

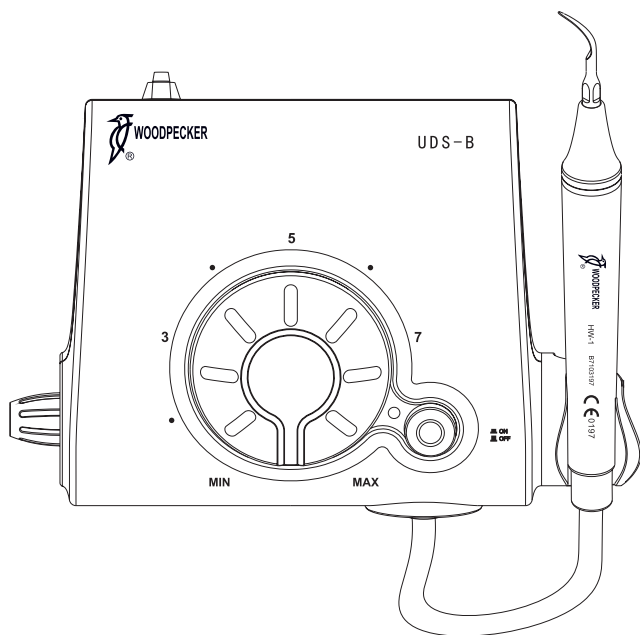


Industrial design patent No.: CN 200830300435.3

Please read this manual before operating

UDS-B ULTRASONIC SCALER

INSTRUCTION MANUAL



www.glwoodpecker.com

GUILIN WOODPECKER MEDICAL INSTRUMENT CO., LTD.

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1 The installation and components of equipment

1.1 Instruction

Guilin Woodpecker Medical Instrument Co., Ltd. is a professional manufacturer in researching, developing and producing ultrasonic scaler. The product is mainly used for teeth cleaning and also an indispensable equipment for teeth disease prevention and treatment. The product UDS-B ultrasonic scaler has scaling function. It contains the following features:

1.1.1 Automatic frequency tracking ensures that the machine always works on the best frequency and more steadily.

1.1.2 Digitally controlled, easy operation and more efficient for scaling.

1.2 Components

1.2.1 The components of the machine are listed in the packing list.

The scaling tips and other accessories are not listed in this instruction manual completely. The detail can be found in the instruction for tips and packing list.

1.2.2 Product performance and structure

Ultrasonic scaler is composed of electro circuit, water way and ultrasonic transducer.

1.2.3 Scope of application

Ultrasonic scaler UDS-B is used for the dental calculus elimination.

1.3 The main technical specifications

1.3.1 Power supply input: 220 - 240V~ 50Hz/60Hz 150mA

1.3.2 Main unit input: 24V~ 1.3A

1.3.3 Output primary tip Vibration excursion: $\leq 100\mu\text{m}$

1.3.4 Output half-excursion force: $< 2\text{N}$

1.3.5 Output tip Vibration frequency: $30\text{kHz} \pm 3\text{kHz}$

1.3.6 Output power: 3W to 20W

1.3.7 Main unit fuse: T 1.6AL 250V

1.3.8 Power supply fuse: T 0.5AL 250V

1.3.9 Water pressure: 0.1bar~5bar (0.01MPa ~0.5MPa)

1.3.10 Weight of main unit: 0.62kg

1.3.11 Weight of power supply: 1 kg

1.3.12 Main unit volume: $192\text{mm} \times 128\text{mm} \times 78\text{mm}$

1.3.13 Operating mode: Continuous operation

1.3.14 Type of protection against electric shock: Class II

1.3.15 Degree of protection against electric shock: Type BF applied part

1.3.16 Applied part of the equipment: handpiece and tip

1.3.17 Degree of protection against harmful ingress of water: Ordinary equipment (IPX0), Protection degree against water (used on foot switch): IPX1

1.3.18 Degree of safety of application in the presence of a Flammable Anesthetic Mixture with air or with Oxygen or Nitrous Oxide: Equipment not suitable for being used in the presence of a flammable anesthetic mixture with air

or with oxygen or nitrous oxide.

1.4 Installation of the main components

1.4.1 Sketch map for installation and connection

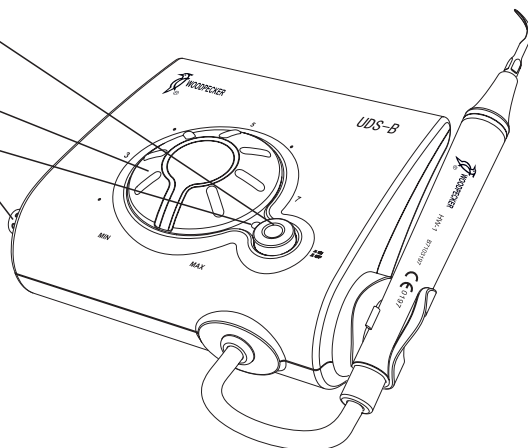
a) The top and side map of the equipment

Power switch

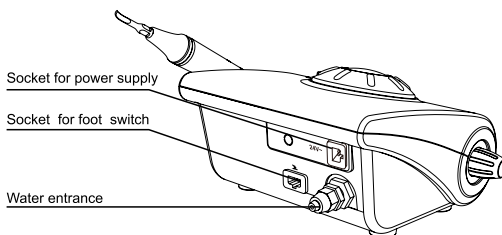
Power knob

Power indicator

Water control knob

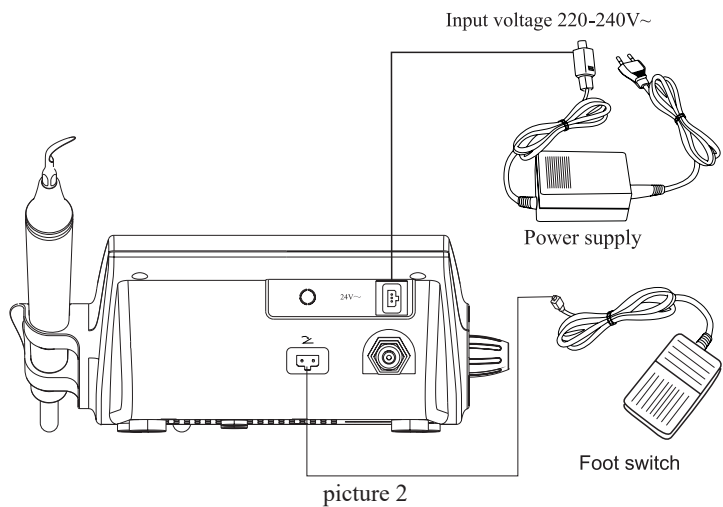


picture 1(a)

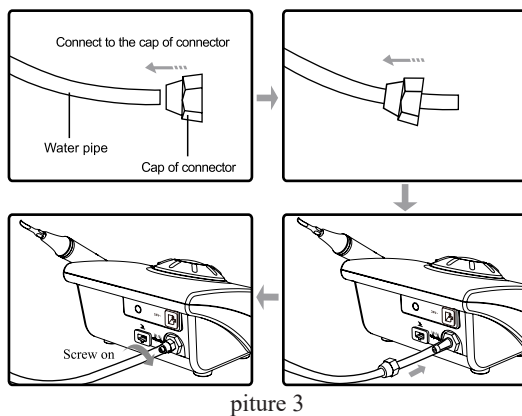


picture 1(b)

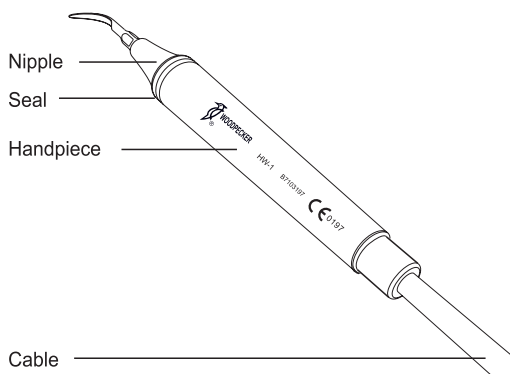
b) Sketch map for connection of foot switch, power supply and main unit.



c) Sketch map for connection of water supply system.

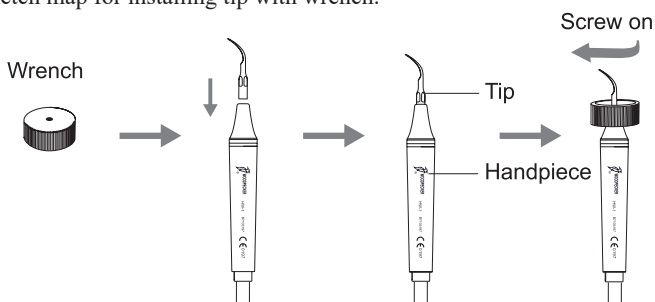


d) Sketch map for handpiece.



picture 4

e) Sketch map for installing tip with wrench.



picture 5

2. Product function and usage

2.1 Scaling function

2.2 Usage

2.2.1 Open the packing box, make sure that all the parts and accessories are complete according to the packing list. Take the main unit out of the box and put it on a stable plane.

2.2.2 Turn the water control knob to the max based on symbol as shown in 3.4.2 [note 1].

2.2.3 Insert the plug of the foot switch to its socket (picture 2).

2.2.4 Connect one end of the water pipe to the water entrance, and the other end to the pure water source (picture 3).

2.2.5 Insert the plug of the power supply to its socket, then get through to the electricity (picture 2).

2.2.6 Switch on the main unit, then the power LED lights up.

2.2.7 Select a suitable scaling tip as you need, screw it on the handpiece tightly by the wrench (picture 5).

2.2.8 The normal frequency is extremely high. Under the normal working state of the scaling tip, a light touch and a certain to-and-fro motion will eliminate the tartar without heating. Overexertion and long-time lingering are forbidden.

2.2.9 Vibrating intensity: adjust the vibration intensity as you need, generally turn the knob to the middle grade. According to patients' different sensitivity and the rigidity of the gingival tartar, adjust the vibration intensity during the clinical treatment.

2.2.10 Water volume adjustment: step on the foot switch, and the tip begins to vibrate, then turn the water control knob to form fine spray to cool down the handpiece and rinse the teeth.

2.2.11 The handpiece can be handled in the same gesture as a pen in hand.

2.2.12 During the clinical treatment, be sure not to make the end of tip touch the teeth vertically and not to make the tip overexert on the surface of the teeth in case of hurting the teeth and damaging the tip.

2.2.13 After finishing operation, keep the machine working for 30 seconds on the water supply condition in order to rinse the handpiece and the scaling tip.

Notice: Don't screw off the scaling tips when the foot switch is stepped on and the machine is working.

3. Maintenance

3.1 Troubleshooting

Faults	Possible causes	Solutions
The scaling tip doesn't vibrate and there is no water flowing out when stepping on the foot switch	The power pipe plug is in loose contact	Make the plug insert to the socket well
	The foot switch is in loose contact	Insert the foot switch to its socket tightly
	The fuse of transformer is broken	Contact our dealers or us
	The fuse in the main unit is broken	Contact our dealers or us
The scaling tip doesn't vibrate but there is water flowing out when stepping on the foot switch	The tip is in loose contact	Screw on the tip to the handpiece tightly (picture 5)
	The connect plug between the handpiece and the circuit board is in loose contact	Contact our dealers or us
	Problem of handpiece	Contact our dealers or us
The scaling tip vibrates but there is no spray when stepping on the foot switch	The water control switch is not on	Turn on the water control knob 【note 1】
	There is impurity in the electric-magnetic valve	Contact our dealers or us
	The water system is blocked	Clean the water pipe by multi-function syringe 【note2】
There is still water flowing out after the power is cut off.	There is impurity in the electric-magnetic valve	Contact our dealers or us
The handpiece generates heat	The water control knob is in a low grade	Turn the water control knob to a higher grade 【note 2】
The amount of spouting water is too little	The water pressure is not high enough	Make the water pressure higher
	The water pipe is blocked	Clean the water pipe by multi-function syringe 【note2】
The vibration of the tip becomes weak	The tip hasn't been screwed on to the handpiece tightly	Screw the tip on the handpiece tightly(as showed in picture 5)
	The tip is loose because of vibration	Screw on the tip tightly (as showed in picture 5)
	The tip is damaged 【note3】	Change a new one

If the problem still can't be solved, please contact with local dealer or manufacturer.

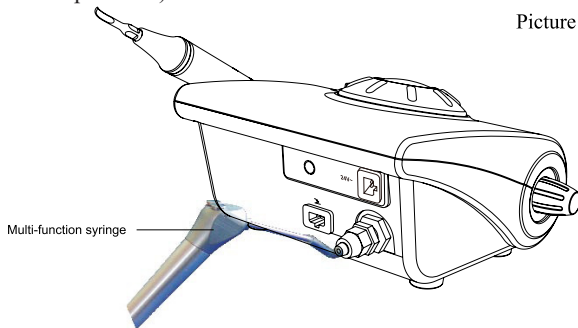
3.2 Notice

[Note 1] Turn the water control knob toward direction of symbol till not be able to turn any more, it comes to the min; on the contrary direction, the water volume

increases step by step till not be able to turn anymore.

[Note 2] Clean the water pipe with the multi-function syringe of the dental unit (as showed in picture 6):

Picture 6



- ① Cut the water pipe at a distance of 10cm~20cm from the water entrance.
- ② Turn on the electricity and get through to the power.
- ③ Connect the multi-function syringe of dental unit to the water pipe.
- ④ Disassemble the tip or handpiece.
- ⑤ Step on the foot switch.
- ⑥ Turn on the switch of the multi-function syringe, press the water into the machine and the impurity blocked in the water pipe can be eliminated.

[Note 3] If the scaling tip has been screwed on tightly and there is fine spray, the following phenoruena shows that the scaling tip is damaged:

- ① The vibrating intensity and the water atomization degree become weak obviously.
- ② During treatment, it produces the sound like "buzz" from the scaling tip.

4. Cleaning, Disinfection and Sterilization

The cleaning, disinfection and sterilization of tip, and wrench (include 1# torque wrench and Endo wrench) are as follow.

Unless otherwise stated, they will be hereinafter referred to as “products”.

Warnings

The use of strong detergent and disinfectant (alkaline pH>9 or acid pH <5) will reduce the life span of products. And in such cases, the manufacturer takes no responsibility.

This products shall not be exposed to high temperature above 138°C.

Processing limit

Theproducts have been designed for a large number of sterilization cycles. The materials used in manufacture were selected accordingly. However with every renewed preparation for use, thermal and chemical stresses will result in ageing of the products. The maximum number of sterilizations for tips is 300 times. And for wrench, it is 1000 times.

4.1 Initial processing

4.1.1 Processing principles

It is only possible to carry out effective sterilization after the completion of effective cleaning and disinfection. 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/disinfection 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, especially with regard to the additional requirements for the inactivation of prions.

4.1.2 Post-operative treatment

The post-operative treatment must be carried out immediately, no later than 30 minutes after the completion of the operation. The steps are as follows:

Tools: Endo wrench or 1# torque wrench, tray, clean and dry soft cloth

1. Let the UltrasonicScaler works for 20-30 seconds at maximum water volume to flush the handpiece and tip;

2. Soak the soft cloth with pure water (or distilled water or deionized water), and then wipe all the surfaces of the handpiece and tip until the surface of them is not stained;

3. Dry the handpiece and tip with a clean, soft cloth;

4. Remove the tip from handpiece with Endo wrench or 1# torque wrench provided by Guilin Woodpecker Medical Instrument Co., Ltd, and then put the tip and wrench into a clean tray.

Notes

a) The water used here must be pure water, distilled water or deionized water.

4.2Cleaning

The cleaning should be performed no later than 24 hours after the operation.

The cleaning can be divided into automated cleaning and manual cleaning. Automated cleaning is preferred if conditions permit.

4.2.1Automated cleaning

•The cleaner is proved to be valid by CE certificationin accordance with EN ISO 15883.

•There should be a flushing connector connected to the inner cavity of the product.

•The cleaning procedure is suitable for the product, and the irrigating period is sufficient.

It is recommended to use a washer-disinfector in accordance with EN ISO 15883. For the specific procedure, please refer to the automated disinfection section in the next section "Disinfection".

Notes

a) The cleaning agent does not have to be pure water.It can be distilled water, deionized water or multi-enzyme. But please ensure that the selected cleaning

agent is compatible with the product.

b) In washing stage, the water temperature should not exceed 45 °C, otherwise the protein will solidify and it would be difficult to remove.

c) After cleaning, the chemical residue should be less than 10mg / L.

4.3Disinfection

Disinfection must be performed no later than 2 hours after the cleaning phase. Automated disinfection is preferred if conditions permit.

4.3.1 Automated disinfection-Washer-disinfector

- The washer-disinfector is proved to be valid by CE certification in accordance with EN ISO 15883.

- Use high temperature disinfection function. The temperature does not exceed 134 ° C, and the disinfection under the temperature cannot exceed 20 minutes.

- The disinfection cycle is in accordance with the disinfection cycle in EN ISO 15883.

Cleaning and disinfecting steps by using Washer-disinfector

1. Carefully place the product into the disinfection basket. Fixation of product is neededonly when the product is removable in the device. The products are not allowed to contact each other.

2. Use a suitable rinsing adaptor, and connect the internal water lines to the rinsing connection of the washer-disinfector.

3. Start the program.

4. After the program is finished, remove theproductfrom the washer-disinfector, inspect (refer to section "Inspection and Maintenance") and packaging (refer to chapter "Packaging"). Dry the productrepeatedly if necessary (refer to section "Drying").

Notes

- a)Before use, you must carefully read the operating instructions provided by the equipment manufacturer to familiarize yourself with the disinfection process and precautions.

- b)With this equipment, cleaning, disinfection and drying will be carried out together.

- c)Cleaning: (c1)The cleaning procedure should be suitable for the product to be treated. The flushing period should be sufficient (5-10 minutes). Pre-wash for 3 minutes, wash for another 5 minutes, and rinse it for twice with each rinse lasting for 1 minute. (c2) In the washing stage, the water temperature should not exceed 45 °C, otherwise the protein will solidify and it is difficult to remove. (c3) The solution used can be pure water, distilled water, deionized water or multi-enzyme solution, etc., and only freshly prepared solutions can be used.(c4)During the use of cleaner, the concentration and time provided by manufacturer shall be obeyed. The used cleaner is neodisherMediZym (Dr. Weigert).

- d)Disinfection: (d1) Direct use after disinfection: temperature $\geq 90^{\circ}\text{C}$, time ≥ 5 min or $A0 \geq 3000$;

- (d2)Sterilize it after disinfection and use: temperature $\geq 90^{\circ}\text{C}$, time ≥ 1 min or

$A0 \geq 600$

(d3) For the disinfection here, the temperature is 93°C , the time is 2.5 min, and $A0 > 3000$

e) Only distilled or deionized water with a small amount of microorganisms (<10 cfu/ml) can be used for all rinsing steps. (For example, pure water that is in accordance with the European Pharmacopoeia or the United States Pharmacopoeia).

f) After cleaning, the chemical residue should be less than 10mg/L .

g) The air used for drying must be filtered by HEPA.

h) Regularly repair and inspect the disinfectant.

4.4 Drying

If your cleaning and disinfection process does not have an automatic drying function, dry it after cleaning and disinfection.

Methods

1. Spread a clean white paper (white cloth) on the flat table, point the product against the white paper (white cloth), and then dry the product with filtered dry compressed air (maximum pressure 3 bar). Until no liquid is sprayed onto the white paper (white cloth), the product drying is completed.

2. It can also be dried directly in a medical drying cabinet (or oven). The recommended drying temperature is $80^{\circ}\text{C} \sim 120^{\circ}\text{C}$ and the time should be 15~40 minutes.

Notes

a) The drying of product must be performed in a clean place.

b) The drying temperature should not exceed 138°C ;

c) The equipment used should be inspected and maintained regularly.

4.5 Inspection and maintenance

In this chapter, we only check the appearance of the product.

4.5.1 Check the product. If there is still visible stain on the product after cleaning/disinfection, the entire cleaning/disinfection process must be repeated.

4.5.2 Check the product. If it is obviously damaged, smashed, detached, corroded or bent, it must be scrapped and not allowed to continue to be used.

4.5.3 Check the product. If the accessories are found to be damaged, please replace it before use. And the new accessories for replacement must be cleaned, disinfected and dried.

4.5.4 If the service time (number of times) of the product reaches the specified service life (number of times), please replace it in time.

4.6 Packaging

Install the disinfected and dried product and quickly package it in a medical sterilization bag (or special holder, sterile box).

Notes

a) The package used conforms to ISO 11607;

- b) It can withstand high temperature of 138 °C and has sufficient steam permeability;
- c) The packaging environment and related tools must be cleaned regularly to ensure cleanliness and prevent the introduction of contaminants;
- d) Avoid contact with parts of different metals when packaging.

4.7 Sterilization

Use only the following steam sterilization procedures (fractional pre-vacuum procedure*) for sterilization, and other sterilization procedures are prohibited:

1. The steam sterilizer complies with EN13060 or is certified according to EN 285 to comply with EN ISO 17665;
2. The highest sterilization temperature is 138 °C;
3. The sterilization time is at least 4 minutes at a temperature of 132 °C / 134 °C and a pressure of 2.0 bar ~ 2.3 bars.
4. Allow a maximum sterilization time of 20 minutes at 134 °C.

Verification of the fundamental suitability of the products for effective steam sterilization was provided by a verified testing laboratory.

Notes

- a) Only products that have been effectively cleaned and disinfected are allowed to be sterilized;
- b) Before using the sterilizer for sterilization, read the Instruction Manual provided by the equipment manufacturer and follow the instructions;
- c) Do not use hot air sterilization and radiation sterilization as this may result in damage to the product;
- d) Please use the recommended sterilization procedures for sterilization. It is not recommended to sterilize with other sterilization procedures such as ethylene oxide, formaldehyde and low temperature plasma sterilization. The manufacturer assumes no responsibility for the procedures that have not been recommended. If you use the sterilization procedures that have not been recommended, please adhere to related effective standards and verify the suitability and effectiveness.

*Fractional pre-vacuum procedure = steam sterilization with repetitive pre-vacuum. The procedure used here is to perform steam sterilization through three pre-vacuums.

4.8 Storage

4.8.1 Store in a clean, dry, ventilated, non-corrosive atmosphere with a relative humidity of 10% to 93%, an atmospheric pressure of 70KPa to 106KPa, and a temperature of -20 °C to +55 °C;

4.8.2 After sterilization, the product should be packaged in a medical sterilization bag or a clean sealing container, and stored in a special storage cabinet. The storage time should not exceed 7 days. If it is exceeded, it should be reprocessed before use.

Notes

- a) The storage environment should be clean and must be disinfected regularly;
- b) Product storage must be batched and marked and recorded.

4.9 Transportation

1. Prevent excessive shock and vibration during transportation, and handle with care;
2. It should not be mixed with dangerous goods during transportation.
3. Avoid exposure to sun or rain or snow during transportation.

The cleaning and disinfection of main unit and handpiece are as follows.

1 Pre-Op processing

Before each use, the handpiece and main unit must be cleaned and disinfected. The specific steps are as follows:

1.1 Manual cleaning steps:

- 1.1.1 Wet the soft cloth completely with distilled water or deionized water, and then wipe all the surfaces of the handpiece and main unit until the surface of them is not stained.
- 1.1.2 Wipe the surface of the handpiece and main unit with a dry soft nap-free cloth.
- 1.1.3 Repeat the above steps at least 3 times.

Notes:

- a) Use distilled water or deionized water for cleaning at room temperature.

1.2 Manual disinfection steps:

- 1.2.1 Soak the dry soft cloth with 75% alcohol
- 1.2.2 Wipe all the surfaces of the handpiece and main unit with a wet soft cloth for at least 3 minutes.
- 1.2.3 Wipe the surface of the handpiece and main unit with a dry soft nap-free cloth.

Notes:

- a) The cleaning and disinfection must be performed within 10min before use.
- b) The disinfectant used must be used immediately, no foaming is allowed.
- c) In addition to 75% alcohol, you can use non-residue disinfectants such as Oxytech from Germany, but you must respect the concentration, temperature and time specified by the disinfectant manufacturer.

2 Post-Op processing

After each use, clean and disinfect the handpiece and main unit within 30 minutes. The specific steps are as follows:

Tools: Nap-free soft cloth, tray

- 2.1 Remove the tip from handpiece with Endo wrench or 1# torque wrench provided by Guilin Woodpecker Medical Instrument Co., Ltd, and then put the tip and wrench into a clean tray.
- 2.2 Soak the nap-free soft cloth with distilled water or deionized water, and then wipe all the surfaces of the handpiece and main unit until the surface of them is not stained.

2.3 Wet the dry soft cloth with 75% alcohol, and then wipe all surfaces of the handpiece and main unit for 3 minutes.

2.4 Put the handpiece and main unit back into the clean storage area.

Notes:

a) The cleaning and disinfection must be performed within 10min before use.

b) The disinfectant used must be used immediately, no foaming is allowed.

c) In addition to 75% alcohol, you can use non-residue disinfectants such as Oxytech from Germany, but you must respect the concentration, temperature and time specified by the disinfectant manufacturer.

5. Precaution

5.1 Notice when using equipment

5.1.1 Keep the scaler clean before and after operation.

5.1.2 The handpiece, scaling tip and wrench must be sterilized before every treatment.

5.1.3 Don't screw or unscrew the scaling tip when stepping on the foot switch.

5.1.4 The scaling tip must be fastened and there must be fine spray coming out from the tip when operating.

5.1.5 Change a new one when the tip is damaged or worn excessively.

5.1.6 While scaler working, the heat of scaling tip will become higher if there is no water flowing out. Please keep the water flow smoothly.

5.1.7 Don't twist or rub the tip.

5.1.8 Don't use impure water source and be sure not use normal brine instead of pure water source.

5.1.9 If use the water source without hydraulic pressure, the water surface should be one meter higher than the head of the patient.

5.1.10 Don't pull the cable forcibly in case of the handpiece falling off from the cable.

5.1.11 Don't knock or rub the handpiece. The modified content of instruction:

5.1.12 Please put the power plug into the socket easy to pull out, to make sure it can be pulled out in emergency.

5.1.13 The power supply is considered as a part of ME equipment. This device can only be equipped with the special power supply of Guilin Woodpecker Medical Instrument Co., Ltd.

5.1.14 The power supply is not waterproof. Please keep it dry and away from the water.

5.1.15 After operating, turn off the power, then pull out the plug.

5.1.16 We are only responsible for the safety on the following conditions:

a) The maintenance, repair and modification are made by the manufacturer or the authorized dealer.

b) The changed components are original of "WOODPECKER" and operated according to instruction manual.

5.1.17 The internal screw thread of the scaling tips produced by some other manufactures maybe coarse, rusty and collapsed. This will damage the external screw thread of the handpiece irretrievably. Please use "WOODPECKER" brand scaling tips.

5.1.18 Please select a suitable power when using different type of tips (refer to "TABLE OF OPERATING POWER OF THE TIPS").

5.2 Contraindication

5.2.1 The hemophilia disease patient is not allowed to use this equipment.

5.2.2 The patients or doctors with heart pacemaker are forbidden to use this equipment.

5.2.3 The heart disease patient, pregnant woman and children should be cautious to use the equipment.

5.3 Storage and maintenance

5.3.1 The equipment should be handled carefully and lightly. Be sure that it is far from the vibration, and installed or kept in a cool, dry and ventilated place.

5.3.2 Don't store the machine together with the articles that are combustible, poisonous, caustic, and explosive.

5.3.3 This equipment should be stored in a room where the relative humidity is 10% ~ 93%, atmospheric pressure is 70kPa to 106kPa, and the temperature is -20°C ~ +55°C.

5.3.4 If not be used for a long time, please make the machine get through to the electricity and water once per month for five minutes.

5.4 Transportation

5.4.1 Excessive impact and shake should be prevented in transportation. Lay it carefully and lightly and keep it upright.

5.4.2 Don't put it together with dangerous goods during transportation.

5.4.3 Avoid solarization and getting wet in rain or snow during transportation.

5.5 Working condition

5.5.1 Environment temperature: +5°C to +40°C

5.5.2 Relative humidity: 30% ~ 75%

5.5.3 Atmosphere pressure: 70kPa to 106kPa

5.5.4 A temperature of the water at the inlet: not higher than +25°C

6. After-service

We offer one year free repair to the equipment according to the warranty card. The repair of the equipment should be carried out by our professional technician. We are not responsible for any irretrievable damage caused by the not professional person.

7. Symbol instruction



Trademark



Used indoor only



Follow Instructions for Use



Appliance compliance
WEEE directive



Class II equipment



Alternating current



Type BF applied part



Socket for the foot switch



Adjustment for the
water flow



Date of manufacture



Can be autoclaved



Manufacturer



Atmospheric pressure
for storage



Humidity limitation for
storage

24V~

24VAC power supply
socket



Water entrance pressure
0.01MPa to 0.5MPa



Temperature limitation
for storage



Power switch

8. Environmental protection

Please dispose according to the local laws.

9. Statement

All rights of modifying the product are reserved to the manufacturer without further notice. The pictures are only for reference. The final interpretation rights belong to GUILIN WOODPECKER MEDICAL INSTRUMENT CO., LTD. The industrial design, inner structure, etc, have claimed for several patents by WOODPECKER, any copy or fake product must take legal responsibilities.

TABLE OF OPERATING POWER OF THE TIPS

Scaling	
Tip Model	Power
G 1	1-9
G 2	1-9
G 3	1-9
G 4	1-9
G 5	1-9
G 6	1-9
G 7	1-9
G 8	1-9
G 9	1-9
G 10	1-9
G 11	1-9

Periodontics	
Tip Model	Power
P1	1-6
P2L	1-2
P2LD	1
P2R	1-2
P2RD	1
P3	1-3
P3D	1-3
P4	1-3
P4D	1-3

Endodontics	
Tip Model	Power
E1	-
E2	-
E3	-
E3D	-
E4	-
E4D	-
E5	-
E5D	-
E8	-
E9	-
E10	-
E10D	-
E11	-
E11D	-
E14	-
E15	-

Cavity Preparation	
Tip Model	Power
SB1	1-6
SB2	1-6
SB3	1-6
SBL	1-6
SBR	1-6

Scan and Login website
for more information



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