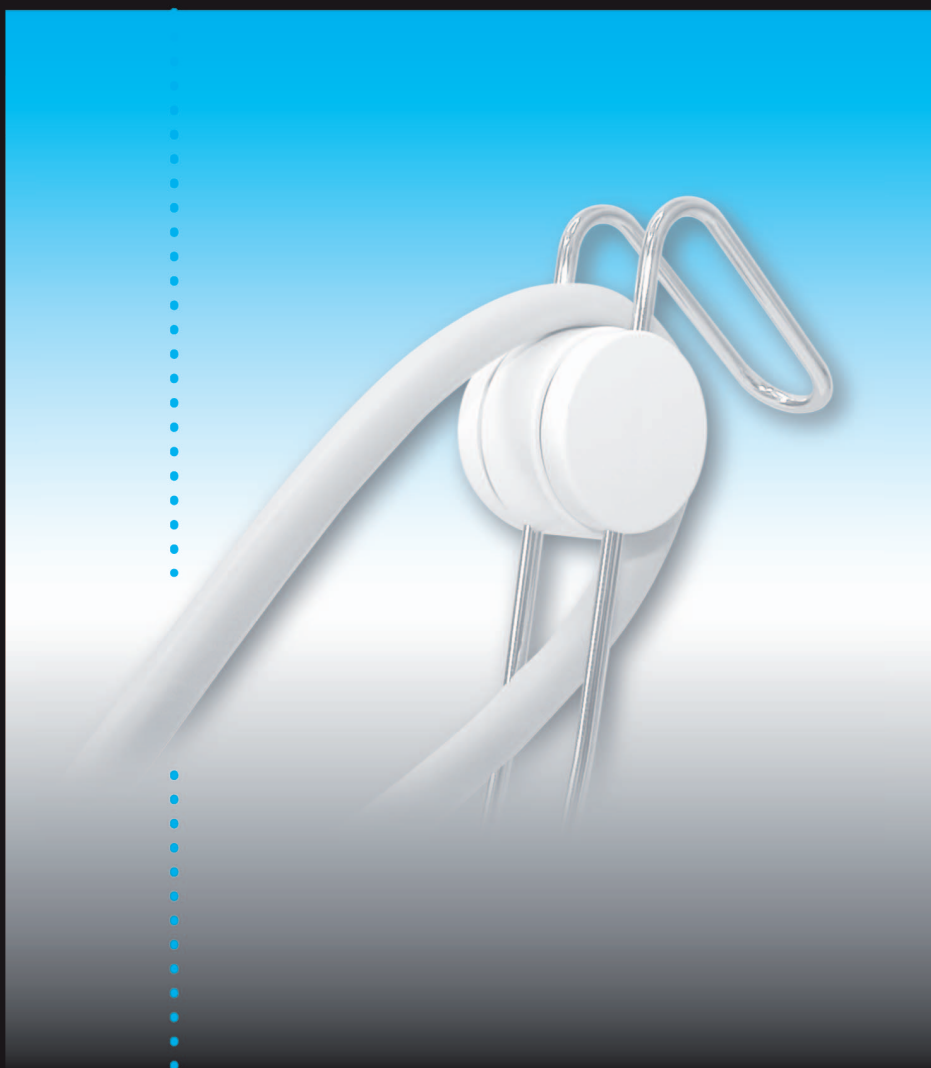




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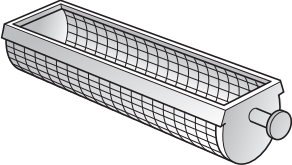
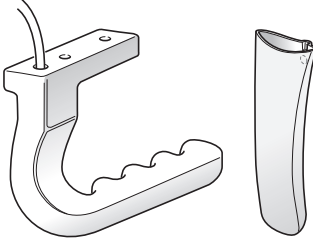
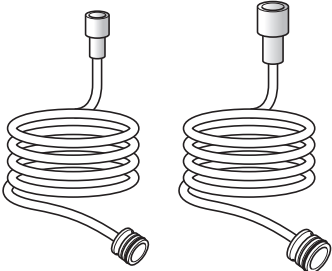
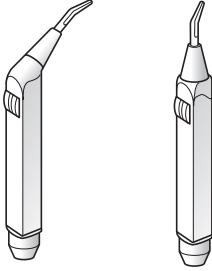
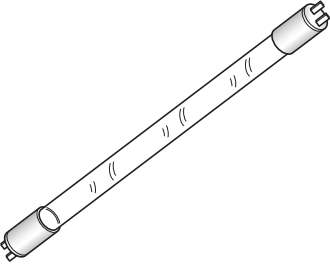
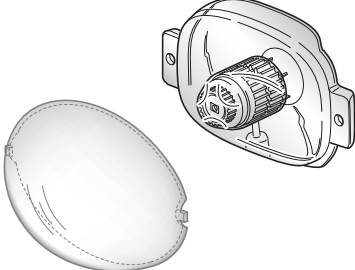


**CE**  
**0051**

# **ABSOLUTE**

MANUALE D'USO  
OPERATOR'S HANDBOOK  
MODE D'EMPLOI  
GUÍA DE MANEJO  
BEDIENUNGSANLEITUNG

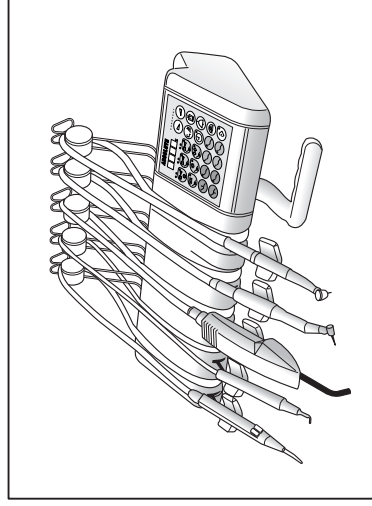
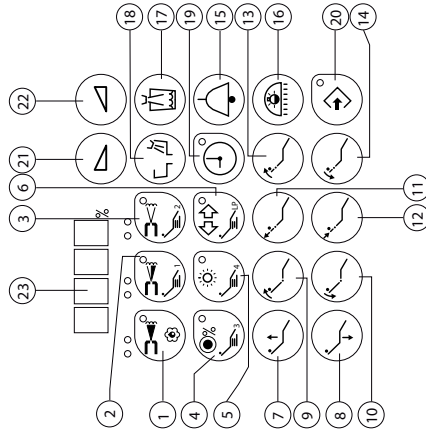
- I** Per garantire la migliore igiene del Vostro impianto, EURODENT Vi raccomanda di sostituire le parti raffigurate sotto con la frequenza riportata a fianco.
- GB** To maintain thorough hygiene in your equipment, EURODENT recommends you to replace the parts in drawing hereunder at the timings shown aside.
- F** Pour optimiser l'hygiène de votre équipement, EURODENT vous recommande de remplacer les parties représentées ci-dessous selon la fréquence relative.
- E** Para la mejor higiene en Su equipo, EURODENT Le aconseja que Ud. sustituya las piezas representadas por debajo según la frecuencia correspondiente.
- D** Um die bestmögliche Hygienisierung Ihres Arbeitsplatzes zu erreichen, empfehlen wir Ihnen die unten bebilderten Teile in regelmässigen Zeitabständen, wie angegeben auszutauschen.

MESI MONTHS MOIS MESES MONATE	EURODENT		MESI MONTHS MOIS MESES MONATE
1			18
6			24
16			





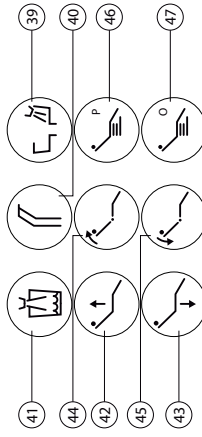
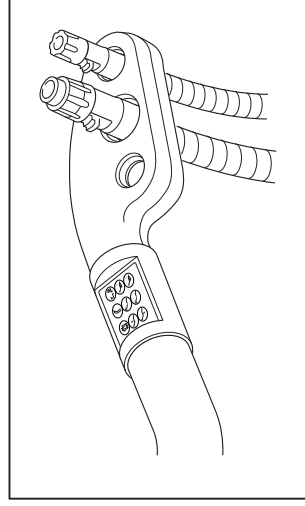
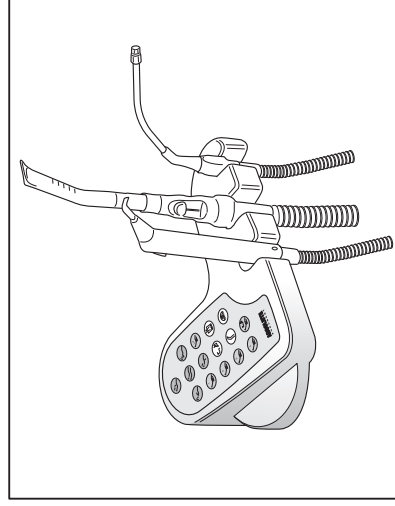
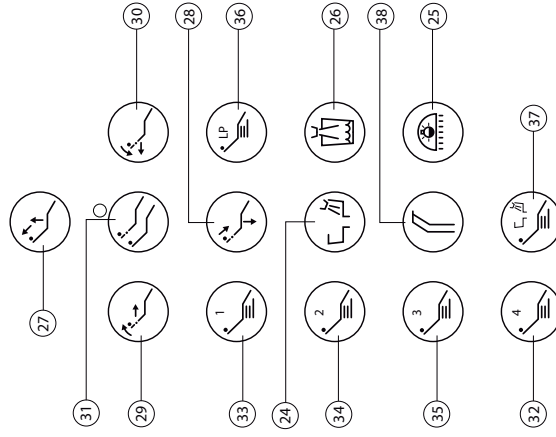
**TASTIERA OPERATORE**  
OPERATOR KEYBOARD  
CLAVIER DE L'OPERATEUR  
TECLADO OPERADOR  
KONSOLE BEHANDLER

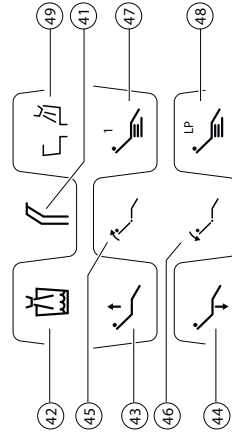
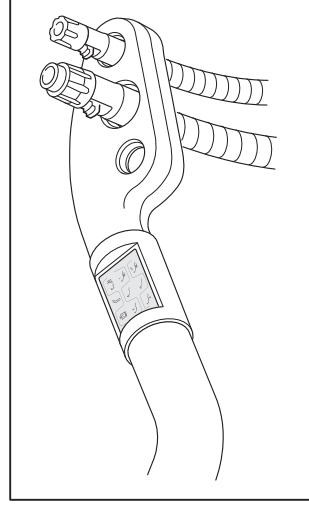
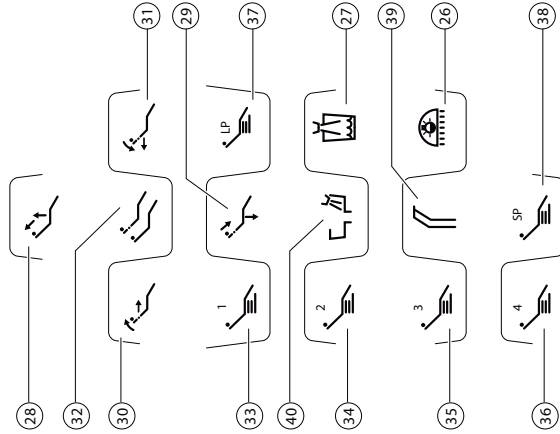
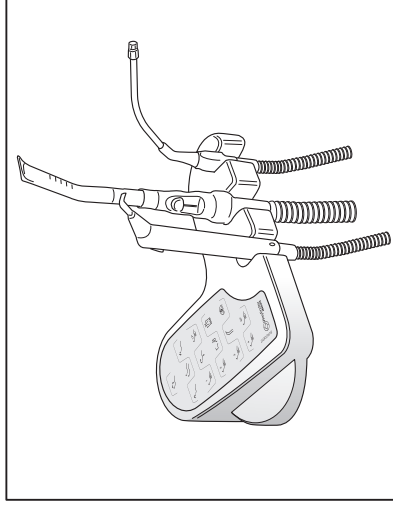
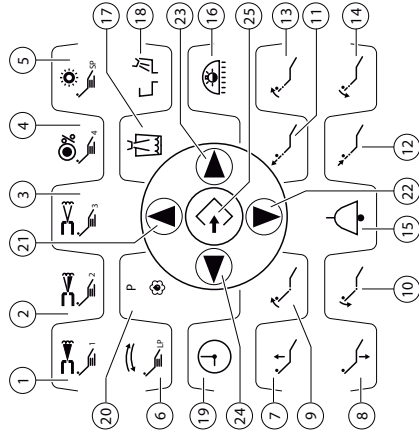


# Modes

- 1 - Water / air for spray presetting • Water selector - physiological solution for instrument
- 2 - Water / air for automatic C.B. presetting • Chair program 1
- 3 - Water / air for C.B. presetting • Chair program 2
- 4 - Power adjustment • Chair program 3
- 5 - Cold light adjustment • Chair program 4
- 6 - Operating mode • Chair last position memory
- 7 - Chair up
- 8 - Chair down
- 9 - Backrest forwards
- 10 - Backrest backwards
- 11 - Headrest up (for ISORAMA chair only)
- 12 - Headrest down (for ISORAMA chair only)
- 13 - Headrest forwards (for ISORAMA chair only)
- 14 - Headrest backwards (for ISORAMA chair only)
- 15 - Service push-button / nurse bell
- 16 - Operating lamp starting
- 17 - Tumbler filler
- 18 - Bowl rinsing
- 19 - Alarm mode / timer
- 20 - Memory ENTER (data storage confirmation)
- 21 - Displayed data decrease • Air / water selection
- 22 - Displayed data increase • Air / water selection
- 23 - Display
- 24 - Bowl rinsing
- 25 - Operating lamp starting
- 26 - Tumbler filler
- 27 - Chair up / Headrest up (for ISORAMA chair only)
- 28 - Chair down / Headrest down (for ISORAMA chair only)
- 29 - Backrest forwards / Headrest up (for ISORAMA chair only)
- 30 - Backrest backwards / Headrest backwards (for ISORAMA chair only)
- 31 - Selection between chair or headrest movements
- 32 - Chair program 4
- 33 - Chair program 1
- 34 - Chair program 2
- 35 - Chair program 3
- 36 - Chair last position memory
- 37 - Rinsing position
- 38 - Suction rinsing
- 39 - Bowl rinsing
- 40 - Suction rinsing
- 41 - Tumbler filler
- 42 - Chair up
- 43 - Chair down
- 44 - Backrest forwards
- 45 - Backrest backwards
- 46 - Programm 1
- 47 - Chair last position memory

**TASTIERA ASSISTENTE**  
ASSISTANT KEYBOARD  
CLAVIER DE L'ASSISTANTE  
TECLADO ASISTENTE  
KONSOLE HELFERIN





## FUNZIONI

- 1 - Water / air for spray presetting • Chair program 1
- 2 - Water / air for automatic c.b. presetting • Chair program 2
- 3 - Water / air for c.b. presetting • Chair program 3
- 4 - Power adjustment • Chair program 4
- 5 - Cold light adjustment • Rinsing position
- 6 - Operating mode • Chair last position memory
- 7 - Chair up
- 8 - Chair down
- 9 - Backrest forwards
- 10 - Backrest backwards
- 11 - Headrest up (only with electric headrest)
- 12 - Headrest down (only with electric headrest)
- 13 - Headrest forwards (only with electric headrest)
- 14 - Headrest backwards (only with electric headrest)
- 15 - Service push-button / nurse bell
- 16 - Operating lamp starting
- 17 - Tumbler filler
- 18 - Bowl rinsing
- 19 - Alarm mode / timer
- 20 - Water / disinfected water presetting
- 21 - Browser menu key / data increase
- 22 - Browser menu key / data decrease
- 23 - Browser menu key / right arrow key
- 24 - Browser menu key / left arrow key
- 25 - ENTER (data storage confirmation)
- 26 - Operating lamp starting
- 27 - Tumbler filler
- 28 - Chair up / Headrest up (only with electric headrest)
- 29 - Chair down / Headrest down (only with electric headrest)
- 30 - Backrest forwards / Headrest up (only with electric headrest)
- 31 - Backrest backwards / Headrest backwards (only with electric headrest)
- 32 - Selection between chair or headrest movements
- 33 - Chair program 1
- 34 - Chair program 2
- 35 - Chair program 3
- 36 - Chair program 4
- 37 - Chair last position memory
- 38 - Rinsing position
- 39 - Suction rinsing
- 40 - Bowl rinsing
- 41 - Suction rinsing
- 42 - Tumbler filler
- 43 - Chair up
- 44 - Chair down
- 45 - Backrest forwards
- 46 - Backrest backwards
- 47 - Programm 1
- 48 - Chair last position memory
- 49 - Bowl rinsing



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## 1

**FOREWORD**

Dear Doctor,

the EURODENT GROUP is pleased with your choice of the **ABSOLUTE** equipment and proud of the favour you grant us.

The Absolute unit has been designed according to three main principles:

**ASEPSIS CONTROL, OPERATIONAL FLEXIBILITY AND COMFORT.**

Surface smoothness, combined with roundish contours and lack of slits and corners, allows an easy external cleaning and prevents from dusts and sprays deposit. Controls are made so that contact with fingers is avoided whenever possible.

All handpieces are fitted with anti-retraction valving, to prevent risks of cross-contamination.

Lightness of movement and breadth of operational displacement of the modules arm, easyness of access to the patient for both Doctor and Assistant and, last but not least, the flexible microprocessor control of the main activities of the apparatus, all make of ABSOLUTE a ductile system ready to match and support the Operators' work attitudes.

The soft profile of the unit and handpieces asset, the anatomic shaping of the chair, the reassuring design of control decks, everything cooperates to frame the comfortable sensation induced into the patient, who will more confidently relax himself so making easier the Operators' activity.


We are certain that your choice will prove widely fulfilling both because of the equipment functionality and reliability and thanks to the benefits in terms of prestige as to your Patients and Colleagues.

This booklet will help you to obtain the best from your ISOTRON. While reminding you that we are at your disposal for any information that you might require, we remain

Sincerely yours,

EURODENT  
Treat yourself!

## 2 TECHNICAL FEATURES

Trade-Mark: .....EURODENT  
 Model: .....ABSOLUTE  
 Voltage: ..... 230 V (~ alternating)  
 Frequency: ..... 50 Hz  
 Power: ..... 1350 VA (550 VA only unit)  
 UV lamp power (option) ..... 4 W  
 Classification: ..... Class I with attached parts of type B 

Classification headings (EN60 601-1):

5.3 Common equipments (equipments with no waterproof casing);

5.5 Equipments which cannot be used in presence of an anaesthetic mixture inflammable by air or by oxygen or by nitrous oxide;

5.6 Equipments for continuous working with intermittent load.

VISION LED MODE lamp classification (IEC60825-1; IEC60825-1/A1; IEC60825-1/A2):

Unit with white led light of class 1M.



Do not observe directly with optical instruments (e.g. magnifying glasses, etc...)


Optical power: 350 µW max to 470 nm without protective screen

162.5 µW max to 470 nm with protective screen

Snowhow whitening system classification (IEC60825-1; IEC60825-1/A1; IEC60825-1/A2):

Unit with blue led light of class 2. Optical power: 82 µW a 455 nm

Electronic bistoury or electrobistoury: ..... Attached part of type BF 

 **0051** The equipment complies with the fundamental requirements of EC Directive 93/42.

- Please refer to the Spare Parts catalogue, and apply to EURODENT for further information about what is not included in it.
- EURODENT accepts responsibility for the equipment safety and reliability if and only if:
  - installation, assembly, extension, adjustment and repair operations have been carried out by authorized people.
  - the general and electric installation of the room complies with the equipment pertinent requirements.
  - the equipment has been installed in compliance with the "installation instructions" of the equipment.
  - the equipment is used in compliance with the "OPERATOR'S HANDBOOK".
- EURODENT hereby declares that the equipment is a dental complex intended as an operative tool for therapeutic use on people by personnel highly skilled in dental practices.
- The unit can withstand the following weather conditions when packed for shipping and storage:
  - Ambient temperature from -20 °C to +40 °C.
  - Relative humidity from 10% to 90%; it does not stand condensation.
 It should be used in the following weather conditions:
  - Ambient temperature from +10 °C to +40 °C.
  - Relative humidity from 10% to 90%; it does not stand condensation.
- If the equipment is transported, stored or used in weather conditions different from the above-mentioned ones, malfunctions could occur.
- The unit does not generate electromagnetic- or other forms of interference into other equipments nearby, nor is it affected by electromagnetic interference.



**Equipments working at high frequency (e.g. electronic bistoury) could interfere with the equipment working.**



Comply with all applicable local laws when disposing of the unit and its parts. Suction circuit components in particular must be considered as medical waste products and therefore they should be treated accordingly.



The symbol indicates that this appliance shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment or to the dealer where you purchased a new product. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste of this product. Disposal must be carried out in accordance with local environmental regulations for waste disposal.



Burrs, the points of the instruments and the suction tips not provided by EURODENT, must be made of bio-compatible materials (for example, compliant with ISO 10993 standards).



The use of equipments different from the recommended ones (e.g. micromotors of other brands) could cause malfunctions.



Caution



Protection earthing



Operating instructions



Refer to instruction manual/booklet

### 3

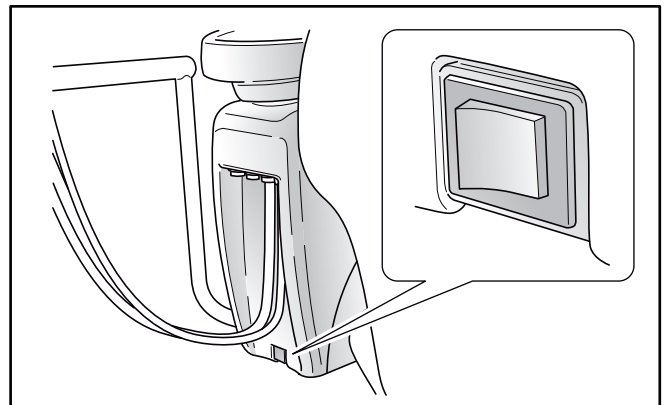
## SWITCHING ON

The unit sets for operation whenever the green switch is pressed in order to become lit up.

The clock on the operator's keyboard starts functioning.

WAYFINDER

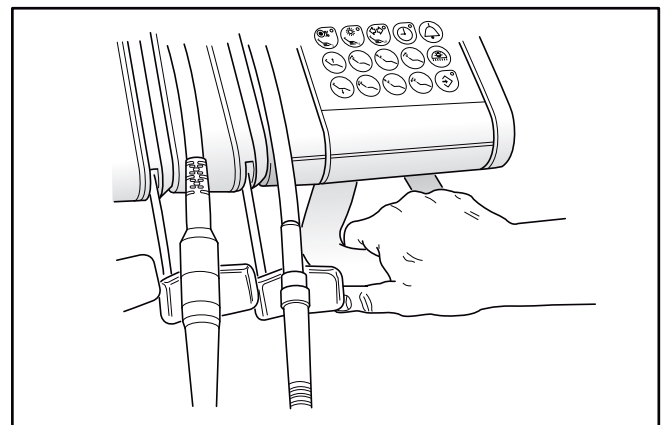
LCD screen will show main menu.



### 4

## POSITIONING THE MODULES ARM

The air clutch gets released by wrapping the handle with one's palm and fingers. As long as the hand grips the handle, the height of the modules array can be adjusted. When the hand releases the handle, the modules arm stays at the relevant height.



5

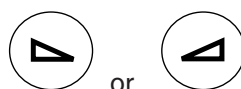
## ABSOLUTE

## 5.1 CLOCK ADJUSTMENT

The time is set during factory tests.  
Keeping pushed both keys

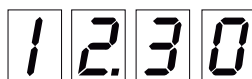


press key



until the display shows the proper time.

Hours appear in the two left hand cells and minutes appear in the two right hand ones:



## 5.2 PATIENT POSITIONING

## OPERATOR'S KEYBOARD

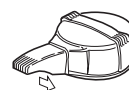
**DRIVEN MOVEMENTS:** keep the pertinent purple or blue keys on the operator's keyboard pressed (blue keys usable only with ISORAMA chair). Chair up and down movements and backrest forwards and backwards movements may be controlled also by chair foot-control (if present):



CHAIR UP



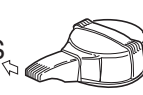
BACKREST FORWARDS



CHAIR DOWN



BACKREST BACKWARDS



HEADREST UP



HEADREST FORWARDS



HEADREST DOWN



HEADREST BACKWARDS

The operation of the unit foot-control prevents the driven movements from starting.

**PROGRAMMABLE AND NON-PROGRAMMABLE AUTOMATIC MOVEMENTS:** press and release once the relevant orange key.



POSITION MEMORY 1



POSITION MEMORY 2



POSITION MEMORY 3

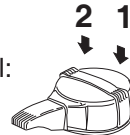


POSITION MEMORY 4




LAST POSITION MEMORY (non-programmable)

Memories 1 and 2 are available also by the chair foot-control:



Programming procedure: set the chair by foot-control or pushbuttons at the desired position, then keep pressing the memory pushbutton where the new position should be stored; the confirmation of the occurred recording is got with a

blinking of the led placed on ENTER  key.

The position previously in memory for such pushbutton is cancelled and replaced by the new one.

If the VISION LED MODE lamp is present, the position 1 can be set as end-operation position (see installation handbook chapter 1 "Prearrangement of lamp"). In this case, by pressing the program 1 key, the chair will reach the end-operation position and the lamp will switch off automatically.

See chapter "Foot-control switches" for BLUE FOOT control switches.

Lifting up any instrument but the syringe and the light cure prevents the automatic movements from starting.




A safety device stops the chair downwards movement, when it meets an obstacle.

The ISORAMA chair is also equipped with a similar safety device in order to stop the backrest backwards tilting in such case.

## ASSISTANT'S KEYBOARD

**DRIVEN MOVEMENTS:** keep the pertinent purple keys on the assistant's keyboard pressed:

Press the key  in order to select the chair or the electric headrest (if present) movements.

If the pilot light on the key is off, the 4 keys are selected for CHAIR movements.



CHAIR UP




CHAIR DOWN



BACKREST FORWARDS



BACKREST BACKWARDS

Press the key  in order to light the pilot light up and select the ELECTRIC HEADREST movements:



HEADREST UP



HEADREST DOWN



HEADREST FORWARDS



HEADREST BACKWARDS

The operation of the unit foot-control prevents the driven movements from starting.

**PROGRAMMABLE AND NON-PROGRAMMABLE AUTOMATIC MOVEMENTS:** press and release once the relevant orange key:



POSITION MEMORY 1



POSITION MEMORY 2



POSITION MEMORY 3



POSITION MEMORY 4





LAST POSITION MEMORY  
(non-programmable)



RINSING POSITION  
(non-programmable)

If the VISION LED MODE lamp is present, the position 1 can be set as end-operation position (see installation handbook chapter 1 "Prearrangement of lamp"). In this case, by pressing the program 1 key, the chair will reach the end-operation position and the lamp will switch off automatically.

When key  is pressed only the backrest moves, in order to reach the vertical position.

If the backrest is already in vertical position, pressing the key  the backrest returns in to the last position.

With a VISION LED MODE lamp, the light intensity will reach a lower intensity level. When the last-position memory key or one of the programmed position key are pressed, the lamp will reach the previous light intensity level.

Lifting up any instrument but the syringe and the light cure prevents the automatic movements from starting.

## OPERATOR'S KEYBOARD WITH 9 KEYS

**DRIVEN CONTROLS:** keep the pertinent purple keys on the operator's keyboard pressed:



CHAIR UP



CHAIR DOWN



BACKREST FORWARDS



BACKREST BACKWARDS

The operation of the unit foot-control prevents the driven movements from starting.

**AUTOMATIC PROGRAMMABLE CONTROLS:** are started pressing the orange keys.



POSITION MEMORY 1





LAST OPERATION POSITION MEMORY USED

See details about position memory 1 in the previous paragraph.


Lifting up any instrument but the syringe and the light cure prevents the automatic movements from starting.

## 5.3 ALARM MODE/TIMER

Push key:  **CLOCK** that shall start blinking.

By pressing key:   obtain on the display the time desired.


Minutes are on the first 2 digits on the left of the display, the seconds are on the 2 digits on the right . To start counting,

the key  should be pressed again; when the count-down is started, all other functions of the unit can work normally.

At the end of the count-down a sound warns that time has elapsed.

If, after having set the alarm, you do not desire to start it and want to go back to normal operation mode,

just push key  **ENTER**

If the induction Micromotor Module is up, the key  is used for setting the waiting time in the "Autoforward" mode.

## 5.4 TUMBLER FILLER

It can be operated either by using the control on the suction tubings support arm or pressing the white key:

**TUMBLER**

or, if the handpieces lie in resting array, with the foot-control (see Chap. "Foot-control switches") by pushing downward the small pedal in the foot-control.

### TIME ADJUSTMENT:

Push both keys **TUMBLER** and

**ENTER**

The display shall show a count-up in tenths of second; when reaching the quantity of water desired in the tumbler, release the keys.

From now until next adjustment, and whenever the key **TUMBLER** is activated, the tumbler filler shall supply water for the programmed time.

## 5.5 BOWL RINSING

The bowl flush starts automatically following the tumbler filler stop, and stops automatically when the programmed time has elapsed. To change the programmed time, see the section: "**PARAMETERS PRESETTING**".

To start the bowl flush independently from the tumbler filling, press the white key:

**BOWL**

or use the control on the suction tubings support arm.

## 5.6 LAMP OPERATION

### ISOLUX LAMP

The lamp can be switched on by photocell or by switch. The unit should be properly programmed just as the lamp installation.

The white key:

**LAMP**

switches the lamp on. The lamp can also be switched on and off from the foot-control lever, by pushing it from the proper lever leftward when the instruments are in resting array.




Do not point the beam at the patient's eyes.







## VISION LED MODE LAMP

The lamp has two intensity levels, each of them can be set.


Pressing the key shortly: 


The lamp will be switched on at the lower level of light intensity. To increase the intensity, press again the same key. On the back side of the lamp there are two leds, a green one that indicates when it is on, that the lamp is correctly supplied and a blue one that shows when it is on, that the lamp is at the lowest intensity level, while if the led is off, this means that the intensity is at the highest level.



The light intensity of each level can be changed by pressing simultaneously the keys:  and 

to decrease the intensity, and the keys:  and  to increase it.

When the maximum or minimum intensity level is reached, a blue led will start blinking.

When the lamp is switched off the new settings will be stored. The lamp is switched off by pressing the key for more than 1 s: 

All these functions can be activated by the no-touch sensors placed on the lamp's head. Placing the hand in the area where the symbol is positioned (without touching the guard):  the lamp is switched on, the change in intensity and the switching off are obtained with the same modalities seen previously.

By placing the hand near the symbol:  the light intensity will increase and reach the selected level and in the same way, by placing the hand near the symbol:  the intensity will decrease.

The above-mentioned functions of switching on, switching off and change in intensity can be activated by the foot-control, too (Chap. "Foot-control switches"). By shifting once the lever rightward for less than 1 s, the lamp will be switched on at the lowest intensity, another stroke increases the level of intensity, the switching off is obtained by shifting the lever rightward for more than 1 s.



Do not point the beam at the patient's eyes..

## 5.7 SERVICE PUSH-BUTTON

The white key:



**SERVICE**

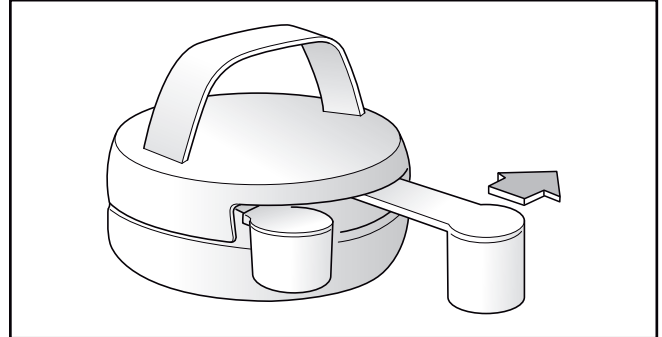
closes any external circuit (max 24 V - 1 A) for the assistant call, door opening, and so on.

## 5.8 FOOT-CONTROL SWITCHES

### ISOTRON FOOT-CONTROL

By pushing rightward the lever any handpiece except the syringe, the bistoury, and the light cure can be started. In case of adjustable power handpieces, i.e. micromotors, the supplied power stands proportional to the lever stroke.

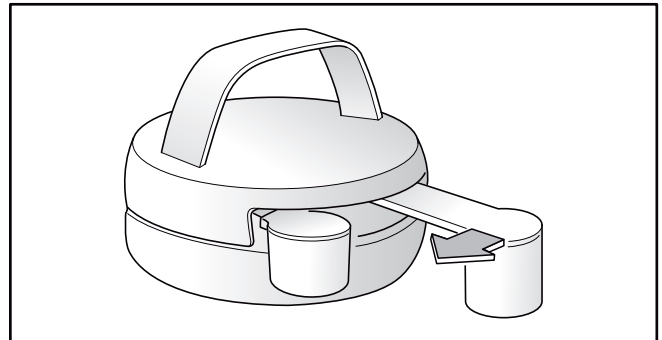
If mounted, the telecamera gets the still image.



By pushing the lever leftwards, the “reverse” mode of the micromotor gets preset. Another shift leftwards restores the rightwise mode.

If the bistoury is up, touching leftwards the lever presets one of the functioning modes (cut, coagulation, coagulated cut). The selected mode gets automatically stored.

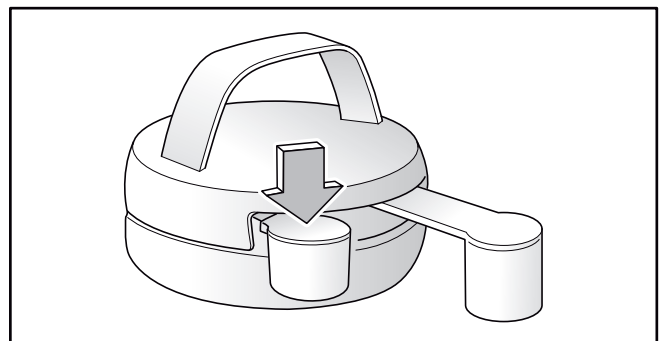
When instruments are not picked up, touching the lever leftwards turns ON or OFF the ISOLUX and VISION LED MODE lamps.



By pushing the small pedal downwards, the spray can be enabled or disabled.

If all the instruments are lying in resting array (or only the syringe is up), such switch operates the tumbler filler.

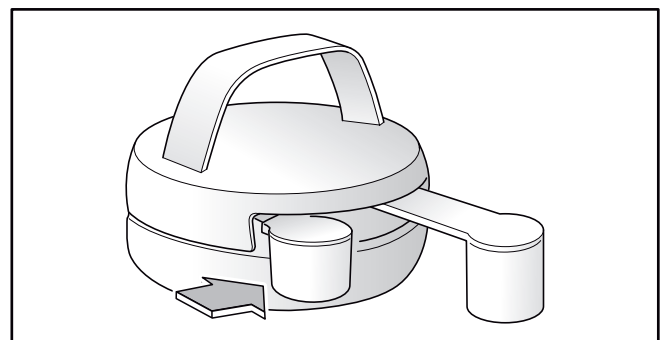
This control starts the bistoury working.



By pushing the small pedal rightwards, the c.b. of the lifted handpiece starts operating.

If a handpiece without spray is up, the control starts the cold light if equipped with the instrument.

If a handpiece without c.b. or the syringe or all the handpieces lie in resting array, the switch has no effect.



## BLUE FOOT CONTROL

### FOOT-CONTROL SWITCHES WITH NO INSTRUMENTS PICKED UP (EXCEPT SYRINGE AND LIGHT CURE)

The joystick is used to move the chair or the electric headrest:

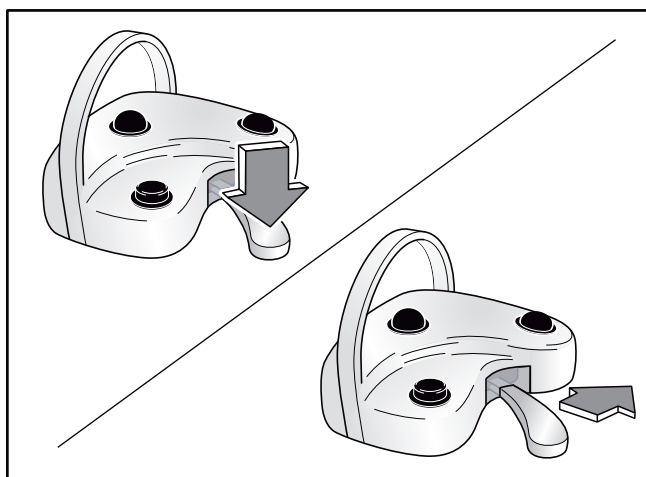
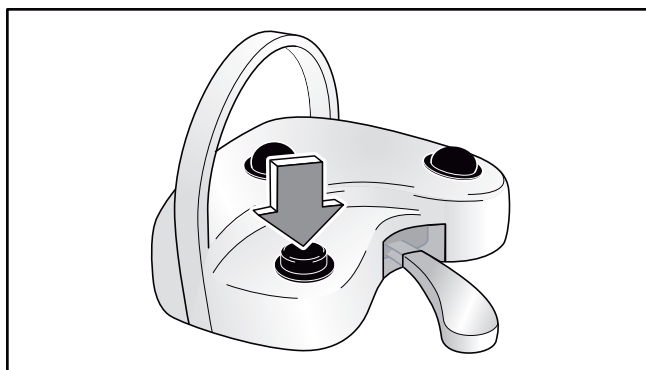
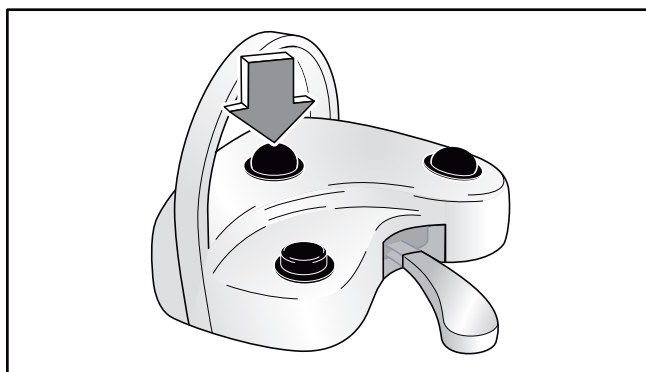
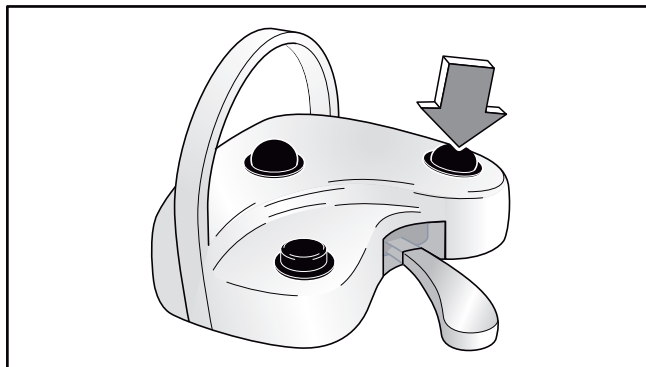
- pushed forward: chair up or headrest up;
- pulled backward: chair down or headrest down;
- pushed rightward: backrest forwards or headrest forwards;
- pushed leftwards: backrest backwards or headrest backwards.

By pressing the central push-button, is selected the movement of the headrest for 20 s and then it is ready again for the chair movements. The time is calculated from the moment the central push-button is started and it starts again every time the joystick is pushed for moving the headrest. The display will show the message HEAD all time this mode is on. The movements of the chair will start again if the push-button is pressed again within 20 s.

Side push-button: pushing it once, the chair reaches the rinse position, pushing it when the chair is in rinse position, the chair goes back to the last position memory.

Foot-control lever pressed downwards: when the pedal is pressed for less than a second position No. 1 is selected, if it's pressed for longer than 1 s position No. 2 is obtained.

While the lamp is switched off, by shifting the lever rightward for less than a second, the lamp reaches a lower light intensity; another shift of the lever rightward for less than 1 s brings the light to a different intensity level. If, on the other hand, the lever is shifted rightward for more than a second at any light intensity, the lamp is switched off.

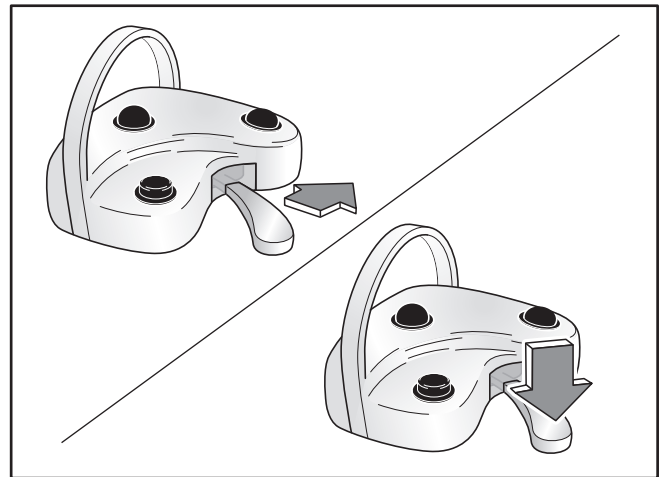


## FOOT-CONTROL SWITCHES WITH INSTRUMENT LIFTED (EXCEPT SYRINGE AND LIGHT CURE)

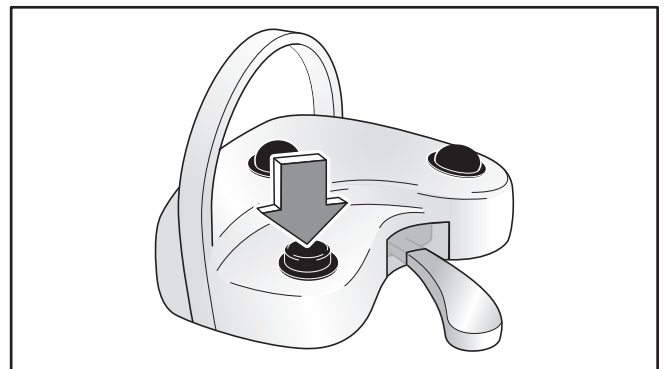
By shifting rightward the lever any handpiece can be started. In case of adjustable power handpieces, the supplied power stands proportional to the lever stroke. If mounted, the telecamera gets the still image.

By pushing the lever downwards, the c.b. of the handpiece selected starts. If a handpiece without c.b. is lifted, the switch has no effect.

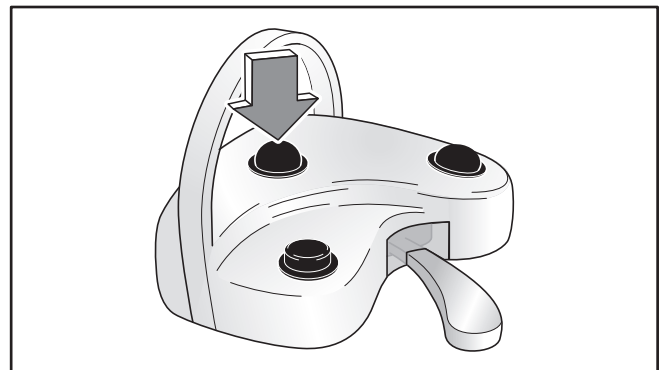
If a handpiece without spray is up, the control starts the cold light if equipped with the instrument.



By pushing the side push-button, the spray is enabled to the selected instrument. Pushing it again, it is disabled. The push-button stops or reactivates the peristaltic pump of the induction micromotor with physiodispenser. The microprocessor stores the control automatically. This control starts the electrosurgery working, too.

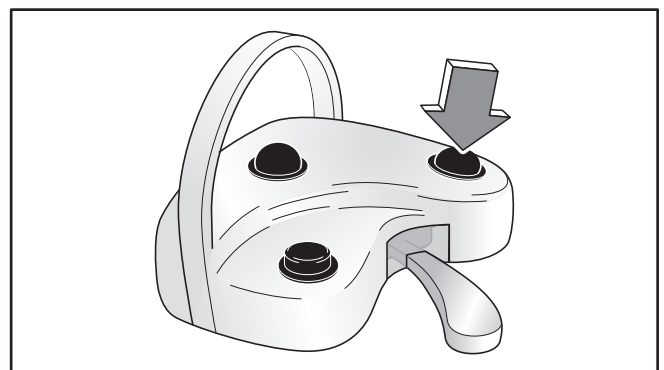


By pushing the central push-button, the tumbler filler is activated.



The joystick is used as follow:

- pushed forward, for assistant call (or door-opening);
- pushed rightwards, for optical fibre switching off and on if the handpiece is provided with it; if the fibre optic has been already set to 0, the switch has no effect. If the handpiece is put into resting position, the initial position is restored;
- pushed leftwards, the reverse mode of the micromotor working gets preset, if it is up. Another pressure leftwards eliminates it. The control is automatically stored;
- if the "induction Micromotor Module" is up, if pulled it is used for selecting the different functioning modes;
- if the electrosurgery is selected, the different functioning modes (cut, coagulation, coagulated cut) are selected pressing the joystick leftwards. In this case the microprocessor stores commands automatically.



## 5.9 PROGRAMMABLE MODES FOR THE INSTRUMENTS

The key:



**SPRAY**

(with instrument in resting position) allows to select the type of SPRAY or TUMBLER solution (this option is possible only if the CALBENIUM mixing tank is installed; if the surgical kit is present only the SPRAY solution is selected): with yellow light turned on, WATER or CALBENIUM will be selected; with yellow light turned off, only WATER will be supplied. When the instrument is lifted up, the key allows WATER and AIR selection of the spray of the lifted handpiece.

The YELLOW light lights up when WATER is preset, the GREEN light lights up when AIR is preset. If both lights are off, then the handpiece will work in dry conditions; if you desire to program another condition, first press the key so that the red light starts blinking: the blinking means that the microprocessor is waiting for the new instructions.

By pressing once the key:



the yellow light will turn on; by pressing it again the green light will turn on; a further touch shall switch on both yellow and green. Pushing again the button, the yellow light will light up and the green one will blink. In this condition pushing the pedal lever rightwards as far as about end-of-stroke, only the instrument will work only in dry conditions, while at lever end-of-stroke the spray function will start (water + air) in the instrument. Coming back in the pedal stroke, only the instrument dry function will be possible.

Now the handpiece can work in the chosen conditions, but if it is placed back in the resting array the microprocessor restores the previous conditions in memory. If on the contrary the new conditions must be preserved, the key:



**ENTER**

must be pressed: one blink shall confirm that the new instruction has been stored and the previous one cancelled.

Similarly, by pressing the key:



first WATER, then AIR, and eventually both shall DISAPPEAR. Therefore: yellow light on means that only water is preset; green light on means that only spray air is preset; green and yellow lights both on at the same time means that complete spray is preset; no light on means that dry operation is preset.

The key:



permits selection of WATER and AIR in the automatic purge at foot-control release.

This function consists of a water or air or spray jet emitted for an adjustable time after the handpiece stop, to the purpose of cleaning both the operating zone and the final parts of the pipes. If you do not want to use such device, just program the key with yellow and green lights off.

NOTE: the variables of this key (water and air) depend on the ones of the key - 1 - spray (see table A). When releasing the foot-control lever, the preset automatic purge persists during a certain time; such time can be adjusted according to the procedure explained in the section "PARAMETERS PRESETTING".

The key:



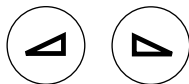
permits selection of WATER and AIR in the operated c.b.. It is therefore possible to preset a normal c.b. of sole air, or a sole water c.b., or eventually a spray c.b. In other words, this key turns the handpiece in a syringe.

Introduction and change of modes is obtained in the same way as seen for the SPRAY.

The orange key:



permits to adjust the maximum power provided to the instrument lifted (such max. power will be obtained when the foot-control lever is at end stroke). The power can be controlled and displayed in N% from 01% to 100%; to adjust its max., press the key once so that the red light starts blinking; then push:



until the desired N% gets displayed, and then start working.

If you want to store in memory the new max. power, just press once the key:



that shall confirm storage by one blink; the instrument replaced, when picking it up again the new max. value shall appear on the two rightside cells of the display.

In case of induction Micromotor Module, the key is used to set the maximum torque too. See the pertaining paragraph.

The key:



permits to adjust the light intensity of the fibre optic handpiece that has been picked up, from a minimum "0" to a maximum of "9".

When releasing the foot-control, the light persists during a certain time; such time can be adjusted according to the procedure explained in the section "PARAMETERS PRESETTING", and is the same time for each of the fibre optic handpieces.

The light intensity must be adjusted according to the same procedure explained for the key POWER; the intensity lever shall appear on the first cell of the display.

The key:




permits to choose the rotation mode (clockwise/reverse) of the micromotor. Once the key has been pressed and the red light is blinking, by pushing:



the reverse mode gets preset and the mark "r" appears on the third cell of the display; to go back to the clockwise mode,

the key  must be pressed.

The key:  must also be used to select the operation mode of the surgery.

See the paragraph "Induction Micromotor Module" for using this key.

**TABLE "A"**

SPRAY KEY	AUTO C.B. KEY choice restricted to:		
Yellow light = water	Yellow light = water	or	ø = nothing
Green light = air	Green light = air	or	ø = nothing
Lights off ø = nothing	ø = nothing		
Yellow and green lights = both water and air	Yellow light = water ø = nothing	or or	Green light = air or Yellow and green lights = both water and air

## 5.10 MODULES

The unit can be equipped with 8 instrument modules, besides the syringe, which can be installed on the left or the right side of the control keyboard. The instruments available can be chosen among a large gamma and it can be used two or more modules of the same type (i.e. two or more turbines).

### TO REMOVE ANY MODULE FOLLOW THE PROCEDURE BELOW:

- 1 Switch off the unit and press the syringe levers up to the complete depressurization.
- 2 Press the disconnection pin of the module (pin located under the module), holding the module or the group of modules following the one whose pin is pressed.
- 3 Once all air has flown out, shift the module or group of modules aside.
- 4 Press the disconnection pin of the module preceeding the one to be taken out, and once all air is out slide the latter aside.
- 5 Place back the module or group of modules previously taken off, or a new module in between, by sliding in the supporting brackets. Taking care of proper matching between modules edges and tightness protection, switch the unit on again.
- 6 If now the handpiece of the module placed in the position previously occupied by another is picked up, a beep is heard and the display shows "AV04". In fact the microprocessor, whose memory matches that particular position with the data of the previous module, is asking for the data relevant to the new one. To store them in, first push the key:



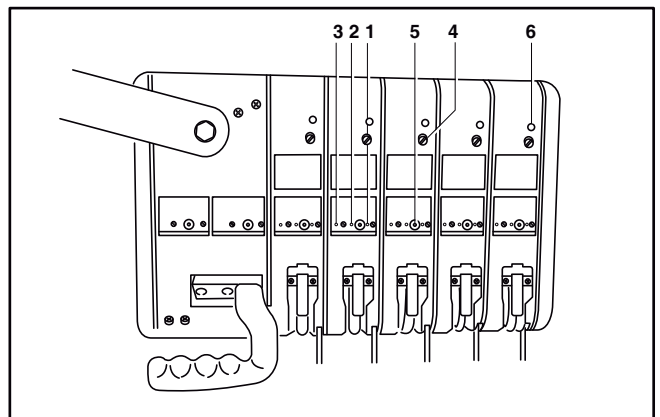
to delete "AV04" and push again to store the data shown on keyboard and display.

Such data can be varied according to the procedures above explained for the various functions.

If the position of other modules has been changed, this sequence of operations for re-programming must be repeated for all of them. All modules are fitted with flow rate adjustments for spray/c.b. water, spray/c.b. air and drive/cooling air, provided they include such operative functions. The adjustment devices are located underneath the module, beside the disconnection valve pin (see HANDPIECES PRESSURE ADJUSTMENT).

### HANDPIECES PRESSURE ADJUSTMENT

- 1 Drive air (Turbines, Airmotor, Powder cleaner) or cooling air (Micromotor, Light cure).
- 2 C.B. or spray air.
- 3 Spray water/C.B. water.
- 4 Whip balance adjustment.
- 5 Disconnection valve pin.
- 6 Syringe air adjustment.



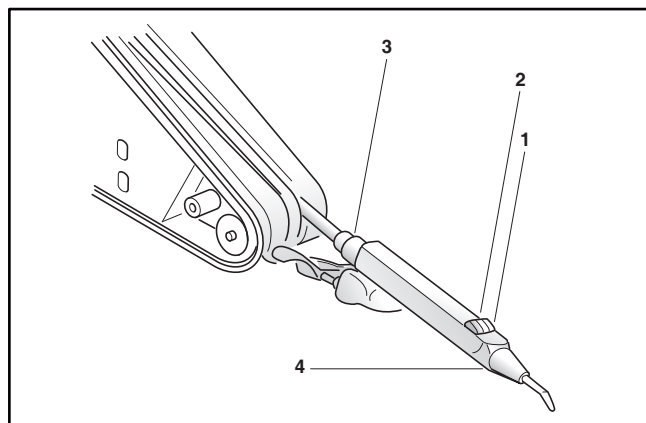


## SYRINGE MODULE AND FIBRE OPTIC SYRINGE MODULE

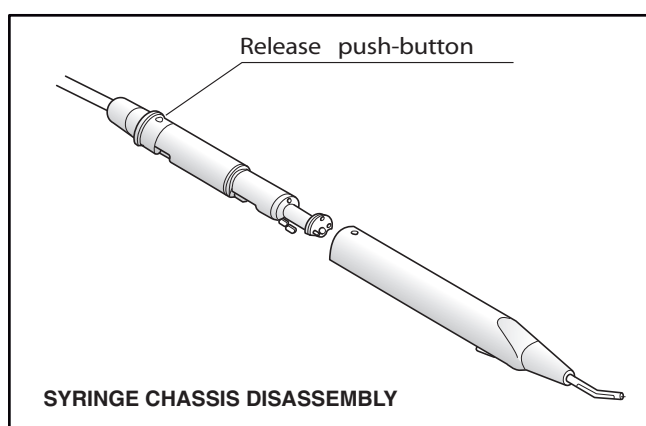
This module has no programmable functions and is independent from the foot-control.

1. Control push-button for WATER
2. Control push-button for AIR
3. Selector for hot air and water
4. Fibre optics (if present)

When pressing simultaneously the push buttons **1** and **2**, spray jets out.



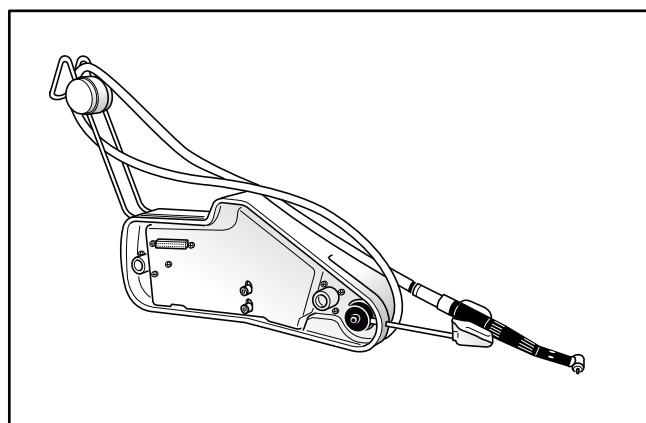
- The outer envelope can be slipped off from the syringe body for sterilization (chap. "Sterilization methods and working times").



## TURBINE MODULE AND VARIABLE SPEED TURBINE MODULE WITH FIBRE OPTIC

When picking up the handpiece, the function keys of the turbine modules without fibre optic light up their pilot leds, as well as the key for the fibre optic: (if present) on the first cell of the display a number from 0 to 9 appears.

When the variable speed turbine module has been preset, also the power adjustment key switches on, while on the two right side cells of the display a number appears: it corresponds to the power intensity (in percent between 01% and 100%) memorized.



If the turbine is lubricated with oil, an oil storage filter should be fitted. It should be regularly emptied and before the oil reaches the lower part of the filter otherwise the carter could be damaged.

- As for the sterilization of the instrument, compare chap "Sterilization methods and working times".

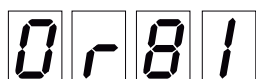


## FIBRE OPTIC MICROMOTOR MODULE

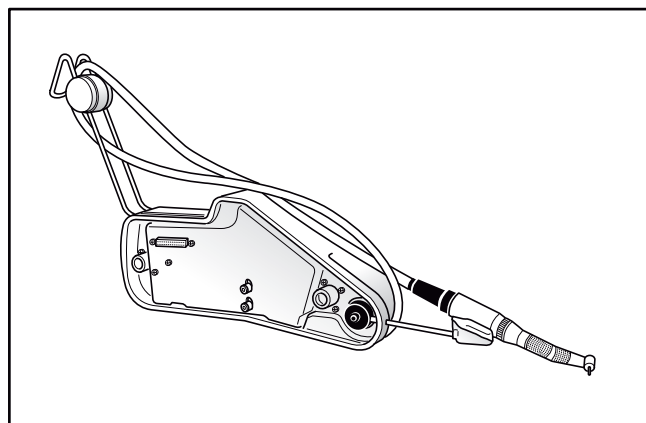
When picking up the handpiece, the function keys of the micromotor module light up their pilot leds, as well as the key for the fibre optic: on the first cell of the display a number from 0 to 9 appears, indicating the memorized intensity level of the fibre optic.

On the two right side cells of the display a number in percent (between 01% and 100%) appears, corresponding to the memorized power intensity.

If reversed rotation has been preset, the symbol "r" appears on the second cell.



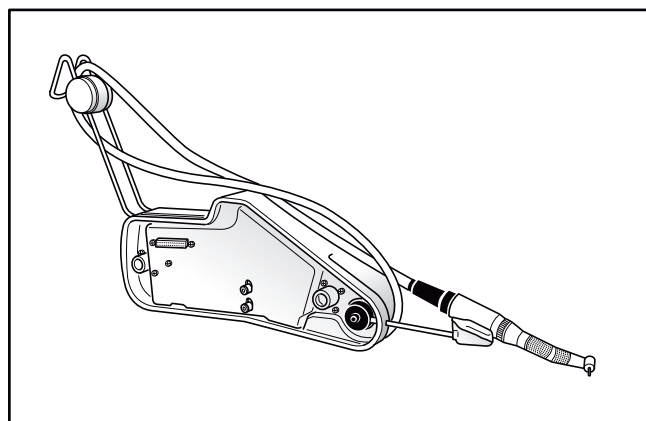
- Regarding the sterilization procedures see chap. "Sterilization methods and working times" .



## HIGH TORQUE MICROMOTOR MODULE WITH FIBRE OPTIC

If the max. programmable power is set between 11% and 100%, the module operates just as the MICROMOTOR MODULE WITH FIBRE OPTIC.

If the max. programmable power is set between 01% and 10%, the high torque/slow speed operation mode gets automatically selected.



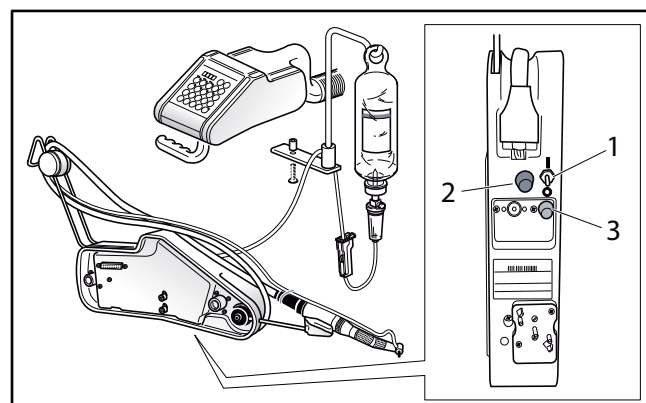
## MICROMOTOR MODULE WITH PHYSIODISPENSER

It operates as the Micromotor, if the maximum power is set between 11% and 100%. If the maximum power is set between 01% and 10% the slow-speed operation with high torque is automatically selected.

Spray can be obtained in two ways:

- I<sup>a</sup> function (position I): the external spray source supplies only liquid. Make use of the potentiometer under the module to adjust the spray flow rate.
- II<sup>a</sup> function (position 0): spray comes from the unit circuit

- 1 Spray setting switch
- 2 External spray adjustment (position I)
- 3 Internal spray adjustment (position 0)



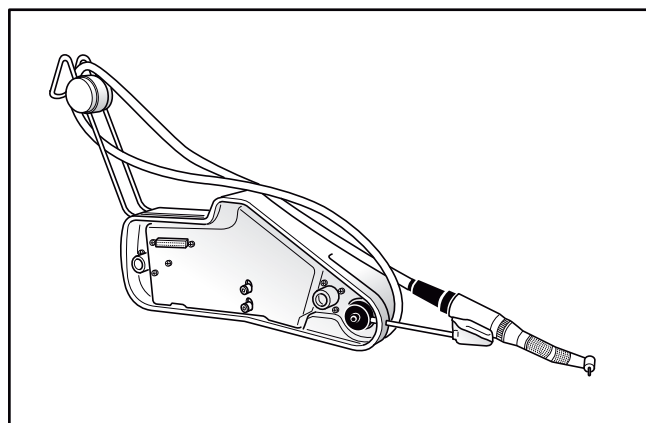
To obtain best results when operating at slow speed, it is advisable to make use of reducing handpieces.

- Regarding the sterilization procedures see chap. "Sterilization methods and working times" .

## INDUCTION MICROMOTOR MODULE


When picking up the instrument spray, automatic c.b., c.b. light up their pilot leds on the display.

In the first left cell of the display a letter appears indicating the functioning mode, in the second left cell the symbol "r" appears if the reverse mode has been programmed.





The functioning modes are:



- **Drive mode:** is indicated with letter "d" on the display. In this case the micromotor can work from 100 to 40000 rpm. A maximum functioning speed can be set corresponding to the foot-control end of stroke. It is possible to reverse the direction of rotation with the proper key or foot-control.
- **Autoreverse mode:** is indicated with the letter "A" on the display and the micromotor can work from 100 to 6000 rpm. A maximum functioning speed can be set corresponding to the end of stroke of the foot-control lower than 6000 rpm. A torque value (between 3 and 30 mNm) can be set, when it is reached the micromotor starts to rotate in reverse direction. The reverse mode is marked by the optical fibre light blinking. Releasing the foot-control and starting the micromotor again, it starts to rotate clockwise until the torque value is reached again then reverse the direction of rotation. With this mode it is not possible to reverse the direction of rotation with the proper key or foot-control.
- **Autoforward mode:** is indicated with the letter "F" on the display. It works as the autoreverse mode but a waiting time between 0.5 and 3.5 s can be set, too. Reaching the set torque value, the micromotor starts rotating in reverse mode until a null torque value is reached; it waits for the set time and then reverses the way of rotation again starting the clockwise rotation again. Also in this mode, the reverse mode is marked by the optical fibre light blinking and it is not possible to reverse the direction of rotation with the proper key or foot-control.

**Functioning mode setting:** pressing the key  the different settings are set and the internal light will start to


blink. If the drive mode is set, the key  starts the reverse mode, the key  stops it.

For changing the functioning mode, the key  should be pressed again cyclically. The new setting is automatically stored when the foot-control lever is started.


**Maximum speed setting:** with the key  the change of speed is set and the internal light will start to blink. The



value is set with the keys  and : the display shows the real set value /10 (40000 rpm, 4000 is visualized).

If there is a handpiece with reducer or multiplier this value is not real and the operator should multiply or divide by the reduction or multiplication ratio.

The storage is carried out with the key .


If the work is carried out without storing the parameter, the setting will be lost laying the instrument.

**Maximum torque setting (only autoreverse and autoforward mode):** after having set the maximum speed and before having stored it, the key  should be pressed again.

The value is set with the keys  and  and the display shows “t” followed by the value set in mNm, from minimum 3 mNm to maximum 30 mNm.




These are only indicative values and refer to handpieces with transmission ratio 1:1.

The storage is carried out with the key .

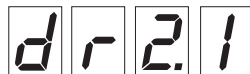
If the work is carried out without storing the parameter, the setting will be lost laying the instrument.

**Waiting time setting in autoforward mode:** with the key  the setting is ready and the internal light will start

to blink. The value is set with the keys  and  and it is visualized on the display from a minimum of 0.5 s


to a maximum of 3.5 s. The storage is carried out with the key  or starting the foot-control lever.

For storages of cold light intensity regulation and spray adjustment see the Chap. Programmable modes for the instruments  
When the foot-control lever is started, the display shows starting from the first left cell:



The indication of the functioning mode, the indication of reverse mode if set, two digits indicating the instrument rotation speed. The speed is indicated as value / 1000.

 = 300 rpm

 = 3000 rpm

 = 30.000 rpm



The induction micromotor works only with the Blue Foot pedal.



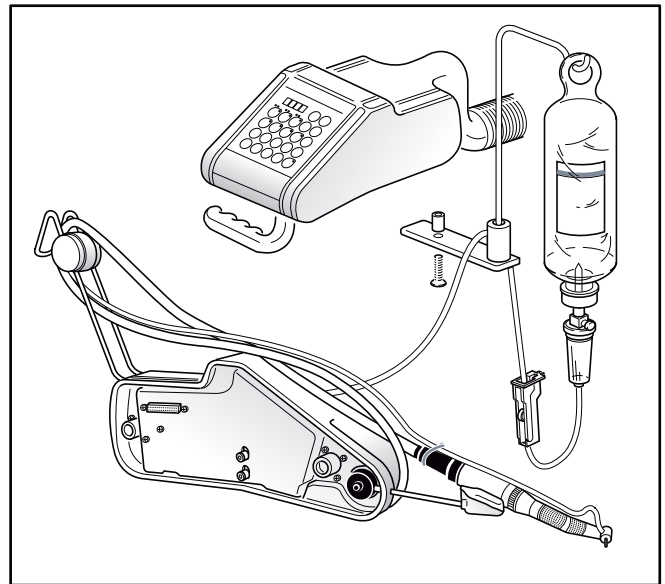
In case there are two induction motor modules some parameters set for one instrument result to be shared with the other one. This means that if you set a parameter on the first module this same parameter is set also on the second, and if you change it on the latter, after having memorized it, it changes on the former too. The shared parameters are:

- rotation speed in all function modes (driver, autoreverse, autoforward)
- torque in both function modes (autoreverse, autoforward)
- motor reversal

- The handpiece can be sterilized according to the chap. “Sterilization methods and working times”.

## INDUCTION MICROMOTOR MODULE WITH PHYSIODISPENSER

The settings and functioning are similar to the induction micromotor module, see the relative paragraph. It is also possible, using a handpiece with connection for external sprays, to feed only with liquid taken from an external container.







For setting the external feeding, the key  should be pressed and the internal light starts to blink.



Pressing it again the display will show **"P off"**.

Pressing for the third time the same key, the display will show **"P on"**, and the micromotor sprays will be fed by the external liquid and the yellow warning light above at the left will be blinking.

Pressing it again, the display will show **"P off"** and the external feeding will be out.

For adjusting the liquid flow rate, the keys  and  should be pressed, from minimum **1** till maximum **9** .

The storage is carried out with the key  or the pedal lever.

It is always possible to change the liquid flow rate, with external feeding set and with non-functioning instrument up, through the keys  and .

If the peristaltic pump is stopped through the side push button of the Blue Foot pedal, the yellow warning light on the left goes out while the green warning light aside blinks.

- The handpiece can be sterilized according to the chap. "Sterilization methods and working times".

## SCALER MODULE

When picking the handpiece up, the keys of spray, fibre optic and power adjustment light up their leds. Notice that spray can only give water, since air is not used in the scaler.

The display will show:

a number from 0 to 9 in the first left side cell, indicating the stored intensity level of the fibre optic, and a number in percent (between 01% and 100%) in the two right side cells, corresponding to the stored power intensity.



- The handpiece can be sterilized according to the indications given in chap. "Sterilization methods and working times"



Ultrasonic oscillations may prevent cardiac pacemakers functioning properly. Therefore, EMS recommend that patients with a cardiac pacemaker should not be treated with scaler.



The scaler instruments oscillate at high frequency during the treatment. In rare cases, these oscillations may cause the instrument to fracture during the treatment. To prevent the patient swallowing or inhaling the fractured instrument, he must be instructed to breathe through the nose during treatment.



Never use the scaler instruments dry. If used dry, the tips will heat immediately. This may cause thermal injury to the tooth. Ensure that adequate liquid coolant is always available.

See the enclosed manual of the instrument for further information.

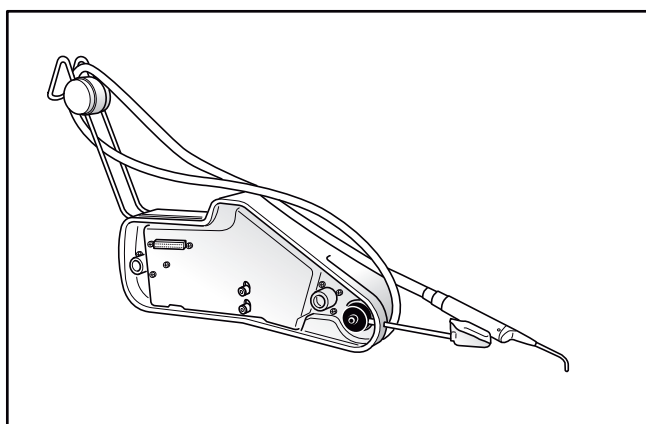
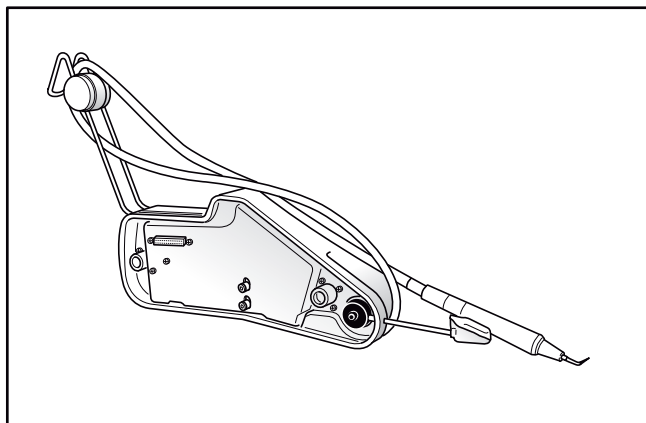
## ISOJET POWDER CLEANER MODULE

When picking the handpiece up, spray, automatic c.b. and c.b. light their pilot leds up.

- For the handpiece hygiene, use a cold sterilizing liquid.

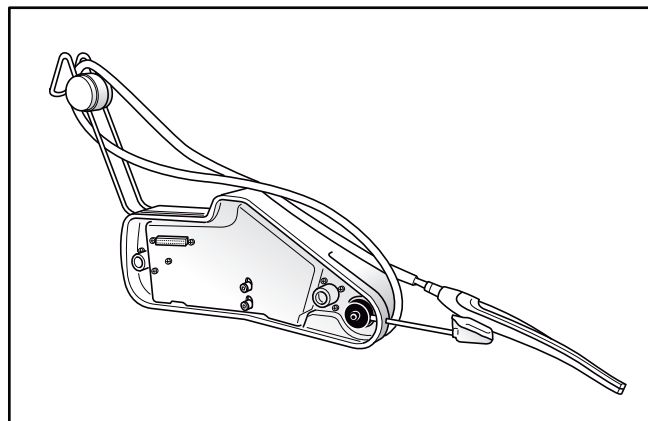
## CONTRAINDICATIONS

Patients suffering from chronic bronchitis or asthma must not, under any circumstances, be treated with an airpolishing device. Patients on a low salt diet not be treated with the EMS **AIR-FLOW® Prophylaxis Powder**. In isolated cases, the lemon flavor of the EMS **AIR-FLOW® Prophylaxis Powder** can lead to allergic reactions. In patients known to suffer from such reactions, use flavor free EMS **AIR-FLOW® Prophylaxis Powder**.



## CAMERA MODULE

Lifting the instrument the light on the handpiece is switched on and the camera begins to telecast live. Pressing once the foot-control lever rightwards, the still is got at full screen. For coming back to the live image mode, the lever of the foot-control should be pressed again. For showing till 4 images in the same page, the lever should be pressed for about 3 seconds. The images are stored and visualised together on the monitor. For coming back to one image mode keep the foot-control pressed for more than 3 seconds.



When the camera is put back, nothing appears on the screen; otherwise if it was stored one or more images, this/these will remain on the screen.



The handpiece cannot be autoclaved and cannot be immersed in a liquid. It is recommended to use the appropriate hygienic protections.



The position of the module cannot be changed.

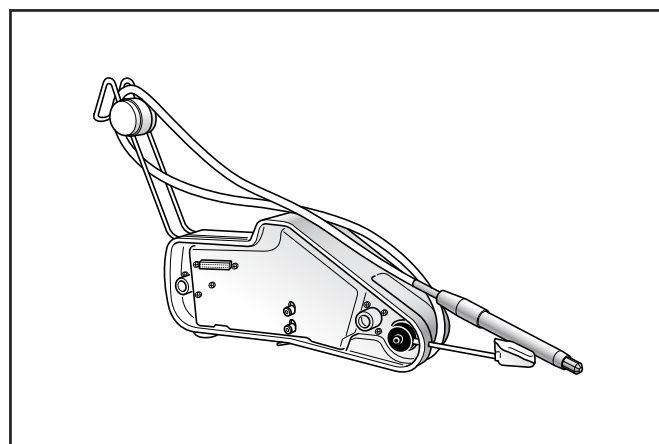


The camera should be connected to a monitor or computer complying with the fundamental requirements of the EEC directive 93/42 and connected regulations.

See the enclosed manual of the instrument for further information.

## BISTOURY MODULE

For detailed instructions on the bistoury module please consult the user's handbook, supplied with the instrument itself.



## MINI LED LIGHT CURE MODULE

This module has no programmable functions and is independent from the foot-control.

For starting the instrument, press the push-button 5 placed on the side of the optical terminal. The green led placed underneath will light up, enabling the instrument working.

The polymerization cycle begins pressing the key according to the selected mode. The cycle can be interrupted at any time pressing the key again. Cycle start and end are indicated by an acoustic signal.

There are three working modes selectable with the navigation key 1.

### Fast Curing

If it is selected, the red led, placed near the symbol 4, will lit.

The lamp will work for 10 s with a power of 1100 W/cm<sup>2</sup> (110%) with the tip of ø7.5 mm.

### Pulse Curing

If it is selected, the orange led, placed near the symbol 3, will lit.

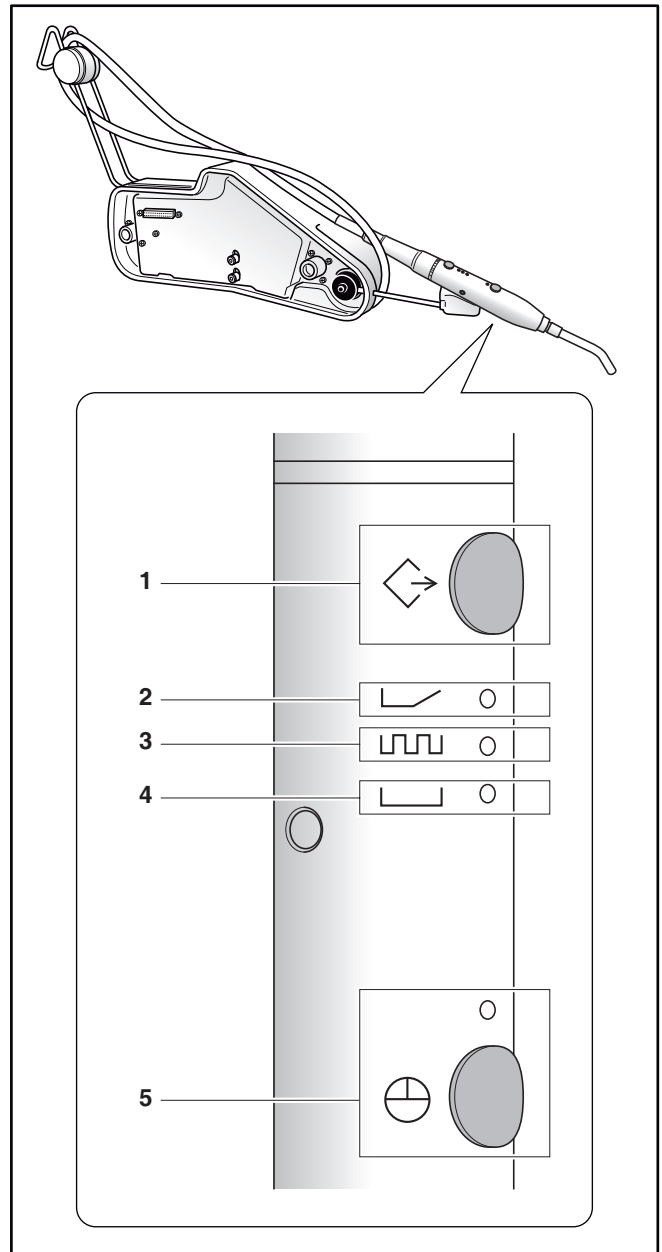
The lamp will work at maximum power with 10 emissions alternating with a rest period of 250 ms.

### Step Curing

If it is selected, the yellow led, placed near the symbol 2, will lit.

The lamp will reach full power progressively in 10 s, then it will remain on at maximum pressure for other 10 s.

The optical tip is autoclavable according to the indications given at the chap. "Sterilization methods and working times".



Do not point the instrument light towards the eyes.



Do not use this instrument if the patient and/or the operator has a heart stimulator or pacemaker.



Do not use on person who suffers, or has suffered in the past, from photo-biological reactions (including urticaria solaris or protoporphyrie erythropetique), or any person receiving medical treatment and using photosensitive medication (including methoxsalenes or dymethylchlorotetracycline).



Any person who has previously suffered from a retina or crystalline condition or who has undergone eye surgery, in particular cataract treatment, should visit an eye specialist before undergoing treatment with Mini Led. Even with the patient's agreement, it is highly recommended to use protective glasses at all times.

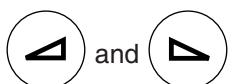
See the enclosed manual of the instrument for further information.

## SNOWHOW WHITENING MODULE

The module is started up by shifting it from the rest position. On the display the indication of hours disappears and the functioning time appears. Such a time can be set up by pressing the clock key:



and the keys:



to set the time from minimum 10 to maximum 40 minutes.

Then you will have to confirm the memorization by means of the key enter:



To start the instrument you have got to press the pedal lever, whereas a further impulse stops the instrument. The remaining time of the treatment is shown on the display. The conclusion of the treatment will be announced by a sound signal and the whitening device will cut out.

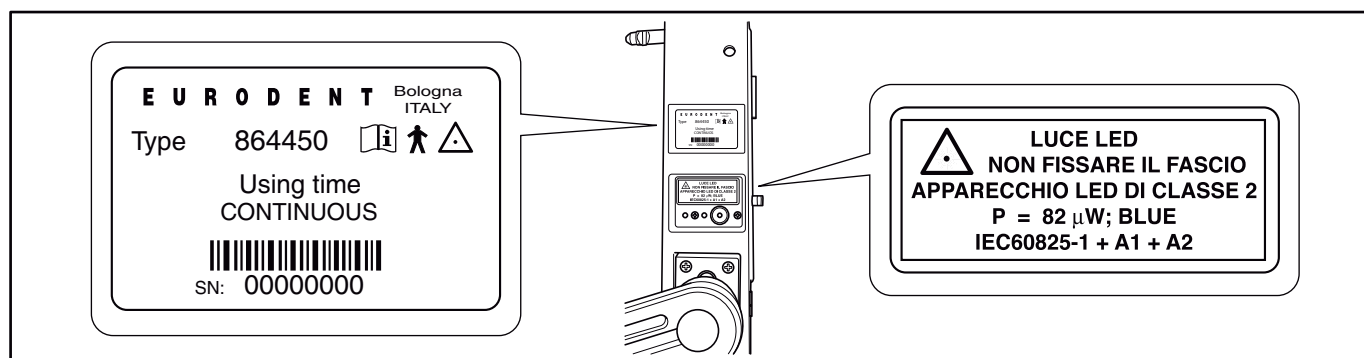


Before starting the whitening device it is recommended to have the patient put on protective glasses. In this connection it is strongly recommended to only use the glasses supplied by Eurodent.



We recommend to use whitening paste provided by Eurodent S.p.A., or professional whitening paste with 35% Peroxid.

## POSITION OF THE WHITENING MODULE PLATES





## 5.11 ASEPSIS MODE

The suction tubings is cleansed by fitting the tips into the appropriate bushings.

By this operation, the tubings get washed with fresh water; if also hygienization is wanted, after having lifted the tips, the key:



### SUCTION CLEANING

must be pressed once within 10 seconds: a series of detergent washings shall follow the fresh water ones (if the unit is equipped with the automatic disinfection system) and on the display will appear **"LON"**.



If pipeline WATER is selected (orange led "OFF" on the selection spray key; see chap. "Programmable modes for the instruments"), then also the hygienization will be carried out with WATER only.

If the semiautomatic disinfection system is installed, hygienization will always be carried out with WATER only.

## 5.12 MESSAGES EXPLANATION

The following messages appear on the display in case of operation or other signals:

RV00	Planned maintenance signal	Call the technical assistance for carrying out the periodical maintenance
RV01	Clock failure	Inform technical service
RV02	Faulty memory	Inform technical service
RV03	Faulty data transmission between dental unit and chair	Inform technical service
RV04	Module position not recognised	Reprogram relevant module or modules
RV05	Faulty data transmission between base and modules holder	Inform technical service
RV06	Module code not recognised	Inform technical service
RV07	Two or more modules calling	Replace instrument; if alarm code continues, please inform technical service

<b>AL08</b>	<b>Power drive overload</b>	Inform technical service
<b>AL09</b>	<b>Short circuit</b>	Inform technical service
<b>AV11</b>	<b>Disinfectant (or surgical kit) to be refilled</b>	Fill up
<b>AV12</b>	<b>Suction cleaning cycle not achieved</b>	Replace tubings if alarm code continues, please inform technical service
<b>AL13</b>	<b>U.V. lamp out of service</b>	Inform technical service
<b>AL14</b>	<b>Heater detectors upside-down</b>	Inform technical service
<b>AL15</b>	<b>Too high pressure in surgical kit</b>	Inform technical service
<b>AL17</b>	<b>Suction cleaning tank cannot get filled</b>	Inform technical service
<b>AV18</b>	<b>Mixing tank cannot get filled</b>	Inform technical service
<b>AV21</b>	<b>Counteracting movements on the same motor axis</b>	Inform technical service
<b>AL22</b>	<b>Overtime motors functioning (&gt;30 s)</b>	Only manual controls can be used; inform technical service
<b>AL23</b>	<b>General problem on the chair</b>	Inform technical service
<b>AL24</b>	<b>Programming not accepted</b>	Only manual controls can be used; inform technical service
<b>AV30</b>	<b>BLUE FOOT battery not charged</b>	Recharge
<b>AV31</b>	<b>BLUE FOOT battery not charged</b>	Disconnect the cable between BLUE FOOT CONTROL and chair
<b>AL40</b>	<b>Induction micromotor malfunction</b>	Turn the unit off and on. If the problem persists call the technical assistance
<b>AL41</b>	<b>SNOWHOW module temperature too high</b>	Wait until the SNOWHOW module has cooled down

When the message appears, it is accompanied by beep. By pressing once the key



the alarm (except for **AL07** and **AL41**) goes off.

If the cause of the alarm message is not settled after pressing the ENTER key, the message itself will not appear any more until the next switching on of the unit; if the cause of the alarm message stops and then starts again, the message will again appear (excepted **AV11**).



**ATTENTION:** Before calling the Technical Service, try to switch off the unit and to switch it on again.

## 5.13 PARAMETERS PRESETTING

Some programmations are made once in a certain period or once for ever, and do not need continuous variations afterwards. Such programmable parameters are not accessible from the operator keyboard when the unit is in working mode, and must be reached through a separate procedure.

There are 4 parameters:

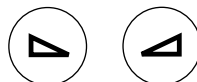
- persistence of cold light after footswitch release,
- persistence of automatic c.b. after footswitch release,
- bowl flush time,
- spray disinfectant concentration.

To access the parameters setting mode, keep the:



key pressed and switch on the unit, then release the key.

The display will show **P008**, where “P” stands for parameters mode, “0” is the first changeable parameter, and the two numbers at right translate the value of such parameter. To change this value (between 00 and 99), the keys:



key pressed and switch on the unit, then release the key.

The display will show **P008**, where “P” stands for parameters mode, “0” is the first changeable parameter, and the two numbers at right translate the value of such parameter. To change this value (between 00 and 99), the keys:



### THE 4 PARAMETERS ARE THE FOLLOWING:

**P008**

End-operation cold light time (in seconds)

**P101**

End-operation automatic c.b. time (in seconds)

**P220**

Bowl flush time (in seconds)

**P312**

Spray disinfectant: ‰ of disinfectant in water for cleansing  
(Ex. P312 = 12‰, P324 = 24‰, P310 = 10‰)

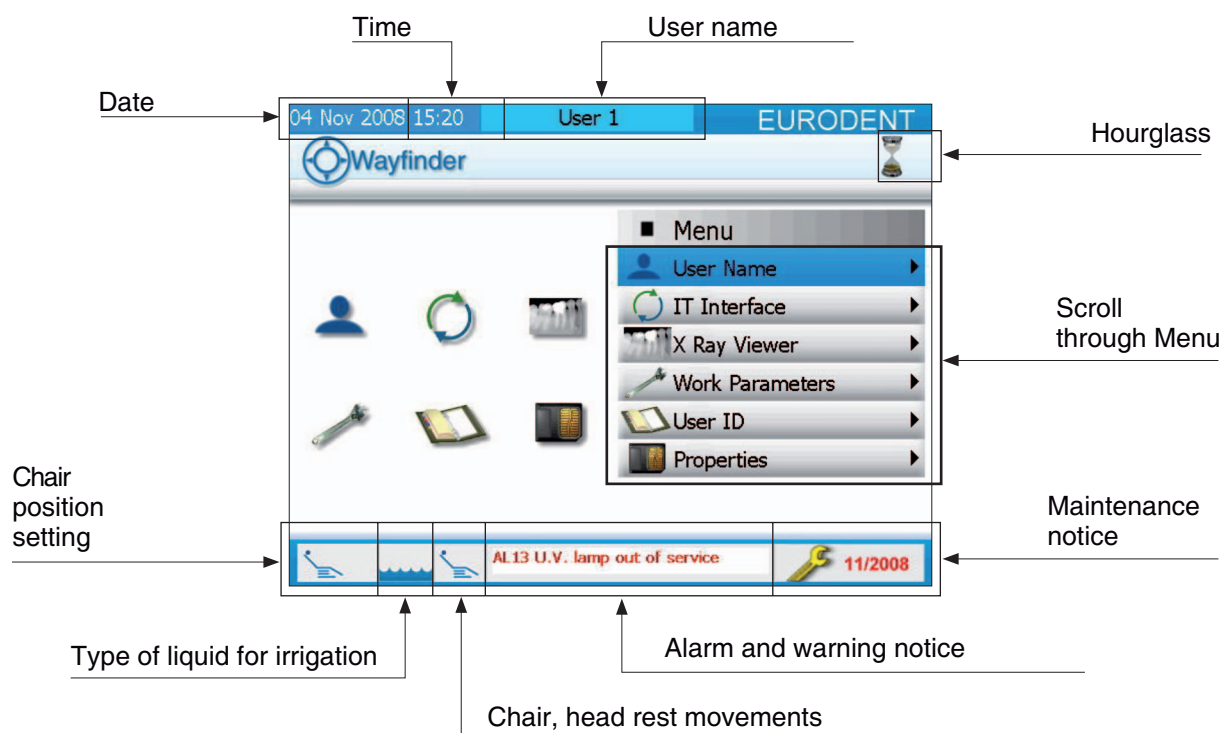
## 6 ABSOLUTE WAYFINDER

### 6.1 GENERAL DESCRIPTION OF THE DISPLAY

This version of the Absolute dental unit has a 5,7" LCD display above the operator's console, providing the following functions:

- 1) displays and provides access to all the settings and parameters for the for the various instruments and the appliance itself;
- 2) it displays the signal from an intra-oral camera for the version available;
- 3) a remote desktop-type connection to a computer.



#### FIRST SCREEN: MAIN MENU:



The "Main Menu" screen appears where the unit is switched on and the instruments are lowered.

It provides access to the various settings and appliance functions. It provides the following information:

- starting at the top left of the screen: date, time, user name, hourglass (used to indicate that the electronics have received a command);
- starting at the bottom left of the screen: chair position setting, type of liquid for irrigation, chair/headrest movements, alarms/warning notices; maintenance notice.
- there is a scroll through menu on the right of the screen that can be navigated using the central joystick on the operator's console.

Use the  and  keys to move from one item on the menu to another. Unselected boxes are light grey. Selected boxes are blue.

Press ENTER to access a submenu



ENTER

or press the  key (only when the  arrow can be seen at the far end of the box).

Enter the EXIT box and press

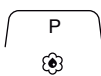


ENTER



to exit to submenu and return to the previous level.

## SELECTING THE LIQUID DELIVERED BY IRRIGATION

Use the  key when the instrument is at rest to select the liquid delivered by irrigation and to the tumbler (if the automatic disinfection system is available only by irrigation with the semi-automatic disinfection system):

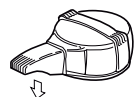
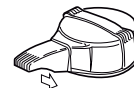
water and medicine will be delivered with the  icon;

water will be delivered with the  icon.

## 6.2 PATIENT POSITIONING

### OPERATOR'S KEYBOARD

**DRIVEN MOVEMENTS:** keep the pertinent purple or blue keys on the operator's keyboard pressed (blue keys usable only with ISORAMA chair). Chair up and down movements and backrest forwards and backwards movements may be controlled also by chair foot-control (if present):



The operation of the unit foot-control prevents the driven movements from starting.

**PROGRAMMABLE AND NON-PROGRAMMABLE AUTOMATIC MOVEMENTS** :press and release once the relevant orange key.



POSITION MEMORY 1 -



POSITION MEMORY 2 -



POSITION MEMORY 3 -



POSITION MEMORY 4 -




RINSING POSITION -



LAST POSITION MEMORY (non-programmable)

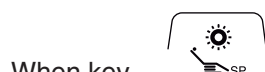
Memories **1** and **2** are available also by the chair foot-control:





Programming procedure: set the chair by foot-control or pushbuttons at the desired position, then keep pressing the memory pushbutton where the new position should be stored; the confirmation of the occurred recording is got with a blinking of the led placed on ENTER  key.

The position previously in memory for such pushbutton is cancelled and replaced by the new one.

If the VISION LED MODE lamp is present, the position 1 can be set as end-operation position (see installation handbook chapter "Prearrangement of lamp"). In this case, by pressing the program 1 key, the chair will reach the end-operation position and the lamp will switch off automatically.



When key  is pressed only the backrest moves, in order to reach the vertical position. If the backrest is already in vertical position, pressing the key  the backrest returns in to the last position.

See chapter "Foot-control switches" for BLUE FOOT control switches.

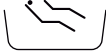
Lifting up any instrument but the syringe and the light cure prevents the automatic movements from starting.



A safety device stops the chair downwards movement, when it meets an obstacle.  
The ISORAMA chair is also equipped with a similar safety device in order to stop the backrest backwards tilting in such case.

## ASSISTANT'S KEYBOARD WITH 19 KEYS

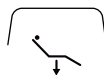
**DRIVEN MOVEMENTS:** keep the pertinent purple keys on the assistant's keyboard pressed:

Press the key  in order to select the chair or the electric headrest (if present) movements.

If the pilot light on the key is off, the 4 keys are selected for CHAIR movements.



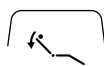
CHAIR UP




CHAIR DOWN



HEADREST FORWARDS



HEADREST BACKWARDS

Press the key  in order to light the pilot light up and select the ELECTRIC HEADREST movements:



HEADREST UP



HEADREST DOWN



HEADREST FORWARDS



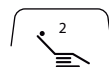
HEADREST BACKWARDS

The operation of the unit foot-control prevents the driven movements from starting.

**PROGRAMMABLE AND NON-PROGRAMMABLE AUTOMATIC MOVEMENTS:** press and release once the relevant orange key:



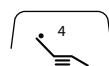
POSITION MEMORY 1 -



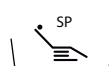
POSITION MEMORY 2 -



POSITION MEMORY 3 -



POSITION MEMORY 4 -

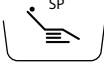


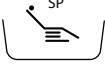
RINSING POSITION (non-programmable)



LAST POSITION MEMORY (non-programmable)

If the VISION LED MODE lamp is present, the position 1 can be set as end-operation position (see installation handbook chapter 1 "Prearrangement of lamp"). In this case, by pressing the program 1 key, the chair will reach the end-operation position and the lamp will switch off automatically.

When key  is pressed only the backrest moves in order to reach the vertical position..

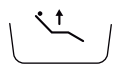
If the backrest is already in vertical position, pressing the key  the backrest returns in to the last position.

With a VISION LED MODE lamp, the light intensity will reach a lower intensity level. When the last-position memory key or one of the programmed position key are pressed, the lamp will reach the previous light intensity level.

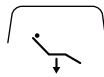
Lifting up any instrument but the syringe and the light cure prevents the automatic movements from starting.

## OPERATOR'S KEYBOARD WITH 9 KEYS

**DRIVEN CONTROLS:** keep the pertinent purple keys or the operator's keyboard pressed:



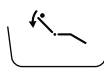
CHAIR UP



CHAIR DOWN



BACKREST FORWARDS



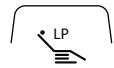
BACKREST BACKWARDS

The operation of the unit foot-control prevents the driven movements from starting.

**AUTOMATIC PROGRAMMABLE CONTROLS:** are started pressing the orange keys:



POSITION MEMORY 1 -



LAST OPERATION POSITION MEMORY (non-programmable)

See details about position memory 1 in the previous paragraph.

Lifting up any instrument but the syringe and the light cure prevents the automatic movements from starting.



## 6.3 ALARM

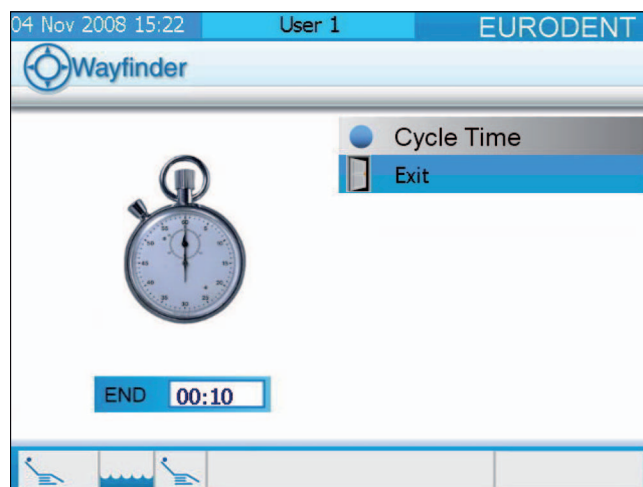
Press



to select the alarm feature. A screen will appear with the END box highlighted

Use the  and  keys to set required time in minutes and seconds.


Press the  button again to start the countdown.



The other features on the dental unit can be used normally during the countdown. At the end of the countdown, a beep notifies the end of the time. To prevent the start of the countdown and return to normal operating mode, press:



In the induction Micromotor module is lifted

the  key is used to set the pause in "Autoforward" mode.

## 6.4 TUMBLER FILLER

If can be operated either by using the control on the suction tubings support arm or pressing the white key:



**TUMBLER**

or with the foot-control (see Chap. "Foot-control switches")

### TUMBLER FILLED TIME ADJUSTMENT:

See Chap. Work Parameters (Entering of parameters).

## 6.5 BOWL RINSING

The bowl flush starts automatically following the tumbler filler stop, and stops automatically when the programmed time has elapsed. To change the programmed time see the section:

See Chap. Work Parameters (Entering of parameters)..

To start the bowl flush independently from the tumbler filling, press the white key:



**BOWL**

or use the control on the suction tubings support arm.

## 6.6 LAMP OPERATION

### ISOLUX LAMP

The lamp can be switched on by photocell or by switch. The unit should be properly programmed just as the lamp installation.

The key



**LAMP**

switches the lamp on. The lamp can also be switched on and off from the foot-control lever, by pushing it from the proper lever leftward when the instruments are in resting array.



Do not point the beam at the patient's eyes.

### VISION LED MODE LAMP

The lamp has two intensity levels, each or them can be set.



Pressing the key shortly:





The lamp will be switched on at the level of light intensity. To increase the intensity, press again the same key

On the back side of the lamp there are two leds, a green one that indicates when it is on, that the lamp is correctly supplied and a blue one that shows when it is on, that the lamp is at the lowest intensity level, while if the led is off, this means that the intensity is at the highest level.

The light intensity of each level can be changed by pressing simultaneously:

the key  and then 

to decrease the intensity, or

the key  and then 

to increase it.

When the maximum or minimum intensity level is reached, a blue led will start blinking.

When the lamp is switched off the new settings will be stored. The lamp is switched off by pressing the key for more than 1 s:



All these functions can be activated by the no-touch sensors placed on the lamp's head. Placing the hand in the area where the symbol is positioned (without touching the guard):



the lamp is switched on; the change in intensity and the switching off are obtained with the same modalities seen previously. By placing the hand near the symbol:



the light intensity will increase and reach the selected level and in the same way, by placing the hand near the symbol:



the intensity will decrease.

The above-mentioned functions of switching on, switching off and change in intensity can be activated by the foot-control, too. By shifting once the lever rightward for less than 1 s, the lamp will be switched on at the lowest intensity, another stroke increases the level of intensity, the switching off is obtained by shifting the lever rightward for more than 1 s.



Do not point the beam at the patient's eyes.

## 6.7 SERVICE PUSH-BUTTON

The key



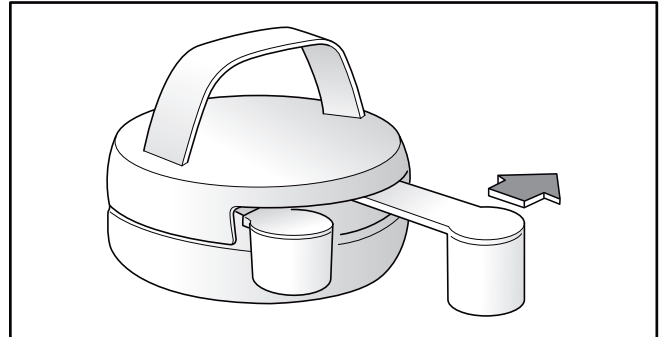
closes any external circuit (max 24 V - 1 A) for the assistant call, door opening, and so on.

## 6.8 FOOT-CONTROL SWITCHES

### ISOTRON FOOT-CONTROL

By pushing rightward the lever any handpiece except the syringe, the bistoury, and the light cure can be started. In case of adjustable power handpieces, i.e. micromotors, the supplied power stands proportional to the lever stroke.

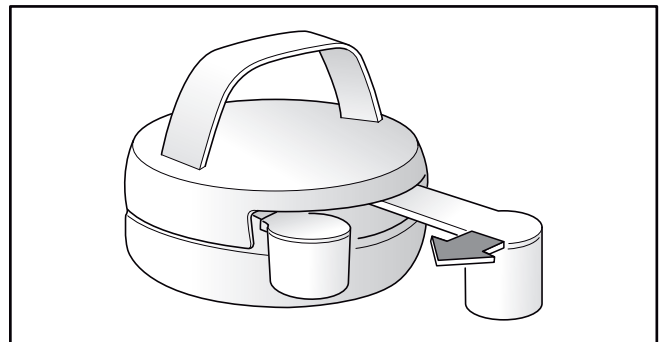
If mounted, the telecamera gets the still image.



By pushing the lever leftwards, the “reverse” mode of the micromotor gets preset. Another shift leftwards restores the rightwise mode.

If the bistoury is up, touching leftwards the lever presets one of the functioning modes (cut coagulation, coagulated cut). The selected mode gets automatically stored.

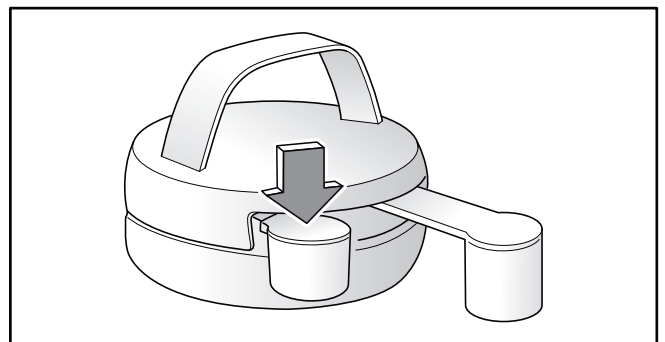
When instruments are not picked up, touching the lever leftwards turns ON or OFF the ISOLUX and VISION LED MODE lamps.



By pushing the small pedal downwards, the spray can be enabled or disabled.

If all the instruments are lying in resting array (or only the syringe is up), such switch operates the tumbler filler.

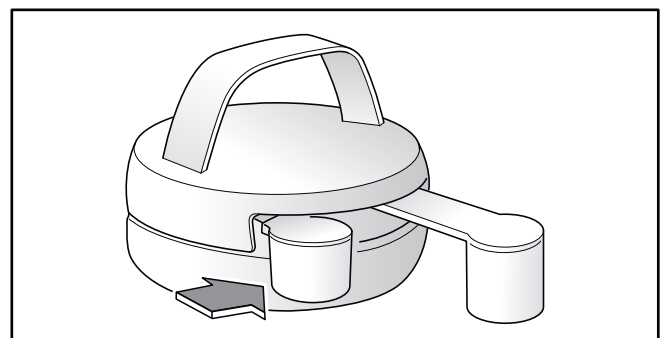
This control starts the bistoury working.



By pushing the small pedal rightwards, the c.b. of the lifted handpiece starts operating.

If a handpiece without spray is up, the control starts the cold light if equipped with the instrument.

If a handpiece without c.b. or the syringe or all the handpieces lie in resting array, the switch has no effect.

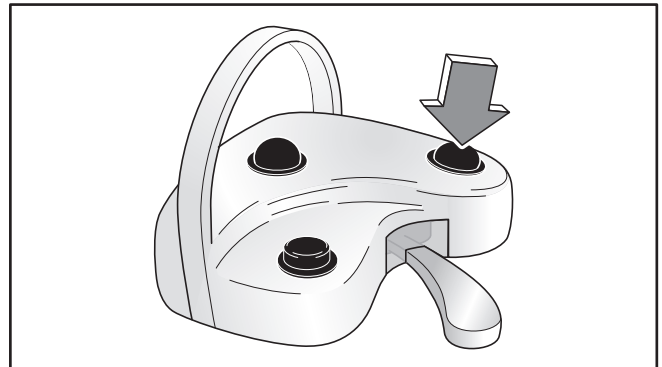


## BLUE FOOT CONTROL

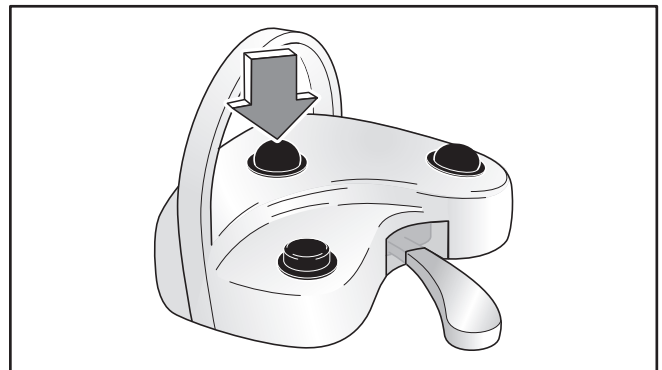
### FOOT-CONTROL SWITCHES WITH NO INSTRUMENTS PICKED UP (EXCEPT SYRINGE AND LIGHT CURE)

The joystick is used to move the chair or the electric headrest:

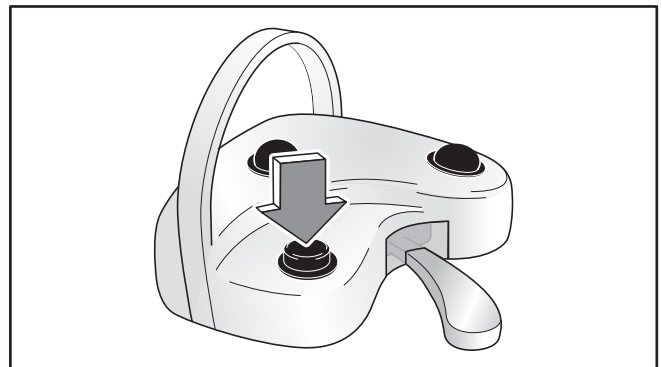
- pushed forward: chair up or headrest up;
- pulled backward: chair down or headrest down;
- pushed rightward: backrest forwards or headrest forwards;
- pushed leftwards: backrest backwards or headrest backwards.



By pressing the central push-button, is selected the movement of the headrest for 20 s and then it is ready again for the chair movements. The time is calculated from the moment the central push-button is started and it starts again every time the joystick is pushed for moving the headrest. The display will show the message HEAD all time this mode is on. The movements of the chair will start again if the push-button is pressed again within 20 s.

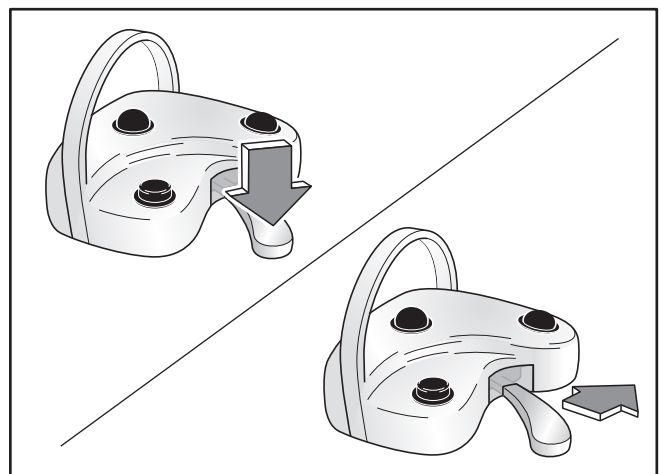


Side push-button: pushing it once, the chair reaches the rinse position, pushing it when the chair is in rinse position, the chair goes back to the last position memory.



Foot-control lever pressed downwards: when the pedal is pressed for less than a second position No. 1 is selected, if it's pressed for longer than 1 s position No. 2 is obtained.

While the lamp is switched off, by shifting the lever rightward for less than a second, the lamp reaches a lower light intensity; another shift of the lever rightward for less than 1 s brings the light to a different intensity level. If, on the other hand, the lever is shifted rightward for more than a second at any light intensity, the lamp is switched off.

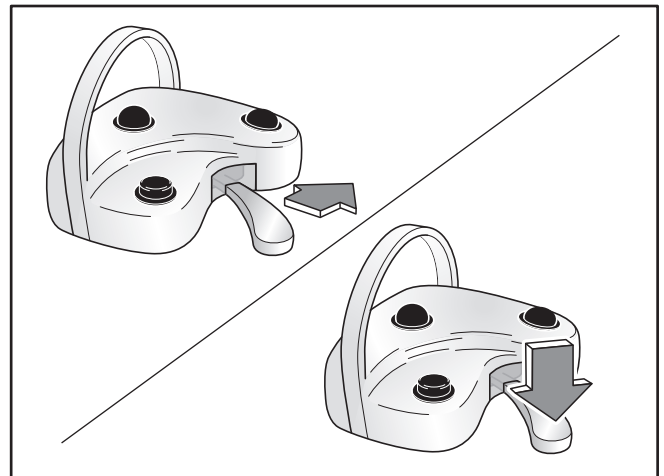


**FOOT-CONTROL SWITCHES WITH INSTRUMENT LIFTED (EXCEPT SYRINGE AND LIGHT CURE)**

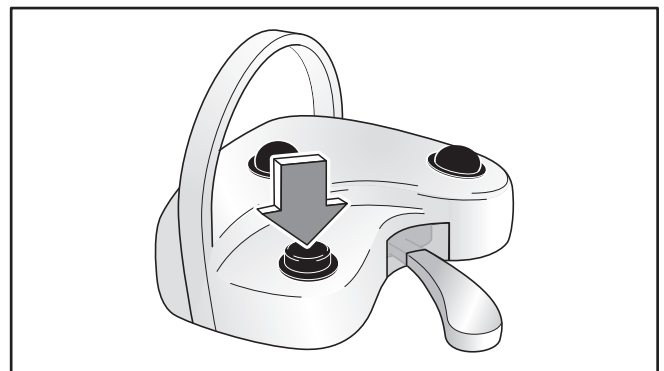
By shifting rightward the lever any handpiece can be started. In case of adjustable power handpieces, the supplied power stands proportional to the lever stroke. If mounted, the telecamera gets the still image.

By pushing the lever downwards, the c.b. of the handpiece selected starts. If a handpiece without c.b. is lifted, the switch has no effect.

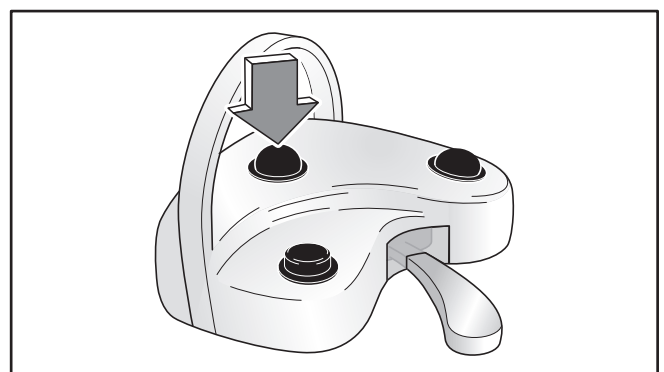
If a handpiece without spray is up, the control starts the cold light if equipped with the instrument.



By pushing the side push-button, the spray is enabled to the selected instrument. Pushing it again, it is disabled. The push-button stops or reactivates the peristaltic pump of the induction micromotor with physiodispenser. The microprocessor stores the control automatically. This control starts the electrosurgery working, too.



By pushing the central push-button, the tumbler filler is activated.



The joystick is used as follow:

- pushed forward, for assistant call (or door-opening);
- pushed rightwards, for optical fibre switching off and on if the handpiece is provided with it; if the fibre optic has been already set to 0, the switch has no effect.

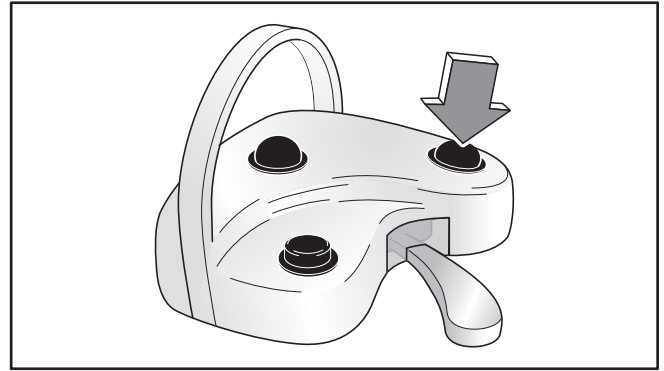
Date settings are showed on the icon on top left corner.

"FIBRE OPTIC ON" = Fibre optic on

NO ICON = Fibre optic off

If the handpiece is put into resting position, the initial position is restored;

- pushed leftwards, the reverse mode of the micromotor working gets preset, if it is up. Another pressure leftwards eliminates it. The control is stored after foot-control lever is activated.
- if the "induction Micromotor Module" is up, if pulled it is used for selecting the different functioning modes;
- if the electrosurgery is selected, the different functioning modes (cut, coagulation, coagulated cut) are selected pressing the joystick leftwards. In this case the microprocessor stores commands automatically.



## 6.9 STRUCTURE OF THE MAIN MENU

1	User Name	
	1.1	User 1
	1.2	User 2
	1.3	Exit

2	IT Interface	
	2.1	Remote Desktop
	2.2	Screenshot
	2.3	Exit

3	X Ray Viewer	
	3.1	Intraoral
	3.2	Panoramic
	3.3	Exit


4	Work Parameters	
	4.1	Liquid Disinfection (%)
	4.2	Fibre Optic Cycle Time (s)
	4.3	Auto Chip Blower Cycle Time (s)
	4.4	Bowl Rinse Cycle Time (s)
	4.5	Tumbler Filler Cycle Time (s)
	4.6	Exit

5	User ID	
	5.1	User 1
	5.2	User 2
	5.3	Date and Time
	5.4	Exit

6	Properties	
	6.1	Diagnostic
		6.1.1 Footcontrol Functions
		6.1.2 Levels
		6.1.3 Jumper's Position
		.
		.
		.
		6.1.20 Blue Foot functions
		6.1.21 Blue Foot radio communication
		6.1.22 Exit
	6.2	Software
		6.2.1 Main
		6.2.2 Chair
		6.2.3 Console
		6.2.4 Wayfinder
		6.2.5 Serial Driver
		6.2.6 Video Driver
		6.2.7 DLL
		6.2.8 Graphic
		6.2.9 Exit
	6.3	Set Properties parameters
	6.4	Service Mode
	6.5	Service Code
	6.6	Exit

The first 5 items on the Main Menu (User Name, IT Interface, X Ray Viewer, Work Parameters and User ID) can be used by the end-user. The sixth (Properties) should only be used by service personnel as it displays information for the end-user but is not used to alter any settings.

Return to the previous level using the EXIT box in the list of options in the submenus of the main menu

(enter the EXIT box and press ).



## USER NAME


This menu is used to select the name of the user who is to use the unit.

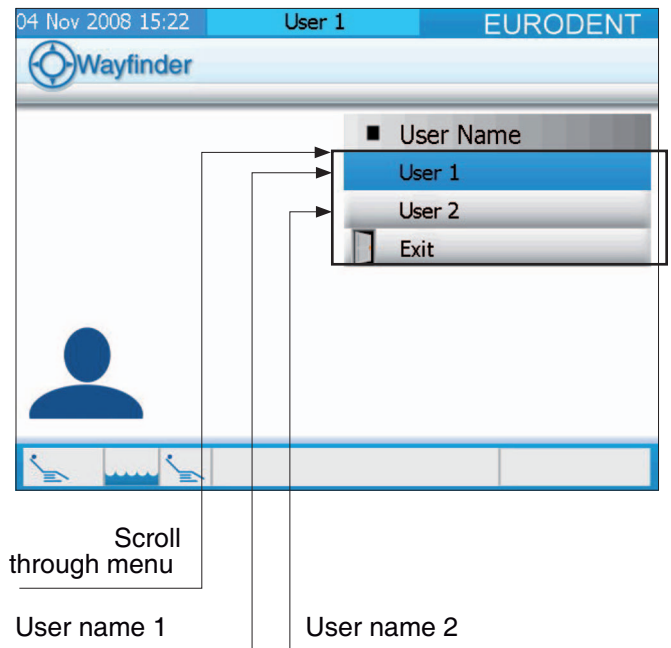
Use the  and  keys to enter the name

and press  ENTER.

The name in the box at the top centre of the display will now change. 2 different user names can be stored, each with his or her own settings (programmed chair position)

Refer to the "USER ID" section for details on altering the user name.

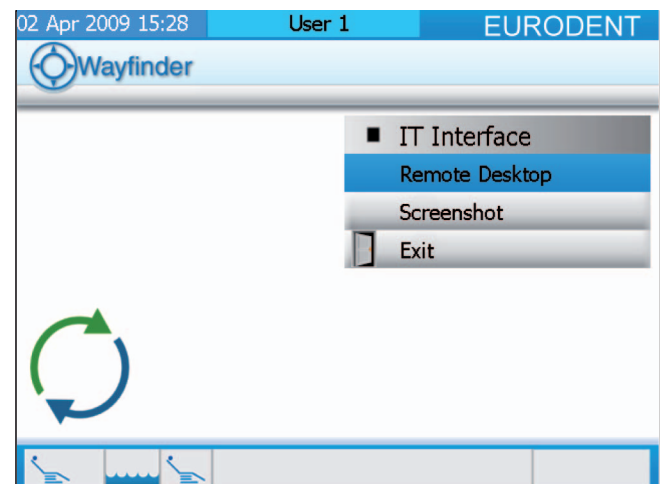
Enter the EXIT box and press  to exit the menu to the previous level.




## IT INTERFACE (Remote Computer Interface)

The Wayfinder is able to:

- to connect with a remote PC (Remote Desktop) via LAN. However, for a proper use, it is necessary to connect a mouse and a keyboard to the unit.
- to view the freeze frames of the camera, if available (Screen shot).



### Remote Desktop

Enter the "Remote Desktop" box and press  ; the screen opposite will appear.

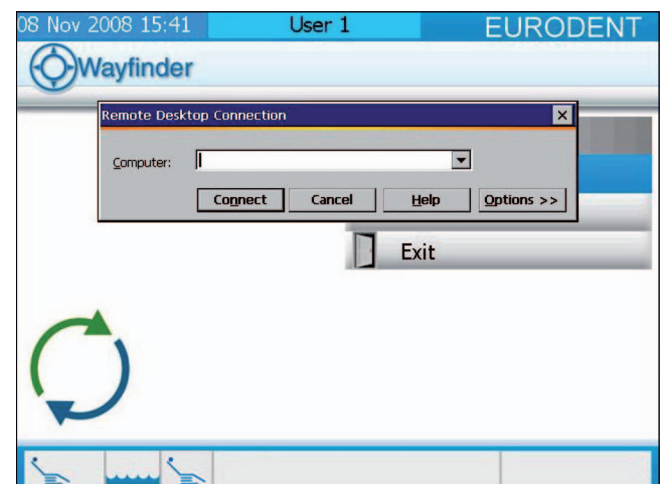
In the "Computer:" window enter the IP address of the remote computer (use the keyboard and mouse) and then press "Connect".



### System requirements

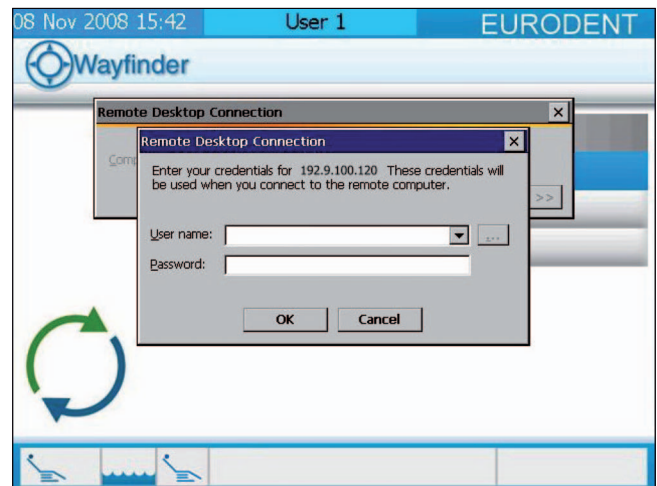
The remote computer must run on one of the operating system below:

- Windows XP Professional;
- Windows Vista Business.



Now enter the user name in the “User name” box and enter the relativ “Password”.

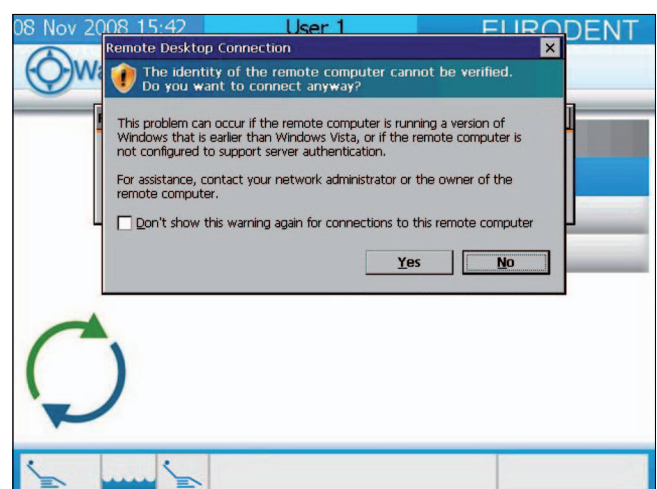
Press “OK” to access the next screen .



Press “Yes” to allow access to the remote PC.

The Wayfinder's displays now becomes the monitor of the remote PC and the computer can be used by means of the keyboard and mouse.



Exit Remote Desktop mode by pressing the close symbol [X] at the top right and then press “OK”.



## Screenshot

See instructions on the “Camera Module”.

## X RAY VIEWER

In this menu you can scroll through the types of X ray to view by using the  and  keys.

Panoramic (all white screen) or intraoral (small white rectangle). Return to the previous screen from either of the viewing modes by simply pressing the

 ENTER.

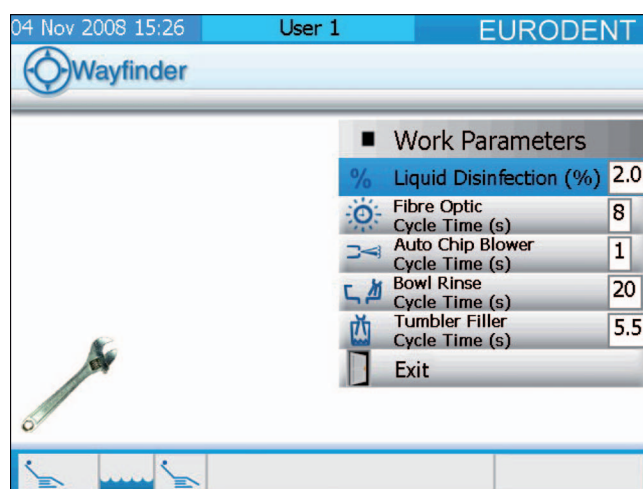


## WORK PARAMETERS (Entering of parameters)






Some settings only need entering once and so will never need changing again. Therefore, these settings cannot be accessed via the operator's console when the dental unit has been set up in operating mode. Access the "Work Parameters" submenu to set the parameters.


5 operating parameters can be set in this menu:

- the % of drug dose (Calbenium or Green & WK Clear);
- the length of time that the cold light stays on after the release of the foot-control, in seconds;
- the length of time that the preset c.b. stays on after the release of the foot-control, in seconds;
- the duration of the bowl rinse, in seconds;
- the time for filling the tumbler, in seconds.





When you access the Work Parameters menu, the first parameter is highlighted (Liquid Disinfection)

Scroll through the menu using the   keys. Select the parameter you wish to alter by pressing  and use the   to alter it.



Parameter setting / modification mode is highlighted by the change in colour of the outline of the box at the right of the window. Press  to store the new setting.

If, after have modified, the enduser doesn't want to store the parameters value, is necessary to press

 or  key. In this way the enduser leaves edit mode and last stored parameter is showed.

## USER ID (User Settings)

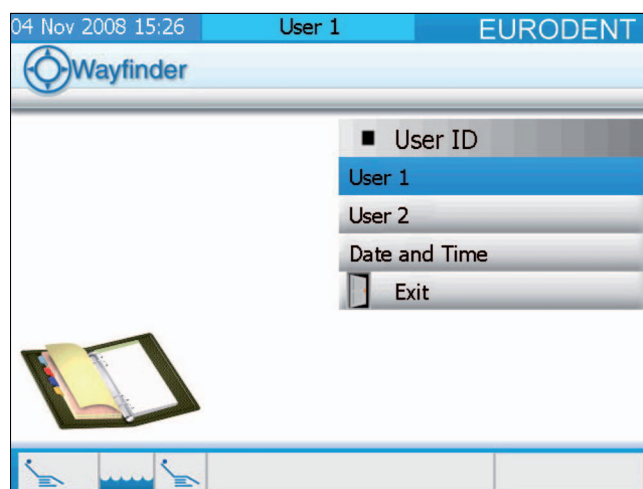
Enter USER ID in the Main Menu and press

ENTER  (or press the  key);

to access the USER ID submenu.

This menu is used to set:


- user name 1;
- user name 2;
- date.







### • Entering the user dentist's name


2 different user names can be entered. Each user name can have up to 12 digits

Enter one or two "name" boxes (if you are doing this for the first time, they will be User 1 and User 2) to enter the

required user name. Press  to enter setting mode and the first letter of the name can be entered, which will change colour.

Use the  and  keys to select the letters.


Use  and  to confirm the letter and move to the next box. If you go back onto a letter that was already set, it will change colour and you can change it using the  and  keys.

. Press  to store the name and exit setting mode.

### • Setting the date and time

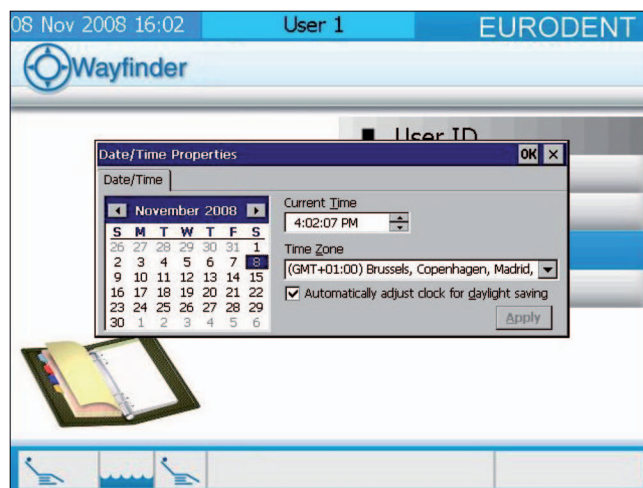
This is only possible if a mouse and keyboard are connected to the dental unit.

Enter the USER ID submenu to set/change the date and time and go to "Date and Time."

"Press  to open a calendar Window on the display.

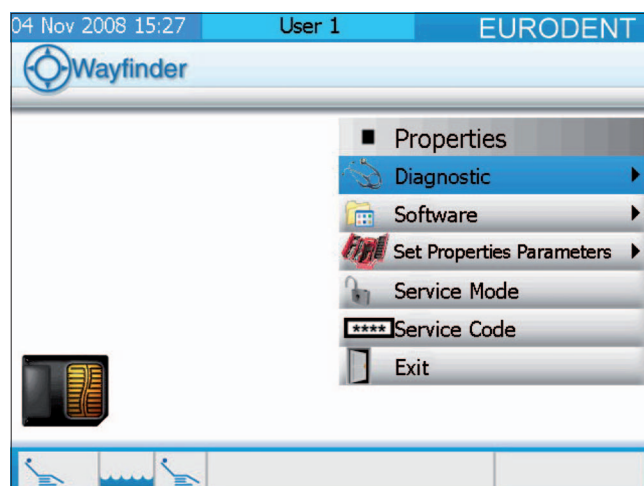
Use the calendar on the left to change the date and set the time in the "Current Time" box, selecting the "Time Zone" (depending on where the dental unit is located).

Press "Apply" and then "OK" to save the settings.

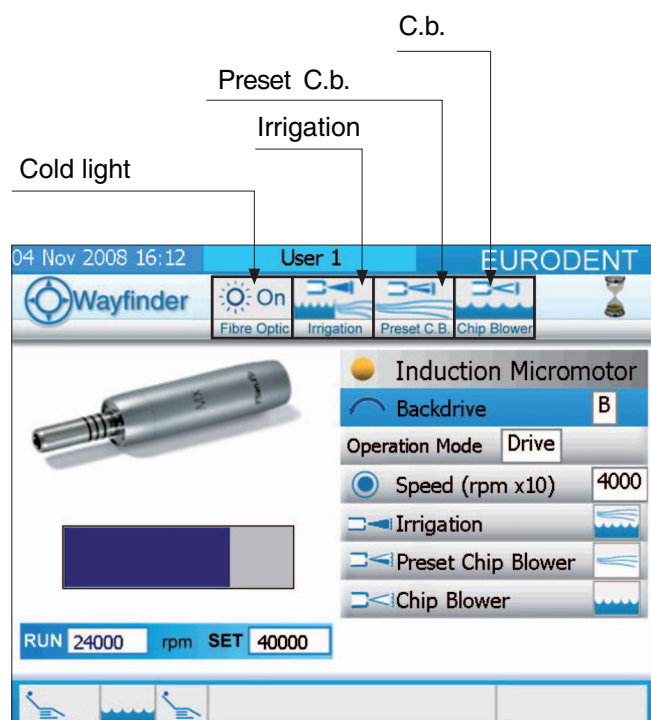


## PROPERTIES

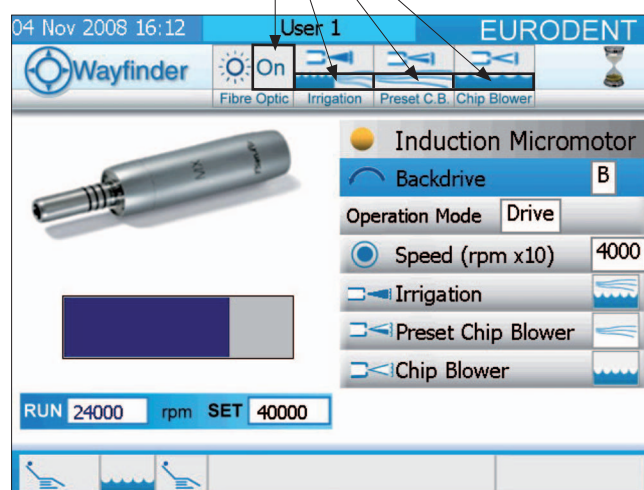
This menu concerns the technical aspects of the apparatus and should only be accessed by trained personnel (see "Installation instructions")



## 6.10 PROGRAMMABLE INSTRUMENT FEATURES






Selected parameters













## GENERAL DESCRIPTION


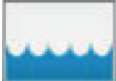
There are two ways to set the instrument features when the instrument is picking up (the first row of the menu is highlighted): the first way is to press the key for that feature directly on the operator's console. The display will show the box for the selected feature.

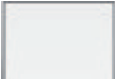
Use the  and  keys to alter the setting and press  ENTER, or activate foot-control lever, to confirm the setting (quick mode).


The second way is to use the scroll through menu for the instrument using the  and  keys to select the feature; press  and use the  and  keys to change the setting. Press , or activate foot-control lever, again to store the setting (scroll through mode).

## IRRIGATION



Use the  key or the  box to select and view (on the display) the WATER and AIR components of the irrigation for the lifted instrument.



The  symbol indicates the presence of AIR. The  symbol indicates the presence of WATER.


The  symbol (blank), indicates the instrument has been programmed to work dry;

To change this setting, press the button or select the box and press . The outline of the box will change colour: this means the microcontroller is waiting for new information.



Press the  button: the display shows ,  and then both together  in sequence, depending on how many times the button is pressed.


Press the button (  ) again to display  : at this point, the instrument will work in dry mode if the foot-control lever is pressed to the right almost as far as it will go. If it is pressed as far as it will go, the instrument's irrigation feature (water + air) will start working. If the pressure on the foot-control pedal is released, the instrument will resume dry-mode operation.

In case that the induction micromotor module with fisiodispenser is used, press the  again to display the image  : spray provided by external liquid.

To use the new parameters and store them in the memory, press  or activate foot-control lever.

The hourglass (at top right) will flash once to confirm the new parameters have replaced the previous ones and have been stored.

With the instrument lifted, the  symbol in the icon at the top indicates that there will be WATER ONLY in the irrigation when the instrument is in operation. The  symbol indicates that there will be AIR ONLY for cooling when the instrument is in operation.

The  symbol indicates that there will be air and water IRRIGATION.

## PRESET CHIP BLOWER



Use the  key or the  , box to select and display the WATER and AIR components of the preset chip blower feature when the foot-control is released.

This is the jet of air of water or both that is issued for an adjustable, preset time when the foot-control is released. It is used for cleaning the operating surface and inside the terminal of the instrument tube and the instrument itself.



If this automatic feature is not required simply set the  (blank)


**N.B.** The parameters of this function (water and air) depend on the settings for the irrigation function (see Table A) When the foot-control is released, the preset c.b. continues for an adjustable period as described in "Work Parameters" and is the same for all the instruments the preset c.b.


## CHIP BLOWER


Use the  key or the  , box to select and display the WATER and AIR components of c.b. operation. It is possible to set a regular, air-only c.b., a water-only c.b. or irrigation, operated when the instrument is stationary. Components are inserted and replaced in the same way as described above for irrigation.

## SELECTING MAXIMUM INSTRUMENT POWER (Speed/power)

Use the  key or the  , box to set the maximum speed supplied to the selected instrument when the foot-control pedal is pressed as far as it will go. The setting can be adjusted and is displayed as a percentage (power – da 01% a 100%) or in rpm (speed), depending on the type of instrument.

Press the appropriate button to adjust it or enter the appropriate box and press: 

Use the   keys until the required percentage (or setting) is displayed.


Press the  , key to store the setting. This will be confirmed with a single flash of the houglass.



This is the maximum power supplied to the instrument by the foot-control pedal.


## COLD LIGHT SELECTION (Cold Light Intensity - Fibre Optic)

Use the  key or the  box to adjust the brightness of the cold light for the selected instrument; the minimum brightness setting is “0” and the maximum setting is “9”.

When the foot-control is released, the cold light stays on for an adjustable period as described in “Work Parameters” (PARAMETER ADJUSTMENT) and is the same for all the instruments with cold light.

Press the appropriate button to adjust the brightness or choose the appropriate box and press  ENTER.


Use the   keys until the required setting is displayed.



Press the  key, or activate foot control lever, to store the setting.

This will be confirmed with a single flash of the hourglass.

## SELECTING THE MODE OF ROTATION (Micromotor Reverse Mode - Backdrive)

Use the  key or the  box to select normal or reverse rotation for the micromotor.

Press the appropriate button to select the mode or choose the appropriate box and press .

Use the   keys to choose the required mode. Select “On” to enable the reverse mode.

When the box is blank the reverse mode is disabled.




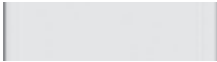


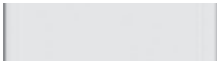
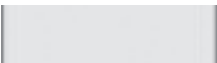
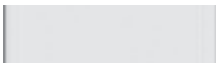




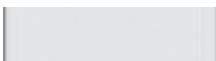

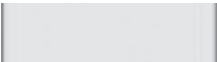





The  key is also used to select the operating mode for the bistoury.



TABLE "A"

SPRAY KEY	AUTOMATIC C.B. KEY choose between:
 = water	 = water or  = nothing
 = air	 = air or  = nothing
 = nothing	 = nothing
 = water and air or  = end run spray icon	 = water or  = air or  = nothing or  = water and air

Selected parameters:	
 = icon without liquid spray	 = water icon
 = air icon	 = water + air icon
 = end run spray icon	 = external spray icon

## 6.11 MODULES

The unit can be equipped with 8 instrument modules, besides the syringe.

The instruments available can be chosen among a large gamma and it can be used two or more modules of the same type (i.e. two or more turbines).

### TO REMOVE ANY MODULE FOLLOW THE PROCEDURE BELOW:

- 1 Switch off the unit and press the syringe levers up to the complete depressurization.
- 2 Press the disconnection pin of the module (pin located under the module), holding the module or the group of modules following the one whose pin is pressed.
- 3 Once all air has flown out, shift the module or group of modules aside.
- 4 Press the disconnection pin of the module preceeding the one to be taken out, and once all air is out slide the latter aside.
- 5 Place back the module or group of modules previously taken off, or a new module in between, by sliding in the supporting brackets. Taking care of proper matching between modules edges and tightness protection, switch the unit on again.
- 6 If now the handpiece of the module placed in the position previously occupied by another is picked up, a beep is heard and the display shows "**AV04**". In fact the microprocessor, whose memory matches that particular position with the data of the previous module, is asking for the data relevant to the new one. To store them in, first push the key:



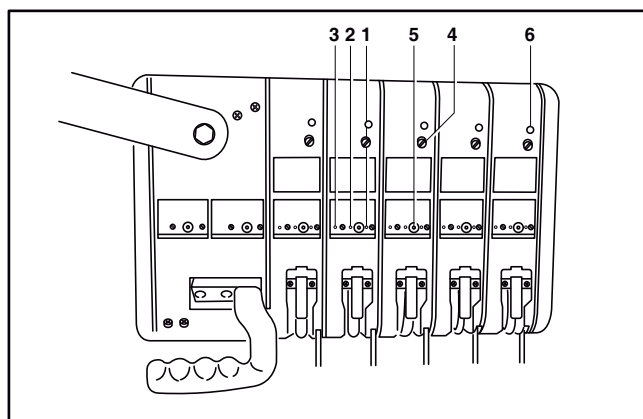
to delete "**AV04**" and push again to store the data shown on keyboard and display.

Such data can be varied according to the procedures above explained for the various functions.

If the position of other modules has been changed, this sequence of operations for re-programming must be repeated for all of them. All modules are fitted with flow rate adjustments for spray/c.b. water, spray/c.b. air and drive/cooling air, provided they include such operative functions. The adjustment devices are located underneath the module, beside the disconnection valve pin (see HANDPIECES PRESSURE ADJUSTMENT).

### HANDPIECES PRESSURE ADJUSTMENT

- 1 Drive air (Turbines, Airmotor, Powder cleaner) or cooling air (Micromotor, Light cure).
- 2 C.B. or spray air.
- 3 Spray water/C.B. water.
- 4 Whip balance adjustment.
- 5 Disconnection valve pin.
- 6 Syringe air adjustment.



## SETTING THE PARAMETERS

To modify the instrument parameters, use the key on the operator's console that corresponds to the parameter (Quick Change) or enter the required parameter by scrolling through the menu for each instrument using the

▼ ▲ keys and pressing ↻ (scroll mode modification) to confirm. In either mode, use the

▼ ▲ keys to change the setting of parameters and confirm by pressing ↻ or activate

foot-control lever.

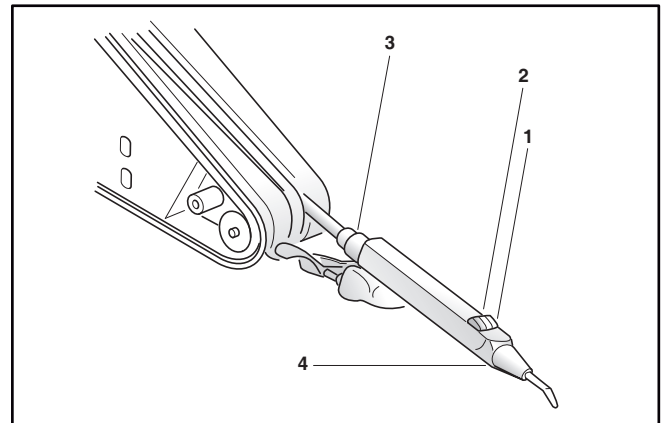
The outline of the box will change colour when the parameter is being changed.

## SYRINGE MODULE AND FIBRE OPTIC SYRINGE MODULE

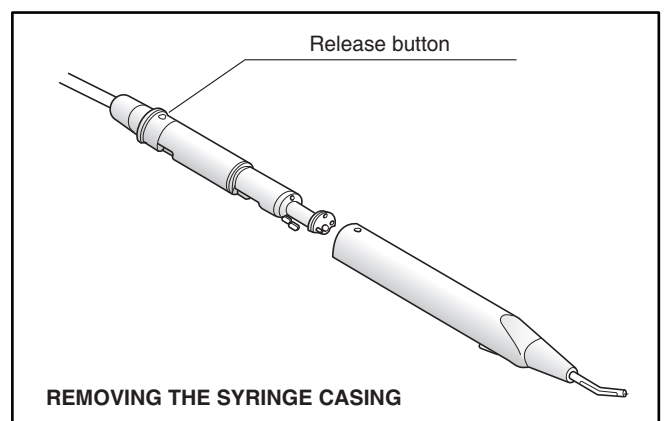
This unit does not have any features that can be set on the console and works independently from the foot-control pedal. Nothing appears on the display what it is lifted.

1. water supply control button
2. air supply control button
3. air and water switch (for 6-function syringes)
4. cold light (if present)

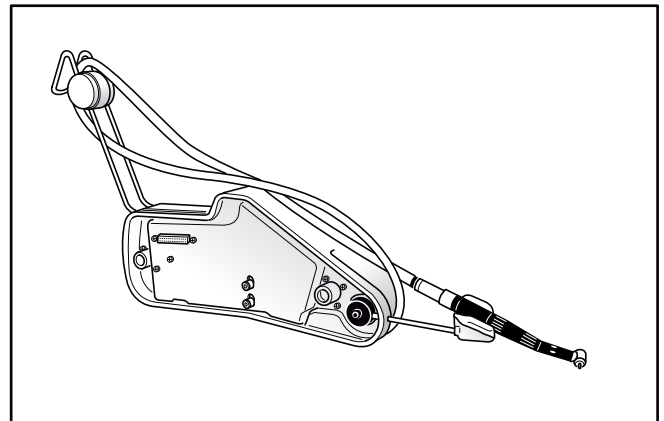
press button 1 and 2 simultaneously for irrigation.



- The syringe casing can be removed for ease of sterilization. Refer to "Sterilization methods" for details of sterilization procedures.



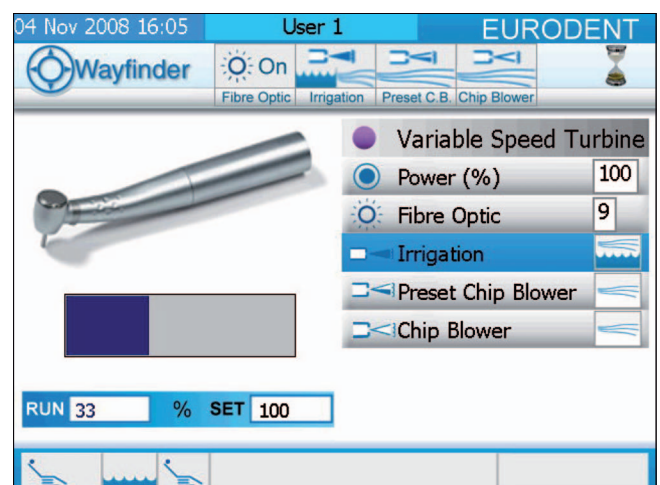
## TURBINE MODULE AND VARIABLE SPEED TURBINE WITH FIBRE OPTIC



When picking up the handpiece, the display shows the following information:  
Fibre Optic (if present), Irrigation, Preset Chip Blower, Chip Blower.

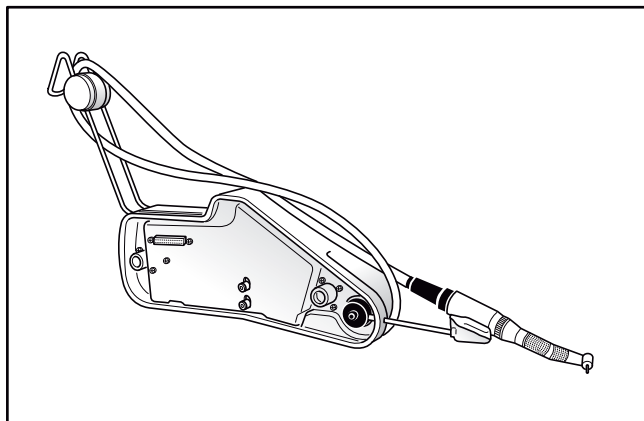


In the Variable Speed Turbine Module is shown the "Power" box (for power adjustment).  
While the Variable Speed Turbine Module is working, on the display are shown the digit for max power (SET) and the digit for instant power (RUN).



If the turbine is lubricated with oil, an oil storage filter should be fitted. It should be regularly emptied and before the oil reaches the lower part of the filter otherwise the carter could be damaged.

- As for sterilization the instruments, compare chap. "Sterilization methods and working times".

**FIBRE OPTIC MICROMOTOR MODULE**

When picking up the handpiece, the display shows the following information:  
Speed, Fibre Optic, Backdrive, Irrigation, Preset Chip Blower, Chip Blower.

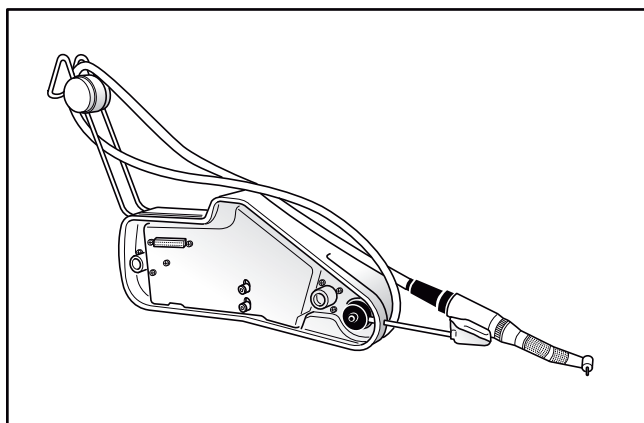
While the Micromotor Module with Cold light is working, on the display are shown the digit for max speed (SET) and the digit for the instant speed (RUN).



As for sterilization the instruments, compare chap.  
“Sterilization methods and working times”.

## HIGH TORQUE MICROMOTOR MODULE WITH FIBRE OPTIC / WITH PHYSIODISPENSER

It operates as the fibre optic micromotor, if the maximum speed is set between 11% and 100%. If the maximum speed is set between 01% and 10%, the slow speed operation with high torque is automatically select.

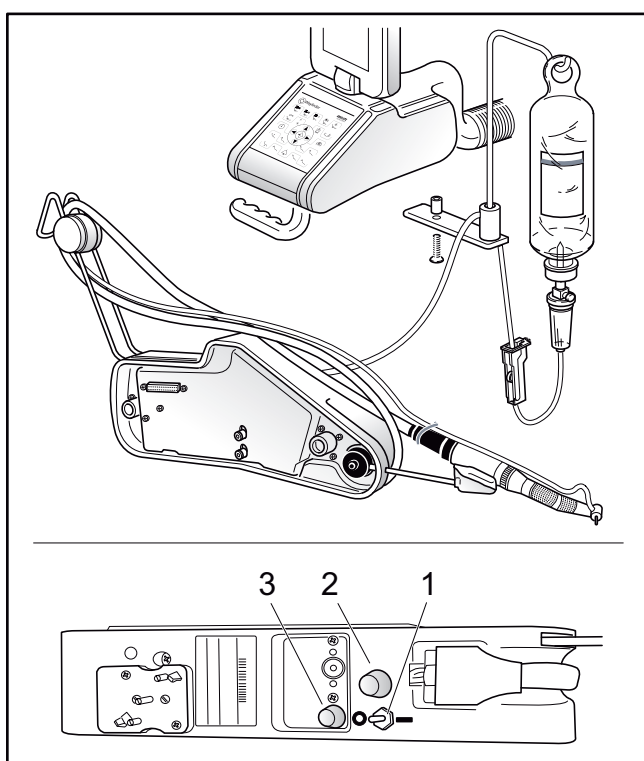


### MODULE WITH PHYSIODISPENSER

Spray can be obtained in two ways:

- I<sup>a</sup> function (position I): the external spray source supplies only liquid. Make use of the potentiometer under the module to adjust the spray flow rate.
- II<sup>a</sup> function (position 0) : spray comes from the unit circuit.

- 1 Spray setting switch
- 2 External spray adjustment (position I)
- 3 Internal spray adjustment (position 0)

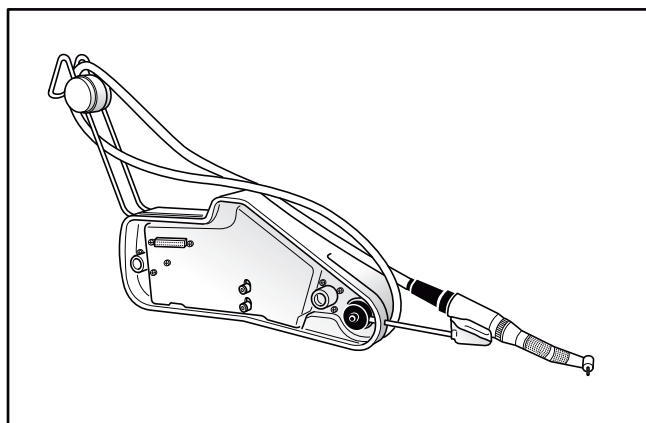


To obtain best results when operating at slow speed, it is advisable to make use of reducinghandpiece.

- Regarding the sterilization procedures see chap. "Sterilization methods and working times".



## INDUCTION MICROMOTOR MODULE



When the instrument is lifted, the display shows the induction micromotor screen.

Information always shown on the display (at the top): foot-control for cold light on/off irrigation present c.b., chip blower.

The following information is accessed via the instrument's scroll through menu:

- Fibre Optic (cold light)
- Backdrive
- Operation Mode
- Backdrive Time
- Torque
- Speed (maximum power/speed setting)
- Irrigation
- Preset Chip Blower
- Chip Blower

These parameters may or may not be displayed depending on the operating mode selected.

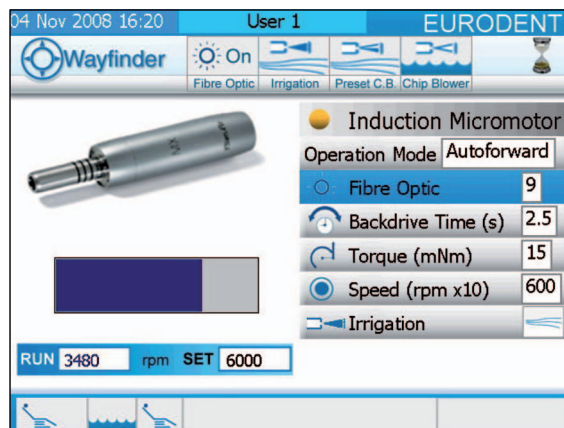
“Operation Mode” indicates the current operating mode (drive, autoreverse, autoforward) whereas “backdrive” (only operational in DRIVE mode) indicates if this feature has been set.

When the instrument is running the display will show both the setting for the maximum speed (SET) and the instrument's current speed (RUN).

## DRIVE MODE



## AUTOFORWARD MODE



## AUTOFORWARD MODE







The operating mode are:

- **Drive mode:** This is indicated on the display WITH th “DRIVE” in the “Operation Mode” box. The micromotor can operate from 100 a 40000 rpm in this mode. The maximum operating speed is set that corresponds to the position of the foot-control pedal pressed as far as it will go. The direction of rotation can be reversed using the appropriate key or the foot-control pedal or the instrument's scroll through menu.
- **Autoreverse Mode:** This is indicated on the display with “AUTOREVERSE” in the “Operation Mode” box. The micromotor can operate from 100 to 6000 rpm in this mode. The maximum operating speed is set that is less than 6000 rpm and corresponds to the position of the foot-control pedal pressed as far as it will go. The torque setting (between 3 e 30 mNm) can also be set. When the setting is reached the micromotor will start turning in the opposite direction. The fiber optic light signals the reversal by starting to flash. Release the foot-control and start the micromotor again. It will resume operation with clockwise rotation until it reaches the torque setting again and reverse the direction of rotation. It is not possible to reverse the direction of rotation using the appropriate key or the foot-control pedal or the instrument's scroll-through menu in this mode.
- **Autoforward mode:** This is indicated on the display with “AUTOFORWARD” in the “Operation Mode” box. It works like autoreverse mode but a pause can also be set between 0,5 e 3,5 s. When it reaches the torque setting, the micromotor starts turning in the opposite direction until it reaches zero torque. It waits for the end of the set pause and then reverse the direction of rotation by turning clockwise again. Again the fiber optic light signals the reversal by starting to flash. It is not possible to reverse the direction of rotation using the appropriate key or the foot-control pedal or the instrument's scroll-through menu.



## OPERATING MODE SETTINGS

Use the instrument's scroll-through menu to change the operating mode settings. Enter the “Operation Mode” box and press ENTER to access the various settings. The outline of the “Operation Mode” box will change colour.



Press the   keys to alter the operating mode.

Store the new setting using the  ENTER key or operating foot-control lever.


## SETTING THE MAXIMUM SPEED

Change the speed settings by pressing the  key or using the instrument's scroll-through menu to select the “Speed” box and press .

This accesses the speed setting and the outline of the “Speed” box will change colour.

Change the setting using the   keys.



Note, this setting will not reflected the true speed if there is a reduction or multiplying handle and the operator should remember to multiply or divide it by the reduction or multiplication ratio..

Press the  key to store the setting or operating foot-control lever.




**SET MAXIMUM TORQUE (only in autoreverse and autoforward mode)**

Enter the “torque” box and press  ENTER to set the maximum torque.

Use the   keys to enter the setting. The display shows the setting in mNm, from a minimum of 3 mNm to a maximum of 30 mNm.



These values are only a guideline and refer to handles with a 1:1 transmission ratio.



Press the  key to store the setting, or operating foot-control lever.


**SETTING THE PAUSE TIME IN AUTOFORWARD MODE**

To set the pause time in autoforward mode, either press the  key or use the instrument-s scroll

through menu to select the “Backdrive Time” box and press .

This provides access to enter the setting and the outline of the box inside “Backdrive Time” will change colour.

Enter the setting using the   keys. It will be shown on the display with a minimum of 0,5 s to a maximum of 3,5 s.

Press the key  to store the setting, or operating foot-control lever.

The display below appears when the foot-control lever is operated:



Indicates operating mode

Indicates backdrive

Instrument rotation speed



The induction micromotor only works with the Blue Foot foot-control pedal.



In case there are two induction motor modules some parameters set for one instrument result to be shared with the other one. This means that if you set a parameter on the first module this same parameter is set also on the second, and if you change it on the latter, after having memorized it, it changes on the former too. The shared parameters are:


- rotation speed in all function modes (driver, autoreverse, autoforward)
- torque in both function modes (autoreverse, autoforward)
- motor reversal





- The handle can be sterilized as described in “Sterilization methods”.


## INDUCTION MICROMOTOR MODULE WITH PHYSIODISPENSER


The settings and functioning are similar to the induction micromotor module, see the relative paragraph. It is also possible, using a handpiece with connection for external sprays, to feed only with liquid taken from an external container.

Use the instrument's scroll through menu to set the external supply. Select the "irrigation" box and press

 ENTER, to access the various settings, the outline of the "Irrigation" box will change colour.




Select the  icon using the   keys and press  or operating foot-control to confirm.

In this way, the micromotor's irrigation will be supplied by the external liquid. If the  icon is taken off the "irrigation" box, the external supply will be disabled.

press  or operating foot-control to confirm.

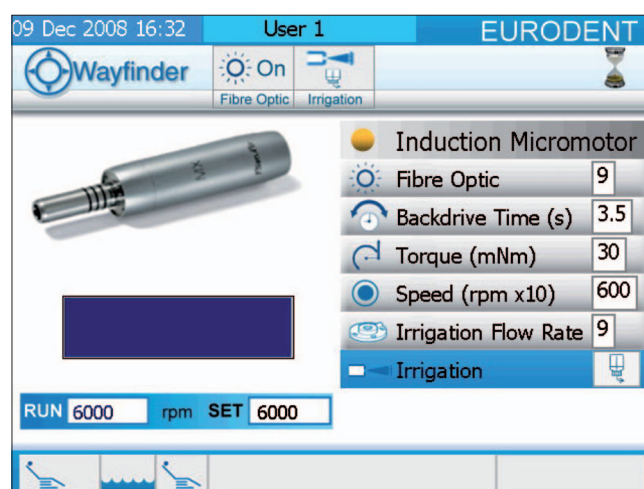
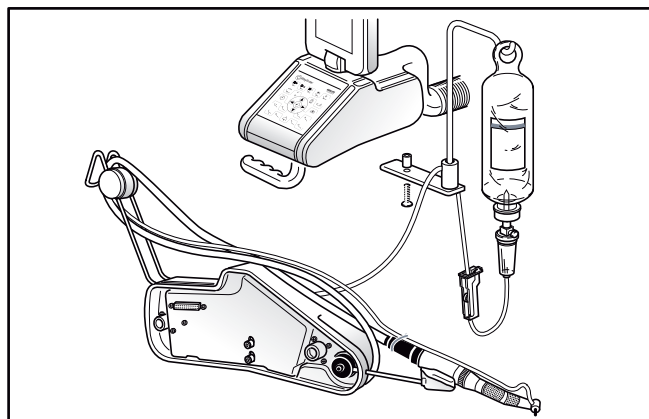
Use the instrument's scroll through menu to adjust the flow rate.

Select the "Irrigation Flow Rate" box and press 

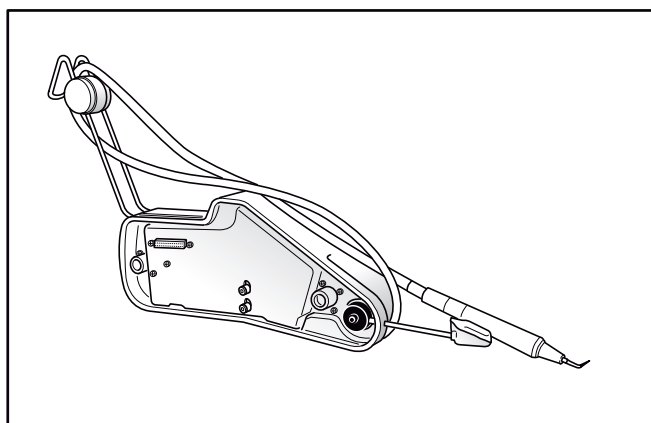
"The window inside the "Irrigation Flow Rate" box can now be altered using the   keys, from a minimum of 1 to a maximum of 9. Press the  key to store the setting, or operating foot-control lever.

If the peristaltic pump is stopped using the side button on the Blue Foot pedal, the "irrigation" at the top of the display will disappear.

- The handle can be sterilized as described in "Sterilization methods".



## SCALER MODULE



When picking the handpiece up, the display shows the following information: Power, Fibre Optic (if present), Irrigation Fibre Optic from foot-control ON/OFF (if present).

When the instrument is running the display will show both the setting for the maximum speed (SET) and the instrument's current speed (RUN).

- The handle can be sterilized as described in "Sterilization methods".



Ultrasonic oscillations may prevent cardiac pacemakers functioning properly. Therefore, EMS recommend that patients with a cardiac pacemaker should not be treated with scaler.



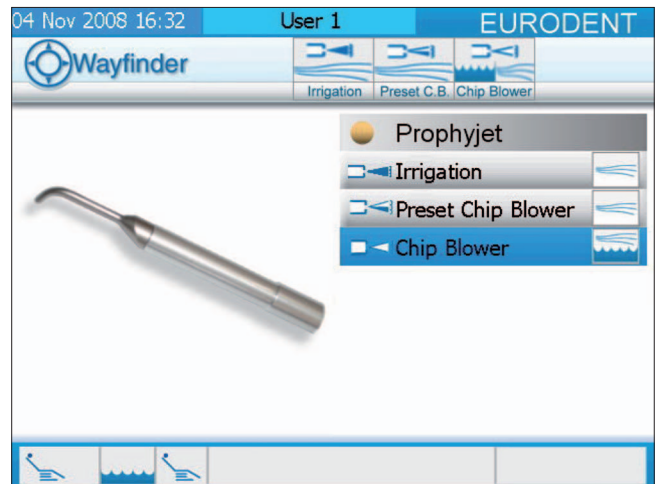
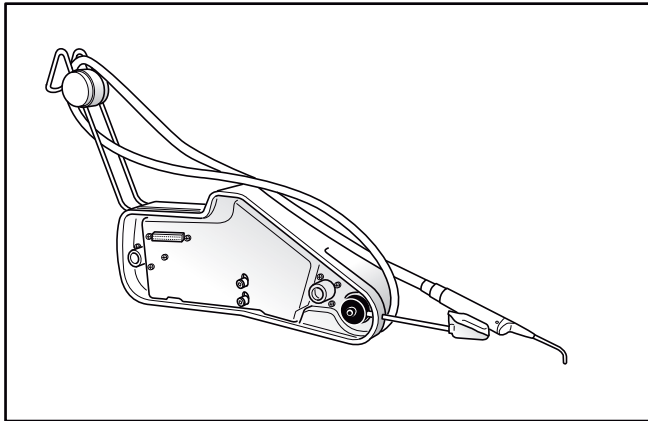
The scaler instruments oscillate at high frequency during the treatment. In rare cases, these oscillations may cause the instrument to fracture during the treatment. To prevent the patient swallowing or inhaling the fractured instrument, he must be instructed to breathe through the nose during treatment.



Never use the scaler instruments dry. If used dry, the tips will heat immediately. This may cause thermal injury to the tooth. Ensure that adequate liquid coolant is always available.

See the enclosed manual of the instrument for further information.

## POWDER CLEANER MODULE (ISOJET)



When picking the handpiece up, the display shows the following information: Irrigation, Preset C.B., Chip Blower.


- For the handpiece hygiene, use a cold sterilizing liquid.

### CONTRAINDICATIONS

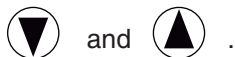
Patients suffering from chronic bronchitis or asthma must not, under any circumstances, be treated with an airpolishing device. Patients on a low salt diet not be treated with the EMS **AIR-FLOW® Prophylaxis Powder**. In isolated cases, the lemon flavor of the EMS **AIR-FLOW® Prophylaxis Powder** can lead to allergic reactions. In patients known to suffer from such reactions, use flavor free EMS **AIR-FLOW® Prophylaxis Powder**.

## CAMERA MODULE

Lifting the instrument the light on the handpiece is switched on and the camera begins to telecast live. Pressing once the foot-control lever rightwards, the still is got at full screen. For coming back to the live image mode, the lever of the foot-control should be pressed again. For showing till 4 images in the same page, the lever should be pressed for about 3 seconds. The images are stored and visualised together on the monitor. For coming back to one image mode keep the foot-control pressed for more than 3 seconds. When the handpiece is switched off, if it is in the pause

still mode, for returning to the main menu, the key  should be pressed.

In the "still" mode, with the handpiece in the rest position, it is possible to recall the other stored images with the keys:




In case a connection to a remote PC has been effected and the connection with the Wayfinder shared folder (folder name: Pictures) has been configured, it is possible to view the snapshots taken with the camera from the PC. To access the shared folder click on the icon "Connection with Pictures on Wayfinder" available on the desktop. These images can be copied from the Wayfinder and directly saved on the remote PC.



Do not delete the images of the shared folder "Pictures".

It is possible to use at the same time the camera and the connection to the shared folder; in this case it will be possible to see live the taken freeze frame on the remote PC.

It is always possible to view possible saved images by accessing the menu "IT interface" from the main menu, placing yourself on the square Screenshot and pressing then the key . The other images can then be recalled by means

of the keys:  



The handpiece cannot be autoclaved and cannot be immersed in a liquid. It is recommended to use the appropriate hygienic protections.

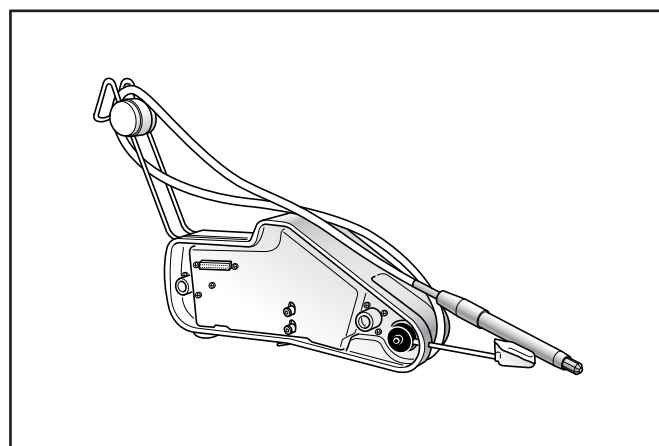
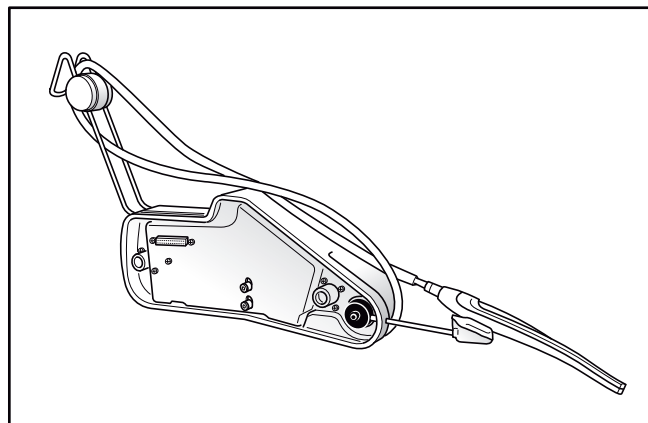


The position of the module cannot be changed.

See the enclosed manual of the instrument for further information.

## BISTOURY MODULE

For detailed instructions on the bistoury module please consult the user's handbook, supplied with the instrument itself.



## MINI LED LIGHT CURE MODULE

This module has no programmable functions and is independent from the foot-control.

For starting the instrument, press the push-button 5 placed on the side of the optical terminal. The green led placed underneath will light up, enabling the instrument working.

The polymerization cycle begins pressing the key according to the selected mode. The cycle can be interrupted at any time pressing the key again. Cycle start and end are indicated by an acoustic signal.

There are three working modes selectable with the navigation key 1.

### Fast Curing

If it is selected, the red led, placed near the symbol 4, will lit.

The lamp will work for 10 s with a power of 1100 W/cm<sup>2</sup> (110%) with the tip of ø7.5 mm.

### Pulse Curing

If it is selected, the orange led, placed near the symbol 3, will lit.

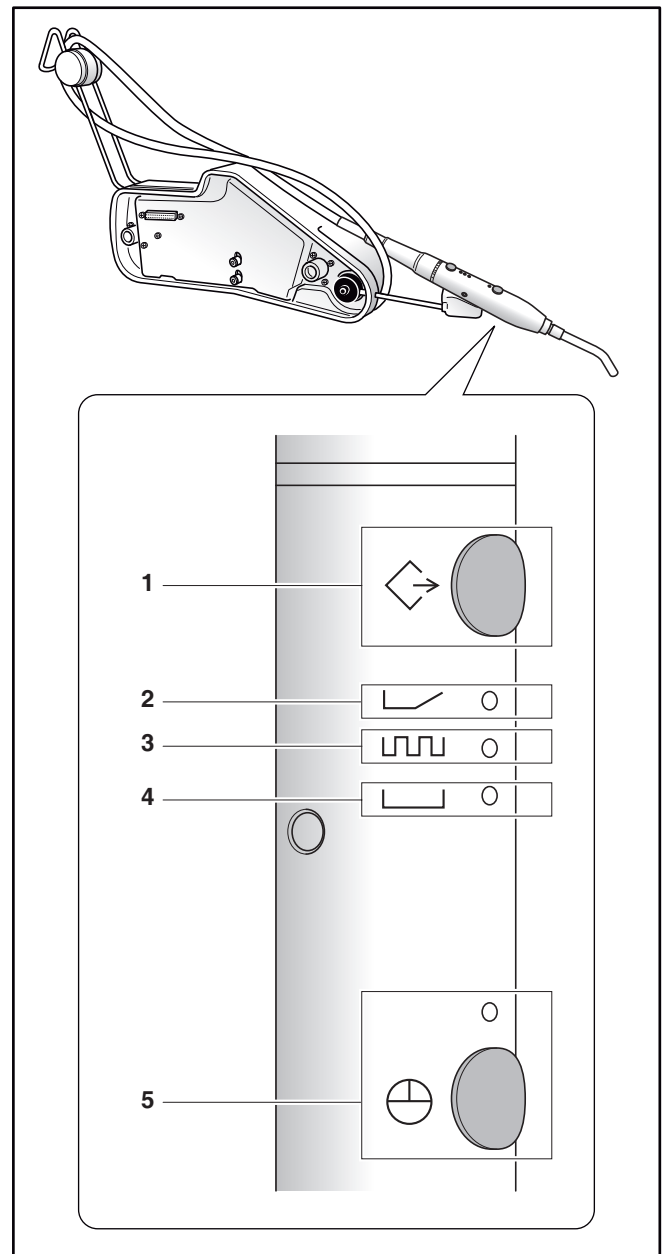
The lamp will work at maximum power with 10 emissions alternating with a rest period of 250 ms.

### Step Curing

If it is selected, the yellow led, placed near the symbol 2, will lit.

The lamp will reach full power progressively in 10 s, then it will remain on at maximum pressure for other 10 s.

The optical tip is autoclavable according to the indications given at the chap. "Sterilization methods and working times".



Do not point the instrument light towards the eyes.



Do not use this instrument if the patient and/or the operator has a heart stimulator or pacemaker.



Do not use on person who suffers, or has suffered in the past, from photo-biological reactions (including urticaria solaris or protoporphyrie erythropetique), or any person receiving medical treatment and using photosensitive medication (including methoxsalenes or dymethylchlorotetracycline).

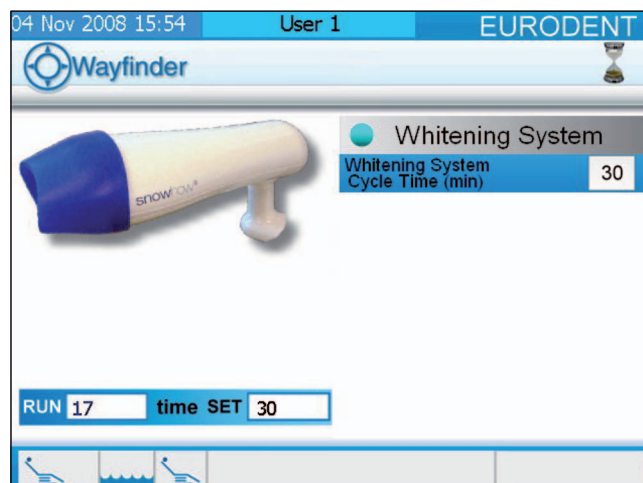
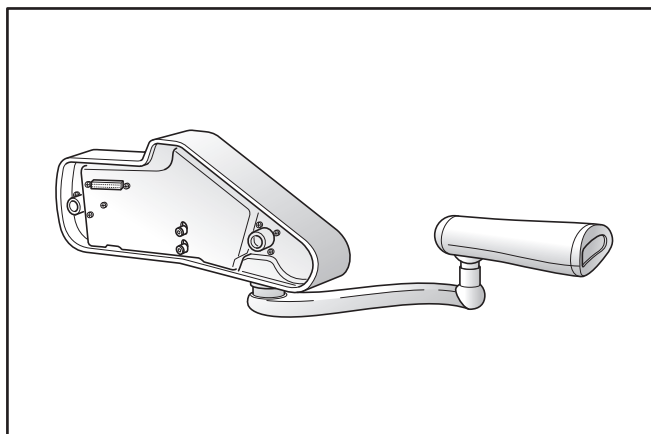


Any person who has previously suffered from a retina or crystalline condition or who has undergone eye surgery, in particular cataract treatment, should visit an eye specialist before undergoing treatment with Mini Led. Even with the patient's agreement, it is highly recommended to use protective glasses at all times.

See the enclosed manual of the instrument for further information.







## SNOWHOW WHITENING MODULE




The module is started up by shifting it from the rest position.

The display shows the instrument window with the menu "Whitening system cycle time".

This time can be set up by pressing  ENTER key or the clock key  and the keys:  

to set the time from minimum 10 to maximum 40 minutes.

Then you will have to confirm the memorization by means of the key enter: .

To start the instrument you have got to press the pedal lever, whereas a further impulse stops the instrument. The remaining time of the treatment (RUN) and the preset time (SET) are shown on the display. The conclusion of the treatment will be announced by a sound signal and the whitening device will cut out.

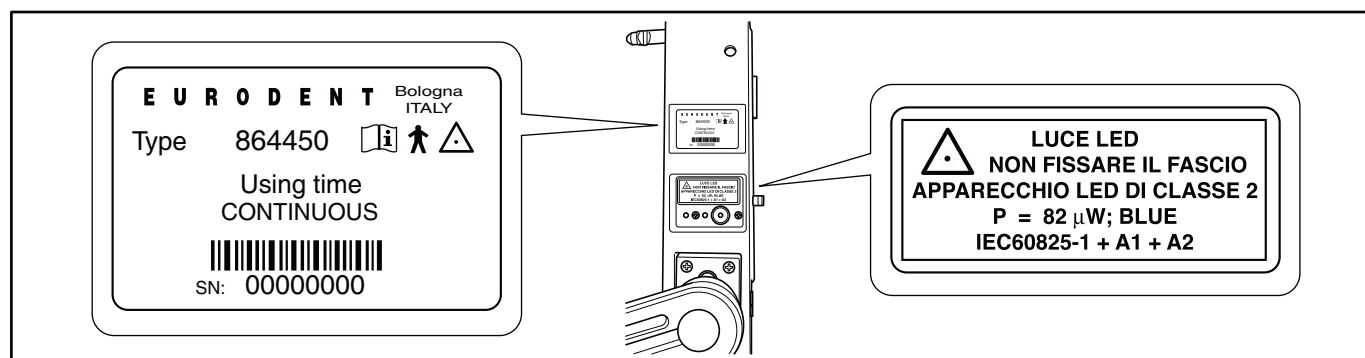


Before starting the whitening device it is recommended to have the patient put on protective glasses. In this connection it is strongly recommended to only use the glasses supplied by Eurodent.



We advise the use of whitening paste provided by Eurodent S.p.A. (YOTUEL SPECIAL AL 35%) or equivalent professional whitening paste with 35% peroxide.

## WHITENING MODULE TAGS POSITION



## 6.12 ASEPSIS MODE

The suction tubings is cleansed by fitting the tips into the appropriate bushings.

By this operation, the tubings get washed with fresh water.

If also hygienization with water and detergent is wanted (if the unit has provided with the optional kit automatic disinfection system), after having lifted the tips, must be pressed within 10 seconds the key:



**SUCTION CLEANING**


The display will show in the window “warning/alarm”



symbol and “Disinfectant Suction Tube Rinse”.

If one instrument is lifted when the rinsing is on, the display will show the menu of instrument itself, instead if, no instrument is lifted, is possible navigate in the main menu.



If pipeline WATER is selected (icon  down on the left ), then also the hygienization will be carried out with WATER only.

If the semiautomatic disinfection system is installed, hygienization will always be carried out with WATER only.

## 6.13 MESSAGES EXPLANATION

The following messages appear on the display in case of operation or other signals:

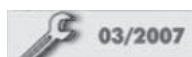
<b>AL02</b> Faulty memory	<b>Faulty memory</b>	Inform technical service
<b>AL03</b> Faulty data tx toward chair	<b>Faulty data transmission between dental unit and chair</b>	Inform technical service
<b>AV04</b> Module position not recognised	<b>Module position not recognised</b>	Reprogram relevant module or modules
<b>AL05</b> Faulty data tx toward concole	<b>Faulty data transmission between base and modules holder</b>	Inform technical service
<b>AV06</b> Module code not recognised	<b>Module code not recognised</b>	Inform technical service
<b>AV07</b> Two or more modules calling	<b>Two or more modules calling</b>	Replace instrument; if alarm code continues, please inform technical service



<b>AL08</b> Power drive overload	<b>Power drive overload</b>	Inform technical service
<b>AL09</b> Low tension PCB short circuit	<b>Low tension PCB short circuit</b>	Inform technical service
<b>AV11</b> Disinfectant to be refilled	<b>Disinfectant (or surgical kit) to be refilled</b>	Fill up
<b>AV12</b> Faulty suction cleaning cycle	<b>Suction cleaning cycle not achieved</b>	Replace tubings, if alarm code continues, please inform technical service
<b>AL13</b> U.V. lamp out of service	<b>U.V. lamp out of service</b>	Inform technical service
<b>AL14</b> Mixing tank detectors upside-down	Mixing tank detectors upside-down	Inform technical service
<b>AL15</b> Too high pressure in the bottle	<b>Too high pressure in surgical kit</b>	Inform technical service
<b>AL17</b> Faulty suction cleaning tank	<b>Suction cleaning tank cannot get filled</b>	Inform technical service
<b>AV18</b> Mixing tank cannot get filled	<b>Mixing tank cannot get filled</b>	Inform technical service
<b>AV21</b> Counteracting movements on the chair	<b>Counteracting movements on the same motor axis</b>	Inform technical service
<b>AL22</b> Overtime motors functioning	<b>Overtime motors functioning (&gt;30 s)</b>	Only manual controls can be used; inform technical service
<b>AL23</b> Faulty diagnostic input	<b>Faulty diagnostic input</b>	Inform technical service
<b>AL23</b> Wrong stroke end connections	<b>Wrong stroke end connections</b>	Inform technical service
<b>AL23</b> Faulty power to the motor	<b>Faulty power to the motor</b>	Inform technical service
<b>AL23</b> Faulty power to the motor	<b>Faulty power to the motor</b>	Inform technical service
<b>AL23</b> Faulty strokes end	<b>Faulty strokes end</b>	Inform technical service
<b>AL23</b> Faulty relay	<b>Tripcoil is activated while the equipment movement is deactivated</b>	Inform technical service
<b>AL23</b> Faulty relay	<b>After 20 ms a relè has been activated, it seems deactivated</b>	Inform technical service
<b>AL23</b> Excessive absorption of the motor	<b>Excessive absorption of the motor</b>	Inform technical service
<b>AL24</b> Programming not accepted	<b>Programming not accepted</b>	Only manual controls can be used; inform technical service

<b>AV30</b> BLUE FOOT battery not charged	<b>BLUE FOOT battery not charged</b>	Recharge
<b>AV31</b> BLUE FOOT battery recharged	<b>BLUE FOOT battery recharged</b>	Disconnect the cable between BLUE FOOT CONTROL and chair
<b>AL40</b> Induction micromotor malfunction	<b>Induction micromotor malfunction</b>	Turn the unit off and on. If the problem persists call the technical assistance
<b>AL41</b> SNOWHOW temperature too high	<b>SNOWHOW module temperature too high</b>	Wait until the SNOWHOW module has cooled down

If appears this icon:



“Planned maintenance signalling”, call technical service for planned maintenance service.

When the message appears, it is accompanied by beep. By pressing once the key:



ENTER

the alarm (except for “**AV07 Two or more modules calling**” and **AL41 Snowhow module temperature too high**”) goes off.

If the cause of the alarm message is not settled after pressing the ENTER key, the message itself will not appear any more until the next switching on of the unit; if the cause of the alarm message stops and then starts again, the message will again appear (excepted **AV11 Disinfectant (or surgical kit) to be refilled**).



**ATTENTION:** Before calling the Technical Service, try to switch off the unit and to switch it on again.

## 7 STERILIZATION METHODS AND WORKING TIMES

N°	INSTRUMENT	STERILIZATION		AUTOCLAVE PRESSURE (bar)	NOTES
		Temperature °C	Time (minutes)		
1	Syringe	120 max	20	1	
2	Mini Led light cure (fibre optics tip only)	134	4	2	The autoclave should be clean and without oil or other chemical substances. Disinfect with hygienizing liquid, alcohol-based but without acetone.
3	Scaler	134	5 max	2,2	Do not use the chemical autoclave.
4	Dry scaler	134	5 max	2,2	Do not use the chemical autoclave.
5	MC3 micromotor (Bien Air) (removal cap only) or	135 121	3 20	2,2 1	
6	MX induction micromotor (Bien Air)	134	3	2,2	
7	Turbine (Bien Air)	135	3	2,2	
8	Electrobistoury	121	20	1	
9	ISOLUX lamp handle	Cold sterilization			
10	VISION LED MODE lamp handle	120 max	20	1	
11	Tube terminal only (only adjustable model)	134	3	2,2	
12	SNOWHOW light conveyor	121	20	1	



**Do not leave the instruments in the sterilizer during the night!**

**The parameters indicated refer to sterilization real time. The preheating and cooling times are excluded. For further information, see the instructions contained in the instrument cases.**

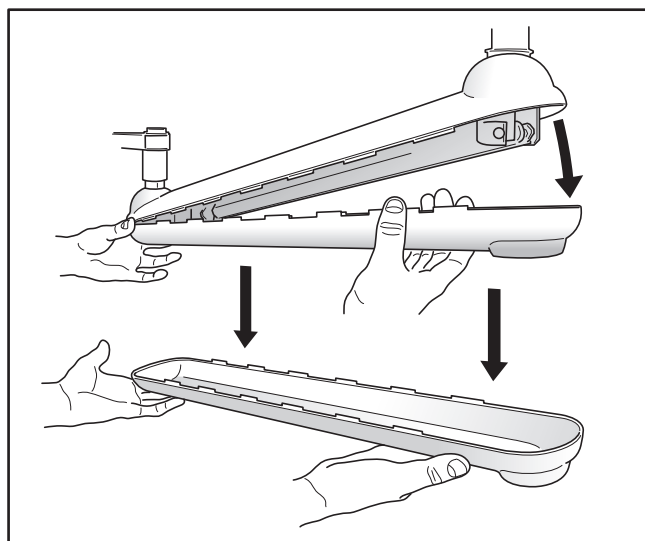
N°	INSTRUMENT	USING TIMES		NOTES
		ON (minutes)	OFF (minutes)	
1	MC3 micromotor (Bien Air)	2	5	
2	MX micromotor (Bien Air)	2	5	
3	Dry handpiece for scaler (EMS)	5	8	
4	6F-Syringe	3	3	
5	Light cure	50 s	3	
6	Telecamera	1	5	
7	Chair	1	14	

## 8 MAINTENANCE

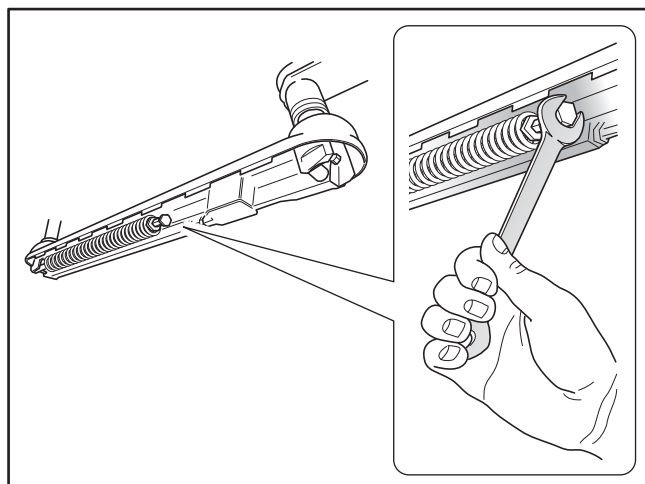
### MODULE-HOLDER ARM BALANCING

When modules are added or removed, as well as side tray, it is necessary to balance the arm tension and to adjust its horizontality.

To access the mechanism, push the sides of the cover in order to release its cogtongues and pull the guard downwards.

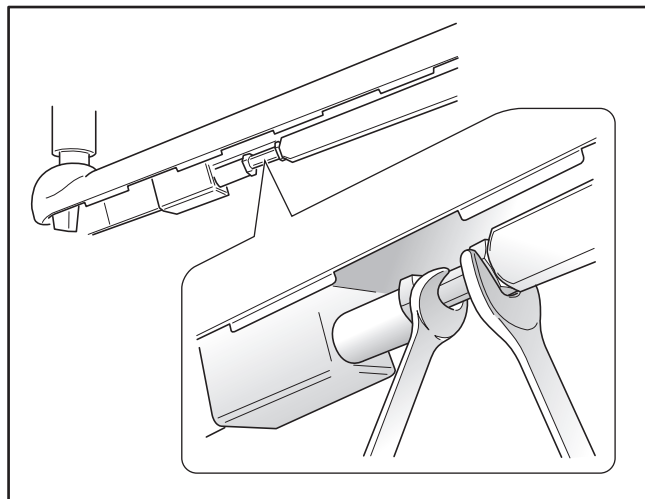


By rotating clockwise the spring allen head, the arm shall hold a heavier weight; by rotating the same counterclockwise, the arm shall hold a lighter weight.



To settle the module-holder horizontality (longitudinal direction), loosen the two nuts of the hexagon bar. Then, by rotating it clockwise, the keyboard profile shall tilt upwards; by rotating it counterclockwise, the keyboard profile shall tilt downwards.

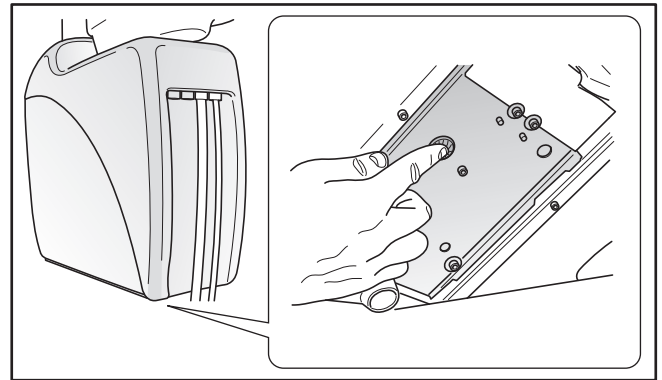
Do not forget to tighten the two reinforcing nuts.



## WATER DRAIN FROM AIR FILTER

The unit is fitted with a filter that prevents water vapour condensation from getting to the air circuits.

Such filter is located underneath the cuspidor frame and should be checked weekly; if water is in it, it must be drained by pushing the pin located at the filter cup bottom.



## CLEANING OF SUCTION FILTER

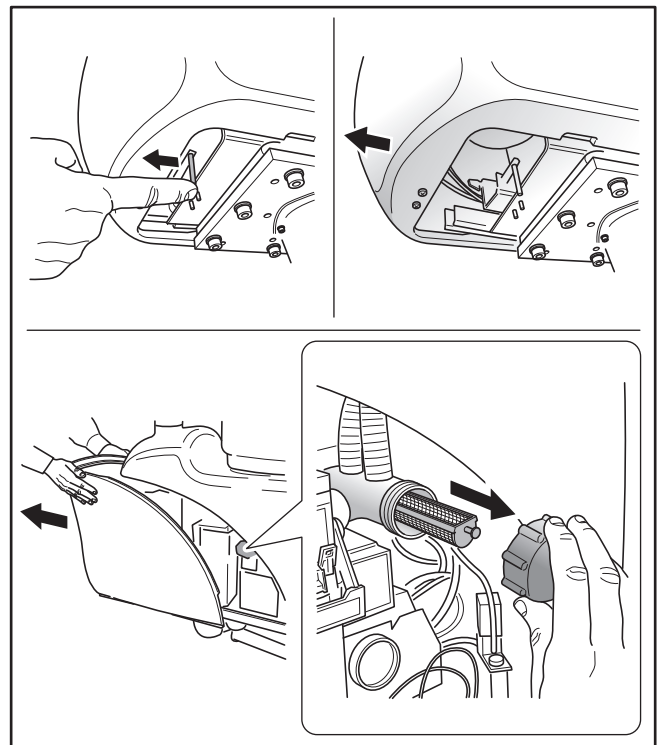
The filter is located into the unit front wall.

To make the filter accessible, turn the unit off, loosen the mobile guard by acting on the unlock lever located on the bottom and let the mobile guard to run on the guides so that the filter-holder is completely uncovered. Thus unscrew the plug and take out the filter.

The filter must be cleaned daily and replaced at least once a week.



When reassembling the filter, be careful to fit it perfectly on the guides.

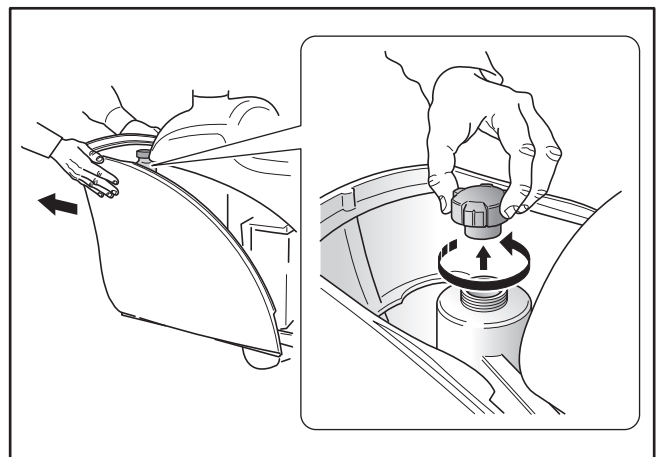


## FILLING OF DETERGENT TANK

Turn the unit off, slid the water unit guard as shown to clean the suction filter.

The detergent tank is the triangular prism; swing it outward, in order to make the tank accessible for filling. To close back the guard slid it in the opposite way.

**We recommend you to use the ONLY solution supplied with the unit and which could be got at Eurodent Concessionaires.**



## FILLING OF MEDICAMENT TANK

Important: preset, by the key



the yellow pilot light over the key on, before starting this operation.

### WAYFINDER

Important: before starting this operation make sure icon



in bottom left corner is present.

Turn the unit off and open the water unit guard as shown for cleaning of the suction filter.

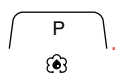
Pull the bottle out, to remove easier its plug. Take out the plug and pour the appropriate solution using the proper dispenser (see "Parameters setting"). Close the plug and turn the tank towards inside.

On the keyboard, press the orange key:



### WAYFINDER

On the keyboard, press the key:



The self-filling of the tank will operate automatically and will take about one minute.

Close the guard by sliding it in the opposite direction. A beep shall indicate that the tank is full.

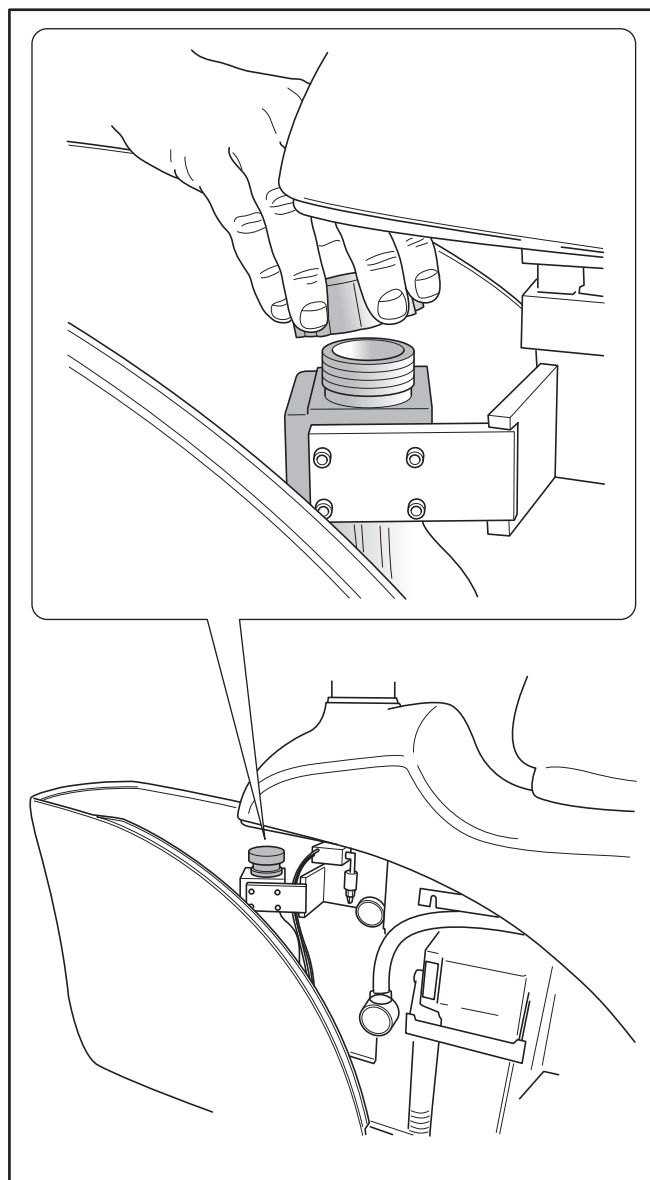



It is recommended to clean the bottle daily and sterilize it in autoclave. Sterilization must be carried out at max. 135°C, and then the bottle must be left 20 minutes to cool slowly down.

## FILLING OF PHYSIOLOGICAL SOLUTION

Proceed as above explained opening the side panel and pulling out the bottle. Take out the plug and pour the physiological solution in.

Close back the sliding guard of the water unit.



Once the tank has been emptied and before filling up with new physiological solution, it is recommended to switch the water supply to mains (yellow pilot light over the key  SELECT off

WAYFINDER: make sure this icon



is present), and then have sprays and syringe water operated

for about 2'. Such operation can avoid the layering of jellies favourable to bacteria development.



It is recommended to clean the bottle daily and sterilize it in autoclave. Sterilization must be carried out at max. 135°C, and then the bottle must be left 20 minutes to cool slowly down.

## DISINFECTANT SOLUTION



The appropriate solution must be used as medicament for tumbler and sprays water, as well as detergent and disinfectant for the suction circuit.

## PARAMETERS SETTING

In order to use the product correctly, it is recommended to set the unit parameters as follows:

<b>P3 Liquid Disinfection (Wayfinder) = medicament dosage into sprays and tumbler water</b>	
<b>20 / 2.0 (Wayfinder)</b> for Calbenium	Such value means that there are about two injections of appropriate solution every 100 cc of water delivery into the heater; it gives the proper concentration of 20‰ (2%).
<b>12 / 1.2 (Wayfinder)</b> for Green & Clean WK	Such value means that there is about one injection of appropriate solution every 100 cc of water delivery into the heater; it gives the proper concentration of 12‰ (1.2%).



ONLY THE EXCLUSIVE USE OF THE DISINFECTANT SOLUTION IN THE FORMULA PROPERLY PRODUCED FOR EURODENT ENSURES THE EFFICACY OF THE AUTOMATIC DOSAGE AND PREVENTS MALFUNCTIONING DUE TO THE USE OF IMPROPER PRODUCTS.

Storage: dry and cool place, repaired from light.

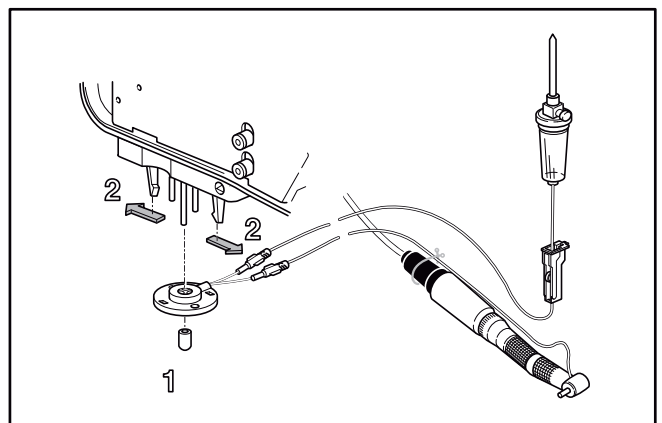
We recommend to check expiring date.

## REPLACEMENT OF STERILE SOLUTION BOTTLE

Renew bottle and sterile hose.

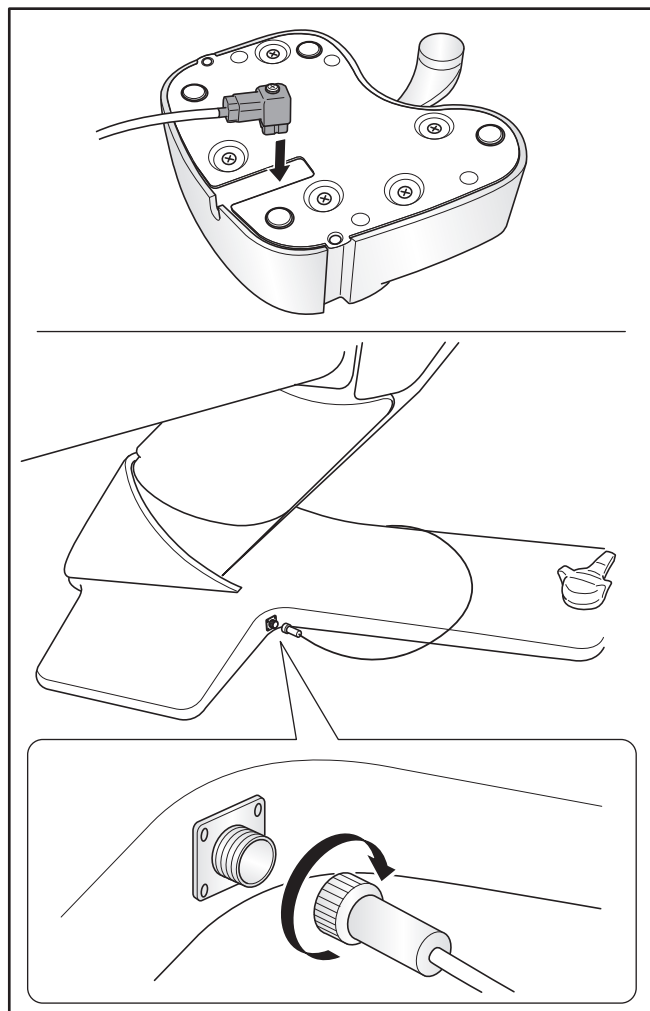
Block the pump with the plug as shown in the instructions enclosed in the packet.

Introduce the hose in the outside spray handpiece.



## BLUE FOOT CONTROL BATTERY RECHARGE

The recharge can be obtained with the battery charger or by connecting directly the foot-control to the unit with the proper cable.



### Recharge with connection to the unit:

- Remove the plug, if necessary, with pliers.
- Connect one end of the cable to the foot-control and the other to the chair basis with unit off.
- Turn the unit on and keep it on for all recharge time.
- The message "AV31" will appear on the display of the operator's console after the recharge.
- **W A Y F I N D E R**  
The message "AV31 Blue Foot battery recharged" will appear on the display after the recharge.
- Turn the unit off and remove the cable from both sides.
- Assemble the plug again.

### Recharge with battery charger (optional):

Connect the battery charger to the mains supply and to the foot-control. After the recharge, a led will switch on. It can be seen through the little semi-transparent door placed on the back of the foot control.

## SURFACE CLEANING

Sanitizing liquid for plastics (Virkosept Rely+On™) supplied by Eurodent is recommended for surface cleaning. The alcohol-based liquids can damage plastic surfaces.

It is advisable to clean the outer surfaces of the unit with hygienizing liquid for plastics. In particular for the protective screen of the lamp, it is advisable to use a cloth for glasses.

Handpieces tubings must be cleaned with water and neutre soap, and then must be well dried and lightly spread with talcum powder.

The chair and stool upholsteries must be cleaned with water and neutre soap.

The bowl must be cleaned with specific products for ceramics.

### WAYFINDER

The monitor screen must be cleaned with specific products.

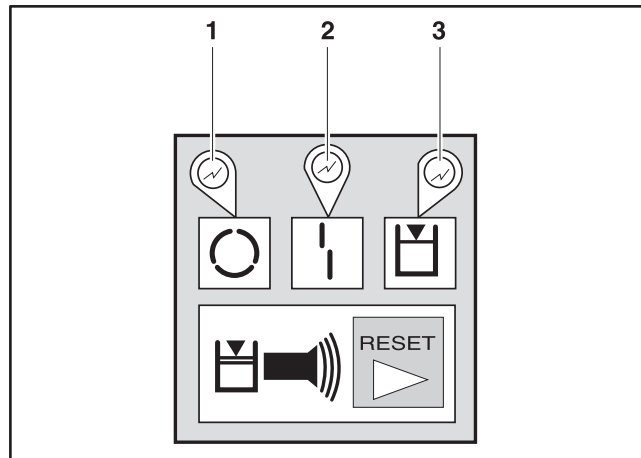


Carry out the cleaning operations between a treatment and the following one.



## 9

## METASYS MST1 AMALGAM SEPARATOR



## CONTROL PANEL

## 1. GREEN LIGHT: Power pilot lamp

**Normal condition:**

When the equipment is connected, the green pilot lamp 1 lights continuously.

**Fault:**

After the equipment connection, if the green pilot light 1 does not light, check fuse and plate and, if necessary, replace them.

## 2. ORANGE LIGHT: Centrifuge control

**Normal condition:**

As a rule, this pilot lamp should not light. In case it lights, turn the dental unit on and off several times (max. 5 times), in order to check whether any fault occurred. If light does not extinguish, a fault is present.

**Fault:**

A system controls power input to centrifuge's motor. When input is too high, the light 2 starts to operate, to indicate the presence of a faulty condition. At the same time, the suction valve does not open and none operation can be carried out.

- That condition can take place even when filter is removed from its box, because some large particles could have clogged and blocked the centrifuge.
- The same condition can take place when a motor's fault is present.
- In order to eliminate any fault, replace the centrifuge set.

## 3. YELLOW LIGHT: Control of amalgam level

**Normal condition:**

When the equipment is switched on, an electronic system controls several activities, among which the amalgam level.

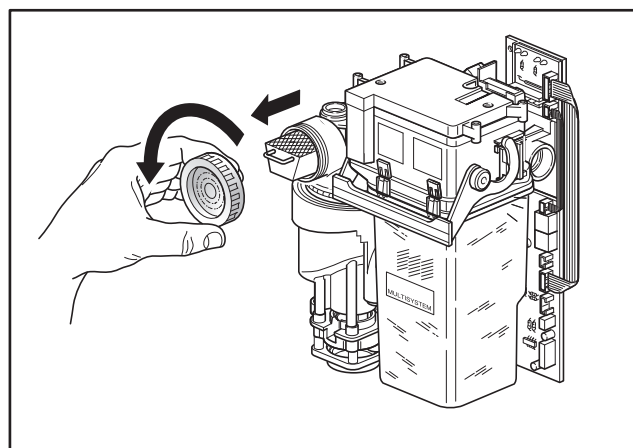
When a 100% level is obtained, the yellow pilot lamp lights continuously and the warning signal can not be cut out anymore. At the same time, the suction solenoid valve does not open and none operation can be carried out. Thus, it will be necessary to replace the amalgam container, in order to allow the equipment to operate properly.

## REMOVING AND CLEANING THE FILTER

In order to take out the box filter, follow the easy and short indications hereunder described.

Firstly, remove the threaded cap placed on the centrifuge. Then, take out filter by pulling it outwards.

Now, proceed to clean it, by keeping it under lukewarm water so as to remove all waste. Then, carry out the same operations backwards, by inserting the filter and taking care of placing it properly on its guides. Finally, screw the cap carefully.



## REMOVING THE AMALGAM SEPARATOR VESSEL

When the illuminated yellow lamp signals that the complete filling up of the amalgam vessel has been reached, it is necessary to remove the container from its housing and replace the tank, in order to restore the proper working of the equipment.

So as to carry out this last operation, lift the releasing handle placed on the front side of the separator (picture 1).

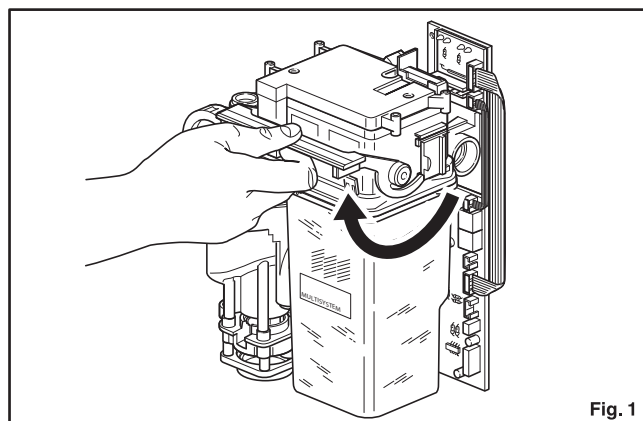


Fig. 1

After releasing the separator from the plate, take the body out of its sliding guides, simply by pulling it outwards (picture 2/A).

After removing the whole container, you can proceed to dismount the tank, by releasing the fixing hinges placed on the sides of the vessel (picture 2/B). Then, replace tank by a new, supplied one.

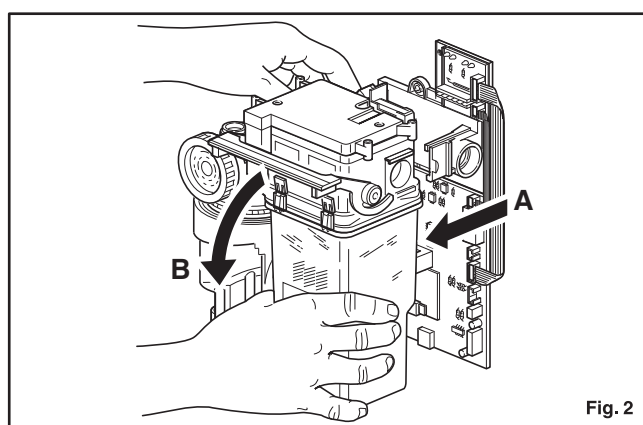


Fig. 2

**ECOLOGIC SYSTEM OF RECOVERY**

Before forwarding the amalgam tank, carry out the following, simple and precautionary operations.

Cut off one of the corners of the supplied envelope-bag.

Empty the whole content into the container still open (picture 3).

**Close the container carefully!**

All tongues have to snap shut loud (picture 4).

Then, check visually that all tongues are clamped properly.

If necessary, press firmly on the parts indicated by the arrows (picture 5).

Now, remove the sheet, on which all the addresses of the factories dealing with waste treatments are printed, from the inside of the container packing. The mentioned sheet will be useful at the moment of the sending.

Then, after checking that the container is well closed, place it into the foamed shell (picture 6). Finally, in order to protect the container, lay the other half-shell on it.

**Please, do not forget to enclose your own address before forwarding the packing.**

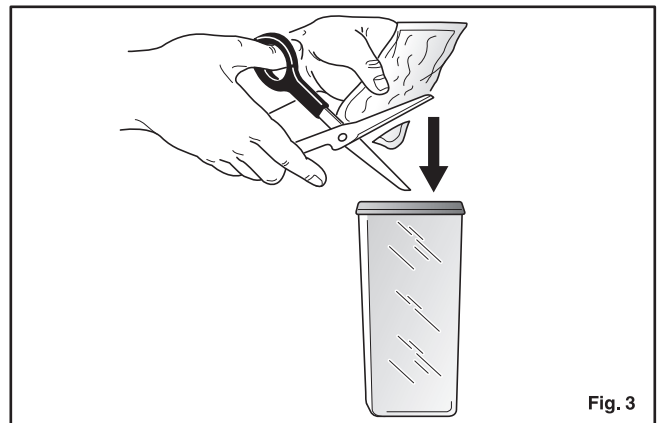


Fig. 3

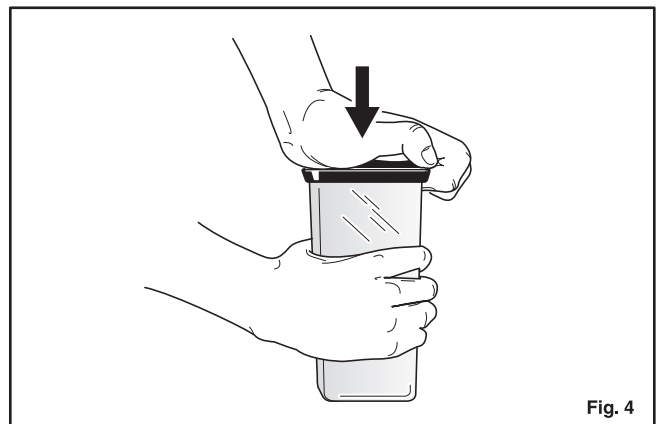


Fig. 4

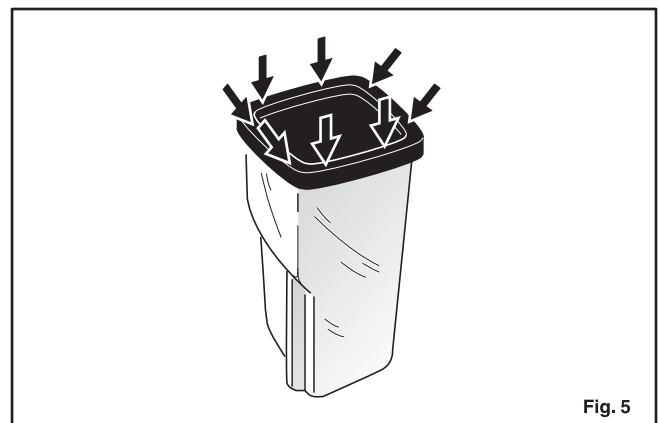


Fig. 5

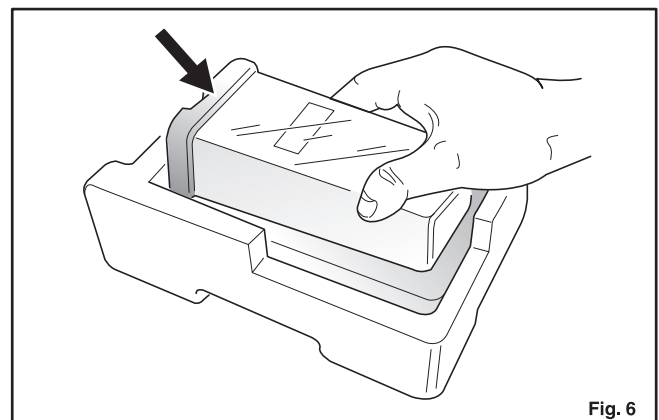


Fig. 6

After packing the container properly by means of the suitable polystyrene shells, put it into the carton box.

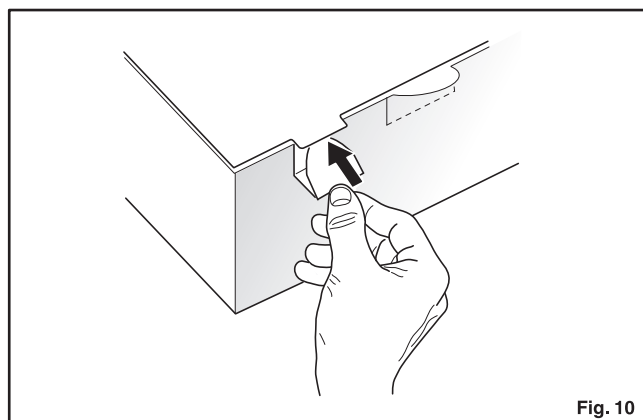
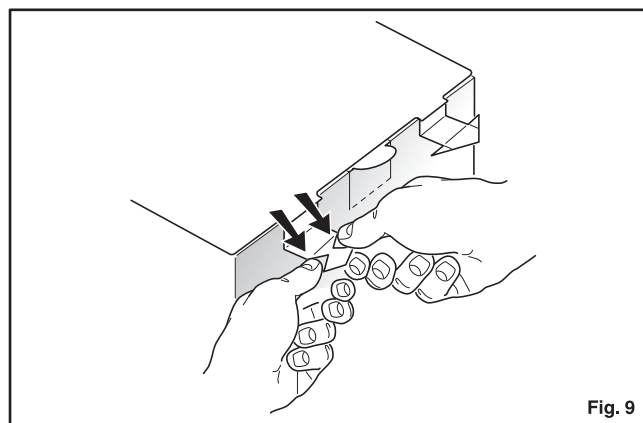
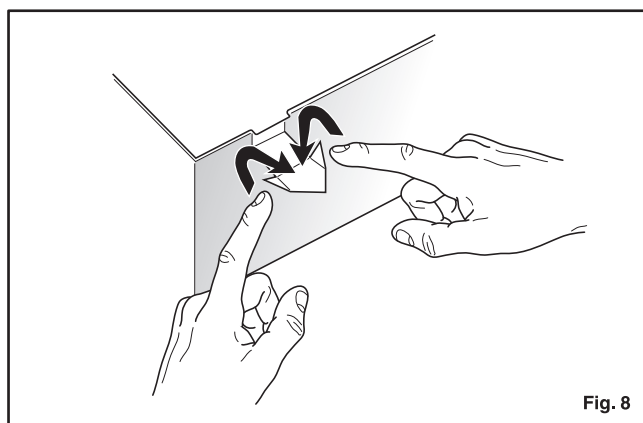
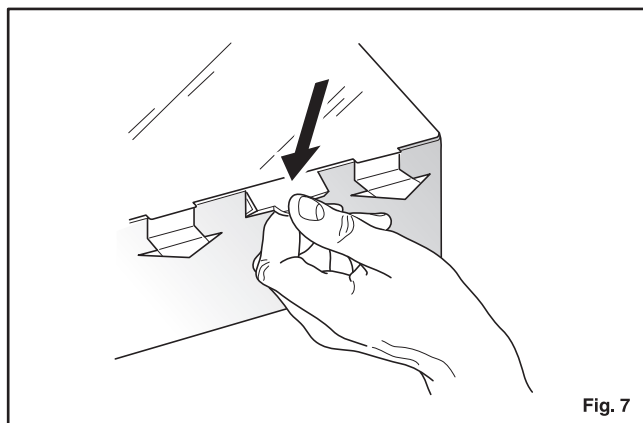
Now, proceed to close the forwarding case in the following way:

- Place the middle tongue in its housing (picture 7)
- Fold the right and left safety tongues as described below:
  - a) Fold the pointed ends upwards and inwards (picture 8).
  - b) By providing a firm pressure, compress the pointed ends (picture 9).
  - c) Then, insert tongue into the proper slot, by folding the pointed ends (these last ones have to be turned downwards - picture 10).

#### ATTENTION!

**If you unfold the tongues, the case will be damaged!**

Finally, send the case to the factory in charge of waste treatment.





**E U R O D E N T**

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