



CHIRANA
Medical STARÁ
TURÁ

Dental unit
CHIRANA CHEESE UNI
THE USER'S MANUAL





CHIRANA
Medical STARÁ
TURÁ

THE USER ZS CHIRANA CHEESE UNI



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Registered trade marks **CHIRANA**



CONTENT:	Page
1. Service alerts	5
1.1. Symbols	5
1.2. Target group	5
1.3. Service	5
1.4. Operation book	5
1.5. Warranty conditions	5
2. Purpose and use	5
3. Assembly and mounting	5
4. Product description	6
4.1. Main parts of the dental unit	6
4.1.1. The chair	7
4.1.2. The foot controller	8
4.1.3. The dentist's tray	9
4.1.4. The assistant's tray	10
4.1.5. The spittoon block	10
4.1.6. The light	11
4.1.7. The monitor	11
4.2. Dimensions of the dental unit	11
4.3. The production label	12
4.4. Technical specifications	13
5. The basic equipment	13
6. The supplementary equipment	13
7. Putting the product into operation	14
7.1. Device switch-on	14
7.2. Light switch-on	14
8. Operation of the product	14
8.1. Handling with the chair	14
8.1.1. The manual mode	15
8.1.2. The program mode	15
8.1.3. Emergency and safety stop of the chair movement	15
8.1.4. Setting the program positions of the chair	15
8.2. Description of the functions controlled by the buttons on the keyboard	16
8.2.1. The basic functions	16
8.2.2. The supplementary functions	18
8.2.3. Programming	18
8.3. Control of the tools on the dentist's tray	19
8.3.1. The multifunction syringe	19
8.3.2. The turbine handpiece	19
8.3.3. The micromotor	20
8.3.4. The ultrasonic scaler	21
8.3.5. The pneumatic scaler	21
8.3.6. The polymerization lamp	22
8.3.7. The saliva ejector	22
8.3.8. The suction device	22
8.4. Disinfecting cycle of the tool hoses	22
8.5. Filling the bottles for clean water and disinfecting agent	23
8.6. Description of the acoustic alerts	24
9. The product maintenance	25
9.1. Maintenance by the operating staff	25
9.2. Maintenance by the service technician	26
10. Cleaning, disinfection and sterilization	26

11.	Safety technical inspections	27
12.	Transportation	28
13.	Storage.....	28
14.	Disposal of the device	28
15.	Guidance and declaration of the producer to the electromagnetic compatibility.....	29
15.1.	Electromagnetic radiation	29
15.2.	Resistance against the electromagnetic interference.....	29
15.3.	Recommended protective distances between the portable and mobile high frequency communication devices and the dental unit CHIRANA CHEESE UNI.....	32

1. Service alerts

1.1. Symbols



The warnings that require special attention are indicated in the User's manual by this symbol. Make sure you familiarize yourself with all the warnings described in this manual before using it for the first time!



Further important warnings are indicated in the User's manual by this symbol

1.2. Target group

This User's manual is intended for the stomatologists and staff of the dental surgery.



Parts of the dental unit which come into contact with the patient, doctor and the service staff are not carcinogenic, mutagenic, toxic and do not contain phthalates.

1.3. Service

Ask for a name and address of the organization which carries out repair of the device from the device supplier.



It is essential to notify the change of user to the supplier of the device, resp. the manufacturer when selling the product from the original user to another user

1.4. Operation book

The book is intended for records about installation, repairs and regular inspections.



Every operation performed by the service technician should be recorded in the operation book.

1.5. Warranty conditions

You can download the guarantee conditions at the following address:

www.chirana.eu/preview-file/guarantee-conditions-units-2944.pdf

2. Purpose and use

The dental unit CHIRANA CHEESE UNI (further only dental unit) is designed solely for use in the area of stomatology. It can be operated only by the qualified medical staff.



The chair is designed to a non-explosive environment.

3. Assembly and mounting

The assembly and mounting of the dental unit can be carried out only by the service technician of CHIRANA Medical, a. s. Stará Turá and the service staff of the company organizations authorized to carry out the above mentioned activity. The assembly and mounting are carried out according to the manual for assembly and mounting and according to the installation plan CHIRANA CHEESE WITH THE DENTAL CHAIR SK1-01.

The dental chair is classified according to the type of protection against the electric current accidents as a product class I. and can be installed only in the premises, where the electrical wiring meets the requirements of the STN 33 2000-7-710 or the national standards.

The device can be operated only by the staff familiar with this User's manual.



WARNING

- To prevent the risk of electric current accident, this device must be connected to the power supply with the protective grounding.



WARNING

- When connecting the IT device to the dental unit follow the standards EN60601-1



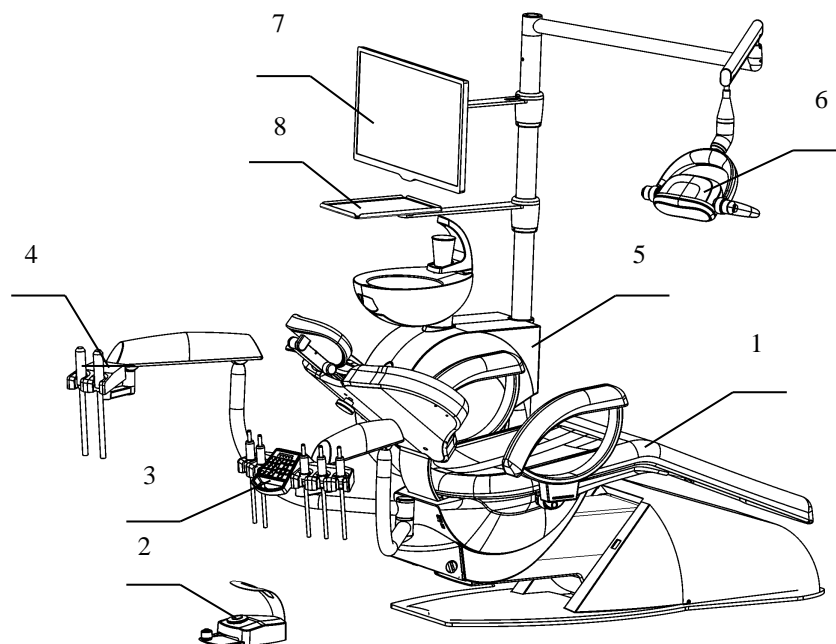
WARNING

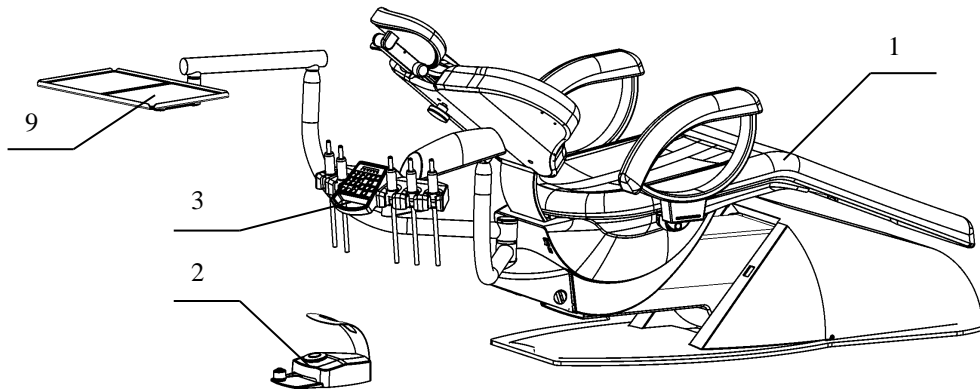
- If the national regulations require separation of amalgam, then the dental unit with the spittoon block without an amalgam separation system must be connected to an external amalgam separator.

4. Product description

Dental unit consists of mutually interconnected parts. Version and equipment of the particular parts may vary according to the version and equipment of the dental unit.

4.1. Main parts of the dental unit



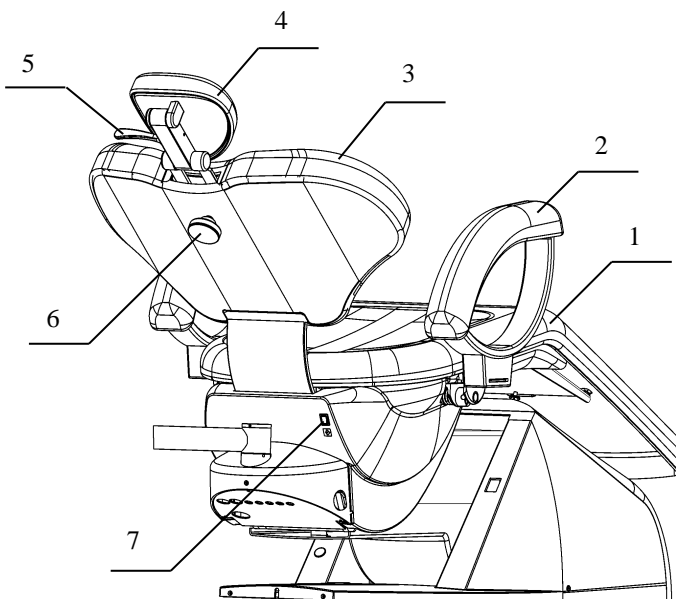


- | | |
|---------------------|-------------------------------------|
| 1. Chair | 6. Light with the light arm |
| 2. Foot controller | 7. Screen with the screen arm |
| 3. Dentist's tray | 8. Tray on the pole |
| 4. Assistant's tray | 9. Tray on the arm behind the chair |
| 5. Spittoon block | |



Some parts of the dental unit are optional by the customer and therefore they may differ from the displayed pictures.

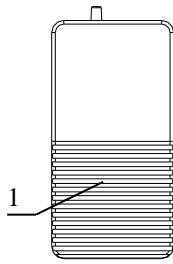
4.1.1. The chair



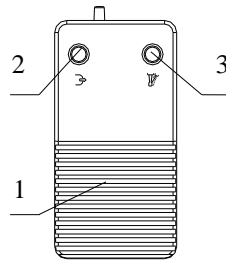
- | |
|-----------------------------------|
| 1. Seat |
| 2. Arm rest |
| 3. Back rest |
| 4. Head rest |
| 5. Locking lever of the head rest |
| 6. Locking wheel of the head rest |
| 7. Programming button |

The chair may have several versions concerning the number of arm rests and type of the back rest.

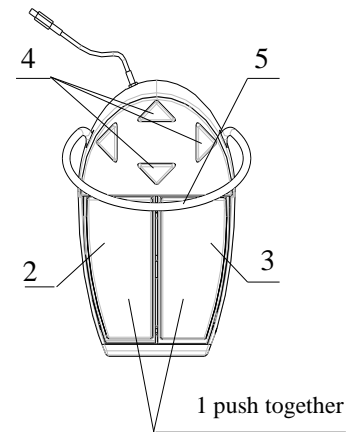
4.1.2. The foot controller



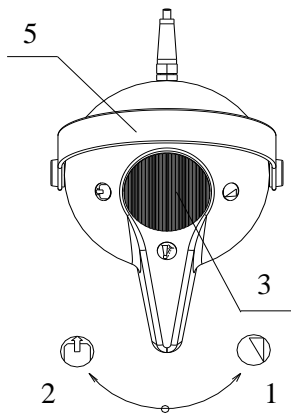
Foot controller without buttons



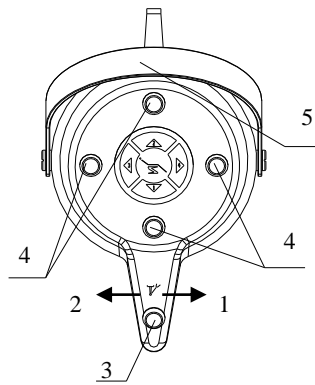
Foot controller with buttons



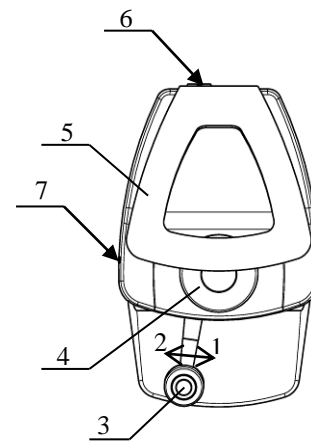
Foot controller multifunctional pedal



Foot controller rotary



Foot controller multifunctional rotary



Foot controller
FCR1-7-WL (wireless)
FCR1-7 (cable)

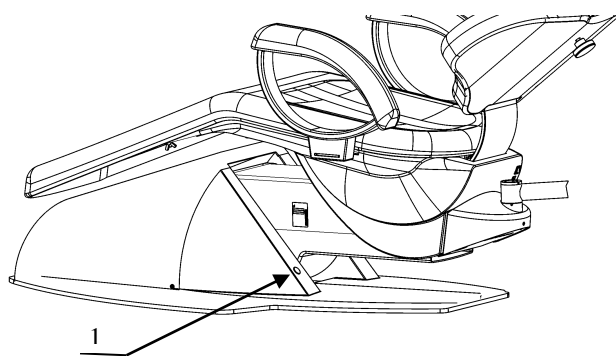
1. Launch of the device
2. Blowing through the device
2. Cooling of the device
3. Controlling the chair
4. Carrier

5. Charging connector
- Line connector
6. Indication of charging
- Indication of switch-on

- (FCR1-7-WL)
- (FCR1-7)
- (FCR1-7-WL)
- (FCR1-7)

The wireless foot controller begins to make a triple acoustic signal at the low battery level. Charging of the controller can be done directly from the unit or from a separate charger that comes as an accessory to the foot controller. To charge from the unit, the unit must be turned on.

The blue light of charging indication signalizes the charging, the green light indicates fully charged status. When the battery is fully discharged, the charging time is approximately 5 hours. Battery life depends on the frequency of use of the foot controller. The fully charged controller has a lifetime of several months.



1. Charging connector for the wireless controller



During charging from the unit, the wireless controller can be operated normally. While charging from a separate charger, the wireless controller can not be used to control the unit



Other wireless devices may interfere the radio transmission between the unit and the wireless foot controller. In case of dropping out communication, the situation may improve by following the minimum protection distances, given in the chapter 15.4. - Recommended protective distances



WARNING

The operator must not simultaneously touch the patient and the accessible contacts of the connectors.



WARNING

The wireless foot controller can be charged only from the USB charger supplied by the producer.



WARNING

Do not connect the USB charger of the foot controller to the connector located on the dental unit.



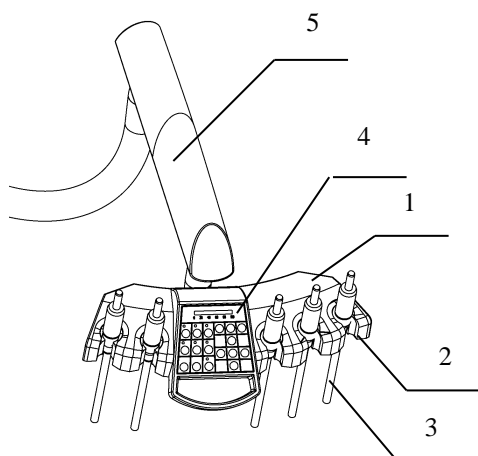
WARNING

For charging use only wiring that is supplied as an accessory of the foot controller.

CHIRANA Medical a.s. hereby declares that the type of radio device CHIRANA CHEESE UNI complies with the directive 2014/53/EÚ.

The full EU declaration of conformity is available at this internet address: www.chirana.sk/certification

4.1.3. The dentist's tray

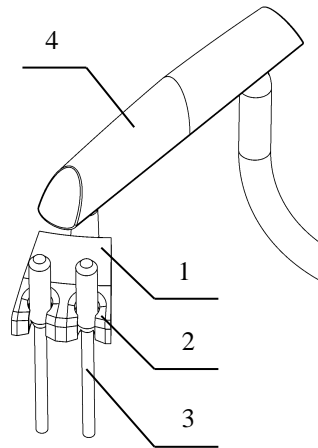


1. Dentist's tray
2. Tool carrier
3. Tool hoses
4. Keyboard
5. Arm of the dentist's tray

The dentist's tray may contain from one to five tools from the following menu:

- 1x multifunction syringe
- 2x turbine handpiece, or 1x turbine handpiece and 1x pneumatic scaler
- 2x micromotor commutator
- 1x micromotor non-commutator
- 1x ultrasonic scaler
- 1x polymerization lamp
- 1x suction device
- 1x saliva ejector

4.1.4. The assistant's tray



1. Assistant's tray
2. Tool carrier
3. Tool hoses
4. Arm of the assistant's tray

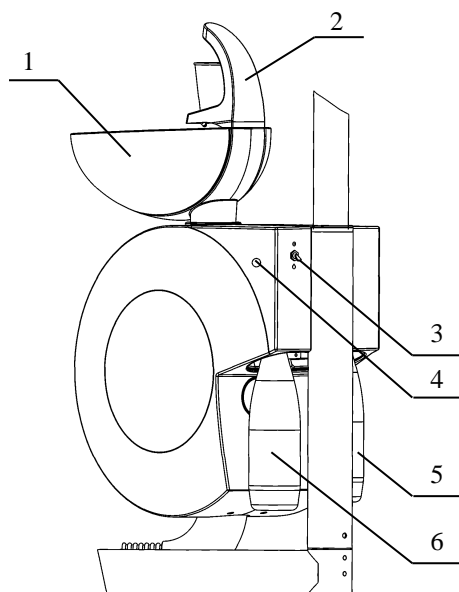
The assistant's tray may contain one or two tools from the following menu:

- 1x saliva ejector
- 1x suction device

4.1.5. The spittoon block

The spittoon block is optional and may have various versions in terms of internal equipment.

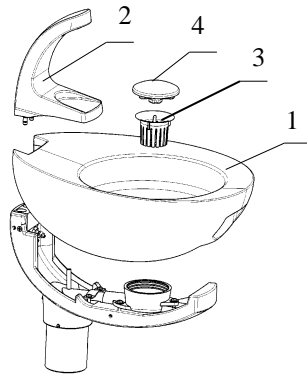
The spittoon block may additionally contain a bottle for clean water and a disinfection system of water ways of the tool hoses with a bottle for disinfection solution.



1. Spittoon bowl
2. Cup filler with the bowl rinse
3. Vent valve of the bottles
4. Button of the spittoon valve cleaning
5. Bottle with the clean water for cooling the tools
6. Bottle with the disinfection solution for disinfection of tool hoses water ways

4.1.5.1. The spittoon bowl

The spittoon bowl is rotary. The spittoon bowl and the cup filler with the bowl rinse are detachable.



1. Spittoon bowl
2. Cup filler with the bowl rinse
3. Collector
4. Sieve cap

4.1.6. The light

The light is delivered in four versions: the halogen light FARO EDI, or LED lights FARO ALYA, FARO MAYA and LED A.

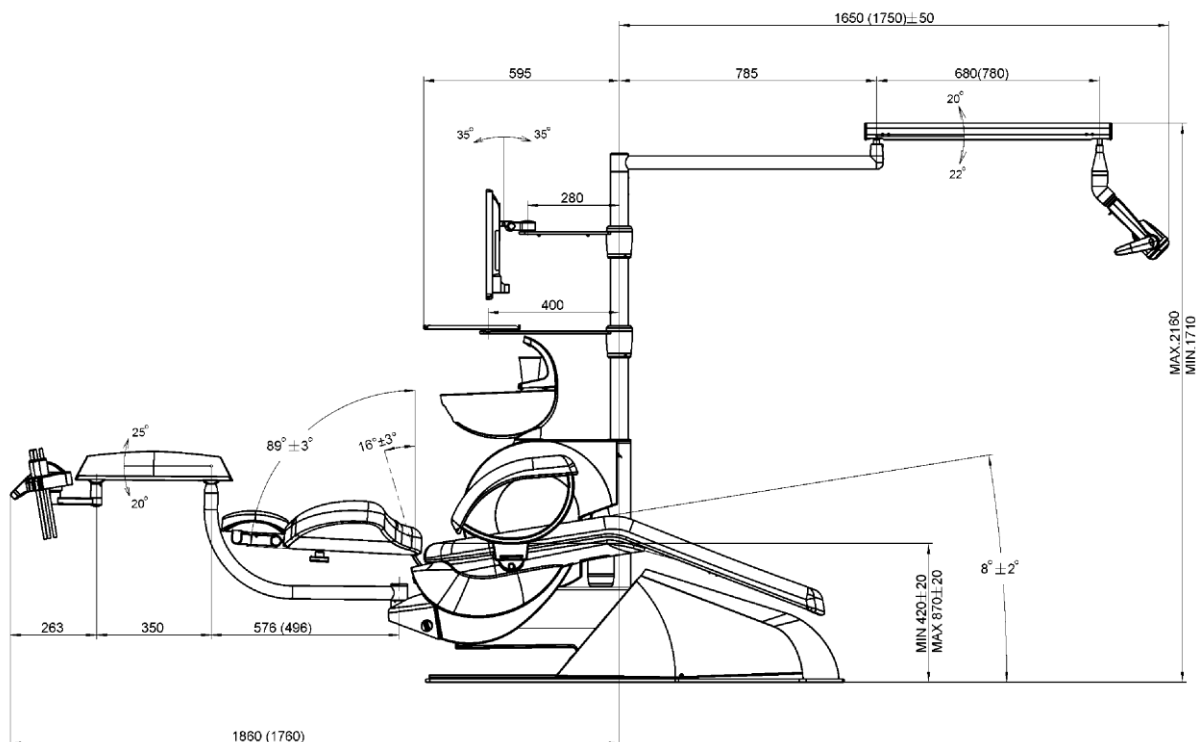
The light has its own User's manual.

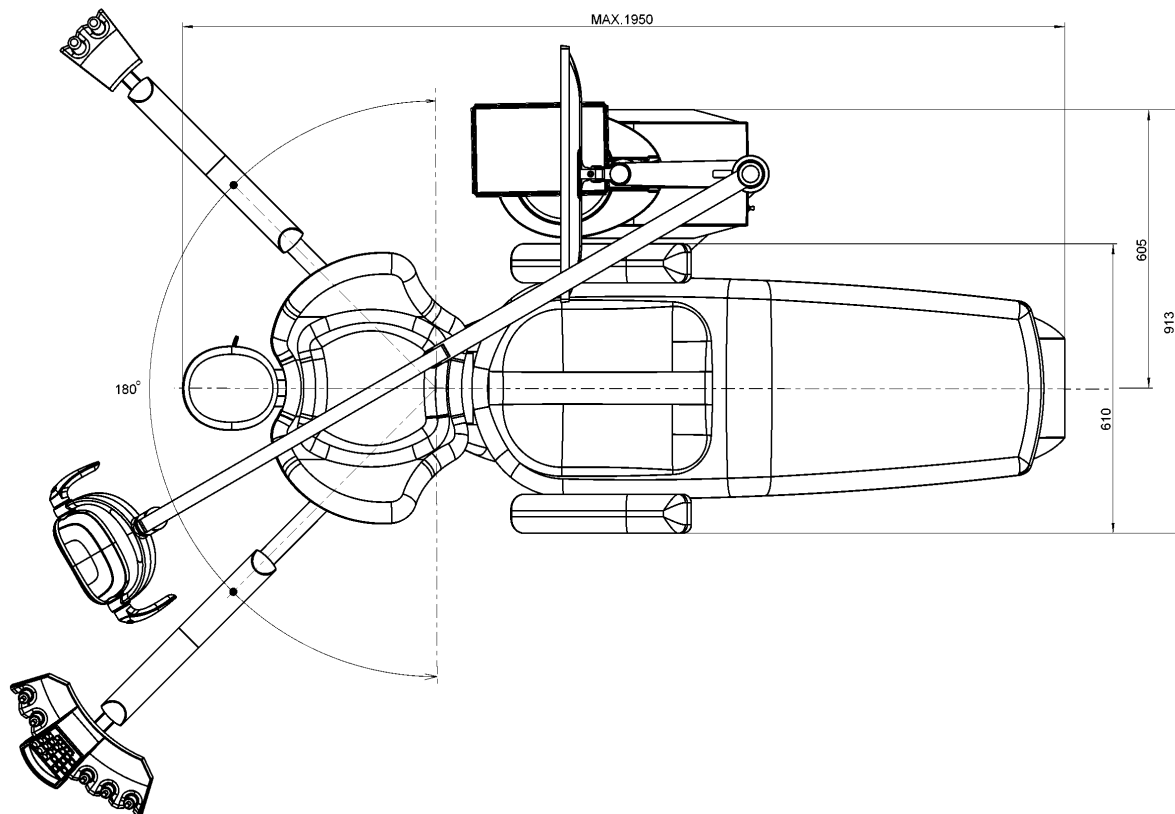
4.1.7. The monitor

The monitor is supplied in several versions and dimensions. Other monitors than the ones delivered by the manufacturer may be connected to the unit only after adjustment and agreement with the manufacturer.

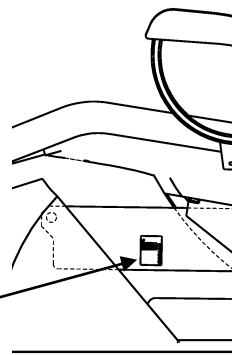
The monitor supplied to the dental unit has its own User's manual.

4.2. Dimensions of the dental unit





4.3. The production label



Manufacturer

S/N

Serial number

IPX1C

Degree of protection by covering



Classification type B



Become familiar with the warnings stated in the User's manual



Eurasian conformity mark



20xx

Year of production



Device must not be disposed with the common waste



Operation time of the chair 30 s
Rest time of the chair 4,5 min.




The CE mark according to the Directives 93/42/EHS for Medical devices with the number of notified person



Follow the User's manual

4.4. Technical specifications

Rated voltage	230V~, 220V~ (110V~) $\pm 10\%$
Nominal frequency	50 - 60 Hz $\pm 2\%$
Maximum power input at 50 Hz	650 VA
Attachment part type	B 
Degree of protection against the electric current accident (fixed installation)	I
Degree of protection	IPX1C
Input air pressure	0,5 MPa (+0,2 ; -0,03) MPa
Input water pressure	0,6 MPa (-0,3) MPa
Range of water hardness	from 8,4 dH to 12 dH
Water temperature at the input	$< 25^{\circ}\text{C}$
Water temperature for the cup (at water heating)	$40^{\circ}\text{C} (-10)^{\circ}\text{C}$
Range of the ambient temperature	from $+10^{\circ}\text{C}$ to $+40^{\circ}\text{C}$
Range of the relative air humidity	from 30 % \div 75 %
Range of the atmospheric pressure	from 70,0 kPa to 106,0 kPa
Weight without the spittoon block	125 kg $\pm 10\%$
Weight with the spittoon block and light	175 kg $\pm 10\%$
Maximum load of the chair	135 kg
Maximum additional loading of the trays	3 kg
Minimum position of the chair	420 mm,
Maximum position of the chair	870 mm
Range of the head rest stroke	165 mm
Basic position of the back rest	$16^{\circ} \pm 3^{\circ}$ from the vertical plane
Basic position of the seat	$8^{\circ} \pm 2^{\circ}$ from the horizontal plane
Maximum angle of the back rest inclination	$89^{\circ} \pm 3^{\circ}$ from the vertical plane

Wireless foot controller

Frequency band	ISM 2,405-2,48 GHz
Efficient radiated power	max. 2,79 dBm e.i.r.p.
Type of modulation	DSSS
Type of accumulator	PANASONIC NCR18650B
Capacity of accumulator	3350 mAh
Charging voltage of the accumulator	4,2 V



WARNING

The accumulator of the wireless foot controller may be replaced only by the same type. When replacing, be sure to observe the correct polarity.

5. The basic equipment

The basic equipment and the spare parts supplied with the device are specified in the Packing list.



WARNING

- Do not modify this unit without the manufacturer's authorization.
- In the case of modification, after the manufacturer's decision, appropriate examinations and tests must be carried out to ensure the consistent safety of the dental unit use
- Use only the spare parts from the company CHIRANA Medical, a. s.

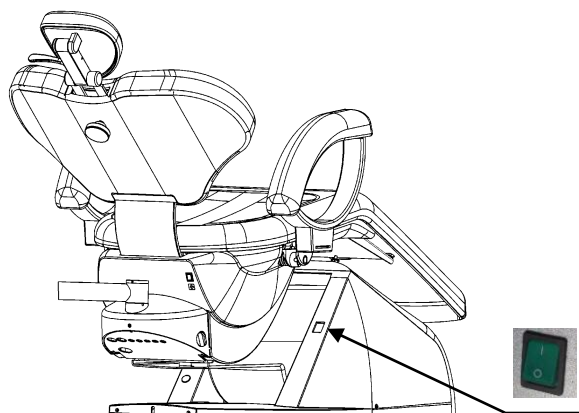
6. The supplementary equipment

The supplementary equipment supplied with the device is included in the part of Packing list as the accessories supplied with the device on a special request.

7. Putting the product into operation

7.1. Device switch-on

The dental unit is switched on by pressing the main switch into position I.



After switching the dental unit on, the circuits of the unit are tested for 4 seconds. The chair circuits are tested as first. After the successful test, an acoustic signal sounds. Testing continues by testing the dentist's tray. Part of the testing is also a test of the dentist's keyboard, which is indicated by the illumination of all indicating elements for 2 sec. and subsequently they turn off for 2 sec. After the successful test of dentist's tray, a second acoustic signal sounds (approx. 3 seconds after the first one), and a LED diode lights on the indicator scale on the Ø position. The unit is ready for operation.

If two acoustic signals do not sound, then contact your service technician.



WARNING

After finishing the job, it is necessary to press the main switch to the O position to close the air, water and electricity supply to the unit.

It is recommended to always close the main water supply to the dental unit

7.2. Light switch-on

The light is switched on by the button on the dentist's tray and it is controlled by the switch (at the sensor version by the sensor) at the bottom part of the light body. The light has its own User's manual.



WARNING

Spot of the light is necessary to adjust to the area of oral cavity to eliminate the risk of damage of patient's eyesight.

8. Operation of the product

8.1. Handling with the chair



WARNING

When moving the chair, make sure that no object occurs in the drive way of the movement of chair, back rest, arm with the dentist's tray and arm with the assistant's tray!

The height of the head rest is secured by the locking wheel of the head rest (6) picture in the chapter 4.1.1. Before adjusting the height of the head rest, loosen the lock by turning the headrest locking wheel counter-clockwise.

The inclination of the head rest is ensured by the head rest locking lever (5) picture in the chapter 4.1.1. Before adjusting the incline, loosen the lock by pulling the headrest locking lever upwards.

The right arm rest is swivel backwards (counter-clockwise), optionally also forward (clockwise). In the upper position, the armrest is locked. It is necessary to overcome a certain force of restraint in order to lower the armrest.

The left arm rest is fixed firmly.

Adjusting the height of the chair and the backrest inclination is done motorically in the manual or program mode.

The control of chair is the same from the dentist's keyboard as well as from the multifunctional foot controller.

8.1.1. The manual mode

In the manual control, the required movement of the chair is triggered by pressing and holding the button with the appropriate symbol (see the chapter 8.2.1), respectively by deflection of the joystick in the appropriate direction. The movement goes on all the time the button is pressed (deflection of the joystick). Stopping each move occurs when the button (joystick) is released. In the end positions, all movements stop even when the operator holds the button (joystick) pressed.

8.1.2. The program mode


The chair has a memory for 4 positions (programs).

Starting the program is done by brief pressing one of four buttons of the chair control (see the chapter 8.2.1) to activate one of four programs. On the foot controller with joystick, brief deflection of the joystick downwards starts the program no. 1, deflection upwards starts the program no. 2, deflection to the left starts the program no. 3 and deflection to the right starts the program no. 4. The chair moves until it reaches the programmed position.

Program no. 4 serves for bringing the chair into rinsing position. At repeated initiation of program no. 4, the chair returns from the rinsing position into the previous working position.

8.1.3. Emergency and safety stop of the chair movement



The chair moving in the program mode can be stopped at any time by pressing the safety button STOP  or by pressing one of the four buttons of the chair control.

The chair contains several safety switches, which protect the chair and the service staff against the collision.

If any obstacle gets under the bottom cover of the supporting arm or under the back rest while moving the chair or the back rest downwards, then the movement of the chair or the backrest downwards will be stopped.



Stopping the chair due to activation of one of the safety switches is signalled by a triple acoustic signal.

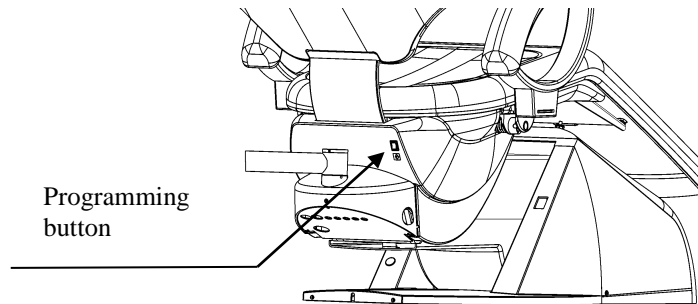
While working with the tools, placed on the dentist's tray of the dental unit, all movements of the chair are blocked for safety reasons.

8.1.4. Setting the program positions of the chair



Before setting the program positions, we recommend that you manually put the chair into the initialization position, i.e. the chair to the lowest possible position and the backrest to the highest possible position (a short acoustic signal will sound in each position).

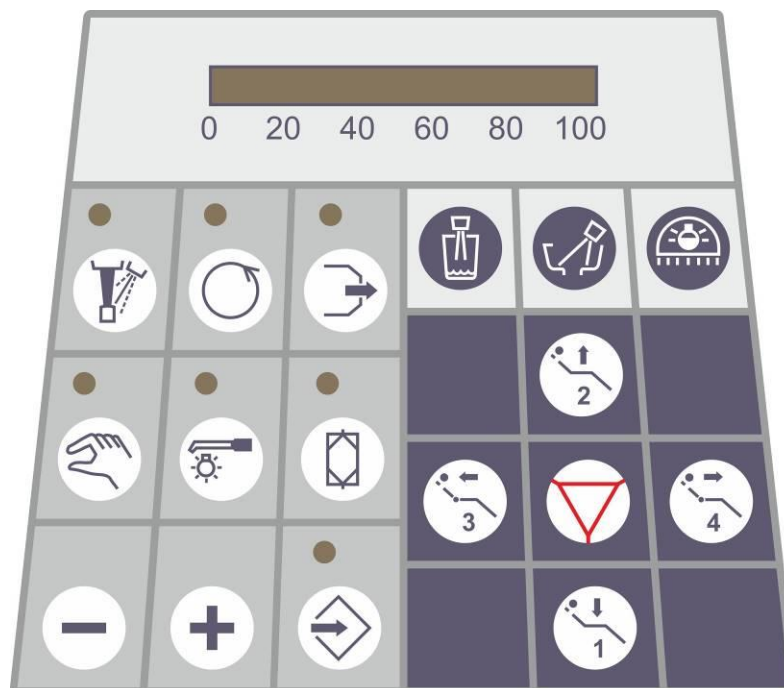
Put the chair into the desired position. Press the programming button located on the chair (not on the dentist's keyboard), and while holding this button, press one of the four chair control buttons on the dentist's keyboard or on the foot controller to determine the program number to record the set position. On the foot controller with joystick, deflect the joystick downwards for program no. 1, upwards for program no. 2, to the left for program no. 3 or to the right for program no. 4. An acoustic signal will sound to inform that the program position has been programmed. Release the button of the chair control (joystick) and the programming button.



It is recommended:

- The program position no.1 use as the basic (getting on) position
- The program position no.2 use as the working position
- The program position no.3 use as the working position
- The program position no.4 use as the rinsing position

8.2. Description of the functions controlled by the buttons on the keyboard



8.2.1. The basic functions



Switch-on / switch-off of the tool cooling

If the signalling lights, the cooling is switched on. The tool cooling is possible to switch-on and switch-off using the foot controller.



Reversal of the micromotor speed (ENDO function of the ultrasonic scaler)

If the signalling lights, the left rotary speed of micromotor is set. For some types of the ultrasonic scalers, the ENDO function is turned on by this button.



Switch-on / switch-off of the automatic blowing through the tool

If this function is switched on (the signalling lights), the air blows briefly through the tool after each stop of the rotation speed.



Start the disinfection cycle of tool hoses

Optional equipment
See the chapter 8.4.



Manual speed /power regulation

If the signalling lights, the manual control of the micromotor speed / power of the ultrasonic scaler is set using the + and - buttons in the range of 1% to 100%. If the signalling does not light, continuous regulation by the foot controller is selected. In this mode of regulation, it is possible to set the maximum speed of micromotor / maximum power of the ultrasonic scaler using the + and - buttons in the range of 20% to 100%.



Switch-on / switch-off of the light tool illumination

The lighting function is timed. If the tool is not in operation for longer than the adjusted time of auto-off, the tool's light turns off. Setting the auto-off time of the tool light is described in the chapter "Programming".



Reducing the set value



Increasing the set value



The programming button

Parameters that can be programmed are described in the chapter „Programming“.



Switch-on / switch-off of the cup filling

The function is timed – it automatically turns off.

Setting the time of cup filling is described in the chapter „Programming“.



Switch-on / switch-off of the bowl rinsing

The function is timed – it automatically turns off.

Setting the time of bowl rinsing is described in the chapter „Programming“.





Switch-on / switch-off of the light




The light can be switched on by the button on the keyboard or by the switch (sensor) at the bottom part of the light head. If you decide to switch the light on by pressing the button on the keyboard, the switch on the light must be permanently on. Contrary, if you prefer to switch the light on with a switch on the light, at first you must turn the light on with the button on the keyboard.



By pressing the button  and its holding for 5seconds (an acoustic signal will sound), it is possible to switch the lamp on permanently. Thus switched on light is then possible to control only with the switch (sensor) on the lamp. To repeat the button operation again , press and hold this button again for 5seconds.



If it is the dental unit without the spittoon block, then the button  does not work and the light can only be controlled with the switch (sensor) on the lamp.



Safety button STOP

Pressing the button stops any movement of the chair.

During the work of a dentist with the tool, the chair is automatically blocked



The moving chair can be stopped anytime by pressing one of four buttons for the chair control.



Moving the chair downwards

Holding the button controls the movement of the chair downwards. You activated the program no. 1 by brief pressing of the button.



Moving the chair upwards

Holding the button controls the movement of the chair upwards. You activate the program no.2 by brief pressing of the button.



Moving the backrest downwards

Holding the button controls the movement of the backrest downwards. You activate the program no.3 by brief pressing of the button.



Moving the backrest upwards

Holding the button controls the movement of the backrest upwards. You activate program no.4 by brief pressing of the button; repeatedly pressing the button briefly returns the chair into the last working position.

8.2.2. The supplementary functions

Measurement of the working time of rotary tools indicating the need for SMIOIL preparation of the tool

The function ensures measurement of the real working time of the rotary tool and after the time has passed and the tool needs to be treated (20 min of the tool work), this state is indicated by the blinking data on the indicating scale. After each lifting of the untreated tool from the carrier, an acoustic signal sounds.

Resetting the indication after the tool treatment by the SMIOIL preparation

3s



Select the tool from the carrier, press and hold the button of the tool cooling for 3 seconds (an acoustic signal sounds). Indication of the need for tool treatment is reset and a new measurement of the tool working time starts.

Switch-on/switch-off of the function

select the particular tool from the carrier, press and hold for 3sec following two buttons (an acoustic signal sounds):



3s

&



Switch the function on (for each tool separately)



3s

&



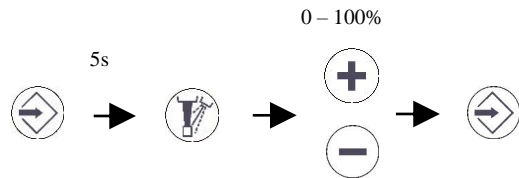
Switch the function off (for each tool separately)

8.2.3. Programming

Setting the amount of cooling water

It is set individually for each tool.

Select the tool from the carrier, press the programming button (red signalization lights) and then (up to 5 sec.) press the button of tool cooling. Using the + and - buttons set the amount of cooling water in range 0 – 100%. Save the new adjusted data to the memory by pressing the programming button. An acoustic signal sounds and the red signalization switches off.



Setting the time of automated switch-off of the tool light

It is set for all tools together.

Select one of the light tools from the carrier and press and hold the button of the light tool illumination for the time we want to program. After releasing the button an acoustic signal sounds and a new time of automated switch-off of the tool light will be saved into the memory. The minimum time of setting is 3 sec.

3 – 20s



Setting the time of cup filling

Press and hold the button of the cup filling for the time we want to program. After releasing the button an acoustic signal sounds and a new time of cup filling will be saved into the memory. The minimum time of setting is 3 sec.

3 – 60s



Setting the time of bowl rinsing

Press and hold the button of the bowl rinsing for the time we want to program. After releasing the button an acoustic signal sounds and a new time of bowl rinsing will be saved into memory. The minimum time of setting is 3 sec.

3 – 60s



8.3. Control of the tools on the dentist's tray

The tools placed on the dentist's tray (except for the multi-function syringe) are programmed blocked against the use at the same time.

Only the first selected tool is ready for operation. All other tools removed afterwards are blocked.

8.3.1. The multifunction syringe

Select the syringe from the carrier.

Press the blue button to activate the air. Press the green button to activate the water. Press the blue and green button together to activate the water nebula.

8.3.2. The turbine handpiece



WARNING

Follow the User's manual which is attached to the packing of turbine handpiece.

Activate the turbine handpiece by selecting from the carrier.

To start the operation of turbine handpiece, press the foot controller, resp. deflect the lever of the rotary foot controller to the right. At the multifunction pedal foot controller press the right and left part of the pedal at the same time. The operation is finished by releasing the foot controller. It is not possible to set the size and direction of the turbine handpiece speed.

Press the left button of the foot controller with buttons to blow air through the tool, resp. deflect the lever of the rotary foot controller to the left. At the multifunction pedal foot controller press the left part of pedal.

For setting the functions of the turbine handpiece, it is possible to use the buttons on the dentist's keyboard:



Cooling the tool with a spray can also be turned on and off with the foot controller.

To switch-on resp. switch-off the cooling by the foot controller, press the right button of the foot switch with the buttons, respectively press the tool cooling button of the rotary foot controller. At the multifunction pedal foot controller press the right part of the pedal. Switching the cooling on is signaled by the illuminated signalization at the cooling button on the dentist's keyboard.

The amount of cooling water is set individually for each tool as described in the chapter Programming.

8.3.3. The micromotor



WARNING

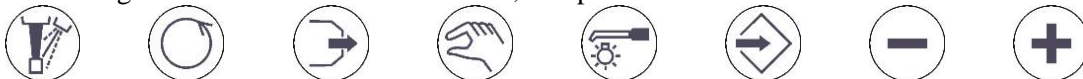
Follow the User's manual which is attached to the packing of the micromotor.

Activate the micromotor by selecting from the carrier.

To start the operation of micromotor, press the foot switch, resp. deflect the lever of the rotary foot controller to the right. At the multifunction pedal foot controller, press the right and left part of the pedal at the same time. The operation will be finished by releasing the foot controller. The size and direction of the micromotor speed can be set by the buttons of dentist's keyboard or by the foot controller.

To blow the air through the tool, press the left button of the foot switch with buttons, respectively deflect the lever of the rotary foot controller to the left. At the multifunction pedal foot controller, press the left part of the pedal

For setting the functions of the micromotor, it is possible to use the buttons on the dentist's keyboard:



Cooling the tool with a spray can also be turned on and off with the foot controller.

To switch-on resp. switch-off the cooling by the foot controller, press the right button of the foot switch with the buttons, respectively press the tool cooling button of the rotary foot controller. At the multifunction pedal foot controller press the right part of the pedal. Switching the cooling on is signalled by the illuminated signalization at the cooling button on the dentist's keyboard.

The amount of cooling water is set individually for each tool as described in the chapter Programming.



The speed of the micromotor can be regulated smoothly by foot using only the foot controls. The micromotor speed can only be switched on resp. switched off with the foot switches. You can set the speed by using the buttons on the dentist's keyboard.



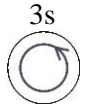
Minimum, resp. maximum number of drill speed depends on the micromotor and the micromotoric handpiece.



At the non-commutator micromotor it is not possible to switch-off the tool illumination. The illumination is on for all the time of the micromotor activation.

Giromatic

This is a function when the tool rotates cyclically in the micromotor handpiece to the right and left. The angle of rotation (vibration) of the tool is set with the + and – buttons in the range from $\pm 60^\circ$ to $\pm 100^\circ$. The function switches on as follows:



Select the micromotor from the carrier, press and hold the button of micromotor reversal for 3 sec.



The function is active only for the commutator micromotor.

8.3.4. The ultrasonic scaler



Do not use the scaler at patients with the cardiostimulator, it may affect the function of stimulator.

Any applications with the scaler should be considered as a surgical procedure.

The scaler is not intended for use in the surgery rooms.

It must not be used in the explosive environment.



Follow the User's manual which is attached to the packing of the scaler.

Activate the scaler by selecting from the carrier.

To start the operation of scaler, press the foot switch, resp. deflect the lever of the rotary foot controller to the right. At the multifunction pedal foot controller, press the right and left part of the pedal at the same time. The operation will be finished by releasing the foot controller. The power of the scaler can be set by the buttons of dentist's keyboard or by the foot controller.

With the foot switch, the scaler can only be switched on resp. switched off.

For setting the functions of the scaler, it is possible to use the buttons on the dentist's keyboard:



Cooling the end piece by water can also be turned on and off with the foot controller.

To switch-on resp. switch-off the cooling by the foot controller, press the right button of the foot switch with the buttons, respectively press the tool cooling button of the rotary foot controller. At the multifunction pedal foot controller press the right part of the pedal. Switching the cooling on is signalled by the illuminated signalization at the cooling button on the dentist's keyboard.

The amount of cooling water is set individually for each tool as described in the chapter Programming.

At some types of scalers, it is possible to switch-on the ENDO function with the  button.

8.3.5. The pneumatic scaler



Follow the User's manual which is attached to the packing of the scaler.

Activate the pneumatic scaler by selecting from the carrier.

To start the operation of the pneumatic scaler, press the foot switch, resp. deflect the lever of the rotary foot controller to the right. At the multifunction pedal foot controller, press the right and left part of the pedal at the same time. The operation will be finished by releasing the foot controller. The power of the pneumatic scaler can not be set.

For setting the functions of the pneumatic scaler, it is possible to use the buttons on the dentist's keyboard:



The amount of cooling water is set individually for each tool as described in the chapter Programming.

8.3.6. The polymerization lamp

To start the operation of the polymerization lamp, press the button on the lamp body. To finish the operation, press the button second time. Different types of supplied polymerization lamps have different light modes. Follow the instructions in the User's manual which is attached to the packing of the polymerization lamp.



The light intensity of the polymerization lamp is very high and therefore it is necessary to protect the eyesight against the direct light source.

8.3.7. The saliva ejector

The operation is started automatically after removing the end piece from the carrier. The operation of saliva ejector is finished after inserting the end piece into the carrier.

The suction power of the saliva ejector can be regulated by the regulation gate situated on the end piece of the hose. You can stop the suction completely with this regulation gate.

8.3.8.. The suction device

The operation is started automatically after removing the end piece from the carrier. The operation of suction device is finished after inserting the end piece into the carrier.

The suction power of the device can be regulated by the regulation gate situated on the end piece of the hose. You can stop the suction completely with this regulation gate.

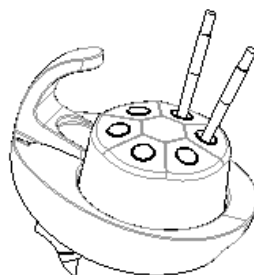
8.4. Disinfecting cycle of the tool hoses


(Optional equipment)

The disinfecting cycle of the tool hoses consists of three steps:

- filling the water ways of the tool hoses by the disinfecting agent, indicated by increasing the indicator column on the indicator scale from left to right.
- the disinfection itself is indicated by blinking data on the indicator scale.
- disposal of the disinfecting agent and flushing the tool hoses with water indicated by lowering the indicator column on the indicator scale from right to left.

Insert the disinfectant carrier into the spittoon bowl before starting the disinfecting cycle. Insert at least two tool hoses (without tools) into the holes of the disinfectant carrier.



To start the disinfecting cycle, press the  button and hold this button pressed until a triple acoustic signal (3sec) sounds. The signalling at the button of disinfection starts to blink and it will blink for the entire time of running disinfection.

You can switch off the dental unit in the second step of the disinfecting cycle. The disinfectant remains filled in the tool hoses and will react for the entire period of inactivity of the unit. When the unit is switched on, the disinfecting cycle will be completed automatically in the third step.

If you do not turn the dental unit off, the second step of the disinfecting cycle will end itself after 3,5 minutes, and the cycle continues automatically to the third step.

Disinfection of the multi-function syringe:

The disinfecting cycle does not include a multifunctional syringe into disinfection. The syringe must be disinfected manually during the disinfecting cycle. During the first or second step of the disinfecting cycle (before turning the unit off), fill the water way of syringe with the disinfectant by pressing the green button for at least 10 seconds.

At the same time, place the syringe nozzle into the hole of the disinfectant carrier. Once the disinfecting cycle has finished, discharge the disinfectant manually from the syringe by pressing the green button for at least 10 seconds.



The disinfecting cycle can not be started individually for one tool – at least two tools have to be disinfected.

The disinfecting cycle can not be terminated prematurely.

During the disinfecting cycle, the common operation of the tools is blocked.

8.5. Filling the bottles for clean water and disinfecting agent

The clean water from bottle is brought into the micromotors, turbine handpieces, scalers and syringes on the dentist's tray. It is used for cooling the tools.

The disinfectant agent is brought into the tools which were inserted into the disinfectant carrier during the disinfecting cycle.

The bottles for clean water and the disinfectant agent are positioned so that it is possible to check the level of filling visually. In case of running out of clean water or disinfectant agent, the bottles should be refilled.



WARNING

Before filling the bottles, depress the bottle by turning the bleeder valve down toward the bottles. Turn the valve back after screwing the bottles to their original location.

Bottles with the clean water and the disinfectant agent are screwed to the spittoon block. To remove the bottle, turn the bottle to the left.



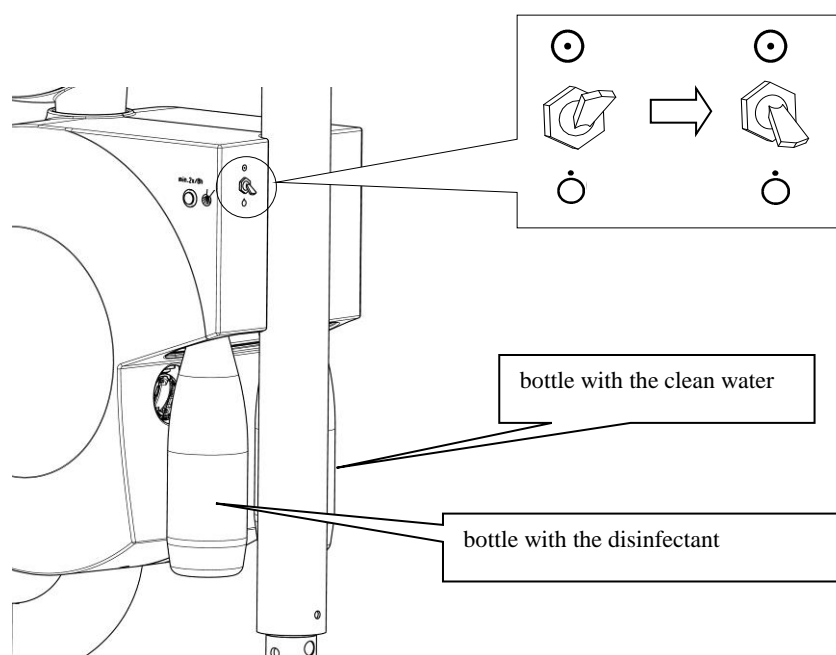
WARNING

When filling the bottles, make sure that no foreign substances get into the bottles which could affect the composition and quality of the clean water or disinfectant.




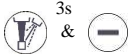
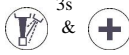
WARNING

Never use demineralized water for technical purposes.



Fill the bottles maximally up to 9/10 of their volume. Hold the bottle from the bottom, do not press and place with the right-handed movement.

8.6. Description of the acoustic alerts

Acoustic signal	Symptoms and removal	Note
After taking the tool from the carrier, an acoustic signal sounds and at the same time an indication blinks on the display	<p>The specific tool needs to be treated with an oil spray.</p> <p>After treatment press the  button and hold it pressed for 3sec (an acoustic signal sounds)</p>	<p>The signalling for specific tool can be permanently off:</p> <p>resp. switch on again: See chapter 8.2.2.</p> <p> </p>
When the chair moves, three acoustic signals sound	The safety switch was switched on. Remove the obstacle that prevents the chair or backrest moving downwards.	
Wireless foot controller makes three acoustic signals while using	The signalling of low accumulator charging status of the foot controller. Connect the foot controller to the unit or to a separate charger.	The frequency of acoustic signalling increases depending on the accumulator discharge.
Wireless foot controller makes double acoustic signal	The foot controller was unable to link the wireless communication from the unit. Check if the unit is turned on and the controller belongs to the specific unit.	In case of problems with the wireless control, connect the unit and the wireless controller using the connection cable. Inform your service technician about this problem.

9. The product maintenance

9.1. Maintenance by the operating staff

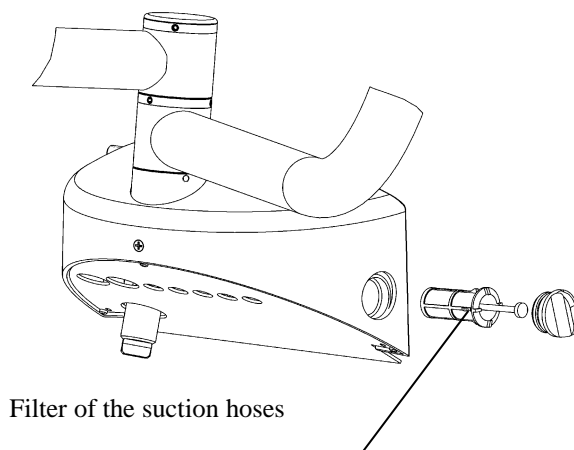


WARNING

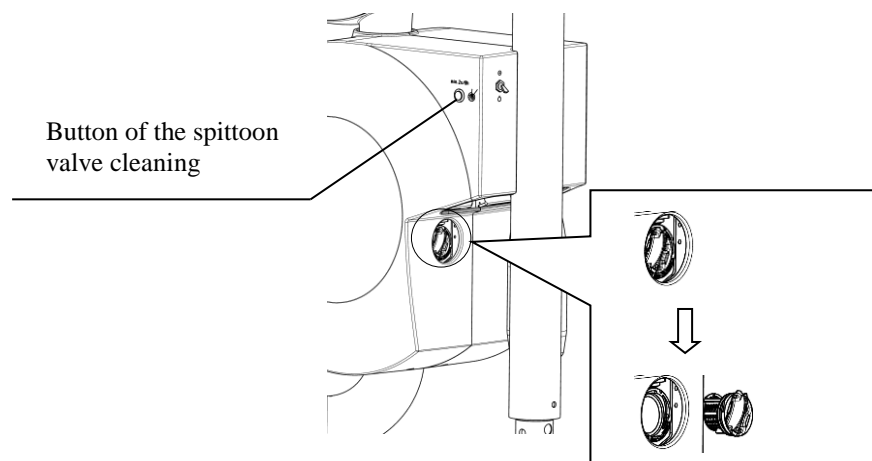
Use gloves while doing this work!

The service staff must:

- Before starting the work, rinse and blow-over the tool hoses (without tools) by running the tool with turned on cooling and rinse the cup filler with the bowl rinse by running the cup filling.
- Before and after a longer interruption of work (weekend, holiday), run the disinfecting cycle and rinse the cup filler with the bowl rinse by running the cup filling. If the unit does not contain the tool hoses disinfection, rinse and blow-over the tool hoses (without tools) by running the tool with turned on cooling and rinse the cup filler with the bowl rinse by running the cup filling.
- 2x – 3x a day check the status and cleanness of the collector (3) picture in the chap. 4.1.5.1 in the spittoon bowl and clean or replace it if necessary.
- 2x – 3x a day clean the hose of saliva ejector and suction device by rinsing with clean water minimum 0,5 l.
- 1x a day clean the filter of suction hoses placed on the chair console.

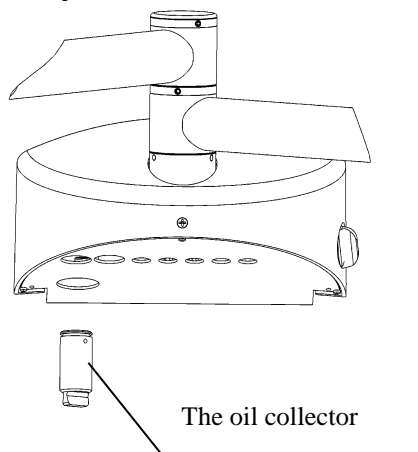


- 1x a day run the cleaning of the spittoon valve Dürr MSBV by pressing the button placed on the spittoon block, see the picture below. Do not press the button if the filter of the spittoon valve Dürr MSBV is out.
- 1x a day after work, clean the filter of the spittoon valve Dürr.



If a bottle with disinfectant is assembled, then remove the bottle before cleaning the filter according to the procedure described in the chapter 8.5.

- 1x a month clean the oil collector placed on the chair console with the common detergent.



- 1x a 6 months change the bottle for clean water and the bottle for disinfecting agent. However if you notice wearing, scratches, change of colour, loss of transparency, deformation, or other damage, replace the bottle immediately with a new one.

Further maintenance of the device by the operating staff is limited only to cleaning the device and sterilization of the sterilizable parts.

Maintenance, cleaning and sterilization of the tools (the micromotor, the turbine handpiece, micromotoric handpieces) should be carried out according to the instructions of the tool producer.

The chemical substances must only be put on the plate of the tray. At the accidental dropping of chemical substance such as Trikresol, Chlumski solution and other aggressive substance on the lacquered part of the device, it is necessary to clean the surface immediately with a tampon soaked in water.

9.2. Maintenance by the service technician

The periodic inspection is carried out in 6-month intervals, while the service technician must:

- Check the condition of the input filters for water and air in the supply casing
- Check and if necessary regulate the working pressures of water and air in the supply casing and under the chair's seat
- Verify the operation of particular regulation and control elements
- Check and if necessary regulate the motion mechanisms of the chair and the backrest upstroke
- Check and if necessary regulate and grease the mechanism of the headrest
- Check and if necessary grease the foldable mechanism of the armrest
- Check the function of the safety switches
- Check the freedom of the arms movement and if necessary regulate their braking

10. Cleaning, disinfection and sterilization

Cleaning the device (spittoon block, tray, arms, foot switch) is done with a damp cloth, with a non-combustible cleaning agents, while it is necessary to take care that the water does not enter the device. All parts of the device are thoroughly dried and polished with a dry flannel cloth.

- The spittoon bowl and the suction components (saliva ejector, suction device) are recommended to clean 2x a day for example with a Dürr Dental Orotol, or Metasys Green and Clean MB and M2 cleaning agent. The Dürr Dental MD 550 is specially designed to clean the spittoon bowl. To clean suction parts of the residual powders we recommend to use Dürr Dental MD 555 once a week. When cleaning, follow the instructions on the detergent label.



Do not use any aggressive or strong foaming agents, because these may lead to the suction malfunctions. Solvents (e.g. acetone and so on) and agents based on phenols, chlorine and aldehydes are not allowed. All abrasive agents are also not allowed.

Clean the leather cloth regularly with a pH neutral soap and a soft brush. After cleaning, rinse the leather cloth with clean water. Do not use any strong detergents, solution agents, polishes, waxes or other chemicals. Spots, for example from coffee, wine, ballpoint pen, eosin dyes, as well as jeans, should be cleaned immediately to prevent persistent absorption into the leather cloth.

For cleaning the leather cloth, you can use an isopropyl alcohol diluted by water in the rate 70%/30% or Dürr Dental FD 360 solution. The cleansing foam Uniter Rapid Cleaner S is also suitable for cleaning.

For disinfection, we recommend using Dürr Dental FD366 solution or Alpro PlastiSept.

The dyes used during production of some materials of clothes (e.g. jeans) may react with the leather cloth and may cause permanent pollution. The warranty does not cover such pollution of the leather cloth. As a protection against the coloration (damage) of the seat leather cloth, we recommend using the protective pad on the seat SK1-01 J125910023.

The manufacturer disclaims any responsibility for the problems caused by ignoring the cleaning instructions.

Water ways of the tool hoses are recommended to disinfect continuously with a disinfectant for continuous disinfection (decontamination) of waterways of the dental devices (e.g. Alpron from the company Alpro).

Into the bottle with clean water (optional equipment) - chapter 8.5. dilute the solution of disinfecting agent for the continuous disinfection (decontamination) of the waterways of dental devices diluted according to the instructions of its producer.

During the long-term outage of the dental unit, it is recommended to perform disinfection (decontamination) with a disinfecting agent for decontamination of waterways of the dental devices (e.g. Bilpron from the company Alpro) by running the disinfecting cycle - see the chapter 8.4. (optional equipment).



Use only the disinfectants for waterways of the dental devices. Follow the instructions and the date of use stated on the bottle label with the disinfecting agent.

Sterilized in the autoclaves can be:

- the nozzles of syringes
- the turbine handpieces
- the micromotoric handpieces










The tools have their own User's manuals with the sterilization conditions that need to be followed. Other parts can be disinfected with the common disinfecting agents with virucidal action which do not cause material corrosion and do not damage the surface.

11. Safety technical inspections

Safety technical inspections must be carried out according to the IEC 62 353 standards once in two years.

12. Transportation

Symbols printed on the outer side of the packaging are applicable for transport and storage and they have the following meaning:

	Fragile, manipulate carefully
	this way upwards (vertical position of the load)
	protect against moisture
	recyclable material
	temperature of transport, storage
	moisture of storage
	limited stacking

The device must be transported by covered vehicles without major shaking at the temperature from - 20°C to + 50°C, the relative humidity up to 100%, while it cannot be exposed to influence of aggressive vapours.

The device must be wrapped and transported in a package /transport container/ which is intended solely for these purposes.

13. Storage

The device must be stored in dry premises with maximum relative humidity 80% at temperatures from -5°C to + 50°C, while it cannot be exposed to the influence of aggressive vapours.

When storing longer than 18 months, it is necessary to examine the dental unit by the service organization.

14. Disposal of the device

The device may not be disposed with the common waste.

Dispose the device by the separated collection.

Hand the device over to the distributor or directly to the waste processor.

Disinfect the device before the handover.

We recommend to leave the dismantling and disposing of the device to a specialized company.

15. Guidance and declaration of the producer to the electromagnetic compatibility



Using other devices in the immediate vicinity of the dental unit CHIRANA CHEESE UNI may cause an incorrect function. If the usage of other devices in the immediate vicinity is necessary, then the dental unit CHIRANA CHEESE UNI and the devices should be observed to verify that they work normally.



Using other than the original accessories and cables provided by the manufacturer CHIRANA Medical, a.s. may cause increased electromagnetic emissions or decrease the electromagnetic resistance of the dental unit and cause its incorrect function.



Portable RF communication devices (including the endpiece equipment such as the antenna cables and the antennas) should not be used closer than 30 cm (12 inches) from any part of the dental unit CHIRANA CHEESE UNI including the cable to the foot controller. Otherwise, the function of dental unit may be impaired.

15.1. Electromagnetic radiation

The dental unit CHIRANA CHEESE UNI is designed for using in the electromagnetic environment described in the following table. The customer or user should ensure that the dental unit CHIRANA CHEESE UNI will be operated in the appropriate environment.

Measuring the interference radiation	Compliance	Electromagnetic environment
High frequency radiation according to CISPR 11	Group 1	The dental unit CHIRANA CHEESE UNI uses the high frequency energy only for its internal function. Therefore its high frequency radiation is very low and it is not probable that it would cause any interference to the close electronic devices
High frequency radiation according to CISPR 11	Class B	The dental unit CHIRANA CHEESE UNI is designed for using in all kinds of environment including the environments located in the housing zones and environments which are directly connected to the electric mains which supply also the housing buildings
Radiation of higher harmonic according to EN 61000-3-2	Class A	
Radiation of voltage / deviation spikes according to EN 61000-3-3	In accord	


15.2. Resistance against the electromagnetic interference

The dental unit CHIRANA CHEESE UNI is designed for using in the electromagnetic environment described in the following two tables. The customer or user should ensure that the dental unit CHIRANA CHEESE UNI will be operated in the appropriate environment.

Test of resistance	Testing level of the resistance according to EN 60601	Complying level	Electromagnetic environment
Electrostatic discharge (ESD) according to EN 61000-4-2	Contact discharge $\pm 8\text{kV}$ Air discharge $\pm 2\text{kV}$, $\pm 4\text{kV}$, $\pm 8\text{kV}$, $\pm 15\text{kV}$	Contact discharge $\pm 8\text{kV}$ Air discharge $\pm 2\text{kV}$, $\pm 4\text{kV}$, $\pm 8\text{kV}$, $\pm 15\text{kV}$	Floors should be made from wood, concrete or covered by ceramic tiles. If the floors are covered with the synthetic material then the air moisture is minimum 30 %.

Test of resistance	Testing level of the resistance according to EN 60601	Complying level	Electromagnetic environment
Fast electric transition effect/group of the impulses EN 6100-4-4	$\pm 2\text{kV}$ for the feeding line $\pm 1\text{kV}$ for the input/output line	$\pm 2\text{kV}$ for the feeding line $\pm 1\text{kV}$ for the input/output line – not applied	Quality of the power supply network should correspond to a typical commercial or hospital environment
Impact impulse EN 61000-4-5	$\pm 1\text{kV}$ symmetrical voltage $\pm 2\text{kV}$ common-mode voltage	$\pm 1\text{kV}$ symmetrical voltage $\pm 2\text{kV}$ common-mode voltage	Quality of the power supply network should correspond to a typical commercial or hospital environment
Short-time voltage drop, short interruption and slow changes of voltage on the supply input line EN 61000-4-11	$< 5\% U_T$ $0,45^\circ, 90^\circ, 135^\circ, 180^\circ, 225^\circ, 270^\circ, 315^\circ$ $< 5\% U_T$ 0° $70\% U_T$ $< 5\% U_T$ 5 seconds	0,5 periods 1 period 25/30 periods (50/60 Hz) 250/300 periods (550/60Hz)	Quality of the power supply network should correspond to a typical commercial or hospital environment If the user of the dental unit CHIRANA CHEESE UNI requires the permanent operation during the power supply failure, it is recommended to connect the dental unit CHIRANA CHEESE UNI to the backup source or the battery
Magnetic field of the network frequency (50/60Hz) EN 61000-4-8	30A/m	The test not applied - the dental unit CHIRANA CHEESE UNI does not contain magnetically sensitive components and it is designed for the permanent installation	Magnetic fields of the network frequency should correspond to a typical commercial or hospital environment
Comment – U_T is the AC voltage before applying the testing level			

Test of resistance	Testing level of the resistance according to EN 60601	Complying level	Electromagnetic environment
Interference spread by line induced by the RF field EN 61000-4-6	$3 V_{\text{eff}}$ 150kHz to 80MHz $6 V_{\text{eff}}$ in ISM and the amateur radio bands	$3 V_{\text{eff}}$ $6 V_{\text{eff}}$	Distance of the used portable and mobile high frequency notification devices from any part of the dental unit CHIRANA CHEESE UNI including the cables, should not be less than the recommended protective distance calculated according the appropriate equation for the transmitting frequency Recommended protective distance: $d = 1,2 \sqrt{P}$ 150 kHz to 80 MHz $d = 1,2 \sqrt{P}$ 80 MHz to 800 MHz $d = 2,3 \sqrt{P}$ 800 MHz to 2,7 GHz
The RF field from the RF transmitter spread by radiation EN 61000-4-3	3 V/m 80MHz to 2,7GHz 385MHz–5785MHz Specific tests of resistance against the input/output by	3 V/m according to the table 9 of the standard EN 60601-1-2:2015	where P is the rated maximum output power of the transmitter in Watts (W) in accordance with the data provided by the transmitter manufacturer and

Test of resistance	Testing level of the resistance according to EN 60601	Complying level	Electromagnetic environment
	the device cover from the RF wireless communication devices according to the table 9 of the standard EN 60601-1-2:2015		<p>d is the recommended protective distance in meters (m)</p> <p>The field intensity from the stationary RF transmitters should be according the examination on-site^{a)} for all frequencies lower than the complying level^{b)}.</p> <p>In the surrounding of the device marked with the following symbol, the interference may occur.</p> 

Comment 1: At 80MHz and 800MHz is valid higher frequency range.

Comment 2: These guidelines do not need to apply in all cases. The electromagnetic propagation is influenced by the absorption and reflections from the buildings, objects and people.

^{a)} The field intensity of the stationary transmitters (base stations of the wireless telephones, mobile radio-communication devices, amateur radio stations, radio and TV transmitters AM and FM) is not possible to determine theoretically in advance. In order to assess the electromagnetic environment in terms of the stationary transmitters should take into account the survey of electromagnetic characteristics of the specific site. If the measured field intensity in the site where the dental unit CHIRANA CHEESE UNI will be used exceeds the above mentioned complying level, then the dental unit CHIRANA CHEESE UNI should be observed to confirm its operation in accordance with the intended purpose. In case of observing abnormal characteristics, it may be necessary to perform other measures, for example other direction or installation of the dental unit CHIRANA CHEESE UNI at other site.

^{b)} In all frequency ranges from 150kHz to 80MHz should be the field intensity lower than $3\sqrt{V_{ef}}\text{V/m}$.

15.3. Recommended protective distances between the portable and mobile high frequency communication devices and the dental unit CHIRANA CHEESE UNI

The dental unit CHIRANA CHEESE UNI is designed for operation in the electromagnetic environment where is controlled the radiated high frequency interference. The customer or user of the dental unit CHIRANA CHEESE UNI may prevent the electromagnetic interference by keeping the lower mentioned minimum distances between the portable and mobile high frequency communication devices (transmitters) and the dental unit CHIRANA CHEESE UNI depending on the output power of the communication devices.

Specified maximum output power of the transmitter (W)	Protective distance according to the transmitter frequency (m)		
	150 kHz to 80 MHz $d = 1,2\sqrt{P}$	80 MHz to 800 MHz $d = 1,2\sqrt{P}$	800 MHz to 2,7 GHz $d = 2,3\sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For the transmitters which maximum output power is not described in the table, may be recommended the protective distance d in meters (m) specified by using the equation suitable for the transmitter frequency, where P is the rated maximum output power of the transmitter in Watts (W) according to the data of the transmitter manufacturer.

Comment 1: At 80MHz and 800MHz is valid the protective distance for the high frequency range.

Comment 2: These instructions do not have to apply in all cases. The electromagnetic propagation is influenced by absorption and reflections from the buildings, objects and people.