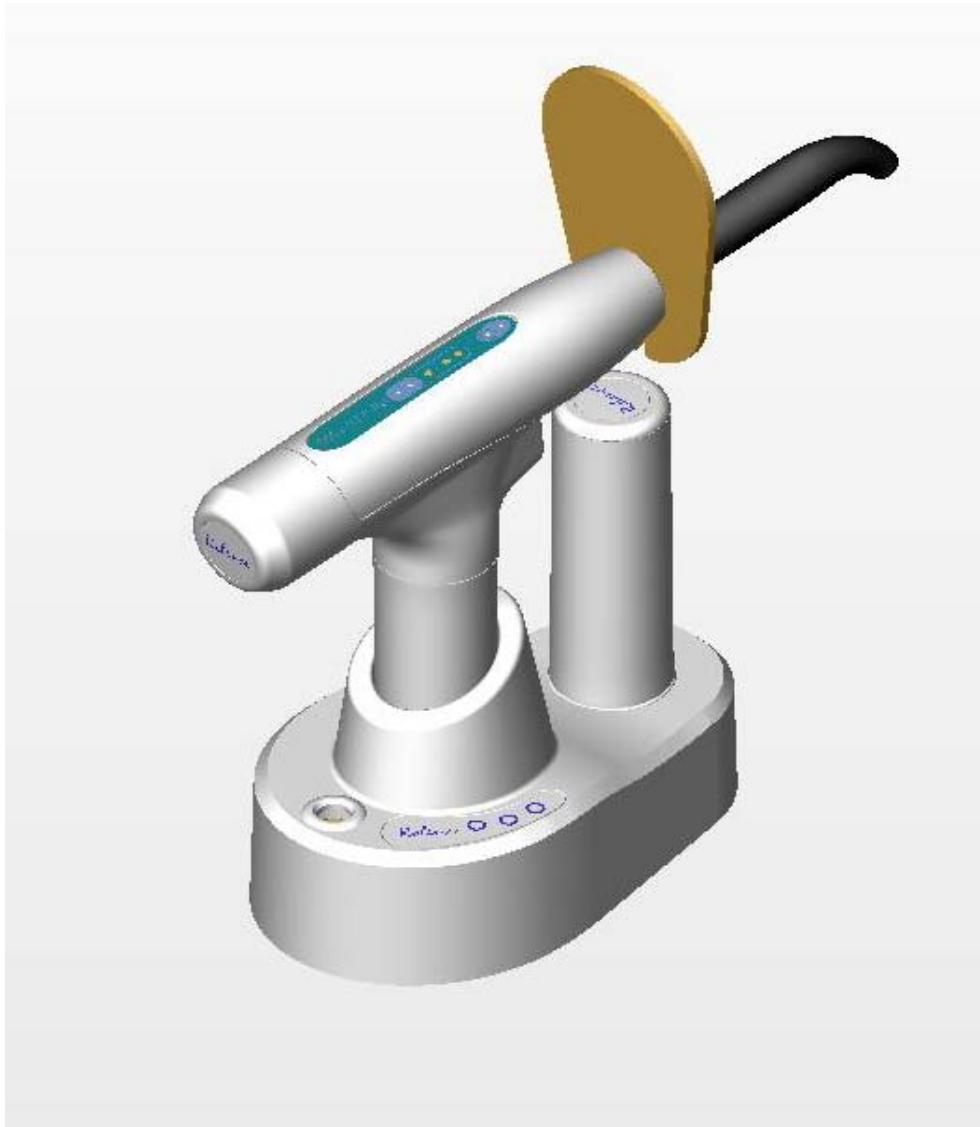


# **LED 5 Curing Light**

Gun Type

## **Product Features**



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**Caution:**






**U.S. Federal Law restricts this device to sale by or on the order of a dental professional.**

## 1. Safety

### PLEASE NOTE □

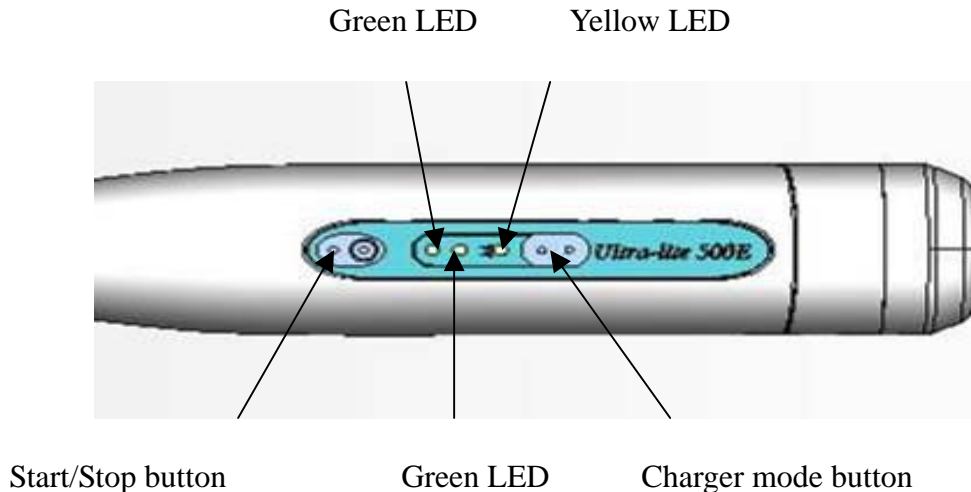
Prior to installation and start-up of the unit, carefully read the instructions provided herein □

As with all technical devices, the proper function and safe operation of this unit depend on the user's compliance with the safety recommendations presented in these operating instructions.

- Before operation, you have to read user manual carefully.
- Refer to Section, Cleaning / Disinfecting / Sterilizing for sterilizing instructions.
-  CAUTION: This curing unit produces high output curing energy! A significant increase in curing energy is possible compared with equipment you have previously used. It is important to observe the following precautions and procedures:
  - Do not place light directly on or toward unprotected gingival or skin.
  - Adjust your curing techniques in accordance with the increase in curing energy. Some examples are; decrease curing time, increase composite thickness, increase distance between light guide end and light cured materials.
-  CAUTION: Do not look directly at the light emitted from this curing unit. Do not use this device without suitable protective eyeshade for the operator, assistant and patient. Suitable protective eyeshade can blocks almost energy below 550nm.
-  CAUTION: Persons having a history of photosensitive reactions or who are using photosensitizing drugs should not be exposed to light from this unit.
-  CAUTION: Equipment is not suitable for use in the presence of flammable anesthetic mixture with air, nitrous oxide or environment full of flammable material.
-  CAUTION: Don't dispose the battery into fire or take battery apart.
- To protect this light guide, after each curing procedure is completed, the handpiece should always be placed in its holder.
- To keep the safety operation, we suggest that check your local AC power supply voltage before you buy this product from oversea.

## 2. Product Description & Fields of Application

The ULTRA-LITE 500E with blue LED is a light curing unit intended for polymerization of light cured materials by dental professionals. And it emits light mainly in the wavelength range of 440 to 490 nm i.e. the relevant range for camphor quinone (CPQ) containing product. Though the majority of light-curing dental materials are responsive in this range of wavelengths, you need to contact the agent of the material to make sure it before usage.



### 3. Technical Data (Subject to technical modification without prior notice)

#### Charger Box

- Transformer Input: 100~240VAC, 50/60HZ / 0.2~0.4A  
(refer to rating plate for factory-set voltage)
- Charging box input: 5V, 3A
- Charging box output: 4.2VA / 1A
- Power indicator: Green LED.
- Charging indicator: Orange LED.
- Light intensity indicator: Blue LED.
- Dimensions (length/width/height): 135mm/81mm/80mm
- Height with handpiece inserted: 160 mm
- Weight: roughly 450g

#### Handpiece

- Power supply: Li-ion battery, 3.7V, 2000mAh
- Time to completely charging the empty battery: approx. 1&1/2 hr
- Wavelength range: 440-490 nm
- Dimensions:
  - Diameter: 30 mm
  - Length (with/without light guide): 224 / 150 mm
  - Height: 138 mm
- Weight (with light guide and battery): 226 g

#### Charger Box and Handpiece

- Time to charger empty battery: approximate 2 hr
- Relative humidity: max. 80% at 37□  
max. 50% at 40□
- Equipment class: Class II (IEC601-1)

- Protection from electric shock: Type BF (IEC601-1)
- Protection from ingress of liquids: None

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### Operation Environment

- Ambient temperature: 0°C ~ +40°C
- Relative humidity: 30% ~ 75%
- Atmospheric pressure: 700hPa ~ 1060hPa

### Transportation and Storage Environment

- Ambient temperature: -10°C ~ +70°C
- Relative humidity range: 10% ~ 90%
- Atmospheric pressure: 500hPa ~ 1060hPa

## 4. Content

<input type="checkbox"/> charger box	1pc
<input type="checkbox"/> Hand piece	1pc
<input type="checkbox"/> Turbo light guide	1pc
<input type="checkbox"/> Protection eye shield	1pc
<input type="checkbox"/> Adapter	1pc
<input type="checkbox"/> User manual	1pc
<input type="checkbox"/> lithium battery	2pc

## 5. Additional symbols

Attention, consult  OFF ○

Accompanying 

Documents

Alternating   ON

Current

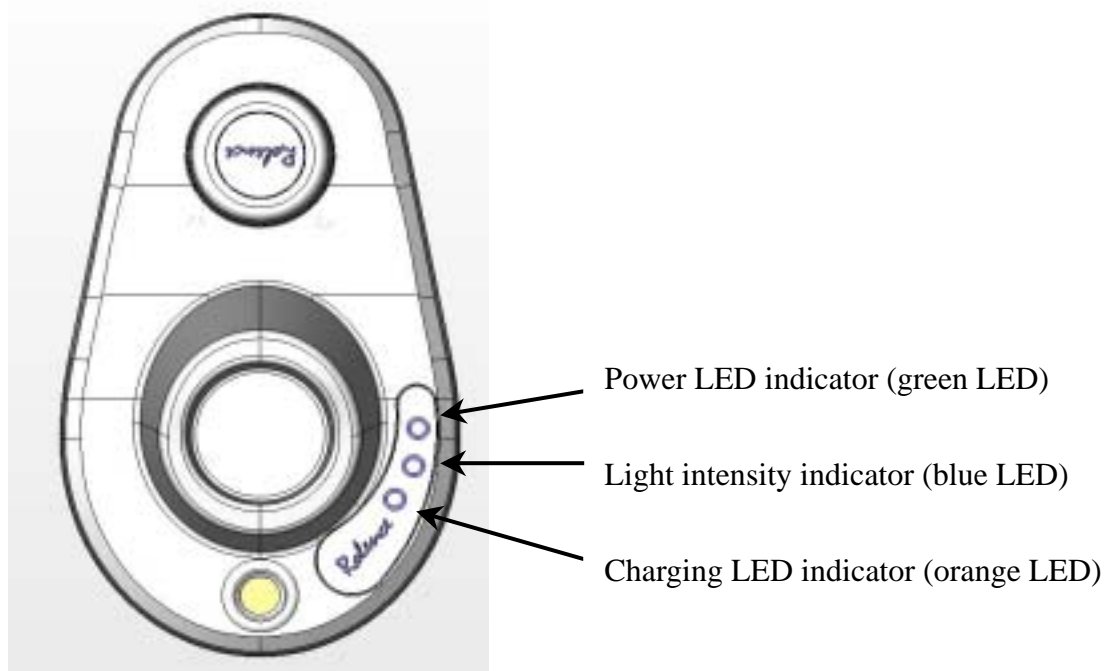
## 6. Installation of the Unit

### Charger Box

- Please ensure first that the voltage stated on the rating plate corresponds to be same as the voltage of local power outlet. The rating plate is attached to the bottom of the unit.
- Please put the charger box on a level surface.
- Connect the power cable of the charger to the main power outlet.
  - The green LED on the left side of the device is illuminated. This show that the unit is ready for operation; please refer to the section, “LED display of the charger”.

- Autoclave the light guide prior to first use.
- Then insert the light guide into the handpiece until it snaps into place.
- Standard fiber optic light guide: 8mm turbo optic probe
- Prior to the first use, place the new battery in the charger box to fully load the new rechargeable battery.
  - The orange LED of the charger illuminates; please see also section LED Display of the Charger Box. The battery is fully charged once the orange LED is turned off.
  - Note: new batteries attain full capacity only after several charging / discharging cycles. Therefore, the battery charge may initially be sufficient for a smaller number of exposures only.

### LED Display of the Charger Box



## 7. Operation

### Activating and Deactivating the Light

- Activate the light by briefly depress the Start button.
- If it is desired to turn off the light, this can be done by again depressing the Start button.
- Curing: the probe tip shall be used in close proximity to the material to be cured. Avoid actual contact. The flat end of probe should be parallel to the surface being treated.
- Light intensity:
  1. Constant mode: at constant intensity min. 800mW/cm<sup>2</sup>
  2. 2-Steps curing mode: initially lower output and then increase to at min 800mW/cm<sup>2</sup>
- Curing time: 2 modes with 3 different curing time-set
  1. Constant mode: Constantly high output for 5 (lower LED on) or 10 (upper LED on) seconds (both LEDs on)

2. 2-steps curing mode: initially, for 5 seconds, low output and then jump to high output for 5 seconds (both LEDs off).

- Reminding beep for curing time: every 5 seconds
- Duration of continuous use: roughly 7 minutes (before activating temperature control)
- Total exposure time with new fully charged battery: minimum 1 hour.
- If the temperature on hand piece over 50°C, the yellow LED keep flash and buzzer continuously beep 5 times until the temperature low than 45°C.
- If the battery voltage running low, the yellow LED keeps on and buzzer continuously beep 3 times. Please place the battery into charger box for recharging.
- Rotate the light guide into the optimal position for polymerization.
- Place the light guide as close to the filling as possible.

Avoid directly contacting the filling material!

- Keep the light guide clean at all times to obtain full light intensity.
- Damaged light guides must be replaced immediately, since damaged light guide may strongly reduces light intensity or injures the patient.

**Note:**

- Follow manufacturer's directions for curing times on various materials. It is better to over cure rather than under cure. Over curing cannot harm the restoration.
- If the lamp remains activated for an extended period, a safety thermostat will cut off the lamp to protect curing gun from overheating. Normal usage may then be resumed if the handpiece is idled for an extended period for cooling.

**8. Operating Errors**

Error	Cause solution
1. Cannot operate and no green LED on handpiece.	<ul style="list-style-type: none"> <li>● Check the battery is connected well.</li> <li>● Please recharge battery.</li> <li>● Try again.</li> <li>● If not sure what happen, contact agent for repair.</li> </ul>
2. Yellow led flash and buzzer beeps 5 times.	<ul style="list-style-type: none"> <li>● Overheat, please wait for handpiece cooling down. Waiting time can be shortened if handpiece is cooled by compressor air.</li> </ul>
3. Yellow led keeps on and buzzer beeps 3 times.	<ul style="list-style-type: none"> <li>● Low voltage, please recharge the battery and change other battery into handpiece.</li> </ul>
4. No light indicator on power box.	<ul style="list-style-type: none"> <li>● Check the power plug connects to power outlet socket firmly.</li> <li>● Check the fuse in power box.</li> <li>● If not sure what happen, contact agent.</li> </ul>
6. Battery working period shortened.	<ul style="list-style-type: none"> <li>● Battery is exhausted, please replace battery.</li> <li>● If not sure what happen, contact agent.</li> </ul>

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**REM:** We and our authorized distributor will make available on request circuit diagram, component

part lists and other information to assist user's appropriate technical personnel to repair the light cure units which are designated by us as repairable.

## 9. Replacement of the Battery

Please use the appropriate battery available from distributor to keep its function properly, incorrect battery type may cause whole unit break down.

- Revolve the battery at direction as following picture and separate it from handpiece.
- Reversely revolve the new battery into the handpiece.



**Always place additional battery set on charger box. If not, battery life time will be shortened.**



## 10. Measurement of Light intensity/Interpretation of Reading

### Measurement of Light intensity

Center optic probe on the detecting window on charger box. Blue LED on indicating light intensity is over  $300\text{mW}/\text{cm}^2$ . if blue LED is still off at intensity measurement, the curing light should not be used. First inspect battery voltage is low or not. If the battery voltage is high, inspect the unit for deterioration of LEDs and light guide at this time.

## 11. Cleaning / Disinfecting / Sterilizing

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..... **CAUTION** .....

- The use of a dry heat oven, incompatible chemical vapor type sterilizing must be avoided as damage can result to the optic fiber and its binding material.
- Do not use any instruments or abrasives on the ends of optic probe loss of light emission may result.

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**Probe** shall be cleaned free of saliva or dirt prior to sterilizing. The cleaning consists of wiping the surface slightly with a cleansing solution and wiping with a dry cloth. Sterilizing by autoclave is preferred.

**Power Unit and Curing Gun**



..... **CAUTION** .....

- The power unit shall be unplugged before cleaning and disinfecting the power unit and curing gun to prevent from electric shock.
- To wash or spray the out surface of power unit and curing gun with water, cleanser and chemical disinfectant is not allowed for it will result electric shock and damage of inner circuit. If this happens, please contact our dealer for inspection before use.

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The cases of power unit and curing gun are made of aluminum and plastic material PC. The cleaning consists of wiping the surface slightly with a cleansing solution and wiping with a dry cloth. The disinfecting consists of wiping with a cloth slightly dampened with a chemical disinfectant and allows it to remain on the surface for the manufacturer recommended period, but no longer. Then wipe surface with water wet cloth and dry thoroughly including crevices. Appropriate disinfectant information can be obtained from our authorized distributor.

**12. Disposal**

As a means of protection of the environment, your new device is equipped with nickel-metal hydride battery. This kind of battery is free from toxic heavy metal ions.

- Dispose of battery and units in accordance with local legal regulations.

**13. Liability**

Rolence considers itself responsible for the effects on safety, reliability and performance of this product only if:

- Assembly operations, extensions, re-adjustments, modifications or repairs are carried out by persons authorized by Rolence.
- The electrical installation of the relevant room complies with the re 1106/I/1203

- The equipment is used in accordance with these instructions for use.

#### **14. Warranty**

Rolence hereby warrants that for a period of one year from the date of purchase this instrument shall be free from defects in material and workmanship and will perform satisfactorily under normal use and service.

The warranty stated herein is the sole warranty applicable to Rolence products. Rolence expressly disclaims any and all other warranties expressed or implied, including warranties or merchantability or fitness for a particular use. Rolence's liability with respect to its products expressly limited to the remedies set forth above. The remedies are the buyer's exclusive remedies. Rolence shall under no circumstances be liable for incidental or consequential damages.

#### **15. Accessory**

Protection glasses with frame

Protection glasses clip on

Large diameter straight optic probe

Large diameter curved optic probe

Light meter#105

Digital light meter#200