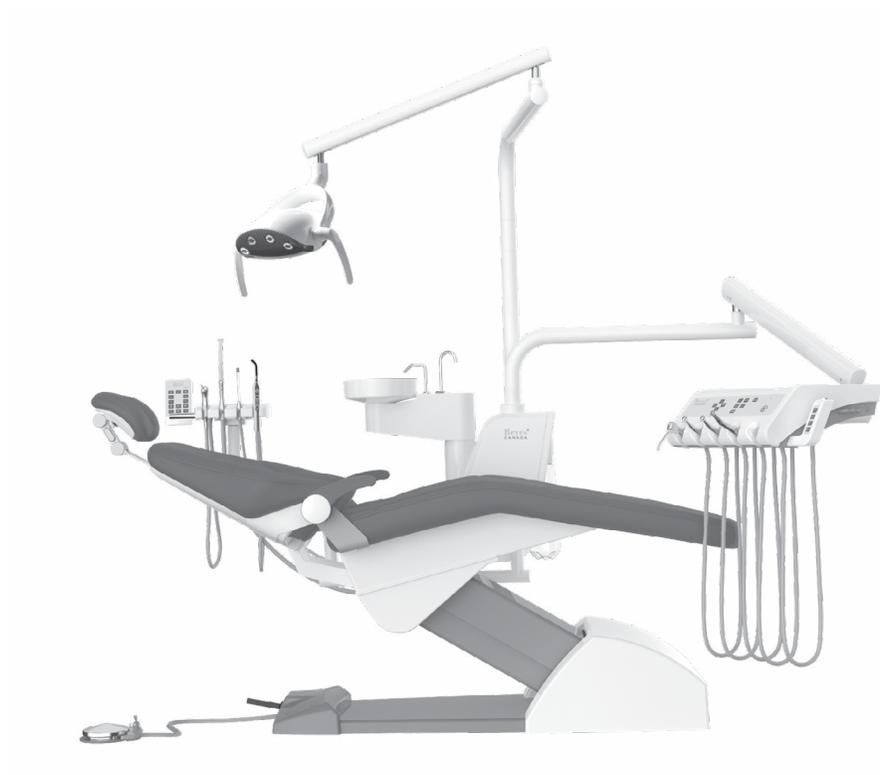


Comfortek® X1

Dental Operating Unit

Instruction for Use



Important

- The instructions contained in this booklet should be thoroughly read and understood before operating the unit and chair.
- After the installation has been completed, keep this manual in a safe place and refer to it for future maintenance.
- If you have any questions about this Manual or this product, please contact us.
- If manual becomes unreadable or is lost, please request a new manual by contacting your dealer.
- Installation should be conducted by authorized personnel only. Follow instructions on installation manual.

Beyes Dental Canada Inc.

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Dear Dental User,...

Our Dental treatment units are specially designed to meet the needs of the dental professionals. The concept of hygienic treatment is emphasized in the unit design. Components are designed in the way which dentist can easily maintain and clean. Concept of the unit is to optimize the work flow for dental practice, as well as provide a very clean and healthy treatment environment for both dentists and patients.

Contact information

Beyes Dental Canada Inc.
23-595 Middlefield Rd, Toronto, Ontario M1V 3S2, Canada
Toll Free: 1-855-603-1888
Email: info@beyes.ca
Web: www.beyes.ca

Intended Use of the Product

This product is an active therapeutic device intended for the Dentists, Hygienists, and Dental assistants for traditional and normal patient treatment procedures in the dental operator.

The product must be operated or handled by the qualified dentists or by dental staffs under the supervision of the dentist.

Such dentists or dental staffs should instruct and/or assist the patients to approach to and leave from the product.

Patients should not be allowed to operate or handle the product unless he/she is so instructed.

Application range

This dental unit is suitable for the diagnosis, treatment and operations in the dental clinics.

Environmental Requirement

For Operation:

Ambient Temperature 41°F to 104°F (5°C to 40°C) Humidity 30% to 75%

Atmospheric Pressure 10 psi to 15.1 psi (700 hPa to 1060 hPa) Maximum height above sea level:3000m

For Transportation / Storage:

Ambient Temperature 7°F to 158°F (-20°C to 70°C) Humidity 10% to 95%

Atmospheric Pressure 10 psi to 15.1 psi (700 hPa to 1060 hPa)

Equipment that is not suitable for use in air, flammable anesthetic gas, oxygen or nitrous oxide.

Compatibility of Handpieces

Use the compatible handpieces as shown on the attached list for this unit. (List of compatible handpieces).

Important Notes

In case of the troubles, please contact Beyes offices or your dealers. Do not disassemble or attempt to repair. Disassembly, repair or modifications should only be done by a qualified repair technician. Attempts at disassembly, repair or modifications may lead to abnormal operation and accidents.

This manual provides installation instructions for the Comfortek X1

Disposal of residue material

Please request a special contractor when you dispose amalgam.

In case of disposal of equipment

When disposing the chair, appropriately dispose complying with all current applicable regulations and local codes.

In EU area, EU directive 2002/96/EC on waste electrical and electronic equipment (WEEE) is applied on this product. In this directive, environment conscious recycling/abandonment is obligated.

- Before use, read the “Safety precautions” carefully to ensure proper use.
- The following information is designed to ensure safe use of this product and to prevent injury and damage to you and others. The precautions contained here are classified depending on the severity and degree of immi- nence of possible injury or damage resulting from improper use. Be sure to follow all the information, which is important for safety.

Classification of precautions

| | |
|---|---|
|  WARNING! | This symbol indicates that “ignorance of these precautions may lead to severe injury or even death as a result of improper use.” |
|  CAUTION | This symbol indicates that “ignorance of these precautions may lead to mild or moderate physical injury or damage to property as a result of improper use.” |
| NOTICE | This symbol indicates that “it is recommended to follow these precautions for safety.” |



WARNING!

- 1. Be sure to turn off breakers for equipment in the clinic when this product will not be used for a long period of time**
Be sure to turn off breakers for equipment in the clinic when this product will not be used for a long period of time (following the completion of work, during the suspension of business, etc.). Insulation degradation may cause electrical fire.
- 2. Be sure to turn off the main switch upon completion of work or during work breaks**
Be sure to turn off the main switch upon completion of work or during work breaks. This prevents incorrect operation due to accidental contact and associated hazards.
- 3. Never disassemble, repair or modify this product**
Individuals other than certified repair technicians should not disassemble or attempt to repair and modify this product. This could lead to an accident, failure, electric shock or fire.
- 4. Be sure to establish a grounding connection**
Be sure to establish a proper grounding connection. (Refer to a vendor for grounding connection.) Failure or electric leakage may lead to electric shock.
- 5. Use with caution in the presence of electromagnetic interference waves**
Do not place this product around equipment generating electromagnetic waves (including communications equipment, elevators, etc.) as incorrect operation of this product may occur in the presence of electromagnetic interference waves.
Do not use equipment generating electromagnetic waves, such as mobile phones, around this product.
- 6. Do not sit on other than seat**
When the backrest is at the forward position. do not sit on or place an undue load on the headrest or leg- rest of dental chair. This could cause the unit to topple or could damage the unit.



WARNING!

- 1. Do not place an undue load on the arm**
Do not get on or place an undue load on the arm of this unit or dental chair armrest. This could cause the unit to topple or other accidents.
- 2. Immediately wipe off any water spills or leakage on the floor**
Immediately wipe off any water spills or leakage on the floor. Decreased strength of the floor may lead to physical injury including fall, or property damage.
- 3. Be sure to turn off the main switch when electrocautery is in use**
Be sure to turn off the main switch when electrocautery is in use, because noise may cause incorrect oper- ation of this product.
- 4. Use with caution on patients with a cardiac pacemaker**
Use this product with extreme caution on patients with a cardiac pacemaker. In the case of any abnormali- ties in patients during use, immediately turn off this product and discontinue use.
- 5. Ensure the maintenance of this product**
 - Failure to maintain this product may lead to physical injury or property damage.
 - Refer to the section of maintenance.
- 6. Be sure to use the mirror cover**
 - Be sure to use the mirror cover of the dental light when the light is turned on. Direct contact with lamps may cause burns.
 - See the Instruction Manual of the dental light for further information.
- 7. Be sure to turn off the power when replacing lamps**
 - Be sure to turn off the power when replacing the dental light. This could result in electric shock.
 - Use only dedicated halogen lamps.
 - Immediately after a halogen lamp has burnt out, the lamp and the lamp holder are still hot. Replace the lamp after they cool down.
 - Do not touch halogen lamps with bare hands.
 - See the Instruction Manual of the dental light for further information.
- 8. Do not place objects weighing 2.5 kg or more on the Doctor’s table**
Do not place objects weighing 2.5 kilograms or more on the Doctor’s table. This could cause damage to the Doctor’s table, defective function or accidents.
- 9. Handling of equipment in the case of a power failure**
Put the handpiece in the holder and turn off the main switch if equipment stops working during use due to a power failure or other reasons.
- 10. Connection to the public drinking water system**
Installation must be performed in compliance with the recommendations of the national installation require- ments (e.g. EN 1717/DIN 1988).
The water quality must comply with the national requirements for drinking water.



CAUTION

- 1. Only experienced personnel should use this product**
Only dentists or other dental professionals should use this product.
- 2. Confirm safety before use**
Before use, confirm that the parts are correctly and safely operating and that there are no obstacles around this product.
- 3. Pay attention to patients and children**
Keep your eyes on patients (especially, children) so that mischief or inadvertent operation of equipment will not lead to unexpected accidents
- 4. Discontinue use if you feel that “something is wrong”**
Always be careful to inspect this product for looseness, rattling, tilting, wobbling, sounds, temperature, odors, etc. Immediately discontinue use at the first feeling that “something is wrong.”
- 5. Do not smack or rub this product**
Do not smack or rub this product forcefully. This could cause damage to covers or defective function.
- 6. Precautions when using water other than tap water**
The water unit is intended for use with tap water. Caution should be exercised as the use of water other than tap water (water through a sterilizer of water systems, etc.) may result in failure of equipment.
- 7. Practice of flush out**
Practice the flush out of water retained in the unit before the start of clinical practice at the beginning of each work day to maintain the quality of water for dental treatment and ensure a steady supply of water to handpieces.
Refer to the procedure for flush out.
- 8. Do not place anything hot on the Doctor’s table**
Do not place anything hot on the Doctor’s table. This could cause deformation or discoloration.
- 9. Be careful not to heat an empty water heater**
Exercise caution as heating of an empty water heater may result in burning of the heater, leading to fire.
- 10. Put a cover on the scaler tip**
After use, be sure to put the dedicated tip cover (if a cover comes with the unit) on the scaler in the holder. If the cover is not used, injury from the scaler tip may occur.
- 11. Close the water main valve and turn off the main switch upon completion of work**
Be sure to close the water main valve and the main switch at the end of each work day to prevent water leakage from occurring.
- 12. keep your eyes on the patient during operation.**
 - Confirm that the patient is seated in the proper position. Keep your eyes on the patient during the operation.
 - Pay special attention to surroundings at automatic operation of the dental treatment table. Damage to the backrest, stool or Doctor’s table may occur.
- 13. Precautions when using handpieces, etc.**
In order to ensure safety, be sure to confirm that rotation has completely stopped before changing the rotation speed of the micromotor or inserting/removing the bar of handpieces. See the Instruction Manual accompanying various handpieces and appendix of the optional handpiece operating manuals included in the product for further information.
Use the compatible handpieces as shown on the attached list for this unit. (List of compatible handpieces).



CAUTION

- 1. Observe the hose**
Do not step on the hose (bellow hose, vacuum hose, saliva ejector hose). Failure to heed this warning may result in damage to the hose, as well as people tripping over.
- 2. Use dental paper cups (Option sensor cupfiller)**
Use dental paper cups for sensor cupfiller (option). If the cup is another material grade (such as stainless steel and plastics) or if the paper cup is of dark color or pattern, which the sensing cup filling sensor may not respond.
- 3. Do not use water other than purified water, distilled water or pure water for the water tank**
 - The water tank is intended only for use with purified water, distilled water and pure water.
 - Do not use mouthwash or electrolyzed water, such as ConCool or povidone iodine, as they may cause clogged tubing or affect internal valves and equipment.
- 4. Set the pressure of the water tank at 200 kPa or less**
Adjust the air supply pressure for the water tank to 200 kPa or less. An excessively high pressure may cause damage to the water tank.
- 5. Read the documents accompanying the various pieces of equipment**
Before use, be sure to carefully read the package inserts and Instruction Manuals accompanying the various pieces of equipment (including optional articles) to ensure proper use.
- 6. Precautions for handling synthetic leather**
 - Stain caused by clothing dyes
The synthetic leather of this product may become stained by direct contact with clothes or belts. If there is stains, wipe clean as quickly as possible with a 10% detergent solution diluted using water to prevent permanent staining.
 - Take care of deformation or stains due to direct contact
 - Direct contact with other objects such as plastic products, painted items, solvents or adhesive tape may cause changes to the surface luster, cracking, deformation or peeling.
 - Direct contact with newspaper or printed paper may cause stains.
 - Direct contact with items of clothing such as printed images of T-shirts, or jeans may cause discoloration of the synthetic leather of this product.
 - Direct contact with solvents such as benzene nail polish remover, alcohol may cause discoloration, melting of the surface, elution of the plasticizing agent, changes to surface luster, hardening/softening or peeling.
 - Using bleach or bleached sheets may cause changes to surface luster or discoloration.
 - Installing this product next to sources of excess heat such as irons or heaters may cause deformation or discoloration.
 - Protect this product from direct sunlight by installing curtains. Failure to follow this instruction may cause changes, shrinking, discoloration or fading of the leather surface.
 - Placing heavy objects for a long period of time may leave an imprint of wrinkles on the synthetic leather that cannot be removed.
- 7. Be sure to operate switches with your hands**
Be sure to operate switches with your hands, except the foot controller, which is operated with your foot. Operation with body parts other than hands may cause damage or incorrect operation.



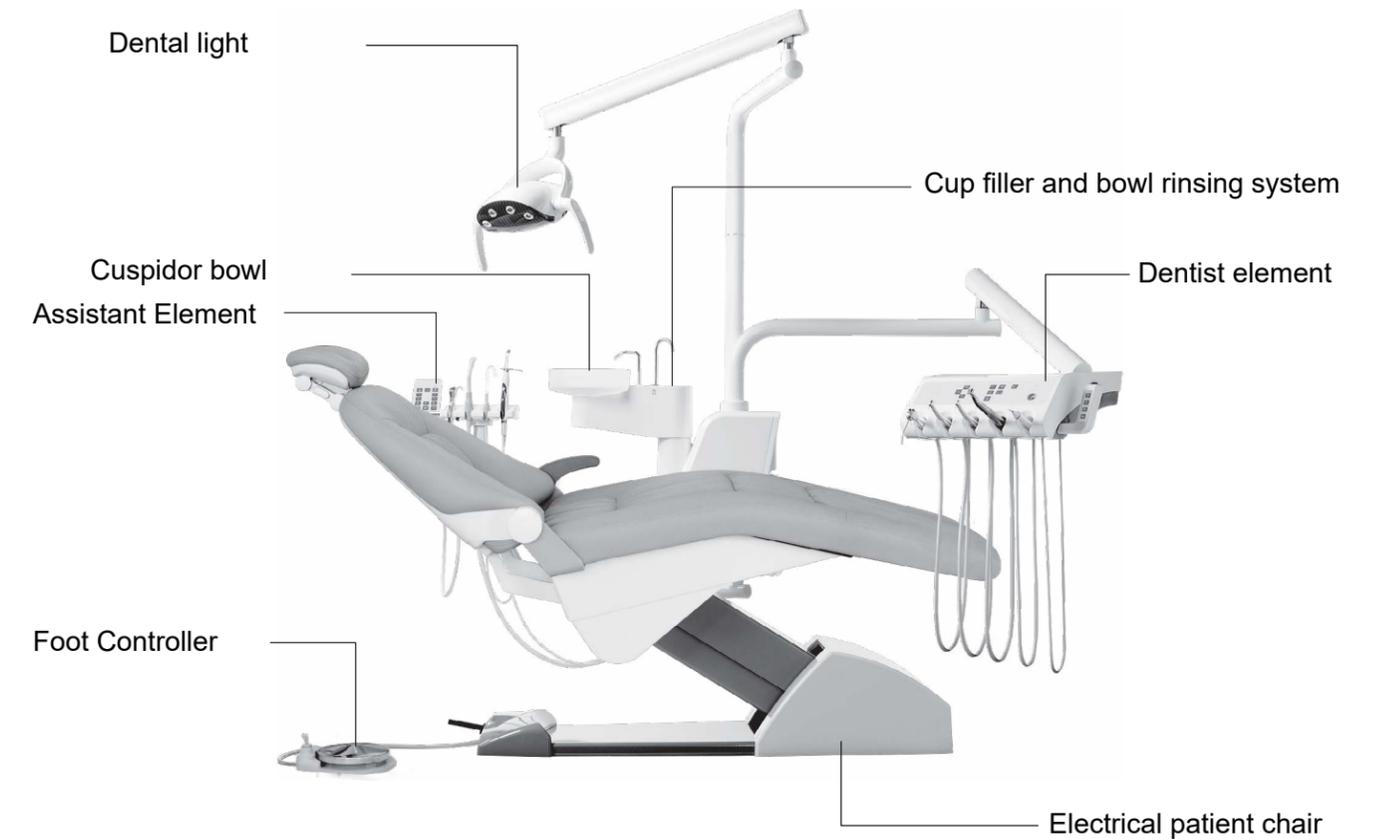
CAUTION

1. **Pay attention during movement of the Doctor's table**
 - Pay attention to surroundings when you move the Doctor's table. Injury by the tips of handpieces, etc., may occur.
 - Be sure to move the Doctor's table by holding the handle of the unit.
2. **Wash the filter in the solid collector with running water**
Detach and wash the filter in the solid collector with running water. The filter may break if wash it with brushes.
3. **Pay attention to contact injury during automatic operation of the dental unit**
Pay special attention to surroundings during automatic operation of the dental treatment table. Damage to the backrest, stool or Doctor's table may occur. Confirm that the patient is seated in the proper position and keep your eyes on the patient during operation.
4. **Immediately wipe off drug solution when it comes into contact with this unit**
Should drug solution or water comes into contact with this unit, immediately wipe it off with a dry soft towel, etc. This could result in defective function or electric leakage as well as spotting or rusting.
5. **Precautions for cleaning the operation panel (membrane switches)**
Penetration of droplets of sanitizing spray into the back of the operation panel may be associated with switch failure.
Use a paper towel soaked with sanitizing solution to clean the surface of the operation panel.
6. **Precautions for cleaning of the spittoon bowl**
 - The spittoon bowl is made of glass or ceramic (option). It may break if it is impacted. Do not wash it with hot water. Otherwise, it may break.
 - Never use sandpaper, metal scrub brushes or abrasive cleaning agents to clean the bowl.
 - Do not use strongly acidic cleaning agents or alkaline pipe cleaning agents, which may cause corrosion of metals, etc.
7. **Pay attention to water discharge when attach/detach the spittoon bowl**
Make sure to turn the main switch off when you attach/detach the spittoon bowl. Cup filler sensor may react to hands. Resulting water spill.
8. **Precautions for cleaning the resin cover**
For cleaning, do not use cleaning agents containing solvent or abrasives, thinners or oil-based alcohol (butanol and isopropyl alcohol), which may cause cracks.
9. **Precautions when cleaning the weight-sensing cup filling sensor**
Do not clean the weight-sensing cup water feeding sensor with water. Malfunction may occur as the sensor is not waterproof. Also refer to the precautions when cleaning the resin cover described in item 24 above.

NOTICE

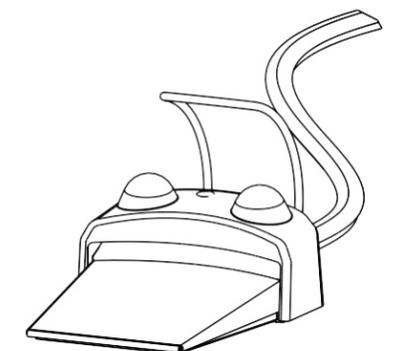
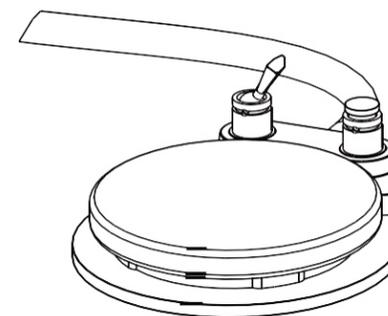
1. **Troubleshooting and contact information**
In the case of any problems, discontinue use, turn off the main switch and contact the dealer or our company.
2. **Check operation of the compressor**
With no air supplied, this product does not operate even after turning on the main switch. Turn on the power of the compressor before operating this product.

Overview and Major Components



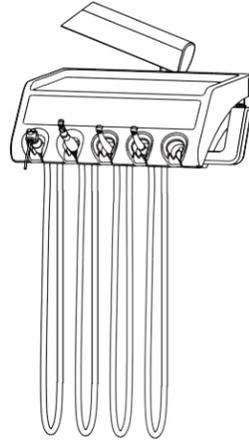
Foot Controller

- Disc foot control
- Lever foot control

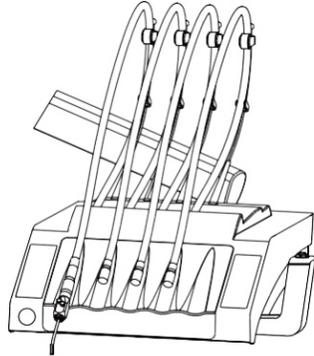


Dentist element

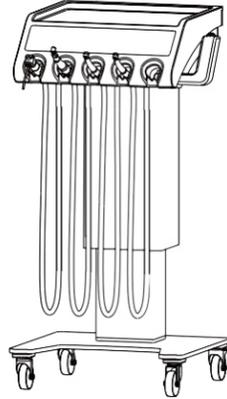
- Instrument Tray (Traditional)



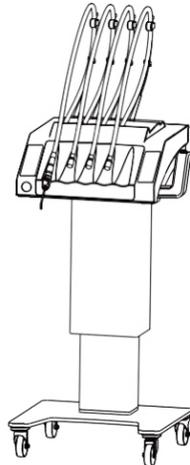
- Instrument Tray (Continental)



- Instrument Tray (Traditional Cart Type)



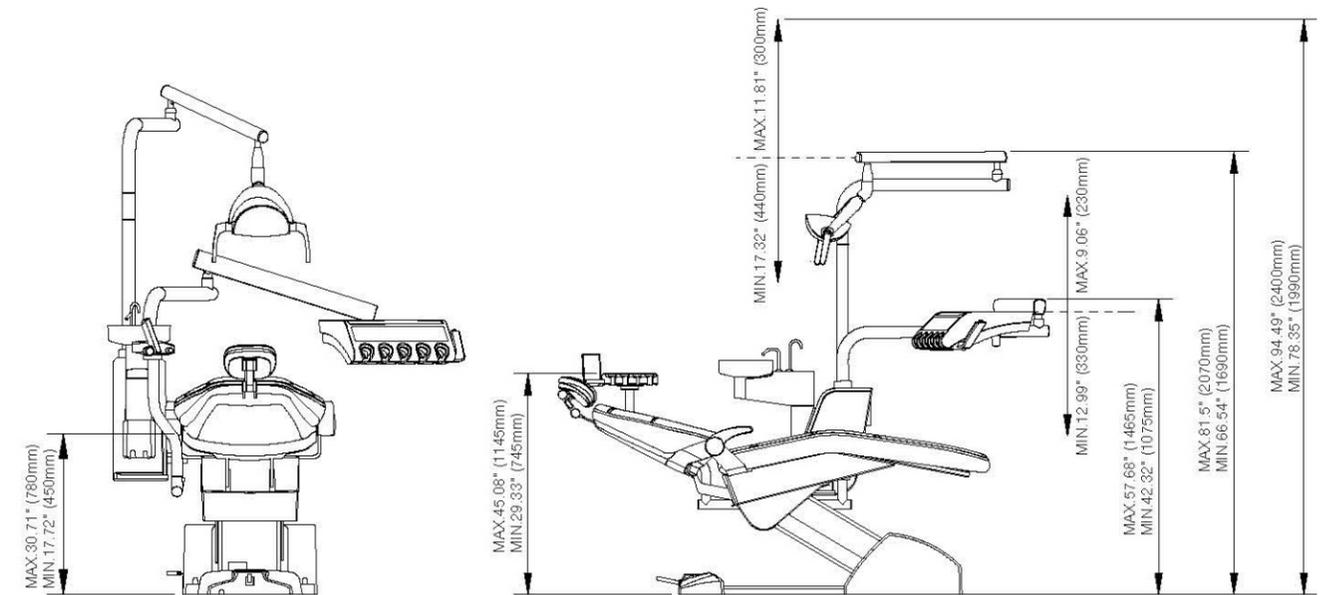
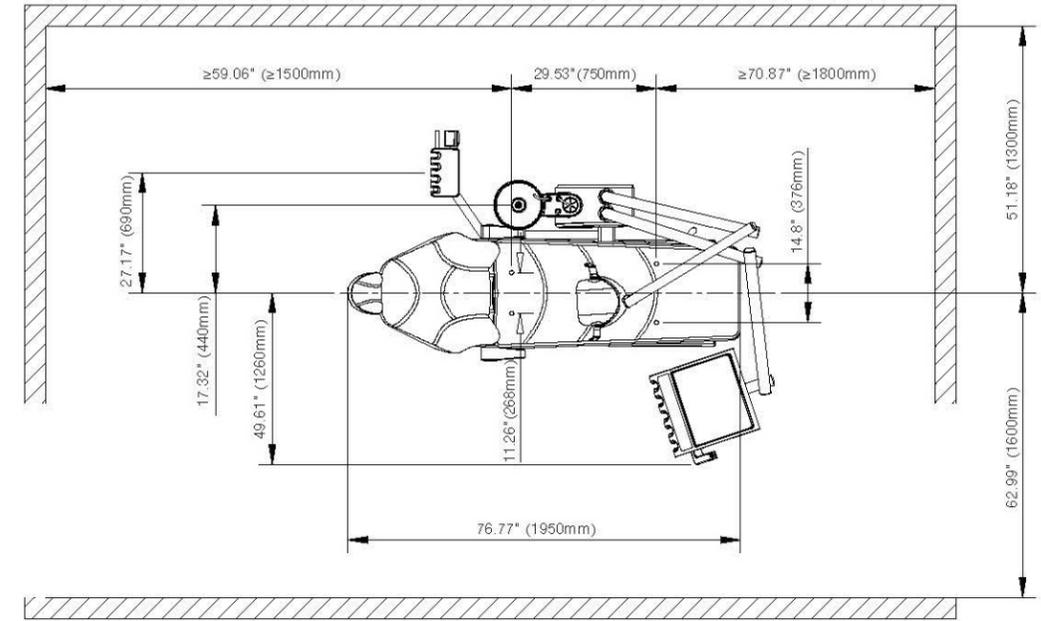
- Instrument Tray (Continental Cart Type)



| Item | Details |
|---|--|
| Input power supply | 220-230V~, 110-115V~, 50Hz/60Hz |
| Maximum power dissipation | 300VA |
| Electrical classification | Group 1 |
| EMC classification | Group 1, Class B |
| Degree of protection against electrical shock |  Type B applied parts |
| Protection class | Class I device |
| Device class in accordance with Directive 93/42/EEC | Class II equipment |
| Mode of operation | Drive motors for chair operation: intermittent use, max. 10% duty cycle, (max. 2 min "ON" / 18 min "OFF") Permanently connected unit. Operation is not permitted in mobile vehicles. |
| Power cable requirement | Type: 227 IEC (RVV) 3 x 0.75 mm ² , according to the standard IEC 60227 |
| Water supply pressure | 0.20-0.40Mpa/2.0-4.0 bar |
| Air supply pressure | 0.55-0.8 Mpa/ 5.5-8.0 bar |
| Dental light maximum illuminance | ≥25000lux |
| Weight | 185kg |
| Electrical patient chair carry capacity | ≥1470 N(=150 KG) |
| The highest position of the patient chair from the ground | ≥780mm±10mm |
| The lowest position of the patient chair from the ground | ≤460mm±20mm |
| Backrest movement range | 110°-180° |
| Head rest extension range | 0-100mm |
| Dimensions(length *width*height) | 1950 x (1200mm~1800mm) x 2000mm |
| Warranty | 1 year full warranty and 5 years on motors |

Utility Specifications and Requirements

| | Pressure/Vacuum | Flow | Other Requirements |
|--------|--|---|--|
| Air | 5.5 bar (0.55 MPa) to 8 bar (0.8 MPa) | 80 L/min (without Venturi suction system) or 130 L/min (with Venturi suction system). | <ul style="list-style-type: none"> Air quality to conform to ANSI/ADA specification #94 Humidity limit (dew point not greater than - 20 ° C at atmospheric pressure) Particulate contamination limit (not greater than 100 particles per cubic meter for 1 µm to 5 µm particle size) The air for driving the turbines, for cooling the drives and for the cooling spray must be free from oil, dry and hygienically faultless. Install a steam trap K. Air filter effective mesh size is 40 microns |
| Water | 2.5 bar (0.25 MPa) to 4 bar (0.4 MPa) | 10 L/min minimum | <ul style="list-style-type: none"> Water quality complies with the WHO Drinking Water Quality Guidelines Water supply to meet local plumbing codes, including backflow prevention PH limits between 6.5 and 8.5 maximum particle size <100 µm Water hardness limit is less than 2.14 mmol/l (<12° dH) Water filter effective mesh size is 60 microns |
| Vacuum | Maximum vacuum: 0.18 bar minimum vacuum: 0.15 bar | Wet 255L/min minimum | <ul style="list-style-type: none"> Solids filter maximum mesh opening size is 0.8mm |
| | Air vacuum type does not require suction pipe | Wet 130L/min minimum | <ul style="list-style-type: none"> Solids filter maximum mesh opening size is 0.8mm |

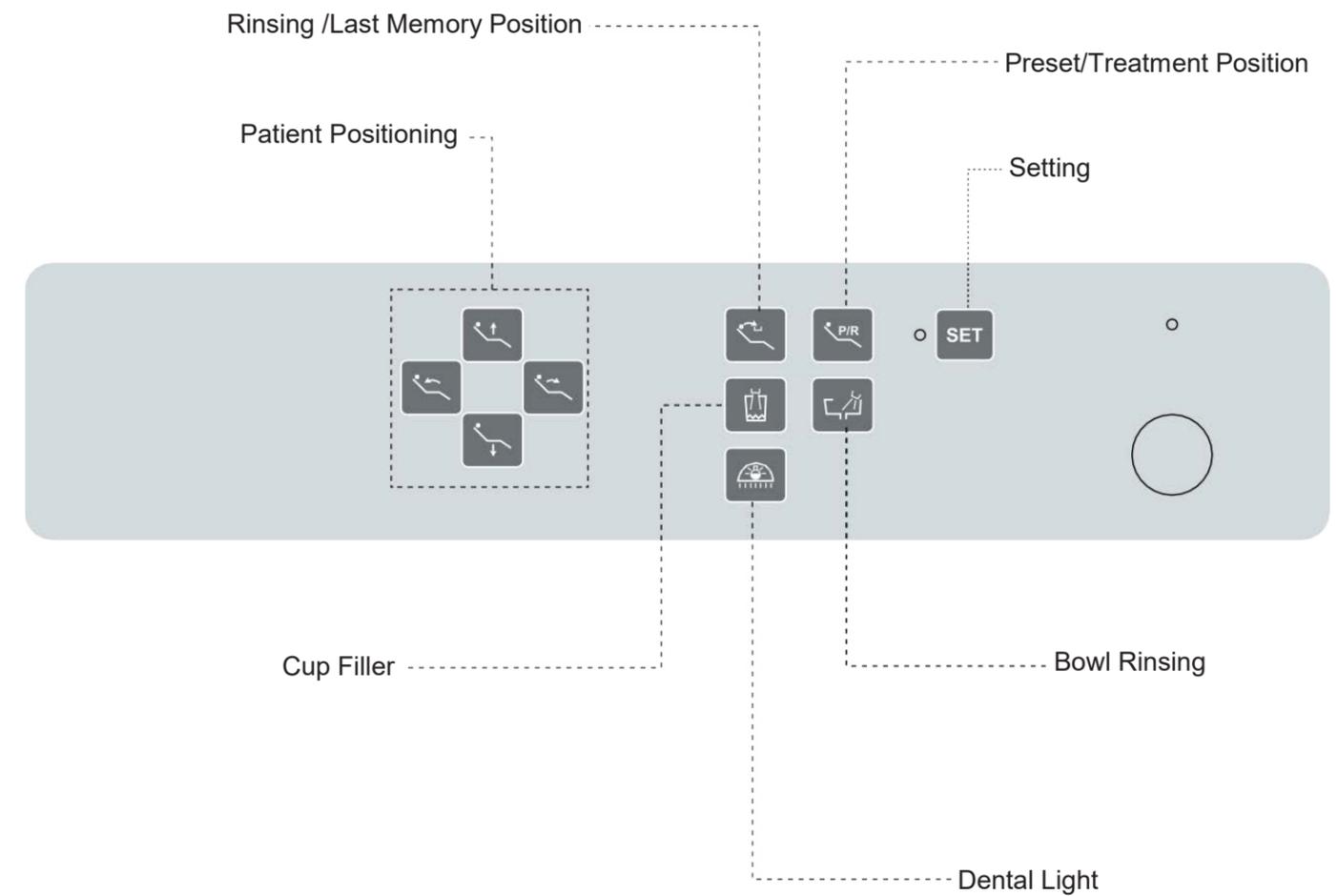


Explanation of Symbols Used

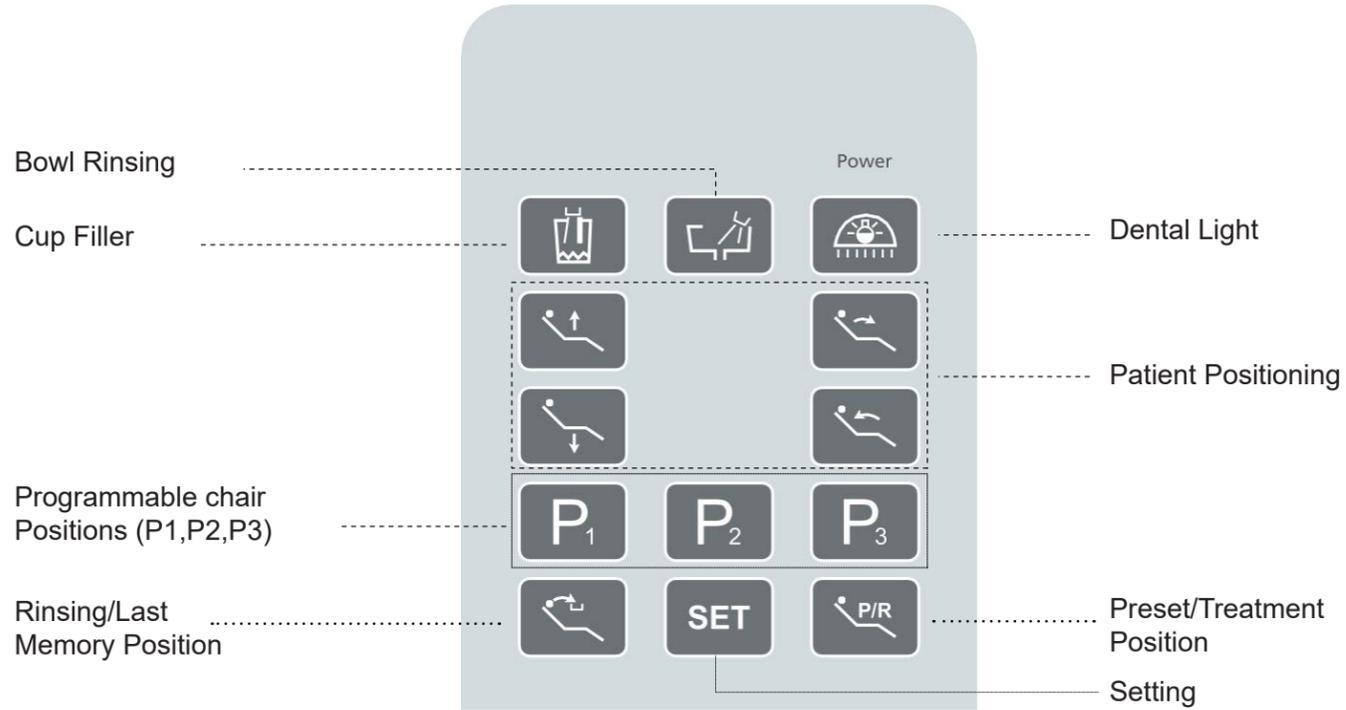
| Symbols | Definition | Symbols | Definition |
|---|---|---|---|
|  | ON |  | Fill cup |
|  | OFF |  | Rinse bowl |
|  | Attention |  | Dental light |
|  | Patient chair up |  | Protective grounding |
|  | Patient chair down |  | Clean with water |
|  | Backrest leans forward |  | Can be sterilized in autoclave at 135°C/275°C |
|  | Backrest leans backward | | |
|  | Rinsing position |  | Handpiece water pressure adjuster |
|  | Reset/treatment position |  | Handpiece air pressure adjuster |
|  | Serial number |  | Date of manufacture |
|  | Manufacturer |  | Authorised representative in the European Community |
|  | Caution, consult accompanying documents | IPX1 | Protected against dripping water |
|  | Type B applied part |  | Caution, hot surface |

Operation Instruction

Delivery Tray Panel

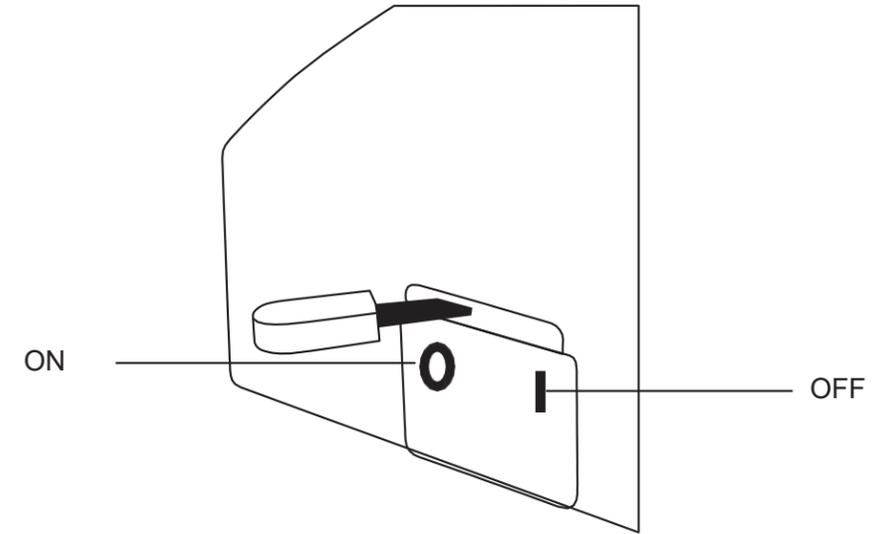


Assistant Element Panel

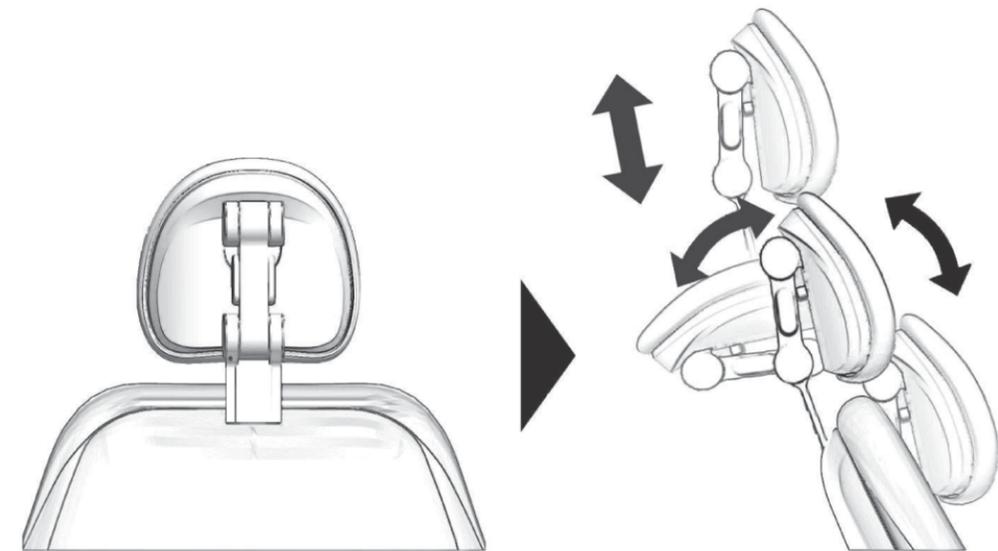


| Dentist(Assistant) Element Panel | Function | Dentist(Assistant) Element Panel | Function |
|----------------------------------|---------------------|----------------------------------|------------------------------|
| | Programmable chair | | Rinsing/Last Memory Position |
| | Patient Positioning | | Preset/Treatment Position |
| | Bowl Rinsing | | Dental Light |
| | Cup Filler | | Setting |

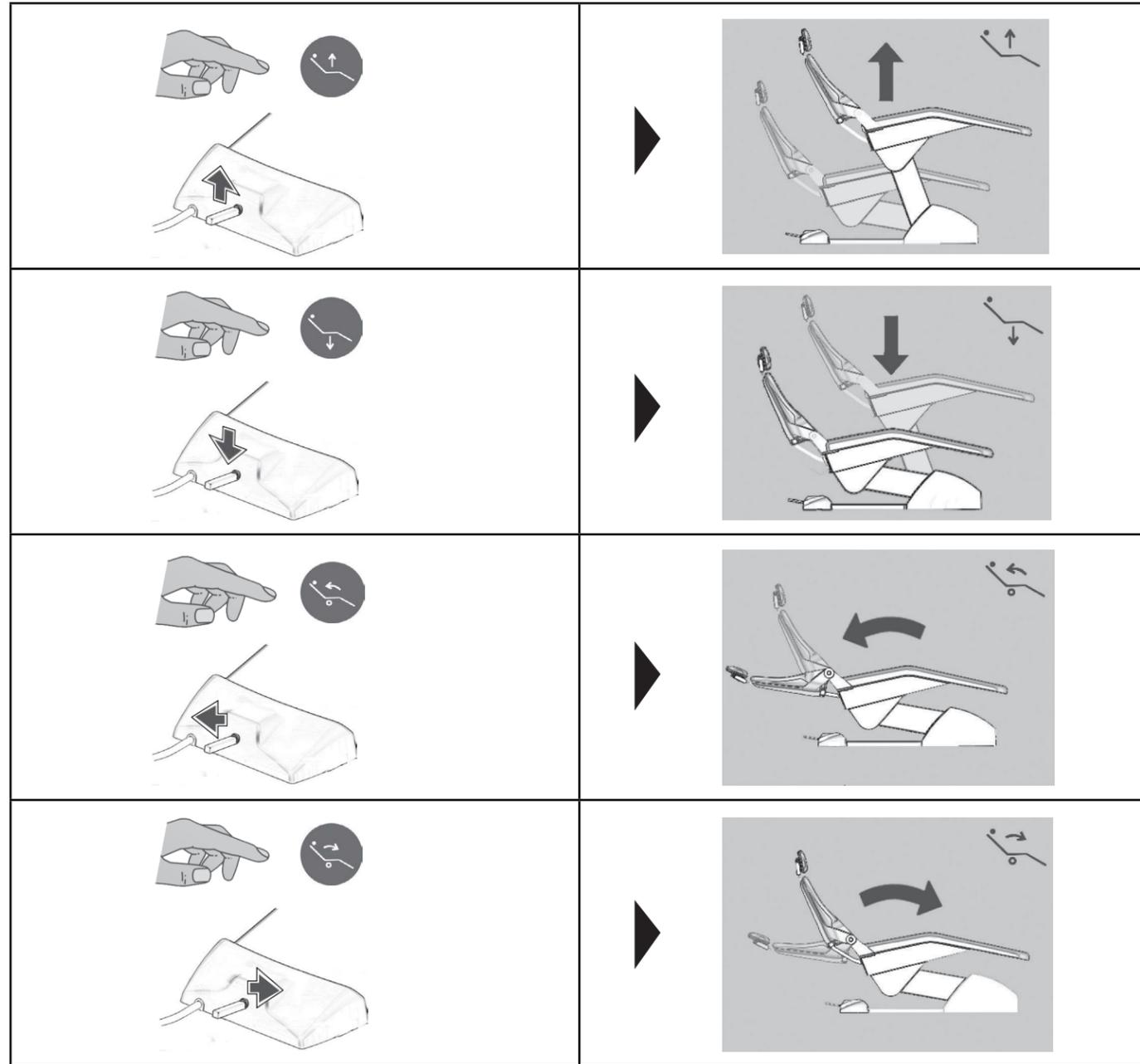
General Switch(water, air and electricity)



Headrest



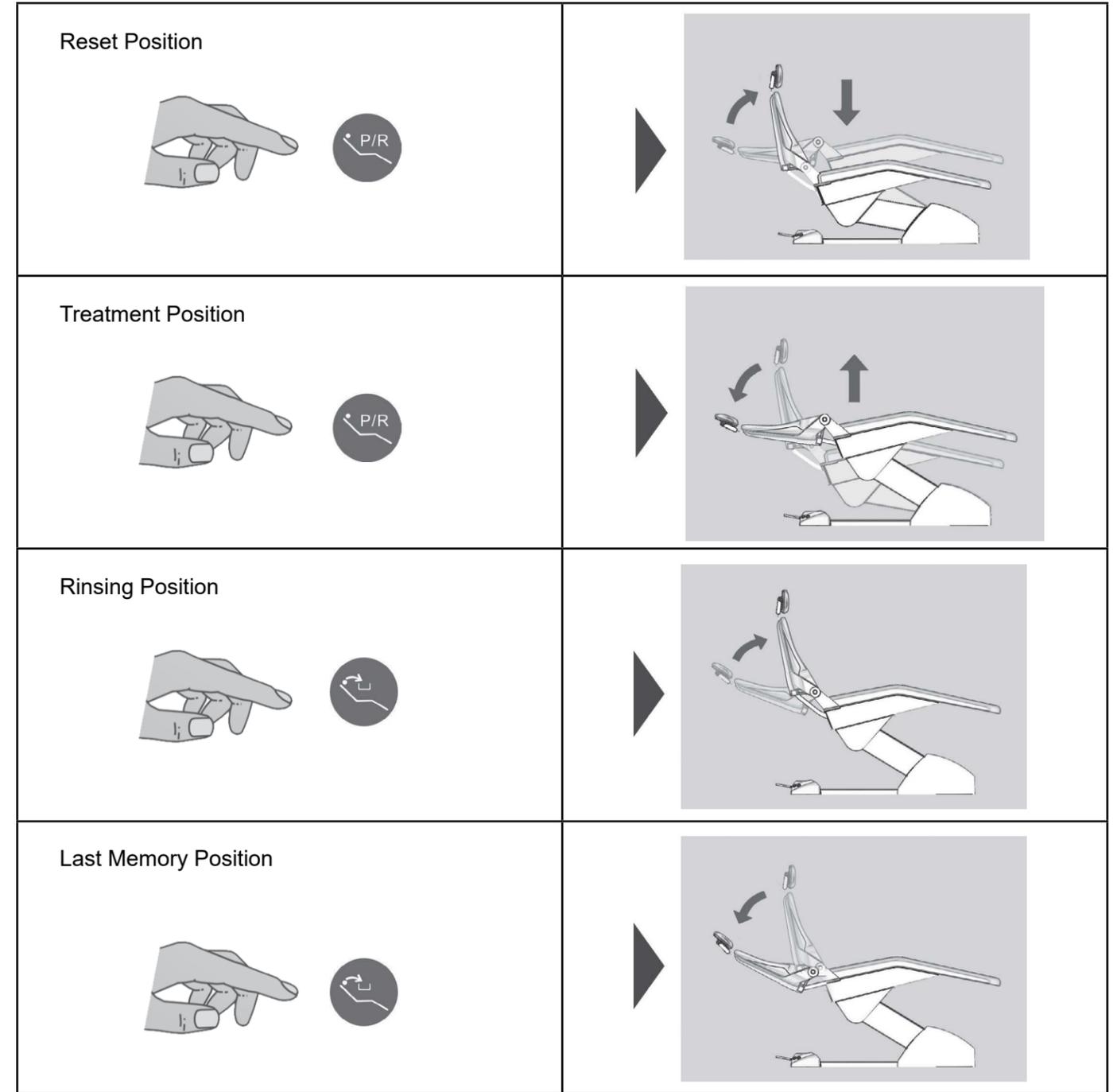
Patient Positioning



CAUTION

- There must be no objects nearby when operating the Chair and the Backrest, and the Stool and Armrest must not interfere with the Chair's movements.
- The maximum weight of the patient seat fitting is 5 kg.

Control of Preset Positions

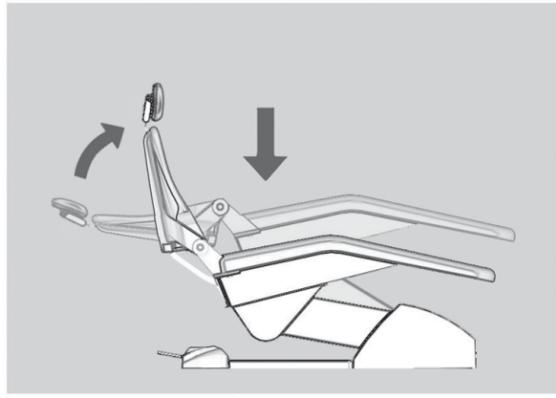


Programmable chair positions



Set your desired chair position

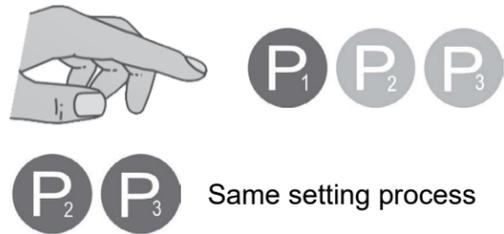
① Adjust the chair to your desired chair position



②

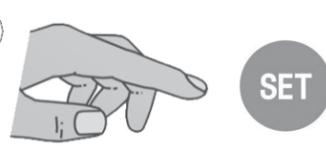


③

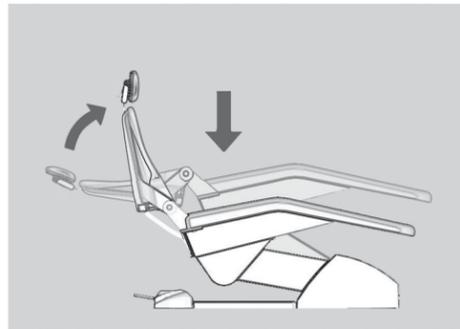


Same setting process

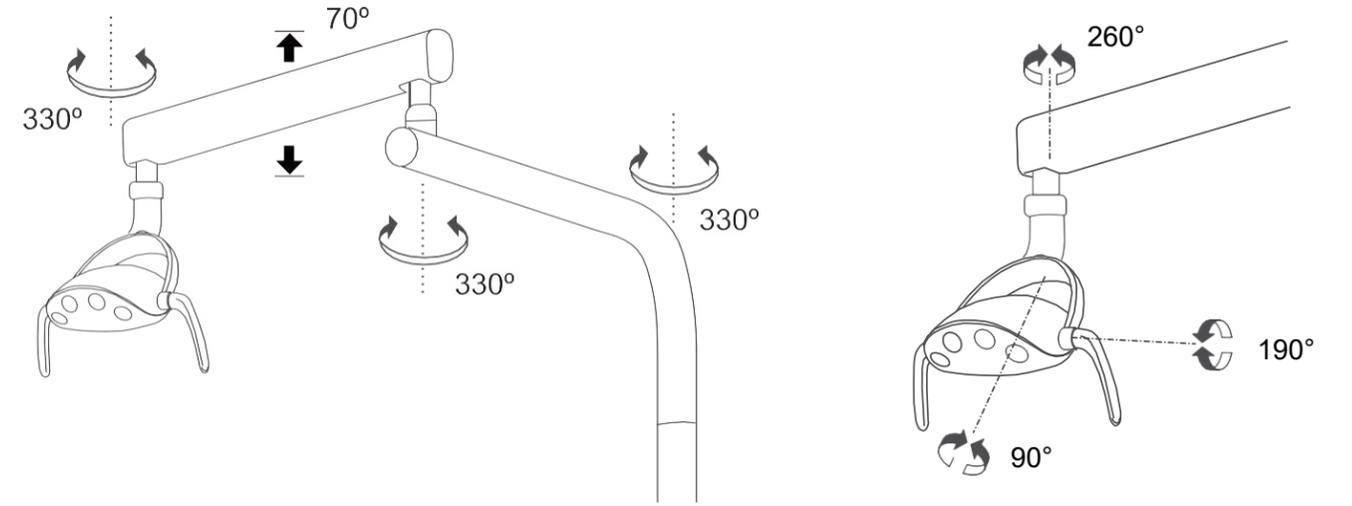
④



Use the programmed position



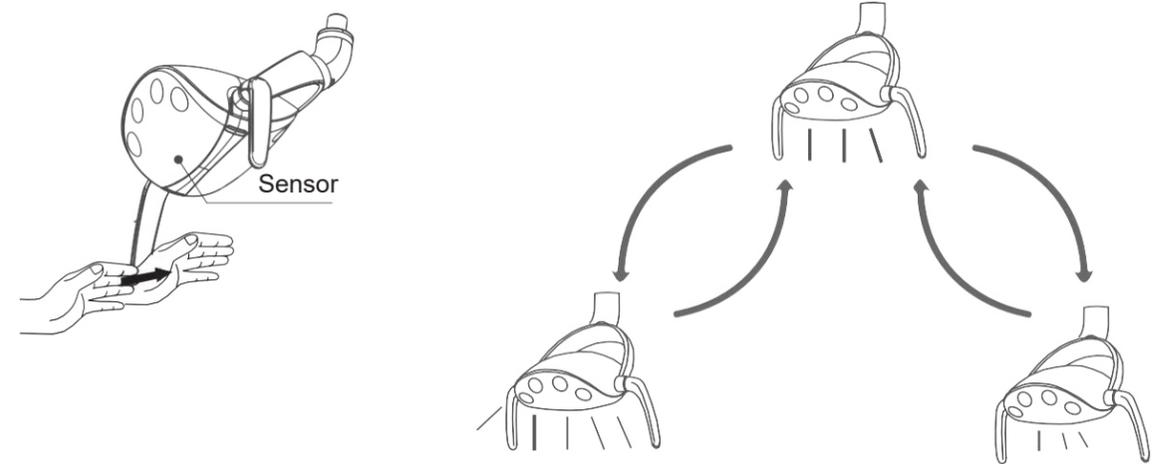
Movement



ON/OFF



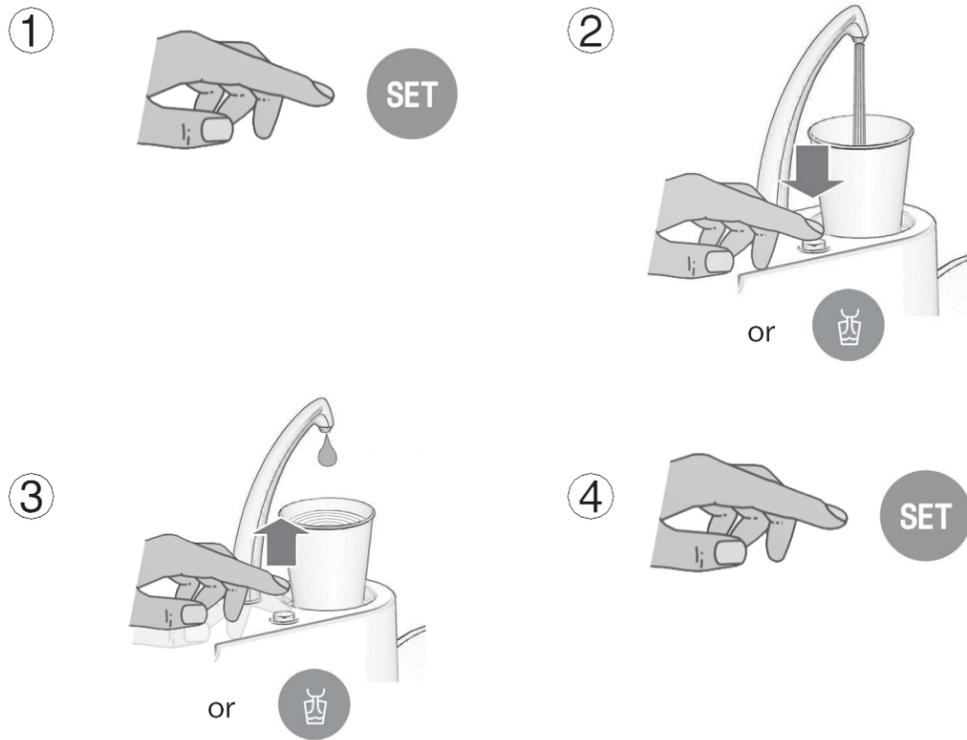
Intensity Adjustment



Cup Filler



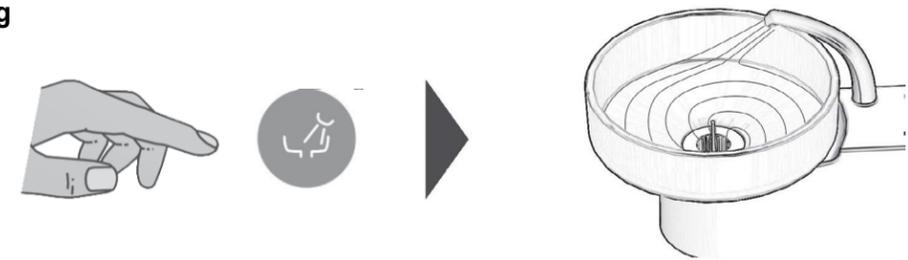
Setting Process



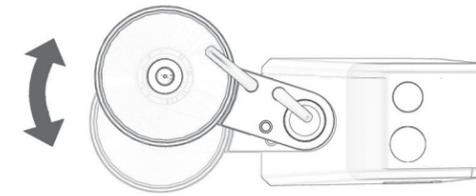
This setting can be saved after power off.

! The auto volume should be no less than 100ml. Do not set the timing of cup filler when the bowl rinse is working

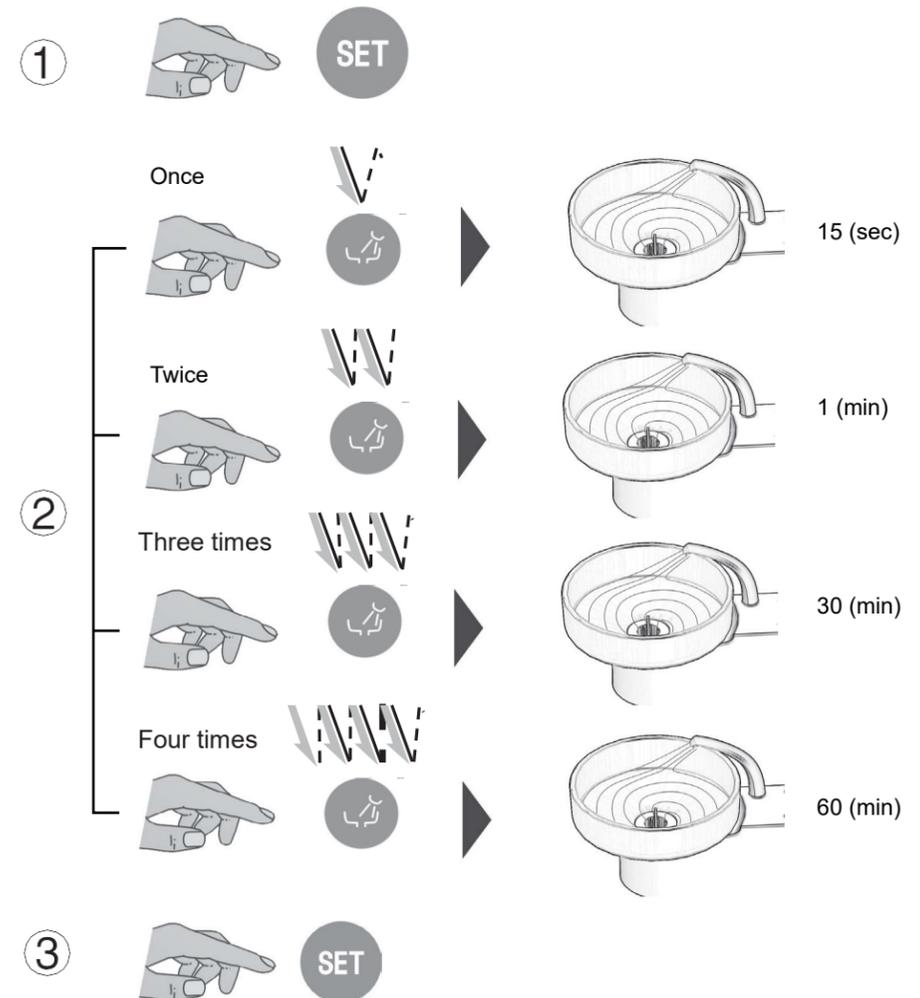
Bowl Rinsing



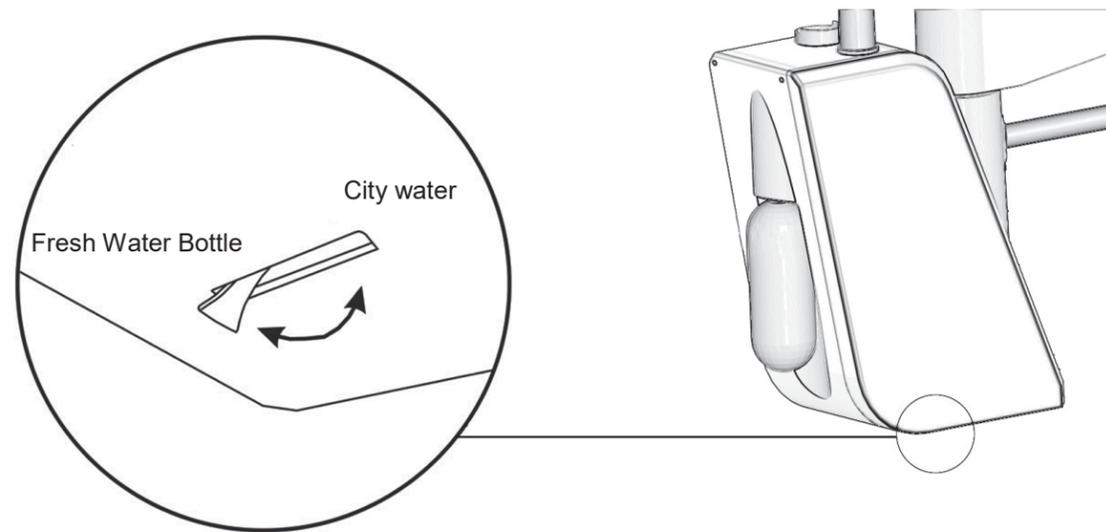
Swiveled Cuspidor Bowl



Setting Process

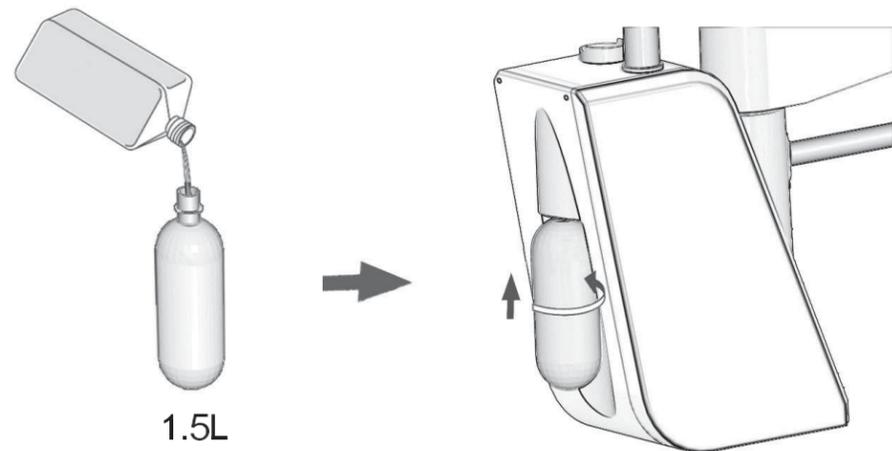


Switch of Water Supply



The user can switch between city water and distilled water

Fresh Water Bottle



Turn the Water Bottle anti-clockwise to detach the bottle from the Unit.

Water supply

The treatment center has two methods of water supply:

1. Fresh water bottle supply: The treatment center is supplied by fresh water bottle (all water-carrying instruments and cup filler).
2. City water supply: The treatment center is supplied by city water (all water-carrying instruments and cup filler).



Microorganisms can multiply in the water. These microorganisms could increase the risk of damage to one's health.

- Never operating the treatment center without disinfectants.
- Check the amount of germs in water of the treatment center at regular intervals.

Switching water supply of treatment center between fresh water bottle and city water

- Switch to left side: Fresh water bottle supply
- Switch to right side: City water supply

Fresh water bottle supply

If the water quality of the city water is not suitable for the treatment of the patients, the treatment center can be supplied by fresh water bottle (all water-carrying instruments and cup filler)
 In this case, distilled water - recommended to mix with disinfectant in a 100:1 ratio (1 liter of water, 10 ml disinfectant)
 - has to be filled into the transparent fresh water bottle. The disinfectant will reduce the microbial growth in the water lines.



It is important to empty the fresh water bottle before a longer downtime of the treatment center.

NOTICE

Always fill distilled water in food-grade (< 100 colony forming units / ml), but never drinking water, e.g. from beverage bottles.
 Aqua purificata or aqua distillate can be used as distilled water. It is recommended to replace the fresh water bottle yearly.

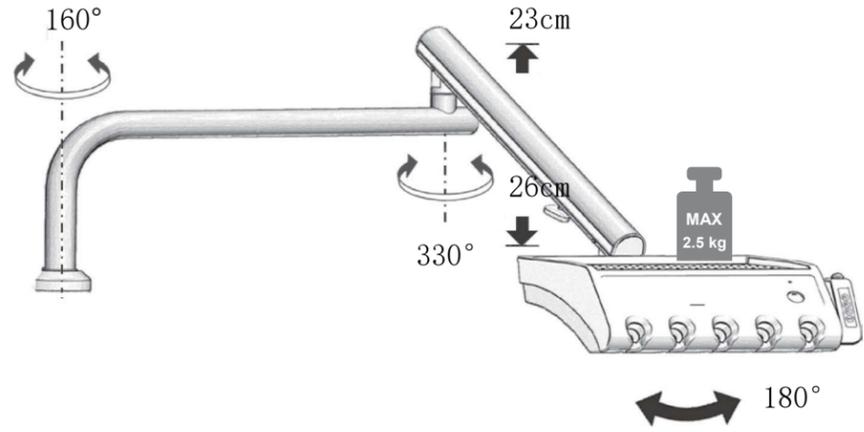
City water supply without permanent water disinfection system

The treatment center is supplied by city water (all water-carrying instruments and cup filler).



Running the treatment center with city water supply should only be done if the water quality is ensured.

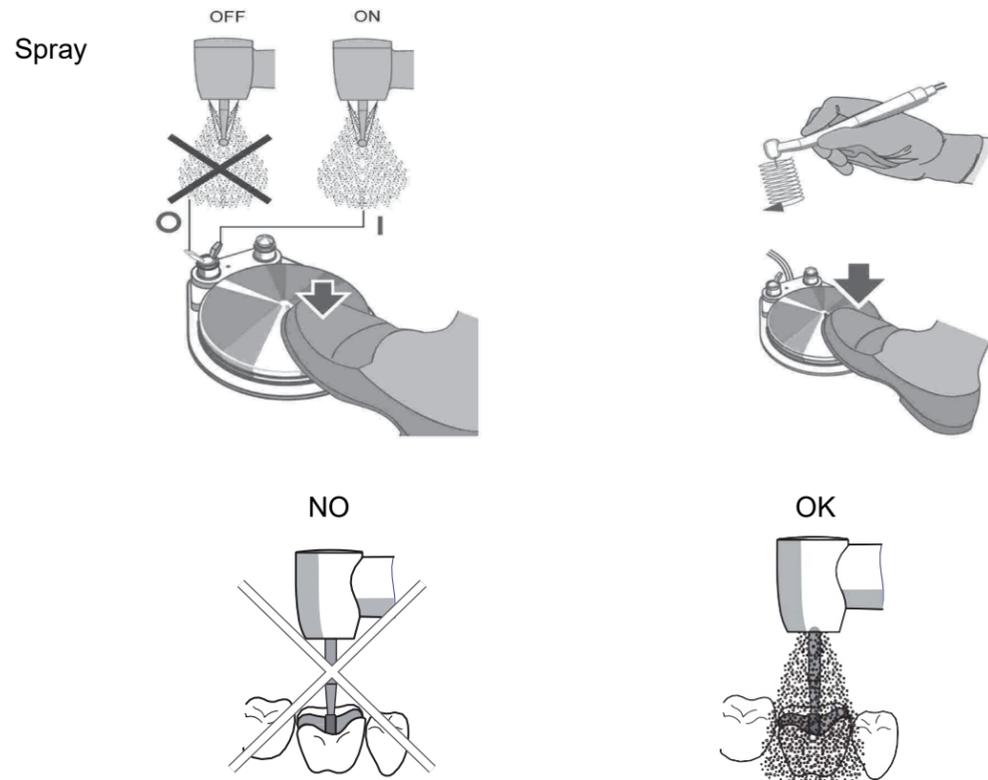
Arm Adjustment



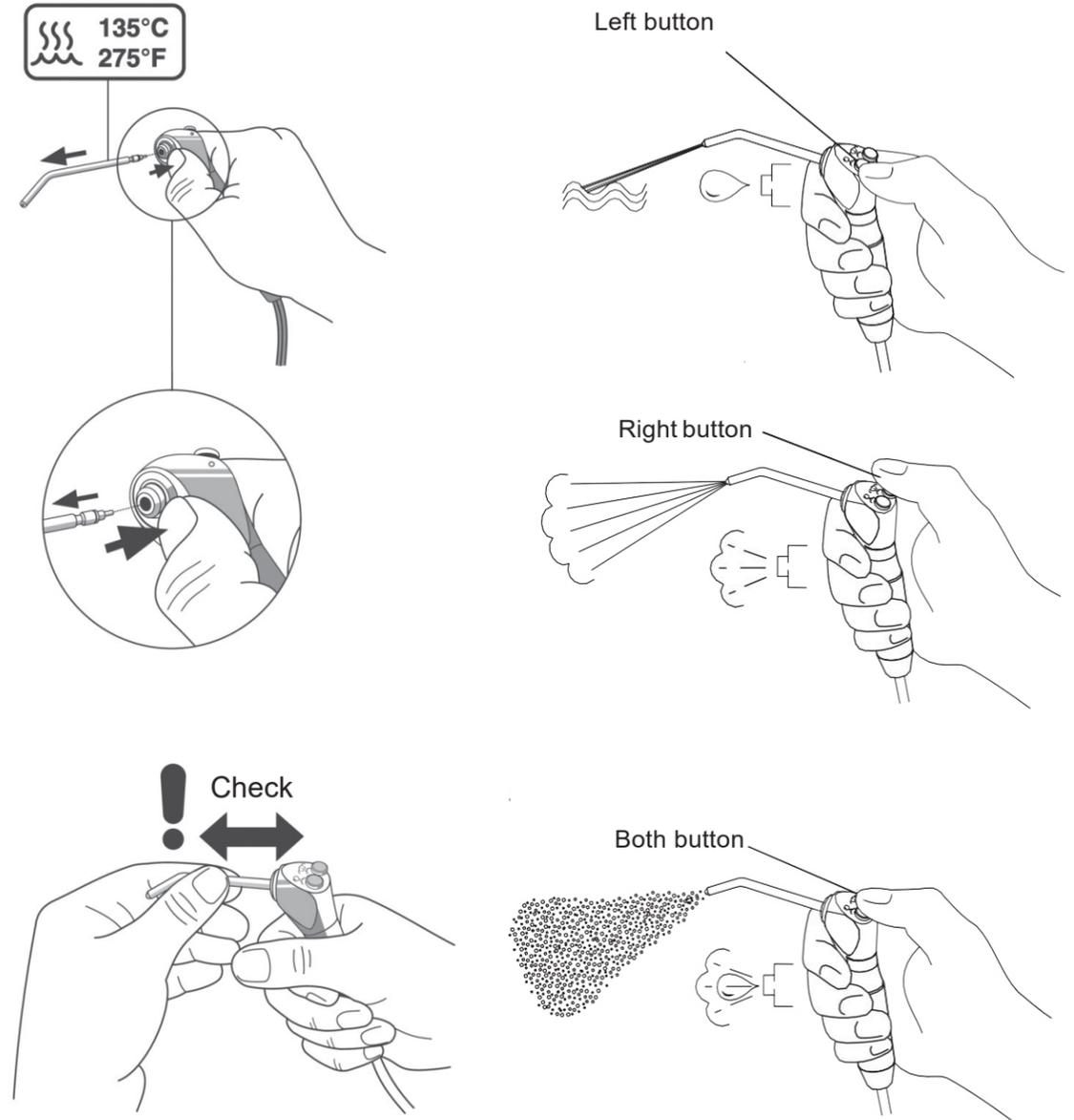
CAUTION

Placing loads greater than 2.5 Kg on the Doctor's Table can cause damage to the product.

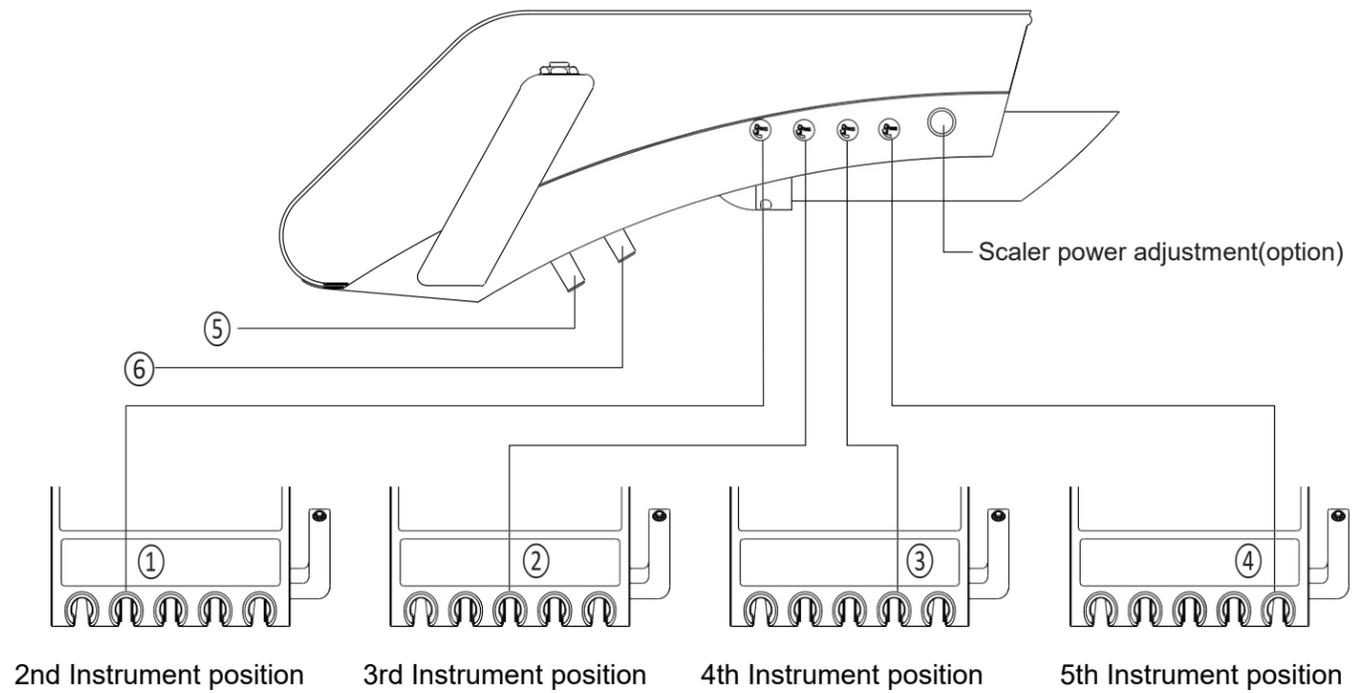
Control of Instrument



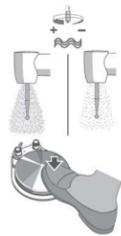
3 Way Syringe



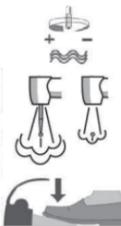
Air/Water Pressure Adjustment



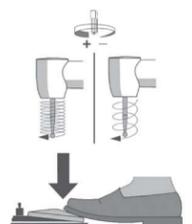
1. Spray amount adjustment of 2nd position
2. Spray amount adjustment of 3rd position
3. Spray amount adjustment of 4th position
4. Spray amount adjustment of 5th position(handpiece or scaler)



5. Spray air adjustment



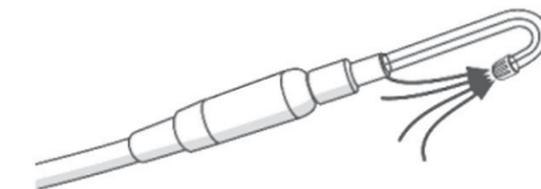
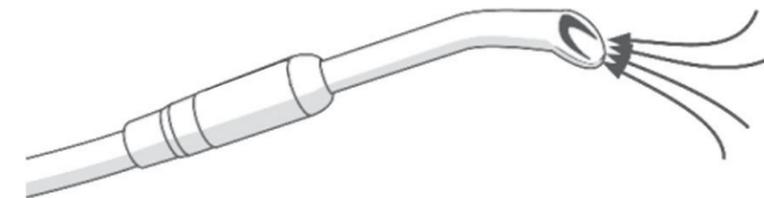
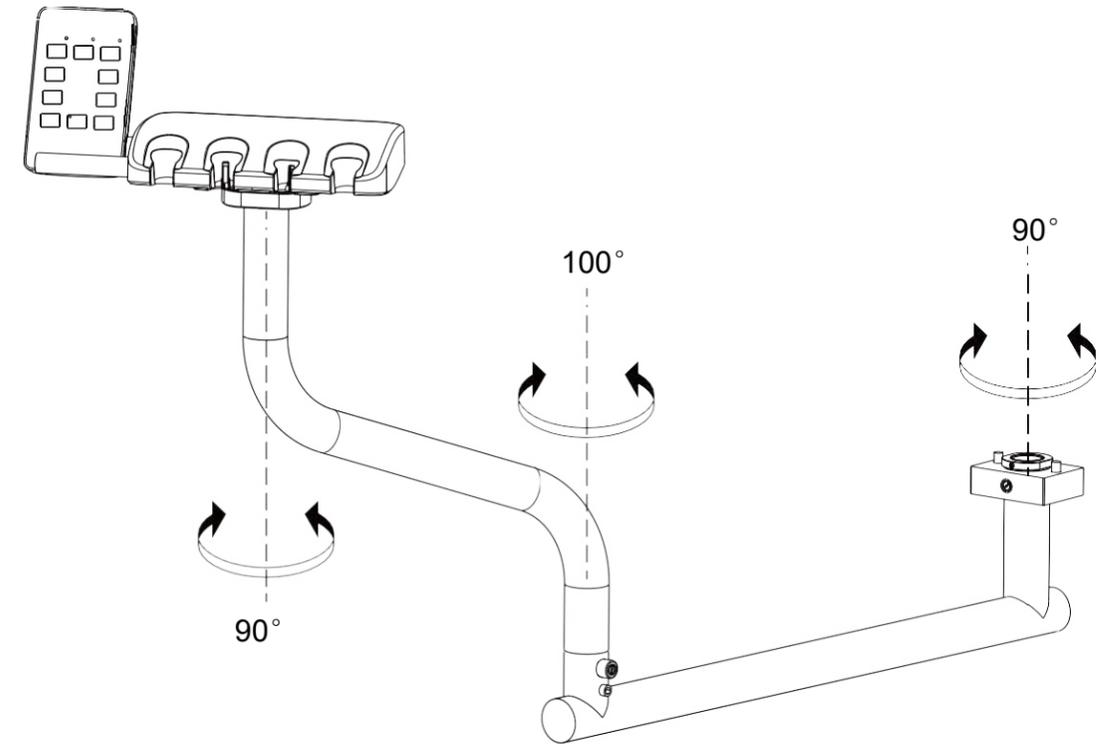
6. The drive air can be set for each burr drive individually



0.22-0.25MPa

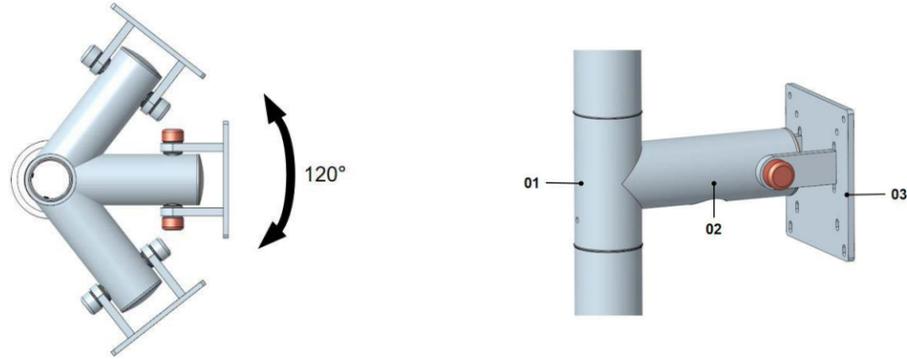
0.30-0.35MPa

Assistant Element



Monitor Arm

- This supports the monitor and fixes it to various positions as desired by the user.



| No. | Name | Function and Method of Operation |
|-----|-----------------|--|
| 1 | Pole Arm | Section mounted to the chair |
| 2 | Main Arm | Section of support and rotation of the monitor |
| 3 | Monitor Bracket | Section on which the monitor is installed |



CAUTION

Suggested monitor size is < 19", maximum size is 21" and < 4 kg.

Barrier Protection

- Recommends barrier protection for all applicable touch and transfer surfaces. Touch surfaces are areas that come into contact with hands and become potential cross-contamination points during dental procedures. Transfer surfaces are areas that come into contact with instruments and other inanimate objects. Barriers must be produced as the medical device regulations specific to your location.



CAUTION

If you use barriers, always replace the barrier film after each patient.

Patient Chair

To preserve the quality of your upholstery, use barrier covers instead of relying on chemicals. Barriers significantly extend the life of the upholstery and will help to preserve its luxurious look and soft feel. To clean the upholstery, use a solution of mild detergent and water. Use surface disinfectants only when the barriers have been compromised or if there is visible spatter on the upholstery.



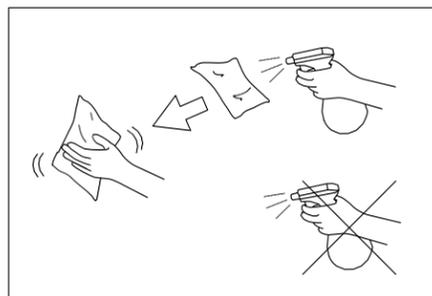
CAUTION

Minimize the use of surface disinfectants on the upholstery. Chemicals can cause deterioration and shorten the life of upholstered surfaces.



CAUTION

- Disposal
 - Any waste which is generated must be recycled or disposed of in strict compliance with all applicable national regulations in a manner which is safe both for people and the environment.
 - Disposal of electronic and electrical devices
 - According to EC directive 2002/96 concerning used electrical and electronic devices, this product is subject to the cited directive and must be disposed of accordingly within Europe.



Chair Cleaning

The surface of the chair's seating area is made of synthetic leather. Apply dry wiping or wipe the surface with cloth moistened with either water or diluted neutral detergent for the care.

- If the color of clothing or belt remained on the synthetic leather, wipe it off with cloth moistened with diluted neutral detergent as soon as possible, to avoid penetration caused by plasticizer.
- In case the synthetic leather is wiped with a wet cloth, fully wipe off the moisture. If it remains, hydrolytic degradation may be accelerated. Do not use solvent bleach.
- Apply dry wiping using a dry and soft cloth to metallic areas. If any metallic area is wetted, wipe off the moisture as soon as possible. It will rust otherwise.
- Wipe the resin cover with a wet and soft cloth.

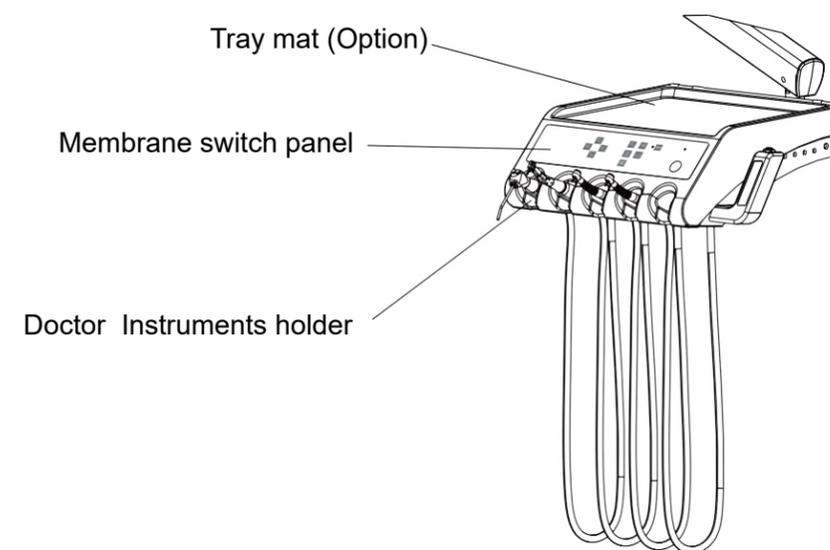
Chair Sterilization

- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth or paper towel for cleaning and sterilization of the product exterior. Do not operate the product until the liquid used for sterilization has fully dried up.

NOTICE

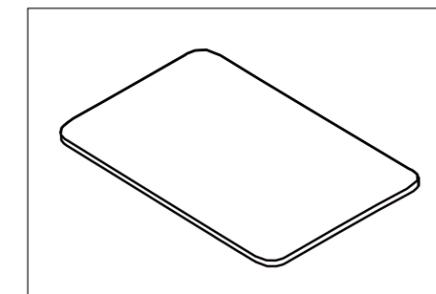
- Do not place any hard and heavy article or any article having a sharp tip or edge on the chair's seating area. The synthetic leather may be damaged otherwise.
- For cleaning the resin cover, do not use solvent or detergent containing abrasive agent. In addition, do not use any chemical that is other than specified for this unit. The resin cover may crack otherwise. Use a soft cloth moistened with either water or diluted neutral detergent.
- Never use detergent of strong acidity or alkali pipe detergent, or materials including metal may be corroded.

Dentist element



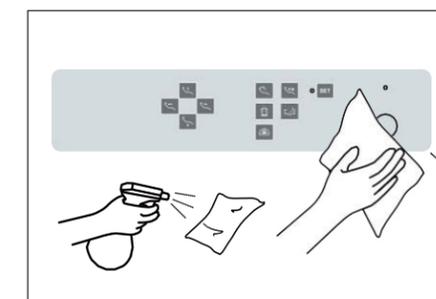
Tray mat (Optional)

- The tray mat may be detached and sterilized in an autoclave (for 20 minutes at 121°C or 12 minutes at 132°C). Remove residues and clean carefully with running water before sterilization.
- Be sure to put into a sterilization pouch when sterilizing.
- The tray mat is made of resin and may become deteriorated if it is sterilized in an autoclave many times. The allowable sterilization frequency in an autoclave is 250 times.
- After autoclave sterilization, the tray may be subject to discoloration, which does not have a negative effect on performance.



Membrane switch panel

- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning and sterilization. Wipe off with dry soft cloth to dried up for the membrane switch panel.



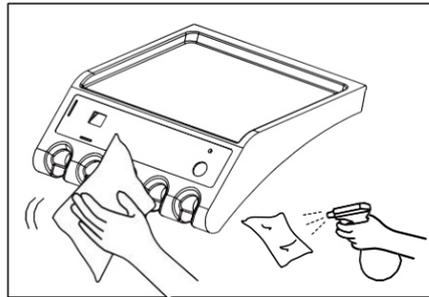
CAUTION

In case the surface of the membrane switch panel is wiped with disinfectant agent or the like, fully wipe away the chemical. Membrane switch malfunction may arise if the chemical penetrates to the back face of the membrane.

Dentist element

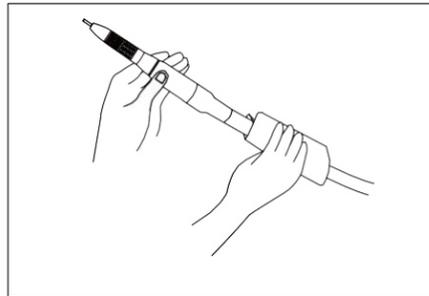
Doctor Instrument holder

- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning and sterilization. Wipe off with dry soft cloth to dried up of the instrument holder after cleaning sterilization.



Handpiece hose

- Carefully wipe away the filth from the handpiece hose using soft cloth moistened with alcohol or the like.

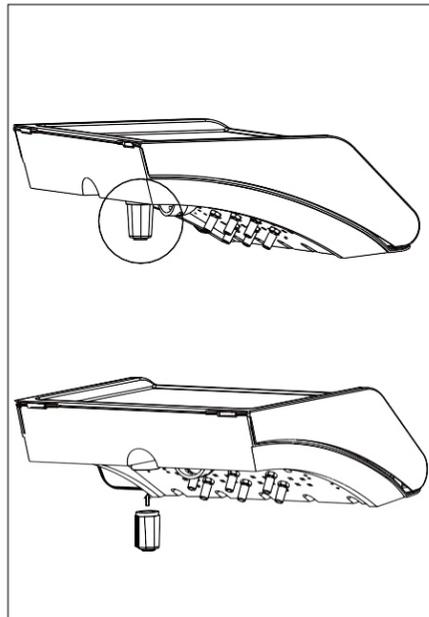


NOTICE

Observe instructions given in handpiece instruction manuals for the care of handpieces.

Oil mist separator (Optional)

- The oil mist separator collects oil contained in exhaust air from the handpieces.
- Be sure to dispose of oil when oil is collected up to the red line of the oil reservoir.
- The oil reservoir may be detached when it is rotated counter-clockwise.



Water Unit

Dental unit waterline

Regular monitoring of water quality in dental treatment machines is very important. The test frequency depends on the Your test results and water quality indicators. Initially, please test it once a month. If for three consecutive months, the monthly test results pass you for all the treatment rooms Set clinic water quality indicators, you can reduce the test frequency to every three Once a month.

In addition to running laboratory tests, you can also use a "Total Count Tester" as a simple means of performing this test. Follow the following steps:

1. Remove the dental cell phone, accessories, and motor. Wipe the water with an alcohol cotton pad Pipe line outlet (spray gun nozzle, dental mobile phone hose terminal, etc.), To avoid external pollutants.
2. Collect equal amounts of water from each sample outlet (e. g. if there are two Root Dental cell phone hose and tw o dental sprays, please separately from each Collect about a quarter of the sampling water at the outlet). Follo w the monitor Attachd instructions, collection and sampling.
3. Follow the monitor instructions to store and process the sampling.

The results obtained from the monitoring steps can help you understand the teeth in each treatment room Wa- ter quality of the department treatment machine. It can also help you determine the next exercises to take Do: Continue using the icx for maintenance or shock.

dental unit Water quality guidelines or requirements vary from region to region and are usually generated per ml colon y Bits (cfu /ml) are specified.

A total of 200 cfu / ml is recommended as an action threshold.

You can also act as you when Local applicable guidelines or requirements, setting additional action thresholds for clinics. If the test Test results are above the action threshold, please clean the Waterline.

The following is Beyes recommended procedure for dental unit waterline cleaning and maintenance

* Step 1 : Add Waterline Cleaner

Check water bottle and water supply switche (Switch to night side).

1. Detach the Bottle from the Unit and fill it with 1.2L of Waterline Cleaner, then re-install.
2. Set the water supply switch to left side for botter water.
3. Remove Hand-piece, Scaler etc. from the hose.
4. Activate Hand-piece hoses and air/water syringes until Waterline Cleaner exits.
5. Set the water switch to night side for City Water Supply.
6. Turn dental unit OFF. Allow Waterline Cleaner to treat waterlines at least 12 hours before proceeding to Step 2

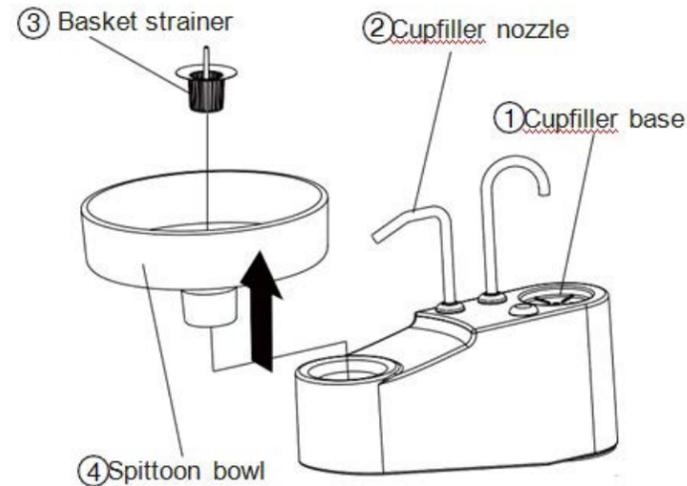
* Step 2 : Flush dental unit waterlines

1. Turn dental unit ON. Flush waterlines with water for adequate time to remove any excess Waterline Clean- er.
2. Detach the spittoon and bottle to clean.

Water Unit

Cleaning of spittoon

- Use MD550 made by Durr to cleaning the spittoon bowl. Detach the spittoon bowl according to the following procedures.
1. Swing the cupfiller nozzle to outward.
 2. Remove the (3) drain cap and pull out the (4) basket strainer.
 3. Pull out the spittoon bowl. Place the all parts in a reverse procedure after cleaning.
- Wash the cupfiller base, drain cap and basket strainer with running water
 - The basket strainer in the spittoon bowl is easily clogged. Clean it at the end of each work day.



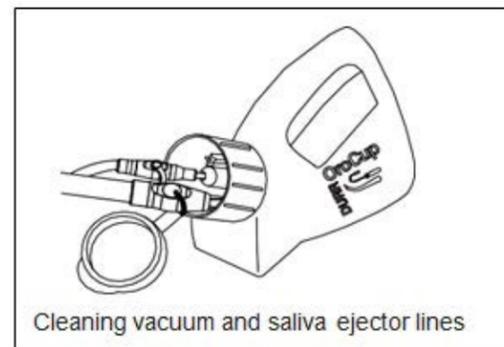
CAUTION

- The spittoon bowl is made of glass. It may break if it is impacted. Do not wash it with hot water. Otherwise, it may break.
- Never use sandpaper, metal scrub brushes and abrasive cleaning agents to clean the bowl.
- Do not use strongly acidic cleaning agents or alkaline pipe cleaning agents, which may cause corrosion of metals, etc.
- Turn off the main switch when mating/unmating the spittoon bowl or cup filler tray. Otherwise, response to hands or objects during mating/unmating may produce discharge of water, including bowl rinse water, leading to rusting of metals.
- Be careful not to apply unnecessary force to it when cleaning. (Be careful not to hit or drop it.)

Cleaning of vacuum / saliva ejector lines

The sucking unit comes into contact with secretions, spit and blood that contain bacteria every day. Be sure to clean and sterilize it at the end of each work day.

Recommended cleaner : Orotol Plus made by DURR.



CAUTION

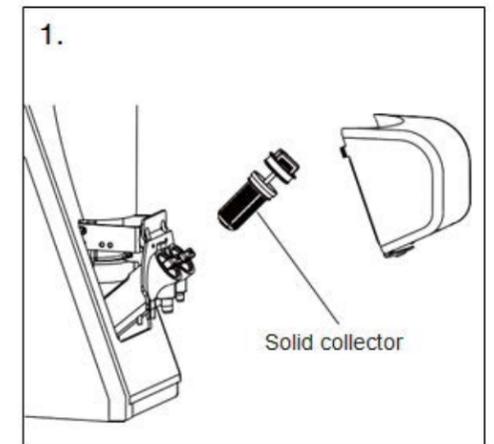
- Do not use strongly acidic cleaning agents or alkaline pipe cleaning agents, which may cause corrosion of metals, etc/

Water Unit

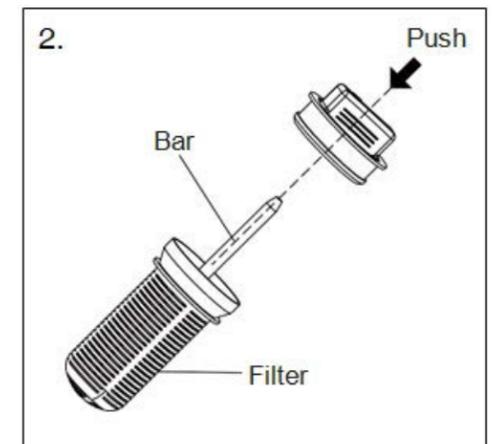
Cleaning of the solid collector

Detach and wash the filter in the solid collector of the Cuspidor unit at the end of each work day. If sucked substances are collected, the suction force of the vacuum is reduced.

1. Pull out and detach the filter in the solid collector from cuspidor unit.



2. The filter can be removed from solid collector by pushing the bar from front side of the solid collector and clean with running water.



CAUTION

- Clean the filter carefully with running water. Do not use brush to clean the filter, it may cause damage to the filter.

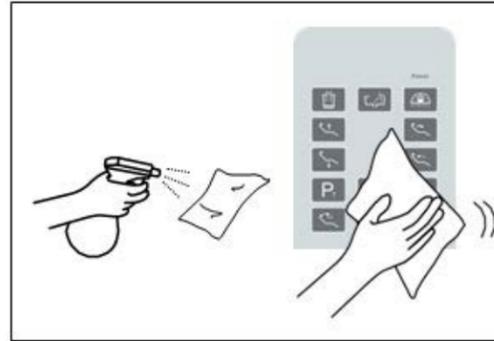
NOTICE

Note: After daily operation, run two cup of clean water through handpieces to clean inside.

Assistant Element

Assistant membrane switch panel

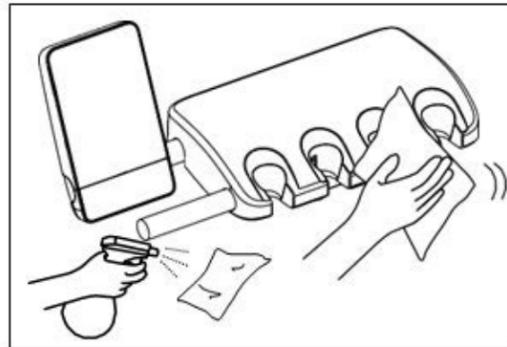
- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning and sterilization. Wipe off with dry soft cloth to dried up of the assistant membrane switch panel.



In case the surface of the membrane switch panel is wiped with disinfectant agent or the like, fully wipe away the chemical. Membrane switch malfunction may arise if the chemical penetrates to the back face of the membrane.

Assistant Instrument holder

- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning and sterilization. Wipe off with dry soft cloth to dried up of the assistant instrument holder.

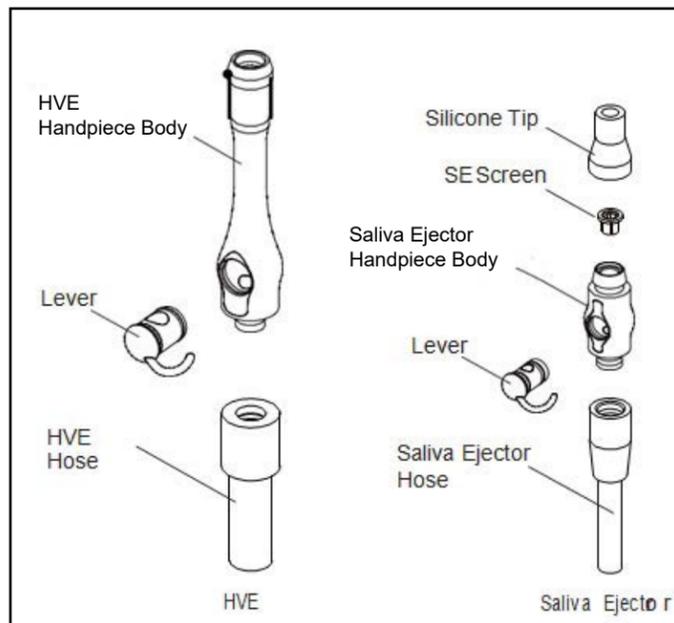


Cleaning of Vacuum Handpiece / Saliva Ejector Handpiece

- Pull out the HVE from the hose and clean it.
- After daily operation, run two cups of clean water through the suction line to clean inside.

Note: After cleaning the HVE and Saliva Ejector, apply a white vaseline lightly on the rubber ORings to prevent damage to this O-Ring.

* Use the disposable saliva ejector tip.

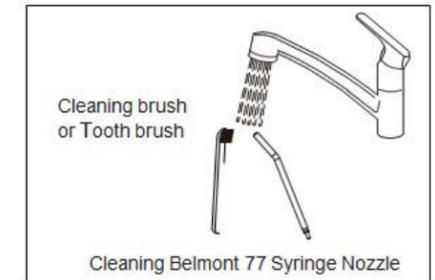
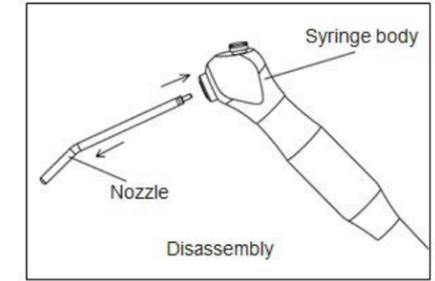


Air Water Syringe

Cleaning of Belmont 77 syringe

- Disassembly
Remove the nozzle from syringe by turning it in direction A.

- Cleaning by hand
- Wipe off the surface contamination by a cloth while rinsing the surface by running clean warm water at 40 ± 5 . Scrub the tip and joint part of nozzle by a cleaning brush or by a tooth brush with running clean warm water at 40 ± 5 .
 - Rinse thoroughly by distilled water at ordinary temperature or by clean water for more than 1 minute.
 - Check whether contamination is removed or not after cleaning. Continue the cleaning if contamination is remained.
 - Immersed with an alkaline detergent for 5 minutes. (We recommend to use ID212 made by DURR)
 - Rinse thoroughly by distilled water at ordinary temperature or by clean water for more than 1 minute.



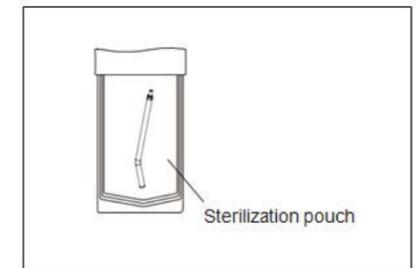
Cleaning must be done within 1 hour after use. Throw out and do not take autoclave handpiece for following cases.

- Contamination and solid material attached to handpiece can not be removed.

Sterilization of Belmont 77 syringe

The nozzle can be sterilized with autoclave. Sterilization with autoclave is permitted up to 250 times.

- Insert the handpiece in a sterilization pouch and seal it.
- Autoclave for 20 min. at 121°C or 4 min. at 135°C . Apply Vaseline thinly and evenly to the two O-rings after sterilization.
- Tighten the nut firmly in direction B to undo the nozzle.



Storage

After cleaning the nozzle, keep it in the clean place.



- Sterilization by class B cycles.
- Sterilization temperature is 135°C or less.
- Skip the drying process if the temperature is to exceed 135°C .
- If damage occurs to the sterilization pouch, discard and sterilize again using a new pouch.
- Before use, make sure that the nut is firmly tightened.

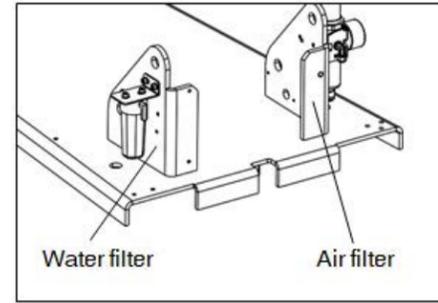
Care, Cleaning and Maintenance

Utility Box Section

Filter Replacement

The water filter in the junction box needs to be replaced at least once a year.

The air filter in the junction box needs to be replaced at least once every three years. Contact your local service representative for replacement.



Product Exterior

Cleaning of product exterior

- Clean the metallic parts with a dry soft cloth. Wipe off water immediately if water is put on the product. Water may cause rusting.
- Clean the resin parts with a wet soft cloth.

Sterilization of product exterior

- Use FD333 or FD366 made by Durr for cleaning and bacteria elimination from the product exterior.

NOTICE

Wipe off water and residual disinfectant immediately. Corrosion and rusting may arise otherwise.

Care, Cleaning and Maintenance

Maintenance

| Components | Check period | Clean or replace conditions | Maintenance procedure |
|----------------------------|--------------|---|---|
| Water filter | Each month | Filter polluted | <ul style="list-style-type: none"> • Cut off the power and water supply. • Open the front cover, and take off the plastic container at water filter. • Take off the filter element, and get it cleaned with water or replaced. • Then reinstall the filter and front cover. |
| | | Filter polluted | |
| | | Used more than one year | |
| Air pressure relieve valve | Each month | Water volume above 3/4 of the container | <ul style="list-style-type: none"> • Cut off the power and water supply. • Open the front cover, press to 3-way syringe, to release the air inside and drive the water outwards. • Then reinstall the front cover. |
| | | Water unclean | |
| | | Used more than one week | |
| Dirt trap | Each day | Used more than one week | <ul style="list-style-type: none"> • Clean with water. |

Note: Please process the dirt according to regulation.

Care, Cleaning and Maintenance

Troubleshoot

| Malfunction | Cause Analysis | Solution |
|---|--|---|
| No power for dental light | <ul style="list-style-type: none"> Bulb damaged Ineffective contact Ineffective connection in sockets Twisted cables in joints | <ul style="list-style-type: none"> Replace bulb Adjust with tools Adjust with tools Replace cable |
| No water from either cup filter or bowl rinsing | <ul style="list-style-type: none"> Twisted or pressed hose Electromagnetic valve damaged | <ul style="list-style-type: none"> Adjust or replace hose Replace electromagnetic valve |
| Suctions blockage | <ul style="list-style-type: none"> Filter blockage in assistant element Hose blockage | <ul style="list-style-type: none"> Clean filter Clean hose with water |

Note: Please process the dirt according to regulation.

Care Storage, Lifetime, Disposal and Restrictions of use

Storage method

Strictly observe the following points when the product will not be used for a long period of time (following the completion of work, during the suspension of business, etc.).

- Main switch
 - Be sure to turn off the main switch at the end of each work day . (To stop supply of air, water, electric power, etc.)
 - Strictly observe this instruction to prevent water leakage and electric accidents.
- Water main valve
 - Be sure to turn the main water valve counterclockwise to the Close position at the end of each work day.
- Be sure to turn off the compressor breaker and then discharge air from the compressor. (Be sure to turn off the power.)
- Be sure to turn off the vacuum pump breaker. (Be sure to turn off the power.)
- Be sure to turn off the equipment breaker on the clinic's electrical panel. (Be sure to turn off the power.)

Lifetime

The durable period of this product is 12 months (self-certification based on in-house data) from manufacturing and shipment, provided regular maintenance and inspection is done. However, parts requiring periodical maintenance have different durability periods. See the section on maintenance and inspection.

Consumable parts

The consumable parts are predicted to be abrasion, deterioration, and changes in external appearance or damage through use. Please note that repair or replacement of these parts is not covered by warranty, and fees will be required.

The level and period of abrasion, deterioration or damage may differ depending on the environment and condition that the client uses this product in)

Stock period of parts

Our company will keep maintenance parts of the products such as consumables and periodical replacement parts, etc., for ten years after sales.

Note : Maintenance parts means parts necessary for repair services for restoring the original conditions and functions of the product and maintaining those functions.

Disposing of equipment

When disposing the unit & chair, appropriately dispose complying with all current applicable regulations and local codes. In EU area, EU directive 2002/96/EC on waste electrical and electronic equipment (WEEE) is applied on this product. In this directive, environment conscious recycling/abandonment is obligated.

List of Cmpatible Handpieces

| Turbine | Air motor | Micromotor | Scaler |
|------------------------|-----------------|-------------------|-----------------------|
| AirLight M800 Series | Maxso Air Motor | Maxso E800 System | Comfort-Sonic P9 |
| AirLight M800X | | | Comfort-Sonic P6 Plus |
| AirLight M200 Series | | | |
| Maxso Low Speed Series | | | |

EMC Declaration

EMC Declaration

| Guidance and manufacturer's delcaration - electromagnetic emissions | | |
|---|----------------|---|
| The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should assure that it is used in such an environment. | | |
| Emissions test | Compliance | Electromagnetic environment - guidance |
| RF emissions CISPR 11 | Group 1 | The product must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected. |
| RF emissions CISPR 11 | Class B | The product is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes. |
| Harmonice missions IEC 61000-3-2 | Not applicable | |
| Voltage fluctuations/flicker emissions IEC 61000-3-3 | Not applicable | |

Table 202 - Declaration - electromagnetic immunity

| Guidance and manufacturer's declaration - electromagnetic immunity | | | |
|---|----------------------------|----------------------------|---|
| The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should assure that it is used in such an environment. | | | |
| Immunity test | IEC 60601 test level | Compliance level | Electromagnetic environment - guidance |
| Electrostatic discharge (ESD) IEC 61000-4-2 | ±6 kV contact ±8 kV air | ±6 kV contact ±8 kV air | Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%. |

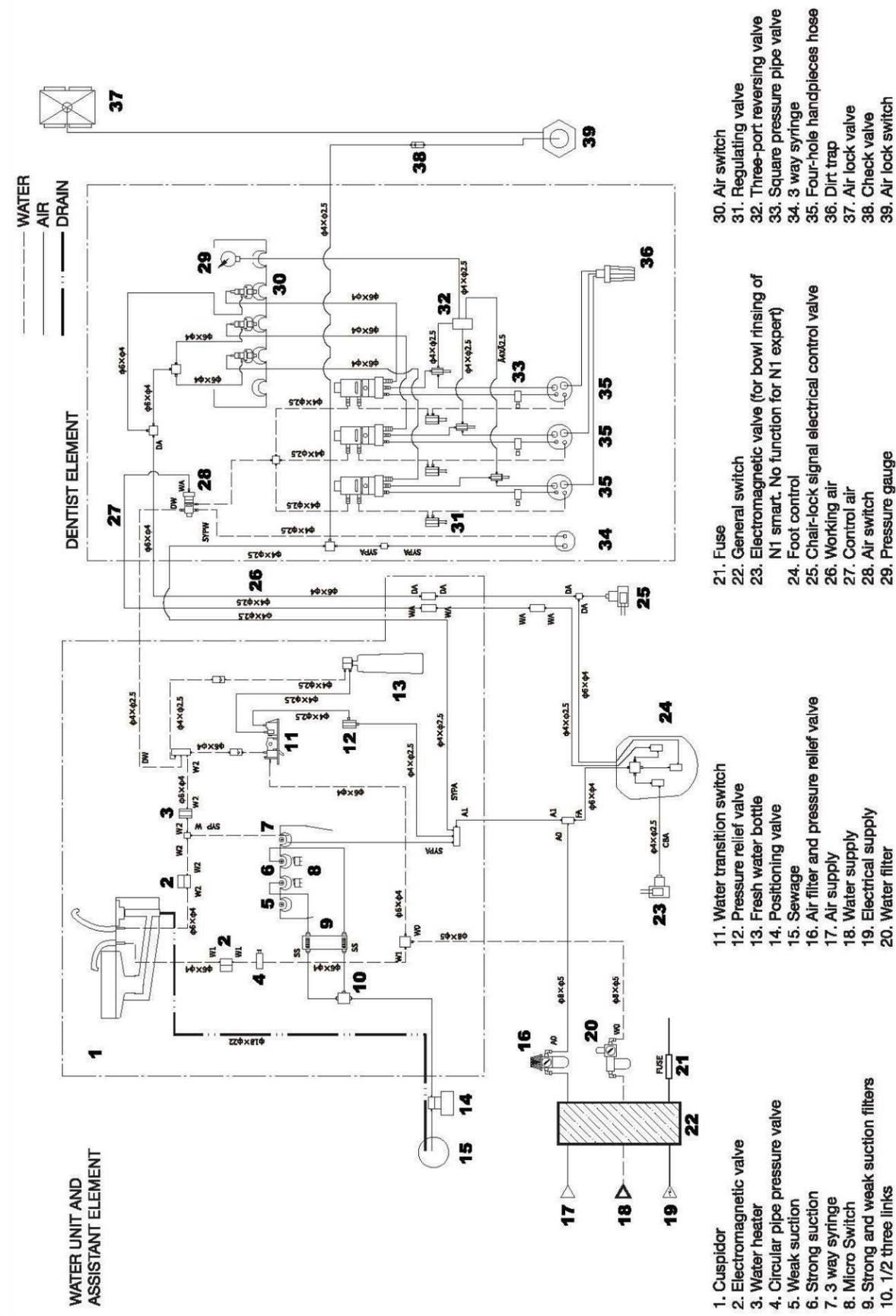
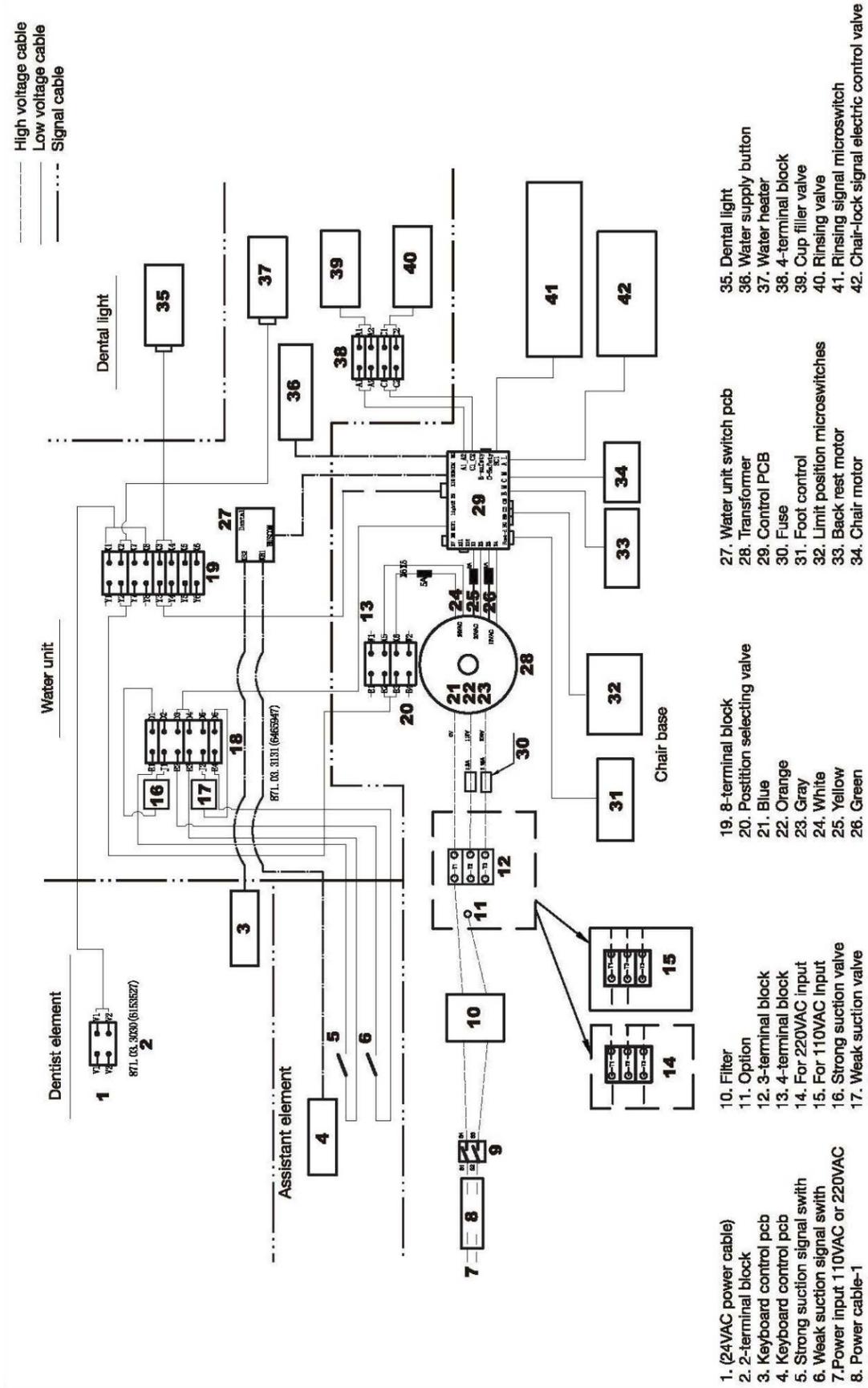
Table 204 - Declaration - electromagnetic immunity

| Guidance and manufacturer's declaration - electromagnetic immunity | | | |
|--|-----------------------------|------------------|--|
| The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should assure that it is used in such an environment. | | | |
| Immunity test | IEC 60501 test level | Compliance level | Electromagnetic environment - guidance |
| Conducted RF IEC 61000-4-6 | 3 Vrms 150 kHz to 80 MHz | 3 Vrms | Portable and mobile RF communications equipment should be used no closer to any part of the product, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. $d = 1,2\sqrt{P}$ $d = 1,2\sqrt{P}$, 80 MHz to 800 MHz $d = 1,2\sqrt{P}$, 80MHz to 2.5GHz Where P is the maximum output power rating of the transmitter in watts(w) according to the transmitter manufacturer and d is the recommended separation distance in meters(m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol:  |
| Radiated RF IEC 61000-4-3 | 3 V/m 80 MHz to 2.5 GHz | 3 V/m | |
| NOTE 1 At 80MHz end 800 MHz, the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people. | | | |

- Field strengths from fixed transmitters, such as base stations for radio(cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the product is used exceeds the applicable RF compliance level above, the product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the Model Number or Type Number -by manufacturer.
- Over the frequency range 150 kHz to 80 MHz, field strengths should be less than $[V_i]V/m$.

Table 206-Recommended separation distances between portable and mobile RF communications equipment and the product

| Recommended separation distances between portable and mobile RF communications equipment and the product | | | |
|---|---|--|--|
| The product is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the product can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the product as recommended below, according to the maximum output power of the communications equipment. | | | |
| Rated maximum output power of transmitter W | Separation distance according to frequency of transmitter m | | |
| | 150 kHz to 80 MHz $d = 1,2\sqrt{P}$ | 80 MHz to 800 MHz $d = 1,2\sqrt{P}$ | 80 MHz to 2.5 GHz $d = 1,2\sqrt{P}$ |
| 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 transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters(m) can be estimated using the equation applicable to the frequency of the transmitter, where P the maximum output power rating or the transmitter in watts (W) according to the transmitter manufacturer. | | | |
| NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies | | | |
| NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection structures, objects and people. | | | |





Federal law restricts this device to sale by or on the order of a dentist, physician, or any other practitioner licensed by the law of the states in which he or she practices to use or order the use of this device.

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