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anthos

SMART TOUCH

A7 Plus

EN

TABLE OF CONTENTS

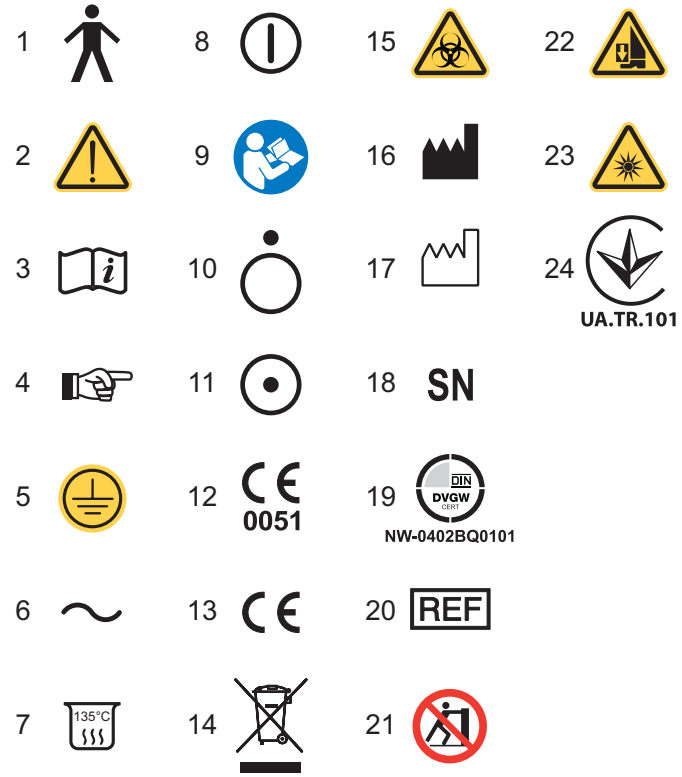
1. Safety guidelines

- **These instructions explain how to correctly use the following dental units:**
  A7 Plus CONTINENTAL, A7 Plus INTERNATIONAL
  Carefully read and become familiar with the content of this manual before using the equipment.
- The dental units described in this manual are manufactured by CEFLA s.c. - via Selice Prov.le 23/A - 40026 Imola (BO) Italy, a manufacturer complying with the European Directive on devices.
- These instructions describe all the versions of the operating units with 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, 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 the manual may not correspond exactly to current specifications. The manufacturer reserves the right to make changes without prior notice.
- The original version of this manual is written in Italian.
- This equipment is equipped with a device that prevents liquid back up
- The manufacturer's website contains a list of authorised agents of the various countries.

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) "Consult the instruction manual".
   Means that it is advisable to consult the instruction manual before using that part of the device.
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) Open (a part of the unit).
11) Closed (a part of the unit).
12) Equipment in accordance with essential requirements of directive EEC 93/42 and subsequent changes (Class IIa equipment).
    Notified body: IMQ spa.
13) Equipment in accordance with essential requirements of directive EEC 93/42 and subsequent changes (Class I medical equipment for ordinary use).
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) Do not push.
22) Foot crushing hazard.
23) Device equivalent to Class 2 light source.
24) Ukrainian national symbol of conformity.



1.2. Intended use

- The A7 PLUS series of operatories are medical devices intended for dental treatment.
- The instrument board may hold up to 6 instruments.
- The assistant's board can hold 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 and reference standards

- MEDICAL DEVICES classification
  Classification of the dental unit in accordance with the indications given in annex IX of directive 93/42/EEC and subsequent changes: **Class IIa**.
- ELECTRICAL MEDICAL EQUIPMENT classification
  Classification of the dental unit in accordance with standard I.E.C. 60601-1 for safety of medical equipment: **Class I - Type B**.
- Reference standards
  A7 PLUS series operatory units are designed and constructed in compliance with IEC 60601-1 3.a Ed. - 2007, IEC 60601-1-6 3.a Ed. - 2010, IEC 62366 1.a Ed. - 2007, IEC 80601-2-60 1.a Ed. - 2012, IEC 60601-1-2 3.a Ed., ISO 6875 3.a Ed. - 2011, ISO 7494-1 2.a Ed. - 2011 and EN 1717 (type AA and AB) standards as far as the water mains safety devices are concerned.
- 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 entering equipment not over 60 mg/l.
- 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 degreees);
- 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. stands behind its products warranting safety, reliability and performance.
The warranty is valid only under the following terms:

- The conditions given on the warranty certificate are observed.
- 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 mm^2 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 ANTHOS.

1.2.4. Disposing the equipment when no longer used

As set out in Directives 2011/65/EC and 2012/19/EC, 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 wheeled bin placed on the equipment indicates that the waste equipment must be collected separately from other waste.

1.3. Safety rules

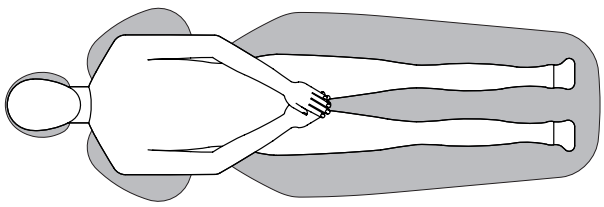
⚠ **WARNING!**

- **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 condition**
  The floor conditions (continuous type) must meet design load standards set forth in DIN 1055 sheet 3.
  The weight of the dental unit including a patient weighing 190Kg, is approximately 350Kg/mq.
  See the Installation manual for further details about installation.
- This device may not be modified in any way without the authorisation of the manufacturer.
  If the device is modified, appropriate examinations and tests need to be conducted in order to ensure continued safe use.
  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 190 Kg. 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 3.a Ed. - 2007 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 only high quality chucks with gauged diameter attachment. 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 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).
- This equipment is not suitable for use in the presence of a mix of inflammable anaesthetic gas with oxygen or nitrous oxide.
- 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.
The outer parts of the equipment must be cleaned and disinfected using a product for hospital use with indications for HIV, HBV and tubercolocide (medium-level disinfectant) specifically for small surfaces.
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. We therefore recommend protecting with barriers whenever possible. The harsh actions of chemical products also depend on the amount of time they are left on the surfaces. It is therefore important not to leave the product on the surfaces longer than the time specified 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.**

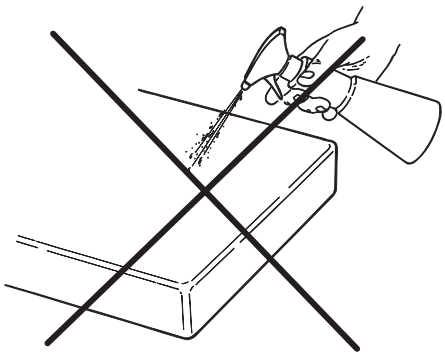
If you do not use STER 1 PLUS, it is recommended to use products that contain at maximum:
- **Ethanol. Concentration:** maximum 30 g per 100 g of disinfectant.
- **1-propanol (N-propanol, propyl alcohol, N-propyl alcohol).** Concentration: maximum 20 g per 100 g of disinfectant.
- **Combination of ethanole and propanole.** Concentration: the combination of the two should be maximum 40 g per 100 g of disinfectant.

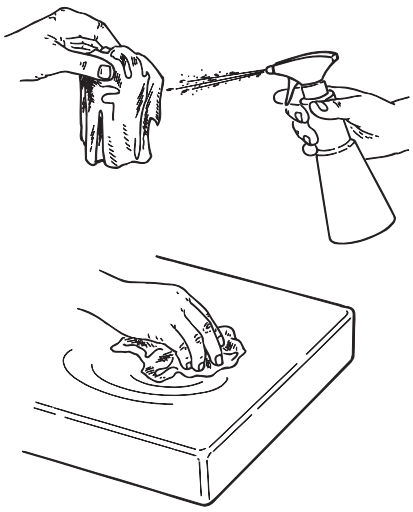
⚠ **WARNING!**
- **Do not use products containing isopropyl alcohol (2-propanol,iso-propanol).**
- **Do not use products that contain sodium hypochlorite (bleach).**
- **Do not use cleaners that contain phenol.**
- **Do not spray the selected products directly on the surfaces.**
- **All products must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

⚠ **WARNING!**
The products suggested are compatible with the materials of the equipment, however damages may occur to surfaces and materials resulting from the use of different products, even if not included in the above list of excluded 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.**

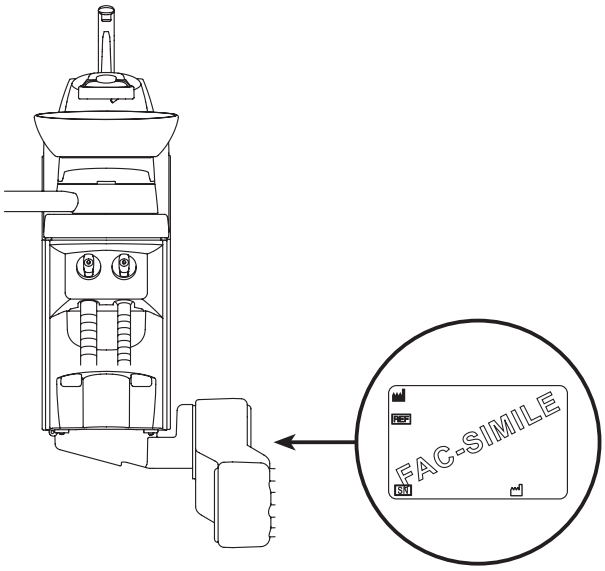




2. Description of the equipment

2.1. Nameplate

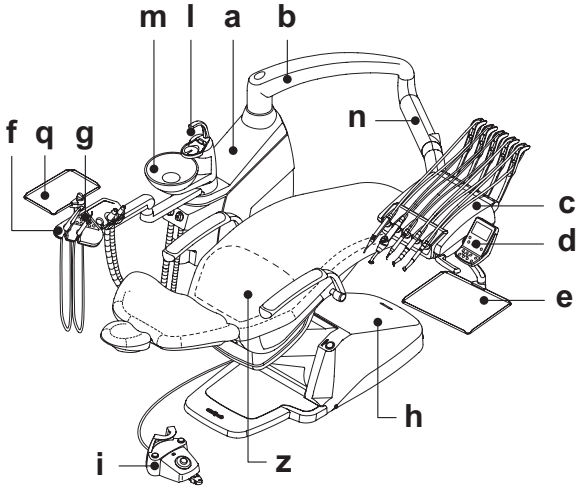
Dental units model:
A7 Plus CONTINENTAL,
A7 Plus INTERNATIONAL.
The ID plate is located on the link between patient chair and unit body.
The nameplate is found on the floor box.
Data given on plate:
• Manufacturer's name
• Name of equipment
• Voltage
• Type of current
• Frequency
• Maximum power absorbed
• Serial number
• Month and year of construction



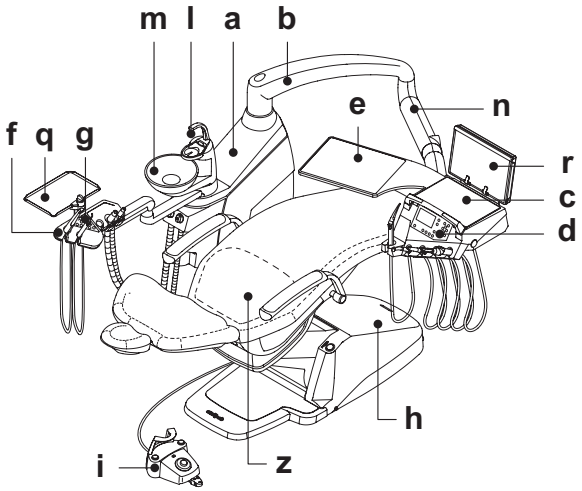
2.2. Dental units

Dental units A7 PLUS are available in the following versions:

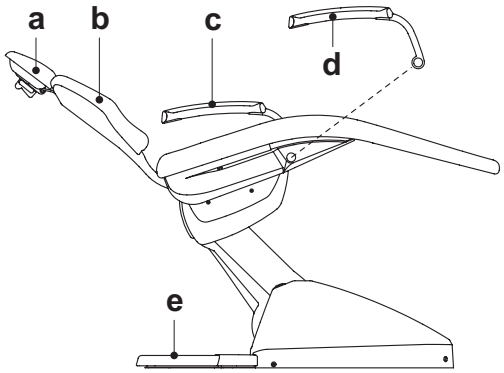
A7 PLUS CONTINENTAL version.
"CONTINENTAL" version instrument board (instruments will return to their original position through the pulling action of the spring-operated arms) attached to a double supporting arm, one of which is articulated while the other is autobalancing.
Description of equipment.
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
z ANTHOS A2.7 dental chair



A7 Plus INTERNATIONAL version.
Tavoletta medico versione INTERNATIONAL (gli strumenti sono inseriti verticalmente in apposite sedi) applicata su doppio braccio di cui uno articolato ed autobilanciato.
Descrizione delle varie parti:
"INTERNATIONAL" version instrument board (instruments placed vertically in housings) 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 (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 X-ray film viewer for panoramic x-rays (optional)
z ANTHOS A2.7 dental chair



2.3. Dental chair

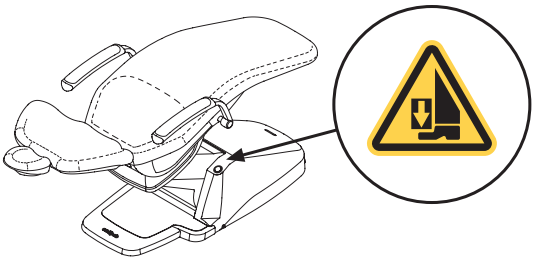


Description of the chair
a Headrest
b Back
c Fixed arm (optional)
d Movable arm (optional)
e Safety foot board

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.

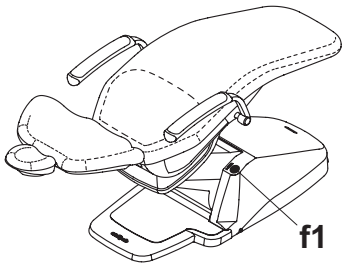
WARNING!
Do not exceed this value.

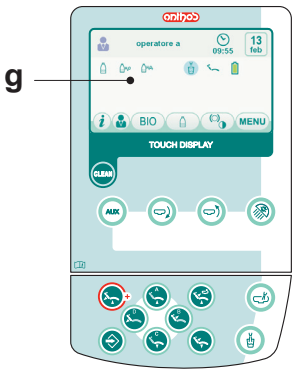


Warnings for use.

WARNING: FOOT CRUSHING HAZARD
Pay attention to the patient and the staff during dental chair descent.

3. Turning on the dental operatory





Dental units model:
A7 Plus CONTINENTAL,
A7 Plus INTERNATIONAL.
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

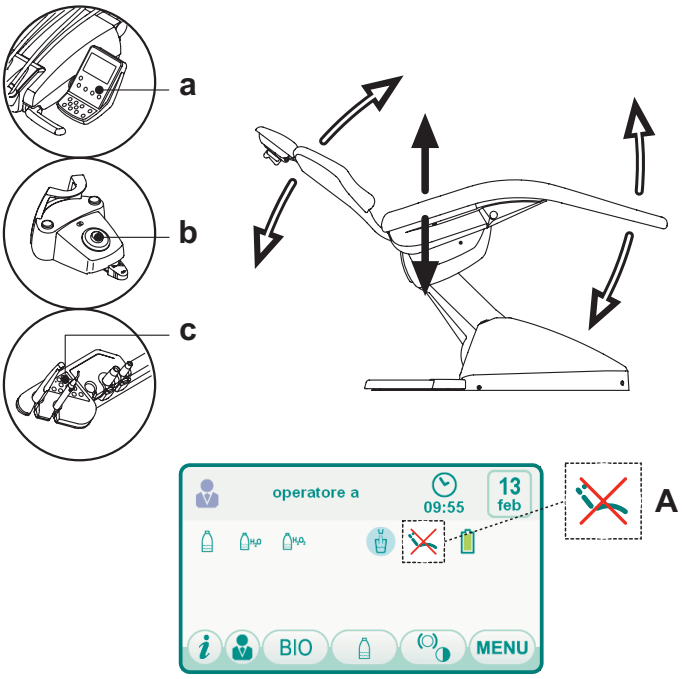
WARNING!
The main switch must be pressed by hand.

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)

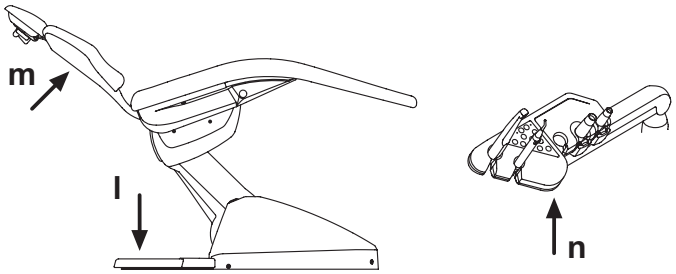
The dental chair can be operated from the following places:
- Instrument board (**a**) (see par. 5).
- Multifunction foot control (**b**) (see par. 5.2).
- Assistant's board (**c**) (see par. 6).

Dental chair movement shutdown
With the instruments in rest position, you can disable the dental chair movements (see paragraph 5.1.1.2.5.).
The movement disabling is shown on the control panel display by the relevant icon (**A**).



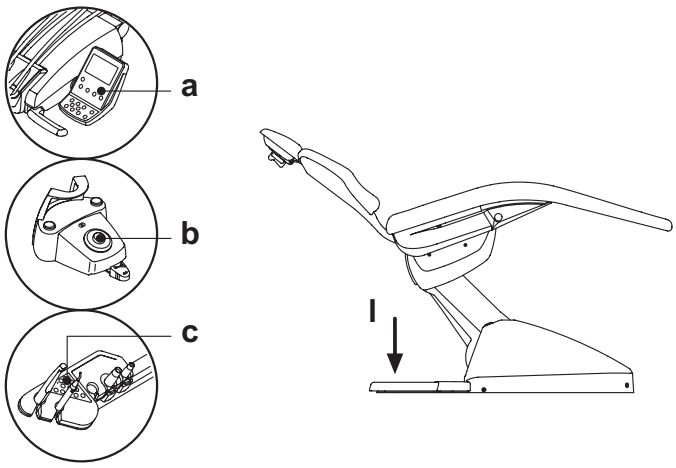
4.1. Safety devices

A7 Plus series dental units.
- The floor box is equipped with a device (l) 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 chair back is equipped with a safety device (**m**) that immediately stops the chair back from moving down if an obstacle is encountered and automatically moves it up to clear the obstacle.
- The support arms of the assistant's module feature a safety device (**n**) which stops downward chair movement if an obstacle is encountered. The chair will then automatically move upwards so the user can remove the obstruction.
- Dental chair movements:
  - with the instrument extracted NOT working: manual movements allowed, automatic movements inhibited, but if they are already in progress at the moment of extraction they are not interrupted;
  - with instrument extracted and working: all the dental chair movements are inhibited.



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 are blocked.
- **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.

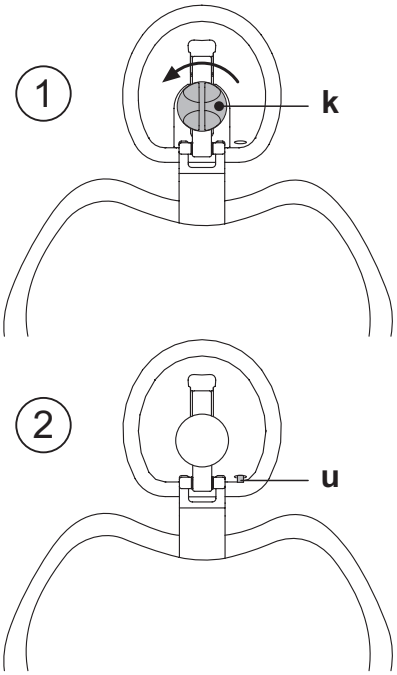


4.3. Adjustable headrest

The headrest may be of two types:

1 with manual cushion lock lever

2 with pneumatic cushion lock lever

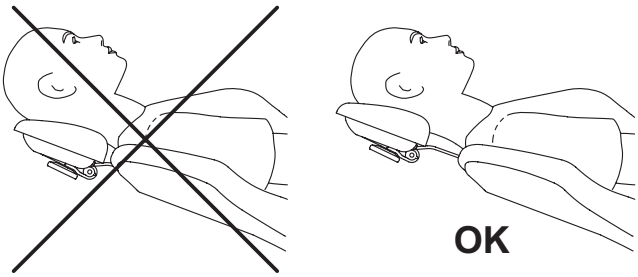


Adjusting headrest height.
- with manual locking (**1**):
  The head rest blade is positioned through a magnetic clutch. The operator should pull up and/or push down the headrest until it is in the desired position.
- **with pneumatic locking** (**2**):
  Press and hold down the locking button (**u**) 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.

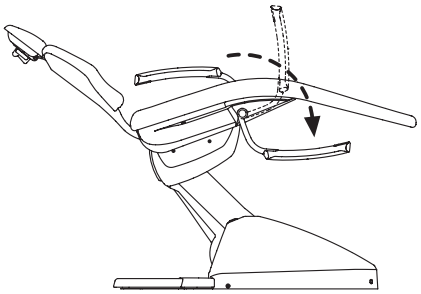
WARNING!
For correct use of the headrest, position the patient's head as shown in the figure.



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.

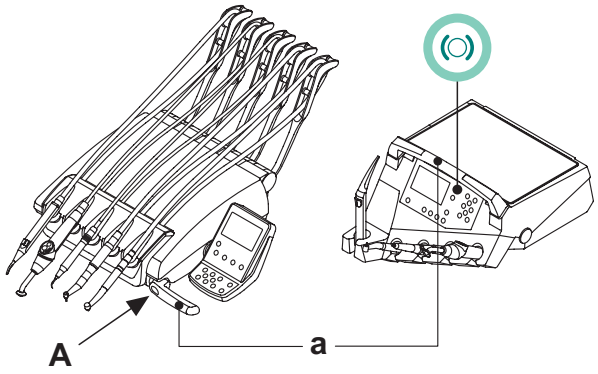
Starting the instruments.
- The syringe is always on (see paragraph 5.3.).
- The curing light is turned on with the key when the instrument is withdrawn (see paragraph 5.7.).
- Intraoral camera turn on when the instrument is extracted (see paragraph 5.8.).
- The ZEN-Xi integrated sensor is started by turning its support to the "ACTIVE" position (see paragraph 5.9 and ZEN-Xi instructions for use).
- 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.

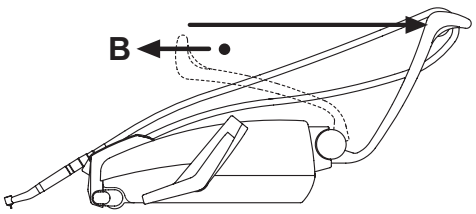
Putting the instrument board place.
The instrument board can be moved in all directions.
To adjust the height of the board and/or direct it horizontally, simply grasp the handle (**a**).

NOTE CONTINENTAL version: *Grasp the handle placing your thumb on point (A) to release the air lock for the pantograph arm.*

NOTE INTERNATIONAL version: *To adjust the height, first press the release button (see paragraph 5.1.).*



Instrument return arm stopping device (only for CONTINENTAL version instrument boards).
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 (**B**).

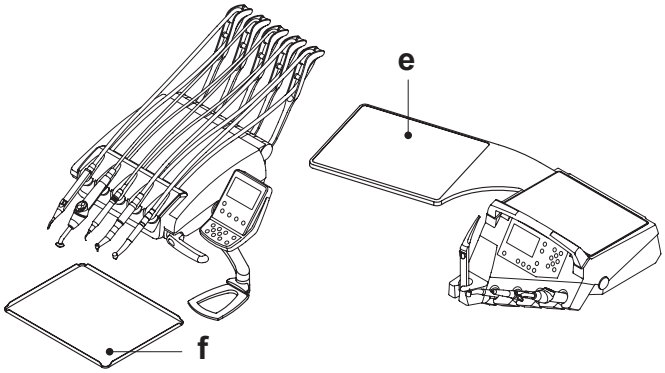


Tray holder module for CONTINENTAL version dentist's instrument board.
The tray holder module (**f**) is made of stainless steel and can easily be removed from its support.

WARNING!
Maximum permitted load on the tray holder module (f): 2 kg distributed.

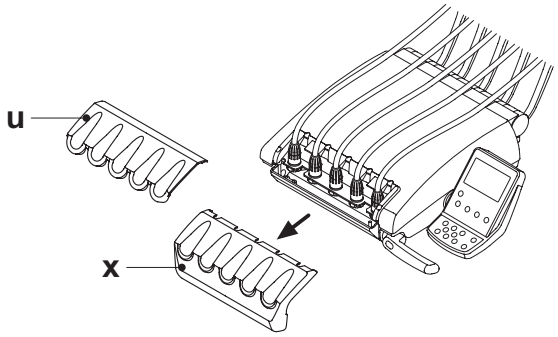
Tray holder module for INTERNATIONAL version dentist's instrument board.

WARNING!
Maximum permitted load on the tray holder module (e): 2 kg distributed.



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

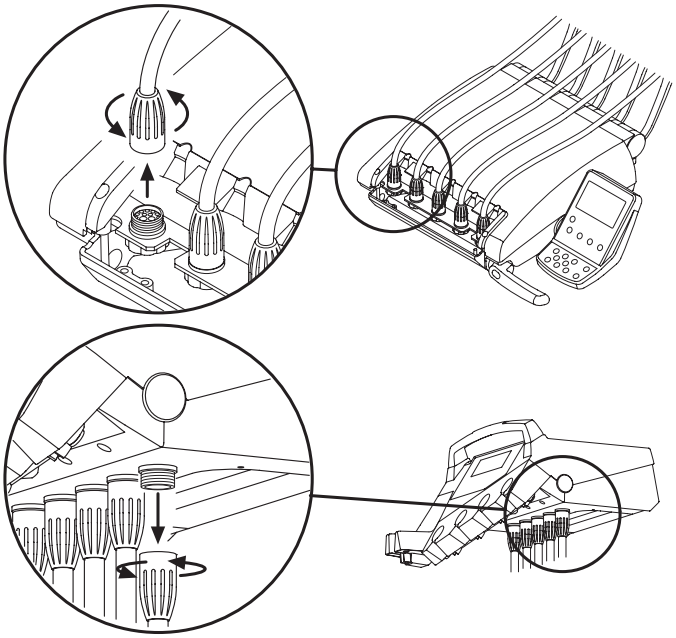
NOTE for CONTINENTAL version dentist's instrument boards: *the instrument holder (**x**) can be removed to facilitate the cleaning operations; to remove it, simply pull it out of its seat as it is only secured with magnets.The silicone instrument holder (**u**) can also be sterilized in an autoclave up to 135°C.*



Removable instrument cords
All the instruments have removable cords to ease cleaning.

NOTE for CONTINENTAL version dentist's instrument boards: *to remove the tubings you first need to remove the instrument holder and then unscrew the relative plastic fastening ring nuts.*

NOTE for INTERNATIONAL version dentist's instrument boards: *to remove the tubings, unscrew the relative plastic fastening ring nuts below the dentist's instrument board.*



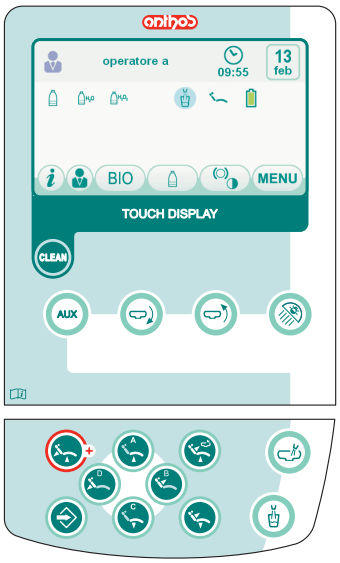
WARNING!
• Shut off the operatory unit before attempting to take off the cords.
• After shutting off the operatory unit, empty the syringe's ducts by pressing and holding down the relative air and water buttons directly on the bowl until water spray is no longer present.
• The cords of the TURBINE, MICROMOTOR 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 cord using a suitable product (see Paragraph 1.4).

WARNING!
The instrument cords are NOT suitable for autoclave or cold disinfection.

5.1. Doctor's control console

The A7 PLUS series dental units have a SMART TOUCH "hybrid" dentist's console consisting of a membrane pushbutton panel and a resistive touchscreen display. 4.3" Wide colour TFT display with LED backlighting, resolution 480x272 pixels and 262k colours.

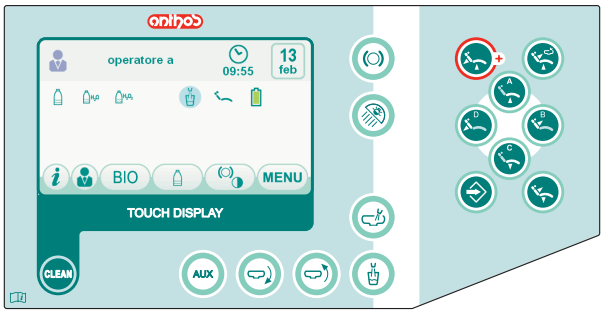


1 Pushbutton panel for the following models:
A7 Plus CONTINENTAL

2 Pushbutton panel for the following models:
A7 Plus INTERNATIONAL

Description of the buttons:

- Dentist's instrument board brake release button (INTERNATIONAL models)
- SMART TOUCH screen disable button
- Operatory light on/off button
- Water to cup button
- Auxiliary function button (available)
- Bowl counter-clockwise button (active only with powered bowl).
- Bowl clockwise button (active only with powered bowl)
- Water to bowl function button
- Dental chair functions save button
- Emergency position button.
- Automatic return button.
- Rinse position button.
- Chair seat up and set position "A" button.
- Chair back up and set position "B" button.
- Chair seat down and set position "C" button.
- Chair back down and set position "D" button.



2

NOTE: *Operation of dental chair buttons:*
• Button pressed shortly: set position automatically reached.
• Button held down: positioned reached by hand.

Warning icons.
Touching the icon button ⓘ on the touch display, you can at any time view the warning icons that show the operating status of the dental unit. The warning icons viewable are the following:

WHE — WHE system running.

Feeding with distilled water activated.

Feeding with mains water activated.

Peristaltic pump inserted with the delivered quantity of saline solution equal to 1.

H_2O — Distilled water level low.

H_2O_2 — Low disinfectant liquid in the tank tubing.

BIOSTER cycle in progress.

Suction tubes being washed.

CP — Suction stopped due to full canister.

Green: wireless foot control battery charged.

Orange: wireless foot control battery 50% charged.

Red: wireless foot control battery flat.

Green: wireless foot control connected and active.

Orange: wireless foot control connected but not active.

Red: searching for connection to the wireless foot control.

Pantograph arm brake engaged.

Blue: COLD water-to-glass.

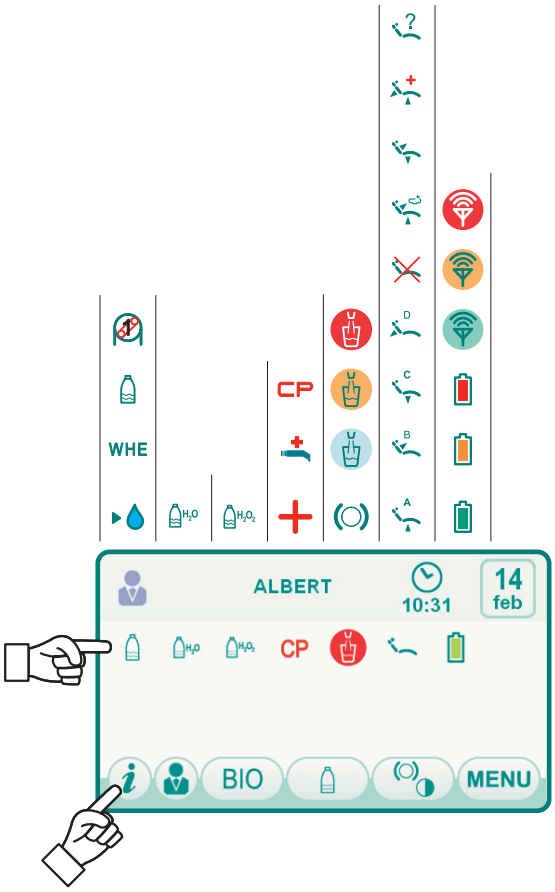
Orange: WARM water-to-glass.

Red: HOT water-to-glass.

A — Dental chair position automated programme A.

B — Dental chair position automated programme B.

C — Dental chair position automated programme C.



D — Dental chair position automated programme D.

Dental chair movements blocked.

Rinse automated programme chair position.

Home automated programme chair position.

Emergency automated programme chair position.

Dental chair save function on.

Chair position manually set up.

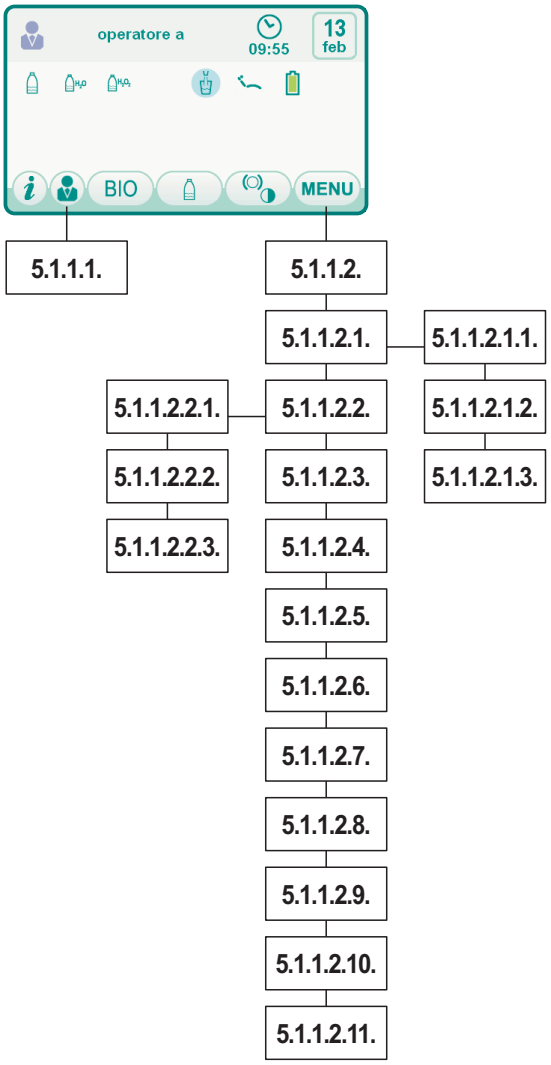
5.1.1. User interface

When turned on, the dental unit performs a brief autodiagnosis cycle that ends when the main screen containing the name of the operator last set is displayed. As of this moment a number of settings can be edited from user-friendly menus (see diagram).

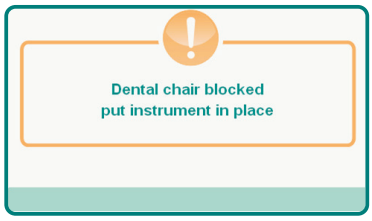
Menu scrolling control.
- To access the setting menu, touch the icon button MENU.
- To access the various submenus, touch the relative icon button.
- To change a setting in a menu, touch the relative icon button.
- To change a numerical value in a menu, touch the icon buttons ⊖ or ⊕.
- To exit from a menu, touch the icon button ESC.

Layout of the user interface menu.
The user interface menu is structured as shown in the diagram and includes the following menus:

5.1.1.1.	Operator selection.
5.1.1.2.	GENERAL SETTINGS.
5.1.1.2.1.	HYGIENE SYSTEM SETTING.
5.1.1.2.1.1.	BIOSTER disinfection cycle setting.
5.1.1.2.1.2.	FLUSHING cycle setting.
5.1.1.2.1.3.	WHE system tank emptying
5.1.1.2.2.	HYDRO UNIT SETTINGS.
5.1.1.2.2.1.	Bowl water delivery setting.
5.1.1.2.2.2.	Cup water delivery setting.
5.1.1.2.2.3.	Bowl movement control.
5.1.1.2.3.	FOOT CONTROL ADJUSTMENT.
5.1.1.2.4.	OPERATING LAMP ADJUSTMENT.
5.1.1.2.5.	OTHER SETTINGS.
5.1.1.2.6.	TIME AND DATE SETTING.
5.1.1.2.7.	CHRONOMETER.
5.1.1.2.8.	FAVOURITE BUTTONS CUSTOMISATION.
5.1.1.2.9.	OPERATOR DATA ENTRY.
5.1.1.2.10.	LANGUAGE SELECTION.
5.1.1.2.11.	APEX LOCATOR setting.



Error messages.
During the initial self-diagnostic cycle, the dental unit may detect some malfunctions in the internal system.
In this case, an error message is shown on the display (see paragraph 10) which remains visible until the operator touches the TOUCH DISPLAY.
If the malfunction is not hazardous, the dental unit will continue to operate.



Stand-by mode.
The dental unit goes into power saving mode (stand-by) after approximately 10 minutes of non-use; this mode is shown by the ANTHOS logo on the control panel display.
Normal operating conditions are restored as soon as any operation is performed.

5.1.1.1. Operator selection

The SMART TOUCH console of the A7 PLUS series dental units allows managing 3 different operators.
The following data can be set for each operator:
- Operator's name.
- Turbine and scaler power adjustment.
- 3 electric micromotor operating modes
- 4 scaler operating modes .
- Turning on and adjustment of the fibre optics of each instrument.
- Incremental or ON/OFF control of the turbine and the scaler power .
- Automatic dental chair movement programs.
- Hydro unit configuration parameters

Operator selection.
From the main page, repeatedly touch the icon button until finding the desired operator.

***NOTE:** the operator is changed cyclically.*

5.1.1.2. General settings

From the main page, carry out the following operations:
- Touch the icon button MENU to access the GENERAL SETTINGS menu containing the following icon buttons:

HYGIENE SYSTEM SETTINGS
(only if at least a hygiene system is present)

HYDRO UNIT SETTINGS

FOOT CONTROL ADJUSTMENT

OPERATING LAMP ADJUSTMENT

OTHER SETTINGS

TIME AND DATE SETTING

CHRONOMETER

PERSONALIZATION OF FAVOURITE KEYS

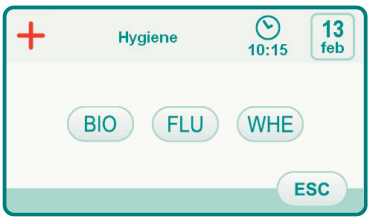
OPERATOR DATA ENTRY

LANGUAGE SELECTION

APEX LOCATOR SETTINGS
(if APEX LOCATOR is installed, only)

ACCESS SERVICE MENU
(for Technical Service,only)

5.1.1.2.1. Hygiene system settings



NOTE: *menu available only if at least a hygiene system is present.*

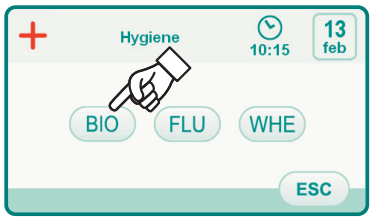
From the GENERAL SETTINGS menu touch the icon button + to access the HYGIENE SYSTEM SETTINGS submenu containing the following icon buttons:

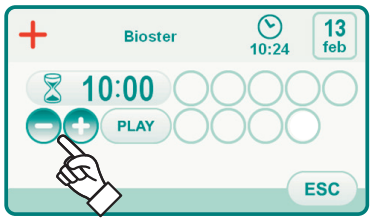
BIO — BIOSTER disinfection cycle setting (only if the BIOSTER system is present)

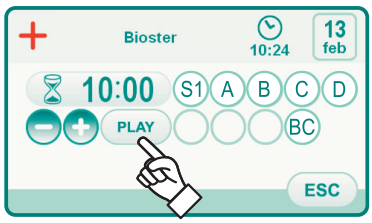
FLU — Flushing CYCLE SETTING (only if the FLUSHING system is present)

WHE — WHE system tank emptying (only if the WHE system is present)

5.1.1.2.1.1. BIOSTER disinfection cycle setting







This setting is shared by all users.
From the HYGIENE SYSTEM SETTINGS menu carry out the following operations:

- Touch the icon button BIO to access the BIOSTER DISINFECTION CYCLE SETTING submenu.

NOTE: *this submenu can be entered also by pushing at least for 2 seconds the BIO key on the assistant's module.*

NOTE: *This submenu cannot be entered if the disinfectant liquid tank is low (see paragraph 7.4.), an instrument is removed or the W.H.E. system is in an error state. An acoustic signal (BEEP) will signal the impossibility to enter the submenu.*

- Set the disinfectant dwell time by touching the icon buttons − or +.

NOTE*: time setting ranges from a min. of 5 minutes to a max. of 10 minutes with intervals of 30 seconds.*

WARNING!
Recommended permanence time with PEROXY Ag+: 10 minutes.
Recommended time 3% hydrogen peroxide (10 volumes) should be left in: 10 minutes.

- Withdraw the instruments to be treated (the corresponding icon will appear on the display):
  S1: syringe on instrument board.
  A: instrument in position A
  B: instrument in position B
  C: instrument in position C
  D: instrument in position D
  S2: syringe on assistant's board.
  F: instrument on assistant's board.
  CA: suction tubes.
  BC: water to cup duct.

NOTE*: pressing the CUP WATER DELIVERY button, you can select/deselect disinfection of the cup water duct.*

NOTE: *if the flushing system of suction cannulas is present, it is possible to select their flushing by simply putting them into the specially provided connect couplers (see paragraph 7.5.).*

- To start the disinfection cycle, touch the icon button PLAY (see Paragraph 7.4).

NOTE: *the disinfection cycle can be started also by briefly pushing the **BIO** key on the assistant's module.*

5.1.1.2.1.2. Flushing CYCLE SETTING

This setting is shared by all users.
From the HYGIENE SYSTEM SETTINGS menu carry out the following operations:

- Touch the icon button FLU to access the FLUSHING CYCLE SETTING submenu .

NOTE: *this submenu cannot be entered if the distilled water tank is low (see paragraph 7.2.). A message on the control panel display and an acoustic signal (BEEP) will signal the impossibility to enter the submenu.*

- Set the flushing time by touching the icon buttons ⊖ or ⊕.

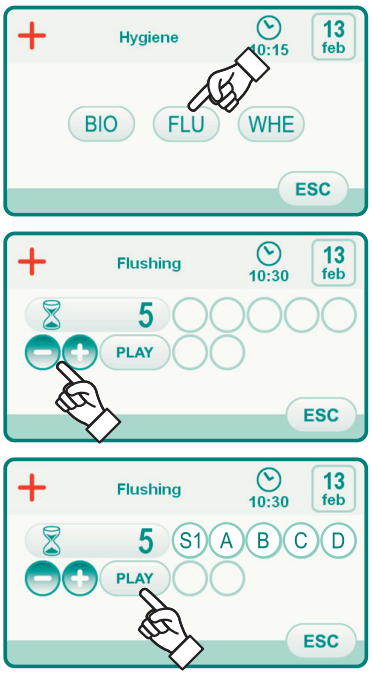
NOTE*: the time may range from at least 1 minute to at most 5 minutes, with 1 minute intervals.*

NOTE: *for the distilled water tank, it is advisable not to set a time longer than 2 minutes.*

- Withdraw the instruments to be treated (the corresponding icon will appear on the display):
  S1: syringe on instrument board.
  A: instrument in position A
  B: instrument in position B
  C: instrument in position C
  D: instrument in position D
  S2: syringe on assistant's board.
  F: instrument on assistant's board.

NOTE: *the Flushing CYCLE does not start if at least one instrument is not selected.*

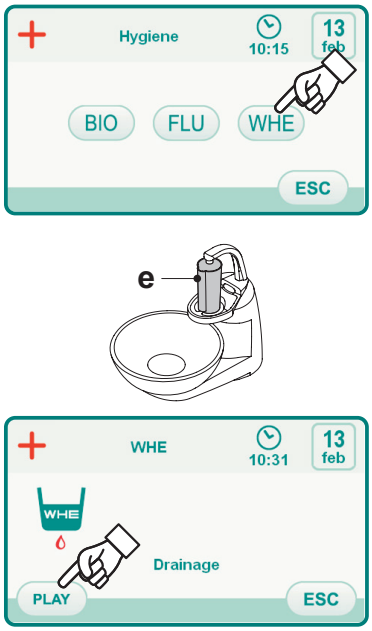
- To start the FLUSHING cycle, touch the icon button PLAY (see paragraph 7.6.).



5.1.1.2.1.3. W.H.E. system tank emptying

This function is used to empty the W.H.E. system's water circuit (see paragraph 7.3.) if the dental unit is not going to be used for several days or if you want to drain the water present in the system.
Perform the following steps from the DISINFECTING SYSTEM SETTINGS menu:

- Touch the icon button WHE to access the W.H.E. SYSTEM TANK EMPTYING submenu.
- Place the cup (**e**) provided under the water fountain.
- Touch the icon button PLAY to start the emptying cycle.
  NOTE: the emptying cycle does not start if the S.H.S. system is active or the W.H.E. system is in an error state.
- Once the drainage cycle is complete, you can turn off the dental unit to reset the system should you wish to resume work.



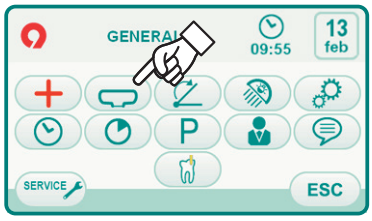
5.1.1.2.2. Hydro unit settings

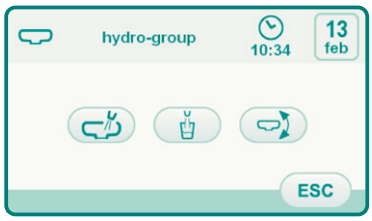
From the GENERAL SETTINGS menu touch the icon button to access the HYDRO UNIT SETTINGS submenu containing the following icon buttons:


Water to bowl settings


Water to cup settings


Automatic bowl movement setting
(only with motor-driven bowl)





5.1.1.2.2.1. Bowl water delivery setting

From the HYDRO UNIT SETTINGS menu touch the icon button to access the BOWL WATER SETTING submenu containing the following icon buttons:


Bowl flushing controller
with dental chair brought to rinse position

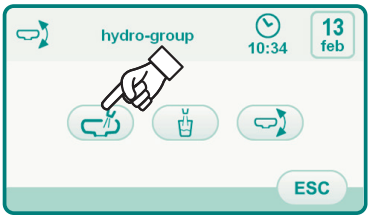

Bowl flushing controller
with dental chair brought to reset position

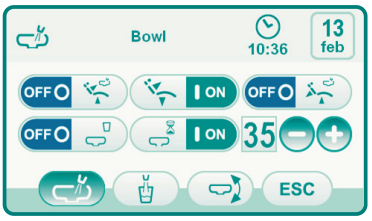

Cuspidor bowl flushing automatism
with return from the rinse position for the chair


A Bowl flushing controller with cup call


Setting of timed or ON/OFF bowl flushing

35 Bowl flushing time (in seconds)





- To select/deselect a function, touch the relative icon button.
- To change the bowl flushing time, touch the icon buttons or .
- To confirm the selected settings, it is sufficient to exit this submenu by touching the icon button ESC.

5.1.1.2.2. Cup water delivery setting

From the HYDRO UNIT SETTINGS menu touch the icon button to access the CUP WATER SETTING submenu containing the following icon buttons:

- COLD cup water selection
- WARM cup water selection
- HOT cup water selection
- 5 — Cup water delivery time (in seconds)
- Cup water delivery automatic function with rinse position recall.
- Cup detection sensor activation/deactivation
- Distilled water tank depressurization automatic function with chair home position recall

- To select/deselect a function, touch the relative icon button.
- To change the cup water delivery time, touch the icon buttons ⊖ or ⊕.

NOTE: *the cup time of filling can be set up from a minimum of 1 second to a maximum of 10 seconds with increments of 0.1 seconds.*

- To confirm the selected settings, exit this submenu by touching the icon button ESC.

5.1.1.2.3. Automatic bowl movement setting

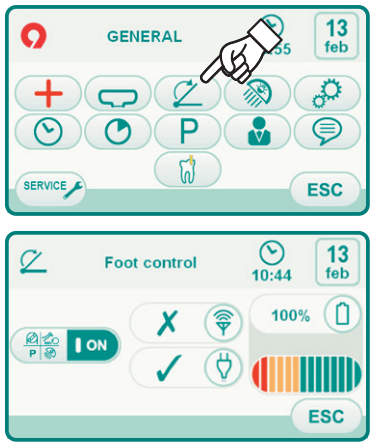
From the HYDRO UNIT SETTINGS menu touch the icon button to access the AUTOMATIC BOWL MOVEMENT SETTING submenu containing the following icon buttons:

- Bowl rotation automatic function with chair rinse position recall
- Bowl rotation automatic function with chair home position recall
- P — Bowl rotation automatic function with automatic dental chair program recall

- To select/deselect a function, touch the relative icon button.
- To confirm the selected settings, it is sufficient to exit this submenu by touching the icon button ESC.

5.1.1.2.3. Foot control adjustment

From the GENERAL SETTINGS menu touch the icon button to access the FOOT CONTROL ADJUSTMENT submenu containing the following icons:



Cable connection icon
(only with wireless foot control)

Wireless connection status icon
(only with wireless foot control)

Battery percentage charge icon
(only with wireless foot control)

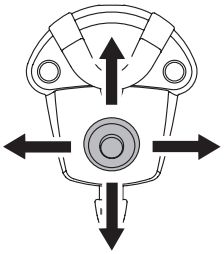
Foot control joystick with extracted instrument operation setting

NOTE: *the first 3 icons are just for signalling, while the fourth one allows to select/deselect the operation mode of the foot control upper joystick. This setting is shared by all users.*

- To select/deselect foot control joystick operating mode, simply press the relevant icon button :

OFF Joystick enables dental chair manual movements (default)

ON Joystick controls the following functions.

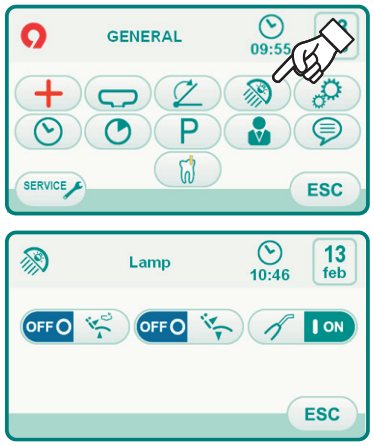


- ON/OFF control for micromotor rotation direction inversion, scaler ENDO function activation , camera MIRROR function activation.
- ON/OFF control for peristaltic pump activation.
- ON/OFF control for operating lamp.
- Instrument memory change.

- To confirm the selected settings, exit this submenu by touching the icon button ESC.

5.1.1.2.4. Operating lamp adjustment

From the GENERAL SETTINGS menu touch the icon button to access the OPERATING LAMP SETTING submenu containing the following icon buttons:



Light off automatism
with chair rinse position recall

Light off automatism
with chair home position recall

Lamp brightness reduction automatism
with curing lamp instrument removal
(only with VENUS PLUS –L LED lamp)

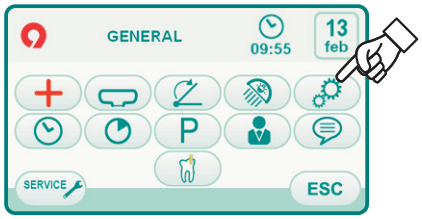
NOTE: *with the off-control automatism activated, it is sufficient to recall any chair movement to turn on again the operating light.*

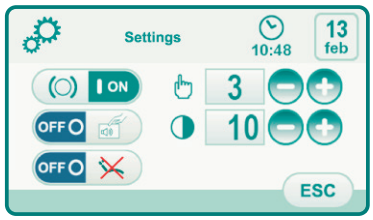
NOTE: *with the brightness reduction automatism activated, it is sufficient to replace the curing lamp instrument to reactivate the set brightness.*

- To select/deselect an automatic function, touch the relative icon button.
- To confirm the selected settings, it is sufficient to exit this submenu by touching the icon button ESC.

5.1.1.2.5. Other Settings

These settings are alike for all operators.
From MAIN SETTINGS menu, touch icon button to access the OTHER SETTINGS sub-menu including the following icon buttons:





- Pantograph arm brake release activation/deactivation
- Touch display acoustic signal activation/deactivation
- Dental chair movement activation/deactivation
- Brake sensitivity adjustment
- Display brightness adjustment

- To activate/deactivate pantograph arm brake release, touch the relative icon button.

NOTE: *when the brake cannot be released, it is indicated by a dedicated icon on the TOUCH DISPLAY (see paragraph 5.1.).*

WARNING!
For greater working safety, this operation is obligatory if you need to use an external electric scalpel.

- To activate or deactivate an acoustic signal each time the TOUCH DISPLAY is touched.
- To enable/disable the dental chair movements, touch the relative icon button.

NOTE: *when the chair is locked, it is indicated by a dedicated icon on the TOUCH DISPLAY (see paragraph 5.1.).*

WARNING!
For greater working safety, this operation is obligatory if you need to use an external electric scalpel.

- To adjust the brake activation sensitivity, touch the relative icon buttons or .

NOTE: the settable value ranges from 1 to 5.

- To adjust the display brightness, touch the relative icon buttons or .

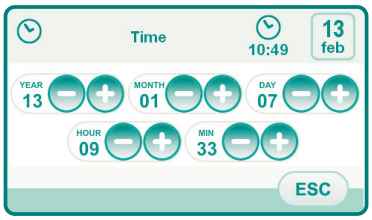
NOTE: the settable value ranges from 1 to 10.

- To confirm the selected settings, exit this submenu by touching the icon button ESC.

5.1.1.2.6. Time and date setting

This setting is shared by all users.
From the GENERAL SETTINGS menu touch the icon button to access the TIME AND DATE SETTING submenu.

- To change the data displayed, touch the relative icon buttons or .
- To confirm the selected settings, exit this submenu by touching the icon button ESC.



5.1.1.2.7. Chronometer

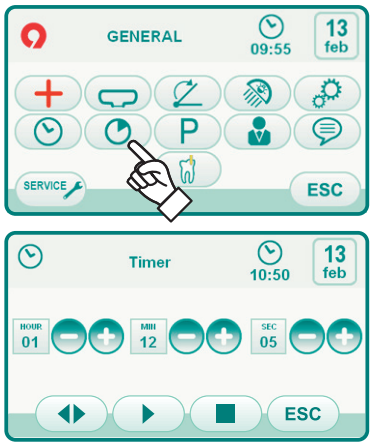
This setting is shared by all users.
From the GENERAL SETTINGS menu touch the icon button to access the CHRONOMETER SUBMENU.
- To change the various data displayed , touch the relative icon buttons or .

NOTE: *the time can bet set from 00:00:00 to 10:59:59.*
- Once you have set the time, touch the icon button to start the countdown.

NOTE: *at this point, you can exit this menu by touching the icon button ESC without interrupting the countdown.*
- To interrupt the countdown, touch the icon button .

NOTE: *at this point, touching the icon button* ***you can reset the chronometer to the last time set.***
- When the set time runs out, the dental unit emits an intermittent signal and the CHRONOMETER menu is once again shown on the TOUCH DISPLAY. To interrupt the intermittent signal, touch the icon button ESC or any button on the console.

NOTE: *the last time set remains stored.*

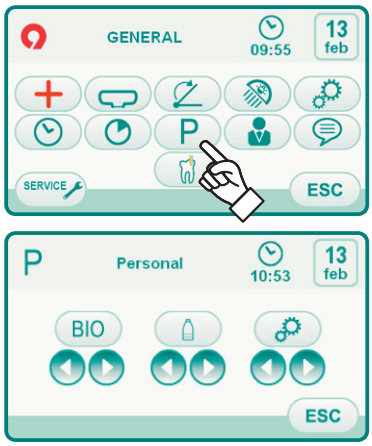


5.1.1.2.8. Personalization of favourite keys

This submenu allows you to select the function to attribute to the 3 lower icons visible in the main page.
This setting is shared by all users.
From the GENERAL SETTINGS menu touch the icon button P to access the FAVOURITE BUTTONS CUSTOMISATION submenu where you can view the 3 positions modifiable with the icons of the functions currently set.
- To change the function for a specific position, touch the relative icon buttons or .
- The settable functions are the following:

BIO	BIOSTER DISINFECTION CYCLE SETTING (position P1 only)
FLU	FLUSHING CYCLE SETTING (position P1 only)
WHE	WHE SYSTEM TANK EMPTYING (position P1 only)
	Hydro unit settings
	Foot control adjustment
	Operating lamp adjustment
	Other settings
	Time and date setting
	Chronometer
	Language selection
	Independent water supply selection/deselection

- To confirm the selected settings, exit this submenu by touching the icon button ESC.



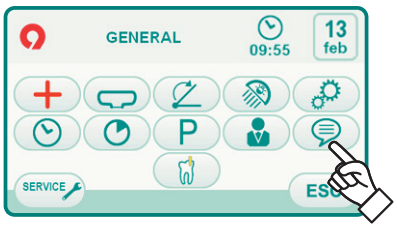
5.1.1.2.9. Operator data entry

From the GENERAL SETTINGS menu touch the icon button to access the OPERATOR DATA ENTRY submenu.

NOTE: *the data modified always refers to the operator set on the main page.*

- To enter the desired text, touch the icon buttons of the various letters (max. 20 characters).
- To enter capital letters, touch the icon button .
- To enter numbers or special characters, touch the icon button 123?.
- To cancel any typing mistakes, touch the icon button canc cancelling from left to right.
- Once you have entered the text, touch the icon button ESC to exit from the submenu and automatically save the data.

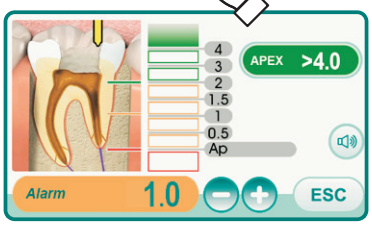
5.1.1.2.10. LANGUAGE selection



This setting is shared by all users.
From the GENERAL SETTINGS menu touch the icon button to access the LANGUAGE SELECTION SUBMENU.

- To change the language, touch the icon button of the relative flag.
- To confirm the setting selected, exit this submenu by touching the icon button ESC.

5.1.1.2.11. APEX LOCATOR setting



The alarm threshold of the electronic APEX LOCATOR (see paragraph 5.11.) can be set using this sub-menu.

From the MAIN SETTINGS menu, touch icon button to access the APEX LOCATOR SETTING sub-menu.

- Set alarm threshold using icon buttons or .
  An orange dash on left-hand bargraph will display the selected value.

NOTE: *value setting range: 0 to +2.*

- Touch the relevant icon button to enable/disable the alarm signal once set threshold is reached:

  Alarm active

  Alarm not active

- To confirm the selected value, simply quit this sub-menu by touching icon button ESC.

5.1.2. Dental chair "Rinsing position" and "Reset position" programming

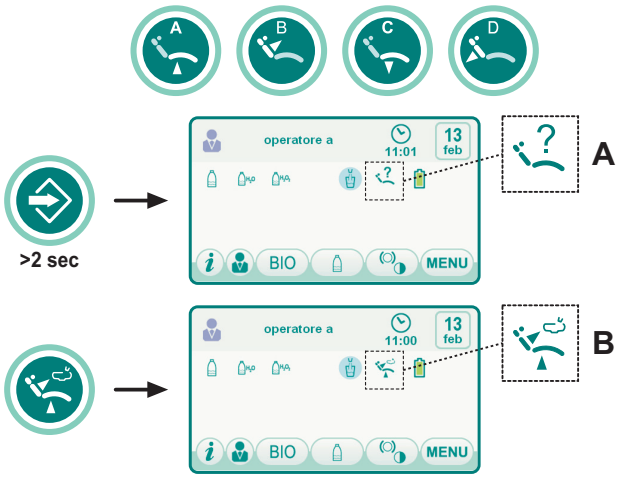
This setting is specific for each single operator.
From main screen, carry out the following operations:
• Adjust the dental chair into the desired position with the manual movement buttons.

NOTE: when motorised, it is possible to also store the bowl position.
• Hold button “SAVE” for at least 2 seconds to activate save mode.
Save mode activation is signalled by a short acoustic signal (BEEP) and by the corresponding icon (A) on the TOUCH DISPLAY.

NOTE: hold down button "SAVE" for at least 2 seconds to quit without saving the changes made.
• Press the AUTOMATIC RETURN or RINSE POSITION buttons to associate the position with the button.
The appearance of icon (B) relating to the selected programme on the TOUCH DISPLAY will confirm that it has been saved.

NOTE: in RINSE POSITION the seat height cannot be changed.

NOTE: the RINSING POSITION button moves backrest and seat to rinsing position.
When RINSING POSITION button is pressed again, backrest and seat will go back to the previous position.



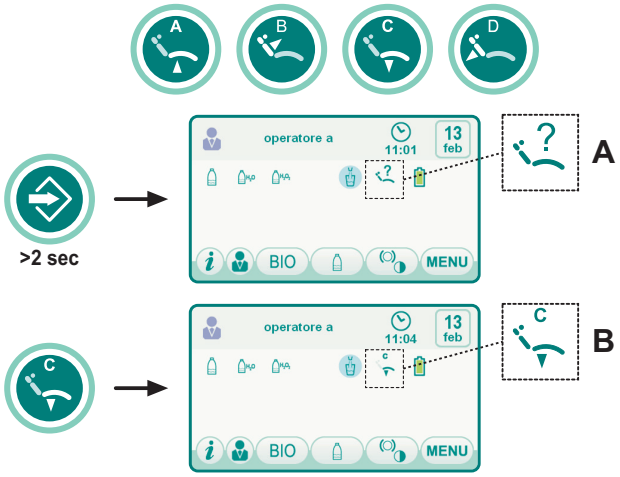
5.1.3. Programming the chair positions A, B, C and D

This setting is specific for each operator.
Perform the following operations from the main screen:
• Bring the dental chair into the desired position with the manual movements buttons.
• Activate storage mode by pressing the MEMORY button for at least 2 seconds.

NOTE: *Storage mode activation is signalled by a short beep and by the dedicated icon (**A**) on the TOUCH DISPLAY.*
• Push the A, B, C or D keys to associate the relevant position to the key (e.g. C).

NOTE: *The icon (**B**) referring to the program selected (e.g. C) will appear on the TOUCH DISPLAY to confirm that it has been stored.*

NOTE*: To call up a set position simply briefly press the button assigned to the relative position.*



5.1.4. Emergency stop button

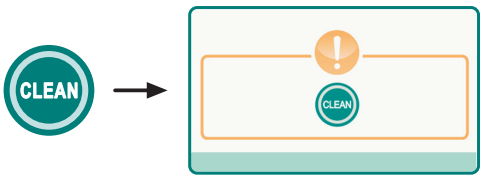
This button can be used in the event of an emergency to bring the patient into the Trendelemburg position.

NOTE*: The Trendelemburg position is already set and cannot be changed.*

5.1.5. SMART TOUCH screen disable button.

This button allows enabling/disabling the TOUCH DISPLAY screen so that you can easily clean the console.

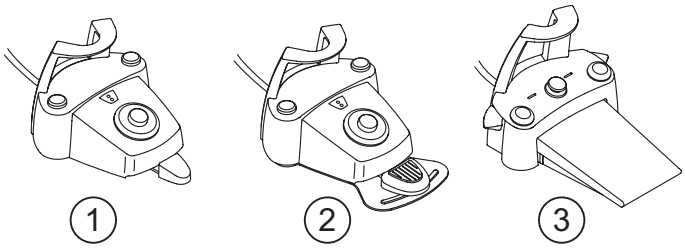
NOTE: The disabled status is indicated by a clear message on the TOUCH DISPLAY.



5.2. Foot control

3 types of foot controls are available:

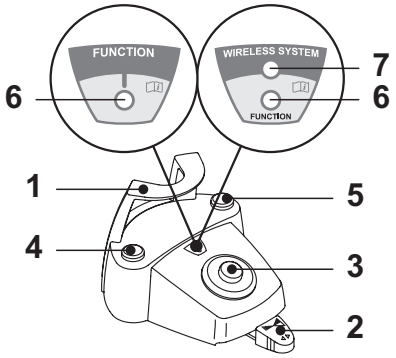
1. **"Multifunction" foot control**
2. **"Push-pedal" foot control**
3. **"Power Pedal" foot control.**



NOTE: *the "multifunction" and "pressure" foot controls can also be supplied in wireless version.*

5.2.1. "Multifunction" 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).

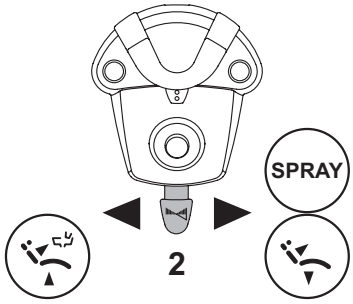


Joystick for dental chair movement (3).
With instrument removed
• Starts the instrument.
• Adjusts the rpm of rotary instruments.
• To right: operation with spray (if foreseen for selected instrument).

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.

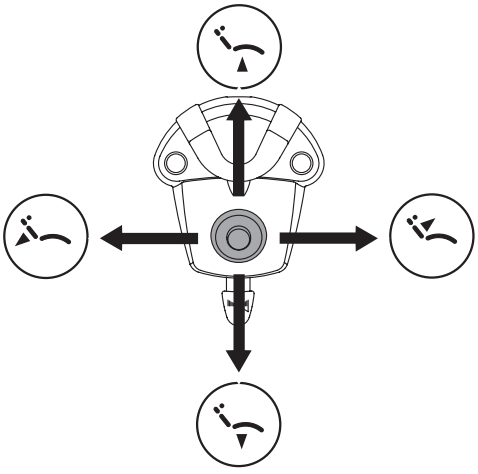
Controller joystick for dental chair movement (3)
These buttons move the dental chair as follows:

Dental chair seat up.

Dental chair backrest up.

Dental chair seat down.

Dental chair backrest down.



To stop the chair movement, release the joystick.

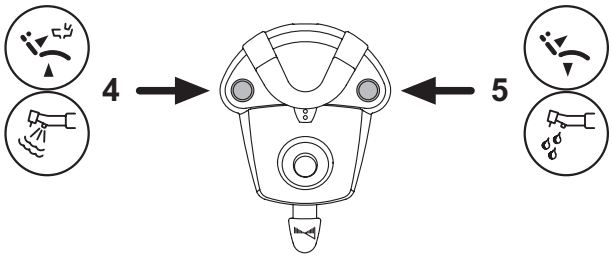
NOTE*: all the buttons used to move the dental chair are inoperative when an instrument is removed and the foot control pedal is actuated.*

NOTE*: the joystick operating mode can be changed with the instrument removed (see Paragraph 5.1.1.2.3.).*

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.



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

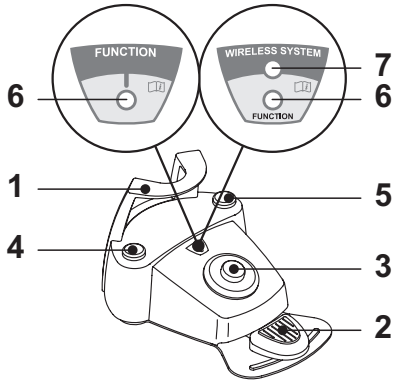
Protection against liquid penetration.
The foot control is protected against liquid penetration. Degree of protection: IPX1.

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.*

5.2.2. "Push-pedal" foot control

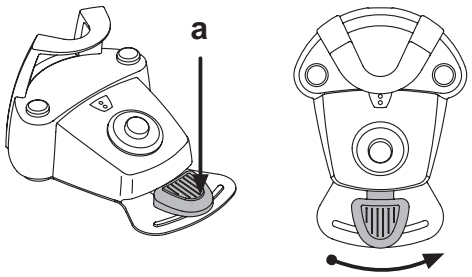
Description of the parts
1 Handle
2 Control pedal
3 Dental chair movements
4 Chip-air/patient rinsing position control.
5 Water Clean System/Automatic dental chair return control.
6 Spray operation LED
7 Battery charge LED (wireless version only).



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 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.*



WARNING!
Instrument spray is activated and 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:

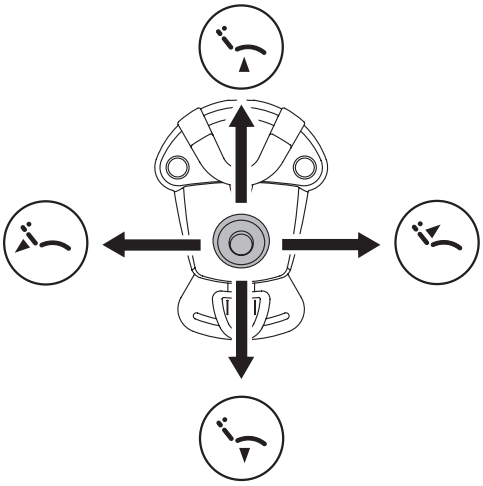
Dental chair seat up.

Dental chair backrest up.

Dental chair seat down.

Dental chair backrest down.

To stop the chair movement, release the joystick.

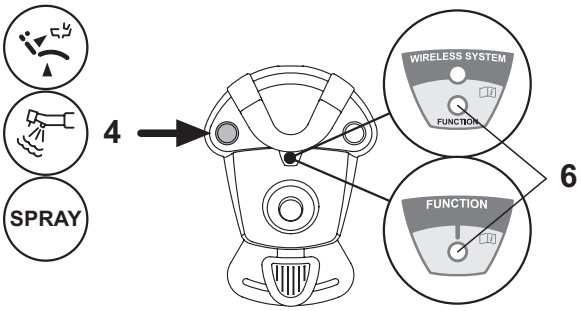


NOTE: *All the buttons used to move the dental chair are inoperative when an instrument is removed and the foot control pedal is actuated.*

NOTE*: the joystick operating mode can be changed with the instrument removed (see Paragraph 5.1.1.2.3.).*

Left-hand button operation (4).
Operation:

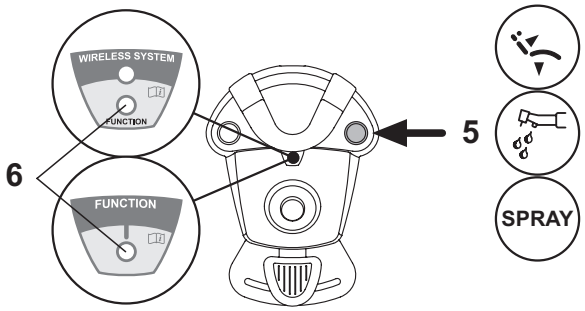
- Holding down the button for at least 2 seconds with the instruments in rest position:
  Activation of the “Patient rinsing position” program.
  NOTE: *Pressing the button a second time returns the dental chair into working position.*
- Holding down the button for at least 2 seconds with instrument 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:
  Activation or deactivation of instrument spray.



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 delivery is activated by pressing the button (**4**); when the button is released, the jet of water is interrupted and a blast of air is automatically activated to remove any residual drops of liquid in the spray 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 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.

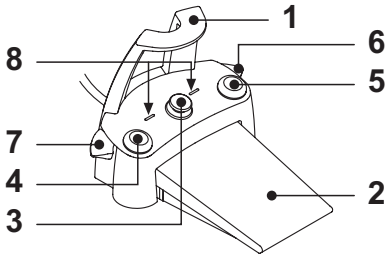
Cleaning.
Clean the foot control using a suitable product (see Paragraph 1.4).

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 Automatic dental chair return or programme "B" recall activation.
7 Patient rinse position or programme "A" recall activation.
8 Spray operation LED.



Foot control operation (2).

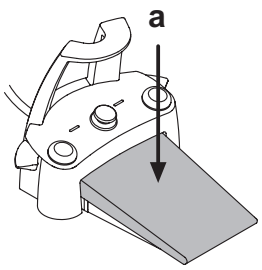
• *With instrument removed*
- Pushing the pedal (**a**), the instrument is started.
  The instrument's rpm (or power) can be adjusted by varying the pressure exerted on the foot control.

***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.



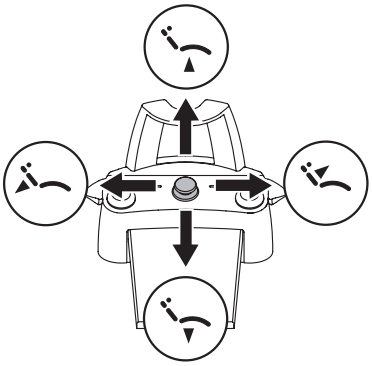
Joystick for dental chair movement (3).
These buttons move the dental chair as follows:

Dental chair seat up.

Dental chair backrest up.

Dental chair seat down.

Dental chair backrest down.



To stop movement, release the button.

***NOTE**: all dental chair movements are blocked when an instrument is being used or the BIOSTER system is running.*

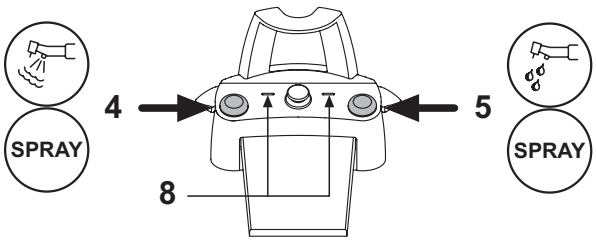
***NOTE**: the joystick operating mode can be changed with the instrument removed (see Paragraph 5.1.1.2.3.).*

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 delivery is activated by pressing the button (**5**); when the button is released, the jet of water is interrupted and a blast of air is automatically activated to remove any residual drops of liquid in the spray ducts.

• Briefly pressing the button with the instrument extracted:
Activation or deactivation of instrument spray.

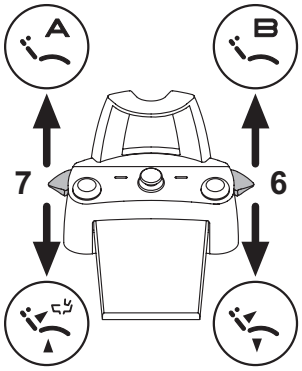
WARNING!
A short acoustic signal warns of the switch.
When the LEDs (8) are on, they indicate operation with spray.

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. Wireless foot control

The "multifunction" and "pressure" foot control can also be supplied in 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.**

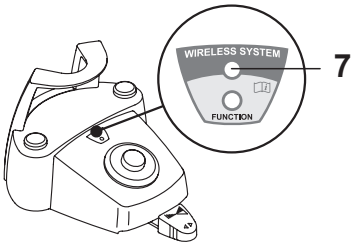
Warnings for first use.
It is advisable to fully charge the foot control battery before using it for the first time.

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.

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:

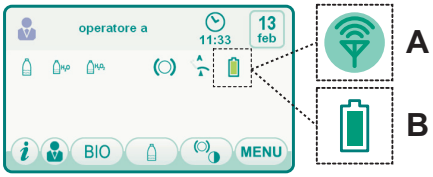
COLOUR	DESCRIPTION (CABLE DISCONNECTED)	DESCRIPTION (CABLE CONNECTED)
GREEN	Battery charge (>75%)	Battery charged
ORANGE	Battery charge (<50%)	Battery charging
RED	Battery needs charging (<25%)	Battery charge error
Off	Battery flat	**Dental unit off or foot control fault**



Communication status:

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

☞ ***NOTE:*** *this information can be shown also on the TOUCH DISPLAY through the specially provided icons (A) or (B) (see paragraph 5.1.) or in the specially provided control menu of the foot control (see paragraph 5.1.1.2.3.).*



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).

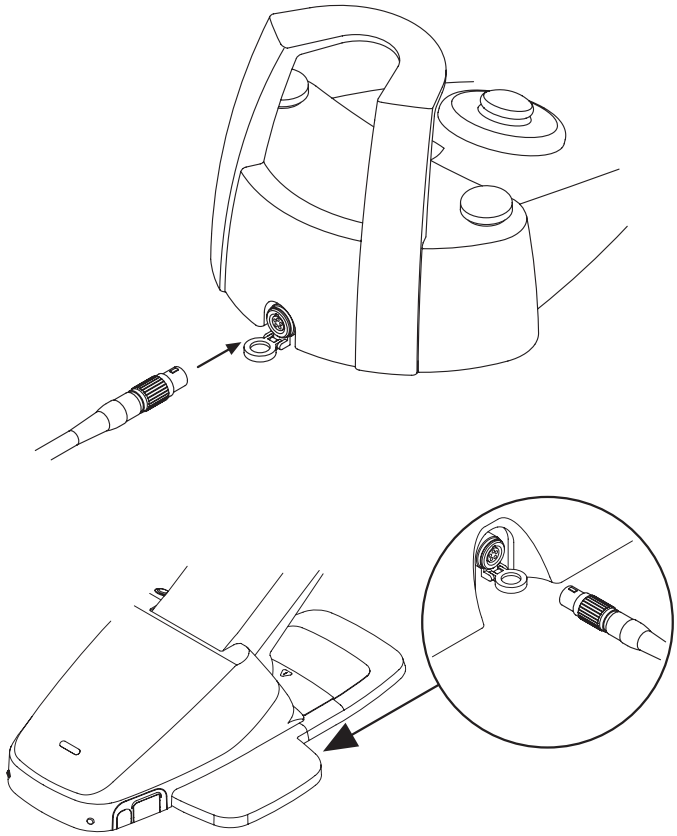
At this point, the foot control, while it remains fully operational, will start recharging the battery (Battery charging warning LED on).

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

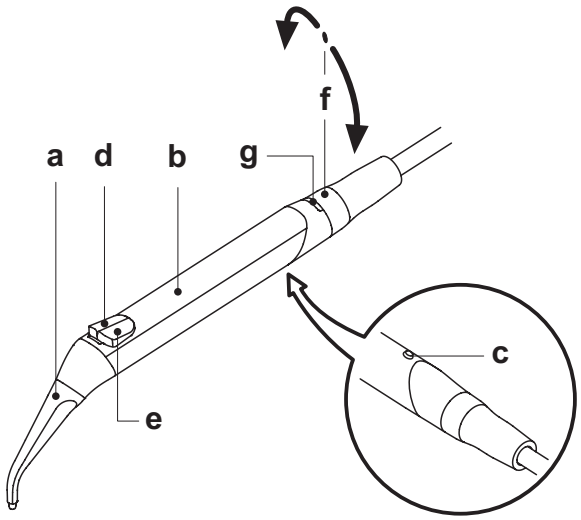
WARNING!
Exclusively use the dental unit to charge the battery of the WIRELESS foot control.

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.
[g] Hot/cold indicator light.

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

Technical charachteristics.
- Operating time:
  - 3F syringe: continuous operation,
  - 6F syringe: 5 sec. operation, 10 sec. rest.
- Power supply:
  - 6F syringe (CEFLA models): 24 Vac; 50/60 Hz; 2 A; 50 W.
- Classification in accordance with standard EN 60601-1:
  - 6F syringe (CEFLA models): CLASS II, type B.
- Installation plan: consult the Technical Installation Manual (see Paragraph 11.).

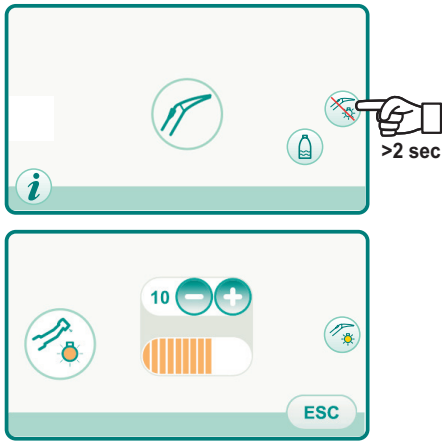
Operation.
- Place the instrument in its work position.

NOTE: *instrument activation is indicated by the relative management page appearing on the TOUCH DISPLAY.*
- Button (**e**) = water;
  Button (**d**) = air;
  Buttons (**e + d**) = spray.
- 6F syringe, operation with hot water, air and spray: turn the selector [f] clockwise (LED g on).
- 6F syringe, operation with cold water, air and spray: turn the selector [f] anticlockwise (LED g off).
- The icon buttons available on the TOUCH DISPLAY are the following:

Fibre optics on/off
(only 6F-L syringe)

Independent water supply selection/deselection
(only with S.H.S. system)

Row of general operating icons
(see paragraph 5.1.)



Fibre optic brightness adjustment.
- To adjust the fibre optic brightness, touch and hold (for at least 2 seconds) the icon button .
- Adjust the brightness by touching the icon buttons or .

NOTE: *the settable value ranges from 1 to 16.*
- To confirm the brightness selected, exit this submenu by touching the icon button ESC.

NOTE: *after 30 seconds the fibre optics turns off automatically.*

Removing the handpiece.
- The nozzle (**a**) is screwed onto the grip (**b**).
- Turn the selector switch counter-clockwise (LED **g** off) and press the button (**c**) to take the grip off the syringe casing.

Removable syringe cord
The syringe has a removable cord to ease cleaning (see chapter 5).

Cleaning.
Use soft disposable paper towel dampened with detergents/disinfectants.

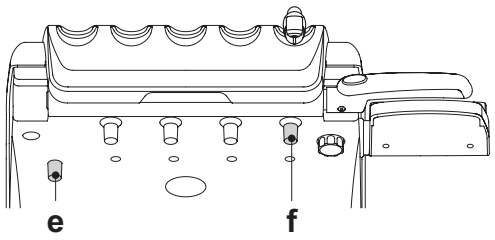
WARNING!
- **Do not soak the syringe in liquid disinfectants or detergents.**
- **Products not recommended: harsh products and/or products containing acetone, chlorine and sodium hypochlorites.**

Sterilization.
Syringe grip and spout: steam autoclave up to 135°C following the instructions for use of the device.

NOTE: *Bag before sterilizing.*

5.4. Turbine

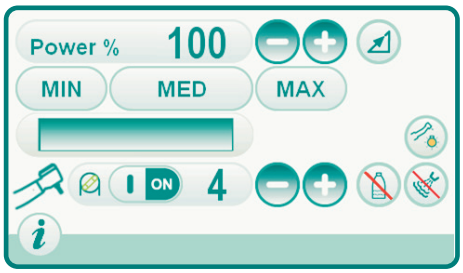
Connecting the handpiece and changing the chuck.
Refer to the specific instructions furnished with the handpiece.



Use.

WARNING!
Read the instructions for use of the various turbines.
- The cock (**f**) adjusts the water flow to the spray.
- The cock (**e**) adjusts the amount of air spray for all the instruments.
- Place the instrument in its work position.

NOTE: *instrument activation is indicated by the relative management page appearing on the TOUCH DISPLAY.*



- The icon buttons available on the TOUCH DISPLAY are the following:

Settable value increase

Settable value decrease

Turbine rotation speed selection

Fibre optics on/off

Independent water supply selection/deselection (only with S.H.S. system)

Instrument spray type enable and selection

Row of general operating icons (see paragraph 5.1.)

MIN — Quick selection of power at 1% of the maximum turbine rotation speed

MED — Quick selection of power at 50% of the maximum turbine rotation speed

MAX — Quick selection of power at 100% of the maximum turbine rotation speed

ON — Peristaltic pump activation/deactivation (only if present)

- Use the foot control pedal to start the instrument (see paragraph 5.2).

NOTE*: The turbine cord can also be used to connect the air micromotors equipped with 4-way connector and conform to ISO 13294 - Dental Air Motor.*

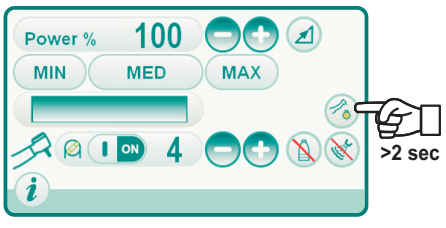
WARNING!
The instrument is supplied non-sterile.

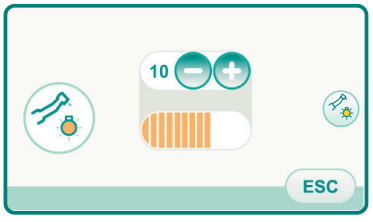
Fibre optic brightness adjustment.
- To adjust the fibre optic brightness, touch and hold (for at least 2 seconds) the icon button .
- Adjust the brightness by touching the icon or .

NOTE: *the settable value ranges from 1 to 16.*

- To confirm the brightness selected, exit this submenu by touching the icon button ESC .

NOTE: *after 30 seconds of not using the instrument (foot control lever deactivated), the fibre optics turns off.*





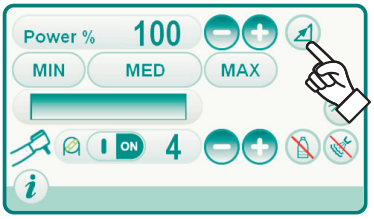
Turbine rotation speed change.
With the instrument in working position, select turbine speed change mode by touching the following icon buttons:

Linear change proportional to the movement of the the foot control lever

ON/OFF change that results in delivery of the maximum power set upon activation of the foot control lever

The active mode icon is shown on the TOUCH DISPLAY.

***NOTE**: the data is automatically stored.*



Instrument spray control button.
With the instrument in working position, select the type of spray delivered by the instrument by touching the following icon buttons:

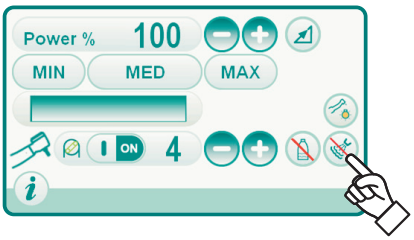
Water + air spray operation

Water-only spray operation

Operation without spray

The change is cyclic each time the button is touched and the active mode icon is shown on the TOUCH DISPLAY.

***NOTE**: the data is automatically stored.*

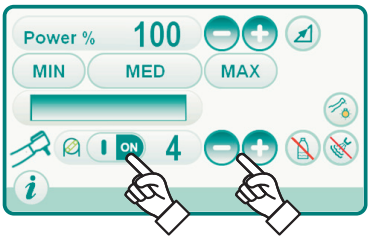


Peristaltic pump activation/deactivation (only if present).
To activate/deactivate the peristaltic pump, touch the relative icon button:

Peristaltic pump inactive

Peristaltic pump active

***NOTE:** activation is shown in the box next to the value of the physiological saline solution delivered.*



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.
It is recommended to use Daily Oil (CEFLA s.c.) for lubrication.

Sterilization.
Steam autoclave up to 135°C following the instructions for use of the device.

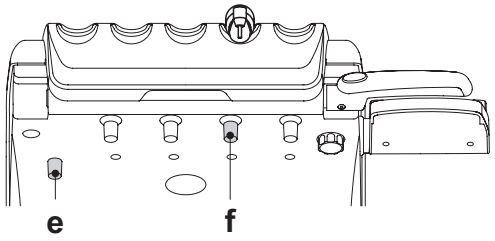
WARNING!
Carefully read the operating instructions supplied with the handpiece before attempting to sterilize.

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.

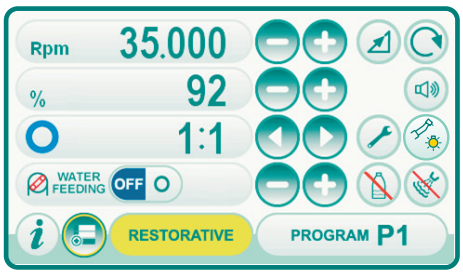


Use.

WARNING!
Also read the instructions for use of the various motors.
The instrument is supplied non-sterile.
- **Operating time: work 5 min., rest 5 min.**
- The cock (**f**) adjusts the water flow to the spray.
- The cock (**e**) adjusts the amount of air spray for all the instruments.
- Place the instrument in its work position.

***NOTE:** instrument activation is indicated by the relative management page appearing on the TOUCH DISPLAY.*

- The main icon buttons available on the TOUCH DISPLAY are the following:



Settable value increase

Settable value decrease

Reduction ratio selection

Reduction ratio selection

Speed change mode selection

Micromotor rotation direction selection

Alarm signal activation/deactivation

Reduction ratio setting (see paragraph 5.5.4.)

Fibre optics on/off

Independent water supply selection/deselection (only with S.H.S. system)

Instrument spray type enable and selection

Row of general operating icons (see paragraph 5.1.)

Simplified menu display

OFF — Peristaltic pump activation/deactivation (only if present)

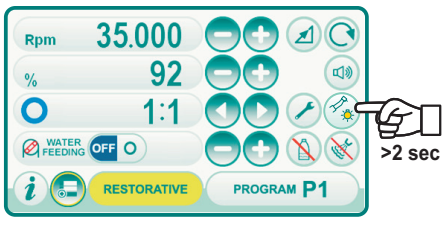
RESTORATIVE — Micromotor operating mode selection

PROGRAM P1 — Micromotor operating program selection

***NOTE:** for an explanation of the other icon buttons viewable, refer to the paragraphs relating to the various operating modes.*

- Use the foot control pedal to start the instrument (see paragraph 5.2).

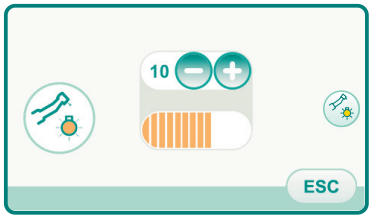
Fibre optic brightness adjustment.
- To adjust the fibre optic brightness, touch and hold (for at least 2 seconds) the icon button .
- Adjust the brightness by touching the icon buttons or .



***NOTE:** the settable value ranges from 1 to 16.*

- To confirm the brightness selected, exit this submenu by touching the icon button ESC .

***NOTE:** after 30 seconds of not using the instrument (foot control lever deactivated), the fibre optics turns off.*



Instrument spray control button.
With the instrument in working position, select the type of spray delivered by the instrument by touching the following icon buttons:

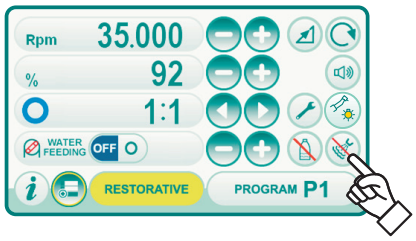
Water + air spray operation

Water-only spray operation

Operation without spray

The change is cyclic each time the button is touched and the active mode icon is shown on the TOUCH DISPLAY.

NOTE: *the data is automatically stored.*



Rotation speed change mode selection.
With the instrument in working position, select rotation speed change mode by touching the following icon buttons:

Linear change proportional to the movement of the the foot control lever

ON/OFF change that results in delivery of the maximum power set upon activation of the foot control lever

The active mode icon is shown on the TOUCH DISPLAY.

NOTE: *the data is automatically stored.*

Reversing micromotor drill rotation direction.
Select micromotor drill rotation direction by touching the relevant icon button:

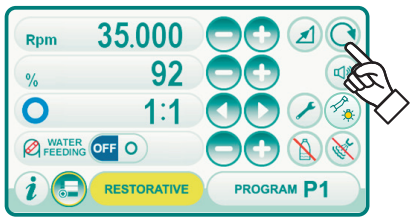
Normal rotation direction

Inverted rotation direction

Inverted rotation direction is signalled by 3 beeps.

WARNING!
Subsequently, when the micromotor is extracted, 3 warning beeps are emitted if the rotation direction is inverted.

NOTE: *when the rheostat lever is on, the micromotor drill cannot reverse its direction of rotation.*



Micromotor operating mode selection.
The micromotor has 4 different operating modes that can be selected by touching the relevant icon button:

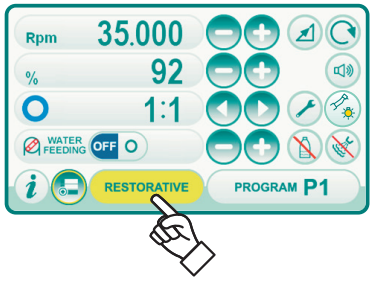
RESTORATIVE — **RESTORATIVE** mode (see paragraph 5.5.1.)

ENDODONTIC — **ENDODONTIC** mode (see paragraph 5.5.2.)

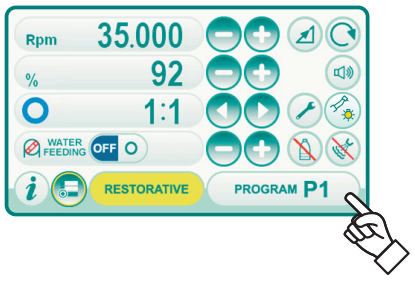
IMPLANT — **IMPLANT** mode (see paragraph 5.5.3.)

RECIPROCATING MODE — RECIPROCATING mode (optional) (see paragraph 5.5.5.)

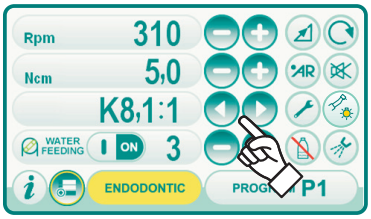
NOTE: *the change occurs cyclically.*



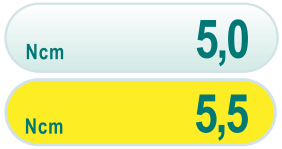
Micromotor operating program selection.
The micromotor has 5 operating programs identified with P1, P2, P3, P4, P5, that can be selected by touching the relative icon button.
Each operating program stores the following data:
- operating mode
- maximum rotation speed / torque value
- fibre optics ON/OFF
- fibre optic brightness
- rotation direction inversion ON/OFF
- type of spray delivered
- Peristaltic pump (if present) ON/OFF
- Handpiece reduction ratio.



Reduction ratio selection.
Using the icon buttons ◀ or ▶ you can select the desired reduction ratio from those stored.
The torque value (set or current) is expressed in % or Ncm for the certified reduction gears.



⚠ **WARNING!**
An icon appears next to the torque value identifying the reading tolerance on the value indicated:

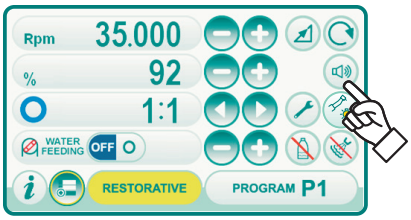


tolerance of ±10%

tolerance of ±20%.

☞ ***NOTE:*** *the data is automatically stored.*

Alarm signal activation/deactivation.
To activate/deactivate the alarm signal when the set maximum torque is reached, touch the relative icon button:

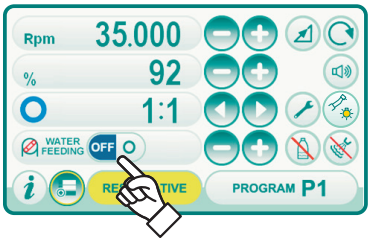



alarm active


alarm inactive

☞ ***NOTA:*** *la memorizzazione avviene automaticamente.*

Peristaltic pump activation/deactivation (only if present).
To activate/deactivate the peristaltic pump, touch the relative icon button:



Peristaltic pump inactive

Peristaltic pump active

☞ ***NOTE:*** *activation is shown in the box next to the value of the physiological saline solution delivered.*

Setting of the quantity of physiological saline solution delivered by the peristaltic pump.
This value is shown only when the peristaltic pump is active.
Push the icon buttons ⊖ or ⊕ to modify the quantity of physiological saline solution delivered by the peristaltic pump.

☞ ***NOTE:*** *the settable value ranges from 1 to 5. The quantity of delivered solution associated with the settable values is the following:*
- *value 1: approx. 35 cc/min,*
- *value 2: approx. 50 cc/min,*
- *value 3: approx. 70 cc/min,*
- *value 4: approx. 90 cc/min,*
- *value 5: approx. 100 cc/min.*

☞ ***NOTE:*** *You can change the amount of saline solution delivered by the peristaltic pump also when the instrument is active.*

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

Cleaning and care.
Refer to the specific instructions furnished with the instrument.
It is recommended to use Daily Oil (CEFLA s.c.) for lubrication.

⚠ **WARNING!**
• Do not soak the micromotor in liquid disinfectants or detergents.
• Products not recommended: harsh products and/or products containing acetone, chlorine and sodium hypochlorites.

Sterilization.
Handpieces only: steam autoclave up to 135°C following the instructions for use of the device.

⚠ **WARNING!**
Carefully read the operating instructions supplied with the instrument before attempting to sterilize.

Safety guidelines.

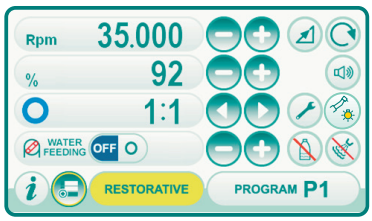
⚠ WARNING!
- **Never put the contra angle on the micromotor while it is running.**
- **The chuck release button must be held down during operation!**
  Friction between the button and micromotor rotor overheats the head and may cause burns.
- **The patient's internal tissues (tongue, cheeks, lips, etc...) 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.**

5.5.1. RESTORATIVE operating mode

Characteristics.
- speed adjustable from 100 to 40000 RPM (handpiece 1:1),
- torque adjustable from 1 to 100%
- Customisable list of reduction ratios
- Rotation speed change mode settable from variable to fixed and vice versa
- Alarm signal when the maximum torque is reached
- Fast capture of the maximum speed during motor rotation.

Menu with micromotor extracted but not active.
All the icon buttons are active and each function available can be changed (see paragraph 5.5.).

***NOTE:** each setting or value changed will automatically be stored in the operating program selected (e.g. P1).*



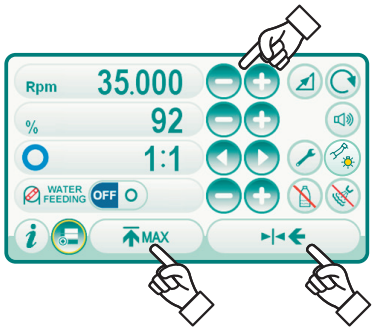
Menu with micromotor extracted and active.
The modifiable functions are the following:
- Maximum drill rotation speed using the icon buttons ⊖ or ⊕ ,
- Current speed freezing using the following icon button:

Sets the current rotation speed as maximum speed

- Foot control lever change mode using the following icon buttons:ù

Sets the current rotation speed as maximum speed at the same time activating a function to change the foot control lever ON/OFF mode

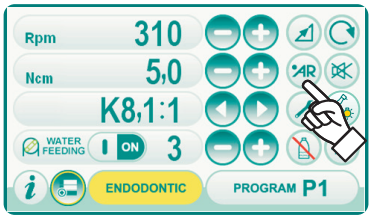
Switches the foot control lever change mode from ON/OFF to linear



5.5.2. ENDODONTIC operating mode

Characteristics.
- speed value adjustable from 100 to 1200 Rpm with value always referring to the drill, regardless the reduction ratio,
- Torque adjustable from 0.1 to 5.0 Ncm, excluding the 1:1 reduction gear (4.5 Ncm)
- Customisable list of reduction ratios
- Motor rotation speed change mode settable from variable to fixed and vice versa
- progressive alarm signal starting from 60% of the maximum torque
- calibration button during motor rotation

Menu with micromotor extracted but not active.
All the icon buttons are active and each function available can be changed (see paragraph 5.5.).
As well as the standard settings, in ENDODONTIC mode you can also set "Operation when maximum torque reached" by touching the relative icon button:



Rotation lock

Rotation lock and subsequent inversion of the rotation direction

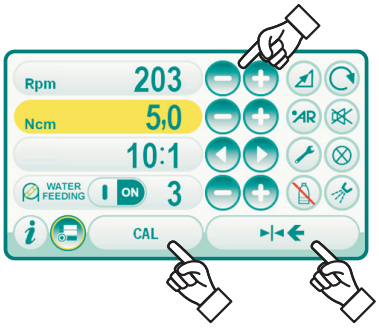
Rotation lock, inversion of the normal rotation direction and subsequent return to the normal rotation direction

***NOTE:** each setting or value changed will automatically be stored in the operating program selected (e.g. P1).*

Below is the list of symbols relating to the types of certified counterangle shown on the TOUCH DISPLAY:

Display text	Ratio	Torque display	Torque tolerance at the drill	Reference counter-angles
128:1	128:1	100%	⚠ ±20%	All brands
120:1	120:1	100%	⚠ ±20%	All brands
64:1	64:1	100%	⚠ ±20%	All brands
40:1	40:1	100%	⚠ ±20%	All brands
18:1	18:1	100%	⚠ ±20%	All brands
16:1	16:1	5 Ncm	⚠ ±20%	All brands
E16	16:1	5 Ncm	±10%	Castellini E16®
EVO E16	16:1	5 Ncm	±10%	Goldspeed EVO E16®
10:1	10:1	5 Ncm	⚠ ±20%	All brands
ER10	10:1	5 Ncm	±10%	NSK ER10®
9,5:1	9,5:1	5 Ncm	⚠ ±20%	All brands
S6:1	6:1	5 Ncm	±10%	Sirona Endo 6:1
K5,4:1	5,4:1	5 Ncm	±10%	Kavo IntraC 0767 LHC®
4:1	4:1	5 Ncm	⚠ ±20%	All brands
ER4	4:1	5 Ncm	±10%	NSK ER4®
K2,7:1	2,7:1	5 Ncm	±10%	Kavo LUX 7LP® Kavo IntraC 0768 LHC®
WD-79M	2:1	5 Ncm	±10%	W&H WD-79M® W&H EB-79M®
1:1	1:1	4,5 Ncm	±10%	All brands

Menu with micromotor extracted and active.
The modifiable functions are the following:
- Maximum drill rotation speed using the icon buttons ⊖ or ⊕ ,
- Handpiece calibration using the following icon button:



CAL sets the current torque value as 0

***NOTE:** it is advisable to carry out this operation while letting the handpiece operate at maximum power and with no load.*

- Foot control lever change mode using the following icon buttons:

Sets the current rotation speed as maximum speed at the same time activating a function to change the foot control lever ON/OFF mode

Switches the foot control lever change mode from ON/OFF to linear

5.5.3. IMPLANT operating mode

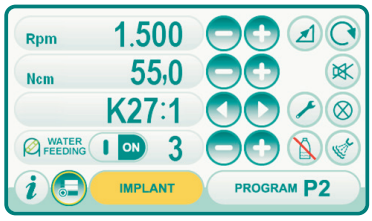
Characteristics.
- Speed adjustable from 5 to 2500 rpm with the value always referring to the drill irrespective of the reduction ratio (20:1 to 1000:1 reduction gears)
- Torque adjustable from 0.5 to 55.0 Ncm for the certified reduction gears or from 1 to 100%
- Customisable list of reduction ratios
- Alarm signal when the maximum torque is reached
- calibration button during motor rotation.

Menu with micromotor extracted but not active.
All the icon buttons are active and each function available can be changed (see paragraph 5.5.).

***NOTE:** each setting or value changed will automatically be stored in the operating program selected (e.g. P1).*

Below is the list of symbols relating to the types of certified counterangle shown on the TOUCH DISPLAY:

Display text	Ratio	Torque display	Torque tolerance at the drill	Reference counter-angles
1000:1	1000:1	50 Ncm	⚠ ±20%	All brands
256:1	256:1	50 Ncm	⚠ ±20%	All brands
120:1	120:1	50 Ncm	⚠ ±20%	All brands
ATR80I	80:1	70 Ncm	±10%	ATR ATR80I®
ER64	64:1	55 Ncm	±10%	NSK SGM-ER64i®
ER32	32:1	55 Ncm	±10%	NSK SGM-ER32i®
K27:1	27:1	55 Ncm	±10%	Kavo IntraLux CL09® + CL3 head®
20:1	20:1	50 Ncm	⚠ ±20%	All brands
75EKM	20:1	55 Ncm	±10%	W&H WI-75E/KM® W&H WS-75E/KM®
R20L	20:1	55 Ncm	±10%	Castellini R20L® NSK X-SG20L® NSK S-Max SG20® NSK SGM-ER20i®
ATR20I	20:1	70 Ncm	±10%	ATR ATR20I®
WS75	20:1	70 Ncm	±10%	W&H WS-75® W&H WI-75E/KM®
CA20L	20:1	55 Ncm	±10%	Bien-Air CA20:1L®
16:1	16:1			All brands
K12:1	12:1	40 Ncm	±10%	Kavo IntraLux CL04® + CL3 head®



Menu with micromotor extracted and active.
The modifiable functions are the following:
- Maximum drill rotation speed using the icon buttons ⊖ or ⊕ ,
- Handpiece calibration using the following icon button:

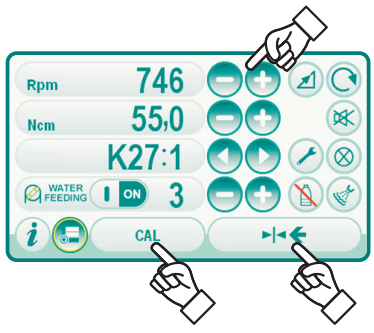
sets the current torque value as 0

***NOTE:** it is advisable to carry out this operation while letting the handpiece operate at maximum power and with no load.*

- Foot control lever change mode using the following icon buttons:

Sets the current rotation speed as maximum speed at the same time activating a function to change the foot control lever ON/OFF mode

Switches the foot control lever change mode from ON/OFF to linear



5.5.4. Reduction ratio setting menu

From the menu relating to the micromotor extracted but not active, touch the icon button to access the REDUCTION RATIO SETTING SUBMENU containing the following icon buttons:

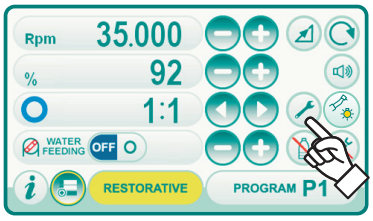
Selection of the reduction ratios stored

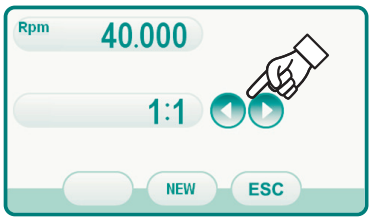
ESC — Exit from the menu with storage of the ratio selected

NEW — Creation of a customised reduction ratio

EDIT — Modification of a customised reduction ratio

NOTE: *the RPM icon is not a modifiable field, as it only displays the maximum speed reachable with the reduction ratio selected.*





How to create customised reduction ratios.

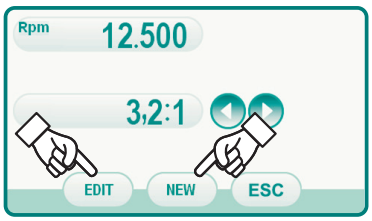
To create and store customised reduction ratios, touch the icon button to access the relative submenu containing NEW the following icon buttons:

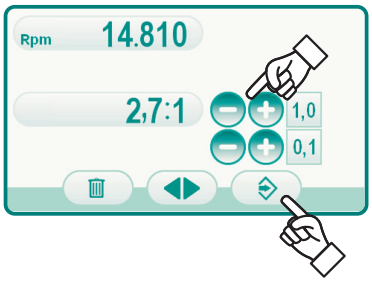
Tenths or units increase/decrease

Created/modified ratio storage

Default reduction ratio recall

Customised reduction ratio deletion





How to modify and/or delete customised reduction ratios.

NOTE: *only customised reduction ratios can be modified and/or deleted.*

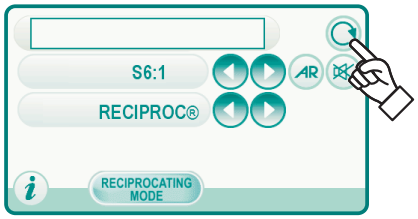
- Touch the icon buttons or to scroll the reduction ratios stored.
- Once you have selected the reduction ratio, touch the icon button EDIT to access the EDIT submenu.
- The EDIT submenu is identical to the CREATE submenu.

.

5.5.5. RECIPROCATING operating mode

Characteristics.
- 2 selectable reduction ratios: 4:1 and 6:1,
- 3 selectable root canal drills,
- progressive alarm signal starting from 60% of maximum set torque.

Menu with micromotor extracted but not active.
All icon buttons are active and all available functions can be edited (see paragraph 5.5.).
In addition to the standard settings, the RECIPROCATING mode also allows adjusting the following functions:



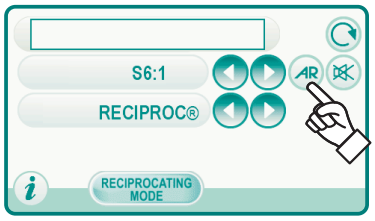
- **Reversing micromotor drill rotation direction.**
  Select micromotor drill rotation direction by touching the relevant icon button:

  Standard rotation direction: Rotation with reciprocating motion.

  Reversed rotation direction: counter clockwise rotation with continuous movement (helps releasing the drill from the root canal).

  Reversed rotation direction is signalled by a sound (3 BEEPS).

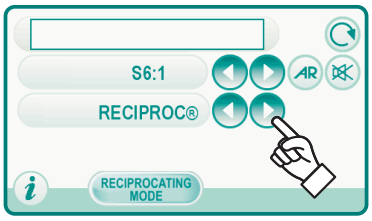
  WARNING!
  As soon as the micromotor is extracted, a sound (3 BEEPS) warns the operator if the direction of rotation is reversed.



- **Operation at maximum set torque.**

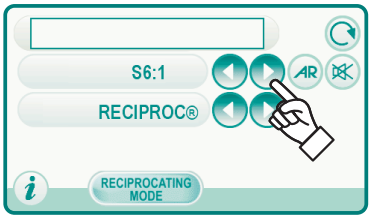
  rotation lock

  rotation lock followed by rotation direction reversal



- **List of root canal drills.**
  Press icon buttons ◀ or ▶ to scroll the list of pre-set root canal drills:
  - Waveone® Gold [1],
  - Reciproc® [2],
  - Reciproc® Blue [2].

[1] WAVE ONE® is a registered trademark of DENTSPLY SIRONA INC., York, Pennsylvania,USA.
[2] RECIPROC® is a registered trademark of VDW GmbH, München, Germany.



- **Certified contra angle pre-set list.**
  Press icon buttons ◀ or ▶ to scroll the list of the certified contra angles:

Display text	Ratio	Reference contra angles
EVO E4	4:1	Goldspeed EVO E4®
S6:1	6:1	Sirona Endo 6:1

Menu with micromotor extracted and active.
The only active icon button is the activation/deactivation of the alarm signal upon reaching the maximum set torque.

5.6. Scaler

Connecting the handpiece and inserts.
Refer to the specific instructions furnished with the handpiece.

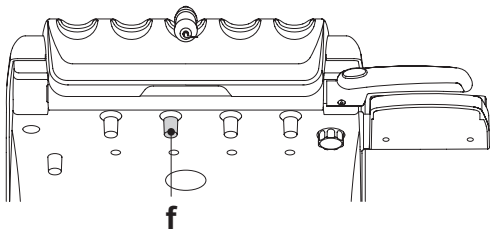
WARNING!
Before attempting to connect the handpiece, make certain the contacts are perfectly dry. Blow air from the syringe, if necessary, to dry.

Safety guidelines

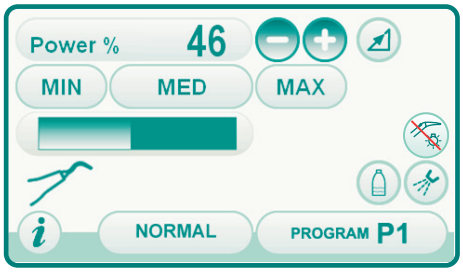
WARNING!
- **Make sure the threaded sections of the inserts and handpiece are perfectly clean.**
- **Do not change the shape of the inserts.**
- **Check wear and tear of the inserts on a regular basis, replacing them in the following cases:**
  - obvious wear.
  - drop in performance.
  - out of shape or banged.
- **Notes on U-PZ7 descalers:**
  - 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).

Use.
- **Operating times: see operating instructions supplied with the handpiece.**
- The cock **[f]** adjusts the cooling water flow.
- Place the instrument in its work position.

***NOTE:** instrument activation is indicated by the relative management page appearing on the TOUCH DISPLAY.*



- The icon buttons available on the TOUCH DISPLAY are the following:



Scaler power increase

Scaler power decrease

Scaler power change mode selection

Fibre optics on/off

Independent water supply selection/deselection (only with S.H.S. system)

Cooling water enable

Row of general operating icons (see paragraph 5.1.)

NORMAL — Scaler operating mode selection

PROGRAM P1 — Scaler operating program selection

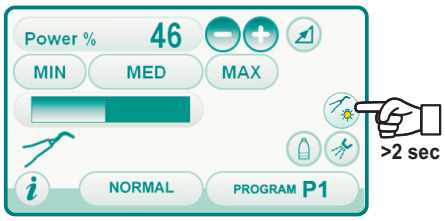
- Use the foot control pedal to start the instrument (see paragraph 5.2).

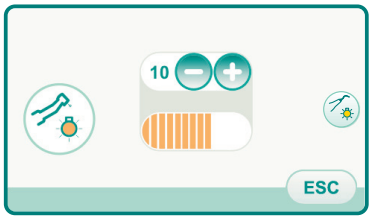
WARNING!
The instrument is supplied non-sterile.

Fibre optic brightness adjustment.
- To adjust the fibre optic brightness, touch and hold (for at least 2 seconds) the icon button .
- Adjust the brightness by touching the icon buttons or .

***NOTE:** the settable value ranges from 1 to 16.*
- To confirm the brightness selected, exit this submenu by touching the icon button ESC .

***NOTE:** after 30 seconds of not using the instrument (foot control lever deactivated), the fibre optics turns off.*





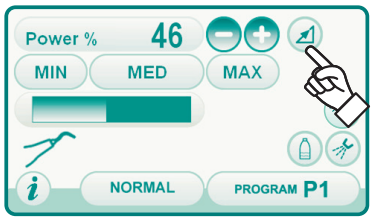
Scaler power change mode selection.
With the instrument in working position, select scaler power change mode by touching the following icon buttons:

Linear change proportional to the movement of the foot control lever

ON/OFF change that results in delivery of the maximum power set upon activation of the foot control lever

The active mode icon is shown on the TOUCH DISPLAY.

***NOTE:** the data is automatically stored.*



Cooling water enable.
With the instrument in working position, select whether or not water should be delivered by the instrument by touching the following icon buttons:

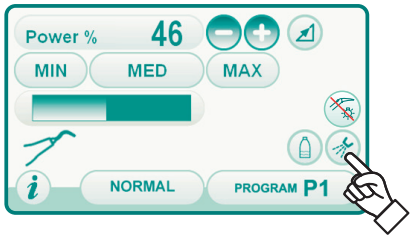
Operation with water

Operation without water

The change is cyclic each time the button is touched and the active mode icon is shown on the TOUCH DISPLAY.

***NOTE:** during operation without water, the maximum power delivered is 50% of the maximum power settable.*

***NOTE:** the data is automatically stored.*



Scaler operating mode selection.
With the instrument in working position, select scaler operating mode by touching the following icon buttons:

NORMAL — Normal operating mode

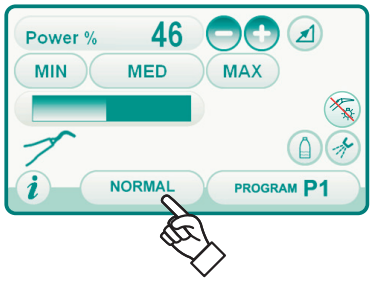
ENDO — ENDO operating mode

PARO — PARO operating mode
(ENDO mode with power reduced by 40%)

The change is cyclic each time the button is touched and the active mode icon is shown on the TOUCH DISPLAY.

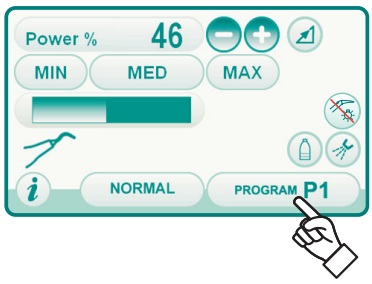
***NOTE:** when the foot control is activated, the operating mode cannot be changed .*

***NOTE:** the data is automatically stored.*



Scaler operating program selection.
The Scaler micromotor has 4 operating programs identified with P1, P2, P3, P4 that can be selected by touching the relative icon button.
Each operating program stores the following data:
- maximum power,
- fibre optics ON/OFF,
- fibre optic brightness
- type of spray delivered
- power change mode.

***NOTE:** the change occurs cyclically.*



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 up to 135°C following the instructions for use of the device.

⚠ **WARNING!**
Carefully read the operating instructions supplied with the instrument before attempting to sterilize.

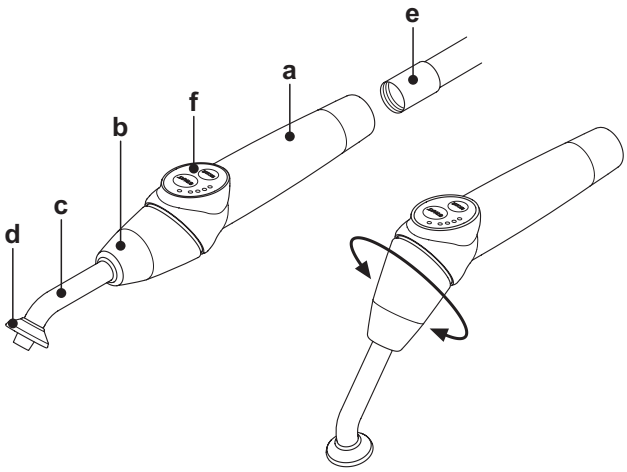
Safety standards.

⚠ **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.**

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: at cycle start, every 5 seconds, and at cycle end
Type of operation : intermittent (3 consecutive cycles - 60 sec. rest)
Programs: 6 (preset)

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.

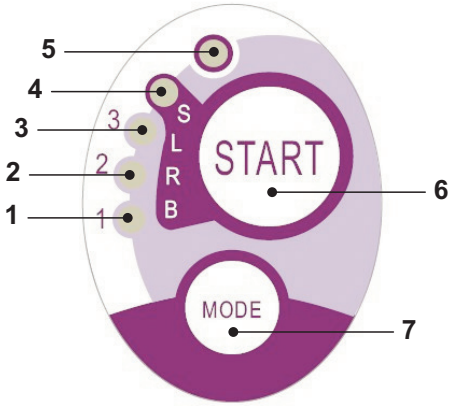
[4] LED S :
When LED S is on, you access ramp cycle mode and at the same time the LEDs B, R and L next to it come on:
[LED S + LED 1] ramp cycle B (BONDING) :
Ramp cycle with emission of 500 mW/cm² for 5 seconds, ramp from 500 to 1000 mW/cm² for 5 seconds and 1000 mW/cm² for 5 seconds for a total of 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 .

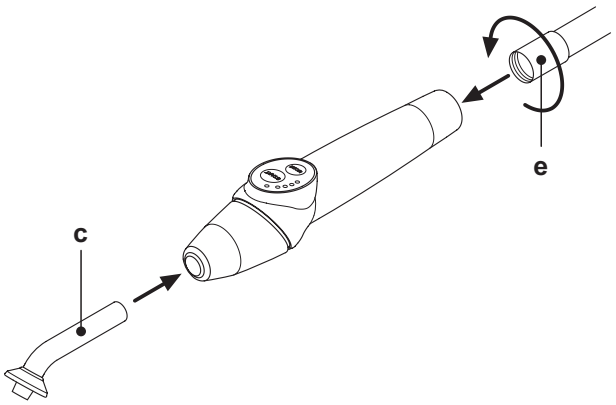
NOTE*: the cycle can be selected and the button is operative only when the curing light is not emitting any light. If the button is accidentally pressed while light is being emitted, nothing will happen.*



Cycle	LED	Total time	Ø8 mm	Total energy
standard	1	20"	1.000 mW/cm²	20.000 mJ
fast	2	15"	1.600 mW/cm²	24.000 mJ
strong	3	20"	1.800 mW/cm²	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

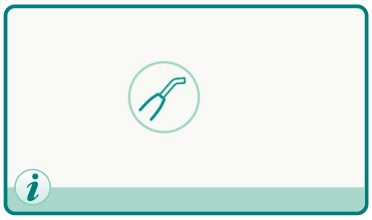
Operation.

WARNING!
The instrument is supplied non-sterile.
The fiber optic and the eye protection can be sterilised in a steam autoclave up to 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.

***NOTE**: instrument activation is indicated by the relative management page appearing on the TOUCH DISPLAY.*



- 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.*

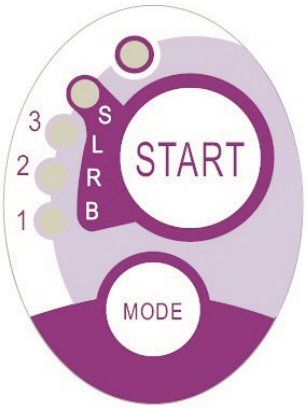
- Place the fiber optic in the position required for curing.

***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 s uitable 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 (N_2O).**

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.

Disposal at end of service life.
- Never throw out the equipment in regular trash.
- Observe current local regulations regarding disposal of the equipment at the end of its service life.
- Due to the possibility of cross contamination, disinfect the equipment before disposing.

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.

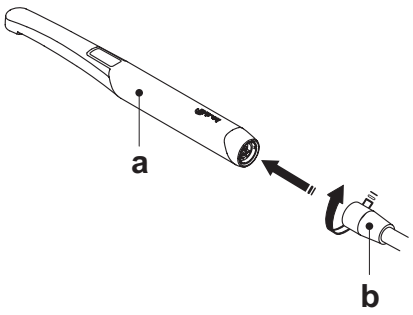
WARNING!
The camera may be used as a diagnostic tool however the results are to be compared to direct observation and/or other diagnostic means. Diagnosis based solely on the image obtained by the camera may result in poor evaluation as the electronically processed colors and shapes, may not correspond to those truly present.

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.
AAttach 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.



Camera system usage.
- Put the instrument in its work position.
  At this point the camera is on and may be in *LIVE* mode (the monitor shows "live" images) or *FREEZE* mode (the last images frozen appear on the monitor), more precisely:
  1- LIVE status in multi image mode
  2 - FREEZE status in multi image mode
  3 - LIVE status in single image mode
  4 - FREEZE status in single image mode.

***NOTE:** If the camera is in LIVE mode, the main screen is displayed when the instrument is put back in place.*
If the camera is in FREEZE mode, the relative menu remains on the monitor when the instrument is put back into place.
- The main icon buttons available on the TOUCH DISPLAY are the following:


Camera LED on/off


MIRROR function activation/deactivation

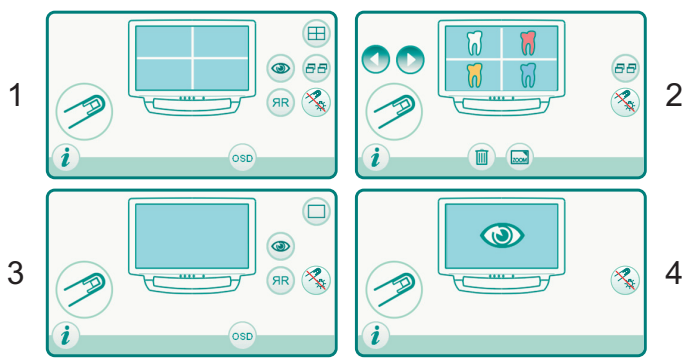

Multiple image or single image operating mode selection

OSD control panel access


Image storage page selection (only with multiple image operation)

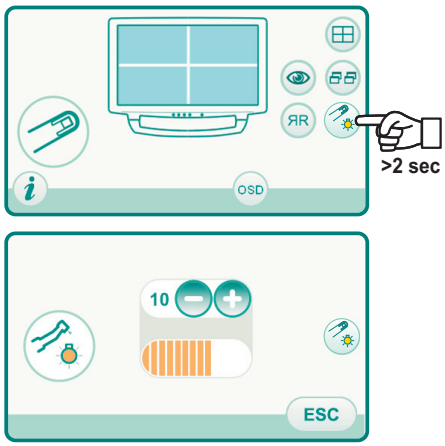

Frozen image display

***NOTE:** for an explanation of the other icon buttons viewable, refer to the paragraphs relating to the various operating modes.*



- Briefly press the foot control to stop from 1 to 16 images divided in 4 pages on the monitor.

NOTE: *The images shown on the monitor by the camera are only temporarily saved. To permanently save the images, connect the camera to a PC that complies to standard IEC 60950 which has a USB 2.0 HIGH SPEED port and image software program.*



Camera LED on.
Touching the icon button you can turn the camera LED on and off.
The active mode icon is shown on the TOUCH DISPLAY:

LED off

LED on

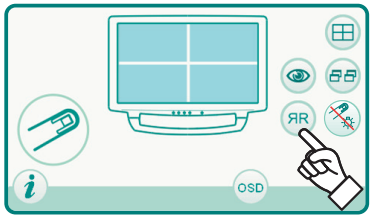
If necessary, access brightness adjustment by touching and holding (for at least 2 seconds) the icon button and then adjust the brightness using the icon buttons or .
To confirm the brightness selected, exit this submenu by touching the icon button ESC .

MIRROR function.
By touching the icon button it is possible to move from the real image view to the mirror one.
The active mode icon is shown on the TOUCH DISPLAY:

Real image

Mirror image

NOTE: *This function can only be used in LIVE mode.*

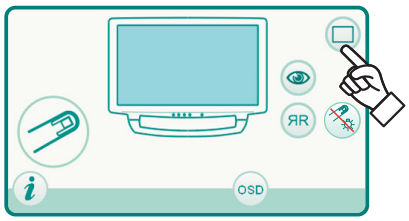


Setting operation in single image or multiple image mode.
With the camera activated and in LIVE mode, touching the icon button you can switch between single image and multiple image mode.
The active mode icon is shown on the TOUCH DISPLAY:

Single image mode active

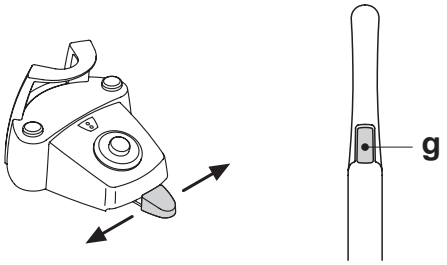
Multiple image mode active

NOTE: *activation of multiple image mode is also indicated on the display by a dedicated icon in the top right corner.*



"FREEZE" function.
This camera allows images to be frozen on the monitor.
This function can be activated in different ways:
• With the foot control (see paragraph 5.2.).
• By tapping the touch button [**g**] on the camera's handpiece.
In order to go back to the "live" image, simply tap the button again or actuate the foot control.

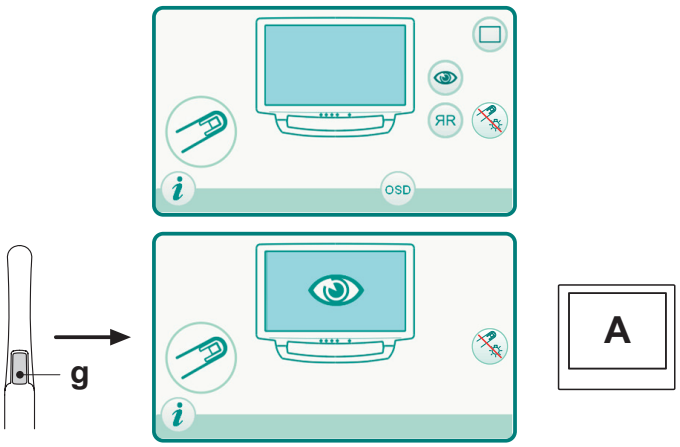
These images can be displayed in two different ways: single image or multi image.
In the latter mode, the screen is divided into four parts and 4 frozen images are displayed simultaneously.



Operation in single image mode.
Take out the camera in *LIVE* mode and set to single image mode, the "live" image appears on the monitor:

- Tap the touch button [**g**] on the camera's handpiece (or actuate the foot control) to freeze the the image which is immediately displayed on the monitor, deleting any previous images.
- Touching the icon button the last frozen image is displayed.

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



Operation in multiple image mode
Extracting the camera in LIVE mode and in multiple image mode, a "moving" image is shown on the display, and in the top right corner the icon with the number of the active storage page appears (e.g. 1):

- Touch the icon button to move from one to the next of the 4 storage pages available.
- Touch the icon button to view the 4 images already stored on the storage page selected.

NOTE: *the number of the page selected is shown in the centre of the monitor.*

- Image storage: pressing the touch-activated button [g] on the camera handpiece (or activating the pedal control), the image is frozen and shown directly on the monitor putting it in the first free box (e.g. A) of the page active at that moment.
  Each subsequent frozen image is put in the next box going clockwise.

NOTE: *once the 4 available boxes have been filled, each subsequent frozen image will replace the existing ones again going clockwise.*

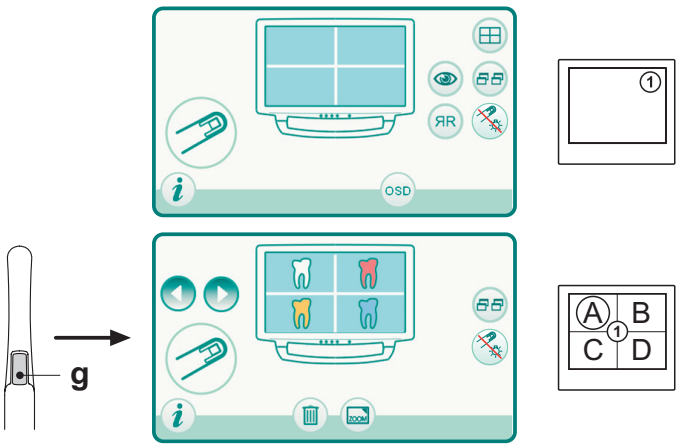
NOTE: *to store other images without deleting the previous ones, touch the button and to move to the next active storage page.*

- During display (FREEZE status):
- Touching the icon button the 4 available pages are displayed in succession,
- Touching the icon buttons or you can select one of the 4 images on the page displayed,
- Touching the icon button the selected image is displayed full-screen.

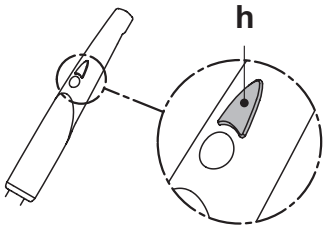
NOTE: *touching the icon button again, you go back to display of 4 images.*

- Touching the icon button the selected image is deleted.

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



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

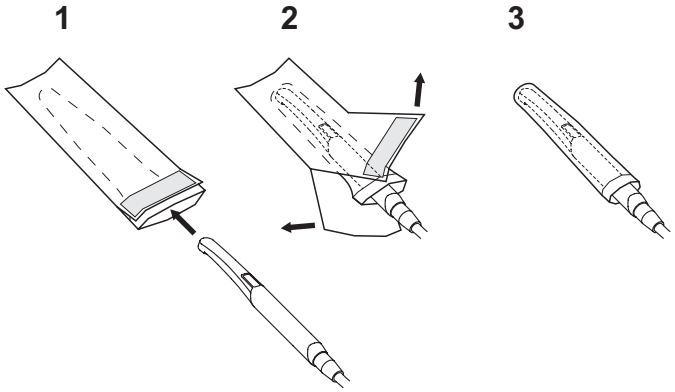


Color	Situation
Blue light flashes, very slowly	Handpiece in standby
Light blue steady light	Handpiece activated, live images displayed
Blue/ light blue flashing light	Handpiece in image freeze mode
Brief red flashes	Internal error: contact Customer Service

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 downwards 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.**
- **To assure hygienic conditions for the users and patients, the disposable infection control sheaths must be changed after each use.**
- **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 disinfection by being soaked, for example in solutions such as glutharaldeide or hydrogen peroxide.**
- **All products must be used as directed by the manufacturer.**
- **All material used to clean and disinfect must be thrown away.**

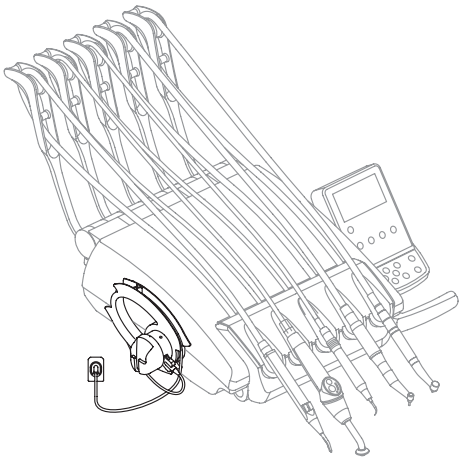
Maintenance and repairs
The C-U2 camera system does not require any particular maintenance.
In the event of malfunctions, please send back the complete handpiece.

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.*

5.10. Peristaltic pump

This device allows saline solution to be supplied through a single-use administration line without any contact.
Devices available only with the micromotor.

NOTE: *for the use of the micromotor, it is necessary to have recourse to contra angles with external cooling or for R20-L type (hollow drills).*

Description of the symbols present on the device.

1) Material meets and exceeds the essential requirements of directive EEC 93/42 and subsequent changes.
2) CAUTION: PINCH HAZARD. Do not put your fingers in rotating parts.
3) Material sterilized with ethylene oxide
4) Expiration date (yyyy-mm).
5) Single-use material.
6) Material identification code

Putting into service

- Direct and put the IV drip pole [**a**] in place and hang the flask or bottle [**b**] that contains the saline solution.
- Open the bag [**c**] and take out the sterile administration line.

WARNING!
Use sterile disposable gloves.

WARNING!
Check the condition of the packaging as well as the expiration date of the administration line. Only CEFLA s.c. administration kits guarantee proper trouble-free operation. These lines are sterile and disposable, reusing them may put patients at risk of microbiological contamination.

- Open the cover [**d**] of the peristaltic pump, turning it upwards.
- Attach the tube, being careful to place the part with the largest diameter inside the pump's V seats. The pump rotates clockwise. Place the tube so that the section that runs from the bag enters from the left side of the pump (see figure).
- Close the cover [**d**]. If it does not close, open the cover again and check the position of the tube.

WARNING!
Do not start the pump with the cover [d] open, finger pinch hazard.

- Pierce the cap [**b**] of the bottle of saline solution with the outflow tip of the administration line [**c**].
- Attach the administration line to the instrument cord using the plastic clips provided in the sterile kit.

NOTE: *use type A for the scaler's cord and type B for the micro-motor's cord.*

Operation.
To activate/deactivate peristaltic pump operation, remove the micromotor and touch the relative icon button:

Peristaltic pump inactive

Peristaltic pump active

NOTE: *Activation is confirmed by a Beep and shown in the box next to the value of the physiological saline solution delivered*

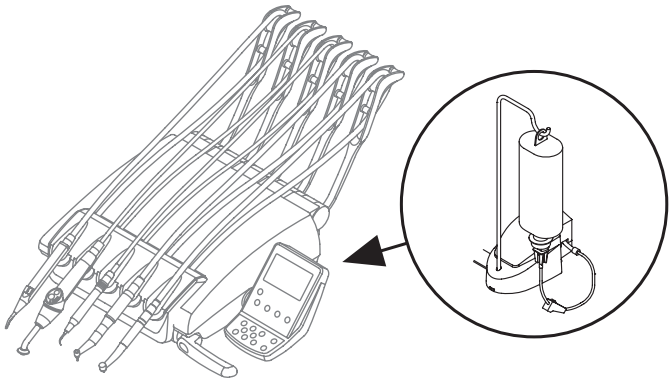
NOTE: *Peristaltic pump activation is also shown on the TOUCH DISPLAY by a specific warning icon (see paragraph 5.1.); the icon shows also the quantity of the delivered saline solution.*

If necessary, touch the icon buttons ⊖ or ⊕ to change the amount of saline solution delivered by the peristaltic pump.

NOTE: *the settable value ranges from 1 to 5. The quantity of delivered solution associated with the settable values is the following:*

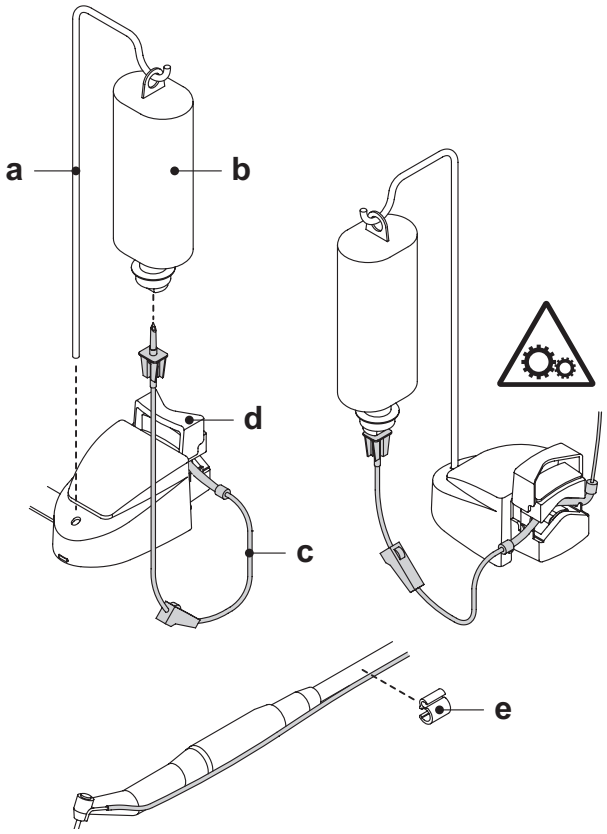
- *value 1: approx. 35 cc/min,*
- *value 2: approx. 50 cc/min,*
- *value 3: approx. 70 cc/min,*
- *value 4: approx. 90 cc/min,*
- *value 5: approx. 100 cc/min.*

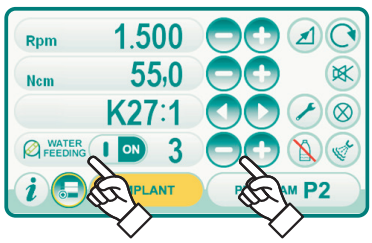
NOTE: *You can change the amount of saline solution delivered by the peristaltic pump also when the instrument is active.*



1 CE 0051 3 STERILE EO 5

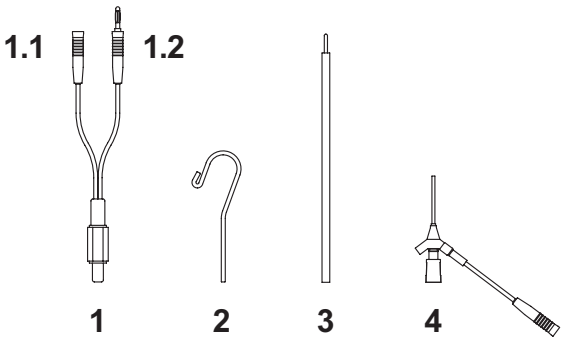
2 4 6 REF

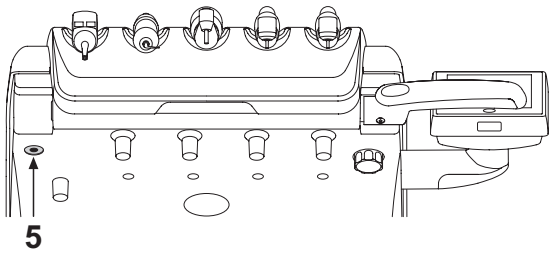




5.11. Electronic APEX LOCATOR

APEX LOCATOR, through the analysis of the variations of special electric signals, makes root apex location easier. If used together with a "file" (not supplied) for manual treatment, it proves useful also to measure canal length.
Besides using the apex locator in manual mode on this dental unit, this device can also be used with micromotor "ENDO" mode. The position of the instruments used on handpieces can be monitored since, through instrument cords, APEX LOCATOR signals are directly transferred to the files, thus allowing to monitor canal position during treatments.





Component description.
[1] APEX LOCATOR external wiring.
[1.1] APEX LOCATOR external wiring - neutral pole.
[1.2] APEX LOCATOR external wiring - active pole.
[2] Hook-type electrode.
[3] Probe.
[4] APEX LOCATOR external wiring port.

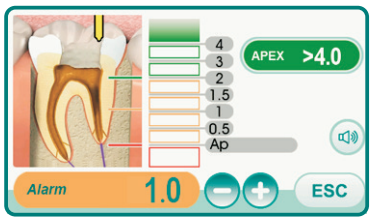
Operation.
- On this dental unit, APEX LOCATOR is automatically activated upon external wiring [**1**] insertion inside the special socket [**5**] positioned under dentist's board.
  Once enabled, the menu for alarm threshold setting appears on the display (see paragraph 5.1.1.2.11.).
- Electrode application:
  - Connect hook-type electrode [**2**] to neutral pole [**1.1**] and position it on patient's lip.
  - Connect active pole [**1.2**] to file (not supplied) inserted inside the root canal; connection to the file can be carried out through probe [**3**] or through the special tweezers [**4**] or through the special pre-settings made for handpieces.

WARNING!
Electrodes are not supplied sterile.

Indications on the display.
- The bargraph on display left-hand side indicates file position compared to apex. The numerical indications "1 2 3" refer to the relative distance between instrument and apex.
- The APEX icon displays the distance from instrument to apex.

NOTE: *the indication "> 4" signals that the file is too far from apex to be measured.*
- The ALARM icon displays the set alarm threshold.
  The alarm threshold refers to the distance between instrument and apex above which an audible signal - progressively increasing as instrument gets closer to apex - is generated.
  To set the alarm threshold, see paragraph 5.1.1.2.11.

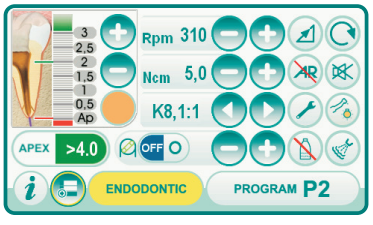
Both graphic and numerical indications are constantly updated while file is inserted inside canal.

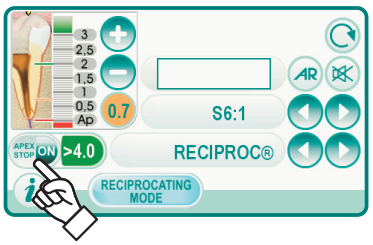


APEX LOCATOR combined with electric micromotor.
The APEX LOCATOR can also be used in combination with the electric micromotor when set to ENDO mode or to RECIPROCATING mode.
When the APEX LOCATOR is enabled, if electric micromotor is extracted in ENDO mode both the information relating to the micromotor and those relating to APEX LOCATOR (bargraph and APEX values) are shown at the same time on the display.
During electric micromotor operation, the keys are associated to instrument functions, and APEX LOCATOR alarm threshold cannot be edited but by putting instrument back in place.
With the S6:1 and EVO E4 contra angles it is also possible to enable the APEX STOP function, which automatically stops the micromotor once the alarm threshold is reached.

APEX STOP disabled

APEX STOP enabled

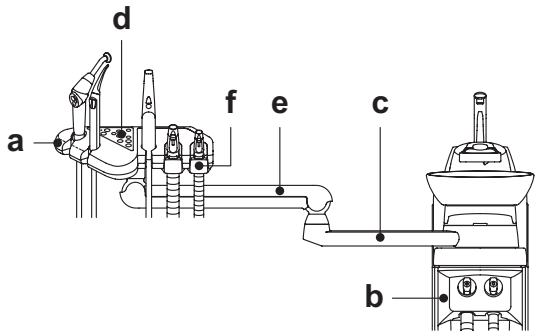




Root canal length detection.
- The use of manual file is of the utmost importance for canal detection. The correct procedure entails file insertion inside canal until reaching indication 0.5.
- Continue inserting file with a slow clockwise rotation until the APEX indication appears on the instrument.
- Once APEX indication appears, stop file turning it counter clockwise until reaching again the value of 0.5. Position a rubber stopper close to the occlusal surface as a reference point to define the work length inside root canal.
- Make an X-ray to check file correct positioning.
- Remove file from canal and measure the work length with a ruler. Deduct a safety value of 0.5-1 mm from the reading.

⚠ **WARNING!**
Use APEX LOCATOR always in combination with X-ray test to accurately define apex position.
Different, and not always predictable, morphological conditions could lead to inaccurate readings.
For example:
- **excessively wide root canal;**
- **re-treatments;**
- **broken roots;**
- **presence of metal crowns.**

6. Assistant's board operation



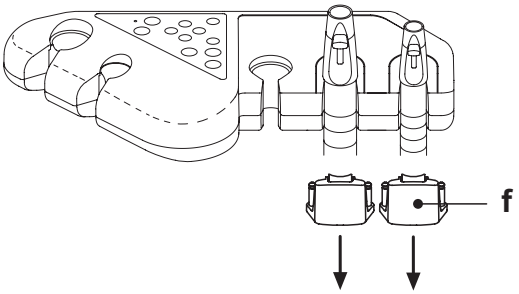
Main features.

- Two articulated arms secure the board (**a**) to the hydrogroup (**b**) allowing it to be placed in the most convenient work position.
  The fixed arm (**c**) can turn 120° around the bowl.
  The pantograph arm (**e**) allows the assistant's board to be moved 335 mm vertically through 6 work positions.

***NOTE**: To completely lower the assistant's board, simply move it all the way up and then lower it.*

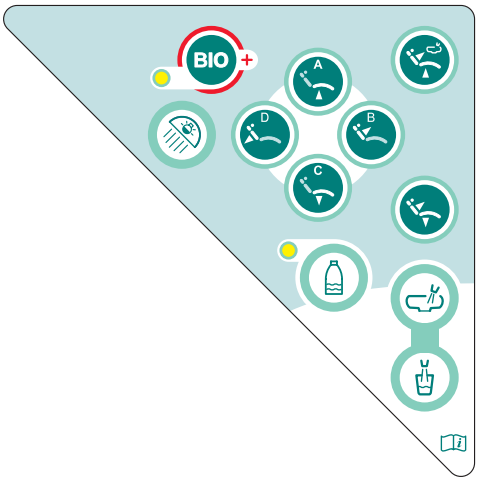
- The assistant's board (**a**) comes with a control console (**d**) with buttons used to operate the dental chair and hydrogroup.
- The assistant's board can be equipped with 2 suction cannulas and 3 instruments.
- The assistant's board comes with sliding rollers (**f**) that guide and hold up the suction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

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:



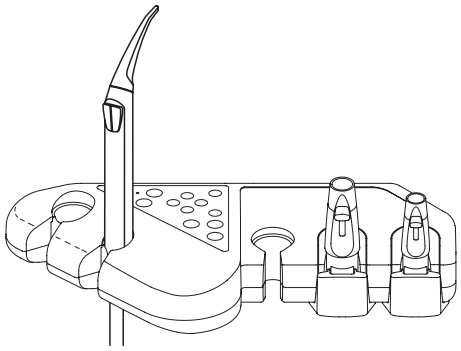
- Operatory light on/off button.
- Water to cup button.
- Water to bowl button.
- Automatic return position recall button.
- Rinse position button.
- Chair seat up and set position "A" button.
- Chair back up and set position "B" button.
- Chair seat down and set position "C" button.
- Backrest down and emergency position "D" recall button.
- BIOSTER cycle start button (with relative LED).
- S.H.S. system activation/deactivation button (with relative LED).

***NOTE:** Operation of the dental chair buttons.*

- *Button briefly pressed*: automatic return to set position.
- *Button held down*: chair positioned manually.

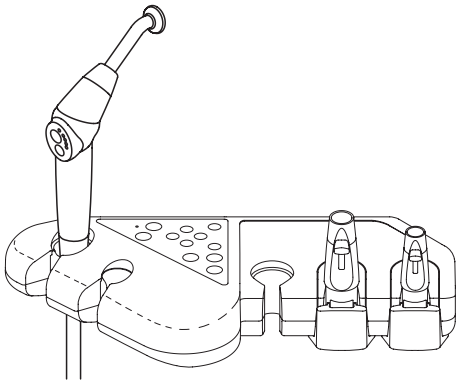
6.2. Syringe on assistant's board

For detailed information regarding operation of this instrument see paragraph 5.3.



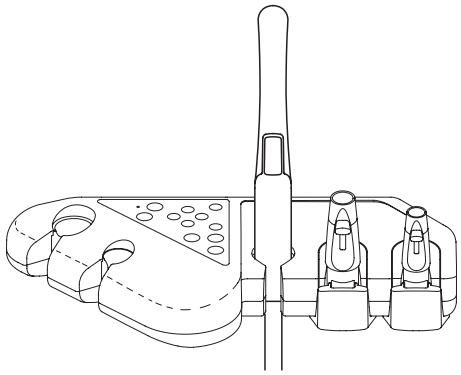
6.3. Curing lamp on assistant's board

For detailed information regarding operation of this instrument see paragraph 5.7.

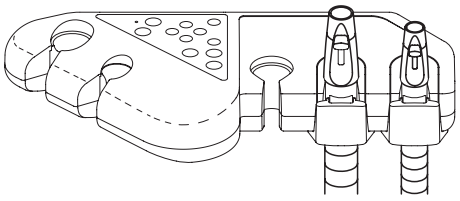


6.4. Intraoral camera on assistant's board

For detailed information regarding operation of this instrument see paragraph 5.8.

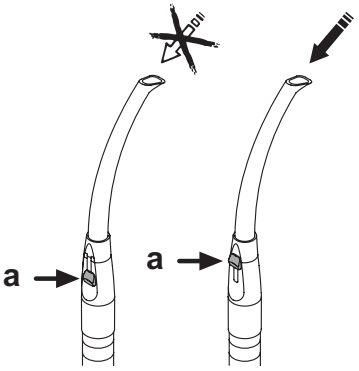


6.5. Suction tubes



Suction starts by taking the tube off the board. To adjust suction, use the slider (**a**) located on the tube handpiece.

NOTE: *When the tube is put back in place, suction stops approximately 2 seconds later.*
This is done to dry the suction tubes.

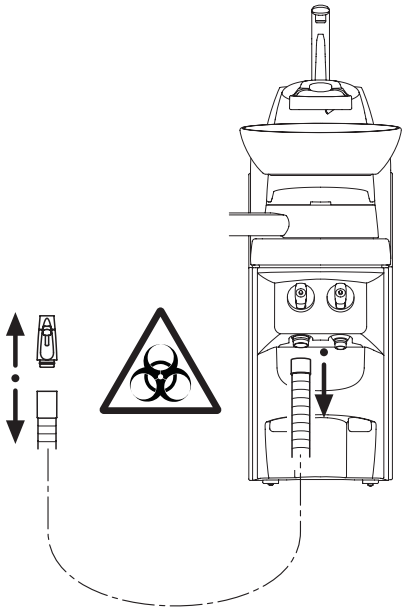


Cleaning the suction tubes.
As the dental units may be equipped with different suction systems (liquid ring or wet, air) carefully follow the instructions provided by the suction system manufacturer when disinfecting the system regarding the product to be used, times and directions for use.

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).

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.

Disinfection.
- Suction tube holder terminals: steam autoclave up to 135°C 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.).

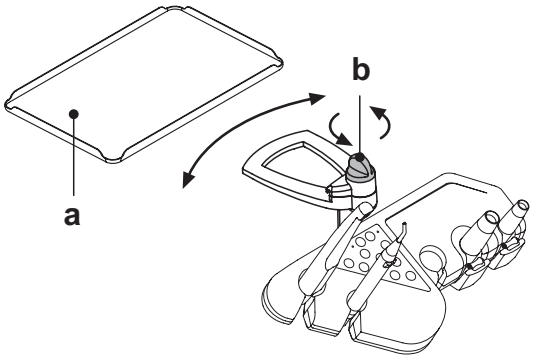
Note about biocompatibility.
Only suction tubes supplied with the dental unit and there after original replacement tubes can be used.
The suction tubes must comply to the standard EN 10993-1 Biological evaluation of medical devices.

ISOLITE suction tube.
For ISOLITE suction tube operation, please refer to the specific use instructions given by the manufacturer.

6.6. Instrument tray.

The instrument tray (**a**) 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.



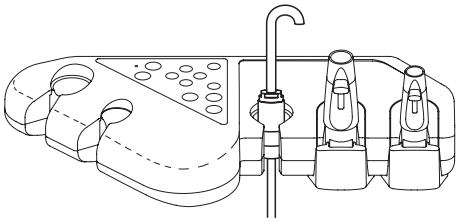
6.7. Hydraulic saliva ejector

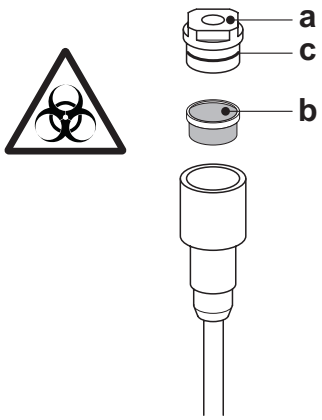
The hydraulic saliva ejector starts running when the tube is removed from the support.

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
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.

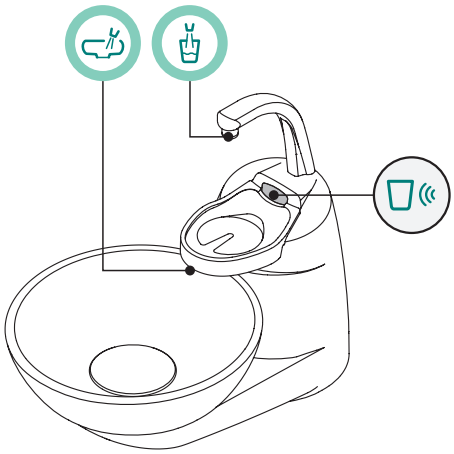




Routine maintenance
Lubricate the o-rings (**c**) with **S1 – Protection for o-rings lubricant**.

7. Hydrogroup operation

7.1. Fill cup and bowl



The bowl can freely move 305° on the hydrogroup. The bowl may be powered (optional) or can be turned by hand.
The bowl and water to cup spout can be removed to ease cleaning.

Control buttons.

Water to cup button.

Bowl flush button.

Cup sensor.
You can have an optical sensor fitted at the base of the cup fountain, which detects the cup and automatically activates filling.
The sensor operates as follows:
- 2 seconds after positioning the cup under the fountain, it is filled with water for 2 seconds (this time is not modifiable)
- Once the cup has been removed, the filling cycle can be repeated only after 3 seconds
- During the filling cycle, removing the cup and/or pressing the “CUP WATER DELIVERY” button, the water delivery cycle will immediately be interrupted.

NOTE: *to disable the cup sensor see paragraph 5.1.1.2.2.2.*

Adjusting the amount of water used to fill the cup.
See paragraph 5.1.1.2.2.2.

Adjusting the temperature of the water sent to the cup.
See paragraph 5.1.1.2.2.2.

Setting bowl flushing.
Water can be delivered to the bowl either in manual (with the ON/OFF button) or timed.
See paragraph 5.1.1.2.2.1. to set the desired mode of operation and water delivery time.

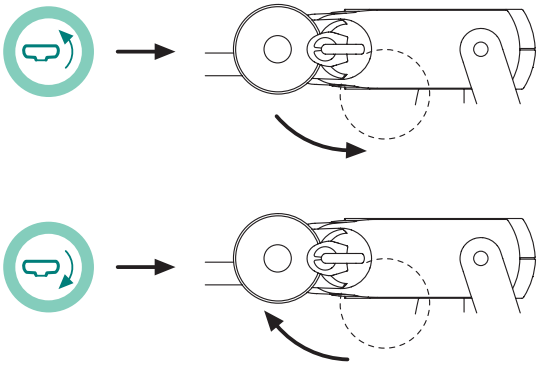
Setting automatic bowl flushing.
The bowl is automatically flushed in the following cases:
- when button “Water to cup” is pressed,
- when button “Dental chair automatic return” is pressed,
- when button ‘Rinse position” is pressed.

To change operation see paragraph 5.1.1.2.2.1.

Powered bowl movement.

Bowl counter-clockwise button.

Bowl clockwise button.



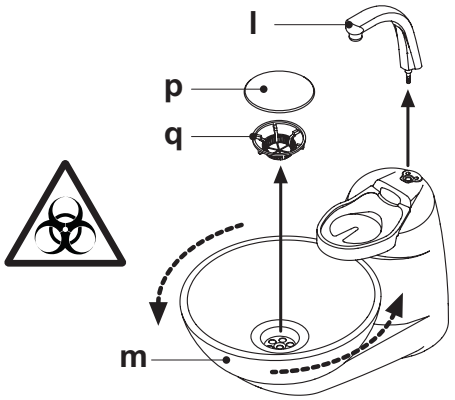
NOTE: *the bowl can also be moved directly by hand.*

Automatic bowl motion (only with powered bowl).
The bowl moves automatically in the following cases:
- press button “Dental chair rinse position”,

  NOTE*: in this case, the position of the bowl can also be set (see paragraph 5.1.2.).*
- by pressing button “Dental chair reset position”.

See paragraph 5.1.1.2.2.3.for information on how to modify operation.

Taking off the bowl filter and rinse spout.
- Pull up the spout (**l**) and take it off.
- Pull up the filter (**q**) and its cover (**p**) to remove them.
- Turn the bowl (**m**) counter-clockwise to release it and then pull it up to take it out.



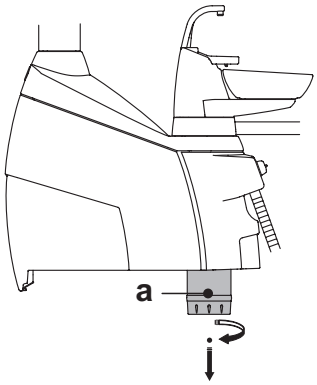
Disinfecting and cleaning.

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 (for example MD 550 Orotol DÜRR).
- Bowl filter: clean with running water and commercially-available cleaning products.

WARNING!
Do not use acids or harsh products.

7.2 S.H.S. system

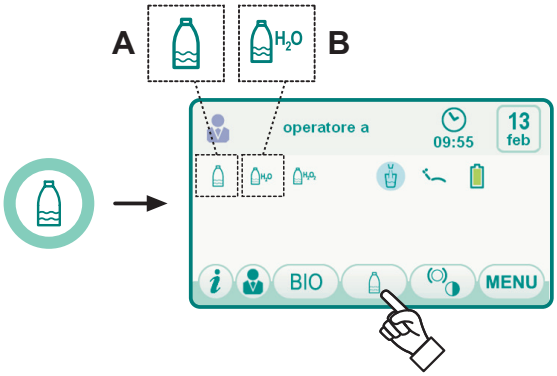
Description of the system
The S.H.S. system is equipped with a distilled water tank (**a**).
The tank can hold 1.8 liters.
Distilled water is delivered to:
- the sprays of all the instruments found on the instrument and assistant's board.
- The syringe on the assistant's board.
- to fill the cup
- water quick-connect coupler (if present)



The icon button on the TOUCH DISPLAY (see paragraph 5.1.1.2.8.) or the button on the assistant's board pushbutton panel allows to activate/deactivate the distilled water delivery.

***NOTE:** the distilled water delivery status is shown by the icon (**A**) on the control panel display.*

Tank reserve level.
When the liquid in the tank falls below the reserve level, the relative icon (**B**) appears on the instrument board's console.



Filling the tank.
When the water level in the tank is low (about 500 cc), fill it as directed below:
- Disable the S.H.S. system by touching the icon button or pressing the button .
  Check that the icon (**B**) on the console display disappears.

NOTE: during this operation, the pressurized air contained in the tank will automatically be discharged to the outside.
- Turn the tank counter-clockwise (**a**) and remove it.
- Pour distilled water into the tank until the maximum level is reached.

WARNING!
Use only distilled water. For a higher guarantee of hygiene you can add 600 parts per million (ppm) of hydrogen peroxide using 20 ml of Peroxy Ag+ per litre of distilled water, or oxygenated water (20 ml of 3% oxygenated water per litre of distilled water).
- Put the tank back in place turning it clockwise.

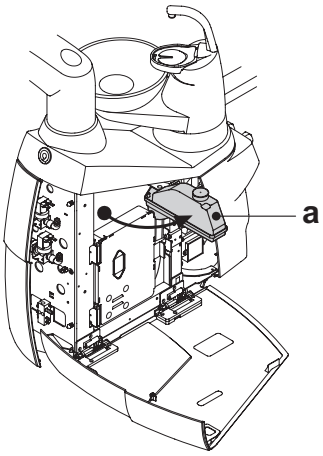
WARNING!
Make sure that the tank is properly tightened.
- Touch the icon button or press the button to re-enable the S.H.S. system and confirm that filling is complete.
  Check that the icon (**A**) appears on the console display.

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.
Only the tank should be cold disinfected on a regular basis (at least once a month) using a peracetic acid based product proceeding as directed below:
- take the tank out of the dental unit and empty it;
- prepare the solution of peracetic acid based product following the instructions provided by the manufacturer;
- fill the tank up to the rim with the peracetic acid based product;
- let the peracetic acid solution soak in the tank for the time stated by the manufacturer;
- empty the peracetic acid solution from 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.

7.3. W.H.E. (Water Hygienization Equipment) system

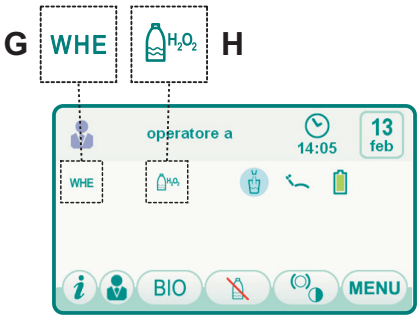
The W.H.E. system assures safe separation (physically) of the dental unit water supply system from the public water mains thanks to a water free-fall section (in compliance with EN 1717).
In addition, the system continuously injects hydrogen peroxide into the water circuit with a final concentration 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 W.H.E. system is positioned in the connection box and is always active.
In addition, the system is equipped with a tank (**a**), located in the hydrogroup that holds approximately 590 cc of hydrogen peroxide.
Una specifica icona (**G**) segnala sul TOUCH DISPLAY che il sistema W.H.E. è in funzione.

NOTE: *the W.H.E. system is automatically deactivated when the S.H.S. system (if present) is activated.*

Low disinfectant liquid warning signal.
When the level of disinfectant liquid in the tank (**a**) is low,
a specific warning icon and an error message (**H**) appear on the TOUCH DISPLAY and 3 warning beeps are emitted, repeated each time the dental unit is turned on.



WARNING!
If the disinfectant liquid runs out, the dental unit will continue to operate but using UNTREATED mains water.
It is advisable to as soon as possible top up the disinfectant tank.

Filling the tank containing disinfectant liquid.
When the disinfectant liquid in the tank runs out, operate as follows:
A7 PLUS series dental units:
When the disinfectant liquid in the tank runs out, operate as follows:
- Open the unit body side cover (see section 7.7.)
- Turn the hydrogen peroxide tank (**a**).
- Turn the cap counter-clockwise and take it off. Pour hydrogen peroxide into the tank until it is full.
- Put the cap and tank back into place.
- Lastly, 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.

WHE system water circuit drainage.
This function allows draining the water circuit of the W.H.E. system if the dental unit is to remain off for many days.
The procedure for emptying the tank is given in paragraph 5.1.1.2.1.3.

Fault messages shown on the console display.
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.

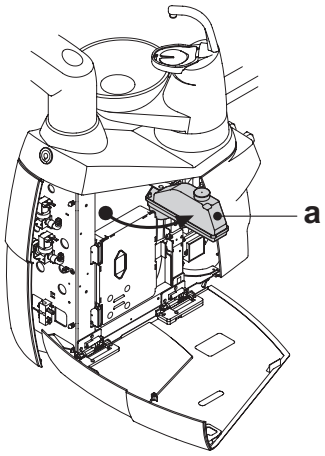
Hydrogen peroxide storage.
For proper storage, follow the manufacturer's instructions printed on the package.
It is important to keep the package tightly closed and store it in a cool place at a temperature not exceeding 25°C.

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: *to empty the tank, it is advisable to use a suction cannula.*

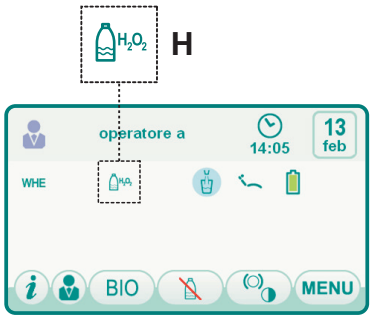
7.4. BIOSTER automatic disinfection system

Description of the system.
This system performs an automatic disinfection cycle for the water circuits of the following instruments:
• all instruments found on the instrument board
• syringe on the assistant's board
• the suction cannulas (if the relevant flushing system is present),
• water to cup ducts
The system is equipped with a tank (**a**), located in the hydrogroup that holds approximately 590 cc of hydrogen peroxide.
The disinfection cycle can be set and is equipped with an electronic safety system in compliance with CEE 93/42 Medical Device Directive and subsequent changes.



WARNING!
Perform a disinfecting cycle at the end of each work day.

Segnalazione liquido disinfettante in esaurimento.
Quando il liquido disinfettante presente nel serbatoio (**a**) si sta per esaurire, sul TOUCH DISPLAY compare una specifica icona di segnalazione (**H**), sul display compare un messaggio di errore e vengono emessi 3 BEEP di avvertimento che si ripetono ad ogni accensione del complesso odontoiatrico.



Filling the tank containing disinfectant liquid.
When the disinfectant liquid in the tank runs out, operate as follows:
A7 PLUS series dental units:
When the disinfectant liquid in the tank runs out, operate as follows:
• Open the unit body side cover (see section 7.7.)
• Turn the hydrogen peroxide tank (**a**).
• Turn the cap counter-clockwise and take it off. Pour hydrogen peroxide into the tank until it is full.
• Put the cap and tank back into place.
• Lastly, close the cover on the side of the hydrogroup.

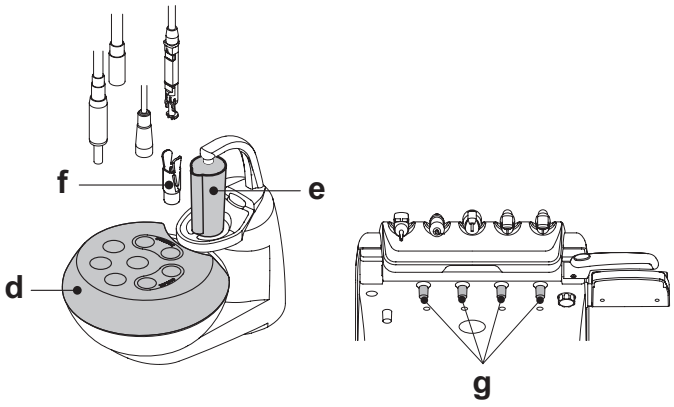
WARNING!
Fill the tank only with pure PEROXY Ag+ or 3% oxygenated water (10 volumes) without diluting.

Setting the disinfection cycle.
• Make sure the level of disinfectant in the tank is correct, top up if necessary.

NOTE: *The disinfection cycle will not start if the level in the tank is under reserve.*
• Using the TOUCH DISPLAY or pressing and holding (for at least 2 seconds) the BIO button on the assistant's board, access the BIOSTER DISINFECTION CYCLE SETTING menu and set the disinfectant liquid dwell time in the water ducts of the instruments (see paragraph 5.1.1.2.1.1.).
• Place the container (**d**) of the instruments to be disinfected over the bowl.
• Put the cords of the instruments to be disinfected in the container.

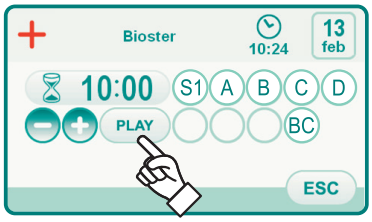
WARNING!
For the syringe instrument you need to use the special adapter (f) and the heating system must be off.
The micromotor cord must be completed with motor body.
Turbine and scaler cords must be inserted without the handpiece.
• In order to disinfect the suction tubes, insert the suction tube terminals in the fittings found underneath the manifold (see paragraph 7.5.).

NOTE: *make sure the suction tube terminals are opened.*
• If the water to cup ducts need to be disinfected, place the container (**e**) provided under the cup spout.
• Make sure the spray cocks (**g**) found under the instrument board are open.



Starting the disinfection cycle.

- Start the automatic disinfection cycle by touching the icon button PLAY (see paragraph 5.1.1.2.1.1.) on the TOUCH DISPLAY or pressing the BIO button on the assistant's board.
- At this point, the system performs the following steps automatically:
  - water ducts for instruments emptied with air;
  - disinfectant let in and time it has to remain in the ducts previously set starts to clock down;
  - once this time is over, ducts are emptied with air again;
  - tubing flushing with mains water or distilled water (only with the distilled water delivery system present and active).
- At the end of the disinfection cycle (the TOUCH DISPLAY shows the message “End of cycle: replace instrument”) it is sufficient to replace the extracted instruments to go back to the working condition.



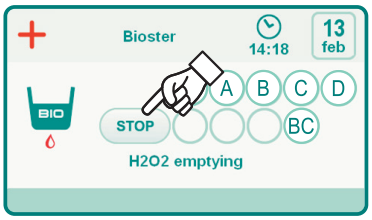
Interrupting the disinfection cycle.

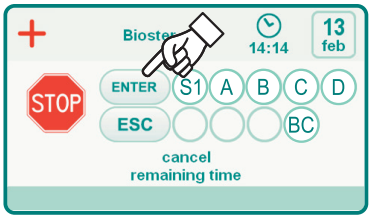
- You can interrupt the disinfection cycle at any time by touching the icon button STOP.
- A confirmation message appears on the console display:
  - Touching the icon button ESC cancels interruption of the disinfection cycle and returns to display of the cycle menus.
  - Touching the icon button ENTER interrupts the disinfection cycle and displays an intermediate menu showing the time set and the instruments extracted.

***NOTE:** at this point, the dental unit is in locked status.*

- The following selections can now be made:
  - Touch the icon button ESC to return to the initial time setting menu where you can restart the disinfection cycle from the beginning and change, if you want, the disinfectant dwell time and/or add instruments to be disinfected,
  - By touching the icon button , it is possible to enter the “Instrument flushing” menu to carry out the flushing of the extracted instruments ducts,
  - Touch the icon button PLAY to resume the disinfection cycle from the point where it was interrupted.
- In the “Instrument flushing” menu:
  - In the “Instrument flushing” menu, PLAY by touching the icon button , it is possible to activate the emptying and flushing cycle of the extracted instruments ducts with mains or distilled water (if the S.H.S. system is present),
  - Touching the icon button you return to the previous menu.

***NOTE:** Once the disinfection cycle has been completed (“Cycle completed: put instruments back in place” appears on the display) simply put the instruments removed back into place to resume work..*





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:** to empty the tank, it is advisable to use a suction cannula.*

Error messages shown on the console display.

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

WARNING!
If the disinfecting cycle is incorrectly interrupted, the equipment will shutdown until either the disinfecting cycle is performed again or the washing cycle is carried out.

7.5. Automatic instrument FLUSHING CYCLE (FLUSHING)

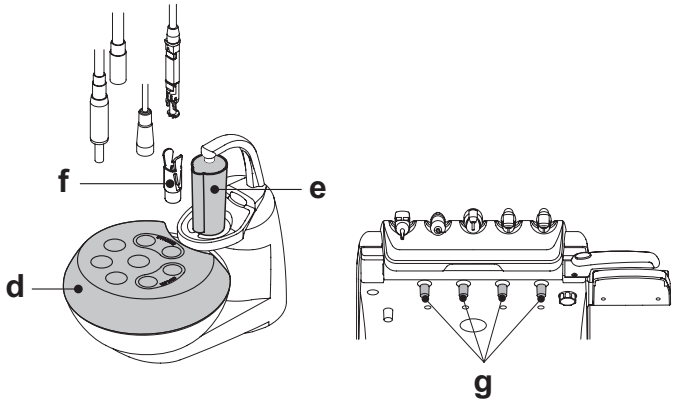
Description of the system.
The automatic FLUSHING cycle allows to carry out an automatic flushing cycle to renew water present in the water ducts of the instruments on the dentist's and the assistant's boards and the water-to-cup duct.
Flushing may be carried out with mains water, treated water (if the W.H.E. system is present) or distilled water (if the S.H.S. system is present).
The cycle duration can be set up from 1 to 5 minutes.

WARNING!
It is advisable to carry out a FLUSHING cycle at the beginning of each working day and between two patients.

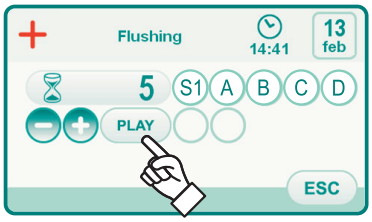
Setting the FLUSHING cycle.
- If the S.H.S. system is present and you want to execute the flushing cycle with distilled water, check that the relative icon (**A**) on the console display is on (see paragraph 7.2.).

***NOTE:** it is advisable to execute the flushing cycle with a full tank of distilled water.*
- By using the TOUCH DISPLAY, enter the "FLUSHING cycle setting" menu and set the cycle duration (see paragraph 5.1.1.2.1.2.).
- Position the container (**d**) for the instruments to be disinfected on the bowl.
- Insert the tubings of the instruments to be disinfected in the container.

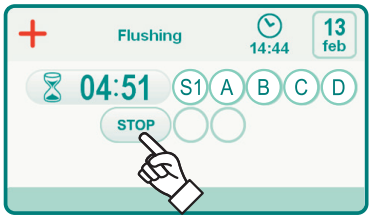
WARNING!
For the syringe instrument you need to use the special adapter (f) and the heating system must be off.
The micromotor cord must be completed with motor body.
Turbine and scaler cords must be inserted without the handpiece.
- Insert the special supplied container **(e)** under the cup spout.
- Make sure that the spray taps (**g**) in the lower part of the dentist's instrument board are open.



FLUSHING cycle setting.
- Start the flushing cycle by touching the icon button PLAY on the TOUCH DISPLAY (see paragraph 5.1.1.2.1.2.).
- At the end of the flushing cycle (the display shows the message "End of cycle: put back instruments"), put the instruments extracted back into place to return to the working condition.



Interruption of the FLUSHING cycle.
You can interrupt the flushing cycle at any time STOP by touching the icon button and return to the initial cycle setting menu.

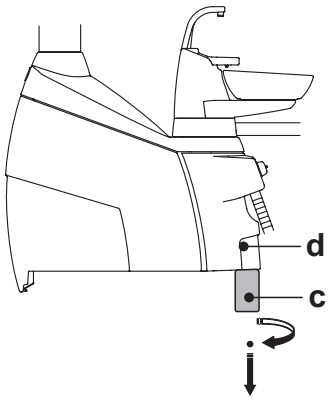


Error messages shown on the console display.
If the system detects a malfunction, a fault message appears on the display screen (see paragraph 10.).

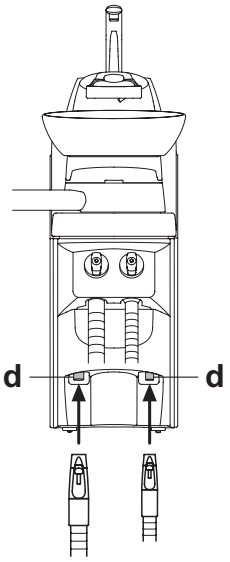
7.6. ACVS system (Automatic Cleaning Vacuum System)

Description of the system.
This system allows cleaning the surgical suction system.
The system comes with a tank (**c**) that contains the liquid disinfectant and two fittings (**d**) used to wash the suction tubes.
The detergent liquid tank 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 (**c**) 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 terminals in the fittings (**d**) found under the manifold.
  The vacuum created by the Venutri meters triggers the washing cycle.
- Washing cycle stages:
  - deliver municipal water for 50 sec. using intermittent operation (2 sec. ON - 1 sec. OFF):
  - stop the water flow and let in 10 cc of liquid disinfectant;
  - stop letting in liquid disinfectant and continue sucking for 10 sec.
- The washing cycle ends when the suction flow is interrupted and the motor stops running.
  "Put the suction tubes back in place" appears on the display.
- At this point, put the ends of the suction tubes in the supports on the assistant's board to go back to the work conditions.



Filling the tank.
A7 PLUS series dental units:
If the detergent liquid in the tank (**c**) is below the minimum level, act as follows:
- Position the dental chair at maximum height.
- Remove the tank by turning it anticlockwise.
- Pour the detergent liquid into the tank until it is full.
- Refit the tank by turning it clockwise.

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

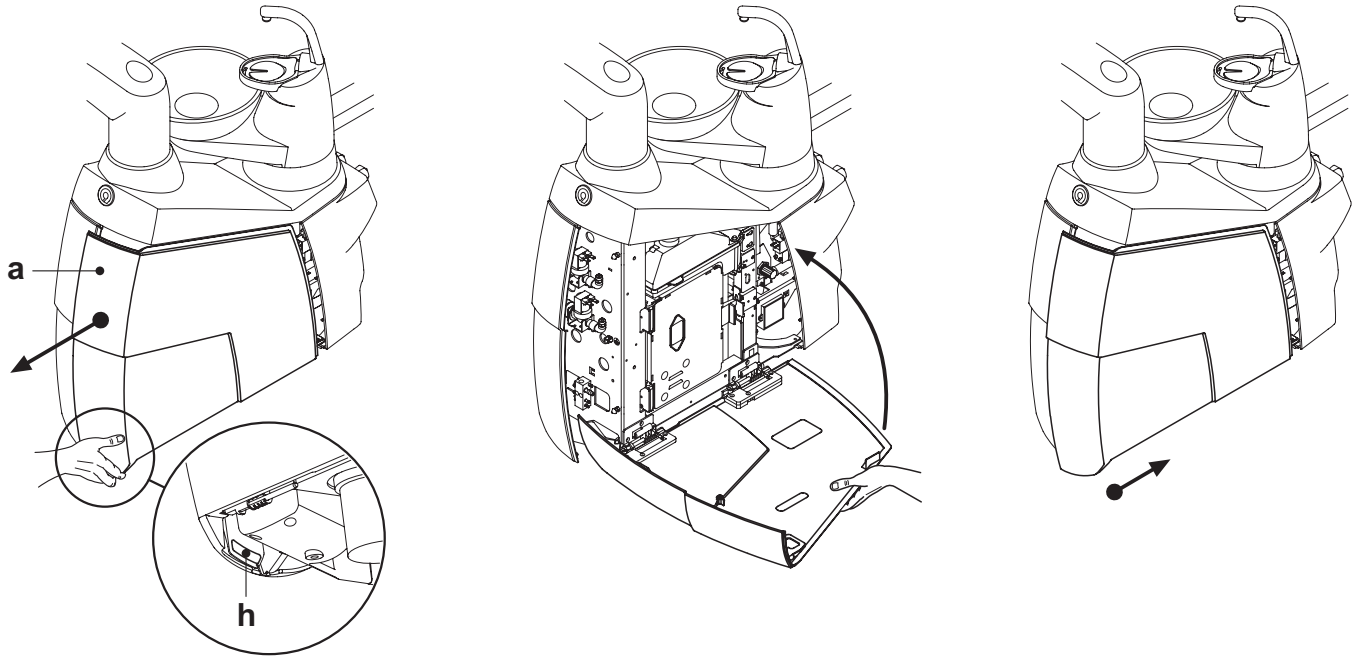
NOTE: *Once the problem has been solved, the washing cycle automatically restarts.*

7.7. Opening/closing the side hydrogroup cover

A7 PLUS series dental units.

Opening the cover.
• Open the cover on the side of the hydrogroup (**a**) after pushing up and releasing the lock lever (**b**).

Closing the cover.
• Put on the cover making sure the two locks are inserted in the notches in the hydrogroup.
• Lastly, bring the bottom of the cover near the hydrogroup frame to engage the lock lever again.



8. Accessories

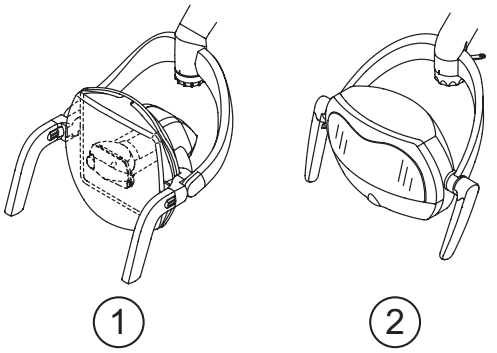
8.1. Operating lamp

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.**

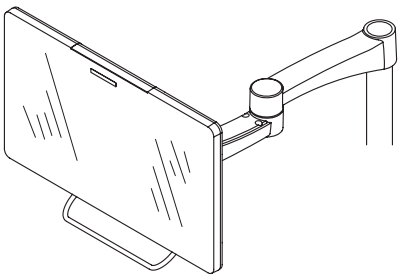
The instructions for use and maintenance of the lamps are available in PDF format and can be downloaded from the download area of the website www.anthos.com.

***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 provided with the device.

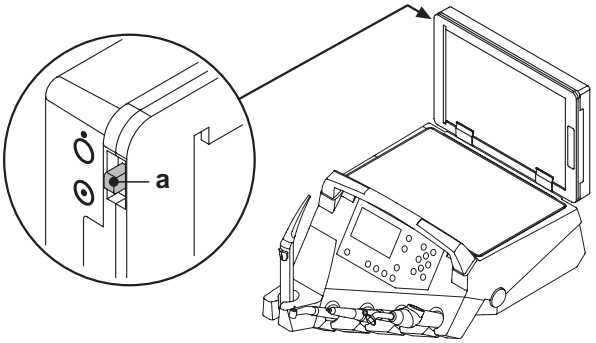


8.3. Negatoscope for panoramas

An x-ray film viewer for panoramic x-rays can be mounted on all INTERNATIONAL version instrument boards.
The screen dimensions are as follows: H=210mm, L=300mm.
Per accendere il negatoscopio è sufficiente agire sull'apposito interruttore (**a**):

= negatoscope on

= negatoscope off



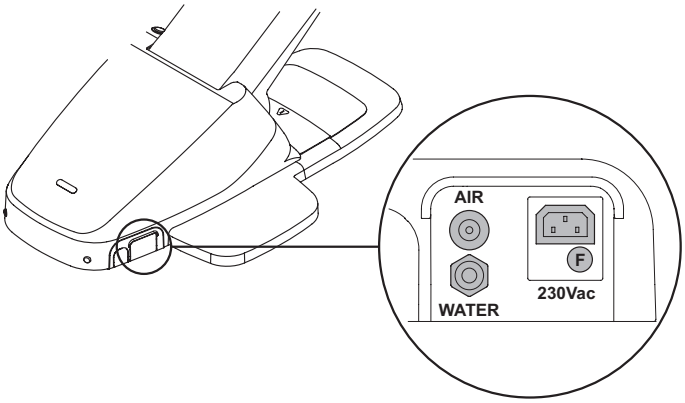
8.4. Air/water/230V quick-connect couplers

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.H.S. system, 1,8 Bar
  - with W.H.E. system, 3 Bar
- Water quick-connect coupler delivery rate:
  - municipal water, 1800 ml/min
  - with S.H.S. system, 950 ml/min
  - with W.H.E. system, 400 ml/min

***NOTE:** with S.H.S. system: to use the quick-coupling with mains water, disable the distilled water tank (see Paragraph 7.2.).*



9. Maintenance

Preventive maintenance
CEFLA s.c., the manufacturer of the dental units, in accordance with applicable standards IEC 60601-1 3.a Ed. - 2007, IEC 62353 and directive MDD 93/42, and subsequent changes, for medial 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.

ATTENZIONE!
Eventuali riparazioni, modifiche o manomissioni, durante il periodo di garanzia, effettuate da personale non autorizzato da CEFLA s.c., determinano il decadimento della garanzia stessa.

Safety checks.
In accordance with standard IEC 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.

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

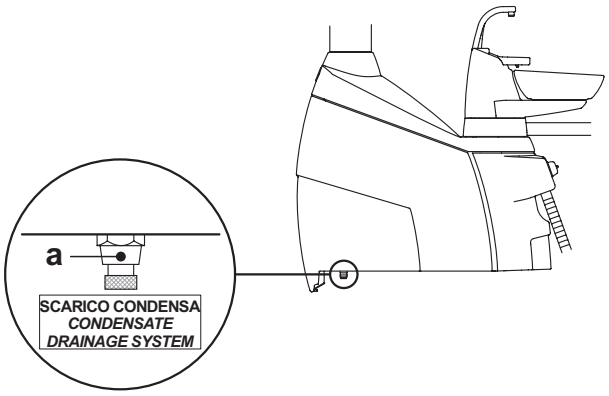
9.1. Instrument maintenance

Maintenance instructions for the instruments are enclosed with each instrument.

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

9.2. Draining condensate

This operation should be done daily before starting work.
A7 PLUS series dental units:
Proceed as follows:
- put a container under the cock (**a**) found below the hydrogroup,
- loosen the cock's knob,
- after the tank has been emptied, fully close the cock.

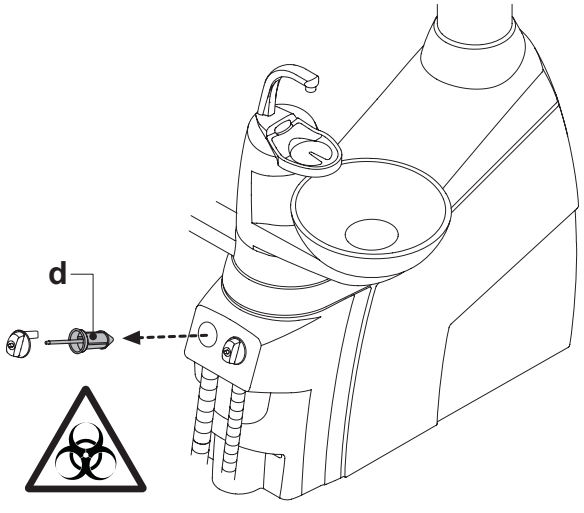


9.3. Cleaning the surgical suction filter

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

WARNING!
Always wear gloves to prevent contact with infected material when cleaning the suction filters.
Proceed as follows:
- Take out the filter (**d**).
- Clean/replace the filter (code 97461845).
- Put the filter back in place being careful to removing any amalgam still present at the filter housing's entrance.

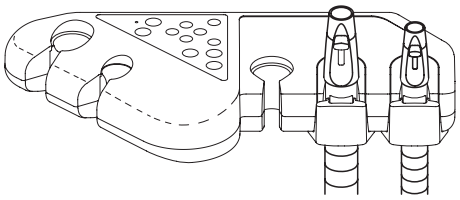
NOTE: *To prevent liquids and matter from dripping from the filter taken out, perform the operations given above with the suction tube running.*



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).

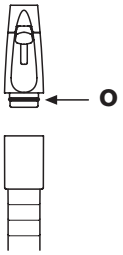


At the end of each surgical procedure.
- Execute an automatic flushing cycle or aspirate about ½ litre of sanitizing solution with each of the cannulas used.
- Sterilize the suction tube holder terminals in a steam autoclave up to 135°C following the instructions for use of the device.

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).*



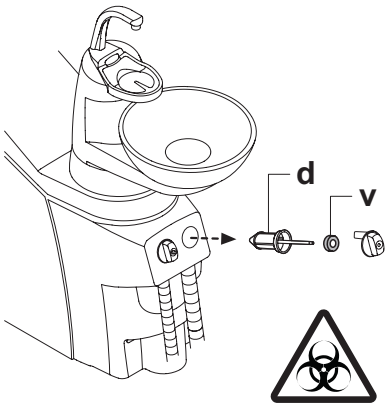
Once a week.
Remove the cannula body from its cord attachment and lubricate the O-rings (**o**) using **S1-Protective Lubricant for O-Rings** (CEFLA s.c.).

Once a year.
Replace the suction tubes and ends of the tube holder.

9.5. CATTANI surgical separator

At the beginning of each work day.
Insert inside filter (**d**) a tablet (**v**) of **VF CONTROL PLUS** (CEFLA s.c.).

WARNING!
Always wear gloves to prevent contact with infected material when carrying out this operation.
- Perform an automatic flushing cycle or suck in about 1/2 litre of sanitising solution with each one of the suction tubes used.
- Sterilize the suction tube holder terminals in a steam autoclave up to 135°C, minimum time 15 min.



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.

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

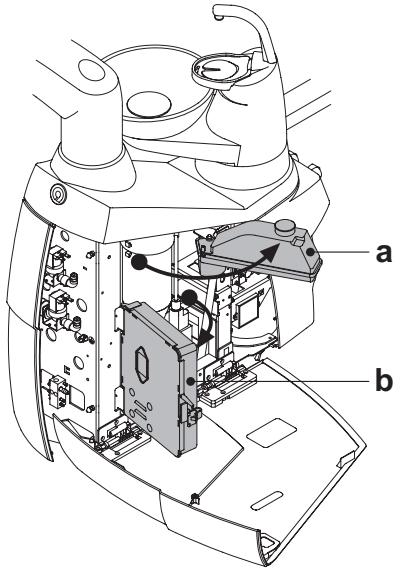
Every 15 days.
- Clean the separator container and probes with a soft sponge and neutral detergent.
- Clean the drain valve for the separator's container with the device provided for this purpose.

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

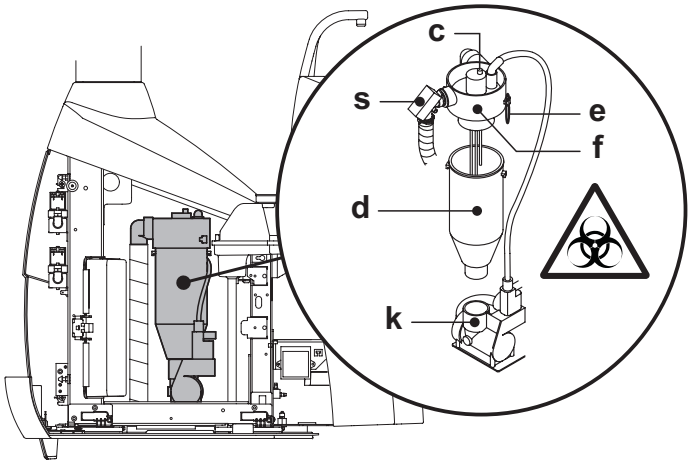
Before leaving the surgery empty for a few days.
- Start the aspirator and run it 20 - 30 minutes without sucking in liquids. The aspirator will dry itself completely. As a result, salt caused by moisture and basic substances will not form, salt that may cause fan seizure and motor blockage.

How to remove the separator's container.

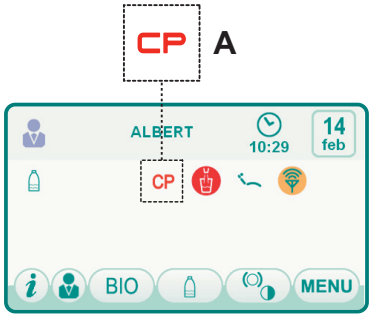
WARNING!
Gloves must be worn when carrying out the following operation to prevent contact with infected material.



A7 Plus series dental units:
- Position the dental chair at maximum height.
- Open the hydro unit side cover (see paragraph 7.7).
- Turn the electric box (**b**) and, if present, the oxygenated water tank (**a**).
- Completely empty the separator vessel by pressing the timed button (**c**) on the cover.
- If present, remove the valve (**s**) for centralised systems.
- Turn and lift the vessel until it detaches from the drain pump (**k**).
- Detach the vessel (**d**) from the cover (**f**) by lifting the side elastic bands (**e**).
- After carrying out the cleaning operations, refit the vessel (d) after lubricating the O-rings with **S1-Protective grease for O-rings** (CEFLA s.c.).
- Finally, reposition the electric box and the tank and close the hydro unit side cover.

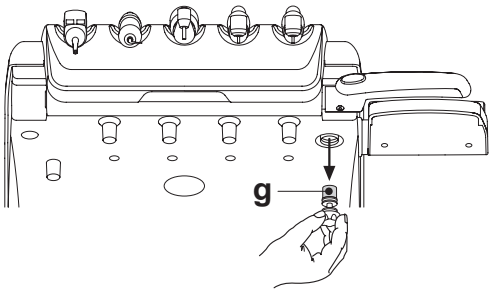


Drain pump locked warning.
A dedicated icon (**A**) on the TOUCH DISPLAY will indicate if the drain pump below the separator vessel locks.
At this point, shut off the equipment and empty the separator bowl by hand.
If the icon appears again, call technical service.



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. CATTANI amalgam gravity separator

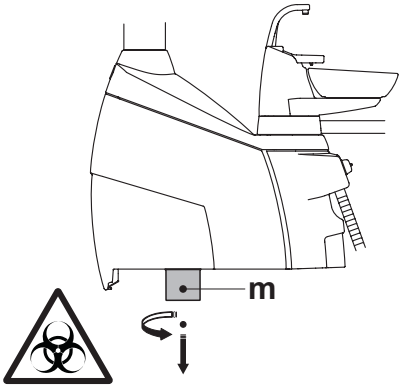
Emptying the separator vessel

- Completely raise the dental chair so that you can drain out the waste fluids as much as possible.
- Remove the vessel (m) by unscrewing it anticlockwise.

WARNING!
This operation must be carried out wearing gloves to prevent any contact with the infected material.

- Referring to the instructions for use of the device provided by CATTANI, empty the vessel in the throwaway container (part number 97290027).

WARNING!
For disposal of the throwaway containers full of amalgam, operate in compliance with the local and national regulations.



9.8. 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.

9.9. DÜRR amalgam separator

The maintenance instructions for the DÜRR 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.

9.10. Dental chair

The dental chair does not require any particular maintenance.
It is nevertheless advisable to once a year have an authorised ANTHOS technician check overall functioning.

10. Fault messages

M = Message shown on console display
C = Cause
R = Remedy

M: **"H2O level low, fill tank"**
C: The water in the independent water system's tank has dropped below the minimum acceptable level.
R: Fill the tank (see paragraph 7.2.).

M: **"Put instruments back in place"**
C: The system detected an instrument was already withdrawn while the disinfecting cycle was being set.
R: Make sure all the instruments are in place and then set the cycle again. If the fault message appears again, call technical support.

M: **"Check instruments, repeat cycle"**
C: The system detected the withdrawn instruments were altered during the flushing or disinfecting cycle.
R: Check the selected instruments and repeat the disinfecting (see paragraph 7.4.) or flushing (see paragraph 7.5.) cycle.

M: **"H2O2 level low, fill tank"**
C: The hydrogen peroxide in the relative tank has dropped below the minimum acceptable level.
R: Fill the hydrogen peroxide tank (see paragraph 7.4.).

M: **"Open H2O spray cocks"**
C: The system is not able to fill the lines with hydrogen peroxide during the disinfecting cycle.
R: Open the water spray cocks and repeat the disinfecting cycle (see paragraph 7.4.). If the message appears again, call technical support.

M: **"Remove all instruments"**
C: The system detected an internal malfunction during the disinfecting cycle.
R: Repeat the disinfecting cycle, selecting all the instruments. If the message appears again, call technical support.

M: **"Empty WHE system"**
C: WHE system malfunction.
R: Empty the tank inside the WHE system and restart the system (see paragraph 5.1.1.2.1.3.). If the message appears again, call technical support.

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

M: **"Check suction tubes, repeat cycle"**
C: The system has detected that the suction tubes are not connected to the relative fittings during the flushing or disinfecting cycle.
R: Make sure the suction tubes are properly connected and repeat the disinfecting (see paragraph 7.4.) or flushing (see paragraph 7.5.) cycle. If the message appears again, call technical support.

M: **"Withdraw at least one instrument"**
C: An attempt has been made to start a disinfecting cycle without selecting any instruments or the cup.
R: Repeat the disinfecting cycle selecting at least one instrument or the cup. If the message appears again, call technical support.

M: **"Instrument configured"**
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: **"Put suction tubes back in place"**
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: **"Put instrument back in place"**
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: **"Check suction tube filter"**
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.

M: **"Hydrogroup emergency device activated"**
C: While performing an automatic movement, the assistant's board encountered an obstacle.
R: Clear the obstacle and press the button for the desired program again.

M: **"Lower dental chair"**
C: The bowl does not move because the dental chair is in its way.
R: Lower the dental chair so that it is no longer in the way.

M: **"Check operating light fuses"**
C: The operating light does not turn on because electric power is not supplied.
R: Call technical support.

M: **"Maintenance required"**
C: Scheduled maintenance required.
R: Call technical support to schedule the maintenance work.

M: **"Footboard emergency device activated"**
C: The dental chair encountered an obstacle.
R: Press the "seat up" button and clear the obstacle.

M: **"Backrest emergency device activated"**
C: The dental chair backrest encountered an obstacle.
R: Press the "seat up" button and clear the obstacle.

M: **"Move bowl"**
C: The dental chair does not move because the bowl is in the way.
R: Move the bowl so that it is no longer in the way of the dental chair.

M: **"Seat emergency device activated"**
C: The dental chair encountered an obstacle.
R: Press the "seat up" button and clear the obstacle.

M: **"Delivery emergency device activated"**
C: The side delivery board encountered an obstacle.
R: Press the dental chair "seat up" button and clear the obstacle.

M: **"Dental chair blocked, put instrument back in place"**
C: An attempt was made to move the dental chair with an instrument withdrawn.
R: Put instrument back in place and repeat dental chair movement.

M: **"Dental chair blocked"**
C: An attempt was made to move the dental chair while it was blocked
R: Remove dental chair blockage (see paragraph 4.).

⚠ **IMPORTANT INFORMATION!**
M: "XXXX, call technical support" (where XXXX represents a numerical code)
C: This type of message indicated a serious internal error.
R: Call technical support quoting the number of the error.

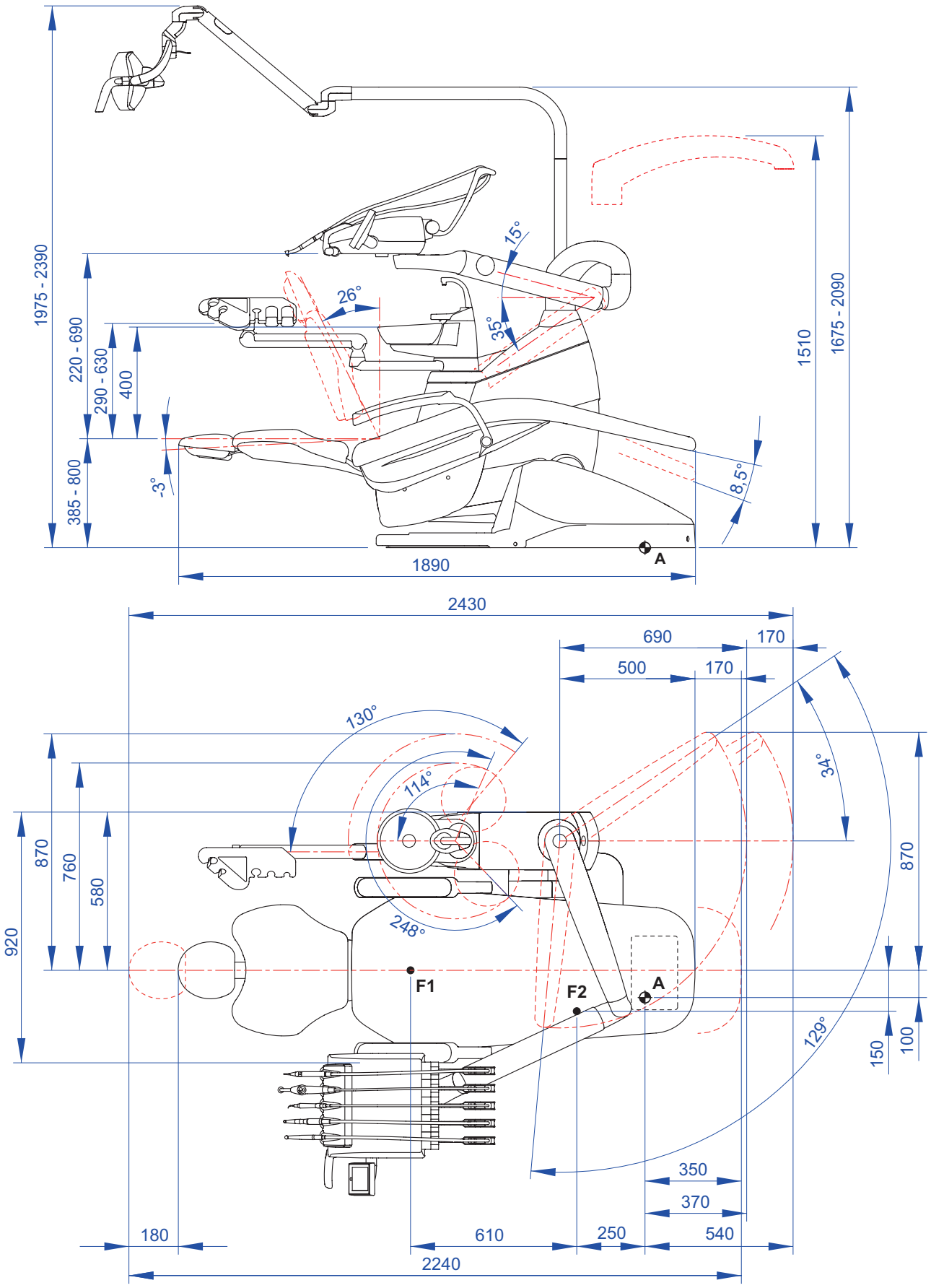
11. Specifications

Installation plan:	97042086
Technical manual:	97071156
Dental unit spare parts catalogue:	97023117
Dental chair spare parts catalogue:	97023117
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.

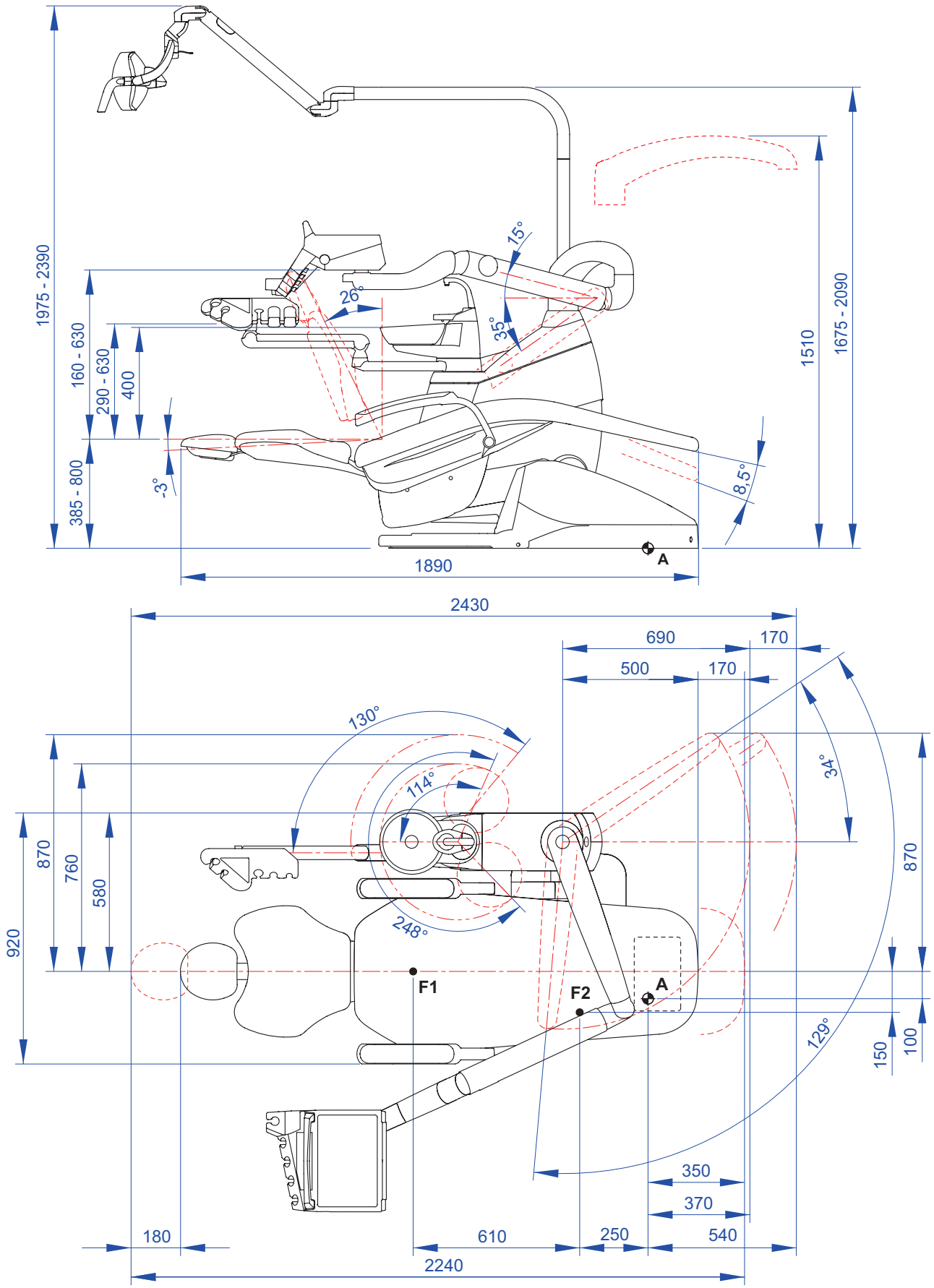
Water delivery rate:	10 l/min
Water usage:	2 l/min.
Water hardness:	< 25 °f (14 °d)
Drain connection:	ø40 mm.
Drainage rate:	10 l/min.
Drain duct inclination:	10 mm/m.
Aspirator connection:	ø40 mm.
Vacuum (minimum):	65 mbar.
Vacuum delivery rate:	450 l/min.
Mark of approval:	CE 0051
Electrical work in 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:	145 Kg.
Dental chair packaging weight:	150 Kg.

FUSES			
Identification	Value	Protection	Position
Dental unit. Fuse F2 Fuse F4 Fuse F5 Fuse F6	 T 12,5 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.
Dental chair. Fuse F1	 T 6,3 A	 230 V~ : Dental chair power supply line.	 Electrical box.
Quick-connect couplers. Fuse	 T 2 A	 230 V~ : Electrical outlet power supply line.	 Electrical box.
MONITOR power supply. Fuse	 T 4 A	 21 V~: Monitor power line.	 Dental chair card area.

11.1. Overall dimensions: A7 Plus CONTINENTAL



11.2. Overall dimensions: A7 Plus INTERNATIONAL



12. Dental operatory maintenance plan			
WHEN	**PART**	**HOW**	**SEE PARAGRAPH**
Before starting work.	Drain condensate.	/	See paragraph 9.2
	CATTANI surgical separator.	Inserire all'interno del filtro cannula una pastiglia di **VF CONTROL PLUS**	See paragraph 9.5.
After each treatment.	Contra angle handpiece.	Sterilize or disinfect the outside.	See documentation enclosed with handpiece
	Turbine.	Sterilize or disinfect the outside.	See paragraph 5.4
	Micromotor.	Disinfect outside.	See paragraph 5.5
	Scaler.	Sterilize or disinfect outside.	See paragraph 5.6
	Syringe.	Sterilize or disinfect outside.	See paragraph 5.3
	Curing lamp.	Sterilize fiber optic, disinfect outside.	See paragraph 5.7
	C-U2 camera.	Disinfect outside. **Do not use acids or harsh products.**	See paragraph 5.8
	Surgical suction tubes.	Aspirate about ½ litre of sanitizing solution with each cannula. Sterilize the cannula holder terminals.	See paragraph 9.4
When needed.	Bowl.	Clean with off-shelf detergents formulated for ceramic materials **Do not use acids or harsh products.**	See paragraph 7.1
	CATTANI surgical separator.	Clean the separator's container, drain valve and probes.	See paragraph 9.5
	METASYS surgical separator.	See documentation enclosed with equipment,	/
	DURR surgical separator.	See documentation enclosed with equipment,	/
	Operatory light.	See documentation enclosed with equipment,	/
	Monitor with light pole.	See documentation enclosed with equipment,	/
	Removable instrument cords.	Clean with a suitable disinfectant carefully following the directions for use provided by the manufacturer. **Do not use acids or harsh products.**	See paragraph 5
	Coated surfaces and dental chair upholstery.	Clean with a suitable disinfectant carefully following the directions for use provided by the manufacturer. **Do not use acids or harsh products.**	See paragraph 1.4
At the end of the work day.	Bowl filter.	Clean filter in running water The content must be disposed of separately	See paragraph 7.1
	Surgical suction filter.	Check the filter and replace it if the suction rate is reduced (code 97461845).	See paragraph 9.3
	Surgical suction tubes.	Clean the filter of the saliva ejector terminal.	See paragraph 9.4
	Hydraulic saliva ejector.	Clean the filter of the saliva ejector terminal.	See paragraph 6.6
Weekly.	Cannula holder terminals.	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 9.6
Yearly.	Dental chair.	Contact the technical service department for general inspection.	/

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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 Dichiariamo 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 eletrónicos (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 I) 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 Ευρωκοινοβουλίου 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 münhasır sorumluluğumuz altında beyan ederiz:
1) (Kanun hükmünde 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, lì_____

Bussolari Paolo
Managing Director