stomdevice

P9 SERIES
ULTRASONIC SCALER
INSTRUCTION MANUAL

Please read the instruction manual carefully before operating

BaoLai Medical
Join us

CE 0197



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Let's make things better

成型尺寸：140*210MM 80g双胶纸 双色印刷 粘胶成本

机型名称	P9系列说明书英文	设计		日期	
物料编号	PA-P9-M-E-1	审核		日期	
版本	A6	批准		日期	

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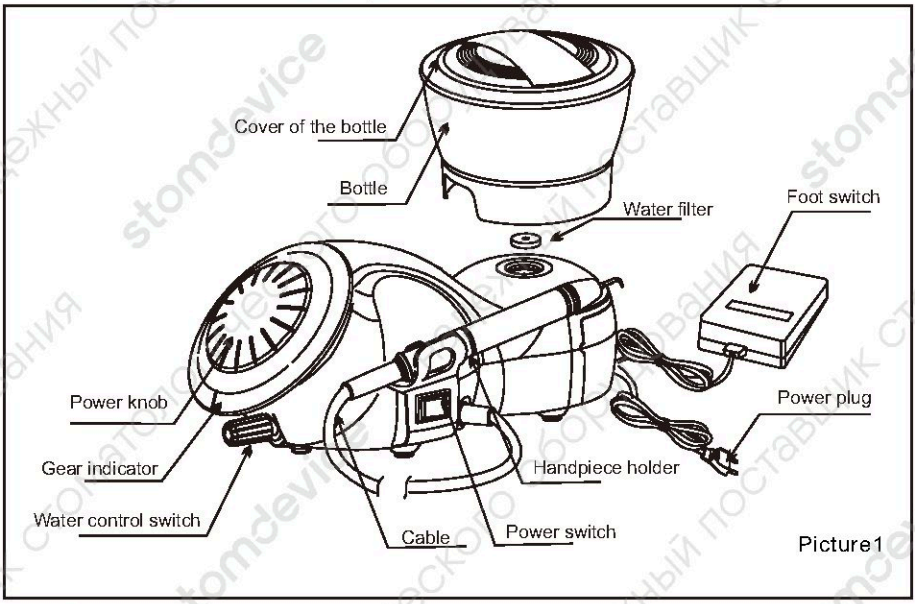
1 Symbol instruction

	Trademark		Caution
	Class II equipment		Follow instructions for use
	Type **BF** applied part		Water control switch
	Alternating current	IPX0	Ordinary equipment
	Foot switch	IPX1	Drop-proof
	Use indoor only		Appliance compliance with WEEE directive
	Autoclavable		Date of manufacture
	**Fail-safe safety isolating transformer**		Manufacture
SN	Serial number	EC REP	Authorised representative in the European Community
CE 0197	CE marked product		

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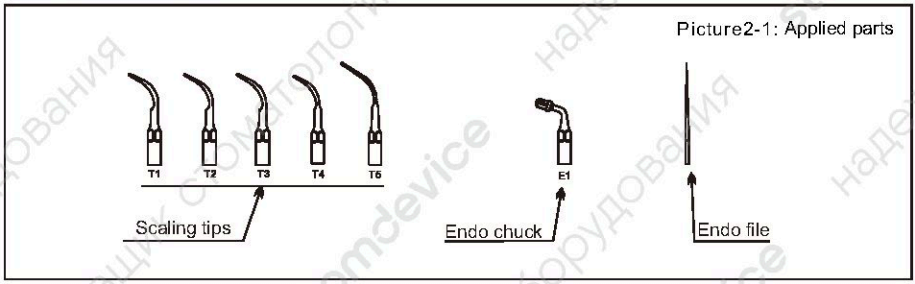
2 Acquaintance of the product and its parts

2.1 The top and bottom map of main unit

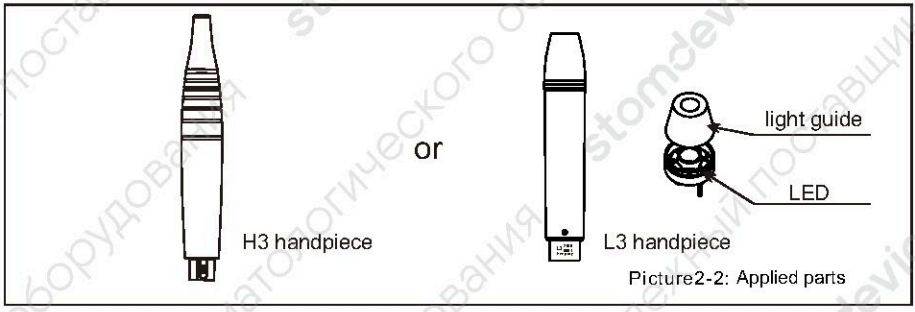


Picture1

2.2 Accessories

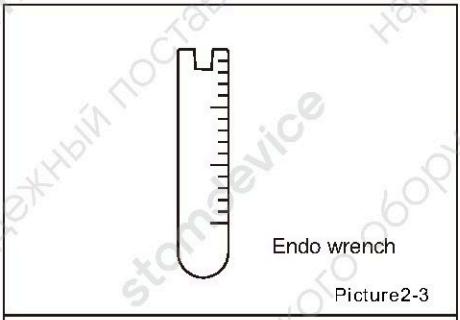


Picture2-1: Applied parts

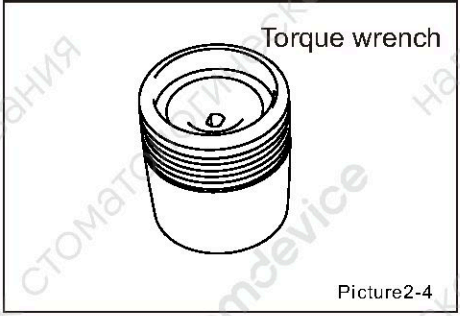


Picture2-2: Applied parts

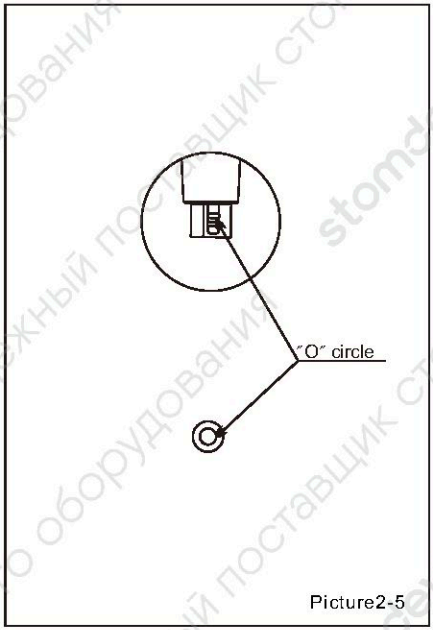
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Picture2-3

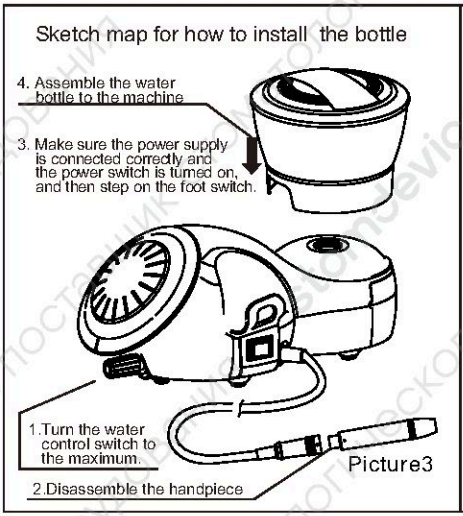


Picture2-4

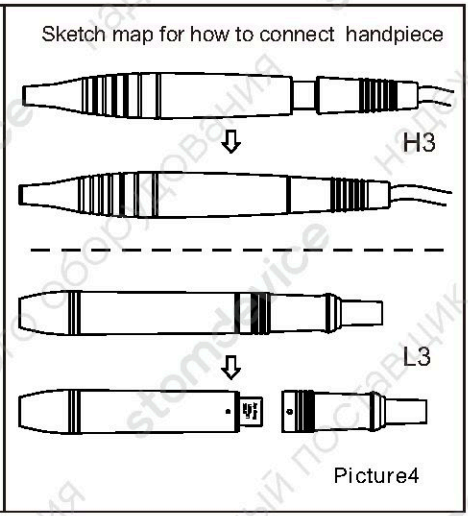


Picture2-5

2.3 Connection sketch map



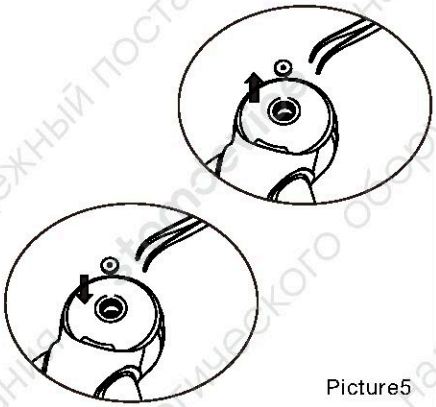
Picture3



Picture4

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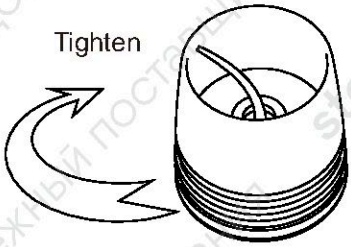
Sketch map for how to replace water filter



Picture5

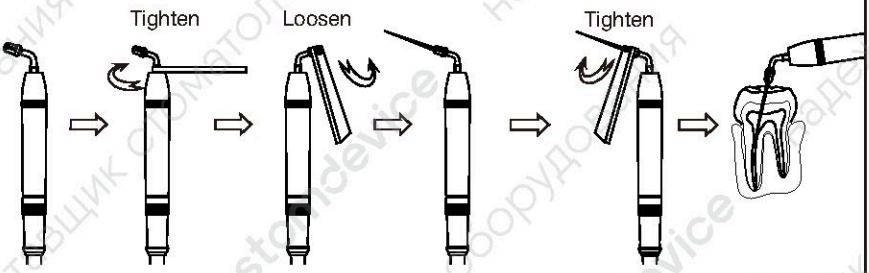
Sketch map for how to install tip

Note: The tip is tightened when the wrench slips for 2 circles.



Picture6

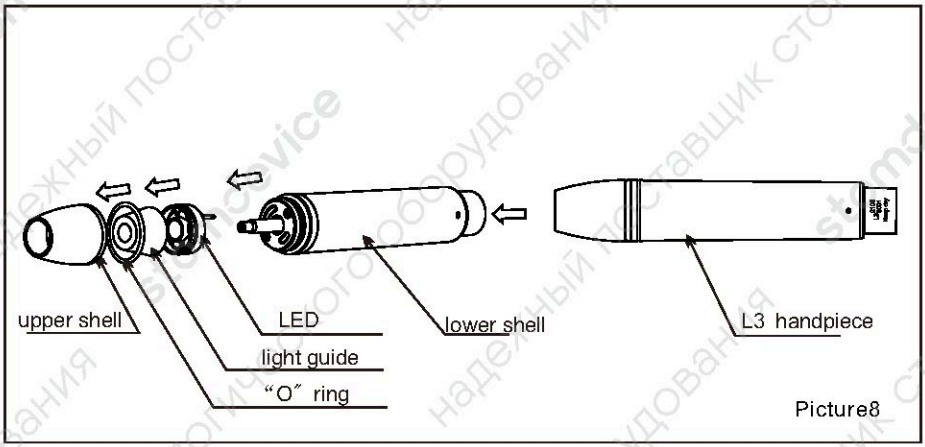
Sketch map for how to install endo file



Picture7

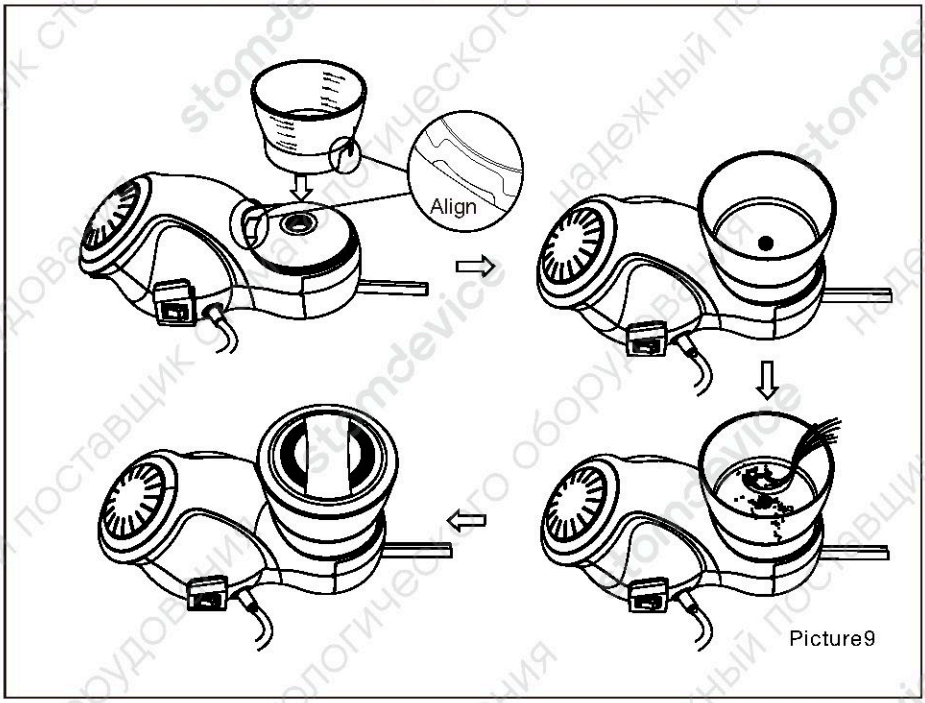
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2.4 Sketch map of assembling L3



Picture8

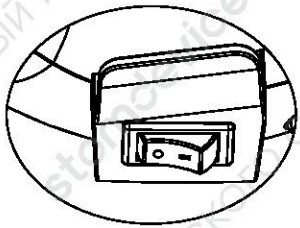
2.5 Sketch map of assembling bottle



Picture9

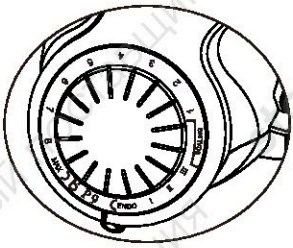
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Power switch



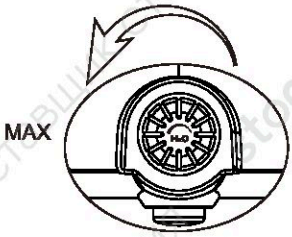
Picture10

Power knob



Picture11

Water control switch



Picture12



Picture13

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3 Product structure, scope of application and contraindication

3.1 Product performance and structure

Ultrasonic scaler is composed of electrocircuit, waterway and ultrasonic transducer.

3.2 Intended use

A powered device utilizes a vibrating ultrasonic tip to remove calculus and other accretions from tooth surfaces during dental cleaning, periodontal therapy and root canal treatment.

3.3 Contraindication

3.3.1 The hemophilia disease patients or patients with thrombocytopenia purpura are forbidden to use this equipment.

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

3.3.3 The heart disease patients, pregnant women and children should be cautious to use the equipment.

4 Components

Number	Description	Type
01	Main unit	P9/P9U/P9L
02	Foot switch	F1
03	Handpiece	H3 or L3
04	Scaling tip	T1
05	Scaling tip	T2
06	Scaling tip	T3
07	Scaling tip	T4
08	Scaling tip	T5
09	Endo chuck	E1
10	Endo file	———
11	Torque wrench	**TW3**
12	Endo wrench	EW1
13	Bottle	Φ120mm×70mm
14	Cover of bottle	Φ120mm×19mm
15	″O″ circle	———
16	Water filter	Φ16mm×3mm
17	Instruction manual	P9 series
18	Qualified certificate	P9/P9U/P9L
19	Warranty card	P9/P9U/P9L
20	Packing list	P9/P9U/P9L

Product components are subject to the packing list.

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5 Technical specifications

5.1 Performance technical specifications

Input:	230V~ 50/60Hz 150mA	110V~ 50/60Hz 300mA
Main unit fuse	F1(250VT 0.3AL) F2(250VT 0.3AL) F3(250VT 1.6AL)	F1(250VT 0.5AL) F2(250VT 0.5AL) F3(250VT 1.6AL)

Output power	3W to 20W
Output primary tip vibration excursion	≤200μm
Output tip vibration frequency	28kHz ±3kHz
Output half-excursion force	＜2N
Water flow rate	0~50ml/min
Weight of main unit	2.5kg
Operating mode	Continuous operation
Classification 93/42/EEC	Class Ⅱa
Electric shock protection type	Class Ⅱ
Degree of protection against electric shock	B F
Degree of protection against harmful ingress of water	Ordinary equipment (IPX0), Foot switch(IPX1)
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.

5.2 The conditions of working environment:

5.2.1 Environmental temperature:+10℃ to +40℃

5.2.2 Environmental humidity: 0 to 80%

5.2.3 Atmospheric pressure: 700hPa to 1060hPa

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6 Usage

6.1 Open the packing, 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.

6.2 Turn the water control switch to the max based on symbol as shown in 9.2.1[Note 1]

6.3 Insert the plug of the foot switch to its socket.

6.4 Install the bottle:

①Clean the connection interface of the bottle.

②Install the bottle to the main unit (Picture 3).

③Put proper amount of pure water or special liquid medicine, such as Hydrogen Peroxide, Chlorhexidine, Sodium Hypochlorite into the bottle.

Note: The liquid medicine can not be lower than the lower limit to insure flowing smoothly, and can not be higher than the upper limit to insure safety.

④Install the cover (Picture 9).

6.5 Connect the handpiece with the cable (Picture 4). Hold the handpiece in the same gesture as a pen in hand.

6.6 Select a suitable scaling tip as you need and screw it on the handpiece (Picture 6).

6.7 Connect the power and press the power switch. The power is connected when it shows blue color(Picture 10).

6.8 Adjust the power knob as you need, step on the foot switch and start the machine (Picture 11).

6.9 Vibration intensity: Adjust the vibration intensity according to the scaling or endo requirement at any time in the clinical treatment.(Picture 11)

6.10 Water volume adjustment: Step on the foot switch to let the tip vibrate, and then adjust the water control switch to choose suitable water flowing out and form spray to cool down the handpiece and clean the teeth (Picture 13).

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6.11 Function selection. Adjust the power knob to select the needed function.

6.11.1 Scaling function

①Adjust the power knob until the blue indicator lights.

②Select a suitable scaling tip according to your need and screw it on the handpiece tightly by the torque wrench (Picture 6).

③During clinical scaling, please do not vertically touch the teeth with the point of tip so as to avoid damage of both teeth and tip.

④The working frequency is extremely high during operation. A light touch and a certain to and fro motion will be able to eliminate the tartar without heating. Overexertion and long time lingering are forbidden.

6.11.2 Endo function (Picture 10)

①Adjust the power knob until the green indicator lights.

②Screw the endo chuck on the handpiece with endo wrench.

③Loosen the nut of endo chuck.

④Insert the endo file into the front hole of endo chuck and use endo wrench to tighten the nut so as to clamp the file.

⑤Put the endo file into the patient's root canal slowly, step on the foot switch and conduct the ultrasonic root canal therapy. Power and water can be adjusted according to actual needs during clinical treatment.

Note: Don't step on the foot switch before putting the endo file into the root canal.

6.12 Disassemble the scaling tip and unplug the handpiece. Sterilize the scaling tip, handpiece, endo chuck, endo file and torque wrench.

7 Sterilization

7.1 Precautions

a) Please pay attention to the handpiece during the process of operation and sterilization to see whether it is externally broken. No protective oil is allowed to be painted on the handpiece.

b) There are two ″O″ circles in each handpiece which need to be sterilized, plugged and unplugged repeatedly.For the purpose of extending life time, dental lubricant should be used.

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The circles should be replaced once they are broken or over abrasive.

7.2 Cleaning, disinfection and sterilization procedure

Operation	Operating mode	Warning
1 Cleaning and disinfection	Disassemble handpiece from detachable cable. Disassemble tip from handpiece. Wipe handpiece & scaling tips & torque wrench with medical alcohol or with special dental disinfection towel.	Cleaned in the ultrasonic bath is forbidden. Dipped in liquor is forbidden. Torrefied in oven or microwave oven is forbidden.
2 Packing	Pack handpiece & scaling tips & torque wrench in sterilization pouches.	Check the validity period of the pouch given by the manufacturer to determine the shelf life. Use packing which are resistant up to a temperature of 141℃ and in accordance with EN ISO 11607.
3 Sterilization	Steam sterilization at: 135℃ and 0.22MPa during 3 min.	Use fractionated vacuum autoclaves (according to EN 13060, EN 285). Use validated sterilization procedure according to EN ISO 17665-1. Respect maintenance procedure of the autoclave device given by the manufacturer. Use only the listed sterilization procedures.
4 Storage	Keep handpiece & scaling tips & torque wrench in sterilization packing in a dry and clean environment.	Sterility cannot be guaranteed if packing is open, damaged or wet (check the packing before using the instruments).

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8 Precautions ⚠

8.1 Performing endo function under the scaling status（the blue area）is forbidden.

8.2 Please use Baolai's T series scaling tip, as the other brand's scaling tip may not be compatible with the device's handpiece, and forcibly using it may result in damaging handpiece beyond repair.

8.3 Please check the water filter routinely ,replace if necessary(Picture 7).

8.4 Please keep the device clean.

8.5 The handpiece, scaling tip, endo chuck, endo file, endo wrench and torque wrench must be sterilized before each treatment.

8.6 Don't screw or unscrew handpiece and scaling tip when stepping on the foot switch.

8.7 The scaling tip much be fastened by torque wrench and there must be fine spray coming from the tip when operating.

8.8 Replace a new scaling tip when it is worn by 2mm.

8.9 Don't twist the scaling tip o rub it.

8.10 Keep the connection of cable and handpiece dry.

8.11 Choosing the liquid according to clinic treatment.

8.12 Don't pull the handpiece forcibly during operation in case damage the handpiece or the cable.

8.13 Don't knock or rub the handpiece.

8.14Turn off the switch and cut off the power source after stopping operation.

8.15Put the liquid into the bottle and close it with its cover after the bottle is properly installed on the main unit.

8.16 Only use the device after the bottle is closed with its cover.

8.17 After stopping operation, let the device continuously work under condition of water getting through for 20 to 30 seconds to clean the water circuit, and then clean the connection of bottle.

8.18 If don't use the device for a long time, please install the dry and clean bottle on the main unit and close its cover, in case the dust fly into the connection of bottle.

8.19 Only Baolai or authorized distributors have the right to maintain, repair or amend the device. Baolai takes the safety responsibility only if the replaced spare parts belong to Baolai and operator properly operate according to the instruction manual.

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9 Maintenance

9.1 Troubleshooting and notes

Fault	Possible cause	Solutions
The scaling tip doesn't vibrate and there is no water flowing out when stepping on the switch	The foot switch is in loose contact	Insert the foot switch to its socket tightly
	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 switch	The tip is in loose contact	Screw the tip on the handpiece tightly (Picture 6)
	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 switch	The water control switch is not on	Turn on the water control switch 【Note 1】
	There is air in the water pipe	Step on the foot switch, disassemble the water tank and assemble it. (Picture 3)
The handpiece generates heat	The water control switch is in a low grade	Turn the water control switch to a higher grade【Note 1】
The vibration of the tip becomes weak	The tip hasn't been screwed onto the handpiece tightly	Screw the tip on the handpiece tightly(as showed in Picture 6)
	The tip is loose because of vibration	Screw on the tip tightly (as showed in Picture 6)
	The tip is damaged【Note 2】	Change a new one
The joint of the handpiece and cable has water leakage	″O″ is broken	Change a new one
The endo file doesn' t vibrate	The screw is loosen	Tighten it(as showed in Picture 4)
	The endo chuck is damage	Change a new one
There is noise coming from the endo chuck	The screw is loosen	Tighten it(as showed in Picture 4)

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

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9.2 Notes

9.2.1 [Note 1] Adjust the water control switch according to the direction shown control the water volume

9.2.2 [Note 2] 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:

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.

9.3 If not use for a long time, please make the machine get through the electricity and water once per month for five to ten minutes.

10 Storage and transportation

10.1 Environmental conditions of storage and transportation:

a) Relative humidity: 0 to 80%

b) Atmospheric pressure: 50kPa to 106kPa

c) Environmental temperature: -10℃ to +50℃

10.2 Prevent excessive shock and vibration in transportation, be sure to handle with care and avoid inversion.

10.3 Don't mix with dangerous goods during transportation.

10.4 Avoid the sun, rain or snow during transportation.

10.5 The equipment should be handled carefully and lightly. Be sure that it's far from the vibration, and install or store in a cool, dry and ventilated place.

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

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11 After-service

11.1 We offer 15 months free repair to the equipment based on warranty card from the date when it is sold to the end user.Lifetime maintenance.

11.2 The repair of the equipment should be carried out by our professional technician. Irretrievable damage caused by the nonprofessional technician, and damage accidentally or deliberately caused by operators, are out of the range of warranty.

11.3 Using scaling tips which don't belong to Baolai's T series may result in damaging handpiece, which will not be within the scope of warranty.

12 Environmental protections

12.1 You can deal with it based on the local law.

12.2 We reserve the right to change the design of the equipment, product technique, accessories, instruction manual and the content of original packing at any time without notice. If there are some differences between picture and real equipment, take the real equipment as the norm.

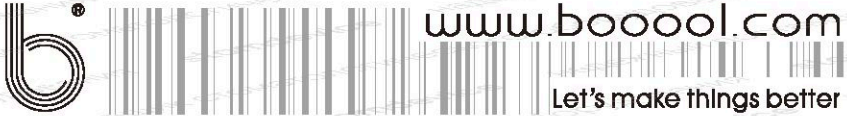
13 Declaration

The device has been tested and homologated in accordance with EN 60601-1-2 for EMC.This does not guarantee in any way that this device will not be effected by electromagnetic interference.

Avoid using the device in high electromagnetic environment.

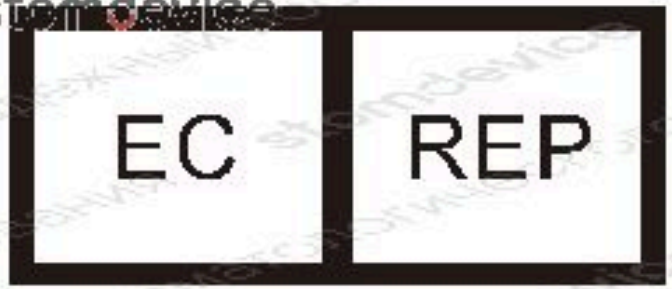
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