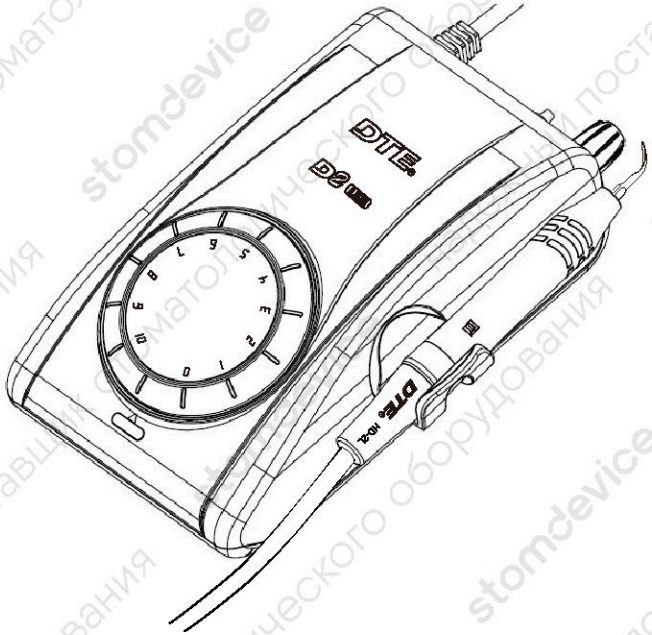
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www.glwoodpecker.com

DTE® D2 LED

ULTRASONIC SCALER INSTRUCTION MANUAL



Please read this manual before operating

Industrial design patent No.: CN 201230465752.7

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 high-tech enterprise in researching, developing, and producing dental equipment, and has a perfect quality assurance system, main products including ultrasonic scaler, curing light, micro motor, apex locator and ultrasurgery, automatic water supply system etc. The ultrasonic scaler D2 LED has scaling, perio functions with the following features:

1.1.1 The silicon-cover can be autoclaved to high temperature 135℃ and high pressure 0.22Mpa.

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

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

1.2 Components

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

1.2.2 Product performance and structural composition

Ultrasonic scaler D2 LED is composed of electrocircuit, water way and ultrasonic transducer.

1.2.3 Scope of application

Ultrasonic scaler D2 LED is used for the dental calculus elimination.

1.3 The main technical specifications

1.3.1 Technical specifications of ultrasonic scaler

a) Main unit input: 220-240V~ 50Hz/60Hz 150mA

b) Output primary tip vibration excursion: ≤100μm

c) Output half-excursion force: <2N

d) Output tip vibration frequency:28kHz±3kHz

e) Output power: 3W to 20W

f) Main unit fuse: T0.5AL 250V

g) Water pressure: 0.01MPa to 0.5MPa

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h) Weight of main unit: 1.56kg

i) Operating mode: Continuous operation

j) Type of protection against electric shock: class II equipment

k) Degree of protection against electric shock: Type BF applied part

l) Applied part of the equipment: handpiece and tip

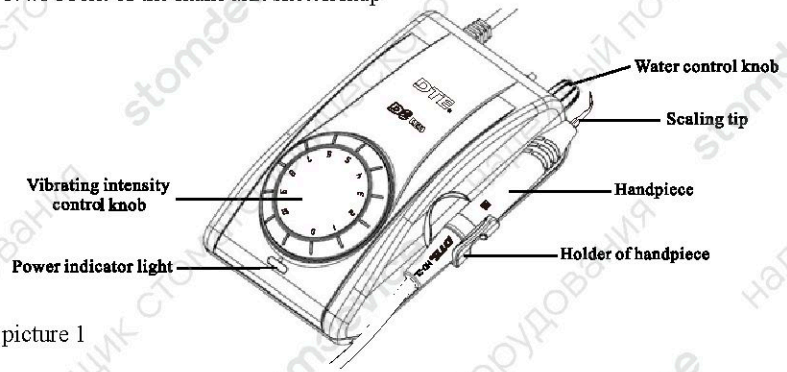
m) Degree of protection against harmful ingress of water: Ordinary equipment, the foot switch is drip-proof equipment (IPX1)

n) Degree of safety of application in the presence of a Flammable Anesthetic Mixture with air, Oxygen or Nitrous Oxide: Equipment not suitable for being used in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.

1.4 Instruction of the main components

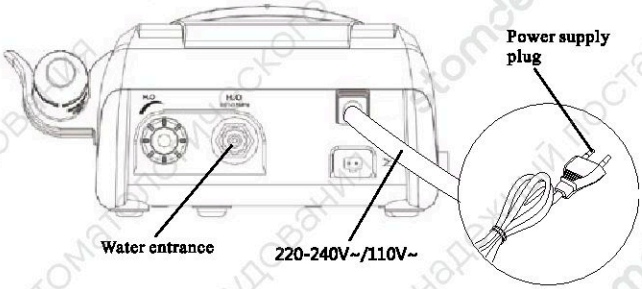
Instruction and component sketch map

1.4.1 Front of the main unit sketch map



picture 1

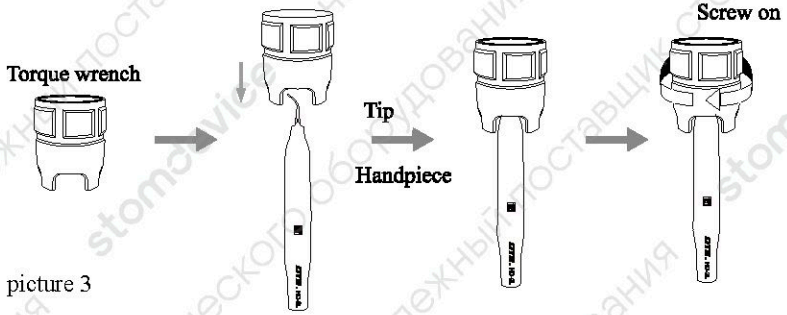
1.4.2 Back of the main unit sketch map



Picture 2

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1.4.3 Instruction of using torque wrench



picture 3

2. Installation and adjustment

2.1 Operation

2.1.1 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 the the stable plane facing to the operator.

2.1.2 Turn the water control knob to the max according to the picture direction[note 1].

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

2.1.4 Connect one end of water pipe to the water pipe to the water entrance, and the other end to the clean water sourse. (see picture 2)

2.1.5 Choose the scaling tip according to the equirement, and fix the scaling tip with the wrench. (see picture 3)

2.1.6 Connect the power cord to the main unit, and get through to the power. (see picture 2)

2.1.7 Press the power switch of the main unit, then the power indicator shines.

2.1.8 Under normal working condition, the frequency of the tips is very high, light touch and a certain to-and-fro motion will eliminate the tartar without obvious heating, overexetion and overatay are forbidden.

2.1.9 Vibrating intensity: Adjust the vibrating intensity according to your need, usually adjust to the middle grade, and adjust the vibrating during the clinical treatment according to the patient's sensitivity and the rigidity of the tartar.

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2.1.10 Step on the foot switch, the tip begins to vibrate, and the LED lamp on the top of the handpiece shines. Release the foot switch, the LED lamp keep shining for 10 seconds.

2.1.11 Water volume adjustment: Step on the foot switch, and the tip begins to vibrate, the turn the water control switch to from fine spray to cool down the handpiece and clean the teeth.

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

2.1.13 Be sure not to make the end of the tip touch the teeth vertically, and not use too much pressure when the tip touch the surface of the teeth, in order not to hurt the teeth and the tip.

2.1.14 After finishing operation, keep the machine working for 30 seconds with the water supply to clean the handpiece and the tip.

2.1.15 Unscrew the scaling tip and sterilize it.

Note: Don't screw the scaling tips when stepping on the foot switch, and the machine is working.

3. Maintenance and sterilization

3.1 All the scaling tips can be autoclaved.

3.2 Handpiece can be sterilized by any neutral sterilized liquid for cleaning and sterilizing. Do not sterilize under the high temperature and pressure.

3.3 The scaling tip and wrench can be cleaned by ultrasonic cleaner.

3.4 Troubles shooting

3.4.1 Trouble shooting

Fault	Possible	Solutions
The scaling tip doesn't vibrate and no water flowing out when stepping on the foot switch.	The plug is in loose or wrong contact.	Connect the power plug well.
	The foot switch is in loose contact.	Connect the switch well.
	The fuse of is broken.	Change a new T0.5AL 250V fuse.

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Fault	Possible	Solutions
The scaling tip doesn't vibrate, but there is waterflowing out when stepping on the foot switch.	The scaling tip is in loose contact.	Screw it tightly (see picture 3)
	The connector plug of the handpiece with the circuit board is in loose contact.	Contact with the local distributor or manufacturer.
	Malfunction of the handpiece.	Contact with the local distributor or manufacturer.
The scaling tip vibrates but there is no spray come out when stepping on the foot switch.	The water control switch is turn off.	Turn on the switch [note 1].
	There is impurity in the solenoid valve.	Contact with the local distributor or manufacturer.
	The water pipe is jammed.	Clean water pipe by multi-function syringe [note 2].
There is water flow out when turn off the power.	There is impurity in the solenoid valve.	Contact with the local distributor or manufacturer.
The handpiece generates heat.	The amount of spouting water is too little.	Turn the water control switch to a higher grade [note 1].
	The potentiometer is broken.	Change a new one.
The amount of spouting water is too little.	The water control knob is a low grade.	Turn the knob to a high grade [note 1].
	The water pressure is not enough.	Enhance the water pressure.
	The water pipe is jammed.	Clean water pipe with multi-function syringe [note2].

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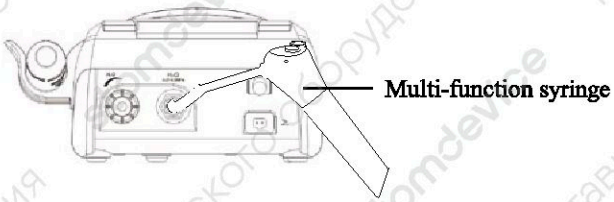
Fault	Possible	Solutions
The vibration of the tip becomes weak.	The tip hasn't been screwed tightly or becomes loose because of vibration.	Screw the scaling tip tightly (picture 3).
	The tip is damaged.[note 3]	Change a new one.
	The tip is damaged [note 3].	Change a new one.
The vibrating intensity control knob is seized up.	The potentiometer is damaged.	Contact with the local distributor or our company.
LED light don't work	something wrong with the LED light	Contact with the local distributor or our company.

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

3.4.2 Notice

[Note 1] The water control knob can adjust the water volume according to the symbol.

[Note 2] To clean the water pipe with the multi-function syringe of the dental unit (see picture 4):



picture 4

a) Snip the water pipe at a distance of 10cm to 20cm from the water entrance.

b) Turn on the power switch, get through to the power.

c) Connect the multi-function syringe of the dental unit to the water pipe.

d) Screw off the scaling tip .

e) Step on the foot switch.

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f) Turn on the switch of the multi-function syringe, press the air or water into the water pipe to clean and eliminate the impurity.

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

a) The vibrating intensity and the pulverization degree become weak obviously.

b) During operating, there is some buzz when the scaling tip is working.

4. Precaution

4.1 usage notice

4.1.1 Keep the scaler clean before and after operation.

4.1.2 The scaling tip, wrench and handpiece must be sterilized before each treatment.

4.1.3 Don't screw the scaling tip when stepping on the foot switch.

4.1.4 The scaling tip must be fastened. There must be fine spray coming out from the tip when operating.

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

4.1.6 Don't twist or rub the tip.

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

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

4.1.9 Don't knock or rub the handpiece.

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

4.1.11 When using the equipment, please keep the water get through smoothy, otherwise patient's tooth surface would be injured by overheat in the handpiece.

4.1.12 After operating, turn off electrical source, and then pull out the plug.

4.1.13 As a professional manufacturer of medical instruments, we are only responsible for the safety on the following conditions:

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

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II . The changed components are original of "DTE" and operated correctly according to instruction manual.

4.1.14 The screw thread of the scaling tips produced by other manufacturers maybe coarse, rusty and collapsed, which will damage the screw thread of the handpiece irretrievably. Please use "DTE" brand scaling tip.

4.2 Contraindication

4.2.1 The patient who has hemophilia is not allowed to use this equipment.

4.2.2 The patient or doctor who with heart pacemaker is forbidden to use this equipment.

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

4.3 Storage and maintenance

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

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

4.3.3 This equipment should be stored in a room where the relative humidity is ≤ 80%, atmospheric pressure is 50kPa to106kPa, and the temperature is -10℃ to +50℃.

4.3.4 Please turn off the power switch and pull out the power plug when the equipment is not used. If the machine is not used for a long time, please make it get through to the power and water once per month for five minutes.

4.4 Transportation

4.4.1 Excessive impact and shake should be prevented in transportation. Lay it carefully and lightly and don't invert it.

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

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

4.5 Working condition

Environment temperature: +5℃ to +40℃

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Relative humidity: ≤80%

Atmosphere pressure: 70kPa to106kPa

5. 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 professional technician. We are not responsible for any irretrievable damage caused by the not professional person.

6. Environmental protection

There are no harmful factors in our product. You can deal with it based on the local law.

7. Manufacturer's right

We reserve the rights to change the design of the equipment, the technique, fittings, the instruction manual and the content of the original packing list at any time without notice. If there are some differences between blueprint and real equipment, take the real equipment as the norm.

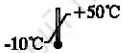
8. Symbol instruction

DTE.	Trademark		Manufacturer
	Consult the accompanying documents	50 106	Atmospheric pressure for storage
	Date of manufacture		Class II equipment
IPX1	Drip-proof		Type BF applied part

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Foot switch interface


Used indoor only



Temperature limitation


Alternating current



Atmospheric pressure for working


Recovery

220-240V~ Power input


Keep dry



Humidity limitation


Handle with care



Adjustment for the water flow



Serial number

Water entrance pressure



Can be autoclaved


Appliance compliance WEEE directive

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.

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