

97050533
Rev.004
03/2016



CASTELLINI

SKEMA 5

EN

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1. Safety guidelines

- These instructions describe how to correctly use the dental units of the SKEMA 5 series.
Carefully read and become familiar with the content of this manual before using the equipment.
- These instructions describe all the versions of the dental units of the SKEMA 5 series and the maximum possible accessories, therefore not all the paragraphs are applicable to the unit you have purchased.
- No part of this manual is to be reproduced, stored in a retrieval system or transmitted in any form or by any means, i.e. electronic, mechanical, photocopying, translation or otherwise, without the prior written permission of CEFLA s.c.
- The information, technical specifications and illustrations contained in this publication are not binding.
CEFLA s.c. reserves the right to make technical improvements and changes without modifying the instructions contained herein.
- The manufacturer has a company policy of continual development. Although every effort is made to keep technical documentation up-to-date at all times some of the instructions, specifications and figures given in this manual may slightly differ from the purchased product. The manufacturer reserves the right to make changes without prior notice.
- The original version of this manual is written in Italian.
- Each dental unit is equipped with a liquid anti-retraction system.

1.1. Symbol definition

List of symbols used in this document to denote certain conditions:

- 1) Type of protection against direct and indirect contact: **Class I.**
Type of protection against direct and indirect contact: **Type B.**
- 2) WARNING!
Failure to observe may result in equipment damage or injury to the user and/or patient.
- 3) OPERATING INSTRUCTIONS:
This symbol indicates that the user should read and become familiar with the content of the User's manual before attempting to use the relative part of the equipment.
- 4) NOTE:
Identifies information that is especially important for the user and/or assistant.
- 5) Earth ground. Functional earth connection.
- 6) Alternating current.
- 7) Part sterilised in a steam autoclave up to 135° C.
- 8) ON / OFF button.
- 9) "Refer to the instruction manual"
Means that for reasons of safety you need to consult the instruction manual before using the device.
- 10) On (a part of the apparatus).
- 11) Off (a part of the apparatus).
- 12) The device is in compliance with the requirements laid down in Directive 93/42/EC and subsequent amendments (Class IIa medical device).
- 13) The device is in compliance with the requirements laid down in Directive 93/42/EC and subsequent amendments (Class I medical device).
- 14) Waste disposal symbol in accordance with Directive 2012/19/EU.
- 15) "Warning biological hazard".
It provides information about possible risks of contamination deriving from contact with fluids, storage of infected biological waste.
- 16) Manufacturer.
- 17) Month and year of constructions.
- 18) Apparatus serial number.
- 19) DVGW mark (quality assurance kitemark regarding supply of drinking water).
- 20) Product/equipment identification code.
- 21) Foot crushing hazard.
- 22) Device equivalent to Class 2 light source.

1		9		17	
2		10		18	SN
3		11		19	 NW-0402BQ0101
4		12	 0051	20	REF
5		13		21	
6		14		22	
7		15			
8		16			

1.2. Intended use

- The dental units of the SKEMA 5 series are medical devices intended for dental treatment.
- The instrument board may hold up to 6 instruments.
- The assistant's board may be equipped with 2 suction tubes and 3 instruments.
- This equipment must be used only by adequately trained personnel (doctors and paramedics).
- The device is intended for **non-continuous operation** (see the operating times of the individual parts in the dedicated sections).
- The device is classified as pollution degree 2.
- Overvoltage class: II.



1.2.1. Classification

- MEDICAL DEVICES classification
Classification of the dental unit in accordance with the indications given in annex IX of directive 93/42 and subsequent changes/EEC: Class IIa
- ELECTRICAL MEDICAL EQUIPMENT classification
Classification of the dental unit in accordance with standard EN 60601-1 for safety of medical equipment: **Class I - Type B.**
- Reference standards
The operating units of the SKEMA 5 series are devices designed in compliance with CEI EN 60601-1, CEI EN 60601-1-2, ISO 7494, ISO 6875 and EN 1717 (type AA or AB if the MWB system is present) regarding water supply safety devices.
- Classification of RADIO DEVICES AND COMMUNICATION TERMINALS (only when the WIRELESS foot control is present)
Equipment classification according to Directive 99/05/EC Art.12: **Class I.**

1.2.2. Environmental conditions

The equipment is to be installed in rooms that satisfy the following requirements:

- temperature between 10 and 40 °C;
- relative humidity between 30 and 75%;
- atmospheric pressure ranging from 700 to 1060 hPa;
- altitude ≤ 3000 m;
- air pressure entering equipment ranging from 6 to 8 bar;
- water hardness at the equipment inlet must not be above 25 °f (French degrees) or 14 °d (German degrees) for untreated drinking water. For water with a higher hardness degree, it is recommended to soften water until it reaches a hardness degree between 15 and 25 °f (French degrees) or between 8.4 and 14 °d (German degrees);
- water pressure entering equipment ranging from 3 to 5 bar;
- water temperature entering equipment not higher than 25 °C.

1.2.2.1. Transport and packaging conditions

- Temperature: from -10 to 70°C;
- Relative humidity: from 10% to 90%;
- Atmospheric pressure: from 500 to 1060hPa.

1.2.3. Warranty

CEFLA s.c. guarantees the safety, reliability and performance of the devices.

The warranty is valid only under the following terms:

- The conditions given on the warranty certificate are observed.
- Performing yearly scheduled maintenance.
- The equipment is used only as instructed in this manual.
- The electrical wiring in the room in which the equipment is installed must conform to IEC 60364-7-710 (standards for electrical wiring in medical and dental offices).
- A 3x1.5 mm² line protected by a bi-polar cut-out that conforms to applicable standards (10 A, 250 V, distance between contacts at least 3 mm) must be used to feed the equipment.



WARNING!

The color of the three wires (POWER, NEUTRAL and EARTH) should satisfy the requirements of current standards.

- Installation, repairs and, in general, any other operations requiring the casing to be opened are to be performed exclusively by personnel authorized by CASTELLINI.

1.2.4. Disposing the equipment When no longer used

As set out in Directives 2011/65/EU and 2012/19/EU, on the restrictions of the use of certain hazardous substances in electrical and electronic equipment along with collection, treatment, recycling and disposal of waste electrical and electronic equipment the latter must be treated as municipal waste, therefore sorted and collected separately. When new equipment of equivalent type is purchased the waste equipment should be returned to the distributor on a one-to-one basis for disposal. As far as reuse, recycling and other forms of waste recovery mentioned above are concerned, the manufacturer is responsible for the actions specified by individual local laws.

Efficient collection of sorted waste separately to recycle and treat waste electrical and electronic equipment aids in preventing negative environmental impacts while protecting human health.

In addition it facilitates recycling of the materials used to construct the equipment.

Illegal waste disposal carries heavy fines defined by local laws.



WARNING!


The crossed out M.W.B.eled bin placed on the equipment indicates that the waste equipment must be collected separately from other waste.



1.3. Safety rules



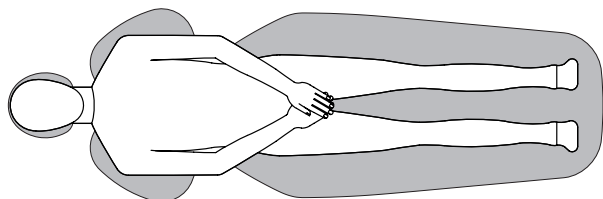
WARNING!

- **All equipment is permanently installed.**
Depending on the type of chair the unit comes with, refer to the installation DATA given in paragraph "Specifications".
CEFLA s.c. shall not be held liable for any personal injury or equipment damage resulting from failure to heed the precaution given above.
 - **Floor conditions.**
The floor (continuous) should meet the load-bearing capacity set forth by DIN 1055, sheet 3. The weight of the dental unit including a 190 kg patient is about 350 kg/sq.m.
 - The technician not authorized by CASTELLINI who alters the product replacing parts or components with ones different from those used by the manufacturer shall assume liabilities in an identical manner as the manufacturer.
CEFLA s.c. shall not be held liable for any personal injury or equipment damage resulting from failure to heed the precaution given above.
 - **Dental chair**
The maximum chair capacity is 190Kg. This weight must never be exceeded.
 - **Tray holders**
The maximum weights that can be held must never be exceeded:
 - Instrument tray attached to the instrument board maximum allowable load 2 Kg, evenly distributed.
 - Instrument tray attached to the instrument board maximum allowable load 1 Kg, evenly distributed.
 - **Connections to external instruments**
The equipment can be hooked up only to other instruments that bear the CE mark.
 - **Electromagnetic interferences.**
Use of electrical equipment that does not comply to standard IEC 60601-1-2 in the office or nearby may cause electromagnetic or other types of interferences resulting in dental unit malfunctions.
In these cases, shut off power to the dental unit before using this equipment.
 - **Replacing the chucks**
Operate the turbine release and contra angle only once the chuck has come to a complete stop. On the contrary, the locking system will wear down and the chucks can slip off causing injury. Use exclusively quality drills with an attachment stem of calibrated diameter (1590-1600 mm in compliance with ISO 1797-1). To check the state of the locking system, make certain the chuck is firmly secured to the instrument every day before starting work. Locking system defects caused by misuse are easily identified and not covered by the warranty.
 - **Patients with pace makers and/or hearing aids.**
When treating patients with pace makers and/or hearing aids, take into consideration the effects the instruments may have on pace makers and/or hearing aids. Carefully read technical-scientific information available on this subject.
 - **Implants.**
If the dental unit is used for implant operations using separate equipment designed for this purpose, shut off power to the dental chair (see Paragraph 3.) to avoid unwanted movements resulting from faults and/or accidental start up of the controls.
 - Do not forget to turn off the office's water supply and master switch on the equipment before leaving the surgery.
 - The equipment is not protected against liquid penetration (IPX O).
 - The device is not suitable for use in the presence of flammable anaesthetic gas mixed with air, oxygen or nitrous oxide (N₂O).
 - This equipment must be stored properly so that it is kept in top working order at all times. The manufacturer shall not be held responsible for misuse, carelessness or improper use of the equipment.
 - This equipment is to be used exclusively by qualified personnel (doctors and paramedics) with the proper training.
 - The user must be present at all times When the equipment is turned on or ready for start-up. In particular, never leave the equipment unattended in the presence of children/the mentally disabled or other unauthorised personnel in general.
Any companions must keep out of the area in which treatment is performed and in any case under the responsibility of the operator. The area in which treatment is performed refers to the space around the dental unit plus 1.5 meters.
 - **Quality of the water delivered by the dental unit.**
The user is responsible for the quality of the water delivered by the dental unit and must adopt measures to maintain it.
To ensure that you meet the water quality requirements, CEFLA s.c. advises you to equip the dental unit with an internal or external disinfection system. Once installed, the dental unit is exposed to contaminants originating from the water supply. For this reason, it is recommended to install and put it into operation only when you begin using it daily and to perform the decontamination procedures described in the relative chapters right from the first day of installation.
If the dental unit is equipped with a device for separation from the open water supply system (EN 1717), make sure that it also continuously adds disinfectant as required and check that the relative tank contains an adequate quantity (see the relative paragraph).
-  **NOTE:** contact your local dealer or Dental association for more detailed information about national laws and requirements.
- **Applied Parts.**
The parts of the device that during normal use necessarily come into contact with the patient for the device to be able to perform its functions are: Dental chair upholstery, armrest, polymerising lamp fibre optics, terminal part of the syringe, single-use camera protection, scaler bits, drill handpieces, cannula suction terminals.
Non applied parts that may come into contact with the patient are: dental chair armrest support, dental chair lower casing, patient-side hydro unit casing, cup water delivery spout, bowl, suction tubes, handpiece body.



WARNING! Moving the dental chair.

- Make sure that the patient is ready to collaborate: ask him/her to keep his/her hands and feet close, avoiding incorrect postures.
Check that the patient is sitting properly when moving the dental chair (see figure)





1.4. Cleaning and disinfecting

Cleaning is the first step of any disinfecting process. Physically scrubbing with detergents and surface-active substances and rinsing with water removes a considerable amount of micro organisms. If a surface is not clean first, the disinfecting process cannot be successful. If a surface cannot be adequately cleaned, it should be protected with barriers.

Cleaning.

The various drugs and chemical products used in dentist's surgeries may damage the painted surfaces and the plastic parts. Research and tests run show that the surfaces cannot be fully protected against the harsh action of all products available on the market. It is therefore recommended to use protective barriers whenever possible and to promptly remove any traces of products from the surfaces, as their aggressive effect also depends on the time they stay on the surfaces.

Disinfection.

The outer parts of the device must be cleaned and disinfected using **a disinfectant with virucide and tuberculicide activity** (medium-level disinfectant) **as indicated by the manufacturer.**

It is recommended to use the specific medium-level disinfectant, STER 1 PLUS (CEFLA s.c.), which is compatible with:

- Coated surfaces and plastic parts.
- Upholstery.



WARNING!

Any splashes or spots of mordant will stain the MEMORY FOAM upholstery. Immediately rinse with plenty of water if acid spatters on the upholstery.

- Uncoated metal surfaces.

If you do not use STER 1 PLUS, it is recommended to use products that contain at maximum:

- Ethanol. Concentration: maximum 30g for every 100g of disinfectant.
- 1-propanol (N-propanol, propyl alcohol, N-propyl alcohol). Concentration: maximum 20 g per 100 g of disinfectant.
- Combination of ethanole and propanole. Concentration: the combination of the two should be maximum 40 g per 100 g of disinfectant.



WARNING!

- Do not use products containing isopropyl alcohol (2-propanol, iso-propanol).
- Do not use products that contain sodium hypochlorite (bleach).
- Do not use cleaners that contain phenol.
- Do not spray the selected products directly on the surfaces.
- All products must be used as directed by the manufacturer.
- Do not mix the STER 1 PLUS disinfectant with other products.

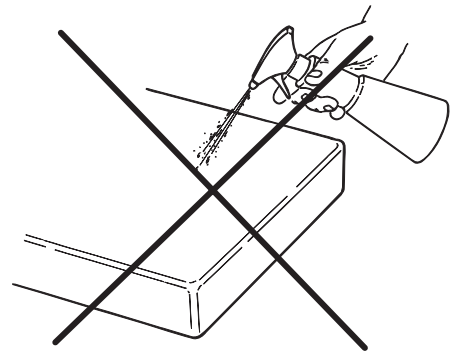
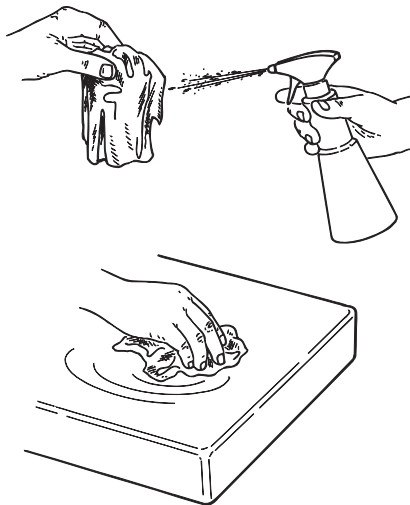
Cleaning and disinfecting instructions.

Clean and disinfect with single-use non-abrasive paper (avoid using recycled paper) or sterile gauze. Do not use sponges or in any case, any material that can be reused.



WARNING!

- Shut off the dental unit prior to clean and disinfecting the external parts.
- All material used to clean and disinfect must be thrown away.





2. Description of the equipment

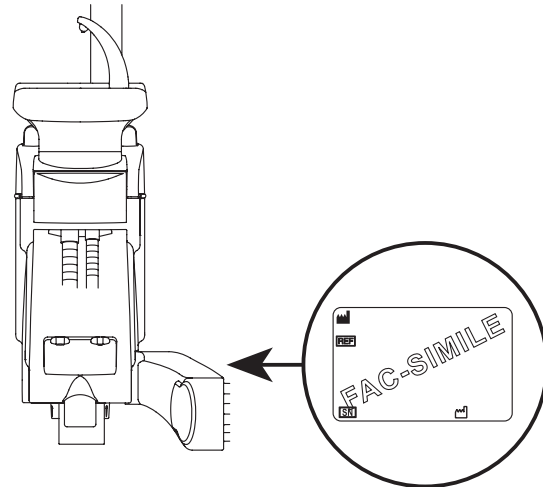
2.1. Nameplate

Dental operator

The nameplate is found on the arm between the dental chair and hydrogroup.

Data given on plate:

- Manufacturer's name.
- Name of equipment.
- Voltage.
- Type of current.
- Frequency.
- Maximum power absorbed.
- Serial number.
- Month and year of construction.



2.2. Dental units

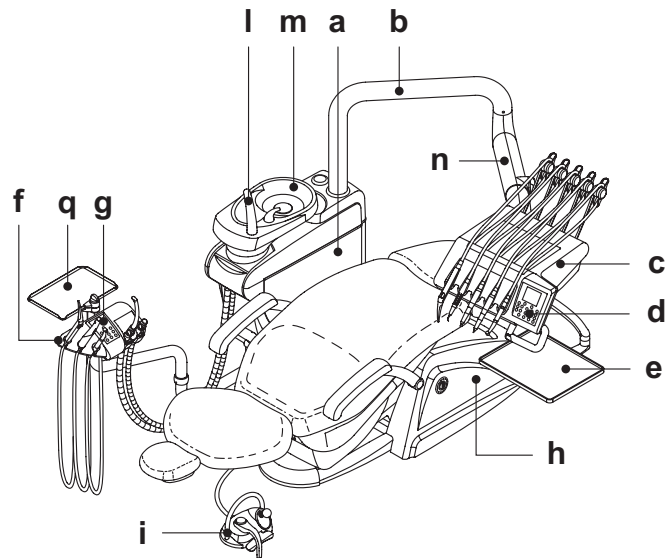
The dental units of the SKEMA 5 series come in the following models:

SKEMA 5.

"RS" version instrument board (instruments will return to their original position through the pulling action of the spring-operated arms) attached to a double supporting arm, one of which is articulated while the other is autobalancing.

Description of equipment:

- [a] Hydrogroup.
- [b] Adjustable arm.
- [c] Instrument board.
- [d] Doctor's console.
- [e] Tray holder.
- [f] Assistant's board.
- [g] Assistant's control console.
- [h] Utility service center.
- [i] Multifunction foot control.
- [l] Water to cup.
- [m] Bowl.
- [n] Autobalancing arm.
- [q] Instrument tray on assistant's board (optional).

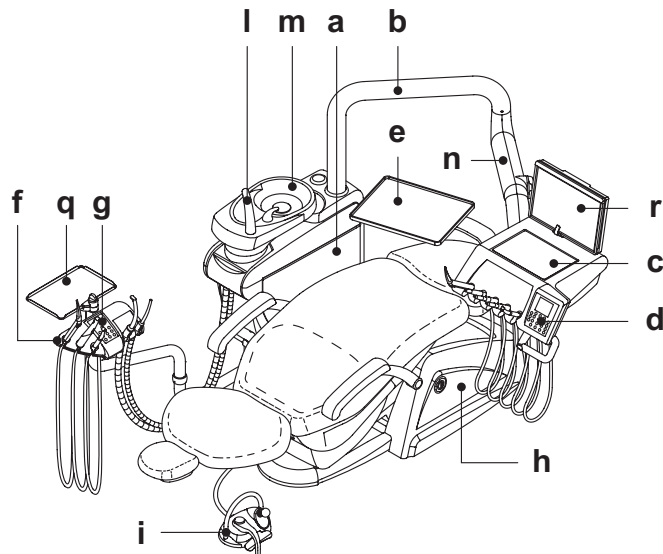


SKEMA 5 CP.

Instrument board version CP (the instruments are placed vertically in position) mounted on double arm of which one is articulated and self-balanced.

Description of equipment:

- [a] Hydrogroup.
- [b] Adjustable arm.
- [c] Instrument board.
- [d] Doctor's console.
- [e] Tray holder (optional).
- [f] Assistant's board.
- [g] Assistant's control console.
- [h] Utility service center.
- [i] Multifunction foot control.
- [l] Water to cup.
- [m] Bowl.
- [n] Autobalancing arm.
- [q] Instrument tray on assistant's board (optional).
- [r] Viewer for panoramic x-rays (optional).





2.3. Dental chair

Description of the chair

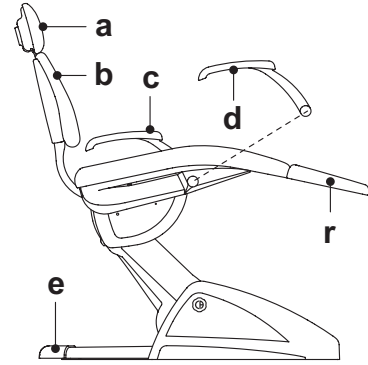
- [a] Headrest.
- [b] Back.
- [c] Brazo izquierdo móvil (opcional).
- [d] Brazo derecho móvil (opcional).
- [e] Safety foot board.
- [f] Sliding footrest.

Operating times

The operating and rest times are as follows: **work 25 sec. - rest 10 min.**

Maximum weight capacity.

The maximum chair capacity is 190 Kg.



WARNING!

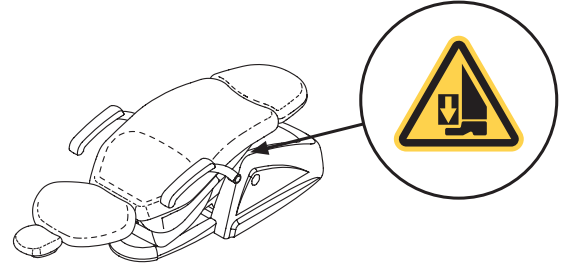
Do not exceed this value.

Warnings for use.



WARNING: FOOT CRUSHING HAZARD

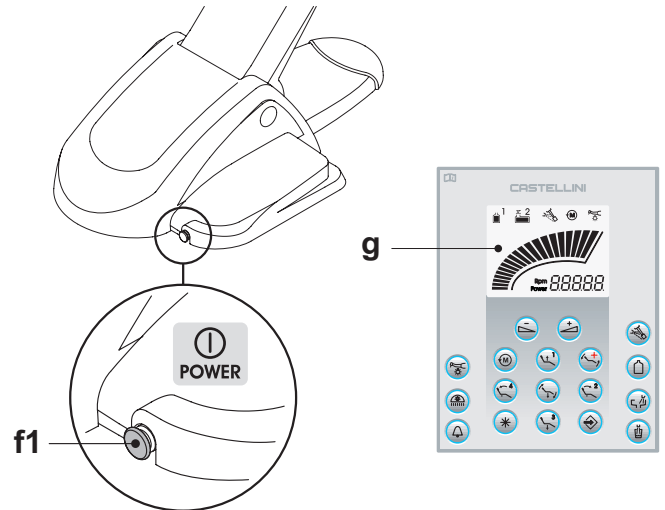
Pay attention to the patient and the staff during dental chair descent.



3. Turning on the dental operator

Press the main switch (f1) on the dental chair casing and check on the control console that:

- **“POWER” led (g) on**
 - equipment on
 - pneumatic system connected
 - water system connected.
- **“POWER” led (g) off**
 - equipment off
 - pneumatic system disconnected
 - water system disconnected



4. Dental chair operation

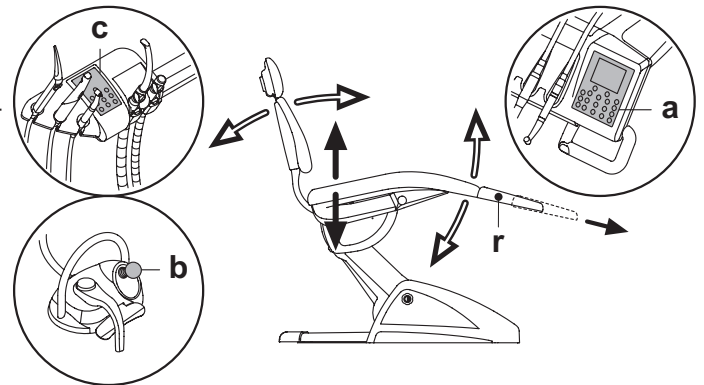
The dental chair can be moved as follows:

- Chair seat up/down
- Back up/down with inclination of the chair seat (Trendelemburg compensated)

The dental chair can be operated from the following places:

- Instrument board [a] (see par. 5)
- Multifunction foot control [b] (see par. 5.2)
- Assistant's board [c] (see par. 6)

The footrest [f] can be extended approximately 10 cm.

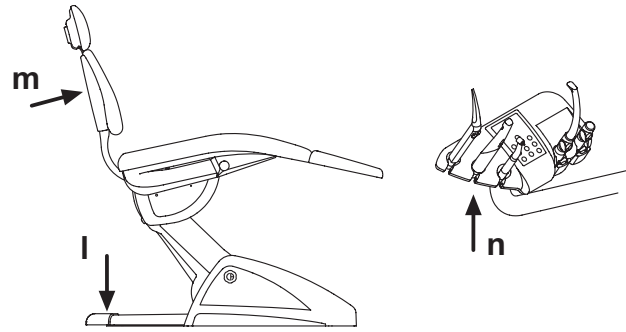




4.1. Safety devices

The equipment is supplied with the following safety devices:

- The floor box is equipped with a device [i] that immediately stops the dental chair from moving down in the presence of an obstacle and automatically lifts it up to free the obstacle.
- The backrest is equipped with a device [m] that immediately stops the backrest from moving down in the presence of an obstacle and automatically lifts it up to free the obstacle.
- The arms of the assistant's board are equipped with a safety device [n] that immediately stops the dental chair from moving down if an obstacle is encountered and automatically moves it up to clear the obstacle.

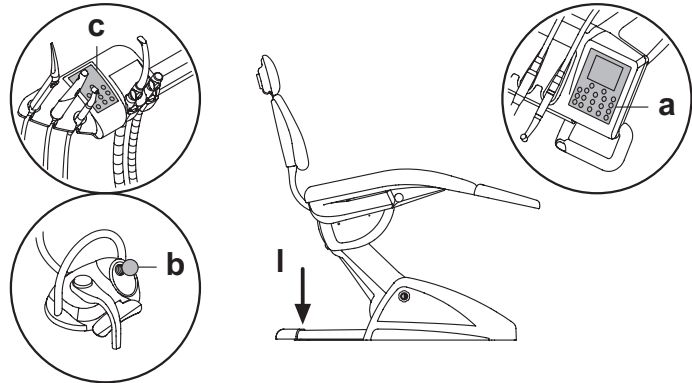


4.2. Emergency devices

⚠ WARNING!

Use the devices below When movement of the equipment needs to be blocked:

- **Dental chair control buttons [a] or [c].**
Pressing any dental chair button blocks all movements.
- **Foot control [b].**
When the foot control is actuated, all movements of the equipment are blocked.
- **Foot board [i].**
Foot board activated: all movements are blocked.



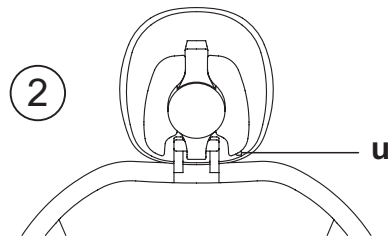
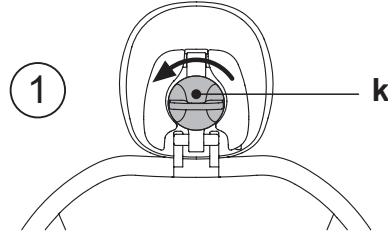
4.3. Adjustable headrest

The headrest may be of two types:

- 1 with manual cushion lock lever
- 2 with pneumatic cushion lock lever

Adjusting headrest height.

- with manual locking (1):
The head rest blade is positioned through a magnetic clutch. The operator should pull up and/or push down the headrest until it is in the desired position.
- with pneumatic locking (2):
Press and hold down the locking button (u) to position the headrest as desired. Once you have reached the desired position, release the button (u) to lock the headrest in place.



Adjusting the cushion:

- with manual lock (1): rotate the lock knob (k) anti-clockwise, position the cushion as desired and then retighten the lock knob.
- with pneumatic lock (2): press the lock button (u) and keep it pressed as you adjust the cushion as desired. Once the cushion is oriented as desired just release the button (u) to lock in place.

Proper positioning of the headrest.

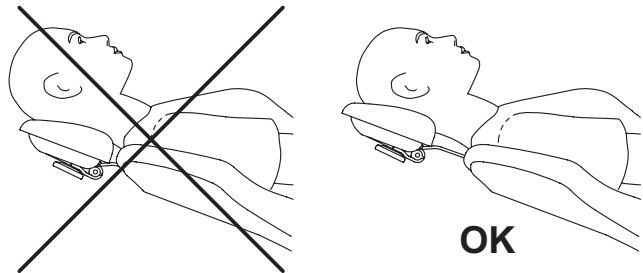
⚠ WARNING!

For correct use of the headrest, position the patient's head as shown in the figure.

Important information.

⚠ WARNING!

- **Maximum on-headrest load: 30 Kg.**
- **Do not attempt to move cushion while patient is resting against it.**
- **Do not attempt to modify the position of the cushion without first releasing the lock mechanism.**
- **The pneumatic locking device is active only when the air circuit is pressurized and the dental unit is on.**





4.4. Adjustable armrest (optional)

Pushing down the adjustable armrest

Turn the adjustable armrest clockwise to move it down so that the patient can more easily get on and off the chair.

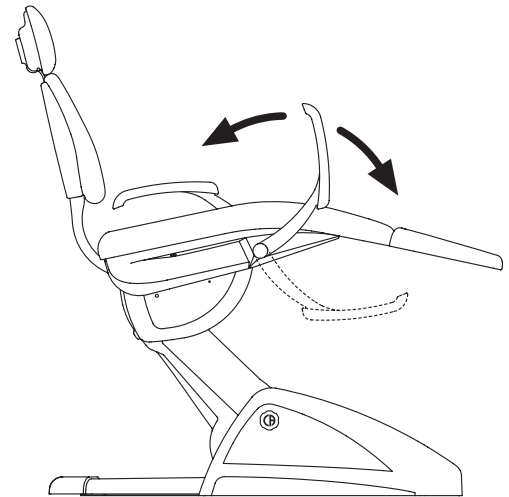
Taking off the adjustable armrest.

Put the armrest in a vertical position and pull it off.



WARNING!

Maximum weight supported by armrest: 68 kg.



5. Instrument board operation

Layout of instruments

The positions the instruments are placed in on the board are determined by the customer at the time of order.

Starting the instruments.


- The syringe is always on (see paragraph 5.3.).
- The curing light is turned on with the key When the instrument is withdrawn (see paragraph 5.7.).
- Intraoral camera C-U2 and C-U2 PRO turn on when the instrument is extracted (see paragraph 5.8.).
- Once picked up, all the instruments are operated with the foot control. (see paragraph 5.2.).

Simultaneous use of the instruments

A device sees that the instruments cannot be used simultaneously. The first instrument removed is operative while those removed there after are deactivated by this device. This device allows the chuck to be replaced in one instrument while another is used on the patient.

Positioning the instrument board.

The instrument board can move in all directions. To adjust the height of the board and/or direct it horizontally, simply grasp the handle [a].

 **NOTE (only for pantograph arm with pneumatic brake):** to release the pantograph arm's pneumatic brake, grip the handle by positioning your thumb on the point (B).
To set the brake's sensitivity, see Paragraph 5.1.5.

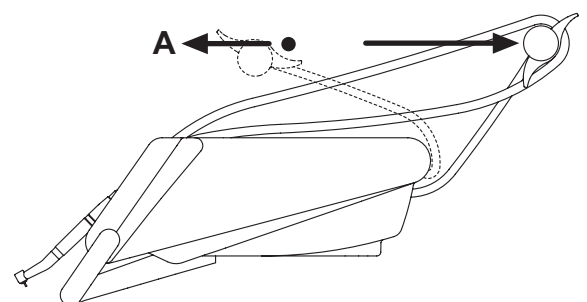
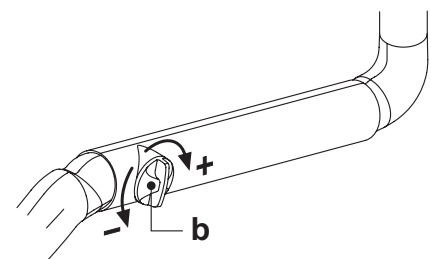
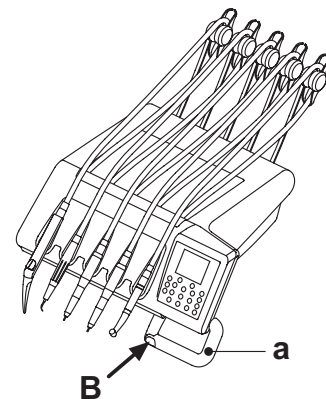
Adjusting the pantograph arm

Balancing of the pantograph arm is determined at the time of installation. Any future adjustments can be made using the knob [b] found on the pantograph arm.

Turn clockwise: to increase clutching of the pantograph arm.
Turn counter-clockwise: to decrease clutching of the pantograph arm.

Stop device for instrument return arms (only RS version).

If this device is provided, the instrument return arm can be locked in the instrument extracted position. When the device is used a click is heard about 2/3 of the total arm travel. To go back to the original condition, simply move the arm to the end of its travel [a].





SKEMA 5 - OPERATING INSTRUCTION



Tray holder module for SPRIDO version dentist's instrument board.
The tray holder module [f] is made of stainless steel and can easily be removed from its support.

! WARNING!

Maximum weight allowed on instrument tray: 2 Kg evenly distributed.

Tray holder module for CP version dentist's instrument board.
The instrument holder [q] is removable and can be sterilized in an autoclave at 135°C.

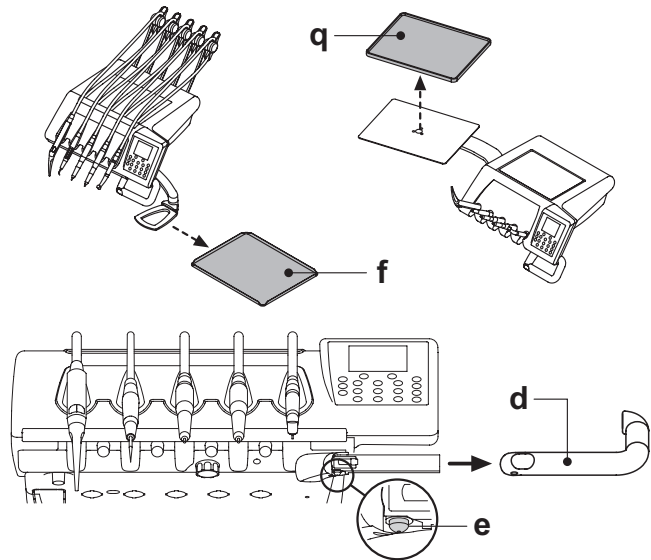
! WARNING!

Maximum weight allowed on instrument tray: 2 Kg evenly distributed.

Cleaning the instrument board handle.

Press the release button [e] and then pull the handle [d] outwards and remove it.

Clean the dentist's module handle using a suitable product (see Paragraph 1.4).

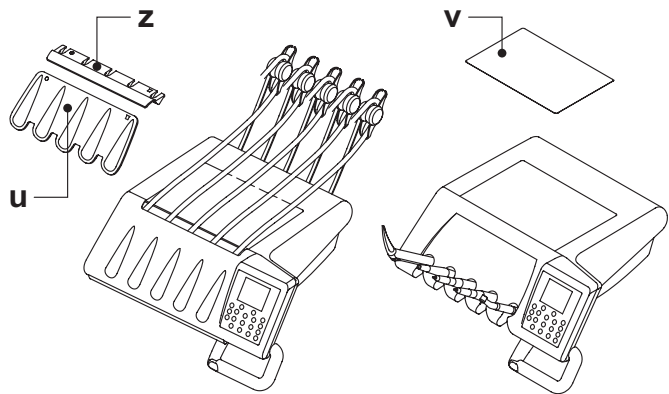


Cleaning the instrument board

Clean the dentist's instrument board using a suitable product (see Section 1.4).

NOTE RS version boards: the instrument holder [u] and cord cover [z] are autoclavable at 135°.

NOTE CP version boards: the board's protection [v] can be sterilized in autoclave at 135°.



Removable instrument cords

All the instruments have removable cords to ease cleaning.

Follow the directions given below to remove the instrument cords:

RS version boards

- Open the front of the board, after releasing it with the button [k] found behind the console as shown in the figure.
- Loosen the plastic ring nuts and remove the cords.

CP version boards

Loosen the plastic ring nuts found underneath the board and then remove the cords.

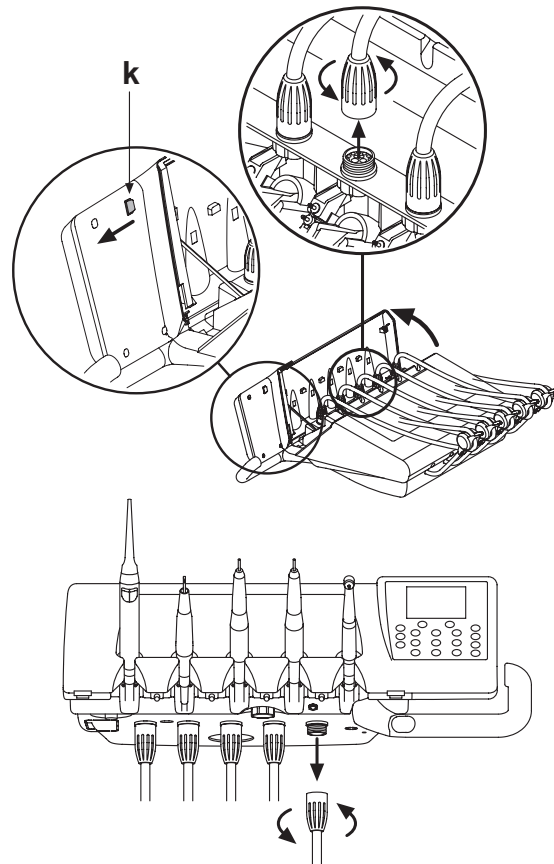
! WARNING!

- Shut off the operatory unit before attempting to take off the cords.
- After shutting off the operatory unit, empty the syringe's ducts by pressing and holding down the relative air and water buttons directly on the bowl until water spray is no longer present.
- The cords of the TURBINE, MICROMOTOR and SCALER contain water, therefore hold the end of the cord on the handpiece side over the bowl. When removing the cord.
- When putting a cord back on, make certain the contacts are perfectly dry and the plastic ring nut is tight.
- Each cord may be remounted only in the position for the corresponding instrument.

Clean the instrument holder using a suitable product (see Paragraph 1.4).

! WARNING!



















The instrument cords are NOT suitable for autoclave or cold sterilization.





5.1. Doctor's control console

Description of the buttons:

-  INCREASE button: increases the values.
-  DECREASE button: decreases the values.
-  Fiber optic lighting on/off button (on/off).
-  Scaler ENDO function/micromotor reverse button.
-  Dental operatory light on/off button.
-  Cup fill button.
-  Bowl rinse function.
-  Only water to spray to instruments.
-  S.S.S. system on/off.
-  Assistant call button.
-  Dental chair functions save button.
-  Automatic return position button.
-  Rinse position button.
-  Emergency position button.
-  Programmed position 1 retrieval and chair base up button.
-  Programmed position 2 retrieval and chair back up button.
-  Programmed position 3 retrieval and chair base down button.
-  Programmed position 4 retrieval and chair back down button.

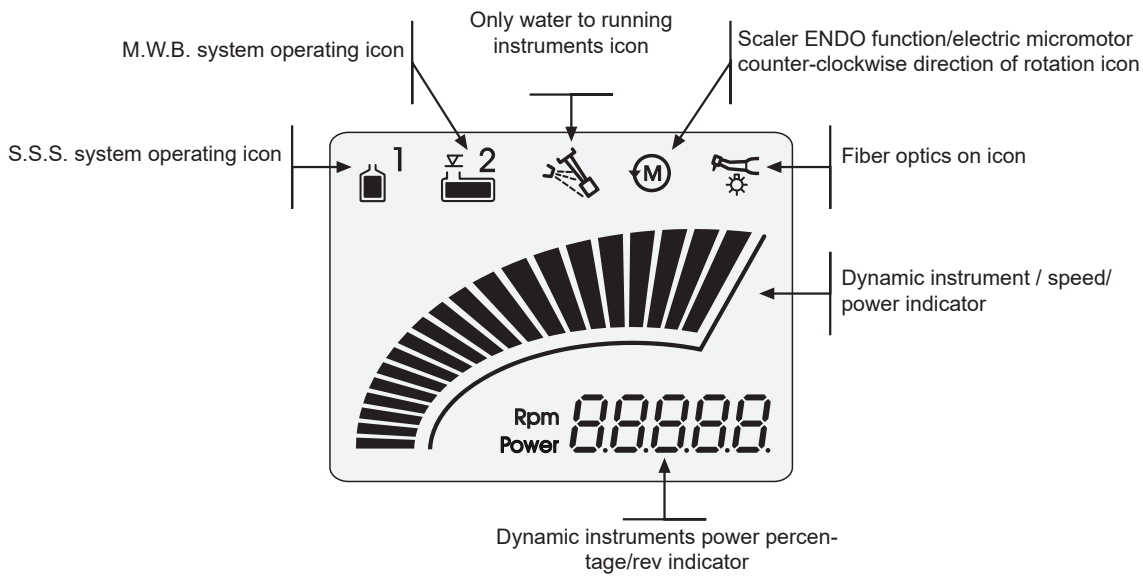
 **NOTE: functioning of buttons that move the chair.**

- Briefly pressed: programmed position automatically reached.
- Held down: manual positioning.



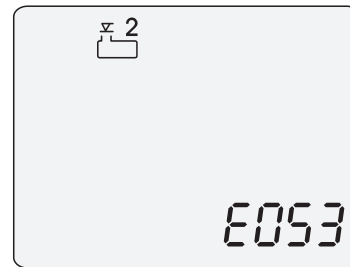


Icons displayed on the screen:



Error messages.

The system may detect dental unit malfunctions during the work stages. In this case, an error message **Exxx** may be displayed which stays on the screen until the problem has been remedied (see paragraph 10). If the malfunction is not dangerous, the dental unit remains operative.

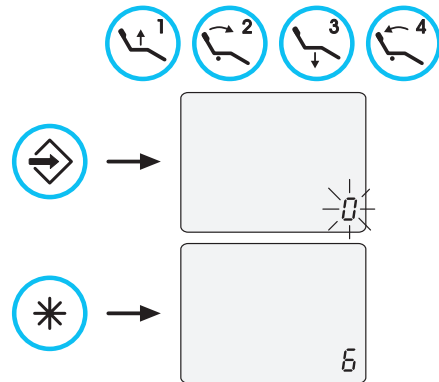




5.1.1. Setting the dental chair "automatic return" and "rinse position"

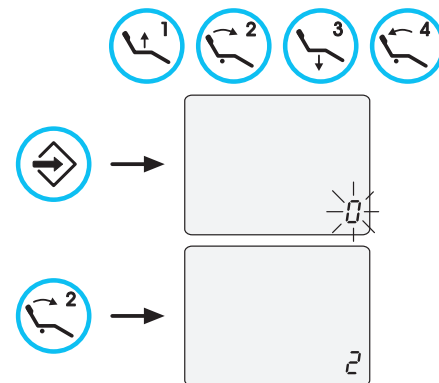
- Bring the dental chair into the desired position using the position buttons.
- Press button "SAVE" (number 0 starts blinking on the display).
- Press "RINSE POSITION" or "AUTOMATIC RETURN" to assign the position to the button.
The number for the selected button lights up on the display to confirm the position has been saved.
5 = AUTOMATIC RETURN
6 = RINSE POSITION

NOTE: the "RINSE POSITION" button brings the chair back to the rinse position without changing the position of the chair base. Press the button again to return the chair back to its previous position.



5.1.2. Setting dental chair programs 1, 2, 3 and 4.

- Bring the dental chair into the desired position using the position buttons.
- Press button "SAVE" (number 0 starts blinking on the display).
- Press the button for the program number to be saved.
The number for the selected program lights up on the display to confirm the program has been saved.



5.1.3. Emergency stop button.

This button can be used in the event of an emergency to bring the patient into the Trendelenburg position.

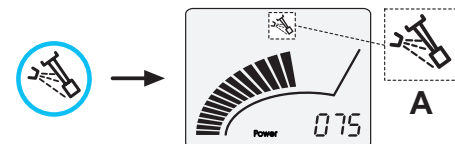
NOTE: the emergency position cannot be set.



5.1.4. Spray to instruments button

It is possible to select the type of spray delivered to the instrument by pressing the relevant button. The type of system operation is indicated by the relative icon [a] on the display screen.

- Icon OFF. Operation with water + air spray
- Icon ON: operation with only water spray



5.1.5. Pantograph arm's brake release sensitivity adjustment

This function is active only for the pantograph arm with pneumatic brake.

- With the instruments in rest position, activate the adjustment mode by pressing for at least 2 seconds the "REVERSE" button. The inscription "br" followed by the sensitivity level currently set will appear on the display.

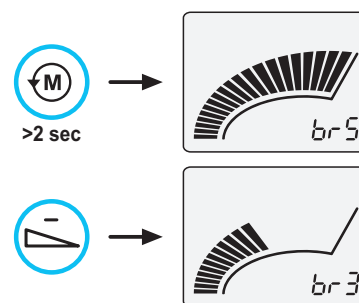
NOTE: it is not possible to perform this kind of adjustment while the AUTOSTERIL and TIME FLUSHING disinfection functions are running.

- Through the "increase" and "decrease" buttons you can adjust the sensitivity of the pneumatic brake release. The settable value ranges between 0 and 5 and the data is automatically stored.

NOTE: the value 0 corresponds to the total release of the brake.

WARNING!

For an increased work safety, while using an external electric scalpel it is compulsory to deactivate the brake release by setting its sensitivity to 0.

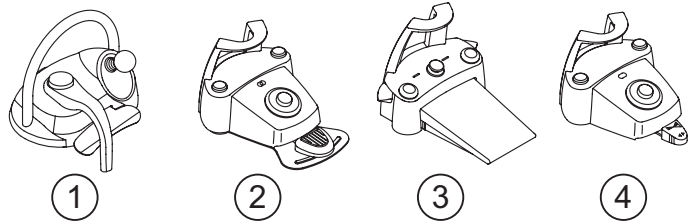




5.2. Foot control

There are 4 types of pantograph arm:

- ① "Multifunction" foot control (see paragraph 5.2.1)
- ② "Pressure operated" foot control (see paragraph 5.2.2)
- ③ "Power pedal" foot control (see paragraph 5.2.3)
- ④ "Lateral excursion" foot control (see paragraph 5.2.4)

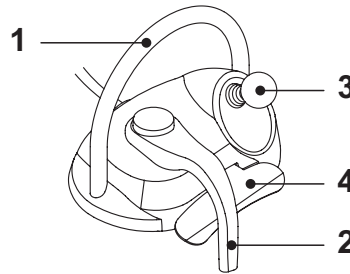


NOTE: the "lateral excursion" and "pressure operated" foot controls can also be supplied in the WIRELESS version (see paragraph 5.2.5)

5.2.1. "Multifunction" foot control

Description of the parts

- [1] Handle
- [2] Horizontally actuated control lever
- [3] Joystick for dental chair movements
- [4] Vertically actuated control



Control lever [2]

When the instruments are in place, the control lever [2] has 2 different operating modes, depending on whether or not the pedal [4] is pushed before hand.

NOTE: once the pedal [4] is pushed, the lever [2] must be actuated within 5 seconds. The function is automatically cancelled once this time has elapsed.

Operation with the instruments in place on the holder

- Lever [2] all the way to the right: dental operatory light on/off

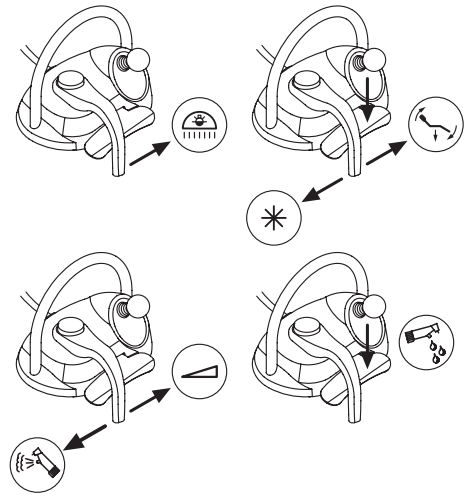
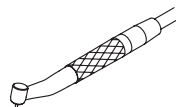
Operation with the instruments in place on the holder after pushing the pedal [4]

- Lever [2] all the way to the right: dental chair automatic return
- Lever [2] all the way to the left: patient rinse position retrieval. If the lever [2] is pushed all the way to the left, the dental chair reaches the work position.

NOTE: these dental chair functions are activated by holding down the pedal for at least 2 seconds.

Operation with the instruments withdrawn

- Lever [2] to the right: starts the instrument and adjusts its speed/power.
- NOTE:** if the camera is withdrawn, the image is frozen.
- Lever [2] all the way to the left: CHIP-AIR for the turbine or the micromotor is started.



The air jet is stopped when the lever [2] is released.

NOTE: if the camera is withdrawn, the saved images can be selected one after the other.

- Hold down the pedal [4] to start the CHIP-WATER for the turbine, micromotor or scaler.

The water jet is stopped when the pedal [4] is released.

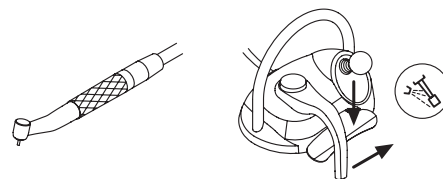
NOTE: if the camera is withdrawn, full-screen display of the selected image is activated/deactivated.

Water spray to instruments on/off

The spray is delivered by holding down the pedal [4] when the instrument is turned on (lever [2] activated).

NOTE: the type of spray delivered can be set from the doctor's console.

NOTE: at the end of work a blast of air is automatically activated to eliminate any residual drops of liquid in the instrument ducts.





Joystick for dental chair movements [3]

The joystick for dental chair movements [3] has 2 different operating modes, depending on whether or not the pedal [4] is pushed before hand.

NOTE: once the pedal [4] is pushed, the joystick [3] must be actuated within 5 seconds. The function is automatically cancelled once this time has elapsed.

Operation with the instruments in place on the holder

The joystick [3] actuates the 4 manual dental chair movements.

NOTE: release the joystick to stop manual movement.

Operation with the instruments in place on the holder after pushing the pedal [4]

The joystick [3] retrieves the 4 dental chair programs.

NOTE: actuate the joystick again to stop automatic movement.

With instrument withdrawn but not turned on

The joystick [3] actuates the 4 manual dental chair movements.

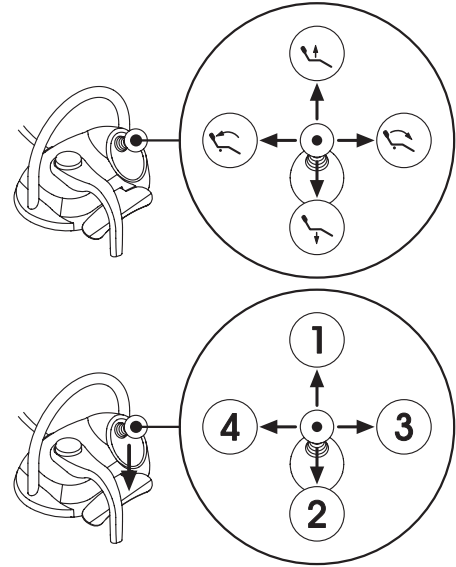
NOTE: the 4 programs are blocked under this condition.

With instrument turned on (lever [2] actuated)

Joystick disabled, all the commands to move the dental chair are blocked.

Cleaning

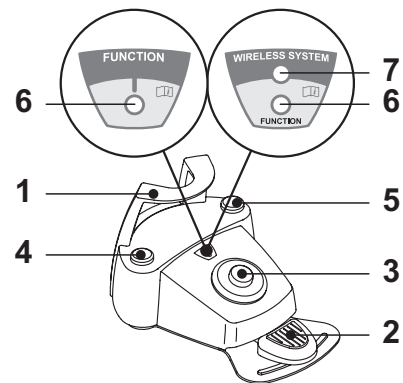
Clean the foot control using a suitable product (see Paragraph 1.4).



5.2.2. "Push-pedal" foot control

Description of the parts

- 1 Handle
- 2 Control pedal
- 3 Dental chair movements
- 4 Chip-air/patient rinsing position control
- 5 Water Clean System/Automatic dental chair return control
- 6 Spray operation LED
- 7 Battery charge LED (wireless version only)



Control pedal (2)

Operation:

- Remove the instrument
- Push the foot pedal to start the instrument (a)
- Adjust the rpm/power of the instrument with the control pedal:
 - to right: to increase
 - to left: to decrease

NOTE: the control pedal adjusts the speed/power of the instrument from the minimum to the maximum value set from the instrument board.

To stop the instrument, simply release the control pedal (a).

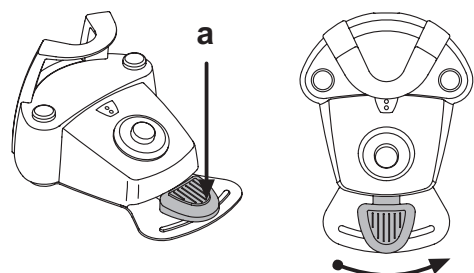
NOTE: with spray, at the end of work a blast of air is automatically activated to eliminate any residual drops of liquid in the instrument ducts.

WARNING!

Instrument spray is activated or deactivated by pressing the buttons (4) or (5).

A beep sounds to signal the operating status has been changed.

When the LED (6) is on, it indicates operation with spray.





Joystick for dental chair movement (3).

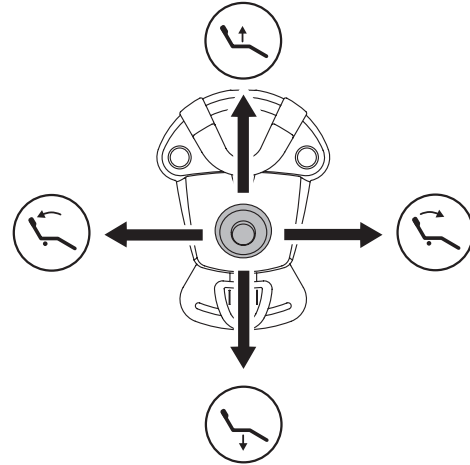
These buttons move the dental chair as follows:

- dental chair seat up.
- dental chair backrest up.
- dental chair seat down.
- dental chair backrest down.

To stop movement, release the button.

NOTE: all the buttons used to move the dental chair are inoperative when an instrument is removed and the foot control pedal is actuated.

NOTE: the joystick operating mode can be changed with the instrument removed so that, if vertically moved, the joystick controls (ON/OFF) the operating light switching, if horizontally moved, it controls (ON/OFF) the inversion of the micromotor rotation direction, the activation of the scaler ENDO function and the activation of the dental camera MIRROR function. To activate this function, call Technical Service.



Left-hand button operation (4).

Operation:

- Holding down the button for at least 2 seconds with the instruments in rest position:

Activation of the "Patient rinsing position" program.

NOTE: pressing the button a second time returns the dental chair into working position.

- Holding down the button for at least 2 seconds with instrument extracted:

Chip-air control: sends a jet of air to the turbine or the micromotor. Air delivery is activated by pressing the button; the jet of air is interrupted when the button is released.

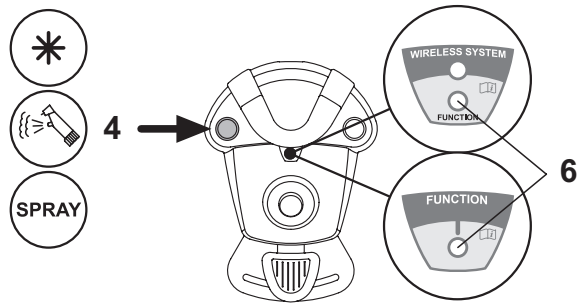
NOTE: the control works only when the turbine and micromotor are in working position.

- Briefly pressing the button with the instrument extracted:
Instrument spray activation or deactivation.

WARNING!

A short acoustic signal warns of the switch.

When the LED (6) is on, it indicates operation with spray.



Right-hand button operation (5).

Operation:

- Holding down the button for at least 2 seconds with the instruments in rest position:

Activation of the "Automatic dental chair return" program.

- Holding down the button for at least 2 seconds with instrument extracted:
Water Clean System control: sends a jet of running water to instruments such as the turbine, the micromotor and the scaler for rinsing the spray ducts.

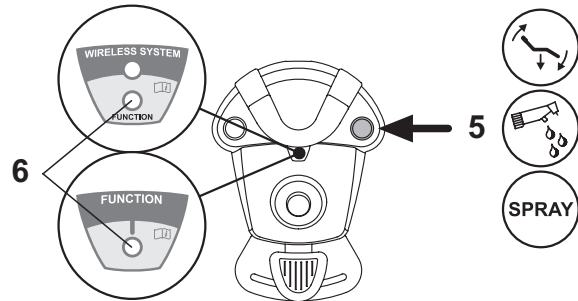
Water is delivered when pressing the button (4); when the button is released, the jet of water is interrupted and a blast of air is automatically activated to eliminate any residual drops of liquid in the instrument ducts.

- Briefly pressing the button with the instrument extracted:
Instrument spray activation or deactivation.

WARNING!

A short acoustic signal warns of the switch.

When the LED (6) is on, it indicates operation with spray.



Wireless version.

This foot control can also be supplied in wireless version (see Paragraph 5.2.4).

Protection against liquid penetration.

The foot control is protected against liquid penetration. Degree of protection: IPX1.

Cleaning.

Clean the foot control using a suitable product (see Paragraph 1.4).

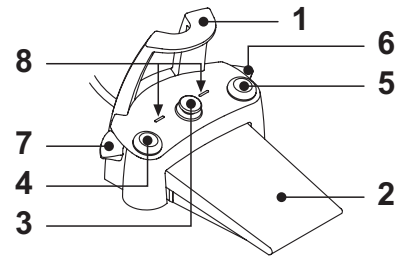
NOTE: if the foot control slips on the floor, dust the slip-proof rubber found under the base with a dry cloth.



5.2.3. "Power Pedal" foot control

Description of the parts.

- 1 Handle.
- 2 Foot control.
- 3 Dental chair movements.
- 4 Chip-air control or activation/deactivation of instrument spray function.
- 5 Water Clean System control or activation/deactivation of instrument spray function.
- 6 Program "B" retrieval or patient rinse position activation.
- 7 Program "A" retrieval or automatic dental chair return activation.
- 8 Warning LED for operation with spray.



Foot control operation (2).

• With instrument removed

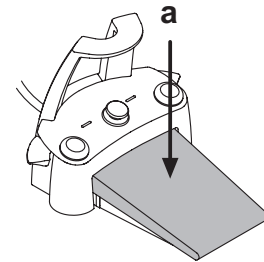
- Pushing the pedal (a), the instrument is started.
The instrument's rpm (or power) can be adjusted by varying the pressure exerted on the foot control.

NOTE: the foot control adjusts the speed/power of the instrument from the minimum to maximum value set from the instrument board.
- Release the foot control to stop instrument operation.

NOTE: with the spray active, at the end of the operation a blast of air is automatically activated to remove any residual drops of liquid in the spray ducts.

• With instrument in place

When the foot control is pressed, all automatic dental chair movements are automatically blocked.



Operation of command for dental chair movements (3).

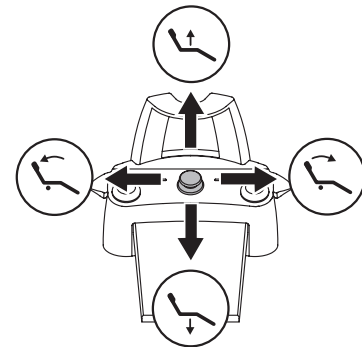
These buttons move the dental chair as follows:

- Chair seat up
- Chair back up
- Chair seat down
- Chair back down

To stop movement, release the button.

NOTE: all the dental chair movement controls are locked when an instrument is active or the AUTOSTERIL system is working.

NOTE: the joystick operating mode can be changed with the instrument removed so that, if vertically moved, the joystick controls (ON/OFF) the operating light switching, if horizontally moved, it controls (ON/OFF) the inversion of the micromotor rotation direction, the activation of the scaler ENDO function and the activation of the dental camera MIRROR function. To activate this function, call Technical Service.



Left-hand button operation (4).

• Holding down the button for at least 2 seconds with instrument extracted:

Chip-air control: sends a jet of air to the turbine or the micromotor. Air delivery is activated by pressing the button; the jet of air is interrupted when the button is released.

• Briefly pressing the button with the instrument extracted:

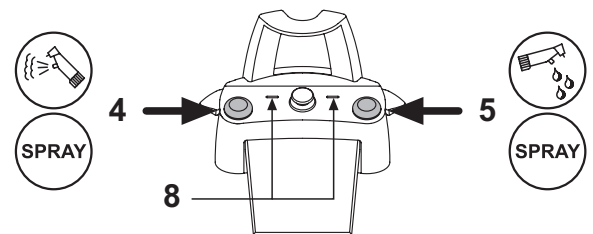
Activation or deactivation of instrument spray.



WARNING!

A short acoustic signal warns of the switch.

When the LED (8) is on, it indicates operation with spray.



Right-hand button operation (5).

• Holding down the button for at least 2 seconds with instrument extracted:

Water Clean System control: sends a jet of running water to instruments such as the turbine, the micromotor and the scaler for rinsing the spray ducts. Water is delivered when pressing the button (5); when the button is released, the jet of water is interrupted and a blast of air is automatically activated to eliminate any residual drops of liquid in the instrument ducts.

• Briefly pressing the button with the instrument extracted:

Activation or deactivation of instrument spray.



WARNING!

A short acoustic signal warns of the switch.

When the LEDs (8) are on, they indicate operation with spray.



Right lever operation (6).

NOTE: the lever functions only with the instruments in their rest position.

For safety reasons, the selected function starts only after the switch has been briefly actuated and then released.

- **Lever pushed down:**
"Dental chair automatic return" program activated.
- **Lever pulled up:**
Dental chair program "B" start.

Left lever operation (7).

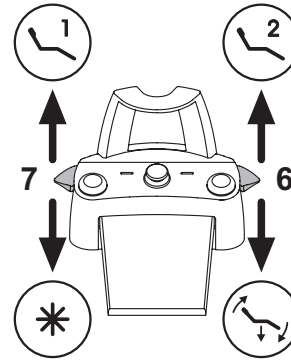
NOTE: the lever functions only with the instruments in their rest position.

For safety reasons, the selected function starts only after the switch has been briefly actuated and then released.

- **Lever pushed down:**
"Rinse position" (PR) program activated

NOTE: when the switch is actuated the second time, the dental chair reaches its work position.

- **Lever pulled up:**
Dental chair program "A" start.



Protection against liquid penetration.

The foot control is protected against liquid penetration.
Degree of protection: IPX1.

Cleaning.

Clean the foot control using a suitable product (see Paragraph 1.4).

NOTE: if the foot control slips on the floor, dust the slip-proof rubber found under the base with a dry cloth.

5.2.4. "Lateral excursion" foot control

Description of the parts

- 1 Handle
- 2 Control pedal
- 3 Dental chair movements
- 4 Chip-air/patient rinsing position control.
- 5 Water Clean System/Automatic dental chair return control.
- 6 LED (not active).
- 7 Battery charge LED (wireless version only).

Control pedal (2).

With instrument removed

- Starts the instrument.
- Adjusts the rpm of rotary instruments.
- To right: operation with spray (if foreseen for selected instrument).

NOTE: At the end of work, air is automatically blown to eliminate any drops of liquid remaining in the spray ducts.

- To left: spray-free operation

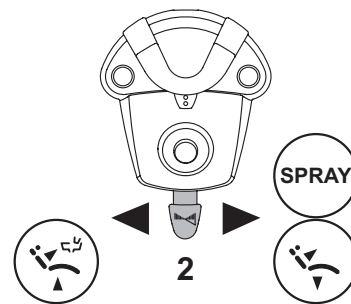
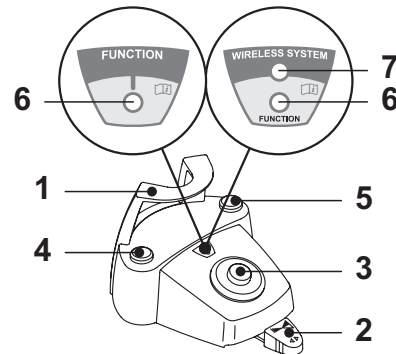
With instruments in place

- Fully right: dental chair automatic return (RA).
- Fully left: patient rinse position reached (PR).

NOTE: If the pedal is pushed fully left again, the dental chair moves back to the work position.

WARNING!

These dental chair functions are activated by keeping the pedal at the end of the travel for at least 2 seconds.





Joystick for dental chair movement (3).

These buttons move the dental chair as follows:



Dental chair seat up.



Dental chair backrest up.




Dental chair seat down.




Dental chair backrest down.

To stop movement, release the button.

 **NOTE:** All the buttons used to move the dental chair are inoperative when an instrument is removed and the foot control pedal is actuated.


Left-hand button operation (4).

- **Key held down (at least 2 seconds) with the instrument removed:**
Chip-air operation: delivers air to the turbine or micromotor.
Air is delivered by pressing the button. Air is no longer blown when the button is released.
- **Key held down (at least 2 seconds) with the instruments in place:**
"Rinse position" (PR) program activated.

 **NOTE:** press the key again to bring the chair back to the work position.

Right-hand button operation (5)

- **Key held down (at least 2 seconds) with the instrument removed:**
Water Clean System operation: running water is sent to the instruments such as the turbine, micromotor and scaler to flush the spray ducts.
Water is delivered by pressing the button. Water is no longer delivered when the button is released and air is automatically blown to eliminate any drops of liquid remaining in the spray ducts.
- **Key held down (at least 2 seconds) with the instruments in place:**
"Dental chair automatic return" program activated.

 **NOTE:** this function is NOT active in the S220 TR SINGLE HYDRO UNIT models.

Wireless version.


This foot control can also be supplied in wireless version (see Paragraph 5.2.5).

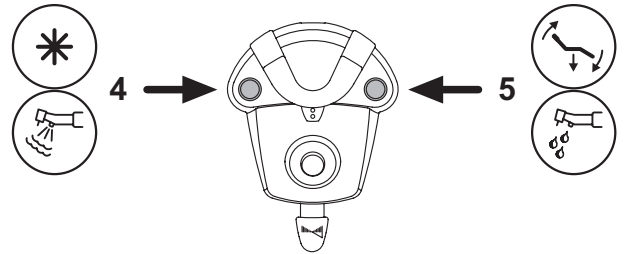
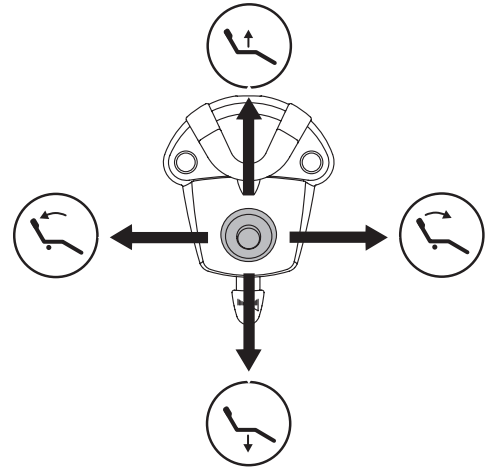
Protection against liquid penetration.

The foot control is protected against liquid penetration. Degree of protection: IPX1.

Cleaning.

Clean the foot control using a suitable product (see Paragraph 1.4).

 **NOTE:** If the foot control slips on the floor, dust the slip-proof rubber found under the base with a dry cloth.





5.2.5. Wireless foot control

The “lateral excursion” and “pressure operated” foot controls can also be supplied in the WIRELESS version.
The wireless foot control contains a ZIGBEE transmitter module (module certified for Europe, Canada and the USA).

Warnings for use.



WARNING!

- Avoid keeping the wireless foot control in proximity of other RF sources, such as wireless LAN cards, other radio devices, home RF devices, microwave ovens. The recommended distance is at least 2 metres in the case of microwave ovens and 1 metre in all other cases.
- Even though the electromagnetic field irradiated by the foot control is insignificant, it is advisable NOT to use it in proximity of life support equipment (e.g. pacemakers or heart stimulators) and hearing aids. Before using any electronic device in health facilities, always ascertain that it is compatible with the other equipment present.
- Exclusively use the dental unit to charge the battery of the WIRELESS foot control.
- The internal battery may only be replaced by a qualified technician.

Warnings for first use.

It is advisable to fully charge the foot control battery before using it for the first time.

WIRELESS foot control operation.

The WIRELESS foot control operates in exactly the same way as the wired version, therefore refer to the paragraphs above paying attention to the specific model used.

In addition, the WIRELESS foot control has a specific LED (7) that indicates the battery charge and the communication status with the dental unit.



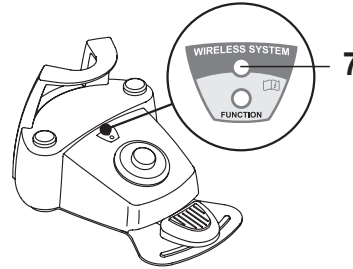
NOTE: when the dental unit is turned on, operate the control lever to activate foot control operation.

LED (7) indications.

The colour of the LED indicates the battery charge, while the type of flashing indicates the communication status with the dental unit.

Battery charge:

COLOUR	DESCRIPTION (CABLE DISCONNECTED)	DESCRIPTION (CABLE CONNECTED)
GREEN	Battery charge (>75%)	Battery charged
ORANGE	Battery charge (<50%)	Battery charging
RED	Battery needs charging (<25%)	Battery charge error
Off	Battery flat	Dental unit off or foot control fault



Communication status:

FLASHING	DESCRIPTION
Slow	Connection active in wireless mode
Fast	Connection active with charging cable inserted
Double	Connection search
On fixed	Communication error

Battery characteristics.

The WIRELESS foot control is equipped with a rechargeable Lithium-Polymer battery (Li-Poly, 3.7V, 5200 mAh type Guangzhou Markyn Battery Co. Model 9051109).

The battery life is approximately 2 months (estimating 8 hours of consecutive daily operation) with the battery fully charged and fully efficient. The battery efficiency reduces with age. It is estimated that the efficiency is reduced to 60% after 500 complete recharging cycles. Also in this condition, the battery should last about 1 month.



NOTE: when the battery efficiency is so far reduced as to be deemed unsatisfactory to support the daily usage requirements, have it replaced by a qualified technician (original spare part no. 97901336).



WARNING!

Do not attempt to replace the battery yourself.

Limited battery warranty.

The battery in the foot control is covered by a 6-month warranty from the date of installation.



Recharging the battery.

When the batteries in the WIRELESS foot control need to be recharged, operate as follows:

- Open the protective cap of the connector on the rear of the foot control and connect the recharging cable.
- Connect the other end of the recharging cable to the dental unit (see figure).

At this point, the foot control is in the battery charging phase (battery charging warning LED on) even though remaining fully functional.

 **NOTE:** the battery is fully recharged in about 6 hours.



WARNING!

Exclusively use the dental unit to charge the battery of the WIRELESS foot control.

Natural battery discharge.

Should the battery not be used for long periods of time, it may slowly discharge all the same.

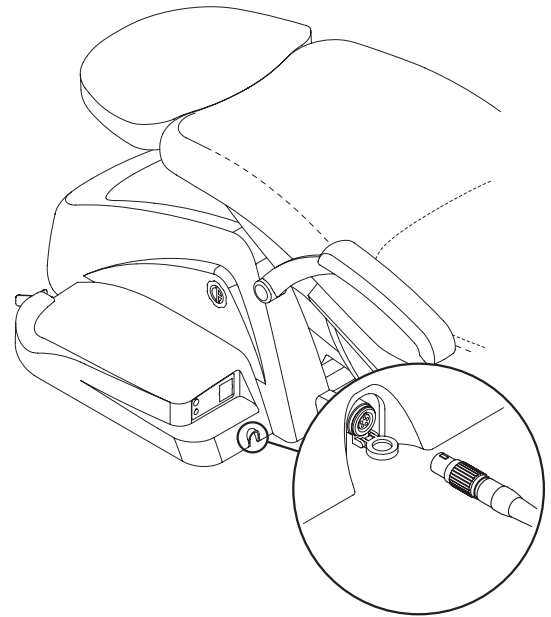
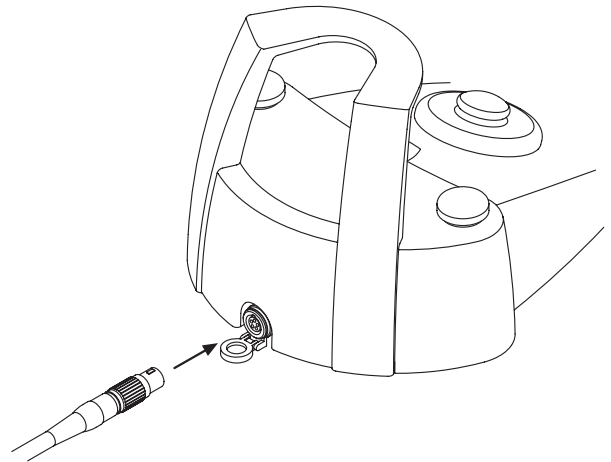
After long periods of disuse, it is advisable to always fully charge the battery before use.

Maintenance and disposal

The wireless foot control does not contain parts that can be repaired directly by the user.

In the event of a malfunction, do not attempt to carry out maintenance operations, but directly contact the manufacturer or his local distributor at the numbers indicated in the warranty certificate.

At the end of its lifetime, the battery must be replaced by a specialised technician at a Service Centre.





5.3. Syringe

Description of the instrument

- a Nozzle
- b Handpiece
- c Syringe release button
- d Air button
- e Water button
- f Hot/cold selector (only for 6-function syringes)
- g Hot/cold indicator light (only for 6-function syringes)

WARNING!

The instrument is supplied non-sterile.
It is recommended to use single-use protections and nozzles.

Use.

3-function syringes:

- Operating time: continuous operation.
- Place the instrument in its work position.
- Button [e] = water
- Button [d] = air
- Buttons (e + d) = spray

6-function syringes:

- **Operating times: work 5 sec., rest 10 sec.**
- Place the instrument in its work position.
- Operation with hot spray, air and water:
Turn the selector switch [f] clockwise (LED g on).
- Operation with cold spray, air and water:
Turn the selector switch [f] counter-clockwise (LED g off).
- Button [e] = water
- Button [d] = air
- Buttons (e + d) = spray

Removing the handpiece.

- The nozzle [a] is screwed onto the grip [b].
- 3-function syringes:
Press the button [c] to take the grip off the syringe casing.
- 6-function syringes:
Turn the selector switch counter-clockwise (LED g off) and press the button [c] to take the grip off the syringe casing.

Removable cord

The Syringe has a removable cord to ease cleaning (see paragraph 5.).

Cleaning


Use soft disposable paper towel dampened with detergents/disinfectants.

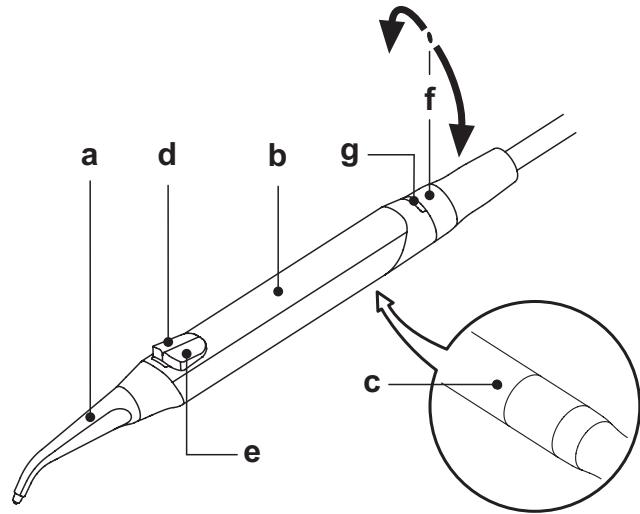
WARNING!

- Do not soak the syringe in liquid disinfectants or detergents.
- Products not recommended: harsh products and/or products containing acetone, chlorine and sodium hypochlorites.

Sterilization.

Syringe grip and spout: steam autoclave at 135°C (2 bar) following the instructions for use of the device.

 NOTE: bag before sterilizing.





5.4. Turbine

Connecting the handpiece and changing the chuck.

Refer to the specific instructions furnished with the handpiece.

Use.



WARNING!

Read the instructions for use of the various turbines.

- **Operating time: work 5 min., rest 5 min.**
- Place the instrument in its work position.
- Use the foot control pedal to start the instrument (see paragraph 5.2).
- The cock [f], found near the instrument, is used to adjust the amount of water in the spray.
- The cock [e] adjusts the amount of air spray for all the instruments.



NOTE: the following air micromotors can also be connected to the turbine cord:

- CASTELLINI air micromotor model "AirPower 2".



WARNING!

The instrument is supplied non-sterile.

Adjusting the turbine's operating speed

- Place the instrument in its work position.
- Use buttons INCREASE or DECREASE to set the maximum speed percentage of the turbine observing the bar graph.



NOTE: the data set are automatically saved.

- The foot control adjusts the operating speed from the minimum to the maximum values set (see paragraph 5.2).

Turning on the fiber optics

- Place the instrument in its work position.
- Press the button to turn the fiber optics on/off.
The icon [a] on the console display signals the fiber optics have been turned on.



NOTE: the fiber optics shut off if the turbine is not used for more than 30 seconds (foot control lever off).

Removable cord

The turbine has a removable cord to ease cleaning (see paragraph 5.).

Cleaning and care.

Refer to the specific instructions furnished with the handpiece.

Sterilization.

Steam autoclave at 135°C (2 bar) following the instructions for use of the device.



WARNING!

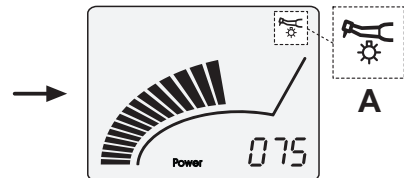
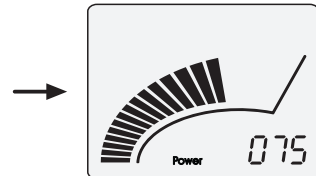
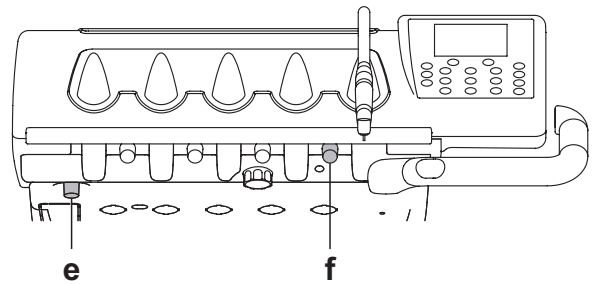
Carefully read the operating instructions supplied with the handpiece before attempting to sterilize.

Safety guidelines



WARNING!

- The turbine must never be started without attaching the chuck or false chuck.
- The chuck release button must be held down during operation!
Friction between the button and micromotor rotor overheats the head and may cause burns.
- The patient's internal tissues (tongue, cheeks, lips, etc...) must be protected against contact with the button by using suitable instruments (mirror, etc...).
- The chucks and various instruments attached to the handpieces must comply to the standard ISO 10993-1 Biological evaluation of medical devices.





5.5. Micromotor

Coupling the handpieces and changing the chuck. Refer to the specific instructions furnished with the micromotor and various handpieces.

Use.

WARNING!

Also read the instructions for use of the various motors.

- **Operating time: work 5 min., rest 5 min.**
- Place the instrument in its work position.
- Use the foot control pedal to start the instrument (see paragraph 5.2).
- The cock [f] adjusts the water flow to the spray.
- The cock [e] adjusts the amount of air spray for all the instruments.

WARNING!

The instrument is supplied non-sterile.

Adjusting the micromotor's operating speed

- Place the instrument in its work position.
- Use buttons INCREASE or DECREASE to set the maximum speed percentage of the micromotor observing the bar graph.

NOTE: the data set are automatically saved.

- The foot control adjusts the operating speed from the minimum to the maximum values set (see paragraph 5.2).

Selecting the direction of rotation.

- Place the instrument in its work position.
 - Press the reverse button on the console.
- The icon [b] on the console display signals the direction of rotation has been reversed.

WARNING!

When the micromotor is taken out, 3 BEEPS sound to signal counter-clockwise rotation.

NOTE: when the foot control lever is actuated, the direction of rotation of the micromotor cannot be reversed.

Turning on the fiber optics

- Place the instrument in its work position.
 - Press the button to turn the fiber optics on/off.
- The icon [a] on the console display signals the fiber optics have been turned on.

NOTE: the fiber optics shut off if the micromotor is not used for more than 30 seconds (foot control lever off).

Removable cord

The micromotor is equipped with a removable cord to ease cleaning (see paragraph 5).

Cleaning and care.

Refer to the specific instructions furnished with the instrument.

WARNING!

- Do not soak the syringe in liquid disinfectants or detergents.
- Products not recommended: harsh products and/or products containing acetone, chlorine and sodium hypochlorites.

Sterilization.

Handpieces only: steam autoclave at 135°C (2 bar) following the instructions for use of the device.

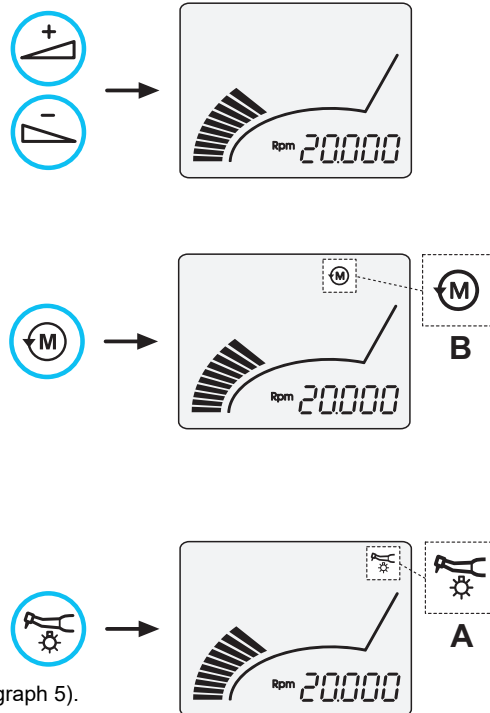
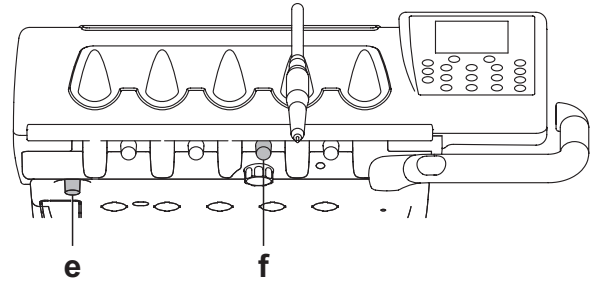
WARNING!

Carefully read the operating instructions supplied with the instrument before attempting to sterilize.

Safety guidelines

WARNING!

- Never put the contra angle on the micromotor while it is running.
- The chuck release button must be held down during operation!
Friction between the button and micromotor rotor overheats the head and may cause burns.
- The patient's internal tissues (tongue, cheeks, lips, etc...) must be protected against contact with the button by using suitable instruments (mirror, etc...).
- The chucks and various instruments attached to the handpieces must comply to the standard ISO 10993-1 Biological evaluation of medical devices.





5.6. Scaler

Connecting the handpiece and inserts.

Refer to the specific instructions furnished with the handpiece.



WARNING!

Before attempting to connect the handpiece, make certain the contacts are perfectly dry. Blow air from the syringe, if necessary, to dry.

Use.

• **Operating time:**

- PIEZOSTERIL 6 scalers: 5 min. operation, 5 min. rest,
- PIEZOLIGHT 6 scalers: 5 min. operation, 5 min. rest,
- SATELEC LED scalers: continuous operation.
- EMS scalers: continuous operation.
- Place the instrument in its work position.
- Use the foot control pedal to start the instrument (see paragraph 5.2).
- The cock [f] adjusts the cooling water flow.



WARNING!

The instrument is supplied non-sterile.

Safety guidelines



WARNING!

- Before attempting to connect the handpiece, make certain the contacts are perfectly dry. Blow air from the syringe, if necessary, to dry.
- Make sure the threaded sections of the inserts and handpiece are perfectly clean.
- Do not change the shape of the inserts.
- Check wear and tear of the inserts on a regular basis, replacing them in the following cases: obvious wear, drop in performance, out of shape or banded.
- Note for PIEZOLIGHT 6 scalers:
 - Class 1 LED apparatus;
 - Do not direct the light beam in anyone's eyes When cleaning or servicing the device (it is recommended to keep the fiber optics shut off).

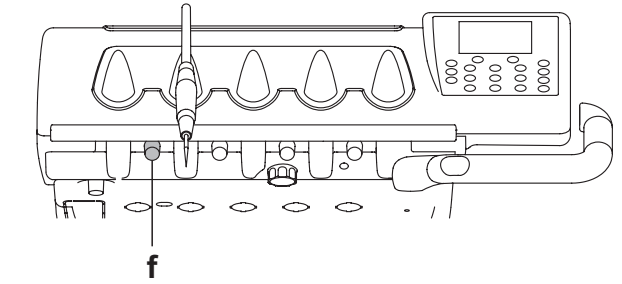
Adjusting the scaler's power output

- Place the instrument in its work position.
- Use buttons INCREASE or DECREASE to set the maximum power percentage of the scaler observing the bar graph.



NOTE: the data set are automatically saved.

- The foot control operates the instrument at the set maximum value (see paragraph 5.2).



ENDO function

The scaler works at 1/2 the set maximum power.

- Place the instrument in its work position.
- Press the reverse button on the console. Activation of the ENDO function is signalled by a dedicated icon [B] on the console display.



NOTE: the ENDO function is deactivated when the foot control lever is actuated.



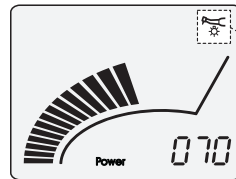
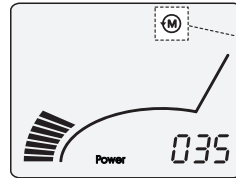
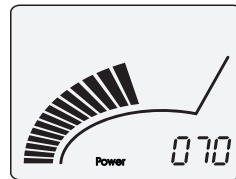
NOTE: in normal operating mode, the spray may NOT be deactivated. In ENDO operating mode, the spray may be activated/deactivated using the foot control (see Paragraph 5.2.).

Turning on the fiber optics

- Place the instrument in its work position.
- Press the button to turn the fiber optics on/off. Activation of the optical fibres is signalled by a dedicated icon [A] on the console display.



NOTE: the fiber optics shut off if the scaler is not used for more than 30 seconds (foot control lever off).



Removable cord

The scaler has a removable cord to ease cleaning (see paragraph 5.).

Cleaning and care.

Refer to the specific instructions furnished with the instrument.



WARNING!

- Do not soak the handpiece in liquid disinfectants or detergents.

Sterilization.

- Torque wrench, scaler bits and scaler handpiece: steam autoclave at 135°C (2 bar) following the instructions for use of the device.



WARNING!

Carefully read the operating instructions supplied with the instrument before attempting to sterilize.

Safety standards.



WARNING!

- To avoid hazards or malfunctions When connecting the board, do not reverse the positions of the cords for scalers that are different brands.
- The inserts attached to the handpiece must comply to Biocompatibility standard ISO 10993-1.



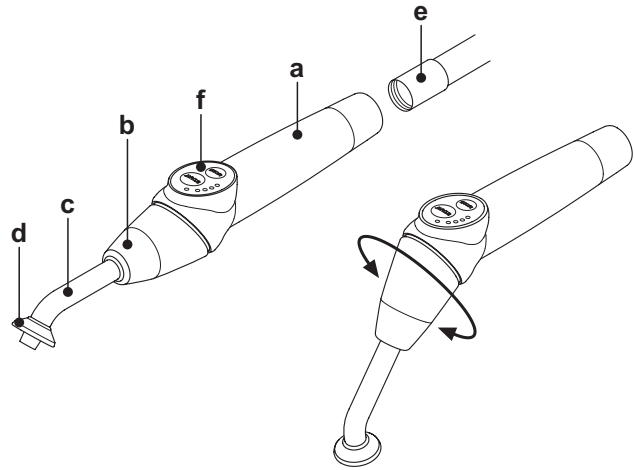
5.7. T LED curing light

Technical specifications.

Supply voltage: 24-36 VDC
 Max. power absorbed: 6 VA
 Light source: 1 5W LED
 Wavelength: 430-490 nm
 Acoustic signals: Type of operation: intermittent (2 consecutive cycles - 60 sec. rest)
 Type of operation: intermittent (runs 2 cycles, rests 60 seconds)

General description of the light

- a) Light handpiece
- b) Rotary end section
- c) Fiber optic
- d) Eye protection
- e) Power cord
- f) Start button

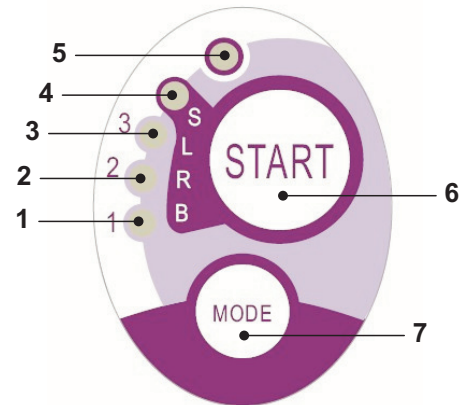


NOTE: the curing light can be used in different configurations (wand, gun or any intermediate position) to aid the user.

NOTE: the curing light is delivered in its original packing which should be kept for future shipment.

Description of the control pad

- [1] **LED 1 (STANDARD cycle) :**
Emission of 1000 mW/cm² for 20 seconds (this cycle is set as default at the time of sale).
- [2] **LED 2 (FAST cycle) :**
Emission of 1600 mW/cm² for 15 seconds.
- [3] **LED 3 (STRONG cycle) :**
Emission of 1800 mW/cm² for 20 seconds.
- [4] **LED S :**
When LED S is on, you access ramp cycle mode and at the same time the LEDs B, R and L next to it come on:
 [LED S + LED 1] **ramp cycle B (BONDING) :**
Ramp cycle with emission of 500 mW/cm² for 5 seconds, ramp from 500 to 1000 mW/cm² for 5 seconds and 1000 mW/cm² for 5 seconds for a total of 15 seconds.
 [LED S + LED 2] **ramp cycle R (RAPID RESTORATION) :**
Ramp cycle with emission of 500 mW/cm² for 5 seconds, ramp from 500 to 2200 mW/cm² for 5 seconds and 2200 mW/cm² for 5 seconds for a total of 15 seconds.
 [LED S + LED 3] **ramp cycle L (LONG RESTORATION) :**
Ramp cycle with emission of 500 mW/cm² for 5 seconds, ramp from 500 to 1800 mW/cm² for 5 seconds and 1800 mW/cm² for 10 seconds for a total of 20 seconds.



- [5] **Malfunction signalling LED:**
This red LED comes on only if there is a malfunction.
- [6] **START button:**
Pressing the START button starts the cycle selected at that moment (the cycle indication LED will come on).
If it is pressed again at any time during the cycle, light beam emission will immediately be interrupted.
- [7] **MODE button:**
This button is used to select the cycle to be run. It allows changing from the cycle you are in at that moment to the immediately following cycle.
The first three cycles (1, 2 and 3) are at constant power and the LEDs come on individually.
When LED S is on, you access ramp cycle mode and at the same time the LEDs B, R and L next to it come on.
Once the LED of the cycle you intend to use has come on, the lamp is ready for use. Pressing the START button, light beam emission is activated according to the cycle selected .

Cycle	LED	Total time	Ø8 mm	Total energy
STANDARD	1	20"	1.000 mW/cm ²	20.000 mJ
FAST	2	15"	1.600 mW/cm ²	24.000 mJ
STRONG	3	20"	1.800 mW/cm ²	36.000 mJ
BONDING	S+1	15"	ramp cycle	11.250 mJ
RAPID REST.	S+2	15"	ramp cycle	20.250 mJ
LONG REST.	S+3	20"	ramp cycle	26.250 mJ

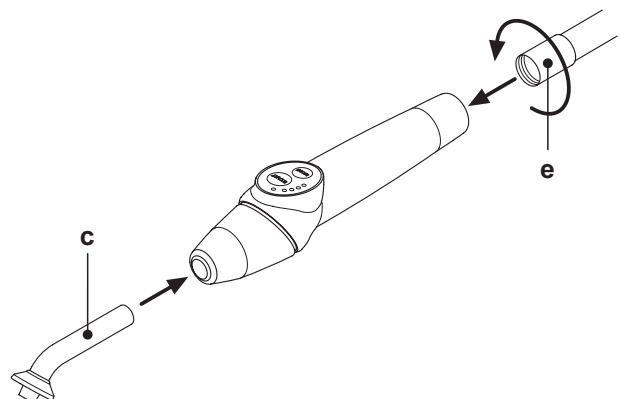
NOTE: the cycle can be selected and the button is operative only when the curing light is not emitting any light. If the button is accidentally pressed while light is being emitted, nothing will happen.

Operation.

WARNING!

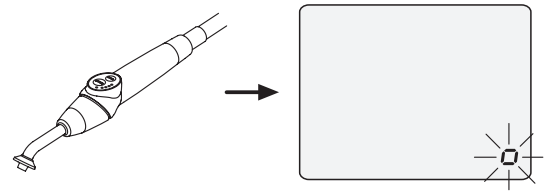
The instrument is supplied non-sterile.
 Before use, disinfect the lamp grip. The optical fibre and the eye protection can be sterilized in a steam autoclave at 135°C.

- Put the fiber optic (c) in its housing until it clicks.
- Attach the curing light handpiece to the end of its power cord and tighten the ring (e).





- Take the light out of its housing on the assistant's board or instrument board.
The relative image appears on the console display to signal the instrument has been withdrawn.
- Turn the front of the light and/or fiber optic to the position most suitable for curing (wand, gun or intermediate position).
- Use the MODE button to select the desired cycle as previously directed (the selected cycle is always indicated by the illuminated LED).



NOTE: the curing light has a permanent memory therefore the last cycle used will always be present the next time it is used.

- Place the fiber optic in the position required for curing.
 NOTE: the fiber optic should be placed as close to the material to be cured as possible without touching it.
- Press button START to start the cycle.

WARNING!

Operation: runs 2 consecutive cycles, rests 60 seconds.

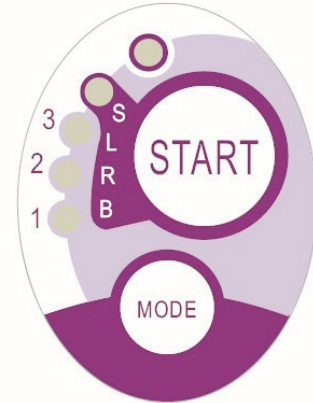
NOTE: when a programmed cycle is activated, the LEDs (1, 2, 3, B, R, L) indicate the time that elapses (in multiples of 5 seconds) and turn off every 5 seconds of operation.

The curing light comes with a beep that BEEPS when the cycle starts, BEEPS every 5 seconds of operation and lastly BEEPS twice at the end of the work cycle.

- Allow light emission to stop by itself. However, it can be stopped at any time by simply pressing the START button again.

WARNING!

- The curing light is equipped with a system that signals malfunctions by illuminating the LEDs in different combinations (see next paragraph).
- The curing light is equipped with a cut-out.



Indicators.

The following indicators are provided on the control console to signal curing light failure:

- **LED 5 and LED 1, green, constantly on.**
Lamp does not emit any light. Contact technical service department.
- **LED 5 and LED 2, green, constantly on.**
Instrument start up controller failure.
Contact technical service department.
- **LED 5 and LED 3, green, constantly on.**
Power supply too low.
Contact technical service department.
- **LED 5 and LED 4 flash continuously.**
Handpiece cut-out tripped. These LEDs will continue to flash until the light has cooled down enough (about 5 minutes) for it to be used again.
If the problems persists, contact the technical service department.

Maximum curable thickness.

The maximum curing thickness with single cycles is 3 millimeters (refer to the instructions of the composite material used as well).

WARNING!

This thickness must not be exceeded as the layer may not be completely cured.

Safety guidelines

WARNING!

- The LED is a Class 2 light source in accordance with IEC 62471. **DO NOT FIX THE BEAM.**
The light emitted may cause eye damage in the event of direct radiation without eye protection.
Eye protection must always be worn when using the curing lamp and do not direct the light beam in eyes.
The light emitted may damage soft tissues (oral cavity mucous, gums, skin).
Be extremely careful to direct the light precisely on the material to be cured.
- **People with eye diseases, such as those who have had cataracts removed or retina diseases must be adequately protected when the curing lamp is used, for example with suitable protective eyewear.**
- **The rotary end can turn 180° counter-clockwise in relation to the handpiece to change over from wand to gun configuration.**
To go back to wand configuration, turn clockwise.
A click is heard when the two positions are reached. Do not turn any more once the click is heard.
The intermediate positions can be used even if a click is not heard.
Put the fiber optic back into the correct position after turning the end section.
- **Do not pull the power cord.**
- **Do not expose the handpiece to excessive vibrations.**
- **Do not drop the handpiece and in particular the fiber optic. The lamp may break if accidentally banged.**
Check the condition of the handpiece if it has been banged or dropped before using the curing light. Try to turn on the light and check operation first without using it on the patient.
If cracked, broken or if there are any other faults, do not use the curing light on the patient and contact the technical service department.
The fiber optic is rather delicate and may crack or break if banged, affecting the final amount of light emitted. If dropped, carefully inspect the fiber optic to verify if it is cracked or broken. If cracked, a strong light appears in the spot in which the fiber is cracked. In all these cases, the fiber optic must be replaced.
- **The curing light handpiece (sold separately) can be connected only to dental units with connections for this curing lamp. Connection to any other equipment may damage the circuits inside the lamp and seriously injure the user and patient.**



- The curing lamp handpiece is not protected against liquid penetration (IP20).
- The curing lamp handpiece is not suitable for use in the presence of flammable anaesthetic gas mixed with air, oxygen or nitrous oxide (N₂O).

Cleaning

The curing lamp may be a vehicle for cross contamination between patients. The most contaminated parts are the fiber optic and eye protection. Before sterilizing them, make sure there are no residues of curing products: if necessary, clean with alcohol or a plastic spatula. Exclusively sterilize the optical fibre and the eye protection in an autoclave at a sterilization temperature of at least 134°C.



WARNING!

- The fiber optic is able to support 500 autoclave cycles after which it tends to become opaque and therefore emit less light.
- The eye protection must also be replaced after 500 cycles.
- Contact the manufacturer to purchase original spare parts (fiber optic + eye protection: code 97660404).

The handpiece cannot be put in autoclave; disinfect it on the outside with suitable products and cover it with disposable plastic wrap. Use soft disposable paper towels to disinfect the handpiece. Do not use harsh products or soak in liquids.



WARNING!

- The curing light handpiece is NOT suitable for autoclave.
- The curing light handpiece is not protected against penetration of liquids therefore it CANNOT be soaked in solution to be sterilized.
- The outside of the lamp should be disinfected with the fiber optic on. Do not use any type of disinfectant on the exposed optical surface of the handpiece when the fiber is removed. The surface will become irreparably opaque if it comes into contact with disinfectant.

Maintenance

This equipment does not require any particular type of maintenance. Only technicians authorized by the manufacturer can replace and/or repair the handpiece and dental unit. The handpiece has been purposely constructed in a manner that requires specific tools to open it and therefore it cannot be removed by the user. The warranty is automatically void if the handpiece is altered in any way.

Troubleshooting

- **When the lamp is removed, the light does not come on (no leds on control console illuminated).**

Make sure the Midwest connection is correctly attached to the power cord.
Carefully screw the ring, try to turn on the lamp and then take it off again.
If the problem persists, contact the technical service department.

- **Less light emitted**

- Make certain the fiber optic is not cracked or damaged in any way: replace it if it is.
Contact the manufacturer to purchase original spare parts.
- Make sure there are no residues of curing products on the end of the fiber optic: if necessary, wipe off with alcohol or a plastic spatula.

If the handpiece has to be sent back, please disinfect it.

Ship it back in its original packing.

In addition, please enclose a description of the fault with the shipping note.



5.8. C-U2 dental camera

The C-U2 dental camera system, complete with an extremely lightweight ergonomic handpiece, is specially designed for simple and well-conceived usability in examining the oral cavity. Auto-exposure and fixed focus features provide easy operation. This system is designed to allow the dentist to more efficiently show and explain to patients all oral conditions and reasons for planned treatment. The C-U2 system allows filming and taking high-definition (1280x720) live images of the section in question to be taken through a touch of a fingertip on the touch-sensitive area of the handpiece. The live intraoral images are displayed on the monitor or Personal Computer.

WARNING!

The camera may be used as a tool to aid in diagnosis however, the result must always be compared to visual examination and/or other diagnostic indications. Evaluations and conclusions based only on the image taken by the camera may be poor as the colors and shapes, electronically processed, may not perfectly correspond to the actual ones.

Safety guidelines.

WARNING!

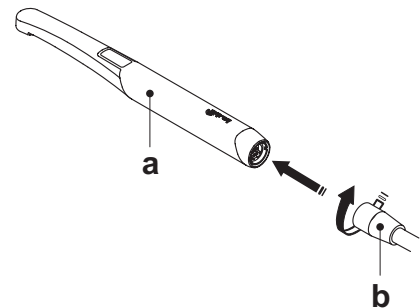
- The external PC and the external monitor must be of medical grade, namely they have to be certified and comply with the standard IEC 60601-1 3rd Ed. They have to be able to ensure a double insulation level for both patient (2 MOPP) and operator (2 MOOP):
 - with respect to the power mains;
 - to all the I/O ports (USB, LAN) supplied with Safety Extra Low Voltage (SELV).
- Even though the electromagnetic field irradiated by the device is insignificant, it is advisable not to use it in proximity of life support equipment (e.g. pacemakers or heart stimulators) according to the specifications included in the user manual of such equipment.
- The disposable infection control sheaths must be used with the device. Change the sheath for each new patient.
- After putting on a new disposable infection control sheath, check it over before using the camera, making sure it is not torn anywhere. If it is, take it off and put on a new one.
- Do not place the handpiece in liquids or in autoclave under any circumstances.
- Store the handpiece in a clean dry area.
- Do not bend the connecting cable excessively.
- Be extremely careful not to drop the handpiece and do not expose it to excessive vibrations.
- Never use a damaged handpiece. Make sure the camera is in good condition and has no sharp edges before attempting to use it. If in doubt, do not use the handpiece, carefully put it away, and contact technical assistance.
- Before starting the equipment, check the condition of the lens protection.
- Do not aim the light beam at the operator's or patient's eyes during operation.
- During continuous use (example, more than 10 consecutive minutes), the temperature of the camera's tip usually increases significantly; if this is uncomfortable, put the handpiece in its holder for a few minutes to allow the light source to cool down. When the camera needs to be used for a prolonged time, reduce light brightness.
- If left running for extended periods, make sure the temperature of the tip is acceptable before attempting to use the camera. Briefly touch the clear plastic part with your fingertip being careful not to touch the lens in the middle.
- Do not attempt to bend, pull or remove the handpiece.

Connecting the handpiece.

Attach the handpiece of camera C-U2 (**a**) to the end of the cord and tighten the ring nut (**b**).


WARNING!

Make sure the cord is firmly screwed onto the handpiece.



Use of the camera

Place the handpiece in its work position; the light comes on and the camera is in the last LIVE mode used.

 **NOTE:** Two animated symbols will be shown on the console display to confirm that the instrument has been activated.

• MIRROR function


With the camera set to LIVE mode, briefly press the "Reverse" button present on the console to change from viewing real images to mirror images.

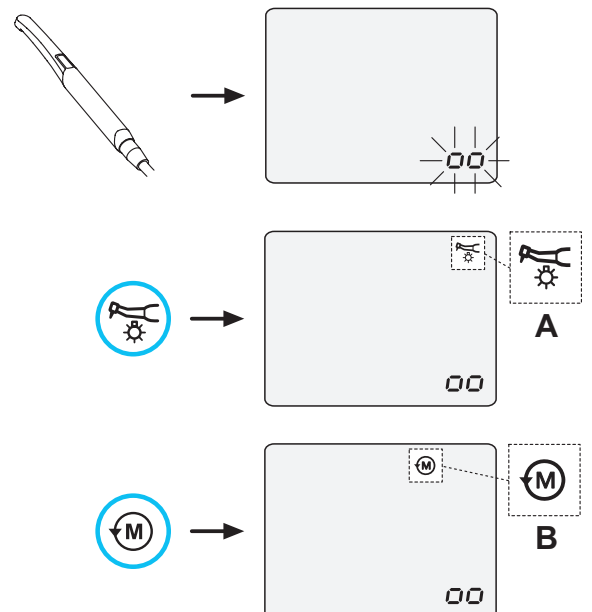
• FREEZE function.

Handpiece C-U2 is equipped with a touch-sensitive button (**g**). Tap this button or actuate the foot control to freeze the image of interest. Tap this button again (or actuate the foot control) to unlock the frozen image.

• Selecting the single image or multi-image operating mode

With the camera set to LIVE mode, hold down the "Reverse" button present on the console to change from viewing a single image to multi-images (and vice versa).

 **NOTE:** an icon (**1**) found in the top right-hand corner signals when this mode has been selected.




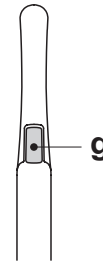


• Operation in single image mode

The "live" image appears on the monitor when the camera is set to LIVE and single image mode.

Press the touch key (**g**) on the handpiece (or actuate the foot control) to freeze the image, which is immediately displayed on the monitor, canceling the previous image.

 **NOTE:** the last image frozen remains on the monitor even if the camera is put back in place.





• Operation in multi- image mode

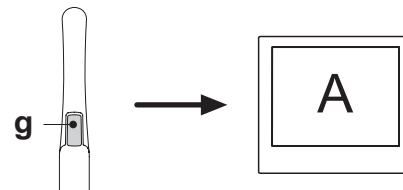
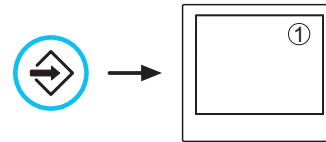
The "live" image appears on the monitor and an icon (1) is shown in the top right-hand corner when the camera is set to LIVE and multi-image mode.

When the camera is set to FREEZE, hold down (at least 2 seconds) the left foot control button to select the 4 saved images one after the other.

When the camera is set to FREEZE, hold down the right foot control button to select/deselect the full screen view of the selected image.

 **NOTE:** the frozen image appears directly on the monitor in the first box available (e.g. 1) on the page currently displayed. Each subsequent frozen image is placed in the next box, turning clockwise. Once the 4 boxes available are full, the next frozen images will replace the existing ones, going clockwise.

 **NOTE:** press the MEMORY button for 3 seconds to delete all 4 images on the page displayed.

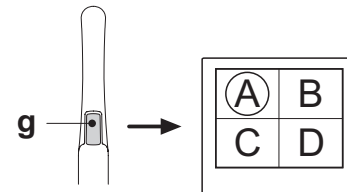


• VIEW function.

With the camera set to LIVE mode, hold down (at least 2 seconds) the right foot control button to view the images previously frozen.

Hold down the left foot control button to select the 4 saved images one after the other.

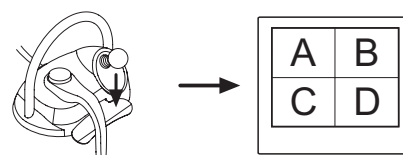
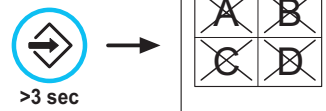
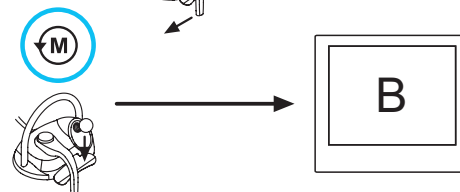
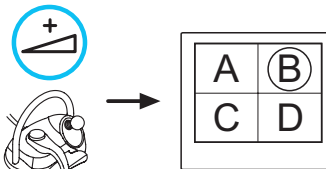
On the other hand, hold down the right foot control button to select/deselect the full screen view of the selected image.



• Handpiece status.

An optical guide, illuminated by a multicolour LED indicator, found in the area near the control button (**g**), shows handpiece status as per the table given below:

Color	Situation
Blue light flashes, very slowly	Handpiece in standby
Light blue steady light	Handpiece activated, live images displayed
Blue/ light blue flashing light	Handpiece in image freeze mode
Brief red flashes	Internal error: contact Customer Service





MyRay iCapture

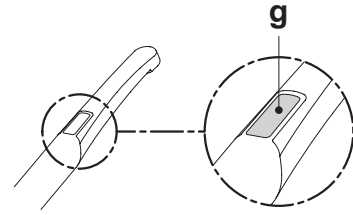
This program allows the C-U2 camera to be set up when it is connected to a PC/WORKSTATION.

For a full description on how the MyRay iCapture program works, refer to the instructions, in electronic format, supplied with the C-U2 handpiece.

Disposable infection control sheaths

The camera can be a source of cross-contamination between patients. For this reason always use it with a disposable infection control sheath (code 97901590) and disinfect it on the outside after use everyday . The sheath (with white paper backing) is enclosed in two protective layers: a transparent one with blue tab at the front and a paper one at the back. Follow the directions below to install a new infection control sheath:

1. Insert the camera handpiece tip between the layer with White tab and the rear paper backing. The lens, surrounded by the LEDS, must face down, towards the rear paper layer.
Gently push the handpiece to the end of the sheath.
2. Pull the blue tab removing the protective covers.
3. The dental camera is now protected and ready for use.



! WARNING!

- Always make certain the handpiece is correctly inserted inside the infection control sheath.
- Always change the disposable infection control sheath before using the device on a new patient. This is a fundamental step in preventing cross-contamination.
- Disposal: the disposable infection control sheaths are to be treated as special waste materials (like surgical gloves).

Cleaning and disinfecting.

Clean the handpiece with a suitable product after each use: refer to Paragraph 1.4.

! WARNING!

- The intraoral camera is not designed for cold sterilization by being soaked, for example in solutions such as glutaraldehyde or hydrogen peroxide.
- All products must be used as directed by the manufacturer.
- All material used to clean and disinfect must be thrown away.

Maintenance and repairs.

The C-U2 camera system does not require any particular maintenance. In the event of malfunctions, please send back the complete handpiece.

! WARNING!

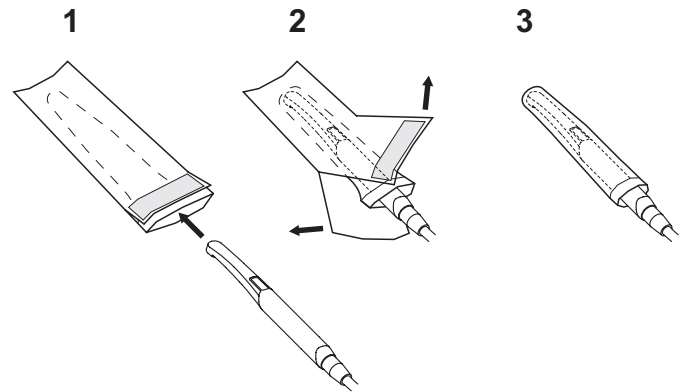
There are no parts that can be repaired on site. In the event of a malfunction, please contact an authorized dealer.

Returning parts.

- Please send back any defective devices in their original packaging. Do not reuse damaged boxes.
- The device must be disinfected before being shipped to prevent cross-contamination. Handpieces that have not been adequately cleaned and disinfected will not be accepted

! WARNING!

The sender shall be held responsible for any equipment damaged incurred during shipment regardless of whether or not the devices are under warranty.





5.9. ZEN-Xi integrated sensor

Integrated sensor ZEN-Xi is a medical device employed to acquire intraoral x-rays in an electronic format with a Personal Computer interface device. When used together with dental practice management software, the x-ray pictures can be saved in the patient's folder and viewed on the desktop pc monitor at a later time.

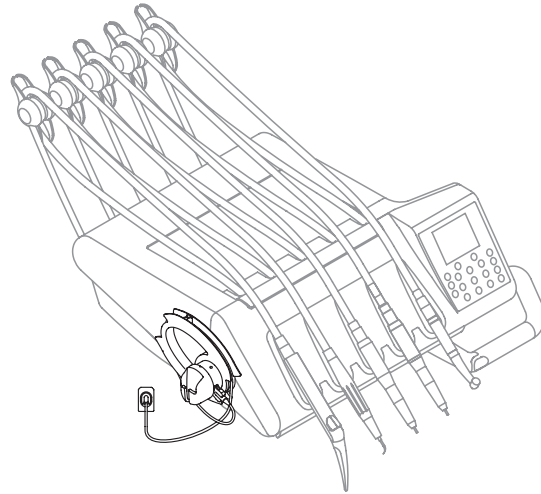
⚠ WARNING!

Do not use the system for any other purpose different from acquisition of intraoral x-rays and do not use it if you are not a professional in the dental and radiology fields.

Use.

Use and care instructions for integrated sensor ZEN-Xi are enclosed with the apparatus.

👉 NOTE: *integrated sensor ZEN-Xi does not interact with the dental unit from an electric point of view.*





6. Assistant's board operation

1 Assistant's board on rigid arm.

Main features:

- The assistant's board [a] is secured to the hydrogroup [b] with two articulated arms [c] which allow it to be placed in the most convenient position for the operator.
- The assistant's board [a] comes with a control console [d] with buttons used to operate the dental chair and hydrogroup.
- The assistant's board may be equipped with 2 suction tubes and 3 instruments.
- The assistant's board comes with 2 sliding rollers [f] that guide and hold up the suction tubes.

NOTE: the assistant's board is equipped with a safety device that locks out dental chair movement when the board's arms are obstructed.

2 Assistant's board on pantograph arm.

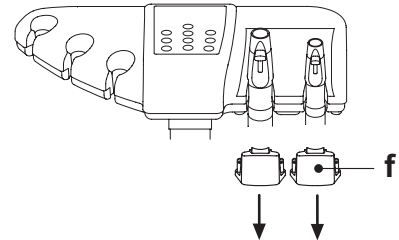
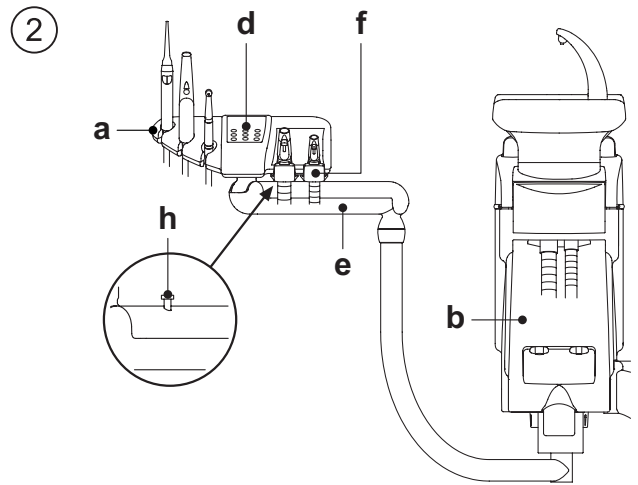
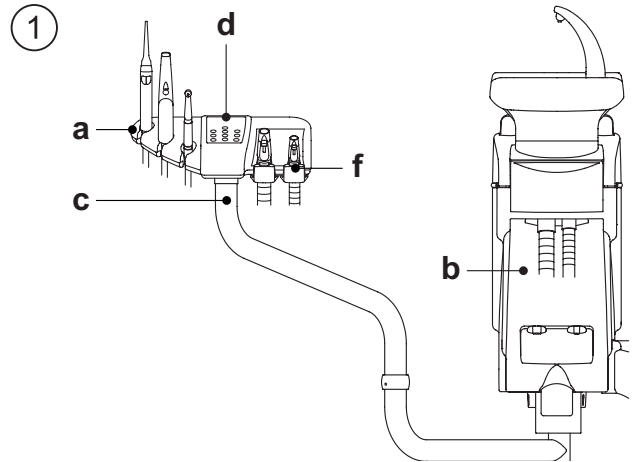
Main features:

- Two articulated arms secure the board (a) to the hydrogroup (b) allowing it to be placed in the most convenient work position. The pantograph arm (e) allows the assistant's board to be moved 335 mm vertically through 6 work positions.

NOTE: press button [h], found on the pantograph arm, to move the assistant's board fully down.

- The assistant's board [a] comes with a control console [d] with buttons used to operate the dental chair and hydrogroup.
- The assistant's board may be equipped with 2 suction tubes and 3 instruments.
- The assistant's board comes with 2 sliding rollers [f] that guide and hold up the suction tubes.

NOTE: the assistant's board is equipped with a safety device that locks out dental chair movement when the board's arms are obstructed.



Cleaning the sliding rollers.

Push down and take off the sliding rollers [f].

Clean the sliding rollers using a suitable product: refer to Paragraph 1.4.

6.1. Assistant's touchpad

Description of the buttons:

Dental operatory light on/off button

Cup fill button

Bowl rinse button

Automatic return position retrieval button

Rinse position button

Chair base up

Chair back up

Chair base down

Chair back down

Disinfecting procedure start button






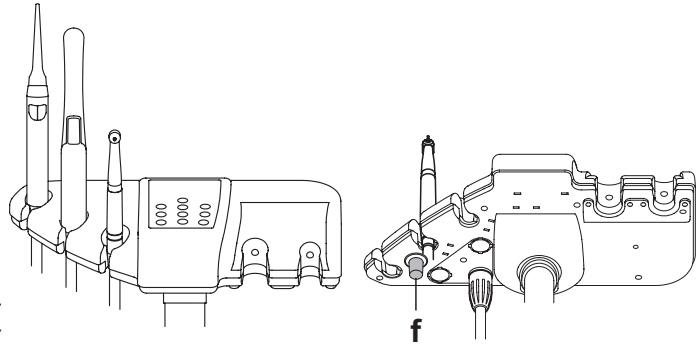
6.2. Instruments on assistant's board

All the instruments provided on the assistant's board operate in the same manner as those on the instrument board.

More specifically:

- Syringe, see paragraph 5.3
- Turbine, see paragraph 5.4
- Scaler, see paragraph 5.6
- LEDA curing light, see paragraph 5.7
- T-LED polymerising lamp, see paragraph 5.7.1.
- C-U2 camera, see paragraph 5.8

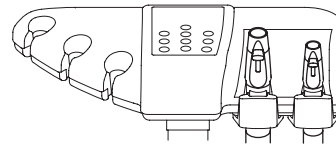
 **NOTE:** the turbine and scaler are equipped with cock [f] to adjust the water spray found under the assistant's board. The amount of air spray cannot be adjusted in the turbine.



6.3. Suction tubes

To adjust the suction power, use the slider [a] located on the tube handpiece.

The SKEMA 5 comes with the V.D.S. system that allows the suction line to be dried using an automatic stop delay (about 2 seconds).



Removing the suction tubes

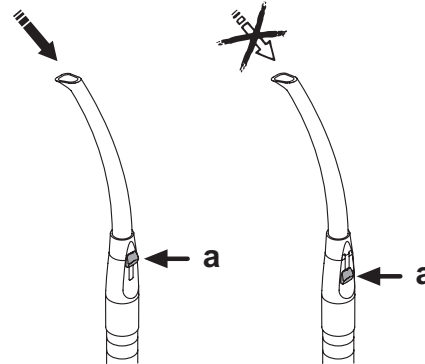
 **WARNING!**

Always wear gloves to prevent contact with infected material When removing the suction tubes.

Remove the suction tubes from the conveyor fittings by turning and twisting the tube fitting. Detach the suction tubes from the holders by turning and twisting the tube fitting.

 **WARNING!**

Never directly grasp the suction tube.



Cleaning the suction tubes.

As the dental units may be equipped with different suction systems (liquid ring or wet, air) carefully follow the instructions provided by the suction system manufacturer when disinfecting the system regarding the product to be used, times and directions for use.

 **WARNING!**

For cleaning of the suction system, it is recommended to use STER 3 PLUS (CEFLA s.c.) diluted in a 6% solution (equivalent to 60 ml of product in 1 litre of water).

Sterilization.

- Cannula holder terminals: steam autoclave at 135°C (2 bar) following the instructions for use of the device.
- Suction tubes: soak to cold sterilize.

 **WARNING!**

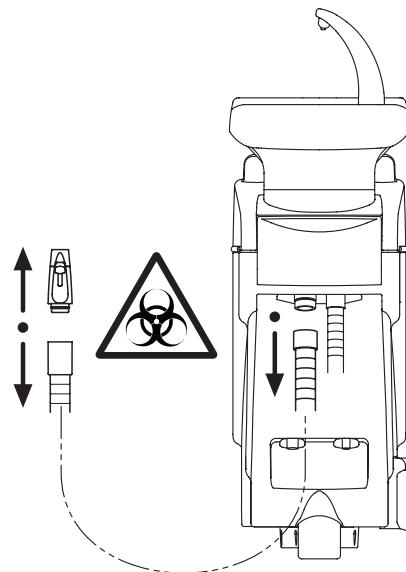
Never use procedures in which the temperature goes over 55 °C with the tubes.

Maintenance

Periodically lubricate the O-rings of the cannula holder terminals (see Paragraph 9.4.) using S1-Protective Lubricant for O-Rings (CEFLA s.c.).

Note about biocompatibility

Only suction tubes supplied with the dental unit and there after original replacement tubes can be used. The suction tubes must comply to the standard ISO 10993-1 Biological evaluation of medical devices.





6.4. Instrument tray on assistant's board.

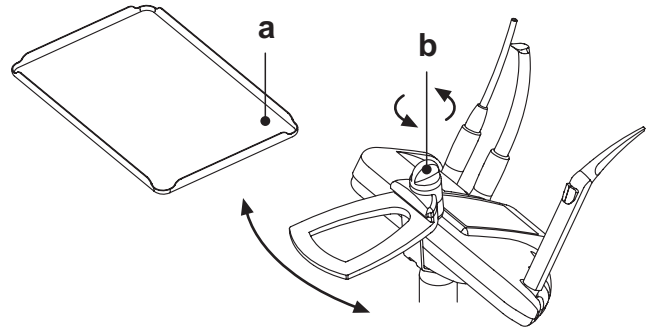
The instrument tray [e] is constructed in stainless steel and can be conveniently taken off its support. The tray holder can be turned either clockwise or counter-clockwise, allowing it to be placed in the most convenient position for the operator.

To lock/unlock the tray holder, simply using the clutch knob [b].



WARNING!

Maximum allowable load that can be applied on instrument tray: 1 Kg evenly distributed.



6.5. Hydraulic saliva ejector

The hydraulic saliva ejector starts running When the tube is removed from the support.

Cleaning after each use.

Aspirate about ½ litre of STER 3 PLUS (CEFLA s.c.) diluted in a 6% solution (equivalent to 60 ml of product in 1 litre of water).

Cleaning the saliva ejector filter.



NOTE: this operation must be carried out at the end of each work day.



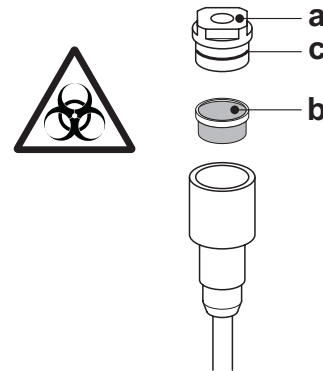
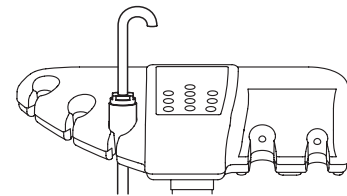
WARNING!

Put on gloves before attempting to perform this operation!

- Aspirate about ½ litre of STER 3 PLUS diluted in a 6% solution (equivalent to 60 ml of product in 1 litre of water).
- In order to prevent possible dripping of liquids and secretions from the filter [b] to be extracted, aspirate only air for about 5 seconds.
- Take off the cap [a] by turning and twisting at the same time.
- Remove the filter [b].
- Clean/replace the filter (code 97290060).
- Put the filter and cap back in place.



NOTE: to prevent liquids and matter from dripping from the filter taken out, suck air only for approximately 5 seconds before performing these operations.



Routine maintenance.

Lubricate the o-rings [c] with S1 – Protection for o-rings lubricant.

7. Hydrogroup operation

7.1. Fill cup and bowlhere

The bowl can be turned 305° on the hydrogroup by hand.
The bowl and water to cup spout can be removed to ease cleaning.

Control buttons



Water to cup.



Water to bowl.

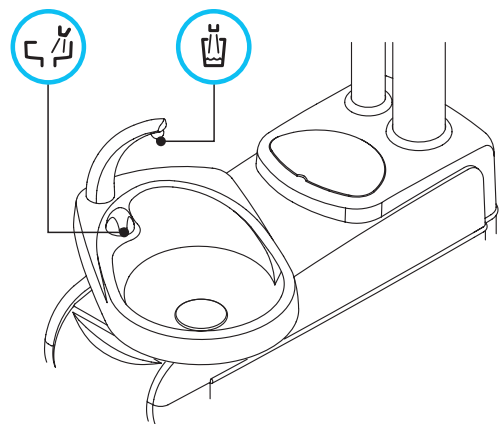
Bowl flushing automatically stops after 30 seconds.

Bowl flushing automatically starts in the following cases:

- When the "rinse position" button is pressed;
- When the "water to cup" button is pressed.

Hot water to cup.

When this function is provided, hot water is always delivered to the cup.





Adjusting the amount of water used to fill the cup.

- Turn on the operating unit holding down the Cup Water Delivery button on the assistant's board.



NOTE: an intermittent BEEP signals saving is in progress.

- Press the water to cup key once to start filling the cup.
- Once the desired water level has been reached, press the water to cup button again making sure the BEEP stops:

At this point, the new water level in the cup has been saved.

Changing bowl operation

Water delivery to the bowl can take place in an untimed manner (on/off operation with the relative button).

This modification is made by turning on the operating unit holding down the Bowl Water Delivery button on the assistant's board.

A beep sounds to signal the selected operating mode:

- 1 BEEP: timed operation
- 3 BEEPS ON/OFF operation.



NOTE: timed operation is factory set.

Changing the water to bowl controller with water delivered to cup.

The controller that delivers water to the bowl When the "water to cup" button is pressed can be enabled/disabled.

This modification is made by turning on the operating unit simultaneously holding down the Cup Water Delivery and Bowl Water Delivery buttons on the assistant's board.

A beep sounds to signal the selected operating mode:

- 1 BEEP: controller enabled
- 3 BEEPS: controller disabled



NOTE: the controller is enabled by default.

Water to bowl controller modification with retrieval of dental chair "Rinse position".

The controller that delivers water to the bowl When the dental chair "Rinse position" button is pressed can be turned on/off.

This modification is made by turning on the operating unit simultaneously holding down the dental chair Rinsing Position and Bowl Water Delivery buttons on the assistant's board.

A beep sounds to signal the selected operating mode:

- 1 BEEP: controller enabled
- 2 BEEPS: controller disabled



NOTE: the controller is enabled by default.

Water to bowl controller modification with retrieval of dental chair "Automatic return".

The controller that delivers water to the bowl When the dental chair "Automatic return" button is pressed can be turned on/off.

This modification is made by turning on the operating unit simultaneously holding down the dental chair Automatic Return and Bowl Water Delivery buttons on the assistant's board.

A beep sounds to signal the selected operating mode:

- 1 BEEP: controller enabled
- 3 BEEPS: controller disabled



NOTE: the controller is enabled by default.

Removing the spouts, bowl and bowl filter.

- Pull up the spouts [l] and [n] and remove them.
- Pull up the filter [q] and its cover [p] to remove them.
- Remove the bowl [m] by first turning it counter-clockwise.

Disinfecting and cleaning.

WARNING!

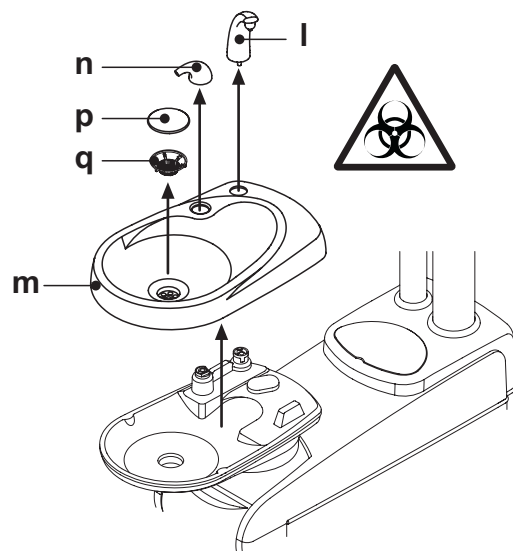
Always wear gloves to prevent contact with infected material When cleaning the bowl and bowl filter.

The parts are to be cleaned daily at the end of each work day.

- Spouts and bowl: thoroughly wash with a specially formulated cleaner.
- Bowl filter: clean with running water and commercially-available cleaning products.

WARNING!

Do not use acids or harsh products.






7.2 S.S.S. system


Description of the system

The system S.S.S. (Separate Supply System) is equipped with a distilled water tank [a] located under the unit.
The tank can hold 1.8 liters.

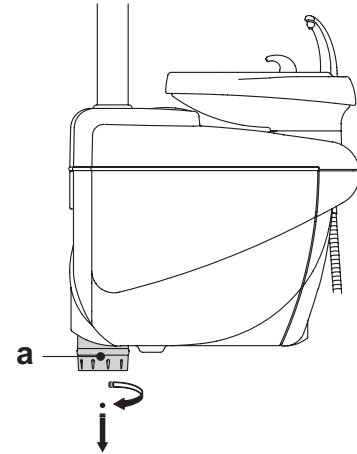
The tank feeds:

- the sprays of all the instruments found on the instrument and assistant's board,
- the syringe on the assistant's board,
- to fill the cup,
- water quick-connect coupler (if present).

A button  located on the instrument board control panel is used to turn on/shut off the S.S.S. system.


 **NOTE:** the relative icon [a] on the console display signals when the S.S.S. system is on.


This system allows running a disinfection cycle for the instrument spray ducts (see paragraph 7.2.1.).



Filling the tank.

When the water level in the tank is low (about 500 cc), fill it as directed below:

- Press the button  to shut off the S.S.S. system. .

 **NOTE:** during this operation, the pressurized air contained in the tank will automatically be released outside.

- Turn the tank [a] clockwise and remove it.
- Pour distilled water into the tank until the maximum level is reached.



WARNING!


Use only distilled water; for better hygienic quality, you can add 600 parts per million of hydrogen peroxide using 20 ml of Peroxy Ag+ per litre of distilled water, or oxygenated water (20 ml of 3% oxygenated water per 1 litre of distilled water).

- Put the tank back in place turning it clockwise.



WARNING!

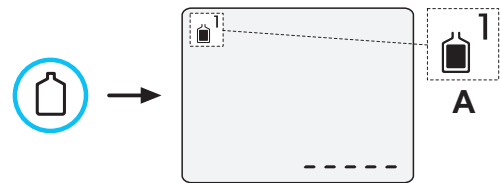
Assure the tank is firmly secured in place.

- Press the button  again to turn on the S.S.S. system and confirm it has been filled.



WARNING!

If you are going to be absent from the surgery for long periods of time (holidays), completely empty out the tank (a) before leaving.



Cleaning the tank.

It is advisable to periodically (at least once a month) cold-disinfect only the tank using Peroxy Ag+ or 3% oxygenated water (10 volumes) not diluted and operating as follows:

- take the tank out of the dental unit and empty it,
- fill the tank with disinfectant liquid up to the rim,
- leave the disinfectant liquid to dwell in the tank for at least 10 minutes,
- completely empty out the tank,
- rinse the tank with distilled water,
- fill the tank with distilled water and, if necessary, add hydrogen peroxide or oxygenated water as described above,
- put the tank back in place in the dental unit.



7.2.1. Manual disinfection cycle with SSS system

With the S.S.S. system, you can execute a manual disinfection cycle of the water ducts of all the instruments on the dentist's instrument board and the syringe on the assistant board.


To disinfect, proceed as directed below:

A) Prepare the disinfectant:


- Pour pure PEROXY Ag+ (or 3% oxygenated water) into the tank with the orange band without diluting it.

B) Putting in the disinfectant:

- Replace the bottle of distilled water [a] with the one containing PEROXY Ag+ (see paragraph 7.2.).

 **NOTE:** make sure there is at least 300 cc of liquid present.

- Make certain the spray cocks [d] found at the bottom of the board are opened (if they are not, either water does not come out or too little water flows out).
- Press the key to fill the cup 5 (five) consecutive times, thereby filling 5 cups with water. This step is very important as it ensures that all the distilled water in the ducts is replaced with the disinfectant liquid.
- Withdraw the instruments one at a time and let the water run for at least 2 minutes using the CHIP-WATER function of the foot control for the dynamic instruments (see paragraph 5.2) and the water key for the syringes.

 **NOTE:** at this point, the ducts contain disinfectant liquid.

- Put the instruments back in place.


C) Disinfectant contact time:

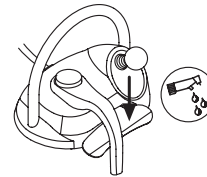
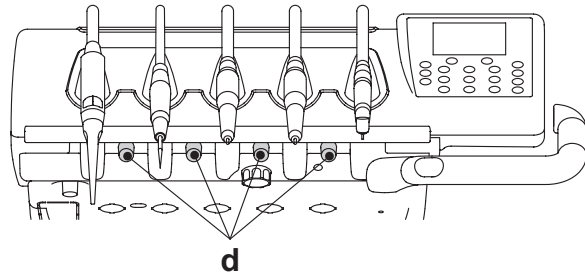
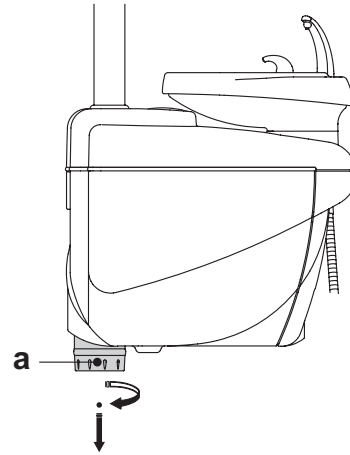


WARNING!
PEROXY Ag+ (or 3% oxygenated water) must be left to dwell in the ducts for at least 10 minutes, but not more than 30 minutes.

D) Rinsing the ducts:

- Replace the bottle containing PEROXY Ag+ with the one containing distilled water (see paragraph 7.2).
- As during the previous step, take out the instruments one at a time a let the water run at least 2 minutes using the CHIP-WATER function of the foot control for the dynamic instruments (see paragraph 5.2) and the water key for the syringes.

 **NOTE:** at this point, the ducts contain distilled water again and the dental unit is ready to be used.



- After disinfection, make sure that you close the tank containing the disinfectant (exposed to air, it loses its effectiveness).
- It is good practice to perform a disinfection cycle at least once a day, preferably at the end of the day.
- It is strongly unadvisable to let the disinfectant dwell in the ducts for a contact time of more than 30 minutes.

PEROXY Ag+ storage.

For proper storage of PEROXY Ag+ follow the manufacturer's instructions printed on the package. It is important to keep the package tightly closed and store it in a cool place at a temperature not exceeding 25°C.



WARNING!
Never leave PEROXY Ag+ or oxygenated water in the tank (a) for longer than one month.
If you are going to be absent from the surgery for long periods of time (holidays), completely empty out the tank (a) before leaving.



7.3. M.W.B. system

The M.W.B. system (Multi Water Bio controller) assures secure physical separation of the dental unit hydrogroup from the municipal water line thanks to a section with free-fall water (in compliance with European standard EN 1717).

In addition, the system continuously injects hydrogen peroxide into the water circuit with a final concentration of 0.06% (600 ppm) in the ducts, suitable for bacteriostasis.

To this end, it is recommended to use PEROXY Ag+ (CEFLA s.c.); nevertheless, 3% oxygenated water may also be used%.

Description of the system.

The M.W.B. system is located in the utility service center and is always active.

A specific icon [a] appears on the doctor's console to signal the M.W.B. system is turned on.

The tank [a] positioned in the hydro group contains about 970 cc of disinfectant to feed the system.

The M.W.B. system automatically turns off when the S.S.S. system (if present) turns on.

Signaling the hydrogen peroxide level is low.

When the disinfectant liquid in the tank [a] is about to run out (about 230 cc) the icon [a] changes into [b], an error message is displayed and 4 BEEPS are given that are repeated whenever the dental unit is turned on.



WARNING!

Should the disinfectant liquid run out , the operating unit will remain operational but will use mains and NOT treated water.

Filling the hydrogen peroxide tank.

When the hydrogen peroxide in the tank runs out, perform the steps given below:

- Remove the tank [a].
- Remove the cap [k] and pour disinfectant liquid into the tank until it is full.



NOTE: the shape of the cap allows it to be used as a funnel to more easily fill the tank.

- Put the cap and tank back into place.
- Close the cover on the side of the hydrogroup.



WARNING!

Fill the tank only with pure PEROXY Ag+ or 3% oxygenated water (10 volumes) without diluting.

Emptying the M.W.B. system tank

This function permits the M.W.B. system's water circuit to be drained, if the dental unit is going to be left off for several days.

Proceed as directed below:

- Place the container provided under the cup spout and start emptying the water circuit by holding down key "Water delivery to cup" for at least 5 seconds.



NOTE: a symbol blinks on the display to signal the operation is in progress..

- Wait until the water circuit is empty, 3 BEEPS signal When the operation has been completed.
- At this point, the dental unit is shutdown and can be turned off.



NOTE: the M.W.B. system will automatically be reset when the unit is turned back on.

Error messages displayed on the console

If the system detects a malfunction, a fault message appears on the display screen (see paragraph 11.).

If the fault found is minor, the dental unit continues to operate. On the other hand, if a serious fault is detected, the dental unit shuts down and it is necessary to call technical support.

PEROXY Ag+ storage.

For proper storage of PEROXY Ag+ follow the manufacturer's instructions printed on the package.

It is important to keep the package tightly closed and store it in a cool place at a temperature not exceeding 25°C.



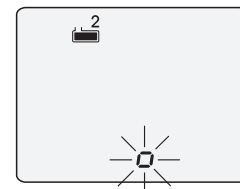
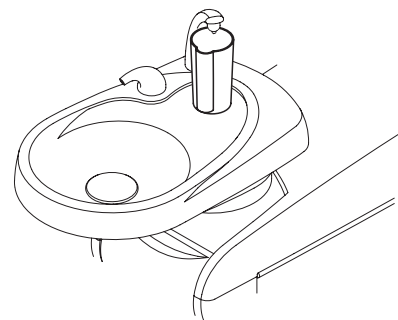
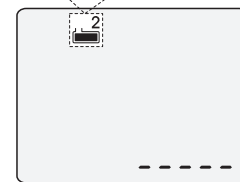
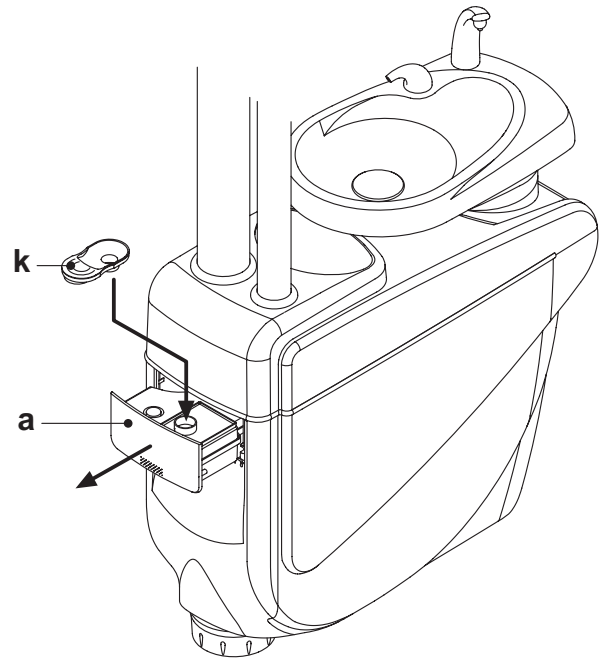
WARNING!

Never leave PEROXY Ag+ or oxygenated water in the tank (a) for longer than one month.

If you are going to be absent from the surgery for long periods of time (holidays), completely empty out the tank (a) before leaving.



NOTE: use a suction tube to empty the tank.





7.4. SEMI-AUTOMATIC AUTOSTERIL disinfecting system

The SEMIAUTOMATIC AUTOSTERIL system allows running a disinfection cycle of the water ducts of all the instruments on the dentist's instrument board, of a dynamic instrument on the assistant's board and of the cup water delivery ducts.

To run the disinfection cycle, operate as follows:

A) Prepare the disinfecting solution

- Pour pure PEROXY Ag+ (or 3% oxygenated water) into the tank with the orange band without diluting it.

NOTE: completely fill the tank.

B) Setting the disinfection cycle:

- Replace the tank [a] with the tank containing the disinfectant (see paragraph 7.2.) and activate the SSS system by pressing the button on the pushbutton panel of the dentist's instrument board.

NOTE: the AUTOSTERIL cycle can be activated only if the SSS system is on (icon A on).

- Check that the spray taps [d] in the lower part of the dentist's instrument board are open (if not, no or too little water will come out).
- Hold down button "AS" found on the assistant's board for at least 2 seconds (4 BEEPS confirm the command has been accepted). At this point, the dental unit switches over to stand-by. A number of flashing dashes will appear on the display to signal this condition.

NOTE: to exit this condition without doing anything, hold down button "AS" for at least 2 seconds again.

- Place the instruments to be disinfected in the container provided in the hydrogroup. (the withdrawn instruments are shown on the display).



WARNING!

Use the adapter [f] provided for the syringe. The heater should be turned off.

The micromotor should be put in without the handpiece.

The turbine and scaler should be put in without any burrs or tips.

- Place the container [c] provided under the water fountain.

C) Executing the disinfection cycle:

- Start the disinfection cycle by briefly pressing the "AS" button on the assistant's board a second time.

NOTE: an acoustic signal (1 beep) will confirm cycle start.

- The first automatic phase consists of filling the water ducts with disinfectant.

NOTE: in the first 5 seconds disinfectant is also delivered by the cup water fountain.

- The progression of the bar graph on the display shows the time remaining to the end of the filling phase (total time: 30 seconds).
- At the end of the water duct filling phase, an acoustic signal (1 beep) is emitted and the bar graph on the display restarts showing the time remaining to the end of the disinfectant contact phase.

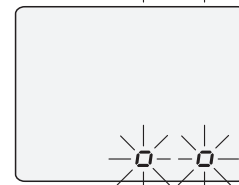
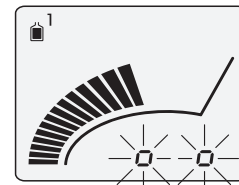
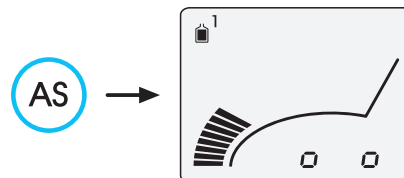
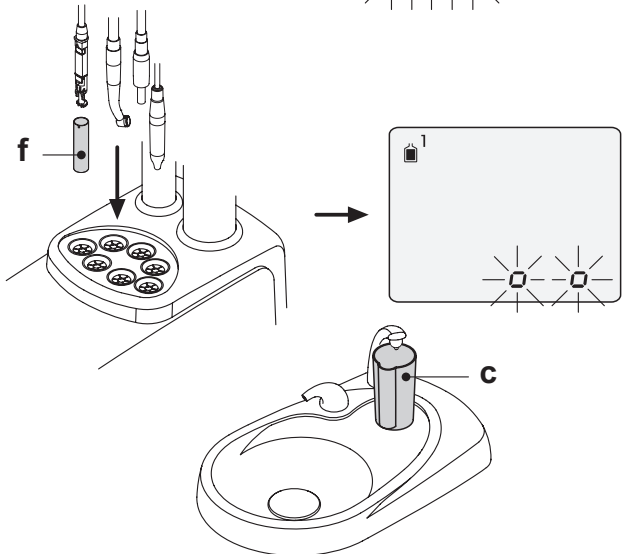
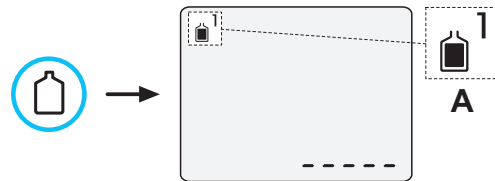
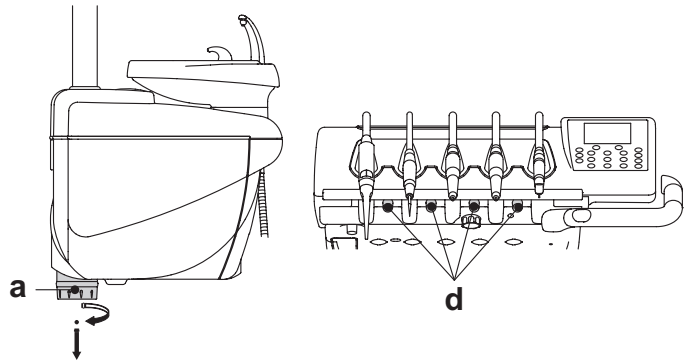
D) Disinfectant contact time

- The contact time is fixed and cannot be modified: 600 seconds.
- At the end of the disinfectant contact phase, an acoustic signal is emitted for 1 minute (1 beep every second).





WARNING!

PEROXY Ag+ (or 3% oxygenated water) must be left to dwell in the ducts for at least 10 minutes, but not more than 30 minutes.




**E) Duct flushing phase:**

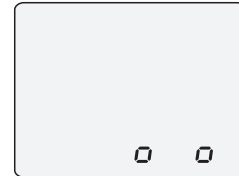
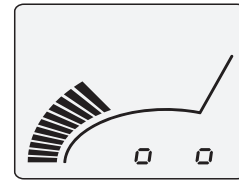
- Replace the tank [a] containing the disinfectant with the original tank containing distilled water (see paragraph 7.2.).
- If you want to flush the ducts with distilled water, activate the SSS system by pressing the  button on the pushbutton panel of the dentist's instrument board.
- Briefly press the "AS" button to activate the duct flushing cycle.

 **NOTE:** an acoustic signal (1 beep) will confirm cycle start.

- The progression of the bar graph on the console display shows the time remaining to the end of the flushing cycle (total time: 120 seconds).

 **NOTE:** in the first 20 seconds liquid is also delivered by the cup water fountain.

- At the end of the flushing cycle, 1 beep is emitted and the icons relating to the instruments extracted remain displayed.
- At this point, put the instruments extracted back into place to return to the working condition.

**WARNING!**

- After disinfection, make sure that you close the tank containing PEROXY Ag+ (it will lose effectiveness if exposed to air).
- It is good practice to perform a disinfection cycle at least once a day, preferably at the end of the day.

PEROXY Ag+ storage.

For proper storage of PEROXY Ag+ follow the manufacturer's instructions printed on the package.

It is important to keep the package tightly closed and store it in a cool place at a temperature not exceeding 25°C.

**WARNING!**

Never leave PEROXY Ag+ or oxygenated water in the tank (a) for longer than one month.

If you are going to be absent from the surgery for long periods of time (holidays), completely empty out the tank (a) before leaving.

Error messages displayed on the console

If the system detects a malfunction, a fault message appears on the display screen (see paragraph 11.).



7.5. S.H.D. system for flushing the suction tubes.

Description of the system.

This system allows cleaning the surgical suction system.

The system is equipped with a tank [a] containing the detergent liquid and two connect couplers [b], which are used to carry out flushing of the suction cannulae.

The tank containing the detergent liquid has a total capacity of 500 cc.

The washing cycle is automatically carried out and should usually be performed at the end of each surgical procedure and whenever the dental unit is cleaned and disinfected.



WARNING!

It is recommended to use **STER 3 PLUS (CEFLA s.c.)** as detergent liquid, diluted in a 6% solution (equivalent to 60 ml of product in 1 litre of water).

How to start the washing cycle.

To start the washing cycle, follow the directions given below:

- Check that the tank [a] contains the detergent liquid.
- Remove both suction tube terminals from the assistant's board, making sure the suction motor starts running.
- Open the mechanical closing of the suction tube terminals.
- Insert the suction cannulae terminals in the corresponding fittings [b] under the manifold.

The vacuum created by the Venutri meters triggers the washing cycle. An icon flashes on the display to signal the flushing cycle is in progress.

- Washing cycle stages:
 - deliver municipal water for 50 sec. using intermittent operation (2 sec. ON - 1 sec. OFF);
 - cut off the water flow and inject 10cc of detergent liquid ;
 - interrupt injection of the detergent liquid and continue with suction for 10 sec.
- The washing cycle ends when the suction flow is interrupted and the motor stops running.
- An audible signal (3 BEEPS) is provided when the cycle is finished.
- Put the terminals back in place on the assistant's board.

Filling the tank.

If the detergent liquid in the tank [a] is below the minimum level, act as follows:

- Raise the patient chair to maximum height.
- Remove the tank by rotating it anticlockwise.
- Pour the detergent liquid into the tank until it is full.
- Re-fit the tank; screw it on clockwise.

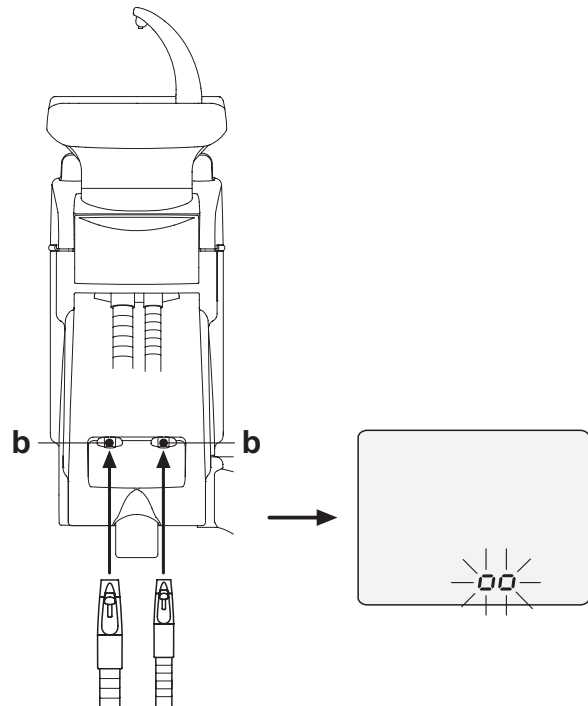
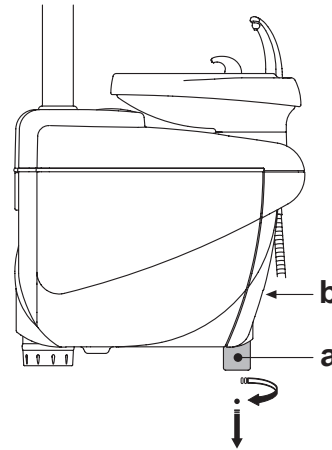
Stopping the washing cycle.

If the system detects a malfunction, it shuts down and an audible signal is given (2 BEEPS).

Make sure the suction tube terminal is correctly attached to the fitting and the mechanical lock for the terminal is fully open.



NOTE: once the problem has been solved, the washing cycle automatically restarts.





7.6. TIME FLUSHING automatic cycle

Description of the system

The TIME FLUSHING automatic system allows an automatic flushing cycle to be carried out to renew the water present in the water ducts of the instruments found on the instrument board and the syringe on the assistant's board. Municipal water, treated water (if the M.W.B. system is present) or distilled water (if the S.S.S. system is present) can be used to flush the ducts. The cycle takes 2 minutes to complete.



WARNING!

A flushing cycle should be performed before starting work and in between patients.

How to perform the flushing cycle:

- If the S.S.S. system is present, check the level of distilled water present in the tank, and top up if necessary.



NOTE: make sure there is at least 300 cc of liquid present.

- Make certain the spray cocks [d] found at the bottom of the board are opened (if they are not, either water does not come out or too little water flows out).
- Briefly press button "AS" on the assistant's board (3 BEEPS confirm the command has been accepted).



At this point, the dental unit switches over to standby. A number of flashing dashes will appear on the display to signal this condition.



NOTE: to exit this condition without doing anything, hold down button "AS" for at least 2 seconds again.

- Place the instruments to be treated in the container provided in the hydrogroup (the withdrawn instruments are shown on the display).



WARNING!

Use the adapter [f] provided for the syringe. The heater should be turned off.

The micromotor should be put in without the handpiece.

The turbine and scaler should be put in without any burrs or tips.

- Briefly press button "AS" to start the TIME FLUSHING cycle (1 BEEP confirms the command has been accepted).



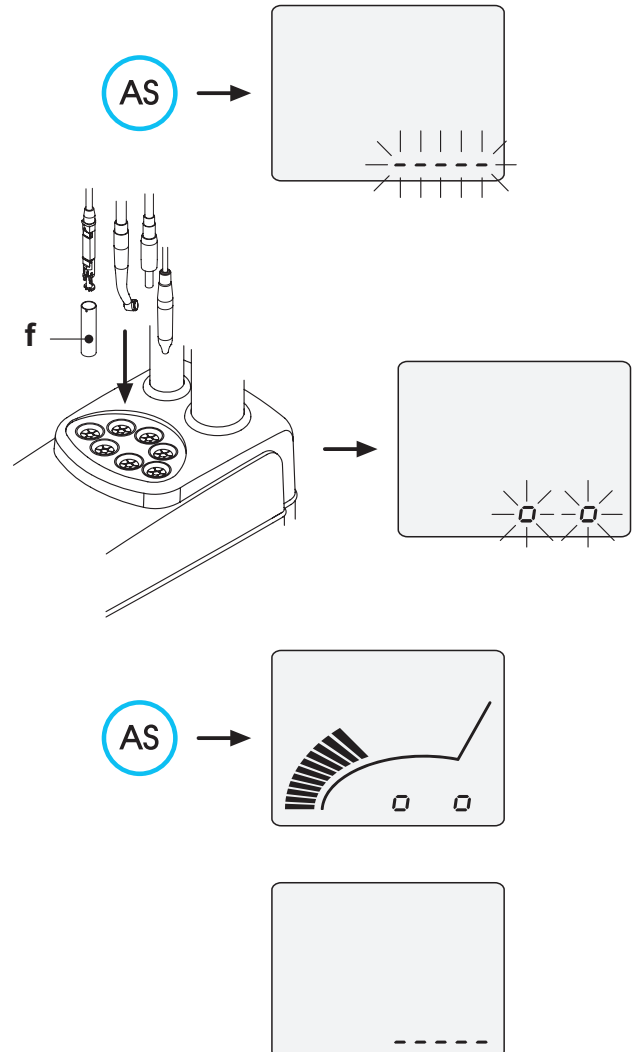
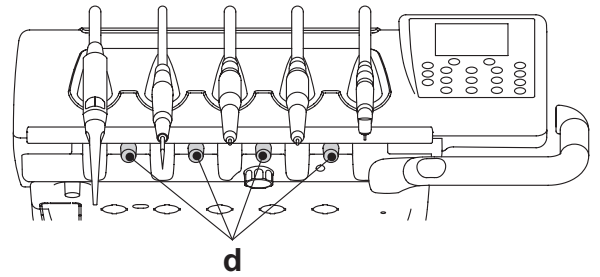
NOTE: the bar-graph on the display shows how the operation is progressing and the time left to complete it (approximately 2 minutes).

- Once the TIME FLUSHING cycle has been completed, the system emits 3 BEEPS and the initial dashes appear on the screen again.

At this point, put all the instruments back into place to go back to the work conditions.

Error messages displayed on the console

If the system detects a malfunction, a fault message appears on the display screen (see paragraph 10.).



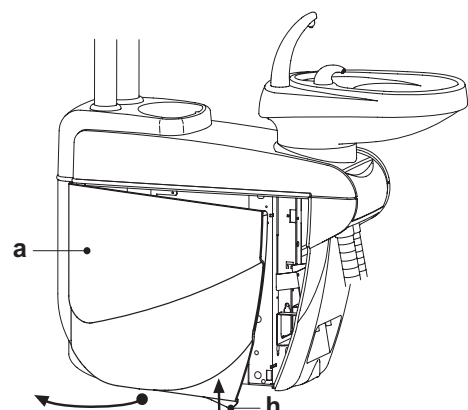
7.7. Opening/closing the cover at the side of the hydrogroup

Opening the cover:

- Grasp the handle [h] and pull it up to unlock the cover [a] at the side of the hydrogroup.
- Turn the cover outwards to open it.

Closing the cover:

- Press the handle [h] to block the cover until a click is heard.





8. Accessories

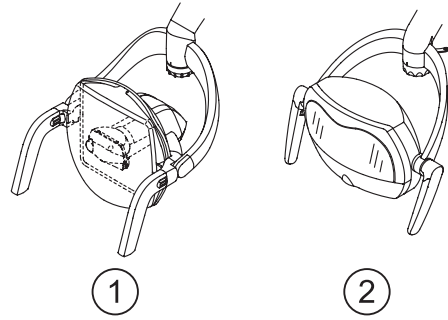
8.1. Operating lamp

The operating lamp comes in 2 models:

- ① Lamp with halogen light source – model VENUS PLUS.
- ② Lamp with LED light source – model VENUS PLUS-L.

The instructions for use and maintenance of the lamps are available in PDF format and can be downloaded from the download area of the website www.castellini.com.

NOTE: during the automatic movements of the dental chair, the lamp automatically turns off to prevent blinding the patient.



8.2. Monitor on lamp pole

The instructions for use and maintenance of the monitor are included with the dental unit.

8.3. Air/water/230V quick-connect couplers

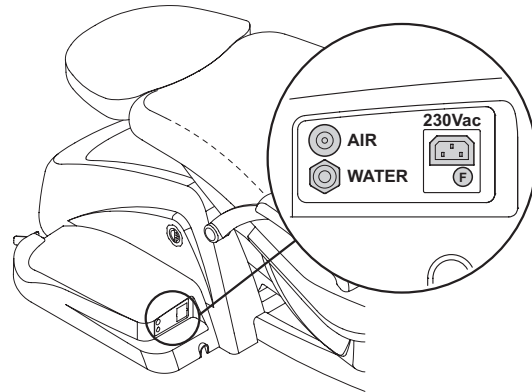
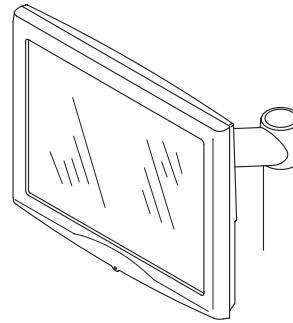
The air/water/230V quick-connect couplers are placed to the side of the electrical box.

WARNING!
Shut off the equipment before attempting to connect or disconnect the air/water outlets.

Technical specifications:

- Power outlet: 230VAC 2A in accordance with IEC/EN 60320-2-2/F (only on dental units with 230 VAC power supply).
- Air quick-connect coupler pressure: 6 Bar.
- Water quick-connect coupler pressure:
 - municipal water, 2.5 Bar
 - with S.S.S. system, 3Bar
 - with M.W.B. system, 3 Bar
- Water quick-connect coupler delivery rate:
 - municipal water, 1800 ml/min
 - with S.S.S. system, 950 ml/min
 - with M.W.B. system 400 ml/min

NOTE: with the S.S.S. system: in order to use the quick-connect coupler with municipal water shut off the distilled water tank (see paragraph 7.2.).



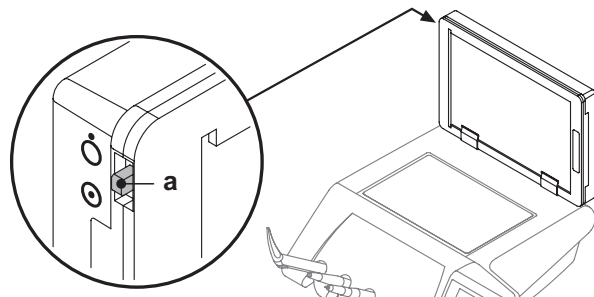
8.4. Viewer for panoramic x-rays

A viewer for panoramic x-rays can be installed on all the CP version instrument boards.

The screen dimensions are as follows: H=210mm, L=300mm.

Use the switch [a] to turn on the x-ray film viewer:

- = X-ray film viewer on.
- = X-ray film viewer off.





8.5. H.P.A. filter (Hight Protected Air)

The H.P.A. filter [h] holds back any bacterial load present in the air line directed to the instrument sprays.



WARNING!

- The filter element is not sterile when supplied;
- Use disposable gloves when replacing parts;
- The transparent ampule does not stand up to alcohol. Clean the ampule with neutral detergent and hot water.

Care

- Sterilize the element every month.



WARNING!

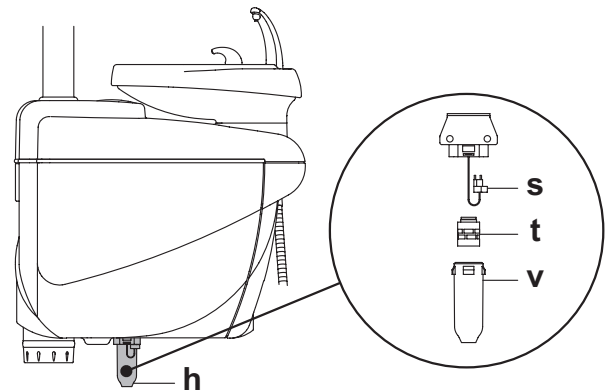
Sterilization must be carried out in a steam autoclave at 135°C (2 bar) following the instructions for use of the device.

Do not use dry sterilizers.

- Replace the element once a year or after 200 sterilization cycles.

Removing the filter element

- Move the dental chair completely up;
- Shut off the dental unit with the main switch (see paragraph 3.);
- Operate the syringe until the air pressure has been discharged;
- Remove the safety lock [s] found to the side of the ampule by pulling it down;
- Turn the transparent ampule [v] counter-clockwise to disengage it;
- Remove the filter element [t] by pulling it down;
- Sterilize/replace the filter element (code FH4200025);
- Put the filter element [t] back into place;
- Put the transparent ampule [v] back into place turning clockwise to engage it;
- Put the safety lock [s] back in place.





9. Maintenance

Preventive maintenance

CEFLA s.c., the manufacturer of the dental units, in accordance with applicable standards I.E.C. 60601-1 second ed., I.E.C. 62353 and directive MDD 93/42 and subsequent changes for medical devices underlines that the preventive maintenance checks for the dental unit specified in the Technical care manual and Maintenance and warranty handbook are to be carried out by authorised personnel at least once every 12 months.



Any repairs, modifications or tampering, during the warranty period, carried out by unauthorised CASTELLINI staff, determine the forfeiture of the warranty.

Safety checks

In accordance with standard I.E.C. 62353, the safety checks specified in the Technical care manual and Maintenance and warranty handbook supplied with the dental unit are to be carried out at the intervals required by current local regulations. If no precise indications are given, CEFLA s.c., the manufacturer of the dental units, recommends checking them at least every 24 months at the time of installation and whenever electrical parts that are live are repaired/updated.



The manufacturer shall not be held liable for any personal injury or equipment damage if the precautions given above are not observed.

9.1. Instrument maintenance

Maintenance instructions for the instruments are enclosed with each instrument.



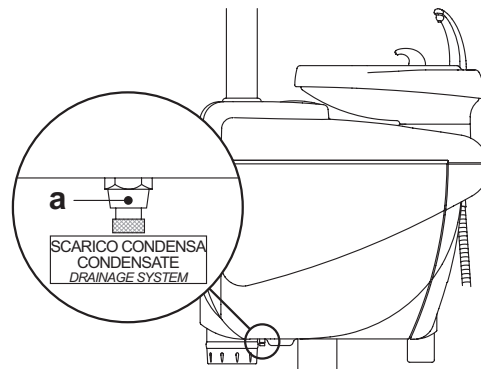
Maintenance of the instruments should be carried out with the equipment shut off.

9.2. Draining condensate

Perform this operation every day before starting work.

Proceed as follows:

- put a container under the cock [a] found below the hydrogroup,
- loosen the cock's knob,
- once emptied, completely close the cock.



9.3. Cleaning the surgical suction filters

This operation should be done daily at the end of work.



Always wear gloves to prevent contact with infected material when cleaning the suction filters.

Clean the filters as directed below:

- Open the door [c] that protects the filters.
- Take out the two filters [d].
- Clean/replace the filter (code 97461845).

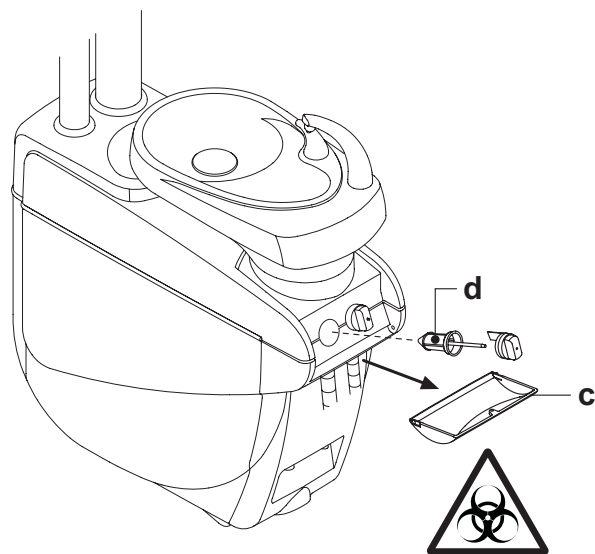


NOTE: the door [c] can be taken off and used as a tray for the filter removed.

- Put the two filters back in place being careful to remove any amalgam left at the seat of each filter.
- Close the door [c].



NOTE: in order to prevent liquids from dripping or secretions from the filter, these operations should be performed with the suction tube running.





9.4. Surgical suction

The surgical suction system must be sanitized using a product suitable for this purpose.



WARNING!

For cleaning of the suction system, it is recommended to use **STER 3 PLUS (CEFLA s.c.)** diluted in a 6% solution (equivalent to 60 ml of product in 1 litre of water).

At the end of each surgical procedure.

- Perform an automatic flushing cycle (if present) or suck in about half a liter of the disinfecting solution with each of the suction tubes used.
- Sterilize the cannula holder terminals in a steam autoclave at 135°C (2 bar) following the instructions for use of the device.

At the end of each work day.

- Draw in 1 liter of water with each suction tube, alternating water and air (keep the suction tube alternately in and out of the water).
- After rinsing with water, execute an automatic flushing cycle or aspirate about ½ litre of sanitizing solution with each of the cannulas used.



WARNING!

Whatever sanitizing product you use, follow the instructions given by the manufacturer.



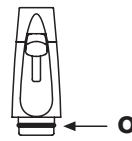
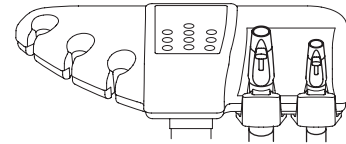
NOTE: after these operations, it is advisable to aspirate only air in order to dry the entire suction system (5 minutes).

Once a week

Remove the cannula body from its cord attachment and lubricate the O-rings (**o**) using S1-Protective Lubricant for O-Rings (CEFLA s.c.).

Once a year

Replace the suction tubes and ends of the tube holder.



9.5. CATTANI surgical separator

At the beginning of each working day.

Insert a tablet [**v**] into each filter [**d**] of **VF CONTROL PLUS** (CEFLA s.c.).



WARNING!

ALWAYS wear gloves when carrying out this operation to prevent any contact with infected material.

At the end of each work day.

- Draw in 1 liter of water with each suction tube, alternating water and air (keep the suction tube alternately in and out of the water).
- Sterilize the cannula holder terminals in a steam autoclave at 135°C (2 bar) following the instructions for use of the device.



NOTE: after disinfecting, it is good practise to draw in air only to dry the entire suction system (5 minutes).

Every 15 days.

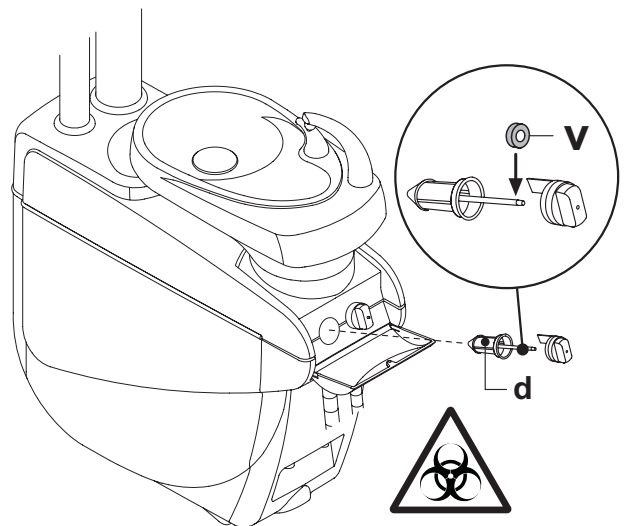
- Clean the separator container and probes with a soft sponge and neutral detergent.
- Clean the drain valve for the separator's container with the device provided for this purpose.

Once a year.

- By technician: check the siphons and drains, check all the internal tubes and plastic and rubber parts subject to wear.

Before leaving the surgery empty for a few days.

- Start the aspirator and run it 20 - 30 minutes without sucking in liquids. The aspirator will dry itself completely. As a result, salt caused by moisture and basic substances will not form, salt that may cause fan seizure and motor blockage.



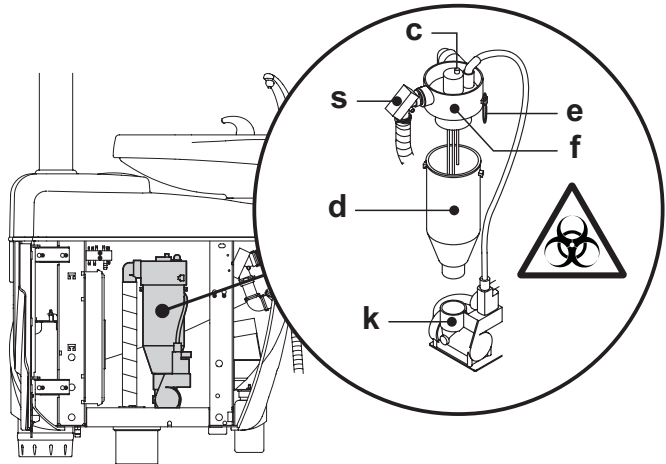
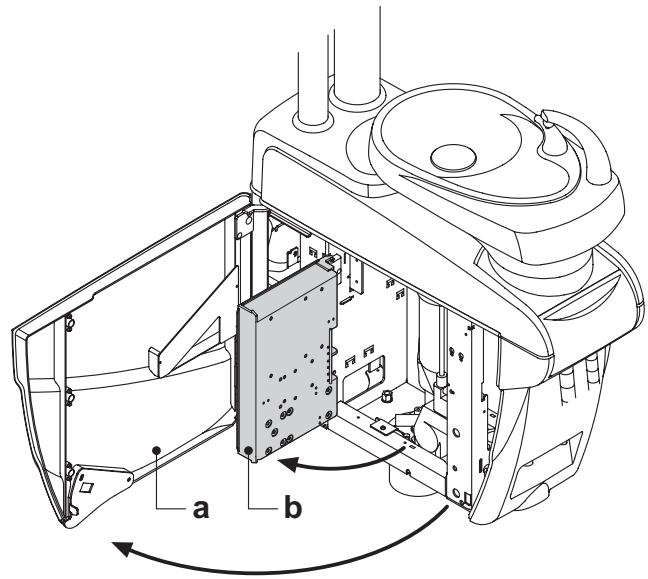


How to remove the separator's container



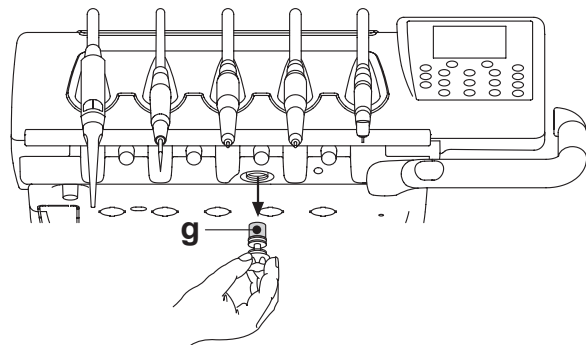
WARNING!
Gloves must be worn when carrying out the following operation to prevent contact with infected material.

- Move the dental chair fully up.
- Open the cover at the side of the hydrogroup [a] (see paragraph 7.7) and turn the electrical box [b].
- Turn the electrical box [b] and hydrogen peroxide tank [a] (if present).
- Completely empty the separator's container by pressing the timed button [c] found on the cover.
- If present, remove the valve (s) for central systems.
- Turn and raise the container until it is detached from the drain pump (k).
- Detach the container [d] from the cover [f] by pulling up the two side elastic bands [e].
- After the cleaning operations, refit the vessel [d] after lubricating the O-rings with S1-Protective Lubricant for O-Rings (CEFLA s.c.).
- Put the electrical box [b] back in place and put the cover [a] back on the side of the hydrogroup (see paragraph 7.7).



9.6. Cleaning the turbine return air filter

Monthly check the oil container filter [g] present in the turbine's return air line.
If necessary, replace the filter element (code 97290014).





9.7. METASYS amalgam separator

The maintenance instructions for the METASYS amalgam separator are enclosed with the equipment if the equipment comes with this type of separator. The separator's control device is located in the hydrogroup.



WARNING!

Always wear gloves to prevent contact with infected material when cleaning the separator.



WARNING!

When disposing one-time use containers full of amalgam, observe current local and national laws.

9.8. DURR amalgam separator

The maintenance instructions for the DURR amalgam separator are enclosed with the equipment if the equipment comes with this type of separator. The separator's control device is located in the hydrogroup.



WARNING!

Always wear gloves to prevent contact with infected material when cleaning the separator.



WARNING!

When disposing one-time use containers full of amalgam, observe current local and national laws.

9.9. Dental chair

The dental chair does not require any particular maintenance. In any case, operation should be checked by CASTELLINI authorized personnel once a year.



10. Error messages displayed on the console

M = Message
C = Cause
R = Remedy

M: "E053"

C: The hydrogen peroxide in the relative tank has dropped below the minimum acceptable level.
R: Fill the hydrogen peroxide tank (see paragraph 7.3.).

M: "E059"

C: M.W.B. system malfunction
R: Empty the tank inside the M.W.B. system and restart the system (see paragraph 7.3.).
If the message appears again, call technical support.

M: "E060"

C: M.W.B. system malfunction
R: Empty the tank inside the M.W.B. system and restart the system (see paragraph 7.3.).
If the message appears again, call technical support.

M: "E065"

C: The system is attempting to perform a task which requires that the M.W.B. system is turned on.
R: Turn on the M.W.B. system (see paragraph 7.3.).

M: "E100"

C: The instrument in the indicated position on the board has been automatically configured with the factory settings.
R: If the message appears again, call technical support.

M: E109

C: The TIME FLUSHING cycle has been interrupted due to an internal error.
R: Repeat the TIME FLUSHING cycle (see paragraph 7.6.).
If the message appears again, call technical support.

M: "E200"

C: Suction tube flushing cycle malfunction
R: Make sure the filters are clean, the suction tubes are not closed and that the suction unit works correctly and then repeat the flushing cycle. If the message appears again, call technical support (see paragraph 7.5.).
If the message appears again, call technical support.

M: "E205"

C: Suction tubes extracted when dental unit is turned on.
R: Make sure the suction tubes are correctly placed in their housings.
If the message appears again, call technical support.

M: "E206"

C: Instrument extracted when dental unit is turned on.
R: Make sure all the instruments are correctly placed in their housings.
If the message appears again, call technical support.

M: "E300"

C: The operating light does not turn on because electric power is not supplied.
R: Call technical support.



WARNING!

As far as all the other fault messages are concerned, call technical support immediately quoting the number of the fault message displayed.



11. Technical specifications

Installation plan:	97042072
Technical manual:	97071122
Dental unit spare parts catalogue:	97023126
Dental chair spare parts catalogue:	97023126
Maximum dental unit weight:	90 Kg.
Maximum dental chair weight:	115 Kg.
Maximum dental chair capacity:	190 Kg.
Voltage:	230V
Frequency:	50/60 Hz.
Power absorbed:	1500 W
Air connection:	1/2 Gas.
Air supply pressure:	6-8 bar.
Air delivery rate:	82 l/min.
Water connection:	1/2 Gas.
Water supply pressure:	3-5 bar

Water delivery rate:	10 l/min.
Water usage:	2 l/min.
Water hardness:	< 25 °f (14 °d)
Drain connection:	ø40 mm
Drainage rate:	10 l/min.
Drain duct inclination:	10 mm/m
Aspirator connection:	ø40 mm
Vacuum (minimum):	65 mbar
Vacuum delivery rate:	450 l/min.
Mark of approval:	CE 0051
Electrical work in compliance with:	IEC 60364-7-710
Dental unit packaging dimensions:	1570 x 780 x 1325(h)
Dental chair packaging dimensions:	1510 x 730 x 1000(h)
Dental unit packaging weight:	140 Kg.
Dental chair packaging weight:	150 Kg.

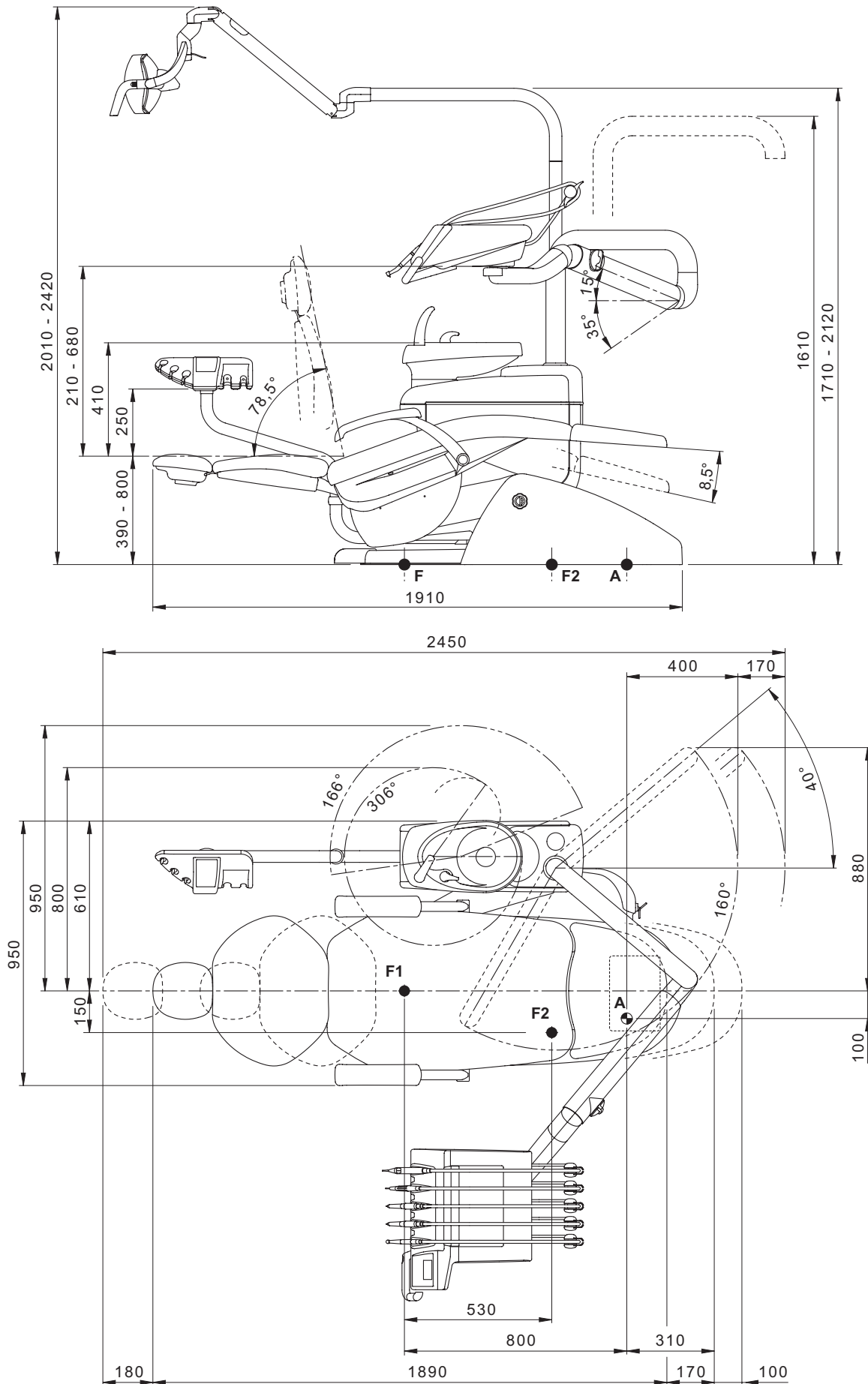
FUSES			
Identification	Value	Protection	Position
<i>Dental unit.</i> Fuse F2 Fuse F4 Fuse F5 Fuse F6	T 8 A T 6,3 A T 6,3 A T 6,3 A	230 V~:Dental unit power supply line. Secondary protection: Hydrogroup. Secondary protection: Dental unit. Secondary protection: Operatory light.	Electrical box. Electrical box. Electrical box. Electrical box.
<i>Dental chair.</i> Fuse F1	T 4 A	230 V~: Dental chair power supply line.	Electrical box.
<i>Quick-connect couplers.</i> Fuse	T 2 A	230 V~: Electrical outlet power supply line	Electrical box.
<i>Monitor power supply.</i> Fuse	T 4 A	21 V~: MULTIMEDIA power line.	Dental chair card area.



SKEMA 5 - OPERATING INSTRUCTION

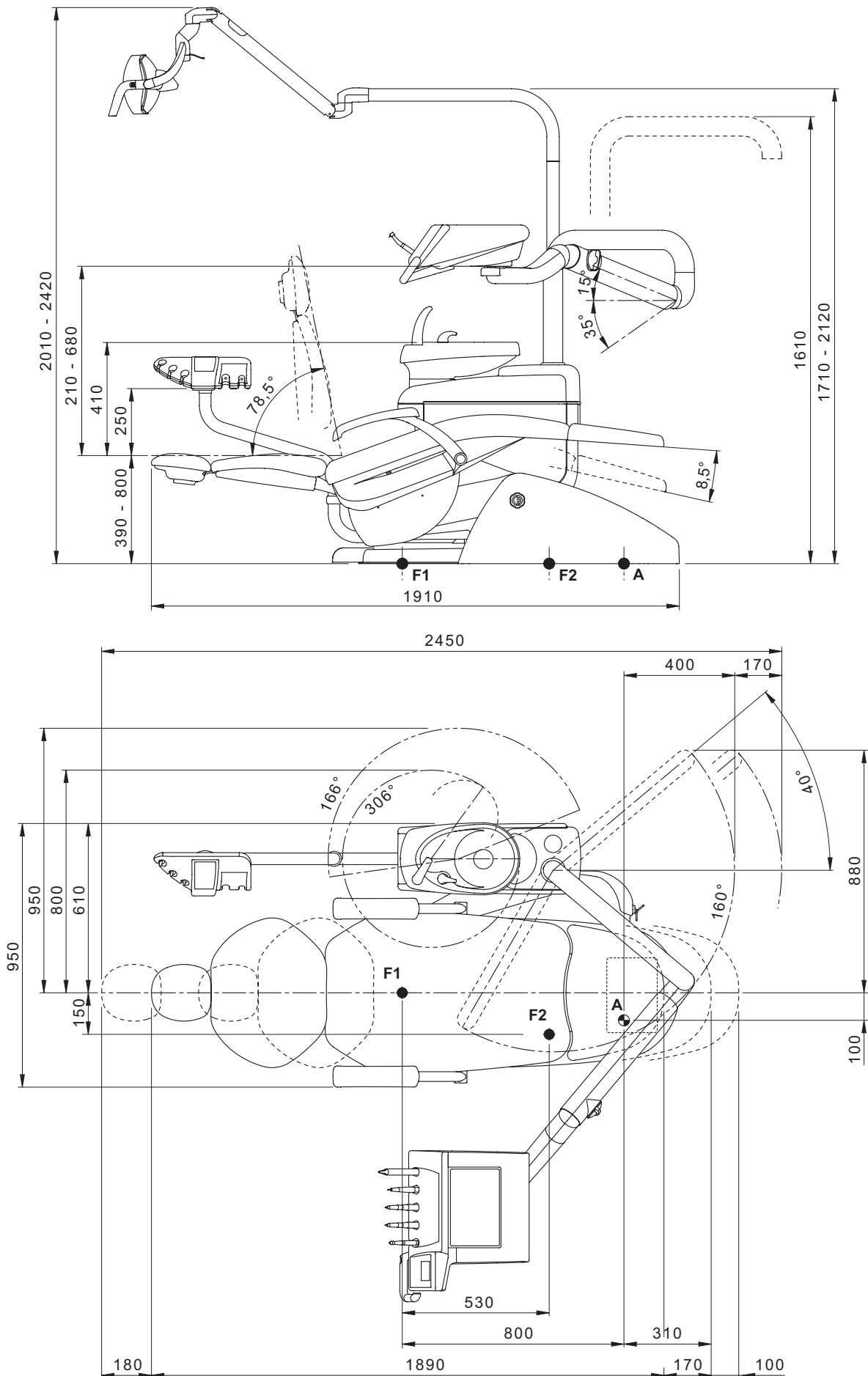


11.1. SKEMA 5 dimensional characteristics





11.2. SKEMA 5 CP dimensional characteristics





12. SKEMA 5 dental operatory disinfecting and maintenance plan

WHEN	PART	WHAT TO DO	SEE PARAGRAPH
Before starting work	Condensate drain cock.	Drain condensate from air ducts.	See paragraph 9.2
	Spray ducts (if the dental unit is turned off for more than 48 hours).	Disinfect water ducts of sprays with manual cycle (if the S.S.S. system is present).	See paragraph 7.2.1
		Disinfect water ducts of sprays with semi-automatic cycle (if the AUTOSTERIL system is present).	See paragraph 7.2
	CATTANI surgical separator.	Insert a tablet into each suction filter of VF CONTROL PLUS.	See paragraph 9.5.
	Single-use protective barriers.	Put single-use barriers and flexible protection on dental chair and dental unit.	/
	Strumenti.	Lubricate micromotor and turbine handpieces.	See documentation enclosed with the instrument
After each treatment	Spray ducts.	Flush water ducts of sprays (if the TIME FLUSHING system is present).	See paragraph 7.6
	Instruments.	Sterilize or disinfect the outside.	See documentation enclosed with handpiece
	Camera.	Disinfect the outside.	See paragraph 5.8
	Curing lamp.	Disinfect the exterior.	See paragraph 5.7 or 5.7.1.
	Surgical suction tubes.	Run an automatic flushing cycle (if present) or aspirate about ½ litre of STER 3 PLUS diluted in a 6% solution with each of the cannulas used.	See paragraph 9.4
	Flexible protection.	Sterilize the contaminated flexible protection.	/
	Single-use barriers.	Replace the single-use barriers.	/
	Contaminated surfaces.	Disinfect with STER 1 PLUS .	/
At the end of the work day	Spray ducts.	Disinfect water ducts of sprays with manual cycle (if the S.S.S. system is present).	See paragraph 7.2.1
		Disinfect water ducts of sprays with semi-automatic cycle (if the AUTOSTERIL system is present).	See paragraph 7.2
	Bowl filter.	Clean the filter in running water. The content must be disposed separately.	See paragraph 7.1
	Bowl.	Clean with commercial detergents designed for ceramic materials. Do not use harsh products or acids.	See paragraph 7.1
	Surgical suction filter.	Check the filter and replace it if the suction capacity is reduced (code 97461845).	See paragraph 9.3
	Surgical suction tubes.	Run an automatic flushing cycle (if present) or aspirate about ½ litre of STER 3 PLUS diluted in a 6% solution with each of the cannulas used.	See paragraph 9.4
	Hydraulic saliva ejector.	Clean the saliva ejector filter.	See paragraph 6.4
	Flexible protection.	Sterilize the flexible protection present.	/
	Single-use barriers.	Remove the single-use barriers used.	/
	Dental chair and dental unit surfaces.	Clean surfaces with STER 1 PLUS .	/



SKEMA 5 - OPERATING INSTRUCTION



When needed.	Removable instrument cords.	Clean with a suitable disinfectant carefully following the directions for use provided by the manufacturer. Spray the product on soft disposable paper towels. Do not use acids or harsh products.	See paragraph 5.
	Spray ducts.	Disinfect water ducts of sprays with manual cycle (if the S.S.S. system is present).	See paragraph 7.2.1
		Disinfect water ducts of sprays with semi-automatic cycle (if the AUTOSTERIL system is present).	See paragraph 7.2
	CATTANI surgical separator.	Clean the separator's container, drain valve and probes.	See paragraph 9.5
	METASYS amalgam separator.	Empty the separator bowl.	See documentation enclosed with the separator
	DURR amalgam separator.	Empty the separator bowl.	See documentation enclosed with the separator
	Operatory light.	Clean the front glass and reflector mirror.	See documentation enclosed with the equipment
	VENUS PLUS-L LED operating lamp.	Clean the transparent screen and the handles.	See paragraph 8.1.1.
	Monitor / Workstation with light pole.	Clean the surfaces.	See documentation enclosed with the equipment
	Coated surfaces and dental chair upholstery.	Clean with a suitable disinfectant carefully following the directions for use provided by the manufacturer. Spray the product on soft disposable paper towels. Do not use acids or harsh products.	See paragraph 1.4
Weekly.	Suction tube holders.	Lubricate the o-rings.	See paragraph 9.4
Monthly.	Turbine return air filter.	Check the filter and replace it if necessary (code 97290014).	See paragraph 9.7.
	H.P.A. filter.	Sterilize the filter cartridge.	See paragraph 8.5.
Yearly.	Dental chair and dental unit.	Contact the technical service department for general inspection.	/

**DICHIARAZIONE DI CONFORMITÀ “CE / EU” / “CE / EU” CONFORMITY DECLARATION
DECLARATION DE CONFORMITÉ “CE / EU” / ERKLÄRUNG VON “CE / EU” ZUSTIMMUNG / DECLARACION DE CONFORMIDAD “CE / EU”
DECLARAÇÃO DE CONFORMIDADE “CE / EU” / ΔΗΛΩΣΗ ΠΙΣΤΟΤΗΤΑΣ “CE / EU” / ДЕКЛАРАЦИЯ СООТВЕТСТВИЯ “CE / EU”
DEKLARACJA ZGODNOSCI WE “CE / EU” / “CE / EU” UYGUNLUK BELGESİ**

Prodotto tipo/ Product type :

Matr./ Serial N°:

Incollare in questo spazio l'etichetta del complesso odontoiatrico o di altra apparecchiatura o indicare modello e numero di matricola
Stick the label of the dental equipment or other device into this space or write model and serial number

- I** Dichiaro sotto la nostra esclusiva responsabilità che i prodotti ai quali questa dichiarazione si riferisce sono conformi
1) ai requisiti essenziali (Allegato I) presenti nella direttiva 93/42/CEE Dispositivi Medici (D.Lgs.46/97) e successive modifiche ed integrazioni (**dispositivo medico di Classe IIa**)
2) alla direttiva 2011/65/UE del Parlamento europeo e del Consiglio dell'8 giugno 2011, sulla restrizione dell'uso di determinate sostanze pericolose nelle apparecchiature elettriche ed elettroniche (Rohs 2)
- GB** We declare, on our sole responsibility, that the products referred to herein are in compliance with
1) the essential requirements (Annexe I) of Directive 93/42/EEC Medical devices (Leg. Decree 46/97) and subsequent amendments and integrations (**Class IIa medical device**)
2) Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (Rohs 2)
- F** Nous déclarons, sous notre complète responsabilité, que les produits auxquels la présente déclaration fait référence sont conformes
1) aux exigences essentielles (Annexe I) présentes dans la directive 93/42/CEE "Dispositifs médicaux" (Décr.L. 46/97) et modifications successives et intégrations (**dispositif médical de Classe IIa**)
2) à la directive 2011/65/UE du Parlement européen et du Conseil du 8 juin 2011 relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques (Rohs 2)
- D** Wir erklären hiermit in alleiniger Verantwortung, dass die Produkte, auf die sich diese Erklärung bezieht, konform sind mit
1) den grundlegenden Anforderungen (Anhang I) der Richtlinie 93/42/EWG über Medizinprodukte (Gesetzesverordnung 46/97) und nachfolgenden Änderungen und Ergänzungen (**medizinisches Gerät der Klasse IIa**)
2) der Richtlinie 2011/65/EU des Europäischen Parlaments und des Rats vom 8. Juni 2011 zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten (Rohs 2)
- E** Declaramos bajo nuestra exclusiva responsabilidad que los productos a los que esta declaración se refiere, están conformes con
1) los requisitos esenciales (Anexo I) presentes en la directiva 93/42/CEE Dispositivos Médicos (D. Leg. 46/97) y sucesivas modificaciones e integraciones (**dispositivo médico de Clase IIa**)
2) la directiva 2011/65/UE del Parlamento europeo y del Consejo del día 8 de junio de 2011, sobre la restricción del uso de determinadas sustancias peligrosas en los aparatos eléctricos y electrónicos (Rohs 2)
- P** Declaramos sob a nossa exclusiva responsabilidade que os produtos aos quais esta declaração se refere estão em conformidade
1) com os requisitos essenciais (Anexo I) presentes na diretiva 93/42/CEE Dispositivos Médicos (em Itália, transposta pelo Decreto Legislativo 46/97) e posteriores alterações e aditamentos (**dispositivo médico de Classe IIa**)
2) com a diretiva 2011/65/UE do Parlamento europeu e do Conselho de 8 de junho de 2011, relativa à restrição do uso de determinadas substâncias perigosas em equipamentos elétricos e eletrônicos (Rohs 2)
- GR** Δηλώνουμε με την αποκλειστική ευθύνη μας ότι τα προϊόντα στα οποία αναφέρεται η παρούσα δήλωση είναι σύμφωνα
1) με τις βασικές απαιτήσεις (Προσάρτημα 1) της οδηγίας 93/42/ΕΟΚ Ιατροτεχνολογικών Προϊόντων (Ν. Διάτ.46/97) και μεταγενέστερες τροποποιήσεις και συμπληρώσεις (**ιατροτεχνολογικό προϊόν Κατηγορίας IIa**)
2) με την οδηγία 2011/65/ΕΕ του Ευρωπαϊκού Συμβουλίου και του Συμβουλίου της 8 Ιουνίου 2011, για τον περιορισμό της χρήσης ορισμένων επικίνδυνων ουσιών σε ηλεκτρικό και ηλεκτρονικό εξοπλισμό (Rohs 2)
- PY** Под нашу исключительную ответственность заявляем, что изделия, к которым относится данная декларация, соответствуют
1) основным требованиям (Приложение I) директивы 93/42/ЕЭС Медицинские устройства (Законодательный указ № 46/97) и последующим изменениям и дополнениям (**медицинское устройство Класса IIa**)
2) директиве 2011/65/ЕС Европарламента и Совета Европы от 8 июня 2011 года по ограничению использования определенных опасных веществ в электрическом и электронном оборудовании (Rohs 2)
- PL** Oświadczamy na swoją wyłączną odpowiedzialność, że produkty objęte niniejszym oświadczeniem są zgodne:
1) z zasadniczymi wymaganiami (Załącznik I) przewidzianymi dyrektywą 93/42/EWG Wyroby Medyczne (D. z mocą ustawy 46/97) wraz z późniejszymi zmianami i uzupełnieniami (**wyrób medyczny Klasa IIa**)
2) z dyrektywą 2011/65/WE Parlamentu europejskiego i Rady z dnia 8 czerwca 2011r. w sprawie ograniczeń we wprowadzaniu do obrotu i stosowaniu w sprzęcie elektrycznym i elektronicznym określonych niebezpiecznych substancji (Rohs 2)
- TR** Bu beyannamede bahsi geçen ürünlerin aşağıda belirtilenlere uygun olduğunu kendi mühasır sorumluluğumuz altında beyan ederiz:
1) (Kanun hükümlünde Kararname 46/97) Medikal Aygıtlar 93/42/CEE direktifinde mevcut (Ek 1) ana gereklilikler ve sonraki değişiklikler ve eklemelerde belirtilenler (**IIa sınıf medikal aygıt**)
2) 8 Haziran 2011 tarihli Avrupa Parlamentosu ve Konseyi'nin "Elektrikli ve elektronik cihazlarda bazı tehlikeli maddelerin kullanılmasına ilişkin kısıtlamalar" 2011/65/UE direktifi (Rohs 2)

Imola, li _____

Bussolari Paolo
Managing Director

