

DP-60/DP-60 Plus/DP-60 Pro

Dental Air Polisher

INSTRUCTION MANUAL



Guilin Veirun Medical Technology Co., Ltd.

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Copyright and Statement

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Congratulations on becoming a valued customer of Guilin Veirun Medical Technology Co., Ltd. Welcome to use the DP-60/DP-60 Plus/DP-60 Pro Dental Air Polisher, which will bring you a brand new experience and convenience.

This manual is written in accordance with relevant laws and regulations and the specific conditions of the DP-60/DP-60 Plus/DP-60 Pro Dental Air Polisher manufactured by Guilin Veirun Medical Technology Co., Ltd.

This manual includes the latest information as of the time of printing. Guilin Veirun Medical Technology Co., Ltd. is solely responsible for the revision and explanation of this manual and reserves the right to change the relevant content after printing without further notice.

The pictures in this manual are schematic diagrams and are for reference only. If the pictures are inconsistent with the actual objects, the actual objects shall prevail.

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The use of the product must comply with the relevant operating specifications of the medical department and the requirements of relevant regulations, and is limited to use by trained doctors or technicians.

Please read this manual carefully before use and must strictly follow the instructions in this manual. Otherwise, Guilin Veirun Medical Technology Co., Ltd. will not be responsible for any errors or product damage caused by illegal operation.

Note: Guilin Veirun Medical Technology Co., Ltd. disclaims all implied warranties, including warranties of merchantability and fitness for a particular purpose, with respect to the instruments.

If you need after-sales service support, please contact Guilin Veirun Medical Technology Co., Ltd. or an authorized agent.

Manual Information

Document No.: DPP050000041

Version: 05/2025

Date of preparation: May 6, 2025

Production Date

See product label for details

Validity Period

The design service life of the device is 10 years.

1 Product Overview

1.1 Overview

DP-60/DP-60 Plus/DP-60 Pro Dental Air Polisher can be used for air-polishing scaling. It has the following features:

- The DP-60 panel adopts intelligent multi-touch to adjust water flow and uses a pressure regulating valve to accurately adjust the air pressure.
- The DP-60 Plus/DP-60 Pro panel uses a seven-inch LED touch screen, which makes function selection and working status clear.
- DP-60 Plus/DP-60 Pro has a heating function, the heating level is adjustable. The three levels meet different clinical needs, and the humanized design improves patient comfort.
- The handpiece can be freely plugged in and out and can be sterilized in a high temperature of 134°C and a high pressure of 0.22MPa.
- DP-60 Plus/DP-60 Pro uses a wireless foot switch for remotely controlling, which is easy to operate. A wired foot switch can be selected according to user needs.

● Built-in computer microprocessor chip, intelligent control, convenient and simple operation, high efficiency.

1.2 Product Structure and Composition

It consists of function control circuit, powder tank, air circuit, liquid circuit, handpiece, air polishing nozzle, foot switch (wired or wireless) and power supply.

1.3 Product Application Scope

Remove dental plaque, tartar and other tooth stains on the tooth surface, remove tartar and plaque from periodontal tissues, and polish the tooth surface.

1.4 Product Working Principle

Compressed air is used to deliver dental powder particles such as sodium bicarbonate from the powder tank to the tooth surface, to remove residual tartar and pigments on the teeth, thereby achieving the effect of polishing the tooth surface.

1.5 Contraindications

- Contraindicated in patients with hemophilia.
- Contraindicated in patients with pacemakers.
- Contraindicated by dentists with pacemakers.
- Use with caution in patients with heart disease, pregnant women and young children.
- Contraindicated for patients with respiratory diseases such as asthma and chronic bronchitis.

1.6 Main Technical Parameters

- Input Voltage: 100-240V~50/60Hz
- Input Power: 20VA (DP-60), 300VA (DP-60 Plus/DP-60 Pro)
- Wireless foot switch battery: AA battery × 2
- Intake Pressure: 5 bar~6 bar (0.5 MPa~0.6 MPa)
- Air polishing system outlet water temperature: 0°C~40°C
- Dental powder requirements: Only the dental powder approved by our company

can be used

- Fuse of main unit: T1AH250V (DP-60) T5AH250V (DP-60 Plus/DP-60 Pro)
- Software version: V1
- Weight of main unit: 2.1 kg (DP-60) 3.2 kg (DP-60 Plus) 3.4 kg (DP-60 Pro)
- Net weight: 4.8 kg (DP-60) 8 kg (DP-60 Plus) 8.5 kg (DP-60 Pro)
- Main unit size: length × width × height 298mm × 240mm × 222mm (DP-60)
Length × width × height 320mm × 270mm × 226mm (DP-60 Plus/DP-60 Pro)

1.7 Equipment Safety Classification

Operation mode: Continuous operation

Protection against electric shock: Class I

Protection against electric shock level: Type B applied part

Protection level against liquid ingress: ordinary equipment (IPX0), wired foot switch is waterproof (IPX1), wireless foot switch is waterproof (IPX4)

Safety level when used with flammable anesthetic gas mixed with air or with flammable anesthetic gas mixed with oxygen or nitrous oxide: non-AP, APG type

equipment

1.8 Working Environment

Ambient temperature: 5°C~40°C

Relative humidity: $\leq 80\%$

Atmospheric pressure: 70kPa~106kPa

1.9 Side Effects, Adverse Events and Measures to Be Taken

If the device has any unexpected action when in use, please immediately turn off the power switch and stop using the device to ensure safety.

2 Product Installation

2.1 DP-60 Main Unit Front and Back Diagram

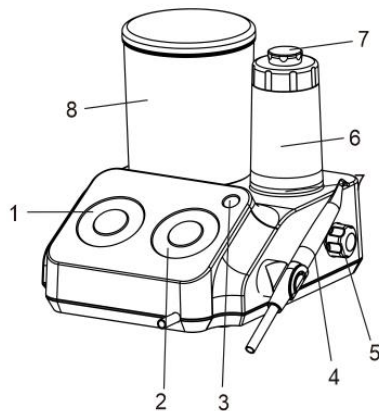


Figure 1

Front view of the main unit (DP-60)

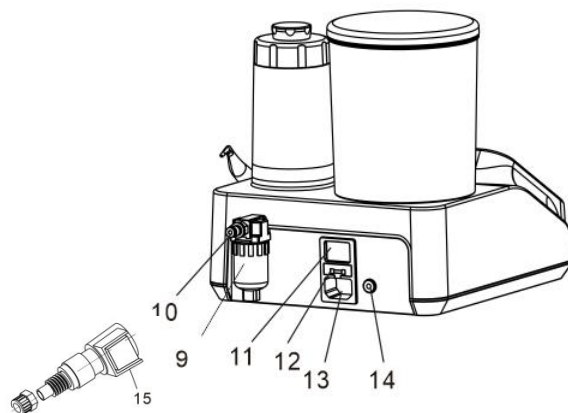


Figure 2

Rear view of the main unit (DP-60)

Figure 1 Front view of the main unit (DP-60):

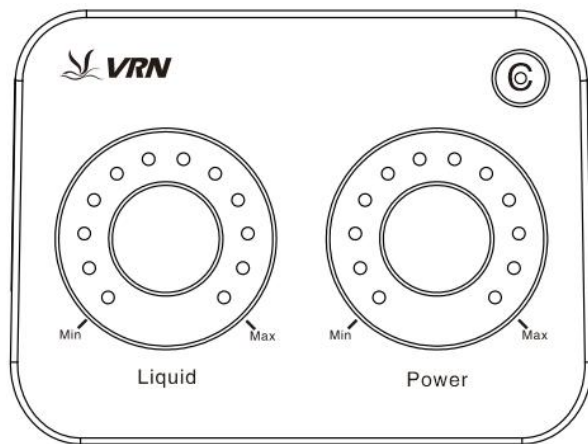
1. Water output adjustment slider
2. Air pressure level display
3. Cleaning button
4. Air-polishing handpiece
5. Air pressure control knob
6. Powder tank
7. Powder flow control knob
8. Water bottle

Figure 2 Rear view of the main unit (DP-60):

9. Moisture separator
10. Air inlet
11. Power switch
12. Fuse
13. AC Power input
14. Wired foot switch receptacle
15. QD female coupling with check valve

2.2

DP-60 Main Unit Touch Panel



Liquid: Water output adjustment slider

Power: Showing the air pressure level

C: Cleaning powder pipeline

Min: Minimum level

Max: Maximum level

Figure 3
Main unit touch panel (DP-60)

2.3

DP-60 Plus Main Unit Front and Back Diagram

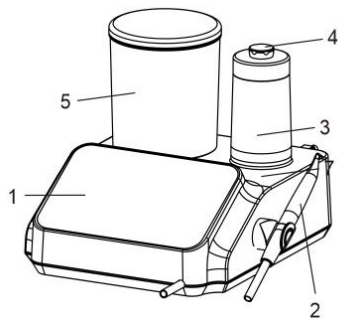


Figure 4

Front view of the main unit (DP-60 Plus)

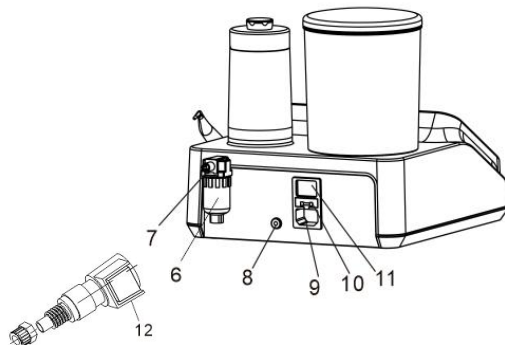


Figure 5

Rear view of the main unit (DP-60 Plus)

Figure 4 Front view of the main unit
(DP-60 Plus):

1. Touch screen
2. Air polishing handpiece
3. Powder tank
4. Powder flow control knob
5. Water bottle

Figure 5 Rear view of the main unit
(DP-60 Plus):

6. Moisture separator
7. Air inlet
8. Wired foot switch receptacle
9. AC Power input
10. Fuse
11. Power switch
12. QD female coupling with
check valve

2.4

DP-60 Pro Main Unit Front and Back Diagram

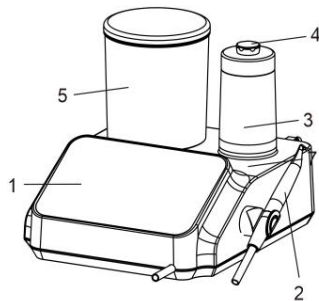


Figure 6

Front view of the main unit (DP-60 Pro)

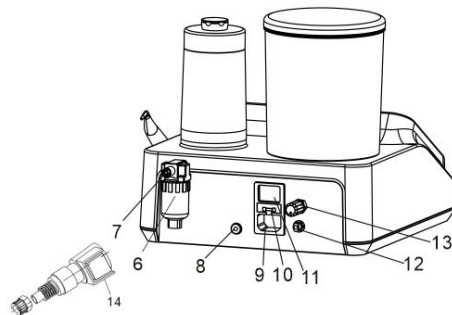


Figure 7

Rear view of the main unit (DP-60 Pro)

Figure 6 Front view of the main unit (DP-60 Pro):

1. Touch screen
2. Air polishing handpiece
3. Powder tank
4. Powder flow control knob
5. Water bottle

Figure 7 Rear view of the main unit (DP-60 Pro):

6. Moisture separator
7. Air inlet
8. Wired foot switch receptacle
9. AC Power input
10. Fuse
11. Power switch
12. Water inlet port
13. Water flow control knob
14. QD female coupling with check valve

2.5

DP-60 Plus/DP-60 Pro Touch Screen

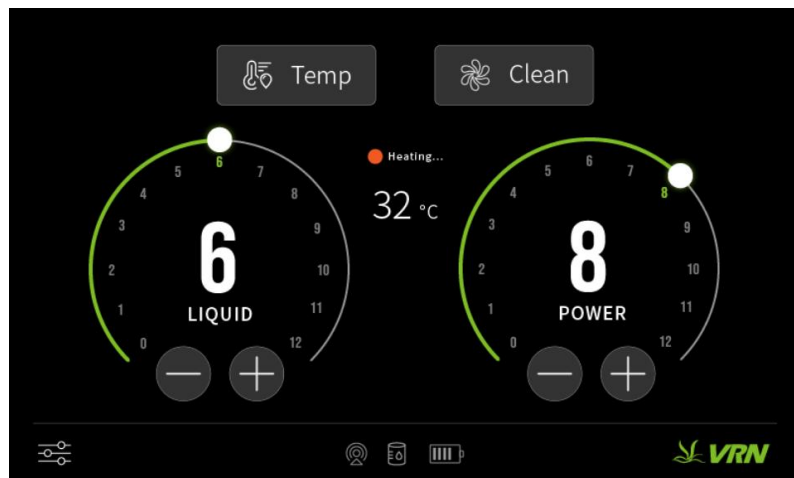


Figure 8 Touch screen user interface

2 Product Installation

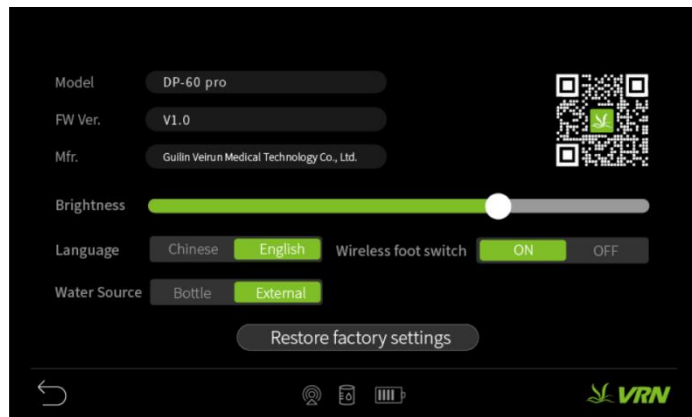


Figure 9 Setting

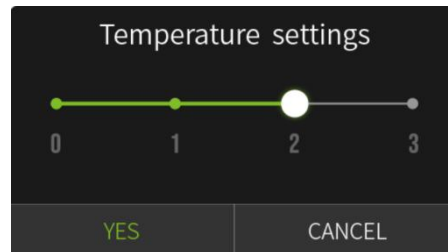








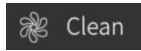




Figure 10 Temperature adjustment

2 Product Installation

	: Wireless foot switch battery	Model	: Product model
	: Wireless foot switch connection status	FW Ver.	: Software version
	: Water output/air pressure level step-down button	Mfr.	: Manufacturer information
	: Water output/air pressure level step-up button	Brightness	: Screen brightness settings
	: Settings	Language	: Chose Chinese or English
	: External water function	Water Source	: Chose Water bottle/External water supply
	: Water bottle status	Wireless foot switch	: Connect/Close wireless foot switch
	Open/Close heating, heating gear settings	Restore factory settings	: Restore factory settings
	Automatic cleaning of air polishing pipes		
			Air pressure is too high
			Air pressure is insufficient
			The air source pressure is too high
			The air source pressure is too low

2.6

Handpiece Installation Diagram

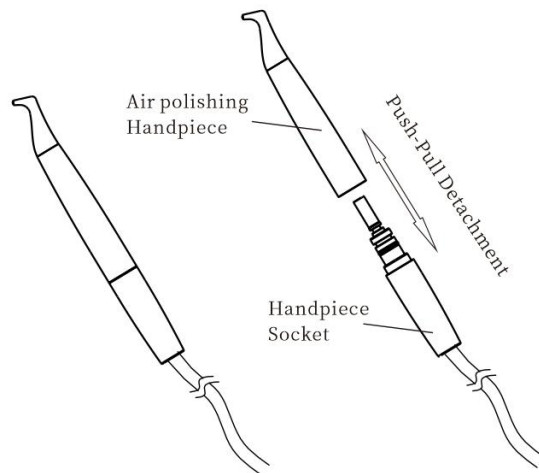


Figure 11 Handpiece installation diagram

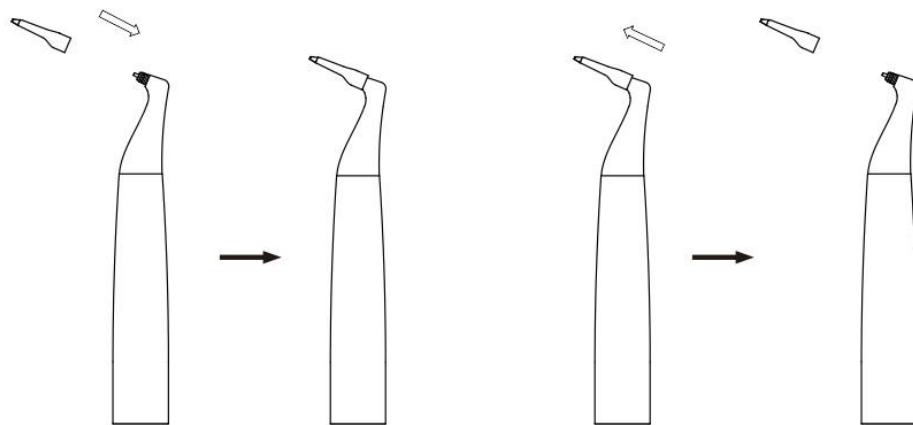


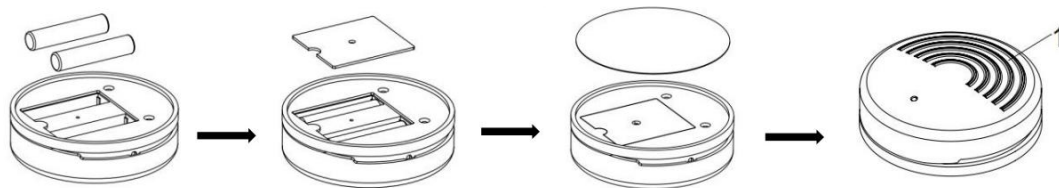
Figure 12
Installation of Nozzle for Subgingival Handpiece (DP-60 Pro)

2.7

Wireless Foot Switch Pairing


DP-60 Plus/DP-60 Pro Wireless Foot Switch Battery Replacement:

Peel and stick the adhesive backing onto the wireless foot switch's base to make it waterproof.



Button "1": press to start the device.

Figure 13

- 1) When powered on: User interface - Settings - Wireless foot switch- click "ON".
- 2) Wait for about 5 seconds and check whether the wireless foot switch connected icon is displayed on the main interface. It means the wireless foot switch is connected if  is displayed.
- 3) When powered on: User interface - Settings - Wireless foot switch - Click "OFF" to cancel the pairing. At the same time, the wireless foot switch connected icon on the user interface will be undisplayed.

2.8 Air Inlet and Power Supply Interface

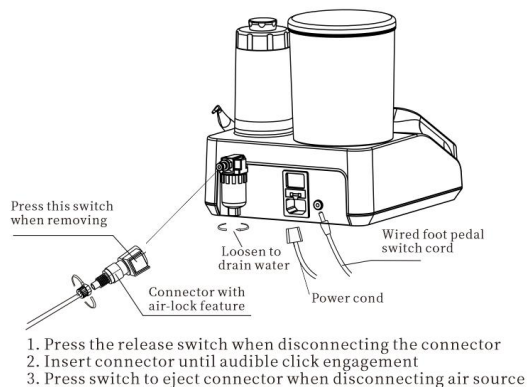


Figure 14
DP-60 air inlet and power supply interface

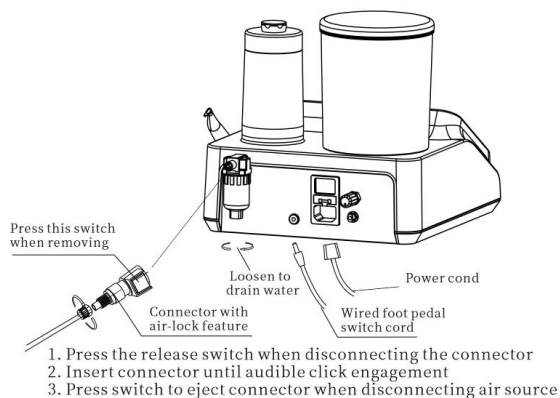
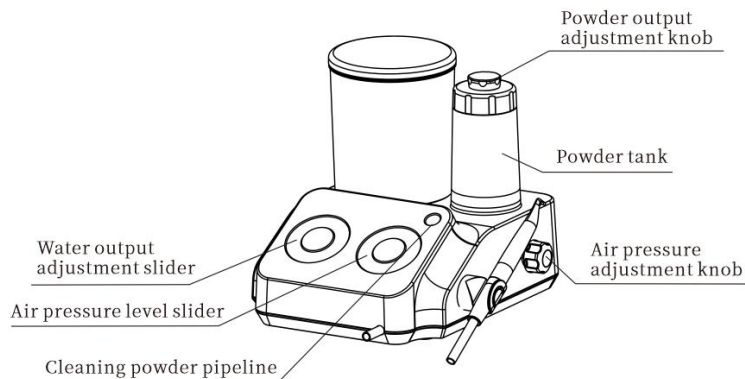


Figure 15
DP-60 Plus/DP-60 Pro air inlet and power supply interface

2.9

Water and Powder Output Regulation



- 1 Adjust water output by sliding the water out put adjustment slider
- 2 Rotate the powder output adjustment knob to regulate powder output volume
- 3 Rotate air pressure adjustment knob to regulate air pressure,current aire pressure level is shown on the air pressure level slider
- 4 Keep the powder tank dry to prevent clumping
- 5 Do not fill dental powder beyond MAX level mark in powder tank

Figure 16
DP-60 water and powder output adjustment

2 Product Installation

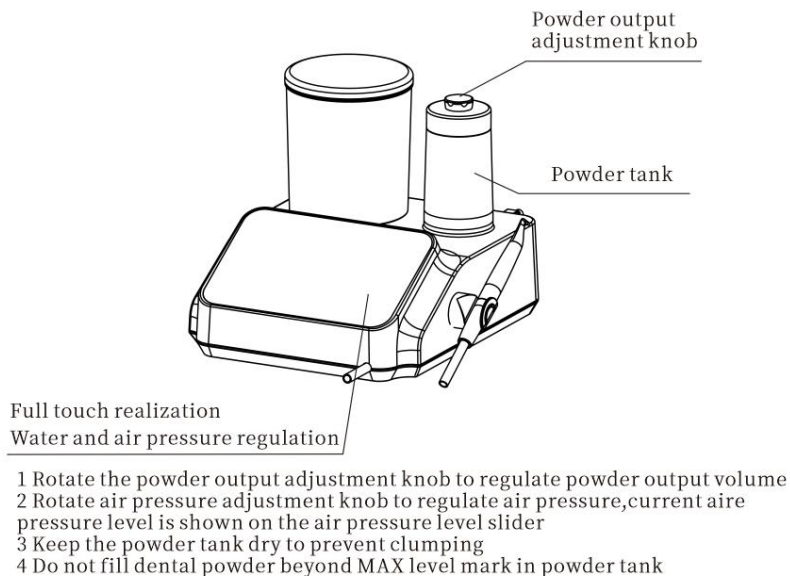


Figure 17
DP-60 Plus/DP-60 Pro water and powder output adjustment

2.10 Product Installation Steps

1. Unpack the equipment and verify all components against the packing list. Place the main unit facing the operator on a stable, level surface.
2. Connect the external air hose to the rear air inlet port on the main unit: Press the locking ring first, then insert the fitting. Install powder tank to the slot. (Figure 14, Figure 15)
3. Fill a proper amount of water into the water bottle and insert the bottle into the slot above the main unit (Figure 16, Figure 17).
4. Insert the wired foot switch plug into the wired foot switch interface; for wireless foot switch, see (Figure 9, Figure 13).
5. Insert the air polishing handpiece into the handpiece socket and place the handpiece on the right bracket.
6. Keep the power switch off on the main unit, then plug the output end of the power cord into the power socket on the back of the main unit, and plug the input end of the power cord into the 100-240V~ mains supply.



Warning 1: When the power cord is connected to the mains supply, the protective ground connection must be connected.

Warning 2: When the power cord is connected to the mains supply, do not place or install the device in a place where it is difficult to disconnect the mains.

3 Product Function and Usage

3.1 Air Polishing

- ① Pour an appropriate amount of dental powder into the powder tank (the amount of sand powder added should be controlled between "Max" and "Min" marked on the tank), then tighten the sand tank cover and insert the sand tank into the sand tank seat just above the main unit.
- ② If it is DP-60, click the slider to adjust the water output volume; to adjust the air pressure (see Figure 16 for details). If it is DP-60Plus/DP-60Pro, click water output volume "+" or "-" button on the touch panel to adjust the water output volume; click power "+" or "-" button to adjust the air pressure level. Take the air polishing handpiece with the nozzle directed toward a sink, depress the foot switch to test working, ensure that the handpiece can work properly.
- ③ Before air polishing treatment, ensure the patient wears protective goggles or a face veil. The user should wear goggles or a protective mask.

- ④ Hold the handpiece in a pen-grip position.
- ⑤ Adjust the water output volume and air pressure level to the appropriate level. It is recommended to start the water output volume from level 8 and the air pressure level from level 6. Adjust the water output and air pressure at any time during the clinical process according to the sensitivity of the patient's teeth and the condition of dental plaque.
- ⑥ During scaling, align the nozzle with the tooth surface but avoid direct contact. Maintain a distance of 3-5mm between the nozzle and tooth at a 30°-60° angle. Note: Smaller angles provide broader cleaning coverage. Use small circular motions across the tooth surface during the procedure.
- ⑦ During air polishing, use the high-speed exhaust device on the dental unit to absorb the air/powder mixture reflected from the tooth surface.

Note:



- 1) Dentists should wear special goggles when performing air polishing, and take other protective measures as required by the clinic/hospital.
- 2) When the patient is undergoing air polishing, the patient must be

protected in accordance with the hospital's requirements.

3.2 Cleaning Mode

After each use, flush the device tubing. The 'Cleaning Mode' enables purging of the pipelines to reduce powder crystallization buildup and prevent clogging.

- ① After use, put the handpiece back to the bracket. If it is DP-60, click the "C" button on the panel to start cleaning the pipeline; if it is DP-60 Plus/DP-60 Pro, click the "Clean" button on the user interface to start cleaning the pipeline;
- ② After 15 seconds of cleaning, the device will automatically stop the "cleaning" mode. During the cleaning process, click "C" (DP-60) or "Cancel" (DP-60 Plus/DP-60 Pro) on the interface to stop cleaning;
- ③ During the cleaning process, the device will automatically blow out the residual powder in the pipeline and release the high-pressure air in the powder tank.

3.3

Settings (DP-60 Does Not Have This Feature)

① Click the "Settings" icon on the user interface to enter the "Function Settings" interface (see Figure 9 for details).

② Select language according to your needs. Optional languages: "Chinese" and "English".

③ Choose a water source according to your needs. Two water sources optional: "water bottle" and "external water supply".

④ If you choose to use a wireless foot switch, start pairing. (It is paired before leaving the factory and no settings are required. If you need to replace a wireless foot switch, please refer to Chapter 2.8 for details)

⑤ Restore factory settings: After clicking "Restore factory settings", all system parameters will be restored to the factory settings.

⑥ If you need to turn the heating function on or off, click "Temperature" on the main interface (Figure 8). Level 0 turns off the heating, levels 1, 2, and 3 turn on the heating state, the temperature increases. Level 3 is the maximum heating level (Figure 10).

3.4 Wireless Foot Switch (DP-60 Does Not Have This Feature)

The wireless foot switch operates as a single-pedal control: Depress to activate the device, release to deactivate.



Note: Do not pull out or push in the handpiece when the foot switch is depressed to avoid damage to the sealing ring of the handpiece.

If the wireless foot switch will not be used for an extended period, please remove the battery.

3.5 Precautions

- 1) The machine should be kept clean before and after use.
- 2) Prior to each clinical procedure, run the device with water for 10 seconds to purge residual fluid from the tubing.
- 3) Operators should be wearing protection (such as goggles, masks, etc.) to prevent cross infection.

4) The use of the device must comply with the relevant operating specifications of the medical department and the requirements of relevant regulations, and is limited to use by trained doctors or technicians.

5) Sterilize the air polishing handpiece before each use.

6) Do not pull out or push in the handpiece when the foot switch is depressed.

7) When performing subgingival air polishing, do not exceed pressure level 6. Higher pressure may damage soft tissues. (DP-60 Pro).

8) Accidental inhalation or eye contact with abrasive particles may cause injury. We strongly recommend all personnel (including doctors, nurses, and patients) to wear protective goggles during air polishing treatment.

9) During the air polishing process, if you need to pour more powder to the powder tank, activate the "cleaning" mode first. Wait until the internal pressure of the powder tank is released, then remove the tank from the device and refill it with an appropriate amount of dental powder.

10) Before replacing the air polishing handpiece or nozzle, please use a three-way syringe to blow dry the moisture at the interfaces at both ends (especially the air

circuit interface) to prevent moisture from entering the air pipeline and avoid powder crystallization in the pipeline and causing clogging.

11) Ensure that ventilation holes and water outlets are not blocked.

12) Inspect gasket inside the powder tank lid is in good condition. If the gasket is deformed or falls off, replace and install a new one.

13) Rotate the powder tank lid into place to ensure a tight seal on the powder tank.

14) Check the sealing ring for damage. If the sealing ring is deformed, worn, cracked, or damaged in any way, replace and install it immediately.

15) Clean the interface of the water bottle before each use.

16) If disinfectant is used, replace it with pure water after and adjust the water output to the maximum, allowing to work for 30 seconds to clean the liquid pipeline and avoid blockage.

17) When the liquid level in the water bottle is below the lower limit, refill it to keep the fluid circuit unobstructed. Do not use unclean water.

18) After each use, active the "cleaning" function to flush the powder pipelines. Additionally, clean the powder tank to remove residual powder.

3 Product Function and Usage

19) Do not pull hard on the tail cable during use of the device to avoid damage.

20) Do not strike, scrape, or grind the handpiece.

21) After using the device, turn off the power switch and unplug the power cord of the power adapter.

22) Our company is a professional manufacturer of medical devices. We are responsible for the safety of the machine only when the maintenance, repair and modification of the machine are carried out by our company or dealers authorized by our company, and the replaced parts are our company's parts and operated in accordance with the instruction manual.

4 Reprocessing

The manual provides instructions for cleaning, sterilization and packaging of Dental Air Polisher intended to be reprocessed in medical facilities. Reprocessing components include handpiece.

The goal of reprocessing reusable products is to reduce bioburden and to achieve sterility of those products in order to eliminate the risk of product reuse related infection. Decisions regarding cleaning or sterilizing dental instruments are based on the potential risk of infection associated with their use.

It is recommended to use steam sterilization. Remember that sterilization cannot be achieved unless the elements of the assembly are cleaned first.

If there is anything in the following instructions that is not clear, do not hesitate to contact.

We encourage you to report adverse events related to device reprocessing. Report such events directly to Guilin Veirun Medical Technology Co., Ltd.

4.1 Reprocessing Instructions for Reusable Products

The manual is binding for the reprocessing of Dental Air Polisher. When necessary, additional product-specific instructions are included with the product to provide additional information.

Before use, carefully read the instruction manual of Dental Air Polisher and devices with which the product will be used. Reusable products must be cleaned and sterilized prior to first use. They must be replaced after the number of operations specified by the manufacturer. Disposable products (single use) cannot be reused.

4.2 Preparation

It is only possible to carry out effective sterilization after the completion of effective cleaning. Please ensure that, as part of your responsibility for the sterility of products during use, only sufficiently validated equipment and product-specific procedures are used for cleaning and sterilization, and that the validated parameters are adhered to during every cycle. Please also observe the applicable legal requirements in your country as well as the hygiene regulations of the hospital or clinic.

The treatment must be carried out immediately, no later than 30 minutes after the completion of the operation. Additional information, where necessary, is provided in the respective product-specific usage instructions.


Steps:

- 1) Completely disassemble the handpiece from Dental Air Polisher, if applicable. Rinse away any surface soiling of them with distilled deionized water or cleaning agent.
- 2) Rinse through all lumina (e.g. irrigation and aspiration connection) at least 3 times in the normal direction of flow (no back rinsing) using a disposable syringe (min. volume 50 ml) filled with distilled/deionized water applied to the back nozzle.
- 3) An aldehyde-free cleaning and disinfection solution that is compatible with the products may also be used as an alternative rinsing solution. In such cases, it is necessary to rinse thoroughly afterwards at least 3 times with distilled, or deionized water.

Preparation

When selecting the cleaning agent to be used, ensure that:


- These are fundamentally suitable for the cleaning of the products and compatible with one another,
- The chemicals used are compatible with the products.

 It is absolutely essential that the concentrations and contact times specified by the manufacturer of the cleaning agent are adhered to. Only freshly prepared solutions may be used. The solution is not permitted to foam. Only sterilized or low microbe count distilled/deionized water (< 10 cfu/ml) can be used for all rinsing steps.

Steps for manual cleaning

- 1) Completely disassemble the handpiece and instruments, if applicable.
- 2) Place the products in 75% ethyl alcohol for at least 3mins.
- 3) Remove any externally-attached soiling by brushing carefully with a soft brush or a soft cloth for at least 3 mins.

- 4) Rinse the products vigorously at least five times, each time with fresh distilled or deionized water (each product lumen with at least 50 ml of water). Repeat the cleaning process if the last rinsing does not run clear, or if stains are still visible on the product.


 The product adopts manual cleaning and it has been verified. Please do not modify the cleaning method without authorization, such as using disinfectant for automated cleaning.

Notice: No automatic cleaning for the product.

4.5 Drying

After cleaning, put the handpiece into the oven for drying. The recommended drying condition is 138°C for 20 minutes.

4.6 Inspection and Maintenance

 If stains are still visible on the product after cleaning, the entire cleaning procedure must be repeated. Products with visible damage, chip/flake loss, corrosion or bent out of shape must be disposed of (no further use is permissible).

Only cleaned products are permitted to be sterilized. Prior to sterilization, the products need to be placed in a suitable sterilization container:

- Resistant to 138°C, with adequate steam permeability,
- Maintained on a regular basis.

If single-use sterilization packaging is to be used, this must be suitable for steam sterilization (temperature resistant to 138°C with adequate steam permeability). The material of sterilization packaging is made of medical paper and PET/CPP. The packaging material complies with the requirements of EN ISO 11607-1.

Steps

- 1) Select a suitable sterilization packaging according to the size of the sterilized item and put the items in.
- 2) Place the sharp and specially shaped devices in the correct position for safe removal when opened.
- 3) Affix the strip of sterilization packaging (the strip of the packaging is sticky and it does not require additional processing for sealing such as heat sealing) and mark the sterilization time.

- 4) Put the sealed sterilization packaging rightly into steam sterilizer.
- 5) Pay attention to the color-changing: if sterilization is really implemented, it will turn black / grey from initial blue under steam sterilization.
- 6) Open the strip along the direction printed on the packaging and then takes the items out.

4.8

Sterilization

The handpiece can withstand 250 reprocessing cycles. Do not exceed the maximum number of reprocessing cycles.

Use only the following listed steam sterilization procedures for sterilization; other sterilization procedures are not permissible:

- Steam sterilizer in accordance with EN 13060 validated in compliance with EN ISO 17665,
- Maximum sterilization temperature 138°C.

Steps for sterilization

1. Sterilization at 134°C for 4 minutes.
2. Sterilization at 134°C for a maximum of 20 minutes is permissible.

The hot-air sterilization and radio-sterilization procedure may not be used (as it

causes the destruction of products). The manufacturer assumes no responsibility for the use of other sterilization procedures (e.g. ethylene oxide, formaldehyde and low temperature plasma sterilization).


4.9 Service Life

The handpiece have been designed for 250 reprocessing cycles. Dental Air Polisher has 10 years service life and handpiece have 5 years service life from start with production, if it exceeds reprocessing cycles or service life, it should be not used any more. The materials used in their manufacture were selected accordingly. However with every renewed preparation for use, thermal and chemical stresses will result in ageing of the products. The use of ultrasound baths and strong cleaning and disinfection fluids (alkalizing pH > 9 or acid pH < 5) can reduce the life span of products. The manufacturer accepts no liability in such cases. The products may not be exposed to temperatures above 138°C.

4.10 Storage and Transportation

After sterilization, keep sterilization packaging and stored it in the following environment to avoid infection and sterilization failure:

- Temperature:-20 °C to 55 °C,
- Humidity:≤90%,
- Atmospheric pressure:70kPa~106 kPa.

 The product can keep sterile for 6 months in sterilization packaging, when exceed the 6 months, it shall be reprocessed again before use.

After reprocessing, it is necessary to confirm that the products can work normally before use. If products with visible damage, chip/flake loss, corrosion, rust or bent out of shape must be disposed of (no further use is permissible).


5 Failure Analysis

5.1 Fault Analysis and Troubleshooting

Fault phenomenon	Possible causes	Troubleshooting
Device not working	Power cord not plugged in correctly	Check the power plug
	The fuse of main unit is broken	Replace the fuse of main unit under the guidance of the manufacturer's designated personnel T1AH250V (DP-60), T5AH250V (DP-60 Plus/DP-60 Pro)
	Battery of wireless foot switch exhausted	Replace battery
	Wireless foot switch malfunctioning	Refer to the wireless foot switch pairing in Section 2.8 and repairing
	Poor contact of wired foot switch	Plug in the foot switch plug properly

Handpiece still discharges water after power off	Solenoid valve failure	Contact the local dealer or our company
Low water output	The water output volume is too low	Increase water output volume appropriately
	Water pipeline blocked	Use a three-way syringe to clear pipeline
Water leakage at the connection between handpiece and handpiece socket	Waterproof O-ring is damaged	Replace the waterproof O-ring
Liquid/gas leakage under the device	Internal pipeline rupture	Contact local dealer or our company
When the device is activated, no water, powder, or air comes out of the handpiece.	No air or water	Contact local dealer or our company
	Handpiece or nozzle clogged	Pull out the handpiece and check whether there is air or powder spraying out of the handpiece socket. If powder, air and water can spray out, please use a steel wire to clear the handpiece and put it in the cleaning machine for cleaning.

No powder and water, but only air spray out when the device is activated	No powder	Check whether there is too much or too little powder in the powder tank
	No water	Check if there is water in the water bottle
	Moist powder	Empty and dry the powder tank, then refill with dry powder.

 **Note:** If the problem still cannot be solved, please contact local dealer or our company.

5.2 Air Polishing Maintenance

1) After each use of the device teeth cleaning, activate the cleaning function to make the device automatically activate the air pipeline cleaning for 15 seconds, and blow out the residual powder in the pipeline to prevent clogging.

2) Before use, check the air-water separation valve. If there is liquid inside the valve, it is necessary to turn the knob at the bottom of the valve to drain the liquid inside. See Figures 14 and 15.

6 Storage, Maintenance and Transportation

6.1 Storage and Maintenance

- This product should be handled with care, kept away from shaking sources, and installed or stored in a cool, dry and well-ventilated place.
- Do not store this product together with toxic, corrosive, flammable and explosive items.
- This product should be powered on and activated with water at least once a month, 5 minutes minimum.
- This product should be stored in an environment with a temperature of $-20^{\circ}\text{C} \sim 55^{\circ}\text{C}$, a relative humidity of $\leq 90\%$, and an atmospheric pressure of $70\text{kPa} - 106\text{kPa}$.

6.2 Transportation

- Do not transport together with dangerous goods.
- During transportation, avoid excessive shock and shaking, handle with care,

and do not place it upside down.

- Avoid exposure to sunlight, rain or snow during transportation.

6.3 Moisture Separator

1) When water accumulates in the filter, unscrew the knob at the bottom of the filter counterclockwise to drain the water, then tighten the knob clockwise (see Figures 14 and 15 for details).

2) Replace the filter element: Remove the transparent protective tube of the separation valve, use a filter wrench to unscrew the transparent housing of the filter. Use the wrench to unscrew the black nut at the lower end of the filter element, take out the white filter element, and replace it with the new one. Reinstall the black nut and transparent housing. It is recommended to replace the filter element every 24 months.

7 Repair and Maintenance Checklist

Serial	name	Specifications/Models	Replacement	Replacement method
1	Main Board	/	/	/
2	Handpiece tube	/	/	/
3	Air polishing Handpiece	AH-1(DP-60/DP-60 Plus/DP-60 Pro) AH-4(DP-60 Pro)	250 times or 5 years	See Section 2.7
4	Fuse of main unit	T1AH250V(DP-60) , T5AH250V(DP-60 Plus/DP-60 Pro)	/	/
5	Air pipeline	4mm×6mm	/	/
6	Power supply	/	/	/
7	Solenoid valve	/	/	/
8	Wireless foot switch	/	/	/
9	Wired foot switch	/	/	/
10	T type connector	/	/	/
11	O-Ring	11×1.5	3 months	User - replaceable
12	O-Ring	6.5×1.5	3 months	User - replaceable
13	O-Ring	8×1.5	3 months	User - replaceable
14	O-Ring	11.1×1.8	3 months	User - replaceable
15	O-Ring	5×1	3 months	User - replaceable
16	O-Ring	43×2	3 months	User - replaceable





























17	Silicone tube	4×1.5	3 months	User - replaceable
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Note: This manual does not exhaustively list the specifications of the accessories for the dental air polisher. For details, please refer to the packing list provided with the product.

8 After-Sales Service

From the date of sale, this product is warranted with the warranty card and enjoys lifetime maintenance. Damage to the equipment that is irreparable due to repairs by non - designated special maintenance personnel is not covered by the warranty.

9 Graphic Identity

	Manufacturer's logo		Caution!		Keep dry		Type B Applied part		Do not dispose of the product into the ordinary municipal waste or garbage system
	Fuse		Manufacturer		Medical device		Serial number		Sterilizable at up to 134°C in the steam sterilizer (autoclave) at temperature specified
	Temperature limit		Atmospheric pressure limitation		Fragile, handle with care		Humidity limitation		Date of manufacture
	Use-by date		This way up	 0.5Mpa-0.6Mpa	Air supply pressure is 0.5~0.6MP		Foot switch		Refer to instruction manual/booklet
OFF	"OFF" (power)	ON	"ON" (power)		Water flow rate setting		Power setting		Degree of protection against ingress of water
	Do not roll		Stacking limit by number		AA battery		Cleaning Mode		For indoor use only
Min	Minimum	Max	Maximum						

10 Product disposal

No.	Components	Disassemble methods	Dispose methods
1	Printed-wiring boards	Use a phillips screwdriver to remove the fixing screw, unplug the cable, and remove the items.	Recycle as metals and metal compounds. Please put them to the waste sorting recycling bin of metals.
2	Pump		1.For metals and metal compounds, please put them to the waste sorting recycling bin of metals. 2.For nonmetal, please put them to the waste sorting recycling bin of organic substances which are not used as solvents,which can be used for composting and other biological transformation processes.
3	Solenoid valve		
4	Enclosure Powder tank		Please put them to the waste sorting recycling bin of organic substances

5	PU tube	Remove the PU tube with nipper pliers.	which are not used as solvents, which can be used for composting and other biological transformation processes.
6	Water bottle	Remove from the main unit.	
7	Foot switch	/	1.For metals and metal compounds, please put them to the waste sorting recycling bin of metals. 2.For nonmetal, please put them to the waste sorting recycling bin of organic substances which are not used as solvents, which can be used for composting and other biological transformation processes.
8	Handpiece	/	



- 1.Electrical waste products should not be disposed of with household waste.
- 2.Please recycle where facilities exist. Check with your local authority or retailer for recycling advice if you are unclear.

11 Manufacturer's Rights

Our company reserves the right to modify the product design, technology, accessories, contents of the instruction manual, and packing list at any time without prior notice. In case of any discrepancy, the actual product shall prevail.

12 Electromagnetic Compatibility



Notice:

- 1) Without the express consent of Guilin Veirun Medical Technology Co., Ltd., unauthorized modification or alteration of the equipment may cause electromagnetic compatibility issues with this equipment or other devices.
- 2) The design and testing of DP-60/DP-60 Plus/DP-60 Pro Dental Air Polisher comply with the relevant electromagnetic compatibility operating procedures.
- 3) PS: When conducting the electrical fast transient pulse group test, the water level indicator light and the air pressure indicator light may flash due to interference. This will not affect normal use and will recover automatically after the test is completed. Clinicians with professional training experience and fields including the use of special equipment or systems have been consulted to determine that the risk is acceptable.

12.1 Cable Installation Requirements

Cable Name	Cable Type	Cable length
Power input	Unshielded parallel cables	2 m
Foot switch input cable	Unshielded parallel cables	2.5 m

12.2 Electromagnetic Compatibility Key Components

The key electromagnetic compatibility (EMC) components of this product include the main board chip, IC chip, switching power supply, power cord, and capacitor of the air polisher. Using or replacing non-matching designed accessories, cables, etc., will significantly reduce EMC emission and immunity performance. Do not replace product components without authorization.

12.3**Guidance and Manufacturer's Declaration – Electromagnetic Emissions**

Guidance and manufacturer's declaration - electromagnetic emissions	
Emissions test	Compliance
RF emissions CISPR 11	Group 1
RF emissions CISPR 11	Class B
Harmonic emissions IEC 61000-3-2	Class A
Voltage fluctuations / flicker emissions IEC 61000-3-3	Comply

Guidance and manufacturer's declaration - electromagnetic immunity		
Immunity Test	IEC 60601-1-2 Test level	Compliance level
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air	± 8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air
Electrical transient/burst fast IEC 61000-4-4	± 2 kV for power supply lines 100 kHz repetition frequency	± 2 kV for power supply lines 100 kHz repetition frequency
Surge IEC 61000-4-5	± 0.5 kV, ± 1 kV differential mode	± 0.5 kV, ± 1 kV differential mode

Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0 % UT; 0,5 cycle. At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°. 0 % UT; 1 cycle and 70 % UT; 25/30 cycles; Single phase: at 0°. 0 % UT; 250/300 cycle	0 % UT; 0,5 cycle. At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°. 0 % UT; 1 cycle and 70 % UT; 25/30 cycles; Single phase: at 0°. 0 % UT; 250/300 cycle
Power frequency magnetic field IEC 61000-4-8	30 A/m 50Hz/60Hz	30 A/m 50Hz/60Hz
Conducted RF IEC 61000-4-6	3V, and 6V in ISM band and Amateur radio band 0.15 MHz – 80MHz 80 % AM at 1KHz	3V, and 6V in ISM band and Amateur radio band 0.15 MHz – 80MHz 80 % AM at 1KHz
Radiated RF IEC 61000-4-3	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1KHz	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1KHz
NOTE UT is the a.c. mains voltage prior to application of the test level.		

Guidance and manufacturer' s declaration - electromagnetic Immunity						
Radiated RF IEC 61000-4-3 (Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications equipment)	Test Frequency (MHz)	Band (MHz)	Service	Modulation	IEC 60601-1-2 Test Level (V/m)	Compliance level (V/m)
	385	380 – 390	TETRA 400	Pulse modulation 18 Hz	27	27
	450	430 – 470	GMRS 460, FRS 460	FM \pm 5 kHz deviation 1 kHz sine	28	28
	710	704 – 787	LTE Band 13, 17	Pulse modulation 217 Hz	9	9
	745					
	780					
	810	800 – 960	GSM 800/900, TETRA 800,	Pulse modulation	28	28
	870					

	930		iDEN 820, CDMA 850, LTE Band 5	18 Hz		
	1720	1700	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation 217 Hz	28	28
	1845	–				
	1970	1990				
	2450	2400 – 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation 217 Hz	28	28
	5240	5100	WLAN 802.11 a/n	Pulse modulation 217 Hz	9	9
	5500	–				
	5785	5800				

Guidance and manufacturer' s declaration - electromagnetic Immunity				
Radiated RF IEC 61000-4-39 (Test specifications for ENCLOSURE PORT IMMUNITY to proximity magnetic fields)	Test Frequency	Modulation	IEC 60601-1-2 Test Level (A/m)	Compliance level (A/m)
	30 kHz	CW	8	8
	134,2 kHz	Pulse modulation 2.1 kHz	65	65
	13,56 MHz	Pulse modulation 50 kHz	7,5	7,5

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