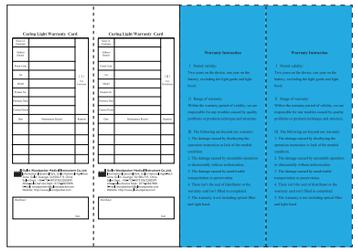
文件名称 Name of the document	光固化机英文说明书 V V Light 无LOGO CE	代 码 Code	14.02.02.278
尺 寸 Size	500×280mm，单页：100×140mm	出血尺寸 Hemorrhage line	6mm
材质&工艺 Material & Craftsmanship	材 质：120g 铜版纸 工 艺：———	版 本 Version	V1.4
装订&注释 Binding & Annotation	折叠 保修卡正反面需对应。	印刷颜色 Printing Colour	彩印 CMYK
设计者 Designer	林乐	设计日期 Design Date	2024.10.25

请勿打印此页，仅供参考。
DO NOT PRINT THIS PAGE, REFERENCE ONLY.

WOODPECKER®
桂林市啄木鸟医疗器械有限公司
Guilin Woodpecker Medical Instrument Co., Ltd.

保修卡正反面



CURING LIGHT V V Light
USER'S MANUAL

(Please read this manual before operating)

ZMN-SM-737 V1.4-20241025



CE

GUILIN WOODPECKER MEDICAL INSTRUMENT CO., LTD.

www.glwoodpecker.com

Catalog

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1. Introduction

Guilin Woodpecker Medical Instrument Co., Ltd. is a high-tech enterprise in researching, developing, and producing dental equipment, and has a perfect quality assurance system, main products including ultrasonic scaler, curing light, micro motor, apex locator and ultrasurgery etc.

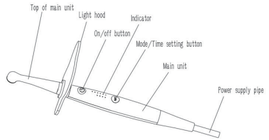
2. Principle and usage

2.1 V V Light adopts the principle of ray radiation to solidify the light-sensitive resin by shooting at it in a short time.

2.2 This product is used to restore teeth and solidify material for whitening teeth.

3. Structure and components

V V Light (dental) is composed mainly of main unit, top of main unit, light hood, disposable sleeve. (Picture 1)



Picture 1

4. Technical specifications

4.1 Power supply: 24V~ 50Hz/60Hz
4.2 Applied part: Top of main unit
4.3 Light source:
4.3.1 10W high power blue light LED

4.3.2 Emitted Wavelength Range: 380nm-515nm
4.3.3 Typical wavelength peaks: 460±15nm and 400±15nm
4.3.4 Light intensity: 1000mW/cm^2~2500mW/cm^2.
4.3.5 Class: class 1
4.3.6 AEL: 3.9×10^{-3}J
4.3.7 Check method: When operate machine properly, LED luminous means LED is in good condition.
4.3.8 The wavelength of our curing light machine can match with dental resin material which are commonly used on clinical, such as 3M and Dentsply.
4.3.9 380 nm to 515 nm (blue light) wavelength range of radiation: not less than 250 mW/cm^2
4.3.10 Working condition:
Environment temperature: 5℃ to 40℃
Relative humidity: 30%~75%
Atmosphere pressure: 70kPa to 106kPa
4.3.10 Irradiance tolerance range: ±10%
4.4 Dimensions: 22mm×22.8mm×244mm
4.5 Handle weight(Including main unit and top of main unit): 61g
4.6 Protection type against electrical shock: class II
4.7 Protection against electrical shock: type B
4.8 Protection against harmful ingress of water or particular matter: ordinary equipment (IPX0)
4.9 Safety in the presence of flammable anesthetic mixture with air, oxygen or nitrous oxide: not suitable under this condition.
4.10 Operation mode:Non-continuous operation (Work 400s, protect 30s).

5. Install and uninstall way

5.1 Connect the LED power supply line with the power (24V~) of dental unit. Tight the nylon thread to the fixation of the dental unit, then it will be available for operation.
Notice:When installing the LED, be sure the power is cut off. The two power wire should be a little longer than the nylon thread to keep the power wire safe.
5.2 Aim the mounting holes which on the upper of main unit, and make the long side of the top of main unit inserted to it (must screw the top of main unit to the end, don't inclined inserted). The top of main unit can rotate 360 degrees.
5.3 Take out the disposable sleeve and put it on the main unit.
WARNING: The disposable sleeves are single patient use only. Discard used disposable sleeves in standard waste after each patient.
5.4 Clip the notch of the light hood into the head of the top of main unit, and then clamp the light hood down on the main unit as showed in Picture 1.
5.5 Uninstall the LED, just reverse the procedure above.

6. Operation

6.1 Press the "M/T" mode/time setting button to select a mode. long press the button to select a time. After selecting, the corresponding indicator will light up. There are four working modes
6.1.1 Normal: 1000-1200 mW/cm², the blue light is irradiated with constant power, and the Selectable timing times are 5, 10, 15 and 20 seconds.(Clinical recommended mode).
6.1.2 Ramping: 1000-1200 mW/cm², The power of the blue light turns from weak to stronger, reaches the highest power in 5 seconds and maintains a constant power, the Selectable

Curing Light Warranty Card

Name of Customer		
Address Details		
Postal Code		
Tel		(Ⅰ) For Customer
Model		
Product No.		
Purchase Date		
Contact Person		
Date	Maintenance Record	Repairer

Guilin Woodpecker Medical Instrument Co.,Ltd.
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Sales Dept.: +86-773-5873196/2350599
After-sales Service Dept.: +86-0773-5827898
E-mail: woodpecker4@glwoodpecker.com
Website: http://www.glwoodpecker.com

Distributor:

Seal

Curing Light Warranty Card

Name of Customer		
Address Details		
Postal Code		
Tel		(Ⅱ) For Distributor
Model		
Product No.		
Purchase Date		
Contact Person		
Date	Maintenance Record	Repairer

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Information Industrial Park, Guilin National High-Tech Zone, Guilin, Guangxi, 541004 P. R. China
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Distributor:

Seal

Cut along the dashed line

timing times are 5, 10, 15 and 20 seconds.

6.1.3 Pulse: 1000-1200 mW/cm², Blue light works in a pulsed fashion, the Selectable timing times are 5, 10, 15 and 20 seconds.

6.1.4 High: 2300-2500 mW/cm², the blue light is irradiated with constant power,the Selectable timing times are 1and 3 seconds.

6.2 The machine is protected from overheating and can operate continuously for up to 400 seconds,For example, if the timing time is set to 20 seconds, the machine can work for 20 consecutive times. If the machine shuts down after 5 seconds, the remaining available time is 395 seconds, and so on until the remaining available time is 0, the machine will enter the overheat protection state, and after 60 seconds, the machine will recover to normal for 400 seconds. If the machine does not work for a single interval of more than 60 seconds during use, the machine will automatically return to normal for 400 seconds. If it enters hibernation, the machine will automatically return to normal for 400 seconds after restarting.

7. Cleaning, Disinfection and Sterilization

7.1 All components of this product are not sterilizable.

7.2 The cleaning and disinfection of main unit, top of main unit and the light hood are as follows.

7.2.1 Before each use, wipe the surface of the machine with a soft cloth or paper towel soaked in 75% medical alcohol,and dry it with a clean soft cloth to keep the surfaces dry. Repeat the wipe for at least 3 times.

7.2.2 After each use, wipe the surface of the device with a soft cloth soaked in clean water (distilled or deionized water) or a

clean disposable wipe,and dry it with a clean soft cloth to keep the surfaces dry. Repeat the wipe for at least 3 times.

7.3 Before each use of the machine, the device should be placed in a disposable sleeve to avoid contact between the top of main unit and the patient's skin or oral mucosa. After use, the disposable isolation sleeve should be removed from the machine and discarded according to relevant regulations, and the disposable isolation sleeve is prohibited from reuse to prevent cross-infection.

8. Precaution

8.1 As is the case with all high-performance lights, the high light intensity results in a certain heat development. Prolonged exposure of areas near the pulp and soft tissues may result in irreversible damage. Therefore, this high performance curing light must only be operated by trained professionals.

8.2 Do not expose soft oral tissues at close proximity for more than 10 seconds in any mode. If longer curing time is required, use multiple shorter curing cycles to avoid heating soft tissue, or use a dual-cure product.

8.3 If the light emission window cannot be optimally placed in relation to the composite restoration, the restoration must be polymerized using a conventional method. If soft tissue exposure to the curing light cannot be avoided, the High mode must not be used, as exposure may result in damage of the soft tissues.

8.4 Never aim the light directly at unprotected soft tissues, as this may cause injury or irritation. Do not aim the light at eyes. Light reflected from the tooth surface may also injure eyes. Use the eye protection light hood supplied with the unit or suitable, light filtering safety glasses. The curing light is classified as a

Risk Group 1 device according to IEC 62471.

8.5 During operation, the light should be aimed straightly at the resin to ensure the effect of solidification.

8.6 Be sure to use the original light hood to avoid the blue light hurt eyes. Prohibit aiming light at eyes directly.

8.7 The instrument has electromagnetic interference. Do not use around the electronic operation, at the same time have a strong electromagnetic interference environment should be careful to use the instrument.

8.8 This product should be used by trained, qualified dentists. And this product is suitable for dental patients. Must be use in hospital or professional medical site.

8.9 To avoid electromagnetic interference, the device should be installed at the medical site which meet the requirement of EMC.

8.10 Technical description indicates, manufacturer will provide circuit diagrams, component part lists, descriptions, calibration instructions to assist to service personnel in parts repair.

Warnings:

WARNING: over-heat scorching: if the curing light works for 400s continuously, the maximum temperature of the top of main unit may reach 62.7℃.

At temperatures above 60°C, protein and collagen denaturation occurs, resulting in tissue coagulation and cell necrosis, with corresponding darkening of the tissue observed.

WARNING: parts of the ME equipment that are not serviced or maintained while in use with the patient.

WARNING: do not modify this equipment without authorization of the manufacturer.

8.11 If the patient's soft components are irradiated during use,

it is recommended to switch the light output mode of the device from conventional constant bright light to stroboscopic light. Stroboscopic light can effectively reduce the temperature of the patient's irradiated part and meet the requirements of resin curing. The switching method is as follows: In the hibernation shutdown state, hold down the M/T key and press again to power on the device. The selection screen is displayed. If the 20 indicator blinks, it indicates that the current strobe emitting mode is displayed; if the 15 indicator blinks, it indicates that the current constant luminous mode is displayed. The standby screen is displayed.

9. Contraindication

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

9.2 People who are prone to photobiological reactions (including patients with solar urticaria or erythropoietic protoporphyria) or those currently undergoing treatment with photosensitizing pharmaceuticals.

10. Maintenance

10.1 All components of this product are not sterilizable. Every parts should be cleaned by clean water or neutral sterilized liquid, but do not soak the equipment in the water.

10.2 Please clean the resin remained on the top of the main unit after using to avoid infecting the life-span or solidified effect.

11. After service

From the date this equipment has been sold, base on the warranty card, we will repair this equipment free of charge if it has quality problems, please refer to the warranty card for the warranty period for units and parts.

12. Troubleshooting

Faulty	Possible cause	Solution
Non-indication Non-act.	1. The LED is not connected well with the power. 2. The power is off.	1. Check the connection of the LED and the power. 2. Make sure the power is on.
Handle mode indicator flashing	1. The top of the main unit isn't inserted well to the bottom. 2. The top of the main unit is damaged.	1. Install the top of the main unit well. 2. Change the top of the main unit.
Handle time indicator flashing	The continuous use time is too long, triggering overheating protection.	Stop using for 60S, and the machine can return to normal use
Light intensity insufficient.	There is resin remain on the surface of the top of the main unit.	1. Remove the resin. 2. Change the top of the main unit.

If all the above solutions have been completed, the machine still can not work normally. Please contact our special repair shop or us.

13. Packing List

The components of the equipment are listed in the packing list.

14. Storage and transportation

14.1 This equipment should be handled carefully, kept away from shaking point, installed or stored at shadowy, dry, cool and ventilated places.

14.2 Don't store it together with articles that are combustible, poisonous, caustic and explosive.

14.3 This equipment should be stored in the environment where the relative humidity is 10%~93%, the atmosphere pressure is 70kPa to 106kPa and the temperature is -20°C to +55°C.

14.4 Excess impact or shake should be avoided during

transportation.

14.5 Don't mix it with dangerous articles during transportation.

14.6 Keep it away from sun or snow or rain during transportation.

15. Environmental protection

Please dispose according to the local laws.

16. Manufacturer's right

We reserve the rights to change the design of the equipment, the technique, fittings, the instruction manual and the content of the original packing list at any time without notice. If there are some differences between blueprint and real equipment, take the real equipment as the norm.

17. European authorized representative

EC REP MedNet EC-REP C llb GmbH
Borkstrasse 10·48163 Muenster·Germany

18. Symbol instruction

	Type B applied part		Follow Instructions for Use
	Pay attention to the physiological effects	IPX0	Ordinary equipment
	Date of manufacture		Manufacturer
	Used indoor only		Class II equipment
	Screw inside/ outside		Appliance compliance WEEE directive
	Normal mode		Soft mode
	Pulse mode		High mode

	Alternating current		Optical radiation
	Keep dry		Recovery
	Handle with care	CE	CE marked product
	Power on, Start/Stop button	SN	Serial number
M/T	Mode / Time setting button, short press adjustment working mode, long press adjustment curing time		
106kPa 70kPa	Atmospheric pressure for storage		
+55°C -20°C	Temperature limitation for storage		
93% 10%	Humidity limitation for storage		
EC REP	Authorised Representative in the EUROPEAN COMMUNITY		

19. Statement

All rights of modifying the product are reserved to the manufacturer without further notice. The pictures are only for reference. The final interpretation rights belong to GUILIN WOODPECKER MEDICAL INSTRUMENT CO., LTD. The industrial design, inner structure, etc, have claimed for several patents by WOODPECKER, any copy or fake product must take legal responsibilities.

20. EMC - Declaration of conformity

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.

Guidance and manufacturer's declaration - electromagnetic emissions		
The models V V Light are intended for use in the electromagnetic environment specified below. The customer or the user of the models V V Light should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The models V V Light use RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR11	Class B	The models V V Light are suitable for used in domestic establishment and in establishment directly connected to a low voltage power supply network which supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Not applicable	

Guidance & Declaration - Electromagnetic immunity			
The models V V Light are intended for use in the electromagnetic environment specified below. The customer or the user of the models V V Light should assure that It is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±15 kV air	±8 kV contact ±15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.

Electrical fast transient/burst IEC 61000-4-4	±2kV for power supply lines ±1 kV for Input/ output lines	±2kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line to line ±2 kV l i ne to earth	±1 kV line to line	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11.	<5 % U_T (>95% dip in U_T.) for 0.5 cycle 40 % U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95 % dip in U_T) for 5 sec	<5 % U_T (>95% dip in U_T.) for 0.5 cycle 40 % U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95 % dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial orhospital environment . If the user of the models V V Light require continued operation during power mains interruptions, it is recommended that the models V V Light be powered from an uninterruptible power supply or a battery.
Power frequency (5 0 / 6 0 H z) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

Guidance & Declaration - Electromagnetic immunity			
The models V V Light are intended for use in the electromagnetic environment specified below. The customer or the user of the models V V Light should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Co mp l i an ce level	Electromagnetic environment - guidance

Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM bands 3 V/m 80 MHz to 2.7 GHz 3 8 5 M H z - 5785MHz Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communication equipment (Refer to table 9 of IEC 60601-1-2:2014)	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM bands 3 V/m 80 MHz to 2.7 GHz 3 8 5 M H z - 5785MHz Test specification s for ENCLOSUR EPORT IMMUNITY to RF wireless commu ni ca ti on equipment (Refer to table 9 of IEC 60601-1-2:2014)	Port able and mobile RF communications equipment should be used no closer to any part of the models V V Light, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d=1.2\times P^{1/2}$ $d=1.2\times P^{1/2}$ 80 MHz to 800 MHz $d=2.3\times P^{1/2}$ 800 MHz to 2.5GHz where P is the maximum output power rating of the transmitter In watts (W) according to the transmitter manufacturer and d Is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,[a] should be less than the compliance level in each frequency range.[b] Interference may occur In the vicinity of equipment marked with the following symbol: ((•))
NOTE 1 At 80 MHz end 800 MHz. the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/ cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the models V V Light are used exceeds the applicable RF compliance level above, the model V V Light should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the models V V Light.

[b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.

Recommended separation distances between portable and mobile RF communications equipment and the models V V Light

The models V V Light are intended for use in electromagnetic environment in which radiated RF disturbances is controlled. The customer or the user of the models V V Light can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the models V V Light are recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150kHz to 80MHz $d=1.2\times P^{1/2}$	80MHz to 800MHz $d=1.2\times P^{1/2}$	800MHz to 2,5GHz $d=2.3\times P^{1/2}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

Scan and Login website for more information

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E-mail: woodpecker4@glwoodpecker.com
Website: http://www.glwoodpecker.com
EC REP MedNet EC-REP C llb GmbH
Borkstrasse 10·48163 Muenster·Germany

Harm of fake products

and are two brands of Guilin woodpecker medical instrument company. Recently, growing fake ultrasonic scaler handpieces, tips curing lights are produced and sold on the market, which do harm to users' interest.On this issue, We Woodpecker will crack down fake products and provide safe and secure medical instrument products.

1. Harm of fake ultrasonic scaler handpieces.

1.1 Fake handpieces with poor-designed inner structure can lead to frequent power leakage, which may cause medical accidents.
1.2 Material used on fake handpieces don' t pass biocompatible test, which can easily lead to irritability and poisoning.
1.3 Fake handpieces have quality problems of overheating, non-vibration and cracking, which cause ultrasonic scalers out of order.
1.4 Fake handpieces can' t be compatible with ultrasonic scalers, thus leading to circuit burn out.

2. Harm of fake scaler tips.

2.1 Fake tips are low in toughness, poor in resistance and easy to crack, thus easily cause medical accident.
2.2 Fake tips' screw threads are roughly processed, which can cause handpiece' s screw loosing and cracking.
2.3 Material used on fake tips is inferior and easily rusting, which can cause infection of patient.
2.4 Fake tips have used problem of poor water-spraying, bad screw-thread fit and water leaking, which leads ultrasonic scalers work wrongly.

3. Harm of fake curing light.

3.1 Fake curing light' s batteries can cause self-ignite, even explosion with poor-quality material and no complete charging management.
3.2 Light intensity of fake curing light is not constant, when battery level goes down under 60%, it would lead to incomplete solidification of resin, causing secondary dental caries.



Warranty Instruction

Ⅰ Period validity:
Two years on the device, one year on the battery, excluding the light guide and light hood.

Ⅱ Range of warranty:
Within the warranty period of validity, we are responsible for any troubles caused by quality problems or products technique and structure.

Ⅲ The following are beyond our warranty:
1. The damage caused by disobeying the operation instruction or lack of the needed condition.
2. The damage caused by unsuitable operation or disassembly without authorization.
3. The damage caused by unadvisable transportation or preservation.
4. There isn't the seal of distributor or the warranty card isn't filled in completed.
5. The warranty is not including optical fiber and light hood.

Warranty Instruction

Ⅰ Period validity:
Two years on the device, one year on the battery, excluding the light guide and light hood.

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