DTE® CE 0197

HANDPIECE of ULTRASONIC SCALER HD-7L INSTRUCTION MANUAL

1 Introduction of product

1.1 Foreword

Guilin Woodpecker Medical Instrument Co., Ltd. is a professional manufacturer in researching, developing and producing dental equipment which has a wholesome quality assurance system.

There are two brands of WOODPECKER company: WOODPECKER and DTE. Products include ultrasonic scaler, curing light, apex locator and ultrasurgery, etc.

1.2 Description of device

Handpiece of Ultrasonic Scaler HD-7L is the accessory of DTE series scalers, It is the latest handpiece that it has the LED function which can light the mouth and more conveniently to eliminate the dental calculus. It is matched the DTE brand Ultrasonic scaler of our company. It is the handheld energy transformation part of ultrasonic scaler, by using piezoceramics to transfer electric energy to mechanical energy for eliminate the dental calculus.

1.3 Model and dimensions

1.3.1 Model: HD-7L

1.3.2 Dimensions: 111 mm(length) 20.5mm(diameter) 57g(weight)

1.4 Product performance and structure

Handpiece of Ultrasonic Scaler HD-7L is composed of cover and ultrasonic transducer.

1.5 Scope of applicaton

Handpiece of Ultrasonic Scaler HD-7L is used for the dental calculus elimination when compatible with the scalers D3 LED, V2 LED; for the dental calculus elimination and root canal cleaning when compatible with the scalers D5 LED, D7 LED, V3 LED which belong to DTE.

1.6 Contraindication

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

1.6.2 The patients with heart pacemaker are forbidden to use this equipment.

1.6.3 The doctors with heart pacemaker are forbidden to use this equipment.

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

1.7 The classification of the device

1.7.1 Operating mode: Continuous operation

1.7.2 Protection degree against water(used on the pedal): IPX1

1.7.3 Degree of safety of application in the presence of a Flammable Anaesthetic Mixture with air or with Oxygen or Nitrous Oxide : Equipment not suitable for being used in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide.

1.8 The main technical specifications

1.8.1 Power source Input: ~190V-230V

1.8.2 Output primary tip Vibration excursion: 1μm~100μm

1.8.3 Output tip Vibration frequency: 28kHz±3kHz

1.8.4 Output half-excursion force: 0.1N~2N

1.8.5 Output power: 3W ~ 20W

1.8.6 Water pressure: 0.01MPa ~ 0.5MPa

1.9 Working condition

1.9.1 Environmental temperature +5°C~+40°C

1.9.2 Relative humidity:30% ~ 75%

1.9.3 Atmospheric pressure: 70kPa~106kPa

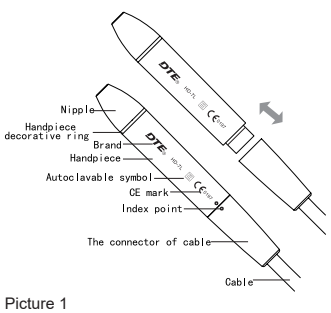
2 Installation of the product

2.1 Installation of handpiece

2.1.1 Open the packing box, make sure that all the parts and accessories are complete.

2.1.2 Keep dry when the detachable handpiece connects to the connector of the cable before installing the handpiece.

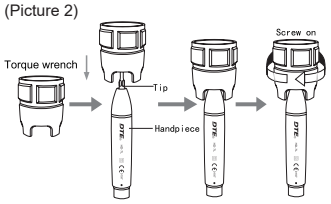
2.1.3 Make sure that the bottom jack point at the plug, make the handpiece fix to the cable correctly. (Picture 1)



Picture 1

2.2 Installation of tips

2.2.1 Fix the tip to handpiece by torque wrench. (Picture 2)



Picture 2

2.2.2 Please use "DTE" brand scaling tips.

Notes: The detachable handpiece is a high-tech device which should be used carefully. Don't use too much torque force to screw the tip, Screw the tips by torque wrench. In order to the vibration by touch the foot switch by accident, unscrew the scaling tips after each operation.

3 Product function and operation

3.1 Scaling function

3.1.1 Connect the handpiece and the connector of cable of the main unit of the scaler correctly, and adjust the water and vibration intensity to a suitable level.

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

3.1.3 Select a suitable scaling tip as you need, screw it on the handpiece tightly by the torque wrench.

3.1.4 During the clinical treatment, be sure not to make the end of tip touch the teeth vertically.

3.1.5 Not to make the tip overexert on the surface of the teeth in case of hurting the teeth and damaging the tip.

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

3.2 Endo funtion

3.2.1 Usage process

a) Fix endochuck to handpiece by endo chuck.

b) Unscrew the screw cap on the endochuck.

c) Put the ultrasonic file into the hole in the front of endochuck.

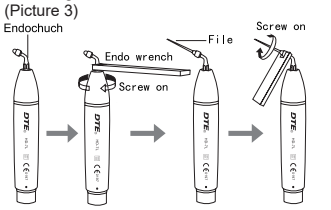
d) Screw down the screw cap with endo wrench to tight up the ultrasonic file.

e) Press option key, turn to endo root canal cleaning function.

f) Press option key, turn the water and vibration intensity to a suitable level.

g) Put the ultrasonic file into the patient's root canal slowly, step on the foot pedal, then make endo root canal cleaning. During the treatment, turn up the power gradually according to the needs.

(Picture 3)



Picture 3

3.2.2 Notes

a) When fixing endochuck, it must be screwed down.

b) The screw on the endochuck must be screwed down.

c) Don't press it too much when the ultrasonic file in root canal.

d) Don't start up the foot pedal until the ultrasonic file is in root canal.

e)The power range is supposed from 1st to 5th grades.

f) Please sterilize the endo chuch and handpiece after operation.

3.3 Instruction for main components of detachable handpiece

3.3.1 Nipple: The nipple can be removed, for easy cleaning.

3.3.2 Light pipe: light guide, can be autoclaved under high temperature and pressure.

3.3.3 LED lamp: illuminate the oral area, detachable and sterilized.

3.3.4 Handpiece: The main part of the whole handpiece, can be autoclaved underthe high temperature and pressure.

3.3.5 O ring: Please lubricate the waterproof O ring with dental lube frequently, as sterilication and repeated pulling and inserting will reduce their using life. Change a new one once it is damaged or worn excessively.

4 Notes

4.1 Don't knock or rub the handpiece.

4.2 Don't screw or unscrew the scaling tip and endochuck when step on the foot pedal.

4.3 The handpiece, scaling tip, torque wrench, endo wrench and endochuck must be sterilized before each treatment.

4.4 The internal screw threat of the scaling tips produced by some manufactures is coarse, rusty and collapsed. This will damage the external screw threat of the handpiece irretrievably. Please use "DTE" brand scaling tips.

4.5 We are only responsible for the safety on the following conditions: The maintenance, repair and modification are made by the manufacturer or the authorized dealer.

5 Troubleshooting

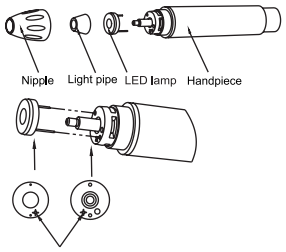
Fault	Possible causes	Solutions
Handpiece doesn't work	The tip is loosen	Tighten it
	Something wrong with the Handpiece	Take out the handpiece and send it back for repair
	Something wrong with the Cable	Contact our dealers or us
	The connect plug between the cable and circuit board is loosen	Contact our dealers or us
There is no spray when getting through the electricity	The water control switch is vibrates not on	Turn on the water control switch
	No pressure or low pressure	Check the presure
There is no water when getting through the electricity	The water control switch is vibrates not on	Turn on the water control switch
	There is impurity in the electric-magnetic valve	Contact our dealers or us
	Contact our dealers or us	Clean the water line by three-way syringe
Low vibration	The tip hasn't been screwed on the handpiece tightly	Screw the tips tightly by torque wrench
	The tip is shaken loose by vibration	Screw on the tip tightly
	The coupling between the handpiece and the cable isn't dry	Dry it, especially the water between handplece and connector
	The tip is worn out or deformation	Change another tip
The handpiece generates heat	The water control switch is in a low setting	Turn the water control switch to a higher grade
LED light don't work	poor contact	Contact tightly
	Something wrong with LED light	Change a new one
	LED lamp installed backwards	Please install the "+" of the LED lamp to the "+" of the handpiece
There is water seeping from the coupling between the handpiece and the cable	The waterproof "O ring is damaged	Change a new "O " ring

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

6 Cleaning and sterilization

6.1 Clean and sterilize the handpiece after using it.

6.2 Remove the nipple, light pipe, and LED lamp before autoclaved, clean by pure water and dry it by three-way syringe. (Picture 4)



Picture4

6.3 Autoclaved under high temperature, pressure, time:

134°C, 2.0bar~2.3bar (0.20MPa~0.23MPa), 4min.

6.3.1 Using sterile towel or sterilized bags pack the handpiece, nipple, light pipe and LED lamp before autoclaved, install them as picture 4 after cool down.

6.4 Notice

6.4.1 Clear the cleaning liquid in the handpiece with three-way syringe before sterilication.

6.4.2 Be sure that the scaling tip has been unscrewed from the handpiece and it cannot be sterilized with others.

6.4.3 Please notice whether the outer of the handpiece is damaged during the treatment or sterilication.

6.4.4 Please don't smear any protective oil on the surface of handpiece.

6.4.5 Please take out the handpiece, nipple, light pipe, LED lamp as Picture 4 and sterilize separately.

6.4.6 There are two waterproof "O" rings at the end of handpiece. Please lubricate them with dental lube frequently, as sterilication and repeated pulling and inserting will reduce their using life. Change a new one once it is damaged or worn excessively.

6.5 The following sterilizing methods are forbidden:

6.5.1 Put handpiece into any liquid for boiling.

6.5.2 Dip handpiece in disinfectors such as iodine, alcohol and glutaraldehyde.

6.5.3 Put handpiece into oven or microwave oven for baking.

6.5.4 Put handpiece into ultrasonic cleaner to clean.

7 Storage, maintenance and transportation

7.1 Storage, maintenance

7.1.1 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.

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

7.1.3 This equipment should be stored in a room where the relative humidity is 10% ~ 93%, atmospheric pressure is 70kPa to106kPa, and the temperature is -20°C ~ +55°C.

7.2Transportation

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

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

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

8 Environmental Protection

There is not any harm factor in our product. You can deal with it based on the local law.

9 After Service

We offer one year's 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 non-professional person.

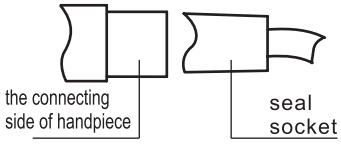
10 Symbol instruction

DTE®	Trademark
~	AC
IPX1	Drip-proof
	Date of manufacturer
	Manufacturer
	Consult the accompanying documents
	Used indoor only
134°C	Can be autoclaved
SN	Serial number
	Appliance compliance WEEE directive
106 70	Atmospheric pressure for storage
93% 10%	Humidity limitation for storage
55°C -20°C	Temperature limitation for storage
CE 0197	CE marked product
EC REP	Authorised Representative in the EUROPEAN COMMUNITY

11. 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.

Be sure that the connecting side of handpiece and seal socket is completely dried before installing handpiece each time.



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ZMN/WI-09-164 V1.7-20180927

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