

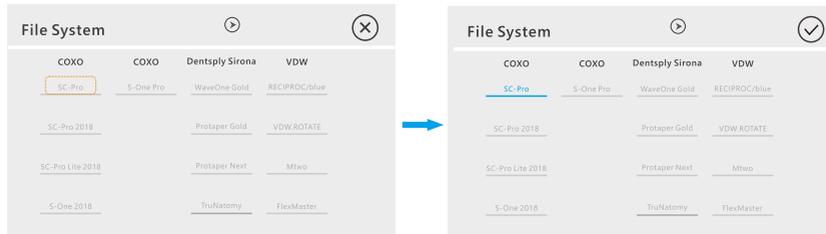
	D2		Clockwise/Counter-clockwise rotary refer to 5.1.6
E	E		Control unit power refer to 6
F	F		Control unit sound refer to 4.3

5.1.3 File Selection

The instrument presents a library of files of major brands. User can choose to use without setting.

a) Manufacturer and NITI system

- Press to enter the NITI system, choose manufacturer and systems by pressing NITI system name according to your needs.
- Press to switch pages and press to exit selection.

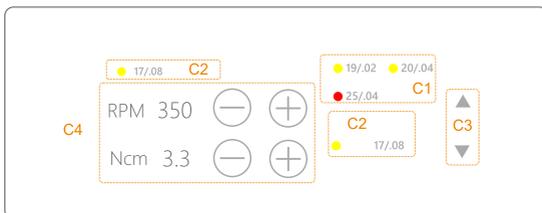


- After the selection is completed, the status bar of the main page displays the selected NITI system.



- B2 File manufacturer
- B3 NITI system name
- User can also press (B4) to select different NITI system under the same manufacturer.

b) File selection



- C1 File list in the current NITI system
- C2 File(s) selected for use
- User can press / (C3) to select file(s)
- C4 Speed and torque value of the currently selected file(s), change speed and torque refer to 5.1.9.

5.1.4 Handpiece LED Light

Press to enter setup state.



a) Press to change the LED status as below.



When , the LED is off, otherwise the LED will light up when the motor is running

b) Press button as below to select delay time.

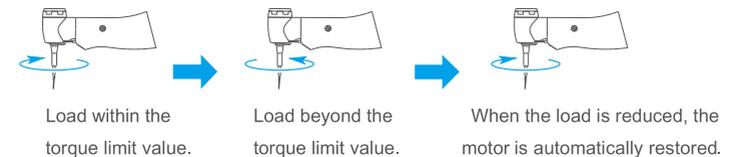


After the motor stops running, the LED will continue to light up until the delay time expires.

5.1.5 Torque Reverse

a) Press to turn on torque reverse.

During operation, when load reaches preset torque limit value, motor will automatically reverse. When the load is reduced, the motor will automatically return to forward rotation.



b) Press  to turn off torque reverse.

- During operation, when load reaches preset torque limit value, motor will stop.
- Restart handpiece to restart the motor.



During operation, do not apply excessive force to the file.

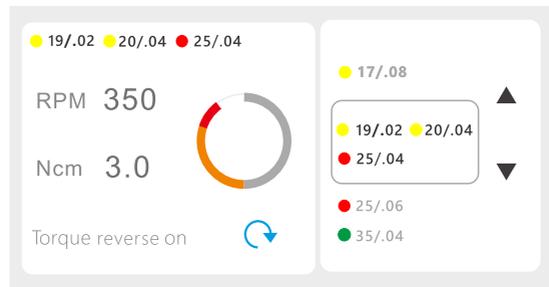
5.1.6 Rotary Direction

- Before working, press  /  on the screen or long press  on the handpiece to change rotary direction.
- During working, user can only change the direction by long press  on the handpiece.
- During working, the icon mean:  Clockwise rotary  Counterclockwise rotary

5.1.7 Calibration (Refer to 8.4)

5.1.8 Start Working

Press , motor rotates according to the set speed and rotary direction, press again to stop it.



Currently torque

When the torque exceeds the set limit, the motor will stop or automatically reverse(refer to 5.1.5).

5.1.9 Change Speed and Torque

Usually, the default settings do not need to be adjusted; however, user can modify the default speed and torque values.



User should refer to the file manufacturer's instructions to adjust the speed and torque.

- Press   on the screen to adjust speed or torque.
- When the setting is changed, Rpm (Ncm) will become Rpm (Ncm).



NOTE:

- The change will be saved automatically. To restore the default settings, refer to 8.4.
- While motor handpiece is in motion or in a reciprocating rotary file mode, speed and torque cannot be changed.

5.1.10 User System

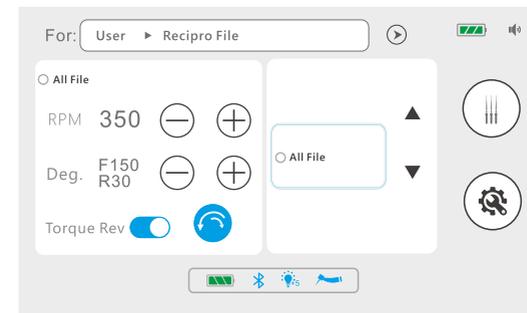
The instrument contains two user's systems: Rotary File and Recipro File.

a) Rotary File

There are 5 continuous rotary files in the system and user can set speed and torque as required.

b) Recipro File

There is a reciprocation rotary file in the system and user can set speed and rotation angle as required.

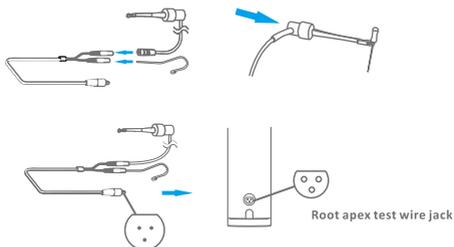


5.2 Apex Locator Mode

If the root apex test wire is connected to handpiece, it enters the Apex Locator Mode automatically.

5.2.1 Connection Accessories

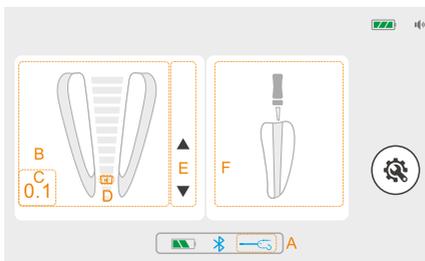
Connect the components: lip Hook , file clip , root apex test wire and handpiece.



CAUTION:

- Do not use damaged or worn file clip. This will cause inaccurate measurement.
- Do not bump the plugs and wind the probe cord around the instrument.
- Make sure the plug is all the way in. This will cause inaccurate measurement.

5.2.2 Interface Overview



A		Apex Locator Function
B		Root apex area, shows the root apex area and indicate where file was reached
C, D		Apical reference position(The number represents the relative position of file tip and apical hole, the smaller the value, the closer to the apical hole)
E		Set the DR's CHOICE apex position
F		Complete root canal image Shows file entering the root canal opening

5.2.3 Set the DR's CHOICE apex position

Press ▲ / ▼ on the screen to set the DR's CHOICE apex position, and then clear visual and audio indication is given that file has reached the pre-selected position.

5.2.4 Operation Check

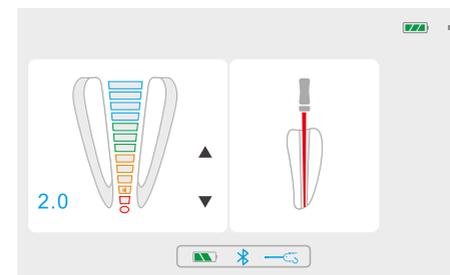
It is recommended to check the performance of the apex locator once a week ,the detailed methods refer to 8.1 and 8.2.

5.2.5 Measurement

WARNING:

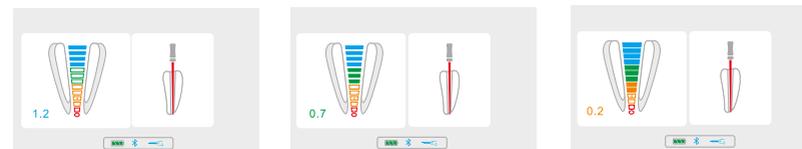
- Do not allow lip hook, file clip and test wire to contact with power sources, such as power outlets.
- Make sure that all connectors are securely locked in place.

- Hook the lip hook in the corner of the patient's mouth and slowly insert the file into the canal.
- The file movement in the canal is shown on the full canal image as below.



Apex enlargement area:

- Indicators indicates the exact position and changes accordingly from blue to green and then to yellow as shown below.



Blue (Close to Apex Area)

Green to yellow (Reach Apex Area)

- File movement is accompanied by audio signals as additional indication of file position. The shorter the sound interval, the closer the distance between file and apex.
- When file reaches apical foramen indicators is marked red and a constant sound is emitted.



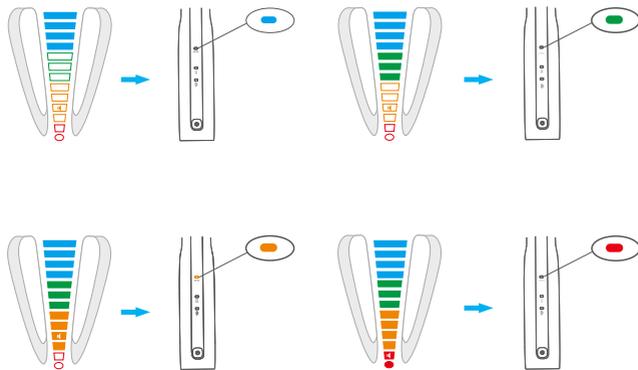
Red (Located in apex foramen)

Red (Beyond apex foramen)

NOTE:

- Indicator does not represent a specific size.
- Measurement can be terminated at any time.

- During measurement, the color of Apex locator indicator is displayed in synchronization with indicator bar's, as shown in below:



NOTE:

- Exceed the DR'CHOICE, Apex locator indicator flashes.

5.2.6 Electric Measurement of Root canal length (Refer to 7)

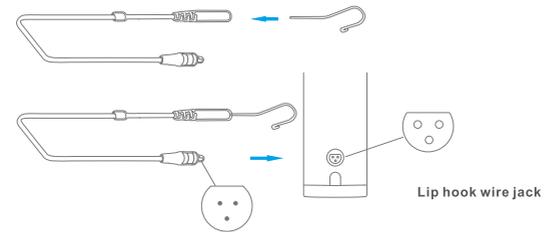
5.3 Multi-function Mode

If lip hook wire is connected to handpiece, it enters the Multi-function Mode automatically.

5.3.1 Connection Accessories

Connect the components: handpiece, contra-angle, file, lip hook, lip hook wire.

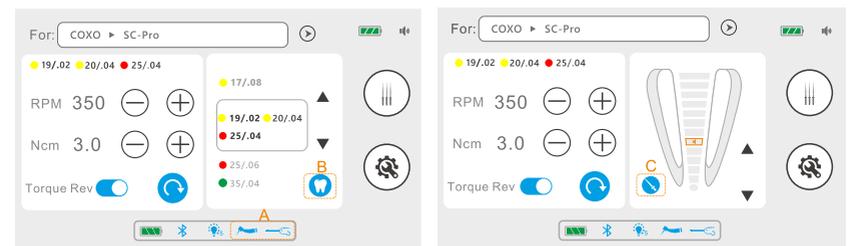
- Connect contra-angle (Refer to 5.1.1)
- Connect file (Refer to 5.1.1)
- Connect lip hook and lip hook wire.



CAUTION

- Do not use damaged or worn file clip, file and contra-angle.
- Do not bump the plugs and wind the probe cord around the instrument.
- Make sure the plug is all the way in.

5.3.2 Interface Overview



A		Endo Motor and Apex Locator Function
B		Press to enter root apex display interface
C		Press to enter file selection interface

5.3.3 File Selection(Refer to 5.1.3)

5.3.4 Handpiece Light (Refer to 5.1.4)

5.3.5 Torque Reverse (Refer to 5.1.5)

5.3.6 Rotary Direction(Refer to 5.1.6)

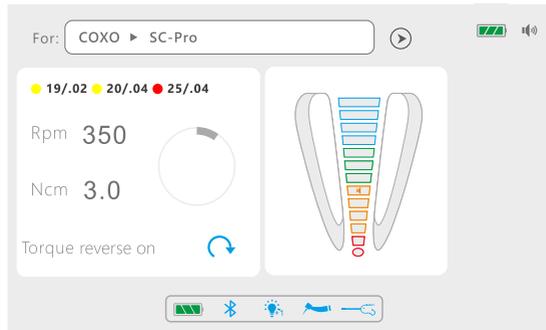
5.3.7 Calibration(Refer to 8.4)

5.3.8 Set the DR's CHOICE apex position(Refer to 5.2.3))

5.3.9 Operation Check

It is recommended to check the performance of the apex locator once a week ,the detailed methods refer to 8.1and 8.2.

5.3.10 Start Working(Refer to 5.1.1and 5.2.5)



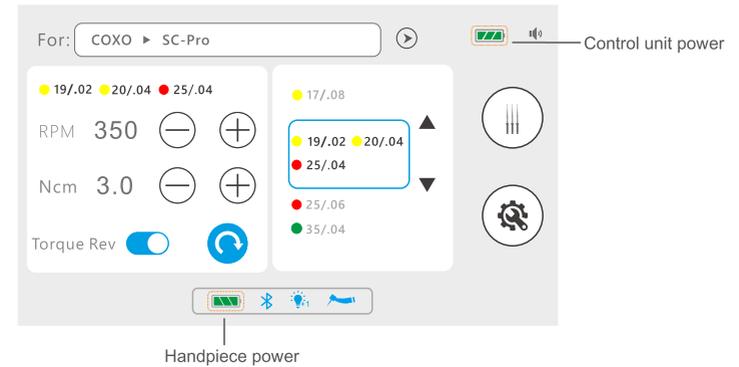
- In multi-function mode. When the file is contact with root canal, length is measured. The movement of the file is displayed on the right side of the screen, accompanied by different prompt sounds.

5.3.11 Change Speed and Torque (Refer to 5.1.9)

5.3.12 Electric Measurement of Root canal length (Refer to 7)

6. Battery and Charging

6.1 Battery Power



Battery:

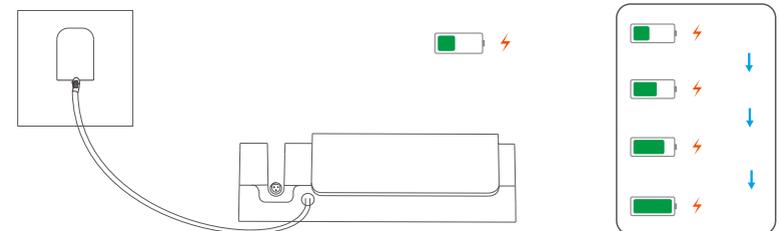
- >70% power
- 20-70% power
- <20% power, low battery level, please charge it in time.
- <5% power , very low battery level.

CAUTION:

- When control unit or handpiece battery is less than 5%,the icon will appear on screen.
- Non-professionals cannot replace battery.

6.2 Charging

- Control Unit :Connect handpiece and adapter to charge the handpiece, the charging status is shown as follows:

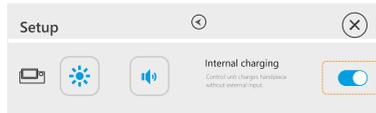


b) Handpiece:

External charging: Connect control unit and adapter, and place handpiece on handpiece charger to charge;

Internal charging: Control unit can charge handpiece without external input.

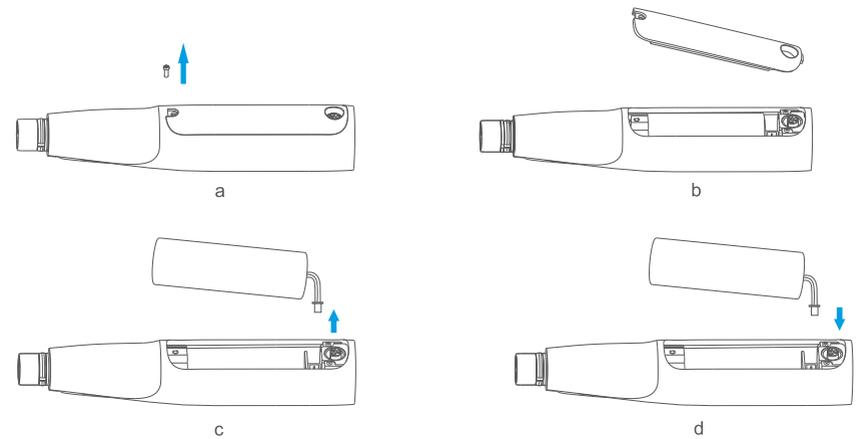
- Press  to enter setup state and then press  /  to turn on/ off internal charging.



- The function turns off when control unit 'battery level is less than 20%.

 **WARNING:**

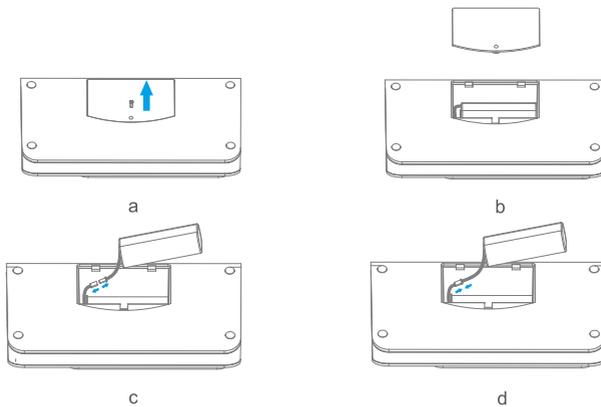
- Only use the adapter provided by manufacturer.
- Do not charge in humid places.



Handpiece

6.3 Replacement Battery

- Open the rubber cover or remove the screw;
- Remove the battery cover as shown in the illustration;
- Remove the old battery ;
- Connect the new battery ;
- Install the cover and its screw or rubber cover.



Control unit

 **CAUTION:**

- Only use original battery.
- Do not use a battery if it is leaking, deformed, discolored or if its label is peeled off. It might overheat

 **NOTE:**

- Turn off power before replacing the battery.
- Avoid opening the rubber cover too hard.
- Do not remove the battery cover if the handpiece is wet.
- Do not tighten the cover screw too much. This could strip the threads.
- Dispose of old batteries in an environmentally safe way and in strict according to local regulations.

7. EMR (Electric Measurement of Root canal length)

Accurate measurement cannot be obtained with the root canal conditions shown below.

A huge apical hole

Root canal that has an exceptionally large apical foramen due to a lesion or incomplete development cannot be accurately measured.

Root canal with blood overflowing from the opening

If the blood overflows and contact with the gums, it will cause electrical leakage, and accurate measurement results cannot be obtained. After the bleeding has completely stopped, thoroughly clean the inside of the root canal and the opening, and then perform the measurement.

Root canal with a chemical solution overflowing from the opening

An accurate measurement cannot be obtained if chemical solution is overflowing from the canal opening. In this case, clean the canal and its opening. It is important to get rid of the solution overflowing the opening.

Broken crown

If the crown is broken and a section of the gingival tissue intrudes into the cavity surrounding the canal opening, contact between the gingival tissue and the file will result in electrical leakage and an accurate measurement cannot be obtained. In this case, build up the tooth with a suitable material to insulate the gingival tissue.

Fractured tooth

Leakage through a branch canal

Fractured tooth will cause electrical leakage and an accurate measurement cannot be obtained.

A branch canal will also cause electrical leakage.

Re-treatment of a root filled with gutta-percha

The gutta-percha must be completely removed to eliminate its insulating effect. After removing the gutta-percha, pass a small file all the way through the apical foramen and then put a little saline in the canal, but do not let it overflow the canal opening.

Crown or metal prosthesis touching gingival tissue

Accurate measurement cannot be obtained if the file touches a metal prosthesis that is touching gingival tissue. In this case, widen the opening at the top of the crown so that the file will not touch the metal prosthesis before taking a measurement.

Cutting debris on tooth

Pulp inside canal

Thoroughly remove all cutting debris on the tooth.

Thoroughly remove all the pulp inside the canal. Otherwise an accurate measurement cannot be obtained.

Caries touching the gums

In this case, electrical leakage through the caries infected area to the gums will make it impossible to obtain an accurate measurement.

Blocked canal

The meter will not move if the canal is blocked.

Open the canal all the way to the apical constriction to measure it.

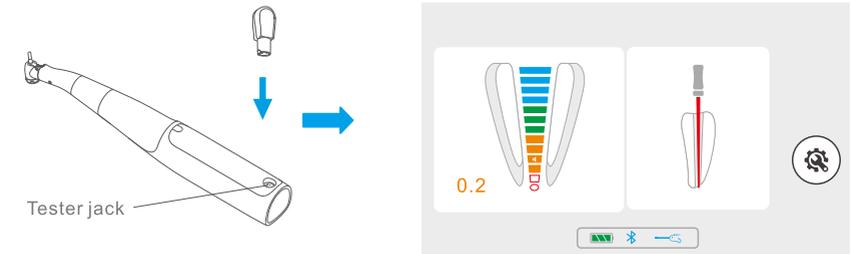
Extremely dry canal

If the canal is extremely dry, the meter may not move until it is quite close to the apex. In this case, try moistening the canal with oxydolor saline.

8. Maintenance

8.1 Check with Tester

- Connect tester to handpiece;
- Confirm whether indicators are lit between 0.1-0.5.



⚠ WARNING:

If indicators are not lit between 0.1-0.5, stop using the equipment immediately and repair it.

8.2 Check Canal Measurement Function

8.2.1 Check Test Root Apex Test wire

Check the test root apex test wire and confirm whether indicators are lit.



8.2.2 Check Lip Hook wire

Check the lip hook wire and confirm whether indicators are lit.

