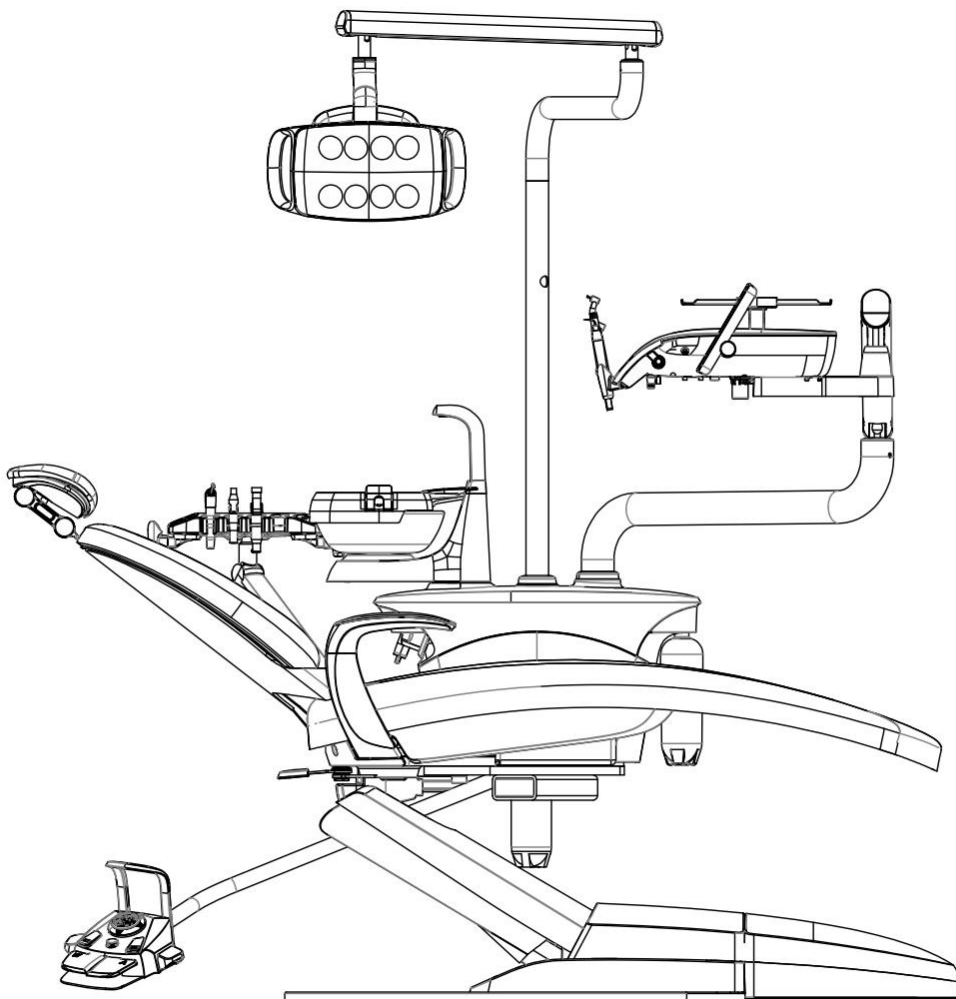


INTEGRAL DENTAL UNIT

User Manual

MODEL B100



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Caution: Please read the manual carefully before operating the unit.

1.Product Overview

The Dental Unit is with Structure and Components: The unit consists of a dental chair, side box, dental light, instrument tray, oral rinse and water supply device, multi-function syringe, saliva ejector, spittoon, X-ray viewer, foot pedal switch, ultrasonic scaler interface, light curing unit interface, dental handpiece interface, and low-voltage electric motor interface. It is intended for diagnostic and therapeutic procedures in dental departments of medical institutions.

2.Introduction to Unit Components

2.1 Dental Unit (Diagram 1)

1. Dental Chair
2. Side Box
3. Dental Light
4. Instrument Tray
5. Oral Rinse and Water Supply Device
6. Multi-function Syringe
7. Saliva Ejector
8. Spittoon
9. X-ray Viewer
10. Foot Pedal Switch
11. Interfaces for: Ultrasonic Scaler, Light Curing Unit, Dental Handpiece, and Low-voltage Electric Motor

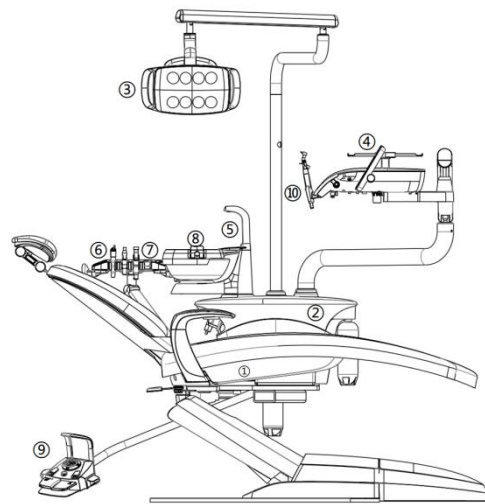


Diagram 1: Unit Overview (Illustrated with Model B100)

2.2 Dental Chair (Diagram 2)

1. Headrest
2. Backrest
3. Armrest
4. Seat Cushion
5. Floor Box

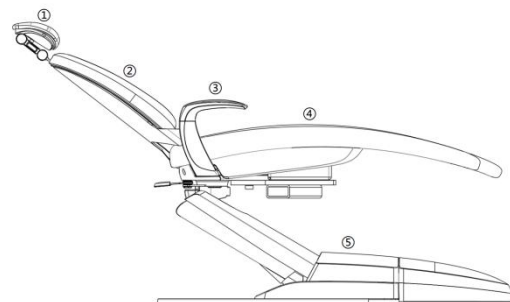


Diagram 2: Dental Chair

2.3 Instrument Tray

1. Bracket
2. Air Lock Switch
3. Hanger Assembly
4. Tray
5. Dual-handle Electromagnetic Induction Air Lock
6. 7-inch Touch Screen
7. X-ray Viewer

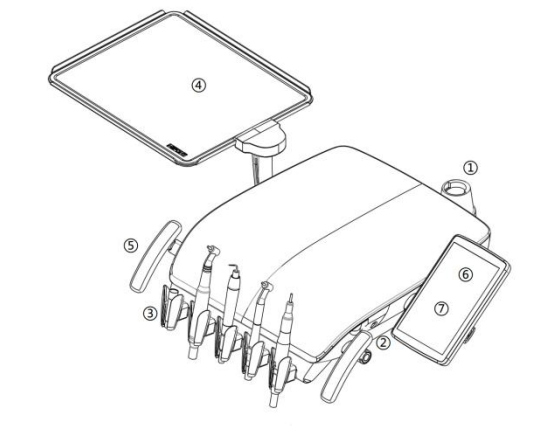


Diagram 3: Model B100 Instrument Tray

2.4 Assistant's Tray (Diagram 4)

1. Assistant Control Panel
2. Strong Suction (Saliva Ejector)
3. Weak Suction (Saliva Ejector)
4. Multi-function Syringe

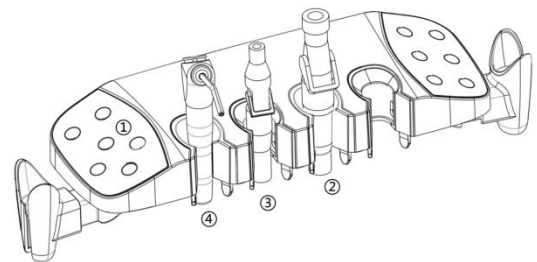


Diagram 4: Assistant's Tray

3. Technical Specifications

3.1 Classification

3.1.1 This unit is classified as a Class I, Type B applied part.

3.1.2 Operating mode classification: Non-continuous operation, i.e., 2 minutes of operation followed by 18 minutes of rest.

3.1.3 Degree of protection against fluid ingress: Foot pedal switch (IPX1).

3.1.4 Safety classification when used in the presence of flammable anesthetic gases mixed with air or oxygen/nitrous oxide: Not classified as AP or APG type equipment.

3.1.5 Essential performance: None.

3.1.6 Applied parts: Headrest, backrest, seat cushion, dental light, strong/weak suction, and multi-function syringe.

3.2 Operating Parameter Conditions

The technical parameters of this medical device are as shown in the table below.

Power Supply Voltage	220V~	Power Frequency	50Hz
Input Power	350VA	Water Hardness (pH)	≤60mg/L (7.2~7.8)
Water Supply Pressure	200~400kPa	Water Supply Flow Rate	≥10L/min
Air Supply Pressure	≥550kPa	Air Supply Flow Rate	≥50L/min
Air Flow Rate Limit	> 80NL/min	Humidity Limit	Dew point at atmospheric pressure: Not exceeding -20°C
Oil Contamination Limit	Maximum 0.5mg/m ³	Particle Contamination Limit	Particles sized 1~5 μm: Not exceeding 100 particles/m ³
Air Source Requirements	Oil-free, water-free, and bacteria-free tap water, or a water source that complies with GB 5749-2006 "Sanitary Standard for Drinking Water."	Air Filter Pore Size	40μm
Water Quality Requirements		Water Filter Pore Size	74μm
Wastewater Drainage Maximum Water Flow Rate	≥5 L/min	Minimum Inclination of Wastewater Pipeline	30°
Transportation Environment Temperature Range	-40~55°C	Transportation Relative Temperature Range	≤80%RH
Atmospheric Pressure Range	500~1060hPa	Precautions During Transportation and Storage	"Avoid Heavy Pressure, Avoid Rain, Place Upright, Fragile, Handle with Care, Avoid Sunlight"
High-speed Suction (Saliva Ejector)	At an air pressure of 400 kPa: Water extraction rate: ≥1000 mL/min Vacuum level: ≥25 kPa	Weak Suction (Saliva Ejector)	At a water pressure of 200 kPa: Water extraction rate ≥ 400 mL/min Vacuum degree ≥ 10 kPa
Constant Temperature Heater	AC 24V 80W: Primary protection: 45°C Secondary protection: 70°C	LED Dental Light	AC 12~24V
Impedance	≤100mΩ	Earth Leakage Current	≤5mA
Solid Collector Retention Particle Diameter	≥2mm	Interface Performance	24V±10%
Operating Environment Temperature Range	5~40°C	Operating Atmospheric Pressure Range	700~1060hPa
Operating Relative Humidity Range	30~75%RH	Working Air Pressure of Pressure System	0.55~0.6MPa

3.3 Specifications

The technical specifications of this medical device are shown in the table below.

Dental Unit Weight	275 kg
Dental Light Illuminance	6,000 - 45,000 lx
Constant Temperature Heater Setting	40°C ± 5°C
Backrest Range of Motion	-5° to 68°
Headrest Extension Length	0 - 120 mm

Maximum Chair Height from Floor	740 mm
Minimum Chair Height from Floor	390 mm
Main Unit Strong Suction Connector ($\Phi 11.9 \pm 0.1$ mm)	Compatible with strong suction sleeve ($\Phi 12.1 \pm 0.2$ mm)
Main Unit Weak Suction Connector ($\Phi 7.7 \pm 0.1$ mm)	Compatible with weak suction sleeve ($\Phi 6 \pm 0.2$ mm)
Maximum Load Capacity of Instrument Tray (Worst-Case Positioning)	5 kg
Minimum Load Capacity of Dental Chair (Worst-Case Positioning)	150 kg
Maximum Additional Equipment Weight Dental Chair Can Bear	5 kg
Product Service Life	15 years

Under maximum illuminance, the 10%, 50%, and 75% isolux lines within the illumination area of the dental light (refer to the dental light manual).

3.4 Nameplate

A nameplate is affixed to the dental unit, displaying the device's identification and basic parameters.

4.Function Symbols

4.1 Explanation of Symbols

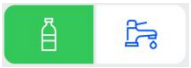
	Type B Applied Part		Protective Earthing		Alternating Current
	Usability File		No Sitting		No Pushing
	Do Not Step On		Mind Your Head		Warning: Electric Shock Hazard
	Warning		Beware of Pinching		Professional Recycling

	Temperature Limit		Humidity Limit		Avoid Sunlight
	Place Upright		Fragile Handle with Care		Avoid Rain
	Avoid Heavy Pressure				

4.2 Function Symbols Description

Using the dental chair direction buttons on the main control panel and assistant control panel, the dental chair functions can be operated manually.

The following table lists the icons and the corresponding operations for each icon.

No.	Symbol	Button name	No.	Symbol	Button name
A		Backrest Up Button	R		Spittoon Flush Button
B		Backrest Down Button	S		Water Supply Button
C		Chair Up Button	T		Side Box Water Heater Button
D		Chair Down Button	U		Oral Light Button
E		Reset Button	V		Screen Lock Button
F		Spittoon Position Button	W		Timer Button
G		Treatment Position Button	X		Return Button
H		Setting Button	Y		Time Setting Button
I		Disinfection Button	Z		Date Setting Button
J		Water Source Switching Button	AB		Backrest Speed Adjustment Button
K		Instrument Tray Heater Button	AC		Instrument Holder Setting Button
L		X-ray Film Viewer Button	AD		Foot Pedal Universal Button Setting
M		Doctor Button	AE		Wake Word Setting Button
N		Memory Position I Button			
O		Memory Position II Button			

P		Memory Position III Button			
Q		Memory Position IV Button			

A Backrest Up Button

Press and hold this button to move the backrest upward. Release the button when the desired position is reached; the backrest will stop immediately.

B Backrest Down Button

Press and hold this button to move the backrest downward. Release the button when the desired position is reached; the backrest will stop immediately.

C Chair Up Button

Press and hold this button to raise the dental chair. Release the button when the desired position is reached; the chair will stop immediately.

D Chair Down Button

Press and hold this button to lower the dental chair. Release the button when the desired position is reached; the chair will stop immediately.

E Reset Button

Press this button once to automatically return the seat and backrest to the preset chair position. (Preset position: backrest at the highest limit position, seat at the lowest limit position.)

F Spittoon Position Button

Press this button once to automatically move the backrest to the highest limit position while the seat remains stationary. The dental light will turn off and the spittoon flush will be activated to allow the patient to rinse. Press this button again in this position to return the backrest to the previous treatment position. The dental light will turn on automatically and the spittoon flush will stop.

G Treatment Position Button

Press this button once to raise the seat to the highest position and lower the backrest to the lowest limit position.

H Setting Button

Press the Setting button to enter the setting interface, then select the desired function button for configuration. For detailed setting procedures, please refer to the corresponding button descriptions.

I Disinfection Button

Press this button to enter the disinfection selection interface. Three modes are available:

- 2-minute flushing mode
- 9-minute quick disinfection mode
- 25-minute deep disinfection mode

After selecting the disinfection mode, the system will automatically check whether any instruments are missing. If any instruments are detected as not in place, a reminder screen will appear. Insert the instruments and press the Confirm button to start the disinfection process.

J Water Source Switching Button

Press the corresponding water source button to switch the water supply. The button that turns green indicates the currently selected water source.

K Instrument Tray Heater Button

Press this button once to start heating according to the preset temperature of the instrument tray heater. Press this button again during heating to stop the heating process. The corresponding temperature will be displayed on the main control screen.

L X-ray Film Viewer Button

Press this button once to enter the viewing interface. Press the Return button to go back to the main interface.

M Doctor Button N Memory Position I Button O Memory Position II Button P Memory Position III Button Q Memory Position IV Button

The unit provides six dentist profiles labeled “A”, “B”, “C”, “D”, “E”, and “F”. Each dentist profile supports four programmable memory positions: “I”, “II”, “III”, and “IV”.

Memory Position Setting Procedure

Press the Setting button to enter the setting interface,  then select the memory position setting page. Choose the desired dentist profile and memory position. Use the four movement buttons  to adjust the chair to the required position, then press the OK button on the screen to save the setting. After completing all required memory positions, press the Return button to exit.

R Spittoon Flush Button

Press this button once to start automatic flushing according to the preset time. Press this button again during flushing to stop the flushing process.

Flush Time Setting Procedure

To set the flushing time, proceed as follows:

Press the Setting button on the instrument tray main control panel to enter the setting interface, then press the corresponding button  to access the flush time setting.

After adjusting the desired flushing time, press the OK button to confirm the setting.

Press the Return button to exit.

S Water Supply Button

Press this button once to start automatic water supply according to the preset output volume. Press this button again during water supply to stop the process.

Water Supply Time Setting Procedure

To set the water supply time, proceed as follows:

Press the Setting button on the instrument tray main control panel to enter the setting interface, then press the corresponding button  to access the water supply time setting.

After adjusting the desired time, press the OK button to confirm the setting. Press the Return button to exit.

T Side Box Water Heater Button

Press this button once to start heating according to the preset temperature of the side box water heater. Press this button again during heating to stop the heating process. The corresponding temperature will be displayed on the main control screen.

Heating Temperature Setting Procedure

To set the heating temperature, proceed as follows:

Press the Setting button to enter the setting interface, then press the corresponding button  to adjust the heating temperature. After setting the desired temperature, press OK, then press Return to exit.

U Dental Light Button

Press this button once to turn on the dental light. Press this button again to turn off the dental light.

Dental Light Brightness Setting Procedure

To set the dental light brightness, proceed as follows:

Press the Setting button on the instrument tray main control panel to enter the setting interface, then press the corresponding button  to adjust the brightness. After setting the desired brightness, press the OK button to confirm the setting. Press the Return button to exit.

V Screen Lock Button

Press this button once to lock all chair movement-related buttons on the main interface. During this time, these functions cannot be operated. Press this button again to unlock.

W Timer Button

Press this button to enter the timer interface. Tap the desired time on the screen to start the corresponding countdown. When the countdown ends, the system will emit an alert sound. If the corresponding button  is

pressed directly, the system will enter count-up timing mode.

From left to right, the three buttons are the Pause, Start, and Reset buttons.

X Return Button

Press this button to return to the previous interface.

Y Time Setting Button

Press this button to set the real-time clock. After completing the setting, press OK to confirm, then press Return to exit.

Z Date Setting Button

Press this button to set the current date. After completing the setting, press OK to confirm, then press Return to exit.

AB Backrest Speed Setting Button

Press this button to enter the backrest speed setting interface. Three speed modes are available:

- Slow mode
- Medium mode
- Fast mode

Select the desired mode, then press OK to confirm.

Press Return to exit.

Press this button to enter the instrument holder setting interface. On this page, you can assign the positions of the multifunction syringe, handpiece, electric motor, and scaler on the instrument tray holders. This allows the system to display the corresponding attachment interface automatically when an instrument is in use. After completing the settings, press OK to confirm. Press Return to exit.

AD Foot Pedal Universal Button Setting

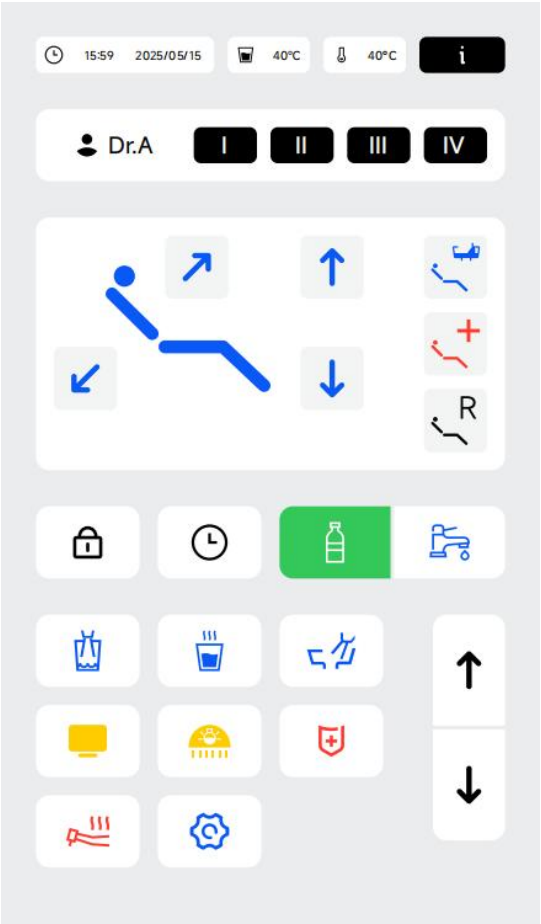
Press this button to enter the foot pedal universal button setting interface. On this page, you can assign functions to the left and right foot pedal buttons. Tap the corresponding pedal position, then select the desired function button (for example, assign the left pedal “L” to the Spittoon Position function). After completing the selection, press OK to confirm. Press Return to exit.

AE Wake Word Setting Button

Press this button to enter the wake word setting interface. On this page, you can set the wake word for the voice assistant. Turn on the switch, select “Mi1”, then press OK to confirm. Press Return to exit. After setting “Mi1”, you can use voice commands such as: “Hello Mi1, turn on the dental light.” Mi1 will respond “OK” and the dental light will turn on simultaneously.

4.3 Control Panel

The main control panel of this model is equipped with a 7-inch high-definition full-color touch screen, which can control the lifting and lowering of the dental chair, the tilting up and down of the backrest, and the on/off of the sputum rinse, water supply, heating function of the side cabinet water heater, heating function of the instrument tray water heater, oral lamp, X-ray viewer, water source switching, disinfection, screen lock and timing functions. It also allows for the setting of the backrest adjustment speed, hanger position, foot pedal universal key, sputum rinse and water supply duration, as well as the water temperature of the side cabinet water heater and instrument tray water heater.



B100 Secondary Control Panel

The secondary control panel of this model enables control of the dental chair's upward and downward movement, the backrest's upward and downward tilting, as well as the on/off operation of the sputum rinse, water supply, heating, oral lamp, sputum ejection linkage, reset, treatment chair position and water source switching functions. On the secondary control panel, a key whose white light changes to blue light indicates that the key is in normal working condition. (See Figure 5)

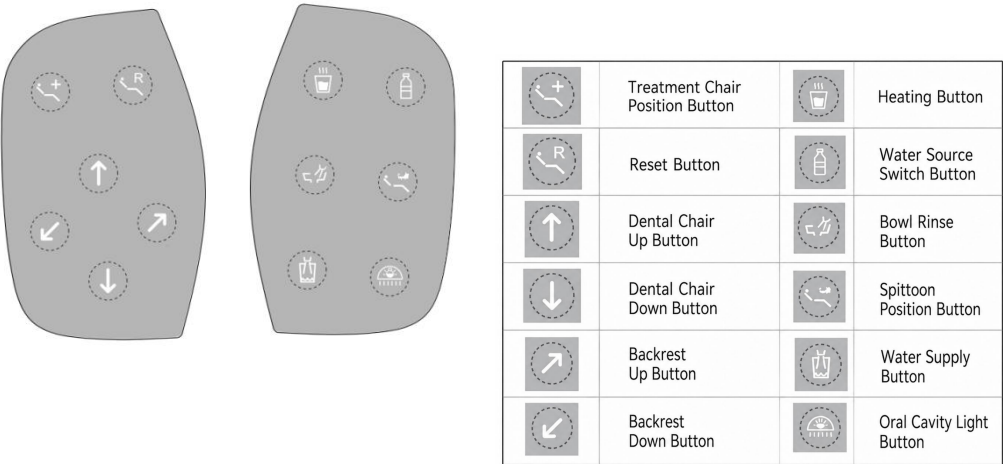


Figure 5

5. Equipment Installation

5.1 Installation Preparation

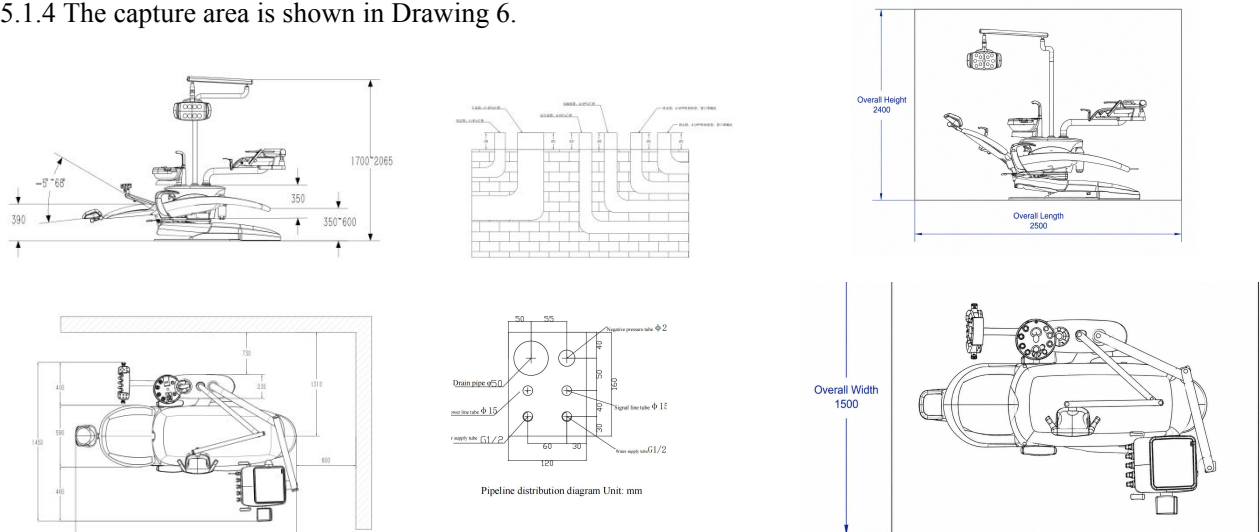
Unpacking Inspection: Open the outer packing case and check that the complete machine is intact and undamaged. Verify the accessories and spare parts against the packing list for completeness and good condition. In case of any discrepancy, contact the distributor or our company immediately for inquiry.

5.1.1 The treatment room shall be clean, dry and well-ventilated to maintain a good working environment. Ensure that the floor in contact with the base plate of the dental chair is level and solid.

5.1.2 The dimensions (Length × Width × Height) of the dental unit are 2100mm×1450mm×2065mm, with a movement range of 2260mm×2330mm×2285mm. The working space for doctors to perform treatments shall be no less than 2500mm×1500mm×2400mm. For specific dimensions, refer to Construction Reference Drawing 6.

5.1.3 Beneath the floor at the position of the ground cabinet, there must be water, air and electricity inlet and outlet interfaces for the machine, which shall be arranged within a range of 180×160mm. The water inlet pipe (blue) and air inlet pipe (transparent) are PU pipes of $\Phi 8 \times 5$, and the drain pipe is a steel wire hose of $\Phi 16$ mm. For specific dimensions, refer to Construction Reference Drawing 5.

5.1.4 The capture area is shown in Drawing 6.



Drawing 6

5.2 Unit Positioning

5.2.1 Position the dental comprehensive treatment unit at the predetermined location first. The stable performance of the whole unit has been taken into account in the design, so it is unnecessary to install anchor fixing screws. However, the floor in contact with the base plate of the dental chair must be level and solid to prevent accidents caused by an uneven floor.

5.2.2 If the whole unit rotates or tilts due to an uneven floor, screw the six M10 hexagon socket flat end set screws from the accessories into the six M10 threaded holes on the base plate of the dental chair and make them fully contact the floor. During adjustment, keep the whole unit level and ensure as many contact points as possible to guarantee the stability of the whole unit.

5.3 Oral Lamp Installation (Read the oral lamp instruction manual in detail before installation)

First thread the wires on the lamp arm into the lamp middle column and connect the two parts properly. Then plug the wire connector on the lamp arm into the connector inside the lamp post base at the side cabinet, place it into the lamp post base, insert the lamp middle column onto the lamp post base, and install the lamp arm in place. (Note: Do not damage the wires) Pass the lamp head wire connector through the decorative ring to connect with the lamp arm wire connector, insert the lamp head handle into the lamp arm hole, and fix it with the screws from the accessories (Figure 7).

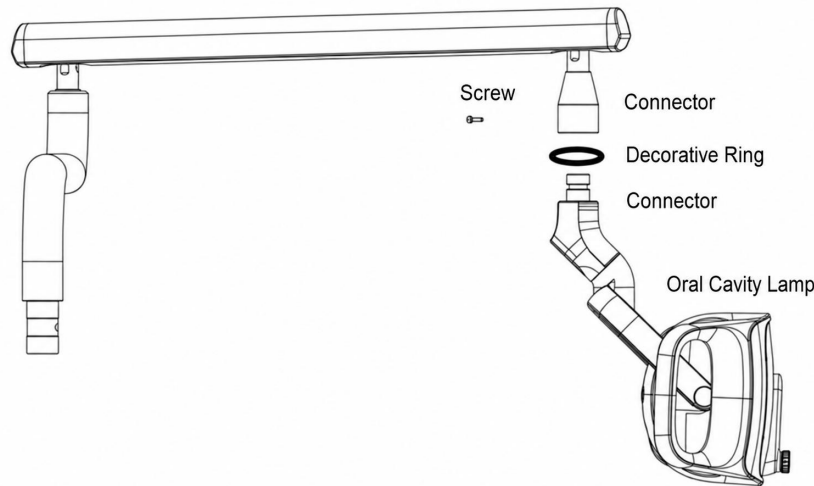


Figure 7

5.4 Floorbox Installation

Screw the two G1/2"×Φ8 pipe connectors from the machine's accessories into the water inlet pipe (blue) and air inlet pipe (transparent) respectively for later use. Ensure a tight seal during connection to prevent air and water leakage. Open the ground cabinet cover and install the ground cabinet flush with the floor (to ensure smooth operation of the unit's drainage system) – it must not be higher than the floor level. This position shall prevent the corrugated pipe connecting the side cabinet and ground cabinet from bending when the dental chair moves up and down.

5.5 Piping Installation

Before connecting the pipelines to the treatment unit, remove all dirt and impurities from the pipes to extend the service life of the machine. Connect the Φ8×5 PU pipes of the machine to the water and air supply, ensuring a tight seal. In addition, insert the steel wire hose into the drain outlet, connect the drain pipe securely, and ensure the connection is firm and leak-proof.

5.6 Power Connection

A single-phase three-pin socket is pre-installed on the machine at the factory. If the user has not prepared an earthing device, the power socket must be properly earthed before power-on.

5.7 Handpiece Installation

Connect the handpieces in accordance with the requirements specified in the respective operation manuals. Under no circumstances run the handpieces idly without load for an extended period or start them under overpressure. (The purchaser or user shall select and purchase dental handpieces suitable for the connectors on their own.)

5.8 Other Accessories

The machine is pre-equipped with reserved interfaces for installing additional functional accessories, such as dental low-voltage electric motors, low-speed air motor handpieces, light-curing units, high-speed

air turbine handpieces, pneumatic scalers, ultrasonic scalers, and oral endoscopes. However, the accessories selected by the user must be high-quality products that comply with the corresponding standards and hold relevant certifications.

Install the above accessories in accordance with the operation manuals provided by their respective manufacturers. Connect the input power supply to the reserved 24V power cord inlet on the machine.

6. Commissioning and Startup

6.1 Dental Chair

6.1.1 Power Supply

The Model B100 power supply is located on the rear housing of the B100 unit adjacent to the ground cabinet (see Figure 8).

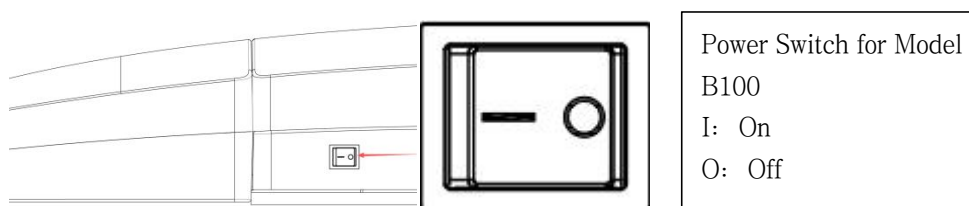


Figure 8

6.1.2 Fuses in Ground Cabinet (Figure 9)

F1: Main power input fuse for the complete unit (T6.3AL 250V)

F2: 24V output power fuse (F10AL 250V)

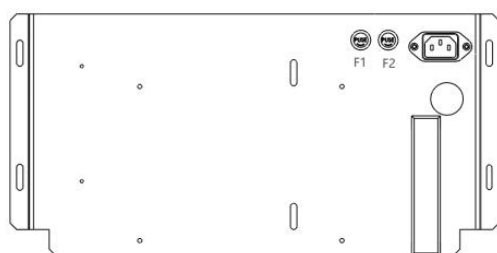


Figure 9 Floor Box Fuse

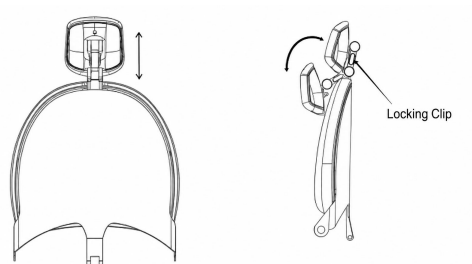


Figure 10.

6.1.3 Dental Chair Headrest

To adjust the height and angle of the headrest, first press down the locking clip, adjust the headrest to the height and angle suitable for the patient, then release the locking clip to secure the headrest. See Figure 10.

6.2 Side Cabinet

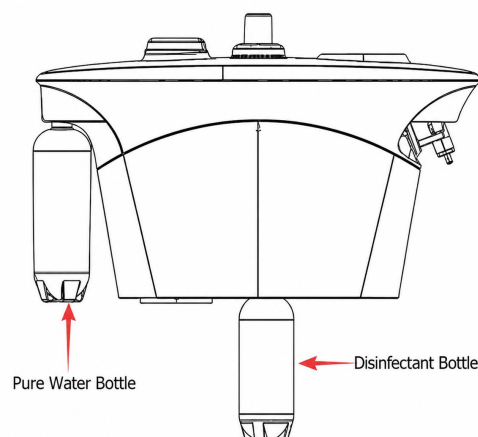
6.2.1 Water Supply of the Side Cabinet

The water supply system of the side cabinet can supply purified water or tap water to the dental handpiece unit. The purified water system is equipped with a built-in anti-suckback device, which requires no regular replacement.

Applicable Model: B100

The water supply system of the side cabinet can supply purified water or tap water to the dental handpiece unit. The system consists of one 1000ml purified water bottle and one 600ml disinfectant bottle, which are installed on the outside of the side cabinet.

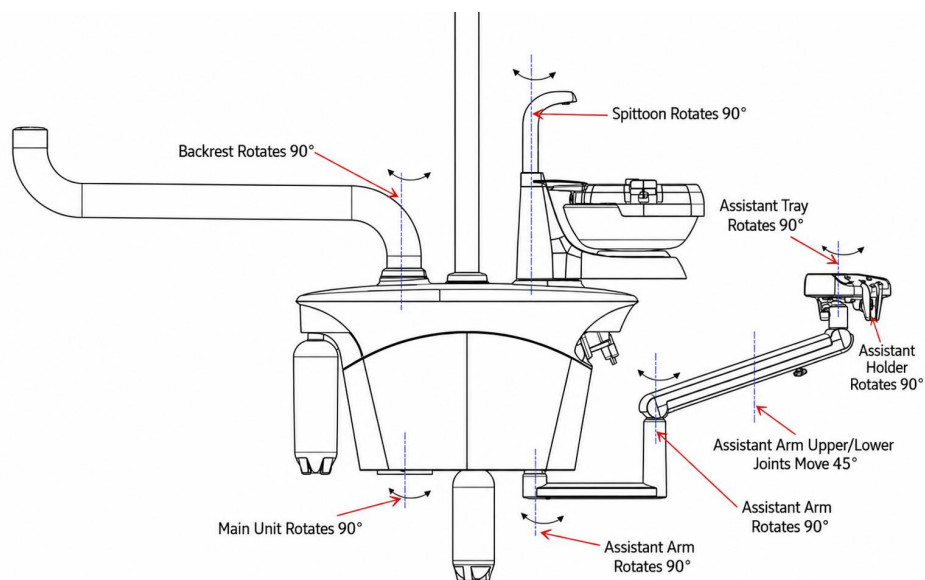
Tap water is generally used for the water supply of the dental handpiece unit. To use purified water from the storage bottle, press the water source switch button  on the main control panel. This product is equipped with a built-in anti-suckback device for disinfectant and purified water. The emptying of disinfectant is fully considered in the disinfection procedure, so there is no disinfectant residue after disinfection, and the product can



be used with confidence. See Figure 11

6.2.2 Swiveling of the Side Cabinet

The side cabinet, assistant's arm and spittoon of Model B100 are all swivelable, facilitating four-handed operation and after-sales maintenance. The swivel directions and angles are shown in the figure below.



6.3 Dental Assistant's Arm

The standard components of the Model B100 dental assistant's arm include a high-volume saliva ejector, a low-volume saliva ejector, a multi-functional air/water syringe and a secondary control panel (Figure 5). A solid debris collector is installed inside the side cabinet (Figure 12), which is connected to the high-volume and low-volume saliva ejectors and serves to filter solid particles from the aspirated materials.

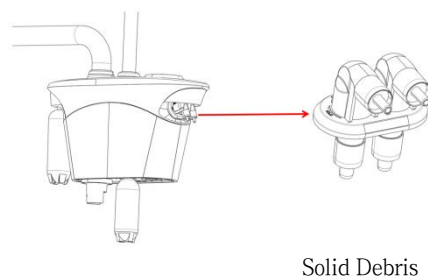


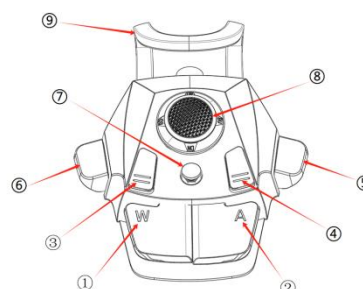
Figure 12

6.4 Spittoon

The spittoon's flushing and water supply functions can be activated by pressing the flushing  or water supply button  on either the main control panel or the secondary control panel. The factory presets for the spittoon are 30 seconds of automatic flushing and 100ml of automatic water supply. Both the flushing and water supply functions of the spittoon can be reconfigured.

6.5 Foot Switch (Figure 13)

- ① Water Control Pedal
- ② Air Control Pedal
- ③ Spittoon Flushing Button
- ④ Water Supply Button
- ⑤ Spitting Linkage Button



-
- ⑥ Oral Lamp Button
 - ⑦ Debris Blowing Air Button
 - ⑧ Foot Ball Switch
 - ⑨ Plastic Lifting Rod

Foot Pedal Function Instructions

Water and Air Control Pedals:

Gently press the left pedal ("W") with your foot to activate water flow for handpiece rinsing.

Gently press the right pedal ("A") with your foot to activate air supply for the handpiece.

Press both the left ("W") and right ("A") pedals together to operate the handpiece with water mist spray.

Release the pedal(s) to stop handpiece operation.

Spittoon flush Button:

Gently press the spittoon flush button with your foot to start spittoon flush. Press the button again during rinsing to stop the water flow.

Water Supply Button:

Gently press the water supply button with your foot to deliver water up to the preset volume; water supply stops automatically. If pressed again during water delivery, water stops immediately.

Spitting Linkage Button:

Press and hold the spitting linkage button for 2 seconds with your foot: the chair back tilts forward to its limit position, the oral lamp turns off, and spittoon flush starts.

Press and hold the button again for 2 seconds: the chair back returns to the original treatment position, the oral lamp turns on (depending on the model/system), and spittoon flush stops automatically.

Oral lamp Button:

Press and hold the oral lamp button for 2 seconds with your foot to turn on the oral lamp.

Press and hold again for 2 seconds to turn it off.

Debris Blowing Air Button:

push this button, the handpiece is blowing to clean the crumbs. When the foot is removed, blow-off air stops.

Foot Ball Switch:

When the foot gently pushes the ball switch upward, the dental chair rises.

When pushed downward, the dental chair descends.

When pushed to the right, the backrest tilts forward.

When pushed to the left, the backrest tilts backward.

Plastic Lifting Rod:

Convenient for moving the foot pedal without using hands.

6.6 Instrument Tray

6.6.1 Dental Handpiece Activation

When you lift a dental handpiece from its hanger, it will pre-activate. Please step on the foot control to operate the corresponding dental handpiece.

6.6.2 Dual-Handle Electromagnetic Induction Balance Arm Air-Lock Switch

You can use the electronic balance arm air-lock switch to place objects of various weights on the instrument tray at the control end and maintain the operating position. This thumb-activated air-lock switch restricts vertical movement but allows horizontal positioning by moving the control end left or right. See Figure 14.

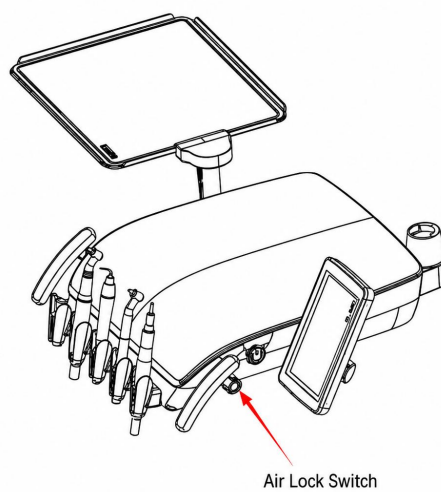


Figure 14

6.6.3 One-Touch Water/Air/Electric Switch on Instrument Tray

The one-touch water/air/electric switch for the B100 type dental unit is installed on the rear side of the instrument tray (Figure 16). With the power on, press the switch to activate water, air, and electricity for the entire unit, allowing the next step of work. Press the switch again to deactivate water, air, and electricity, putting the system into sleep mode.

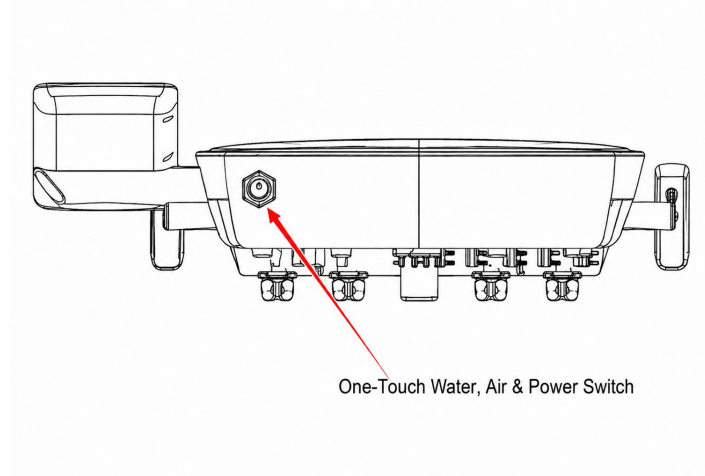


Figure 16

6.6.4 Instrument Tray Adjustments

A. Debris Blowing Air Adjustment

The cooling air flow controller adjusts the cooling air flow to all dental handpieces. Adjustment is done by manually rotating the knob.

To adjust the cooling air:

Step 1: Remove the dental handpiece from its hanger.

Step 2: Locate the debris blowing air controller.

Step 3: Step on the foot control to activate the dental handpiece.

Step 4: Adjust the debris blowing air to achieve the desired atomization effect.

Step 5: Adjust the debris blowing air flow:

Turn the controller clockwise to decrease the flow.

Turn the controller counterclockwise to increase the flow.

See Figure 17.

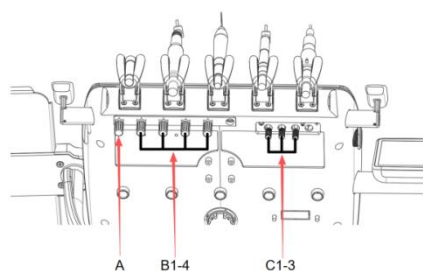


Figure 17

B. Cooling Water Adjustment

The system includes cooling water flow control for each dental handpiece. Adjustment is done by manually rotating the knob.

Step 1: Remove the dental handpiece from its hanger.

Step 2: Locate the cooling water flow adjustment.

Step 3: Turn on the cooling water.
Step 4: Step on the foot control to activate the dental handpiece.
Step 5: Adjust the cooling water flow:
Turn the controller clockwise to decrease the flow.
Turn the controller counterclockwise to increase the flow.

C. Working Pressure Adjustment for B100 Handpiece

The operation of B100 dental handpiece accessories provides and regulates air and water. You can adjust the cooling water, debris blowing air, and working air pressure for the dental instrument tray.

Note: Please adjust the working air pressure for the corresponding accessory to meet the manufacturer's operational specifications for that accessory. Consult the product manual of your specific accessory for details regarding its operational specifications.

6.7 Disinfection Operation

Disinfection steps for the dental unit are as follows:

- ① Insert the handpiece tubes, multi-function syringe, strong suction, and weak suction into their respective ports on the disinfection cover above the Cuspidor.
- ② Press the disinfection button on the main control screen to enter the disinfection selection page. Select the corresponding disinfection mode and click the "OK" key to enter the disinfection preparation interface. Confirm that all instruments are inserted, then click "Start Disinfection".
- ③ The system operates automatically according to the selected disinfection mode.
- ④ After disinfection is complete, in deep disinfection mode, if there is no touch operation for 30 minutes after completion, water, air, and electricity will automatically enter sleep mode for energy saving.

Note:

* Before disinfection, ensure all handpiece tubes, strong/weak suction, and scaler inserts are plugged into the disinfection cover panel.

* It is recommended to use slightly acidic hypochlorous acid with a concentration of 50~80mg/L as the disinfectant. If the concentration of the disinfectant you purchased is higher than this recommended range, dilute it before use. For example, if your disinfectant concentration is 200mg/L, you need to dilute it at a 1:3 ratio before disinfection.

7. Maintenance and Service



Modification of this equipment is not permitted.

7.1 Cleaning and Disinfection

For the external surfaces of the equipment (plastic casing and metal surfaces), it is recommended to use household detergent as the cleaning agent. For disinfecting areas frequently touched by patients (cushions, armrests, etc.), it is recommended to use quaternary ammonium salt wipes for wiping. (Recommended frequency: once every two weeks).

7.1.1 Cleaning and Maintenance Methods:

- 7.1.1.1 Thoroughly wipe and clean external surfaces with detergent or surfactant, then rinse clean with water. This cleaning process removes a large number of microorganisms from the surface.
- 7.1.1.2 The cuspidor should be brushed frequently with a soft brush to keep it clean.
- 7.1.1.3 Before and after each use of the operation light, wipe the operation light lens with lens paper or degreasing cotton. Do not use alcohol swabs or other solvent-based materials.
- 7.1.1.4 Medications and chemicals commonly used in dental clinics may damage the painted and plastic surfaces of the equipment. Therefore, the use of protective barriers is recommended where possible.
- 7.1.1.5 strong/weak suction filter cleaning: (Clean once daily after work) Unscrew the filter plug

counterclockwise to detach it, remove the filter screen, pour debris into a waste collection bag for disposal, clean the filter screen and inner wall of the cup with clean water or neutral detergent, then reinsert the filter screen into the cup, and screw the filter plug back on clockwise until properly seated.

- 7.1.1.6 Cleaning the air return bottle at the bottom of the instrument tray: Unscrew the bottle body, clean it thoroughly with detergent, then screw the bottle body back onto the connector in the reverse direction for use.

7.1.2 Disinfection and Sterilization Methods:

7.1.2.1 It is recommended to place the nozzles and handles of the multi-function syringe into a sterilization pouch before subjecting them to high-temperature (maximum 134°C), high-pressure steam (pressure 205.8 kPa) sterilization. The sterilization time should be no less than 3 minutes.

7.1.2.2 It is recommended to disinfect strong/weak suction tips using glutaraldehyde disinfectant solution.

7.1.2.3 Before cleaning and disinfecting high-speed turbine handpieces (high-speed handpieces) and low-speed air motors (low-speed handpieces), please read the manufacturer's instructions.

Attention: After cleaning, please discard all materials used for cleaning and disinfection.

7.2 Water System

7.2.1 To ensure the normal operation of this equipment, a filter is installed at the water inlet to block impurities in the water and prevent them from entering the equipment. However, over time, waste water may clog the filter element, affecting water flow. In this case, it is necessary to clean or replace the filter element to restore its functionality. Before cleaning and maintenance, the water inlet valve needs to be closed..

7.2.2 Under normal circumstances, the filter element should be cleaned or replaced if any of the following conditions exist.

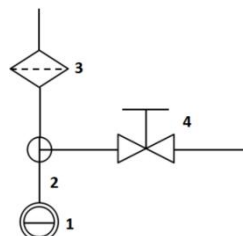
- 7.2.2.1. The usage time is more than one year;
- 7.2.2.2 The pressure loss of the filter element is above 0.1 MPa;
- 7.2.2.3 The filter element is contaminated;
- 7.2.2.4. The effluent becomes turbid;

7.2.3 The specific method for cleaning and replacing the filter element is as follows: Open the base cover, remove the water filter, unscrew the water filter housing counterclockwise, and take out the lower sealing ring and filter element in sequence. After cleaning or replacing, reinstall the water filter in reverse order, paying attention to sealing. (For user-supplied filters, refer to the above procedure.)

7.2.4 This equipment is equipped with a sampling point for the input water; the sampling port is shown in the figure below.

illustrate:

- 1-Input water supplied by domestic drinking water
- 2-Water input connection port
- 3-Water particulate filter
- 4-Input water sampling connection port



7.3 Air System

7.3.1 To ensure the gas input to the unit is clean, dry, and maintains stable pressure, an air filter pressure regulator is installed at the air intake port of the floor box. This device stabilizes the air pressure to prevent it from exceeding the set value and filters impurities and moisture from the gas. Before cleaning or maintaining the air

filter, close the intake valve. Once closed, any accumulated water will be automatically drained. To maintain a clean environment, place absorbent materials such as cotton cloth, paper towels, or sponge at the drainage outlet to absorb the discharged water.

7.4 Maintenance

It is recommended that hospital maintenance professionals perform a comprehensive electrical safety inspection and maintenance every six months. Specifically, check whether the leakage current and protective grounding connections meet the required standards. When the dental light is not in use, ensure it is powered off and stored properly, avoiding direct exposure to sunlight or humid environments to extend its service life.

8. Precautions

- 8.1 Operate the device only after carefully reading and fully understanding the entire content of this manual.
- 8.2 The power socket wiring must comply with standard configurations. The grounding wire must be securely connected, and the power cord should only be replaced by maintenance personnel. This product must not be connected to other mobile devices.
- 8.3 Always turn off the main water, air, and power switches when leaving work.
- 8.4 This product is designed to account for electromagnetic interference. To ensure proper operation, keep the device away from high-frequency electrical or signal equipment during use to avoid interference.
- 8.5 The compressed air supplied to this unit must be oil-free, and other hygiene-related indicators must comply with relevant requirements.
- 8.6 During operation, ensure that no objects are within the range of moving parts. The power supply can be disconnected using the one-touch water/air switch.
- 8.7 If used with external equipment for procedures such as implantation, disconnect the power supply of this unit each time after use to prevent injury due to equipment malfunction or accidental contact with control buttons.
- 8.8 Users must independently configure an amalgam separator at the terminal of the wastewater discharge system for this unit.
- 8.9 Perform routine maintenance quarterly. When replacing electrical components or performing cleaning and maintenance, always disconnect the power supply, and let maintenance personnel handle component replacements.
- 8.10 Do not use this device in environments with flammable anesthetic gases mixed with air, oxygen, or nitrous oxide.
- 8.11 The disposal of wastewater and waste materials must comply with local environmental protection regulations.
- 8.12 Components and the entire unit must be disposed of in accordance with local regulations after decommissioning.
- 8.13 Maintenance of this device must be performed by professional technicians authorized by our company. Unauthorized disassembly or repair may cause critical damage to the device and will void the warranty provided by the company.
- 8.14 This device must be operated by trained medical professionals. Technical training and guidance are required before use.
- 8.15 Warning: This equipment must be connected to a power supply network with protective grounding to avoid the risk of electric shock.
- 8.16 When using the X-ray viewer, avoid touching it with sharp or hard objects, and keep its surface dry to

prevent damage or moisture exposure.

8.17 Contraindications: None.

8.18 This device does not require regularly replaced accessories, attachments, or consumables.

8.19 Common spare parts list: 5×20 fuse, 6.3A; 5×20 fuse, 10A.

8.20 Packing List Attachment:

No.	Name/Model	Quantity	No.	Description/Model	Quantity
1	Dental Unit	1	5	Light Arm box	1
2	Instruction Manual	1	6	Accessory Kit	1
3	Certificate of Conformity	1	7	Light	1
4	Warranty Card	1	8	Physician's Chair (Optional)	1

8.21 Common Faults and removal

Guide		
Problem	Cause	Solution
Water Control Not Stopping	Defective water outlet valve	Refer to the handpiece user manual
Water from faucet contains bubbles	1. Faulty high-speed nozzle tip gasket 2. Pipe rupture	a Refer to the handpiece user manual b. Inspect and replace
Poor atomization of handpiece water output	1. High-speed nozzle clogging 2 Improper atomization adjustment	a Contact the handpiece supplier b. Readjust atomizer
No water spray from handpiece	1 Water pressure too low 2 Water control valve not open 3. Water switch on foot pedal not activated 4. Water source valve is not open 5. Tap water and purified water switch reversed 6. No pressure in purified water cup	a Adjust water pressure b Open the water regulating valve c. Press the foot pedal to activate the hot water switch d Turn on the water source valve e Adjust the selector switch f Adjust the simple pressure-reducing valve switch
Weak needle force	1. Defective spindle needle or bearing 2. Insufficient working pressure	a Contact the handpiece supplier b. Check air pressure
Air leakage when the handpiece is not in use	Loose bracket valve	Adjust the corresponding bracket valve
Operating pressure is unstable	1. Clogged filter 2. Intake hose kinked or blocked	a Clean b Inspect the piping
Slow flushing water discharge	Foreign object clogging solenoid valve	Clean solenoid valve core
Weak suction	1. Clogged filter screen 2. Insufficient water or air pressure	a Clean the filter screen b Adjust water or air pressure

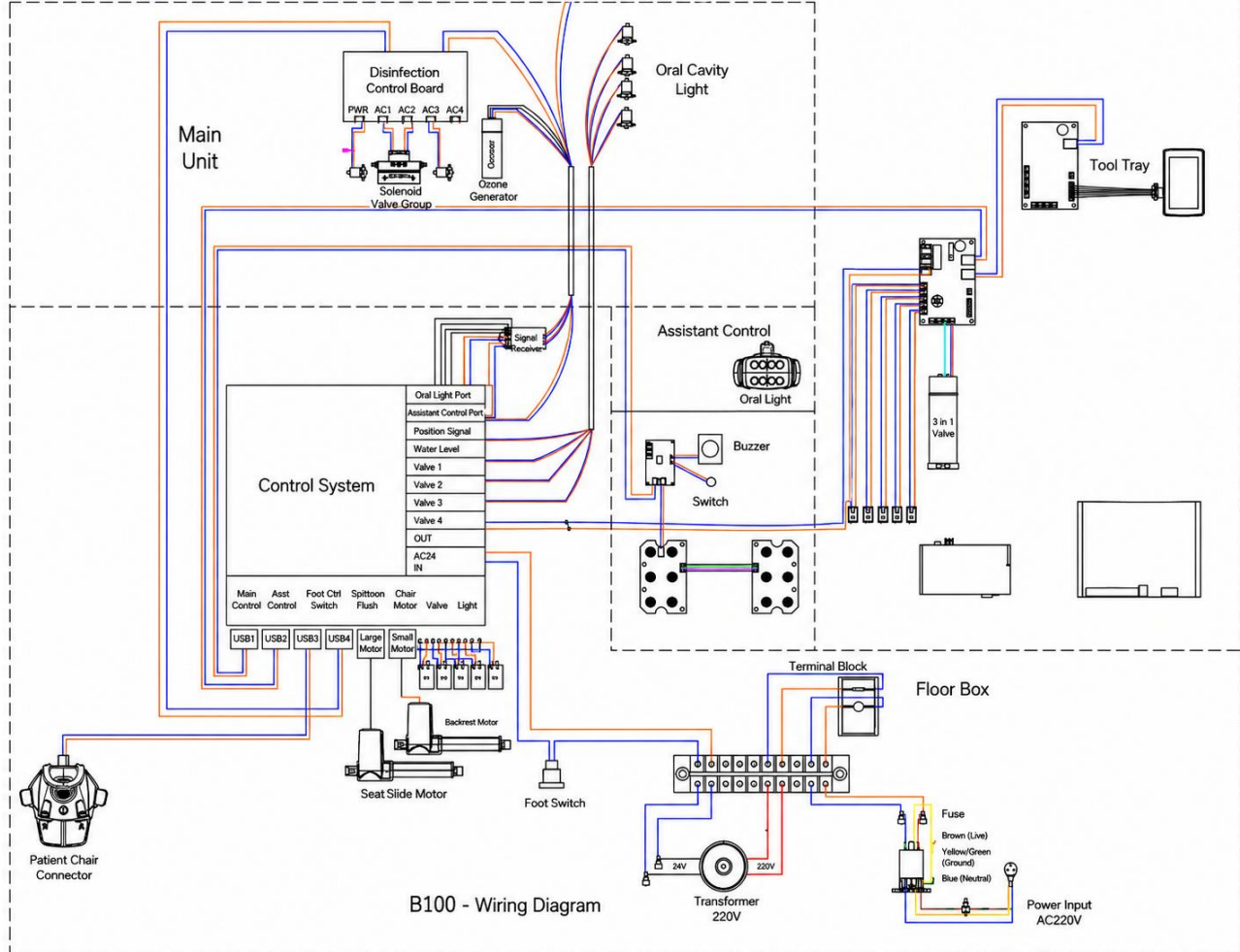
Multi-function spray gun not dispensing water	1. Water pipe blockage 2 Improper adjustment of water flow control knob	a. Block the nozzle while simultaneously pressing the water and air buttons b. Readjust
Multifunction spray gun emits air with moisture	1. Excessive water accumulation in the air filter 2. Valve core malfunction 3. Improper nozzle installation	a Drain water as needed b Inspect and replace c Reinstall

If the equipment still fails to operate normally after the above checks and actions, please contact your dealer or our after-sales service personnel, providing the product model, serial number, and detailed fault description.

Note: This manual is intended for standard products. For custom-ordered products, please also refer to the relevant appendix pages of this manual.

9.Circuit Diagram

Model B100:

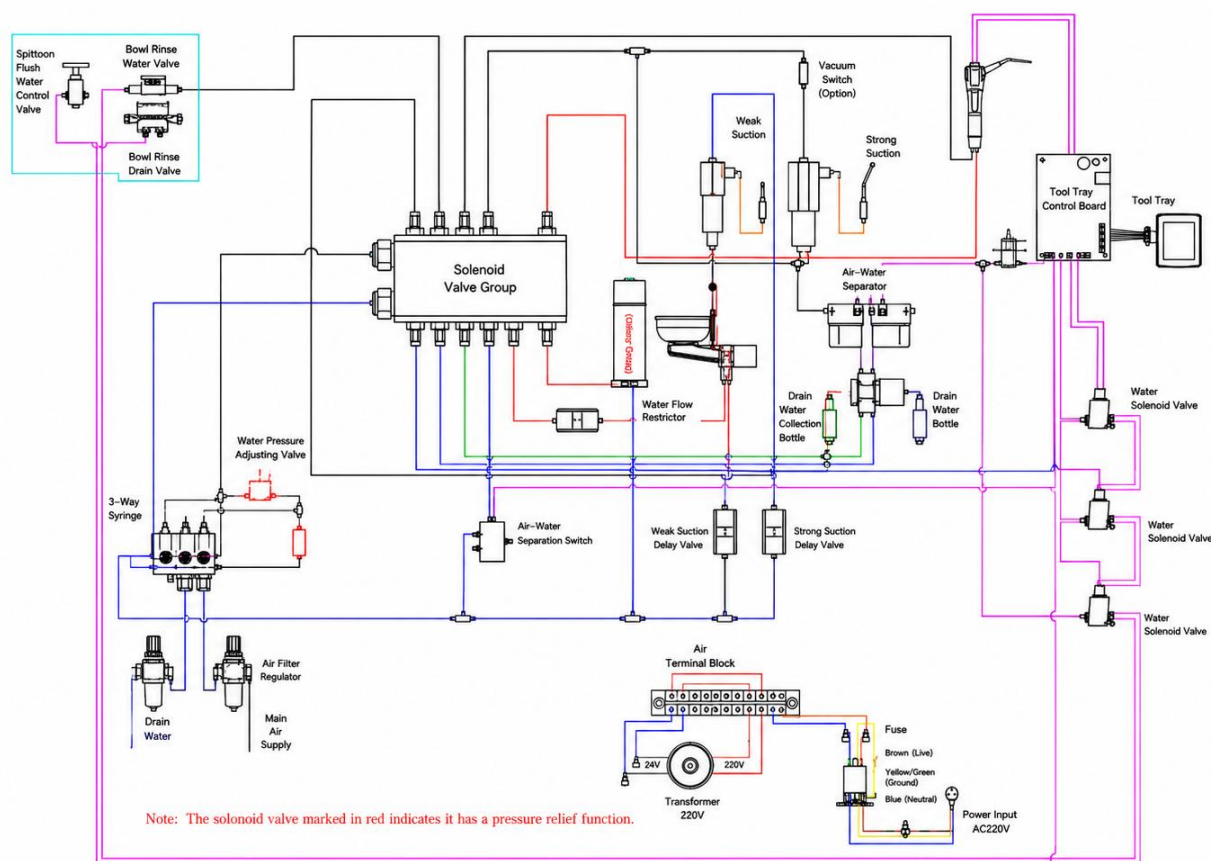


Note: Non-professionals must not disassemble this unit. Our company provides parts only to customers with a maintenance agreement.

10. Water-Air Schematic Diagram

Model B100:

B100 Water & Air Schematic Diagram 26-05-13



Note: Unauthorized personnel must not disassemble this unit. Our company provides parts only to customers with a maintenance agreement.

11. Electromagnetic Compatibility

**Note:**

This dental unit complies with the electromagnetic compatibility requirements specified in YY 9706.102-2021.

Users should install and operate the unit according to the electromagnetic compatibility information provided in the accompanying documentation.

Portable and mobile radio frequency communication devices may affect the performance of the dental unit. Avoid strong electromagnetic interference during use, such as proximity to mobile phones, microwave ovens, etc.

Guidelines and manufacturer's statements are detailed in the appendix.

**Warning:**

The dental unit should not be placed near or stacked with other equipment. If proximity or stacking is unavoidable, verify normal operation under the specific configuration.

Using unauthorized accessories or cables, except for cables sold by the manufacturer as replacement parts for internal components, may increase emissions or reduce immunity of the dental unit.

Attachment:

Serial No.	Name	Cable Length (m)	Shielded	Remarks
1	POWER CORD	1.8	NO	/
2	FOOT SWITCH CONNECTION CABLE	2.2	YES	/

Basic product characteristics: None.

Guidelines and Manufacturer's Declaration – Electromagnetic Emissions		
The dental treatment unit is intended for use in the electromagnetic environment specified below. The purchaser or user should ensure that it is used in such an environment:		
Emission Testing	Compliance	Electromagnetic Environment – Guidelines
Radio Frequency Emissions GB 4824	Group 1	Dental treatment units use radio frequency energy solely for their internal functions. Therefore, their radio frequency emissions are low, and the likelihood of interference with nearby electronic equipment is minimal.

Radio Frequency Emissions GB 4824	Class B	Dental treatment units are suitable for use in all facilities, including domestic facilities and those directly connected to the public low-voltage supply network of residential buildings.
Harmonic Emissions GB 17625.1	Class A	
Voltage Fluctuation/Flicker Emissions GB 17625.2	Compliant	

Guidelines and Manufacturer's Declaration – Electromagnetic Immunity

Dental treatment units are intended for use in the electromagnetic environment specified below. The purchaser or user should ensure that the unit is used in such an environment:

Immunity Tests	IEC 60601 Test Levels	Compliance Level	Electromagnetic Environment – Guidance
Electrostatic Discharge GB/T 17626.2	±6 kV contact discharge ±8 kV air discharge	±6 kV contact discharge ±8 kV air discharge	The floor shall be wooden, concrete, or tile. If the floor is covered with synthetic materials, the relative humidity shall be at least 30%.
Electrical Fast Transient Pulse Group GB/T 17626.4	±2 kV for power lines ±1 kV for input/output lines	±2kV for power line	The mains power supply shall have the quality typical for use in commercial or hospital environments.
Surge GB/T 17626.5	±1 kV line-to-line ±2 kV line-to-ground	±1 kV line-to-line ±2 kV line-to-ground	The mains power supply shall have the quality typically used in commercial or hospital environments
Power supply input line voltage dips, short interruptions, and voltage variations GB/T 17626.11	<5% U_T , lasting 0.5 cycles (on U_T , >95% of dips) 40% U_T , lasting 5 cycles (60% of U_T during the event) 70% $U_{(T)}$, lasting 25 cycles (30% dip relative to U_T) <5% U_T , lasting 5 seconds (On U_T , >95% dip)	<5% U_T , lasting 0.5 cycles (On U_T , >95% dip) 40% U_T , lasting 5 cycles (60% dip on U_T) 70% $U_{(T)}$, lasting 25 cycles (30% dip relative to U_T) <5% U_T , lasting 5 seconds (On U_T , >95% dip)	The mains power supply shall be of the quality typically used in commercial or hospital environments. If the user of a dental treatment unit requires continuous operation during power interruptions, an uninterruptible power supply or battery backup is recommended.
Power frequency magnetic field (50/60 Hz) GB/T 17626.8	3 A/m	3 A/m (50 Hz)	The power frequency magnetic field shall exhibit characteristics typical of power frequency magnetic field levels in typical locations within a typical commercial or hospital environment.

Note: U_T denotes the AC mains voltage prior to applying the test voltage.

Guidelines and Manufacturer's Statements – Electromagnetic Immunity

dental comprehensive treatment machineThe product is intended for use in the following specified electromagnetic environments, and the purchaser or user shall ensure that it is used in such electromagnetic environments:

Immunity test	IEC 60601 test level	Compliance Level	Electromagnetic Environment – Guide
Radio frequency conduction GB/T 17626.6	3 V (RMS value) 150 kHz ~ 80 MHz	3V (RMS)	Portable and mobile radio frequency communication devices should not be placed closer than the recommended isolation distance.dental comprehensive treatment machineAny part of the transmission may be used, including cables. The distance is calculated using a formula corresponding to the transmitter frequency. Recommended isolation distance $d = 1.2\sqrt{P}$ $d = 1.2\sqrt{P}$ 80 MHz ~ 800 MHz $d = 2.3\sqrt{P}$ 800 MHz ~ 2.5 GHz In the formula: P —Based on the transmitter manufacturer's maximum transmitter specifications Rated output power, in watts (W); d—Recommended isolation distance, in meters (m) b. The field strength of a fixed radio frequency transmitter is determined by surveying the electromagnetic field (c), and should be lower than the compliance level in each frequency range (d). Interference may occur near devices marked with the following symbols. 
Radio frequency radiation GB/T 17626.3	3V/m 80 MHz ~ 2.5 GHz	3V/m	

Note 1: For frequencies of 80MHz and 800MHz, the formula for the higher frequency band is used.

Note 2: These guidelines may not be suitable for all situations, as electromagnetic propagation is affected by absorption and reflection from buildings, objects, and the human body.

^aFor fixed transmitters, such as base stations for wireless (cellular/cordless) telephones and terrestrial mobile radios, amateur radio, AM and FM radio broadcasting, and television broadcasting, the electromagnetic field strength cannot be accurately predicted in theory. To assess the electromagnetic environment of a fixed radio frequency transmitter, a site survey should be considered. If the measured...dental comprehensive treatment machineIf the field strength at the location is higher than the applicable radio frequency coincidence level mentioned above, then observation should be performed.dental comprehensive treatment machineThis is to verify that it functions correctly. If abnormal performance is observed, supplementary measures may be necessary, such as readjustment.dental comprehensive treatment machineThe direction or position.

^bThe electric field strength should be less than 3V/m across the entire frequency range of 150kHz to 80MHz.

Portable and mobile radio frequency communication devices anddental comprehensive treatment machineRecommended isolation distance between			
dental comprehensive treatment machineIntended for use in electromagnetic environments with controlled radio frequency radiated interference. Based on the maximum rated output power of the communication equipment, the purchaser or user can maintain portable and mobile radio frequency communication equipment (transmitters) according to the recommendations below.dental comprehensive treatment machineMinimize the distance between them to prevent electromagnetic interference.			
The transmitter's rated maximum output power W	Isolation distance (m) corresponding to different frequencies of the transmitter		
	150 kHz ~ 80 MHz $d = 1.2\sqrt{P}$	80 MHz ~ 800 MHz $d = 1.2\sqrt{P}$	800 MHz ~ 2.5 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	twenty three
For transmitters whose maximum rated output power is not listed in the table above, the recommended isolation distance d, in meters (m), can be determined using the formula in the corresponding transmitter frequency column. Here, P is the transmitter's maximum rated output power in watts (W) provided by the transmitter manufacturer.			
Note 1: At the 80MHz and 800MHz frequencies, the formula for the higher frequency band is used.			
Note 2: These guidelines may not be suitable for all situations. Electromagnetic propagation is affected by absorption and reflection from buildings, objects, and the human body.			

