

USER'S MANUAL



DY400-4 LED Curing Light

The unit must be installed by a qualified dental engineer.

Read this operation manual carefully before installation or operation.



CONTENTS

SECTION I. DESCRIPTION

SECTION II. FEATURES

SECTION III. COMPONENTS

SECTION IV. MAIN TECHNICAL INDEX

SECTION V. INSTALLATION

SECTION VI. OPERATION

SECTION VII. SAFETY PRECAUTIONS

SECTION VIII. MAINTENANCE

SECTION IX. TROUBLE SHOOTING

SECTION X. STORAGE & TRANSPORT ENVIRONMENT

SECTION XI. WARRANTY STATEMENT

SECTION I. DESCRIPTION

Thank you for purchasing our **DY400-4** LED curing light!

LED Curing Light DY400-4 is a perfect combination of the highly-efficient LED tube, the micro-control electric circuit and the rechargeable lithium battery. It is used for polymerize composite material. Because of high-efficiency, outstanding function, convenient operation, and longevity, it becomes the latest top curing light in the global market.

SECTION II. FEATURES

1. Latest LED technology with longevity

Continuous operating time: Avg. 40 min with fully charged battery

The life of lamp: charging for 10,000 times

Light Intensity: >1000 Mw/cm² (tested by meter made by Kerr. Kerr meter is said to be most accurate in testing light intensity!

2. Beep sound design

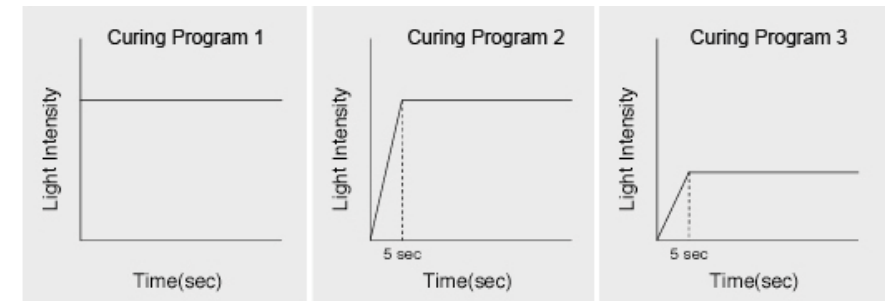
Beep at every 5 seconds to remind the user of remaining curing time!

3. Cord/Cordless interchangeable

Cordless or cord use are both available!

When running out of battery, the unit can be still used directly with power charger.

4. Curing Program



- ①Curing Program 1: Full power till end
- ②Curing Program 2: Soft start in first 5S to full power till end
- ③Curing Program 3: Soft start in first 5S to half power till end


5. Curing Time

Curing time available: 5/10/15/20/25/30/35/40S

※ Except for full power program, the curing time for other programs should be started from 10 seconds. User should follow the original instructions of the composite when curing.



6. Battery Sign

When  flashed on the panel, the battery needs to be charged at least 2.5 hours.

Directly connecting the charger with the handpiece can also charge the battery.

When full battery sign  on the LCD panel appear and stop flashing, this indicates that the battery is fully charged.

7. Specially made battery: reliable and powerful

a. To support continuous time for 40 minutes and curing time at 35S and 40S.

When the user sets curing time at 30S/35S/40S often, if there is no reliable and powerful battery as strongest supporter, the lamp is easily aging to shorten the life.

b. To ensure the inactive time of 200 hours. If the unit is nonuse, the unit will have electricity power inside for the duration of about three months.

c: To guarantee the stability of performance

8. Specially design for eye-protection cover

Eye-protection cover tip

Convenient for curing on the molar teeth.



9. Equipped with radiating fan to ensure the continuous operation for a long time!

It can guarantee the stability of performance to avoid over-heat. Not many manufacturers make the unit with radiating fan inside!

10. Build-in meter on the front of charging base to check the intensity.

It is fairly obvious to know the light intensity just to see how many light indicators become bright simultaneously.

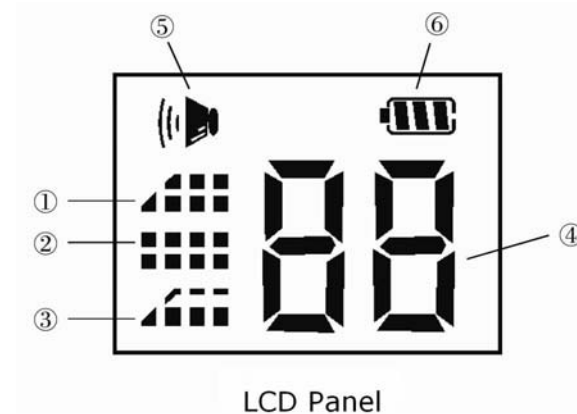
Inset the light guide to intensity test hole after plug charger into the outlet of power.

The meter will measure the intensity of LED curing light by lighting-up the LED indicators. The operator can use the reading to adjust the curing time.

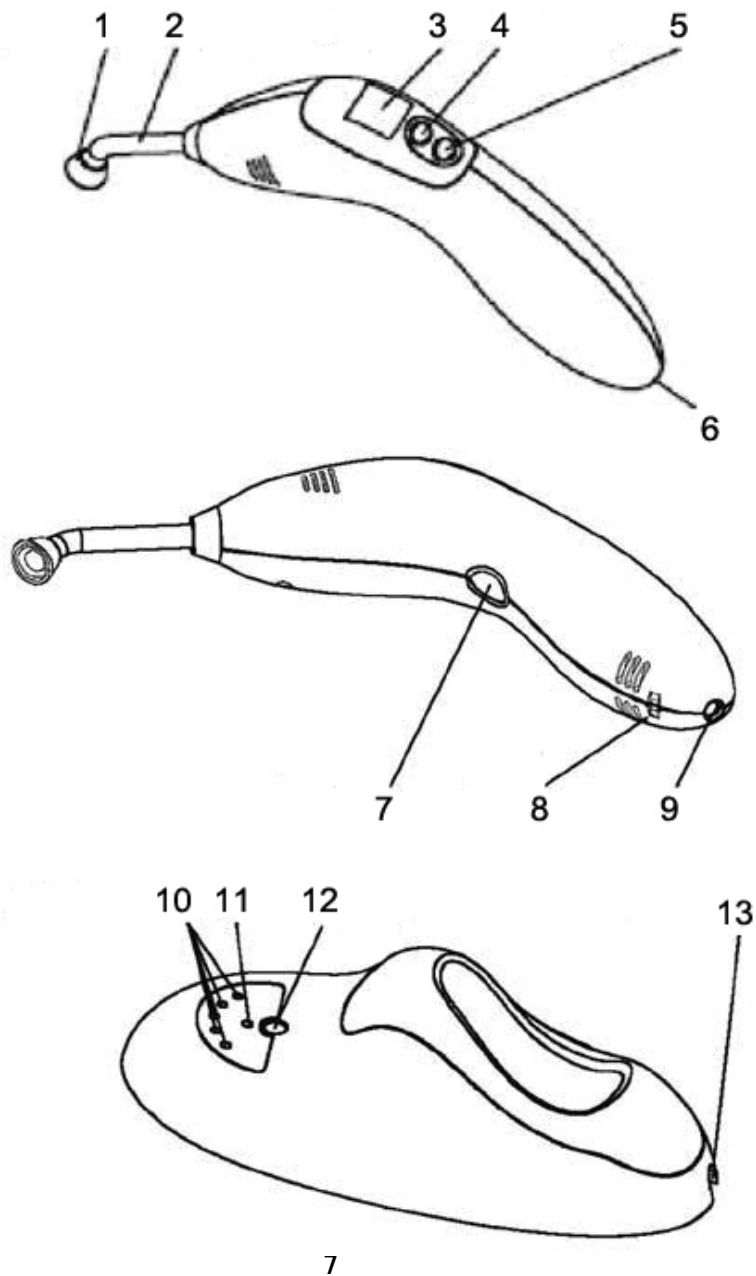
11. Sleeping Mode

When the unit is no longer in using for 2 minutes, the handpiece will turn into sleeping mode to save power.

SECTION III. COMPONENTS



- ① Curing Program: Soft start to full power
- ② Curing Program: Full power
- ③ Curing Program: Soft start to half power
- ④ Curing Time
- ⑤ Beep Sound Sign
- ⑥ Battery Sign



- 1) Eye-protection Cover 2) Light Guide
- 3) LCD Panel 4) Function Switch for Curing Time
- 5) Function Switch for Turning on the Unit and Curing Program
- 6) Charger Port 7) curing Switch 8) Charging interface
- 9) Charger Port 10) Light Intensity Indicator
- 11) Status Indicator 12) Test Hole 13) Charger Connector



Standard Accessories

Handpiece	1 PC	Charging Base	1 PC
Light Guide	1 PC	Charger	1 PC
Eye-protection Cover	3 PCS	User Manual	1 PC

Optional Accessories

Oval eye-protector 1 pc



8

SECTION IV. MAIN TECHNICAL INDEX

1. Classification: Class I

2. Power source:

a) Power supply-Power Charger:

Input: 100-240V, 50-60Hz Output voltage: 8.7-8.8V DC

Output current: 500mA

b) Internal power supply- Lithium battery

Voltage: 7.4V Capacity: 1350mAh

Charging time: Approx. 2.5 hours (New Battery for 4 hours)

Continuous Operating time: Avg. 40 min with fully charged battery

3. LED lamp

Model: 5W, Wavelength: 420-480nm


4. Dimension: W300×H120×D150mm

5. Net Weight: about 700g

SECTION V. INSTALLATION

1. Charge battery

For best performance—charging time is at least 2.5 hours! (Charging time is at least 4 hours for the first time). The light indicator of charger is red when charging,

When full battery sign  on the LCD panel appear and stop flashing, it shows that the battery is fully charged. And the light indicator of charger turns into green accordingly.

2. Install the eye-protection cover

Directly insert it onto the front of the handpiece. It still can be rotated when proper installed.

3. Install light guide

Directly insert the light guide to the handpiece, make sure it has been totally insert and fixed steadily. It still can be rotated when proper installed.

After use, the user is free to pull out the light guide with care and keep it in the package.

※Optional※

4. Connect power charger

This unit is available to use directly with power charger when battery run out of power.

Directly connect the power charger to the connector which is located on the bottom of handpiece, then plug the charger into the outlet. (AC100-240V).

SECTION VI. OPERATION






Power switch and function switch

1. Turn on the unit.

Extended press the power button can turn on the unit. LCD panel is working.



2. Set curing program

Short press function switch  can select suitable curing program.

- ①Curing Program 1: Full power 
- ②Curing Program 2: Soft start to full power 
- ③Curing Program 3: Soft start to half power 

3. Set curing timer


Press function switch  to select curing time between 5,10,15,20,25,30,35 and 40 seconds.

When choosing Curing Program 2  and Curing Program 3 , the cutting time should start from 10 seconds.

4. Start to operate

Press curing switch to start curing program. "Beep" sound will be heard every 5 seconds. To interrupt a program, just press curing switch again. When the program is finished, the unit will turn off the light immediately.

5. Low Battery Sign

When low battery sign  is flashing on the panel, the battery needs to be charged immediately or connecting the charger with the handpiece for continuous use.

6. Turn off the power

When the unit turns into sleeping mode automatically, it will shut down all the function except the battery sign, beep sound sign and curing program sign on LCD panel to save the power.

7. Use Build-in meter

For better curing performance, user should check the light intensity of LED before use. It is fairly obvious to know the light intensity just to see how many light indicators become bright simultaneously.

Inset the light guide to intensity test hole after plug charger into the outlet of power.

The meter will measure the intensity of LED curing light by lighting-up the indicators. User can use the reading to adjust the curing time.

If five indicators become bright simultaneously, it stands for the intensity is at least 1000 Mw/cm². If only three indicators become bright simultaneously, it stands for the intensity is a little lower! In this situation, the user had better charge the unit at once!




※ The reading comes from the meter is as reference for dentist to adjust the appropriate curing time. Dentists still need to follow the curing procedures which are provided by composite manufacturer.

※ The light source must aim at the fixed position when operated. The working distance must be within 3mm from the fixed position. The depth of the polymerization of material is not less than 2mm. Curing layer by layer is recommended if the material is very thick!


SECTION VII. SAFETY PRECAUTIONS

a). Before operation, you have to read usage manual carefully.


b).  CAUTION: This curing unit produces high output curing energy!


Do not place light directly on or toward unprotected gingival or skin.

The light source has to shoot directly in the polymerization of resin material when it is in clinical use. Improper radiation which may affect the curing result should be avoided.

c).  CAUTION: Do not look directly at the light emitted from this curing unit. Do not use this device without suitable

protective eye ware for the operator, assistant and patient. Suitable protective eye ware blocks all energy below 550nm.

d).  CAUTION: Persons having a history of photosensitive reactions or who are using photosensitizing drugs should not be exposed to light from this unit.

e).  CAUTION: Equipment not suitable for use in the presence of flammable anesthetic mixture with air or nitrous oxide.

f). To keep the safety operation, we suggest that check your local AC power supply voltage before you buy this product overseas.

g). The curing light should be placed in the original packing box in a dry and clean cupboard, in case of its drop onto the floor.

SECTION VIII. MAINTENANCE

1. This unit can not be dismantled privately; otherwise the unit will be damaged wholly.

2. For non-use for a long time, the unit should be cleaned and then put away it inside the original package.

3. Be sure there is no any resin or material sticking on the surface of the light guide

4. If the materials are sticking on the light guide, immediately

clean it with cloth. Keep it clean for better light output and curing performance

5. The light guide should be sterilized after each use. It can be safely autoclaved at 121°C, 1060hPa for 30minutes.

6. The other accessories such as oval protector ...etc., which is close to patients should be scrubbed by pure water or antiseptic and follows the standard disinfection procedure to disinfect the materials.

7. Please use the original charger, any other charger may result in the damage of the battery and the controlled electric circuit; even the machine will be greatly damaged.

SECTION IX. TROUBLE SHOOTING

Question 1: When charging the unit, green and red light indicators of power charger flash by turns.


Solution: Check whether the handpiece is connected well with the charging base or not. Reconnect the handpiece with the charging base, making sure that connection is well and stable.

Question 2: The unit can not be turned on and LCD screen does not work.

Solution:

1. Possible cause: low battery. Charge with power charger at once for a short time, then turn on the unit again to check.

2. Possible cause: power button

Please try to press power button  extendedly

Please check the power button is in good order.

Question 3: Curing program and curing time can not be adjusted.

Solution: Check that function buttons are in good order.

Question 4: Solidification effect is not good.

Solution: Check that the light intensity is high enough for curing. Check that the curing program is correct.

Question 5: The unit can not be charged and the battery sign does not show charging condition.

Solution:

1) Check that the light indicator of charger show red.

2) Check that the charger or charging base is connected with handpiece properly.

3) Check that the metal dome (interface) on the handpiece is loose or damaged.

4) Check that the metal dome (interface) on the charging base is loose or damaged.

Question 6: It is unable (or hard) to insert the light guide to the handpiece.

Solution: Check that the size of light guide is suitable for handpiece.

SECTION X. STORAGE & TRANSPORT ENVIRONMENT:

Ambient temperature: -40°C ~ +55°C

Relative humidity range: 10% ~ 90%

Atmospheric pressure: 500Pa ~ 1060hPa

Handle with care.

SECTION XI. WARRANTY STATEMENT

This instrument described below has been fully inspected and conforms to the current products specification.

This instrument is guaranteed for its designated use, against original defects in materials and workmanship for a period of 12 months from date of purchase.

Products warranty or service will not be extended if (1) the product is repaired, modified, misused, disassembled, or using the parts are not provided by the manufacturer, (2)The serial number at the bottom of product is defaced or missing.