CHIRANA Medical STARÁ TURÁ

Dental unit

CHIRANA CHEESE L

INSTRUCTIONS FOR USE

CHIRANA Medical STARÁ TURÁ

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ISO 13485 3EC certified

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1. Operating warnings

1.1. Symbols

ATTENTION

This symbol draws in the instructions indicated warnings that require special attention. Before the first use of this product, familiarize yourself with all the warnings described in this manual!

This symbol draws in the instructions indicated other important warnings

1.2. Target group

This manual is intended for dentists and staff of the dental office.

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

1.3. Service

The name and address of the organization that carried out the repair of the device, please ask to your device supplier.

When selling the product from the original user to another user, it is necessary to notify the user change of your device supplier, resp. to the producer.

1.4. Operating book

Book designed for the records of the installation, repairs and regular inspections.

Into the operating book should be recorded every act committed by the service technician.

1.5. Guarantee 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

Dental unit CHIRANA CHEESE L is intended only for use in dentistry. It can operate only by qualified medical personnel.

ATTENTION

The set is designed into the non-explosive area.

3. Assembly and instalation

Assembly and installation of the dental unit CHIRANA CHEESE L can perform a service technician of CHIRANA Medical, Inc. Stara Tura and service staff from companies that are authorized to perform that activity. Assembly and installation shall be done according to the instructions for assembly and installation CHIRANA CHEESE L and according to the installation plan of CHIRANA CHEESE L.

Dental unit CHIRANA CHEESE L is classified according to the type of protection against electric shock. of el.current as a Class I. and can be installed only in rooms where electrical wiring conform to STN 33 2000-7-710 or national standards.

The device may be operated only by the staff familiar with this manual.

ATTENTION

- To avoid the risk of electric shock, this unit must be connected to the supply mains with protective earth.

ATTENTION

- When connecting the IT device to a dental unit comply the standard of EN60601-1

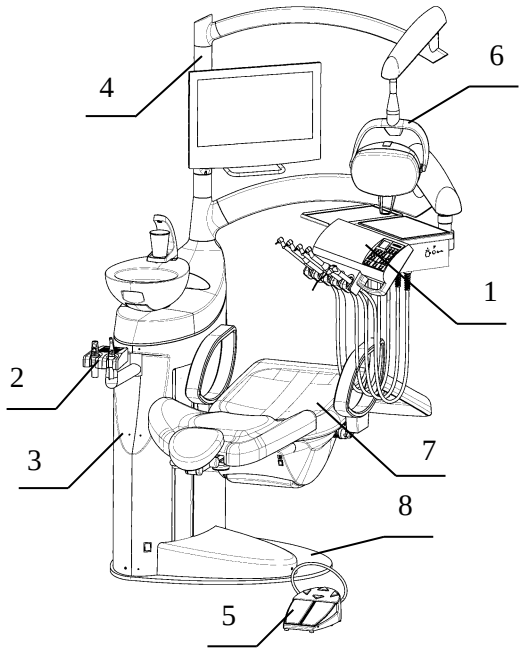
ATTENTION

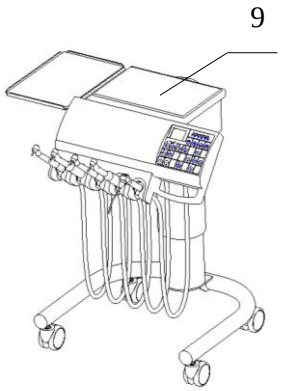
- If national regulations requiring separation of amalgam and dental unit with the spittoon block without the amalgam separation system must be connected to an external amalgam separator.

4. Product description

Dental unit CHIRANA CHEESE L consists of one another functionally related parts. Design of individual parts and the equipment may vary according to the design and equipment of the dental unit.

4.1. Main parts of the dental unit





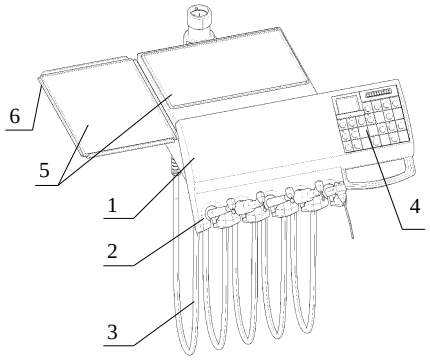
1. Dentist table on pantographic arm
2. Assistant ´s table
3. Spittoon block
4. Column of arms
5. Foot control
6. Head lamp
7. Armchair
8. Plate
9. Mobile dentist table

i Some parts of the dental unit are optional by customers and therefore may differ from the images shown.

4.1.1. Dentist table

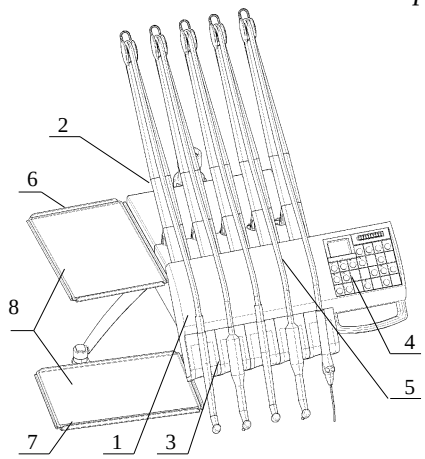
Dentist table mounted on pantographic arm can be supplied with a lower guidance of tool hoses, or upper guidance of tool hoses. Mobile table has always lower guidance of hoses

4.1.1.1. Dentist table – lower guidance



1. Dentist table
2. Tool holders
3. Hose tools
4. Keyboard with negatoscope
5. Tray of tray table
6. Side tray table

4.1.1.2. Dentist table – upper guidance



1. Dentist table
2. Upper guidance (whip)
3. Bed
4. Keyboard with negatoscope
5. Hose tools
6. Side tray table
7. Tray table with arm
8. Tray of tray table

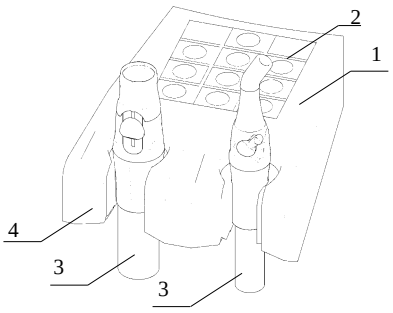
Dentist table can contain from one to five tools from the following menu:
- 1x multifunctional syringe
- 2x Turbine, Turbine or 1x and 1x pneumatic scaler
- 2x micromotor commutator
- 2x brushless micromotor, but together maximum of 3 micromotors
- 1x ultrasonic scaler
- 1x polymerization lamp

Split on the dentist table can be random - depends on the order.

4.1.2. Assistant table

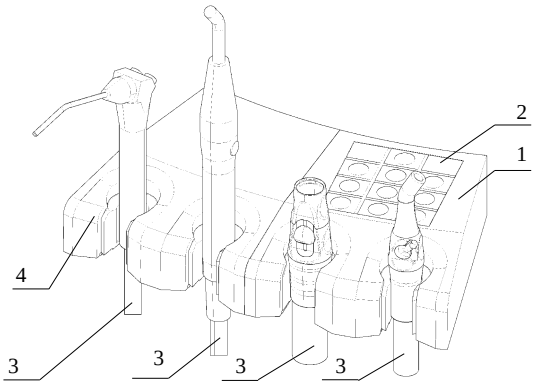
Assistant table has two versions: assistant table for 1-2 tools and table for 1-4 tools. Assistant table can be attached to the swivel arm, the double swivel arm, or on the height adjustable swivel arm.

4.1.2.1. Assistant table for 1-2 tools



1. Assistant table
2. Assistant keyboard
3. Tool hoses
4. Tool holders

4.1.2.2. Assistant table for 1-4 tools

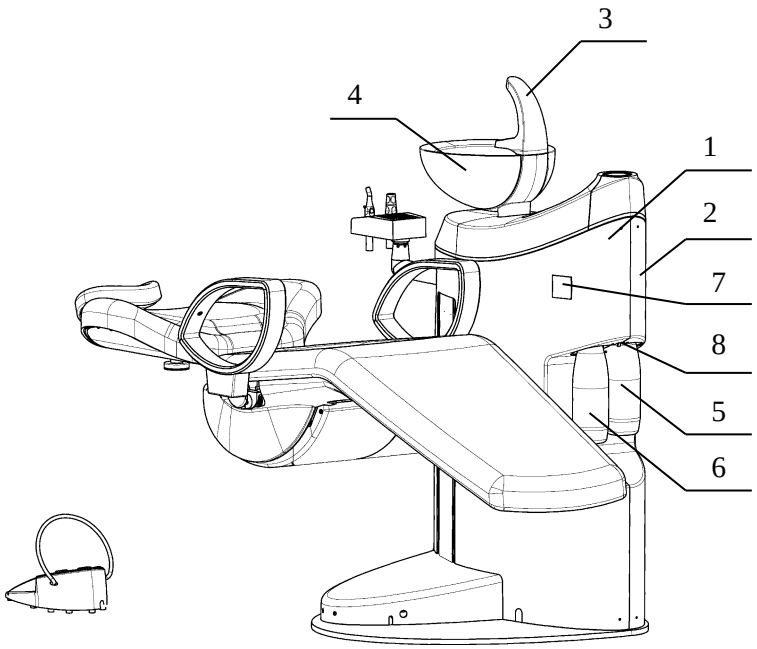


1. Assistant table
2. Assistant keyboard table
3. Hose tools
4. Tool holders

Assistant table can contain from one to four tools from the following offer:
- 2x saliva ejector
- 1x suction
- 1x multifunctional syringe
- 1x polymerization lamp

4.1.3. Spittoon block

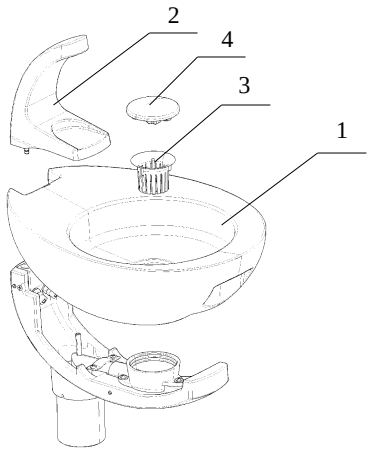
The spittoon block has several versions of the internal arrangements.
Version for ejector suction, wet suction, dry suction without separation of amalgam and dry suction with amalgam separation. The spittoon block can contain a system of clean water and disinfection system of waterways of tool hoses.



1. Cover left
2. Cover right
3. Cup filling with rinsing bowl
4. Spittoon bowl
5. Bottle with clean water for cooling tools
6. Bottle of disinfectant for the disinfection of waterways of tool hoses
7. The control panel of amalgam separation system
8. Venting valve of bottles

4.1.3.1. Spittoon bowl

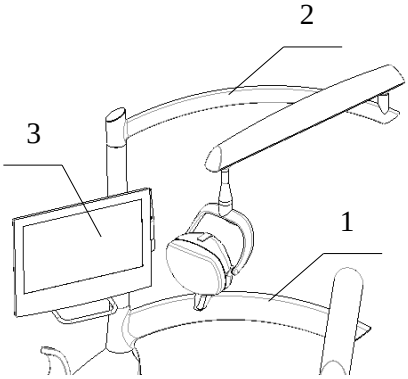
Spittoon bowl is rotated. Spittoon bowl of cup filling with rinsing bowls are removable.

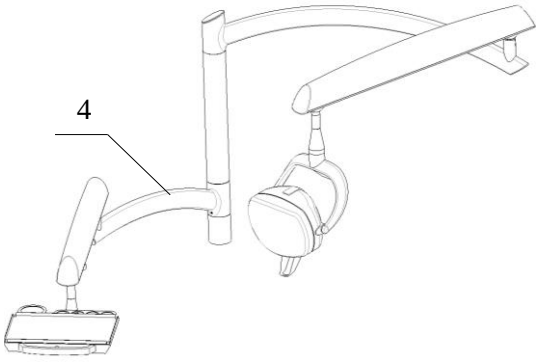


1. Spittoon bowl
2. Cup filling with rinsing bowl
3. Catcher
4. Sieve cover

4.1.4. Pilar of arms

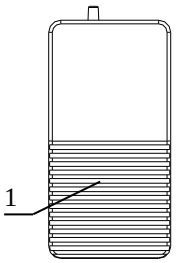
Pilar of arms can have up to four arms..



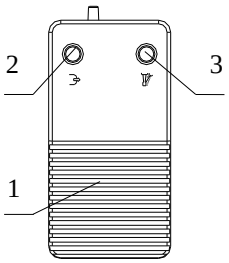


1. Arm of dentist table
2. Arm of lamp
3. Monitor arm with monitor
4. Arm of the tray table

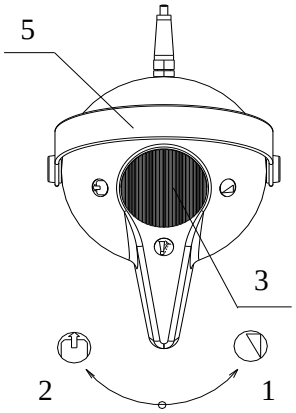
4.1.5. Foot control



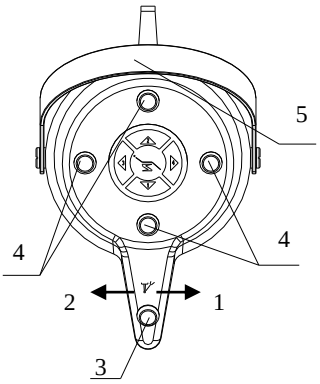
Foot switch without buttons



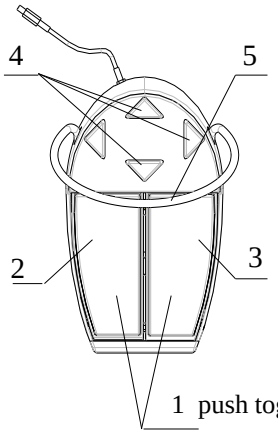
Foot switch with buttons



Foot control pivoted

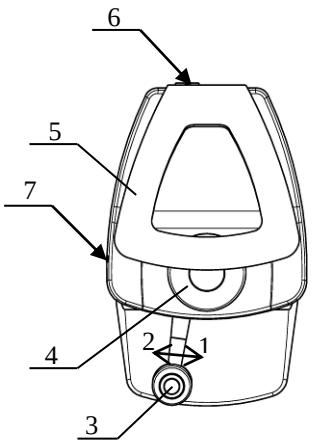


Foot control multifunctional pivoted



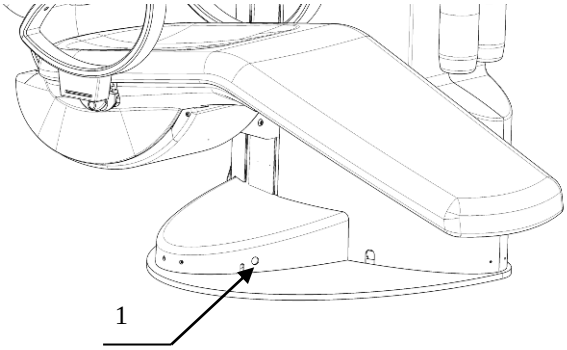
Foot control multifunctional pedal

1. Starting
2. Blowing throught the instrument
3. Instrument cooling
4. Chair control
5. Carrier
6. FCR1-7-WL -Charging connector
   FCR1-7 -Line connector cord
7. FCR1-7-WL -Charging indication
   FCR1-7 -Power on indication



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

The wireless foot controller at the low battery level begins to emit a triple acoustic signal. Charging of the controller can be done directly from the unit, or from a separate charger which is delivered as an accessory to the foot controller. The device must be turned on to charge from the unit.
Blue light of the charging indication signalize the charging, green light indicates the full charging 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. Fully charged controller has a lifetime of several months.



1. Charging connector for wireless controller

It is possible to work normally with the wireless foot controller during charging from the unit.
While charging from the separate charger, the wireless foot controller cannot be used to control the unit.

Other wireless devices may interrupt the radio transmission between the unit and the wireless foot controller. In case of dropping communication out, the situation may be improved by keeping the minimum protective distances, given in the chapter 15.4. - Recommended protective distances

WARNING

The operating staff 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

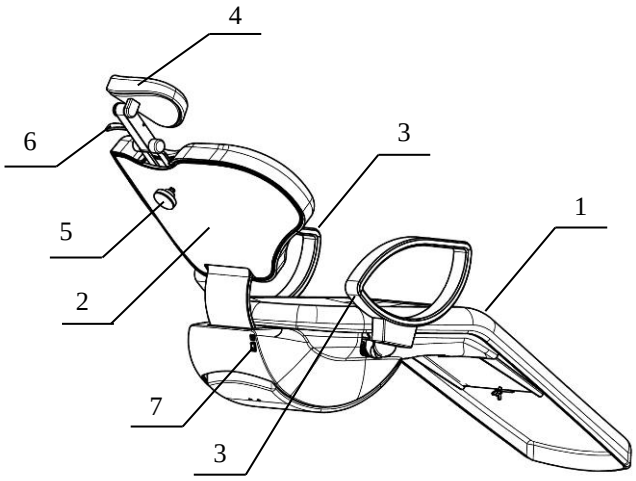
For charging, use only wiring which is delivered as an accessory of the foot controller.

Hereby, CHIRANA Medical a.s. declares that the radio equipment type CHIRANA CHEESE L is in compliance with Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address: www.chirana.sk/certification

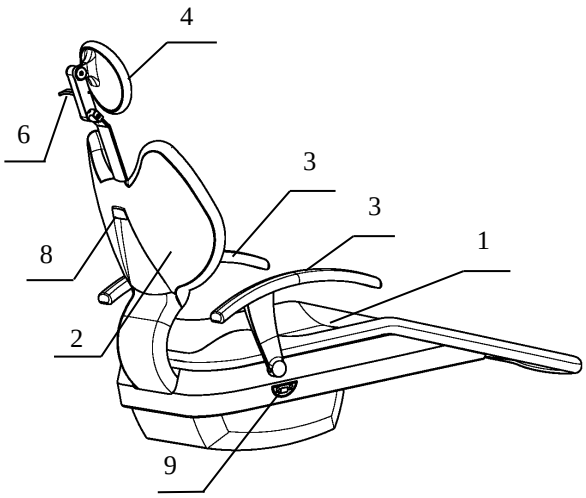
4.1.6. Head lamp

The headlights are available in four versions: a Halogen light FARO EDI, or LED lights FARO ALYA, FARO MAYA and LED A.

4.1.7. Chair



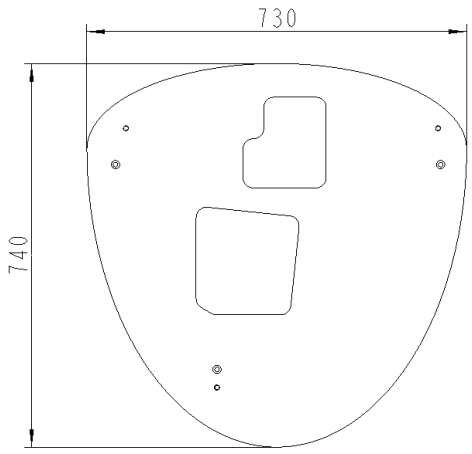
1. Seat
2. Backrest
3. Arm rest
4. Head backrest
5. The locking knob back head
6. Locking lever-back head
7. Programming button
8. Lock lever of the backrest of the head
9. Display with a programming button PROG and USER button for selecting of the user



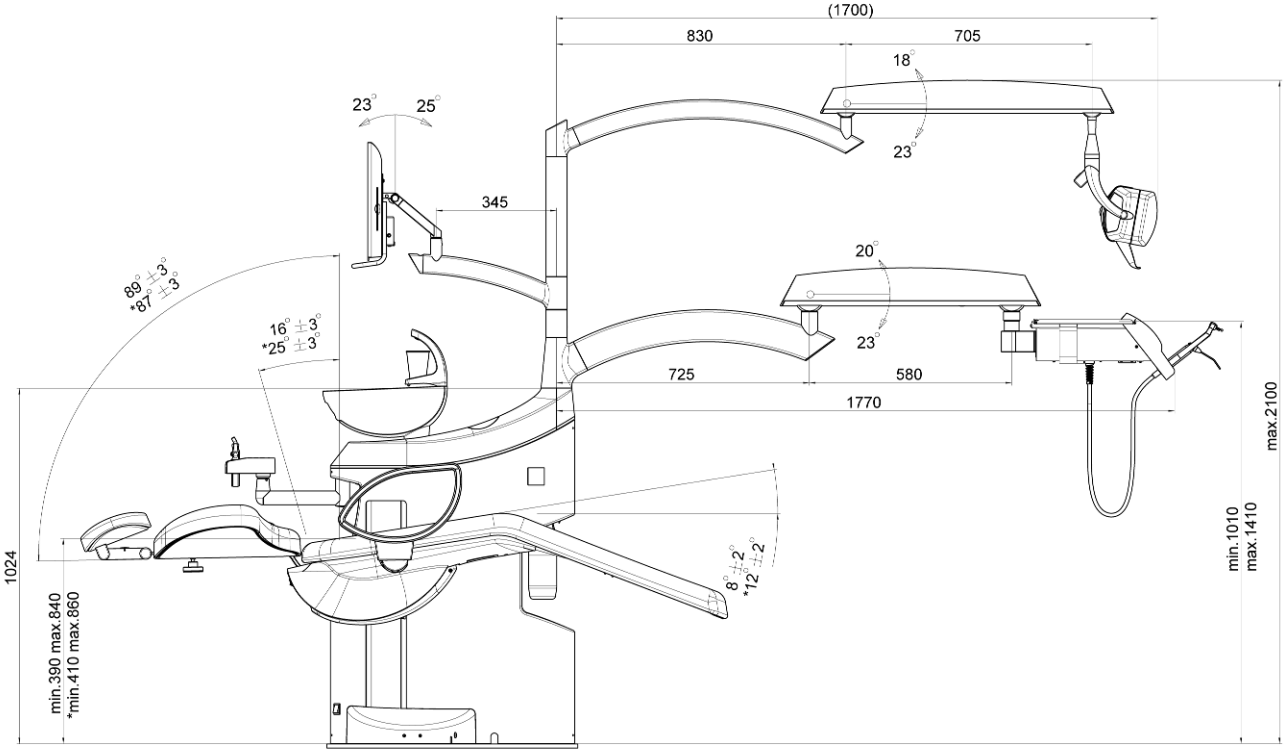
The chair can have multiple versions on the number of armrests and the backrest type.

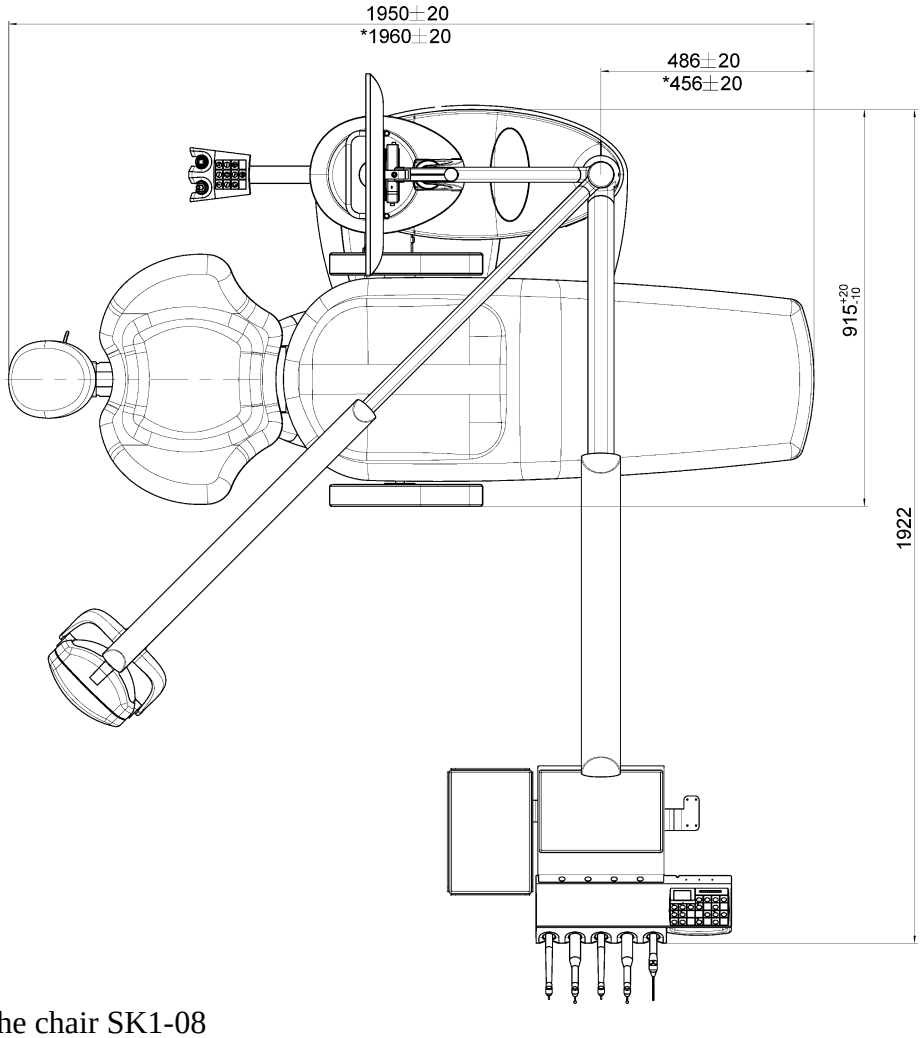
4.1.8. Plate

The plate serves as an extended base for increased stability of the dental unit. Its use is recommended in dental surgeries, which can not be adequately fix dental unit to the floor.

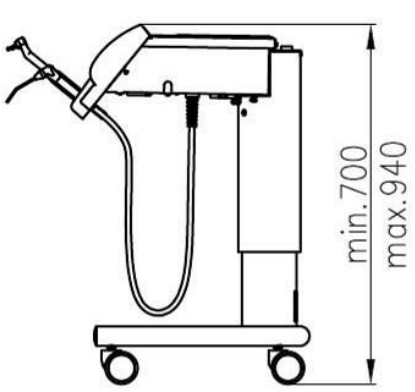


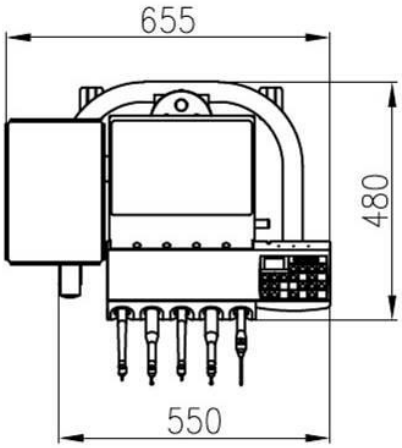
4.2. Dimensions of dental unit



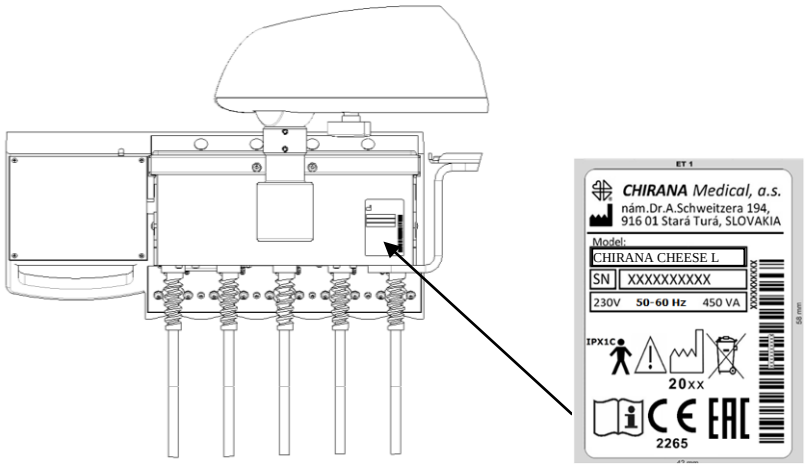


* data for the chair SK1-08





4.3. Production label



Producer	Vintage
S/N Serial number	The device must not be disposed of with household waste
IPX1C Degree of protection	Working hours of the chair 30sec. Pause time of chair 4.5 min.
Classification of type B	CE marking according to Directive 93/42/EEC for medical devices with the number of the notified body
Familiarize yourself with the instructions in the instructions for use	Follow the instructions for use
	Eurasian conformity mark

4.4. Technical data

Rated supply voltage	230V~, 220V~ (110V~) ± 10 %
Rated frequency	50 - 60 Hz ± 2 %
Max. input at 50 Hz	650 VA
Type of attachment part	B
Type of protection against the el. shock (fixed installation)	I
Degree of protection	IPX1C
Input pressure of air	0,5 MPa (+0,2 ; -0,03) MPa
Input pressure of water	0,6 MPa (-0,3) MPa
Range of water hardness	from 8,4 dH to 12 dH

Water temperature at the input	< 25°C
Water temperature for the cup (at heating the water)	40°C (-10)°C
Range of temperature of the surrounding	from +10°C to +40°C
Range of relative air humidity	from 30 % to 75 %
Range of atmospheric pressure	from 70,0 kPa to 106,0 kPa
Weight without the plate	200 kg ± 10 %
Weight with the plate	240 kg ± 10 %
Maximum loading of the chair	150 kg
Max. additional loading of the dentist´s tray	2 kg
Max. additional loading of the tray on the pole	3 kg
Minimum position of the chair	390 mm, *410 mm
Maximum position of the chair	840 mm, *860 mm
Range of headrest upstroke	165 mm

* data for chair SK1-08

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

Accumulator of the wireless foot controller can only be replaced for the same type. When replacing the battery, be particular about compliance of correct polarity.

5. Basic equpiment

Basic equipment and the spare parts supplied with the device are listed in the Packing list.

ATTENTION

- Do not change this set without the manufacturer's authorization
- In case of modification, the manufacturer's choice must be made by the appropriate examinations and the tests to ensure the permanent safety of the use of the dental unit
- Use only spare parts from the company CHIRANA Medical, Inc..

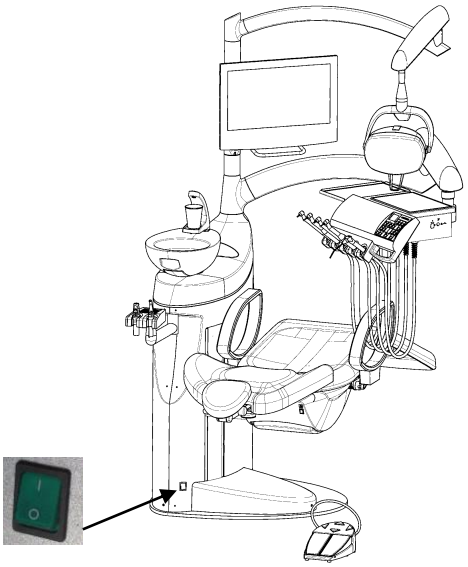
6. Additional equipment

Additional equipment supplied with the device is included in the Packing list as part of the accessories that are supplied with the device to special order.

7. Putting product into operation

7.1. Starting the device

Dental unit is switched on by pressing the power switch to position I.



After switching dental unit for 4 seconds are tested circuits of the set.
First are tested circuits of the chair. After the successful test, you will hear an acoustic signal. Testing continues by testing the dentist table. Part of the test is testing the keyboard of the dentist, resulting by illumination of all display elements for 2 sec. and then switching off for 2 seconds. After the successful test, the dentist´s table, you will hear a second acoustic signal (about 3 seconds after the first) and the scale of the indicator LED lights up to the position of Ø. The unit is ready to operate.
If you do not hear two acoustic signals, then call your service technician.

ATTENTION

After work, it is necessary to press the power switch to O, which will close the air, water and electricity inlet into the set.
It is recommended to always close the main water supply to the dental unit.

7.2. Switching the light

Lamp is turned by button on the keyboard of the dentist or keyboard of the assistant and is operated by the switch (for sensor design sensor) on the lower part of the body. Lamp has its own instructions for use.

ATTENTION

The light step of light is necessary to adjust into the area of the mouth, thus is eliminated the risk of eye injury of the patient.

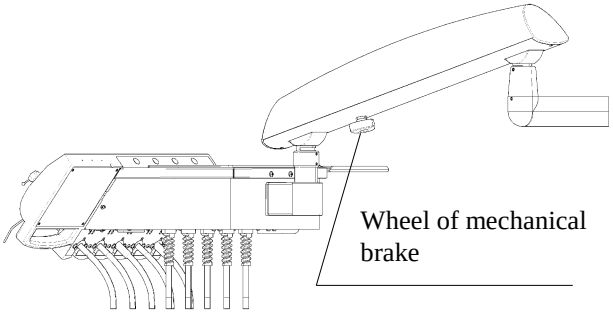
8. Product operation

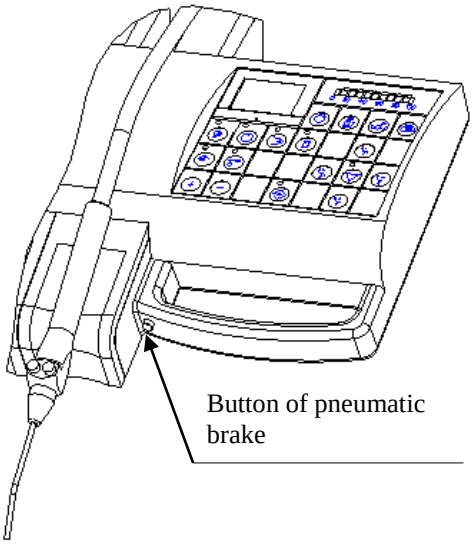
8.1. Handling with the dentist´s table

The vertical position of the dentist table located on pantographic arm is fixed by brake.
Under mechanical load of tray tables is not any spontaneous descending of the table.. Before changing the vertical position of the the dentist´s table is needed to release the brake. Mechanical brake is released by turning the wheel located on the bottom side of the dentist arm. Pneumatic brake is released by pressing the button located in the handle table of the dentist

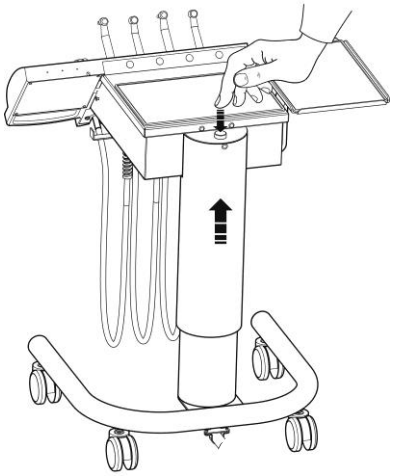
ATTENTION

Dentist table do not set to the desired position by pulling the hose tools.

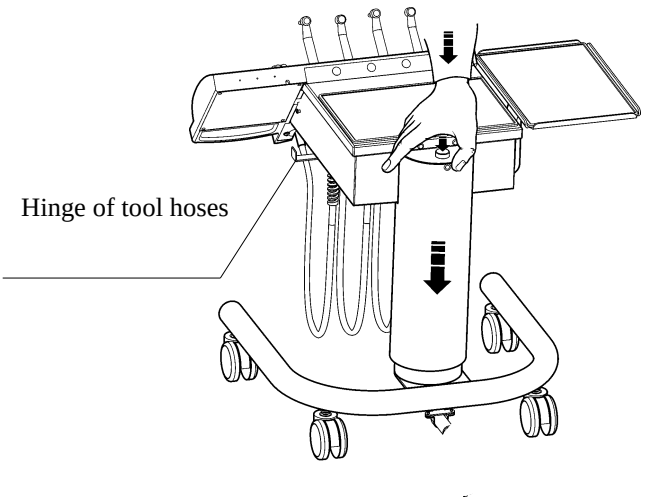




Setting the height of mobile dentist´s table:



To enhance the position of the dentist's table press the button with your finger. Table itself begins to lift.



To reduce the table position of the dentist press the button by your palm and press table to the desired position. Before putting in the lowest of the table (parking) position, hang the hoses on hanging hoses.

8.2. The handling with a chair

WARNING

When moving the chair, make sure that nothing was placed in the path of movement of the chair and the backrest!

Spittoon bowl can be rotated in the range of about 180°. When rotating the spittoon bowl over the chair is the movement of the chair upwards from a specific location blocked to avoid a collision of the chair or a patient with the spittoon bowl.

Adjusting the seat of the head and the right arm-rests is done mechanically.
According to the version of the chair is an adjusting height of the backrest ensured by the locking wheel of the back of the head or by the locking lever of the head of the backrest, see fig. in section 4.1.7. Before adjusting the height of the backrest release the ensuring of the head by turning the locking knob of the backrest anticlockwise, respectively by pulling the locking lever of the backrest towards to you.
The angle of the backrest of the head is ensured by the locking lever of the backrest. Before adjusting of the angle release the ensuring by pulling of the lock lever of the backrest of the head upwards, see Pic. 4.1.7.
The right -hand of the backrest is rotated rearwardly (anticlockwise). In the upper position is the backrest of the hand locked. To flap back of the backrest rearward, it is necessary to overcome a certain force of locking.
The left backrest of the hand is firmly fixed.
To adjust a height and an angle of the chair of the backrest is carried out by motor in the manual or program mode
Control of the chair is the same from the keyboard of the doctor and from the assistant keyboard too and as well as from the multi-functional foot controller.

8.2.1. The Manual mode
During a manual operation is desired movement of the chair triggered by pressing the button with an appropriate symbol (see Chapter 8.4.1). The movement runs all the time by pressing of the button. Stopping of any movement occurs after the button is released. In the end positions, all movements are stopped even when the operator holds the pressed button.

8.2.2. The programming mode
The chair SK1-08 contains two sets of programs for four users. In each kit are four programs. To user choice, press this button USER (see Pic. in the section. 4.1.7.)
The chair SK1-01 includes only one set of programs.
Start of the program is carried out by briefly pressing one of the four buttons controlling the chair (see Chap. 8.4.1), which is called one of the four programs. The chair moves until it reaches the programmed position.
program no. 4 is used for putting the chair into the flushing position. During reactivation of the program no. 4, the seat returns from the flushing position to the previous working position.
Moving chair can be stopped at any time by pressing the safety button STOP ▽.

The chair contains safety switch, which causes that :
- movement of the chair will automatically stop when the movement of the chair downwards gets barrier under the bottom cover of the chair. Electronics prevent any further movement of the chair downwards and automatically performs a short upward movement that could remove obstacles.
- movement of the backrest and a chair automatically stops when folding of the backrest, or movement of the chair with the folded out backrest downwards reaches the barrier below of the backrest. Electronics prevent any further downward movement and automatically performs a short upward movement that could remove obstacles.

The chair SK1-08 includes a display which displays an indication of its movement or status information:

U1 – (user1) user1
U2 – (user2) user2

U3 – (user3) user 3
U4 – (user4) user 4
- - (two horizontal lines) all movements of the chair are blocked
All the movements of the chair are blocked for the safety reasons, while working with the tools located on the dentist´s tray of the dental unit.

cd - (chair down) movement of the chair down
cu - (chair up) movement of the chair up
bd - (backrest down) movement of the backrest down
bu - (backrest up) movement of the backrest up

P1 – movement to the programming position 1
P2 – movement to the programming position 2
P3 – movement to the programming position 3
SP - (spit position) movement of the chair into the spit position
LP - (last position) movement of the chair to the last position

cS – (chair switch) activated safety switch of the lower cover of the chair
bS – (backrest switch) activated safety switch of the backrest
SA – (safety) an automatic short move up after the activation of the safety switch

uS – (unit switch) spittoon bowl turned over the chair
Er – (Error) – error
Er 13 – the chair has reached the upper limit position
Er 22, Er 23 – backrest has reached one of the end positions
If you see other than above error number, call your service technician.

8.2.3. Setting of the programming positions of the chair
Before setting the program positions, select one of four users U1 – U4 using the USER button (it is valid only for chair SK1-08 – see picture in the chapter 4.1.7.).
Put the chair into the desired position. Press the programming button located on the chair (not on the keyboard of the doctor) and while holding this button, press one of the four control buttons on the chair on the keyboard of the doctor, on the keyboard of the assistant, or on the foot controller. An acoustic signal sounds information that the program position has been programmed. This will program the four programmed positions, whereby is recommended:
- Program position No.1 use as a base (incoming) position
- Program position No. 2 use as a working position
- Program position no.3 use as a working position
- Program position No. 4 use as a flushing position

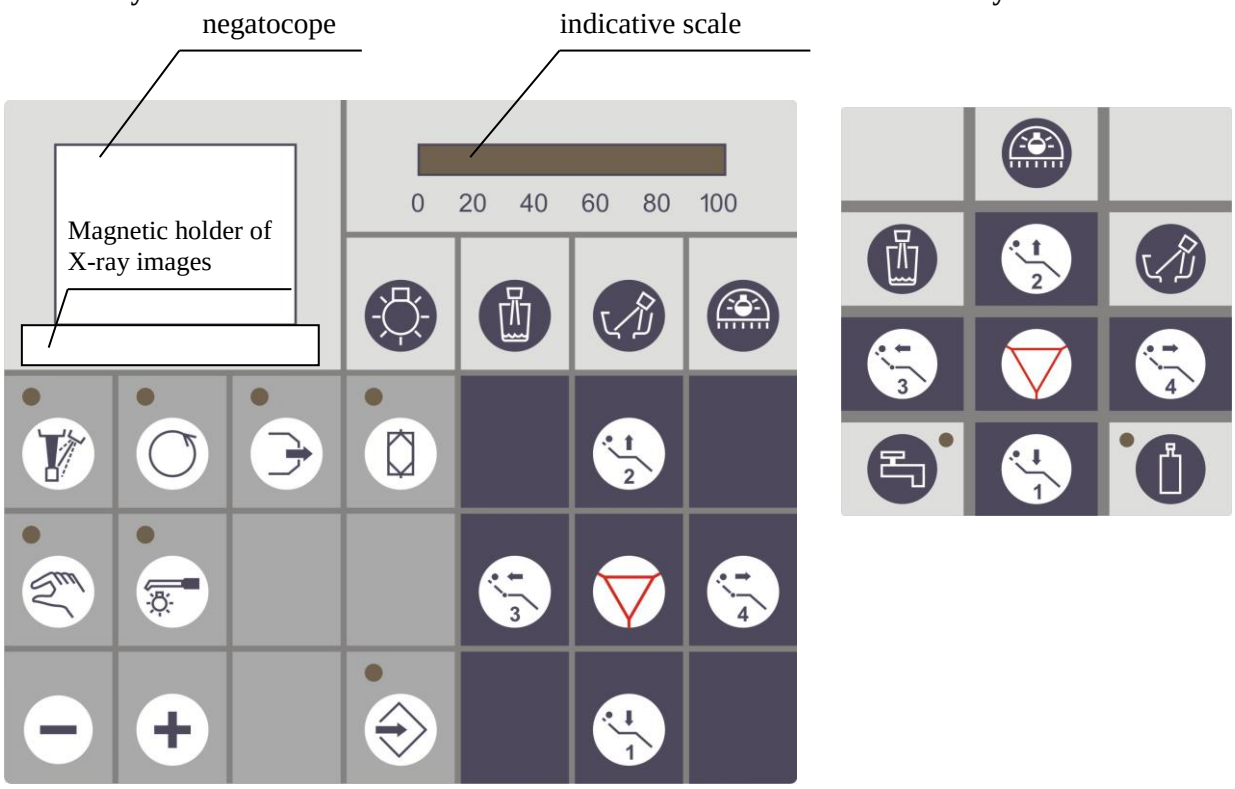
Before programming working positions we recommend by the manual operation put the chair into the initialization position, i.e. the chair in the lowest possible position on the backrest to the uppermost position (in each position, it will hear a short acoustic signal).

8.3. Description of functions controlled by buttons on keyboards

If the unit is in the version with touch screen, the description of functions is provided in the separate user´s manual "Control via touch screen"

Dentist keyboard

Assistant keyboard



8.3.1. Basic functions

Turn on / off the instrument for cooling
If lights the signalization, is cooling on. Cooling the instrument can be turned on and off using a foot controller.

Reversing the rotation of the micromotor, (ENDO function of the ultrasonic scaler)
If lights the signalization, are set the
levorotatory revolutions of the micromotor.
For some types of ultrasonic scalers is this button used for activating the function of ENDO

Enable / disable automatic blowing through the instrument
If this function is enabled (lights the signalization), stopping after each rotation will occur a slight blow of air through the instrument.

Starting cycle of disinfection tool hoses
Optional equipment
See Chapter. 8.5.7

Manual speed control / power
If lights the signalization, is set manual control of the micromotor speed / power of ultrasonic scaler / temperature of thermal cautery using the + and - in the range from 1% to 100%. If the signalization does not light, is dialed continuous regulation of foot control. In this method of control is possible using the + and - buttons to set the maximum speeds of the micromotor / maximum power of ultrasonic scaler / maximum temperature of thermal cautery in the range from 20% to 100%.

Illumination on / off the light tools
Feature of lighting is timed. If the instrument is in operation longer than the set time of automatic shutdown, instrument illumination is turned off. Setting the automatic shut-off of lighting instrument is described in the "Programming".

Reducing the set value

Increasing the set value

Programming button
Parameters that can be programmed are described in the "Programming".

Enable / disable negatoscope
If negatoscope is on for more than 5 min., it will automatically turns off.

Enable / disable of cup filling
Function is timed - it will automatically turns off.
Setting the time of cup filling is described in the "Programming".

Enable / disable of bowl flushing
Function is timed - it will automatically turns off.
Set the bowl flushing time is described in the "Programming".

Turn on / off the lamp

Operating light can be turn on by button on the keyboard, or switch (sensor) on the bottom of the head lamp. If you decide to turn on the lamp by button on the keyboard, switch on the lamp must be turned on permanently. Contrary, if you prefer to turn on the lamp switch on the lamp button on the keyboard you turn on the lamp in advance.

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

Safety STOP button
Pressing the button will stop any movement of the chair.
During dentist chair with tool is the chair automatically blocked.

Moving chair is also possible to stop anytime by pushing one from four buttons of chair control.

Downwards chair movement
Holding the button is controlled movement of the chair down. Pressing the button brings up the program No. 1.

Upwards chair movement
Holding the button is controlled movement of the chair up. Pressing the button brings up the program No.2.

Downwards movement of the backrest
Holding the button is controlled movement of the backrest down. Pressing the button brings up the program No.3.

Upwards movement of the backrest
Holding the button is controlled movement of the backrest up. Pressing the button brings up the program No.4, again by pressing the chair returns in the last working position.

8.3.2. Additional functions

Measurement of working time of rotary instruments with indication for instrument treatment preparations SMIOIL.

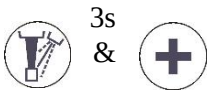
Function provides real-time measurement of work of rotating tool and after the time when it is necessary to treat the instrument (20 min work of tool), this condition is indicated by a flashing indication on the indicator scale. After each pickup from untreated tool holder sounds an acoustic signal.

Reset the indication after treatment of tool by preparations SMIOIL

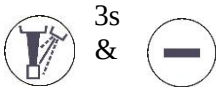
Tool choose from the holder, press and hold the button for 3s of the instrument cooling (it sounds an acoustic signal). Warning for instrument treatment is reset and starts a new timing of working tool.

Enable / disable of function

Select the instrument from the holder, press and hold for 3s together with the following two buttons (it sounds an acoustic signal):



To turn (for each instrument separately)



Turn off (for each instrument separately)

Switching the water source for cooling tools (optional equipment)

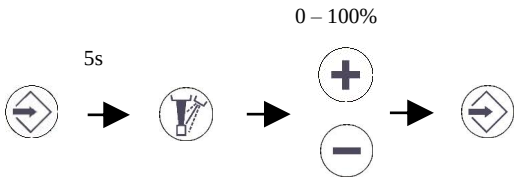
central (city) distribution
If lights the signalization is selected the central (city) water supply

bottle with clean water
If lights the signalization is selected the source from water bottles

8.3.4. Programming

Adjust the amount of cooling water

Is set for each instrument separately.
Select a tool from the holder, press the button of programming (the red alarm) and then (in 5 sec.) Press the instrument cooling. Press + or - to adjust the amount of cooling water in the range of 0-100%. New set button to store in memory, press the button of programming. An acoustic signal sounds and the red alarm goes off.



If the dental unit does not contain electronic control of cooling water, then there is possible to set only two values:
0% water OFF, 100% - Water ON.

Setting the automatic shut-off of lighting instruments

Is set for all the instruments together.
Select from the holder one of lighting instruments and press and hold the light illumination instrument for which we want to program. By releasing of button , will sound an acoustic signal and a new automatic shut off time of instrument illumination is written into memory. The minimum time setting is 3 seconds.

3 – 20s

Set time of cup filling

Press and hold the cup filling for the time, which we want to program. By releasing of button , will sound an acoustic signal and a new cup filling time is written into memory. The minimum time of setting is 3 seconds.

3 – 60s

Set the bowl flushing time

Press and hold the bowl rinsing for the time, which we want to program. By releasing of button , will sound an acoustic signal and a new bowl flushing time is written into memory. The minimum time of setting is 3 seconds.

3 – 60s

8.4. Controlling tools on the dentist table

Instruments placed on the dentist table (except a multifunctional syringe) are programmatically blocked against simultaneous use.

Only the first unplugged instrument is ready for operation. All other post-pulled tools are being blocked.

8.4.1. Multifunctional syringe

Remove the syringe from the holder, respectively. pick it up from the bed.

To start press the button of air of blue color. To start water press the button of green color. To run the water mist simultaneously press the blue and green button.

8.4.2. Turbine handpiece

ATTENTION Follow the instructions which accompanies to the package of turbine handpiece

Turbine handpiece is activated by pulling out of the holder, respectively. by lifting the bed.

To start activities of turbine handpiece press the footswitch respectively. swivel the handle of foot control swiveled to the right.

For multifunctional foot control pedal simultaneously press right and left part of the pedal. Releasing the foot control is the function finished. Size and direction of rotation of turbine handpiece can not be adjusted.

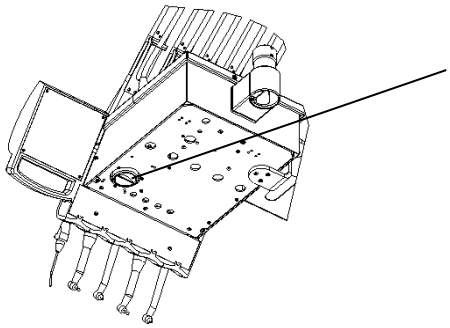
For blowing air through the instrument, press the left button of the footswitch with buttons, respectively. swivel the handle of foot control pivoted to the left. For multifunctional foot control pedal, press the left part of the pedal.

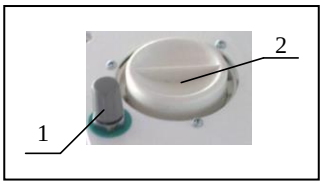
To set the functions of turbine handpiece it is possible to use the buttons on the keyboard of dentist:

Instrument cooling with spray is possible turn on and off also by the foot control.

To turn on respectively. cooling off the foot control, press the right button the foot switch with buttons, respectively. press the button of the instrument cooling of pivoted foot control. For multifunctional pedal foot control, press the right part of the pedal. Turning the cooling process is indicated by lighting signalization near the cooling button on the keyboard of dentist.

- Adjust the amount of cooling water:
- - If the unit is supplied with a mechanical regulation of the cooling water, the quantity of cooling water set by the button located on the bottom of the table of dentist.





1. The mechanical button for regulation of the cooling water
2. Catcher of oil

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In the basic equipment is a common regulator for adjusting the amount of water in all the instruments (except a multifunctional syringe). Depending on the equipment, the set may comprise a single mechanical controls the amount of water for each instrument separately.

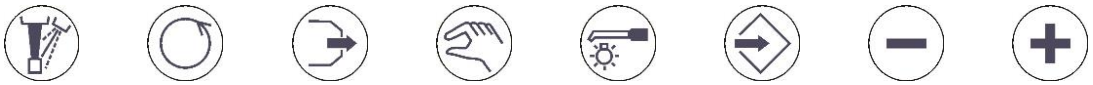
- If the unit is supplied with electronically controlled cooling water, the quantity of water set for each instrument separately by the procedure described in chapter programming.

8.4.3. Micromotor

ATTENTION

Follow the instructions that came with the packaging of the micromotor

Micromotor we activate by pulling from the holder, respectively by lifting the bed.
To start activity of the micromotor press the foot switch, resp. Swivel the handle of foot control pivoted to the right. The multifunctional foot control pedal press simultaneously on the left and right part of the pedal. By releasing of foot control you can end the activity. The size and direction of rotation of the micromotor can be set by clicking on the keyboard of dentist or foot control.
For blowing air through the instrument, press the left button of the footswitch with buttons, respectively. Swivel the handle of foot controll pivoted to the left. For multifunctional foot control pedal, press the left part of the pedal.
To set the functions of the micromotor can be used the buttons on the keyboard of dentist:
:



Instrument cooling with spray can be turn on and off by the foot control.
To turn on respectively. to turn off cooling off foot control, press the right button of the footswitch with buttons, respectively. Press the instrument cooling of foot controll pivoted. For multifunctional of foot controll pedal, press the right pedal part. Turning cooling process is indicated at signaling cooling button on the keyboard of dentist.
Amount of cooling water is set the same way as in the turbine handpiece.

i

Revolutions of the motor can be adjusted continuously by feet only by foot controls. Foot switch can only turn on revolutions of the motor, respectively. turn off. Adjusting the speed of revolutions can be done using the dentist keyboard.

i

Minimum, respectively. maximum number of revolutions of drill depends on the used micromotor and micromotor handpiece.

i

The brushless micromotor can not be turned off lighting of device. Lighting is switched on all the time of activation of the micromotor.

Giromatic

Function at which the instrument of the micromotor handpiece cyclically turning right and left. The angle of rotation (oscillation) instrument is adjusted using the + and - in the range of ± 60 ° to ± 100 °. The function is switched as follows:

3s 

Micromotor from the holder, press and hold the button for reversing of the micromotor 3 sec.

This function is active only for the commutator micromotor.

8.4.4. Ultrasonic dental scaler

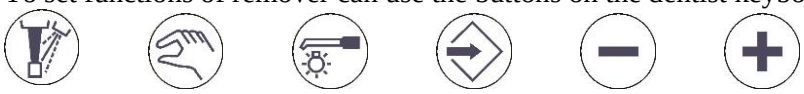

ATTENTION

Remover do not use in patients with cardiac pacemakers, may be an influence of function of stimulator.
Any applications with remover should be considered as a surgical procedure.
Remover is not intended for use in operating theaters.
Not to be used in potentially explosive atmospheres.


ATTENTION

Follow the instructions for use which is attached to packaging of remover.

Please enable remover pulling out of the holder, or. by lifting from the bed.
To start activity of remover press the foot switch, resp. swivel the handle of foot control pivoted to the right. For multifunctional foot control pedal simultaneously press the left and right part of the pedal. Release of foot control to the end of function. Power of remover can be set by buttons on dentist keyboard or foot control. Foot switch can only turn on remover, respectively. turn off.
To set functions of remover can use the buttons on the dentist keyboard:



Cooling water of terminals can be turned on and off also by foot control.
To turn respectively. turn off cooling by foot control, press the right button of footswitch with buttons, respectively. press the button of the instrument cooling of foot control pivoted. For multifunctional foot control pedal, press the right pedal part. Turning cooling process is indicated in signaling cooling button on the keyboard .
Amount of cooling water is set as in the turbine handpiece.

For some types of scalers is this button  used for activating the function of ENDO

8.4.5. Pneumatic dental scaler


ATTENTION

Follow the instructions for use which is attached to packaging of remover.

Pneumatic remover activate by pulling of a handle, respectively. by lifting from the bed.
To run the remover of pneumatic remover press the foot switch respectively. swivel the handle of foot control pivoted to the right. For multifunctional pedal foot control simultaneously press the left and right part of the pedal. Release of foot control to the end of function. Performance of pneumatic of remover can not be adjusted.
To set functions of pneumatic remover may be used the buttons on the dentist keyboard:

Amount of cooling water is set as in the turbine handpiece.

8.4.6. Polymerization lamp

To run the activity of the polymerization lamp press the button on the body of lamp. To end the activity press the button for the second time. Different types supplied polymerization lamp have different lighting modes. Follow the instructions in the instruction manual which accompanies the packaging of the polymerization lamp.

ATTENTION

The light intensity of the polymerization lamp is very high and it is therefore necessary to protect the eyes against looking directly at the light source.

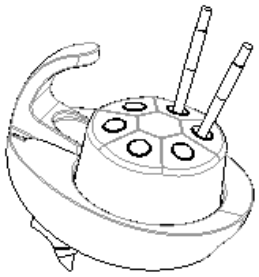
8.4.7. The disinfection cycle for tool hoses

(optional equipment)

The disinfection cycle for tool hoses consists of three steps:

- Implementation of the waterway tool hoses with disinfectants indicated by growing of the indicating column on the indicating scale from left to right.
- Own disinfection indicated by the flashing data on the indicating scale.
- release of the disinfectant and flushing of tool hoses with water indicated by reducing of the indicating column on the indicating scale from right to left.

Before starting the disinfection cycle insert into the spittoon bowl disinfectant holder. Into the openings of disinfectant holder insert at least two tool hoses (without tools). If the unit is supplied with a mechanical regulation of cooling water , button (buttons) for regulation of the cooling water set the maximum cooling. If the unit is supplied with electronic control of the cooling water, maximum cooling is set automatically.



To start the disinfecting cycle press and hold the button until you hear a triple acoustic signal (3s). Signaling on the button of the disinfection will flash and it will be flashing during the whole time of the ongoing disinfection.

In the second step of disinfecting cycle you can turn off the dental unit. Disinfectant remains soaked in the tool hoses and it will work during the whole time of the unit inactivity . After turning on of the unit, the disinfection cycle will automatically complete the third step.

If the dental unit is not turned off, the second step of disinfecting cycle after 3.5 min terminates automatically and the cycle will automatically continue on the third step.

Disinfection of the multifunctional syringe:

Disinfection cycle does not include into the disinfection multifunctional syringe on the dentist table or on the table of the assistant. Syringes must be disinfected during the disinfecting cycle manually. During the first or second step of the disinfecting cycle (before turning off of the unit), fill the waterway of syringes with disinfectant pressing the green button for at least 10 seconds. At the same time plug the nozzle of the syringe into the hole of disinfecting holder. After the disinfecting cycle again manually drain the disinfectant from the syringes pressing the green button for min 10 sec.

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Disinfection cycle can not start separately for one tool - two instruments must be disinfected at least.

The disinfecting cycle can not be terminated earlier.

During the disinfecting cycle, the normal operation of the instruments is blocked.

8.5. Control the instruments on the dentist table

8.5.1. Saliva ejector

It is activated automatically after removing the terminals of the holder. After inserting terminal to holder the activity of the ejector stops.
Saliva ejector suction power can be controlled by control valve placed on the hose ending. This valve can completely stopped sucking.

8.6.2. Exhauster

It is activated automatically after removing the terminal of the holder. After inserting terminal to holder of the pump stops the activity. Pump suction power can be regulated by regulation valve placed on the hose ending. This valve can completely stopped sucking.

If the assembly incorporates a separation system Cattani, then the long-term extraction can occur to a short break suction. This is normal. As suction terminal, or saliva remains removed from the holder, suction after a few seconds automatically resumes.
After inserting terminal or ejector pump back into the holder, extraction is completed with a delay. The delay may take a few seconds.

When suction blood, sputum and various sanitary agents creates foam, which can cause congestion in separation system CATTANI and long-term interruption of suction. To avoid foaming put it into filter suction hoses 1 and anti-foaming cleaning tablet CATTANI and before using saliva ejector or suction aspirate a small amount of water. The tablet dissolves few hours. Cleaning and anti-foaming tablets CATTANI in addition of an antifoaming effect have also disinfecting effect.

8.5.3. Multifunctional syringe

Remove the syringe from the holder.
To start air, press the button of blue color. To start water, press the button of green color. To run the water mist press simultaneously blue and green button.

8.5.4. Polymerization lamp

To run the activities of the polymerization lamp, press the button on the body of lamp. To end the activity, press the button for the second time. Different types of supplied polymerization lamps have different lighting modes. Follow the instructions in the instruction manual that accompanies the packaging of the polymerization lamp.

ATTENTION

The intensity of the polymerization lamp is very high and therefore it is necessary to protect the eyes against looking directly at the light source.

8.6. Multimedia

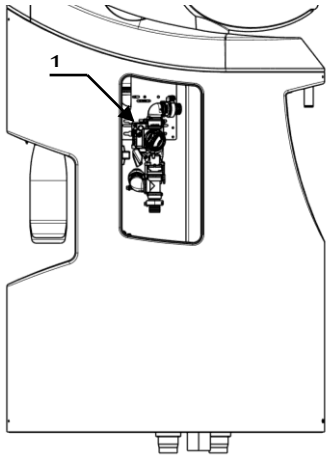
The monitor delivered with the unit has its own instructions for use. Other types of monitors can be used after consultation and agreement with the manufacturer.

Intraoral camera has its own instructions for use.

8.7. Extraction system and waste separation and the amalgam

Depending on the dental unit design can include different extraction systems and waste separation, respectively. the amalgam separation. Some of them have their own control panel located on the the spittoon block.

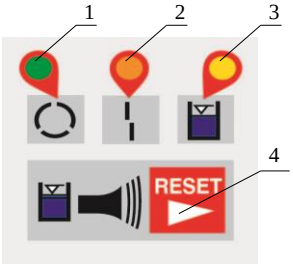
8.8.1. The control button of spittoon valve Dürr MSBV



1. A button for starting the auto-cleaning. Start twice a day

The spittoon valve Dürr MSBV ensures extraction of waste from the spittoon bowl sets involved in the central wet vacuuming. For complete information, see the separate instructions for use.

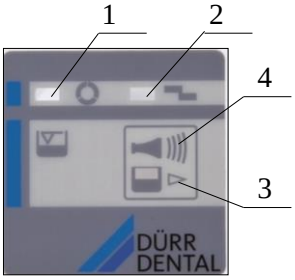
8.8.2. Control panel of amalgam separator Metasys Compact Dynamic



1. The operational readiness (green LED)
2. Equipment failure (orange LED)
3. Indication of fulfillment a container (yellow LED)
4. Button to switch audio indication

Metasys amalgam separator Compact Dynamic ensures separation of the amalgam. For complete information, see the separate instructions.
When replacing and disposing of the full collection container with amalgam follow the instructions for the Metasys amalgam separator Compact Dynamic. The collecting tank is accessible after opening the door of the spittoon block.

8.8.3. Control panel of amalgam separator Dürr CAS1



1. The operational readiness (green LED)
2. Equipment failure (orange LED)
3. Indication of fulfillment containers (yellow LED)
4. Button to switch audio indication

Dürr CAS1 amalgam separator ensures separation of the amalgam. For complete information, see the separate instructions.
When replacing and disposing of the full collection container with amalgam follow the instructions for use amalgam separator Dürr CAS1. The collecting tank is accessible after opening the door of the spittoon block.

8.8. Bottle filling for clean water and disinfectant

Clean water from the bottle is fed into the micro-turbine handpieces, scaler and syringe on the dentist table and assistant table. It is used to cool the instruments.
Disinfectant for disinfecting cycle is fed into tools that were stored in disinfectant holder.

Bottles for clean water and disinfectant are placed so that it is possible to visually check the level of charges. In the case of depletion of clean water or disinfectant solution should be refilled bottles.

ATTENTION

Before bottle filling depressurize the cylinder bleeder valve switching towards the bottles. Switch valve back to pull them up by screwing the bottles into their original location.

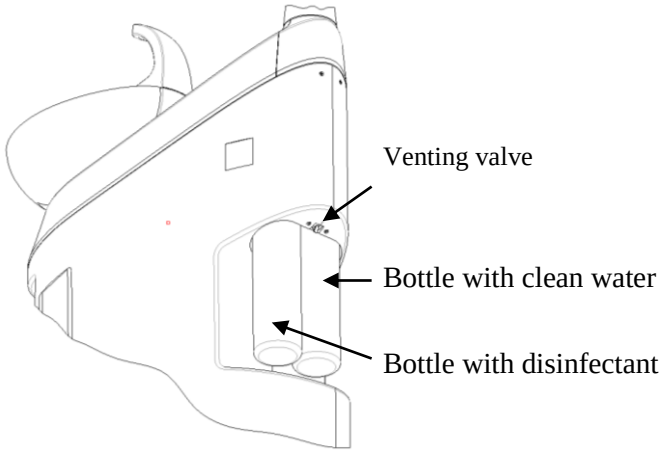
Bottles with clean water and disinfectant are bolted to the spittoon block. For the withdrawal of the bottle, turn the bottle left.

ATTENTION

When filling the bottle make sure that no foreign bottled substances that could affect the composition and quality of fresh water or disinfectant.

ATTENTION

. Never use demineralized water for industrial purposes.



The bottles fill max. to 9/10 of their volume. Grasp the bottle from the bottom, do not press and place it with the right-handed movement.

8.9. Description of acoustic warnings

acoustic signal	**symptoms and elimination**	**note**
After picking up the tool holder is an acoustic signal and simultaneously flashes in the display	The instrument needs to be treated with oil spray. After treatment, press the button and hold down 3s (an acoustic signal)	Signalization to the instrument is possible permanently shut down: 3s & resp. again turn ON: 3s & see chapter. 8.4.2.
As you move the chair emit three acoustic signals	There was a safety switch ON. Remove the obstacle that impedes the movement of the chair or seat down.	
As you move the chair emit emit acoustic signals	Spittoon bowl is rotated in area of the chair. Turn the bowl out of the chair space.	

acoustic signal	symptoms and elimination	note
Wireless foot controller emits three acoustic signals while its using	Signalling the low battery status of the foot controller. Connect the foot controller to the unit or to the separate charger.	Frequency of the acoustic signalling is escalating depending on the battery discharge.
Wireless foot controller emits double acoustic signal	The foot controller was unable to establish wireless communication with the unit. Check if the unit is switched on and if the foot controller belongs to the unit.	In case of problems with the wireless foot controller, connect the unit and the wireless controller using the connection cable. Inform the service technician about the problem.

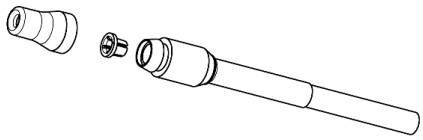
9. Product maintenance

9.1. Maintenance by service personnel

ATTENTION Wear gloves for this job!

Operating personnel must:

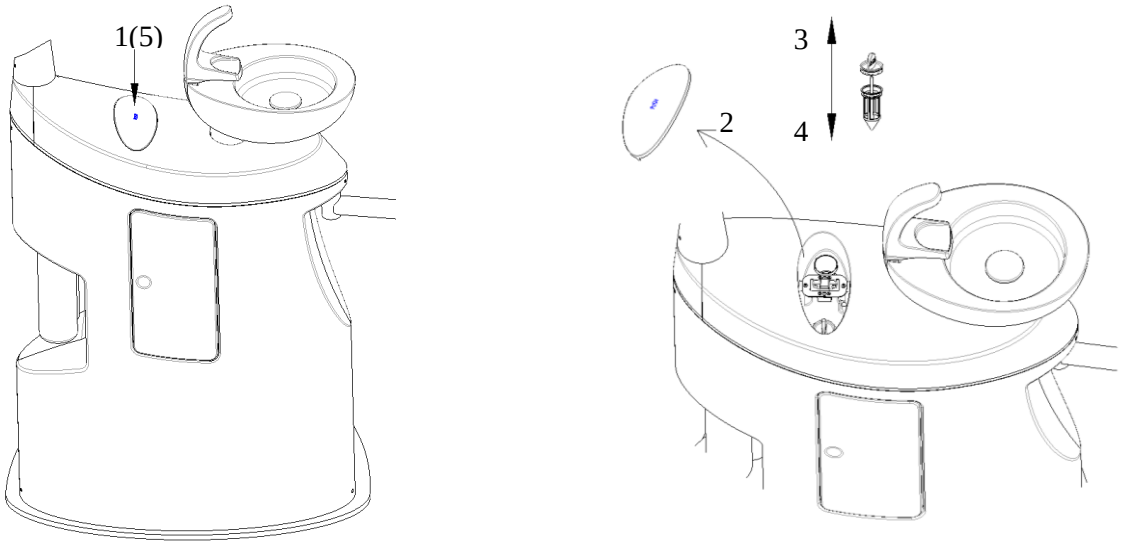
- Before starting work, flush and blow through the hose tools (without tools) by running the tool with cooling turned rinse cup filling and bowl flushing with running cup filling.
- Before and after prolonged interruption of work (weekends, holidays) to start disinfecting rinse cycle cup filling and bowl flushing with running cup filling. If disinfection tool set contains hoses, flush and blow through the hose tools (without tools) by running the tool with cooling turned on and rinse cup filling the bowl rinsing run cup filling.
- 2 - 3 times a day to check the condition and cleanliness of the catcher in the spittoon bowl and it needs cleaned or replaced - see Fig. in Sec. 4.1.3.1.
- 2x - 3x daily clean the hose and ejector pump by flushing with clean water min. 0.5 liters.
- 2x - 3x daily clean filter in the terminal ejector (ejector suction)



- 2x a day and after any surgical treatment rinse amalgam separator disinfectant prescribed by the manufacturer amalgam separator.
- 1 x day clean filter suction hoses see Fig. below.
- Start the cleaning of spittoon valve Dürr MSBV twice a day by pressing the button of cleaning on the spittoon valve see pic. in the chap. 8.8.1.
- 1 x day after work to clean filter spittoon valve Dürr MSBV see Fig. below.
- 1 x month clean conventional detergent oil trap insert - see picture in Sec. 8.5.2.

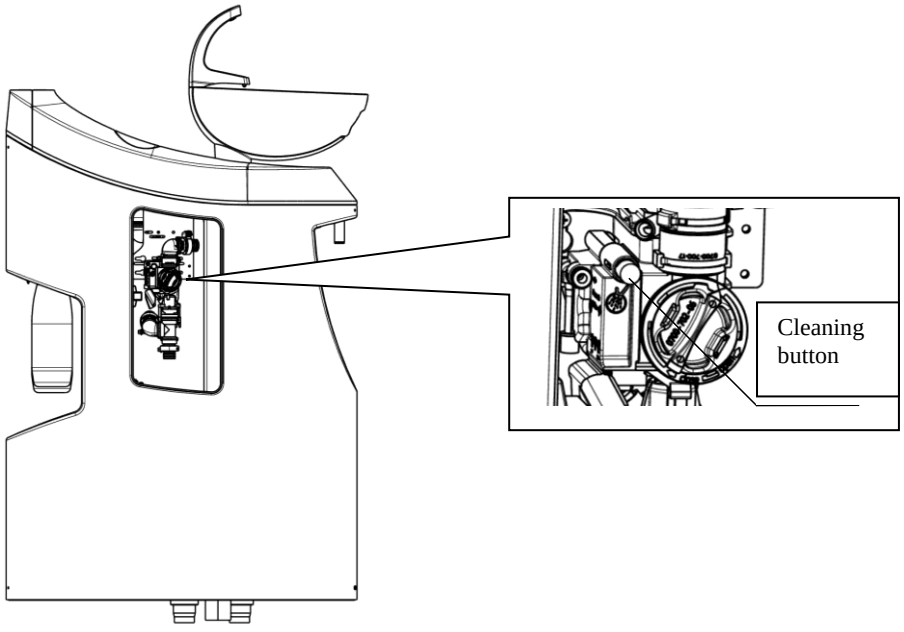
- once per six months to replace a bottle of clean water and a bottle of disinfectant. However, if you notice wear and tear, scratches, discoloration, loss of transparency, deformation, or other damage, replace with a new bottle immediately.

Cleaning the filter of suction hoses:



1. Press release cover of filters
2. Select cover of filters
3. Remove and clean the filter
4. Insert the filter back
5. Insert the cover of filters and gently push

Cleaning of the spittoon valve filter Dürr MSBV :



1. Press release door in the spittoon block and open it
2. Remove and clean the filter
3. Insert the filter into place
4. Close the door of the spittoon block and gently push

Another maintenance device by service personnel is limited to cleaning and sterilizing device of sterilizable parts.
Maintenance, cleaning and sterilizing instruments (micro-turbine handpiece, micromotor handpiece) should follow the manufacturer's instructions of tools.

Chemicals must be collected only on the tray of tray table. Accidental instillation of chemical agents such. Trikresol, Chlumský solution and other aggressive substances on the painted part of the device, the surface should be wiped up immediately by wipe soaked in water.

9.2. Maintenace by service technician

Periodic inspection is done at 6-month intervals, the service technician must:

- - Check the condition of the filter for water and air in the inlet housing
- - Check and if necessary readjust operating pressures of water and air in the inlet cabinet and table for each instrument according to the instructions for assembly and installation
- - Examine the activities of regulators and controls
- - Check freedom of movement of arms and possibly readjust their braking.
- Check and regulate and lubricate the mechanism of the backrest of the head
- Check and lubricate the mechanism of the right hand of the backrest
- Check the function of safety switches

Once a year, the service technician check the functions of display elements Metasys amalgam separator Compact Dynamic, Dürr CAS1. In the documentation of amalgam separator is necessary to record all inspection and maintenance work and any exchange of the collecting vessel.

10. Cleaning, disinfection and sterilization

Cleaning device (spittoon block, table, arm, foot switch) is done with a damp cloth, non-flammable cleaning, taking care not to get water on device. All parts of device are thoroughly wipe and polish with a dry flannel cloth.

- Spittoon bowl and suction elements (saliva ejector, suction) are recommended to clean twice a day for example with Dürr Dental Orotol or Metasys Green and Clean MB and M2

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.

ATTENTION

Do not use abrasive or strong foaming agents, since these can lead to malfunctions extraction. Not allowed are solvents / eg. acetone and the like. / and means based on phenols, chlorine and aldehydes. Illicit are also all abrasive detergents.

Clean the leatherette regularly with a pH neutral soap and a soft brush. After cleaning, wash the leatherette with clean water. Do not use any strong detergents, solvents, polishes, waxes or other chemicals. Spots, such as from coffee, wine, ballpoint pen, eosin dyes, as well as from jeans should be cleaned immediately to prevent persistent absorption into the leatherette.
You can use isopropyl alcohol diluted with water in the rate of 70%/30% or detergent Dürr Dental FD 360 to clean the leatherette. The cleansing foam Uniter Rapid Cleaner S is also suitable for cleaning.
For disinfection, we recommend using the detergents Dürr Dental FD366 or Alpro PlastiSept.
The dyes used in the fabrication of some cloths (jeans) can react with the leatherette and can cause permanent contamination. The warranty does not cover such contaminated leatherette. As a protection against the coloration (damage) of the seat leatherette, we recommend using the protection mat on the seat SK1-01 J125910023, resp. the mat on chair SK1-08 J125920023.
The manufacturer disclaims any responsibility for the problems caused by ignoring the cleaning instructions.

Waterways of tool hoses are recommended to disinfect continuously with disinfectant for continuous disinfection (decontamination of) waterways of dental equipment (eg. Alpron from the company Alpro). In the bottle for pure water (optional equipment) - Chapter 8.9 dilute solution of disinfectant for continuous disinfection (decontamination of) waterways of dental devices reconstituted according to the instructions of the manufacturer.
During the long period of the dental unit it is recommended to perform disinfection (decontamination) with disinfectant to decontaminate waterways of dental equipment (eg. Bilpron from the company Alpro) by running disinfecting cycle - see Chapter. 8.5.7. (Optional equipment).

WARNING

Use only the disinfectants for the waterways of dental equipment. Follow the instructions and expiration date printed on the label of the bottle with the disinfectant.

Sterilized in autoclaves can be:
- Nozzle syringes
- Turbine handpieces
- Micromotor handpiece

ATTENTION

Tools have their own instructions for use with sterilization conditions which must be observed. Other parts can be disinfected with common disinfectants with virucidal action that cause corrosion of the material and shall not impair the surface.

11. Safety technical controls

Safety technical controls must be set in accordance with norms IEC 62 353once in two years.

12. Transport

The symbols printed on the outside of the package are valid for transport and storage, and have the following meaning:

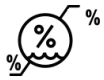

Fragile, handle carefully


This part up (vertical position of cargo)


Keep dry


Recycleable material

Temperature of the transport, storage



Storage humidity

Limited stacking

The device is necessary to transport in covered means of transport without any vibration at the -20 ° C to +50 ° C, relative humidity 100%, and not be exposed to aggressive steam.
The device must be packaged and transported in a packaging / transport crate /, which is designed solely for this purpose.

13. Storage

The unit must be stored in dry rooms with max. relative. humidity 80% at temperatures from -5 ° C to +50 ° C and not be exposed to aggressive steam.
For longer storage period of 18 months is necessary to test the dental unit by service organization.

14. Device disposal

The device must not be disposed with ordinary waste.
Dispose the device by separate collection.
Transfer the device to the distributor or directly to the waste processor.
Disinfect the device before handover.
Disassembly and disposal of the device should be carried out by a professional firm.

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

Using other devices in the immediate vicinity of the dental unit CHIRANA CHEESE L may cause an incorrect function. If the usage of other devices in the immediate vicinity is necessary, then the dental unit CHIRANA CHEESE L 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 L 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 L 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 L 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 L 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 L 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 L 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 L 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 ±8kV Air discharge ±2kV, ±4kV, ±8kV, ±15kV	Contact discharge ±8kV Air discharge ±2kV, ±4kV, ±8kV, ±15kV	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	±2kV for the feeding line ±1kV for the input /output line	±2kV for the feeding line ±1kV 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	±1kV symmetrical voltage ±2kV common-mode voltage	±1kV symmetrical voltage ±2kV 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°,90°,135°,180°, 225°,270°,315° < 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 L requires the permanent operation during the power supply failure, it is recommended to connect the dental unit CHIRANA CHEESE L 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 L 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_{eff} 150kHz to 80MHz 6 V_{eff} in ISM and the amateur radio bands	3 V_{eff} 6 V_{eff}	Distance of the used portable and mobile high frequency notification devices from any part of the dental unit CHIRANA CHEESE L 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 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 d is the recommended protective distance in meters (m)
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 the device cover from the RF wireless	3V/m according to the table 9 of the standard EN 60601-1-2:2015	

Test of resistance	Testing level of the resistance according to EN 60601	Complying level	Electromagnetic environment
	communication devices according to the table 9 of the standard EN 60601-1-2:2015		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)]. In the surrounding of the device marked with the following symbol, the interference may occur. 

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 L will be used exceeds the above mentioned complying level, then the dental unit CHIRANA CHEESE L 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 L at other site.

[b)] In all frequency ranges from 150kHz to 80MHz should be the field intensity lower than 3~~V~~$_{eff}$~~-~~V/m.

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

The dental unit CHIRANA CHEESE L 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 L 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 L 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.