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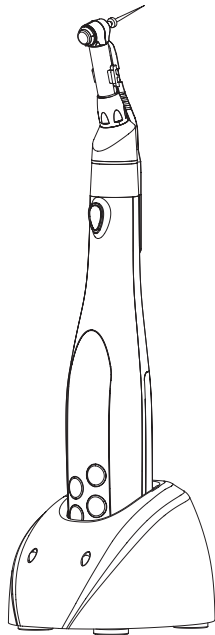
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CORDLESS ENDO MOTOR USER MANUAL

Read the instruction manual before usage



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1 Introduction

1.1 Description of the device

Endo Motor is a supporting device of endodontic treatment, through enlarging root-canal in the process, helping dentists to finish the endodontic treatment.

1.1.1 Device Features:

- 1)Ultraprecise motor originating in German; Colorful LCD screen
- 2)Four working modes:
 - a. File will stop when the stress is more than setting torque data.
 - b. When the stress is more than setting torque data, file will auto reverse. If remove the stress, file will stop.
 - c. When the stress is more than setting torque data, file will auto reverse. If remove the stress, file will forward roll again.
 - d. Reciprocating rotary motion
- 3)With LED light to get better view
- 4)Non-contact charging way
- 5)The main accessories (Contra-angle and LED light) could be sterilized in high temperature and pressure to avoid cross infection

1.2 Model, Dimensions and Weight of main unit

Model:

Dimensions: $\Phi 32$ (biggest diameter) $\times 152$ mm(length)

Weight:347g

1.3 Structure

Device is composed of main unit, charge base, contra-angle, LED light and adapter.

1.4 Intended use

Device is an electronic device used for enlarging root canal. This product must only be used in hospital environments, clinics or dental offices by qualified dental personnel.

1.5 Contraindications

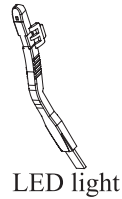
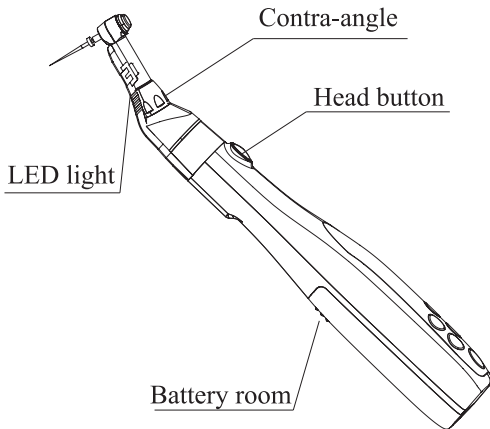
The Device is not recommended for use:

- a) In patients who have a pacemaker or other implanted electrical devices, or have been cautioned by their physicians against the use of small electric appliances such as shavers, hair dryers, etc.
- b) In patients allergic to metals.
- c) In children.

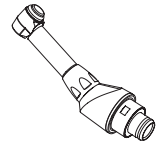
1.6 Components

1.6.1

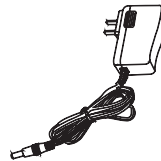
The structural figure of the device. (Fig. 1.1)



LED light



Contra-angle



Adapter



Charging base

1.1 Product appearance structure

1.7 The classification of the device

1.7.1 Type of protection against electric shock: Class II internally powered equipment.

1.7.2 Degree of protection against electric shock: Type B applied part.

1.7.3 Degree of protection against water shock: Ordinary equipment (IPX0).

1.7.4 Device not suitable for use in the presence of flammable anesthetic mixtures with air, oxygen or nitrous oxide.

1.7.5 Operation mode: Continuous operation.

1.8 The main technical specifications

1.8.1 Battery: 3.7V/1500mAh

1.8.2 Adapter: ~100V-240V 1.5A 50Hz/60Hz

1.8.3 Revolving speed: 200~600 rpm

1.8.4 Torsion: 0.6~3.6 N•cm

1.8.5 Operation condition

a) Environment temperature: 0~40°C

b) Relative humidity: 10~85%RH.

c) Atmosphere pressure: 70kPa~106kPa

2 Notice

2.1 Please read the user manual carefully before the operating.

2.2 Inaccurate or incorrect readings due to the environment are likely to occur in the following cases:

a) Presence of portable or movable radio frequency transmitters in the surroundings.

b) Electromagnetic interference could cause improper operation of the device.

2.3 This device has electromagnetic interference which is similar to other device, the patient or doctor who with a pacemaker are forbidden to use this device.

2.4 Please do not use the file which is broken, crooked or not meeting the ISO standard to

avoid any kind of danger.

2.5 Please pay full attention to the device if there is loose, vibration, noise and heat, and pre-test before operation. If any abnormal phenomena, please stop using immediately and contact local agent or manufacture.

2.6 Do not collide, especially to avoid falling

2.7 Please clean the collet of file and set aside because the inside parts might be damaged once polluted.

2.8 Please remember to turn off the device firstly if need to debus the contra-angle and files.

2.9 Please recharge the battery when the battery power is low and indicator flashes.

2.10 Only the original accessories to this device.

3 Installation

3.1 Connecting the Contra-angle and Handpiece (Fig. 3.1)

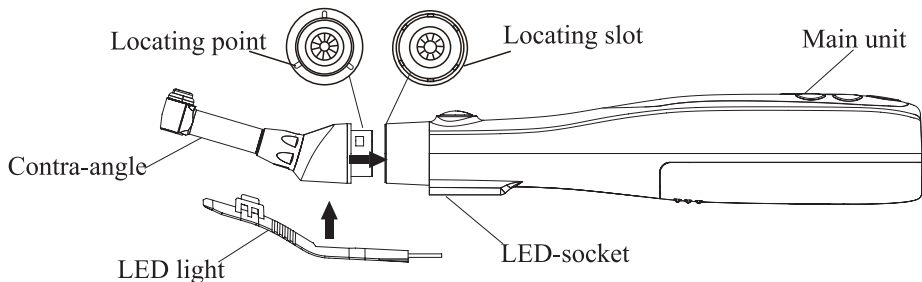


Fig. 3.1 Explanation of connecting the contra-angle and handpiece

a) Before using this instrument, clean all the parts which may contact with patients.

b) LED light needs to buckle into the head of Contra-angle, and try to get closer with the file position.

c) Only match the locating points of both contra-angle and handpiece, as well as match the LED-socket of main unit, they can connect smoothly.

3.2 Charge the battery

When the power indicator flashes, please stop using the device and recharge the battery.

a) Connect the AC adapter with the back side socket of the device properly, and insert the AC adapter plug to the power socket.

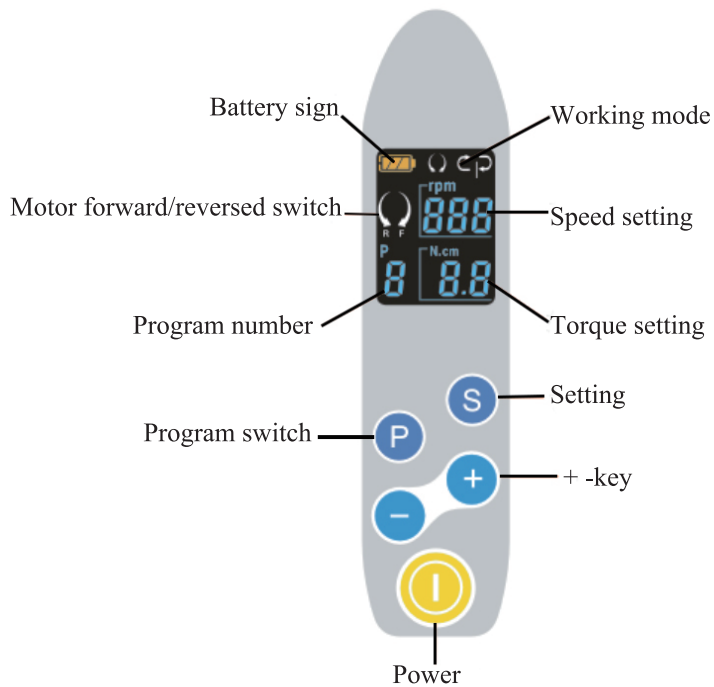
b) The yellow indicator is lighted when the device is charging, and it means charging has finished when the yellow indicator turns to green. It may spend 8-10 hours for charging.

3.3 Automatic shutdown

When not used for 5 minutes, R-Smart Plus will automatically shut down and all of the display and function are stopped.

4 Operation

4.1 Device function definition




4.2 Specific Instructions


POWER: Switches the device on or off (LCD screen lights up or goes out)


Program switch: Show the specific data of each program to use


Setting: Select the mode you need with “+”&“-” to get the right mode

Working mode: Switches the 4 operation modes

 File will stop when the stress is more than setting torque data.

 When the stress is more than setting torque data, file will auto reverse. If remove the stress, file will stop.

 When the stress is more than setting torque data, file will auto reverse. If remove the stress, file will forward roll again.

 Reciprocating rotary motion with speed of 300rpm and the reciprocating file is necessary.

Speed setting: Speed is from 200rpm to 600rpm

Torque setting: Torque is from 0.6Ncm to 3.6Ncm

Manual forward or reversal switch: Change the rolling direction once press

Direction

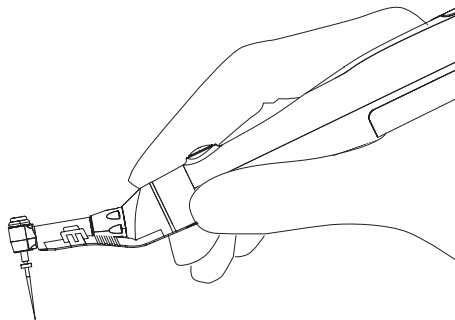


Forward



Reversed

Handpiece Bottom: Control the handpiece to work or stop (Short pressing for working, again for off)



5 Troubleshooting

NO.	Problems	Possible caues	Solutions
1	No displays on the screen after turning on	1 The incorrect battery installation. 2 The lower power.	1 Install the battery correctly. 2. Recharge the battery.
2	File is not working	Resistance is too large	Set a higher torque
3	Endo file does not reverse rotate	1. The mode with automatic positive / reverse rotation function is not selected. 2.A too large torque value was set	1.Select automatic positive/reverse rotation model 2.Set a lower torque value

NO.	Problems	Possible caues	Solutions
4	file reversed too frequently	1. Resistance is too large 2. Root canal is narrow 3. Endo file is oversized 4. Electromagnetic interference	1. Set a higher torque 2. Root-canal enlarge 3. Replace a smaller size file 4. Please check the equipment used nearby, away from interference sources.

Notice: If the problem can't be solved yet, please contact the local distributors or us.

6 Cleaning and Sterilization

- 6.1 After use, all parts that have contacted with the patients should be wiped by sterilized towel. (no bacteria, no fungi and no aldehyde liquid)
- 6.2 Cleaning with chemical reagents may cause damage to the instrument.
- 6.3 Contra angle, LED light must be autoclaved before use.
- 6.4 Main unit can't be autoclaved with high temperature and pressure.

7 Storage, maintenance and transportation

- 7.1 Storage
 - 7.1.1 Handle with care, far away from vibration source. Install or store in a cool, dry, well-ventilated area.
 - 7.1.2 Do not store with toxic, corrosive, flammable, explosive items.
 - 7.1.3 Store in environment of relative humidity no more than 85%, atmospheric pressure

70kPa ~ 106kPa, temperature -10 °C ~ +50.

7.2 Maintenance

7.2.1 The product does not contain any user-serviceable accessories. Instrument maintenance should only be carried out by the professional trained maintenance personnel.

7.2.2 If the battery is fully charged but does not allow the instrument to function for at least one day, the battery must be replaced as soon as possible. Please use the original accessories, so as not to cause damage to the instrument.

7.3 Transportation

Avoid excessive shock and vibration during transport, handle with care, keep away from dangerous goods and avoid sun and rain.

8 Standard symbols



Power on/off



Sound adjustment

Registered trademark



Used indoor only



Date of manufacture



Manufacturer



Serial number



Attention, consult accompanying document



Class II equipment



Type B Applied part



Direct current

IPX0

Ordinary equipment



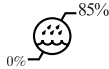
Recovery



Keep dry



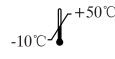
Handle with care



Storage relative humidity
less than 85%RH



Storage atmospheric
pressure at 70kPa ~ 106kPa



Storage temperature at
-10°C ~ +50°C



Deal with the product according to the WEEE (2002/96/EC)

9 Statement

All rights of modifying the product are reserved to the manufacturer without further notice.
The pictures are only for reference.

