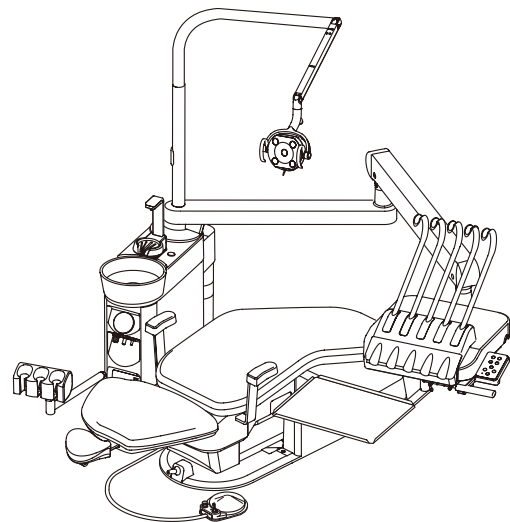
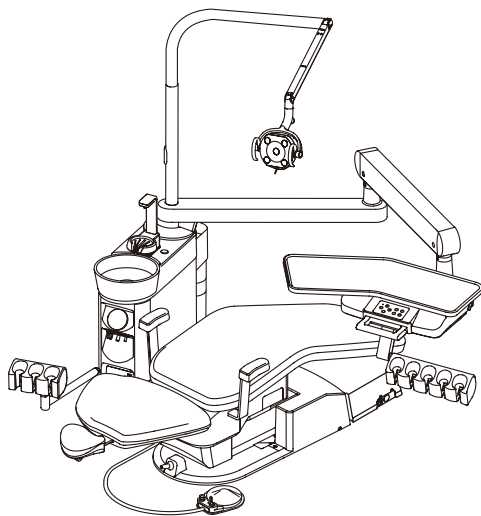


DENTAL UNIT

CREDIA G1

OPERATING INSTRUCTIONS



Thank you for purchasing TAKARA BELMONT product.

- **Please read through this instruction manual carefully before using the product to ensure proper use. Failure to read the instruction manual before use may lead to an accident.**
- **After the installation has been completed, keep this instruction manual near the product for future maintenance. Refer this manual as needed.**
- **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.**

 **Belmont**



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Intended Use of the Product

This product is an active therapeutic device intended for the exclusive use for diagnoses, treatments and relative procedures of dentistry.

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.

The product is supplied together with the handpieces like air turbine and/or motor, scaler and so on.

Connectable handpieces for this product

Please check with your distributor or Belmont for connectable handpieces.

Compatibility of Chair

This unit should be combined with the chair described in the list of compatible chair (Page 35).

Compatibility of Dental Light

This unit should be combined with the dental light described in the list of compatible dental light. (Page 35).

Important Notes

In case of the troubles, please contact Takara Belmont 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.

In case of disposal of equipment

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



































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

Disposal of residue material

Please request a special contractor when you dispose amalgam.



SYMBOLS

In this manual, on the labels, on the control panel of CREDIA G1, following symbols are used. Confirm the meaning of each symbol.

	Protective earth (ground)		Functional earth (ground)		ON (power)		OFF (power)
	Alternating current		Chair last position		Chair auto return		Chair preset 1
	Chair preset 2		Chair manual control		To raise the chair		To recline the backrest
	To lower the chair		To raise the backrest		Bowl flush		Syringe
	Service outlet (water)		Service outlet (air)		Service outlet water flow control		Water heater
	Fiber optic handpiece light on/off		Electric Scaler		Electric Scaler Power Adjustment		Refer to operating instructions
	Caution It means "caution, warnings, or possibility to danger"		Autoclave Symbol This symbol on component means that the component can be sterilized with an autoclave at 135°C max.		Type B Applied Parts		Manufacturer
	Serial number		Date of manufacture		Authorized representative in the European community		Non-ionizing radiation
	Separate collection for electrical and electronic equipment		Comply with MDD,93/42/EEC and RoHS Directive, 2011/65/EU				

SAFETY PRECAUTIONS

- 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 imminence of possible injury or damage resulting from improper use. Be sure to follow all the information, which is important for safety.

Classification of precautions	Severity and degree of imminence of possible injury or damage
 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. 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 legrest of dental chair. This could cause the unit to topple or could damage the unit.

4. 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.

5. 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.

6. 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.

7. 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.

SAFETY PRECAUTIONS

WARNING

8. 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 operation of this product.

9. 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.

10. Do not place objects weighing 2 kg or more on the Doctor's table (Holder type)

Do not place objects weighing 2 kg or more on the Doctor's table. This could cause damage to the Doctor's table, defective function or accidents.

11. Do not place objects weighing 1.5 kg or more on the sub tray (Rod type/Continental Type)

Do not place objects weighing 1.5 kg or more on the sub tray. This could cause damage to the sub tray, defective function or accidents.

12. Immediately wipe off any water spills or leakage on the floor

Immediately wipe off any water spills or leakage on the floor. This could cause damage to the product, decreased strength of the floor may lead to physical injury including fall, or property damage.

13. 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 abnormalities in patients during use, immediately turn off this product and discontinue use.

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.”

SAFETY PRECAUTIONS

CAUTION

5. 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.

6. 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.
- Be sure to move up & down the Doctor's table by releasing the balance arm brake of the unit.

7. Do not smack or rub this product

Do not smack or rub this product forcefully. This could cause damage to covers or defective function.

8. 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.

9. 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.

10. 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.

11. 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.

12. Precautions for sterilization

Do not sterilize besides the procedures that we provide. This could cause damage to the unit.

13. 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.

14. 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.

15. 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.

16. 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 to ensure proper use.

17. About LED light of the panorama size film viewer (Optional)

- Your eyes could be dazzled by LED light not only under dark environment but also under normal environment. Be careful about the brightness of the ambient.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY PRECAUTIONS

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.

3. 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 or water systems, etc.) may result in failure of equipment.

4. Use the turbine with a water check valve

Use the turbine with a water check valve. Contact the dealer or our company when a turbine without a water check valve will be used.

5. 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.

6. Be careful not to drop the syringe

Be careful not to drop the syringe. Otherwise, it may break or the nozzle may deform.

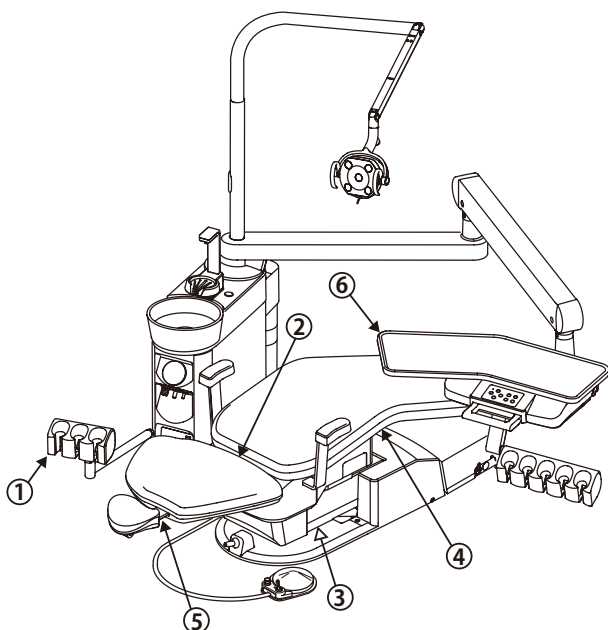
SAFETY PRECAUTIONS

■ Caution Points During Operation of the Product

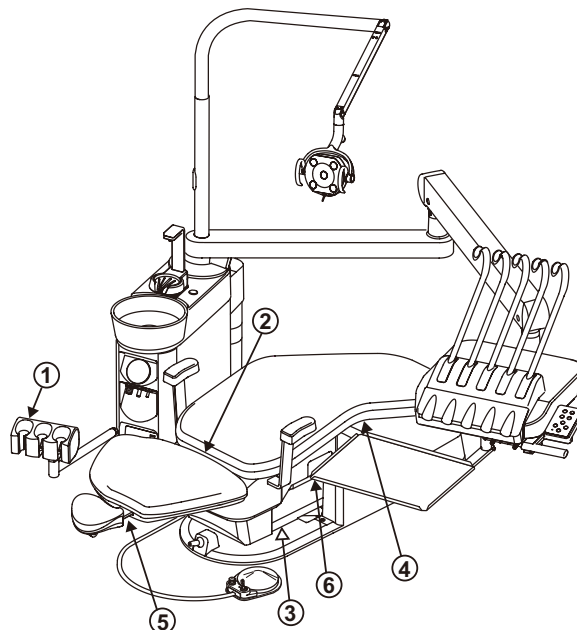
Description of Symbol Marks

- : Caution areas such as moving parts, rotating parts and detachable parts to which caution should be paid.
- ▷ : Caution areas that are provided with an emergency stop mechanism.

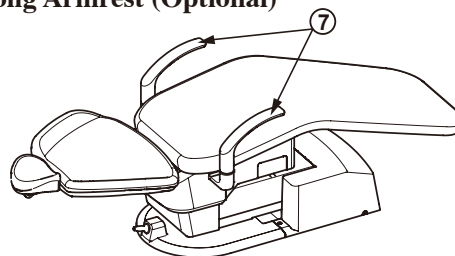
Over the Patient, Holder Type



Over the Patient, Rod Type (Continental Type)



Long Armrest (Optional)



① **Be aware of contact with the assistant's instrument holder.**

Ensure that the upper body of the patient does not go beyond the armrest into the cuspidor unit.

② **Take care not to be trapped by moving parts of the backrest.**

Do not put hands or feet into the gap between the backrest and the seat.

③ **Take care not to be trapped between the sub link cover and the base plate**

Do not allow feet or obstruct between the sub link cover and the base plate.

④ **Take care not to be trapped by the lower part of the seat.**

Do not put hands or feet into the gap in the lower part of the seat.

⑤ **Take care not to be trapped by moving parts of the headrest.**

Do not allow hands, fingers, or hair to become entangled in the moving parts of the headrest.

⑥ **Be aware of interference between the chair and the table.**

Do not move the table under the moving parts of the chair.

⑦ **Take care not to be trapped by the long armrest (Optional).**

Do not operate the chair with the armrest swing out 90 degrees.

OPERATING PRECAUTIONS

■ Please observe following cautions to avoid the damage.

CAUTION

1. Do not place anything hot on the unit

Do not place anything hot on the unit. This could cause deformation or discoloration.

2. Precautions for cleaning of the cuspidor bowl

The cuspidor bowl is made of ceramic. Never use sandpaper, metal scrub brushes or abrasive cleaning agents to clean the bowl.

3. 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.

4. 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.

5. Precautions for cleaning

- Never use sandpaper, metal scrub brushes and abrasive cleaning agents to clean the unit.
- Do not use strongly acidic cleaning agents or alkaline pipe cleaning agents to avoid corrosion of metals, etc.

PRACTICE OF FLUSH OUT


PRECAUTIONS FOR WATER QUALITY

CAUTION

Practice the flush out of water retained in the unit at the beginning of each work day to maintain the quality of dental treatment water and ensure a steady supply of water to handpieces.

- After this unit has not been used for a long period of time (at the beginning of the week, in the morning, etc.), water retained in the hose inside the unit or water heater will create an environment where unwanted bacteria are likely to grow. In order to ensure safe treatment and untroubled operation of handpieces, practice the flush out of the unit water line at the beginning of each work day.
- It is recommended that flush out of water inside the unit and hose of handpieces should be performed with fresh water at the end of morning office hours and at the end of each work day to inhibit the growth of unwanted bacteria.

Standard time required for flush out of the unit water line

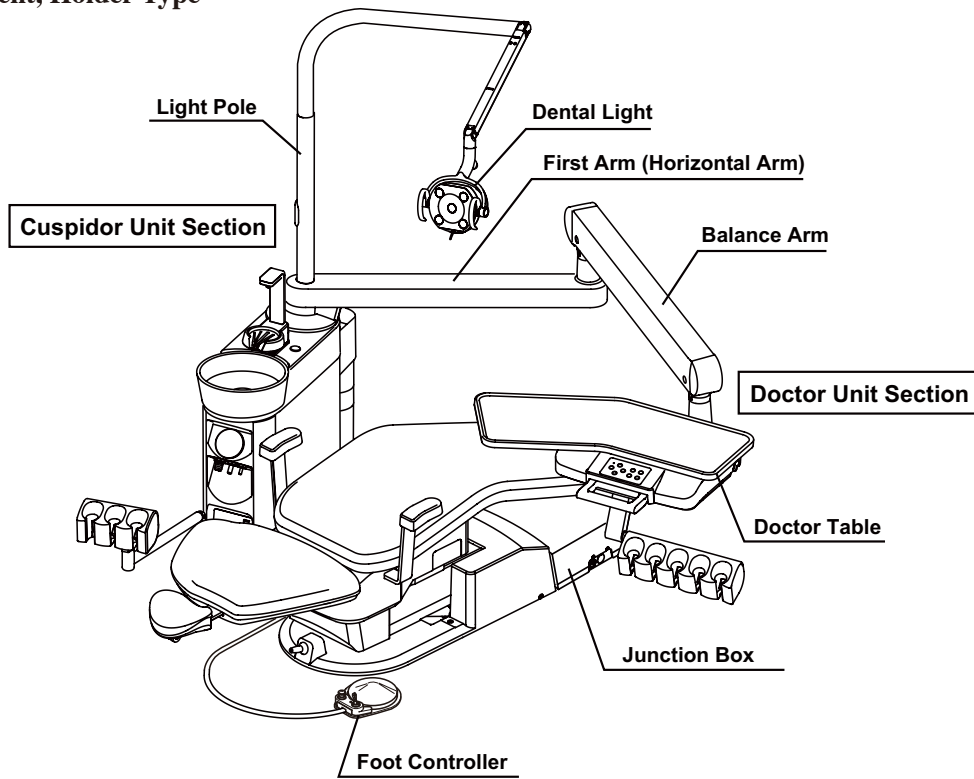
<ul style="list-style-type: none"> ● Handpiece line Turbine Air Motor Scaler Syringe (Both Doctor' s and Assistant's) 	<p>Approximately 40 seconds per turbine, air motor, scaler and syringe (approximately 40 seconds when flush out of all of them is performed at the same time.)</p> <p> CAUTION Perform flush out of the scaler with it attached to the main unit. Otherwise, a malfunction may be caused.</p>
<ul style="list-style-type: none"> ● Cuspidor line Cup filler (water heater) Bowl flush 	<p>Approximately five minutes for water changing in the cup filler line.</p>

PROCEDURE OF FLUSH OUT

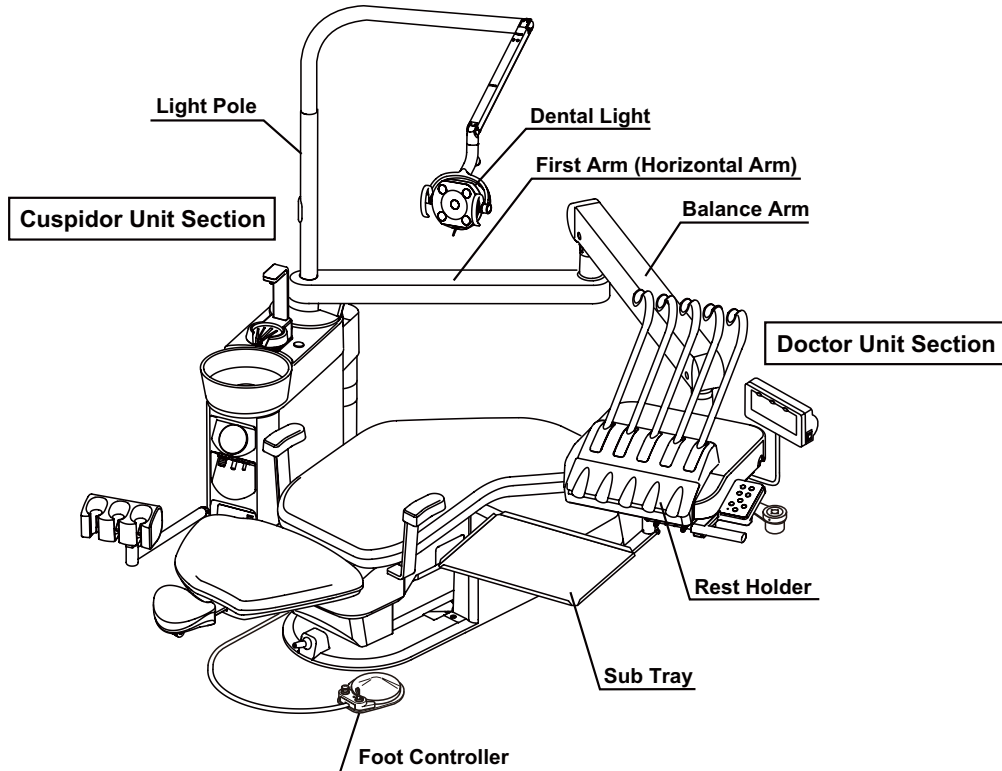
<ul style="list-style-type: none"> ● Handpiece line Pick up handpieces from the holder one at a time, leave the turbine untouched and remove the shank from the motor and hold the motor over the cuspidor bowl. (When the flush out function is active, pick up all handpieces in clusters and hold them over the cuspidor bowl.) 	<ul style="list-style-type: none"> ● Without Flushout Function Press the foot controller to flush out of the handpiece water. ● With Flushout Function Pick up the handpieces then turn on the flush out switch to flush out the handpiece water.
<ul style="list-style-type: none"> ● Cuspidor line Cupfiller (water heater) Bowl flush 	<ul style="list-style-type: none"> ● The water filled to the cup, then drain the water of the cup to flushing out the cupfiller water. Repeat it 7~8 times.

OVERVIEW AND MAJOR COMPONENTS

Over the Patient, Holder Type



Over the Patient, Rod Type (Continental Type)



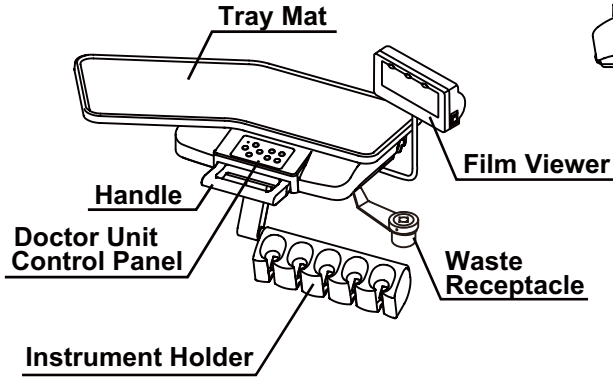
WARNING

Do not get on or place an undue load on the arm of this unit.

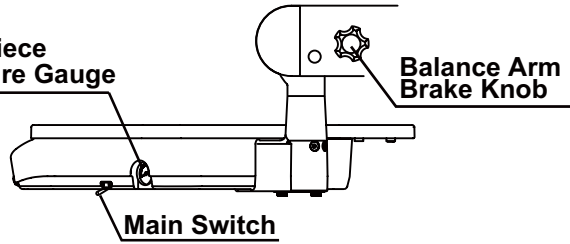
OVERVIEW AND MAJOR COMPONENTS

Doctor Unit Section

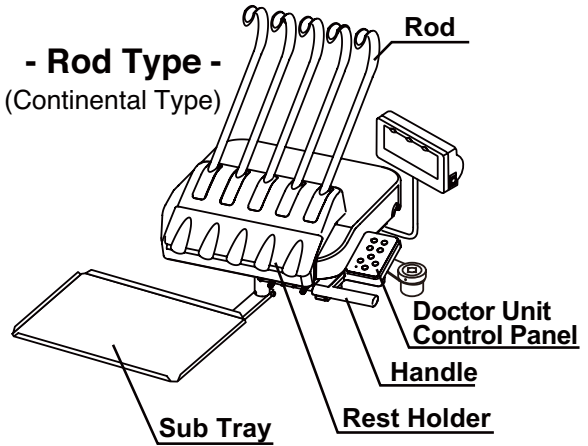
- Holder Type -



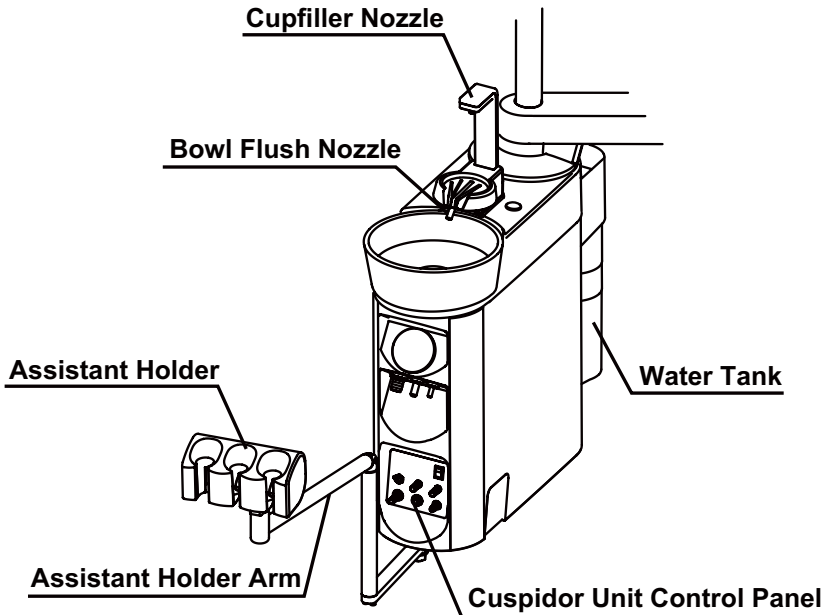
Handpiece Pressure Gauge



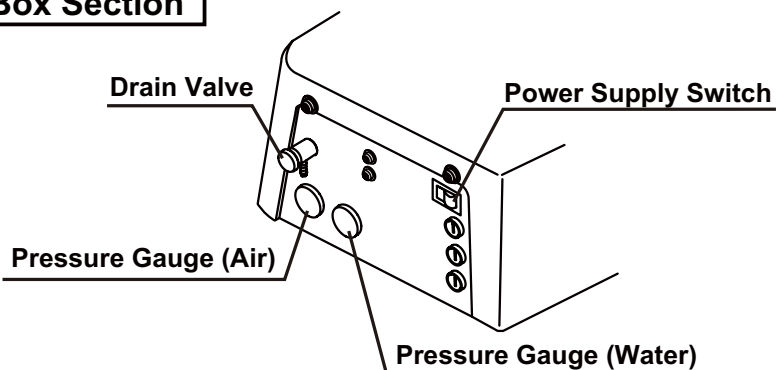
- Rod Type -
(Continental Type)



Cuspidor Unit Section

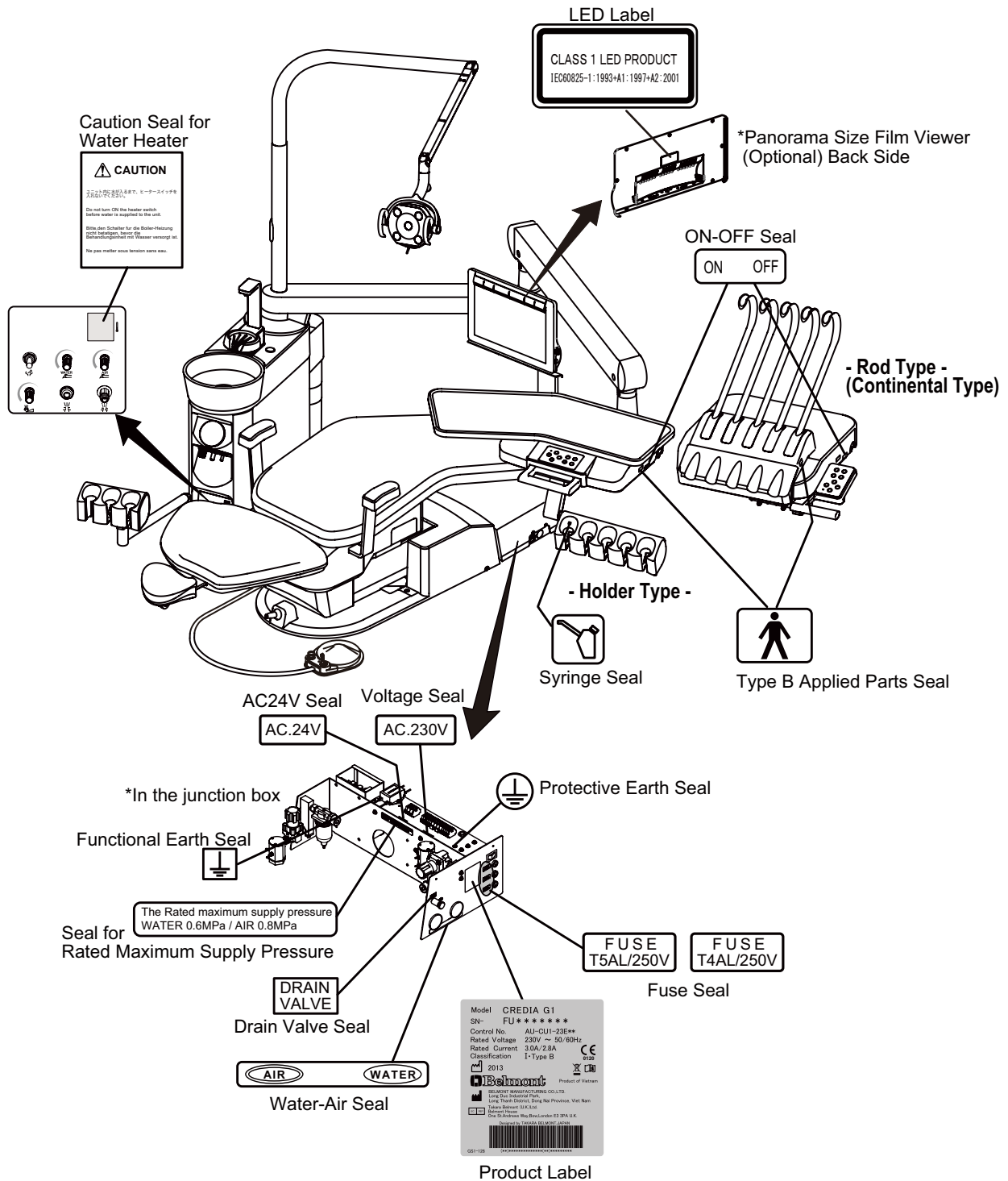


Junction Box Section



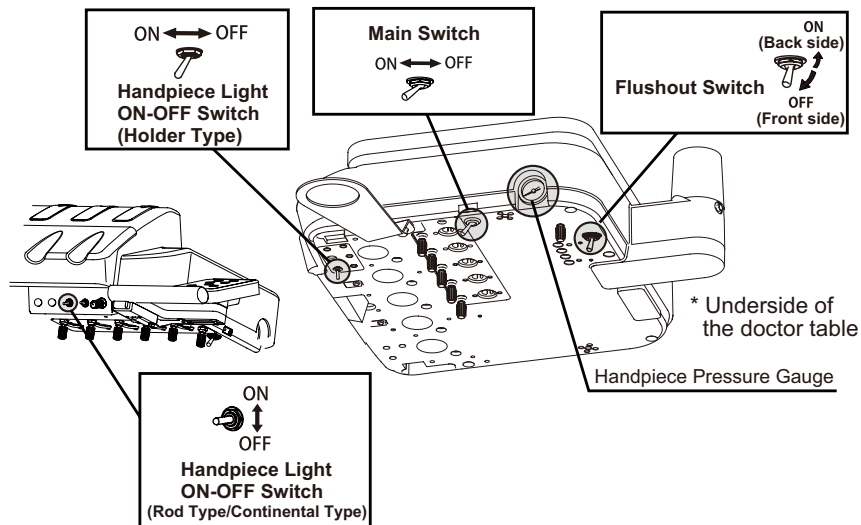
LOCATION OF THE LABELS

Labels are located on the product as below.

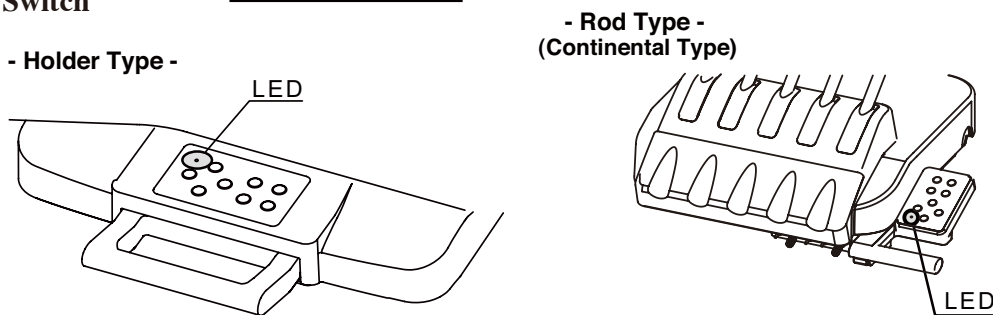


DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

1 Doctor Unit Section



■ Main Switch



- When the main switch is turned on, the MAIN LED on the doctor membrane switch panel lights up in green. This state permits motion of the unit and chair.

* 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.

■ Handpiece

- The handpiece is actuated by picking it up from the handpiece holder and operating the foot controller. Operation of the each handpieces, please refer to the manufacturer's instruction manual attached to the individual equipment. (Recommend to use the handpieces with CE markings.)

■ Handpiece Pressure Gauge

- Displays the handpiece drive air pressure.

■ Flushout Switch

- Pick up the handpiece from handpiece holder and turn on the flushout switch to flush the handpiece water line.
- During flushout, turn off the flushout switch will cancel flushout immediately.

■ Handpiece Light ON-OFF Switch

- Switching between on and off of the handpiece light occurs each time when this switch is changed.

⚠ CAUTION

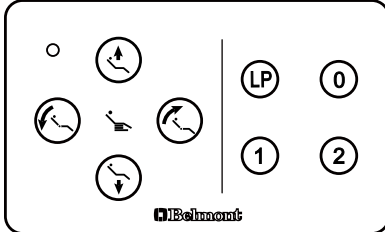
Be sure to operate switches with your hands. If operate with other than hands may cause damage or incorrect operation.

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

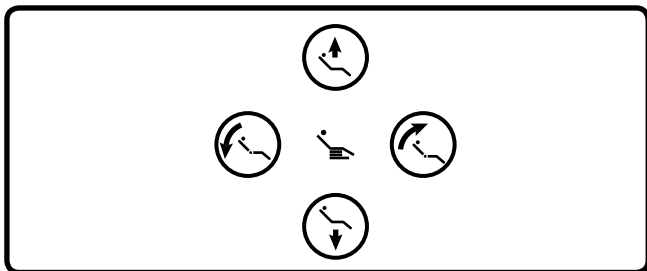
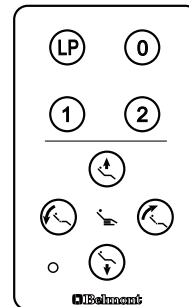
1 Doctor Unit Section

■ Doctor Unit Control Panel

- Holder Type -

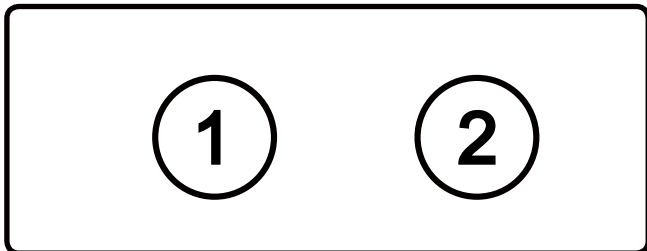


- Rod Type - (Continental Type)



Chair Manual Switch

- Switches provide manual operation for up/down and backrest reclining/raising of the chair.
 Press will move the chair up.
 Press will move the chair down
 Press will recline the backrest.
 Press will raise the backrest.



Chair Preset Switch

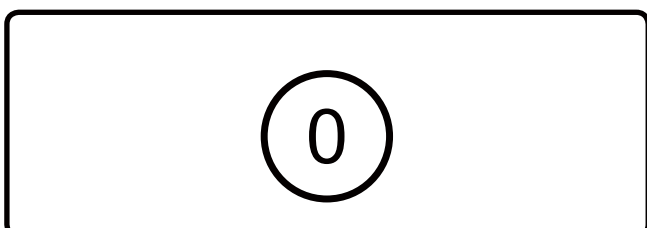
- Set the chair height and backrest angle in desired position(s), and actuate the chair by pressing < ① > or < ② > switch. Press any switches (chair/unit) for stopping the automatic movement.

Set the treatment position by chair manual switch

Keep pressing preset switch to be set for about 5 second

【Preset position setup procedures】

1. Move the chair to the treatment position using manual switches.
2. Upon deciding of the desired treatment position, keep pressing preset switch < ① > , or < ② > to be set for about 5 seconds. The buzzer sounds from the chair, and setup has been completed.
3. To change the set position, perform the procedures steps 1 and 2 above.



Chair Auto Return Switch

- When this switch is pressed, the chair moves downward to the initial position, and the backrest rises to upright position. Press any switches(chair/unit) for stopping automatic movement.

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

1 Doctor Unit Section

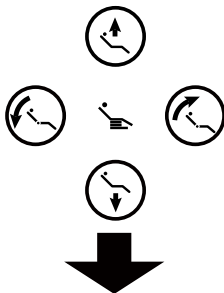
■ Doctor Unit Control Panel



Chair Last Position Switch

- When this switch is pressed in the fine-adjusted treatment position, the chair moves to the rinsing position. When the switch is pressed again, the chair returns to the former treatment position. Press any switches for stopping automatic movement.

Move the chair to rinsing position
by chair manual switch



Keep pressing LP for about 5 seconds



【Last position setup procedures】

1. Move the chair to the rinsing position using manual switches.
2. Upon deciding the desired rinsing position, keep pressing last position switch < LP > for about 5 seconds. The buzzer sounds from the chair, and setup has been completed.
3. To change the set position, perform the procedures steps 1 and 2 above.

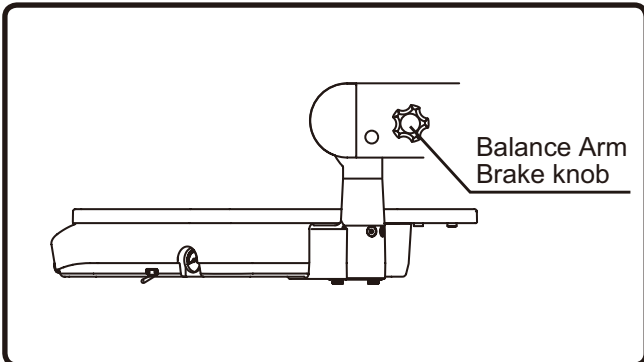
CAUTION

Confirm that the patient is seated in the proper position before operation of the chair and keep your eyes on the patient during operation. Be careful that the stool will not be caught in the gap between the chair backrest and the headrest when the chair is operated with an auto-switch. Damage to the backrest or stool may occur.

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

1 Doctor Unit Section

■ Balance Arm Brake Knob

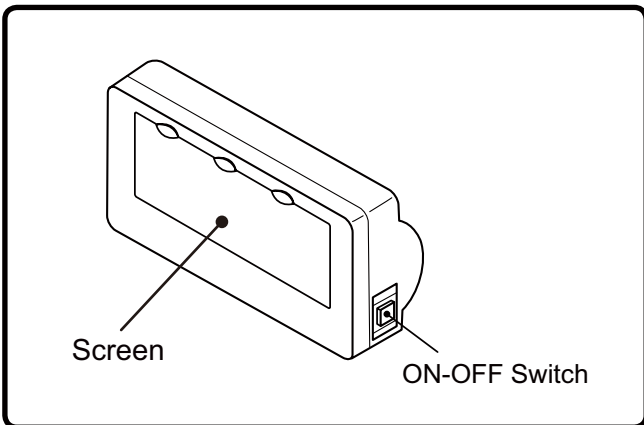


- Loosen a balance arm brake knob to adjust the table height.

! CAUTION

Be sure to move up & down the Doctor's table by loosen the balance arm brake knob.

■ Dental Size Film Viewer

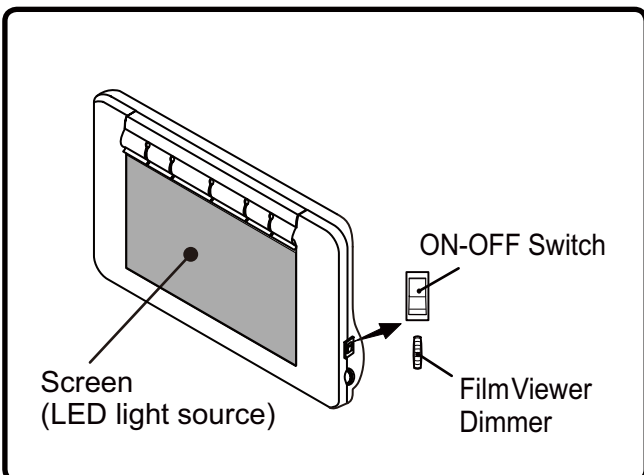


- The screen light is lit when the switch is pressed, and the screen light is off when the switch is pressed again.

NOTICE

Turn off the light when the film viewer is not in use.

■ Panorama Size Film Viewer (Optional)



- The screen light (LED light source) is lit when the switch is turned to the upper position (ON), and the screen light (LED light source) is off when the switch is turned to the lower position (OFF).
- The screen brightness increases when the brightness control dial is turned upward, and the screen brightness decreases when the brightness control dial is turned downward.

NOTICE

Turn off the light when the film viewer is not in use.

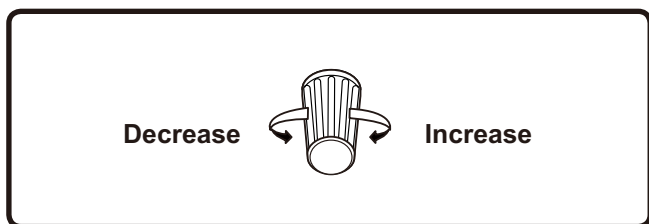
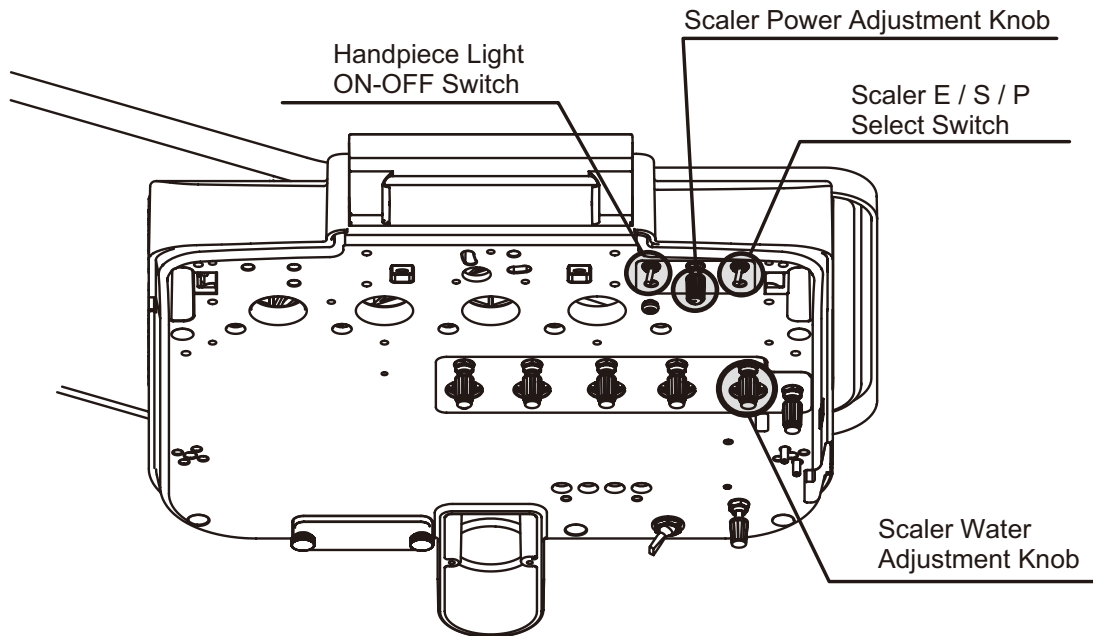
! CAUTION

- Your eyes could be dazzled by LED light not only under dark environment but also under normal environment. Be careful about the brightness of the ambient.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

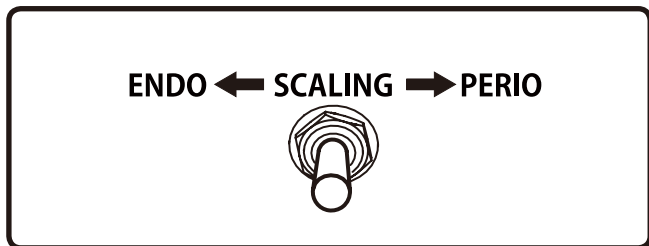
1 Doctor Unit Section

■ Electric Scaler (Holder Type)



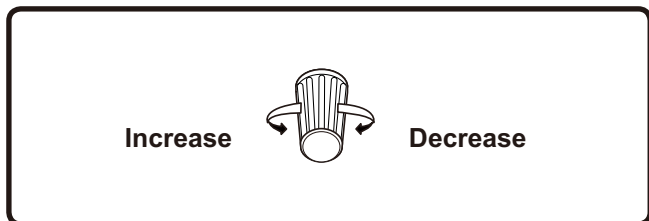
Scaler Power Adjustment Knob

- The knob adjusts the output power of the electric scaler. The output power increase when the knob is turned to clockwise, and the output power decrease when the knob is turned to counterclockwise.



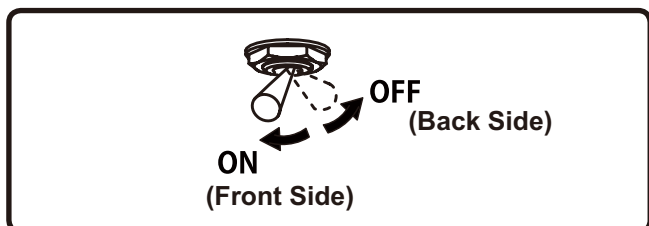
Scaler E / S / P Select Switch

- Electric scalers have 3 modes such as E (ENDO), S (SCALING) and P (PERIO) and can be chose a mode by turning the switch. EMS scaler doesn't have this mode.



Scaler Water Adjustment Knob

- Make adjustment of scaler water by the scaler water adjustment knob. The water flow rate decreases when the knob is turned clockwise, and the water flow rate increases when the knob is turned counterclockwise.



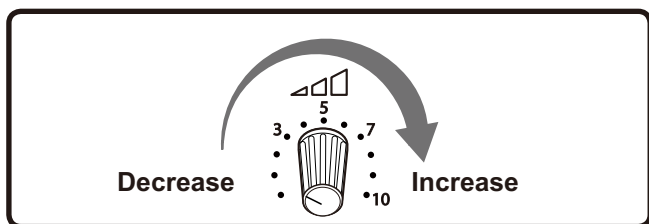
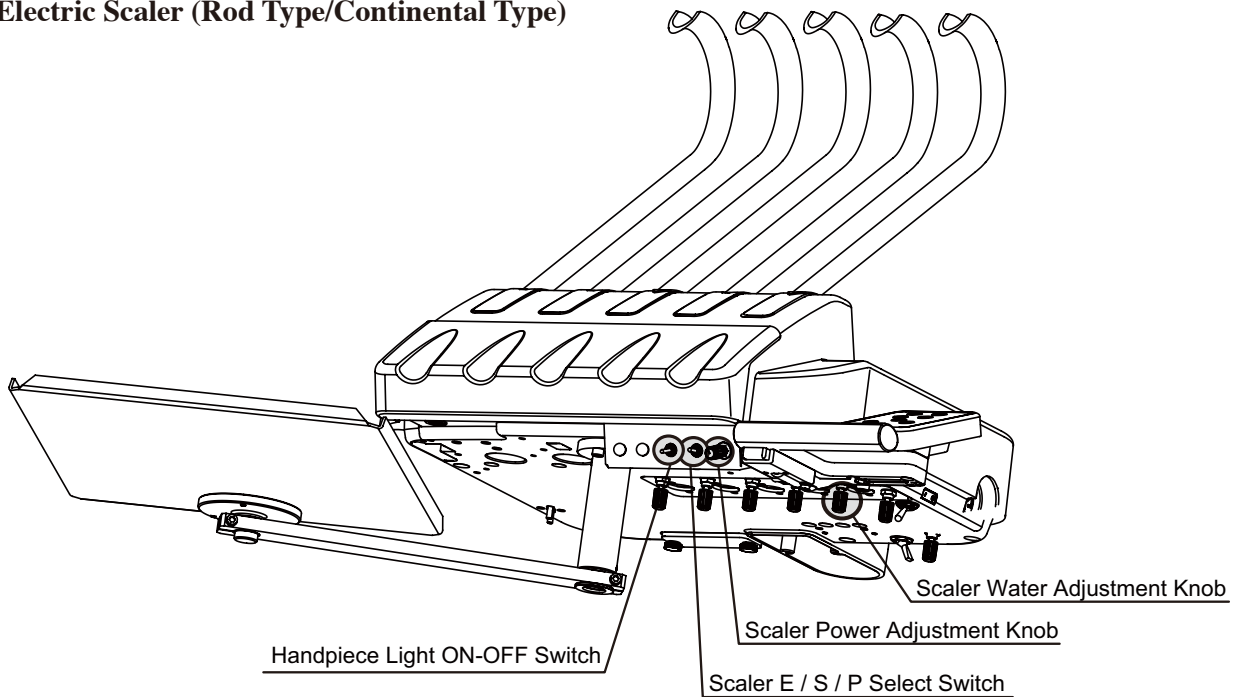
Handpiece Light ON-OFF Switch

- The switch turns the light ON/ OFF of the electric scaler.

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

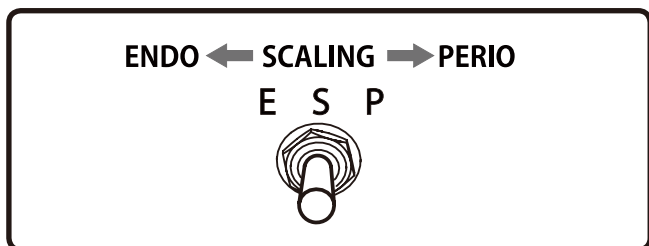
1 Doctor Unit Section

■ Electric Scaler (Rod Type/Continental Type)



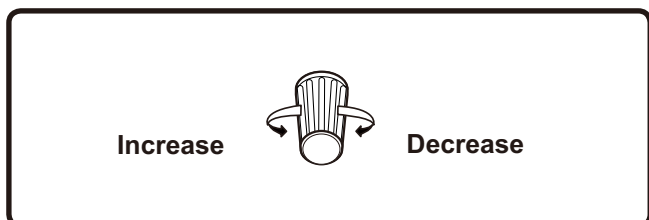
Scaler Power Adjustment Knob

- The knob adjusts the output power of the electric scaler. The output power increase when the knob is turned to clockwise, and the output power decrease when the knob is turned to counterclockwise.



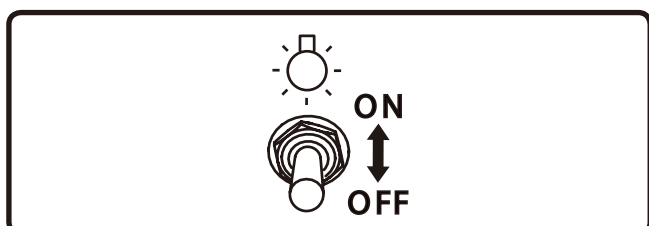
Scaler E / S / P Select Switch

- Electric scalers have 3 modes such as E (ENDO), S (SCALING) and P (PERIO) and can be chose a mode by turning the switch. EMS scaler doesn't have this mode.



Scaler Water Adjustment Knob

- Make adjustment of scaler water by the scaler water adjustment knob. The water flow rate decreases when the knob is turned clockwise, and the water flow rate increases when the knob is turned counterclockwise.



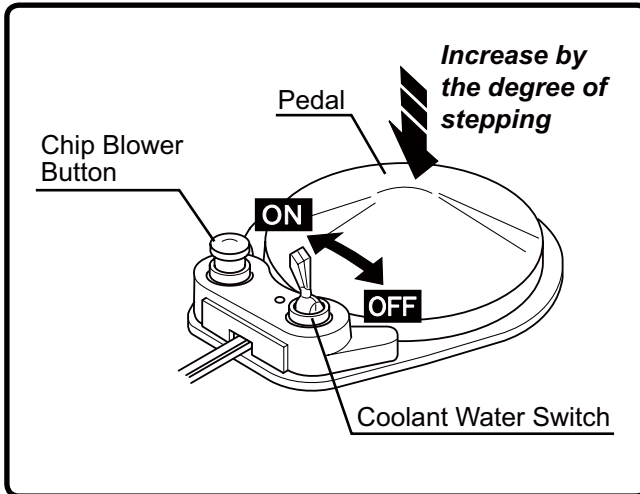
Handpiece Light ON-OFF Switch

- The switch turns the light ON/ OFF of the electric scaler.

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

2 Foot Controller

■ DCI Foot Controller



Pedal

- The pedal depressing extent can control the turbine and air motor rotation speed.

Coolant Water Switch

- Coolant water switch allows handpiece coolant water to be turned on or off.

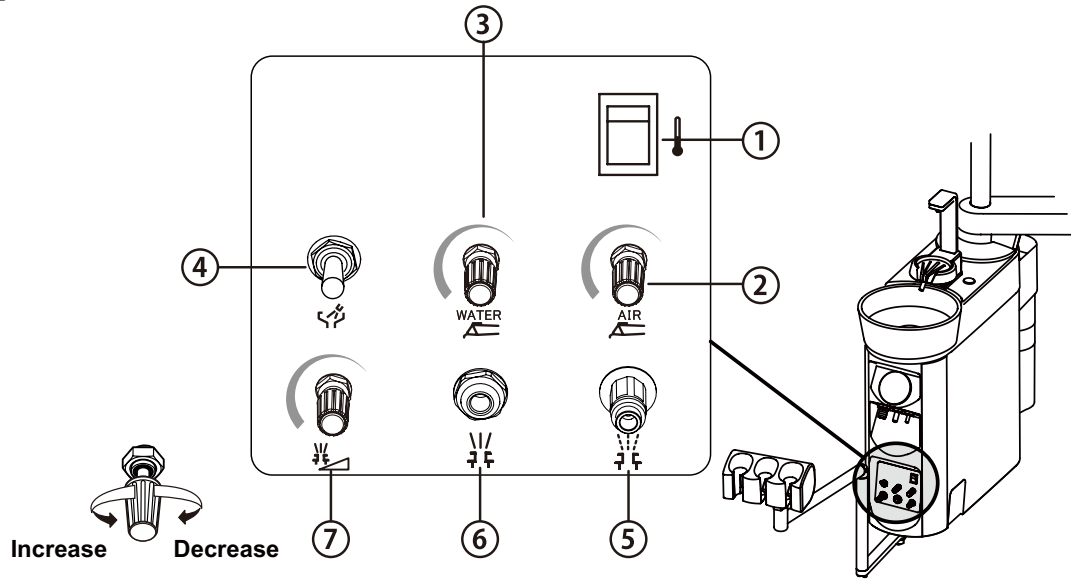
Chip Blower Button

- Chip air for blowing off the chips jets out of the handpiece when the chip blow switch is depressed.

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

3 Cuspidor Unit Section

■ Cuspidor Unit Control Panel

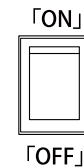


① Water heater switch

Switch for turning on/off the cupfiller water heater.

(The water temperature is set in around 36 degrees and water drips from the cupfiller nozzle when the water in the water heater is heated.

This phenomenon is not a sign of failure.)



⚠ CAUTION

- Make sure that water is poured into the cup before turning on the heater unit in order to prevent the heater unit from heating the cup without water.
- Heating of an empty water heater may result in burning of the heater.

② Syringe air control

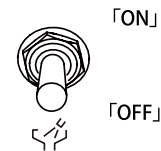
Make adjustment of syringe air by the syringe air control knob. (Refer to [ADJUSTMENT OF PARTS] sections.)

③ Syringe water control

Make adjustment of syringe water by the syringe water control knob. (Refer to [ADJUSTMENT OF PARTS] sections.)

④ Bowlflush switch

Switch for cleaning of the cuspidor bowl. When this switch is turned on, water comes out of the bowl flush nozzle and flushes the cuspidor bowl.



⑤ Service outlet (air)

Use this outlet to supply air to external equipment.

⑥ Service outlet (water)

Use this outlet to supply water to external equipment.

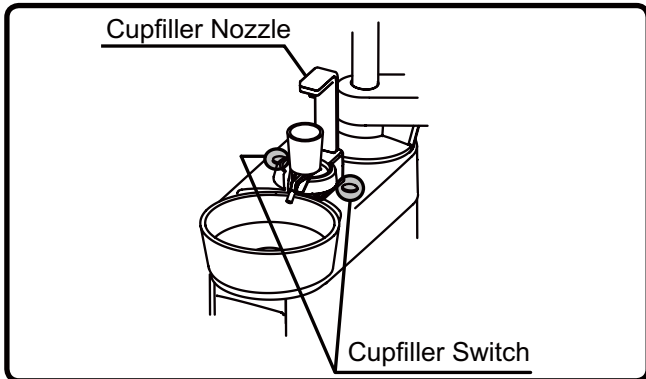
⑦ Service outlet water flow control

Use this knob to control the water flow rate supplied to outside. (Refer to [ADJUSTMENT OF PARTS] sections.)

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

3 Cuspidor Unit Section

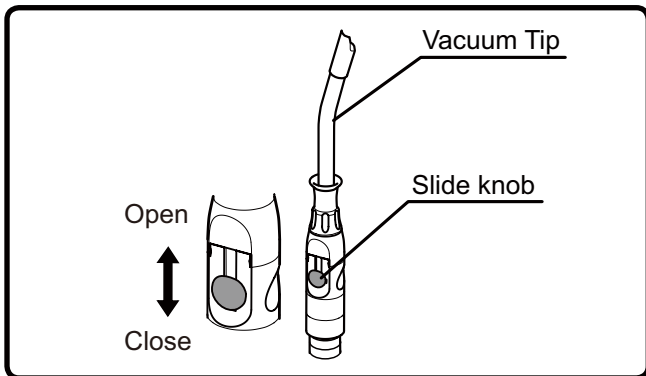
■ Cupfiller Switch



- Water is supplied through from the cupfiller nozzle while pressing the cupfiller switch. Simultaneous with start-up of cupfiller motion, water comes out of the bowl flush nozzle and flushes the cuspidor bowl.

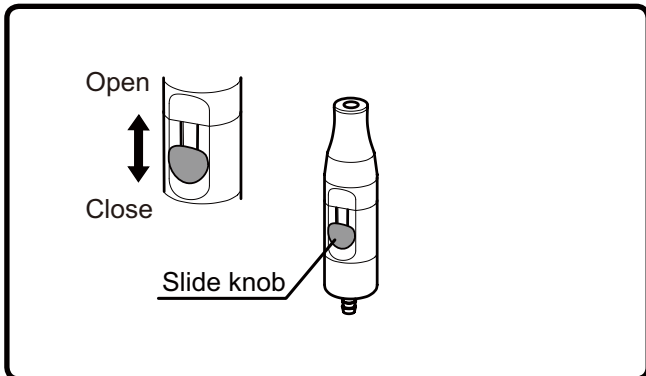
* Do not press the switch while the cup is not in place.

■ Vacuum Handpiece



- Suction begins when the vacuum handpiece is taken out of the holder.
- Opening or closing the slide knob can control the suction flow rate.
- In case of the central vacuum system, suction will not stop immediately after the vacuum handpiece was returned to the holder, but suction will continue for about 3 seconds by the function of delay circuit.

■ Saliva Ejector Handpiece

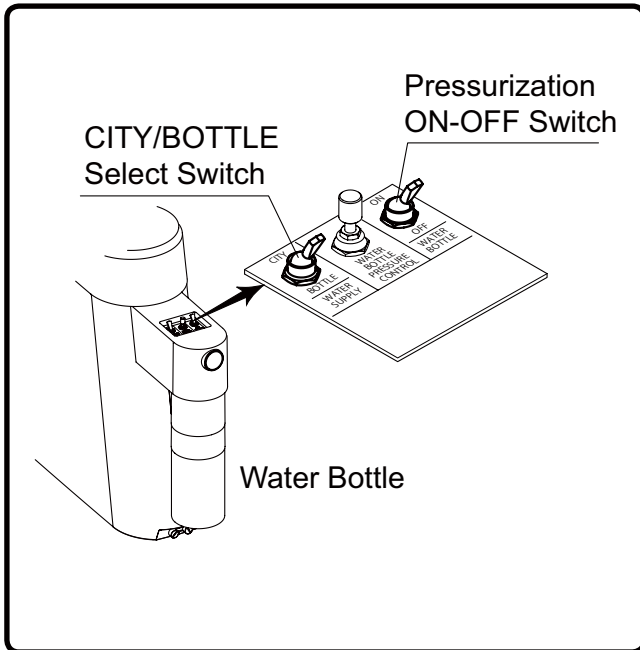


- Suction begins when the saliva ejector handpiece is taken out of the holder. Suction stop immediately when the saliva ejector handpiece is returned to holder.
- Opening or closing the slide knob can control the suction flow rate.

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

3 Cuspidor Unit Section

■ Clean Water System

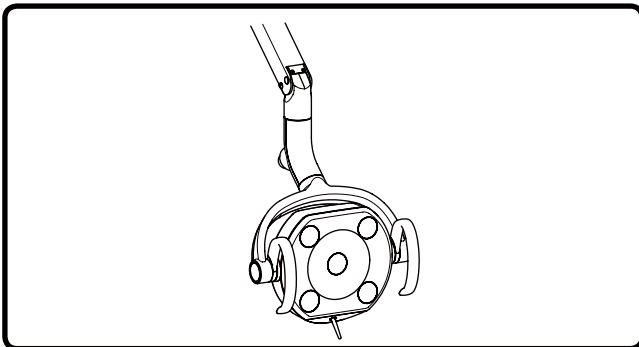


- The water bottle CITY/BOTTLE select switch can be changed between municipal water and water bottle.
CITY Tap water
BOTTLE Water bottle
- When the pressurization ON-OFF switch is set to ON, the water bottle may be used.

⚠ CAUTION

- The water tank is intended only for use with purified water, distilled water and pure water.
- Do not use mouthwash or electrolyzed water, as they may cause clogged tubing or affect internal valves and equipment.

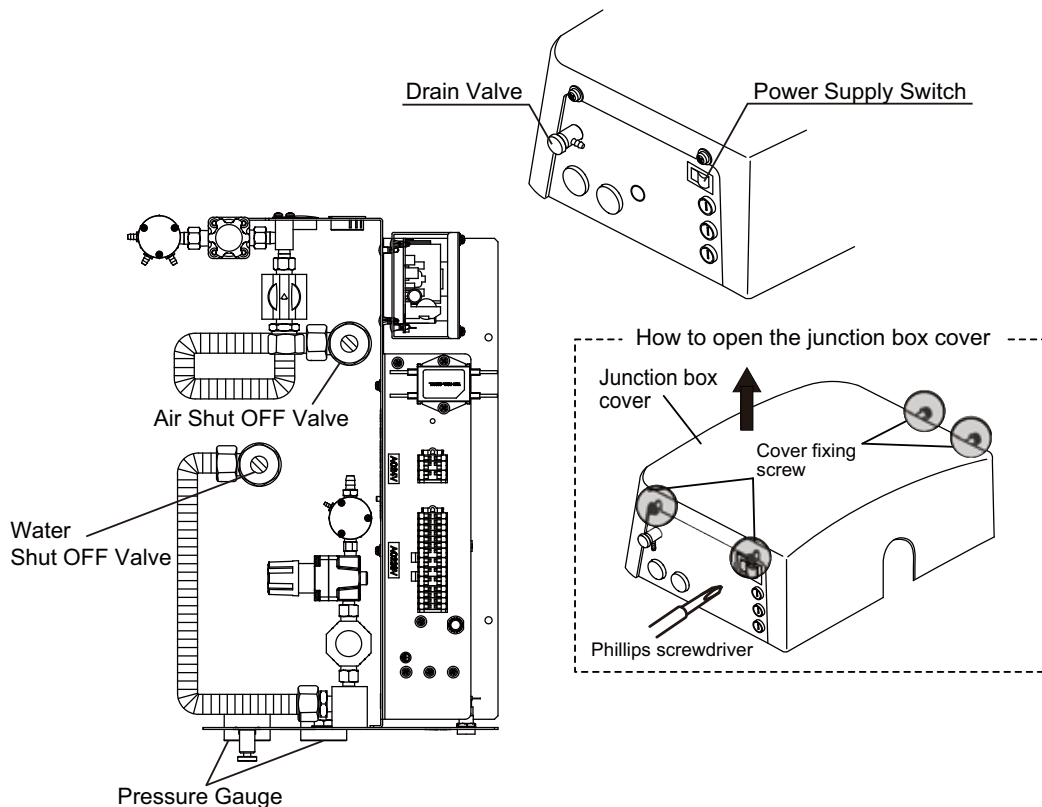
■ Dental Light



- Read through the dental light instruction manual before use.

DESCRIPTION OF OPERATION AND FUNCTIONS OF COMPONENTS

4 Junction Box Section



■ Power supply switch

- This switch connects and disconnects the commercial power supply.
Turn on the power supply switch with [I] mark to connect power supply and [O] mark to disconnect from power supply.
* The power supply switch has been set to on [I] mark at the factory.

■ Air shut off valve

- The air can be stop by turning the shut off valve clockwise and open by turning the shut off valve counterclockwise.
- Use a flat head screwdriver to open and close the shut off valve.

■ Water shut off valve

- The air can be stop by turning the shut off valve clockwise and open by turning the shut off valve counterclockwise.

■ Drain Valve

- Drain valve is used to discharge water from the air filter.

OPERATION STOPPING FUNCTION

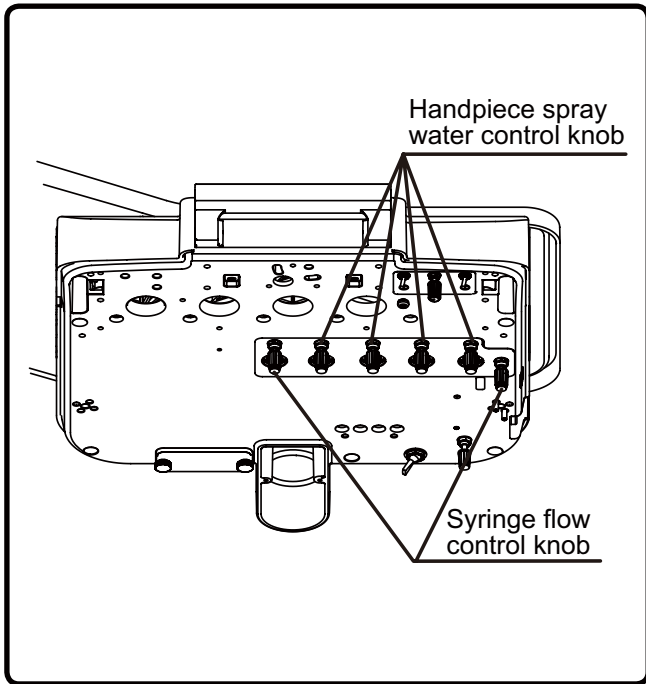
■ Chair motion stop function (safety function)

- The safety mechanism that inhibits chair motion works while any of the following actions is taken.
 1. Foot controller is being depressed.
 2. When any chair operation switch on the doctor control panel is depressed while the chair is moving.

ADJUSTMENT OF PARTS

1 Doctor Unit Section

Flow Adjustment



Water adjustment of the handpiece spray

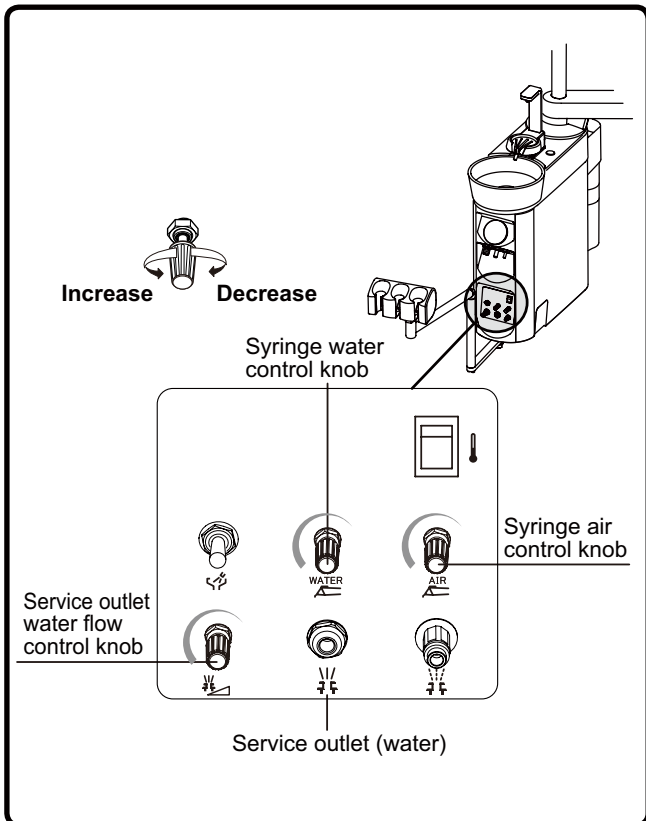
- The water flow rates of the handpiece of the Doctor's unit may be adjusted with the knob (blue knob).
- Position of the adjustment knob corresponds to position of the instrument holder.

Water/air adjustment of the syringe spray

- The water and air flow rates of the syringe of the Doctor's unit may be adjusted with the knob.
Blue cap Water
Yellow cap Air
- * The flow rate is decreased by turning any knob clockwise. It is increased by turning the knob counterclockwise.
- * Flow rate adjustment knobs are intended to increase/decrease the flow rate, but do not serve as stop valves. Caution should be exercised as turning the knob excessively may cause it to loosen.

2 Cuspidor Unit Section

Flow Adjustment



Service outlet water flow control

- Use this knob to control the water flow rate supplied to outside.

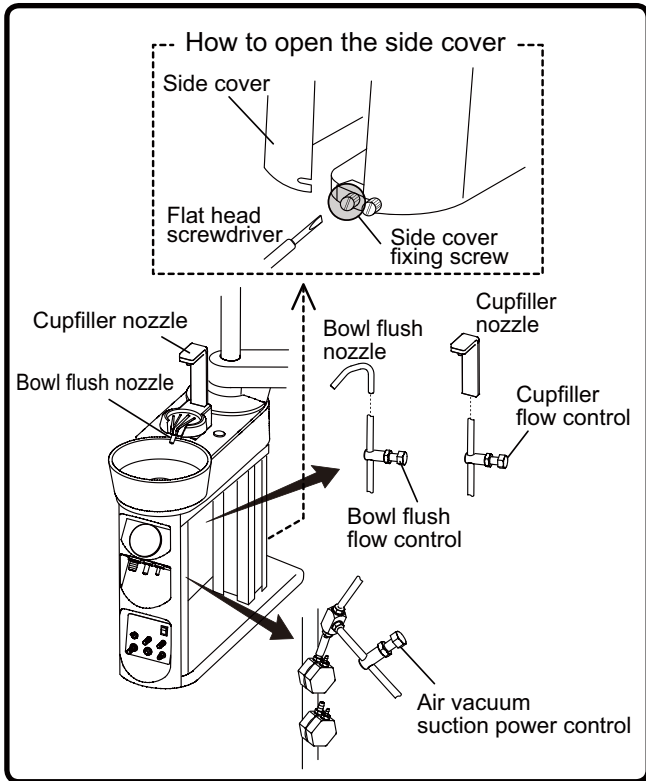
Water/air adjustment of the syringe spray

- The water and air flow rates of the syringe of the cuspidor unit may be adjusted with the knob.
Blue cap Water
Yellow cap Air
- * Flow rate adjustment knobs are intended to increase/decrease the flow rate, but do not serve as stop valves. Caution should be exercised as turning the knob excessively may cause it to loosen.

ADJUSTMENT OF PARTS

2 Cuspidor Unit Section

Flow Adjustment



* Flow control knobs are located on the inside of the cuspidor unit. Loosen the side cover fixing screw by flat head screwdriver on the rear side of the cuspidor unit. Open the side cover to outside as shown on the left figure.

Cupfiller Flow Control

- This knob adjusts the water feeding quantity.
- The flow rate decreases when the knob is turned clockwise, and the flow rate increases when the knob is turned counterclockwise.

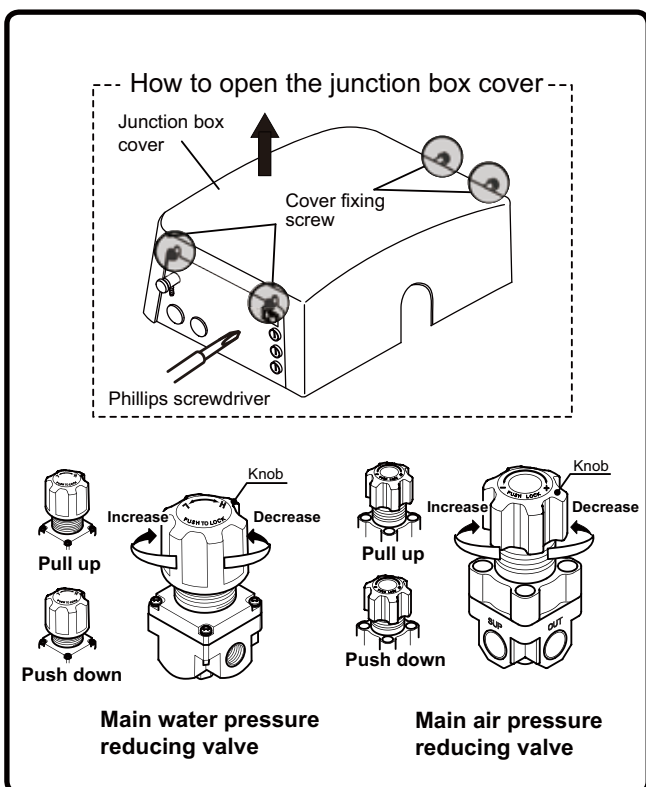
Bowl Flush Flow Control

- This knob adjusts the flow rate of bowl flush.
- The flow rate decreases when the knob is turned clockwise, and the flow rate increases when the knob is turned counterclockwise.

Air Vacuum Suction Power Adjustment (Air Vacuum Specification)

- This knob adjusts the suction power of the air vacuum.
- The suction power decreases when the knob is turned clockwise and increases when the knob is turned counterclockwise.

3 Junction Box Section



* The pressure adjustment valves are located on the inside of the junction box. Loosen the two cover fixing screws by phillips screwdriver and remove the junction box cover as shown on the lift figure.

Main air pressure reducing valve

- This knob adjusts the main pressure of air supplied to the unit.
- Pull the knob and turn as shown in the drawing so that the main air pressure gauge reads a value between 0.45 and 0.5 MPa.
- Be sure to push the knob to lock it after setting.
- This knob is adjusted when installing the unit. Do not change the setting under normal conditions.

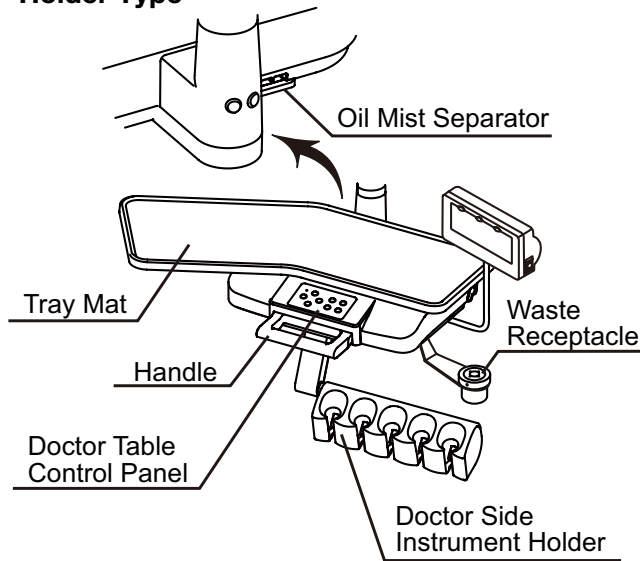
Main water pressure reducing valve

- This knob adjusts the main pressure of water supplied to the unit.
- Pull the knob and turn as shown in the drawing so that the main water pressure gauge reads a value between 0.1 and 0.2 MPa.
- Be sure to push the knob to lock it after setting.
- This knob is adjusted when installing the unit. Do not change the setting under normal conditions.

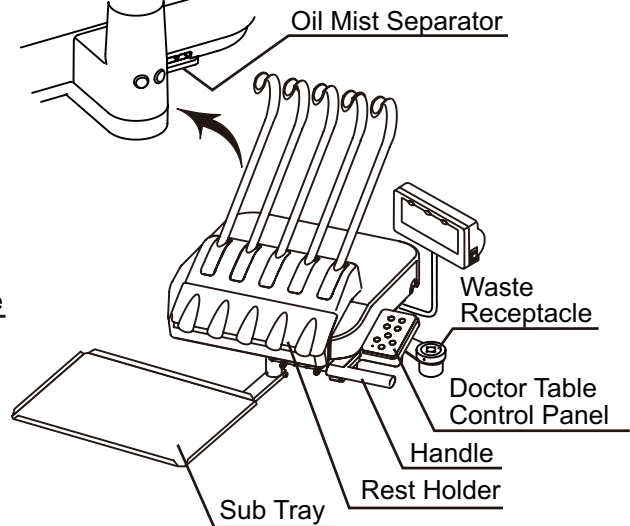
CARE AND MAINTENANCE

1 Doctor Unit Section

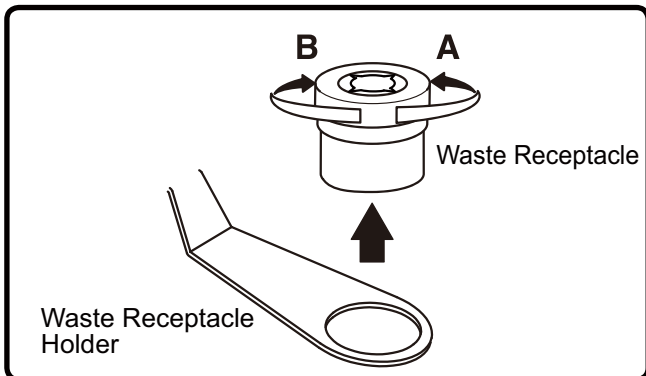
- Holder Type -



- Rod Type - (Continental Type)

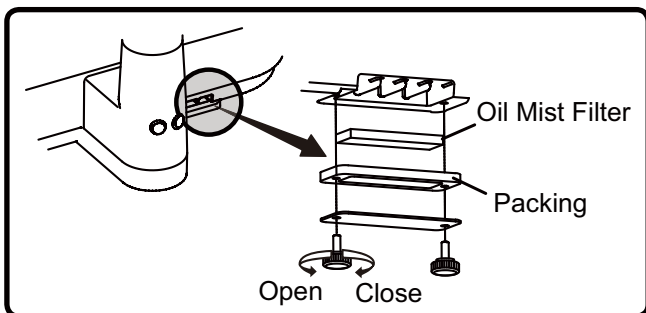


■ Waste Receptacle



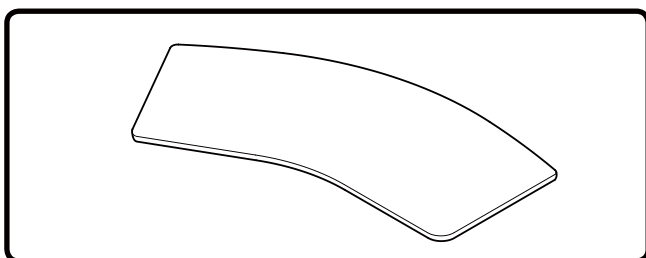
- Dispose of waste material and clean it when waste accumulates.
- The stainless waste receptacle may be detached when it is turned in direction A. It is fastened when turned in direction B. The lid has sharp portions that can easily catch cotton, etc. Be very careful when cleaning it.

■ Oil Mist Separator



- The oil mist separator collects oil contained in exhaust air from the handpieces.
- Be sure to clean the oil mist filter once a month. The oil mist filter can be detached by removing two screws.
- Replace the oil mist filter if a lot of dirt or oil adheres to it.

■ Tray Mat (Holder Type)

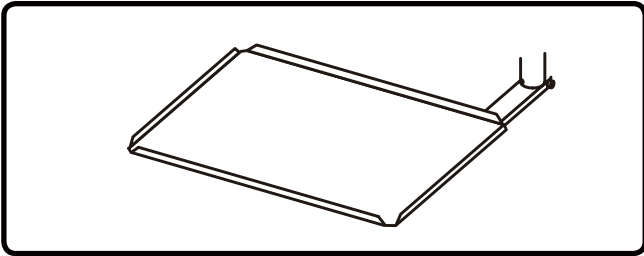


- The tray mat can be detached and disinfected with alcohol.
- Use ethanol as sprayed to a soft cloth for cleaning and disinfection.

CARE AND MAINTENANCE

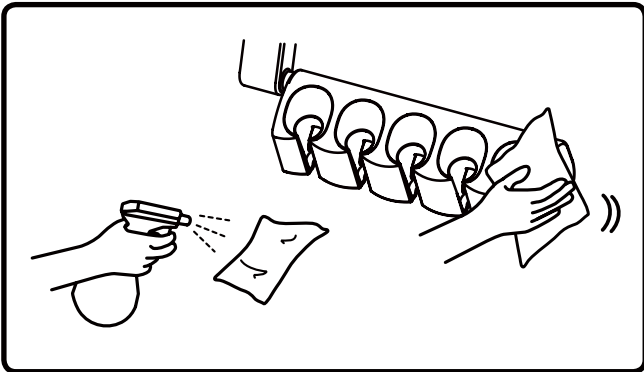
1 Doctor Unit Section

■ Sub Tray (Rod Type/Continental Type)



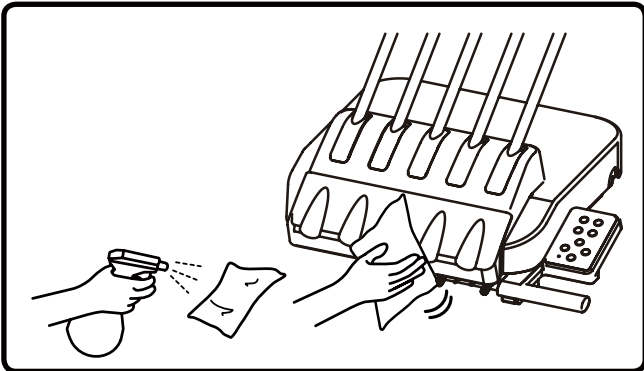
- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning and disinfection of the sub tray.

■ Doctor Instrument Holder (Holder Type)



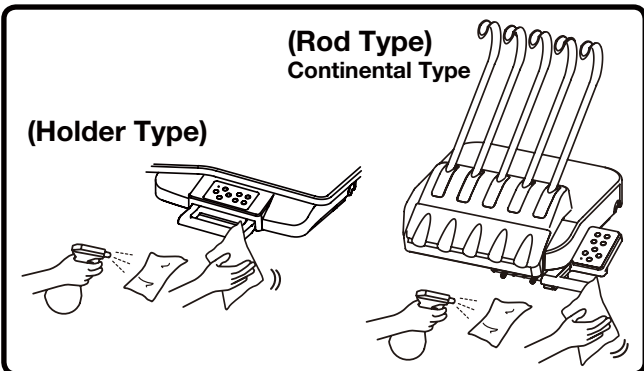
- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning and disinfection. Wipe off with dry soft cloth to dried up of the instrument holder after cleaning and disinfection.

■ Rest Holder (Rod Type/Continental Type)



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

■ Handle

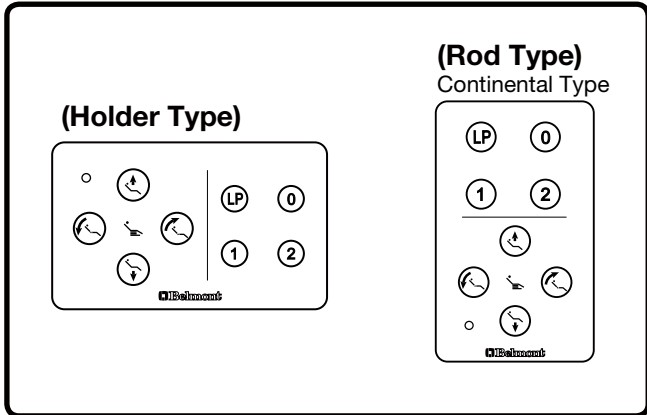


- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning disinfection of the handle.

CARE AND MAINTENANCE

1 Doctor Unit Section

■ Doctor Table Control Panel (Membrane Switch)

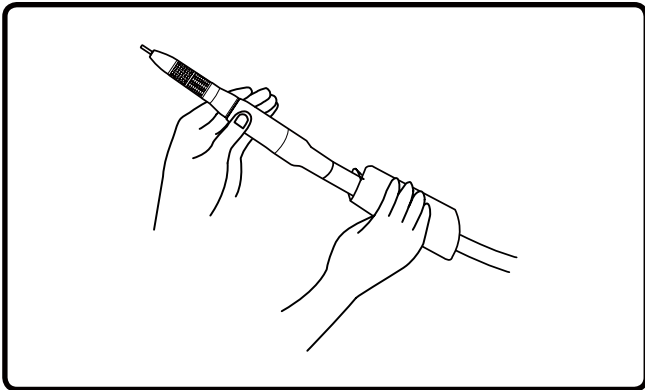


- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning and disinfection. Wipe off with dry soft cloth to dried up of the doctor table control panel after cleaning and disinfection.

CAUTION

When the surface of the operation panel is cleaned with disinfectant, etc., wipe off disinfectant completely. If it penetrates into the back of the sheet, the membrane switches may malfunction.

■ Handpiece Hose



- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning and disinfection of the handpiece hose.

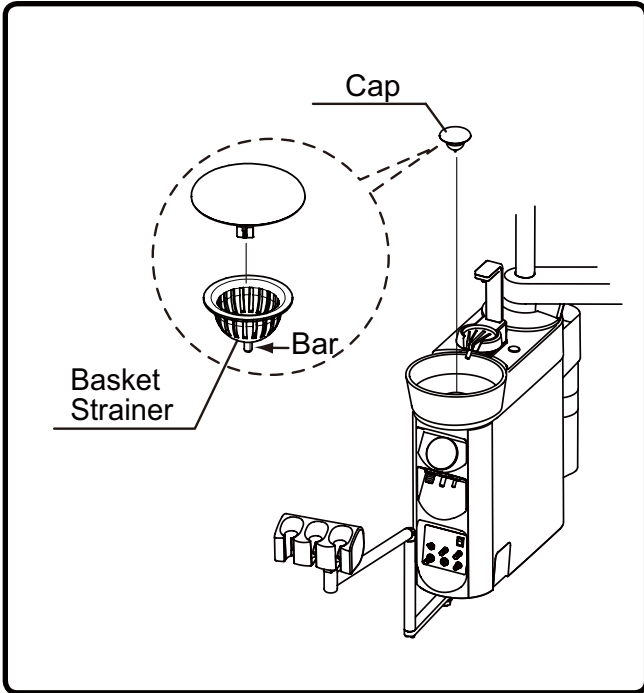
NOTICE

Observe the instructions given in the package insert and Instruction Manual included with the handpiece to clean it.

CARE AND MAINTENANCE

2 Cuspidor Unit Section

■ Cleaning of cuspidor bowl section

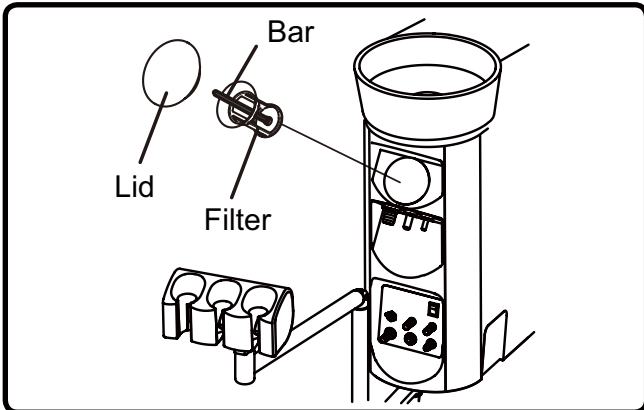


- Use Orotol Plus made by Durr to cleaning the cuspidor bowl.
- The basket strainer in the cuspidor bowl is easily clogged. Clean it at the end of each work day. When the cap is pulled, the basket strainer also come with the cap. Pull the bar of the basket strainer to remove from the cap.

⚠ CAUTION

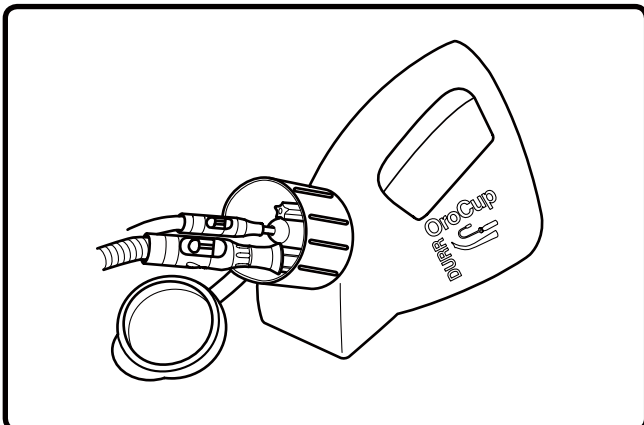
- **Never use sandpaper, metal scrub brushes and abrasive cleaning agents to clean the cuspidor bowl. Do not use strongly acidic cleaning agents or alkaline pipe cleaning agents to avoid corrosion of metals, etc.**
- **The cuspidor bowl is made of ceramic. It may break if it is impacted. Do not wash it with hot water. Otherwise, it may break.**

■ 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.
- When the lid is removed and the bar is pulled, the filter is also drawn out with the bar. The filter only may be detached when the filter is turned.

■ 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 with Orotol Plus made by DURR at the end of each work day.

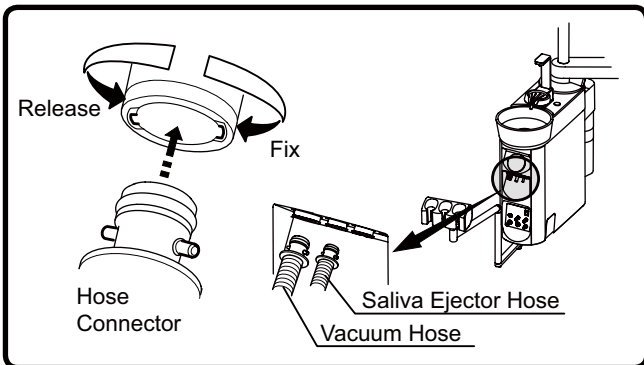
⚠ CAUTION

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

CARE AND MAINTENANCE

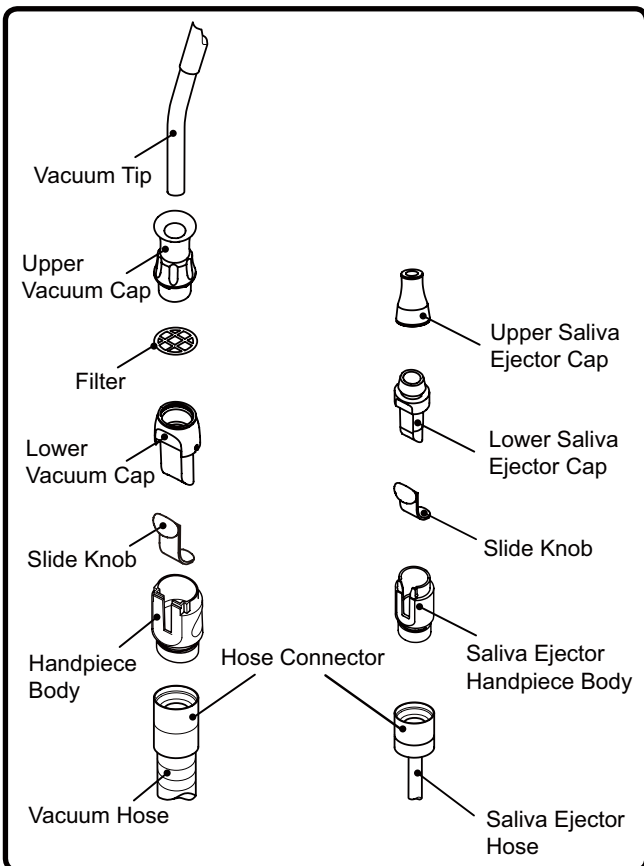
2 Cuspidor Unit Section

■ Cleaning of vacuum hose / saliva ejector hose



- The vacuum hose and saliva ejector hose can be disconnected and cleaned in running water. Be sure to turn off the main switch of the unit before cleaning.

■ Cleaning of Vacuum Handpiece / Saliva Ejector Handpiece



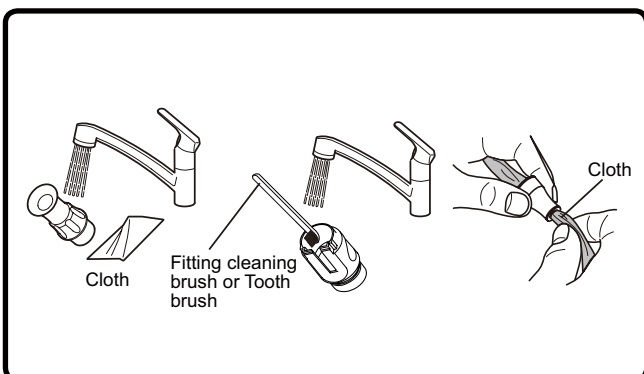
- * Cleaning and sterilization must be done every after use to patients.
- For effective sterilization, washing for removing contamination and immersion by a cleaning agent are required. Then, rinse by water in order to remove residual cleaning agent on medical device. Take following procedures from cleaning to sterilization.
- * Use the disposable saliva ejector tip.

【Disassembly】

Disassemble the handpiece for the preparation of cleaning as the following figures show. Pull the hose connector to disconnect the vacuum hose.

【Cleaning by hand】

1. Wipe off the surface contamination by a cloth while rinsing the surface by running clean warm water at 40 ± 5 degrees. Scrub the intubation or hole, slide groove and filter by a cleaning brush or by a tooth brush with running clean warm water at 40 ± 5 degrees. Wipe off by a cloth for the area which brush is unable to reach.
2. Check whether contamination is removed or not after cleaning. Continue the cleaning if contamination is remained.
3. Immersed with an alkaline disinfection or detergent for 5 minutes.
(We recommend to use ID212 made by DURR)
4. Rinse thoroughly by distilled water at ordinary temperature or by clean water for more than 1 minute.



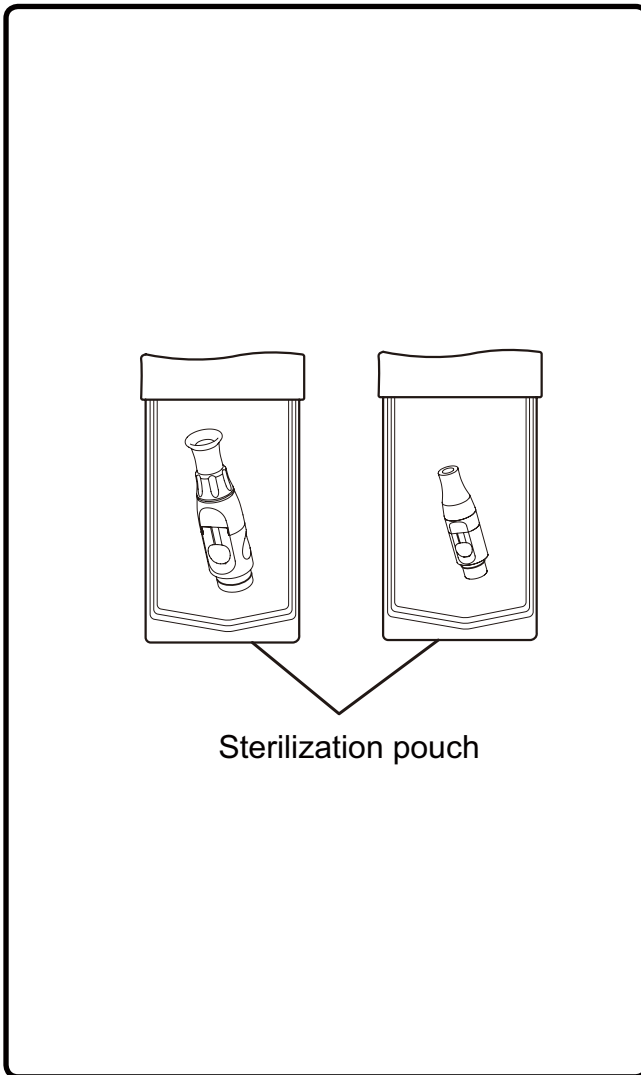
CARE AND MAINTENANCE

2 Cuspidor Unit Section

CAUTION

Cleaning must be done within 1 hour after use. Replace with a new vacuum handpiece and saliva ejector handpiece for following cases.

- Any waste material can not be removed by clogged hole.
- Contamination and solid material attached to vacuum handpiece and saliva ejector can not be removed.



【Sterilization】

Vacuum Tip/Vacuum Cap/ Vacuum Handpiece Body/ Saliva Ejector Handpiece Body can be autoclave. Vacuum handpiece body and saliva ejector body have to assemble before autoclave.

1. Insert the handpiece in a sterilization pouch and seal it.
 2. Autoclave for 3 min. at 134°C and dry for 15 min.
- * Sterilization with autoclave is permitted up to 250 times.

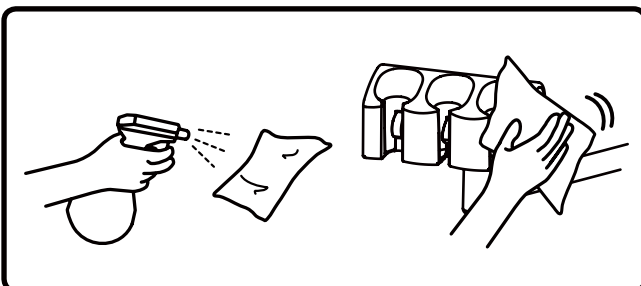
CAUTION

- Sterilization by class B cycles.
- Sterilization temperature is 135 degrees or less.
- Dry naturally if the temperature for drying process is to exceed 135°C.
- The cap, filter and body are made of resin. They may become deteriorated if they are sterilized in an autoclave many times.
- After autoclave sterilization, the cap, filter, body and valve are subject to discoloration, which does not have a negative effect on performance.
- The slide knob can be autoclave 100 times and is expendable supplies.
- If damage occurs to the sterilization pouch, discard and sterilize again using a new pouch.

【Storage】

After sterilizing the handpiece, keep it in the sterilization pouch and store in a dark and cool place.

■ Assistant Instrument Holder

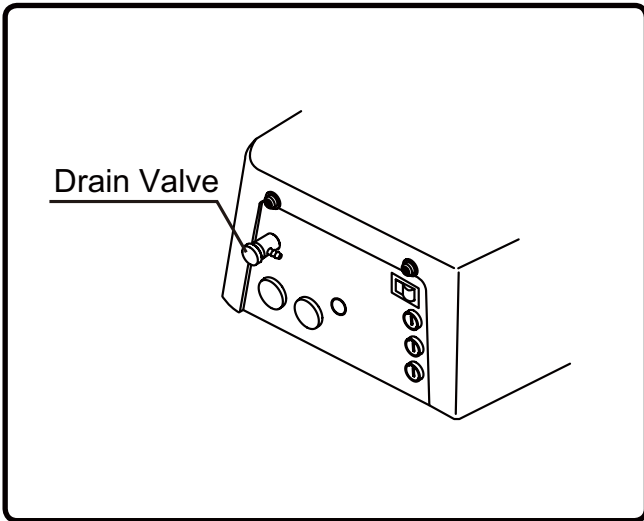


- Use FD333 or FD366 made by Durr or ethanol as sprayed to a soft cloth for cleaning and disinfection. Wipe off with dry soft cloth to dried up of the assistant instrument holder after cleaning and disinfection.

CARE AND MAINTENANCE

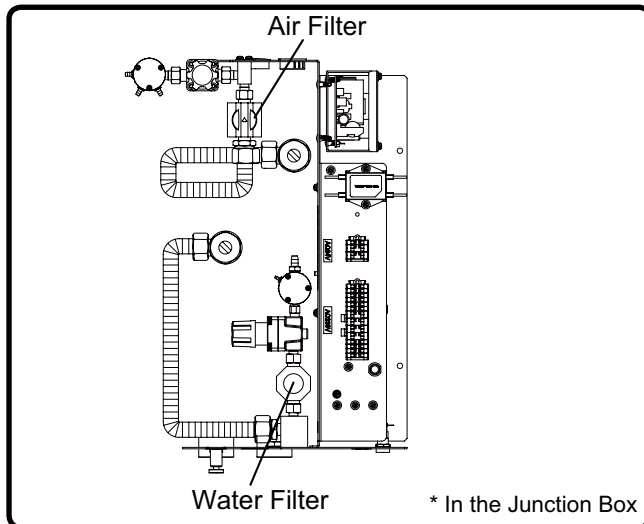
3 Junction Box Section

■ Cleaning air filter drain valve and discharging water from air compressor



- Drain valve is used to discharge water from the air filter.
- Turn the drain valve counterclockwise to discharge water collected in the air filter once a week at least.
- If water enters the unit, the air turbine, air motor or syringe, etc., may become defective. Be sure to turn the drain valve clockwise to close the valve after discharging water from the air filter.
- Open the drain valve of the air compressor to discharge collected water once a week.

■ 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.

4 Product Exterior

■ Cleaning and disinfection 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.
- Use FD333 or FD366 made by Durr or ethanol for cleaning and disinfection of the product exterior.

⚠ CAUTION

- Wipe off water and residual disinfectant immediately. This could cause corrosion, damage or incorrect operation of the unit.
- Immediately wipe off any water spills or leakage on the floor. This could cause damage to the product, decreased strength of the floor may lead to physical injury including fall, or property damage.

SPECIFICATIONS

Control No.	: AU-CU1-23E** (** differs depending on the specifications)
Rated voltage / Rated current (With chair and dental light)	: AC230V 50Hz/60Hz . . 3.0A/2.8A
Fuse	: 5A/250V Low Breaking Capacity Fuse Time-lag
Main air pressure	: 0.45-0.5 MPa
Main water pressure	: 0.1-0.2 MPa
Weight	: 70kg (without dental light)
Dental light	: 300LED Dental Light (Type 320M)
Dental chair	: CREDIA G1 Chair
Usage environment	: Temperature +10°C ~ +40°C : Humidity 30% ~ 75% : Air pressure 700 hPa ~ 1060 hPa
Transportation / Storage environment	: Temperature -20°C ~ +70°C : Humidity 10% ~ 95% : Air pressure 700 hPa ~ 1060 hPa
Service life	: 10 Years
Protection class against electric shock	: Class I equipment
Applied part	: type B applied part: Handpiece
IEC60825-1 information	: Class 1 LED product : Panorama Viewer (Optional)
	Product maximum output 13 μW
	Product emitted wavelengths 400 ~ 800 nm
	Product beam divergence -
	Internal LED maximum output 2.8 mW
	Internal LED emitted wavelengths 400 ~ 800 nm
	Internal LED beam divergence 120°

Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

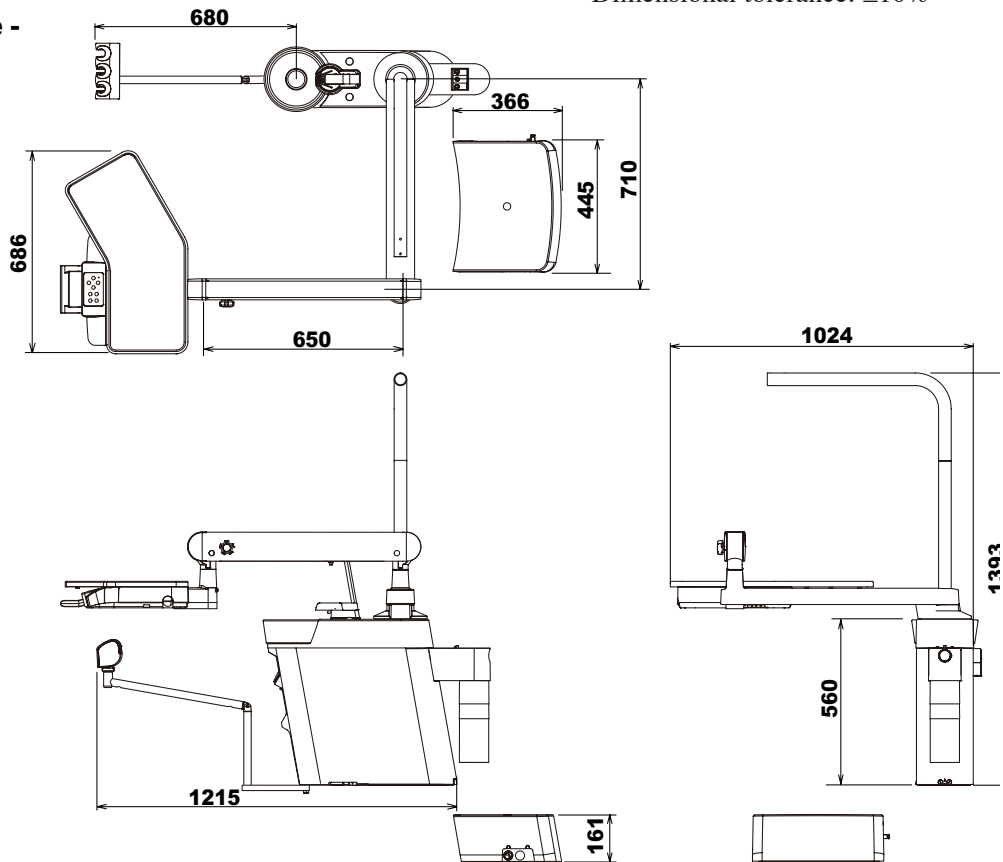
SPECIFICATIONS

Dimensions

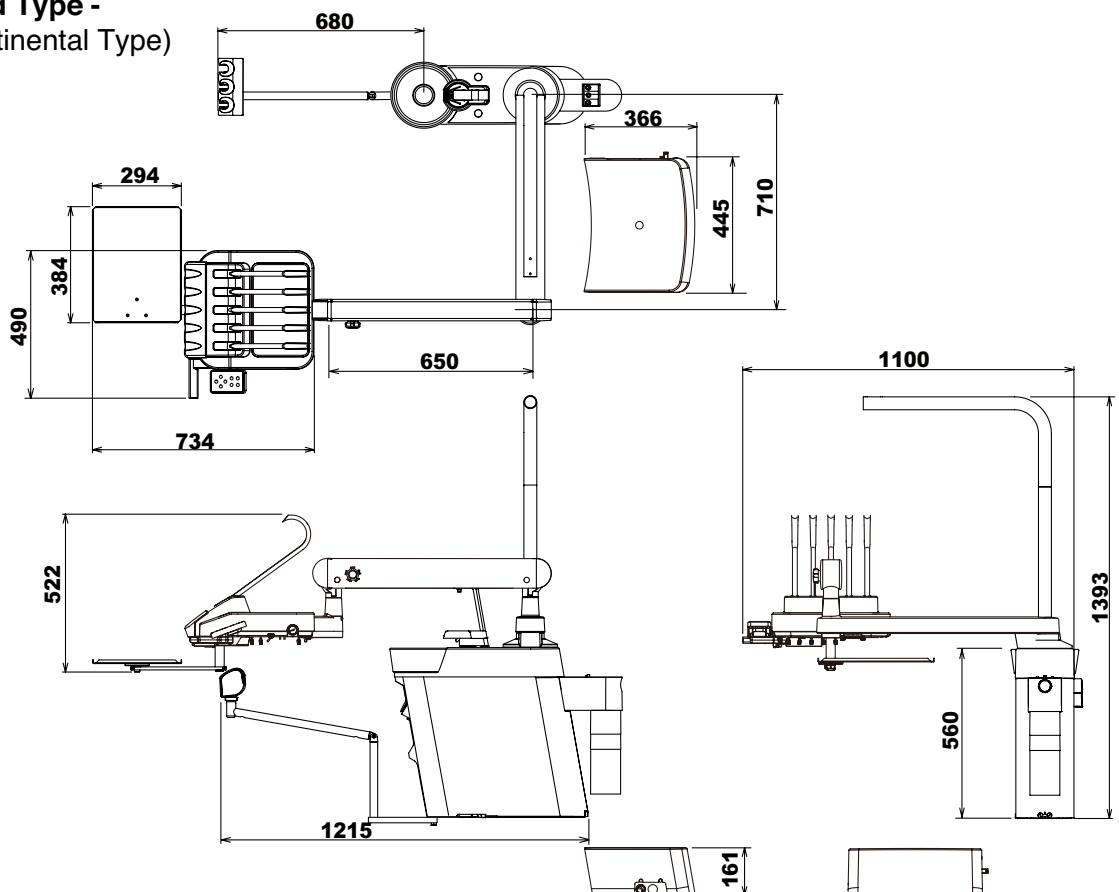
Values are the standard values. (Unit: mm)

Dimensional tolerance: $\pm 10\%$

- Holder Type -



- Rod Type - (Continental Type)



ELECTROMAGNETIC COMPATIBILITY (EMC)

*Applicable standard: EN 60601-1-2:2007/AC:2010

Medical electrical equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual.

Portable and mobile RF communications equipment can affect medical electrical equipment.

The equipment or system should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the equipment or system should be observed to verify normal operation in the configuration in which it will be used.


Guidance and manufacture's declaration – electromagnetic emissions		
The CREDIA G1 is intended for use in the electromagnetic environment specified below. The customer or the user of the CREDIA G1 should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The CREDIA G1 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The CREDIA G1 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ Flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacture's declaration – electromagnetic immunity			
The CREDIA G1 is intended for use in the electromagnetic environment specified below. The customer or the user of the CREDIA G1 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%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycle 70% U_T (30% dip in U_T) for 25cycle <5% U_T (>95% dip in U_T) for 5 s	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycle 70% U_T (30% dip in U_T) for 25cycle <5% U_T (>95% dip in U_T) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the CREDIA G1 requires continued operation during power mains interruptions, it is recommended that the CREDIA G1 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to applications of the test level.			

ELECTROMAGNETIC COMPATIBILITY (EMC)

Guidance and manufacture's declaration – electromagnetic immunity

The CREDIA G1 is intended for use in the electromagnetic environment specified below. The customer or the user of the CREDIA G1 should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
<p>Conducted RF IEC 61000-4-6</p>	<p>3 Vrms 150 kHz to 80 MHz outside ISM bands^a</p>	<p>3 Vrms</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the CREDIA G1, including cables, than the recommended separation distance calculated from the equation applications to the Frequency of the transmitter.</p> <p>Recommended separation distance</p> <p>$d = 1.2\sqrt{P}$</p>
<p>Radiated RF IEC 61000-4-3</p>	<p>3V/m 80 MHz to 2.5 GHz</p>	<p>3 V/m</p>	<p>$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz</p> <p>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 metres (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> <div style="text-align: center;">  </div>

NOTE 1 At 80 MHz and 800MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by adsorption and reflection from structures, objects and people.

- a 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 CREDIA G1 is used exceeds the applicable RF compliance level above, the CREDIA G1 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the CREDIA G1.
- b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.

Essential performance (purpose of IMMUNITY testing)

Unless operated by the switches for chair control, the chair connected to CREDIA G1 does not make any movements, except for sounding a buzzer and switching on/off the indicator.

ELECTROMAGNETIC COMPATIBILITY (EMC)

Recommended separation distances between Portable and mobile RF communications equipment and the CREDIA D1

The CREDIA D1 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the CREDIA D1 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the CREDIA D1 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 $d = 1.2\sqrt{P}$	800 MHz to 2.5 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 transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by adsorption and reflection from structures, objects and people.

LIST OF COMPATIBLE CHAIR

Chair	CREDIA G1 CHAIR
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LIST OF COMPATIBLE DENTAL LIGHT

Dental Light	300LED Dental Light (Type 320M)
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BEFORE ASKING FOR REPAIRS

If any of phenomena described below has occurred, make the following checks before asking for repairs.

Phenomenon	Check point and result	Action to be taken
No power on the unit	Power plug is not connected.	Connect the power plug.
	Air compressor power is not on.	Turn on the power.
	Power supply switch is not on.	Turn on the power supply switch.
Water is not supplied.	Confirm main water pressure gauge (Normal pressure = 0.1 - 0.2 MPa)	Open the water shut off valve.
		Adjust the main water pressure.
No water from handpiece	Handpiece water adjustment knob is closed	Open the knob.
Turbine does not run	Confirm main air pressure gauge (Normal pressure = 0.45 - 0.5 MPa)	Adjust the main air pressure.
	If air comes out from turbine hose.	Turbine failure (Refer to instruction manual of turbine)
No water or air from syringe	Syringe water or air adjustment knob is closed	Open the knob.
Vacuum suction / Saliva ejector does not suck	Slide knob is closed.	Open the slide knob.
	Handpiece filter is contaminated.	Clean the filter.
	Solid collector filter is contaminated.	Clean the filter.
	Power of the vacuum pump has not been turned on.	Turn on the power.

If the unit does not normally work even if actions were taken upon checkup stated above, then stop using the unit, turn off the main switch and contact your dealer or our office.

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.).

1. 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.

2. Water main valve

- Be sure to turn the main water valve counterclockwise to the close position at the end of each work day.

3. AIR main valve

- Be sure to turn the main air valve counterclockwise to the close position at the end of each work day.

4. Be sure to turn off the compressor breaker and then discharge air from the compressor. (Be sure to turn off the power.)

5. Be sure to turn off the vacuum pump breaker. (Be sure to turn off the power.)

6. Be sure to turn off the equipment breaker on the clinic's electrical panel. (Be sure to turn off the power.)

MAINTANANCE AND INSPECTION

Guide for daily maintenance and inspection (Maintenance and inspection by user)

- Management of maintenance and inspection of medical equipment should be implemented by the user (medical institution). In case the user does not implement such management, it is permitted that such management is outsourced to a qualified entity such as a medical equipment repair company.
- For safe use of this product, it is necessary that inspection should be conducted in the specified frequency on the items described below.

No.	Item	Frequency	Inspection method and diagnosis	Influence if inspection not conducted	Maintenance required in case of nonconformity
1	Check of safety functions	Before start	Make sure the chair movement stops by any of the following actions. ① when foot controller pedal is depressed. ② During chair auto movement, depress of any operation switches for the chair.	Unexpected personal injury and troubles may arise due to motion of the chair during medical treatment and due to pinching between doctor section and chair.	Contact your dealer or our office if any abnormality arises.
2	Check of water pressure and air pressure	Before start	Check the water pressure and air pressure by reading pressure gauges in the U-Box section. Basic set pressure : Water: 0.1 to 0.2 MPa Air: 0.45 to 0.5 MPa	The product will not normally work, and troubles may arise.	Contact your dealer or our office if the set pressure is abnormally high or low.
3	Check for leakage of water, air and oil	Before start	Leakage of water, air and oil shall not be observed around the product.	The product will not normally work, and troubles may arise.	Contact your dealer or our office if any abnormality arises.
4	Check of conditions of table section	Before start	The table shall be free of inclination, and shall not drift of the table.	Injury caused by falling of goods located on the table and other troubles may arise.	Contact your dealer or our office if any abnormality arises.
5	Check of dental size viewer	Before start	Check the light turn ON and OFF. The light shall not blinking continuously.	Viewer doesn't function.	Contact your dealer or our office if any abnormality arises.
6	Check of panorama size viewer	Before start	Check the light turn ON - OFF and dimmer is adjustable. The light shall not blinking continuously.	Viewer doesn't function.	Contact your dealer or our office if any abnormality arises.
7	Check of operation switch	Before start	The product operation switch is functions correctly. *Refer the operating instruction for switch operating.	Product failure and troubles may arise.	Contact your dealer or our office if any abnormality arises.
8	Check of handpiece light	Before start	The handpiece light shall be on when taken from holder or press the drive pedal of foot controller.	Handpiece light will not light up.	Replace lamp accordance with the instruction manual attached to individual handpiece. Contact your dealer or our office if there is no improvement in symptoms after replaced lamp.
9	Check of motions of turbine/air motor	Before start	Air turbine/air motor revolution, water flow, air flow and so forth shall be free of abnormality. [Reference] 0.22MPa pressure in table Turbine more than 300,000rpm 0.32MPa pressure in table Air motor more than 20,000rpm Setting and Performance will be difference according to the type of handpiece. Refer to the instruction manual attached to individual handpiece.	Troubles such as injury in patient's oral cavity and equipment failure may arise.	Control the water flow in accordance with "Control of components" described in the instruction manual. If any other abnormality arises, refer to the instruction manual attached to individual equipment. Contact your dealer or our office if recovery is not achieved.

MAINTANANCE AND INSPECTION

No.	Item	Frequency	Inspection method and diagnosis	Influence if inspection not conducted	Maintenance required in case of nonconformity
10	Check motions of scaler	Before start	Scaler vibration, water flow and so forth shall be free of abnormality.	Troubles such as injury in patient's oral cavity and equipment failure may arise.	Control the water flow in accordance with "Flow Adjustment" described in the instruction manual. If any other abnormality arises, refer to the instruction manual attached to individual equipment. Contact your dealer or our office if recovery is not achieved.
11	Check connection of handpiece	Before start	Leakage of water and air shall not be observed from handpiece connection.	Troubles such as injury in patient's oral cavity and equipment failure may arise.	Turn off the main switch and reattach the handpiece. Contact your dealer or our office if there is no improvement in symptoms after reattach handpiece.
12	Check of syringe operation	Before start	Water & air flow and condition of spray should be adequate.	Functions of syringe (drying, cooling & rinsing) may become less able.	Adjust the flow by following "Flow Adjustment" section of an operation manual. If you can't solve the problem by flow adjustment, contact authorized dealer or our office.
13	Vacuum handpiece	Before start	When pick up a handpiece, vacuum suppose to start. If slide knob is equipped with vacuum handpiece, by sliding a knob, vacuum line supposed to be opened / closed.	Vacuum function may become less able.	If you can't open / close vacuum line, follow the instructions in care & Maintenance section of operation manual. If you can't solve the problem after cleaning vacuum handpiece, contact your dealer or our office.
14	Saliva ejector handpiece	Before start	When pick up a handpiece, vacuum suppose to start. If slide knob is equipped with saliva ejector handpiece, by sliding a knob, vacuum line supposed to be opened / closed.	Vacuum function may become less able.	If you can't open / close vacuum line, follow the instructions in care & Maintenance section of operation manual. If you can't solve the problem after cleaning vacuum handpiece, contact your dealer or our office.
15	Cupfiller	Before start	Water is supplied through the cupfiller nozzle when cup filler switch is pressed.	Cup fill may not function properly.	Contact your dealer or our office if any abnormality arises.
16	Bowl lflush	Before start	If bowl flush is synchronized with cup fill, bowl flush supposed to function by pushing cup filler switch. If not synchronized with cup fill, bowl flush supposed to function by pushing bowl flush switch.	Bowl flush may not function properly.	Contact your dealer or our office if any abnormality arises.
17	Other	Before start	No abnormal noise or the like shall be produced from product's moving parts when the product is operated.	The product will not normally work and troubles may arise.	Contact your dealer or our office if any abnormality arises.
18	Check of air turbine bar	For each patient	Appropriate bar shall be positively mounted. Make sure to refer to the instruction manual attached to individual equipment.	The bar will not normally work and troubles may arise.	If abnormality such as flaw and deformation is found on the bar, replace the bar in accordance with the instruction manual attached to individual equipment.
19	Check of scaler tip	For each patient	Appropriate tip shall be positively mounted and be correctly used. Make sure to refer to the instruction manual attached to the scaler.	The tip will not normally work and troubles may arise.	If the tip was worn or deformed, replace the tip in accordance with the instruction manual attached to the scaler. Contact your dealer or our office if any other trouble arises.

MAINTANANCE AND INSPECTION

No.	Item	Frequency	Inspection method and diagnosis	Influence if inspection not conducted	Maintenance required in case of nonconformity
20	Care Exterior	After closing	Chemical, filthy water and so forth shall not be found (attached or remaining) on the product exterior.	Discoloration and deterioration to the exterior, and corrosion and rusting to metallic components may arise.	Execute wiping in accordance with "Method for care" described in the instruction manual.
21	Care Solid collector	After closing	Clean the filter of the solid collector.	Vacuum suction will become weak.	Clean the filter in accordance with "Method for care" described in the instruction manual.
22	Care Drain valve	Once every week	Water may enter the air line, and equipment failure may arise.	Drain the water from the air filter drain valve.	Drain the water from the air filter in accordance with "Method for care" described in the instruction manual.
23	Care Oil mist separator	Once every month	Sponge of oil mist separator shall not saturate with oil.	Normal output will not be produced due to inferior handpiece exhaust.	Discharge the oil in accordance with "Method for care" described in the instruction manual.

Guide for Periodical Check-up

- Some parts and components of the products are degraded or deteriorated depending on the frequency of use. Annual check-up and maintenance, as well as replacement of consumable parts, are required.
- The required parts (including consumable parts) are listed below. It may be different from the following list depending on the option of the unit.
- For check-up and repair, call a technician of our authorized dealer.

Parts and components that require periodical check-up

No.	Parts Description	Standard Lifetime	No.	Parts Description	Standard Lifetime
1	Vacuum handpiece body	3 years	8	Regulator	3 years
2	Saliva ejector handpiece body	3 years	9	Valves	3 years
3	Foot controller	5 years	10	Switches	5 years
4	Water supply hose	3 years	11	Film viewer body part	5 years
5	Drain hose	3 years	12	Pressure gauge	3 years
6	Air supply hose	3 years	13	Arm section of moving part	7 years
7	Electric wiring of moving part	5 years	14	Control PCBs.	5 years

Consumable parts

No.	Parts Description	No.	Parts Description
1	Valve for vacuum handpiece body	6	Filter for oil mist separator
2	Vacuum tip	7	Filter (Air & Water)
3	Handpiece tubings	8	O-ring, Packing, Diaphragm
4	Vacuum hose		
5	Saliva ejector hose		

WARNING

Execute the maintenance in accordance with this instruction manual and operating manual attached to each individual equipment (Dental light, Handpiece, etc.) .

Failure to maintain this product may lead to physical injury or property damage.

MEMO

MEMO

NOTE

EC	REP
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