

DENTAL UNIT

CLESTA

INSTALLATION and OPERATING INSTRUCTIONS

IMPORTANT

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



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Intended Use of the Product

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

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

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

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

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

Compatibility of Handpieces

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

Important Notes

In case of the troubles, please contact Takara Belmont offices or your dealers.

Do not disassemble or attempt to repair.

Disassembly, repair or modifications should only be done by a qualified repair technician.

Attempts at disassembly, repair or modifications may lead to abnormal operation and accidents.

Disposal of residue material

Please request a special contractor when you dispose amalgam.




























In case of disposal of equipment

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

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



SYMBOLS

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

	alternating current		Protective earth (ground)		ON (power)		OFF (power)
LP	Chair last position	0	Chair auto return	1	Chair preset 1	2	Chair preset 2
	To raise the chair		To recline the backrest		To lower the chair		To raise the backrest
	Chair manual control		Fiber optic handpiece light on/off		Micro motor rotation speed		Scaler power control
	Micro Motor Forward/Reverse select		Syringe		Saliva ejector		Bowl flush
	Cupfiller		Service outlet (water)	W	Water	A	Air
	Water heater	SN	Serial number		Manufacturer		Date of manufacture
	Authorized representative in the European community		Caution It means "caution warnings, or possibility to danger".		Non-ionizing radiation		Separate collection for electrical and electronic equipment
	Type B applied parts		Refer to instruction manual/booklet				

SAFETY PRECAUTIONS

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

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

WARNING

1. Be sure to turn off breakers for equipment in the clinic when this product will not be used for a long period of time

Be sure to turn off breakers for equipment in the clinic when this product will not be used for a long period of time (following the completion of work, during the suspension of business, etc.). Insulation degradation may cause electrical fire.

2. Be sure to turn off the main switch upon completion of work or during work breaks

Be sure to turn off the main switch upon completion of work or during work breaks. This prevents incorrect operation due to accidental contact and associated hazards.

3. Do not sit on other than seat

When the backrest is at the forward position, do not sit on or place an undue load on the headrest or legrest of dental chair. This could cause the unit to topple or could damage the unit.

4. Do not place an undue load on the arm

Do not get on or place an undue load on the arm of this unit or dental chair armrest. This could cause the unit to topple or other accidents.

5. Be sure to establish a grounding connection

Be sure to establish a proper grounding connection. (Refer to a vendor for grounding connection.) Failure or electric leakage may lead to electric shock.

6. Never disassemble, repair or modify this product

Individuals other than certified repair technicians should not disassemble or attempt to repair and modify this product. This could lead to an accident, failure, electric shock or fire.

7. Use with caution in the presence of electromagnetic interference waves

Do not place this product around equipment generating electromagnetic waves (including communications equipment, elevators, etc.) as incorrect operation of this product may occur in the presence of electromagnetic interference waves. Do not use equipment generating electromagnetic waves, such as mobile phones, around this product.

SAFETY PRECAUTIONS

WARNING

8. Be sure to turn off the main switch when electrocautery is in use

Be sure to turn off the main switch when electrocautery is in use, because noise may cause incorrect operation of this product.

9. Ensure the maintenance of this product

- Failure to maintain this product may lead to physical injury or property damage.
- Refer to the section of maintenance.

10. Do not place objects weighing 3 kg or more on the Doctor's table

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

11. Be sure to use the mirror cover

- Be sure to use the mirror cover of the dental light when the light is turned on. Direct contact with lamps may cause burns.
- See the Instruction Manual of the dental light for further information.

12. Be sure to turn off the power when replacing lamps

- Be sure to turn off the power when replacing the dental light. This could result in electric shock.
- Use only dedicated halogen lamps.
- Immediately after a halogen lamp has burnt out, the lamp and the lamp holder are still hot. Replace the lamp after they cool down.
- Do not touch halogen lamps with bare hands.
- See the Instruction Manual of the dental light for further information.

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

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

14. Use with caution on patients with a cardiac pacemaker

Use this product with extreme caution on patients with a cardiac pacemaker. In the case of any abnormalities in patients during use, immediately turn off this product and discontinue use.

CAUTION

1. Only experienced personnel should use this product

Only dentists or other dental professionals should use this product.

2. Confirm safety before use.

Before use, confirm that the parts are correctly and safely operating and that there are no obstacles around this product.

3. Pay attention to patients and children

Keep your eyes on patients (especially, children) so that mischief or inadvertent operation of equipment will not lead to unexpected accidents.

4. Discontinue use if you feel that "something is wrong"

Always be careful to inspect this product for looseness, rattling, tilting, wobbling, sounds, temperature, odors, etc. Immediately discontinue use at the first feeling that "something is wrong."

SAFETY PRECAUTIONS

CAUTION

5. keep your eyes on the patient during operation.

- Confirm that the patient is seated in the proper position. Keep your eyes on the patient during the operation.
- Pay special attention to surroundings at automatic operation of the dental treatment table. Damage to the backrest, stool or Doctor's table may occur.

6. Pay attention during movement of the Doctor's table

- Pay attention to surroundings when you move the Doctor's table. Injury by the tips of handpieces, etc., may occur.
- Be sure to move the Doctor's table by holding the handle of the unit.
- Be sure to move up & down the Doctor's table by releasing the balance arm brake of the unit.

7. Do not place anything hot on the Doctor's table

Do not place anything hot on the Doctor's table. This could cause deformation or discoloration.

8. Cautions when adjusting the height of the cart-type instrument table (Cart type only)

After adjusting the height, be sure to fasten the loosened lock screw. Failure to heed this warning may cause the table to drop, resulting in an accident.

9. Observe the cart hose (Cart type only)

Do not tread on the cart hose. Failure to heed this warning may result in damage to the hose, as well as people tripping over.

10. Do not smack or rub this product

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

11. Precautions for cleaning a spittoon bowl

The spittoon bowl is made of glass. Handle with care. Do not wash it with hot water. Otherwise, it may break.

12. Precautions for cleaning the resin cover

For cleaning, do not use cleaning agents containing solvent or abrasives, thinners or oil-based alcohol (butanol and isopropyl alcohol), which may cause cracks.

13. Immediately wipe off drug solution when it comes into contact with this unit

Should drug solution or water comes into contact with this unit, immediately wipe it off with a dry soft towel, etc. This could result in defective function or electric leakage as well as spotting or rusting.

14. Close the water main valve and turn off the main switch upon completion of work

Be sure to close the water main valve and the main switch at the end of each work day to prevent water leakage from occurring.

15. Be sure to operate switches with your hands

Be sure to operate switches with your hands, except the foot controller, which is operated with your foot. Operation with body parts other than hands may cause damage or incorrect operation.

16. Pay attention during the headrest operation

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

17. Be careful not to heat an empty water heater

Exercise caution as heating of an empty water heater may result in burning of the heater, leading to fire.

SAFETY PRECAUTIONS

CAUTION

18. Precautions for cleaning the operation panel (membrane switches)

Penetration of droplets of sanitizing spray into the back of the operation panel may be associated with switch failure. Use a paper towel soaked with sanitizing solution to clean the surface of the operation panel.

19. Precautions for cleaning

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

20. Set the pressure of the water tank at 200 kPa or less

Adjust the air supply pressure for the water tank to 200 kPa or less. An excessively high pressure may cause damage to the water tank.

21. Do not use water other than purified water, distilled water or pure water for the water tank

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

22. Precautions for insert the bowlflush nozzle and the cupfiller nozzle to the spittoon bowl

After cleaning of the spittoon section, be sure to insert the nozzles straightly to spittoon bowl. If not, it may damage the o-ring and it may leak the water.

23. Read the documents accompanying the various pieces of equipment

Before use, be sure to carefully read the package inserts and Instruction Manuals accompanying the various pieces of equipment (including optional articles) to ensure proper use.

NOTICE

1. Troubleshooting and contact information

In the case of any problems, discontinue use, turn off the main switch and contact the dealer or our company.

2. Check operation of the compressor

With no air supplied, this product does not operate even after turning on the main switch. Turn on the power of the compressor before operating this product.

3. Precautions when using water other than tap water

The water unit is intended for use with tap water. Caution should be exercised as the use of water other than tap water (water through a sterilizer or water systems, etc.) may result in failure of equipment.

4. Use the turbine with a water check valve

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

5. Handling of equipment in the case of a power failure

Put the handpiece in the holder and turn off the main switch if equipment stops working during use due to a power failure or other reasons.

[1] GENERAL INTRODUCTIONS

(1) UNIT TYPE VARIATIONS & MAJOR PARTS IDENTIFICATIONS

1. UNIT MOUNT TYPE

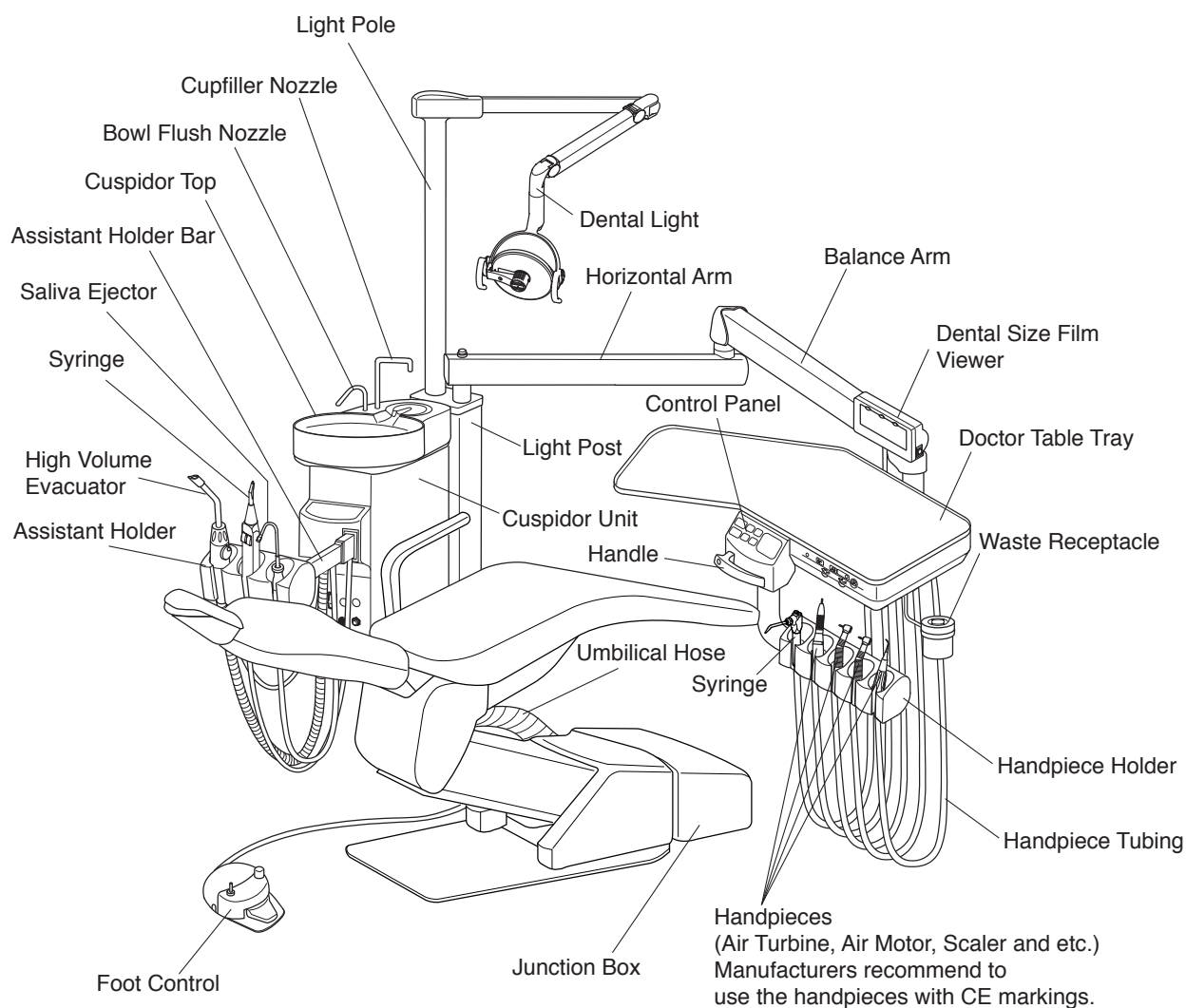


Fig.1-1 Overview

2. SPLIT CART HOLDER TYPE WITH CUSPIDOR

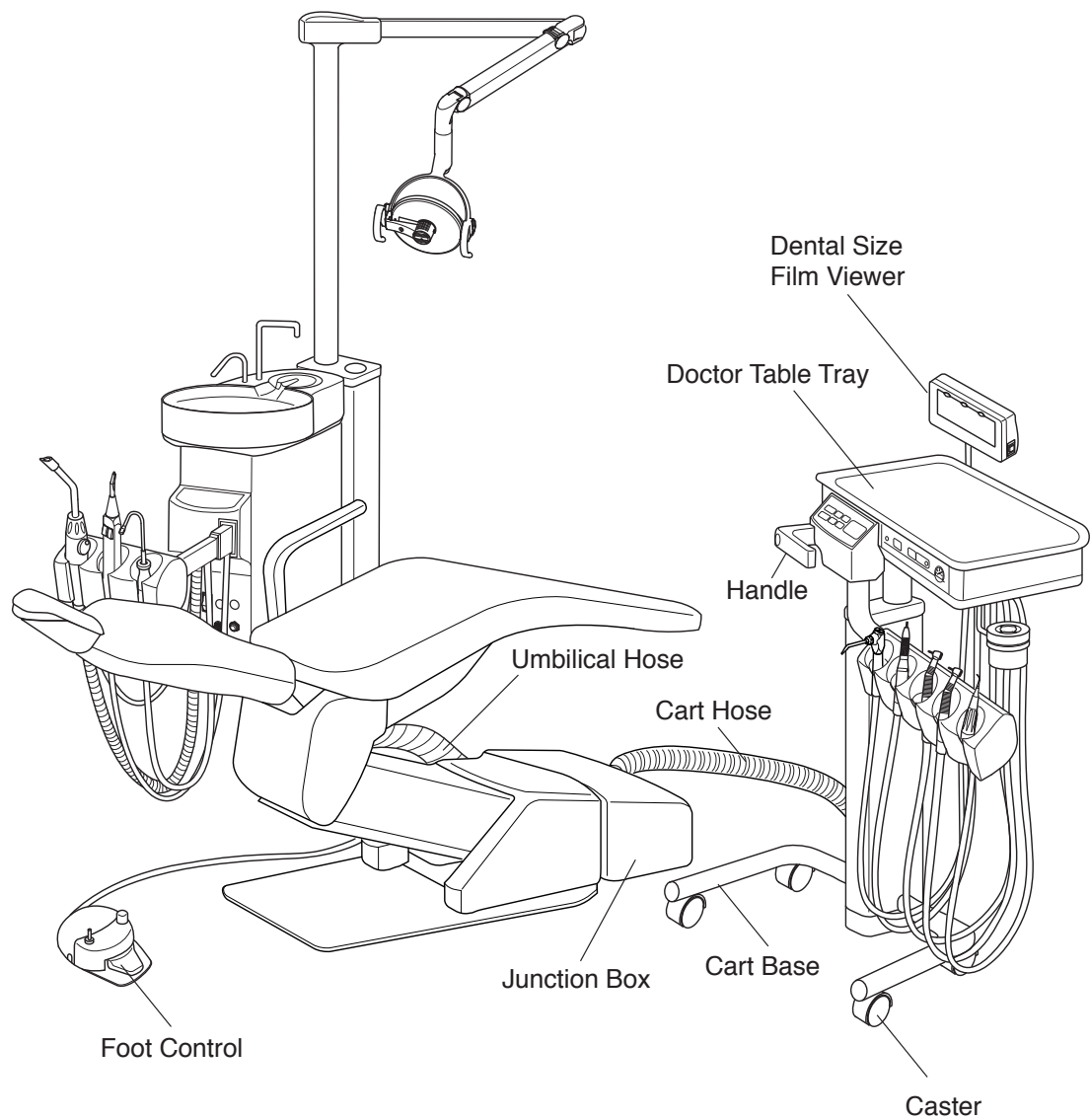


Fig.1-2 Overview

(2) DIMENSIONS

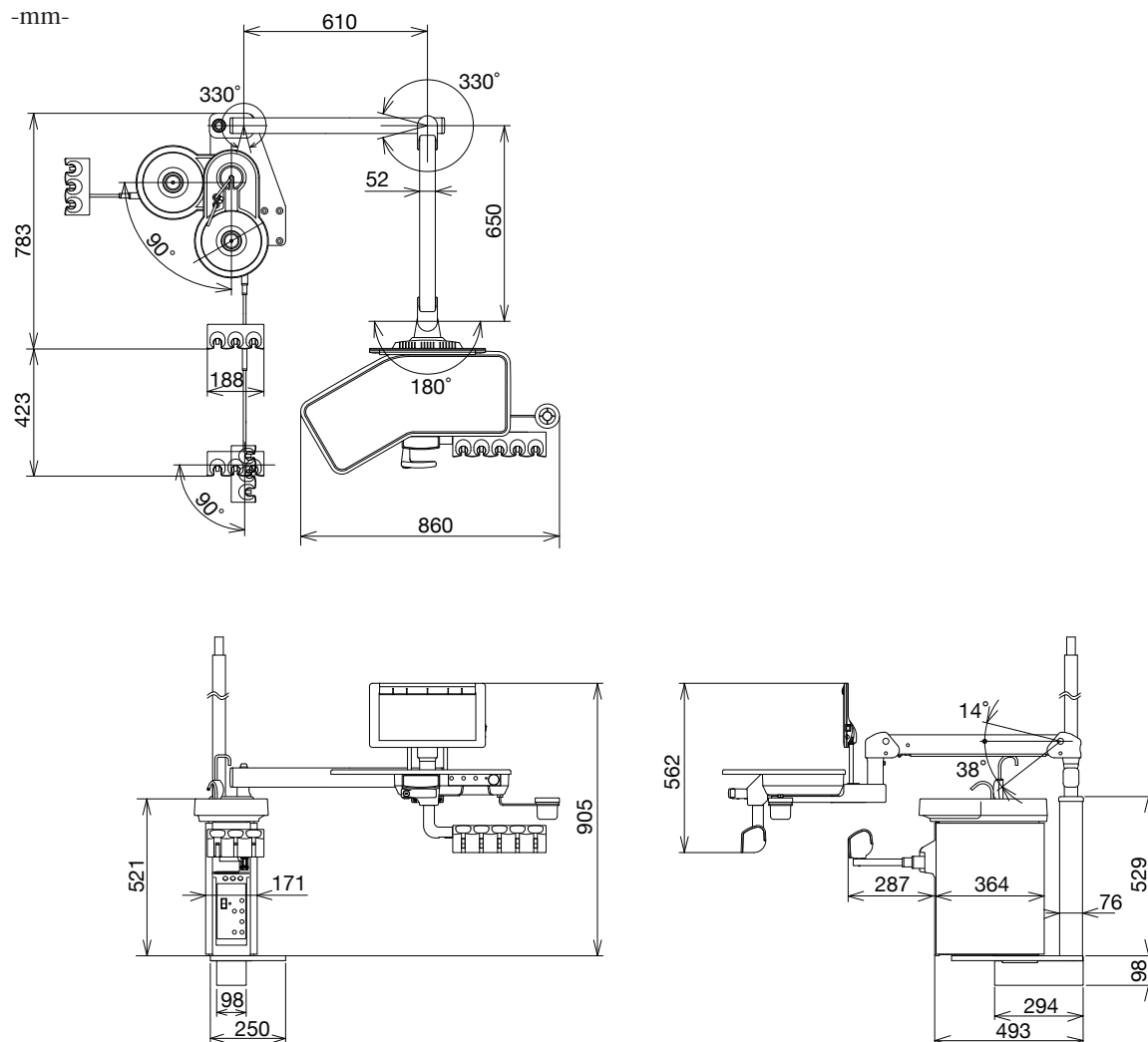


Fig.1-3 Dimensions

(3) SPECIFICATIONS

Rated power supply	AC230V 50/60HZ 0.7A
Air main pressure	0.45 to 0.5MPa
Water main pressure	0.1 to 0.2MPa
Net weight	80.5kg (without dental light)
Dental light	AL-501
Working environment	Temperature : (Operating) +5°C ~ +40 °C (Storage) -10°C ~ +50°C Humidity : 10 ~ 80% Atmospheric pressure : 600hPa ~ 1060hPa
Service Life	10 Years
Classification of foot controller	IPX1 (applicable standard IEC60529)
Protection class against electric shock	Class I equipment
Applied parts	Type B applied parts : Handpiece for unit (List of compatible handpieces)
Equipment that is not suitable for use in air, flammable anesthetic gas, oxygen or nitrous oxide	

[2] INSTALLATION INSTRUCTIONS

(1) PREPARING FOR INSTALLATION

The recommended location, plumbing and layout of junction box are shown in Fig.2-1, 2-2 and 2-3 respectively.

1. LOCATION AND PLUMBING LAYOUT OF JUNCTION BOX

Standard Type

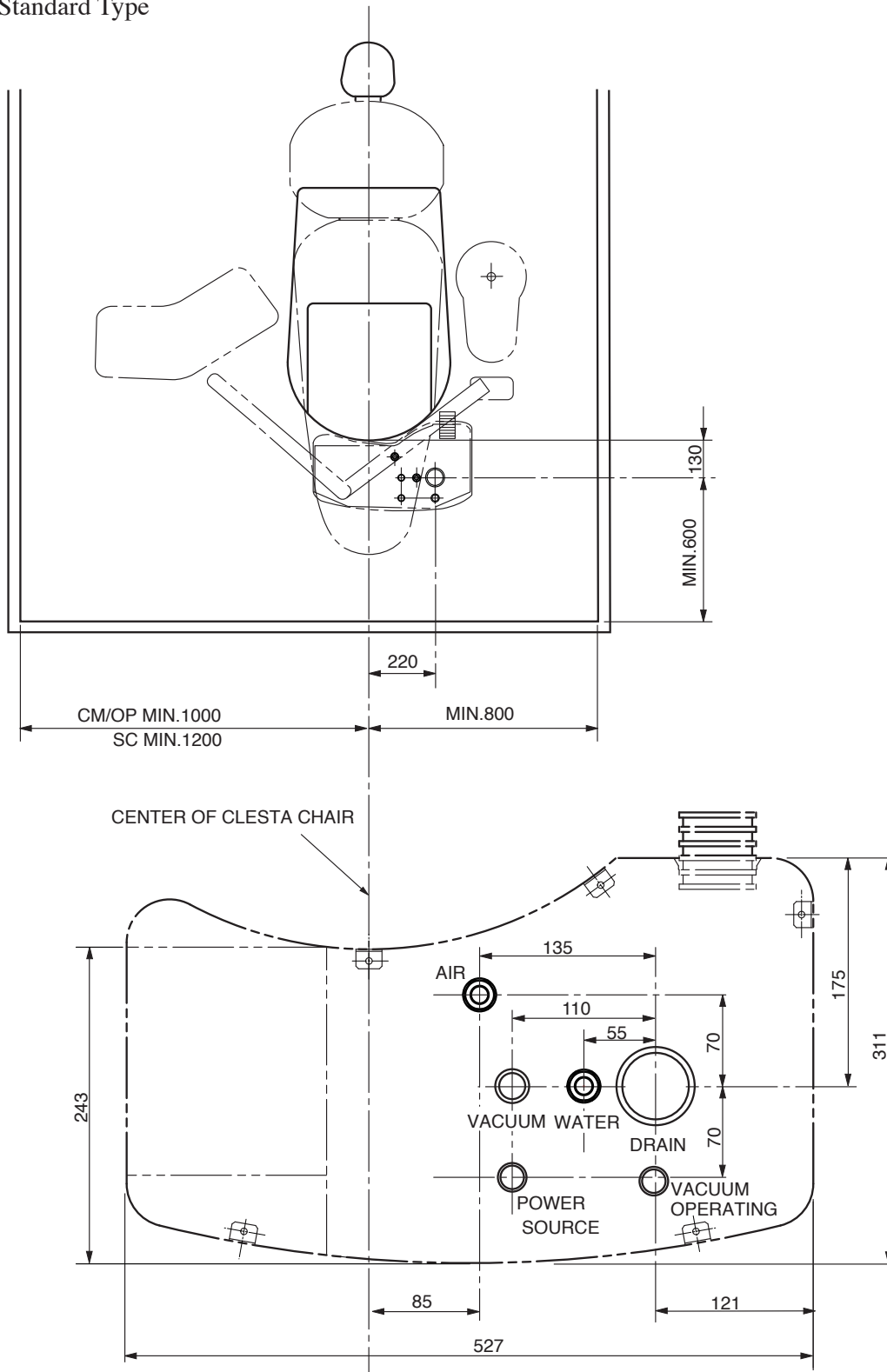


Fig.2-1 Location and Plumbing Layout

Belmont Type

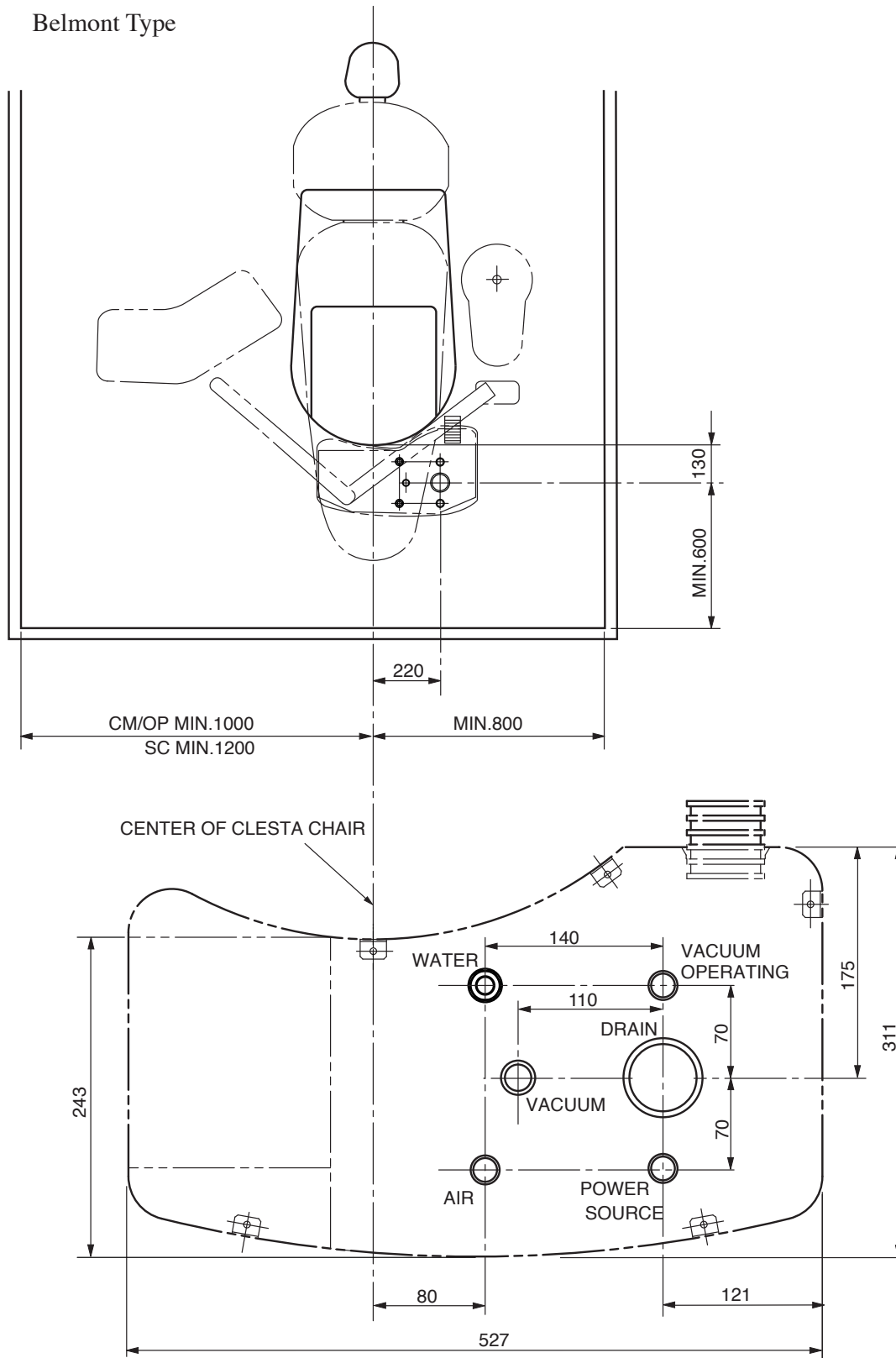


Fig.2-2 Location and Plumbing Layout

NOTE: CM/OP CHAIR MOUNT OVER THE PATIENT TYPE

SC SPLIT CART TYPE

2. PLUMBING HEIGHT OF JUNCTUON BOX

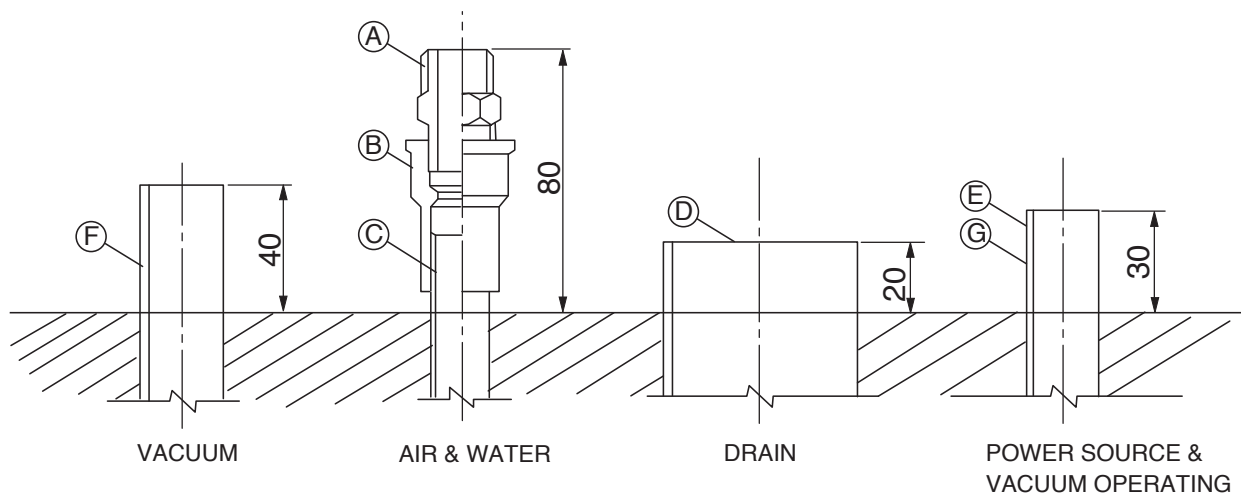


Fig.2-3 Plumbing Height

A : NIPPLE	; PT 1/2 - 1/2 (Brass)
B : SOCKET JOINT	; Unplasticized Polyvinyl Chloride Pipe Fitting
C : AIR	; Unplasticized Polyvinyl Chloride Pipe (Shock Resisting Type) 'HI13' 18mm O.D. - 13mm I.D.
WATER	; Unplasticized Polyvinyl Chloride Pipe for Water Works Service 'VP 13' 18mm O.D. - 13mm I.D.
D : DRAIN	; Unplasticized Polyvinyl Chloride Pipe 'VP 40' 48mm O.D. - 40mm I.D.
E : POWER SOURCE	; Unplasticized Polyvinyl Chloride Conduit 'VE 16' 22mm O.D. - 16mm I.D.
SUPPLY CABLE	; Polyvinyl Chloride Insulated and Sheathed Cable 'VVF 2.0-2C'
EARTH WIRE	; Polyvinyl Chloride Insulated Wire 'VE 1.6'
F : VACUUM	; Unplasticized Polyvinyl Chloride Pipe 'VP 20' 26mm O.D. - 20mm I.D.
G : VACUUM OPERATING	; Unplasticized Polyvinyl Chloride Conduit 'VE 16' 22mm O.D. - 16mm I.D.

[2] INSTALLATION PROCEDURES

1. CHECK THE PACKING

Check each quantity of the parts for installation as listed below.

*Standard Specification

1) SHUT OFF VALVES FOR AIR & WATER	1SET
2) WOOD SCREW	4PCS.
3) FLEXIBLE PIPE	2PCS.
4) DRAIN ELBOW	1PCE.
5) VACUUM ELBOW	1PCE.
6) DRAIN CAP	1PCE.
7) BASKET STRAINER	1PCE.
8) CUPFILLER NOZZLE	1PCE.
9) BOWL FLUSH NOZZLE	1PCE.
10) SALIVA EJECTOR TIP	1PCE.
11) VACUUM TIPS (BENT & STRAIGHT)	1SET
12) SILICON TIP	10PCS.
13) LEVEL ADJUSTMENT SCREW	4PCS.
14) WASTE RECEPTACLE	1PCE.
15) LIGHT POLE	1SET
16) SILICON MAT FOR DR.TABLE	1PCE.
17) WIRE CONNECTOR	3PCS.
18) SEAL	4PCS.
19) PATIENT CUP	1PCE.
20) VIALS WITH STAND	1SET
21) COTTON CONTAINER WITH STAND	1SET
21) MOUNTING BRACKET COVER	1PCE

2. ATTACH UNIT TO CHAIR

2-1. Mounting bracket A Type (Fig.2-4)

- 1) Raise the upper structure of dental chair to the highest position.
- 2) Install the cuspidor unit on Mounting Bracket A Type with 4pcs.of M10-50 Flat Head Screws, Spring Washer and Nuts.
- 3) Adjust the level of cuspidor unit with 4pcs. of M10-25 Level Adjustment Screws.
- 4) Stick the Seals over the Flat Head Screws.
- 5) Remove the stopper screw from the mounting bracket.
- 6) Attach the mounting bracket cover on the mounting bracket, and fix with the stopper screw.

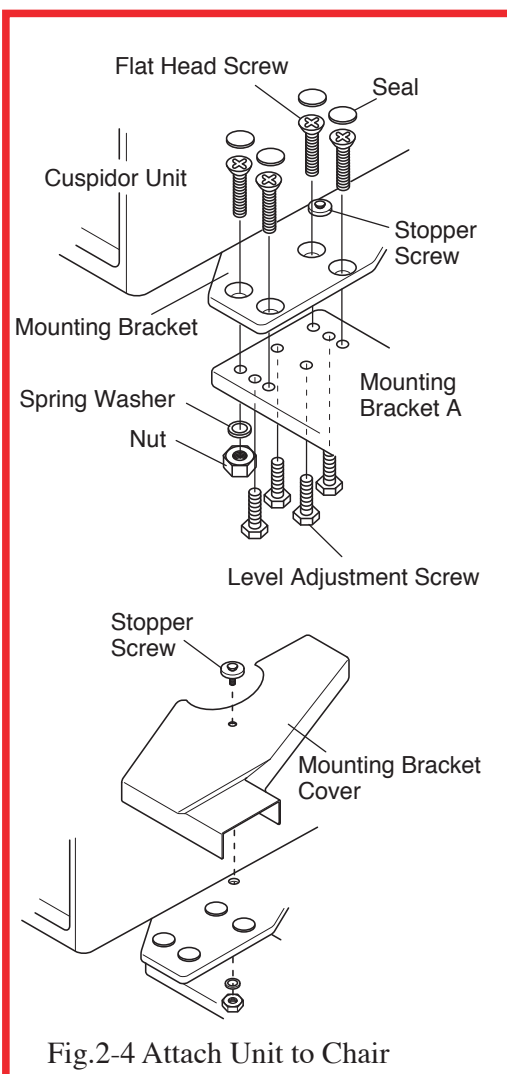


Fig.2-4 Attach Unit to Chair

2-2. Mounting Bracket B Type (Option) (Fig.2-5)

- 1) Raise the upper structure of the dental chair to the highest position.
- 2) Attach the Adaptor to Mounting Bracket B Type with 4pcs. of the M10-40 Socket Head Cap Screws and Spring Washers.
- 3) Install the cuspidor unit on Mounting Bracket B Type with 4pcs. of M10-50 Flat Head Screws, Spring Washer and Nuts.
- 4) Adjust the level of cuspidor unit with 4pcs. of M10-25 Level Adjustment Screws.
- 5) Stick the Seals over the Flat Head Screws.
- 6) Remove the stopper screw from the mounting bracket.
- 7) Attach the mounting bracket cover on the mounting bracket, and fix with the stopper screw.

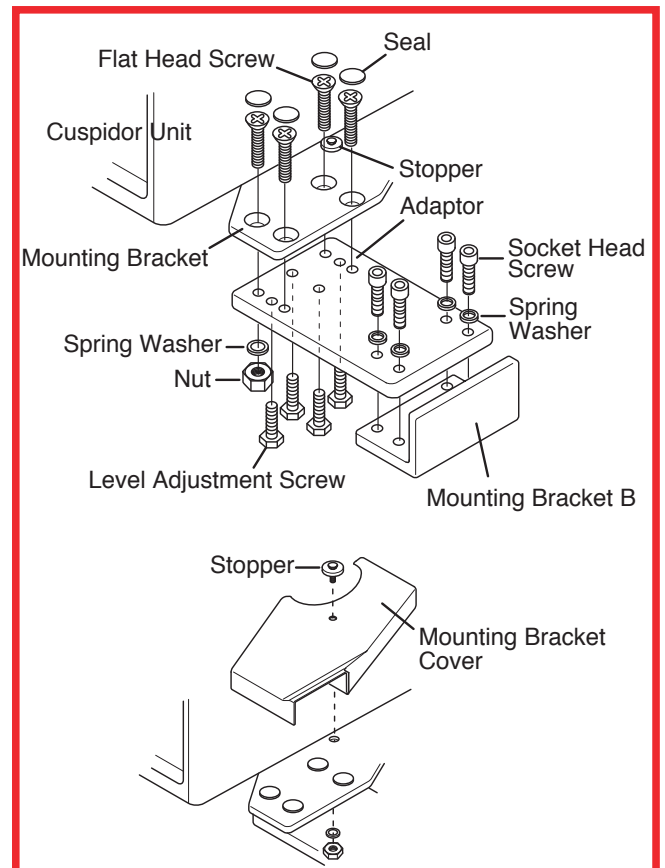


Fig.2-5 Attach Unit to Chair

3. INSTALL DENTAL LIGHT (Fig.2-6)

- 1) Remove Cover from the bottom of the unit
- 2) Put Plastic Washer on the Light Pole.
- 3) Run the Cable through Light Pole and attach the Dental Light to the Light Pole.
- 4) Run the Cable through Light Post and install the Pole, then tighten 2pcs. of the Set Screws.
- 5) Connect the wires from the Dental Light and Cuspidor Unit in accordance with the identification color.
- 6) Re-attach the Cover.

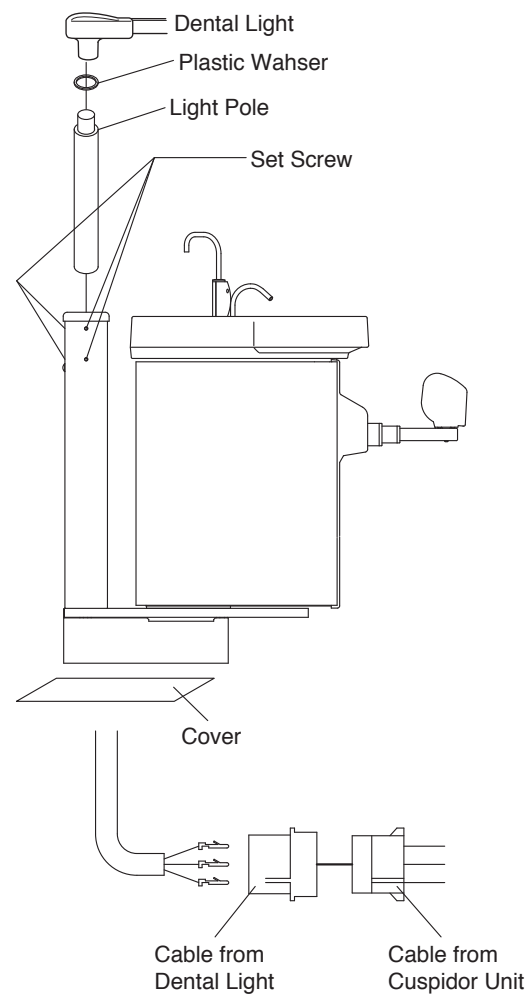


Fig.2-6 Install Dental Light

4. CONNECT UMBILICAL HOSE WITH JUNCTION BOX (Fig.2-7, 2-8 & 2-9)

This section is only for SPLIT CART TYPE.

For other type of unit, proceed to 5.

- 1) Open the cover of Junction Box by loosening two screws.
- 2) Loosen the screw of Umbilical Hose Clamp.
- 3) Insert all hoses, tubings and wirings of Umbilical Hose from Cuspidor unit into Junction Box through the Umbilical Hose Clamp.
- 4) Correct the twist of the Umbilical Hose as the Junction Box is placed at the planned location.
- 5) Set the end of Umbilical Hose at the Umbilical Hose Clamp then re-tighten the screw for the Umbilical Hose Clamp.
- 6) Connect tubings with nylon sleeves to the fittings as shown in Fig.2-8 or 2-9.
- 7) Connect wirings to Electric Terminal as shown in Fig.2-8 or 2-9.

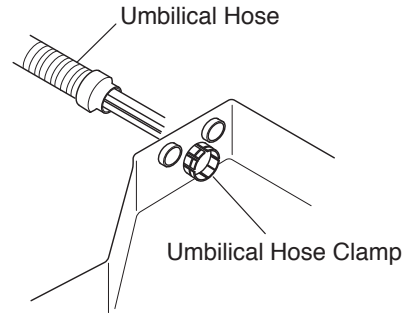


Fig.2-7 Connect Umbilical Hose

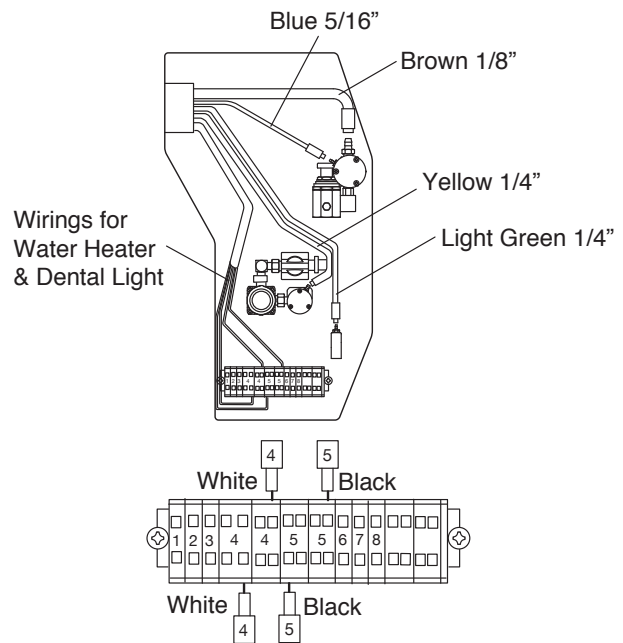


Fig.2-8 Standard Specification

* How to connect wiring to the Electric Terminal (Fig.2-10)

During pressing the slot of the Electric Terminal by the Small Thin Screw Driver, insert the wiring to the Electric Terminal.

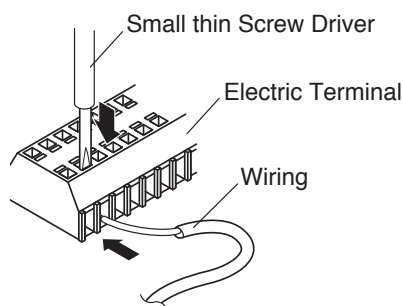


Fig.2-10 How to Connect Wiring

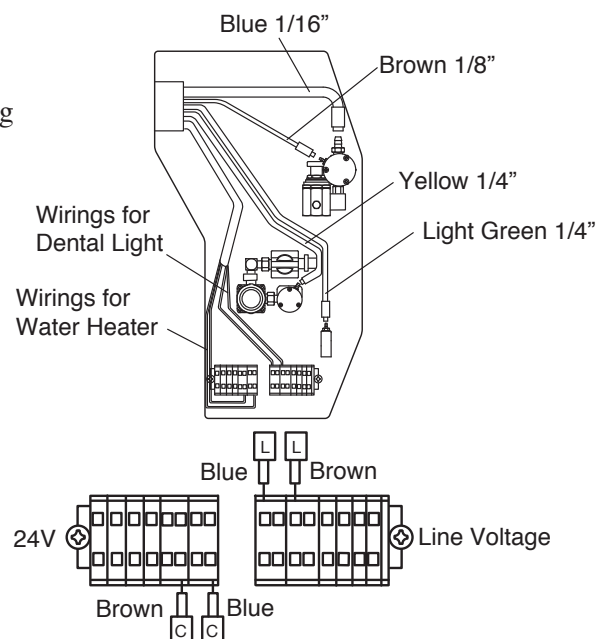


Fig.2-9 Low Voltage Specification

5. CONNECT UTILITY SECTION

(Fig.2-11& 2-12)

- 1) Attach Shut Off Valves to the air and water supply lines, pointing to proper directions for further connections.
- 2) Attach Electrical Receptacle to Main Power Supply Cable.
(The Electrical Receptacle must be prepared locally.)
- 3) Open each Shut Off Valve to remove any chips or dirt in the air and water supply line, then close the Valves.
- 4) Open the cover of Junction Box by loosening two screws, and place Junction Box at the planned location, then fix it on the floor with 4pcs. of Wood Screws.
- 5) Cut the Drain Hose and the Vacuum Drain Hose at the proper length, and connect and glue them to each elbow.
- 6) Connect the Vacuum Elbow to the Suction Pipe.
- 7) Insert the Drain Elbow into the Drain Pipe.

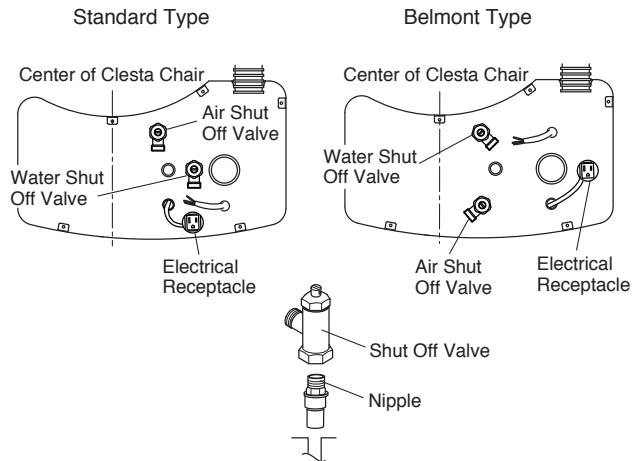


Fig.2-11 Connect Supply Lines

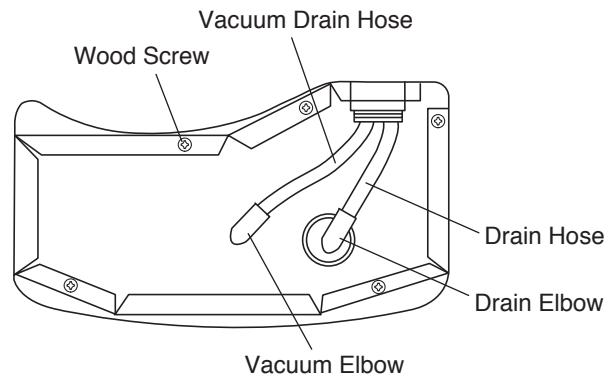


Fig.2-12 Connect Drain Lines (1)

- * Attaching Drain Bushing (Option) to the Drain Pipe is desirable, and Drain Elbow should be bonded firmly into the Drain Pipe.
- * For Air Vacuum specification, prepare Drain Joint (Option) as shown in Fig.2-13, so that the drain line and the vacuum drain line may be inserted together into the Drain Pipe.

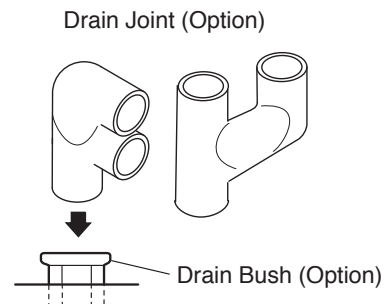
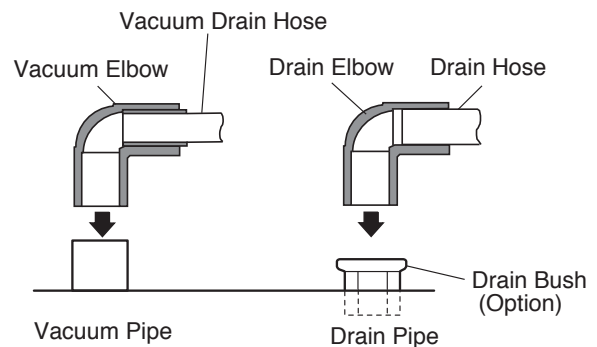


Fig.2-13 Connect Drain Lines (2)

See Fig.2-14 & 2-15.

- 8) Connect Water Shut Off Valve and Water Filter with Stainless Flexible Pipe and Packing. Connect Air Shut Off Valve and Air Filter in the same way.

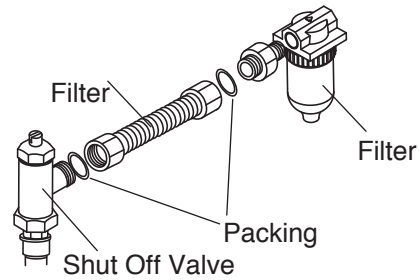


Fig.2-14 Connect Filters (1)

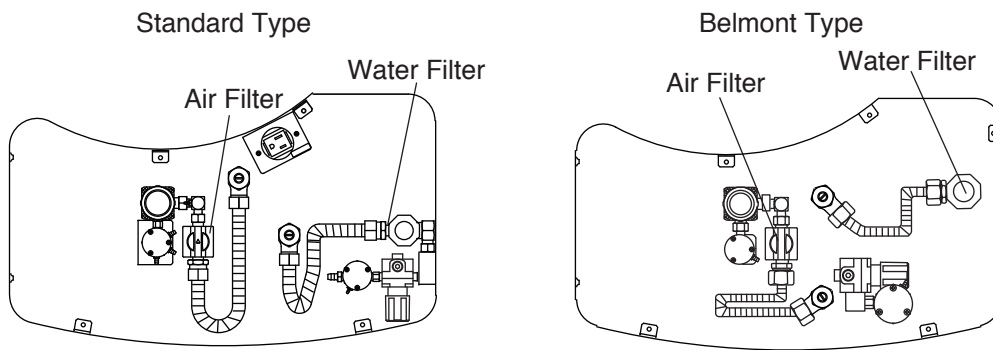


Fig.2-15 Connect Filters (2)

See Fig.2-16 or 2-17.

- 9) Prepare the Electrical Plug, and connect it to Main Power Supply Cable.
(Electrical Plug must be prepared locally.)
- 10) Connect Vacuum Operating Cable to the Electric Terminal as shown in Fig.2-16 or 2- 17.
- (For Central Vacuum Specification only)
- 11) Run the three cables from chair (Power Supply Cable with plug, Cable with 9P connector and Cable with 4P connector), through the hole of the Junction Box wall above the Umbilical Hose into the Junction Box.
- 12) Connect the Power Supply Cable of the chair to the receptacle, and connect other two cables to the corresponding connectors.

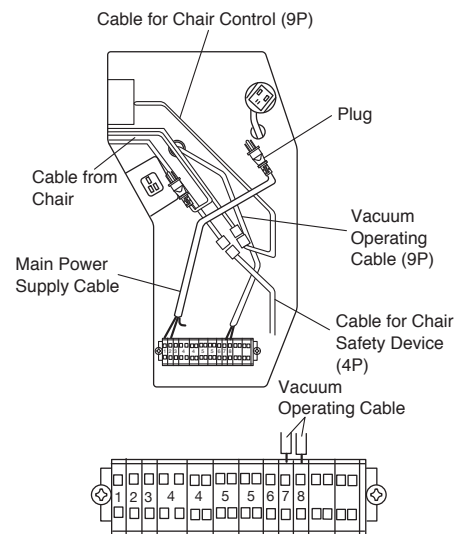


Fig.2-16 Connect Electrical cable (1)

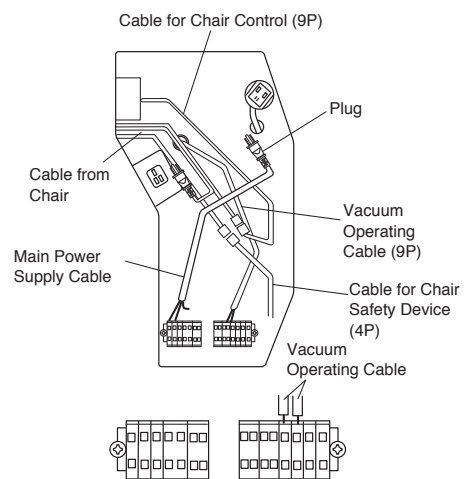


Fig.2-17 Connect Electrical cable (2)

6. ATTACH FILM VIEWER (Fig.2-18 &2-19)

- 1) Remove the Doctor Table Tray by loosening eight Flat Head Screws.
- 2) Run the cable from Film Viewer into Doctor Table.
- 3) Attach Film Viewer to the bracket for Doctor Table with two Philips Screws.
- 4) Connect the cable from Film Viewer to the Electrical Terminal.

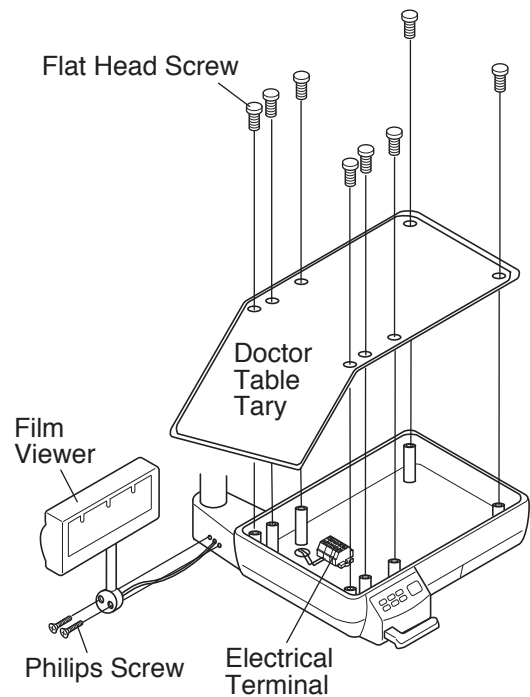


Fig.2-18 Attach Film Viewer

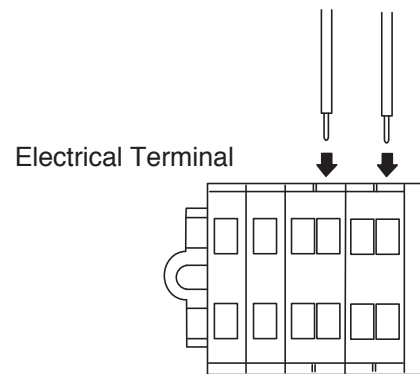


Fig.2-19 Connect Wirings for Film Viewer

7) SET UP CUSPIDOR TOP (Fig.2-20)

- 1) Insert Cupfiller Nozzle and Bowl Flush Nozzle, and tighten each nut.
- 2) Put Basket Strainer and Drain Cap into the cuspidor bowl.

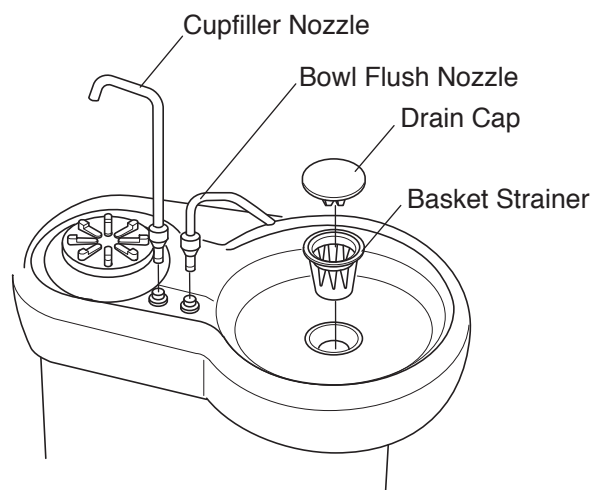


Fig.2-20 Cuspidor Top

(3) ADJUSTMENT BEFORE USE

1. AIR & WATER SUPPLY LINE

(Fig.2-21 & 2- 22)

- 1) Check the Air Pressure Gauge on the side of Junction Box.

The Pressure should be approximately 0.45Mpa to 0.5Mpa for air.

For adjustment the pressure, pull up and turn the knob of Air Regulator while the air is flowing (use 3-way Syringe for example).

To increase the pressure, turn clockwise.

To decrease, turn counter-clockwise.

After adjustment, push down the knob to fix it.

- 2) Check if the Water Pressure Gauge indicates the pressure at around 0.1Mpa to 0.2Mpa.

Adjustment can be done by Water Regulator.

To adjust the pressure, lift and turn the water regulator knob until the water starts flowing. (use 3-way Syringe for example).

To increase the pressure, turn clockwise.

To decrease, turn counter-clockwise.

After adjustment, lower the knob back in place.

- 3) As the unit is ready to run, turn on the Master Switch located underneath the doctor table (see Fig.2-23.), then run the saliva ejector for a while to flow the water through the unit and make sure no leakage takes place at the utility section.

See Fig.2-23 & 26.

- 4) Turn all Coolant Water Control Knobs counter-clockwise fully and pick up all handpiece tubing from the holder, then depress Drive Pedal of the foot control (Spray Switch -ON) for a moment to flush out the water from the tubing into the cuspidor bowl.

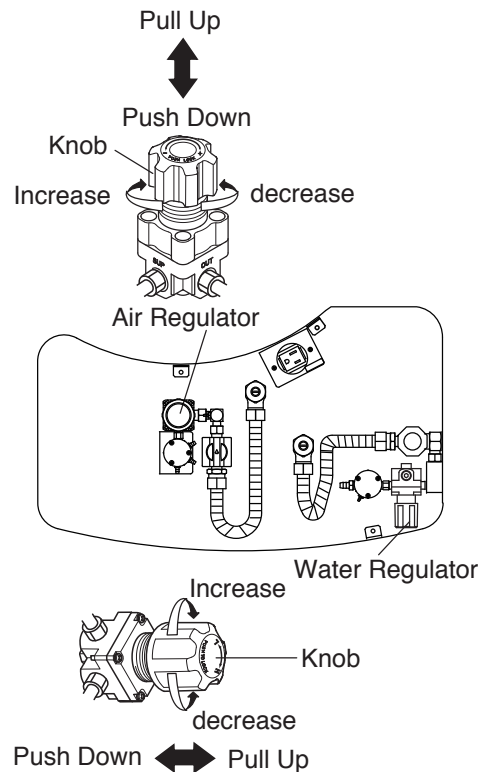


Fig.2-21 Inside of Junction Box

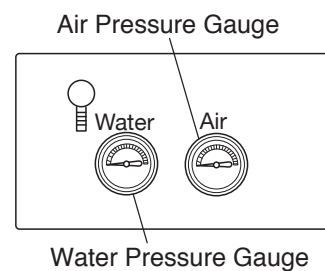


Fig.2-22 Side View of Junction Box

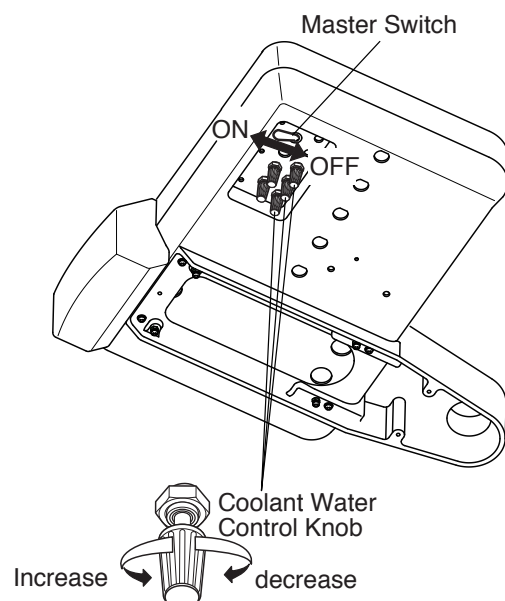


Fig.2-23 Bottom View of Doctor Table

2. Drive Air & Spray for Handpieces

(Fig.2-24, 2-25 & 2-26)

- 1) Connect handpieces to each tubing, and make adjustment one by one.
- 2) To adjust the drive air pressure for each handpiece, turn the appropriate Adjust Screw for Drive Air on the Auto-Select Valve in the doctor table.

Turn the screw clockwise to close the line fully. Then during depressing Drive Pedal of Foot Control fully, gradually increase the air flow by turning the screw counter-clockwise up to Handpiece Pressure Gauge reads the full recommended pressure.

- 3) To adjust spray of handpiece, use Adjust Screw for Coolant Air on the Auto-Select Valve and Coolant Water Control Knob.

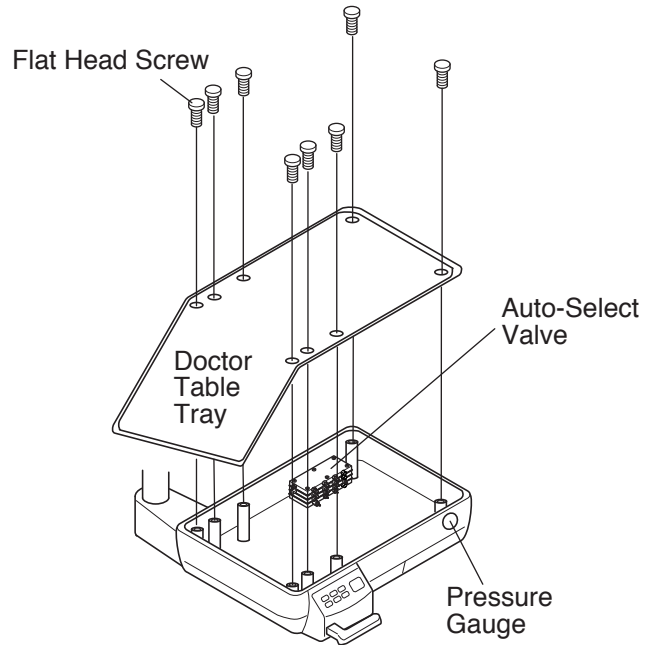


Fig.2-24 Inside of Doctor Table

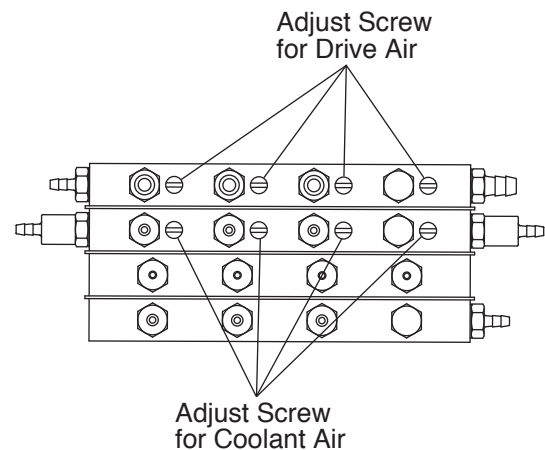


Fig.2-25 Auto-Select Valve

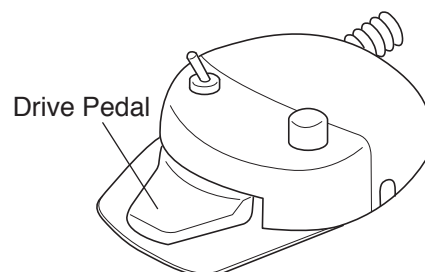


Fig.2-26 Foot Control

[3] OPERATION INSTRUCTIONS

(1) DOCTOR UNIT SECTION

1. MASTER SWITCH (Fig.3-1 & 3-2)

- 1) Turn on the Master Switch and the Power Indicator is lit in green.
- 2) After the operation, turn off the Master Switch, then the supplies of air, water and electricity are all shut down at the utility section.

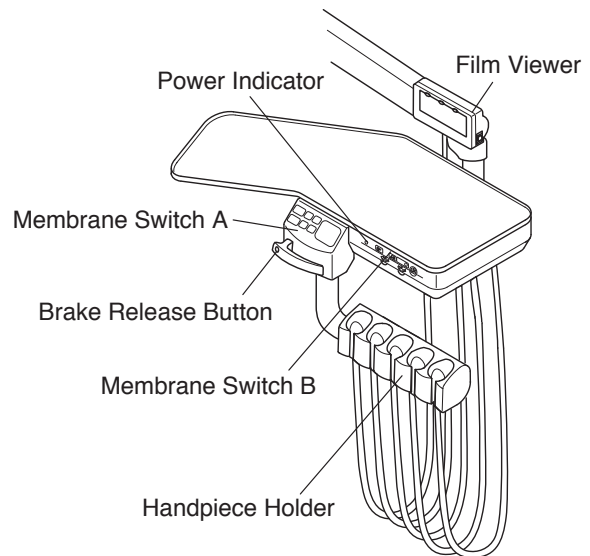


Fig.3-1 Doctor Unit

2. TABLE POSITION (Fig.3-1)

For standard model of the chair mount over patient type, the height of the doctor table is always fixed by Air Brake. The height can be easily changed by pressing Brake Release Button.

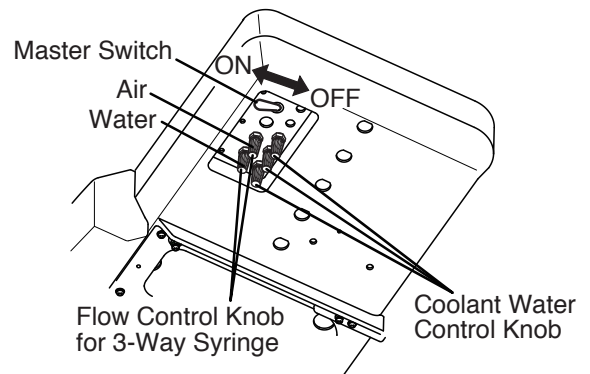


Fig.3-2 Bottom View

3. CHAIR CONTROL (Fig.3-3)

The chair movement can be controlled by pressing Chair Control on Membrane Switch A. Please refer to operating instructions for chair.

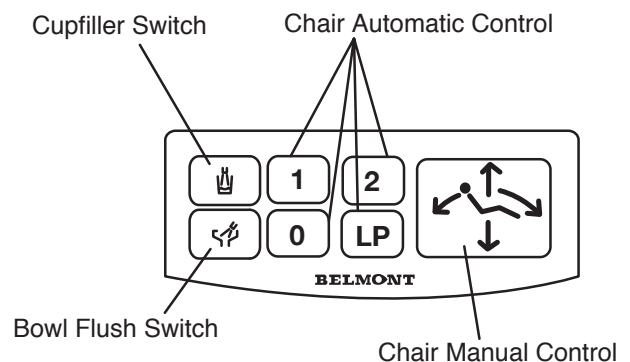


Fig.3-3 Membrane Switch A

4. CUPLILLER & BOWL FLUSH CONTROL

(By AIR TIMER SYSTEM) (Fig.3-3)

By pressing each membrane switch, water is supplied for a certain time.

For cupfiller, filling time is set for 4 seconds at factory.

For bowl flush flushing time is set for 6 seconds at factory.

5. 3-WAY SYRINGE (Fig. 3-2 & 3-4)

- 1) By pressing either or both buttons, Syringe offers air, water and spray.
- 2) Syringe Tip can be rotated freely.
- 3) To adjust air/water/spray, use Flow Control Knobs located underneath the doctor table.

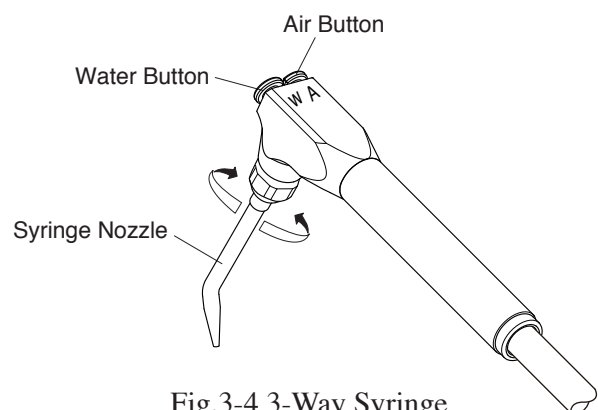


Fig.3-4 3-Way Syringe

6. OPERATING HANDPIECE (Fig.3-5)

- 1) Pick up a handpiece from the handpiece holder, and depress Drive Pedal of Foot Control.
- 2) For the dry-cutting, turn off Spray Switch of Foot Control.
- 3) While depressing Chip Pedal, only the chip blow comes out from the handpiece.

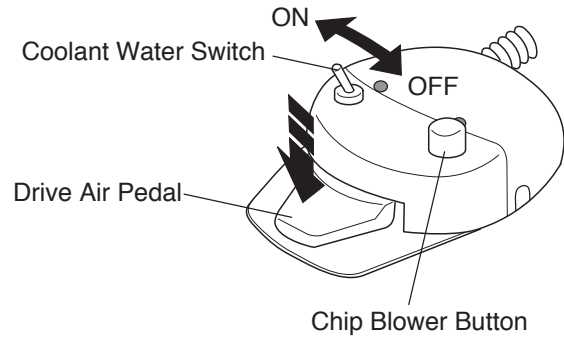


Fig. 3-5 Foot Control

7. FILM VIEWER (Fig.3-6)

Film Viewer Switch is located on the right side of film viewer. Press the switch once to illuminate the viewer, press it again to turn it off.

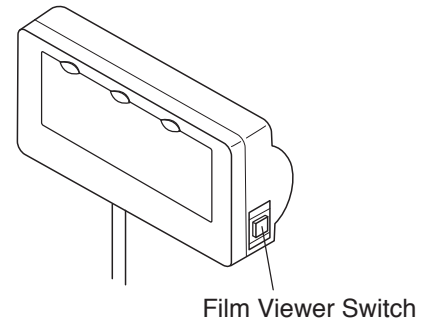


Fig. 3-6 Film Viewer

8. FIBER OPTIC HANDPIECE (OPTION) (Fig.3-7)

Fiber Optic Handpiece Switch is located on the Membrane Switch B.

Pick up a optic handpiece from the handpiece holder and the handpiece is lit. Return the handpiece to the holder and it is put out.

9. ELECTRIC SCALER (OPTION) (Fig.3-7)

Power Control for Electric Scaler is located under the Membrane Switch B.

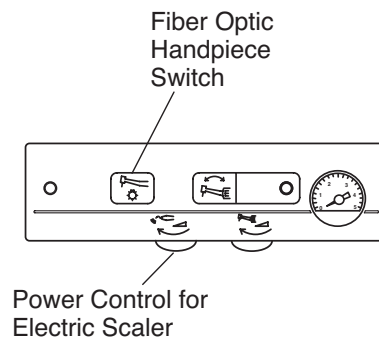


Fig. 3-7 Membrane Switch B

⚠ CAUTION

Handpieces
Refer to handpiece manufacturers operating instructions.

(2) ASSISTANT UNIT SECTION

1. CUPFILLER & BOWL FLUSH CONTROL

(By AIR TIMER SYSTEM) (Fig.3-8)

By pressing each membrane switch, water is supplied for a certain time.

For cupfiller, filling time is set for 4 seconds a factory.

For bowl flush. Flushing time is set for 5 seconds at factory.

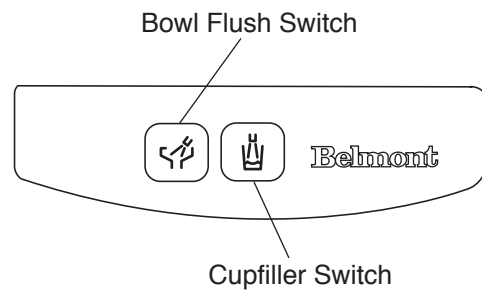


Fig.3-8 Membrane Switch for Assistant

2. 3-WAY SYRINGE (Fig.3-4 & 3-9)

1) By pressing either or both buttons, Syringe offers air, water and spray.

2) Syringe Tip can be rotated freely.

3) To adjust air/water/spray, use Flow Control Knobs located in the cuspidor body.

3. MASTER VALVE BLOCK (Fig.3-9)

Open the side panel of the cuspidor body.

Flow Control knobs for Cupfiller and Bowl Flush are accessible.

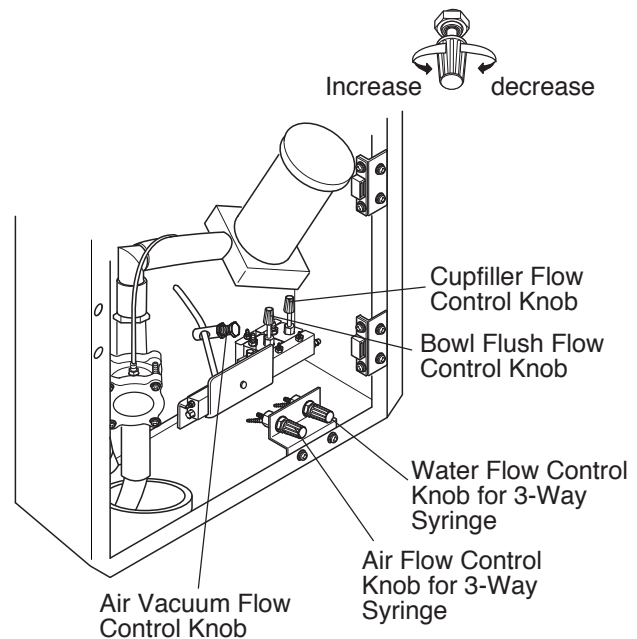


Fig.3-9 Master Valve Block

4. CUSPIDOR BODY ROTATION & TELESCOPIC ASSISTANT HOLDER BAR (Fig.3-10)

1) Cuspidor Body can rotate by 90 degrees for assistant's convenience.

2) For two-hands treatment, Assistant Holder Bar can be extended by 50cm.

5. ASSISTANT INSTRUMENT HOLDER (Fig.3-10)

Pick up the instrument (Saliva Ejector or High Volume Evacuator) from the holder, and it starts working.

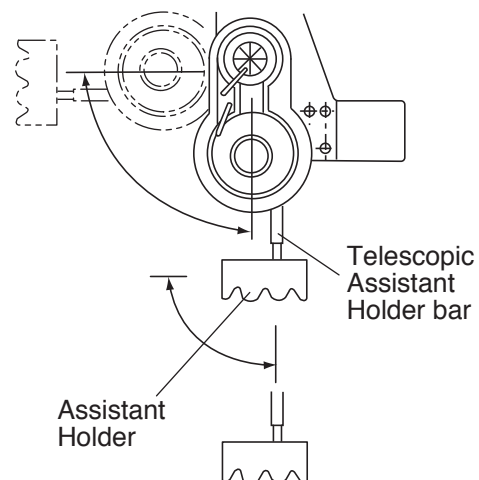


Fig.3-10 Cuspidor Unit

6. WATER HEATER SWITCH (Fig.3-11)

Turn on the Water Heater Switch when the warm water for the patient cup is required.

7. SERVICE WATER OUTLET WITH FLOW CONTROL (Fig.3-11)

Water Outlet with Flow Control is located on the panel which adapts to the quick connector.

8. BOWL FLUSH SWITCH (OPTION) (Fig.3-11)

Turn on the Bowl Flush Switch and the water is flushed to the bowl continuously.

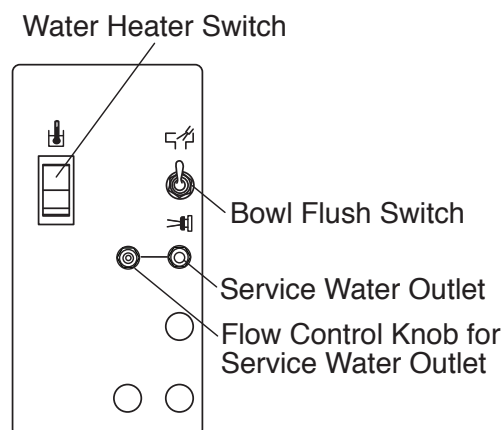


Fig.3-11 Cuspidor Control Panel

9. AUTOMATIC CUPFILLER & BOWL FLUSH (OPTION) (Fig.3-12)

- 1) Place the patient cup weighting 45 to 80g on Cup Base and water is supplied for a certain quantity to the patient cup and flushed for a certain time to the bowl.
- 2) Quantity of water in patient cup can be adjusted by turning Cup Base.

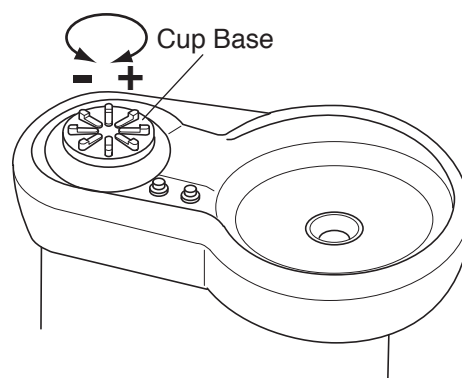


Fig.3-12 Automatic Cupfiller

(3) LIGHT SECTION (MODEL IO 5000)

1. MODE SELECTION SWITCH (Fig. 3-13)

Turn the switch to SENSOR side, and ON/OFF of the light can be made by approaching hand of the sensor. (Touchless Switch).

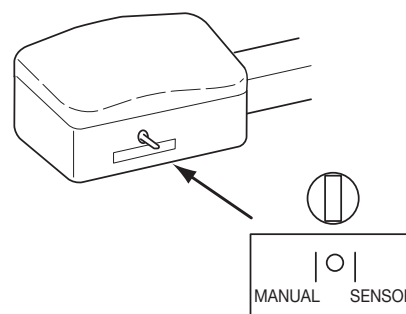
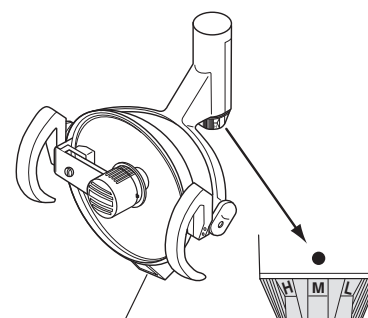


Fig.3-13 Mode Selection Switch

2. INTENSITY SWITCH (Fig. 3-14)

Then intensity of light can be selected L (Low), M (Medium) or H (High).

Refer to the manual of IO 5000.



Touchless Switch

Fig.3-14 Intensity Switch

[4] DAILY MAINTENANCE AND CARE

(1) DRAIN & SUCTION LINE OF UNIT

(Fig.4-1)

1. Basket Strainer.

Remove the Basket Strainer Cap, and clean the Basket Strainer.

2. Solid Collector Filter

Open the side panel of the cuspidor body and take out Solid Collector Filter and clean it. Pulling on the Solid Collector Cap will bring the Solid Collector Filter with it.

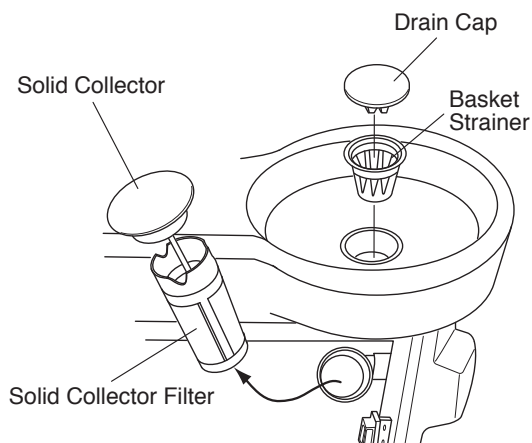


Fig.4-1 Basket Strainer & Solid Collector

(2) AIR SUPPLY LINE (Fig.4-2)

1. Air Filter Drain Valve

1) Release the water in the air filter by opening Drain Valve of Junction Box.

2) Turn off the main switch of the compressor. Release compressed air and drain according to the instructions of the compressor.

Confirm the air Pressure Gauge indicates 0Mpa.

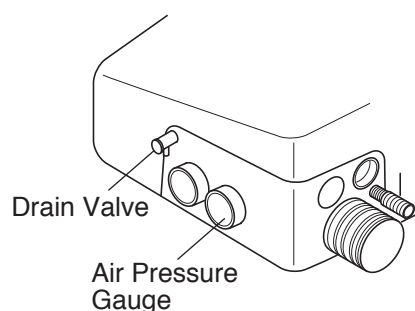


Fig.4-2 Junction Box

(3) HANDPIECE

1-1. Vacuum Handpiece and Saliva Ejector Handpiece

For effective sterilization, washing for removing contamination and immersion by a cleaning agent are required. Then, rinse by water in order to remove residual cleaning agent on medical device. Take following procedures from cleaning to sterilization.

* Use the disposable saliva ejector tip.

Disassembly (Fig.4-3)

Disassemble the handpiece for the preparation of cleaning as the following figures show.

Pull the hose connector to disconnect the vacuum hose.

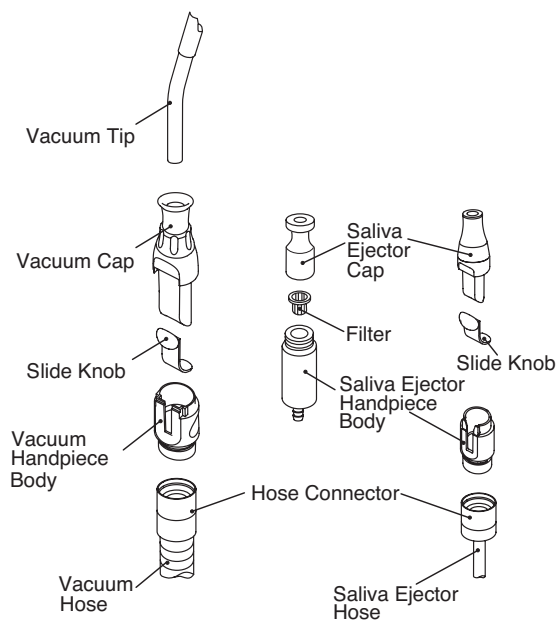


Fig.4-3 Vacuum Handpiece & Saliva Ejector Handpiece

Cleaning by hand

- A. Wipe off the surface contamination by a cloth while rinsing the surface by running clean warm water at 40 ± 5 degrees.

(Fig.4-4)

Scrub the intubation or hole, slide groove and filter by a cleaning brush or by a tooth brush with running clean warm water at 40 ± 5 degrees. (Fig.4-5) Wipe off by a cloth for the area which brush is unable to reach. (Fig.4-6)

- B. Rinse thoroughly by distilled water at ordinary temperature or by clean water for more than 1 minute.
- C. Check whether contamination is removed or not after cleaning.
Continue the cleaning if contamination is remained.
- D. Immersed with an alkaline detergent for 5 minutes.
(We recommend to use ID212 made by DURR)
- E. Rinse thoroughly by distilled water at ordinary temperature or by clean water for more than 1 minute.

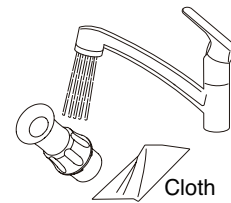


Fig.4-4 Surface cleaning

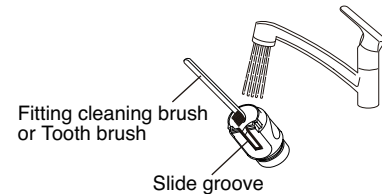


Fig.4-5 Cleaning of hole and sliding part

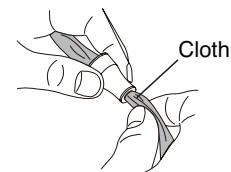


Fig.4-6 Cleaning the area
(brush is unable to reach)

⚠ CAUTION

Cleaning must be done within 1 hour after use.

Throw out and do not take autoclave handpiece for following cases.

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

Sterilization (Fig.4-7)

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

- A. Insert the handpiece in a sterilization pouch and seal it.
- B. Autoclave for 20 min. at 121°C or 4 min. at 135°C .

Sterilization with autoclave is permitted up to 250 times.

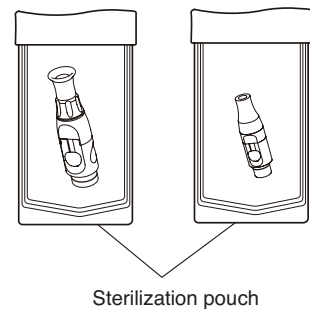


Fig.4-7 Vacuum Handpiece and Saliva Ejector Handpiece

⚠ CAUTION

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

Storage

After cleaning the vacuum tip, keep it in the clean place.

1-2. Cleaning vacuum and saliva ejector lines (Fig.4-8)

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

Recommended cleaner : Orotol Plus made by DURR.

CAUTION

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

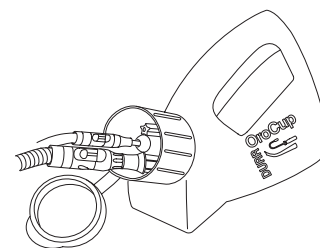


Fig.4-8 Cleaning Vacuum / Saliva Ejector Lines

2. Vacuum Hose / Saliva Ejector Hose (Fig.4-9)

It is practical to remove the hoses in order to clean them.

Note: At the end of the day, clean the vacuum and saliva ejector handpieces by sucking in two cups' worth of water.

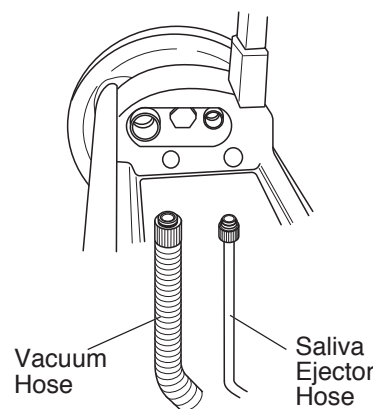


Fig.4-9 Vacuum Hose & Saliva Ejector Hose

3. AIR MOTOR / TURBINE / 3-WAY SYRINGE

Sterilize the handpiece according to manufacturer's operating manual.

4. Belmont 77 Syringe (Fig.4-10)

Disassembly

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

Cleaning by hand

- A. Wipe off the surface contamination by a cloth while rinsing the surface by running clean warm water at 40 ± 5 degrees. Scrub the tip and joint part of nozzle by a cleaning brush or by a tooth brush with running clean warm water at 40 ± 5 degrees. (Fig.4-11)
- B. Rinse thoroughly by distilled water at ordinary temperature or by clean water for more than 1 minute.
- C. Check whether contamination is removed or not after cleaning. Continue the cleaning if contamination is remained.
- D. Immersed with an alkaline detergent for 5 minutes.
(We recommend to use ID212 made by DURR)
- E. Rinse thoroughly by distilled water at ordinary temperature or by clean water for more than 1 minute.

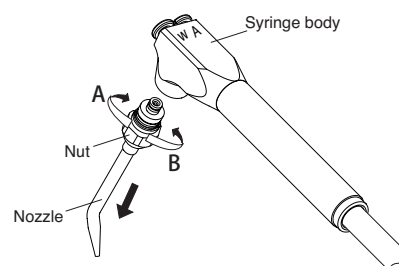


Fig.4-10 Belmont 77 Syringe

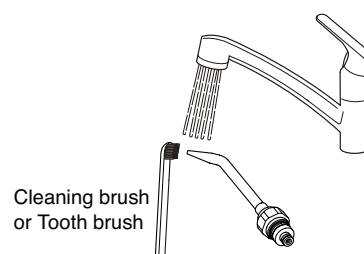


Fig.4-11 Cleaning Belmont 77 Syringe Nozzle

CAUTION

Cleaning must be done within 1 hour after use.

Throw out and do not take autoclave handpiece for following cases.

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

Sterilization (Fig.4-12)

The nozzle can be sterilized with autoclave.

A. Insert the handpiece in a sterilization pouch and seal it.

B. Autoclave for 20 min. at 121°C or 4 min. at 135°C.

Sterilization with autoclave is permitted up to 250 times.

Apply Vaseline thinly and evenly to the two O-rings after sterilization.

Tighten the nut firmly in direction B to undo the nozzle.

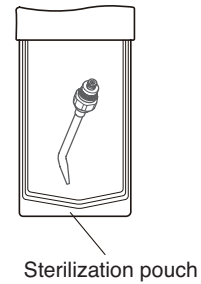


Fig.4-12 Sterilization Belmont
77 Syringe Nozzle

CAUTION

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

Storage

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

(4) HOSES AND TUBING

Clean hoses and tubing using DURR FD333.

(5) CLEANING UNIT

All surfaces can be cleaned with DURR FD333 cleaner.

Spray the cleaner (FD333) on cloth and wipe the surfaces with the cloth.

CAUTION

Do not drench the unit. Wipe all surfaces dry after cleaning.

(6) LUBRICATING HANDPIECES

Refer to the manual of the handpieces.

(7) MASTER SWITCH

After the daily operation and maintenance, turn off the Master Switch.

(8) FILTER REPLACEMENT (Fig.4-13)

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

The air filter in the junction box needs to be replaced at least once every three years.

Contact your local service representative for replacement.

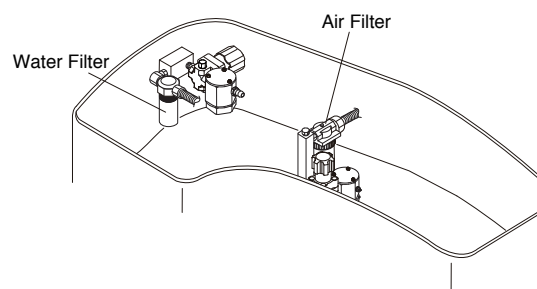


Fig.4-13 Filter

[5] MAINTANANCE AND INSPECTION

5-1. Guide for daily maintenance and inspection (Maintenance and inspection by user)

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

No.	Item	Frequency	Inspection method and diagnosis	Influence if inspection not conducted	Maintenance required in case of nonconformity
1	Check of safety functions	Before start	Make sure the chair movement stops by any of the following actions. ①when foot controller pedal is depressed. ②During chair auto movement, depress of any operation switch. ③While setup is in progress with function switch on the doctor membrane switch panel. ④When the spittoon bowl is turned to patient side (Pedestal type)	Unexpected personal injury and troubles may arise due to motion of the chair during medical treatment and due to pinching between doctor section and chair.	Contact your dealer or our office if any abnormality arises.
2	Check for leakage of water and air	Before start	Leakage of water and air shall not be observed around the product.	The product will not normally work, and troubles may arise.	Contact your dealer or our office if any abnormality arises.
3	Cupfiller	Before start	When a paper cup is placed on the cupfiller, the cup shall be detected and cupfilling shall be executed. * Malfunction may arise if the cup is of another material grade (such as stainless steel and plastics) or if the paper cup is of dark color or pattern.	Cupfilling may not be executed.	Execute re-inspection in accordance with "Method for operation" described in the instruction manual. Contact your dealer or our office if recovery is not achieved as a result of re-inspection.
4	Check of motions of equipment	Before start	①Air turbine revolution, water flow, air flow and so forth shall be free of abnormality. ②Micromotor revolution, water flow and so forth shall be free of abnormality. ③Scaler vibration, water flow and so forth shall be free of abnormality.	Troubles such as injury in patient's oral cavity and equipment failure may arise.	Control the water flow in accordance with "Control of components" described in the instruction manual. If any other abnormality arises, refer to the instruction manual attached to individual equipment. Contact your dealer or our office if recovery is not achieved.
5	Check of air turbine bar	For each patient	Appropriate bar shall be positively mounted. Make sure to refer to the instruction manual attached to individual equipment.	The bar will not normally work and troubles may arise.	If abnormality such as flaw and deformation is found on the bar, replace the bar in accordance with the instruction manual attached to individual equipment.
6	Check of scaler tip	For each patient	Appropriate tip shall be positively mounted and be correctly used. Make sure to refer to the instruction manual attached to the scaler.	The tip will not normally work and troubles may arise.	If the tip was worn or deformed, replace the tip in accordance with the instruction manual attached to the scaler. Contact your dealer or our office if any other trouble arises.
7	Check of tightness of syringe nut	For each patient	The nut for fixing the nut of Type 77, 3-way syringe shall be positively tightened.	Troubles may arise if the nut comes off.	Turn and positively retighten the nut that fixes the nozzle.
8	Matters attached to micromotor	After closing	Excessive handpiece oil or the like shall not be attached to the motor section.	The motor section will not work normally and troubles may arise.	Execute care in accordance with the instruction manual attached to individual micromotor.

No.	Item	Frequency	Inspection method and diagnosis	Influence if inspection not conducted	Maintenance required in case of nonconformity
9	Care Vacuum and saliva ejector handpiece	After closing	Flush the suction line, and then clean the filter of the vacuum or saliva ejector handpiece.	Faulty suction may arise.	Clean the suction line and filter in accordance with "Method for care" described in the instruction manual.
10	Care Cuspidor section	After closing	Clean the cuspidor and dust filter.	Faulty water drainage may arise.	Execute dust removal and cleaning in accordance with "Method for care" described in the instruction manual.
11	Care Solid collector	After closing	Clean the filter of the solid collector.	Vacuum suction will become weak.	Clean the filter in accordance with "Method for care" described in the instruction manual.
12	Care Exterior	After closing	Chemical, filthy water and so forth shall not be found (attached or remaining) on the product exterior.	Discoloration and deterioration to the exterior, and corrosion and rusting to metallic components may arise.	Execute wiping in accordance with "Method for care" described in the instruction manual.
13	Check of main switch and main valves	After closing	The product main switch shall be off, and water/air main valves shall be closed.	Product failure and troubles may arise.	Contact your dealer or our office if the main switch cannot be turned off or if the main valve cannot be closed.
14	Product's moving parts	Once every week	No abnormal noise or the like shall be produced from product's moving parts when the product is operated.	The product will not normally work and troubles may arise.	Contact your dealer or our office if any abnormality arises.
15	Care Drain valve	Once every week	Water may enter the air line, and equipment failure may arise.	Drain the water from the air filter drain valve.	Drain the water from the air filter in accordance with "Method for care" described in the instruction manual.
16	Check of water pressure and air pressure	Once every month	Check the water pressure and air pressure by reading pressure gauges in the U-Box section. Basic set pressure : Water: 0.1 to 0.2 MPa Air: 0.45 to 0.5 MPa	The product will not normally work, and troubles may arise.	Contact your dealer or our office if the set pressure is abnormally high or low.
17	Check of conditions of table section	Once every month	The table shall be free of inclination, and water shall not flow on the table.	Injury caused by falling of goods located on the table and other troubles may arise.	Contact your dealer or our office if any abnormality arises.
18	Care Oil mist separator	Once every month	The oil level in the oil mist separator shall be lower than the red line.	Normal output will not be produced due to inferior handpiece exhaust.	Discharge the oil in accordance with "Method for care" described in the instruction manual.

5-2. Guide for Periodical Check-up

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

Parts and components that require periodical check-up

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

Consumable parts

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



Execute the maintenance in accordance with this instruction manual and operating manual attached to each individual equipment (Dental light, Handpiece, etc..) .
Failure to maintain this product may lead to physical injury or property damage.

[6] ELECTROMAGNETIC COMPATIBILITY(EMC)


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

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

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

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

Guidance and manufacture's declaration – electromagnetic immunity			
The CLESTA Unit is intended for use in the electromagnetic environment specified below. The customer or the user of the CLESTA Unit should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycle 70% U_T (30% dip in U_T) for 25cycle <5% U_T (>95% dip in U_T) for 5 s	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycle 70% U_T (30% dip in U_T) for 25cycle <5% U_T (>95% dip in U_T) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the CLESTA Unit requires continued operation during power mains interruptions, it is recommended that the CLESTA Unit be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to applications of the test level.			

Guidance and manufacture's declaration – electromagnetic immunity			
The CLESTA Unit is intended for use in the electromagnetic environment specified below. The customer or the user of the CLESTA Unit should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz outside ISM bands ^a	3 Vrms	<p>Portable and mobile RF communications equipment should be used no closer to any part of the CLESTA Unit, including cables, than the recommended separation distance calculated from the equation applications to the Frequency of the transmitter.</p> <p>Recommended separation distance</p> $d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3V/m 80 MHz to 2.5 GHz	3 V/m	<p>$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz</p> <p>Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
<p>NOTE 1 At 80 MHz and 800MHz, the higher frequency range applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by adsorption and reflection from structures, objects and people.</p> <p>a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the CLESTA Unit is used exceeds the applicable RF compliance level above, the CLESTA Unit should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the CLESTA Unit.</p> <p>b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.</p>			

Essential performance (purpose of IMMUNITY testing)

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

Recommended separation distances between Portable and mobile RF communications equipment and the CLESTA Unit			
<p>The CLESTA Unit is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the CLESTA Unit can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the CLESTA Unit as recommended below, according to the maximum output power of the communications equipment.</p>			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz <i>$d = 1.2\sqrt{P}$</i>	80 MHz to 800 MHz <i>$d = 1.2\sqrt{P}$</i>	800 MHz to 2.5 GHz <i>$d = 2.3\sqrt{P}$</i>
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
<p>For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.</p> <p>NOTE 1 At 80 MHz and 800MHz, the separation distance for the higher frequency range applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by adsorption and reflection from structures, objects and people.</p>			

[7] LIST OF COMPATIBLE HANDPIECES

	MODEL
SYRINGE	LUZZANI (3-way) Minilight w/Light
	DCI (3-way)
TURBINE	BIEN AIR BORA S36L / UNIFIX with LIGHT
	NSK Ti-Max X
AIR MOTOR	BIEN AIR Aquilon 830 / UNIFIX with LIGHT/PM1132
	NSK EX-203/EX-6
SCALER	SATELEC SP4055 w/Light

NOTE



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Book No.FEFA25H0

Printed in JAPAN 2012-04