Quolis Unit INSTRUCTIONS FOR USE



Dear Customers

Dear Customers

Thank you for purchasing our product.

This booklet explains how to use Quolis Unit.

Before using Quolis Unit, carefully read the operating instructions and make sure to use the product correctly.

Using the product without reading these instructions may lead to an accident.

For easy access to the information contained herein, keep this booklet at hand and review it as needed.

Ask your local authorized Belmont dealer to install this product by following the installation instructions contained in the product.

If you have any questions regarding the operating instructions or this product, contact your local authorized Belmont dealer.

If you find any dirt on or damage to the booklet and need a new booklet, report the catalog number indicated below to your local authorized Belmont dealer to order a new one.

This document describes the full version of the system. It may therefore cover components that are not included in the system you purchased.

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1-1 Intended Use of the Product

This product is an active therapeutic device intended for the exclusive use for diagnoses, treatments and related 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 electric micromotor, air turbine and/or motor, scaler and so on.

1-2 How to Dispose of the Device

When disposing of this product and parts replaced, carefully take infection control measures and handle them properly in accordance with the relevant laws and regulations (applicable regulations and local regulations).

1-3 Disposal of Residues

Ask a professional to dispose of amalgam residues.

1-4 Compatible Handpieces

Select a handpiece from the list of compatible handpieces. (For reference, see page 42.)

The connectors of our handpiece hose are designed and manufactured in accordance with ISO9168:2009 (DENTISTRY-HOSE CONNECTORS FOR AIR DRIVEN DENTAL HANDPIECES). However, there still could be a case that the connectors of turbines or air motors may not fit into some handpieces due to the manufacturing tolerances. Have your local authorized Belmont dealer to check the connectability before purchasing the handpiece.

Except for our recommended handpieces, we shall not be liable for any problems deriving from bad connectability or their performance.

1-5 Compatible Dental Lights

Select a dental light from the list of compatible dental lights. (For reference, see page 42.)

1-6 Compatible Chairs

Select a chair from the list of compatible chairs. (For reference, see page 42.)

1-7 Symbols

The symbols listed below are used on this product, on labeling, and in this booklet. Check the meaning of each symbol.

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
	Switch (ON)	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	"ON" (power)	Table D.1 No.12
0	Switch (OFF)	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	"OFF" (power)	Table D.1 No.13
	Switch for raising the chair	ISO 9687	Dentistry — Graphical symbols for dental equipment	Patient chair, up	No.48
	Switch for lowering the chair	ISO 9687	Dentistry — Graphical symbols for dental equipment	Patient chair, down	No.49
	Switch for reclining the backrest	ISO 9687	Dentistry — Graphical symbols for dental equipment	Backrest, back	No.55
	Switch for raising the backrest	ISO 9687	Dentistry — Graphical symbols for dental equipment	Backrest, up	No.54
0	Automatic return switch	-	-	-	-
1	Preset switch 1	-	-	-	-
2	Preset switch 2	-	-	-	-
3	Preset switch 3	-	-	-	-

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
	Dental light switch ON/OFF	ISO 9687	Dentistry — Graphical symbols for dental equipment	Dental operating light	No.4
ŭ	Cup filler switch/flow control	-	-	-	-
Ý,	Bowl flush switch/flow control	ISO 9687	Dentistry — Graphical symbols for dental equipment	bowl flush	No.42
\\/ 7 F	Service coupler for water use	-	-	-	-
**	Water flow control of service coupler for water use	-	-	-	-
\\/ 7 F	Service coupler for air use	-	-	-	-
w 🗲 A	Water/air flow control of syringe spray	ISO 9687	Dentistry — Graphical symbols for dental equipment	Multifunction syringe (air-water)	No.17
炒	Water flow control of handpiece spray	-	-	-	-
4	Protective earthing	IEC 60601-1	Medical electrical equipment— Part 1: General requirements for basic safety and essential performance	Protective earth (ground)	Table D.1 No.6
	Caution *The base color is yellow.	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	Caution	Table D.1 No.10

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
<u>^</u>	General warning sign *The base color is yellow.	IEC 60601-1	Medical electrical equipment— Part 1: General requirements for basic safety and essential performance	General warning sign	Table D.2 No.2
\Diamond	Generally prohibited activity	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	General prohibition sign	Table D.2 No.4
®	Disassembly, repair or modification prohibited	-	-	-	-
0	Instructions for mandatory actions in general	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	General mandatory action sign	Table D.2 No.9
	Indicates that the power plug must be removed from the socket	-	-	-	-
	Follow instructions for use *The color of black part is blue in the actual label.	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	Refer to instruction manual/booklet	Table D.2 No.10
*	Type B Applied Parts contacting the patient's body surface only	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	TYPE B APPLIED PART	Table D.1 No.19
\sim	Alternating current	IEC 60601-1	Medical electrical equipment — Part 1: General requirements for basic safety and essential performance	Alternating current	Table D.1 No.1
~	Year of manufacture	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Date of manufacture	5.1.3
SN	Serial number	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Serial number	5.1.7

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
n	Switch for selecting the patient's memory (Adult Mode)	-	-	-	-
*	Switch for selecting the patient's memory (Child Mode)	-	-	-	-
•	Switch for selecting the patient's memory (Elderly Mode)	-	-	-	-
₹ A	Switch the user memory	-	-	-	-
	Dental light switch ON	ISO 9687	Dentistry — Graphical symbols for dental equipment	Dental operating light	No.4
	Dental light switch OFF	ISO 9687	Dentistry — Graphical symbols for dental equipment	Dental operating light	No.4
	Timer switch	ISO 9687	Dentistry — Graphical symbols for dental equipment	Clock time switch; timer	No.144
Image: section of the content of the	Cupfiller switch ON	ISO 9687	Dentistry — Graphical symbols for dental equipment	Cup filler	No.41
ŭ	Cupfiller switch OFF	ISO 9687	Dentistry — Graphical symbols for dental equipment	Cup filler	No.41
乙草	Bowl flush switch ON	ISO 9687	Dentistry — Graphical symbols for dental equipment	Bowl flush	No.42

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
5. 4	Bowl flush switch OFF	ISO 9687	Dentistry — Graphical symbols for dental equipment	Bowl flush	No.42
	Function switch	-	-	-	-
ì	Lock switch (unlocked)	-	-	-	-
î	Lock switch (locked)	-	-	-	-
	Handpiece No. picked up	-	-	-	-
05:00	Flushing status for handpiece (flushing in progress)	-	-	-	-
^ ^ V V	Page feed	-	-	-	-
,05:00 世 に <i>道</i>	Flushing status for cupfiller and bowl (flushing in progress)	-	-	-	-
•	Start	-	-	-	-
II	Pause	-	-	-	-

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
×	Cancel	-	-	-	-
∭ A	Spray change switch, Air ON	-	-	-	-
	Spray change switch, Air OFF	-	-	-	-
, w	Spray change switch, Water ON	-	-	-	-
W	Spray change switch, Water OFF	-	-	-	-
	Handpiece light switch (ON)	ISO 9687	Dentistry — Graphical symbols for dental equipment	Handpiece, air turbine, with illumination	No.12
%	Handpiece light switch (OFF)	-	-	-	-
^	Select switch (e.g. brightness of handpiece)	-	-	-	-

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
	Show the menu	-	-	-	-
0	Micromotor rotation switch for normal rotation (clockwise)	ISO 9687	Dentistry — Graphical symbols for dental equipment	Right revolution (clockwise rotation)	No.179
Res	Micromotor rotation switch for reverse rotation (counterclockwise)	-	-	-	-
Reciprocal mode	Reciprocal mode switch for micromotor	-	-	-	-
Ø	Micromotor rotation switch for reciprocal mode	-	-	-	-
+	+/- switch	-	-	-	-

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
◆	Store switch	ISO 9687	Dentistry — Graphical symbols for dental equipment	Write data into store	No.115
3.0 _{Ncm}	Torque control switch	-	-	-	-
₽ Va	Slide mode change switch Slide mode Va	-	-	-	-
₽ Fix	Slide mode change switch Slide mode Fix	-	-	-	-
AUTO S Rev	No automatic reverse setting	-	-	-	-
AUTOS	Automatic reverse setting	-	-	-	-

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
AUTO5)	Automatic forward setting	-	-	-	-
4 1:1	Gear ratio change switch	-	-	-	-
<u> </u>	Home switch	-	-	-	-
5	Return switch	-	-	-	-
Skip	Skip switch	-	-	-	-
	Name registration switch	-	-	-	-

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
123	Alphanumeric switch	-	-	-	-
×	Backspace switch	-	-	-	-
	Chair preset copy	-	-	-	-
	Handpiece setting copy	-	-	-	-
	Alarm volume	-	-	-	-
	Touch bar graph	-	-	-	-

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
	Alarm sound switch (active)	-	-	-	-
Ø	Alarm sound switch (muted)	-	-	-	-
13	Alarm sound type	ISO 9687	Dentistry — Graphical symbols for dental equipment	Sound, audio	No.106
H	Overheat prevention activate	-	-	-	-
<u>@</u>	Chair lock indicator (chair is locked)	-	-	-	-
?	Explanation page	-	-	-	-

Symbol	Meaning or explanatory text	Designation number	Title	Title of the symbol	Reference number
Rx Only	Rx only symbol (21 CFR 801.109)	-	-	-	-
REF	Catalog number	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Catalogue number	5.1.6
UDI	UDI	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Unique Device Identifier	5.7.10
	Name and address of the manufacturer	ISO 15223-1	Medical devices — Symbols to be used with information to be supplied by the manufacturer - Part 1 : General requirements	Manufacturer	5.1.1
FUSE	FUSE	-	-	-	-

1-8 Technical Description

The following are explained in the documents listed below:

ltem	Document
How to install this product	Installation instructions
Wiring/plumbing	Installation instructions

2-1 Risk Level Interpretation

Precautions before use

Make sure to carefully read the Safety Precautions and Operating Precautions and use the product correctly.

These precautions are intended to ensure the safe use of the product and prevent harm or damage to users or other people.

According to the magnitude of harm and damage and the degree of urgency, an incident that may be caused by misuse of the product is classified into one of the following categories: CONTRAIN-DICATION, WARNING, and CAUTION.

All of these categories are important for safety. Always follow the instructions provided.

We assume no responsibility for any accident due to failure to follow the Safety Precautions or Operating Precautions even in the event of harm or damage to users or other persons.

In such case, users or other persons who use the product without observing the Safety Precautions and Operating Precautions are responsible for any harm or damage incurred.

The graphical symbols are explained in detail below.

Once you have fully understood this explanation, read the text.

Classification by degree of harm or damage and urgency

CONTRAINDICATION

Use of the product without regard to this indication will create a hazardous condition that may result in death or serious injury.



NARNING

Improper handling of the product without regard to this indication will create a hazardous condition that may result in death or serious injury.



CAUTION

Improper handling of the product without regard to this indication will create a potentially hazardous condition that may result in moderate or slight injury or property damage.

The following graphical symbols are used to explain your responsibilities for using the product safely:

Graphical symbols for prohibited activity



Generally prohibited activity



Disassembly, repair or modification prohibited

Graphical symbol for mandatory instructions



Instructions for mandatory actions in general

2-2 Safety Precautions

CONTRAINDICATION

Installing or transferring the product



Precautions regarding installation

Do not install the product near electromagnetic sources such as communication facilities or elevators.

Malfunction of this product may occur in the presence of electromagnetic interference waves.

Use and maintenance of the product



Do not use the equipment in an explosive atmosphere (e.g., in the presence of inflammable gases).

Improper use in such an atmosphere may cause injury or fire.

Use with caution in the presence of electromagnetic waves.

Do not use equipment generating electromagnetic waves, such as mobile phones, around this product.

Malfunction of this product may occur.

Be sure to turn off the main switch of the product when HF surgical equipment is in use.

Be sure to turn off the main switch when HF surgical equipment is in use because the noise generated from HF surgical equipment may cause incorrect operation of this product.



Never disassemble, repair or modify the product.

Individuals other than your local authorized Belmont dealer should not disassemble or repair this product.

This could lead to an accident, failure, electric shock, or fire. Never modify the product as it is extremely dangerous.



Installing or transferring the product



Precautions for installation

Ask your local authorized Belmont dealer to install the product.

Make sure to place the product on a firm and flat floor. Placing the equipment on a non-flat floor may cause it to fall.

Be sure to ground the product securely. (Ask a professional to ground the product.)

Failure or electric leak may result in electric shock.

To avoid the risk of electric shock, this equipment must only be connected to a supply mains with protective earth.

Power Plug and Cord





Do not touch the power plug or socket with wet hands.

Failure to do so can result in electric shock.

Use a single socket (do not share a socket with other plugs).

Use an unshared socket with an attached ground terminal.
Using the same socket together with the power plug of other devices

Using the same socket together with the power plug of other devices can result in abnormal heat generation and possible fire.

Firmly insert the power plug into the socket.

Be sure to fully insert the power plug into the socket until reaching the base of the plug.

Failure to fully insert the plug or similar fault can result in a short circuit or heat generation that causes a fire.

Wipe off the dirt on power plug and socket with a dry cloth to avoid any possible fire.

Hold by the power plug when unplugging.

Do not pull the cord to remove the power plug from the socket. Hold by the power plug at the end of the cord when removing. Removing the plug by pulling the power cord can damage the power cord, resulting in electric shock or fire.

MARNING

Power Plug and Cord





Use and maintenance of the product



Be careful when handling the power cord.

Damaging the cord can result in electric shock or fire.

Do not damage the cord.

Do not place objects on top of the cord.

Do not alter the cord.

Do not heat the cord.

Do not excessively bend, twist, or pull the cord.

Be careful of power cord or plug breakage.

Do not use any power cord or plug that is damaged, or that fits loosely when inserted into a socket. Doing so can result in electric shock or fire.

Unplug the power plug when the chair is not in use.

Turn off the power switch and remove the power plug from the socket when the chair is not in use. Unexpected operation can result in an accident or fire from a short circuit due to insulation aging.

Keep moving parts of the product away from patients' and users' hands, fingers, and bodies.

Hands, fingers or bodies may become caught in the product, causing injury.

The patient must not lie on his/her stomach, kneel in the formal seiza position (with his/her buttocks on his/her heels), or sit on the product with a child in his/her arms.

The chair may move unexpectedly, causing injury.

The patient must not sit on the edge of the seat.

The chair may fall or move unexpectedly, causing injury or damage to peripheral devices.

The patient must not sit in an area other than the designated location.

Excessive load must not be applied to the product.

The patient must not sit on the headrest, armrest, or backrest.

This may cause injury due to falling, or damage to peripheral devices.

Excessive load must not be applied to the doctor swing arm or assistant swing arm.

The patient must not sit on the doctor swing arm or assistant swing arm.

This may cause injury due to falling, or damage to peripheral devices.

A load exceeding the weight limit (6.6 lbs/3 kg) must not be applied to the doctor table.

This may cause damage or injury.

A load exceeding the weight limit (3.3 lbs/1.5 kg) must not be applied to the sub-tray.

This may cause damage or injury.

MARNING

Use and maintenance of the product





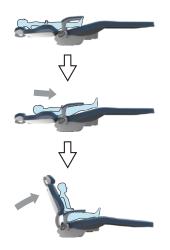
This may cause failure or electric shock.

Points to remember when a patient sits on the chair As shown in the figure, instruct the patient to sit on the chair. Ensure that the patient maintains the posture shown in the figure before operating the chair.

Perform cleaning before using the product for the first time.

This product is not sterilized or disinfected when shipped.





For a young child, confirm that the buttocks are placed on the seat before raising the backrest.

The child might slide down while the chair is moving, resulting in injury.

Pay attention to patients and children.

Keep your eyes on the patient when this product is in use. Patients (especially children) may touch the control switch or system inadvertently, leading to an accident due to incorrect operation of the product.

Keep children away from this product except when giving treatment.





Precautions for getting on and off the product

When the patient gets on or off the chair, the chair should always be at the lowest position and each operation must be locked by the lock switch.

Before moving a patient from a wheelchair to the product or vice versa, ensure that no obstacles (e.g., foot controllers) are situated around the wheelchair or the caregiver.

Contact of the feet or the wheelchair castors with obstacles (such as foot controllers) may cause injury or damage to peripheraldevices.

When the patient is moved from a wheelchair to the product or vice versa, he/she must be carefully monitored to prevent falling.

If the patient has to get off the product at a position other than the designated position for getting on and off the product due to power failure or in the event of an emergency, he/she must be carefully monitored to prevent falling.

Remove the patient's glasses and any accessories (such as a necklace or bracelets) before treatment.

Failure to follow this instruction may hamper treatment and lead to an accident.

Precautions when raising/lowering the backrest

Before lowering the backrest, ensure that the patient's arm or hand is not sandwiched between the backrest and the seat.

Before raising the backrest, ensure that the patient's arm or hand is not sandwiched between the backrest and the armrest.

Precautions for operating the chair and automatic operation

Before and during the chair operation, pay close attention to the operation range (seat raising/lowering direction and backrest lowering/raising direction), and ensure that the chair does not contact any body parts, hands or feet, or obstacles. Body parts, hands or feet, or objects may become caught in the chair, causing injury or damage to peripheral devices.

Before operating the chair, ensure that the patient is sitting in the correct position, and keep your eyes on him/her when the chair is in use.





Precautions when using the headrest (manual)

During the headrest operation, ensure that your fingers do not become caught in the control lever and are not sandwiched between the headrest and the backrest.

Precautions when using a micromotor (MX2/MCX) with an anti-heat function

When the anti-heat function is activated, do not turn on the main switch for the power cycle and continue operation. The micromotor may generate heat and cause the burns or motor's damages.

Development of subcutaneous emphysema

Cooling air (alone or spray) is released from the chip of the handpiece (micromotor and air turbine/motor). This may cause the patient to develop subcutaneous emphysema, so use cooling air with caution.

Pay close attention to a patient who has a cardiac pacemaker or defibrillator implanted.

If any abnormality occurs, immediately turn off the main switch and discontinue use of the product.

The product may affect the function of the pacemaker or defibrillator, leading to an accident.

California Proposition 65

Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

MARNING

Use and maintenance of the product



Prohibition of using this equipment adjacent to or stacked with other electronic equipment

Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

Prohibition of placing portable RF communications equipment adjacent to this product

Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 12 inches (30 cm) to any part of this product, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

Immediately wipe off any water spillage or leakage on the floor. Decreased strength of the floor may cause the product to fall, leading to injury or damage to peripheral devices.

Clean the product thoroughly.

Poor cleaning may cause bacteria to grow, posing a health risk. See cleaning procedures on pages 145 to 153.

Be sure to conduct maintenance.

Use of the product without maintenance may cause injury or damage to peripheral devices.

See maintenance information on pages 155 to 157.

Discontinue use of the product if it is broken.

In the case of a broken product, immediately discontinue use and turn off the main switch. Then, ask your local authorized Belmont dealer to repair the product.

Turn off the main switch during cleaning.

Failure to follow this instruction may cause electric shock or ignition. The product may also move unexpectedly, causing injury.

Action taken for power failure

To prevent unexpected operation of the product after recovery from power failure, turn off the main switch and put the handpiece/syringe in the instrument holder/assistant holder.

Be sure to turn off the breaker for devices when the product is not used for a long period of time.

Make sure to turn off the breaker for devices in a clinic when the product is not used for a long time for reasons such as closing time and non-consultation day.

If the breaker is not turned off, a fire may be caused by a leakage of electricity due to insulation deterioration.





Do not allow a person who exceeds the weight limit to sit on the chair.

Falling or operational failure may occur.

Refer to the instructions for use of Quolis Chair (Model Q5500) and Evoque Chair (Model Q3300).

Do not hit or rub the product.

This may cause damage to the cover or operational failure.

Do not touch leakage from a battery.

Contact of battery fluids with the eyes may result in blindness. Rinse with clean water immediately without rubbing, and consult a physician promptly.

Contact of battery fluids with the skin may cause skin disorders, so immediately rinse with clean water.

Ensure that each part operates normally, with no abnormalities detected, before operation.

Always inspect the product for abnormal findings such as loose components, backlash, tilting, vibration, sound, abnormal temperature, or bad odors.

If you feel something is wrong, immediately discontinue use of the product and turn off the main switch. Then, contact your local authorized Belmont dealer.

Read the accompanying documents for each device.

Before use, make sure to carefully read the instructions for use supplied with each device and use the device correctly.

Be sure to operate switches manually.

Make sure to operate the switches manually, except for the foot controller operated by the foot and stick switches. Failure to operate the switches by hand may cause damage or malfunction.

Carefully operate the switches to prevent a mistake.

The operator should pay close attention to people around the product and say something before operation to prevent any errors.







Peel off the film attached to the touch panel before initial use Using the touch panel with the film attached may lead to incorrect operation, resulting in injury.

Precaution when cleaning the touch panel

To clean and disinfect the touch panel, use ethanol for disinfection. Using other disinfectant may lead to incorrect operation, resulting in injury.

Precautions for moving the doctor unit

Carefully look around while moving the doctor unit. Contact with the chip of the handpiece may cause injury.

Precautions when using a handpiece

In the event of heat or smoky smell, stop using the handpiece, turn off the main switch, and contact your local authorized Belmont dealer.

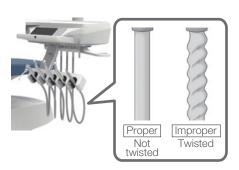
This may cause burns or have an adverse effect on the dental pulp.

Precautions when using an ultrasonic scaler

After use, attach a dedicated cover (if any) to the scaler tip and put it in an instrument holder. Contact with the tip of the scaler may cause injury.

Precautions when using a dedicated function for MX2

If a reverse-screw-shaped file is attached, make sure to select "No auto reverse function," and change the rotation direction by micromotor rotation switch. If the MX2 is used with "Auto reverse function/Auto forward function" selected, the file will be damaged, causing injury.



Do not use the handpiece with its hose twisted

Repeated actions of picking up and returning the handpiece may cause its hose twisted.

Check the hose periodically to see if it is not twisted. If twisted, unwind it before use.

Continual use of the handpiece with its hose twisted will cause the kinks in the hose or breaking of the wire, making the handpiece unusable.





Precautions when using a monitor bracket

Do not apply excessive load to or make an impact on a monitor or monitor bracket. Do not mount a monitor if it does not meet the conditions provided below to prevent damage or injury. Size, 21 inches; weight, 13.2 lbs (6 kg)

Precautions for right/left handed conversion

Make sure to read through pages 115-116 for instructions before performing the right and left handed conversion.

If the conversion is performed without reading, it may cause physical injury or property damage.

Take care so the doctor unit does not hit the cuspidor unit during the conversion.

Take care not to pinch the vacuum hose and saliva ejector hose between the assistant swing arm and the doctor swing arm during the conversion.

Immediately wipe off any drug solutions or water adhered to the product.

Adherence of drug solutions or water to the control unit may cause operational failure or electrical leak. If drug solutions or water are adhered, immediately turn off the main switch and wipe them off with a dry, soft cloth.

Turn off the main switch at the end of day or during a recess. Malfunction due to contact with the product will cause damage or injury.



Safety precautions regarding water quality



Safety precautions regarding Conduct flushing before treatment.

If this product is not used for a long time, water retained in ducts and in the water heater will be susceptible to bacterial growth. To provide safe treatment and operate the handpiece without any trouble, never forget to perform flushing (discharge) of the water lines before starting treatment.

To inhibit the growth of various bacteria, you are recommended to carry out flushing with fresh water at the end of treatment in the morning and evening.

Time required for standard flushing of the unit water lines

Flushing water circuits of handpieces	40 seconds
Air turbine Micromotor	
Air motor	
Ultrasonic scaler	
Syringe	

Flushing the water circuits of handpieces Flushing the water circuits of cupfiller and cuspidor bowl	10 minutes
Air turbine Micromotor Air motor Ultrasonic scaler Syringe +	5 minutes
Cupfiller Bowl flush	5 minutes

If the cuspidor bowl is not equipped, the functions to flush the water circuits of cupfiller and cuspidor bowl (5 minutes) are not available.

[Reference] Selection and implementation of flushing method [pages 120 to 128]

Points to remember when operating the product

Meaning of a symbol



 Point to remember (locations requiring attention including moving parts, rotating parts, and detachable parts)



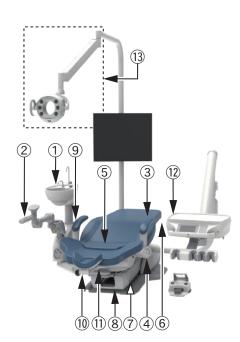
Meanings of each point to remember

- ①Pay attention to prevent contact with the cuspidor bowl.

 When the cuspidor bowl is rotated to the side of the chair, keep it away from the armrest and the patient.
- ②Pay attention to prevent contact with the assistant holder.
 The upper part of the patient's body should not lean forward over the cuspidor unit.
- ③Pay attention to prevent body parts or objects from becoming caught in the armrest (when rotating).
 - Do not operate the chair when the armrest is rotated.
- ④Pay attention to prevent body parts or objects from becoming caught in the armrest (when lowering the chair).
 - Do not place the body parts or objects at the the armrerst bracket when lowering the chair.
- ⑤Pay attention to prevent body parts or objects from becoming caught in the backrest moving parts.
 - Do not sandwich your hands or feet between the backrest and the seat.
- ⑥Pay attention to prevent body parts or objects from becoming caught in the bottom of the seat.
 - Do not place your hands or feet in the bottom of the seat.
- Pay attention to prevent body parts or objects from becoming caught in the rear link cover.
 - Do not place the body parts or objects between the rear link cover and base plate.
- ®Pay attention to prevent body parts or objects from becoming caught in the flange cover.
 - Do not place the body parts or objects between the flange cover and base plate.
- - Before operating the chair, ensure that no hands , feet, or obstacles are placed between the cuspidor and the chair.
- [®]Pay attention to prevent body parts or objects from becoming caught in the headrest moving part.
 - Ensure that your fingers and hair do not become caught in the headrest moving part.
- ①Pay attention to prevent contact with the backrest. Before operating the backrest, ensure that no obstacles are placed around the backrest.
- [®]Pay attention to prevent contact of the chair with the doctor unit.
 Do not place the doctor unit within the operational range of the chair.
- ③Pay attention to prevent contact with the light.
 The light should not be placed near people or surrounding obstacles.



When operating the chair, do not place the body parts or objects around the moving parts. This may cause injury.



Points to remember when operating the product

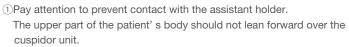
Meaning of a symbol



 Point to remember (locations requiring attention including moving parts, rotating parts, and detachable parts)

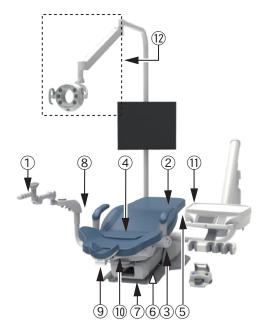


Meanings of each point to remember



- ②Pay attention to prevent body parts or objects from becoming caught in the armrest (when rotating).
 - Do not operate the chair when the armrest is rotated.
- ③Pay attention to prevent body parts or objects from becoming caught in the armrest (when lowering the chair).
 - Do not place the body parts or objects at the the armrerst bracket when lowering the chair.
- ④Pay attention to prevent body parts or objects from becoming caught in the backrest moving parts.
 - Do not sandwich your hands or feet between the backrest and the seat.
- ⑤Pay attention to prevent body parts or objects from becoming caught in the bottom of the seat.
 - Do not place your hands or feet in the bottom of the seat.
- ⑥Pay attention to prevent body parts or objects from becoming caught in the rear link cover.
 - Do not place the body parts or objects between the rear link cover and base plate.
- Pay attention to prevent body parts or objects from becoming caught in the flange cover.
 - Do not place the body parts or objects between the flange cover and base plate.
- ® Pay attention to prevent body parts or objects from becoming sandwiched between the Vac Pac and the chair.
 - Before operating the chair, ensure that no hands, feet, or obstacles are placed between the cuspidor and the chair.
- - Ensure that your fingers and hair do not become caught in the headrest moving part.
- [®]Pay attention to prevent contact with the backrest.
 Before operating the backrest, ensure that no obstacles are placed around the backrest.
- ①Pay attention to prevent contact of the chair with the doctor unit.

 Do not place the doctor unit within the operational range of the chair.
- [®]Pay attention to prevent contact with the light.
 The light should not be placed near people or surrounding obstacles.





When operating the chair, do not place the body parts or objects around the moving parts. This may cause injury.

2-3 Locations Where Caution Labels Are Attached

A CAUTION / ATTENTION

- Do not place any object weighing
 6.6lbs (3kg) or more on this top
- · Do not lean against the top.
- · Do not make an impact on the top.
- * The top may be broken, potentially causing injury.
- Ne placer aucun objet pesant6.6lbs (3kg) ou plus sur ce plateau.
- · Ne pas s'appuyer sur le plateau.
- · Ne pas donner de coup sur le plateau.
- * Le plateau risquerait de se casser et de provoquer des blessures.

A CAUTION / ATTENTION

- Do not place any object weighing
 3.3lbs (1.5kg) or more on this top
- · Do not lean against the top.
- · Do not make an impact on the top.
- * The top may be broken, potentially causing injury.
- Ne placer aucun objet pesant3.3lbs (1.5kg) ou plus sur ce plateau.
- · Ne pas s'appuyer sur le plateau.
- · Ne pas donner de coup sur le plateau.
- * Le plateau risquerait de se casser et de provoquer des blessures.





A CAUTION / ATTENTION

REMOVE THIS FILM BEFORE USE. / RETIRER CE FILM AVANT UTILISATION.





2-4 EMC Information

This product complies with EMC Standard IEC60601-1-2:2014.

1. Precautions regarding EMC and compliance with accompanying documents

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

2. Effects of RF communication devices

Portable and mobile RF communication devices can affect medical electrical equipment.

3. Installation exclusion environment

Hospitals except for near active HF SURGICAL EQUIPMENT and the RF shielded room of an ME SYSTEM for magnetic resonance imaging, where the intensity of EM DISTURBANCES is high.

4. Electromagnetic emission declaration

Guidance and ma	anufacturer's declaration—electromagnetic emissions		
below. The custom	Quolis Unit is intended for use in the electromagnetic environment specified below. The customer or user of Quolis Unit should ensure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment – guidance	
RF emissions CISPR 11	Group 1	Quolis Unit only uses RF energy for its internal functions. Therefore, its RF emissions are very low and are not likely to cause any interference with nearby electronic equipment.	
RF emissions CISPR 11	Class A	Quolis Unit 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.	
Harmonic emissions IEC 61000-3-2	Not applicable	NOTE The EMISSIONS characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 class A). If it is used in a residential environment (for which CISPR 11 class B is normally required) this	
Voltage fluctuations/ Flicker emissions IEC 61000-3-3	Not applicable	equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.	



Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

5. Electromagnetic immunity declaration 1

Guidance and manufacturer's declaration—electromagnetic immunity

Quolis Unit is intended for use in the electromagnetic environment specified below. The customer or user of Quolis Unit should ensure that it is used in such an environment.

such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment —guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±15 kV air	±8 kV contact ±15 kV air	Flooring should be wood, concrete, or ceramic tiles. If the floor is 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	The mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1kV differential mode ±2kV common mode	±1kV differential mode ±2kV common mode	The 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	0% Ut; 0.5 cycles 0°,45°,90°,135°, 180°, 225°, 270° and 315° 0% Ut; 1cycle and 70% Ut; 25/30 cycles at 0°, single phase 0%Ut; 250/300 cycles	0% Ut; 0.5 cycles 0°,45°,90°,135°, 180°, 225°, 270° and 315° 0% Ut; 1cycle and 70% Ut; 25/30 cycles at 0°, single phase 0%Ut; 250/300 cycles	The mains power quality should be that of a typical commercial or hospital environment. If the user of Quolis Unit requires continued operation during mains power interruptions, it is recommended that Quolis Unit be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30A/m	30A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Note Ut is the AC	mains voltage prid	or to the application	of the test level.

6. Electromagnetic immunity declaration 2

Guidance and manufacturer's declaration—electromagnetic immunity				
Quolis Unit is intended for use in the electromagnetic environment specified				
		olis Unit should ei	nsure that it is used in	
such an environme				
Immunity test	IEC 60601	Compliance level	Electromagnetic environment	
	test level		-guidance	
0	3V	3V		
Conducted RF IEC 61000-4-6	0.15MHz-80MHz	0.15MHz-80MHz	Warning: Portable RF communications	
	6V 0.15MHz-80MHz in ISM bands and amateur radio bands	6V 0.15MHz-80MHz in ISM bands and amateur radio bands	equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 12 inches (30 cm) to any part of Quolis Unit, including cables specified by the manufacturer. Otherwise, degradation of the	
Radiated RF IEC 61000-4-3	3V/m 80MHz-2.7GHz 80% AM (1 kHz)	3V/m 80MHz-2.7GHz 80% AM (1 kHz)	performance of this equipment could result.	
Near electromagnetic field caused by RF wireless communication devices IEC61000-4-3	See the table on the next page (page 41)	See the table on the next page (page 41)		

7. Essential performance

Unless operated by the chair control switch, the chair will not make any movements. Unless operated by the foot controller, the handpiece will not move except for sounding a buzzer and switching the indicator on/off.

Loss or decline of essential performance may cause the chair or handpiece to move unexpectedly, causing harm or damage to the patient, operator or people or objects around the patient or operator.



Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 12 inches (30 cm) to any part of this product, including cables specified by the manufacturer.

Otherwise, degradation of the performance of this equipment could result.

Near electromagnetic field caused by RF wireless communication devices

Test frequency (MHz)	Modulation	IEC 60601 test level	IEC 60601 compliance level
385	Pulse modulation ^{a)} 18Hz	27V/m	27V/m
450	Frequency modulation ±5kHz shift 1kHz sine wave	28V/m	28V/m
710 745 780	Pulse modulation ^{a)} 217Hz	9V/m	9V/m
810 870 930	Pulse modulation ^{a)} 18Hz	28V/m	28V/m
1720 1845 1970	Pulse modulation ^{a)} 217Hz	28V/m	28V/m
2450	Pulse modulation ^{a)} 217Hz	28V/m	28V/m
5240 5500 5785	Pulse modulation ^{a)} 217Hz	9V/m	9V/m
Note a) The carrier is modulated by a square wave with a 50% duty cycle.			

2 Safety Consideration

2-5 Compatible Handpieces

The following handpieces are compatible with this product:

Syringe	DCI
Micromotor	BIEN AIR MX2 (DMX3)
WIICIOITIOLOI	BIEN AIR MCX
Scaler	DENTSPLY CAVITRON SCALER (TYPE G139)
Ocalci	SATELEC SP NEWTRON
Curing light	SATELEC MINI LED STD OEM
Intraoral camera	SOPRO ACTEON SOPRO 617
initiaoral Camera	SOPRO ACTEON SOPRO CARE

2-6 Compatible Dental Lights

The following dental lights are compatible with this product:

Dontal light	Bel-Nova
Dental light	Bel-Halo

2-7 Compatible Chairs

The following chairs are compatible with this product:

Dental chair	Quolis Chair (Model Q5500)
Dental Chair	Evogue Chair (Model Q3300)

3-1 Operating Precautions

Immediately wipe off any drug solutions adhered to the product.

Otherwise, they may cause deterioration or discoloration.

Do not apply heat to the product.

This may cause deterioration or discoloration.

Discoloration of resin

Resin materials are used in external components of the product. Carefully selected materials are used; however, discoloration may occur for reasons such as natural deterioration or the adherence of drug solutions.

To ensure use of the product for as long as possible, immediately wipe off any drug solutions adhered and avoid sunlight.

Do not place objects other than a human being on the seat.

This may cause deformation, tears, or corrosion of the leather.

Check the operation of the doctor unit

Moving the doctor unit upward/downward without releasing the brake may cause damage to the product.

Be sure to release the brake first by pressing the brake release switch. Then, move the doctor table upward/downward.

Carefully handle handpieces/syringes.

Handle handpieces/syringes with care to prevent dropping. Dropping them may cause damage or deformation.

Check the operation of the compressor.

This product will not work unless air is supplied. Switch on the compressor before operating this product.

Pay attention to prevent the use of water other than tap water.

This product is intended for use with tap water, purified water, distilled water, or pure water; use of water other than those mentioned above may lead to failure.

If the product breaks down due to the use of unspecified water, it will not be covered by the guarantee.

Action to take in the case of a water leak

In the event of a water leak, close the main water valve, turn off the main switch and breaker for devices used in the clinic, and contact your local authorized Belmont dealer.

Use this product only for dental treatment.

This product is a dental unit and patient chair used for dental treatment.

Only a dentist and dental staff are allowed to use this product.

Chair's weight limit

The chair may rise slowly if a person weighs around the maximum lifting capability.

Refer to the instructions for use of Quolis Chair (Model Q5500) and Evogue Chair (Model Q3300).

3-2 Precautions for Using Synthetic Leathers

Adherence of clothing dye

Dye may migrate from clothes or belts to the synthetic leathers of the product. If dye is adhered, wipe gently with a soft cloth impregnated with a neutral detergent diluted to about one-tenth with water as soon as possible to prevent penetration. Next, wipe with water and then thoroughly with a dry cloth.

Pay attention to prevent deterioration and dye migration due to contact.

Contact with other resin materials, coated products, solvents, and adhesive tapes may cause changes in the surface gloss, cracks, deformation or abrasion.

Dye may migrate from newspapers or printed matters to the product.

Dye may migrate from printed clothes such as T-shirts or denim clothes to the leathers of this product.

Adherence of benzene, nail polish remover, alcohol, or oil may cause discoloration, surface dissolution, changes in gloss, hardening, softening or abrasion.

Use of a bleaching agent or a sheet cleaned by bleach may cause changes in gloss or discoloration.

Placing the product near a heat source such as a heater may cause deformation or discoloration.

Shield the product from direct sunlight by using a curtain. Direct sunlight may cause surface change, shrinkage, discoloration or fading.

Placing a heavy object on the product for a long time may leave a mark or wrinkle.

4-1 Technical Data

4-1-1 Specification Variations

	Doctor unit	Cuspidor unit	Vac Pac unit
Vac Pac unit type	0		0
Cuspidor unit type	0	0	
Cuspidor unit type (without Doctor unit)		0	
Vac Pac unit type (without Doctor unit)			0
Doctor unit (without Cuspidor unit / Vac Pac unit) type	0		

4-1-2 Quolis Unit

Model AU-QDU6*

(* represents single or multiple strings

or numbers.)

Classification for protection against electric shock

Class I Equipment

Classification according to the degree of protection against electric shock

t

Type B Applied Parts (handpiece/syringe)

Classification according to the degree of protection against ingress of water or particulate

matter

Foot controller IPX1

Rated voltage AC120 V

Power frequency 60 Hz

Power input 6.2 A

Fuse Fuse holder

Primary circuit: 12A / 250V

(Interrupting capacity: 10kA / 125VAC)

Operating speed: Interrupting

Size: 6.3 × 32 mm

Secondary circuit for 24V / 6.5A line

10A / 250V

(Interrupting capacity: 1500A / 250VAC)

Operating speed: Time lag

Size: 5.2 × 20 mm

Secondary circuit for 24V / 5A line

6.3A / 250V

(Interrupting capacity: 1500A / 250VAC)

Operating speed: Time lag

Size: 5.2 × 20 mm

Secondary circuit for 14V / 5A line

6.3A / 250V

(Interrupting capacity: 1500A / 250VAC)

Operating speed: Time lag

Size: 5.2 × 20 mm

Power board for MX2/MCX

6.3A / 250V

(Interrupting capacity: 50A / 250VAC)

Operating speed: Time lag

Size: φ 8.5 mm

4 Product Specifications

Foot controller control board

0.63A / 32V

(Interrupting capacity: 16A / 32VAC) Operating speed: Normal operation

Size: 1.6 × 0.8 mm

Operation mode Continuous operation

Weight Doctor unit 88.2 lbs (40 kg)

Cuspidor unit 66.1 lbs (30 kg) Vac Pac 44.1 lbs (20 kg) Light swing arm 48.6 lbs (22 kg)

Air supply Pressure 72.5 ~ 101.5 psi (0.5 ~ 0.7 MPa)

Minimum flow rate 26.5gpm (100 L/min)

Oil contamination Max 0.5mg/m³

Particle contamination Particle size (1 \sim 5 μ m),

less than 100/m³

Main air pressure 72.5 psi (0.5 MPa)

Water supply Pressure 29 ~ 58 psi (0.2 ~ 0.4 MPa)

Minimum water flow 1.6gpm (6 L/min) Hardness Less than 2.14mmol/L (< 12°dH)

pH 6.5-8.5 Water quality

Must satisfy the national requirements

pertaining to drinking water.

Comply with the national requirements

concerning the connection of the Quolis unit to

the public drinking water supply.

Main water pressure 29 psi (0.2 MPa)

Usage environment Temperature 32 ~ 104°F (0 ~ 40°C)

Humidity 10 ~ 95% (No condensation) Atmospheric pressure 10.2 ~ 15.4 psi (701 ~ 1060 hPa)

Transportation/storage Temperature $-4 \sim 158^{\circ}F$ (-20 $\sim 70^{\circ}C$) environment Humidity $10 \sim 95\%$ (No condensation)

Atmospheric pressure 10.2 ~ 15.4 psi

(701 ~ 1060 hPa)

Weight limit Doctor table 6.6 lbs (3 kg)

Sub-tray of doctor unit (Continental)

3.3 lbs (1.5 kg)

Adaptation to high-oxygen

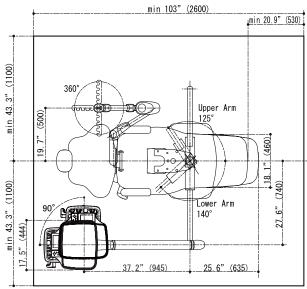
environment

The product is not suitable for use in a

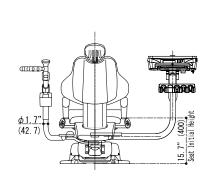
high-oxygen environment.

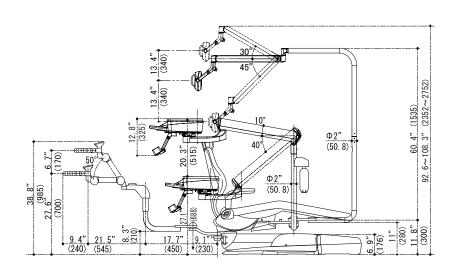
Refer to the rating plate for the capacity of power supply.

Vac Pac Unit type



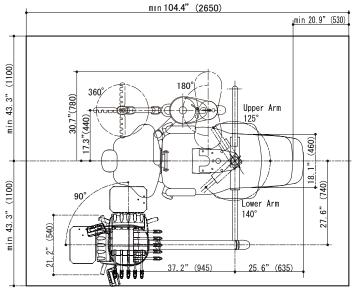
Minimum dimension for change to right and left position. excluding treatment space



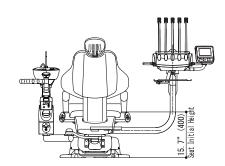


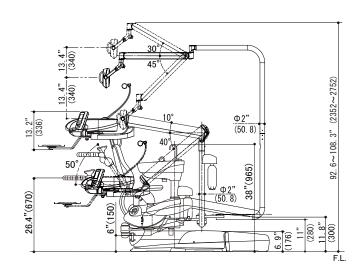
Unit: Inch / (mm)
Tolerance in dimensions: ±10%

Cuspidor Unit type



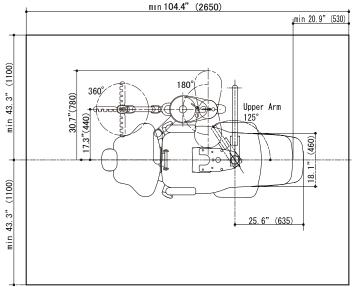
Minimum dimension for change to right and left position. excluding treatment space $% \left(1\right) =\left(1\right) \left(1\right$



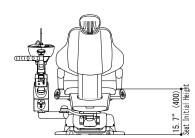


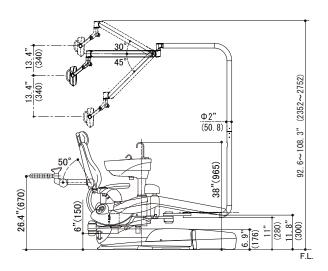
Unit: Inch / (mm)
Tolerance in dimensions: ±10%

Cuspidor unit type (without Doctor unit)



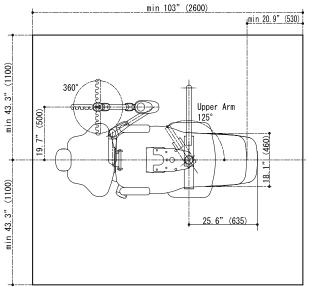
Minimum dimension for change to right and left position. excluding treatment space $\,$



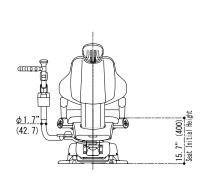


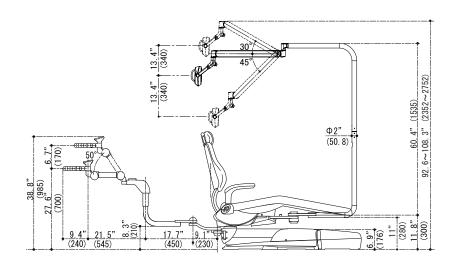
Unit: Inch / (mm)
Tolerance in dimensions: ±10%

Vac Pac Unit type (without Doctor unit)



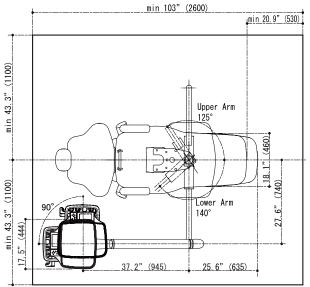
Minimum dimension for change to right and left position. excluding treatment space



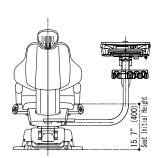


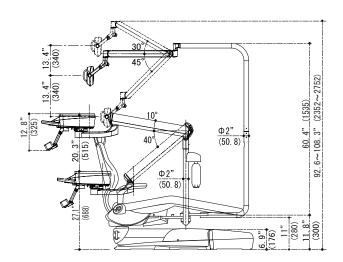
Unit: Inch / (mm)
Tolerance in dimensions: ±10%

Doctor unit (without Cuspidor unit /Vac Pac unit) type

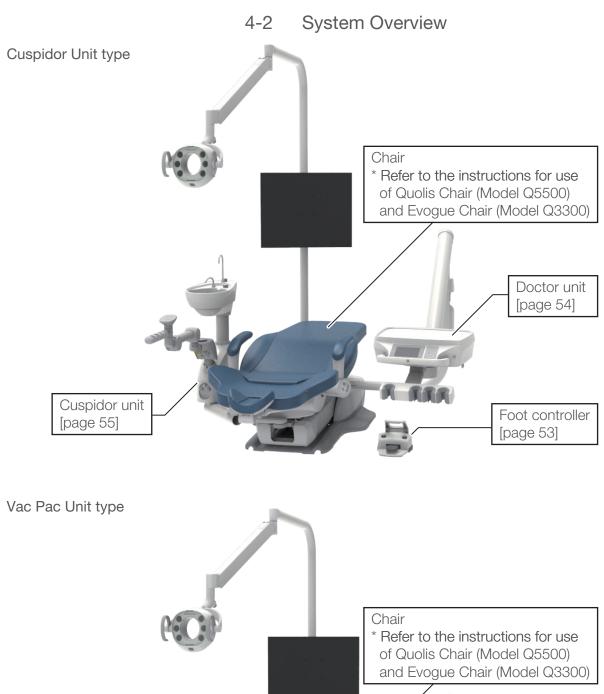


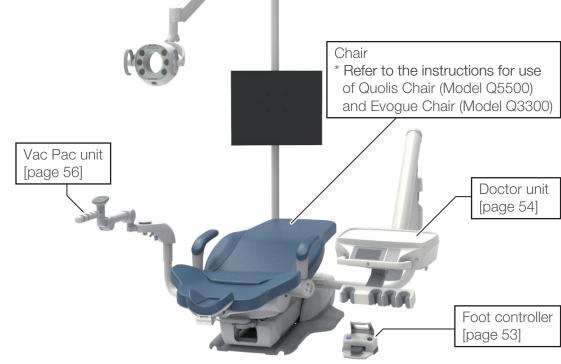
Minimum dimension for change to right and left position. excluding treatment space





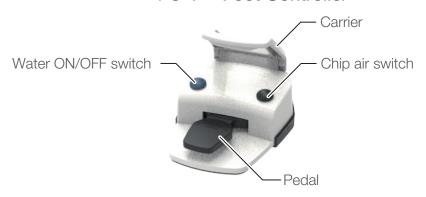
Unit: Inch / (mm)
Tolerance in dimensions: ±10%





4-3 Name of Each Part

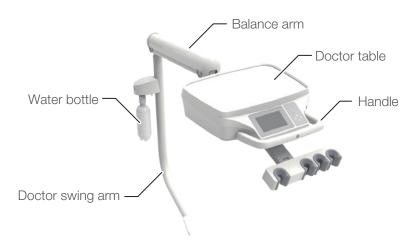
4-3-1 Foot Controller



4-3-2 Doctor Unit

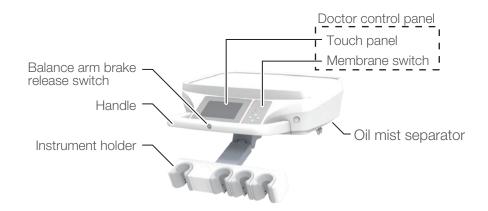
4-3-2-1 Doctor Unit Delivery

Swing mount

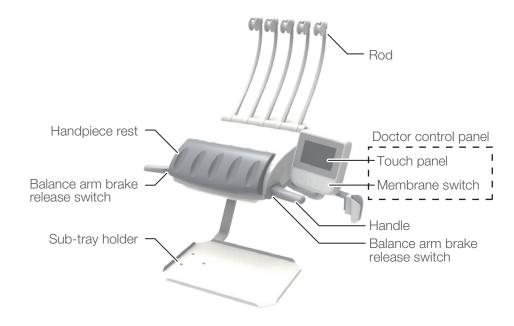


4-3-2-2 Instrument Delivery

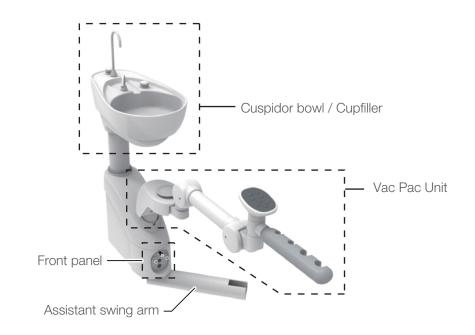
Holder



Continental



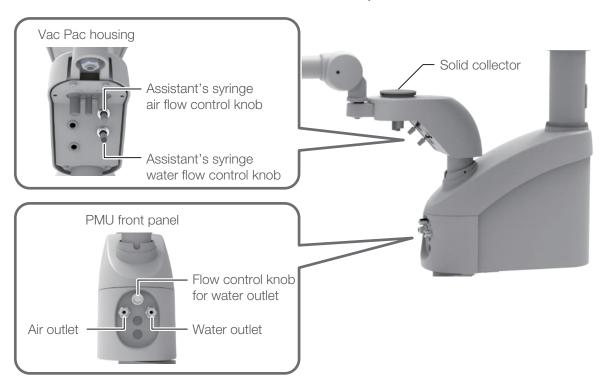
4-3-3 Cuspidor Unit



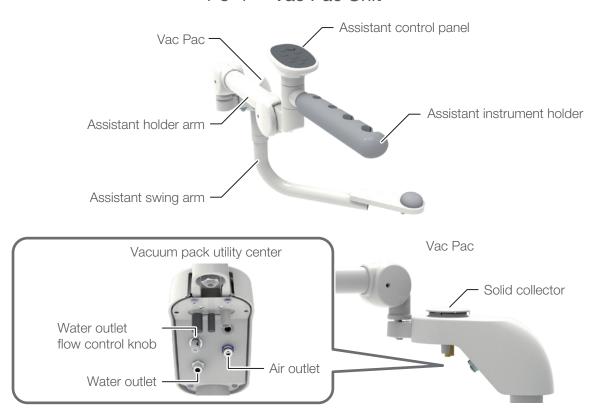
4-3-3-1 Cuspidor bowl/Cupfiller



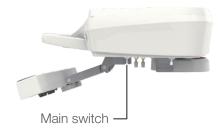
4-3-3-2 Front panel

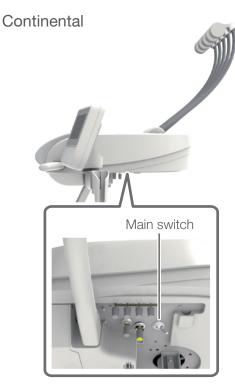


4-3-4 Vac Pac Unit



Holder





Cuspidor (Without doctor unit)



Preparation Before Use 5-1

1 Turn on the power

Turn the main switch for unit to the right (I).



CAUTION

Operate the main switch for unit by hand.

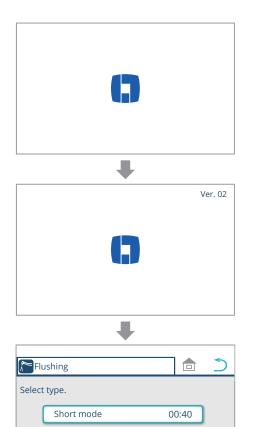
Turn off the main switch for unit at the closing time or during a break. Malfunction due to contact with the product will cause damage or injury.

Peel off the film attached to the touch panel before initial use. Using the touch panel with the film attached may lead to incorrect operation, resulting in injury.

When turning on the main switch, sensitivity of touch panel will be initialized. Do not turn on the power while touching the panel by fingers.

Turning on the main switch for unit while touching the panel may lead to the reduction of the sensitivity of the panel.

If the detection is incorrect, turn off the power and wait for approx. 5 seconds. Then, turn on the power again.



2 Confirm the startup screen and flush the retained water

Turn on the main switch. The nark is displayed on the touch panel, the startup sound is heard, and the program version information is displayed for several seconds.

The program version information differs depending on the month of purchasing (manufacturing) and specifications.

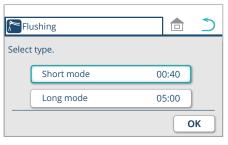
The flushing screen is displayed.

Perform flushing, referring to "Selection and implementation of flushing method" [pages 120 to 128].

* To cancel the process, press skip.

For Vac Pac unit type

Long mode



10:00

ОК

* For Vac Pac unit type, the screen shown in the left figure appears.

Home screen



Once the flushing process is completed, the home screen is displayed.

For the description of respective switches and indications, see "Doctor operation panel" [pages 66 to 83].



3 Be sure to respond appropriately if an error occurs

If an error occurs during the startup process, the check mode screen is displayed on the touch panel. See explanation on [pages 161 to 162], and respond appropriately according to the indicated method.

To display the next screen, press the sip switch. If five or more errors occur, press the sip switch to check errors other than the ones indicated on the first page.

4 Perform startup inspection

- ①Confirm that the discharge of retained water has been completed.
- ②Operate the switches and the foot controller to confirm that the chair and the handpieces/syringes function normally.
- (Connect the handpieces/syringes before performing the operation check.)

5 Prepare for the procedure

- 1) Put an cup on the cupfiller base of the cuspidor unit.
- ②Attach the vacuum/saliva ejector tip to the vacuum/saliva ejector handpiece.



Be sure to perform maintenance inspection before use (startup inspection to confirm that the product functions normally). Operation without performing maintenance inspection may result in injury and damage to peripheral equipment.

Holder



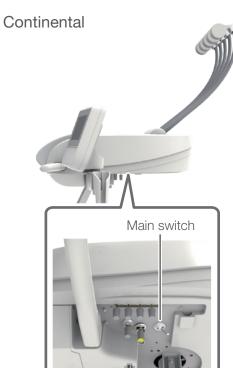
5-2 After use

1 Power off the unit

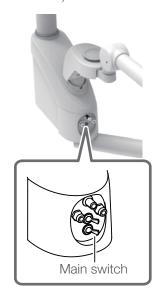
Turn the main switch for unit to the left (O).



Operate the main switch for unit by hand.



Cuspidor (Without doctor unit)



5-3 Raising/lowering the chair and raising/reclining the backrest (manual operation)

Doctor control panel Membrane switch



Switches for manual operation

Assistant operation panel



Operation panel switch	Operation
	The chair is raised
	The chair is lowered
	The backrest is raised
	The backrest is reclined

^{*}The chair is operated while the switch is pressed.



Before raising/lowering the chair, confirm that no human body part, limb, or obstacle is obstructing the chair.

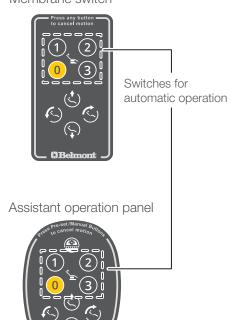
Before reclining the backrest, confirm that the patient's arm or hand is not placed between the backrest and the seat.

Before raising the backrest, confirm that the patient's arm or hand is not placed between the backrest and the armrest.

[Reference] Precautions when a patient is seated [page 27]

5-4 Moving the chair to the preset position (automatic operation)

Doctor control panel Membrane switch



Operation panel switch	Operation
1	The chair is moved to the preset "Treatment position 1".
2	The chair is moved to the preset "Treatment position 2".
3	The chair is moved to the preset "Treatment position 3".
0	The chair is moved to the preset "Entry/exit position".

Do not hold down the preset switches 1, 2 or 3, or automatic return switch 0, for five seconds or longer. If pressed for five seconds or more, a buzzer sound is heard, and the chair position at that point is memorized as the set position. [Reference] Automatic operation setting [page 117]



Before moving the chair, confirm that no human body part, limb, or obstacle is obstructing the chair.





Moving the doctor unit forward/backward and right/left Hold the handle and slowly move the doctor unit.



WARNING

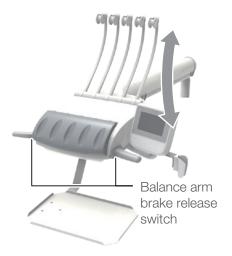
Do not apply a load exceeding 6.6 lbs (3 kg) to the doctor table. Otherwise, damage or injury may result.

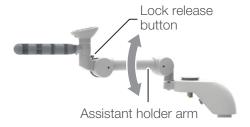


Balance arm brake release switches are located on the handle. Grasp the handle and press the balance arm brake release switch to release brake and adjust the table height.

Release the balance arm brake release switch at the desires table position and the balance arm position will be locked.





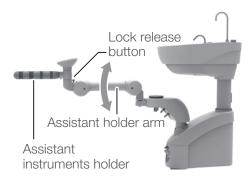


5-6 Height adjustment of the Vac Pac

Vac Pac unit

Press the lock release button and raise assistant holder arm to adjust the Vac pac height. Position at desired height and release the lock button after that.

Support the arm with your hand until it is positioned at the desired height.



Cuspidor unit

Press the lock release button and raise assistant holder arm to adjust the height of assistant instruments holder. Position at desired height and release the lock button.

Support the arm with your hand until it is positioned at the desired height.





Do not apply more than 6 lbs (2.7kg) of weight on the holder section



5-7 Handpiece

When a handpiece other than the syringe is picked up from the instrument holder, the operation screen for the handpiece is displayed on the touch panel. Subsequently, operate the foot controller to move the unit.

[Reference]	Micromotor	[pages 90 to 101]
	Ultrasonic scaler	[pages 102 to 104]
	Air Turbine/motor	[pages 105 to 107]
	Vacuum handpiece	[page 110]
	Saliva ejector handpiece	[page 110]
	Foot controller	[page 109]

	Syringe	
Instrument	Handpiece	Micromotor
		Ultrasonic scaler
		Air turbine
		Air motor

When the handpiece is returned to the instrument holder, the home screen is displayed.



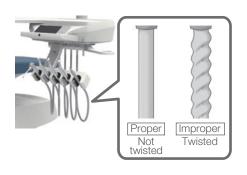


Handpiece priority function (first priority)

Only the handpiece that is picked up first is operable.

If two or more handpieces are picked up from the instrument holder, and if the handpiece picked up first is returned to the holder, a message [C12: HP first priority] is displayed.

This message disappears if all handpieces are returned to the instrument holder.





Repeated actions of picking up and returning the handpiece may cause its hose twisted.

Check the hose periodically to see if it is not twisted. If twisted, unwind it before use.

Continual use of the handpiece with its hose twisted will cause the kinks in the hose or breaking of the wire, making the handpiece unusable.

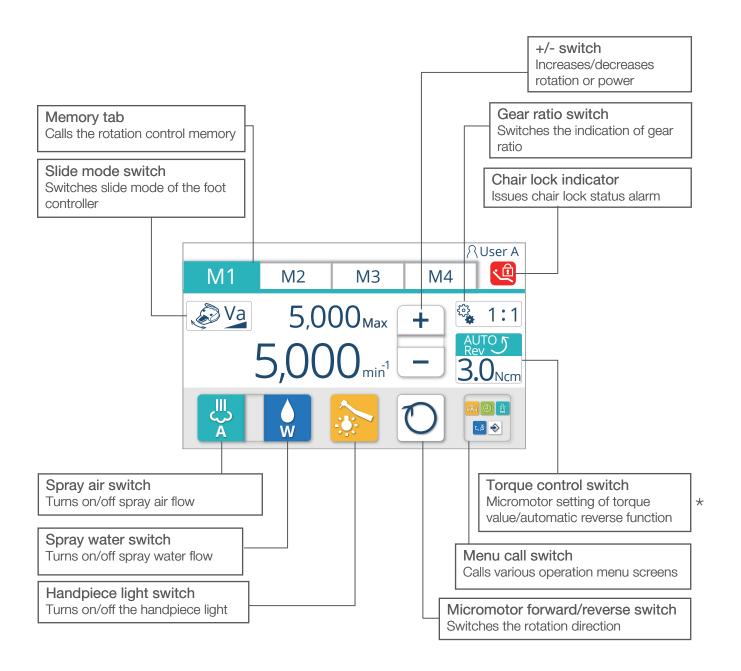
the stick switch

5-8 Doctor operation panel Touch panel (home screen) The overview of indications and switches on the touch panel is as follows. Touch panel Holder Continental Timer indication Cupfiller switch ** Indicates the status of the timer Fills the cup with water function in operation Bowl flush switch Timer switch ** Activates the timer function Cleans the bowl Patient memory switch User memory switch Switches the chair setting to match the Selects user-based operation memory patient ① 02:30 Patient User Adult **1** Dental light switch Function switch Turns on/off the dental light Sets various operating conditions Lock switch Locks the function of the touch panel and

** It is displayed in gray if the function is not installed.

Touch panel (handpiece screen)

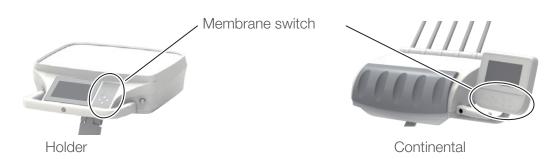
The overview of indications and switches on the touch panel is as follows.

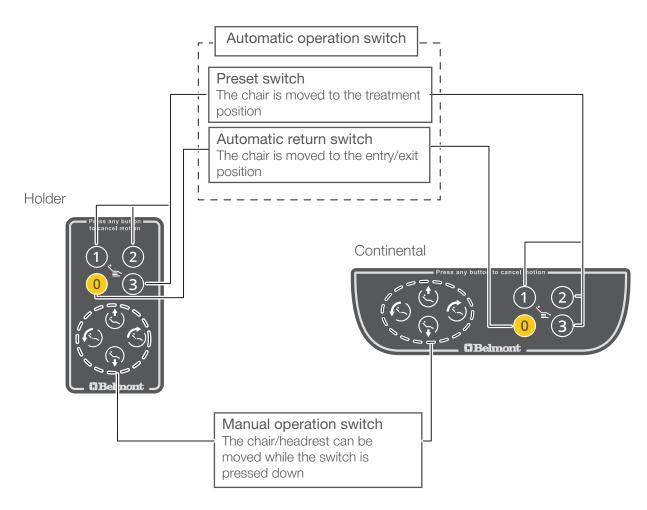


* Not indicated if the function is not installed

Membrane switch

The overview of indications and switches on the operation panel is as follows.







Automatic return switch

The chair is moved to the entry/exit position.



Preset switch

When 1 is pressed, the chair is moved to treatment position 1.



When 2 is pressed, the chair is moved to treatment position 2.



When 3 is pressed, the chair is moved to treatment position 3.

Do not hold down the preset switch, automatic return switch for five seconds or longer.

If pressed for five seconds or more, a buzzer sound is heard, and the chair position at that point is memorized as the set position. [Reference] Automatic operation setting [page 117]



Manually operates "Raise/lower" and "Raise/recline" of the chair.



Switch	Operation
	The chair is raised
	The chair is lowered
	The backrest is raised
	The backrest is reclined

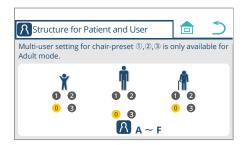
^{*}The chair can be moved while the switch is pressed down



Before moving the chair, confirm that no human body part, limb, or obstacle is obstructing the chair.

Take particular precautions for the movement and behavior of children during operation.





Structure of user/patient memories

Up to six user memories (A to F) and up to three patient memories (Adult, Child and Elderly) can be set.

[Adult]

:Adult mode



A recommended mode for an adult patient of a standard figure; In addition to the automatic return switch 0, the preset switches 123 can be set for up to six user memories (A to F).

[Child]

:Child mode



A recommended mode for a child patient or a patient of a small figure;

The automatic return switch **0** and the preset switches 1 2 3 can be set respectively.

[Elderly] :Elderly mode



A recommended mode for an elderly patient or a patient who requires special considerations; The automatic return switch o and the preset switches 1 2 3 can be set respectively.

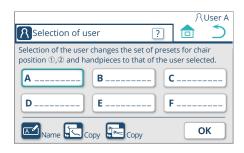
The angles of the backrest can be limited, and other settings are possible.



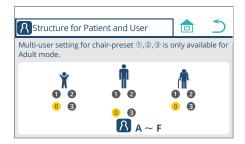
Calling the Structure of user/patient memories

1.Press the user memory switch [3].

The "Selection of user" screen is displayed.



2.On the "Selection of user" screen, press the ? switch. The "Structure for Patient and User" screen is displayed.



Press the switch to return from the present screen to the home screen.

Press the \supset switch to return from the present screen to the previous screen.





Patient memory selection switch

The treatment position setting of the chair can be switched in accordance with the patient to be treated.

Every time the switch is pressed, the mode is toggled "Adult" > "Elderly" > "Child".

5 Operation



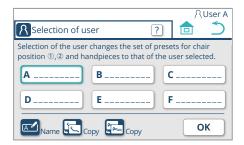
User memory switch

The preset chair position for each user and the initial settings for handpieces upon powering on can be memorized, and selected when necessary.



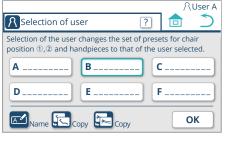
1. Press the user memory switch ...

The "Selection of user" screen is displayed.



2. On the "Selection of user" screen, press the memory switch for the user to be called for selection.





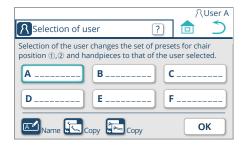




Name registration

A name can be registered for each user memory.

1. Press the user memory switch ...
The "Selection of user" screen is displayed.



2. On the "Selection of user" screen, press the switch for the user memory for selection and name registration. (In this example, User memory A is selected.)

Press the name registration switch do view the "Registration of name" screen for the selected user.



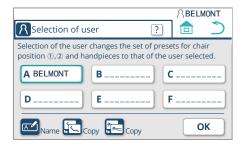
3. Enter the name using the keyboard.

Press ok to view the "Selection of user" screen.

User name can be entered in alphabetical or numeric format up to nine digits.

When switching alphanumeric input, press the alphanumeric switch 123.

Press the backspace switch delete the previous (left) character at the cursor position during the character input.



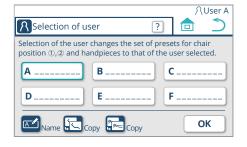
In this example, the name "BELMONT" has been entered. The registered name is indicated for the User memory A box and displayed at the top right.



* The registered name is indicated to the right of the user memory switch on the home screen.

Copying the chair preset

The settings for the chair preset switches 1,2 in the Adult mode can be copied to another user memory.

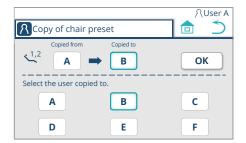


1. On the "Selection of user" screen, press the chair copy switch.



2. Select the "Copied from" user from [A] to [F].

The "Copied from" switch indication is changed to show the selected user.



3. Press the "Copied to" switch and select the "Copied to" user from [A] to [F].

The "Copied to" switch indication is changed to show the selected user.

Press the ox switch to view the popup screen for confirmation.



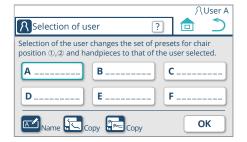
4. To confirm, press ок

The copying is completed, and the "Selection of user" screen is displayed.

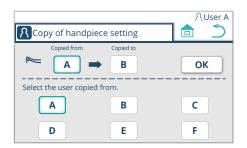
Press x to return to the previous screen without copying.

Copying the handpiece setting

The initial setting of a handpiece upon powering on can be copied to another user memory.

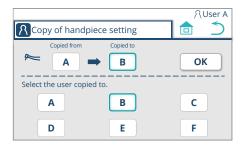


1. On the "Selection of user" screen, press the "Copy of handpiece setting" switch ...



2. Select the "Copied from" user from [A] to [F].

The "Copied from" switch indication is changed to show the selected user.



3. Press the "Copied to" switch and select the "Copied to" user from [A] to [F].

The "Copied to" switch indication is changed to show the selected user.

Press ok to view the popup screen for confirmation.



4. To confirm, press ок

The copying is completed, and the "Selection of user" screen is displayed.

Press x to return to the previous screen without copying.





Turns on/off the dental light;

On/off is toggled;

- * Pressing and holding the switch while the light is on for 2 seconds or more changes the mode into Composite Safe.
- * The ceiling light and the track light are not operable.



Timer switch

For the use and setting of the timer



<How to use the timer>

Time for the timer can be selected from four memories.

1. Press the timer switch [9]

The "Timer" screen is displayed.



2. Select a memory (in this example, "Timer D: 5 minutes" is selected)

The operation/setting screen for Timer D is displayed.

Press the home switch in to cancel the operation and return to the home screen.

To return to the previous operation screen, use the return switch .



3. Change the timer setting

: increase the set time

: decrease the set time



4. Change the alarm volume for the timer

When the alarm volume adjustment switch is pressed, the "Timer alarm volume adjustment" screen is displayed.

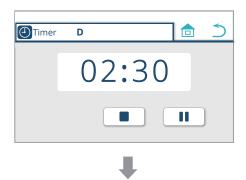
Press the touch bar graph to adjust the alarm volume in five levels.

Press the alarm sound switch to mute or de-mute the alarm.

Once adjustment is completed, press the ok switch to return to the previous screen.

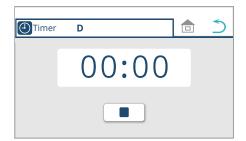


5. Press the start to start the countdown of the timer The subtraction timer is started.



Press the pause \blacksquare to pause the timer operation. To restart the timer, press the start \blacktriangleright .

Press the stop • to cancel the timer operation, and return to the screen in 3.



6. Once the timer countdown is completed, an alarm sounds Alarm sounds for the specified time, then it stops automatically.

Press the stop • to stop the alarm sound, and return to the home screen.

* If the timer operation is performed on the handpiece screen while the handpiece is picked up, the display returns to the relevant handpiece screen.

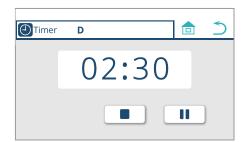












7. Returning to the home screen during timer operation

Press the home switch while the timer is operating to return to the home screen. The timer operation status is displayed at the top of the screen.

When the timer countdown is completed on the home screen, the screen in 6 is displayed.

* With the handpiece being picked up, even if the timer switch is pressed after pressing the menu call switch , the timer will not start, and the display returns to the handpiece screen.

Once the countdown of the timer is completed with the handpiece being picked up, timer switch appears on the screen.

If the timer switch is pressed, handpiece display appears on the screen.

If the handpiece is returned without pressing the timer switch (1), the display shown in 6 appears.

8. Changing the mode into timer display

Press the timer switch aduring the countdown process to show the timer display on the screen as shown in 5.



Cupfiller switch

This is a switch for filling the cup, installed separately from the sensor cupfiller.

When this switch is pressed, water is released from the cupfiller nozzle. Water is also released from the bowl flush nozzle to flush the cuspidor bowl.

Cupfiller operates by timer for a specified time period.

To stop cupfiller before the specified time is elapsed, press this switch again.

[Reference] 6-2-8 Setting the cup-filling/bowl flush interlock [page 135]

Before using cupfiller, put a cup on the cupfiller base.

Otherwise, the wall and the chair may be spattered with water.

Cupfiller operates for a specified time period, regardless of the water level in the cup. Be careful not to overflow the cup.



Bowl flush switch

Water is released from the bowl flush nozzle to flush the cuspidor bowl (approx. six seconds).

Hold down the switch for two seconds or longer for continuous flushing.

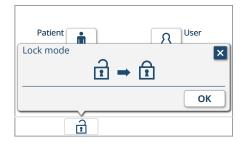
Press this switch again to stop flushing.

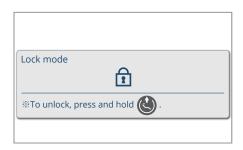


Function switch

For setting various operating conditions [pages 118-141]







Lock switch

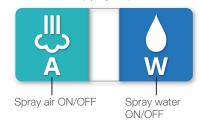
To clean the operation panel or to prevent mischief by child patients, the touch panel, membrane switch or the stick can be locked.

Call the "Lock mode" screen and press ok to lock the operation.

During locking, the locking message screen is displayed on the touch panel.

To cancel the operation lock, press and hold the switch for raising the chair (a) for approx. one second or more. (Doctor unit)

Air ON / Water ON (Spray ON)



Air OFF / Water ON



Air ON / Water OFF



Air OFF / Water OFF (Spray OFF)



Spray switch

Turns ON/OFF handpiece spray (water and air).

Pick up a handpiece and press the switch to toggle between ON/OFF of A (Air) and W (Water).

In the case of ultrasonic scaler, the W (Water) is turned on regardless of the spray mode.

OFF cannot be selected.

In the case of micromotor / air turbine / air motor, two modes or four modes can be selected depending on the spray mode setting. When set to two modes, Spray ON/OFF is toggled.

When set to four modes, ON/OFF can be respectively toggled for Air and Water.

[Reference] Spray mode setting [page 130]

Light on



Light off



Handpiece light switch

Turns on/off the handpiece light.
The light is toggled between on and off.

[Reference] Setting the light activation timing [page 131]

Forward rotation (clockwise)



Reverse rotation (counterclockwise)



Reciprocal mode (unswitchable)







Micromotor forward/reverse switch

Switches the rotation direction of the micromotor.

Forward rotation (clockwise) and reverse rotation (counterclockwise) is toggled.

Rotation is set to forward immediately after powering on.

* The rotation direction cannot be switched while the micromotor is being rotated.

Menu call switch

Calls menu screens for performing the following operations while a handpiece is picked up.

Use and setting of timer [Reference] Timer switch [pages 76-78]

Cupfiller

[Reference] Cupfiller switch [page 79]

Cuspidor bowl flush [Reference] Bowl flush switch [page 79]

Memory of handpiece operating condition setting [Reference] Store switch [page 82]



Store switch

This switch is displayed when the rotation, spray condition and other settings have been changed from the memory on the handpiece screen. Press the switch to overwrite the called memory (M1 to M4) with the changed setting.



Slide mode switch

Switches the slide mode (Va/Fix) of the foot controller. [Reference] Micromotor [page 90]



+/- switch

In the case of micromotor, the maximum rotation value is increased/decreased.

[Reference] Micromotor [page 91]



Gear ratio switch

The indication can be switched to rotation that matches the contra angle gear ratio of the micromotor.

[Reference] Micromotor [page 93]

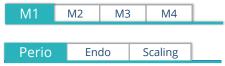
Automatic reverse function and Torque value 3.0 Ncm

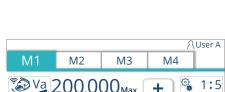


Torque control switch

The condition of torque value and automatic reverse function can be set in the case of micromotor that accepts setting in low-speed rotation range.

[Reference] Micromotor [pages 96 to 98]









Memory tab

The preset memories of handpiece settings can be called and switched.

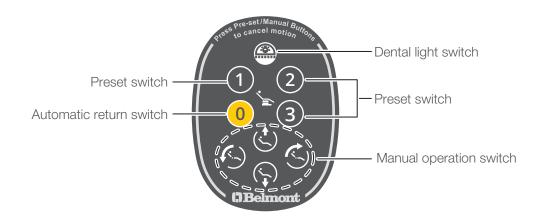
[References] Micromotor [page 90]

Ultrasonic scaler [page 102]

Turbine [page 105]

5-9 Assistant operation panel







Dental light switch

Turns on/off the dental light;

On/off is toggled;

- * Pressing and holding the switch while the light is on for 2 seconds or more changes the mode into Composite Safe.
- * The ceiling light and the track light are not operable.



Automatic return switch

The chair is moved to the entry/exit position.



Preset switch

When **1** is pressed, the chair is moved to treatment position 1.



When **2** is pressed, the chair is moved to treatment position 2.



When 3 is pressed, the chair is moved to treatment position 3.

Do not hold down the preset switch, automatic return switch for five seconds or longer. If pressed for five seconds or more, a buzzer sound is heard, and the chair position at that point is memorized as the set position.

[Reference] Automatic operation setting [page 117]



Manual operation switch

Manually operates "Raise/lower" and "Raise/recline" of the chair.

Switch	Operation
	The chair is raised
	The chair is lowered
	The backrest is raised
	The backrest is reclined

^{*}The chair can be moved while the switch is pressed down



Before moving the chair, confirm that no human body part, limb, or obstacle is obstructing the chair.

Take particular precautions for the movement and behavior of children during operation.



To stop the chair movement started by a switch for automatic operation (preset switch, automatic return switch), perform one of the following operations.





Assistant operation panel Press one of the switches in the ____ frame.



Membrane switch (Holder) Press one of the switches.



Membrane switch (Continental) Press one of the switches.

5-11 Lock function

5-11-1 Chair lock function

When the lock function is activated, indications as listed below are displayed on the touch panel. (When force is applied to the rear link cover, the lock function is activated.)

Home screen



Home screen : Light Interference with rear link cover

Handpiece screen



Handpiece screen:

(A)

When the lock function is activated, the chair movement is stopped, and a popup is opened to notify the abnormality. Check the popup and promptly eliminate the abnormality.

Eliminate the abnormality or press

to close the popup.

The functions that become locked and the unlocking steps are as follows.

[Reference] [page 88]

Condition 1

When the foot controller pedal is stepped on during the automatic operation of the chair



Touch panel indication



How to unlock

Step off the pedal, check safety, and operate the chair.

Locked functions

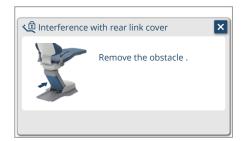
All chair operations

Condition 2

During the chair movement, force is applied to the rear link cover in the direction indicated with an arrow



Touch panel indication



How to unlock

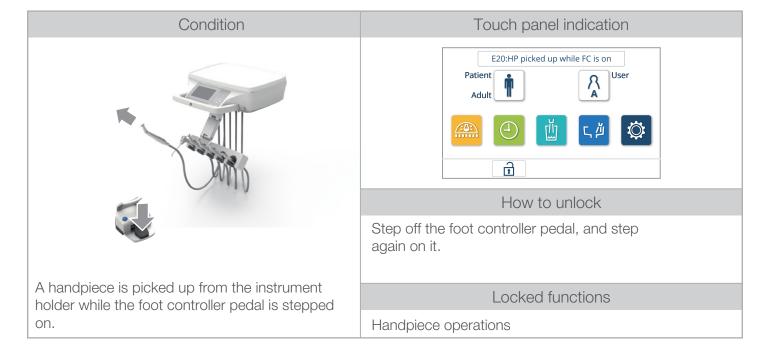
Remove the obstacle that has caused emergency stop, confirm safety, and operate the chair.

Locked functions

Automatic operations and manual operations of the chair (lowering/reclining the backrest)

5-11-2 Handpiece lock function

When the lock function is activated, indications as listed below are displayed on the touch panel, and the handpiece cannot be used. The functions that become locked and the unlocking steps are as follows.



[Example of MX2]

Slide mode (Va/Fix)



5-12 Micromotor Setting the micromotor slide mode (MX2/MCX)

When the micromotor is picked up from the instrument holder, the micromotor screen is displayed.

Memory can be selected from four memories (M1 to M4). The memories can be toggled by pressing the memory tab.

The slide mode can be selected from Va and Fix.

Va (Variable)

By setting the maximum rotation, and sliding the foot controller pedal to the left or right, the rotation can be adjusted within the range of the maximum rotation.

The rotation is decreased by sliding to the left, and is increased by sliding to the right.

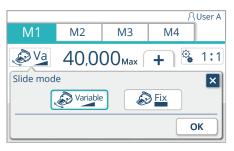
The rotation can be adjusted to the maximum rotation by stepping on the pedal.

Fix (Fixed)

The rotation value can be adjusted up to the setting by the degree of step-in, regardless of the foot controller pedal position.



- 1. Pick up the micromotor from the instrument holder.
- 2. Press the slide mode setting screen.



M1 M2 M3 M4

Fix + 1:1

40,000 min -

- 3. Select a slide mode.
- 4. Memorize the selection by pressing ok.

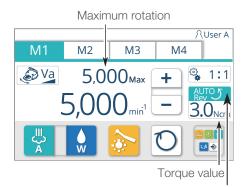
The micromotor screen is displayed.

Settings of the slide mode are memorized in the starting condition after powering on.

* To cancel the setting change, press X without pressing ok

Setting the maximum rotation (MX2/MCX)

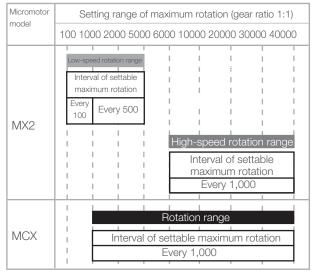
[Example of MX2]



Automatic reverse function/ Automatic forward function

- 1. Pick up the micromotor from the instrument holder
- 2. Press the switch to set the maximum rotation
 The setting range of the maximum rotation varies depending on the model of the micromotor (see the figure below).

Automatic reverse function / automatic forward function and torque value are only displayed when setting the low-speed rotation range (MX2).



(Unit: min-1)

[Example of MX2]



Memory setting for starting condition after powering on (MX2/MCX)

When the following setting of handpiece condition is changed, it can be memorized in the steps specified below.

- Maximum rotation [Reference] Setting the maximum rotation [page 91]
- Spray condition (ON/OFF/Water/Air) [Reference] Spray switch [page 81]
- Handpiece light condition (ON/OFF) [Reference] Handpiece light switch [page 81]
- 1. Pick up the micromotor from the instrument holder
- 2. Select a memory tab M1 to M4 and press it
- 3. Change the handpiece condition (maximum rotation / spray / handpiece light condition).
- 4. Press the menu call switch to call the menu screen
- 5. Press the store switch ♦

The memory setting screen for starting condition is displayed.

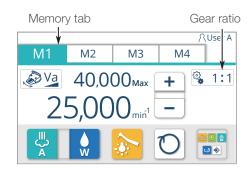


- Default memory

 Save the last HP set-up (max speed, spray ON/OFF, light ON/OFF) for the next power-on.

 OK
- 6. Confirm the displayed setting, and press ok to memorize it.
- * If the OK is not pressed but is pressed, the changed setting is valid until the main switch is turned off, but the setting returns to before the change once the main switch is turned off.

[Example of MX2]







Gear conversion display function (MX2/MCX)

This function is for indicating a value close to the actual rotation by converting the ratio of contra angle handpiece/ straight handpiece attached to the micromotor.

The following four kinds of gear ratio are used for conversion.

- 1:5 (five-fold speed), 1:1 (same speed),
- 4:1 (decelerated to one-quarter speed),
- 16:1 (decelerated to one-sixteenth speed)
- 1. Pick up the micromotor from the instrument holder.
- 2. Select a memory from the tab switch M1 to M4 and press it.
- 3. Press the gear ratio switch at 1:1 to display the gear ratio switch setting screen.
- 4. Select a gear ratio.
- 5. Memorize the selection by pressing ок .

The micromotor screen is displayed.

Settings of gear ratio are memorized in the starting condition after powering on.

* To cancel the setting change, press without pressing ok

Displayed when the overheating prevention function is activated M1 M2 M3 M4 W 40,000 Max + 1:1 25,000 min¹ -

Overheating prevention function (MX2/MCX)

If the product is used for a long time at a high load, the overheating prevention function is activated and the torque is automatically decreased, in order to prevent the micromotor unit overheating. If this occurs, a buzzer sound is heard, and list displayed. While this indication is displayed, the overheating prevention function is activated.

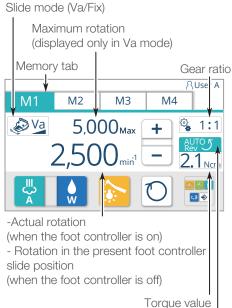
By stopping rotation or using the product at a lower load, the overheating prevention function is deactivated after a certain time has elapsed.



Do not turn off and on again the main switch to deactivate the overheating prevention function. This may cause burn out due to the overheating of the micromotor unit.



For proper use, be sure to carefully read the instructions for use attached to the relevant micromotor in advance.



Automatic reverse function/

1,8 ◆

Automatic forward function Auser A M1 M2 M3 M4 Only suitable for use with WaveOne' Gold or Reciprocal files when attached and used with Bien-Air CA ENDO (REFIGO055) Contra-angle handpleice.

 \mathscr{Z}

%

MX2

In the case of micromotor MX2, if the maximum rotation is set in the low-speed rotation range (100 to 5000 min-1), the torque value, the applicability of automatic reverse function, the applicability of automatic forward function, and the time of automatic forward function duration can be set. The applicability of reciprocal mode can be set.

Automatic reverse is a function that automatically switches to reverse rotation (counterclockwise) when the load exceeds the preset torque value in the low-speed rotation range (0.4-3.5 Ncm).

Automatic forward is a function that automatically switches to reverse rotation (counterclockwise) when the load exceeds the preset torque value in the low-speed rotation range (0.4-3.5 Ncm), and then returns again to forward rotation (clockwise) after the specified time of duration (automatic forward duration).

In reciprocal mode, the micromotor oscillates at preset angle, acceleration speed, and torque value.

This mode allows start or stop operation only.

*Rotation speed cannot be adjusted.

When stepping on the foot controller, significantly is displayed as shown in the left figure. When not stepping on the foot controller, significantly is displayed.

Setting of at the bottom of the screen cannot be changed.

To use the reciprocal mode, designated contra-angle and files are necessary.

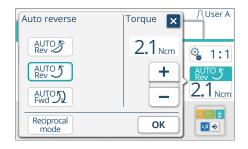
Designated contra-angle is shown below:

CA ENDO (REF 1600955) by Bien Air

Designated files are shown below: WaveOne® Gold by Dentsply Maillefer

(RECIPROC® by VDW







Setting of a torque value

- 1. Pick up the micromotor from the instrument holder
- 2. Select a memory from the tab switch M1 to M4 and press it
- 3. Press the torque control switch 2.1 to display the torque setting screen
- 4. Press the + switch to set to the required torque value <Value can be selected from:>

0.4/0.7/1.1/1.4/1.8/2.1/2.5/2.8/3.2/3.5

When the + switch is pressed, the torque value toggled upward among the options above.

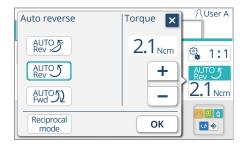
When the __ switch is pressed, the torque value is toggled downward among the options above.

5. Memorize the selection by pressing or The micromotor screen is displayed.

* To cancel the setting change, press X without pressing ok



Automatic reverse function/ Automatic forward function





Setting of automatic reverse function / automatic forward function

- 1. Pick up the micromotor from the instrument holder
- 2. Select a memory from the tab switch M1 to M4 and press it
- 3. Press the torque control switch 21 to display the automatic reverse function / automatic forward function setting screen
- 4. Select the required automatic reverse function / automatic forward function setting

- ১ : Set to "No automatic reverse function"
- ১ : Set to "Automatic reverse function"

- Reciprocal : Set to "Automatic forward function" : Set to "Reciprocal mode"

[Reference] Setting the reciprocal mode [pages 99 to 101]

5. Memorize the selection by pressing

The micromotor screen is displayed.

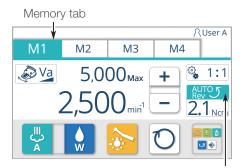
Settings of automatic reverse function, automatic forward function, and reciprocal mode are memorized in the starting condition after powering on.

* To cancel the setting change, press 💌 without pressing ок



If a reverse screw-shaped file, etc. is attached to MX2, be sure to set to "No automatic reverse function", and switch the rotation direction using the forward/reverse switch on the micromotor.

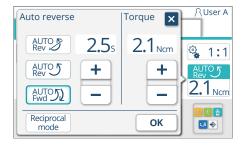
If that unit is set to "Automatic reverse function / automatic forward function", the file may get damaged, resulting in injury.



Automatic reverse function/ Automatic forward function

Setting of automatic forward function duration

- 1. Pick up the micromotor from the instrument holder
- 2. Select a memory from the tab switch M1 to M4 and press it
- 3. Press the torque control switch 2.1 to display the automatic reverse function screen



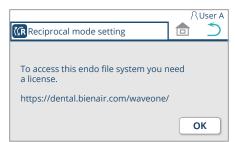


- 4. Select automatic forward function (#50) from the automatic reverse function / automatic forward function setting
- 5. Press the + switch to select from 0.0-25.4 seconds
 The selection can be made at an interval of 0.1 second.
 If pressing and holding the + switch, the time interval is 0.5 second.
- 6. Memorize the selection by pressing οκ
 The micromotor screen is displayed.
 Settings of automatic forward duration are memorized in the starting condition after powering on.
- * To cancel the setting change, press without pressing or

(Example) Micromotor MX2 Auto-Rev











Setting the reciprocal mode

Startup setting

- 1. Pick up the micromotor from the instrument holder
- 2. Set the rotation speed at 5000 min-1 or less by pressing + -
- 3. Press the torque control switch 3.0 km
- 4. Press the reciprocal switch Reciprocal mode

When the reciprocal switch is selected, the frame color of it turns blue.

- * Reciprocal switch is not displayed when the setting language is Japanese, or the micromotor except MX2 is used.
- * Pressing x switch returns the display to the micromotor screen.
- 5. Press ok switch

The display requests you to obtain a license.

* Procedures 6 to 9 described below are displayed at first setting only.

After setting is completed, the micromotor screen is displayed.

- * Pressing \supset switch returns the display to the torque setting screen.
- 6. Press ok switch

The screen for entering activation code is displayed.

7. Obtain the activation code from the following website [Reference] How to obtain the activation code [page 101] https://dental.bienair.com/waveone/

When obtaining the activation code, ID code shown at the top-left of screen is necessary.

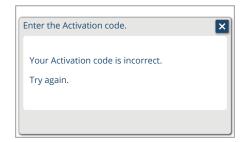
8. Enter the activation code obtained in Procedure 7.

When switching alphanumeric input, press the alphanumeric switch

123 . Each press of the switch alternates the display in the order of

123 - ABC - 123 .

9. After entering the code, press or switch
After a buzzer sound is heard, micromotor screen is displayed.
Setting of the reciprocal mode is memorized in the starting condition after powering on.

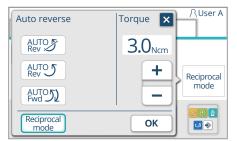


If the activation code is incorrect, the screen shown in the left is displayed.

After pressing the switch, resume the setting from Procedure 8.







(Example) Micromotor MX2 Auto-Rev



Canceling the reciprocal mode

- 1. Pick up the micromotor from the instrument holder Micromotor screen is displayed.
- 2. Press the Reciprocal mode switch.
- 3. Press one of the following switches, (AUTO), (Rev), (Rev), or

When the switch is selected, the frame color of it turns blue.

- * Pressing switch returns the display to the micromotor screen.
- 4. Press OK switch

Micromotor screen is displayed.

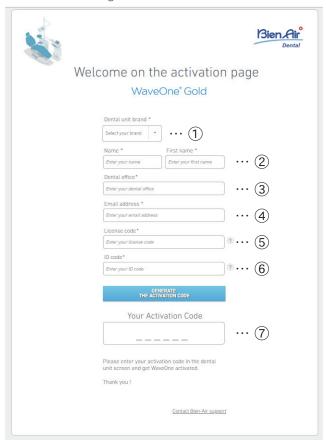
Website for obtaining activation code



How to obtain the activation code

Select the "Dental unit" shown in the left figure.

Screen for entering information



- 1. Enter the following information into the box 1 to 6.
 - 1 Select "Belmont"
 - 2 Enter your name
 - 3 Enter your address
 - 4 Enter your email address
 - 5 Enter the license code contained in the box of contra-angle.
 - 6 Enter the ID code displayed on the touch panel of the doctor unit.
 - [Reference] Setting the reciprocal mode— Startup setting—7. [page 99]
- 2. Enter the information into the box 1 to 6 and press THE GENERATE THE ACTIVATION CODE

Activation code will be displayed in the box 7.

3. Enter the obtained activation code into the box when prompted in Procedure 8— Startup setting—Setting the reciprocal mode [page 99].

The content of display is subject to change without notice.

5-13 Ultrasonic scaler

Slide mode (Va/Fix)
Output

Suser A

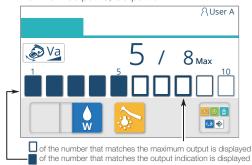
Su

Touch bar graph

Maximum output (displayed only in Va mode)

The slide mode can be selected from Va or Fix.

(Example of indication) Maximum output: 8; Output: 5



Va (Variable)

the top left.

By sliding the foot controller pedal to the left or right, the output can be adjusted within the range of the maximum output.

When the ultrasonic scaler is picked up from the instrument holder, the electric scaler screen is displayed, and the mode is displayed at

The output is decreased by sliding to the left, and is increased by sliding to the right.

The touch bar graph and output indication are displayed in accordance with the pedal slide position.

The maximum output setting can be changed using the touch bar graph \square \square .

Output of the electric scaler cannot be changed when the scaler is in operation. After turning off the scaler, change the output by using the touch bar graph \square \square .

Fix (Fixed)

The output is fixed only with the set value.

- 1. Pick up the ultrasonic scaler from the instrument holder
- 2. Press the slide mode switch stide mode setting screen



- 3. Select a slide mode
- 4. Memorize the selection by pressing ok

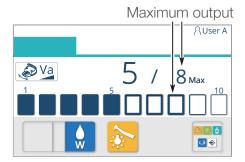
The electric scaler screen is displayed.

Settings of the slide mode are memorized in the starting condition after powering on.

* To cancel the setting change, press without pressing ok



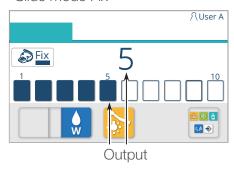
Slide mode Va



Setting of the maximum output in the slide mode Va

- 1. Pick up the ultrasonic scaler from the instrument holder
- 2. Press the touch bar graph that corresponds to the required maximum output value, and select the maximum output between 1 and 10

Slide mode Fix



Setting of the maximum output in the slide mode Fix

- 1. Pick up the ultrasonic scaler from the instrument holder
- 2. Press the touch bar graph that corresponds to the required output value, and select the output between 1 and 10



For proper use, be sure to carefully read the instructions for use attached to the relevant scaler in advance.

🔊 Va

Memory setting for starting condition after powering on

When the following setting of handpiece condition is changed, it can be memorized in the steps specified below.

- Maximum output

∧User A

8_{Max}

[Reference] Setting of the maximum output [page 103]

- Handpiece light condition (ON/OFF)

[Reference] Handpiece light switch [page 81]



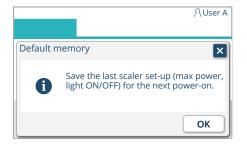


- 3. Change the handpiece condition (maximum rotation / spray / handpiece light condition).
- 4. Press the menu call switch ocall the menu screen



5. Press the store switch →

The memory setting screen for starting condition is displayed.

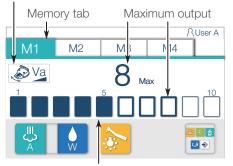


- 6. Confirm the setting to be recorded, and press οκ to memorize it.
- * If or is not pressed but is pressed, the changed setting is valid until the main switch is turned off, but the setting returns to before the change once the main switch is turned off.



For proper use, be sure to carefully read the instructions for use attached to the relevant scaler in advance.

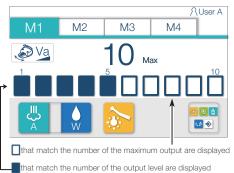
Slide mode(Va/Fix)



Touch bar graph(Upper limit output)

(Example of indication)

Maximum output: 10 / Operating output: 5









5-14 Air turbine/motor

Setting of the slide mode

The initial setting of a handpiece upon powering on can be copied to another user memory.

When the air turbine/motor is picked up from the instrument holder, the turbine screen is displayed.

Memory can be selected from four memories (M1 to M4). The memory number can be switched by pressing the memory tab.

The slide mode can be selected either Va or Fix.

The memory of the air turbine/motor cannot be set individually for Va and Fix.

The Va and Fix setting must be common among M1 through M4.

Va (Variable)

Set the maximum output as explained in [page 106].

In operation, the output can be adjusted within the range of this maximum output by sliding the foot control pedal to left (to decrease) or right (to increase) or by depressing (to increase) or releasing (to decrease) the pedal.

Fix

Set the maximum output as explained in [page 106].

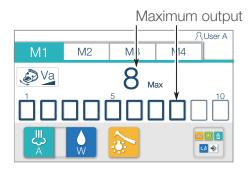
The upper limit output can be adjusted to the maximum output value by depressing the pedal regardless of the position of the pedal for the foot controller.

- 1. Pick up the air turbine/motor from the instrument holder
- 2.Press the slide mode switch to display the slide mode setting screen
- 3. Select a slide mode
- 4.Memorize the selection by pressing OK The turbine screen is displayed.

* To cancel the setting change, press 🔀 without pressing 🗀 ок

(Example of indication)

Maximum output : Change from 8 to 10





Setting of the maximum output

- 1. Pick up the air turbine/motor from the instrument holder
- 2. Press the touch bar graph \square that corresponds to the required maximum output value, and select the maximum output between 1 and 10

Memory setting for starting condition after powering on

When the following setting of handpiece condition is changed, it can be memorized in the steps specified below.

- Maximum output

[Reference] Setting of the maximum output [page 106]

- Spray condition (ON/OFF/Water/Air)

[Reference] Spray switch [page 81]

- Handpiece light condition (ON/OFF)

[Reference] Handpiece light switch [page 81]



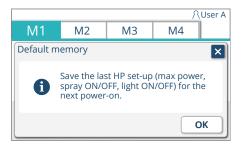
- 2. Select a memory from the tab switch M1 to M4 and press it
- 3. Change the handpiece condition (maximum output / spray / handpiece light condition)
- 4. Press the menu call switch to call the menu screen
- 5. Press the store switch →

The memory setting screen for starting condition is displayed.



∩User A





- 6. Confirm the displayed setting, and press ok to memorize it
- * If OK is not pressed but X is pressed, the changed setting is valid until the main switch is turned off, but the setting returns to before the change once the main switch is turned off.



For proper use, be sure to carefully read the instructions for use attached to the relevant air turbine/motor in advance.

5-15 Syringes

DCI syringe



For proper use, be sure to carefully read the instructions for use attached to the relevant syringe in advance.



5-16 Foot controller

Pedal

<When using the micromotor>

The rotation and output can be adjusted by the levels of pedal sliding and stepping.

(Within the range of the indicated maximum rotation)

In Va mode, the rotation is decreased by sliding the pedal to the left, and is increased by sliding it to the right.

< When using the air turbine/motor>

It is activated when the pedal is stepped on. The rotation and output can be adjusted by the levels of sliding and stepping of the pedal. In the Fix mode, it cannot be adjusted by sliding. Only the stepping adjustment is available.

In the Va mode, the rotation is decreased by sliding the pedal to the left, and is increased by sliding it to the right.

< When using the ultrasonic scaler>

The operation is turned on by stepping on the pedal.

It is not possible to adjust the output by the levels of sliding during the operation.

* Output of the electric scaler cannot be changed when the scaler is in operation. After turning off the scaler, change the output, then activate the scaler again.

The output can be adjusted by the level of pedal sliding.

It is not possible to adjust the output by the level of stepping.

(Within the range of indicated maximum output)

The present output is decreased by sliding the pedal to the left, and is increased by sliding it to the right.

Water on/off switch

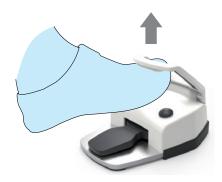
The spray mode can be switched.

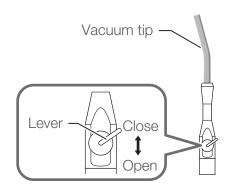
Chip air switch

Air is discharged from the chip of the micromotor or air turbine/motor.

Carrier

The foot controller can be moved by hanging it over the foot.



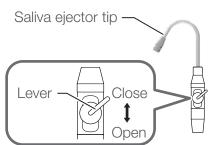


5-17 Handpiece (assistant holder)

Vacuum handpiece

The suction volume may be controlled by opening or closing the lever.

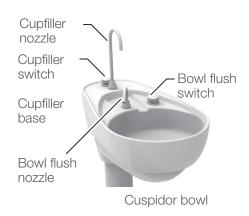
* Use a commercially available vacuum tip with the length of 100 mm or more.



Saliva ejector handpiece

The suction volume may be controlled by opening or closing the lever.

* Use a commercially available saliva ejector tip with the length of 100 mm or more.

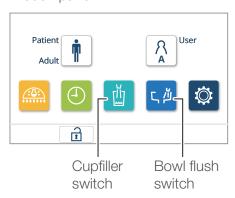


5-18 Filling a Cup

When the cupfiller switch on the touch panel is pressed, water is supplied for the specified time.

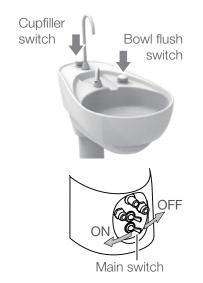
To interrupt filling, press the cupfiller switch [6] again.

Touch panel



If "cuspidor bowl flush" is set to "continuous flush," water is supplied from the bowl flush nozzle to flush the cuspidor bowl while the cup is filled.

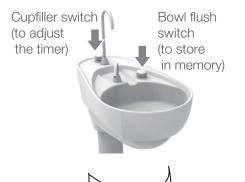
To interrupt the flush, press the bowl flush switch on the touch panel.



Operating with the cuspidor unit type (without doctor unit) For the doctor unit (without cuspidor unit / vac pac unit) type, refer to [pages 133 to 136].

Setting of linked/unlinked mode of cupfill and bowl flush

- 1) Turn the main switch on the front panel OFF
- 2) Pressing BOTH cupfill switch and bowl flush switch, turn ON the main switch.
- 3) A short beep indicates linked / unlinked status of cupfil and bowl flush.



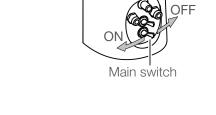
Setting of cupfill timer

- 1) Place a cup on the cup holder.
- 2) Turn the main switch on the front panel OFF
- 3) Pressing cupfill switch, turn ON the main switch. The system makes consecutive beeping and turns into in programming mode.
- 4) Press and hold cupfill switch for the time to program timer till water fills the cup at desired level. In order to add time, press and hold the cupfill switch again. The sum of the time being pressed is programmed.
- 5) To store the time into memory, press bowl flush switch and release.



If bowl flush switch is pressed without doing (4), timer is programmed for 4 seconds.

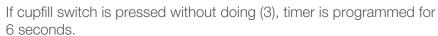
The maximum time of cupfill is 12 seconds.



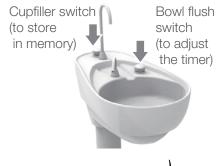
Setting of bowl flush timer

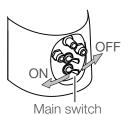
- 1) Turn the main switch on the front panel OFF.
- 2) Pressing bowl flush switch, turn ON the main switch. The system makes consecutive beeping and turns into in programming mode.
- 3) Press and hold bowl flush switch for the time to program timer. In order to add time, press and hold the bowl flush switch again. The sum of the time being pressed is programmed.
- 4) To store the time into memory, press cupfil switch and release.

To cancel before storing the time into memory, turn the main switch off.



The maximum time of bowl flush is 12 seconds.





5-19 Water bottle

Refill water when the water bottle level becomes low.

Replacing the water bottle

[How to remove the water bottle]

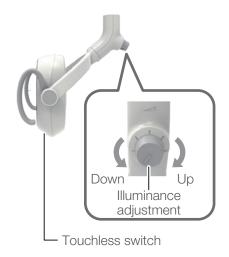
1. Turn off the main switch.



2. Turn the water bottle and remove it.
Turn it counterclockwise and pull down.



[How to attach it]
Reattach it in the reverse order of 1. to 2...





5-20 Bel-Nova (AL-D106G-QU)

Turn on the main switch for the unit and main switch for the chair, the dental light comes on and the indicator lights up.

The dental light can be turned on or off using the touchless switch or the dental light switch on the touch panel or assistant control panel.

Turning the dental light on or off with the touchless switch.

The touchless switch is activated by a sensor. The sensor detects an object of the same width as the sensor window at a distance of approx. 2.55 inch (65 mm) or closer.

Move a hand across the switch to turn it on, and again to turn it off.

* If the surface of the touchless switch is dirty, it may degrade the sensitivity of the switch. If the surface is dirty, clean it with a soft cloth.

Adjusting illuminance in the treatment mode

The illuminance can be adjusted by turning the illuminance controller. The illuminance cannot be adjusted when the light is turned on under ON mode.

Switching from the treatment mode to Composite-Safe mode

Hold your hand over the touchless switch within the 2.55 inch (65 mm) range for the specified time, or press the dental light switch and on the touch panel of the assistant control panel for the specified time to change operation to the Composite-Safe mode.

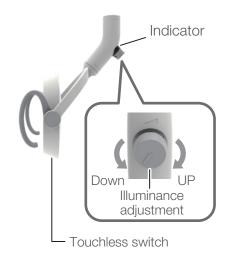
The illuminance cannot be adjusted when the light is turned on under Composite-Safe mode.

Repeat the above step to switch operation back to the treatment mode.

* When the light is turned off in the Composite-Safe mode and turned on again, it will be in the treatment mode.



Before use, always read the Instructions for each dental light to ensure correct usage.





5-21 Bel-Halo (AL-D246G-QU)

Turn on the main switch for the unit and main switch for the chair, the dental light turns on and the indicator displays in green.

The dental light can be turned on or off using the touchless switch or the dental light switch and on the touch panel or assistant control panel.

Turning the dental light on or off with the touchless switch.

The touchless switch is activated by a sensor. The sensor detects an object at distance of approx. 2.55 inch (65 mm) or closer from the switch. Move a hand across the switch to turn it on, and again to turn it off.

* If the surface of the touchless switch is dirty, it may degrade the sensitivity of the switch. If the surface is dirty, clean it with a soft cloth.

Adjusting the illuminance in the treatment mode

The illuminance can be adjusted by turning the illuminance controller. The illuminance cannot be adjusted when the light is turned on under ON mode.

Switching from the treatment mode to Composite-Safe mode

Hold your hand over the touchless switch within the 2.55 inch (65 mm) range for the specified time, or press the dental light switch on the touch panel of the assistant control panel for the specified time to switch operation to the Composite-Safe mode; the indicator flickers in green.

The illuminance cannot be adjusted when the light is turned on under Composite-Safe mode.

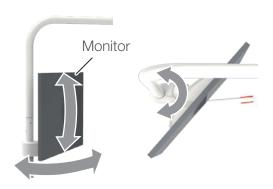
Repeat the above step to switch operation to the treatment mode; the indicator turns steady green.

Mode	Indicator
Treatment mode	ON,Green
Composite-Safe mode	Flickering Green

* When the light is turned off in the Composite-Safe mode and turned on again, it will be in the treatment mode.



Before use, always read the Instructions for Use supplied with each dental light to ensure correct usage.



5-22 Monitor bracket

The monitor can be swung to a position where you can easily see it. When adjusting the position, hold the monitor while you move it.

When moving the monitor, do not let it touch the wall or other object.



CAUTION

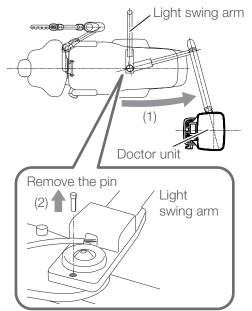
Do not apply an excessive load or shock to the monitor or monitor bracket. To avoid damage or injury, ensure that the monitor satisfies the following specifications:

Size: 21 inches Weight: 13.2 lbs (6 kg)

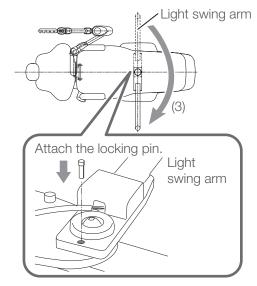
5-23 Right/Left handed dentistry conversion

Swing arms can be positioned on the left and right sides of the chair.

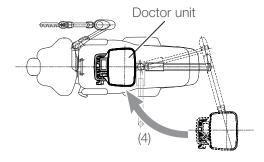
1. Move the doctor unit to the following position.



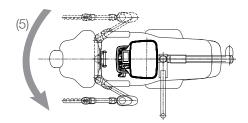
2. Remove locking pin on the light swing arm.



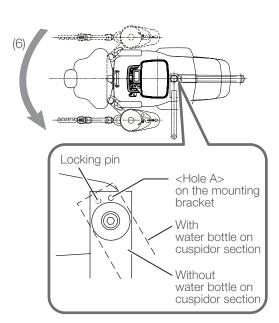
3. Swing the light swing arm to the opposite side, then attach the locking pin.



4. Swing the doctor unit to the center of the chair as shown in the left figure.

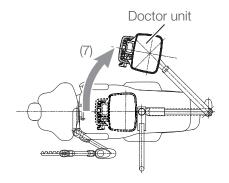


5. Swing the Vac Pac to the other side.



6. Swing the Cuspidor section to the other side

If cupidor section is installed with water bottle, angle the assistant swing arm forward and use <Hole A> to fix the position of assistant swing arm, so it will not interfere with the bottle.



7. Move the doctor unit that was moved to the center of the chair in 4 to the opposite side of the chair.



Manual control switches



Preset switches



Automatic return switch

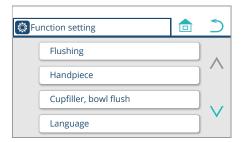
6-1 Setting for automatic operation

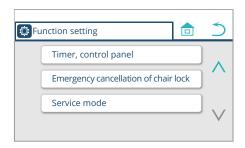
6-1-1 Setting the treatment and entry/exit positions

- 1. Move the chair to the treatment position or entry/exit position using the manual control switch as required.
- 2. Press and hold the preset switch 1, 2 or 3 (treatment position) or automatic return switch 0 (entry/exit position) for approx. 5 seconds. A beep sounds, and the chair is set to the position.
- 3. Move the chair away from the set position, and press the preset switch to check the chair moves to the set position.

Home screen







6-2 Function switch

Press the function switch on the Home screen to display the Function setting screen.

Select an item to display the corresponding setting screen.

Press the switch to cancel operation and return from the current screen to the Home screen.

Press the \supset switch to cancel operation and return from the current screen to the previous screen.

Press the V switch to proceed to the next page.

Press the \(\Lambda\) switch to return to the previous page.

6-2-1 Setting items with the function switch

Setting items appearing on the touch panel		
Flushing	page 120	
Handpiece		
Drive air pressure	page 129	
Spray mode	page 130	
Handpiece light activation	page 131	
Micromotor light brightness	page 132	
Cup, bowl		
Cupfiller water level	page 133	
Interlock of cup-filling, bowl flush	page 135	
Bowl flush time	page 136	
Language	page 137	
Timer and control panel		
Timer alarm sound	page 138	
Key touch volume	page 139	
Sleep mode time	page 140	
Emergency cancellation chair lock	page 141	
Service mode	*	

 $^{^{\}star}\text{The}$ service mode is designed exclusively for service engineers to carry out maintenance on this product.

6-2-2 Selecting the flushing method and carrying out flushing

Cuspidor Unit type

To flush the water circuit of the handpiece alone

1. Press the function switch

.

The Function setting screen appears.



Function setting

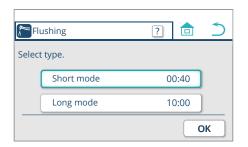
Flushing

Handpiece

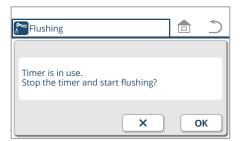
Cupfiller, bowl flush

Language

2. Press the 'Flushing' switch.



3. Check that 'Short mode 00:40' is selected, and press οκ



* When using the timer, the screen shown in the figure on the left is displayed.

Press x to cancel flushing.

Press ok to start flushing.



4. Pick up the handpiece you want to flush, and set it in the cuspidor bowl.

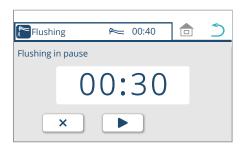
[Reference] Preparing handpieces/syringe for flushing [page 128] Always flush the handpiece with the main body of the ultrasonic scaler attached. Flushing without it may cause a malfunction.

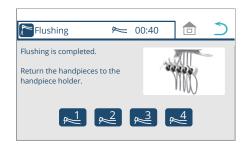
The number of the handpiece you have picked up appears. (Handpieces are numbered 1, 2, 3 and 4 from front left.)

The screen does not return to the Home screen even when the $extbf{ iny a}$ switch is pressed.



Remaining time (e.g. 30 sec.)





5. Step on the pedal of the foot controller.

When the pedal is released, the handpiece continuously discharges water for 40 seconds.

The screen does not return to the previous screen even when the \supset switch is pressed.

- * To suspend flushing, press the switch on the touch panel, the membrane switch, or either switch on the assistant panel, or step on the foot controller pedal.
- * To resume flushing, press the switch.
- * To terminate flushing prematurely after pressing _____, press _____ /membrane switch/assistant operation panel switch, or step on the foot controller.
- * To terminate flushing prematurely without pressing ______, press the membrane switch/assistant operation panel switch, or step on the foot controller.
- 6. Once flushing is completed, return the handpiece to the instrument holder.

When the handpiece is returned, the home screen appears.

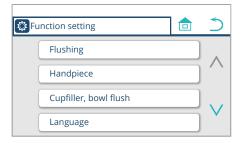
Water is not automatically discharged from the syringe. Press the W lever/button for 40 seconds to discharge.



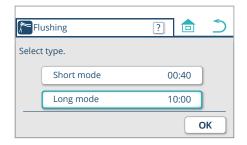
Flushing the water circuits of the handpiece and the cupfiller/cuspidor bowl

- * Place a cup on the cupfiller base
- 1. Press the function switch .

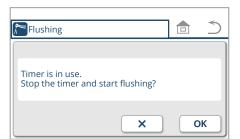
The Function setting screen appears.



2. Press the 'Flushing' switch.



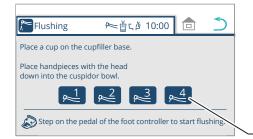
3. Check that 'Long mode 10:00' is selected, and press ok .



* When using the timer, the screen shown in the figure on the left is displayed.

Press x to cancel flushing.

Press ok to start flushing.



4. Pick up the handpiece you want to flush, and set it in the cuspidor bowl.

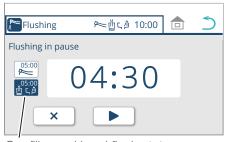
[Reference] Preparing handpieces/syringe for flushing [page 128] Always flush the handpiece with the main body of the ultrasonic scaler attached. Flushing without it may cause a malfunction.

The number of the handpiece you picked up appears. (Handpieces are numbered 1, 2, 3 and 4 from front left.)

The screen does not return to the Home screen even when the $extbf{ ilde{a}}$ switch is pressed.

Before starting flushing, always place a cup on the cupfiller base. Without a cup, water will splash onto the wall or chair.





Cupfiller and bowl flush status



5. Step on the pedal of the foot controller.

When the pedal is released, the handpieces continuously discharge water for 5 minutes. Then the cupfiller nozzle and bowl flush nozzle discharge water for 5 minutes.

The screen does not return to the previous screen even when the switch \supset is pressed.

- * To suspend flushing, press the switch on the touch panel, the membrane switch, or either switch on the assistant panel, or step on the foot controller pedal.
- * To resume flushing, press
- * To terminate flushing prematurely after pressing _____ press ____ /membrane switch/assistant operation panel switch, or step on the foot controller.
- * To terminate flushing prematurely without pressing _____, press the membrane switch/assistant operation panel switch, or step on the foot controller.

6. Once flushing is completed, return the handpiece to the instrument holder.

When the handpiece is returned, the home screen appears.

Water is not automatically discharged from the syringe. Press the W lever/button for 40 seconds to discharge.

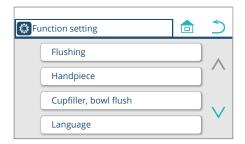


Vac Pac Unit / Doctor Unit (without Cuspidor Unit / Vac Pac Unit) type

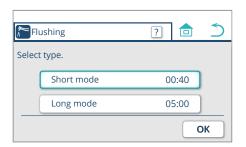
To flush the water circuit of the handpiece alone (Short mode)

1. Press the function switch .

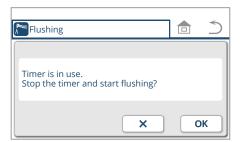
The Function setting screen appears.



2. Press the 'Flushing' switch.



3. Check that 'Short mode 00:40' is selected, and press ok



* When using the timer, the screen shown in the figure on the left is displayed.

Press x to cancel flushing.

Press ok to start flushing.



4. Pick up the handpiece you want to flush, and set it in the container, such as a bucket.

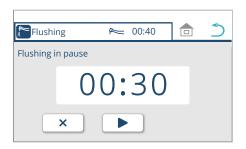
[Reference] Preparing handpieces/syringe for flushing [page 128] Always flush the handpiece with the main body of the ultrasonic scaler attached. Flushing without it may cause a malfunction.

The number of the handpiece you have picked up appears. (Handpieces are numbered 1, 2, 3 and 4 from front left.)

The screen does not return to the Home screen even when the $extbf{a}$ switch is pressed.



Remaining time (e.g. 30 sec.)





5. Step on the pedal of the foot controller.

When the pedal is released, the handpiece continuously discharges water for 40 seconds.

The screen does not return to the previous screen even when the \supset switch is pressed.

- * To suspend flushing, press the switch on the touch panel, the membrane switch, or either switch on the assistant panel, or step on the foot controller pedal.
- * To resume flushing, press the switch.
- * To terminate flushing prematurely after pressing ______, press _____ /membrane switch/assistant operation panel switch, or step on the foot controller.
- * To terminate flushing prematurely without pressing press the membrane switch/assistant operation panel switch, or step on the foot controller.
- 6. Once flushing is completed, return the handpiece to the instrument holder.

When the handpiece is returned, the home screen appears.

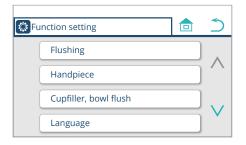
Water is not automatically discharged from the syringe. Press the W lever/button for 40 seconds to discharge.



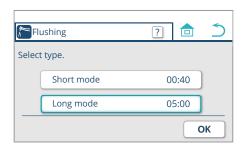
To flush the water circuit of the handpiece alone (Long mode)

1. Press the function switch 🔯 .

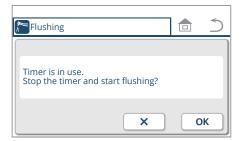
The Function setting screen appears.



2. Press the 'Flushing' switch.



3. Check that 'Long mode 05:00' is selected, and press ok



* When using the timer, the screen shown in the figure on the left is displayed.

Press x to cancel flushing.

Press ok to start flushing.



4. Pick up the handpiece you want to flush, and set it in the container, such as a bucket.

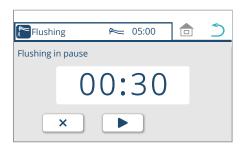
[Reference] Preparing handpieces/syringe for flushing [page 128] Always flush the handpiece with the main body of the ultrasonic scaler attached. Flushing without it may cause a malfunction.

The number of the handpiece you have picked up appears. (Handpieces are numbered 1, 2, 3 and 4 from front left.)

The screen does not return to the Home screen even when the $extbf{ ilde a}$ switch is pressed.



Remaining time (e.g. 30 sec.)





5. Step on the pedal of the foot controller.

When the pedal is released, the handpiece continuously discharges water for 5 minutes.

The screen does not return to the previous screen even when the \supset switch is pressed.

- * To suspend flushing, press the switch on the touch panel, the membrane switch, or either switch on the assistant panel, or step on the foot controller pedal.
- * To resume flushing, press the switch.
- * To terminate flushing prematurely after pressing _____, press _____ /membrane switch/assistant operation panel switch, or step on the foot controller.
- * To terminate flushing prematurely without pressing ______, press the membrane switch/assistant operation panel switch, or step on the foot controller.

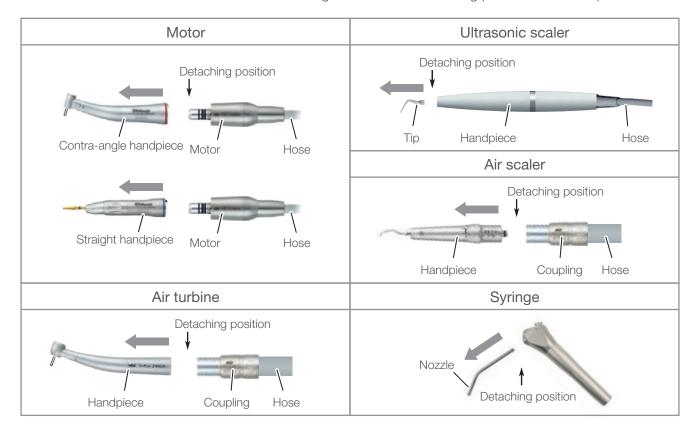
6. Once flushing is completed, return the handpiece to the instrument holder.

When the handpiece is returned, the home screen appears.

Water is not automatically discharged from the syringe. Press the W lever/button for 40 seconds to discharge.

Preparing handpieces/syringe for flushing

Set the right side of the detaching position in the cuspidor bowl.



After flushing, wipe the handpiece with a soft cloth to remove excess moisture.

When picking up the handpiece after flushing, remaining air may be discharged. This is normal.

6-2-3 Displaying the drive air pressure

Display the handpiece drive air pressure.

1. Press the function switch .
The Function setting screen appears.



Function setting

Flushing

Handpiece

Cupfiller, bowl flush

Language

2. Press 'Handpiece.'



3. Press 'Drive air pressure.'

The Drive air pressure screen appears.



- 4. Pick up the handpiece to measure the pressure from the instrument holder.
- 5. Step on the pedal of the foot controller.

The air pressure is displayed.

During the pedal of foot controller being stepped on, pressing \bigcirc will not bring the mode to home screen; pressing \bigcirc will not bring the mode to the previous screen.

- 6. After checking the pressure, return the handpiece to the instrument holder.
- 7. Press the constitution switch to display the Home screen.

6-2-4 Setting the spray mode

Two mode: Spray ON/OFF

Four mode: Air and water ON/OFF

* The ultrasonic scaler discharges water regardless of whether in two mode or four mode.



1. Press the function switch . The Function setting screen appears.

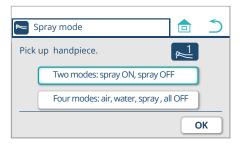


2. Press 'Handpiece.'



3. Press 'Spray mode.'

The Spray Mode setting screen appears.



- 4. Pick up the handpiece you want to set.
- 5. Select 'Two mode' or 'Four mode.'
- 6. Press ok to save the setting. The previous screen appears.
- * To cancel the setting, press \bigcirc without pressing \bigcirc or \bigcirc .
- 7. Return the handpiece to the instrument holder.
- 8. Press the 🎰 switch to display the Home screen.

6-2-5 Setting the light activation timing

Two types of light activation timing can be selected.

'When picking up a handpiece'

Turns on when the handpiece is picked up from the instrument holder and will turn off when returned to the holder.

'When stepping on the foot controller'

Turns on while the handpiece is activated and off after the after-glow period (approx. 5 seconds) is completed after the handpiece deactivates.



1. Press the function switch ©.

The Function setting screen appears.

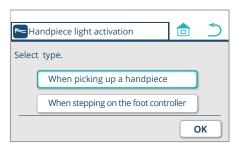


2. Press 'Handpiece.'

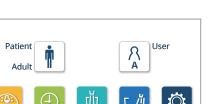


3. Press 'Handpiece light activation.'

The Handpiece light activation setting screen appears.



- 4. Select 'When picking up a handpiece' or 'When stepping on the foot controller.'
- 5. Press ok to save the setting. The previous screen appears.
- * To cancel the setting, press > without pressing ok
- 6. Press the figure switch to display the Home screen.



6-2-6 Setting the micromotor brightness

Handpiece light brightness (illuminance) can be changed.

MX2/MCX

1. Press the function switch . The Function setting screen appears.



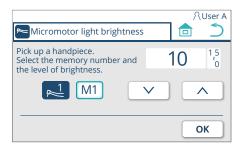
ı

2. Press 'Handpiece.'



3. Press 'Micromotor light brightness.'

The micromotor light brightness setting screen appears.



- 4. Pick up the handpiece you want to set.
- 5. Press the memory switch M1 to select [M1], [M2], [M3], or [M4]. These four switches appear sequentially every time the [M1] switch is pressed.
- 6. Press the _____ switches to adjust the brightness between [0] and [15].

The brightness can be adjusted by [1] increment.

7. Press ок to save the setting.

The previous screen appears.

- * To cancel the setting, press \bigcirc without pressing \bigcirc ox \bigcirc .
- 8. Press the figure switch to return to the Home screen.

6-2-7 Setting the cupfiller water level

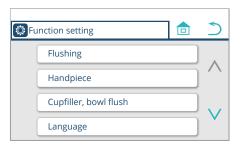
The cupfiller water level setting is set on shipment from the factory but may be adjusted as required.

The cupfiller water level and filling duration when using the cupfiller switch (forced cup-filling) can be adjusted.

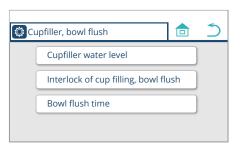


1. Press the function switch .

The Function setting screen appears.



2. Press 'Cupfiller, bowl flush.'

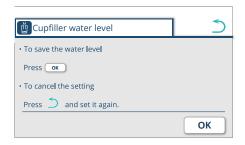


3. Press 'Cupfiller water level.'

The Cupfiller water level setting screen appears.



- 4. Place an empty cup on the cupfiller base, and press and hold the switch to fill the cup to the desired level.
- * Water is supplied while the use switch is pressed and stops when it is released.



- * To memorize the cupfiller water level, press OK.

 After pressing OK, the previous screen appears.
- * To cancel the setting, press \supset without pressing \bigcirc . After pressing \supset , the previous screen appears.

5. Press the 🖻 switch to return to the Home screen.

If the water supplied exceeds the desired water level, set it again from the beginning.

To cancel the setting in the middle, press \supset or $\stackrel{\frown}{\Box}$.

6-2-8 Setting the cup-filling/bowl flush interlock

The following two modes can be selected:

'Interlock'

Cuspidor bowl flush starts at the same time as cup-filling.

'No interlock'

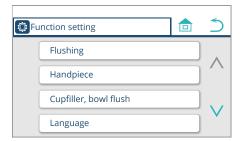
The cuspidor bowl is not flushed even when cup-filling is started.



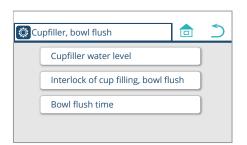
1. Press the function switch

.

The Function setting screen appears.

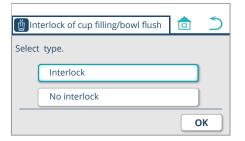


2. Press 'Cupfiller, bowl flush.'



3. Press 'Interlock of cup filling, bowl flush.'

The Interlock of cup filling, bowl flush screen appears.



- 4. Select 'Interlock' or 'No interlock.'
- 5. Press ok to save the setting. The previous screen appears.
- * To cancel the setting, press 🔵 without pressing ок
- 6. Press the switch to return to the Home screen.

6-2-9 Setting the bowl flush time

Duration of the bowl flush can be set.

1. Press the function switch . The Function setting screen appears.



Function setting

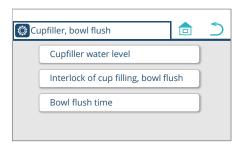
Flushing

Handpiece

Cupfiller, bowl flush

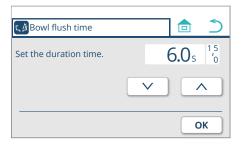
Language

2. Press 'Cupfiller, bowl flush.'



3. Press 'Bowl flush time.'

The Bowl Flush Time setting screen appears.



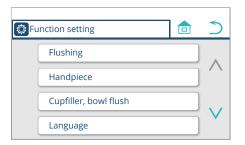
- 4. Press the _____ switches to set the time between [0] and [15] seconds.
- 5. Press ok to save the setting. The previous screen appears.
- * To cancel the setting, press \supset without pressing \bigcirc or \bigcirc .
- 6. Press the figure switch to return to the Home screen.



Language displayed on the touch panel can be changed.

1. Press the function switch . The Function setting screen appears.





2. Press 'Language.'

The Language setting screen appears.



- 3. Press the \vee switches to select your language.
- 4. Press ок to save the setting.

The previous screen appears.

- * To cancel the setting, press \bigcirc without pressing \bigcirc or \bigcirc .
- 5. Press the a switch to return to the Home screen.

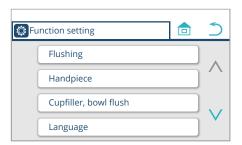
6-2-11 Setting the timer alarm tone

Alarm tone emitted when the timer reaches zero can be set. Five tones are available and can be set to distinguish between different chairs in the same room.



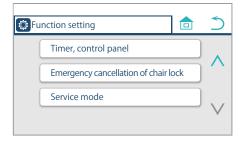
1. Press the function switch .

The Function setting screen appears.

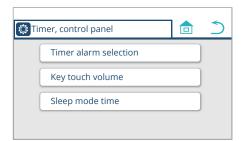


2. Press the V switch.

The second page of the Function setting screen appears.



3. Press 'Timer, control panel.'



4. Press 'Timer alarm selection.'

The Timer Alarm Selection setting screen appears.



- 5. Press the \checkmark \land switches to select a tone from five types (' $\ifmmode 1\end{1mu}$ 1' to ' $\ifmmode 5\end{1mu}$ 5').
- 6. Press ok to save the setting. The previous screen appears.
- * To cancel the setting, press \bigcirc without pressing \bigcirc or \bigcirc .
- 7. Press the 🖻 switch to return to the Home screen.



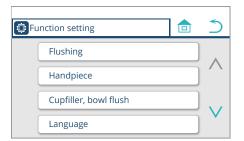
The tone emitted when a switch is pressed can be set.



1. Press the function switch

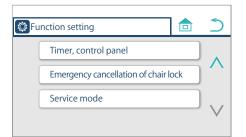
.

The Function setting screen appears.

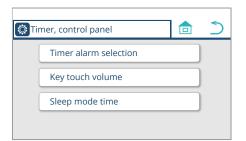


2. Press the V switch.

The second page of the Function setting screen appears.

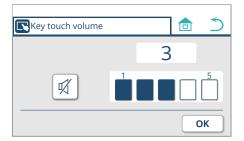


3. Press 'Timer, control panel.'



4. Press 'Key touch volume.'

The Key touch volume setting screen appears.



5. Press touch bar graph to set the volume in five levels ('1' to '5').

The (4) switch makes the sound of the tone.

The switch mutes the tone.

To mute the tone, press (4) and the display changes to (4).

6. Press ok to save the setting.

The previous screen appears.

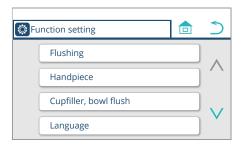
- * To cancel the setting, press \supset without pressing \bigcirc or \bigcirc .
- 7. Press the switch to return to the Home screen.

6-2-13 Setting the sleep mode time

When no switch on the control panel is used for a while, the touch panel screen goes dark and enters the sleep mode. The time before entering sleep mode can be adjusted.

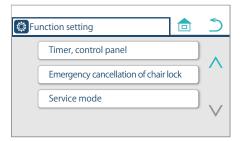


1. Press the function switch . The Function setting screen appears.

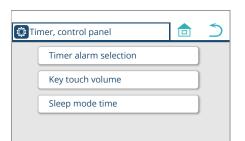


2. Press the V switch.

The second page of the Function setting screen appears.

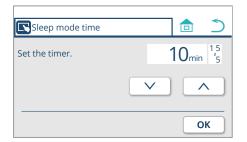


3. Press 'Timer, control panel.'



4. Press 'Sleep mode time.'

The Sleep mode time setting screen appears.



- 5. Press the switches to select one of three durations ('5 min,' '10 min,' and '15 min').
- 6. Press ok to save the setting. The previous screen appears.
- * To cancel the setting, press \bigcirc without pressing \bigcirc ox
- 7. Press the switch to return to the Home screen.
- * To cancel the sleep mode, touch the screen.

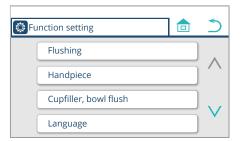
6-2-14 Setting emergency cancellation of the chair lock

The chair lock function, when activated, can be temporarily cancelled. Use this temporary cancellation only when the chair lock function must be disabled to resolve a malfunction.



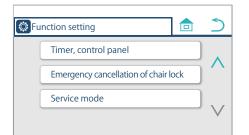
1. Press the function switch [...]

The Function setting screen appears.



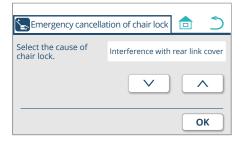
2. Press the ∨ switch.

The second page of the Function setting screen appears.



3. Press 'Emergency cancellation of chair lock.'

The Emergency cancellation of chair lock setting screen appears.



- 4. Press the Switches to cancel the chair lock. [Reference] Chair lock function [page 88]
- 5. Press the ok switch to save the setting. The previous screen appears.
- * To cancel the setting, press \supset without pressing \bigcirc or \bigcirc .
- 6. Press the figure switch to return to the Home screen.
- * When the main switch is turned off, emergency cancellation of the chair lock will be disabled, and the chair lock function will be reactivated.



6-3 Adjusting the quantity of water/air supplied from the doctor unit

Adjusting the quantity of water /air supplied to the syringe spray The quantity of water and air supplied from the doctor unit can be adjusted with the knobs (1).

Blue cap (W side): Quantity of water supplied Yellow cap (A side): Quantity of air supplied



Adjusting the quantity of water supplied to the handpiece spray The quantity of water supplied to the handpiece spray from the doctor unit can be adjusted with the knobs (2) (with blue caps).



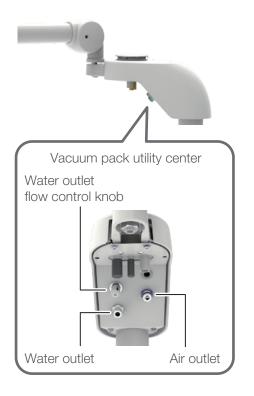
All the knobs decrease the flow rate when turned clockwise and increase it when turned counterclockwise.



Do not close the adjusting knob too tightly. It is used to increase or decrease flow rate and is not a stop valve. Note that it will idle if you close it too tightly.

* Correspondence between a holder and its adjusting knob (2) depends on the position of the syringe.

(See the figure on the left) Operate the system and notice the correspondence between the adjusting knob Nos. and the handpiece.



6-4 Adjusting the quantity of water/air supplied to the Vac Pac unit

Vac Pac Utility Center

A. Water outlet with flow control

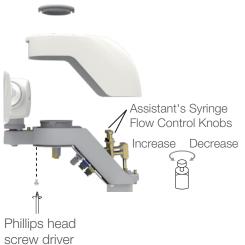
The service water outlet provides a quick-connection and fl ow control for water.

B. Service water outlet control knob

Outlet water volume can be adjusted by the outlet flow control knob. Turning the knob counterclockwise will increase the flow volume and turning clockwise will decrease flow.

C. Service air outlet

Service air outlet provides a quick-connection for air.

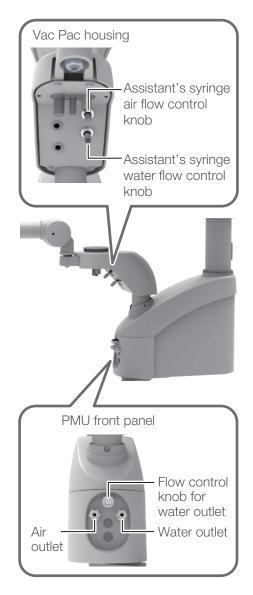


Assistant's syringe control knobs

Assistant's syringe flow control knobs are located inside the Vac Pac cover.

Turning a knob counterclockwise increase flow volume and turning clockwise will decrease.

Quolis Unit does not include syringe tips. Syringe tips manufactured by DCI are compatible with this device.



6-5 Adjusting the quantity of water/air supplied to the cuspidor unit

Vac Pac Housing

A. Adjust water flow of syringe with the flow control knob with blue cap.

B. Adjust air flow of syringe with the flow control knob with yellow cap.

Front Panel

A. Water outlet with flow control

A 1/4" female a quick-connection and flow control for water is provided.

B. Service water outlet control knob

Outlet water volume can be adjusted by the outlet flow control knob. Turning the knob counterclockwise will increase the flow volume and turning clockwise will decrease flow.

C. Service air outlet

A 1/4" female a quick-connection for air is provided.

7-1 Exterior

7-1-1 Cleaning and disinfecting the surfaces

To clean and disinfect the exterior of the product (except the touch panel), wipe the surface with a soft cloth or paper towel moistened with OPTIM33TB manufactured by SciCan, and then wipe it with a dry cloth.

If the exterior is excessively dirty, moisten a soft cloth with water containing approx. 10% of neutral detergent, and wipe the exterior with the cloth. Then, wipe it with a cloth moistened with water and dry it completely with a dry cloth.



To clean and disinfect the touch panel, use ethanol for disinfection. Using other disinfectant may lead to incorrect operation , resulting in injury.

Never use any of the products listed below:

Volatile chemicals such as paint thinner, butanol, isopropyl alcohol, nail-varnish remover, gasoline, or kerosene; acid, alkaline or chlorine detergents; highly corrosive disinfectants (povidone-iodine such as Isodine, sodium hypochlorite, etc.); abrasive polishing wax or abrasive sponge

Do not use a brush or scrubber for maintenance. All of these may leave scratches and/or ingrained dirt.

If water or detergent is left on the surface, wipe it off immediately. Moisture or detergent may cause rust or failure of electrical parts.

Do not spray detergent directly onto the exterior.

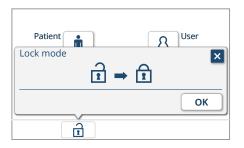
Clean the surface with a soft cloth or paper towel moistened with detergent, and wipe it dry with a cloth.

If liquid enters the product, it may cause a malfunction or failure.

Confirm that the detergent has completely dried off before activating the product.



Continental





7-2 Doctor unit

7-2-1 Touch panel

Turn off the main switch to to prevent accidental depression of a switch during cleaning or disinfection.

When cleaning or disinfection while powering on the main switch, lock the touch panel of the doctor unit.

(Example) Cleaning the surface of the touch panel during the procedure.

1. Open the [Lock mode] screen, and press

The touch panel is locked.

While it is locked, a sub-window indicating the locked state is displayed on the touch panel.

- 2. Wipe the touch panel with a soft cloth moistened with detergent.
- 3. Press and hold the membrane switch for raising the chair
 ⑤ for one second or more. (Doctor unit)

This will unlock the touch panel operation.

Do not spray detergent directly onto the exterior.

Clean the surface with a soft cloth or paper towel moistened with detergent, and wipe it with a dry cloth.

If liquid enters the product, it may cause a malfunction or failure.



Be certain to wipe off all water and detergent. Otherwise, it may cause operational failure, malfunction, resulting in injury.

7-2-2 Handpiece rest

Autoclave them at a temperature of 134°C for 3 minutes. Or, wipe off the surface with soft cloth moistened with OPTIM33TB manufactured by SciCan.

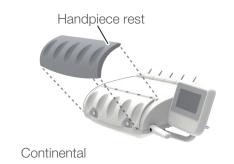
Before sterilization, remove dirt on the surface and wash them under running water.

Be sure to put them in a sterilization bag during the autoclave process.

Do not perform the drying process and dry naturally.

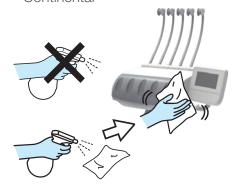
Repeating autoclave sterilization may cause degradation or discoloration, but doesn't affect the product functions.

If chemical solutions are spilled on the equipment, immediately wipe them off. Otherwise, discoloration may occur.





Continental



7-2-3 Instrument holder

Wipe the surface with a soft cloth or paper towel moistened with OPTIM33TB manufactured by SciCan, and then wipe it with a dry cloth.

If the exterior is excessively dirty, moisten a soft cloth with water containing approx. 10% neutral detergent, and wipe the exterior with the cloth. Then, wipe it with a cloth moistened with water and then dry it completely with a dry cloth.

Never use any of the products listed below:

Volatile chemicals such as paint thinners, butanol, isopropyl alcohol, nail-varnish remover, gasoline, or kerosene; acid, alkaline, or chlorine detergents; highly-corrosive disinfectants (povidone-iodine such as Isodine, sodium hypochlorite, etc.); abrasive polishing wax, or abrasive sponge

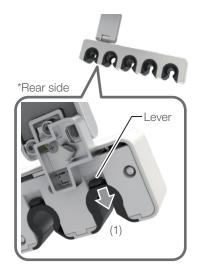
Do not use a brush or scrubber during maintenance. All of these may leave scratches and/or ingrained dirt.

If water or detergent is left on the surface, wipe it off immediately. Moisture or detergent may cause rust or failure of electrical parts.

Do not spray detergent directly onto the leather part or exterior. Clean the surface with a soft cloth or paper towel moistened with detergent, and wipe it with a dry cloth.

If liquid may enter the product through gaps and cause a malfunction or failure.

Confirm that the detergent has completely evaporated before activating the product.





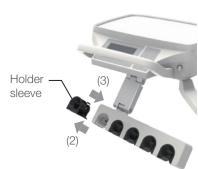
The holder sleeves of the instrument holder are detachable for cleaning.

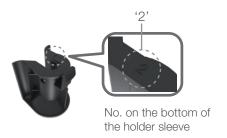
Wipe it well with a soft cloth moistened with OPTIM33TB manufactured by SciCan.

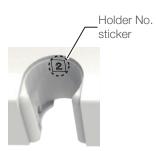
Sleeve No.1 to 4 cannot be autoclaved.

[Method to detach/reattach it]

- 1. Pull the lever at the lower section of the holder sleeve toward you (1).
- 2. While pulling the lever, push the holder sleeve upward to remove it (2).
- 3. To reattach it, insert it from upper side until it 'clicks' in (3).







Each holder sleeve has its No. on the bottom, and a sticker showing the same No. is attached to the instrument holder. Make sure you attach the holder sleeve to the holder with the same No.

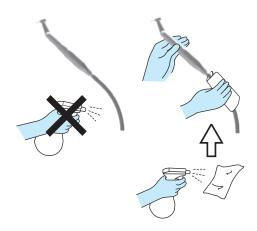
Make sure you attach the holder sleeves to the holders with the corresponding Nos. (to the original positions) until they 'click' in. A mismatched combination will stop the product from functioning correctly.

Do not autoclave the sleeve No. 1 to 4. Autoclave sterilization may deform or degrade them.

If chemical solutions are spilled on the equipment, immediately wipe them off. Otherwise, discoloration may occur.

Non-sterile type

Sleeve No.	Applicable handpiece/syringe		
2	Air turbine Air motor		
3	Micromotor Curing light	BIEN AIR MX2 (DMX3) BIEN AIR MCX SATELEC MINI LED STD OEM	
4	Syringe Ultrasonic scaler	DCI SATELEC SP NEWTRON DENTSPLY CAVITRON SCALER (TYPE G139)	



7-2-4 Handpiece hose

When the handpiece becomes dirty, wipe it well with a soft cloth moistened with OPTIM33TB manufactured by SciCan.

Do not spray detergent directly onto the exterior.

Clean the surface with a soft cloth or paper towel moistened with detergent, and wipe it with a dry cloth.

If liquid enters the product, it may cause a malfunction or failure.

Confirm that the detergent has completely evaporated before activating the product.



7-2-5 Oil mist separator

This unit collects oil from the exhaust air from the handpiece.

When the container is filled with the oil, make sure you discard the oil.

Turn the oil reservoir counterclockwise to remove.

If the gauze is excessively dirty or has excessive oil on it, replace it.



7-3 Cuspidor unit

7-3-1 Assistant holder

Wipe the surface with a soft cloth or paper towel moistened with OPTIM33TB manufactured by SciCan, and then wipe it with a dry cloth.

If the exterior is excessively dirty, moisten a soft cloth with water containing approx. 10% neutral detergent, and wipe the exterior with the cloth. Then, wipe it with a cloth moistened with water and then dry it completely with a dry cloth.

Never use any of the products listed below:

Volatile chemicals such as paint thinners, butanol, isopropyl alcohol, nail-varnish remover, gasoline, or kerosene; acid, alkaline, or chlorine detergents; highly-corrosive disinfectants (povidone-iodine such as Isodine, sodium hypochlorite, etc.); abrasive polishing wax or abrasive sponge.

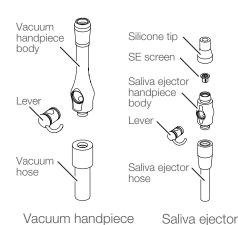
Do not use a brush or scrubber during maintenance. All of these may leave scratches and/or ingrained dirt.

If water or detergent is left on the surface, immediately wipe it off. Any remaining moisture or detergent may cause rust or failure of electric parts.

Do not spray detergent directly onto the exterior.

Clean the surface with a soft cloth or paper towel moistened with detergent, and wipe it with a dry cloth.

If liquid enters the product, it may cause a malfunction or failure. Confirm that the detergent has completely evaporated before activating the product.



7-3-2 Vacuum line / Saliva ejector line

Handpieces for vacuum and saliva ejector suction the secretions, saliva, or blood that contains bacteria.

Pull out the vacuum handpiece from the hose and clean it.

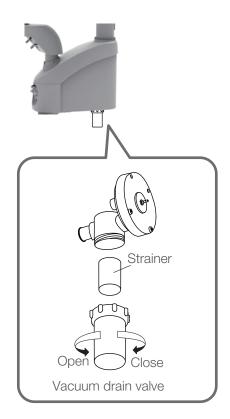
After daily operation, run two cups of clean water through the suction line to clean inside.

After cleaning the vacuum handpiece and saliva ejector, apply a white vaseline lightly on the rubber O-Rings to prevent damage to this O-Ring.

7-3-3 Vacuum drain valve

Make sure that the strainer is clean in order to maintain proper suction power.

When bowl flush switch is pressed, the cuspidor drain is switched on automatically. This causes noise which is created by suction.





7-3-4 Cuspidor bowl

Cuspidor bowl / Cupfiller unit

Use OPTIM33TB manufactured by SciCan as detergent for cuspidor bowl.

Strainer

Since the strainer easily gets clogged, detach the drain outlet cover and clean the filter after consulting hours every day.

Cupfiller base

Before cleaning, turn off the main switch.

Wipe the cupfiller base with a soft cloth moistened with OPTIM33TB manufactured by SciCan to remove dirt and water droplets.

Do not use sandpaper, wire wool, abrasive sponge, or abrasive cleaner.

Do not use any detergent except our designated one. Otherwise, strong acidic detergents or alkaline drain preparations may cause clog, damage, or metal corrosion.

Do not allow any metal object to come into contact with the cuspidor bowl since contact may leave a metal mark. If the metal object marks the bowl, use a metal mark removing agent (commercially available).

* A metal mark is a black or silver line caused by strong contact and friction between the ceramic surface and the metal object.

The cuspidor bowl is made of ceramic. It may break if it receives a hard knock. Do not wash it with boiling water, as this may break it.

Do not apply excessive force to the cuspidor bowl except when washing. (Do not knock it, or hit it.)

Do not pour water over the cupfiller base when cleaning it. It is not waterproof, and excessive water may cause it to malfunction.

Do not let water flow onto the cupfiller base. The drainage function of the cupfiller base is designed to drain away any overflow water when filling a cup.

Solid Collector Screen



7-3-5 Solid collector

If suction becomes weak, replace the filter in the solid collector. Accumulated debris may degrade the suction force of the vacuum handpiece or saliva ejector handpiece.

Press the solid collector into the end of the receptacle with the proper alignment. If it is improperly mounted, the vacuum handpiece and saliva ejector handpiece may not function properly.

7-3-6 Air compressor

For maintenance of the air compressor, follow the Instructions for Use supplied with the air compressor.

7-3-7 Vacuum pump

For maintenance of the vacuum pump, follow the Instructions for Use supplied with the vacuum pump.



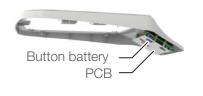
7-4 How to detach battery of the doctor unit

Instrument delivery: Holder

1. Remove the four screws under the doctor table and detach the doctor table.



2. Remove the seven screws and detach the table top.

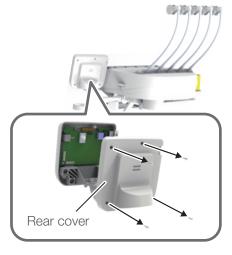


3. Detach the button battery (CR1632) on the PCB.

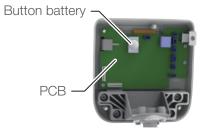


Instrument delivery: Continental

1. Remove the four screws and detach the rear cover.



2. Detach the button battery (CR1632) on the PCB.



7-5 Maintenance and inspection Notes on daily maintenance and inspection (by the user)

It is the responsibility of the user (medical institution) to ensure that the medical device is correctly maintained and inspected. To ensure safe use of this product, the unit must be inspected at the specified intervals as described in the table below:

No	Inspection item	Inspection interval	Inspection procedure and criteria	Outcome if inspection is not conducted	Maintenance required when the inspection criterion is not satisfied
1	Check the cancel function	Before consulting hours	When the chair is in automatic operation, it must stop when any of the operation switches shown on [page 86] is pressed or stepped on.	The chair unexpectedly moves during procedure, resulting in an injury. The patients may be caught between the doctor unit and the chair, resulting in an accident.	If the chair does not stop, please contact your local authorized Belmont dealer.
2	Check for water, air and oil leaks	Before consulting hours	Check that no water, air or oil leaks out from the product.	The product does not function properly, preventing proper treatment or procedure.	If water, air or oil leaks out, please contact your local authorized Belmont dealer.
3	Check the functioning of each handpiece	Before consulting hours	(1) Check that the turbine rotates properly and that the correct quantities of water and air are supplied. (2) Check that the micromotor rotates properly and that the correct quantity of water is supplied. (3) Check that the ultrasonic scaler vibrates properly and that the correct quantity of water is supplied. (4) Check that the correct quantities of water and air are supplied from syringe.	The patient may receive an injury to their mouth, or the handpiece may malfunction.	Adjust the quantity of water or air. [page 142] For other failures, please refer to the Instructions for Use for the respective handpieces. If the problem still persists, please contact your local authorized Belmont dealer.
4	Check the correct burr for the turbine, air motor, and micromotor is mounted.	Before each patient	Check that the correct burr is securely mounted. Make sure you refer to the Instructions for Use for the turbine, air motor and micromotor. Check that the burr is free of any defect (damage or deformation).	The burr will not rotate freely, resulting in an accident.	If the burr is damaged, deformed or has some other defect, replace the burr by following the Instructions for Use for the turbine, air motor and micromotor.
5	Check the scaler tip	Before each patient	Check that the correct tip is securely mounted and properly used. Refer to the Instructions for Use for the scaler. Check that the tip is free from any defect (wear or deformation).	The tip will not vibrate properly, resulting in an accident.	If the tip is worn or deformed, replace it by following the Instructions for Use for the scaler. For other defects, please contact your local authorized Belmont dealer.
6	Debris on the micromotor	After consulting hours	Check that no excess oil from the handpiece adheres to the motor unit.	The motor unit may not function properly, resulting in a malfunction.	Follow the Instructions for Use for the micromotor to maintain it.
7	Maintenance Vacuum handpiece / saliva ejector handpiece	After consulting hours	Wash the vacuum lines and saliva ejector lines.	Suction is defective.	Wash the vacuum lines. [page 151]
8	Maintenance Cuspidor bowl	After consulting hours	Check that the cuspidor bowl does not contain any dirt (or excrescence). Check that no dirt has collected on the dirt filter.	Draining is defective.	Clean the cuspidor bowl and dirt filter. [page 152]

No	Inspection item	Inspection interval	Inspection procedure and criteria	Outcome if inspection is not conducted	Maintenance required when the inspection criterion is not satisfied
9	Maintenance Solid collector	After consulting hours	Check that no dirt has collected on the solid collector.	Suction power of the vacuum handpiece or saliva ejector handpiece has decreased.	Replace the filter. [page 153]
10	Maintenance Exterior	After consulting hours	Check that no chemical solution or dirty water adheres to or remains on the exterior of the product.	Any liquid remaining will causes discoloration or change the properties of the exterior or cause metal parts to rust.	Clean it. [page 145]
11	Check the main switch and main water valve	After consulting hours	Check that the main switch is turned off, and the main water valve is closed.	May result in a short circuit or water leaks.	If the main switch cannot be turned off or the main water valve cannot be closed, please contact your local authorized Belmont dealer.
12	Movable parts of the product	Once a week	When operating the product, check that no movable parts emit any abnormal noise.	The product does not function properly, preventing proper treatment or procedure.	If any movable parts emit an abnormal noise, please contact your local authorized Belmont dealer.
13	Check the doctor unit	Once a month	The doctor table is level and stops at the specified position.	Objects fall from the doctor table, resulting in an injury or accident.	If the doctor table is not level or does not stop at the specified position, please contact your local authorized Belmont dealer.
14	Oil mist separator	Once a month	The drain oil does not reach the line on the oil mist separator.	The handpiece may not function properly due to an exhaust failure.	Empty the oil. [page 149]



Always refer to this Guide and the Instructions for Use supplied with each device (such as the dental light and handpieces) before conducting daily maintenance and inspection.

If you do not conduct daily maintenance or inspection, use of the product may result in injury or damage to nearby devices.

Notes for periodic inspection

The product contains parts that stop functioning or wear depending on the use frequency, and therefore it is important to carry out maintenance in a periodic inspection once a year (including replacement of consumables) and safety checks.

Service parts required for the periodic inspection (including consumables) are listed in the table below. However, depending on the specifications of your device, there may be alternative parts available that differ from those listed in the table below.

Maintenance and inspection can be outsourced to qualified persons such as authorized repairers of medical devices.

If you have any question about periodic inspection, contact your local authorized Belmont dealer.

List of service parts required for the periodic inspection

Part name		Standard service life	Part name	Standard service life
	Movable part	7 years	Switch	5 years
	Wire for a movable part	5 years	PC board	5 years

List of consumables required for periodic inspection

Part name	Part name	
O-ring	Diaphragm	
Packing	Saliva ejector tip	
Solid collector filter		



Always entrust periodic inspection to your local authorized Belmont dealer.

If you do not carry out periodic inspection, use of the product may cause injury or damage to nearby devices.

7-6 Detachable parts

Part name	Part name
Handpiece	Vacuum tip
Holder sleeve	Solid collector cap
Cover for the drain outlet of the cuspidor bowl	Solid collector filter
Cuspidor bowl strainer	Water service coupler
Vacuum handpiece	Air service coupler
Saliva ejector handpiece	Syringe nozzle
Oil mist separator	Syringe body

7-7 Storage method

If the product is not used for an extended period of time after consulting hours or during holidays, make sure you observe the precautions below:

- 1. Always turn off the main switch after consulting hours. (This is to stop supply of air, water, and electric power.) Make it a habit to do this to prevent water leak and electrical accidents.
- 2. Turn off the breaker for the compressor, and discharge air. (Also make sure you have turned off the power.)
- 3. Turn off the breaker for the vacuum pump. (Also make sure you have turned off the power.)
- 4. Turn off the breaker for the device in the clinic. (Also make sure you have turned off the power.)
- 5. Set the chair to the lowest position and the backrest to the most reclined position.

8 Maintenance by Service Engineers

8-1 After-sales service

When you request for repair

Refer to 'Troubleshooting' [from page 160 on] before you check the device. If the problem persists, turn off the main switch, and contact your local authorized Belmont dealer to request a repair.

8-2 Service life

The service life of this product is 10 years on condition that maintenance and inspection are properly conducted [according to our self-certification (our data)].

However, the standard service lives of service parts that require periodic inspection vary according to the part. [page 157]

8-3 Period of Parts Retention

We hold service parts such as consumables for products for 10 years from the time of launch.

* Service parts are parts required for repair to return the product to the original state and functions or to maintain its functions.

9 Troubleshooting

9-1 Troubleshooting

If you encounter any of the problems listed below, take the countermeasures described below before requesting a repair. If the problem persists even after troubleshooting, stop using the product immediately, turn off the main switch, and contact your local authorized Belmont dealer.

Phenomenon	Please check	Remedy
The product does not work at all.	Is the main switch for unit turned on?	Turn on the main switch for unit. [page 57]
	Is the power to the compressor turned on?	Turn on the power.
	Is the breaker for the device on the switch-board of the dentist's office turned on?	Turn on the breaker for the device.
The chair does not move.	Is the chair lock function activated?	Unlock the chair. [pages 87 to 88]
	Have you been operating the product continuously for a long time?	The overheating prevention device for the hydraulic motor has been triggered. Wait for approx. 10 minutes, and move the chair.
No air is being supplied.	Is the power to the compressor turned on?	Turn on the power.
	Is the knob that controls the air supply to the syringe or other parts closed?	Open the air supply control knob. [pages 142 to 144]
No water is being supplied.	Is the water supply control knob to the handpiece or syringe closed?	Open the water supply control knob. [pages 142 to 144]
The vacuum handpiece or saliva ejector handpiece does not	Is the power to the vacuum pump turned on?	Turn on the power.
activate the suction function.	Is the solid collector filter dirty?	Replace the filter. [page 153]
	Is the solid collector filter properly attached?	Attach the solid collector properly. [page 153]
Is there a message displayed on the touch panel?	Read the message.	Take the corrective measures indicated in the message. [pages 161 to 162]

9-2 Message on the touch panel and measures to be taken

Message on the touch panel	Details	Remedy	
E01: Communication w/cuspidor section	Internal communication error for the device	Turn off the main switch, and contact your local authorized Belmont dealer.	
E02: Communication w/FC	device	local authorized beimont dealer.	
E04: Communication w/micromotor			
E06: Communication w/chair			
E12: Control panel (Dr.)	The membrane switch is pressed when the power is turned on.	Keep your hand away from the membrane switch. If the error code does not go off when your hand is removed, contact your local authorized Belmont dealer.	
E14: Air pressure too low	The master pressure in the pneumatic system decreases.	Turn off the main switch, and contact your local authorized Belmont dealer.	
E20: HP picked up while FC is on	The pedal of the foot controller is stepped on when the handpiece is picked up.	Release the pedal of the foot controller. If the error code does not go off when you take your foot off, contact your local authorized Belmont dealer.	
E22: Foot controller (Slide)	A wire in the foot controller has become disconnected.	Turn off the main switch, and contact your local authorized Belmont dealer.	
E25: Foot controller EEPROM	EEPROM (memory contents) read error for the foot controller	Turn off the main switch, and contact your local authorized Belmont dealer.	
E30: Chair EEPROM	EEPROM (memory contents) read error for the chair		
E31: Potentiometer (Seat)	Chair position detection error		
E32: Potentiometer (Backrest)			
E34: Thermistor (Solenoid valve)	Chair oil temperature detection error		
E35: Stick switch	The stick switch or the switch on the assistant operation panel is pressed when the power is turned on.	Check that there is not a leg or an object in contact with the stick switch on the chair or there is not an object in contact with the switch on the assistant operation panel. If nothing is in contact with it but the error code does not go off, contact your local authorized Belmont dealer.	
E39: Timeout (Chair)	In automatic operation, the chair cannot complete the movement to the target position within the specified time.	Turn off the main switch, and contact your local authorized Belmont dealer.	

9 Troubleshooting

Message on the touch panel	Details	Remedy
C07: Cancelled. Rear link cover is in contact.	An object is interfering with the rear link cover while the chair is moving, and the chair stops in the middle.	Remove the cause of the emergency stop, and move the chair. When the chair moves properly, the error code will go off.
C09: Cancelled. FC is in contact.	The pedal is stepped on while the chair is moving, and the chair stops in the middle.	Release the pedal of the foot controller, and move the chair. When the chair moves properly, the error code will go off.
C10: Wait. Chair is warming up.	When the temperature is low, the chair warming-up function is activated.	Wait until the error code goes off (or warming up is completed)
C12: First priority (Handpiece)	The priority function is activated.	Return all the handpieces to the instrument holder. If the error code does not go off, contact your local authorized Belmont dealer.
C13: Return handpiece to holder.	A handpiece is not placed in the instrument holder when the power is turned on.	Check that all the handpieces are placed in the instrument holder. If the error code does not go off with all the handpieces in place, contact your local authorized Belmont dealer.

10 Accessories and Consumables

10-1 Accessories

Instructions for Use (this document) Installation Instructions

10-2 Consumables

Consumables are parts that will normally wear or deteriorate, change their appearance, or become damaged after use. Please note that repair or replacement of consumables are not covered by the warranty and will be charged for.

(* Degree of wear, deterioration or damage and timing for replacement depends on the use environment and conditions at the customer's premises.)

Consumables (Parts listed below are out of the guarantee coverage and charged parts.)

[Reference] List of service parts required for the periodic inspection [page 157]

() Belmont

Importer in U.S.A. BELMONT EQUIPMENT, Division of Takara Belmont USA, Inc

101 Belmont Drive, Somerset, New Jersey 08873 U.S.A.

TEL: (732) 469-5000 / (800) 223-1192

FAX: (732) 356-1035

Importer in Canada TAKARA COMPANY, CANADA, LTD.

2455 Meadowvale Blvd. Mississauga, Ontario L5N 5S2, Canada

TEL: (905) 816-8965 www.belmont.ca

TAKARA BELMONT CORPORATION



2-1-1, Higashishinsaibashi, Chuo-ku, Osaka, 542-0083, Japan

TEL: +81-6-6213-5945 FAX: +81-6-6212-3680