity and operation of the LED lamps			
6	Check the integrity and operation of the door at the front and the seal			
7	Check the integrity and the seal of the glove flanges and gloves			
8	Check the integrity of the hoses inside the cabin			
9	Check the integrity of the pedals, their connector and the operation of the handpieces inside the cabin			
10	opening of the bench doors			
11	Check the integrity and operation of the aspirator			
12	Check the integrity of the air/water/drain hoses, the air pressure gauges and the reading of the water flow switch			
13	Check the integrity of the collection bin under the bench			
14	Opening of the collection bin, sanitization of the lid and bin			
15	Cleaning of the bicarbonate compartment under the bench			
16	Check the integrity and operation of the bicarbonate feed unit			

MAINTENANCE REPORT
SYSTEM STATUS/CONDITION

N.	REPLACEMENTS			RESULT		
	Code	Component	Qty.	Pos.	Neg.	N/A
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

NOTES

*it is mandatory to carry out post-repair electrical safety tests if the maintenance involves disconnecting electrical cables, earthing sockets etc.

- If the maintenance tests described above are passed, it means that the product is suitable for use in its place of commissioning and use.
- By signing this form, the Customer:
  1. Confirms that the product and its operation are suitable for his specific needs, and the product is accepted;
  2. He undertakes to ensure that the product is used correctly and is kept in good working order in accordance with the use and maintenance instructions;

Technician's signature	Customer's stamp and signature

Rev.	Date	Revision description	Drafting		Approval	
2	30/06/2022	MDR transposition	QA		DG	

16 ANNEX 3

BICARmed®	SERVICE REPORT	Doc. N.
		DATE

Customer	Machine Model	
Address	Serial N.	Prod. date
	Maintenance type	
Contact person	Maintenance frequency	
Telephone	Maintenance technician	

MAINTENANCE REPORT
SYSTEM STATUS/CONDITION/CUSTOMER REQUEST FOR ACTION

CHECKS TO CARRY OUT ON MODELS STK 100-103-110-113 (indicate N/A where the check cannot be carried out)

No.	PRELIMINARY CHECKS	RESULT		
	before supplying electrical power to the system, check:	**Pos.**	**Neg.**	**N/A**
1	the integrity and stability of the system			
2	the integrity of the electrical, compressed air, water and drain connections			
3	the mains air and water wall valves do not leak			
4	the safety systems are intact and have not been triggered			
5	the integrity of the hoses in the cabin			
6	the integrity of the electrical and mechanical connections of the loaders			
7	the integrity of the conveyor belt's electrical connection			

No.	PRE-MAINTENANCE ACTIVITIES	RESULT		
		Pos.	**Neg.**	**N/A**
1	Visually inspect the integrity and stability of the system			
2	Sanitization of the inside of the cabin			

3	Sanitization of the outside of the cabin			
4	Sanitization of the mats inside the cabin and the gloves			

No.	MAINTENANCE DESCRIPTION
1	
2	
3	
4	
5	

N.	REPLACEMENTS			RESULT		
	Code	Component	Qty.	Pos.	Neg.	N/A
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

CHECKS TO CARRY OUT ON MODELS STK 103-110-113 (indicate N/A where the check cannot be carried out)				
No.	**OPERATION CHECKS**	**RESULT**		
	supply electrical power to the system and check:	**Pos.**	**Neg.**	**N/A**
1	switching on of the touch panel and loading of the program			
2	switching on of the lights inside the cabin			
3	switching on of the indicator lights of the push-button panel inside the cabin			
4	the absence of alarms/signals at the panel			
5	the presence of air/water at the panel			
6	operation of the emergency buttons			
7	operation of the sensitive edges of the doors			
8	operation of the sensitive edges of the loaders			
9	operation of the doors			
10	loading the SAFEKLINIC bottle			
11	loading the SANITIZER bottle			
12	operation of spray handpieces by pressing the pedals			
13	operation of the wiper/ wiper water by pressing the pedals			
14	checking the loader parameters on the touch panel			
15	integrity and operation of the loaders			
16	Integrity and operation of the conveyor belt			

CHECKS TO CARRY OUT ON MODEL STK 100				
No.	**OPERATION CHECKS**	**RESULT**		
	supply electrical power to the system and check:	**Pos.**	**Neg.**	**N/A**
1	switching on of the touch panel and loading of the program			
2	switching on of the lights inside the cabin			
3	the absence of alarms/signals at the panel			
4	the presence of air/water at the panel			
5	operation of the emergency buttons			
6	operation of the door and the capacity of the gas springs to support it			
7	loading the SAFEKLINIC bottle			
8	operation of spray handpieces by pressing the pedals			
9	operation of the wiper/ wiper water by pressing the pedals			
10	absence of leaks			
11	operation of aspirator			
12	operation of drain pump			

NOTES
*it is mandatory to carry out post-repair electrical safety tests if the maintenance involves disconnecting electrical cables, earthing sockets etc.

● If the servicing tests described above are passed, it means that the product is suitable for use in its place of commissioning and use as well as being the formal acceptance of the product. ● By signing this form, the Customer: 1. Confirms that the product and its operation are suitable for his specific needs, and the product is accepted; 2. Undertakes to ensure that the product is used correctly and is kept in good condition and good working order, especially the safety devices, in accordance with the use and maintenance instructions; 3. Accepts the product.

Technician's signature	Customer's stamp and signature